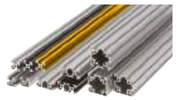
Aluminum Extrusions & Brackets

Aluminum Extrusion Extrusions & Brackets

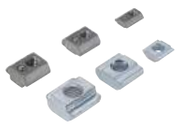





Product Name	Aluminum Extrusions 20, 25, 40mm Square - 5 Series (M5, M4, M3 Nuts)	Aluminum Extrusions with Parallel Surfacing	Bent Aluminum Extrusions	Brackets (5 Series)
Page	527~532	533	534	535~548



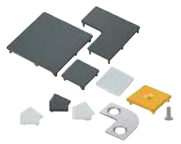


Corner Blind Brackets	Screw Joints	Center Joint Kits	Post-assembly Double Joints	Sheet Metal Plates / Brackets	Various Nuts Package
549, 550	552	553	554	555	558





Nuts for Aluminum Extrusions	Stoppers for Pre-Assembly Insertion Nuts	Post-Assembly Insertion Nuts for Aluminum Extrusions	Stoppers for Post-Assembly Insertion Nuts / Stopper Sets	Pre-Assembly Insertion Screws / Post-Assembly Insertion Screws / Flanged Nuts / Long Nuts	Extrusion End Caps
559~564	559, 561	562~564	562	565, 566	567

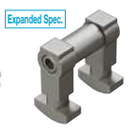





Aluminum Extrusions 30, 60mm Square – 6 Series (M6, M5, M4, M3 Nuts)	Aluminum Extrusions 50, 100mm Square - 6 Series (M6, M5, M4, M3 Nuts)	Aluminum Extrusions - 30 Square, Minimal Corner Radius	Aluminum Extrusions with Parallel Surfacing	Bent Aluminum Extrusions
569~578	579	580	581	582





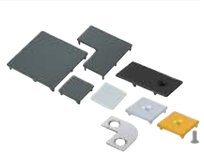
Expanded Spec.


Brackets (6 Series)	Corner Blind Brackets / Blind Brackets	Screw Joints	Center Joint Kits	Post-assembly Double Joints
583~598	599, 600	603	605	607





Expanded Spec.

Sheet Metal Plates / Brackets	Various Nuts Package	Nuts for Aluminum Extrusions	Stoppers for Pre-Assembly Insertion Nuts	Post-Assembly Insertion Nuts for Aluminum Extrusions	Stoppers for Post-Assembly Insertion Nuts / Stopper Sets	Extrusion End Caps
615	618	619~624	619, 621	622~624	622	627





Expanded Spec.


Aluminum Extrusions 40, 80mm Square – 8 Series (M8, M6, M5, M4, M3 Nuts)	Aluminum Extrusions with Parallel Surfacing	Bent Aluminum Extrusions	Brackets (8 Series)	Blind Brackets
629~637	638	639	641~656	657, 658



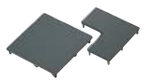




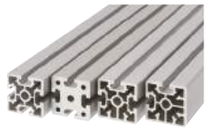

Screw Joints	Center Joint Kits	Post-assembly Double Joints	Sheet Metal Plates / Brackets	Pre-Assembly Insertion Nuts for Aluminum Extrusions	Stoppers for Pre-Assembly Insertion Nuts
660	662	664	665	669~671	669, 671

Expanded Spec.



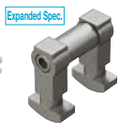

Post-Assembly Insertion Nuts for Aluminum Extrusions	Stoppers for Post-Assembly Insertion Nuts / Stopper Sets	Flanged Nuts / Nut Components / Long Nuts	Extrusion End Caps	Aluminum Extrusions 45, 90mm Square – 8-45 Series (M8, M6, M5, M4, M3 Nuts)
672~674	672	675, 676	677	679~686



Aluminum Extrusions 50, 100mm Square – 8-45 Series (M8, M6, M5, M4, M3 Nuts)	Aluminum Extrusions 60mm Square – 8-45 Series (M8, M6, M5, M4, M3 Nuts)	Aluminum Extrusions with Parallel Surfacing	Brackets (8-45 Series)
687	689	690	691~704

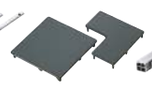


Expanded Spec.





Screw Joints	Center Joint Kits	Post-assembly Double Joints	Sheet Metal Plates / Brackets	Pre-Assembly Insertion Nuts for Aluminum Extrusions	Stoppers for Pre-Assembly Insertion Nuts
706	708	710	711	715~717	715, 717

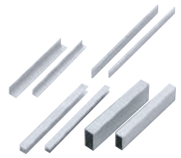







Stoppers for Post-Assembly Insertion Nuts / Stopper Sets	Flanged Nuts / Nut Components / Long Nuts	Extrusion End Caps	Aluminum Extrusions SLF Series	Joints, Nuts and Extrusion End Caps for SLF Series	Aluminum Extrusions 15mm Square / Brackets / Square Nuts
718	721, 722	723	727, 728	729, 730	741 741




Aluminum Extrusions for Brackets	Flat Aluminum Extrusions	Fence Extrusions / Joint Brackets	Aluminum Extrusions	Hex Socket Head Cap Screws with Captured Washer
742	743~746	747	749	751



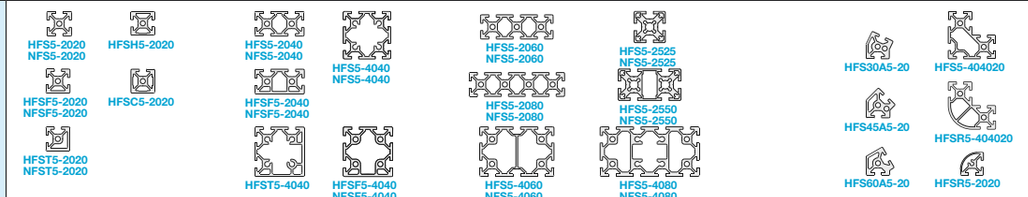


Screws for Aluminum Extrusions	Alterations for Aluminum Extrusions	
751~754	755~768	655

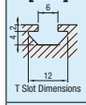
Aluminum Extrusions Guide

Standard Type

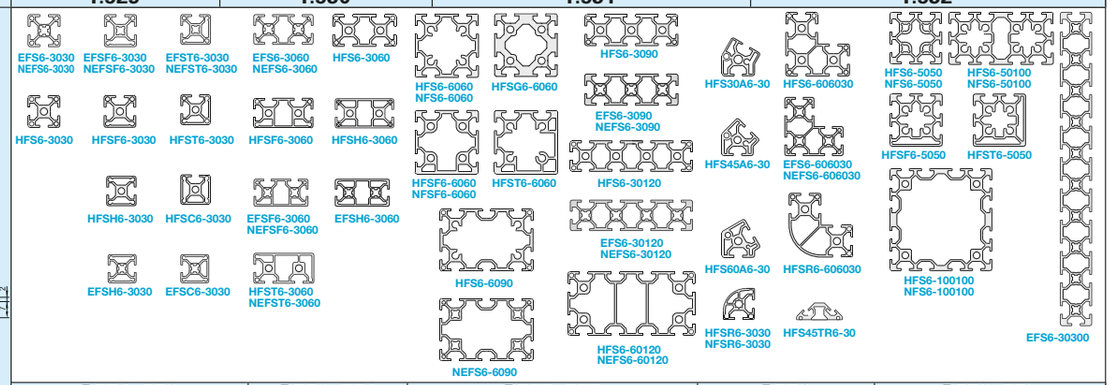
[Shape] 20mm 25mm 40mm Square



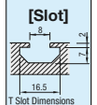
[Slot]



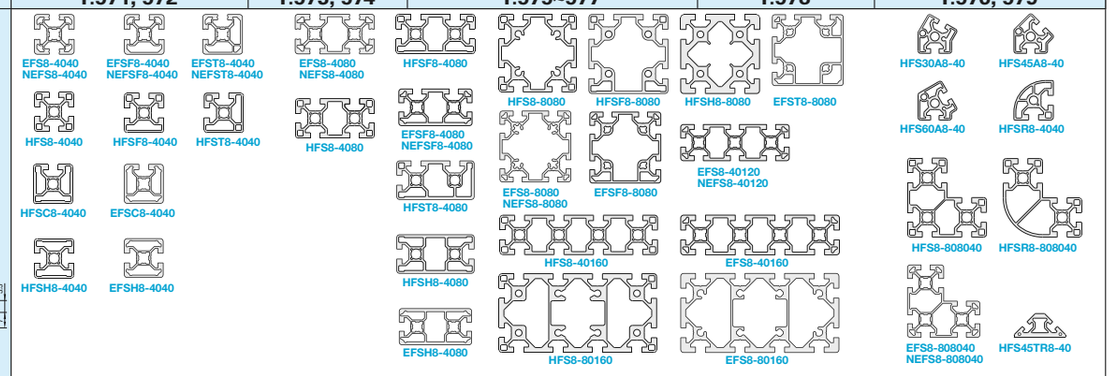
P.529	P.530	P.531	P.532



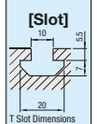
[Slot]



P.571, 572	P.573, 574	P.575~577	P.578	P.576, 579

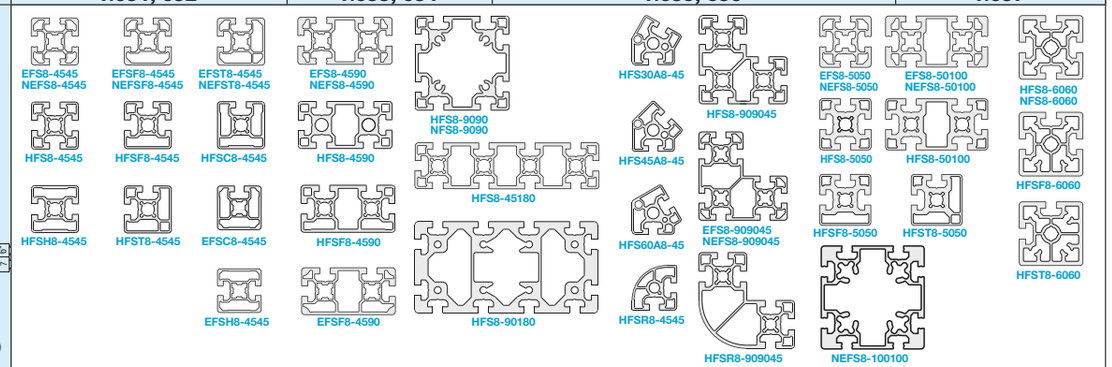


[Slot]

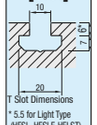


P.631, 632	P.633, 634	P.635, 636	P.637

[Shape] 45mm 50mm 60mm 90mm 100mm Square

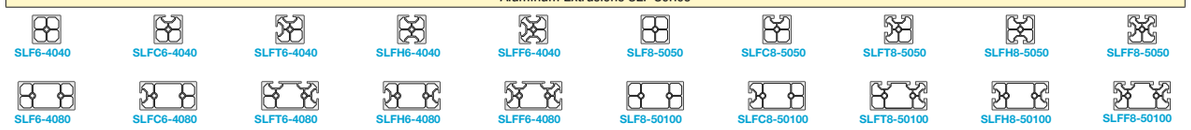


[Slot]



P.681, 682	P.683, 684	P.685, 686	P.687~689

Aluminum Extrusions SLF Series



P.727	P.728

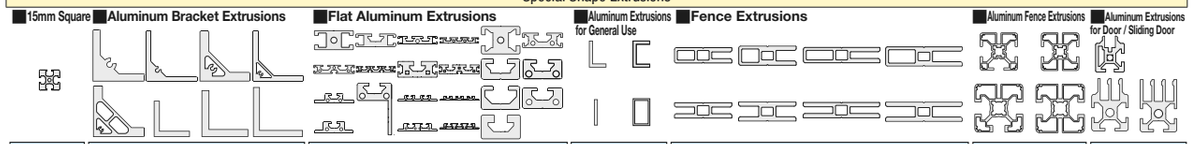
High Rigidity Type (Shapes and Materials of High Rigidity)	Light Type (Lightweight, Economical)	Clear Coating Type (Lightweight, Economical)	Black Anodized Type	Yellow Type (Color for Caution)	Bending Parallel Surfacing	Mixed Slot Widths, Minimal Corner Radius
-	-	CAF5-2020 CAF5-2040 CAF5-4040	HFSB5-2020 NFSB5-2020 HFSB5-2040 NFSB5-2040 HFSB5-2525 HFSFB5-2020 HFSB5-4040 NFSB5-4040 HFSB5-2550 HFSTB5-2020	HFSY5-2020	HFSP5-□□□□ HFSP5-□□□□ HFSMG5	-
P.529	P.529	P.529, 530	P.529~531	P.529	P.533, 534	-

P.571~573	P.571, 573, 579	P.571, 573, 575	P.571~579	P.571	P.581, 582	P.580

P.631~633	P.631, 633	P.631, 633, 635	P.631~636	P.631	P.638, 639	P.640

P.681~689	P.681~684	P.681, 684, 685	P.681~687	-	P.690	-

Special Shape Extrusions



P.741	P.742	P.743~746	P.749	P.747	P.851	P.854, 858

Brackets / Nuts / Extrusion End Caps / Joints / Other Components - Guide

Printed in Red: New / Addition

	Tabbed Brackets		Extruded Brackets	
[Shape] 20mm 25mm 40mm Square etc. [Slot]	HBLFSNF5 HBLFSN5 HBLFSN5-4 HBLFSNB5 HBLFSNM5 CHBLFSN5 HBLFSNK5 HBLFSNE5 HBLFSL5 HBLFSLB5 HBLFSLM5 HBLFSR5 HBLFSNT5 HBLFSSW5 HBLFSSWB5 HBLFSD5 HBLFSDK5 HBLFSDW5 HBLFUD5		HBLTS5 HBLTS5-4 HBLTSB5 CHBLTS5 HBKTS5* HBKTSB5* HBKTST5* NBLTS5 HBLTV5 HBLTVB5 HBLUS5 HBKUS5* HBKUSB5* NBLUS5 HBLTH5 HBLTHB5 HBLTF5 HBLTSW5 HBLTVW5 HBLTDW5 HBLTD5 HBLTDB5 CHBLTD5 NBLTD5 HBLTT5 NBLTT5 HBLTTW5 HBLUD5 HBLUDB5 NBLUD5 HBLUT5 * Perpendicularly Machined	
T Slot Dimensions	P.537, 538	P.541	P.539, 540	P.542, 543
[Shape] 30mm 50mm 60mm 100mm Square etc. [Slot] T Slot Dimensions	HBLFSN6 HBLFSN6-5 HBLFSNB6 HBLFSNM6 CHBLFSN6 HBLFSNK6 HBLFSNE6 HBLFSN6 HBLFSB6 HBLFSL6 HBLFSR6 HBLFSH6 HBLFSD6 HBLFSDK6 HBLFSD6-50 HBLFSDD6 HBLFSNT6 HBLFSSW6 HBLFSSWB6 HBLFSSW6-50 HBLFSDW6 HBLFSDW6-50 HBLFTD6 HBLFTDB6 HBLFTDM6 HBLFTD6-50 HBLFUD6		HBLTS6 HBLTS6-5 HBLTSB6 CHBLTS6 HBKTS6* HBKTST6* NBLTS6 HBLTH6 HBLUS6 HBLUSB6 HBKUS6* HBLTSW6 HBLTF6 HBLDSW6 HBLDSWT6 HBLTS6-5R HBLTS6-5L HBLTD6 HBLTDB6 CHBLTD6 NBLTD6 HBLTDW6 HBLTD6-50 HBLUD6 HBLUDB6 HBLUD6-50 HBLDDW6 HBLTT6 NBLTT6 HBLUT6 HBLUF6 HBLTTW6 HBLTFW6 * Perpendicularly Machined	
T Slot Dimensions	P.585~587	P.591, 592	P.588~590	P.593, 594
[Shape] 40mm 80mm Square etc. [Slot] T Slot Dimensions	HBLFSN8 HBLFSNB8 HBLFSNM8 CHBLFSN8 HBLFSNK8 HBLFSNE8 HBLFSNF8 HBLFSB8 HBLFSL8 HBLFSSW8 HBLFSR8 HBLFSNT8 HBLFSH8 HBLFSD8 HBLFSDK8 HBLFTD8 HBLFUD8		HBLTS8 HBLTSB8 CHBLTS8 HBKTS8* HBKTSB8* HBKTST8* NBLTS8 HBLTF8 HBLTH8 HBLTSW8 HBLDSWT8 HBLUS8 HBLUSB8 HBKUS8* HBKUSB8* HBLTS8-6R HBLTS8-6L HBLTD8 HBLTDB8 CHBLTD8 NBLTD8 HBLTDW8 HBLUD8 HBLUDB8 HBLUDW8 NBLUDW8 HBLUT8 HBLUQ8 * Perpendicularly Machined	
	P.643~645	P.649	P.646~648	P.650, 651
[Shape] 45mm 50mm 60mm 90mm 100mm Square etc. [Slot] T Slot Dimensions * 5.5 for Light Type (HFSL, HFSLF, HFLST)	HBLFSN8-45 HBLFSNB8-45 HBLFSNM8-45 CHBLFSN8-45 HBLFSNK8-45 HBLFSNE8-45 HBLFSN8-50 HBLFSNT8-45 HBLFSSW8-45 HBLFSDW8-90 HBLFSDW8-100		HBLTS8-45 CHBLTS8-45 HBKTS8* HBKTSB8* HBKTST8* NBLTS8-45 HBLTSW8 HBLTD8-45 NBLTD8-45 HBLTDW8-45 HBLUD8-45 HBLTS8-50 HBLUW8-60 NBLUW8-60 HBLUS8 HBLUSB8 HBKUS8* HBKUSB8* HBLTF8 HBLUDW8-45 HBLUQ8-45 NBLUQ8-45 HBLUW8-50 NBLUW8-50 HBLPQ8-200 HBLDSWT8-45 HBLTS845-6R HBLTS845-6L HBLTD8-100 HBLUW8-100 HBLPQ8-100 * Perpendicularly Machined	
	P.693, 694	P.699	P.695~698	P.699~701

Other Special Shape Brackets	Blind Joint	Sheet Metal Plates	Pre-Assembly Insertion Nuts Post-Assembly Insertion Nuts Special Nuts	Extrusion End Cap
HABL5 HBLSS5 HBLSSB5 HBLPL5 HBLST5 HBLBL5 HBLSD5 HBLSDB5 HBLSP5 HBL45TS5 HBL45TD5 HBL135TS5 HBL135TD5 HBLTBA20 HBLTBBN20 HBLCS5-B HBLCR5-B HBLCR5-S HBLCD5-S HBLBS5 SHBLBS5 HBLBSL5 HBLBCA5 SHBLBCA5 HBLPBS5 HABLBS5 HBLBCB5 SHBLBCB5	HCJ5 HMJ5 HPJN5			
P.544~550	P.551~554	P.555, 556	P.558~566	P.567, 568
HABL6 HBLSS6 HBLSSB6 HBLPL6 HBLST6 HBLBL6 HBLSD6 HBLSDB6 HBLSD6-50 HBLSP6 HBL45TS6 HBL45TD6 HBL135TS6 HBL135TD6 HBLTBA30 HBLTBBN30 HBLTBC30 HBLTBD30 HBLPBL6 HBLPBR6 HBLCS6-B HBLCR6-B HBLCR6-S HBLCD6-S HBLBS6 SHBLBS6 HBLBSL6 HBLBCA6 SHBLBCA6 HBLPBS6 HABLBS6 HBLBCB6 SHBLBCB6	HCJ6 HMJ6 HUJ6 HSJ6 HPJN6 HDJSN6			
P.595~600	P.601~614	P.615, 616	P.617~626	P.627, 628
HABL8 HBLPL8 HBLSS8 HBLSSB8 HBLBL8 HBLSD8 HBL45TS8 HBL45TD8 HBL135TS8 HBL135TD8 HBLTBA40 HBLTBBN40 HBLTBC40 HBLTBD40 HBLPBL8 HBLPBR8 HBLCS8-B HBLCR8-B HBLCR8-S HBLCD8-S HBLBS8 SHBLBS8 HBLBSL8 HBLBCA8 SHBLBCA8 HABLBS8 HBLBS8-6 HBLBCB8 SHBLBCB8	HCJ8 HMJ8 HSJ8 HPJN8 HDJSN8			
P.652~658	P.659~664	P.665, 666	P.667~676	P.677, 678
HBLSS8-45 HBLPL8 HBLSD8-45 HBL45TS8 HBL135TS8 HBLTBA45 HBLTBBN45 HBLTBC45 HBLTBD45 HBLPBL8-45 HBLPBR8-45 HBLBS8 SHBLBS8 HABLBS8 HBLBSL8	HCJ8-45 HMJ8-45 HPJN8-45			
P.701~704	P.705~710	P.711, 712	P.713~722	P.723, 724

Other Components

■Hex Socket Head Cap Screws for Aluminum Extrusions Hex Socket Head Cap Screw



P.751~754

Others

■Units



P.859

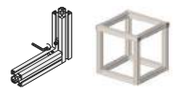
Aluminum Extrusion Types and Parts Selection

Aluminum Extrusion Types and Characteristics

	HFS Series	HFSL Series	EFS Series	NFS (NEFS, NFSL) Series	GFS Series	SLF Series
Photo						
Material	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	A6061SS-T6 Equiv.	A6063SS-T5
Features	Standard cross section shape.	Lightweight and economical extrusions. Suitable for use when light weight and economical price are given priority over strength.	Have rigidity Equiv. to HFS Series yet lighter and more economical.	Material change to EN AW-6063-T5 Equiv. led to significant price reduction. The Cross Section Shape and Cross Sectional Moment of Inertia are the same as those of HFS, HFSL and EFS Series. Stress and tensile strength decrease due to material change. The color may vary slightly.*	These thick extrusions offer high rigidity and are suitable for use in high load.	Has 4 slotless flat enclosures. Excels in sanitary control since dust is not collected in slots. Various accessories for aluminum extrusions can be utilized by combining with Slot Type (SLFT6-4040, etc.)
Surface Treatment	Clear Anodize (HFS) Black Anodize (HFSB) Clear Coating (CAF) Baked Paint (Yellow) (HFSY)	Clear Anodize Black Anodize	Clear Anodize (EFS) Black Anodize (EFSB)	Clear Anodize Black Anodize	Clear Anodize	Clear Anodize
Representative Product	HFS8-4040	HFSL8-4040	EFS8-4040	NFS5-2020 (Different Material of HFS5-2020) NEFS8-4040 (Different Material of EFS8-4040) NFSL6-3030 (Different Material of HFSL6-3030)	GFS8-100100	SLF6-4040 (No Slot Type) SLFC6-4040 (1 Slot Type)

* Aluminum extrusion colors may slightly vary depending on the materials.

Aluminum Extrusions Connection Method

Connection Method	Bracket Connection	Blind Joint Connection	Blind Brackets Connection	Screw Connection	SLF Series Connection
Connection Examples					
Features	The standard and economical connection method. Cover plates can be mounted by adding taps on the brackets.	A connection method that produces clean corners. Suitable for sections where equipment is loaded and unloaded or doors are to be mounted. Note that alterations are required to the extrusions, and available for limited extrusion models only. For applicable extrusions, see each product page. ☞ P.551, 601, 659, 705	Brackets are hidden inside of slots producing clean corners. Alterations are not required. However, allowable load is smaller than that of bracket connections.	Connections only with screws can be achieved by applying tapping and counterbore alterations on the extrusions.	• Connection with dedicated joints • Screw Connection See "Features of SLF Series" for details. ☞ P.725
Representative Product	HBLFSN6, HBLTS6, etc.	HCJ6, HMJ6, etc.	HBLBS6, HABLBS6, etc.	-	-

Selection of Related Parts

Numbers of applicable related parts are decided at the time of selecting aluminum extrusions.
When selecting related parts, see No. as reference.

(Ex.) When assembling with HFS6-3030 aluminum extrusions of 6 series

Brackets
HBLFSN6
HBLTS6 or Others

Blind Brackets
Blind Joint
HBLBS6
HSJ6 or Others

Nut
HNTT6-Tapped Hole Dia.
HNTAT6-Tapped Hole Dia. or Others

Extrusion End Caps and Covers
HFC6-3030-Color
HSCA6-Color or Others

Casters and Leveling Mounts
HAJPS6
HCFT6-60 or Others

Door Parts
HHPSN6
HMGN6 or Others

Other Accessories
HFCC6
LCSA6-Shaft Hole Dia. or Others

Many products can be used for both 8 series and 8-45 series.

Pre-Assembly Insertion Nut HNTT8-8
→ It can be used with 8 series.
→ It can be used with 8-45 series.

• Various related parts can be installed to the aluminum extrusion structure according to the usage.

Aluminum Extrusion Tolerance Data

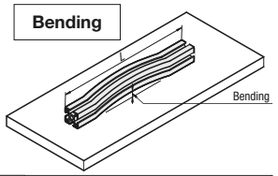
Aluminum Extrusion JIS Standards

• Bend Tolerance (Special Grade)

Unit: mm

Diameter of Circumscribed Circle mm	Minimum Thickness mm	Per Arbitrary Section of 300mm Length	per Full Length (L) mm
38 or less	2.4 or less	1.3 or less	1.3 x $\frac{L}{300}$ or Less
	Over 2.4	0.3 or less	0.3 x $\frac{L}{300}$ or Less
Over 38 to 300 or less	-	0.3 or less	0.3 x $\frac{L}{300}$ or Less
Over 300	-	0.5 or less	0.5 x $\frac{L}{300}$ or Less

Bending



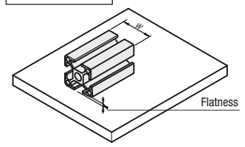
Note
- Given values are for extrusions placed on flat surfaces with minimized bends by own weight.
- When the overall length is not an integral multiple of 300mm, determine the tolerance by rounding up the remainder length to 300mm.

• Flatness Tolerance

Unit: mm

Shape Type / Minimum Thickness of Measurement Point Width	General Shape	Hollow Shape	
	-	4.7mm or Less	Over 4.7mm
25mm or Less	0.10 or less	0.15 or less	0.10 or less
Over 25mm	0.004xW or Less	0.006xW or Less	0.004xW or Less
Per Arbitrary Section of 25mm Width	0.10 or less	0.15 or less	0.10 or less

Flatness



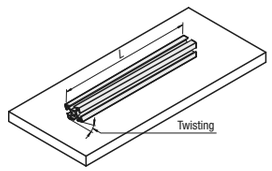
Note Not Applicable to the plane including open section.

• Twist Tolerance

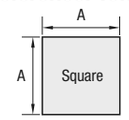
Unit: degree

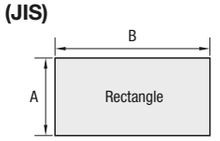
Diameter of Circumscribed Circle mm	Length	
	Per Arbitrary Section of 300mm Length	per Full Length (L) mm
38 or less	1 or less	1 x $\frac{L}{300}$ or Less; However, Max. Value is 7
Over 38 to 76 or less	1/2 or less	$\frac{1}{2}$ x $\frac{L}{300}$ or Less; However, Max. Value 5
Over 76	1/4 or less	$\frac{1}{4}$ x $\frac{L}{300}$ or Less; However, Max. Value 3

Twisting



Reference: Tolerance of Outer Dimension (JIS)





Unit: mm

Outer Dimension Tolerance (JIS)	A Dimension
HFS5-2020	±0.41
HFS5-4040	±0.54
HFS6-3030	
HFS6-6060	±0.86
HFS8-4040	±0.54
HFS8-8080	±0.86
HFS8-4545	±0.60
HFS8-9090	±0.86

Outer Dimension Tolerance (JIS)	A Dimension	B Dimension
HFS5-2040	±0.41	±0.54
HFS6-3060	±0.54	±0.86
HFS8-4080		
HFS8-4590	±0.60	

*MISUMI Aluminum Extrusions are within JIS dimension tolerance above.

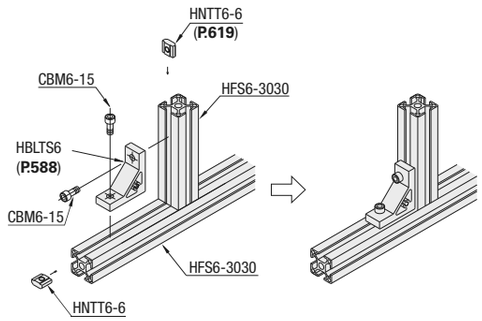
Mechanical Properties of Aluminum Extrusions

	JIS Standard (Reference)	JIS Standard (Reference)	Actual Measurement	JIS Standard (Reference)
Series	HFS Series	GFS Series		NFS Series
Material (JIS Symbol)	EN AC-51400-T5 Equiv.	A6061SS-T6 Equiv.		EN AW-6063-T5 Equiv.
Tensile Strength (N/mm²)	245 or more	265 or more	278	155 or more
Proof Stress (N/mm²)	205 or more	245 or more	247	110 or more
Longitudinal Elastic Modulus (N/mm²)	69972	69972		69972
Brinell Hardness (HB)	88	88		88
Surface Treatment	Anodize 9μm or more	Anodize 9μm or more		Anodize 9μm or more

Aluminum Extrusion Assembly Examples

Example of Extrusion Connection

Connection with Thick Bracket



Blind Bracket Connections

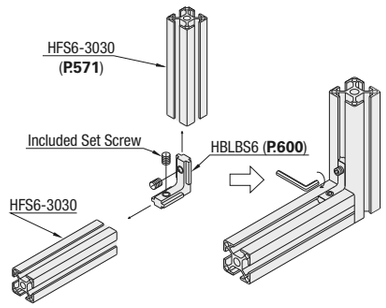
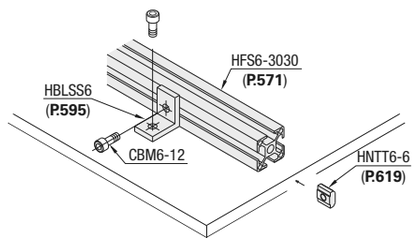
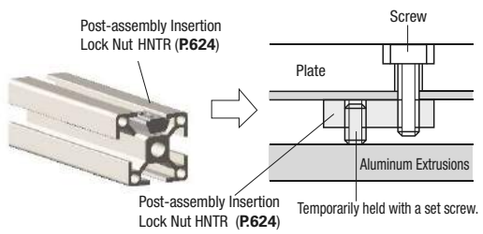


Plate on Extrusion Mounting

Thin Bracket Connections

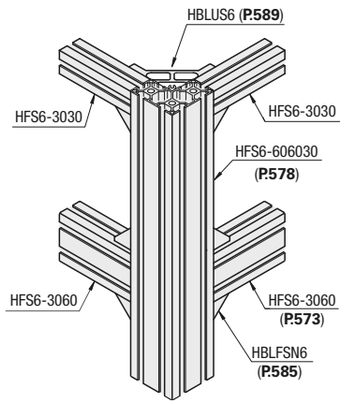


Post Assy. Ins. Locknut Connections

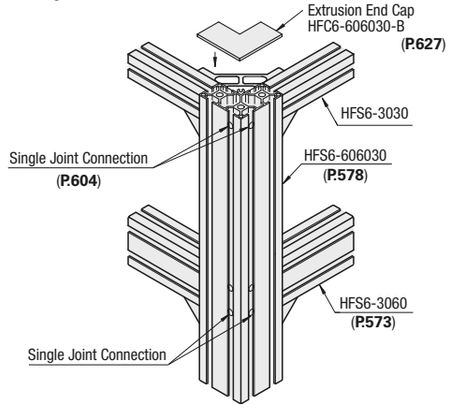


L-Shaped Extrusions App. Example

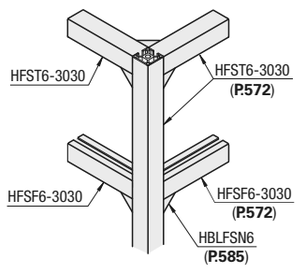
Bracket Connections



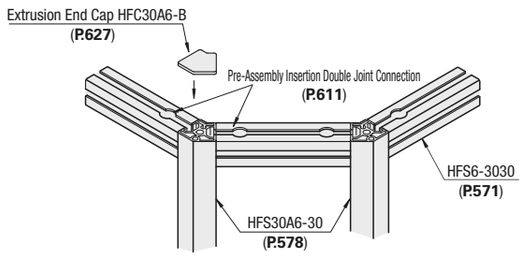
Single Joint Connections



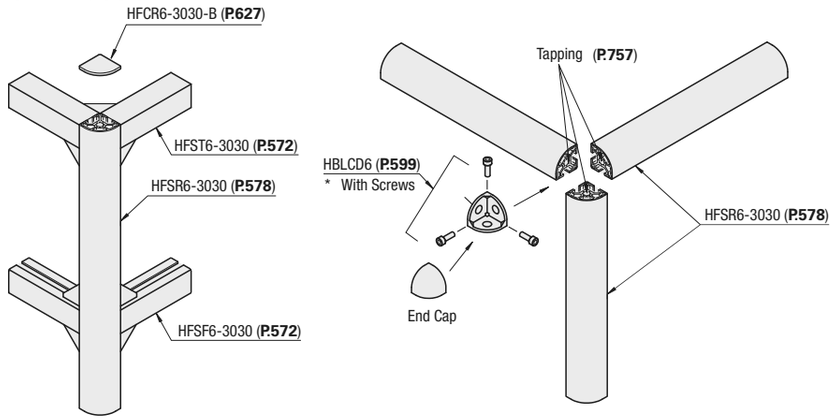
2 and 3 Smooth-Sided Extrusions App. Example



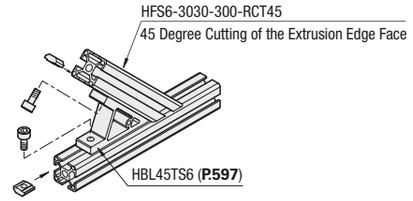
Angled Extrusions App. Example



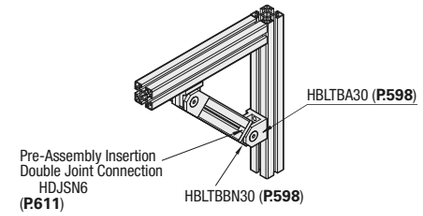
App. Example: R Extrusion



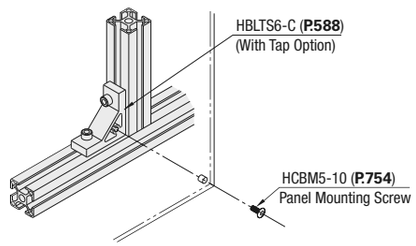
Example: 45 Degree Angle Bracket



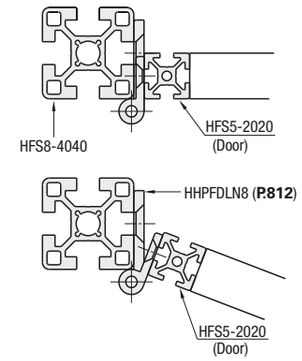
App. Example: Free Angle Brackets



Cover Mounting on the Bracket

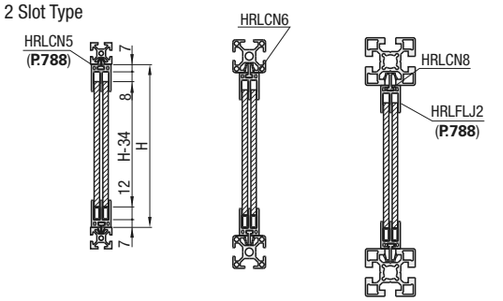


Connecting Unequal Size Extrusions with Flag Hinges



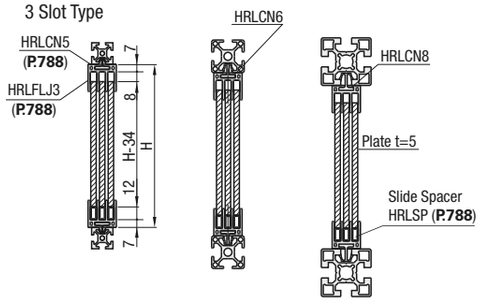
Sliding Rail Mounting Dimensions

2 Slot Type



20 Sq. Extrusion　30 Sq. Extrusion　40, 45 Sq. Extrusion

3 Slot Type



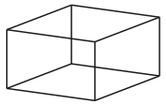
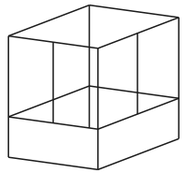
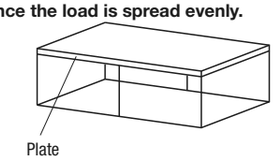
20 Sq. Extrusion　30 Sq. Extrusion　40, 45 Sq. Extrusion

Aluminum Extrusion Design Steps

Design Support Software on P875 can simplify and expedite the design process.

1. Determine the extrusion type used by intended equipment.

Selection of Aluminum Extrusion Frame Units Based on Applications and Extrusions Used

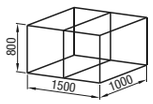
	(A) When extrusion is used as support unit	(B) As an equipment covering enclosure
		
Extrusion Selection Method	**Choose a type that can withstand the load from the Load Capacity Table on P.523.**	**As a reference, select a type based on the maximum length of a side.** **1000mm or Less ↑ HFS5: 20Sq., HFS6: 30Sq.** **2000mm or Less ↑ HFS6: 30Sq., HFS8: 40Sq.** **2000mm~ ↑ HFS8: 40Sq., HFS8-45: 45Sq.**
Notes on Selecting Extrusions	**Table on P.523 stipulates that loads are applied at the center of extrusion frames.** **When placing a plate on the extrusion, refer to the uniform load value in the table since the load is spread evenly.** **In the example from this table, the size of the box is 1 sq. m.** **When the extrusion size is larger, insert extra supports in the middle.** 	**Accessories are designed considering the use of 3mm/5mm thickness plastic panels for HFS5 Series, and 5mm thickness plastic panels for HFS6 Series or upper models.** **(The above description may not apply depending on installation methods.)**

2-A. For an equipment base

(2-A-1) Determining Outer Perimeter Configuration

Decide W, D, and H dimensions of the unit in reference to the Standard Unit configurations on **P.859**.

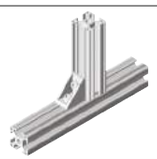
Shape and Size



(2-A-2) Selection of Connection Methods

Bracket connections and Blind Joint connections are the most frequently utilized methods.

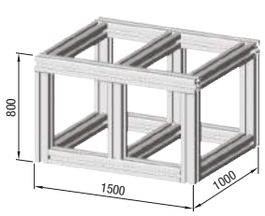
Bracket connection is used since there is no interference problem.

Bracket Connection		**The standard and economical connection method.** **Cover plates can be mounted by adding taps on the brackets.**
Blind Joint Connection		**A connection method for clean corners. Suitable for locations where equipment is loaded and unloaded or doors are to be mounted. Provides strength equal to the brackets. However, usable extrusions are limited. Check for the compatible extrusions on Blind (See P.566, 601, 659, 705)**

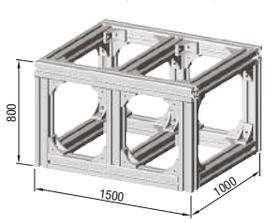
(2-A-3) Creation of Unit Drawing

(Ex.) Width: 1500 Depth: 1000 Height: 800mm Extrusion: HFS8-4040 Connection: Bracket Connection

Draw Extrusion Width and Overlapping



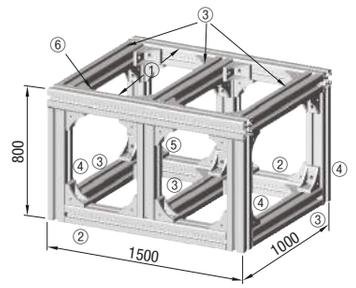
Draw the Bracket (at all the corners) 4x11=44 pcs.



(2-A-4) Components Expanded

	Extrusion	Length	Qty.
①	**HFS8-4040-1500**		2
②	**HFS8-4040-1420**		2
③	**HFS8-4040-920**		6
④	**HFS8-4040-760**		4
⑤	**HFS8-4040-720**		2

	Brackets	Quantity
⑥	**HBLFSN8-SET** (SET: Applicable screws and nuts are included.)	44

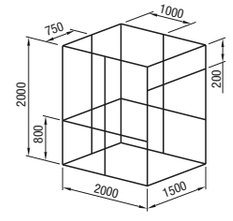


2-B. For an equipment covering enclosure

(2-B-1) Determining Outer Perimeter Configuration

Width, depth, and height determined based on the equipment to be mounted.

Shape and Size



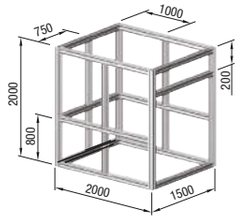
(2-B-2) Selection of Connection Methods

See (2-A-2) on the left-hand page for the connection methods.
Bracket connections for the panels, and Single Joint connections are selected for this example.

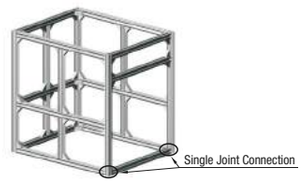
(2-B-3) Creation of Unit Drawing

(Ex.) Width: 2000 Depth: 1500 Height: 2000mm Extrusion: HFS6-3030

Draw Extrusion Width and Overlapping



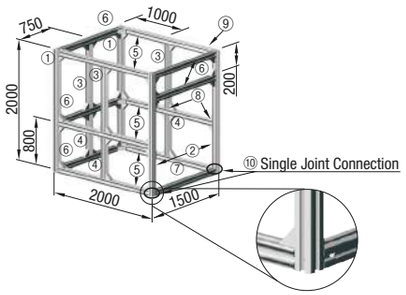
Determine the connection method



(2-B-4) Components Expanded

	Extrusion	Length	Qty.
①	**HFS6-3030-2000**		2
②	**HFS6-3030-2000-LCH** (See **P.759**)		2
③	**HFS6-3030-1170**		3
④	**HFS6-3030-740**		3
⑤	**HFS6-3030-1940**		6
⑥	**HFS6-3030-1440**		5
⑦	**HFS6-3030-1440-RDH-LDH** (See **P.764**)		1

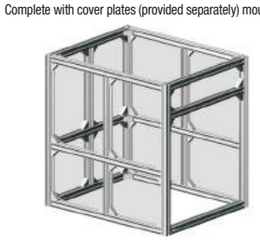
	Brackets, Screws, Nuts	Quantity
⑧	**HBLFSN6-C-SET**	4x13=52
⑨	**HBLFSN6-SET**	10
⑩	**HSJ6**	2



(Description)

② Adds a wrench hole on one end of the extrusion for Single Joint connections.
⑦ Adds a D Hole to each end for Joint Nuts.
⑧ Adds tapped holes on brackets for panels. Also includes the screw/nut sets.
In this example, a panel is mounted to the side shown on the right.
(Surfaces except front right and bottom)
⑨ Top, bottom, and middle section brackets including screw/nut sets.
⑩ Single Joint Kits required for ⑦ and ②.

Complete with cover plates (provided separately) mounted.



Extrusion Load Capacity Calculations

Deflection Calculations

The following pages assist in optimum extrusion type selections by providing a quick Load vs. Deflection Chart (below) and calculation formulas (right-hand page). In general, load calculations are typically based on beam's both ends supported for structural safety.

Selection Example

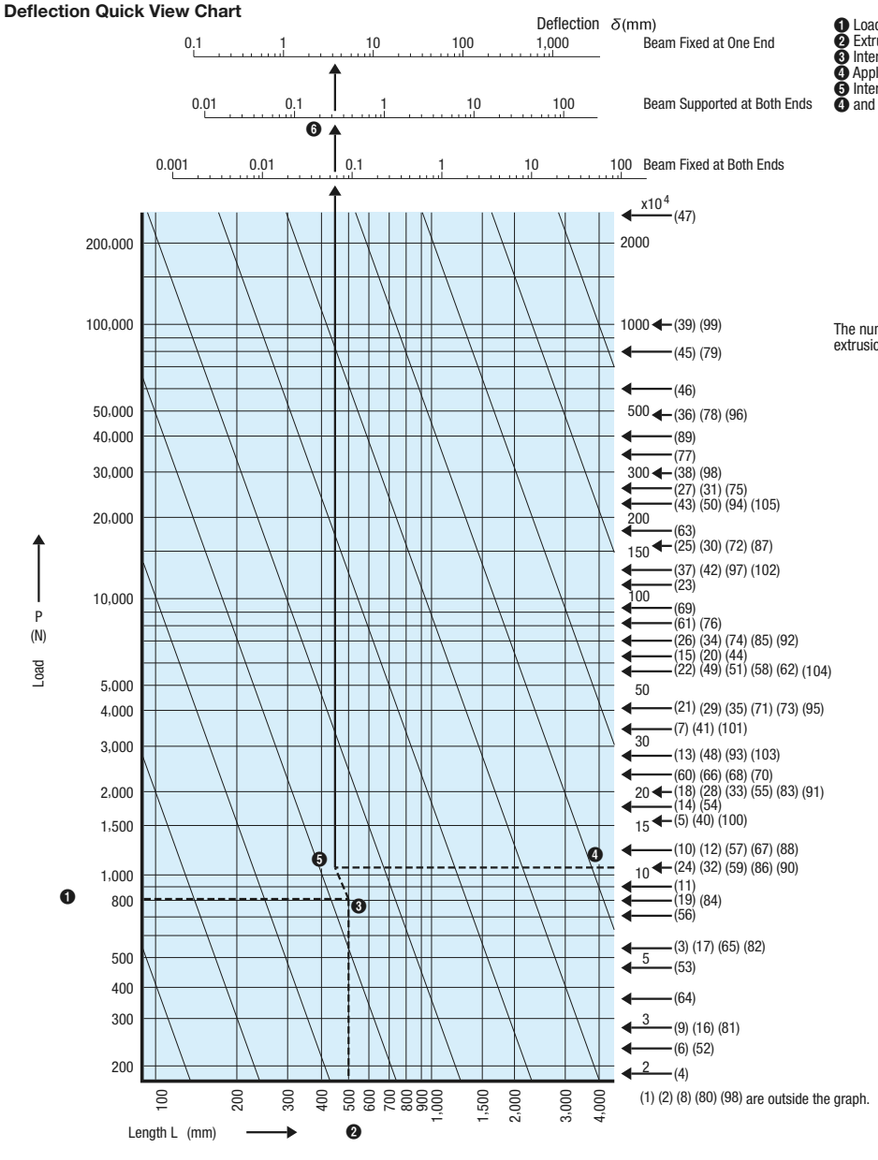
Values used for this example	
Load	800N
Extrusion	HFS8-4040
Length	500 mm

Step (1) Find a point ❶ on the Y (Load) axis for the applied load P (Unit: N)*1.
(2) Find a point (❷) on the X (Length) axis for the extrusion length.
(3) Draw a horizontal line from ❶ and a vertical line from ❷, and name the intersection of the two as ❸.
(4) Find a point ❹ on the right hand Y axis for the Cross Sectional Moment of Inertia of the extrusion used.
(5) Draw a horizontal line from ❹, and draw a parallel line to the graph's diagonal lines from ❸.
(6) Name the intersection of the lines from (5) as ❺.
(7) Draw a line UP from ❺ and locate an intersection ❻ corresponding to the extrusion support method used.
Result: According to the example values used and the calculation based on the values, the deflection amount would be 0.3mm when the extrusion is supported at both ends.

*1. Conversion: 1kgf=9.80665N (Ex.) 81.6kgf=800N

• MISUMI defines the Load Capacity (Max Allowable Load) to be a deflection 1/1000 of the extrusion length.

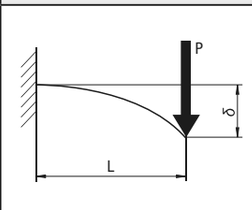
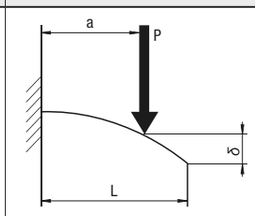
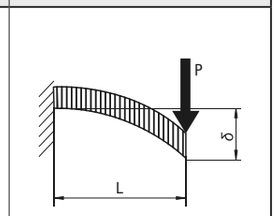
• Deflection Quick View Chart



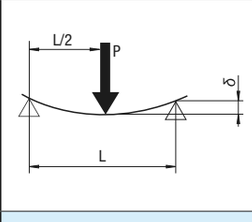
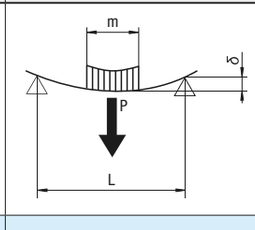
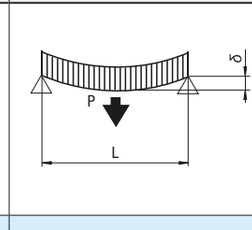
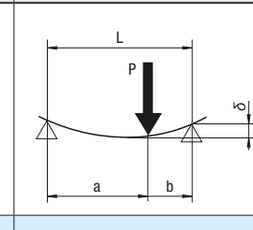
The numbers in ( ) corresponds to the extrusion numbers on **P.521** and **522**.

(1) (2) (8) (80) (98) are outside the graph.

• Deflection Calculations

	1	2	3
Cantilever			
Deflection δ	$\delta = \frac{P \cdot L^3}{3E \cdot I}$	$\delta = \frac{P \cdot a^3}{3E \cdot I}$	$\delta = \frac{P \cdot L^3}{8E \cdot I}$

means that the load is equally distributed.

	4	5	6	7
Both Ends Supported				
Deflection δ	$\delta = \frac{P \cdot L^3}{48E \cdot I}$	$\delta = \frac{P \cdot L^3}{(48+\frac{29m}{I}) \cdot E \cdot I}$	$\delta = \frac{5P \cdot L^3}{384E \cdot I}$	$\delta = \frac{P \cdot a^2 \cdot b^2}{3E \cdot I \cdot L}$

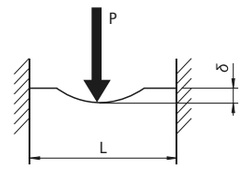
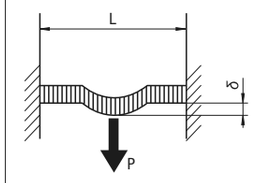
Example of No.4 as "Beam Supported on Both Ends"

P	(N)	Load
L	(mm)	Extrusion Length
E	(N/mm²)	Young's Modulus 69,972N/mm²
I	(mm⁴)	Cross Sectional Moment of Inertia
δ	(mm)	Deflection

When the selection is calculated as "Beam Supported on Both Ends"

$\delta = \frac{800 \times 500^3}{48 \times 69{,}972 \times 10.4 \times 10^4}$

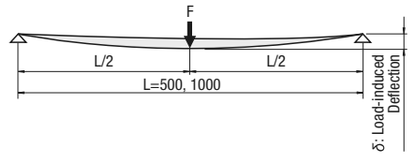
≈0.29 (mm)

	8	9
Both Ends Fixed		
Deflection v	$\delta = \frac{P \cdot L^3}{192E \cdot I}$	$\delta = \frac{P \cdot L^3}{384E \cdot I}$

Aluminum Extrusions Load Capacity Guideline

Load Capacity Calculations

1. Calculation Conditions: Calculations are based on centralized loads on both ends supported extrusions.
2. The load capacities (allowable loads) are defined as: Load that generates a deflection amount 1/1000 of the extrusion length.
   These loads are the allowed maximum. Use within the given capacities.



Part Number			Height x Width (mm)	Section Modulus x 10^3 (mm^3)	Cross Sectional Moment of Inertia x 10^4 (mm^4)	For 500mm Extrusion Length Allowable Load		For 1000mm Extrusion Length Allowable Load	
Type	Extrusion					(N)	(kgf)	(N)	(kgf)
HFS5 NFS5	2020	(1)	20x 20	0.74	0.74	99	10	24	2
	2040	(2)	20x 40	1.35	1.35	182	18	45	4
		(3)	40x 20	2.55	5.11	687	70	171	17
	2060	(4)	20x 60	1.97	1.97	264	26	66	6
		(5)	60x 20	5.32	15.96	2144	218	536	54
	2080	(6)	20x 80	2.58	2.58	347	35	86	8
		(7)	80x 20	9.02	36.11	4851	494	1212	123
	2525	(8)	25x 25	1.36	1.71	229	23	57	5
	2550	(9)	25x 50	2.37	2.96	398	40	99	10
		(10)	50x 25	5.09	12.74	1711	174	427	43
	4040	(11)	40x 40	4.45	8.9	1196	122	299	30
	4060	(12)	40x 60	6.3	12.62	1695	172	423	43
		(13)	60x 40	9	27	3627	369	906	92
	4080	(14)	40x 80	9.18	18.38	2469	251	617	62
		(15)	80x 40	15.87	63.49	8529	869	2132	217
HFS6 NFS6	3030	(16)	30x 30	1.89	2.83	381	38	95	9
	3060	(17)	30x 60	3.55	5.33	716	73	179	18
		(18)	60x 30	6.84	20.53	2758	281	689	70
	3090	(19)	30x 90	5.62	8.43	1133	115	283	28
		(20)	90x 30	14.71	66.19	8892	906	2223	226
	6060	(21)	60x 60	13.78	41.35	5555	566	1388	141
	6090	(22)	60x 90	17.53	52.59	7065	720	1766	180
		(23)	90x 60	24.77	111.5	14979	1527	3744	381
	30120	(24)	30x 120	7.52	11.29	1516	154	379	38
		(25)	120x 30	25.55	153.3	20595	2100	5148	525
	60120	(26)	60x 120	23.06	69.18	9294	947	2323	236
		(27)	120x 60	41.18	247.1	33196	3385	8299	846
	5050	(28)	50x 50	8.66	21.66	2909	296	727	74
	50100	(29)	50x 100	16.98	42.44	5701	581	1425	145
		(30)	100x 50	30.63	153.2	20581	2098	5145	524
	100100	(31)	100x 100	53.08	265.4	35655	3635	8913	908
HFS8 NFS8	4040	(32)	40x 40	5.24	10.48	1407	143	351	35
	4080	(33)	40x 80	9.95	19.91	2674	272	668	68
		(34)	80x 40	18.07	72.26	9707	989	2426	247
	40160	(35)	40x 160	19.36	38.72	5201	530	1300	132
		(36)	160x 40	61.89	496.3	66676	6799	16669	1699
	8080	(37)	80x 80	32.45	129.8	17438	1778	4359	444
	80160	(38)	80x 160	73.95	295.8	39739	4052	9934	1013
		(39)	160x 80	125.2	1002	134614	13726	33653	3431
	4545	(40)	45x 45	6.77	15.25	2048	208	512	52
	4590	(41)	45x 90	14.44	32.5	4366	445	1091	111
		(42)	90x 45	27.9	125.5	16860	1719	4215	429
	9090	(43)	90x 90	46.78	210.5	28279	2883	7069	720
	45180	(44)	45x 180	27.14	61.05	8201	836	2050	209
		(45)	180x 45	89.87	808.8	108659	11080	27164	2770
	90180	(46)	90x 180	133.3	600	80607	8219	20151	2054
		(47)	180x 90	237.9	2141	287635	29330	71908	7332
	5050	(48)	50x 50	10.91	27.28	3665	374	916	93
	50100	(49)	50x 100	20.66	51.67	6942	707	1735	177
		(50)	100x 50	42.23	211.1	28383	2894	7093	723
	6060	(51)	60x 60	17.3	51.91	6973	711	1743	177
HFSL6 NFSL6	3030	(52)	30x 30	1.78	2.68	360	36	90	9
	3060	(53)	30x 60	3.24	4.87	654	66	163	16
		(54)	60x 30	5.95	17.88	2402	244	600	61
	5050	(55)	50x 50	7.51	18.79	2524	257	631	64
HFSL8 NFSL8	4040	(56)	40x 40	3.77	7.54	1013	103	253	25
	4080	(57)	40x 80	6.71	13.43	1804	183	451	45
		(58)	80x 80	13.25	52.98	7117	725	1779	181
	4545	(59)	45x 45	5.21	11.73	1575	160	393	40
	4590	(60)	45x 90	10.15	22.85	3069	313	767	78
		(61)	90x 45	19.26	86.68	11645	1187	2911	296
HFSG6	6060	(62)	60x 60	18.09	54.28	7292	743	1823	185
HFSH8	8080	(63)	80x 80	45.83	183.3	24625	2511	6156	627

Part Number			Height x Width (mm)	Section Modulus x 10^3 (mm^3)	Cross Sectional Moment of Inertia x 10^4 (mm^4)	For 500mm Extrusion Length Allowable Load		For 1000mm Extrusion Length Allowable Load	
Type	Extrusion					(N)	(kgf)	(N)	(kgf)
GFS6	3030	(64)	30x 30	2.32	3.47	466	48	117	12
	3060	(65)	30x 60	3.96	5.9	792	81	199	20
		(66)	60x 30	7.95	23.78	3194	326	798	81
GFS8	4040	(67)	40x 40	6.83	13.76	1848	188	462	47
	4080	(68)	40x 80	12.56	25.21	3384	345	846	86
		(69)	80x 40	22.47	90.87	12208	1245	3052	311
	4545	(70)	45x 45	10.42	23.64	3172	323	793	81
	4590	(71)	45x 90	18.87	42.99	5772	589	1443	147
		(72)	90x 45	35.67	163.4	21792	2222	5448	556
	5050	(73)	50x 50	15.23	38.16	5124	523	1281	131
	50100	(74)	50x 100	27.23	68.08	9147	932	2286	223
		(75)	100x 50	54.62	273.1	36706	3742	9173	935
	6060	(76)	60x 60	26.58	79.86	10728	1094	2682	273
	9090	(77)	90x 90	71.17	320.2	43016	4386	10754	1097
	100100	(78)	100x 100	93.48	465.8	62576	6381	15644	1595
	100200	(79)	100x 200	174.8	874.3	117507	11982	29365	2994
		(80)	200x 100	317.7	3179	427334	43576	106791	10890
EFS6 NEFS6	3030	(81)	30x 30	1.89	2.85	382	39	95	9
	3060	(82)	30x 60	3.66	5.48	736	75	184	19
		(83)	60x 30	6.86	20.46	2758	281	689	70
	3090	(84)	30x 90	5.86	8.8	1181	120	295	30
		(85)	90x 30	15.19	69	9185	2296	936	234
	30120	(86)	30x 120	7.65	11.48	1583	161	395	40
		(87)	120x 30	26.29	157.62	20628	2103	5157	525
	30300	(88)	30x 300	9.57	13.50	2079	272	519	53
		(89)	300x 30	35.4	375.5	51487	5259	12896	1317
EFS8 NEFS8	4040	(90)	40x 40	5.24	10.49	1409	144	352	35
	4080	(91)	40x 80	9.96	19.93	2677	273	669	68
		(92)	80x 40	18.13	72.55	9745	994	2436	248
	40120	(93)	40x 120	14.5	29	3940	401	985	100
		(94)	120x 40	37.03	223.51	29958	3054	7489	763
	40160	(95)	40x 160	19.47	38.8	5203	530	1300	132
		(96)	160x 40	63.17	506	67114	6843	16778	1710
	8080	(97)	80x 80	32.55	130	17494	1783	4373	445
	80160	(98)	80x 160	75.85	304.4	40708	4151	10177	1037
		(99)	160x 80	125.86	1007	134584	13723	33646	3430
	4545	(100)	45x 45	6.85	15.42	2071	211	517	53
	4590	(101)	45x 90	14.52	32.67	4389	448	1097	112
		(102)	90x 45	27.84	125.3	16860	1719	4215	430
	5050	(103)	50x 50	10.79	26.98	3665	374	916	93
	50100	(104)	50x 100	21.2	53	7120	726	1780	182
		(105)	100x 50	42.24	211.2	28385	2894	7094	723

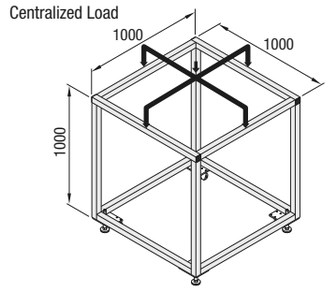
Aluminum Extrusions Load Capacity Guideline

Load Capacity Guideline for Extrusion Frame Units

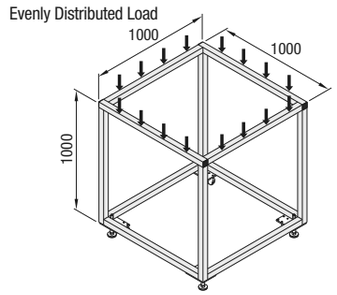
Condition: Calculated as: Loads causing 1mm deflection at the center of each extrusion of a 1000mm x 1000mm square frame.

Part Number		Height x Width (mm)	Allowable Load			
			Centralized Load		Evenly Distributed Load	
Type	Extrusion		(N)	(kgf)	(N)	(kgf)
HFS5 NFS5	2020	20x 20	99	10	199	20
	2040	20x 40	182	18	364	37
		40x 20	687	70	1375	140
	2060	20x 60	264	26	529	53
		60x 20	2144	218	4288	437
	2080	20x 80	347	35	694	70
		80x 20	4851	494	9702	989
	2525	25x 25	229	23	459	46
	2550	25x 50	398	40	797	81
		50x 25	1711	174	3423	349
	4040	40x 40	1196	121	2393	244
	4060	40x 60	1695	172	3390	345
		60x 40	3627	369	7254	739
	4080	40x 80	2469	251	4938	503
		80x 40	8529	869	17059	1739
HFS6 NFS6	3030	30x 30	380	38	762	77
	3060	30x 60	716	73	1433	146
		60x 30	2758	281	5516	562
	3090	30x 90	1133	115	2266	231
		90x 30	8892	906	17784	1813
	6060	60x 60	5555	566	11110	1132
	6090	60x 90	7065	720	14130	1440
		90x 60	14979	1527	29959	3054
	30120	30x 120	1516	154	3033	309
		120x 30	20594	2100	41190	4200
	60120	60x 120	9293	947	18588	1895
		120x 60	33196	3385	66393	6770
	5050	50x 50	2909	296	5819	593
	50100	50x 100	5701	581	11403	1162
		100x 50	20581	2098	41163	4197
	100100	100x 100	35654	3635	71310	7271
HFS8 NFS8	4040	40x 40	1407	143	2815	287
	4080	40x 80	2674	272	5349	545
		80x 40	9707	989	19415	1979
	40160	40x 160	5201	530	10403	1060
		160x 40	66674	6798	133352	13598
	8080	80x 80	17437	1778	34876	3556
	80160	80x 160	39738	4052	79479	8104
		160x 80	134611	13726	269229	27453
	4545	45x 45	2048	208	4097	417
	4590	45x 90	4366	445	8732	890
		90x 45	16859	1719	33720	3438
	9090	90x 90	28279	2883	56559	5767
	45180	45x 180	8201	836	16403	1672
		180x 45	108656	11079	217318	22160
	90180	90x 180	80605	8219	161215	16439
		180x 90	287627	29329	575270	58661
	5050	50x 50	3665	374	7330	747
	50100	50x 100	6942	707	13883	1415
		100x 50	28383	2894	56721	5783
	6060	60x 60	6973	711	13947	1422
HFSL6 NFSL6	3030	30x 30	360	36	720	73
	3060	30x 60	654	66	1309	133
		60x 30	2402	244	4804	489
	5050	50x 50	2524	257	5048	514
HFSL8 NFSL8	4040	40x 40	1013	103	2027	206
	4080	40x 80	1804	183	3608	367
		80x 40	7124	726	14235	1451
	4545	45x 45	1575	160	3151	321
	4590	45x 90	3071	313	6139	626
		90x 45	11648	1187	23290	2374
HFSG6	6060	60x 60	7292	743	14584	1487
HFSH8	8080	80x 80	24622	2510	49251	5022

Centralized Load: Concentrated load is applied at the center.

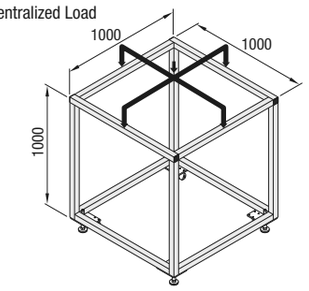


Evenly Distributed Load: When the load is evenly distributed over the extrusion.

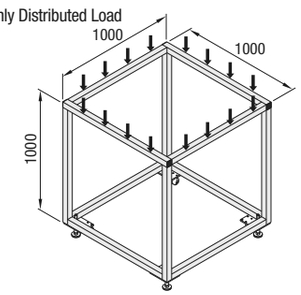


Part Number		Height x Width (mm)	Allowable Load			
			Centralized Load		Evenly Distributed Load	
Type	Extrusion		(N)	(kgf)	(N)	(kgf)
GFS6	3030	30x 30	466	48	932	95
	3060	30x 60	792	81	1585	162
		60x 30	3194	326	6389	651
GFS8	4040	40x 40	1848	188	3696	377
	4080	40x 80	3384	345	6768	690
		80x 40	12208	1245	24416	2490
	4545	45x 45	3172	323	6344	647
	4590	45x 90	5772	589	11544	1177
		90x 45	21792	2222	43584	4444
	5050	50x 50	5124	523	10248	1045
	50100	50x 100	9147	932	18292	1865
		100x 50	36706	3742	73380	7482
	6060	60x 60	10728	1094	21456	2188
	9090	90x 90	43016	4386	86032	8773
	100100	100x 100	62576	6381	125152	12762
	100200	100x 200	117507	11982	234918	23955
		200x 100	427334	43576	854170	87101
EFS6 NEFS6	3030	30x 30	382	39	765	78
	3060	30x 60	736	75	1472	150
		60x 30	2758	281	5516	562
	3090	30x 90	1181	120	2362	240
		90x 30	9185	2296	18371	1873
	30120	30x 120	1583	161	3166	322
		120x 30	20628	2103	41257	4207
	30300	30x 300	2079	272	4158	548
		300x 30	51487	5259	102974	10318
EFS8 NEFS8	4040	40x 40	1409	144	2818	287
	4080	40x 80	2677	273	5355	546
		80x 40	9745	994	19493	1988
	40120	40x 120	3940	401	7881	803
		120x 40	29958	3054	59916	6109
	40160	40x 160	5203	530	10407	1061
		160x 40	67114	6843	134228	13687
	8080	80x 80	17494	1783	34988	3567
	80160	80x 160	40708	4151	81417	8302
		160x 80	134584	13723	269168	27447
	4545	45x 45	2071	211	4143	422
	4590	45x 90	4389	448	8778	895
		90x 45	16860	1719	33720	3438
	5050	50x 50	3665	374	7330	747
	50100	50x 100	7120	726	14240	1452
		100x 50	28385	2894	56748	5787

Centralized Load: Concentrated load is applied at the center.



Evenly Distributed Load: When the load is evenly distributed over the extrusion.



Aluminum Extrusion Frame Assembly

Prior to Beginning

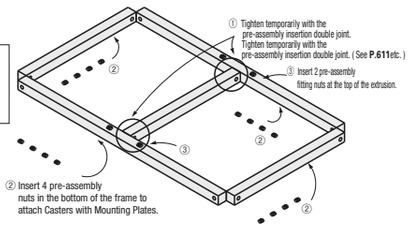
1. **Provide a large and flat work space for the assembly.**
2. **Sort the extrusions into parts and sizes.**
3. **Count and confirm the qty. of the nuts to be pre-inserted.**

*Insert any Pre Assy. Nuts needed at this point if mounting a top plate and/or covers.
This assy. example also shows installation of Plate Type Adjusters and Casters.

Assembly of Single Joint Connected Type.

1 Bottom Frame Assy.

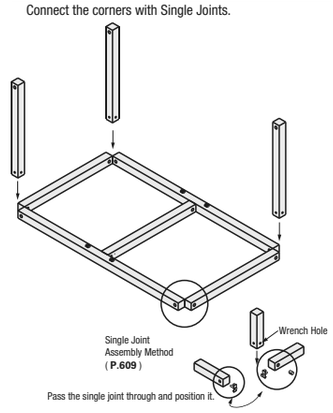
(1) Begin assembling with the bottom extrusion.
(2) Center joist is connected with Pre Assy. Ins. Double Joints.
(3) Insert the nuts prior to assembly.



* Do not forget to insert the nuts.

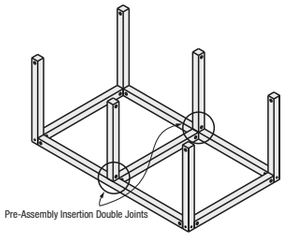
2 Mount the posts.

Connect the corners with Single Joints.



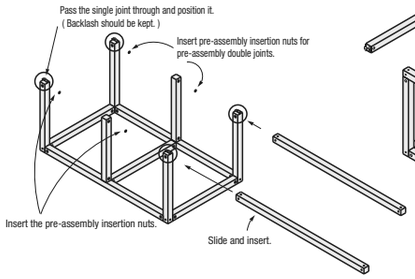
3 Mount the middle posts.

Connect the middle extrusions with Pre Assy. Ins. Double Joints.

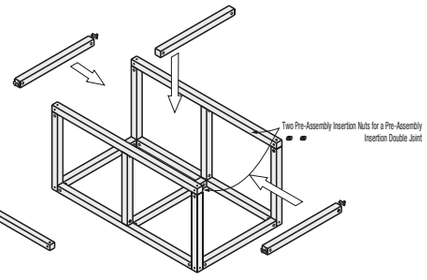


4 Top Frame Assy. (1)

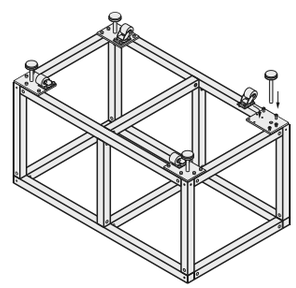
Pre-install Single Joints on the ends of four posts.



5 Top Frame Assy. (2)

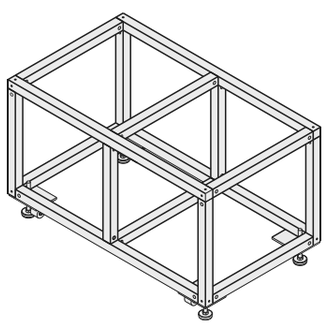


6 Adjuster and Caster Mounting



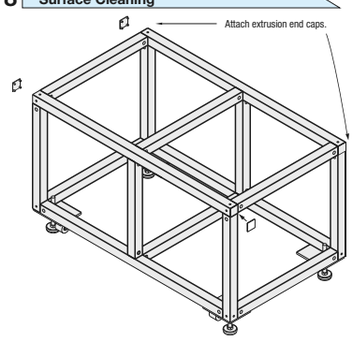
Invert the unit and mount the adjusters and casters. (Adjusters and Casters are sold separately on **P.833**.)

7 Final Tightening



Fully tighten while adjusting the extrusion positions.

8 Surface Cleaning



Wipe clean the surfaces with alcohol, etc. after the assy. work.

Aluminum Extrusion Q&A

■Aluminum Extrusion Q&A

Q. I want to size aluminum extrusions, what's a guideline?

A. MISUMI Aluminum Extrusions are comprised of the following product series.
Slot Width 6: 5 Series (20, 40mm square) for small coverings, small part racks, etc.
Slot Width 8: 6 Series (30, 50, 60mm square) for medium coverings, conveyor frames, etc.
Slot Width 10: 8 Series (40, 80mm square), 8-45 Series (45, 90, 50, 100, 60mm square) for larger clean booths, equipment bases and structural material, etc.
Find the weight that will apply on the extrusion frame, and select the extrusions from the tables on **P.521**.

Q. I want to size some brackets, what's a guideline?

A. Applicable brackets and load capacity guidelines for each extrusion type are separately listed on bracket product pages.
・If brackets interfere with panels and others, use Blind Brackets (**P.550**, etc.) Simple Joints (**P.604**, etc.), Tapping Joints (**P.552**, etc.), Screw Joints (**P.552**, etc.), Single Joints (**P.609**, etc.), Center Joints (**P.553**, etc.), Post Assy. Insertion Double joints (**P.554** , etc.) and Pre Assy. Insertion Double Joints (**P.611**, etc.).

Q. What is the aluminum material used?

A. EN AC-51400-T5 Equiv. (JIS Symbol) is used for HFS, HFSL and EFS Series. EN AW-6063-T5 Equiv. (JIS Symbol) is used for NFS Series.
The High Rigidity Type is made with A6061SS-T6 Equiv. with more strength.
For detailed data for this material, see Alum. Extrusion Material Data on **P.514**.

Q. What is cutting tolerance?

A. Within ±0.5mm of customer specified length.

Q. What are the surface treatment methods used for?

A. The extrusion surfaces are anodized (9μm or more). Cut surfaces are not anodized.
* Glossy clear coated aluminum extrusions are pre-anodized (9μm or more), then clear-coated (7μm).

Q. How are the extrusions cut?

A. The extrusions are cut with carbide tipped saws for soft steel material. Use the Extrusion End Caps (**P.567**, etc.) to cover the open cut ends after assembly.

Q. What is the cut's perpendicularity?

A. Since the extrusions do not have any datum, perpendicularity of cuts is not defined.

Q. Can JIS standard hex nuts and square nuts be used with the extrusions?

A. No, they cannot be used. Our dedicated nuts are designed with larger seating areas to prevent aluminum from buckling under load.
* Flat Extrusions (**P.743, 745**) can be used with standard nuts.

Q. The nuts fall within extrusion slots when the extrusions are vertically positioned.

A. Mount "Pre-Assembly Insertion Stopper (**P.559, 619, 669, 715**)" on Pre-Assembly Nut Insert them into the slot.
Post-Assembly Insertion Nut and Stopper Sets (**P.562, 622, 672, 718**) are also available.
When many nuts are required, Pre-Assembly Insertion Spring Nuts (**P.560, 620, 670, 716**) and Post Assembly Insertion Spring Nuts (**P.563, 622, 672, 718**) are more convenient to use.

Q. What are the proper tightening torques for the nuts and hex socket cap screws?

A. See the tightening torque (N・m) references on each nut page.
Post-Assembly Insertion Easy Brackets **P.544, 595, 652**, Pre-Assembly Insertion Nuts **P.559, 619, 669, 715**, Post-Assembly Insertion Nuts **P.562, 622, 672, 718**, Long Nuts **P.566, 626, 676, 722**, Flanged Nuts **P.565 · 625 · 675 · 721**
* Conditions vary depending on bracket and washer uses. Use as approximated references.

Q. I want to mount resin panels on aluminum extrusion...

A. There are following methods to mount resin panels. Select an applicable method specific to your application. (**P.804**)
(1) Mounting panels on brackets within the extrusions.
This method results in aesthetically good appearance, and makes for easy install/remove of the panels. Recommended for Safety Covers, etc.
(2) Fitting in the extrusion slots.
Requires no panel drilling or screws, and recommended for applications where designed appearance is of high priority.
(Some notching of the panels may be required depending on the type of brackets in use.)
(3) Mounting panels on the outside of the extrusions.
Pre-insert nuts with stoppers in the extrusion slots, and use Panel Mounting Screws (**P.751, 754**) to mount the panels.
Specify M5 tap for the nuts to be used (Ex. HNTT6-5)

Q. How can I mount doors on my extrusion frame?

A. There are following methods to mount resin panels. Select an applicable method specific to your application.
Resin Plate Doors: See **P.805~814** for Hinges, Handles, etc.
Extrusion Frame Doors: Use Cover Plates and HFS5-2020/HFS6-3030 extrusions to construct the doors.
* Extrusions for Doors HFTF Series (**P.854**) can be used in place for the HFS Series for even easier door creation.

Q. I want to mount adjusters and casters.

A. Adjusters and Casters useable for each extrusion size are offered. (**P.831~846**)

Q. Any precautions on the assembly?

A. ・Provide a flat and ample space for the assembly work.
・For orthogonality checks and face leveling during the assembly, use plates (assembly fixture on **P.846**) for your convenience.
・We recommend that you purchase some Post Assy. Ins. Nuts prior to the assembly work as spares.
・Be sure to check for the screw torques after the assembly is complete.

Q. Is Express-T for extrusions free of charge?

A Yes, and we intend on keeping it free. If same day shipping is desired, simply specify as Express-T. There is no additional charge for the service. (Aluminum Extrusions for Brackets (**P.742**), Aluminum Extrusions (**P.749, 750**), Fence Extrusions (**P.747**) are not subject to free Express-T service.)

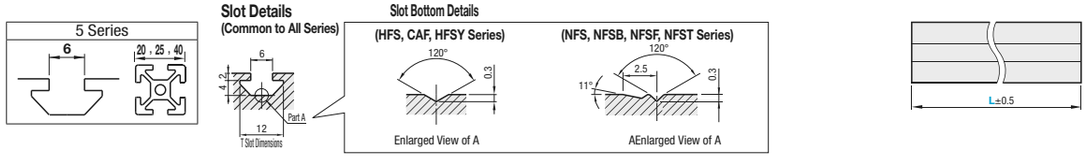
Q. What is Fixed Length Extrusion (Effective Length 4000mm)?

A It indicates the extrusion with 4000mm or more effective length. The actual length with extra lengths on ends is more than 4000mm (several tens of mm). Fixed Length Extrusions need to be cut by users thus the exact length cannot be specified.

5 Series Aluminum Extrusions - Overview

5 Series

Aluminum extrusions with 6mm slot width. Available in 20mm, 25mm and 40mm in size. Applicable to M5 bolts.
Slot Depth 6mm, T Slot Dimension 12mm, L Dimension Tolerance ±0.5mm



Variations

	Standard Aluminum Extrusions			Lightweight Aluminum Extrusions		High Rigidity Aluminum Extrusions
	HFS Series	EFS Series	NFS (NEFS) Series	HFSL Series	NFSL Series	GFS Series
Cross Section Photo						
Material	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	A6061SS-T6 Equiv.
Features	Standard cross section shape.	Have rigidity Equiv. to HFS Series yet lighter and more economical.	Significant price reduction has been achieved by material change. Strength(*) is the same as that of HFS and EFS Series.	Lightweight and economical extrusions. Suitable for use when light weight and economical price are given priority over strength.	Further price reduction has been achieved by changing the material of HFSL. Strength(*) is the same as that of HFSL Series.	These thick extrusions offer high rigidity and are suitable for use in high load.
Surface Treatment	Clear Anodize (HFS) Black Anodize (HFSB) Clear Coating (CAF) Baked Paint (Yellow) (HFSY)	Clear Anodize (EFS) Black Anodize (EFSB)	Clear Anodize Black Anodize	Clear Anodize Black Anodize	Clear Anodize	Clear Anodize
5 Series Representative Product	HFS5-2020 HFSB5-2020 CAF5-2020 HFSY5-2020	Not available in 5 Series lineup.	NFS5-2020 NFSB5-2020	Not available in 5 Series lineup.	Not available in 5 Series lineup.	Not available in 5 Series lineup.
Mass (kg/m) (**)	0.5	-	0.5	-	-	-
Cross Sectional Moment of Inertia (**) ℓx	0.742x10⁴	-	0.742x10⁴	-	-	-
Cross Sectional Moment of Inertia (**) ℓy	0.742x10⁴	-	0.742x10⁴	-	-	-

* Cross Sectional Moment of Inertia is equal to that of HFS, EFS and HFSL Series, however proof stress and tensile strength slightly decrease.
** Mass and Cross Sectional Moment of Inertia are for 20 square extrusions.

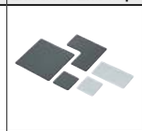
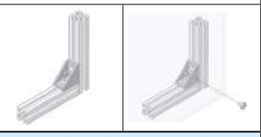
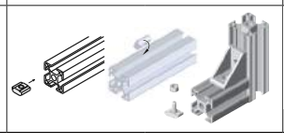
5 Series Aluminum Extrusions Lineup

Number of Slots (Vertical Axis) : Four-Side Slot Type can be jointed as desired; Flat Plane Type (1 - 3 sides) provides ornamental side(s).
Number of Slot Lines (Horizontal Axis) :There are extrusions with one or multiple slots on one side. Ones with multiple slots are suitable where strength is required.
Also available are Angled, Outer Surface R, Milled Surface, Bending and Slot Width Mixed Type.

Variations			HFS Series							EFS Series							NFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize	•	•	•	•	•	•	•								•	•	•	•			
		Black Anodize	•	•	•												•	•	•				
		Clear Coating	•	•	•																		
		Yellow Paint	•																				
		Page	P.529 P.531	P.530 P.531	P.530	P.531	P.532	P.533	P.534								P.529 P.531	P.530 P.531	P.530	P.531			
Flat Plane	One Flat	Clear Anodize	•	•	•				•								•	•	•				
		Black Anodize	•																				
		Clear Coating																					
		Yellow Paint																					
		Page	P.529	P.530	P.530				P.534								P.529	P.530	P.530				
	Two Flats	Clear Anodize	•		•												•						
		Black Anodize	•																				
		Clear Coating																					
		Yellow Paint																					
		Page	P.529		P.530												P.529						
	3 Sides Flat	Clear Anodize	•																				
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page	P.529																				

Accessories for 5 Series Aluminum Extrusions

MISUMI provides various types of mounting components and accessories.

Product Name	Brackets	Blind Joint	Nut	Extrusion End Caps	Slot Cover
Product Photo					
Mounted Product Photo					
Material	EN AC-46100 Equiv., EN AC-51400-T5 Equiv., etc.	EN 1.1191 Equiv., EN 1.4308 Equiv., EN 1.4301 Equiv., etc.	EN 1.0301 Equiv., EN 1.4301 Equiv., EN 1.4401 Equiv., etc.	Polyamide	Polyethylene, etc.
Features	Economical and standard joints mountable with screws and nuts. Alterations on aluminum extrusions for mounting are not required. Cover plates can be mounted by using Side Tapped Hole Type Brackets.	Suitable for locations where equipment is loaded and unloaded or doors are to be mounted. Alterations are required on the aluminum extrusions.	Nuts for mounting brackets and other accessories. Selectable from various types: Pre-Assembly Insertion Type, Post-Assembly Insertion Type, Thread Locking Adhesive Type, Spring-integrated Type convenient for vertical positioning.	Caps for protecting extrusion end faces. Can be mounted without any alterations.	Protects extrusion slots from dust. Can be cut with scissors. Various colors and materials are available.
Variations	Brackets for 1 Slot ~ 3 Slots Surface Treatment (Black Anodize, Electroless Nickel Plating, etc.) Brackets with Cover, etc.	-	Standard (Single Item, Bulk Packages, Stopper Sets)With Additional Functions (Temporary Holding, Thread Locking Adhesive, Holding Function) Screw Integrated, Long Nuts	Three-Sided Caps for Corners Screw Mounted	Elastomer Sponge Aluminum, etc.
Page No.	Brackets - Overview **P.535** Screws **P.751**~	Overview **P.551**	Overview **P.557**	**P.567**	**P.773**

5 Series Applications

Most lightweight aluminum extrusions usable with various fastening parts.
Suited for locations where small forces apply, such as for small coverings, small part racks and safety fences.

Usable in combination with different slot width extrusions.

Extrusions with different slot width can be combined when integrating frames and coverings.
5 Series, 6 Series, 8 Series Slot Width Mixed Extrusions (**P.580, P.640**) and Assembly Brackets for Different Extrusion Sizes (**P.590**) are available. Utilize these aluminum extrusions to assemble them as you desire.

(Additional Info.) Number of Slots and Number of Slot Lines

Number of Slots (Vertical Axis)

Four-Side Slots / One Flat / Two Flats / 3 Sides Flat

Number of Slot Lines (Horizontal Axis)

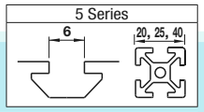
1 Slot / 2 Slots (Rectangle) / 2 Slots (Square) / 3 Slots or More



Variations			HFSL Series							NFSL Series							GFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					
Flat Plane	One Flat	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					
	Two Flats	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					
	3 Sides Flat	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					

5 Series Aluminum Extrusions 20, 25, 40mm Square

1 Slot



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.535 ~ P.550	P.551 ~ P.554	P.557 ~ P.566	P.567	P.755 ~ P.768

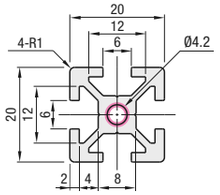
■**Features:** Small and light aluminum extrusions suited for locations where small forces apply, such as for covers and safety fences.



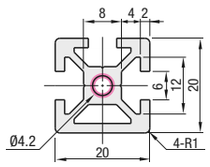
Type		M Material	S Surface Treatment
Configurable Length	Fixed Length		
NFS□5	KNFS□5	EN AW-6063-T5 Equiv.	Clear Anodize
NFSB5	KNFSB5		Black Anodize
HFS□5	KHFS□5	EN AC-51400-T5 Equiv.	Clear Anodize
HFS□B5	KHFS□B5		Black Anodize
CAF5	KCAF5		Clear Coating (Anodize + Clear Paint)
HFSY5	KHFSY5		Baked Paint (Yellow)

Cut surface and altered parts are not surface treated.
The color of HFSY5 is D22-80V (Japan Paint Manufacturers Association, Munsell Value Reference 2.5Y8/12).

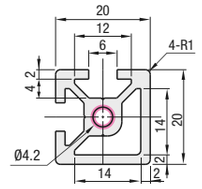
NFS5-2020
NFSB5-2020 (Black Anodize)
HFS5-2020
HFSB5-2020 (Black Anodize)
CAF5-2020 (Clear Coating)
HFSY5-2020 (Baked Paint, Yellow)



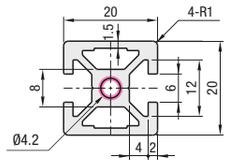
NFSF5-2020
HFSF5-2020
HFSFB5-2020 (Black Anodize)



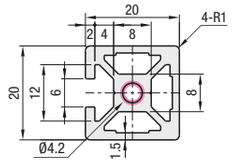
NFST5-2020
HFST5-2020
HFSTB5-2020 (Black Anodize)



HFSH5-2020



HFSC5-2020



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NFS5	2020	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	0.5	183	0.742x10⁴	0.742x10⁴						
NFSB5 (Black Anodize)												
HFS5												
HFSB5 (Black Anodize)												
CAF5 (Clear Coating)												
HFSY5 (Baked Paint, Yellow)												
NFSF5			0.53	195	0.834x10⁴	0.746x10⁴						
HFSF5												
HFSFB5 (Black Anodize)												
NFST5				196	0.808x10⁴	0.808x10⁴						
HFST5												
HFSTB5 (Black Anodize)												
HFSH5				199	0.74x10⁴	0.89x10⁴						
HFSC5			0.56	208	0.81x10⁴							

■Fixed Length Extrusion (1000mm)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.
Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Qty. 1 ~ 19	Volume Discount Rate 20~120
KHFS5	2020	1000	183	0.742x10⁴	0.742x10⁴		

■Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNFS5	2020	4000 (Effective Length)	183	0.742x10⁴	0.742x10⁴		
KNFSB5 (Black Anodize)							
KHFS5							
KHFSB5 (Black Anodize)							
KCAF5							
KHFSY5							
KNFSF5			195	0.834x10⁴	0.746x10⁴		
KHFSF5							
KHFSFB5 (Black Anodize)							
KNFST5			196	0.808x10⁴	0.808x10⁴		
KHFST5							
KHFSTB5 (Black Anodize)							
KHFSH5			199	0.74x10⁴	0.89x10⁴		
KHFSC5			208	0.81x10⁴			

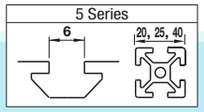
Ordering Example

Part Number	-	L
HFS5-2020	-	800
KHFS5-2020	-	1000
KHFSF5-2020	-	4000

Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

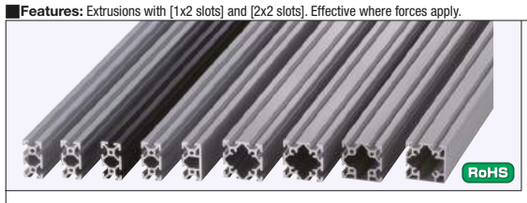
5 Series Aluminum Extrusions 20, 25, 40mm Square

2 Slots



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.535 ~ P.550	P.551 ~ P.554	P.557 ~ P.566	P.567	P.755 ~ P.768

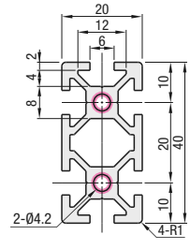
■**Features:** Extrusions with [1x2 slots] and [2x2 slots]. Effective where forces apply.



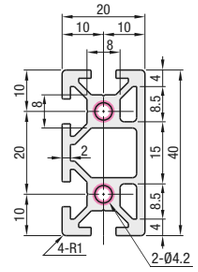
Type		M Material	S Surface Treatment
Configurable Length	Fixed Length		
NFS□5	KNFS□5	A6063SS-T5	Clear Anodize
NFSB5	KNFSB5		Black Anodize
HFS5	KHFS5	EN AC-51400-T5 Equiv.	Clear Anodize
HFSB5	KHFSB5		Black Anodize
CAF5	KCAF5		Clear Coating (Anodize + Clear Coating)

Cut surface and altered parts are not surface treated.

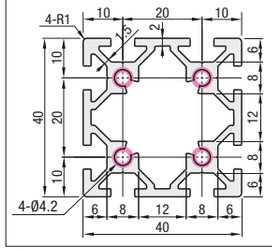
NFS5-2040
NFSB5-2040 (Black Anodize)
HFS5-2040
HFSB5-2040 (Black Anodize)
CAF5-2040 (Clear Coating)



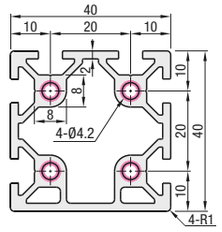
NFSF5-2040
HFSF5-2040



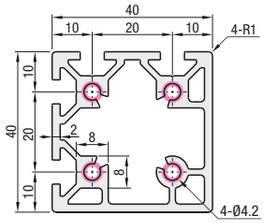
NFS5-4040
NFSB5-4040 (Black Anodize)
HFS5-4040
HFSB5-4040 (Black Anodize)
CAF5-4040 (Clear Coating)



NFSF5-4040
HFSF5-4040



HFST5-4040



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NFS5	2040	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	0.88	324	1.358x10⁴	5.13x10⁴						
NFSB5 (Black Anodize)												
HFS5												
HFSB5 (Black Anodize)												
CAF5 (Clear Coating)												
NFSF5			0.93	344	1.52x10⁴	5.40x10⁴						
HFSF5												
NFS5	4040		1.28	472	8.89x10⁴	8.89x10⁴						
NFSB5 (Black Anodize)												
HFS5												
HFSB5 (Black Anodize)												
CAF5 (Clear Coating)												
NFSF5			1.41	522	9.78x10⁴	9.32x10⁴						
HFSF5												
HFST5			1.35	497	9.60x10⁴	9.60x10⁴						

■Fixed Length Extrusion (1000mm)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.
Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Qty. 1~19	Volume Discount Rate 20~120
KHFS5	2040	1000	324	1.358x10⁴	5.13x10⁴		

■Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNFS5	2040	4000 (Effective Length)	324	1.358x10⁴	5.13x10⁴		
KNFSB5 (Black Anodize)							
KHFS5							
KHFSB5 (Black Anodize)							
KCAF5							
KNFSF5			344	1.52x10⁴	5.40x10⁴		
KHFSF5							
KNFS5	4040		472	8.89x10⁴	8.89x10⁴		
KNFSB5 (Black Anodize)							
KHFS5							
KHFSB5 (Black Anodize)							
KCAF5							
KNFSF5			522	9.78x10⁴	9.32x10⁴		
KHFSF5							
KHFST5			497	9.60x10⁴	9.60x10⁴		

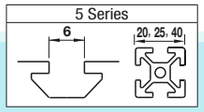
Ordering Example

Part Number	-	L
HFS5-2040	-	800
KHFS5-2040	-	1000
KHFSF5-2040	-	4000

Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

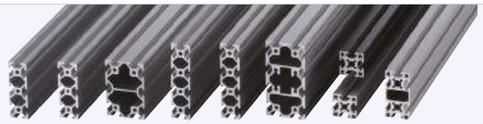
5 Series Aluminum Extrusions 20, 25, 40mm Square

Aluminum Extrusions 25mm Square with 3 or more Slots



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.535 ~ P.550	P.551 ~ P.554	P.557 ~ P.566	P.567	P.755 ~ P.768

■**Features:** Extrusions with [1x3 slots] and [2x4 slots], etc. 25mm square is also available.

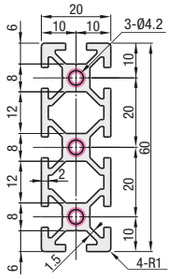


RoHS

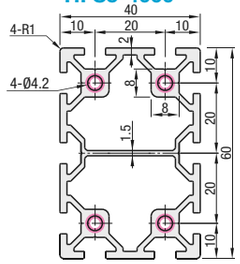
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NFS5	KNFS5	EN AW-6063-T5 Equiv.	Clear Anodize
HFS5	KHFS5	EN AC-51400-T5 Equiv.	Clear Anodize
HFSB5	KHFSB5		Black Anodize

Cut surface and altered parts are not surface treated.

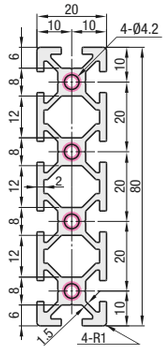
NFS5-2060
HFS5-2060



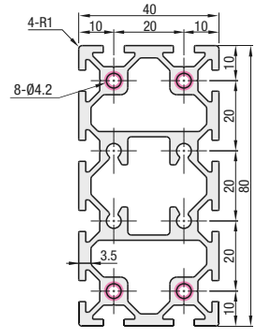
NFS5-4060
HFS5-4060



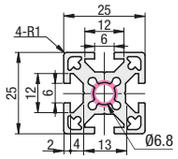
NFS5-2080
HFS5-2080



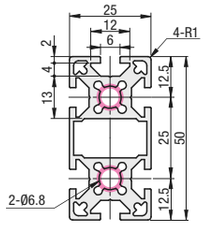
NFS5-4080
HFS5-4080



NFS5-2525
HFS5-2525
HFSB5-2525 (Black Anodize)



NFS5-2550
HFS5-2550
HFSB5-2550 (Black Anodize)



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NFS5 / HFS5	2060	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.26	464	1.97x10⁴	15.98x10⁴						
NFS5 / HFS5	2080		1.64	605	2.56x10⁴	36.0x10⁴						
NFS5 / HFS5	4060		1.8	665	12.63x10⁴	27.0x10⁴						
NFS5 / HFS5	4080		2.69	994	18.29x10⁴	63.3x10⁴						
NFS5 / HFS5	2525		0.81	320	1.71x10⁴	1.71x10⁴						
NFS5 / HFS5	2550		1.36	503	2.97x10⁴	12.74x10⁴						
HFSB5 (Black Anodize)	2525		0.81	320	1.71x10⁴	1.71x10⁴						
	2550		1.36	503	2.97x10⁴	12.74x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNFS5 / KHFS5	2060	4000 (Effective Length)	464	1.97x10⁴	15.98x10⁴		
KNFS5 / KHFS5	2080		605	2.56x10⁴	36.0x10⁴		
KNFS5 / KHFS5	4060		665	12.63x10⁴	27.0x10⁴		
KNFS5 / KHFS5	4080		994	18.29x10⁴	63.3x10⁴		
KNFS5 / KHFS5	2525		320	1.71x10⁴	1.71x10⁴		
KNFS5 / KHFS5	2550		503	2.97x10⁴	12.74x10⁴		
KHFSB5 (Black Anodize)	2525		320	1.71x10⁴	1.71x10⁴		
	2550		503	2.97x10⁴	12.74x10⁴		

Ordering Example

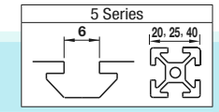
Part Number	-	L
HFS5-2060	-	800
KHFS5-2020	-	4000

When L<300, the unit prices indicated in the table apply regardless of the length.
When L≥300mm, total prices are calculated as follows:
Unit Price/m x Specified O.A.L. = Sales Price

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

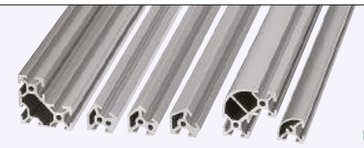
5 Series Aluminum Extrusions 20, 25, 40mm Square

Other Shapes



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.535 ~ P.550	P.551 ~ P.554	P.557 ~ P.566	P.567	P.755 ~ P.768

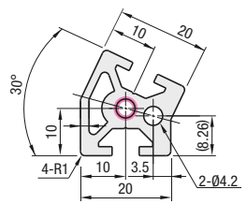
■**Features:** Can be used when making angles or making outer surface in radius.



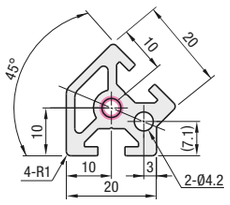
RoHS

Type		Material	Surface Treatment
Configurable Length	Fixed Length		
HFS5 HFSR5 HFS□□A5	KHFS5 KHFSR5 KHFS□□A5	EN AC-51400-T5 Equiv.	Clear Anodize

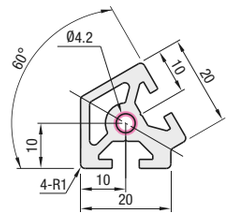
HFS30A5-20



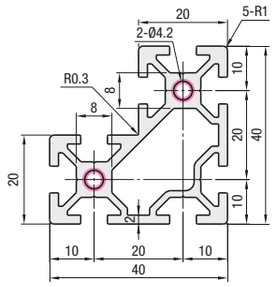
HFS45A5-20



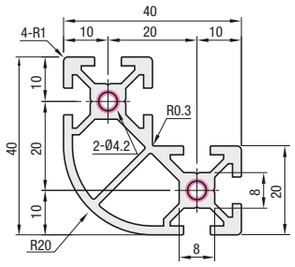
HFS60A5-20



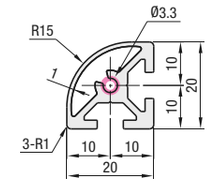
HFS5-404020



HFSR5-404020



HFSR5-2020



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
HFS30A5	20	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	0.61	228	0.80x10⁴	0.98x10⁴						
HFS45A5			0.59	221	0.82x10⁴	0.92x10⁴						
HFS60A5			0.61	227	0.86x10⁴							
HFS5	404020		1.16	429	6.61x10⁴	6.61x10⁴						
HFSR5	404020		1.13	419	5.95x10⁴	5.95x10⁴						
	2020		0.42	153	0.57x10⁴	0.57x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KHFS30A5	20	4000 (Effective Length)	228	0.80x10⁴	0.98x10⁴		
KHFS45A5			221	0.82x10⁴	0.92x10⁴		
KHFS60A5			227	0.86x10⁴			
KHFS5	404020		429	6.61x10⁴	6.61x10⁴		
KHFSR5	2020		153	0.57x10⁴	0.57x10⁴		

Ordering Example

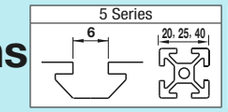
Part Number	-	L
HFS30A5-20	-	800
KHFS30A5-20	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

5 Series Aluminum Extrusions

Aluminum Extrusions with Parallel Surfacing

5 Series



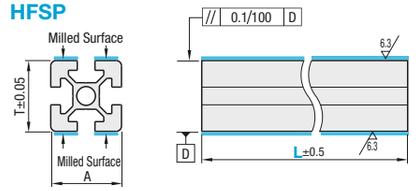
Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.535 ~ P.550	P.551 ~ P.554	P.557 ~ P.566	P.567	P.755 ~ P.768

Features: Milled on upper and lower surfaces. Usable for Linear Guides, etc.



RoHS

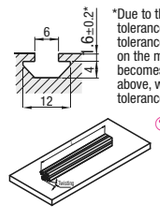
HFSP



Milled surfaces and cut surfaces are not anodized.

M Material : EN AC-51400-T5 Equiv.
S Surface Treatment: Clear Anodize

Detailed view of slot on milled surface



*Due to the extrusion tolerance, the thickness tolerance of the slot on the milled surface becomes as shown above, while T dimension tolerance is ±0.1.

Being extruded sections, products can twist. Supporting overall length of extrusion for use is recommended. See Aluminum Extrusion Tolerance Data on **P.514**.

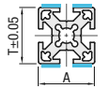
For detailed dimensions and shapes EXCEPT the slots on the milled surface, A and T dimensions, please refer to the drawing of the product of the below Part Number without "P".
((Ex.) HFSP5-2020→Ref. fig. HFS5-2020(P.529))

Square Type

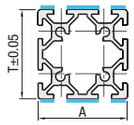
HFSP5-2020



HFSP5-2525

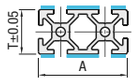


HFSP5-4040

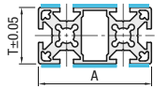


Rectangle Type (Horizontal)

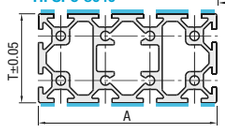
HFSP5-4020



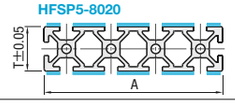
HFSP5-5025



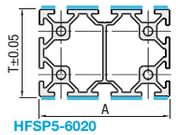
HFSP5-8040



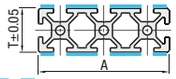
HFSP5-8020



HFSP5-6040

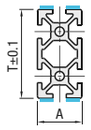


HFSP5-6020

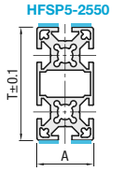


Rectangle Type (Vertical)

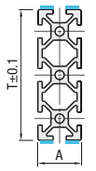
HFSP5-2040



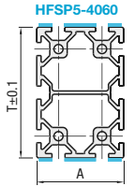
HFSP5-2550



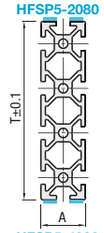
HFSP5-2060



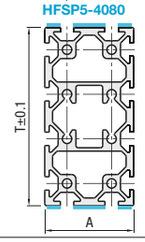
HFSP5-4060



HFSP5-2080

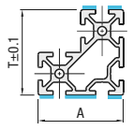


HFSP5-4080



L-Shaped Type

HFSP5-404020



Part Number		L 0.5mm Increment	Extrusion Series	T	A	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)	Alteration Charge (Main Body +) Counterboring XA ~ XE (per Row)		Wrench Hole Drilling AV ~ EV (per Row)		Tapping (See P.757) Tap Shape	Left LTP	Right RTP	Both TPW
HFSP5	2020	100~3000	HFS5	19.2	20			Z5 d5.5 d1 9.5 Z6 d6.5 d1 11		D7 Ø7.35		M5 Depth 15			
	4020			19.2	40										
	2040			39.2	20										
	2525			24.2	25							M8 Depth 24			
	5025			24.2	50										
	2550			49.2	25										
	6020			19.2	60							M5 Depth 15			
	2060			59.2	20										
	8020			19.2	80										
	2080			79.2	20			-							
	4040			39.2	40										
	6040			39.2	60										
	4060			59.2	40										
	8040			39.2	80										
	4080			79.2	40			-							
	404020			39.2	40										

Ordering Example: Part Number - L
HFSP5-2020 - 300

Example

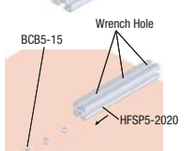


Alterations Adds a hole at a specified position.

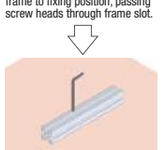
• Nuts for Extrusions
Use nuts for aluminum exrusions on **P.557~566**.

Alterations	Counterboring							Wrench Hole					
Code	Z Selection			XA	XB	XC	XD	XE	D Selection	AV	BV	CV	DV	EV
Spec.	Z	d	d1	Distance from the Left End Plane mm					D	Distance from the Left End Plane mm				
Specifications of Hole Size and Position	5	5.5	9.5	7~(L-7)					7	7~(L-7)				
	6	6.5	11											

When the cross section is L-shaped, select distance from left end with lower section in the back.

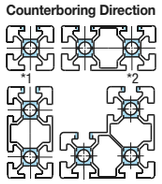


Installed button screws temporarily in reference plane, then slide the frame to fixing position, passing screw heads through frame slot.

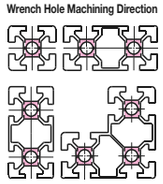


Put wrench in the wrench hole and tighten the screw.

Counterboring Direction

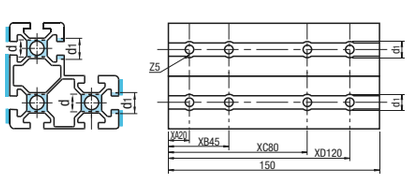


Wrench Hole Machining Direction



*1 When the cross section is rectangle (vertical), counterboring is not available for extrusions exceeding 60mm in the length direction.
*2 When the cross section is L-shaped, counterboring is not available for extrusions exceeding 60mm in longitudinal direction, except for the lower portion.

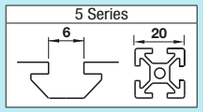
Ordering Example
HFSP5 - 404020 - 150 - Z5 - XA20 - XB45 - XC80 - XD120
HFSP5 - 2020 - 2000 - D7 - AV100 - BV120 - CV1000 - DV1880 - EV1900
HFSP5 - 4040 - 800 - LTP



5 Series Aluminum Extrusions

Bent Extrusions / Brackets for Reinforcement

5 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Cap	Alterations
P.535 ~ P.550	P.551 ~ P.554	P.557 ~ P.566	P.567	P.755 ~ P.768

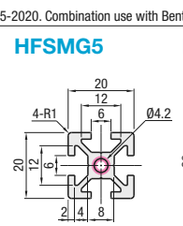
Features: Bending is applied to HFS5-2020. Combination use with Bent Panel (P.968) is possible.

Bent Extrusions

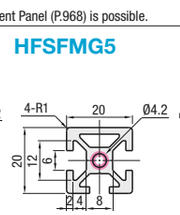


RoHS

HFSMG5



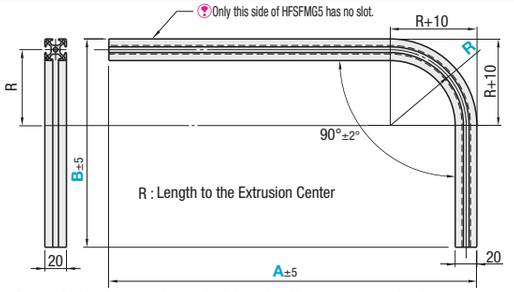
HFSFMG5



Bending is applied after anodizing; therefore, bent section may slightly discolor and becomes white.

(For dedicated Bent Panels, refer to **P.968**)

M Material : EN AC-51400-T5 Equiv.
S Surface Treatment: Clear Anodize



When R=140, the frame slot may be deformed and becomes narrower in width at the spot where the frame is bent. Therefore, slot nut cannot be used.

Part Number Type	No.	A 1mm Increment	B 1mm Increment	R*
HFSMG HFSFMG	5-2020	200~1500	200~1000	140 300* 500*

Type	Series	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy
HFSMG HFSFMG	HFS5	0.50	183	0.742x10⁴	0.742x10⁴

* Bent panels for R300 and R500 are not available.

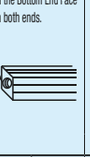
A and B dimensions not indicated in the price list are not available.

Ordering Example: Part Number - A - B - R
HFSMG5-2020 - A350 - B700 - R140

Alterations: Part Number - A - B - R - (LTP, RTP, TPW··· etc.)
HFSMG5-2020 - A400 - B500 - R140 - LTP-LMH

Alterations Code	Tapping (See P.757) LTP	RTP	TPW	M Type Hole (See P.766) LMH	LMV	RMH	RMV
Spec.	Tapping to the center hole. Tap Shape M5 Depth 15 LTP : Tapping on the Left End Face RTP : Tapping on the Bottom End Face TPW : Tapping on both ends. Ex. LTP			Adds M type hole in specified position. Can be connected with Center Joint (**P.553**) or Post-Assembly Insertion Double Joints (**P.554**). **LMH,RMH**:Adds an M hole on the left bottom of the extrusion in the horizontal direction. Ex. LMH			
	Tapped			**LMV,RMV**:Adds a hole on the left (bottom) of the extrusion in the vertical (right) direction. Ex. RMV			
				LMV and RMV are not applicable to HFSFMG.			
Applicable Extrusion							
HFSMG5-2020 HFSMG5-2020	270		540	120			

When tapping and M type hole alteration are both specified, the depth of tapping hole will be up to M Hole.



Part Number Type	No.	A	Unit Price R140 B 200~300	301~400	401~500	501~600	601~700	701~800	801~900	901~1000	R300 B 400~500	501~600	601~700	701~800	801~900	901~1000	R500 B 600~700	701~800	801~900
HFSMG HFSFMG	5~2020	200~ 300									-	-	-	-	-	-	-	-	-
		301~ 400									-	-	-	-	-	-	-	-	-
		401~ 500															-	-	-
		501~ 600															-	-	-
		601~ 700															-	-	-
		701~ 800																	-
		801~ 900																-	-
		901~1000															-	-	-
		1001~1100															-	-	-
		1101~1200															-	-	-
		1201~1300															-	-	-
		1301~1400															-	-	-
		1401~1500															-	-	-

Features: Reinforcement Brackets machined from extrusions. Usable on locations needing more strength after connecting with brackets.

Brackets for Reinforcement

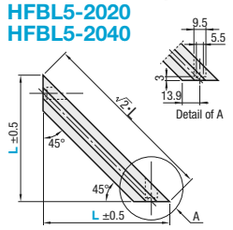


RoHS

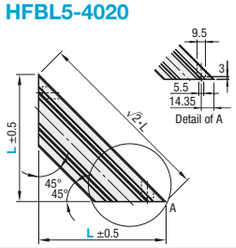
M Material : EN AC-51400-T5 Equiv.
S Surface Treatment: Clear Anodize

(No surface treatment on 45 deg. cut ends and counterbores.)

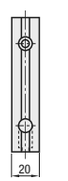
HFBL5-2020 HFBL5-2040



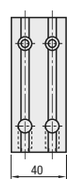
HFBL5-4020



<Front View> HFBL5-2020 HFBL5-4020



<Front View> HFBL5-2040



Part Number Type	No.	L 1mm Increment	Applicable Screw and Nut Screw	Quantity	Nut	Quantity	L100~300 Unit Price 1 ~ 4 pc(s).	Volume Discount Rate 5~20	21~50	L301~500 Unit Price 1 ~ 4 pc(s).	Volume Discount Rate 5~20	21~50
HFBL5	2020	100~500	CBM5-8	2	HNTT5-5	2						
	2040			4		4						
	4020			2		2						

Ordering Example: Part Number - L
HFBL5-2020 - 300

Alterations: Part Number - L - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HFBL5-2020 - 300 - SET

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HFBL5 is specified CODE: Screw: CBM5-8, Nut: HNTT5-5 SST: CBM5-8, HNTTBS5-5 SEU: CBM5-8, HNTU5-5 SSU: SCB5-8, SHNTU5-5 SEP: CBM5-8, HNTP5-5 SSP: SCB5-8, SHNTP5-5	HFBL5-2020 HFBL5-2040 HFBL5-4020

Not RoHS compliant when -SET, -SEU or -SEP are specified.

Brackets - Overview

For 5 Series (Slot Width 6mm) Aluminum Extrusions

■There are two types of aluminum extrusions connections.

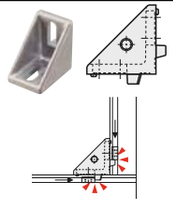
Bracket Connection		**Inserts nuts into the slots of aluminum extrusions and fix with screws. Economical and mountable at desired positions since alterations on extrusions are not required.**
Blind Joint Connection		**Adds hole alterations on the extrusion sides and connects with special joints. Connection without brackets produces clean corners. Recommended where interference needs to be avoided. For details of Blind Joint Connection, see P.551.**

■About Brackets

・For 1 Slot : Products effective to increase assembly workability and with different surface treatments are available. Various types other than representative ones are also available. See the table below to find the rough features and check the details on each product page. **P.537~P.540**

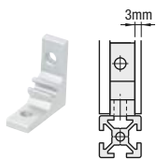
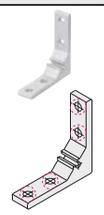
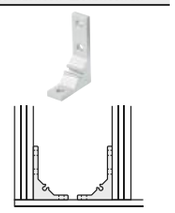
Tabbed Brackets

Mounting surfaces are tabbed to prevent rotations. Other than conventional "HBLFSN5", products with additional functions are also available.

Product Name	Tabbed Reversal Brackets	One-Side Rib Brackets	Nut Mounting Brackets	Brackets with Single Side Tab	Brackets with Cover
Product Photo					
Material	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.
Features	Tabs on mounting surfaces enable easy positioing. Most conventional type.	One-Sided Tabbed (Side Face), easy to work with hex wrenches.	Nut position adjustment is not required since the long protrusion fixes nuts.	Only one side of bracket has tabs. Suitable when connecting extrusions and plates.	Brackets with cover type. Superior in sanitation since dust does not intrude.
Representative Product	HBLFSN5	HBLFSL5	HBLFSR5	HBLFSNK5 HBLFSNE5	HBLFSNT5
Page	P.537	P.537	P.537	P.538	P.538

Extruded Brackets

Surfaces are anodized. In addition to the conventional "NBLTS5 / HBLTS5", products with additional functions are available.

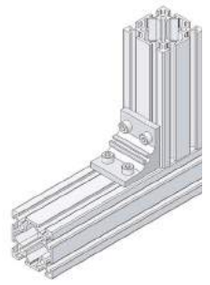
Product Name	Thick Brackets	Lateral Misalignment Brackets	Thick Brackets	Scalene Brackets
Product Photo				
Material	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.
Features	Made of the same material as aluminum extrusions with anodizing. Suitable when uniform appearance with the extrusions is desired.	Hole positions are offset. Can be combined with plates of 3mm thickness as a flush suface when mounting plates on the side.	Two mounting holes are provided on one side. Extrusions can be connected more securely with 4 screws.	Length of two sides are scalene. Usable where space is narrow.
Representative Product	• NBLTS5 (EN AW-6063-T5 Equiv.) • HBLTS5(EN AC-51400-T5 Equiv.)	HBLTH5	HBLTSW5	HBLTF5
Page	P.539	P.540	P.540	P.540

Side surface and screw holes are not anodized for NBL□□ Series(A 6063S-T5 material).

・For Multiple Slot Extrusions : Extrusions with two/three slots can be connected with one bracket. Check the details on each product page. **P.541~P.543**

Product Name	Tabbed Brackets - For 2 Slots	Extruded Brackets - For 2 Slots	Extruded Brackets - For 3 Slots
Product Photo			
Material	EN AC-46100 Equiv.	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.
Representative Product	HBLFSD5	• NBLT5(EN AW-6063-T5 Equiv.) • HBLTD5(EN AC-51400-T5 Equiv.)	• NBLT5(EN AW-6063-T5 Equiv.) • HBLT5(EN AC-51400-T5 Equiv.)
Page	P.541	P.542	P.543

Side surface and screw holes are not anodized for NBL□□ Series(A 6063S-T5 material).



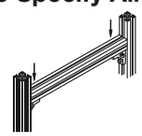
・Special Shape:Products with special functions/shapes are also available. Check the details on each product page. **P.544~P.548**

Product Name	Post-Assembly Insertion Easy Brackets	Thin Brackets	Angled Brackets	Free Angle Brackets
Product Photo				
Features	2 aluminum extrusions can be connected with only 1 tightening screw.	Thin and compact type. Effective for space saving at mounting locations.	45° / 135° angled type. Extrusions with 45° cut can be connected.	Extrusions can be connected at any arbitrary angle.
Representative Product	HABL5	HBLSS5	HBL45TS5 HBL135TS5	HBLTBA20
Page	P.544	P.545	P.547	P.548

■Perpendicularity

Perpendicularity of Extruded Brackets is manufactured within ±1° tolerance based on JIS Standard H4100 Special Grade.
For applications where perpendicularly is important, use Perpendicularly Machined Type. **P.539**

■How to Specify Allowable Load of Bracket

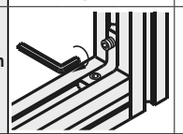
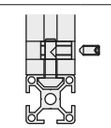
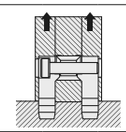
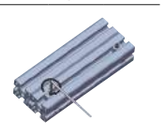


Allowable load per one bracket is calculated with one beam extrusion between two vertical extrusions supported by a bracket under each side of the beam as shown on the left-side figure.

Allowable Load here means the load applied when all mounting holes of the brackets are fixed with screws and the brackets can hold the position without break or sliding.

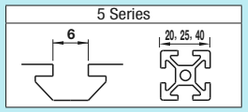
■About Blind Joint Components

Blind Joint Connection is recommended where standard brackets and peripherals interfere.
See the table below and check the details on each product page. **P.549~P.554**

Product Name	Blind Brackets	Tapping Joints	Screw Joints	Center Joint	Post-Assembly Insertion Double Joints	Parallel Joints
Product Photo						
Installation Diagram						
Material	EN 1.1191 Equiv. or EN 1.4308 Equiv.	JIS-SWCH18A	Steel or EN 1.4301 Equiv.	EN 1.4308 Equiv.	EN 1.4308 Equiv. / EN 1.4301 Equiv.	EN 1.4308 Equiv. / EN 1.4301 Equiv.
Features	No need for alterations to hide brackets inside of the slot.	・Tapping alteration is not required. ・Most economical Blind Joints.	Joint Plate enables secure and economical connection.	Most standard Blind Joints usable with various types of aluminum extrusions.	Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.	Extrusions can be connected in parallel.
Representative Product	HBLBS	HTJ	HCJ	HMJ	HPJN	HLJ
Page	P.550	P.552	P.552	P.553	P.554	P.554

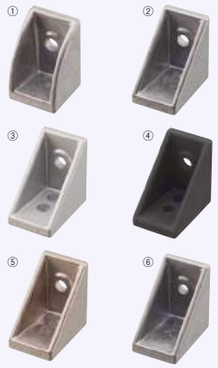
Tabbed Brackets - For 1 Slot

For 5 Series (Slot Width 6mm) Aluminum Extrusions



Features: Tabbed Brackets to be connected by both L and Cross-Connections.

Tabbed Reversal Brackets



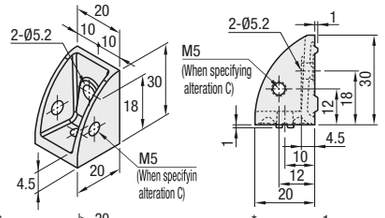
RoHS

Type	Material	Surface Treatment
①HBLFSNF5	EN AC-46100 Equiv.	-
②HBLFSN5		
③HBLFSN5-4		Black Anodize
④HBLFSNB5		Electroless Nickel Plating
⑤HBLFSNM5		Baked Paint (Silver)
⑥CHBLFSN5		

*Baked Paint (Silver) is color coordinated with Clear Coating Extrusions.

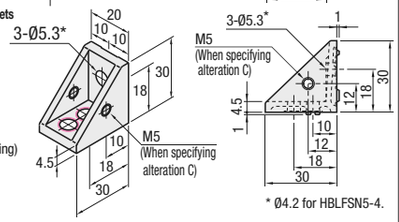
· Tabbed Reversal Brackets (Depth 20m)

HBLFSNF5



· Tabbed Reversal Brackets

HBLFSN5
HBLFSN5-4
(For M4 Screw)
HBLFSNB5
(Black Anodize)
HBLFSNM5
(Electroless Nickel Plating)
CHBLFSN5
(Baked Paint, Silver)



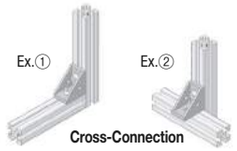
* Ø4.2 for HBLFSN5-4.

Part Number Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1-99 pc(s).	Volume Discount Rate 100~200
HBLFSNF5	13	CBM5-10	2	HNTT5-5	2	1176		
HBLFSN5	15	CBM5-10	2	HNTT5-5	2	1176		
HBLFSN5-4 (For M4 Screw)	15	CBM4-10	2	HNTT5-4	2	1176		
HBLFSNB5* (Black Anodize)	15	CBM5-10	2	HNTT5-5	2	1176		
HBLFSNM5 (Electroless Nickel Plating)	15	CBM5-10	2	HNTT5-5	2	1176		
CHBLFSN5 (Baked Paint, Silver)	15	CBM5-10	2	HNTT5-5	2	1176		

* For repairing black anodizing, refer to **P.846**.

Example

Use one of the two holes on bottom, depending on mounting direction.
*Cross-Connection is not available for 25 Square Extrusions.



HBLFSNF5 prevents brackets from protruding from extrusions when cross-connected.



Features: One-Sided Tabbed Rib Brackets. Easy to work with wrenches.

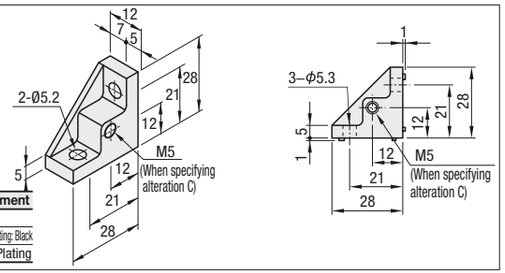
One-Side Rib Brackets



RoHS

HBLFSL5
HBLFSLB5
(Cathodic Electrodeposition Paint: Black)
HBLFSLM5
(Electroless Nickel Plating)

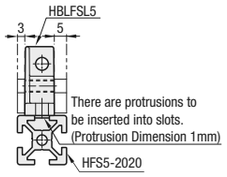
Type	Material	Surface Treatment
HBLFSL5	EN AC-46100 Equiv.	-
HBLFSLB5		Cathodic Electrodeposition Coating: Black
HBLFSLM5		Electroless Nickel Plating



Part Number Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1-99 pc(s).	Volume Discount Rate 100~200
HBLFSL5	13	CBM5-10	2	HNTT5-5	2	1176		
HBLFSLB5 (Cathodic Electrodeposition Paint: Black)	13	CBM5-10	2	HNTT5-5	2	1176		
HBLFSLM5 (Electroless Nickel Plating)	13	CBM5-10	2	HNTT5-5	2	1176		

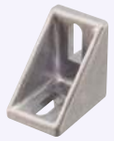
Example

Can be combined with both cover plates of 5mm and 3mm thickness.



Features: Pressing nuts against the long tabs makes cumbersome hole positioning unnecessary.

Nut Mounting Brackets

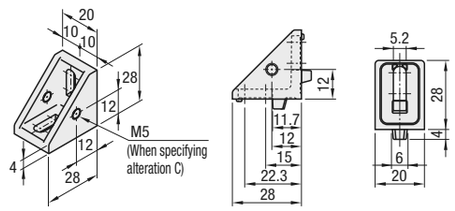


RoHS

HBLFSR5

- Slotted holes are for various nut hole positions.
- Bracket tabs may be damaged when nuts are fallen on them.
- Use of washers are recommended. (Refer to alterations on the next page: SEC)

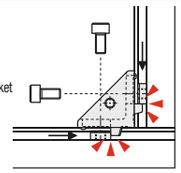
Material: EN AC-46100 Equiv.



Part Number Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1-99 pc (s).	Volume Discount Rate 100~200
HBLFSR5	15	CBM5-10	2	HNTT5-5	2	1176		

Example

When nuts are wedged through until the tab, hole positions of bracket and nuts are aligned and fine adjustment becomes unnecessary.
⊗Short Nuts, HNTM and HNTAM are not applicable.



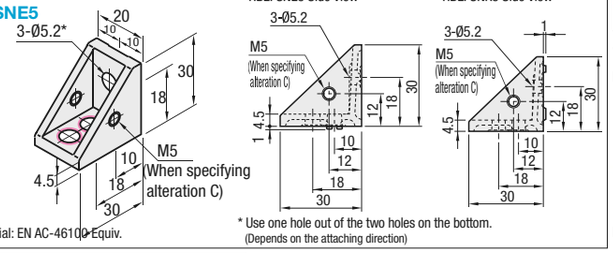
Features: Brackets with single side tabs. Panels can be mounted on the side without tabs as shown in the app. example.

Brackets with Single Side Tab



RoHS

HBLFSNK5
HBLFSNE5



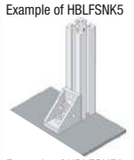
Material: EN AC-46100 Equiv.

* Use one hole out of the two holes on the bottom. (Depends on the attaching direction)

Example

· Can be mounted on a plate directly.

Example of HBLFSNK5



Example of HBLFSNE5



Part Number Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSNK5	15	CBM5-10	2	HNTT5-5	2	1176		
HBLFSNE5	15	CBM5-10	2	HNTT5-5	2	1176		

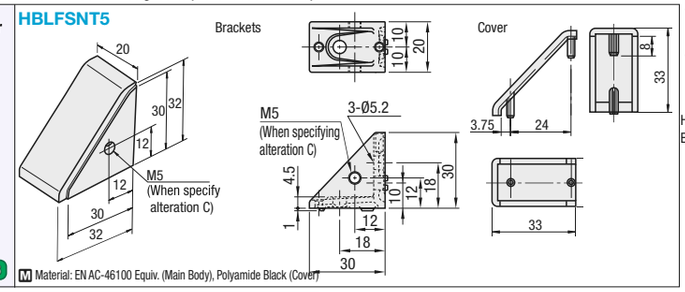
Features: Tabbed Reversal Brackets with Cover. Designed to prevent dust build-up.

Brackets with Cover



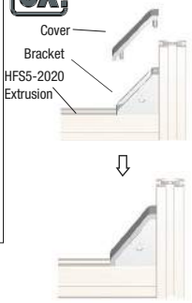
RoHS

HBLFSNT5



Material: EN AC-46100 Equiv. (Main Body), Polyamide Black (Cover)

Example



Part Number Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1-99 pc(s).	Volume Discount Rate 100~200
HBLFSNT5	17	CBM5-10	2	HNTT5-5	2	1176		

Features: Tabbed Reversal Brackets with two mounting holes on one side can connect extrusions more securely.

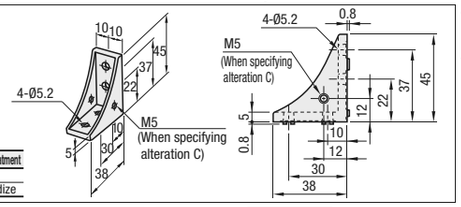
Tabbed Reversal Brackets



RoHS

HBLFSSW5
HBLFSSWB5
(Black Anodize)

Type	Material	Surface Treatment
HBLFSSW5	EN AC-46100 Equiv.	-
HBLFSSWB5		Black Anodize



Can be connected in parallel and perpendicular directions to the extrusion slot.



Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSSW5	24	CBM5-10	4	HNTT5-5	4	1470		
HBLFSSWB5* (Black Anodize)	24	CBM5-10	4	HNTT5-5	4	1470		

* For repairing black anodizing, refer to **P.846**.

Ordering Example

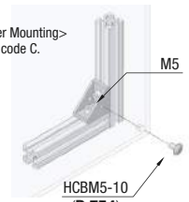
Part Number
HBLFSN5
HBLFSL5
HBLFSR5
HBLFSNK5
HBLFSNT5

Alterations

Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLFSNK5 - SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)	HBLFSNF5 HBLFSN5 HBLFSN5-4 HBLFSNB5 HBLFSNM5 CHBLFSN5 HBLFSL5 HBLFSLB5 HBLFSLM5 HBLFSR5 HBLFSNK5 HBLFSNE5 HBLFSNT5 HBLFSSW5 HBLFSSWB5

<Example of Cover Mounting>
Specify alteration code C.

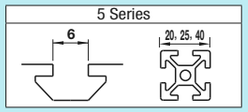


Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SST (Stainless Steel) SEU Pre-Assembly Insertion Spring Nuts SSU Pre-Assembly Insertion Spring Nuts Stainless Steel SEP Post-Assembly Insertion Spring Nuts SSP Post-Assembly Insertion Spring Nuts Stainless Steel SEC Screws with Captured Washer and Nuts	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLFSN5 is specified: SET: CBM5-10 / HNTT5-5 SST: SCB5-10 / HNTTBS5-5 SEU: CBM5-10 / HNTU5-5 SSU: SCB5-10 / SHNTU5-5 SEP: CBM5-10 / HNTP5-5 SSP: SCB5-10 / SHNTP5-5 SEC: HCBST5-12 / HNTT5-5 When specifying other than HBLFSN5, check for the applicable screws and nuts.	HBLFSNF5 HBLFSN5 HBLFSN5-4 HBLFSNB5 HBLFSNM5 CHBLFSN5 HBLFSL5 HBLFSLB5 HBLFSLM5 HBLFSR5 HBLFSNK5 HBLFSNE5 HBLFSNT5 HBLFSSW5 HBLFSSWB5

Screws for Black Anodized Brackets and Cathodic Electrodeposition Painted (black) Brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than Black Anodized or Cathodic Electrodeposition

Extruded Brackets - For 1 Slot

For 5 Series (Slot Width 6mm) Aluminum Extrusions



Features: Perpendicularly Machined Type Extruded Brackets with tabs to fit extrusions. Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

Thick Brackets (Perpendicularly Machined)

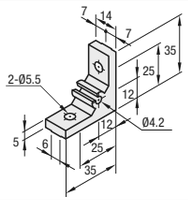


RoHS

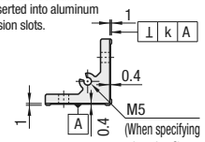
HBKTST5
HBKTS5
HBKTSB5
(Black Anodize)

Part Number	Perpendicularity K
HBKTST5	0.03
HBKTS5	
HBKTSB5* (Black Anodize)	0.06

Type	Material	Surface Treatment
HBKTST5	EN AC-51400-T5 Equiv.	Anodize
HBKTS5		
HBKTSB5		Black Anodize



Protrusions are provided on the bracket bottom to be inserted into aluminum extrusion slots.

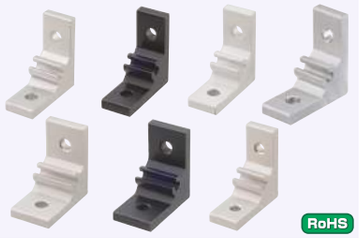


Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBKTST5	15	CBM5-10	2	HNTT5-5	2	833		
HBKTS5								
HBKTSB5* (Black Anodize)								

* For repairing black anodizing, refer to **P.846**.

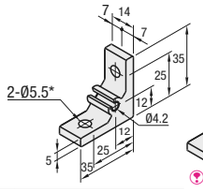
Features: Aluminum Extruded Brackets. Excels in appearance.

Thick Brackets

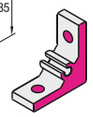


RoHS

NBLTS5
HBLTS5
HBLTS5-4 (For M4 Screw)
HBLTSB5 (Black Anodize)
CHBLTS5 (Clear Coating)

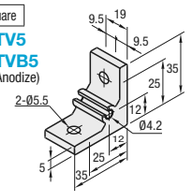


* Ø4.5 for HBLTS5-4.



Both sides and screw holes of NBLTS5 are not anodized.

25 Square
HBLTV5
HBLTVB5
(Black Anodize)



Type	Material	Surface Treatment
NBLTS5	EN AW-6063-T5 Equiv.	Anodize
HBLTS5(-4)	EN AC-51400-T5 Equiv.	Anodize
HBLTSB5		Black Anodize
CHBLTS5		Clear Paint (Anodize + Clear Paint)

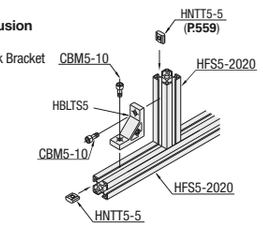
Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
NBLTS5	15	CBM5-10	2	HNTT5-5	2	833		
HBLTS5								
HBLTS5-4 (For M4 Screw)		CBM4-10		HNTT5-4				
HBLTSB5* (Black Anodize)		CBM5-10		HNTT5-5				
CHBLTS5 (Clear Coating)								
HBLTV5	20							
HBLTVB5* (Black Anodize)								

* For repairing black anodizing, refer to **P.846**.

Example

Example of Extrusion Connection

Connection with Thick Bracket CBM5-10



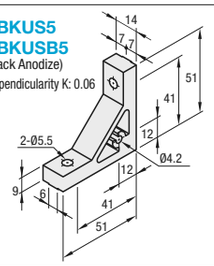
Features: Numbers of screws are the same as HBKTS5. Extrusions can be connected more securely. Perpendicularly Machined.

Ultra Thick Brackets (Perpendicularly Machined)

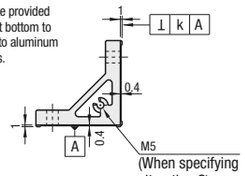


RoHS

HBKUS5
HBKUSB5
(Black Anodize)
Perpendicularity K: 0.06



Protrusions are provided on the bracket bottom to be inserted into aluminum extrusion slots.



Type	Material	Surface Treatment
HBKUS5	EN AC-51400-T5 Equiv.	Anodize
HBKUSB5		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBKUS5	31	CBM5-14	2	HNTT5-5	2	833		
HBKUSB5* (Black Anodize)								

* For repairing black anodizing, refer to **P.846**.

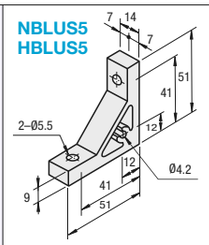
Features: Numbers of screws are the same as HBLTS5. Extrusions can be connected more securely.

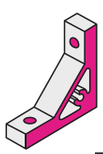
Ultra Thick Brackets



RoHS

NBLUS5
HBLUS5





Both sides and screw holes of NBLUS5 are not anodized.

Type	Material	Surface Treatment
NBLUS5	EN AW-6063-T5 Equiv.	Anodize
HBLUS5	EN AC-51400-T5 Equiv.	Anodize

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
NBLUS5	31	CBM5-14	2	HNTT5-5	2	833		
HBLUS5								

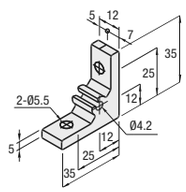
Features: Hole positions are offset. Can be combined with plates of 3mm thickness when using taps for mounting covers.

Eccentric Brackets



RoHS

HBLTH5
HBLTHB5
(Black Anodize)



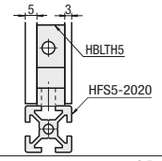
Type	Material	Surface Treatment
HBLTH5	EN AC-51400-T5 Equiv.	Anodize
HBLTHB5		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLTH5	15	CBM5-10	2	HNTT5-5	2	833		
HBLTHB5* (Black Anodize)								

* For repairing black anodizing, refer to **P.846**.

Example

HBLTH5 and HBLTHB5 are offset. Can be combined with both cover plates of 5mm and 3mm thickness.



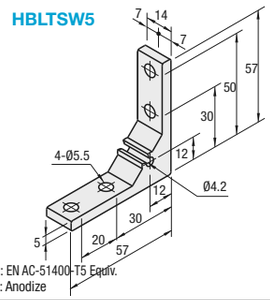
Features: Tabbed Reversal Brackets with two mounting holes on one side can connect extrusions more securely.

Thick Brackets

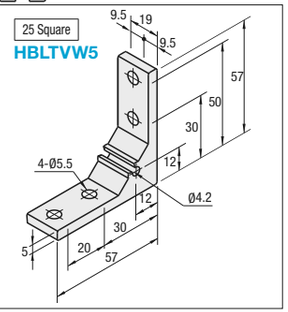


RoHS

HBLTSW5



25 Square
HBLTVW5



Material : EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLTSW5	26	CBM5-10	4	HNTT5-5	4	1176		
HBLTVW5	36							

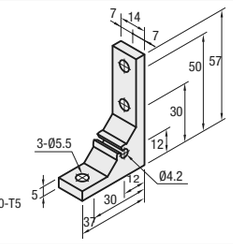
Features: Extruded Brackets with Unequal Sides. Effective when strength is required in narrow clearances between extrusions.

Scalene Brackets



RoHS

HBLTF5



Material : EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLTF5	21	CBM5-10	3	HNTT5-5	3	1004		

Ordering Example: Part Number **HBLTSW5**

Alterations: Part Number HBLTF5 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) - SET

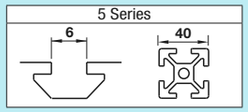
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)	NBLTS5, HBLTS5, HBLTS5-4, CHBLTS5, HBLTV5, HBLTVB5, NBLUS5, HBLUS5, HBKTS5, HBKUS5, HBLUS5, HBLTH5, HBLTHB5, HBLTSW5, HBLTVW5, HBLTF5

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET, SST (Stainless Steel), SEU (Pre-Assembly Insertion Spring Nuts), SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel), SEP (Post-Assembly Insertion Spring Nuts), SSP (Post-Assembly Insertion Spring Nuts Stainless Steel), SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLTS5 is specified: Code: SET, SST, SEU, SSU, SEP, SSP, SEC; Screw: CBM5-10, SCB5-10, CBM5-10, SCB5-10, CBM5-10, SCB5-10, HCBST5-12; Nut: HNTT5-5, HNTTBS5-5, HNTU5-5, SHNTU5-5, HNTP5-5, SHNTP5-5, HNTT5-5. When specifying other than HBLTS5, check for the applicable screws and nuts.	NBLTS5, HBLTS5, HBLTS5-4, HBLTSB5, CHBLTS5, HBLTV5, HBLTVB5, HBKTST5, HBKTS5, HBKTSB5, NBLUS5, HBLUS5, HBKUS5, HBKUSB5, HBLTH5, HBLTHB5, HBLTSW5, HBLTVW5, HBLTF5

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Tabbed Brackets - For 2 Slots

For 5 Series (Slot Width 6mm) Aluminum Extrusions



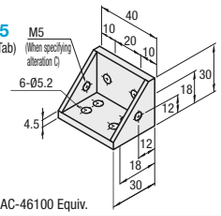
Features: Extrusions with 2 slots (HFS5-4040, etc.) can be connected with one bracket.

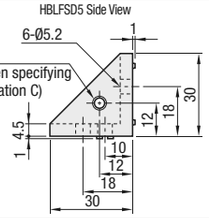
Tabbed Reversal Brackets

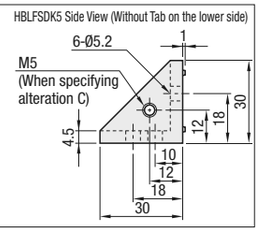


RoHS

HBLFSD5
HBLFSDK5
(with Single Side Tab)







Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSD5	25	CBM5-10	4	HNTT5-5	4	1470		
HBLFSDK5								

Example

Can be connected in parallel and perpendicular directions to the extrusion slot.



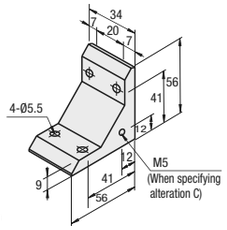
Features: Tabbed Brackets with 2 slots for extrusions (HFS5-2040, etc.).

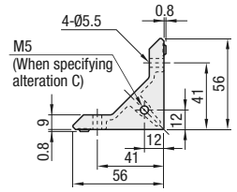
Tabbed Brackets



RoHS

HBLFUD5





Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFUD5	76	CBM5-14	4	HNTT5-5	4	1470		

Example



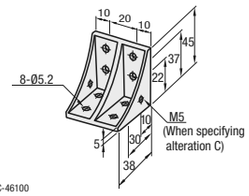
Features: Ribbed Brackets with 4 mounting holes on one side can connect extrusions more securely.

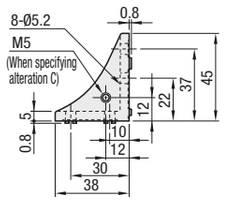
Tabbed Reversal Brackets



RoHS

HBLFSDW5





Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSDW5	47	CBM5-10	8	HNTT5-5	8	2156		

Example

Can be connected in parallel and perpendicular directions to the extrusion slot.



Ordering Example — Part Number: HBLFSD5

Alterations — Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC): HBLFSD5 - SET

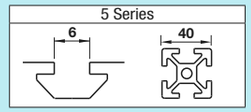
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)	HBLFSD5 HBLFSDK5 HBLFUD5 HBLFSDW5

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU Pre-Assembly Insertion Spring Nuts SSU Pre-Assembly Insertion Spring Nuts Stainless Steel SEP Post-Assembly Insertion Spring Nuts SSP Post-Assembly Insertion Spring Nuts Stainless Steel SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLFSD5 is specified: SET: CBM5-10 / HNTT5-5 SST: SCB5-10 / HNTTBS5-5 SEU: CBM5-10 / HNTU5-5 SSU: SCB5-10 / SHNTU5-5 SEP: CBM5-10 / HNTP5-5 SSP: SCB5-10 / SHNTP5-5 SEC: HCBST5-12 / HNTT5-5 When specifying other than HBLFSD5, check for the applicable screws and nuts.	HBLFSD5 HBLFSDK5 HBLFUD5 HBLFSDW5

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Extruded Brackets - For 2 Slots

For 5 Series (Slot Width 6mm) Aluminum Extrusions



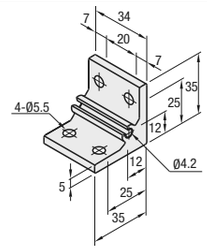
Features: Extrusions with 2 slots (HFS5-4040, etc.) can be connected with one bracket.

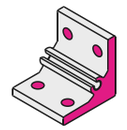
Thick Brackets



RoHS

NBLTD5
HBLTD5
HBLTDB5
(Black Anodize)
CHBLTD5
(Clear Coating)





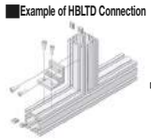
Both sides and screw holes of NBLTD5 is not anodized.

Type	Material	Surface Treatment
NBLTD5	EN AW-6063-T5 Equiv.	Clear Anodize
HBLTD5	EN AC-51400-T5 Equiv.	Black Anodize
HBLTDB5		
CHBLTD5		Clear Paint (Anodize + Clear Paint)

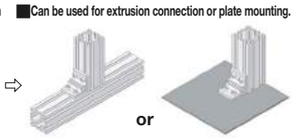
Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLTD5 HBLTD5 HBLTDB5* (Black Anodize) CHBLTD5 (Clear Coating)	36	CBM5-10	4	HNTT5-5	4	1470		

Example

Example of HBLTD Connection



Can be used for extrusion connection or plate mounting.



* For repairing black anodizing, refer to **P.846**.

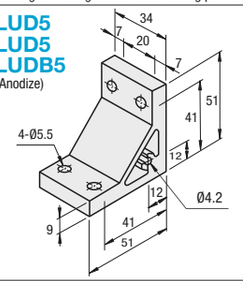
Features: Thick Brackets with increased strength. Recommended for enhancing the strength without increasing procedural steps.

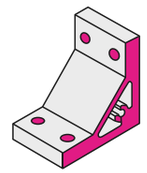
Ultra Thick Brackets



RoHS

NBLUD5
HBLUD5
HBLUDB5
(Black Anodize)





Both sides and screw holes of NBLUD5 is not anodized.

Type	Material	Surface Treatment
NBLUD5	EN AW-6063-T5 Equiv.	Clear Anodize
HBLUD5	EN AC-51400-T5 Equiv.	Black Anodize
HBLUDB5		

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLUD5 HBLUD5 HBLUDB5* (Black Anodize)	75	CBM5-14	4	HNTT5-5	4	1470		

* For repairing black anodizing, refer to **P.846**.

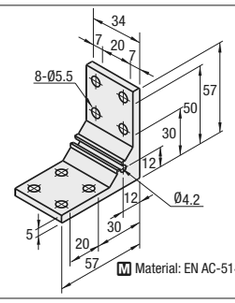
Features: Brackets for 2-slot extrusions with 4 mounting holes on one side can connect extrusions more securely.

Thick Brackets



RoHS

HBLTDW5



Material: EN AC-51400-T5 Equiv. Surface Treatment: Clear Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTDW5	59	CBM5-10	8	HNTT5-5	8	2156		

Ordering Example — Part Number: HBLTD5

Alterations — Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC): HBLTD5 - SET

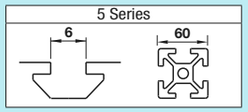
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on **P.754**)	NBLTD5 HBLTD5 CHBLTD5 NBLUD5 HBLUD5 HBLTDW5

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU Pre-Assembly Insertion Spring Nuts SSU Pre-Assembly Insertion Spring Nuts Stainless Steel SEP Post-Assembly Insertion Spring Nuts SSP Post-Assembly Insertion Spring Nuts Stainless Steel SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLTD5 is specified: SET: CBM5-10 / HNTT5-5 SST: SCB5-10 / HNTTBS5-5 SEU: CBM5-10 / HNTU5-5 SSU: SCB5-10 / SHNTU5-5 SEP: CBM5-10 / HNTP5-5 SSP: SCB5-10 / SHNTP5-5 SEC: HCBST5-12 / HNTT5-5 When specifying other than HBLTD5, check for the applicable screws and nuts.	NBLTD5 HBLTD5 HBLTDB5 CHBLTD5 NBLUD5 HBLUD5 HBLUDB5 HBLTDW5

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 3 Slots

For 5 Series (Slot Width 6mm) Aluminum Extrusions



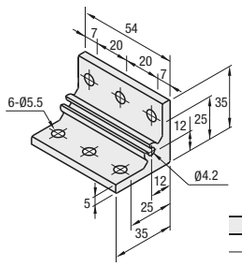
Features: Extrusions with 3 slots (HFS5-2060, etc.) can be connected with one bracket.

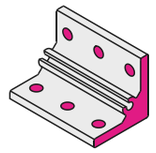
Thick Brackets



RoHS

NBLTT5
HBLTT5





Both sides and screw holes of NBLTT5 is not anodized.

Type	Material	Surface Treatment
NBLTT5	EN AW-6063-T5 Equiv.	Clear Anodize
HBLTT5	EN AC-51400-T5 Equiv.	

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLTT5	60	CBM5-10	6	HNTT5-5	6	1960		
HBLTT5								

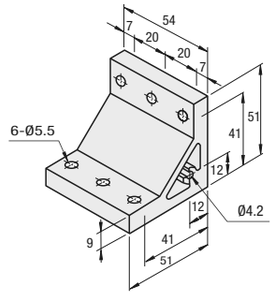
Features: Numbers of screws are the same as those of HBLTT5. Extrusions can be connected more securely.

Ultra Thick Brackets



RoHS

HBLUT5



M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLUT5	119	CBM5-14	6	HNTT5-5	6	1960		

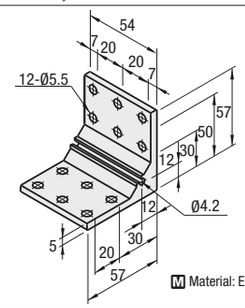
Features: Brackets for 3-slot extrusions with 6 mounting holes on one side can connect extrusions more securely.

Thick Brackets



RoHS

HBLTTW5



M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Clear Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTTW5	96	CBM5-10	12	HNTT5-5	12	2940		

Ordering Example: Part Number **HBLTT5**

Alterations: Part Number HBLTT5 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

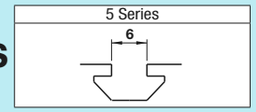
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on P.754)	HBLTT5
			HBLUT5
			HBLTTW5

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLTT5 is specified: Code: SET — Screw: CBM5-10 — Nut: HNTT5-5 SST — SCB5-10 — HNTTBS5-5 SEU — CBM5-10 — HNTU5-5 SSU — SCB5-10 — SHNTU5-5 SEP — CBM5-10 — HNTP5-5 SSP — SCB5-10 — SHNTP5-5 SEC — HCBST5-12 — HNTT5-5 When specifying other than HBLTT5, check for the applicable screws and nuts.	NBLTT5 HBLTT5 HBLUT5 HBLTTW5

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Post-Assembly Insertion Easy Brackets

For 5 Series (Slot Width 6mm) Aluminum Extrusions



Features: 2 aluminum extrusions can be easily connected with only 1 tightening screw. Brackets can be mounted on the extrusion slots after assembly.

Post-Assembly Insertion Easy Brackets

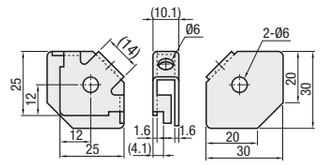


RoHS

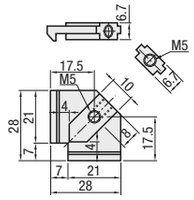
Components	Material	Surface Treatment
①Joint Plate	EN 1.0330 Equiv.	Trivalent Chromate
②Joint Brackets	EN 1.1191 Equiv.	
③Hex Socket Head Cap Screw	EN 1.7220 Equiv.	

HABL5

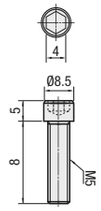
①Joint Plate



②Joint Brackets



③Hex Socket Head Cap Screw

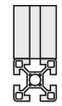
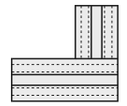
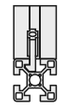
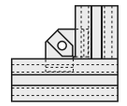
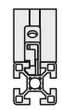
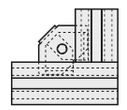
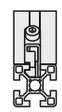
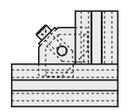


Overtightening may cause deformation of joint plates. (Reference Tightening Torque 5.5N・m)

Part Number	Mass (g)	Included Screw		Allowable Load (N)	Unit Price	Volume Discount Rate
Type		Screw	Quantity		1~99 pc(s).	100~200
HABL5	30	Hex Socket Head Cap Screw M5x8	1	250		

Ordering Example: Part Number **HABL5**

Connection Method

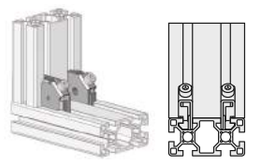
Step	Front View	Side View	Sketch Drawing
1			 Place 2 aluminum extrusions and adjust the frame positions.
2			 Fit the joint bracket ② in the slot of the aluminum extrusions.
3			 Cover the joint bracket ② on the joint plate ①.
4			 ③Tighten a hex socket head cap screw to fix the plate. (Reference Tightening Torque 5.5N・m)

Overtightening may cause deformation of joint plates.

Example



Holes are tapped on a bracket for cover mounting.

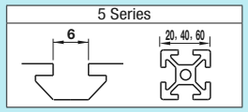


For aluminum extrusions with 2 slots, brackets can be mounted on both sides.

Thin Brackets

For 5 Series (Slot Width 6mm) Aluminum Extrusions

5 Series



Features: Thin Extruded Brackets with space saving design.

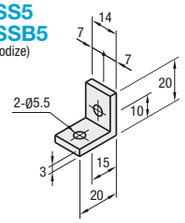
Thin Brackets



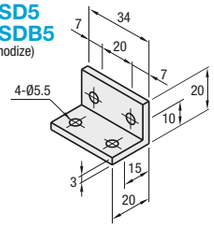
RoHS

Type	Material	Surface Treatment
HBLS□5	EN AC-51400-T5 Equiv.	Clear Anodize
HBLS□B5		Black Anodize

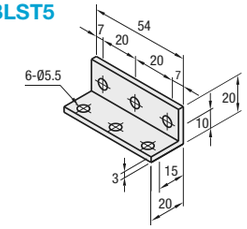
HBLSS5
HBLSSB5
(Black Anodize)



HBLSD5
HBLSDB5
(Black Anodize)



HBLST5



Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLSS5	3.8	CBM5-8	2	HNTT5-5	2	686		
HBLSSB5* (Black Anodize)								
HBLSD5	10		4		4	1176		
HBLSDB5* (Black Anodize)								
HBLST5	15		6		6	1617		

* For repairing black anodizing, refer to **P.846**.

Example



Features: Thin Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

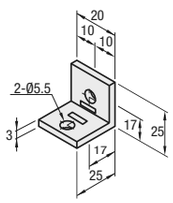
Thin Stainless Steel Tabbed Brackets

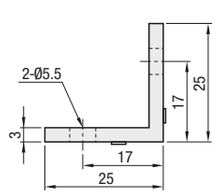


RoHS

HBLSP5

Material: EN 1.4301 Equiv.



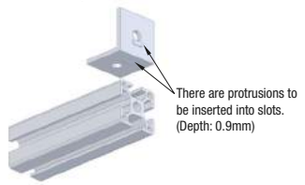


Type	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLSP5	10	CBM5-8	2	HNTT5-5	2	686		

Ordering Example — Part Number: HBLST5

Example

■Features of HBLSP (Slot Stainless Steel Brackets with Tabs)



Alterations — Part Number - (SET, SST, SEU, SSU, SEP, SSP)
HBLST5 - SET

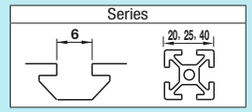
Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) Pre-Assembly Insertion Spring Nuts SEU Pre-Assembly Insertion Spring Nuts Stainless Steel SSU Post-Assembly Insertion Spring Nuts SEP Post-Assembly Insertion Spring Nuts Stainless Steel SSP	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLSS5 is specified: CODE: SET; Screw: CBM5-8; Nut: HNTT5-5 SST: SCB5-8; HNTTBS5-5 SEU: CBM5-8; HNTU5-5 SSU: SCB5-8; SHNTU5-5 SEP: CBM5-8; HNTP5-5 SSP: SCB5-8; SHNTP5-5 When specifying other than HBLSS5, check for the applicable screws and nuts.	HBLSS5 HBLSSB5 HBLSD5 HBLSDB5 HBLST5 HBLSP5

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Plate Brackets / Block Brackets

For 5 Series (Slot Width 6mm) Aluminum Extrusions

Series



Features: Direct screw-on brackets to use on tapped extrusions.

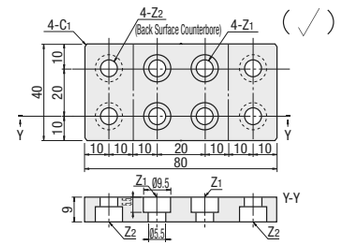
Plate Brackets



Material : EN 1.0038 Equiv.
Surface Treatment: Electroless Nickel Plating

RoHS

HBLPL5-4040



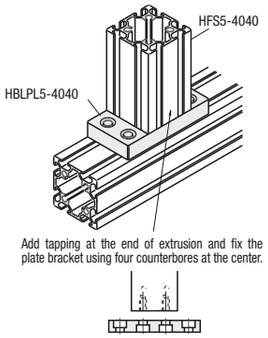
Part Number / Type	Extrusion	Z1 Applicable Screw	Z2 Applicable Screw	Mass (g)	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HBLPL5	4040	M5	M5	210		

Ordering Example — Part Number: HBLPL5 - Extrusion: 4040

Alteration Alterations — Part Number - Extrusion - (DC)
HBLPL5 - 4040 - DC10

Alteration	Code	Spec.
Through Hole	DC	Adds a through hole. DC=Hole Dia. 1 mm Increment 10≤DC≤20 Ordering Code: DC12

Example



Add tapping at the end of extrusion and fix the plate bracket using four counterbores at the center.

Features: The brackets do not protrude from extrusion widths when used to cross connect extrusions. Space-saving design compared to Tabbed Reversal Brackets.

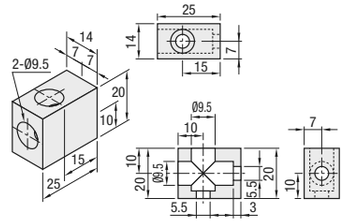
Block Brackets



Material : EN AW-6063 Equiv.
Surface Treatment: Anodize

RoHS

HBLBL5



Part Number / Type	Mass (g)	Applicable Screw: Screw	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLBL5	13	CBM5-8	2	686		

Ordering Example — Part Number: HBLBL5

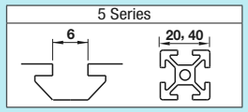
Alterations — Part Number - (SET, SST, SEU, SSU, SEP, SSP)
HBLBL5 - SET

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST SEU SSU SEP SSP	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) CODE: SET; Included Screw: CBM5-8; Included Nut: HNTT5-5 SST: SCB5-8; HNTTBS5-5 SEU: CBM5-8; HNTU5-5 SSU: SCB5-8; SHNTU5-5 SEP: CBM5-8; HNTP5-5 SSP: SCB5-8; SHNTP5-5	HBLBL5

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Angled Brackets

For 5 Series (Slot Width 6mm) Aluminum Extrusions



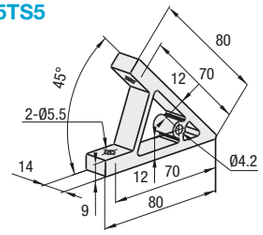
Features: Extruded Brackets to connect extrusions at angles.

Angled Brackets

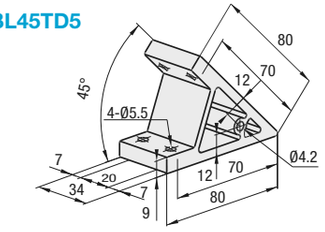


RoHS

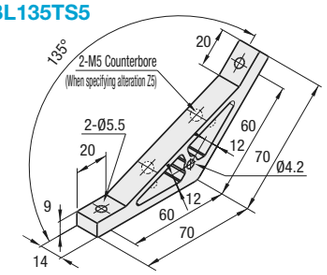
HBL45TS5



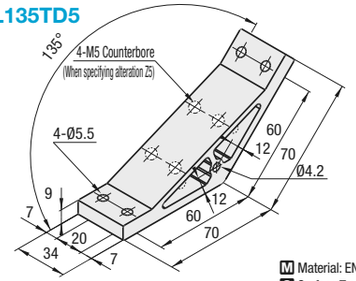
HBL45TD5



HBL135TS5



HBL135TD5



M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Clear Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBL45TS5	41	CBM5-14	2	HNTT5-5	2	833		
HBL45TD5	100		4		4	1470		
HBL135TS5	48		2		2	833		
HBL135TD5	118		4		4	1470		

Ordering Example: Part Number **HBL45TS5**

Alterations

Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, Z5)
HBL45TS5 - SET

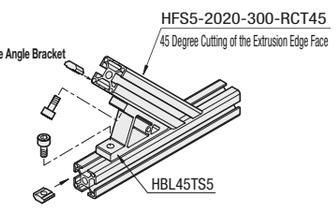
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on P.754)	HBL45TS5 HBL135TS5
Applicable Screw	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBL45TS5 is specified: SET: CBM5-14 / HNTT5-5 SST: SCB5-14 / HNTTBS5-5 SEU: CBM5-14 / HNTU5-5 SSU: SCB5-14 / SHNTU5-5 SEP: CBM5-14 / HNTP5-5 SSP: SCB5-14 / SHNTP5-5 When specifying other than HBL45TS5, check for the applicable screws and nuts.	HBL45TS5 HBL45TD5 HBL135TS5 HBL135TD5
Counterbored Holes on 135 Degree Bracket	Z5	135 Degree Bracket Adds two counterbored holes on HBL135T□5. (Applicable Screw M5) Not available in combination with Applicable Screws and Nuts.	HBL135TS5 HBL135TD5

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Example

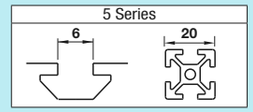
HFS5-2020-300-RCT45
45 Degree Cutting of the Extrusion Edge Face

Example: 45 Degree Angle Bracket



Free Angle Brackets

For 5 Series (Slot Width 6mm) Aluminum Extrusions



Features: Extrusions can be connected at any arbitrary angle.

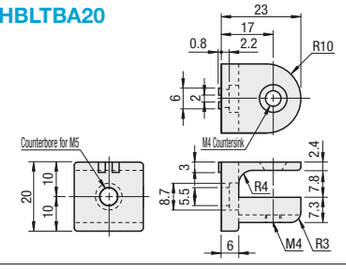
Free Angle Brackets



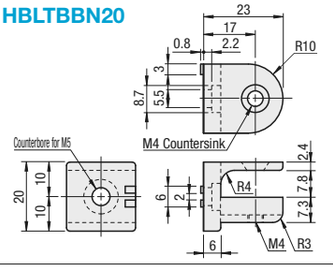
RoHS

Type	M Material	S Surface Treatment
HBLTBA20	EN AC-46100 Equiv.	-
HBLTBBN20		
Included Screw	EN 1.7220 Equiv.	Trivalent Chromate

HBLTBA20



HBLTBBN20



Part Number	Applicable Extrusion	Mass (g)	Accessory: Hex Socket Flat Head Cap Screw (1 pc.)	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~50
HBLTBA20	20 Square (HFS5)	10.8	M4x6		
HBLTBBN20					

Ordering Example: Part Number **HBLTBA20**

Alterations

Part Number - (SET, SET1, SET2, SET3)
HBLTBA20 - SET2
HBLTBBN20 - SET

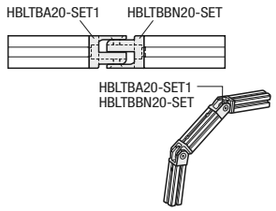
Alterations	Code	How to Use	Part Number	Accessory			
			Type	Screw	Quantity	Nut Pre-Assembly Insertion Double Joints	Quantity
Applicable Screws and Nuts Set	SET	End Section Mount	HBLTBBN20	CBM5-15	1	-	-
	SET1						
	SET2	Side Mount	HBLTBA20	CBM5-8		HNTT5-5	1
	SET3		HBLTBBN20				

Included Screw is not RoHS compliant when -SET□ is specified.

Example

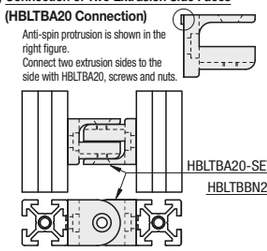
(1) Connection of Two End Sections

The method of connecting two end sections of extrusions is to add taps to the extrusions. Either HBLTBA20 or HBLTBBN20 can be used for connection.



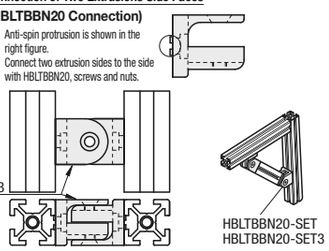
(2) Connection of Two Extrusion Side Faces (HBLTBA20 Connection)

Anti-spin protrusion is shown in the right figure.
Connect two extrusion sides to the side with HBLTBA20, screws and nuts.



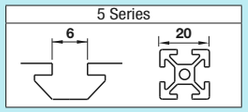
(3) Connection of Two Extrusions Side Faces (HBLTBBN20 Connection)

Anti-spin protrusion is shown in the right figure.
Connect two extrusion sides to the side with HBLTBBN20, screws and nuts.



Corner Brackets / Corner Blind Brackets

For 5 Series (Slot Width 6mm) Aluminum Extrusions 20 Square



Features: A bracket can connect extrusions in 2 and 3-ways, including function as extrusion end caps.

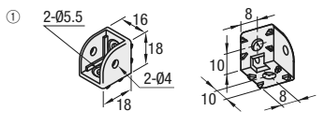
Corner Bracket Set



Type	Material	Surface Treatment
HBLCS5	①EN AC-46100 Equiv. ②Polyamide	-
HBLCR5	①EN ZC0400 Equiv. ②Polyamide	Trivalent Chromate
HBLCD5	①EN 1.4308 Equiv. ②Polyamide	-

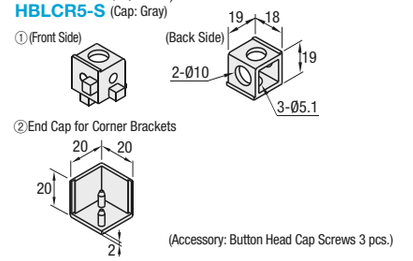
Two-Way Type

HBLCS5-B (Cap: Black)



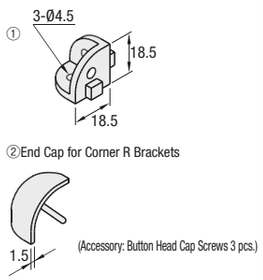
Three-Way Type

HBLCR5-B (Cap: Black)
HBLCR5-S (Cap: Gray)



As HBLCR5-□ is zinc die cast, use it under 100°C.

HBLCD5-S (Cap: Gray)

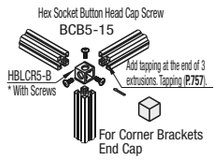


Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLCS5-B	8	CBS5-16	2	400		
HBLCR5-B	25	BCB5-15	3	676		
HBLCR5-S						
HBLCD5-S	18	Button Head Cap Screw: M4x12	3	774		

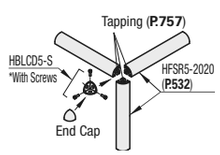
Ordering Example — Part Number: HBLCD5-S

Example

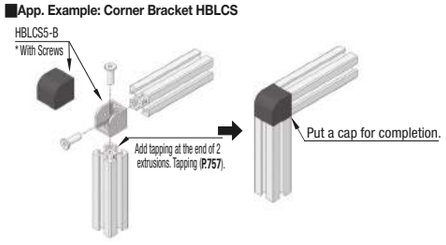
App. Example: Corner Bracket HBLCR



App. Example: R Extrusion



App. Example: Corner Bracket HBLCS



Features: Brackets to be inserted into extrusion slots. Can also function as extrusion end caps.

Corner Blind Brackets

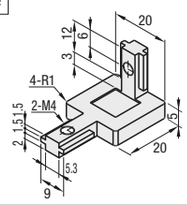


Type	Material	Surface Treatment
HBLBC□5	EN 1.1191 Equiv.	Trivalent Chromate
SHBLBC□5	EN 1.4308 Equiv.	-

Two-Way Type

HBLBCA5
SHBLBCA5
(Stainless Steel)

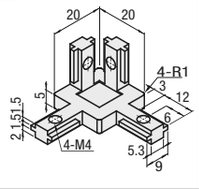
Not applicable to Aluminum Extrusions 25 and 40 Square.



Three-Way Type

HBLBCB5
SHBLBCB5
(Stainless Steel)

Not applicable to Aluminum Extrusions 25 and 40 Square.



Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~150
HBLBCA5	21	Set Screw M4x5	2	196		
SHBLBCA5 (Stainless Steel)						
HBLBCB5	26		4	620		
SHBLBCB5 (Stainless Steel)						

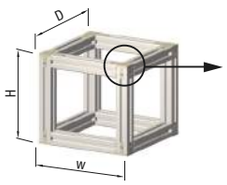
Ordering Example — Part Number: SHBLBCA5

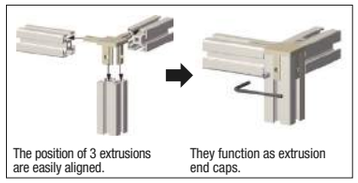
Example

App. Example: Corner Blind Bracket

Extrusion length when installed as below (Unit: mm)
- Extrusion length L used for W: L=W-(Extrusion Thickness x2)
- Extrusion length L used for H: L=H-10
- Extrusion length L used for D: L=D-(Extrusion Thickness x2)

(Thickness of corner blind brackets x Upper and Lower 2 pcs.)



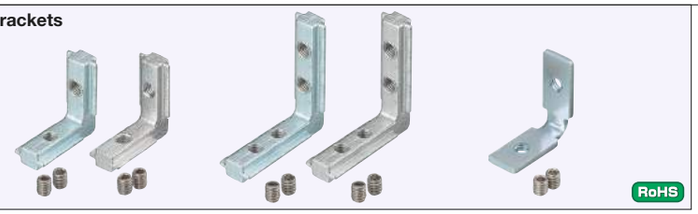


Blind Brackets

For 5 Series (Slot Width 6mm) Aluminum Extrusions

Features: No need for alterations to mount on extrusions. Brackets can be hidden inside of the slot.

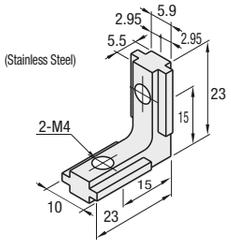
Blind Brackets



Type	Material	Surface Treatment
HBLBS5	EN 1.1191 Equiv.	Trivalent Chromate
SHBLBS5	EN 1.4308 Equiv.	-
SHBLBSL5		
HBLBSL5	EN 1.1191 Equiv.	Trivalent Chromate
HBLPBS5	EN 1.0330 Equiv.	

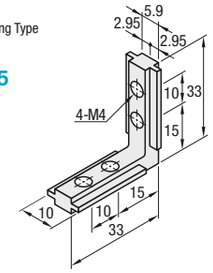
Blind Brackets

HBLBS5
SHBLBS5 (Stainless Steel)



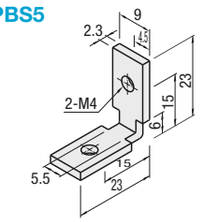
Blind Brackets - Long Type

HBLBSL5
SHBLBSL5



Sheet Metal Blind Brackets

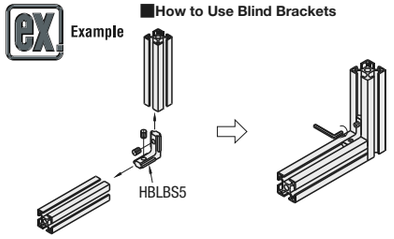
HBLPBS5



Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLBS5	11	Set Screw M4x5	2	196		
SHBLBS5 (Stainless Steel)						
HBLBSL5	17		4	274		
SHBLBSL5 (Stainless Steel)						
HBLPBS5	6		2	190		

Example

How to Use Blind Brackets

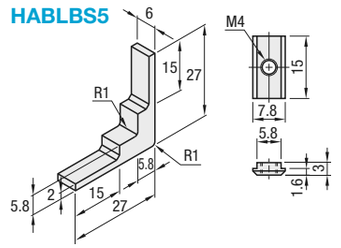


Features: Post-Assembly Insertion Type for Blind Brackets.

Post-Assembly Insertion Blind Brackets



HABLBS5



Type	Components	Material	Surface Treatment
HABLBS5	Post-Assembly Insertion BB Body	EN 1.4308 Equiv.	-
	Post-Assembly Insertion BB Nut	EN 1.4301 Equiv. Sintered Alloy	
	Set Screw	EN 1.4301 Equiv.	

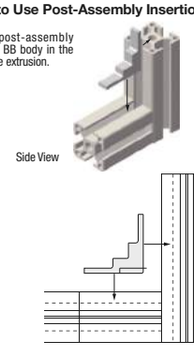
Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HABLBS5	11	Nut, Set Screw M4x3	2	190		

Ordering Example — Part Number: HBLBS5

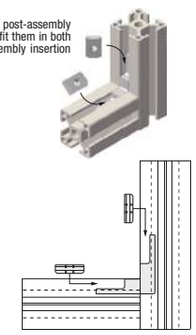
Example

How to Use Post-Assembly Insertion Blind Brackets

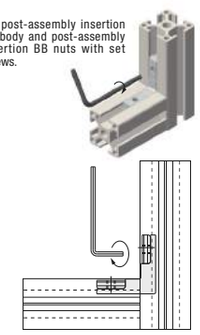
①Fit the post-assembly insertion BB body in the slot of the extrusion.



②Tilt two pieces of post-assembly insertion nut and fit them in both ends of post-assembly insertion BB body.



③Fix post-assembly insertion BB body and post-assembly insertion BB nuts with set screws.



Blind Joints - Overview

For 5 Series (Slot Width 6mm) Aluminum Extrusions

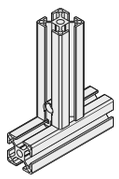
■Features of Blind Joints

Connection inside of the extrusions provides good apearance.
Also convenient where interference inside of the corners are not desired or panels need to be inserted into the extrusion slots.

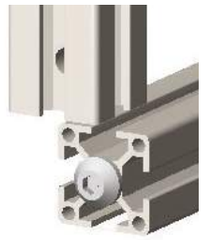
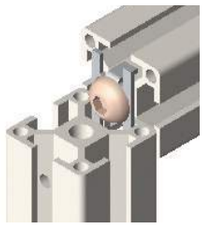
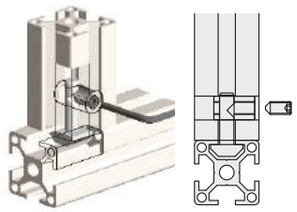
Bracket Connection

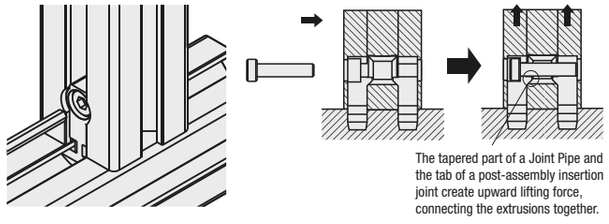
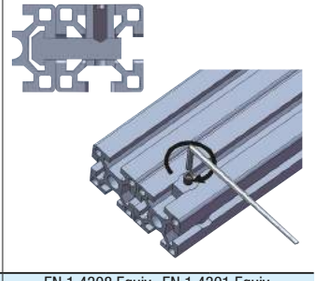


Blind Jonits Connection



■Product List

Product Name	Tapping Joints	Screw Joints	Center Joint
Product Photo			
Features	・Tapping is not necessary. ・Most economical Blind Joints.	・Joint Plate enables secure and economical connection.	・Most standard Blind Joints usable with various types of aluminum extrusions.
Installation Diagram			
Material	JIS-SWCH18A	Steel	EN 1.4308 Equiv.
Representative Type	HTJ	HCJ	HMJ
Applicable Extrusion No.	5 / 6 / 8	5 / 6 / 8 / 8-45	5 / 6 / 8 / 8-45
Page	P.552	P.552	P.553
Alterations (pages) required for extrsions	Wrench Hole P.759	Tapping, Wrench Hole P.757, P.759	M Hole P.766

Product Name	Post-Assembly Insertion Double Joints	Parallel Joints
Product Photo		
Features	・Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.	・Extrusions can be connected in parallel.
Installation Diagram	 The tapered part of a Joint Pipe and the tab of a post-assembly insertion joint create upward lifting force, connecting the extrusions together.	
Material	EN 1.4308 Equiv., EN 1.4301 Equiv.	EN 1.4308 Equiv., EN 1.4301 Equiv.
Representative Type	HPJN	HLJ
Applicable Extrusion No.	5 / 6 / 8 / 8-45	5 / 6 / 8
Page	P.554	P.554
Alterations (pages) required for extrsions	M Hole P.766	L Hole P.767

Blind Joint Components

Tapping Joints / Screw Joints for 5 Series (Slot Width 6mm) Aluminum Extrusions

For details of securing method, see **P.602-603**.

Alterations necessary to use this component

Wrench Hole	Tapping
P.759	P.757

■Features: Necessary alteration is only for wrench holes. Most economical Blind Joints. Dedicated Torx Bit is required for tightening.

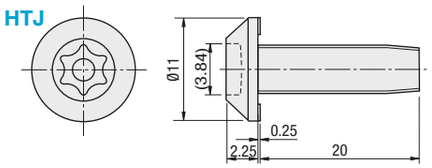
■Tapping Joints

(Reference) Corner section when using this joint



RoHS

HTJ



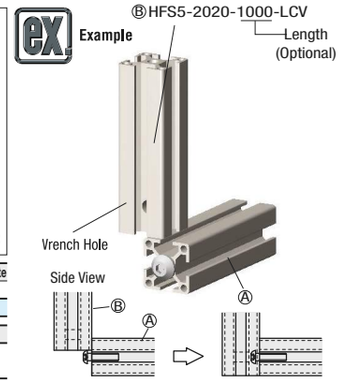
・Tapping on the extrusion is not necessary.

M Material: JIS-SWCH18A (Carburized)
S Surface Treatment: Trivalent Chromate
* JIS-SWCH18A (Cold Forged Carbon Steel Wire)

Part Number Type	Part Number No.	Torx Bit	Applicable Extrusion (Pilot Hole Dia.)	Proper Tightening Torque (Max.)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HTJ	5	HTJXL25	Ø4.2	12N・m		

Applicable Extrusion No.				[Exception] Extrusion Not Available
5-2020*	5-2040	5-2060	5-2080	* Curved HFSR5-2020 is not applicable since wrench holes cannot be added.
5-4040				Not applicable to HFS5-4040, HFSB5-4040, HFST5-4040, NFS5-4040, NFSB5-4040.

Example



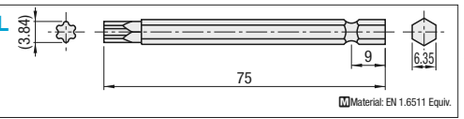
Part Number Type	Part Number No.	Applicable Drive for Torx Bit	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HTJXL	25	T20		

■Torx Bit



RoHS

HTJXL



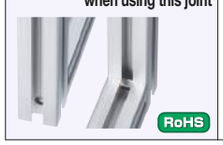
M Material: EN 1.6511 Equiv.

■Features: Cost saving blind joints. Including Rotation Stoppers.

■Screw Joints



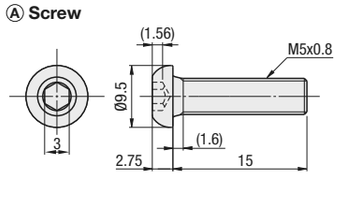
(Reference) Corner section when using this joint



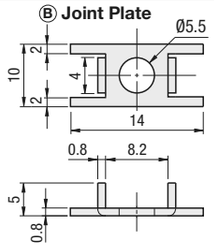
RoHS

HCJ (Trivalent Chromate)

Ⓐ Screw



Ⓑ Joint Plate

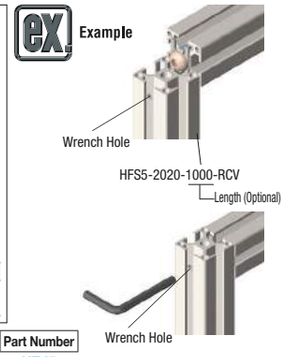


Type	Components	M Material	S Surface Treatment
HCJ	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	

Part Number Type	Part Number No.	Components Ⓐ Screw	Components Ⓑ Joint Plate	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HCJ	5	M5	5		

Applicable Extrusion No.				[Exception] Extrusion Not Available
5-2020*	5-2040	5-2060	5-2080	*Curved HFSR5-2020 cannot be used, because Wrench Hole Machining is not allowed.
5-4040				

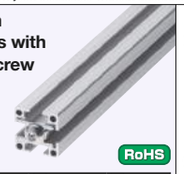
Example



Part Number
HTJ5
HCJ5

■ Features: Screw joint installable without alterations. (Wrench holes are necessary on the mating extrusion.)

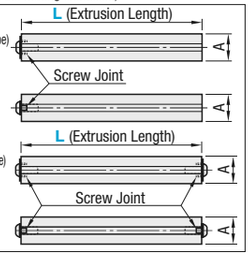
■Aluminum Extrusions with Built-in Screw Joints



RoHS

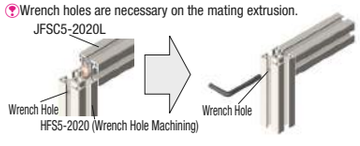
Part Name		M Material	S Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Screw Joints	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	

JFSC5-2020L
(Left End Face Screw Joint Pre-Inserted Type)



JFSC5-2020W
(Both End Face Screw Joints Pre-Inserted Type)

Wrench holes are necessary on the mating extrusion.



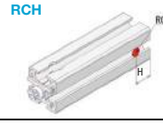
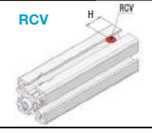
Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component Screw Joints	Built-in Joint Component Quantity	A	Required Wrench for Tightening	Extrusion Unit Price Less than 300mm	Extrusion Unit Price 300mm or more	Joints, Others
JFSC	5-2020	L (Left End Face only) W (Double End Faces)	100~4000	HFS5-2020 (P.529)	HCJ5	1 2	20	For M5			

Part Number - L
JFSC5-2020W - 1200

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping JFS□□-□□□□L is only applicable to Left End Face Joint Pre-Inserted Type.	RTP Right End Face Tapping	5-2020	M5	15

Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.	RCH  RCV 	5-2020	10	7.35

Blind Joint Components

Center Joint Kits for 5 Series (Slot Width 6mm) Aluminum Extrusions

For details of fastening method, see **P.606**.

Alterations necessary to use this component

M Type Hole Alterations P.766

Features: Requires only one screw for tightening. Work efficiency enhancing anti-rotation type is added.

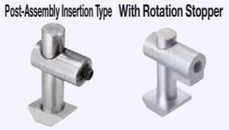
Center Joint Kits

Pre-Assembly Insertion Type

(Standard Direction) (90-Degree Rotated)



Post-Assembly Insertion Type With Rotation Stopper



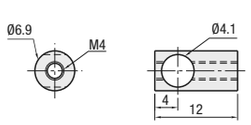
(Ref.) Corner section when using this joint



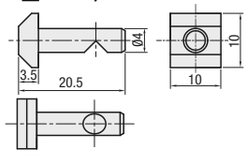
RoHS

Type	Components (1 pc. each)					
	Joint Guide		Center Post		Set Screw	
	Type	Material	Type	Material	Size	Material
HMJ	Standard	EN 1.4301 Equiv.	Pre-Assembly Insertion Standard Direction	EN 1.4308 Equiv.	No.5: M4x8	EN 1.7220 Equiv. (Surface Treatment: Black Oxide Film)
HMJR			Pre-Assembly Insertion 90-Degree Rotated			
HAMJ			Post-Assembly Insertion Standard Direction			
HZJ	With Rotation Stopper	EN 1.4301 Equiv.	Pre-Assembly Insertion Standard Direction	EN 1.4308 Equiv.		
HAZJ			Post-Assembly Insertion Standard Direction			

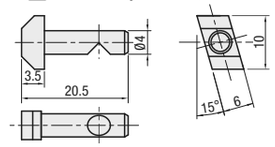
Joint-Guide (Standard)



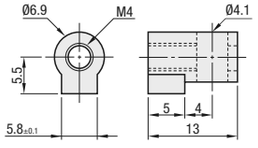
Pre-Assembly Insertion Center Post Standard Direction



Post-Assembly Insertion Center Post

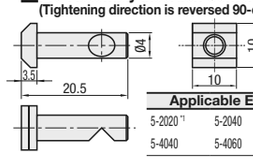


Joint-Guide (with Rotation Stopper)



Pre-Assembly Insertion Center Post 90-Degree Reversal Type

(Tightening direction is reversed 90-degree, as shown in the app. example below.)



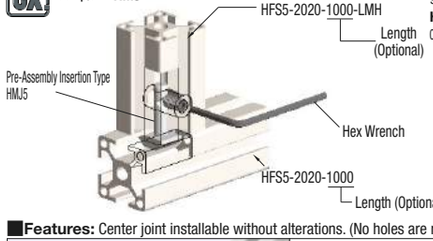
Applicable Extrusion No.				[Exception] Extrusion Not Available
5-2020 *1	5-2040	5-2060	5-2080	*1 Curved HFSR5-2020 cannot be used, because Wrench Hole Machining is not allowed.
5-4040	5-4060	5-4080		

Part Number		Accessory						HMJ HMJR HAMJ		HZJ HAZJ	
								Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
Type	No.	Center Post	Quantity	Joint Guide	Quantity	Set Screw	Quantity	1~99 pc(s).	100~120	1~99 pc(s).	100~120
HMJ HZJ Pre-Assy. Insert. Std. Direction Type	5	Pre-Assembly Insertion Center Post 5	1	Joint Guide 5	1	M4x8	1				
HMJR Pre-Assembly 90-Degree Reversal Type	5	Pre-Assembly Insertion Center Post 5 Rotated								-	-
HAMJ HAZJ Post-Assembly Insertion Type	5	Post-Assembly Insertion Center Post 5									

Ordering Example: Part Number **HMJ5**

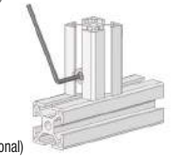
Example HMJ

- Pre-Assembly Insertion Standard Direction Type



- Pre-Assembly Insertion 90-Degree Rotated Type **HMJR**

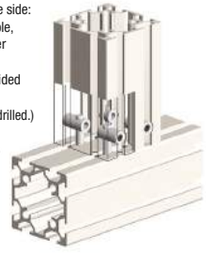
Can reverse tightening direction by 90 degrees.



- Connecting extrusions with 2 or more slots on one side: Insert joint guide from the both sides of M type hole, and connect and tighten it with two or more center joints.
- For extrusions with three slots, holes are not provided on the center slot. (For extrusions with four rows of slots, all slots are drilled.)

2-slotted extrusions can be connected by using two Center Joint kits.

3-slotted extrusions are connected using two outside slots only.



Features: Center joint installable without alterations. (No holes are required on the mating extrusion.)

Aluminum Extrusion with Built-in Center Joints

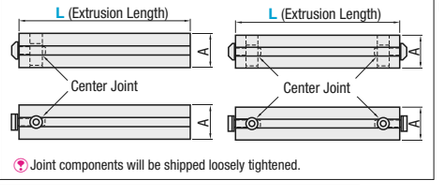


RoHS

Part Name		Material	Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Center Joint	Center Post	EN 1.4308 Equiv.	-
	Joint Guide	EN 1.4301 Equiv.	
	Set Screw	EN 1.7220 Equiv.	Black Oxide Film

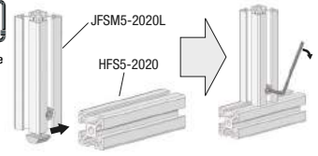
JFSM5-2020L (Left End Face Center Joint Pre-Inserted Type)

JFSM5-2020W (Both End Face Center Joints Pre-Inserted Type)



Joint components will be shipped loosely tightened.

Example



When L<300mm
Unit prices are indicated in the table regardless of the length.

When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified L dimension + Joint or other Unit Price = Total Price

Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component Center Joint	Quantity	A	Required Wrench for Tightening	Extrusion Unit Price Less than 300mm	Extrusion Unit Price 300mm or more (JPY/m)	Joints, Others
JFSM	5-2020	L (Left End Face only) W (Double End Faces)	100~4000	HFS5-2020 (P.529)	HMJ5	1	20	For M4			
						2					

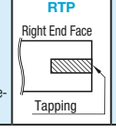
Ordering Example: Part Number **JFSM5-2020L - 1200**

Alterations

Alterations only on this page are available.

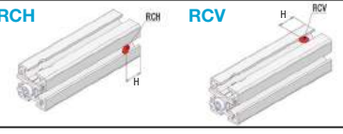
Alterations	Code	Spec.		
		Extrusion	Tap	Depth
Right End Face Tapping	RTP	5-2020	M5	15

JFS□□-□□□□L is only applicable to Left End Face Joint Pre-Inserted Type.



Alterations	Code	Spec.		
		Extrusion	H	Hole Dia.
Right End Face Wrench Hole	RCH RCV	5-2020	10	7.35

Applicable to JFS□□-□□□□L and JFS□□-□□□□L only.



Blind Joint Components

Post Assembly Insertion Double Parallel Joint Kits for 5 Series (Slot Width 6mm) Aluminum Extrusions

For details of fastening method, see **P.608**.

Alterations necessary to use this component

Post-Assy. Insert. Double Parallel

M Type Hole Alterations P.766 L Type Hole Alterations P.767

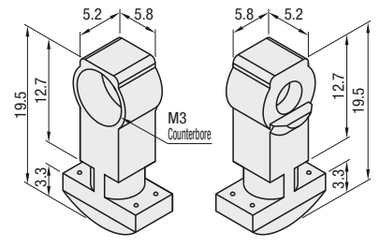
Post Assembly Insertion Double Joint Kit



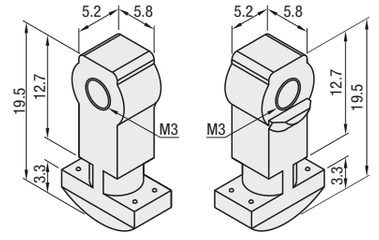
RoHS

HPJN (Post-Assembly Insertion Double Joint)

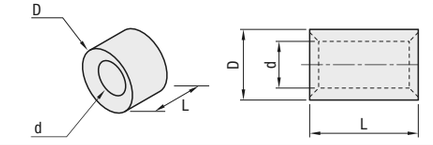
①Post-Assembly Insertion Double Joint A



②Post-Assembly Insertion Double Joint B



③Joint Pipe



Part Name		Material
Post-Assembly Insertion Double Joint (A, B)		EN 1.4308 Equiv.
Joint Pipe	No.5-20 No.5-25 No.5-60	EN 1.4301 Equiv. (Sintered)
	No.5-40	EN 1.4301 Equiv.
Hex Socket Head Cap Screw		EN 1.4301 Equiv.

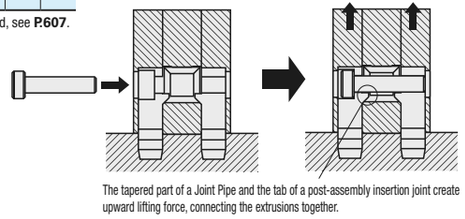
Part Number		Accessory								Unit Price	Volume Discount Rate
Type	No.	①Post-Assembly Insertion Double Joint A	Quantity	②Post-Assembly Insertion Double Joint B	Quantity	③Joint Pipe	Quantity	④Hex Socket Head Cap Screw	Quantity	1~19 pc(s).	20~200
HPJN	5-20	Post-Assembly Insertion Double Joint A5	1	Post-Assembly Insertion Double Joint B5	1	Joint Pipe 5-20	1	M3x15	1		
	5-40					Joint Pipe 5-40		M3x35			
	5-25					Joint Pipe 5-25		M3x20			
	5-60					Joint Pipe 5-60		M3x55			

③Joint Pipe

Part Name	L	D	d
Joint Pipe 5-20	8	7	4.7
Joint Pipe 5-40	28		
Joint Pipe 5-25	13		
Joint Pipe 5-60	48		

For details of fastening method, see **P.607**.

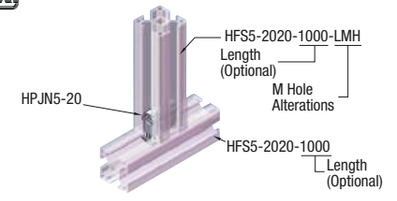
Post Assembly Insertion Double Joint Kits	Applicable Extrusion No.		[Exception] Extrusion Not Available
HPJN5-20	5-2020		Not usable for surfaces without slots.
HPJN5-40	5-2040	5-4040	
HPJN5-25	5-2525	5-2550	
HPJN5-60	5-2060	5-4060	



The tapered part of a Joint Pipe and the tab of a post-assembly insertion joint create upward lifting force, connecting the extrusions together.

Ordering Example: Part Number **HPJN5-20**

Example · Installation Example



Features: Extrusions can be connected in parallel. Post assembly additions enabling type is also provided.

Parallel Joint Kits

Pre-Assembly Insertion Type



Post-Assembly Insertion Type



(Ref.) Corner section when using this joint



RoHS

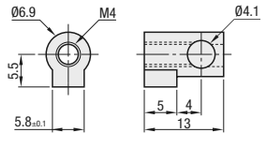
HLJ

(Parallel Joint Kit Pre-Assembly Insertion Type)

HALJ

(Parallel Joint Kit Post-Assembly Insertion Type)

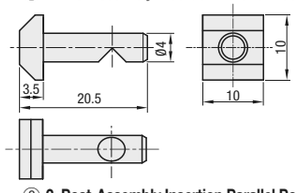
Joint Guide (Component ①)



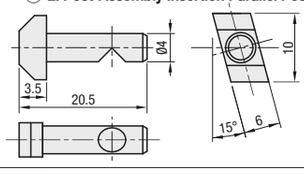
Part Name	Material	Surface Treatment
Pre-Assembly Insertion Parallel Post	EN 1.4308 Equiv.	-
Post-Assembly Insertion Parallel Post		
Joint Guide	EN 1.4301 Equiv.	
Set Screw	EN 1.7220 Equiv.	Black Oxide Film

Parallel Joints (Component ②)

②-1. Pre-Assembly Insertion Parallel Post



②-2. Post-Assembly Insertion Parallel Post



Part Number		Accessory						Unit Price	Volume Discount Rate
Type	No.	①②Parallel Post	Quantity	③Joint Guide	Quantity	④Set Screw	Quantity	1~99 pc(s).	100~120
HLJ (Pre-Assembly Insertion Type) HALJ (Post-Assembly Insertion Type)	5	Pre-Assembly Insertion Parallel Post 5 Post-Assembly Insertion Parallel Post 5	1	5	1	M4x8	1		

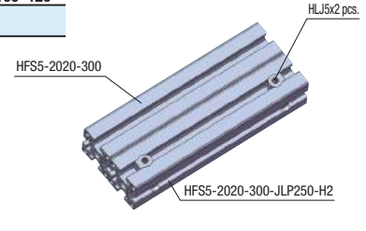
Applicable Extrusion No.				[Exception] Extrusion Not Available
5-2020 *1	5-2040	5-2060	5-2080	*1. HFSH and HFSC are not applicable since L holes cannot be added.
5-4040	5-4060	5-4080		

For details of fastening method, see **P.613**.

Ordering Example: Part Number **HLJ5**

Example

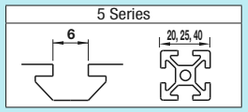




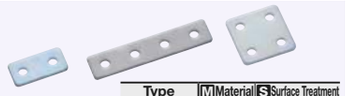
Sheet Metal Plates

For 5 Series (Slot Width 6mm) Aluminum Extrusions

5 Series



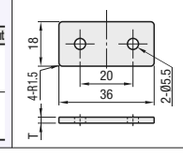
■**Features:** Can be used for reinforcement of connecting extrusions.



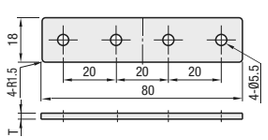
Type	Material	Surface Treatment
HPTSS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTSSL		
HPTSD		
SHPTSS	EN 1.4301 Equiv.	-
SHPTSSL		
SHPTSD		

RoHS

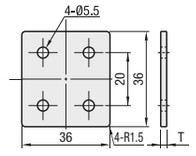
HPTSS5
SHPTSS5



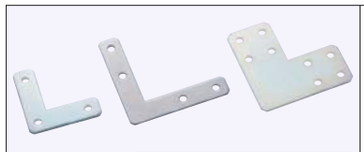
HPTSSL5
SHPTSSL5



HPTSD5
SHPTSD5



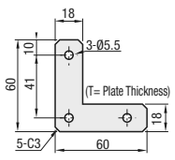
Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTSS5	11	2.3	M5-8	2	M5	2		
SHPTSS5		2						
HPTSSL5	22	2.3		4		4		
SHPTSSL5		2						
HPTSD5	21	2.3						
SHPTSD5		2						



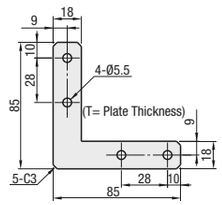
Type	Material	Surface Treatment
HPTLN	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTLS		
HPTLD		
SHPTLN	EN 1.4301 Equiv.	-
SHPTLS		

RoHS

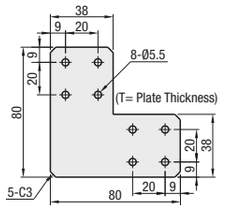
HPTLN5
SHPTLN5



HPTLS5
SHPTLS5



HPTLD5



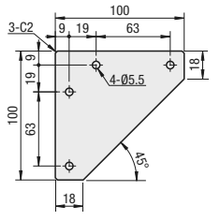
Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTLN5	41	3.2	M5-8	3	M5	3		
SHPTLN5		2						
HPTLS5	46	3.2		4		4		
SHPTLS5		2		4		4		
HPTLD5	81	2.3		8		8		



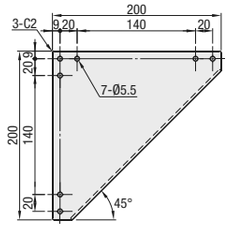
Type	Material	Surface Treatment
HPTCUL	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTUL		
HPTWUL		
SHPTCUL	EN 1.4301 Equiv.	-
SHPTUL		
SHPTWUL		

RoHS

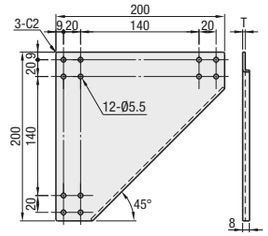
HPTCUL5
SHPTCUL5



HPTUL5
SHPTUL5



HPTWUL5
SHPTWUL5



Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTCUL5	95	2.3	M5-8	4	M5	4		
SHPTCUL5		2		4		4		
HPTUL5	380	2.3		7		7		
SHPTUL5		2						
HPTWUL5	378	2.3		12		12		
SHPTWUL5		2						

Ordering Example — Part Number: HPTSS5

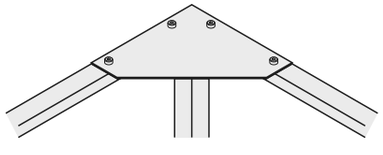
Alterations — Part Number - (SET): HPTSS5 - SET

Not RoHS compliant when -SET is specified.

Alteration	Code	Spec.	Plates, Brackets
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTSS5
			SHPTSS5
			HPTSSL5
			SHPTSSL5
			HPTSD5
			SHPTSD5
			HPTLN5
			SHPTLN5
			HPTLS5
			SHPTLS5
			HPTLD5
			HPTCUL5
			SHPTCUL5
			HPTUL5
			SHPTUL5
			HPTWUL5
			SHPTWUL5

Material	Set
EN 1.0320 Equiv. (hot coiled)	Screw: CBM
	Nut: HNTT
EN 1.4301 Equiv.	Screw: SCB
	Nut: HNTTSN

Example

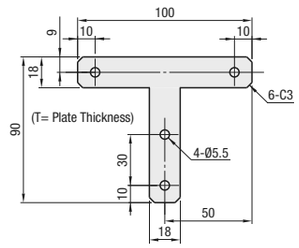




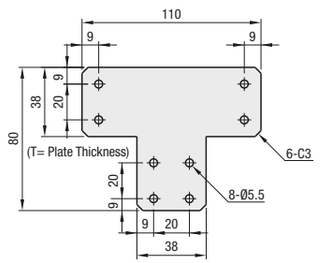
Type	Material	Surface Treatment
HPTTS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTTD		
SHPTTS	EN 1.4301 Equiv.	-

RoHS

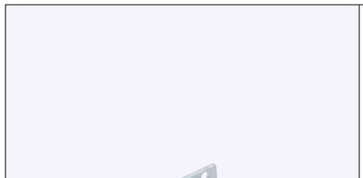
HPTTS5
SHPTTS5



HPTTD5



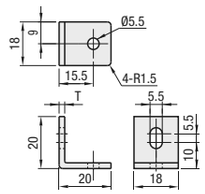
Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTTS5	52	3.2	M5-8	4	M5	4		
SHPTTS5		2		4		4		
HPTTD5	97	2.3		8		8		



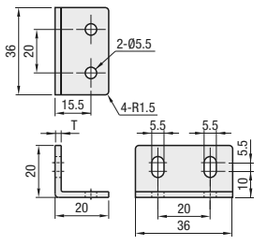
Type	Material	Surface Treatment
HPTBS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTBD		
HPTBDW		
HPTGS		
SHPTBS	EN 1.4301 Equiv.	-
SHPTBD		
SHPTBDW		

RoHS

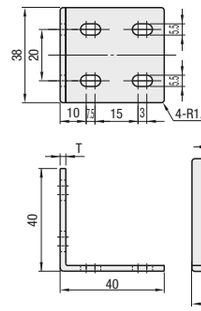
HPTBS5
SHPTBS5



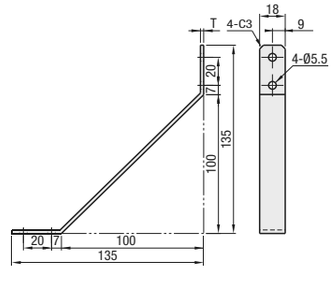
HPTBD5
SHPTBD5



HPTBDW5
SHPTBDW5



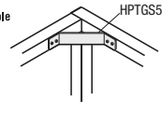
HPTGS5



Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTBS5	10	2.3	M5-8	2	M5	2		
SHPTBS5		2						
HPTBD5	21	2.3		4		4		
SHPTBD5		2						
HPTBDW5	58	3.2		8		8		
SHPTBDW5		3						
HPTGS5	64	2.3		4		4		

Ordering Example — Part Number: HPTTD5

Example



Alterations — Part Number - (SET): HPTTD5 - SET

Not RoHS compliant when -SET is specified.

Alteration	Code	Spec.	Plates, Brackets
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTTS5
			SHPTTS5
			HPTTD5
			HPTBS5
			SHPTBS5
			HPTBD5
			SHPTBD5
			HPTBDW5
			SHPTBDW5
			HPTGS5

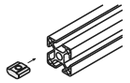
Material	Set
EN 1.0320 Equiv. (hot coiled)	Screw: CBM
	Nut: HNTT
EN 1.4301 Equiv.	Screw: SCB
	Nut: HNTTSN

Nuts for Aluminum Extrusions - Overview
For 5 Series (Slot Width 6mm)

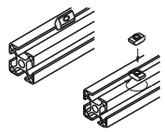
■Nuts for Aluminum Extrusions - Overview

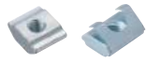
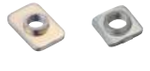
MISUMI offers variety of Pre-Assembly or Post-Assembly Insertion Nuts for Aluminum Extrusions. Select an applicable type specific to your application.

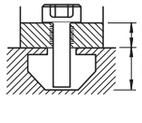
Pre-Assembly Insertion: Insert from the slot ends before assembly. Large width causes less plays in the slots, making screw tightening easy.



Post-Assembly: Mountable from slots after assembly.



Type	Photo	Features	Pre-Assembly Material Steel	Pre-Assembly Material Stainless Steel	Pre-Assembly Page Single Item	Pre-Assembly Page Package	Post-Assembly Material Steel	Post-Assembly Material Stainless Steel	Post-Assembly Page Single Item	Post-Assembly Page Package
Standard		Most standard and economical products. Can be connected temporarily in combination with optional stoppers.	○	○	P.559	P.558	○	○	P.562	P.558
Temporary Holding (Ball Spring)		Can be moved in the extrusions smoothly. Temporary holding is repeatedly possible.	○	○	P.560	P.558	○	○	P.563	P.558
Temporary Holding (Leaf Spring)		Secure temporary holding with springs on both sides.	-	-	-	-	○	○	P.563, 564	P.564
Temporary Holding (Resin Stopper)		Resin stopper on outer circumference prevents aluminum extrusions from being scratched when mounting temporarily.	○	○	P.560	-	-	-	-	-
Post-Assembly Rotational		Insert the nut into the exrusion and turn it in the slot. Large nut width prevents plays.	-	-	-	-	○	○	P.562	-
With Lock		Included set screw enables nut fixing. Convenient where panes and covers are removed frequently.	○	-	P.561	-	○	○	P.564	-
Thread Locking Adhesive Type		Reduces loosening due to vibrations caused by transfer or equipment moves. One-time use and repeated use types are available.	○	-	P.559, 560	-	○	-	P.562, 563	-
Compact (Short Nuts)		Usable with narrow pitch when multiple nuts are lined in the slots. (40% shorter than the standard width)	○	-	P.561	P.561	○	-	P.564	P.564
Square Nuts		Sheet metal type: more economical than standard nuts.	○	○	P.561	P.561	-	-	-	-
Screw Integrated		Requires less time for screw tightening.	-	○	P.565	-	-	○	P.565	-
Long Nut		Workpieces such as Linear Guides are mountable with desired pitches.	○	○	P.566	-	○	○	P.566	-

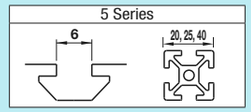


■Aluminum Extrusions and Applicable Screws to Mount Panes / Brackets (Size M - L Dim.)

Slot Width	Extrusion Square	Depth h	Applicable Nut HNTT	Panels / Brackets Thickness b (mm) to be mounted on extrusions
6	20	6	5-3	M3-6 (0.8, 1, 1.2, 1.5, 2) / M3-8 (3, 4) / M3-10 (4.5, 5) / M3-12 (6, 8.2) / M3-15 (9, 10, 12) / M3-18 (14)
			5-4	M4-6 (0.8, 1, 1.2, 1.5, 2) / M4-8 (3, 4) / M4-10 (4.5, 5) / M4-12 (6, 8.2) / M4-15 (9, 10, 12) / M4-18 (14)
			5-5	× (0.8, 1, 1.2, 1.5, 2) / M5-8 (3, 4) / M5-10 (4.5, 5) / M5-12 (6, 8.2) / M5-15 (9, 10, 12) / M5-18 (14)

"×" means there is no applicable screw. Use one size smaller tapped products.

Nuts for Aluminum Extrusions - Bulk Packages
For 5 Series (Slot Width 6mm)



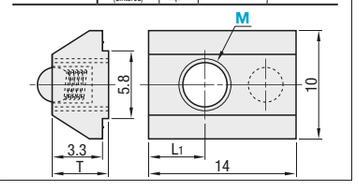
■Features: Bulk packages are cost effective for in-house stock or large quantity uses.

■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

Type	M Material: Main Body	M Material: Ball	M Material: Spring	S Surface Treatment
PACK-HNTU	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTU	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	SUS304-WP8	-



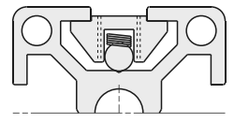
Part Number Type	No.	M	T	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTU	5	3 4 5	4.1	4.5		
PACK-SHNTU			4.7	3.5		

100 pcs. per package

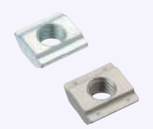
Example

- Does not fall even if the extrusion is placed vertically.

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.

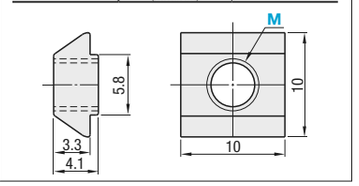


■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

Type	M Material	S Surface Treatment
PACK-HNTT	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTTSN	EN 1.4401 Equiv. (Sintered)	-



Part Number Type	No.	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTT	5	3 4 5		
PACK-HNTTSN				

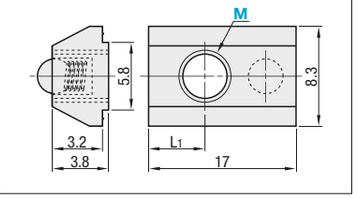
100 pcs. per package

■Post-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

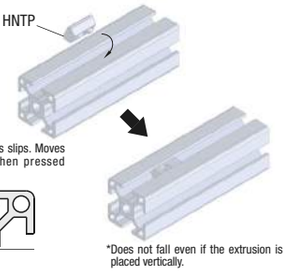
Type	M Material: Main Body	M Material: Ball	M Material: Spring	S Surface Treatment
PACK-HNTP	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTP	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	SUS304-WP8	-



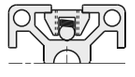
Part Number Type	No.	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTP	5	3 4 5	6		
PACK-SHNTP			6.5		

100 pcs. per package

Example



Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



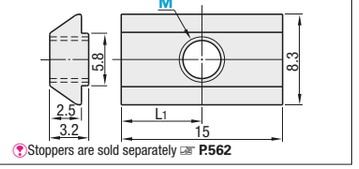
*Does not fall even if the extrusion is placed vertically.

■Post-Assembly Insertion Stopper Nuts / Pack (100/Pkg.)



RoHS

Type	M Material	S Surface Treatment
PACK-HNTA	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTASN	EN 1.4401 Equiv. (Sintered)	-

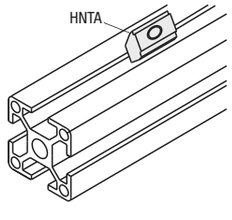


Stoppers are sold separately ☞ P.562

Part Number Type	No.	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTA	5	3 4	6.5		
		5	6		
PACK-HNTASN		3 4 5	6		

100 pcs. per package

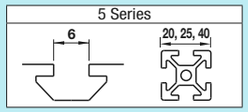
Example



Ordering Example: Part Number - M
PACK-HNTA5 - 4

Pre-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Standard

For 5 Series (Slot Width 6mm)



■Pre-Assembly Insertion Nuts



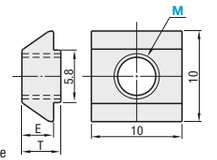
RoHS

HNTT5 (EN 1.0301 Equiv.)
PACK-HNTT5 (EN 1.0301 Equiv., 100/pkg.)
HNTTV5 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTTZ5 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTTSN5 (EN 1.4401 Equiv., Sintered)
PACK-HNTTSN5 (EN 1.4401 Equiv., Sintered, 100/pkg.)
HNTTSS5 (EN 1.4305 Equiv.)

Type	M Material	S Surface Treatment
①HNTT5 ②PACK-HNTT5 ③HNTTV5 ④HNTTZ5	EN 1.0301 Equiv.	Trivalent Chromate
⑤HNTTSN5* ⑥PACK-HNTTSN5*	EN 1.4401 Equiv. (Sintered)	-
⑦HNTTSS5	EN 1.4305 Equiv.	-

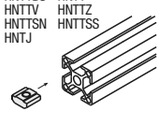
* Electrically conductive

Reference Tightening Torque (N•m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered) / EN 1.4305 Equiv.
5	6.8



Example

- **Pre-Assembly Insertion Nuts**
  Nuts are pre-inserted in the aluminum extrusion.
  HNTU HNTUV
  HNTUZ SHNTU
  HNTTBS HNTT
  HNTTV HNTTZ
  HNTTSN HNTTSS
  HNTJ



Part Number	M	E	T	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTT5 (EN 1.0301 Equiv.)	3 4 5	3.3	4.1				
HNTTV5 (Thread Locking, EN 1.0301 Equiv.)	5						
HNTTZ5 (Thread Locking, EN 1.0301 Equiv.)	5						
HNTTSN5 (EN 1.4401 Equiv., Sintered)	3 4 5	3.5	4.3				
HNTTSS5 (EN 1.4305 Equiv.)	5	3.3	4.1				

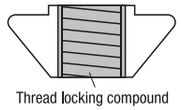
Ordering Example: Part Number - M
HNTT5 - 5

■Bulk Packages (100 pcs. per package)

Part Number	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTT5 (EN 1.0301 Equiv.)	3 4 5		
PACK-HNTTSN5 (EN 1.4401 Equiv., Sintered)	3 4 5		

When ordering HNTT5 without specifying M, HNTT5-5 is selected automatically.

■Thread Locking Type



Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

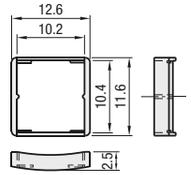
	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	5.2N・m	-
Thread Locking Adhesive Type	• Prevents loosening effectively. • Thread locking properties are lost once loosened. • Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	7.6N・m	Test Conditions: Measured value (HNTPV5-5) when a screw is loosened after drying for 72 hours at room temperature (25 deg. C), after tightened at 6.8N・m.
Thread Locking Resin Coating Type	• Can be used repeatedly. (Thread locking effect decreases after repeated use.) • Thread locking effect is immediately seen right after tightening.	6.5N・m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 6.2N・m Measurement with HNTTZ5-5

■Pre-Assembly Insertion Stoppers RoHS



M Material: Polyamide

HNST5

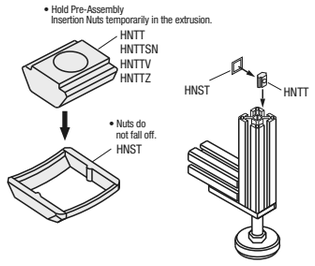


Part Number	Applicable Pre-Assembly Insertion Nut	Color	Unit Price 1 ~ 49 pc(s).	Volume Discount Rate 50~1500
HNST5	HNTT5 HNTTV5 HNTTZ5 HNTTSN5 HNTTSS5	Black		

Ordering Example: Part Number
HNST5

Example

- Hold Pre-Assembly Insertion Nuts temporarily in the extrusion.
- Nuts do not fall off.

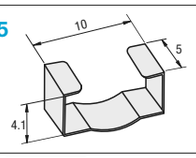


■Pre-Assembly Insertion Metal Stoppers RoHS



M Material: EN 1.4319 Equiv.

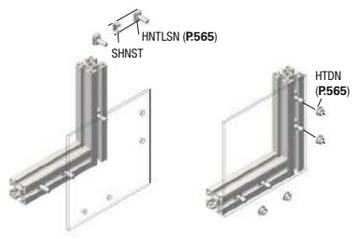
SHNST5



Part Number	Applicable Pre-Assembly Insertion Nut*	Unit Price 1 ~ 1500 pc(s).
SHNST5	HNTT5 HNTTV5 HNTTZ5 HNTTSN5 HNTTSS5	

Ordering Example: Part Number
SHNST5

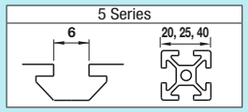
Example



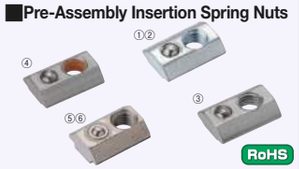
* Can be used with Pre-Assembly Insertion Screws.

Pre-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions with Temporary Holding Function

For 5 Series (Slot Width 6mm)



■Pre-Assembly Insertion Spring Nuts

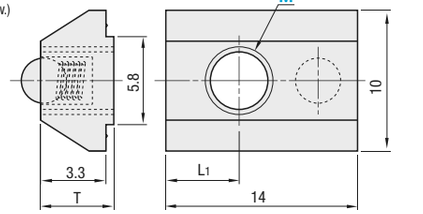


RoHS

HNTU5 (EN 1.0301 Equiv.)
PACK-HNTU5 (EN 1.0301 Equiv., 100/pkg.)
HNTUV5 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTUZ5 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
SHNTU5 (EN 1.4301 Equiv., Sintered)
PACK-SHNTU5 (EN 1.4301 Equiv., Sintered, 100/pkg.)

Type	M Material Main Body	Ball	Spring	S Surface Treatment
①HNTU5 ②PACK-HNTU5 ③HNTUV5 ④HNTUZ5	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
⑤SHNTU5 ⑥PACK-SHNTU5	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	SUS304-WP8	-

Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv., EN 1.4301 Equiv. (Sintered)
5	6.8



Part Number	M	T	L1	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTU5 (EN 1.0301 Equiv.)	3 4 5	4.1	4.5				
HNTUV5 (Thread Locking, EN 1.0301 Equiv.)	5						
HNTUZ5 (Thread Locking, EN 1.0301 Equiv.)	5						
SHNTU5 (EN 1.4301 Equiv., Sintered)	3 4 5	4.7	3.5				

Ordering Example: Part Number - M
HNTU5 - 5

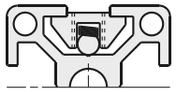
■Bulk Packages (100 pcs. per package)

Part Number	M	T	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTU5 (EN 1.0301 Equiv.)	3 4 5	4.1	4.5		
PACK-SHNTU5 (EN 1.4301 Equiv., Sintered)	3 4 5	4.7	3.5		

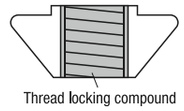
Example

- Does not fall even if the extrusion is placed vertically.

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



■Thread Locking Type



Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	5.2N・m	-
Thread Locking Adhesive Type	• Prevents loosening effectively. • Thread locking properties are lost once loosened. • Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	7.6N・m	Test Conditions: Measured value (HNTPV5-5) when a screw is loosened after drying for 72 hours at room temperature (25 deg. C), after tightened at 6.8N・m.
Thread Locking Resin Coating Type	• Can be used repeatedly. (Thread locking effect decreases after repeated use.) • Thread locking effect is immediately seen right after tightening.	6.5N・m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 6.2N・m Measurement with HNTTZ5-5

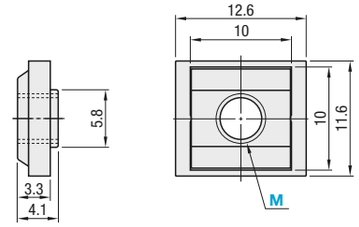
■Stopper Integrated Nuts RoHS



HNTE5
SHNTE5

Type	M Material Main Body	Stopper	S Surface Treatment
①HNTE5	EN 1.0301 Equiv.	Polyamide	Trivalent Chromate
②SHNTE5	EN 1.4301 Equiv.		-

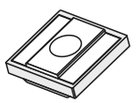
Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv. / EN 1.4301 Equiv.
5	6.8



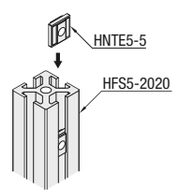
Part Number	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTE5	3 4 5				
SHNTE5	3 4 5				

Ordering Example: Part Number - M
HNTE5 - 5

Example



Integrated Pre-Assembly Insertion Nuts and Stoppers.

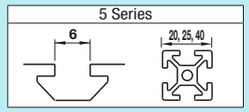


The nuts do not slip off even if inserted into the vertically-placed extrusions.

Pre-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Others

For 5 Series (Slot Width 6mm)

5 Series



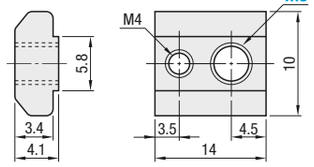
■Pre-Assembly Insertion Lock Nut

HNTC5



M Material: EN 1.0301 Equiv.
S Surface Treatment: Trivalent Chromate
RoHS

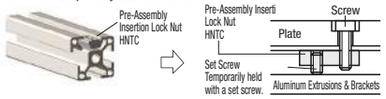
Reference Tightening Torque (N · m)	
M	EN 1.0301 Equiv.
5	6.8



Part Number	M	Accessory	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTC5	5	M4x4 Set Screw for Locking 1 pc.				

ex · Pre-Assembly Insertion Lock Nut

The position of post-assembly insertion lock nuts can be fixed temporarily with the set screw.



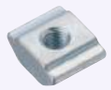
Ordering Example: Part Number HNTC5 - M 5

- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.
- Stopper is not included.

Ordering Example: Part Number HNTJ5 - M 5

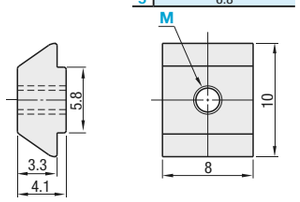
■Pre-Assembly Insertion Short Nuts

HNTJ5
PACK-HNTJ5



M Material: EN 1.0301 Equiv.
S Surface Treatment: Trivalent Chromate
RoHS

Reference Tightening Torque (N · m)	
M	EN 1.0301 Equiv.
5	6.8

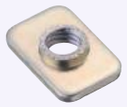


Part Number	M	HNTJ5				PACK-HNTJ5		
		Unit Price	Volume Discount Rate			Unit Price	Volume Discount Rate	
		1 ~ 499 pc(s).	500~749	750~999	1000~1500	1 ~ 9 pkg(s).	10~19	20~30
HNTJ5 PACK-HNTJ5	3 4 5							

100 pcs. per package

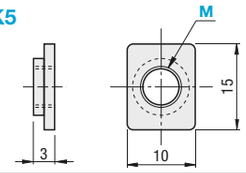
■Pre-Assembly Insertion Square Nuts

RoHS



M Material: EN 1.0330 Equiv. S Surface Treatment: Trivalent Chromate

HNKK5



ex · Pre-Assembly Insertion Nuts



Ordering Example: Part Number HNKK5 - M 5

Part Number	M	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKK5	3 4 5			

100 pcs. per package

Insert it into the extrusion upside down.

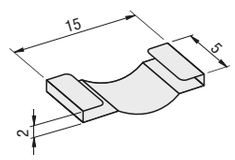
■Metal Stoppers for Pre-Assembly Insertion Square Nuts

RoHS



M Material: EN 1.4319 Equiv.

HNKKST5





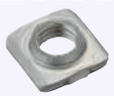
Ordering Example: Part Number HNKKST5

Part Number	Applicable Pre-Assembly Insertion Nut	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKKST5	HNKK5			

100 pcs. per package

■Pre-Assembly Insertion Nuts Stainless Steel Sheet Metal Type

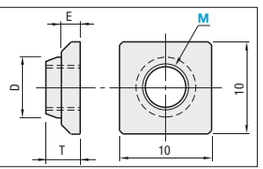
RoHS



M Material: EN 1.4301 Equiv.

HNTTBS5
(EN 1.4301 Equiv.)

M	T	D
3	2.7	4.3
4	3.4	5.6
5	3.7	6.7



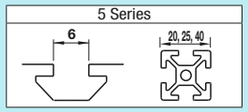
Ordering Example: Part Number HNTTBS5 - M 5

Part Number	M	E	T	Unit Price	Volume Discount Rate		
				1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTTBS5 (EN 1.4301 Equiv.)	3 4 5	2.0	Above Table				

Post-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Standard

For 5 Series (Slot Width 6mm)

5 Series



■Post-Assembly Insertion Stopper Nuts

RoHS



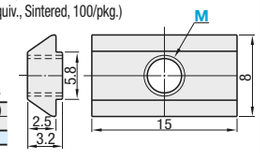
* Electrically conductive

Type	M Material	S Surface Treatment
①HNTA5	EN 1.0301 Equiv.	Trivalent Chromate
②PACK-HNTA5		
③HNTAV5		
④HNTAZ5		
⑤HNTASN5*	EN 1.4401 Equiv. (Sintered)	-
⑥PACK-HNTASN5*		
⑦HNTASS5	EN 1.4305 Equiv.	-

HNTA5 (EN 1.0301 Equiv.)
PACK-HNTA5 (EN 1.0301 Equiv., 100/pkg.)
HNTAV5 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTAZ5 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTASN5 (EN 1.4401 Equiv., Sintered)
PACK-HNTASN5 (EN 1.4401 Equiv., Sintered, 100/pkg.)
HNTASS5 (EN 1.4305 Equiv.)

Details of Thread Locking Type P.563

Reference Tightening Torque (N · m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered) / EN 1.4305 Equiv.
5	6.8



ex Example

• Post-Assembly Insertion Stopper Nuts

HNTA
HNTAV
HNTAZ
HNTASN
HNTASS



Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTA5 (EN 1.0301 Equiv.)	3 4				
	5				
HNTAV5 (Thread Locking, EN 1.0301 Equiv.)	5				
HNTAZ5 (Thread Locking, EN 1.0301 Equiv.)	5				
HNTASN5 (EN 1.4401 Equiv., Sintered)	3 4 5				
HNTASS5 (EN 1.4305 Equiv.)	5				

Ordering Example: Part Number HNTA5 - M 5

■Bulk Packages

100 pcs. per package

Part Number	M	Unit Price (1 ~ 10 packages)	
		Package Price	Price per Pkg.
PACK-HNTA5 (EN 1.0301 Equiv., 100/pkg.)	3 4 5		
PACK-HNTASN5 (EN 1.4401 Equiv., Sintered, 100/pkg.)	3 4 5		

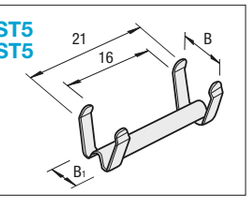
■Post-Assembly Insertion Stoppers

RoHS



Type	M Material
①HNAST5	Polypropylene
②HNBST5	EN 1.4319 Equiv.

HNAST5
HNBST5



Part Number	Applicable Stopper Nut	Color	B	B1	Unit Price		Volume Discount Rate	
					1 ~ 49 pc(s).	50~499	500~999	1000~1500
HNAST5	HNTA5 HNTAV5 HNTAZ5 HNTASN5 HNTASS5	White	6.6	5				
HNBST5		-	8.5	4				

■Post-Assembly Insertion Nut and Stopper Set

RoHS



HNTAT5 (EN 1.0301 Equiv. Set)
HNTATSN5 (EN 1.4401 Equiv. Set)

Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTAT5	HNTA5	HNAST5
HNTATSN5*	HNTASN5	

* Electrically conductive

Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTAT5	3 4				
	5				
HNTATSN5	3 4 5				

■Post-Assembly Insertion Nut and Metal Stopper Set

RoHS



HNTBT5 (EN 1.0301 Equiv. Set)
HNTBTSN5 (EN 1.4401 Equiv. Set)

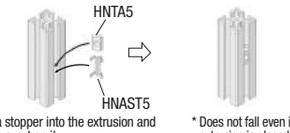
Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTBT5	HNTA5	HNBST5
HNTBTSN5*	HNTASN5	

* Electrically conductive

Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTBT5	3 4				
	5				
HNTBTSN5	3 4 5				

Ordering Example: Part Number HNTAT5 - M 5

ex Example



* Insert a stopper into the extrusion and put into a nut on it.

* Does not fall even if the extrusion is placed vertically.

■Post-Assembly Insertion Nuts

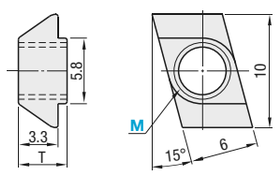
RoHS



* Electrically conductive

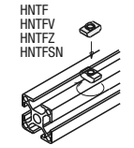
Type	M Material	S Surface Treatment
①HNTF5	EN 1.0301 Equiv.	Trivalent Chromate
②HNTFV5		
③HNTFZ5		
④HNTFSN5*	EN 1.4401 Equiv. (Sintered)	-

HNTF5 (EN 1.0301 Equiv.)
HNTFV5 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTFZ5 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTFSN5 (EN 1.4401 Equiv., Sintered)



Details of Thread Locking Type P.563

ex · Post-Assembly Insertion Nut



Post-Assembly Insertion Nuts Stainless Steel Type causes interference with the tab of Tabbed Brackets (**P.537, 538, 541**) and not usable.

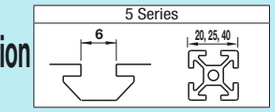
The 5-5 size Post-assembly Insertion Nuts are not applicable since the outside of tap is thin and thus the tightening force is weak. Use 5-5 size Post-assembly Insertion Nuts and Stopper Set.

Ordering Example: Part Number HNTF5 - M 4

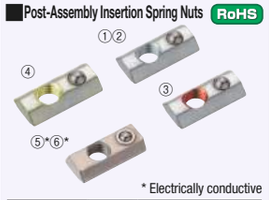
Part Number	M	T	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTF5 (EN 1.0301 Equiv.)	3 4	4.1				
HNTFV5 (Thread Locking, EN 1.0301 Equiv.)	4					
HNTFZ5 (Thread Locking, EN 1.0301 Equiv.)	4					
HNTFSN5 (EN 1.4401 Equiv., Sintered)	3 4	5.0				

Post-Assembly Insertion Nuts for Aluminum Extrusions with Temporary Holding Function

For 5 Series (Slot Width 6mm)



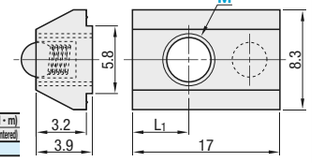
■Post-Assembly Insertion Spring Nuts RoHS



* Electrically conductive

Type	Material: Main Body	Material: Ball	Material: Spring	Surface Treatment
①HNTP5	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
②PACK-HNTP5				
③HNTPV5				
④HNTPZ5				
⑤SHNTP5*	EN 1.4401 Equiv. (Sintered)		SUS304-WP8	-
⑥PACK-SHNTP5*				

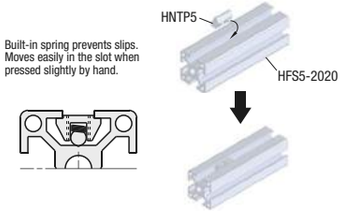
HNTP5 (EN 1.0301 Equiv.)
PACK-HNTP5 (EN 1.0301 Equiv., 100/pkg.)
HNTPV5 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTPZ5 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
SHNTP5 (EN 1.4401 Equiv., Sintered)
PACK-SHNTP5 (EN 1.4401 Equiv., Sintered, 100/pkg.)



Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
5	6.8

Example

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



* Does not fall even if the extrusion is placed vertically.

Part Number	M	L1	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTP5 (EN 1.0301 Equiv.)	3 4 5	6				
HNTPV5 (Thread Locking, EN 1.0301 Equiv.)	5					
HNTPZ5 (Thread Locking, EN 1.0301 Equiv.)	5					
SHNTP5 (EN 1.4401 Equiv., Sintered)	3 4 5	6.5				

■Bulk Packages

Part Number	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTP5 (EN 1.0301 Equiv.)	3 4 5	6		
PACK-SHNTP5 (EN 1.4401 Equiv., Sintered)		6.5		

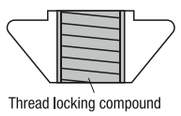
(?)10c0 pcs. per package

Ordering Example

Part Number	-	M
HNTP5	-	5

■Thread Locking Type

Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.



Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

(?)Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

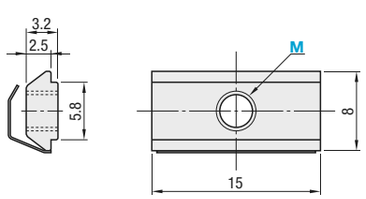
	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	5.0N・m	-
Thread Locking Adhesive Type	• Prevents loosening effectively. • Thread locking properties are lost once loosened. • Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	6.3N・m	Test Conditions: Measured value (HNTPV5-5) when a screw is loosened after drying for 72 hours at room temperature (25 deg. C), after tightened at 6.8N・m.
Thread Locking Resin Coating Type	• Can be used repeatedly. (Thread locking effect decreases after repeated use.) • Thread locking effect is immediately seen right after tightening.	6.1N・m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 5.7N・m Measurement with HNTAZ5-5

■Post-Assembly Insertion Nuts with Leaf Springs RoHS



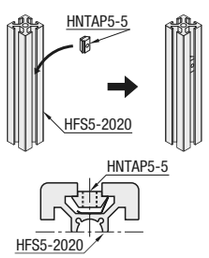
Type	Material: Main Body	Material: Wing Part	Surface Treatment
①HNTP5	EN 1.0301 Equiv.	EN 1.4301 Equiv.	Trivalent Chromate
②SHNTP5	EN 1.4301 Equiv.		-

HNTAP5
SHNTAP5



Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv. / EN 1.4301 Equiv.
5	6.8

Example



Welded Leaf Springs prevent the nuts from slipping off even if inserted into the vertically-placed extrusions.

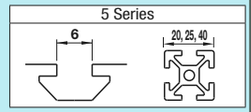
Part Number	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTAP5	3 4 5				
SHNTAP5	3 4 5				

Ordering Example

Part Number	-	M
HNTAP5	-	5

Post-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Others

For 5 Series (Slot Width 6mm)

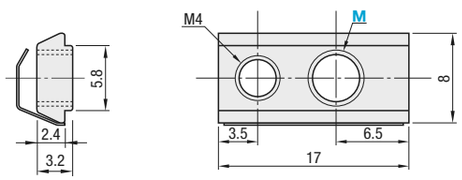


■Post-Assembly Insertion Lock Nuts with Leaf Springs RoHS



Part	Material: Main Body	Material: Wing Part	Surface Treatment
Main Body	EN 1.0301 Equiv.		Trivalent Chromate
Wing Part	EN 1.4301 Equiv.		-

HNTRP5



Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv.
5	6.8

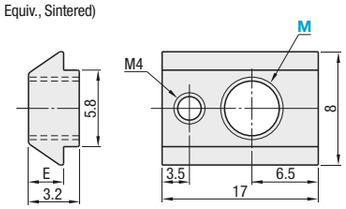
Part Number	M	Accessory	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTRP5	5	M4 Set Screw for Locking 1 pc.				

■Post-Assembly Insertion Lock Nuts RoHS



Type	Material: Main Body	Material: Wing Part	Surface Treatment
HNTR5	EN 1.0301 Equiv.		Trivalent Chromate
HNTRSN5	EN 1.4401 Equiv. (Sintered)		-

HNTR5 (EN 1.0301 Equiv.)
HNTRSN5 (EN 1.4401 Equiv., Sintered)



Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
5	6.8

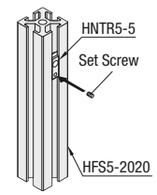
Part Number	M	E	Accessory	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTR5 (EN 1.0301 Equiv.)	3	2.4	M4x5 Set Screw for Locking 1 pc.				
	4						
	5						
HNTRSN5 (EN 1.4401 Equiv., Sintered)	3 4 5	2.5					

Ordering Example

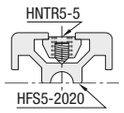
Part Number	-	M
HNTR5	-	5
HNTRP5	-	5

Example

■Post-Assembly Insertion Lock Nuts (HNTR)

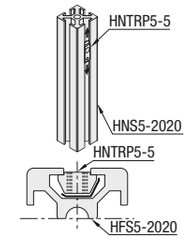


The nut can be fixed in place by itself by tightening the included set screw.

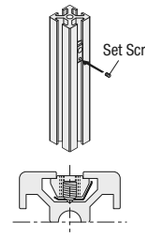


Suitable for use where high repeatability is required, such as mounting sensors or repeatedly replacing panels.

■Post-Assembly Insertion Lock Nuts with Leaf Springs (HNTRP)

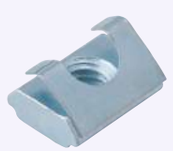


Welded Leaf Springs prevent nuts from slipping off even if inserted into the vertically-oriented extrusions, leading to easy locating.



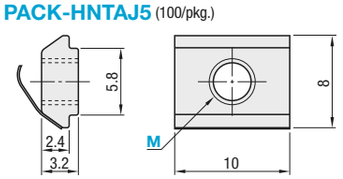
Also, the nut can be fixed in place by tightening the included set screw.

■Post-Assembly Insertion Short Nuts RoHS



Part	Material: Main Body	Material: Wing Part	Surface Treatment
Main Body	EN 1.0301 Equiv.		Trivalent Chromate
Wing Part	EN 1.4319 Equiv.		-

HNTAJ5
PACK-HNTAJ5 (100/pkg.)



- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.

Ordering Example

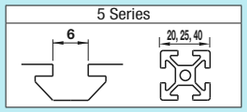
Part Number	-	M
HNTAJ5	-	5

Part Number	M	HNTAJ5 Unit Price 1 ~ 499 pc(s).	HNTAJ5 Volume Discount Rate 500~749	750~999	1000~1500	PACK-HNTAJ5 Unit Price 1 pkg.	PACK-HNTAJ5 Volume Discount Rate 2~4	5~9	10~20
HNTAJ5 PACK-HNTAJ5	3 4 5								

(?)100 pcs. per package

Pre-Assembly Insertion Screws / Post-Assembly Insertion Screws / Flanged Nuts for Aluminum Extrusions

For 5 Series (Slot Width 6mm)

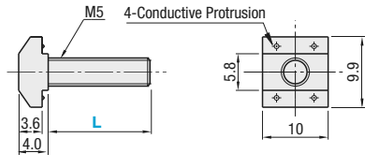


■Pre-Assembly Insertion Screws RoHS

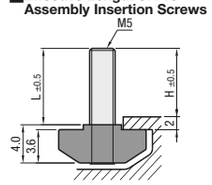


Ⓜ Material Nuts: EN 1.4401 Equiv. (Sintered)
Screw: EN 1.4301 Equiv.
* Electrically conductive

HNTLSN5-5



■Effective Length of Pre-Assembly Insertion Screws



Slot of Aluminum Extrusion

Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N・m)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HNTLSN5-5	12	10.8	HFS5	6.8			
	17	15.8					

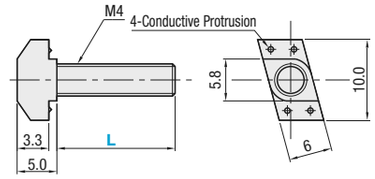
Part Number - L
HNTLSN5-5 - 12

■Post-Assembly Insertion Screws RoHS

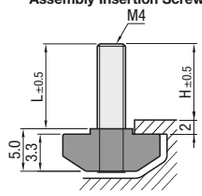


Ⓜ Material Nuts: EN 1.4401 Equiv. (Sintered)
Screw: EN 1.4301 Equiv.
* Electrically conductive

HATLSN5-4



■Effective Length of Post-Assembly Insertion Screws



Slot of Aluminum Extrusion

Part Number	L	H	Applicable Extrusion (Series)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HATLSN5-4	12	11.7	HFS5			
	17	16.7				

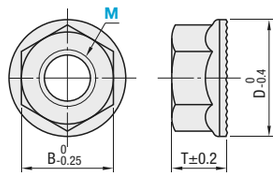
Part Number - L
HATLSN5-4 - 17

■Flanged Nuts RoHS



Ⓜ Material: EN 1.4301 Equiv.

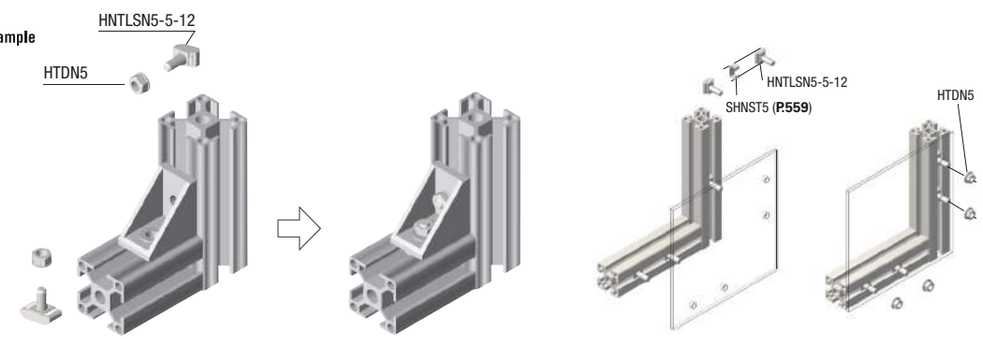
HTDN



Part Number Type	M	B	T	D	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HTDN (Stainless Steel)	4	7	4.2	10			
	5	8	5.5	12			

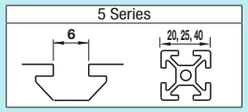
Ordering Example
Part Number - L
HNTLSN5-5 - 12
HTDN5

Example



Long Nuts for Aluminum Extrusions

For 5 Series (Slot Width 6mm)



Tightening Torque P.526

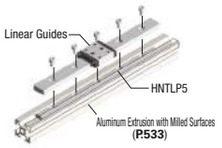
■Long Nuts L Dimension Configurable Type RoHS



Type Pre-Assembly	Type Post-Assembly	Ⓜ Material	Ⓢ Surface Treatment	Reference Tightening Torque (N・m)
HNTLF5	HNTALF5	EN 1.0301 Equiv.	Trivalent Chromate	6.8
HNTLP5	HNTALP5			
HNTLS5	HNTALS5			
SHNTLF5	-	EN 1.4305 Equiv.	-	
SHNTLP5	SHNTALP5			
SHNTLS5	SHNTALS5			

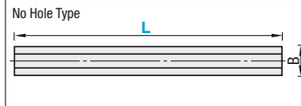
Cross Section Shape	A	B	E	T
Pre-Assembly	5.8	10	3.5	4.1
Post-Assembly	5.8	8	2.5	3.2

Example

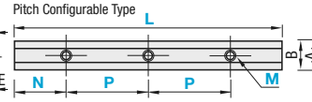


Reference Tightening Torque (N・m) M	EN 1.0301 Equiv., EN 1.4305 Equiv.
5	6.8

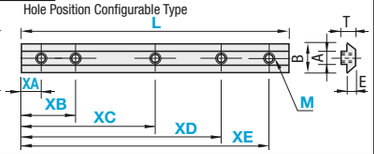
No Hole Type



Pitch Configurable Type



Hole Position Configurable Type



■No Hole Type

Part Number	L 1mm Increment	HNTLF5 Unit Price (Less than 300mm)	HNTLF5 Unit Price / m (300mm or More)	SHNTLF5 Unit Price (Less than 300mm)	SHNTLF5 Unit Price / m (300mm or More)	HNTALF5 Unit Price (Less than 300mm)	HNTALF5 Unit Price / m (300mm or More)
(Pre-Assembly Insertion) HNTLF5 SHNTLF5 (Post-Assembly Insertion) HNTALF5	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000						

■Pitch Configurable Type

Part Number	L 1mm Increment	M	N 1mm Increment	P 1mm Increment	Number of Taps S	HNTLP5 Unit Price (Less than 300mm)	HNTLP5 Unit Price / m (300mm or more)	SHNTLP5 Unit Price (Less than 300mm)	SHNTLP5 Unit Price / m (300mm or more)	HNTALP5 Unit Price (Less than 300mm)	HNTALP5 Unit Price / m (300mm or More)	SHNTALP5 Unit Price (Less than 300mm)	SHNTALP5 Unit Price / m (300mm or More)
(Pre-Assembly Insertion) HNTLP5 SHNTLP5 (Post-Assembly Insertion) HNTALP5 SHNTALP5	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	3 4 5	5≤N≤L-5	2M≤P≤L-2M	2≤S≤20								

■Hole Position Configurable Type

Part Number	L 1mm Increment	M	XA ~ XE 1mm Increment	HNTLS5 Unit Price (Less than 300mm)	HNTLS5 Unit Price / m (300mm or More)	SHNTLS5 Unit Price (Less than 300mm)	SHNTLS5 Unit Price / m (300mm or More)	HNTALS5 Unit Price (Less than 300mm)	HNTALS5 Unit Price / m (300mm or More)	SHNTALS5 Unit Price (Less than 300mm)	SHNTALS5 Unit Price / m (300mm or More)
(Pre-Assembly Insertion) HNTLS5 SHNTLS5 (Post-Assembly Insertion) HNTALS5 SHNTALS5	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	3 4 5	5~L-5								

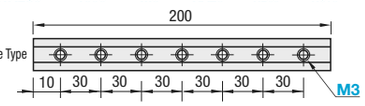
Number of tapped holes can be specified between 1 to 5.

Part Number - L
HNTLF5 - 1800
HNTALF5 - 400

Part Number - L - M - N - P - S
HNTLP5 - 200 - M3 - N10 - P30 - 7
HNTALP5 - 210 - M5 - N8 - P15 - 8

Part Number - L - M - XA - XB - XC - XD - XE
HNTLS5 - 1050 - M5 - XA20 - XB105
SHNTLS5 - 1050 - M5 - XA20 - XB105 - XC250 - XD500 - XE755
HNTALS5 - 1000 - M5 - XA25 - XB55 - XC78 - XD975 - XE992

(Ex.) Pitch Configurable Type



■Hole Machining Charge

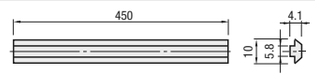
Pitch Configurable Type	Unit Price / Hole	Hole Position Configurable Type	Unit Price / Hole
HNTLP5, HNTALP5		HNTLP5, HNTALP5	
SHNTLP5, SHNTALP5		SHNTLP5, SHNTALP5	

■Long Nuts L Dimension Fixed Type

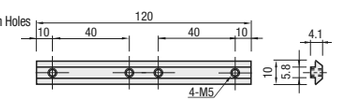


RoHS

L Dimension Fixed without Holes
HNTK5



L Dimension Fixed with Holes
HNTLG5
SHNTLG5



Reference Tightening Torque (N・m) M	EN 1.0301 Equiv., EN 1.4305 Equiv.
5	6.8

Type	Ⓜ Material	Ⓢ Surface Treatment
HNTK5	EN 1.0301 Equiv.	Trivalent Chromate
HNTLG5		
SHNTLG5	EN 1.4305 Equiv.	-

■L Dimension Fixed without Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTK5			

■L Dimension Fixed with Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTLG5			
SHNTLG5 (Stainless Steel)			

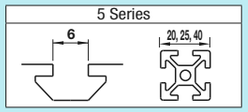
Ordering Example
Part Number
HNTLG5

Alterations
Part Number - (SET)
HNTLG5 - SET

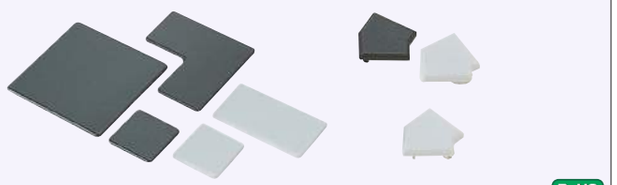
Alteration	Code	Spec.	Type
Hex Socket Set Screw Set	SET	Hex socket set screws come as a set. Type: HNTLG, SHNTLG; Set Screw: MSSK, MSSU; Quantity: 4	HNTLG5, SHNTLG5

Extrusion End Caps

For 5 Series (Slot Width 6mm) Aluminum Extrusions



■**Features:** Standard caps for protecting extrusion end faces. Alterations for Aluminum Extrusions not necessary.

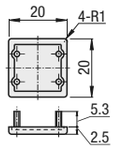


RoHS

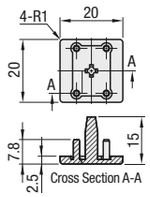
Type	Material
HFC	Polyamide
HFCL	Low Density Polyethylene

- Some products are not required to specify colors. In that case, color is black.
- The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.
- HFCL is not applicable to extrusions with Wrench Hole in Fixed Position (**P.761**), D Type Hole (**P.764**), or L Hole (**P.767**).

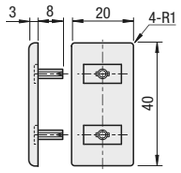
HFC5-2020



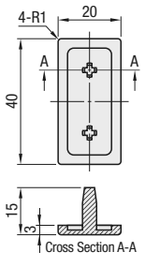
HFCL5-2020



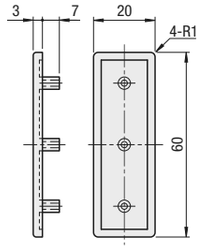
HFC5-2040



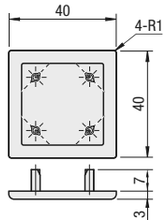
HFCL5-2040



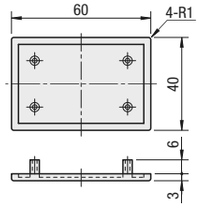
HFC5-2060



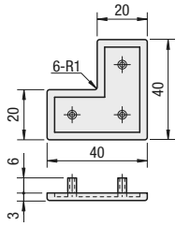
HFC5-4040



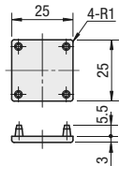
HFC5-4060



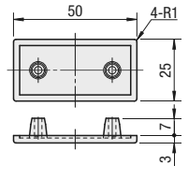
HFC5-404020



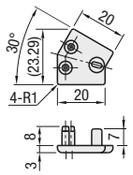
HFC5-2525



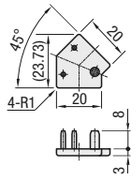
HFC5-2550



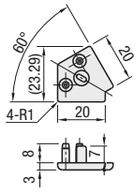
HFC30A5



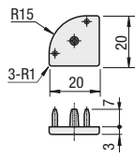
HFC45A5



HFC60A5



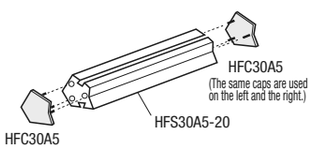
HFCR5-2020



Part Number		Color	Unit Price	Volume Discount Rate		Applicable Extrusion
Type	No.		1 ~ 14 pc(s).	15~19	20~200	
HFC5	2020	B (Black) S (Light Gray)				5-2020
	2040					5-2040
	2060					5-2060
	4040					5-4040
	4060					5-4060
	404020					5-404020
	2525					5-2525
	2550					5-2550
HFCL5	2020					5-2020
	2040					5-2040
HFC30A5						30A5-20
HFC45A5						45A5-20
HFC60A5						60A5-20
HFCR5-2020						5-2020

Ordering Example: Part Number - Color
HFC30A5 - B

ex



When using Aluminum Extrusion HFS5-2080, please use 2 pieces of HFC5-2040.



■**Features:** Three-sided extrusion end caps for protecting 3 corners. Alterations not necessary.

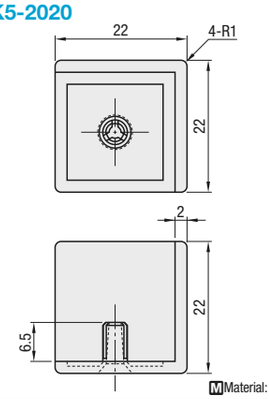
■Three-Sided Caps for Corners



The pin shape and numbers of extrusion caps may be changed to prevent caps from easily falling off.

RoHS

HFCK5-2020

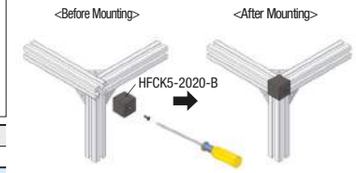


Material: Polyamide

Part Number	Color	Accessory	Applicable Extrusion	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~200
HFCK5-2020	B (Black)	HFBMB3-12	5-2020			

Ordering Example: Part Number - Color
HFCK5-2020 - B

ex



- Tapping on extrusion is not required.

■**Features:** Extrusion End Caps Screw Mounting Type. Requires no alteration and excels in safety.

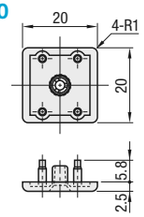
■Screw Mounted



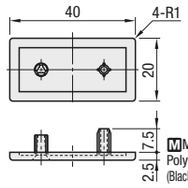
The pin shape and numbers of extrusion caps may be changed to prevent caps from easily falling off.

RoHS

HFCB5-2020



HFCB5-2040

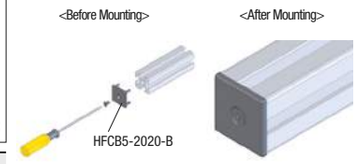


Material
Polyamide
(Black, Light Gray, Yellow)

Part Number Type	Part Number No.	Color	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~500	Applicable Extrusion
HFCB5	2020	B (Black) S (Light Gray) Y (Yellow) Yellow Type is available only for 2020.				5-2020
	2040					5-2040

Ordering Example: Part Number - Color
HFCB5-2020 - B

ex Example



- Tapping on extrusion is not required.

- Flat Head Screw is included. (Black: HFBMB3-12, Light Gray, Yellow: SHFBS3-12)

■**Features:** End plates for HFSR5-404020. Alterations are required on extrusions.

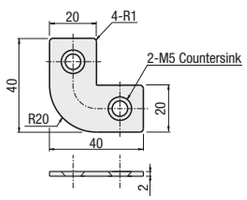
■End Plates

RoHS



Material: EN 1.4301 Equiv.

HFCR5-404020



Part Number Type	Applicable Screw	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~200	Applicable Extrusion
HFCR5-404020	SHFBS5-6				HFSR5-404020

- For HFCR5-404020, alterations on the extrusion end section and applicable screws are required for mounting. (Screws are not included.)

■**End Plates Mounting for HFSR5-404020**

Alterations Code	Hole Machining for End Plate Mounting LTS	RTS	TSW
Spec.	The diagram below shows the basic extrusion position. LTS: Machined on the Left End RTS: Machined on the Right Er TSW: Machined on Both Ends Ex. LTS		

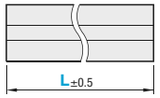
Applicable Extrusion	Applicable Screw			
HFSR5-404020	SHFBS5-6			

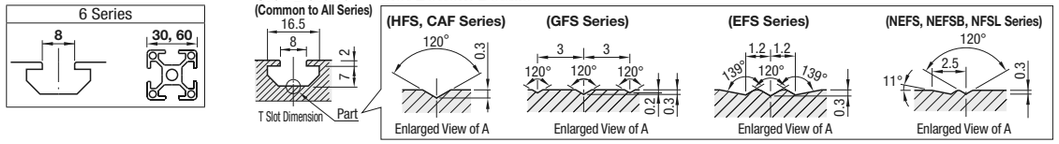
Part Number
HFCR5-404020

6 Series Aluminum Extrusions - Overview

6 Series

Aluminum extrusions with 8mm slot width. Available in 30mm, 50mm and 60mm in size. Applicable to M6 bolts.
Slot Depth 9mm, T Slot Dimension 16.5mm, L Dimension Tolerance ±0.5mm





Variations

	Standard Aluminum Extrusions			Lightweight Aluminum Extrusions		High Rigidity Aluminum Extrusions
	HFS Series	EFS Series	NFS (NEFS) Series	HFSL Series	NFSL Series	GFS Series
Cross Section Photo						
Material	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	A6061SS-T6 Equiv.
Features	Standard cross section shape.	Have rigidity Equiv. to HFS Series yet lighter and more economical.	Significant price reduction has been achieved by material change. Strength(*) is the same as that of HFS and EFS Series.	Lightweight and economical extrusions. Suitable for use when light weight and economical price are given priority over strength.	Further price reduction has been achieved by changing the material of HFSL. Strength(*) is the same as that of HFSL Series.	These thick extrusions offer high rigidity and are suitable for use in high load.
Surface Treatment	Clear Anodize (HFS) Black Anodize (HFSB) Clear Coating (CAF) Baked Paint (Yellow) (HFSY)	Clear Anodize (EFS) Black Anodize (EFSB)	Clear Anodize Black Anodize	Clear Anodize Black Anodize	Clear Anodize	Clear Anodize
6 Series Representative Product	HFS6-3030 HFSB6-3030 CAF6-3030 HFSY6-3030	EFS6-3030 EFSB6-3030	NEFS6-3030 NFSB6-3030	HFSL6-3030 HFSLB6-3030	NFSL6-3030	GFS6-3030
Mass (Kg/m) (**)	0.9	0.8	0.8	0.76	0.76	1.02
Cross Sectional Moment of Inertia (**) ℓx	$2.83x10^4$	$2.85x10^4$	$2.85x10^4$	$2.68x10^4$	$2.68x10^4$	$3.47x10^4$
Cross Sectional Moment of Inertia (**) ℓy	$2.83x10^4$	$2.85x10^4$	$2.85x10^4$	$2.68x10^4$	$2.68x10^4$	$3.47x10^4$

* Cross Sectional Moment of Inertia is equal to that of HFS, EFS and HFSL Series, however proof stress and tensile strength slightly decrease.
** Mass and Cross Sectional Moment of Inertia are for 30 square extrusions.

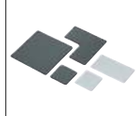
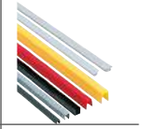
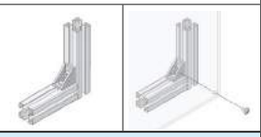
6 Series Aluminum Extrusions Lineup

Number of Slots (Vertical Axis): Four-Side Slot Type can be jointed as desired; Flat Plane Type (1 - 3 sides) provides ornamental side(s).
Number of Slot Lines (Horizontal Axis): There are extrusions with one or multiple slots on one side. Ones with multiple slots are suitable where strength is required.
Also available are Angled, Outer Surface R, Milled Surface, Bending and Slot Width Mixed Type.

Variations			HFS Series							EFS Series							NFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Rows or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize	•	•	•	•	•	•	•	•	•		•	•	•		•	•	•	•	•		
		Black Anodize	•	•	•	•				•	•		•				•	•	•				
		Clear Coating	•	•	•																		
		Yellow Paint	•																				
		Page	P.571	P.573	P.575 P.579	P.576, P.577 P.579	P.578 P.580	P.581	P.580 P.582	P.571	P.573		P.576	P.578	P.581		P.571	P.573	P.575 P.579	P.576, P.577 P.579	P.578		
Flat Plane	One Flat	Clear Anodize	•	•	•				•	•	•						•	•	•				
		Black Anodize	•							•													
		Clear Coating																					
		Yellow Paint																					
		Page	P.572	P.574	P.575 P.579				P.582	P.572	P.574						P.572	P.574	P.575				
	Two Flats	Clear Anodize	•	•	•					•	•						•	•					
		Black Anodize	•							•													
		Clear Coating																					
		Yellow Paint																					
		Page	P.572	P.574	P.575					P.572	P.574						P.572	P.574					
	3 Sides Flat	Clear Anodize	•							•													
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page	P.572							P.572													

Accessories for 6 Series Aluminum Extrusions

MISUMI provides various types of mounting components and accessories.

Product Name	Brackets	Blind Joint	Nut	Extrusion End Caps	Slot Covers
Product Photo					
Mounted Product Photo					
Material	EN AC-46100 Equiv., EN AC-51400-T5 Equiv., etc.	EN 1.1191 Equiv., EN 1.4308 Equiv., EN 1.4301 Equiv., etc.	EN 1.0301 Equiv., EN 1.4301 Equiv., EN 1.4401 Equiv., etc.	Polyamide	Polyethylene, etc.
Features	Brackets to connect extrusions with screws and nuts. Alterations on aluminum extrusions for mounting are not required. Cover plates can be mounted by using Side Tapped Hole Type Brackets.	Suitable for locations where equipment is loaded and unloaded or doors are to be mounted. Alterations are required on the aluminum extrusions.	Nuts for mounting brackets and other accessories. Selectable from various types: Pre-Assembly Insertion Type, Post-Assembly Insertion Type, Thread Locking Adhesive Type, Spring-integrated Type convenient for vertical positioning.	Caps for protecting extrusion end faces. Can be mounted without any alterations.	Protects extrusion slots from dust. Can be cut with scissors. Various colors and materials are available.
Variations	Brackets for 1 Slot ~ 4 Slots Surface Treatment (Black Anodize, Electroless Nickel Plating, etc.) Brackets with Cover, etc.	-	Standard (Single Item, Bulk Packages, Stopper Sets) With Additional Functions (Temporary Holding, Thread Locking Adhesive, Holding Function) Screw Integrated, Long Nuts	Three-Sided Caps for Corners Screw Mounted	Elastomer Sponge Aluminum, etc.
Page No.	Brackets - Overview **P.583** Screws **P.751**~	Overview **P.601**	Overview **P.617**	**P.627**	**P.773**

6 Series Applications

Standard Aluminum Extrusions for various use such as medium coverings, small equipment bases, conveyor frames, etc.
Can be used as you desire with wide variety of products.

Usable in combination with different slot width extrusions.

Extrusions with different slot width can be combined when integrating frames and coverings.
6 Series, 5 Series, 8 Series Slot Width Mixed Extrusions (**P.580, 640**) and Assembly Brackets for Different Extrusion Sizes (**P.590, 600**) are available.
Utilize these aluminum extrusions to assemble them as you desire.

(Additional Info.) Number of Slots and Number of Slot Lines

Number of Slots (Vertical Axis)

Four-Side Slots | One Flat | Two Flats | 3 Sides Flat

Number of Slot Lines (Horizontal Axis)

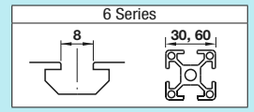
1 Slot | 2 Slots (Rectangle) | 2 Slots (Square) | 3 Slots or More



Variations			HFSL Series							NFSL Series							GFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize	•	•						•	•						•	•				•	
		Black Anodize	•	•																			
		Clear Coating																					
		Yellow Paint																					
		Page	P.571	P.573						P.571	P.573						P.571	P.573				P.581	
Flat Plane	One Flat	Clear Anodize			•																		
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page			P.579																		
	Two Flats	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					
	3 Sides Flat	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					

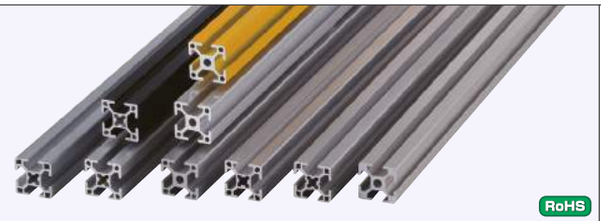
6 Series Aluminum Extrusions 30, 60 mm

1 Slot



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.601 ~ P.614	P.617 ~ P.624	P.627	P.755 ~ P.768

■**Features:** Standard extrusions for various use such as covers or frames.

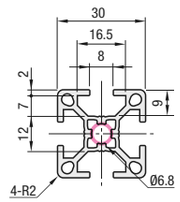


RoHS

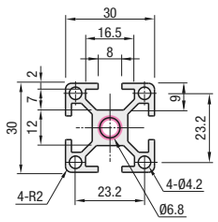
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS6	KNEFS6	EN AW-6063-T5 Equiv.	Clear Anodize
GFS6	KGFS6	A6061SS-T6 Equiv.	
EFS6	KEFS6	EN AC-51400-T5 Equiv.	
HFS6	KHFS6		
NFSL6	KNFSL6	EN AW-6063-T5 Equiv.	
HFSL6	KHFSL6	EN AC-51400-T5 Equiv.	
NEFSB6	KNEFSB6	EN AW-6063-T5 Equiv.	Black Anodize
EFSB6	KEFSB6	EN AC-51400-T5 Equiv.	
HFSB6	KHFSB6		
HFSLB6	KHFSLB6		
CAF6	KCAF6		Clear Coating (Anodize + Clear Coating)
HFSY6	KHFSY6		Baked Paint (Yellow)

Cut surface and altered parts are not surface treated.
The color of HFSY6 is D22-80V (Japan Paint Manufacturers Association, Munsell Value Reference 2.5Y8/12).

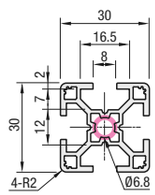
NEFS6-3030
NEFSB6-3030
(Black Anodize)
EFS6-3030
EFSB6-3030
(Black Anodize)



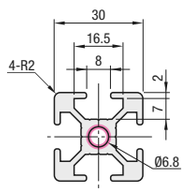
HFS6-3030
HFSB6-3030
(Black Anodize)
CAF6-3030
(Clear Coating)
HFSY6-3030
(Baked Paint, Yellow)



NFSL6-3030
HFSL6-3030
(Light Type)
HFSLB6-3030
(Light Type, Black Anodize)



GFS6-3030
(High Rigidity)



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Less than 300mm 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price / m 300mm or More 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NEFS6	3030	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	0.8	296	2.85x10⁴	2.85x10⁴						
NEFSB6 (Black Anodize)												
EFS6												
EFSB6 (Black Anodize)												
HFS6			0.9	333	2.83x10⁴	2.83x10⁴						
HFSB6 (Black Anodize)												
CAF6 (Clear Coating)												
HFSY6 (Baked Paint, Yellow)												
NFSL6			0.76	280	2.68x10⁴	2.68x10⁴						
HFSL6 (Light Type)												
HFSLB6 (Light Type, Black Anodize)												
GFS6 (High Rigidity)			1.02	377	3.47x10⁴	3.47x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**), and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusions (1000mm)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ Lx	Ly	Unit Price Qty. 1~19	Volume Discount Rate 20~120
KHFS6	3030	1000	333	2.83x10⁴	2.83x10⁴		

■Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

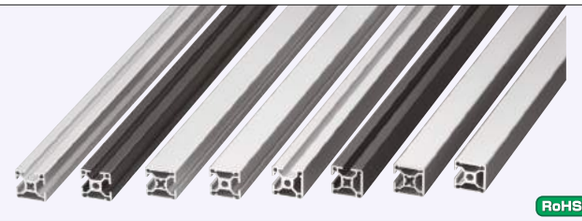
Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS6	3030	4000 (Effective Length)	296	2.85x10⁴	2.85x10⁴		
KNEFSB6 (Black Anodize)							
KEFS6							
KEFSB6 (Black Anodize)							
KHFS6			333	2.83x10⁴	2.83x10⁴		
KHFSB6 (Black Anodize)							
KCAF6							
KHFSY6							
KNFSL6			280	2.68x10⁴	2.68x10⁴		
KHFSL6 (Light Type)							
KHFSLB6 (Light Type, Black Anodize)							
KGFS6 (High Rigidity)			377	3.47x10⁴	3.47x10⁴		

Ordering Example

Part Number	-	L
HFS6-3030	-	800
KHFS6-3030	-	1000
KHFS6-3030	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

■**Features:** 1-slot Aluminum 30mm Square Extrusions with a Flat Side

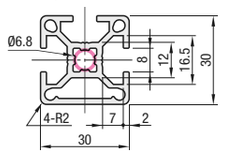


RoHS

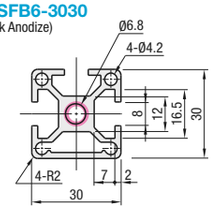
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS□6	KNEFS□6	EN AW-6063-T5 Equiv.	Clear Anodize
EFS□6	KEFS□6	EN AC-51400-T5 Equiv.	
HFS□6	KHFS□6		
HFS□B6	KHFS□B6		Black Anodize

Cut surface and altered parts are not surface treated.

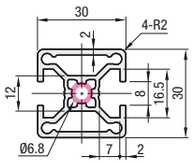
NEFSF6-3030
EFSF6-3030
EFSFB6-3030
(Black Anodize)



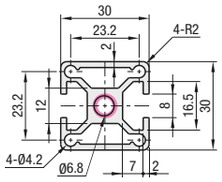
HFSF6-3030
HFSFB6-3030
(Black Anodize)



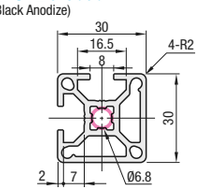
EFSH6-3030



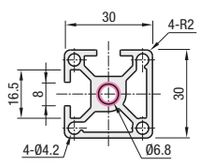
HFSH6-3030



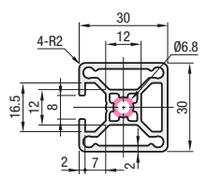
NEFST6-3030
EFST6-3030
EFSTB6-3030
(Black Anodize)



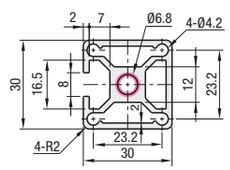
HFST6-3030
HFSTB6-3030
(Black Anodize)



EFSC6-3030



HFSC6-3030



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Less than 300mm 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m 300mm or More 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NEFSF6	3030	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Not applicable to some extrusions.	0.86	320	3.06x10⁴	2.8x10⁴						
EFSF6												
EFSFB6 (Black Anodize)												
HFSF6			0.92	338	3.03x10⁴	2.76x10⁴						
HFSFB6 (Black Anodize)												
NEFST6			0.91	337	3.08x10⁴	3.08x10⁴						
EFST6												
EFSTB6 (Black Anodize)												
HFST6			0.95	351	3.03x10⁴	3.03x10⁴						
HFSTB6 (Black Anodize)												
EFSH6			0.85	314	2.75x10⁴	3.29x10⁴						
HFSH6			0.93	345	2.69x10⁴	3.23x10⁴						
EFSC6			0.89	331	3.05x10⁴	3.29x10⁴						
HFSC6			0.97	361	2.99x10⁴	3.24x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFSF6	3030	4000 (Effective Length)	320	3.06x10⁴	2.8x10⁴		
KEFSF6							
KEFSFB6 (Black Anodize)							
KHFSF6			338	3.03x10⁴	2.76x10⁴		
KHFSFB6 (Black Anodize)							
KNEFST6			337	3.08x10⁴	3.08x10⁴		
KEFST6							
KEFSTB6 (Black Anodize)							
KHFST6			351	3.03x10⁴	3.03x10⁴		
KHFSTB6 (Black Anodize)							
KEFSH6			314	2.75x10⁴	3.29x10⁴		
KHFSH6			345	2.69x10⁴	3.23x10⁴		
KEFSC6			331	3.05x10⁴	3.29x10⁴		
KHFSC6			361	2.99x10⁴	3.24x10⁴		

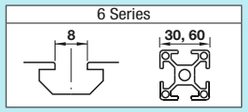
Ordering Example

Part Number	-	L
EFSF6-3030	-	800
KHFSF6-3030	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

6 Series Aluminum Extrusions 30, 60 mm

2 Slots



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.601 ~ P.614	P.617 ~ P.626	P.627	P.755 ~ P.768

CAD Data Folder Name: 40_Aluminum_Frames

Features: Extrusions with [1x2 slots] . Effective where forces apply.

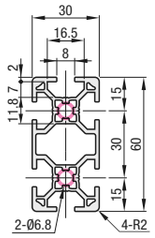


RoHS

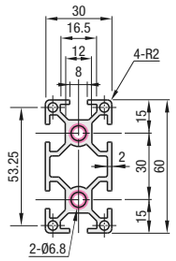
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFSB6	KNEFSB6	EN AW-6063-T5 Equiv.	Black Anodize
NEFS6	KNEFS6		Clear Anodize
NFSL6	KNFSL6		
GFS6	KGFS6	EN AW-6061-T6 Equiv.	
EFS6 HFS6 HFS□6	KEFS6 KHFS6 KHFS□6	EN AC-51400-T5 Equiv.	
EFSB6 HFSB6 HFS□B6	KEFSB6 KHFSB6 KHFS□B6		Black Anodize
CAF6	KCAF6		Clear Coating (Anodize + Clear Coating)

Cut surface and altered parts are not surface treated.

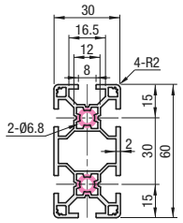
NEFS6-3060
NEFSB6-3060
(Black Anodize)
EFS6-3060
EFSB6-3060
(Black Anodize)



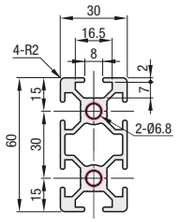
HFS6-3060
HFSB6-3060
(Black Anodize)
CAF6-3060
(Clear Coating)



NFSL6-3060
HFSL6-3060
(Light Type)
HFSLB6-3060
(Light Type, Black Anodize)



GFS6-3060 (High Rigidity)



Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price Less than 300mm 1 ~ 9 pc(s).	Volume Discount Rate Less than 300mm 10~49	Volume Discount Rate Less than 300mm 50~160	Unit Price/m 300mm or more 1 ~ 9 pc(s).	Volume Discount Rate/m 300mm or more 10~49	Volume Discount Rate/m 300mm or more 50~160
NEFS6	3060	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.44	535	5.49x10⁴	20.6x10⁴						
NEFSB6 (Black Anodize)												
EFS6			1.6	592	5.33x10⁴	20.56x10⁴						
EFSB6 (Black Anodize)												
HFS6			1.6	592	5.33x10⁴	20.56x10⁴						
HFSB6 (Black Anodize)												
CAF6 (Clear Coating)			1.29	476	4.87x10⁴	17.87x10⁴						
NFSL6												
HFSL6 (Light Type)												
HFSLB6 (Light Type, Black Anodize)												
GFS6 (High Rigidity)			1.71	634	5.95x10⁴	23.78x10⁴						

Fixed Length Extrusion (1000mm)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 20~120
KHFS6	3060	1000	592	5.33x10⁴	20.56x10⁴		

Fixed Length Extrusion (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

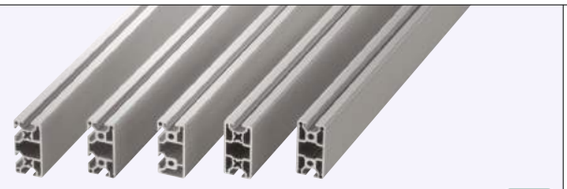
Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS6	3060	4000 (Effective Length)	535	5.49x10⁴	20.6x10⁴		
KNEFSB6 (Black Anodize)							
KEFS6			592	5.33x10⁴	20.56x10⁴		
KEFSB6 (Black Anodize)							
KHFS6							
KHFSB6 (Black Anodize)							
KCAF6			476	4.87x10⁴	17.87x0⁴		
KNFSL6							
KHFSL6 (Light Type)							
KHFSLB6 (Light Type, Black Anodize)			634	5.95x10⁴	23.78x10⁴		
KGFS6 (High Rigidity)							

Ordering Example

Part Number	-	L
HFS6-3060	-	800
KHFS6-3060	-	1000
KHFS6-3060	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

Features: Extrusions with [1x2 slots] . Effective where forces apply.

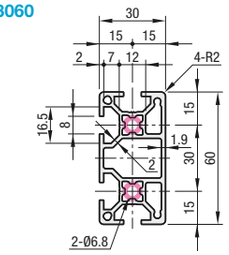


RoHS

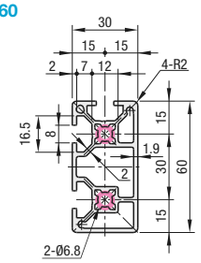
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS□6	KNEFS□6	EN AW-6063-T5 Equiv.	Clear Anodize
EFS□6 HFS□6	KNFS□6 KHFS□6	EN AC-51400-T5 Equiv.	

Cut surface and altered parts are not surface treated.

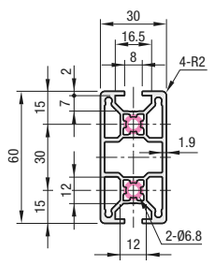
NEFSF6-3060
EFSF6-3060



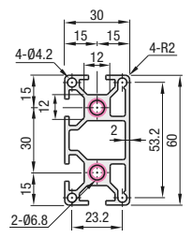
NEFST6-3060



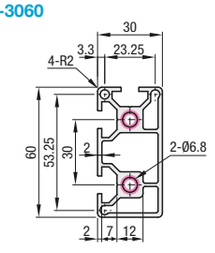
EFSH6-3060



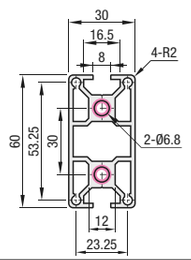
HFSF6-3060



HFST6-3060



HFSH6-3060



Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price Less than 300mm 1 ~ 9 pc(s).	Volume Discount Rate Less than 300mm 10~49	Volume Discount Rate Less than 300mm 50~160	Unit Price/m 300mm or more 1 ~ 9 pc(s).	Volume Discount Rate/m 300mm or more 10~49	Volume Discount Rate/m 300mm or more 50~160
NEFSF6	3060	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.54	573	5.97x10⁴	21.1x10⁴						
EFSF6												
HFSF6			1.67	616	5.81x10⁴	20.93x10⁴						
NEFST6			1.53	567	5.83x10⁴	21.19x10⁴						
HFST6			1.68	624	5.93x10⁴	23.01x10⁴						
EFSH6			1.58	585	6.45x10⁴	21.53x10⁴						
HFSH6			1.73	642	6.36x10⁴	21.41x10⁴						

Fixed Length Extrusion (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate/m 10~20
KNEFSF6	3060	4000 (Effective Length)	573	5.97x10⁴	21.1x10⁴		
KEFSF6							
KHFSF6			616	5.81x10⁴	20.93x10⁴		
KNEFST6			567	5.83x10⁴	21.19x10⁴		
KHFST6			624	5.93x10⁴	23.01x10⁴		
KEFSH6			585	6.45x10⁴	21.53x10⁴		
KHFSH6			642	6.36x10⁴	21.41x10⁴		

Ordering Example

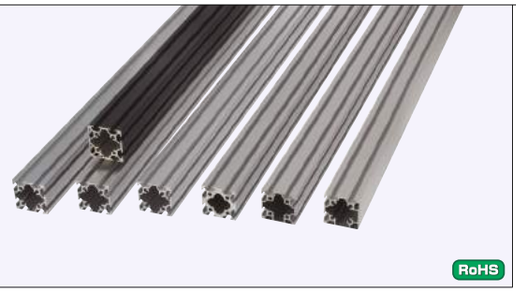
Part Number	-	L
HFSH6-3060	-	800
KHFST6-3060	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

6 Series Aluminum Extrusions 30, 60 mm

2 Slots

Features: Extrusions with [2x2 slots] . Effective where forces apply.



RoHS

Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NFSB6	KNFSB6	EN AW-6063-T5 Equiv.	Black Anodize
NFS6	KNFS6		Clear Anodize
NFSF6	KNFSF6		
HFS6	KHFS6	EN AC-51400-T5 Equiv.	
HFS□6	KHFS□6		
HFSB6	KHFSB6		Black Anodize
CAF6	KCAF6		Clear Coating (Anodize + Clear Coating)

Cut surface and altered parts are not surface treated.

NFS6-6060
NFSB6-6060 (Black Anodize)
HFS6-6060
HFSB6-6060 (Black Anodize)
CAF6-6060 (Clear Coating)



HFSG6-6060 (Heavy Type)

NFSF6-6060
HFSF6-6060

HFST6-6060

Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price Less than 300mm	Volume Discount Rate Less Than 300mm		Unit Price/m 300mm or More	Volume Discount Rate 300mm or More	
					ℓx	ℓy	1 ~ 9 pc(s).	10~49	50~160	1 ~ 9 pc(s).	10~49	50~160
NFS6	6060	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	2.63	971	41.4x10⁴	41.4x10⁴						
NFSB6 (Black Anodize)												
HFS6												
HFSB6 (Black Anodize)												
CAF6 (Clear Coating)												
HFSG6 (Heavy Type)			4.13	1529	54.2x10⁴	54.2x10⁴						
NFSF6			2.9	1072	45.4x10⁴	43.3x10⁴						
HFSF6												
HFST6			2.73	1011	43.8x10⁴	43.8x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price	Volume Discount Rate
				ℓx	ℓy	1 ~ 9 pc(s).	10~20
KNFS6	6060	4000 (Effective Length)	971	41.4x10⁴	41.4x10⁴		
KNFSB6 (Black Anodize)							
KHFS6							
KHFSB6 (Black Anodize)							
KCAF6 (Clear Coating)							
KHFSG6 (Heavy Type)			1529	54.2x10⁴	54.2x10⁴		
KNFSF6			1072	45.4x10⁴	43.3x10⁴		
KHFST6			1011	43.8x10⁴	43.8x10⁴		

Ordering Example

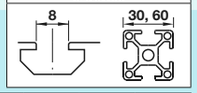
Part Number	-	L
HFS6-6060	-	800
KHFST6-6060	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

6 Series Aluminum Extrusions 30, 60 mm Square

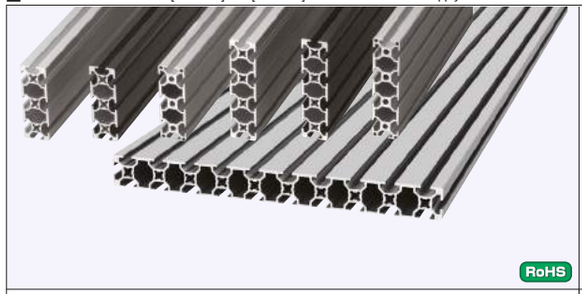
3 or More Slots

6 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.601 ~ P.614	P.617 ~ P.626	P.627	P.755 ~ P.768

Features: Extrusions with [1x3 slots] and [2x4 slots]. Effective where forces apply.

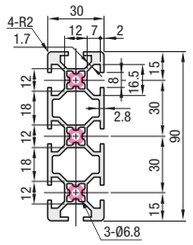


RoHS

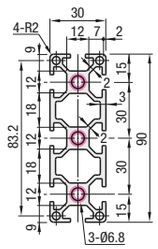
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS6	KNEFS6	EN AW-6063-T5 Equiv.	Clear Anodize
EFS6	KEFS6	EN AC-51400-T5 Equiv.	
HFS6	KHFS6		
EFSB6	KEFSB6		Black Anodize

Cut surface and altered parts are not surface treated.

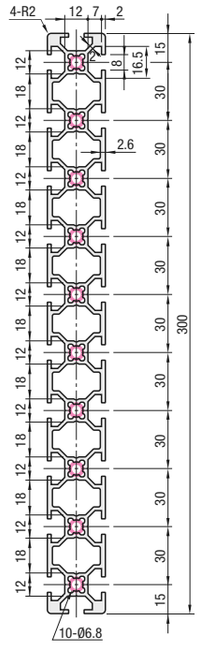
NEFS6-3090
EFS6-3090
EFSB6-3090
(Black Anodize)



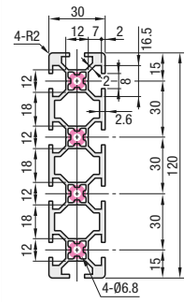
HFS6-3090



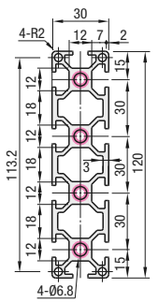
EFS6-30300



NEFS6-30120
EFS6-30120
EFSB6-30120
(Black Anodize)



HFS6-30120



Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price Less than 300mm	Volume Discount Rate Less Than 300mm		Unit Price/m 300mm or More	Volume Discount Rate 300mm or More	
					ℓx	ℓy	1 ~ 9 pc(s).	10~49	50~160	1 ~ 9 pc(s).	10~49	50~160
NEFS6	3090	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	2.24	831	8.80x10⁴	69.05x10⁴						
EFS6												
EFSB6 (Black Anodize)												
HFS6			2.44	902	8.44x10⁴	66.28x10⁴						
NEFS6	30120		3.01	1116	11.48x10⁴	157.62x10⁴						
EFS6												
EFSB6 (Black Anodize)												
HFS6			3.21	1188	11.19x10⁴	152.2x10⁴						
EFS6	30300		8.15	2962	13.50x10⁴	375.5x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price	Volume Discount Rate
				ℓx	ℓy	1 ~ 9 pc(s).	10~20
KNEFS6	3090	4000 (Effective Length)	831	8.80x10⁴	69.05x10⁴		
KEFS6							
KEFSB6 (Black Anodize)							
KHFS6			902	8.44x10⁴	66.28x10⁴		
KNEFS6	30120		1116	11.48x10⁴	157.62x10⁴		
KEFS6							
KEFSB6 (Black Anodize)							
KHFS6			1,188	11.19x10⁴	152.2x10⁴		
KEFS6	30300		2,970	13.50x10⁴	375.5x10⁴		

Ordering Example

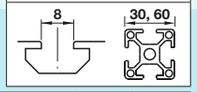
Part Number	-	L
HFS6-3090	-	800
KHFS6-30120	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

6 Series Aluminum Extrusions 30, 60 mm Square

3 or More Slots

6 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.617 ~ P.626	P.601 ~ P.614	P.627	P.755 ~ P.768

■**Features:** Extrusions with [1x3 slots] and [2x4 slots]. Effective where forces apply.

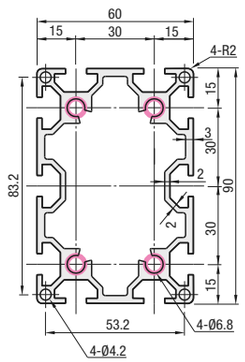


RoHS

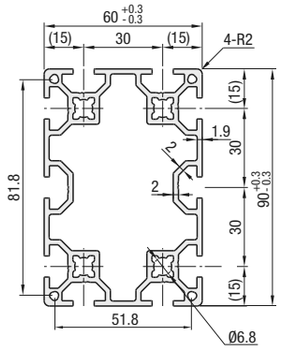
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS6	KNEFS6	EN AW-6063-T5 Equiv.	Clear Anodize
HFS6	KHFS6	EN AC-51400-T5 Equiv.	

Cut surface and altered parts are not surface treated.

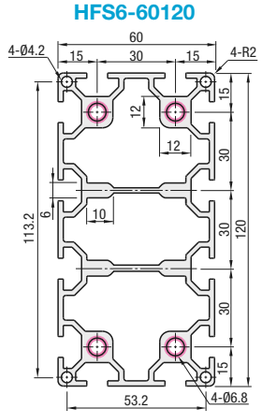
HFS6-6090



NEFS6-6090



NEFS6-60120
HFS6-60120



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price Less than 300mm	Volume Discount Rate Less than 300mm		Unit Price/m 300mm or more	Volume Discount Rate/m 300mm or more	
					ℓx	ℓy	1 ~ 9 pc(s).	10~49	50~160	1 ~ 9 pc(s).	10~49	50~160
NEFS6	6090	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	3.10	1147	52.6x10⁴	111.0x10⁴						
	60120		4.53	1677	69.0x10⁴	246.7x10⁴						
HFS6	6090		3.10	1147	52.6x10⁴	111.0x10⁴						
	60120		4.53	1677	69.0x10⁴	246.7x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusion (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price	Volume Discount Rate
				ℓx	ℓy	1 ~ 9 pc(s).	10~19
KNEFS6	6090	4000 (Effective Length)	1147	52.6x10⁴	111.0x10⁴		
	60120		1677	69.0x10⁴	246.7x10⁴		
KHFS6	6090		1147	52.6x10⁴	111.0x10⁴		
	60120		1677	69.0x10⁴	246.7x10⁴		

Ordering Example

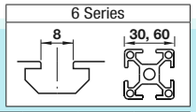
Part Number	-	L
HFS6-6090	-	800
KHFS6-60120	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

6 Series Aluminum Extrusions 30, 60 mm Square

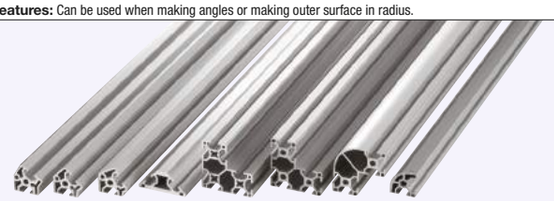
Other Shapes

6 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.661 ~ P.614	P.617 ~ P.626	P.627	P.755 ~ P.768

■**Features:** Can be used when making angles or making outer surface in radius.

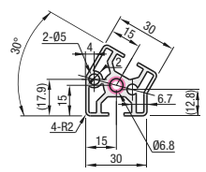


RoHS

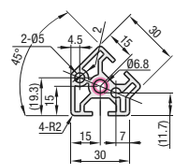
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS6	KNEFS6	EN AW-6063-T5 Equiv.	Clear Anodize
NFSR6	KNFSR6		
EFS6	KEFS6	EN AC-51400-T5 Equiv.	
HFS6	KHFS6		
HFSR6	KHFSR6		
HFS□□A6	KHFS□□A6		
HFS45TR6	KHFS45TR6		

Cut surface and altered parts are not surface treated.

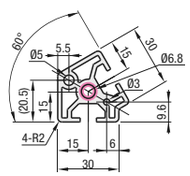
HFS30A6-30



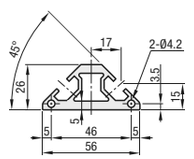
HFS45A6-30



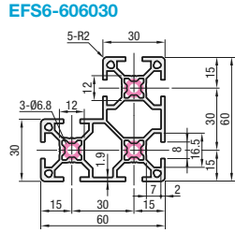
HFS60A6-30



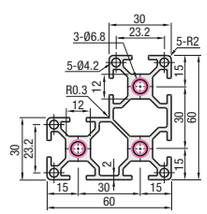
HFS45TR6-30



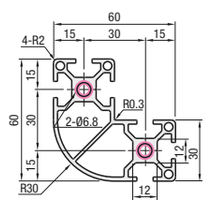
NEFS6-606030
EFS6-606030



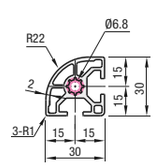
HFS6-606030



HFSR6-606030



NFSR6-3030
HFSR6-3030



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price Less than 300mm	Volume Discount Rate Less than 300mm		Unit Price/m 300mm or more	Volume Discount Rate/m 300mm or more	
					ℓx	ℓy	1 ~ 9 pc(s).	10~49	50~160	1 ~ 9 pc(s).	10~49	50~160
HFS30A6	30	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.11	412	3.15x10⁴	3.86x10⁴						
HFS45A6			1.08	401	3.21x10⁴	3.72x10⁴						
HFS60A6			1.1	410	3.33x10⁴	3.70x10⁴						
NEFS6	606030		2.21	819	27.38x10⁴	27.38x10⁴						
EFS6												
HFS6			2.33	864	27.3x10⁴	27.3x10⁴						
HFSR6			1.97	732	27.75x10⁴	27.75x10⁴						
NFSR6	3030		0.82	306	2.42x10⁴	2.42x10⁴						
HFSR6												
HFS45TR6	30		1.33	492	3.42x10⁴	9.47x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusion (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price	Volume Discount Rate
				ℓx	ℓy	1 ~ 9 pc(s).	10~20
KHFS30A6	30	4000 (Effective Length)	412	3.15x10⁴	3.86x10⁴		
KHFS45A6			401	3.21x10⁴	3.72x10⁴		
KHFS60A6			410	3.33x10⁴	3.70x10⁴		
KNEFS6	606030		819	27.38x10⁴	27.38x10⁴		
KEFS6							
KHFS6			864	27.3x10⁴	27.3x10⁴		
KNFSR6	3030		306	2.42x10⁴	2.42x10⁴		
KHFSR6							
KHFS45TR6	30		492	3.42x10⁴	9.47x10⁴		

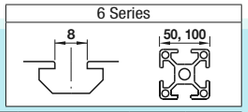
Ordering Example

Part Number	-	L
HFS30A6-30	-	800
KHFS30A6-30	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

6 Series Aluminum Extrusions 50, 100mm Square

6 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.601 ~ P.614	P.617 ~ P.626	P.627	P.755 ~ P.768

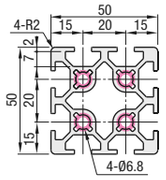


RoHS

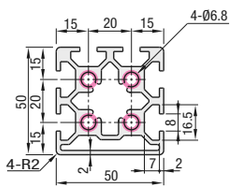
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NFS6	KNFS6	EN AW-6063-T5 Equiv.	Clear Anodize
HFS6	KHFS6	EN AC-51400-T5 Equiv.	
HFS□6	KHFS□6		
HFSB6	KHFSB6		Black Anodize

Cut surface and altered parts are not surface treated.

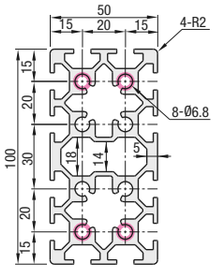
NFS6-5050
HFS6-5050
HFSB6-5050 (Black Anodize)



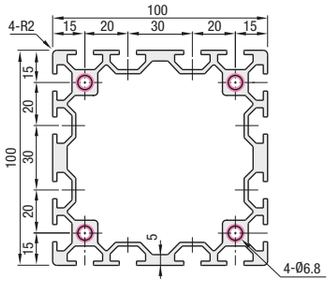
HFSF6-5050



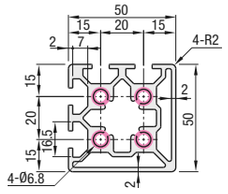
NFS6-50100
HFS6-50100
HFSB6-50100 (Black Anodize)



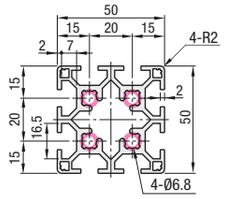
NFS6-100100
HFS6-100100
HFSB6-100100 (Black Anodize)



HFST6-5050



HFSL6-5050



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Less than 300mm 1 ~ 9 pc(s).	Volume Discount Rate Less than 300mm 10~49	50~160	Unit Price/m 300mm or more 1 ~ 9 pc(s).	Volume Discount Rate/m 300mm or more 10~49	50~160
NFS6	5050	50~4000	2.32	857	21.60x10⁴	21.60x10⁴						
HFS6												
HFSB6 (Black Anodize)												
HFSL6		■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. ⁉Some extrusions are not applicable.	2.05	760	18.79x10⁴	18.79x10⁴						
HFSF6			2.32	861	22.23x10⁴	21.40x10⁴						
HFST6			2.36	874	22.26x10⁴	22.26x10⁴						
NFS6	50100		4.36	1614	42.40x10⁴	153.5x10⁴						
HFS6												
HFSB6 (Black Anodize)												
NFS6	100100		5.52	2043	265.2x10⁴	265.2x10⁴						
HFS6												
HFSB6 (Black Anodize)												

■Fixed Length Extrusion (Effective Length 4000mm ☞P.526)

⁉Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

⁉Extrusions without anodizing are also available. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center.

Part Number		L mm	Mass kg / m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNFS6	5050	4000 (Effective Length)	2.32	857	21.60x10⁴	21.60x10⁴		
KHFS6								
KHFSB6 (Black Anodize)								
KHFSL6			2.05	760	18.79x10⁴	18.79x10⁴		
KHFSF6			2.32	861	22.23x10⁴	21.40x10⁴		
KHFST6			2.36	874	22.26x10⁴	22.26x10⁴		
KNFS6	50100		4.36	1614	42.40x10⁴	153.5x10⁴		
KHFS6								
KHFSB6 (Black Anodize)								
KNFS6	100100		5.52	2043	265.2x10⁴	265.2x10⁴		
KHFS6								
KHFSB6 (Black Anodize)								

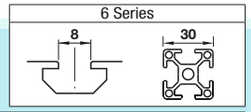
Ordering Example: Part Number - L
HFS6-5050 - 800
KHFST6-5050 - 4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see P.755.

6 Series Aluminum Extrusions

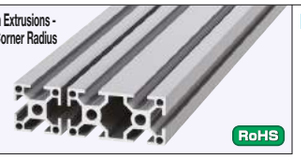
Aluminum Extrusions - Minimal Corner Radius / Slot Width Mixed

6 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.601 ~ P.614	P.617 ~ P.626	P.627	P.755 ~ P.768

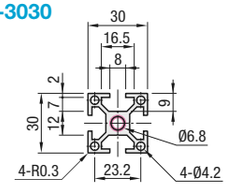
■Aluminum Extrusions - Minimal Corner Radius



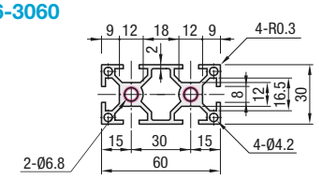
RoHS

Material: EN AC-51400-T5 Equiv.
Surface Treatment: Clear Anodize

HFSV6-3030



HFSV6-3060



Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Less than 300mm	Unit Price/m 300mm or more
HFSV6	3030	50~4000	0.91	335	2.91x10⁴	2.91x10⁴		
	3060		1.60	594	5.41x10⁴	20.83x10⁴		

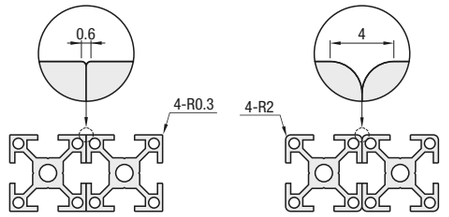
Ordering Example: Part Number - L
HFSV6-3030 - 1200

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see P.755.

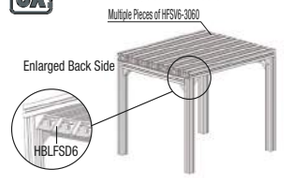
Features

<HFSV Series> Small gap collects few dusts.

<Existing HFS Series>

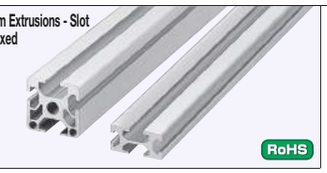


Example: Effective use is to align frames, as shown below.



■Features: Mixed Slot Width Extrusions of HFS5 and HFS6 series.

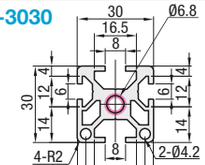
■Aluminum Extrusions - Slot Width Mixed



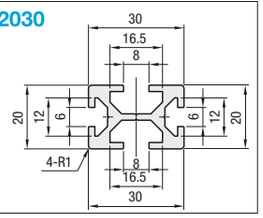
RoHS

Material: EN AC-51400-T5 Equiv.
Surface Treatment: Clear Anodize

HFS6-5H-3030



HFS6-5Y-2030



Part Number Type	Shape	No.	L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Less than 300mm	Unit Price/m 300mm or more
HFS6-5	H	3030	50~4000	1.04	388	3.08x10⁴	3.51x10⁴		
	Y	2030		0.70	260	1.10x10⁴	2.61x10⁴		

Ordering Example: Part Number - L
HFS6-5H-3030 - 800

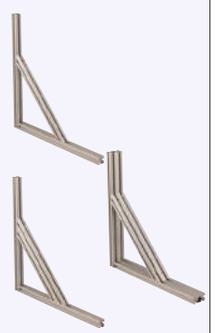
Alterations: Part Number - L - (Alteration Code)
HFS6-5H-3030 - 800 - TPW

Alterations Spec. Code			Tapping (Main Body +) Tap Shape	Left LTP	Right RTP	Both TPW
HFS6-5	H	3030	M8 Depth 24	180	180	360

⊗Not applicable to HFS6-5Y-2030.

■Features: Reinforcement Brackets machined from extrusions. Usable on locations needing more strength after connecting with brackets.

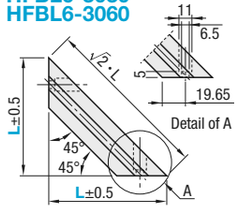
■Brackets for Reinforcement



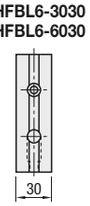
RoHS

Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize
(No surface treatment on 45 (No surface treatment on 45 deg. cut ends and counterbores.)

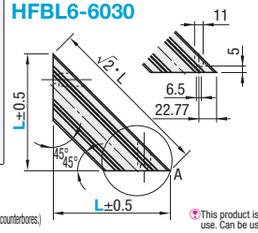
HFBL6-3030
HFBL6-3060



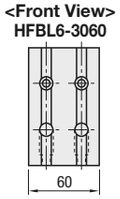
<Front View>
HFBL6-3030
HFBL6-6030



HFBL6-6030



<Front View>
HFBL6-3060



⁉This product is for reinforcement, not for single use. Can be used with bracket connections.

Part Number Type	No.	L 1mm Increment	Applicable Screw and Nut Screw	Quantity	Nut	Quantity	L100~300 Unit Price 1 - 4 pc(s).	Volume Discount Rate 5~20	21~50	L301~500 Unit Price 1 - 4 pc(s).	Volume Discount Rate 5~20	21~50
HFBL6	3030	100	CBM6-12	2	HNTT6-6	2						
	3060	2		4		4						
	6030	500		2		2						

Ordering Example: Part Number - L
HFBL6 - 3030 - 300

Alteration Alterations: Part Number - L - (SET, SST, SEU, SSU, SEP, SSP)
HFBL6 - 3030 - 300 - SEP

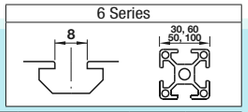
Alterations	Code	Spec.				Applicable Bracket	JPY/1Code SET	SST	SEU	SSU	SEP	SSP
Applicable Screws and Nuts Set	SET (Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.)				HFBL6-3030						
	SEU Pre-Assembly Insertion Spring Nuts	Code	Screw	Nut								
	SSU Pre-Assembly Insertion Spring Nuts Stainless Steel	SET	CBM6-12	HNTT6-6		HFBL6-3060						
	SEP Post-Assembly Insertion Spring Nuts	SST	SCB6-12	HNTTSN6-6								
	SSP Post-Assembly Insertion Spring Nuts Stainless Steel	SEU	CBM6-12	HNTU6-6		HFBL6-6030						
		SSU	SCB6-12	SHNTU6-6								
		SEP	CBM6-12	HNTP6-6								
		SSP	SCB6-12	SHNTP6-6								

⊗A set of mounting screws and nuts is not available for black anodized parts.
⁉Not RoHS compliant when -SET, -SEU or -SEP are specified.

6 Series Aluminum Extrusions

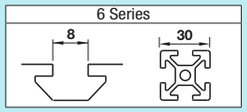
Aluminum Extrusions with Parallel Surfacing / Bent Aluminum Extrusions

6 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.601 ~ P.614	P.617 ~ P.626	P.627	P.755 ~ P.768

6 Series



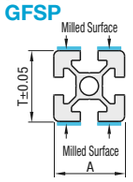
Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.583 ~ P.600	P.601 ~ P.614	P.617 ~ P.626	P.627	P.755 ~ P.768

■**Features:** Milled on surfaces. Usable for Linear Guides, etc.

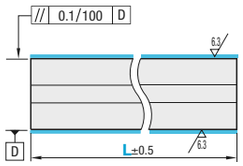


RoHS

HFSP
GFSP

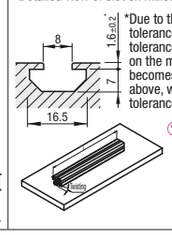


Milled surfaces and cut surfaces are not anodized.



Type	M Material	S Surface Treatment
HFSP6	EN AC-51400-T5 Equiv.	Clear Anodize
GFSP6	EN AW-6061-T6 Equiv.	

Detailed view of slot on milled surface



*Due to the extrusion tolerance, the thickness tolerance of the slot on the milled surface becomes as shown above, while T dimension tolerance is ±0.1.

Being extruded sections, products can twist. Supporting overall length of extrusion for use is recommended. See Aluminum Extrusion Tolerance Data on **P.514**.

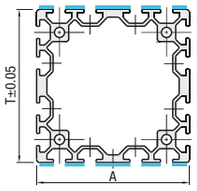
For detailed dimensions and shapes EXCEPT the slots on the milled surface, A and T dimensions, please refer to the drawing of the product of the below Part Number without "P". ((Ex.) HFSP6-3030→Ref. fig. HFS6-3030 (P.571))

Square Type

HFSP6-3030

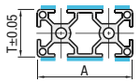


HFSP6-100100

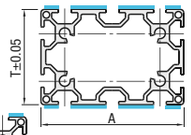


Rectangle Type (Horizontal)

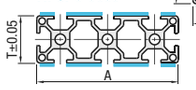
HFSP6-6030



HFSP6-9060

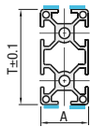


HFSP6-9030

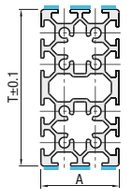


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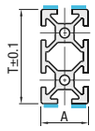
HFSP6-3060



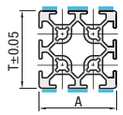
HFSP6-50100



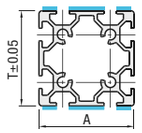
GFSP6-3060



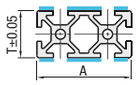
HFSP6-5050



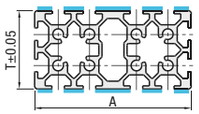
HFSP6-6060



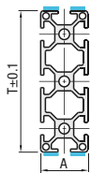
GFSP6-6030



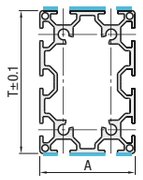
HFSP6-10050



HFSP6-3090

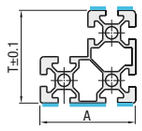


HFSP6-6090



L-Shaped Type

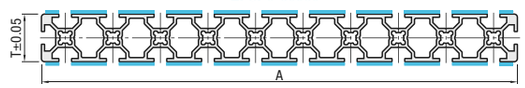
HFSP6-606030



GFSP6-3030



EFSP6-30030



Part Number		L 0.5mm Increment	Extrusion Series	T	A	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)	Alteration Charge (Main Body ÷) Counterboring XA ~ XE (per Row)		Alteration Charge (Main Body ÷) Wrench Hole Drilling AV ~ EV (per Row)		Tapping (Refer to P.757) Tap Shape	Left LTP	Right RTP	Both TPW
HFSP6	3030	100~3000	HFS6	29.2	30			Z6 d6.5 d11 Z8 d9 d14		D8 Ø8		M8 Depth 24			
	6030			29.2	60										
	3060			59.2	30										
	9030			29.2	90										
	3090			89.2	30				-						
	5050			49.2	50										
	10050			49.2	100										
	50100			99.2	50				-						
	100100			99.2	100				-						
	6060			59.2	60										
	9060			59.2	90										
	6090			89.2	60				-						
	606030			59.2	60										
EFSP6	30030		EFS6	29.2	300										
GFSP6	3030		GFS6	29.2	30										
	6030			29.2	60										
	3060			59.2	30										

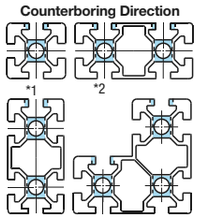
Ordering Example: Part Number - L
HFSP6-3030 - 300

Alterations Adds a hole at a specified position.

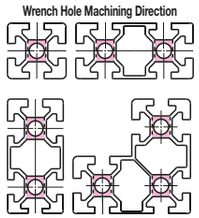
Alterations	Counterboring							Wrench Hole					
Code	Z Selection			XA	XB	XC	XD	XE	D Selection	AV	BV	CV	DV	EV
Spec.	Z	d	d1	Distance from the Left End Plane mm					D	Distance from the Left End Plane mm				
Specifications of Hole Size and Position	6	6.5	11	7~(L-7)					8	7~(L-7)				
	8	9	14											

When the cross section is L-shaped, select distance from left end with lower section in the back.

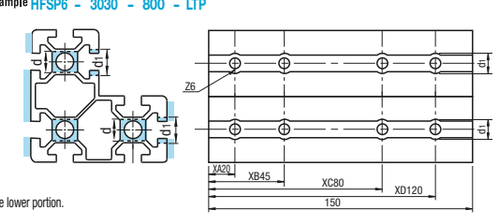
Counterboring Direction



Wrench Hole Machining Direction



Ordering Example
HFSP6 - 606030 - 150 - Z6 - XA20 - XB45 - XC80 - XD120
HFSP6 - 3030 - 2000 - D8 - AV100 - BV120 - CV1000 - DV1880 - EV1900
HFSP6 - 3030 - 800 - LTP



*1 When the cross section is rectangle (vertical), counterboring is not available for extrusions exceeding 60mm in the longitudinal direction.
*2 When the cross section is L-shaped, counterboring is not available for extrusions exceeding 60mm in longitudinal direction, except for the lower portion.

■**Features:** Bending is applied to HFS6-3030.

■Bent Aluminum Extrusions

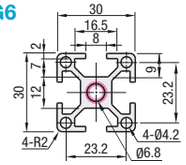


RoHS

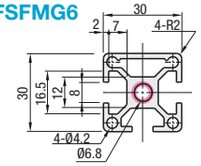
Bending is applied after anodizing; therefore, bent section may slightly discolor and becomes white.

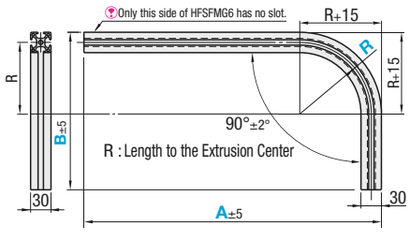
A and B dimensions not indicated in the price list are not available.

HFSMG6



HFSFMG6





When R=140, the frame slot may be deformed and becomes narrower in width at the spot where the frame is bent. Therefore, slot nut cannot be used. (For dedicated Bent Panels, refer to **P.968**)

M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Clear Anodize

Ordering Example
Part Number - A - B - R
HFSMG6-3030 - A350 - B700 - R140

Part Number Type	No.	A 1mm Increment	B 1mm Increment	R*	Series	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy
HFSMG HFSFMG	6-3030	200~1500	200~1000	140 300* 500*	HFS6	0.90	333	2.83x10⁴	2.83x10⁴

* Bent panels for R300 and R500 are not available.

Part Number Type	No.	A	Unit Price R140 B 200~300	301~400	401~500	501~600	601~700	701~800	801~900	901~1000	R300 B 400~500	501~600	601~700	701~800	801~900	901~1000	R500 B 600~700	701~800	801~900
HFSMG HFSFMG	6-3030	200~300									-	-	-	-	-	-	-	-	-
		301~400									-	-	-	-	-	-	-	-	-
		401~500															-	-	-
		501~600															-	-	-
		601~700																	
		701~800																	-
		801~900																-	-
		901~1000															-	-	-
		1001~1100															-	-	-
		1101~1200															-	-	-
		1201~1300															-	-	-
		1301~1400															-	-	-
		1401~1500															-	-	-

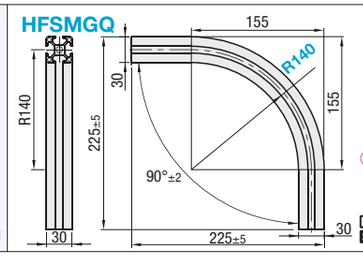
■**Features:** Bent Aluminum Extrusions with a 140mm R.

■90-Degree Bent Aluminum Extrusions for Corner



RoHS

HFSMGQ



Bending is applied after anodizing; therefore, bent section may slightly discolor and becomes white.

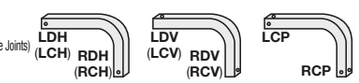
M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

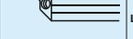
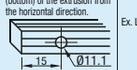
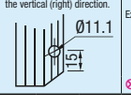
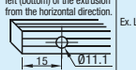
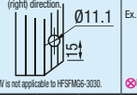
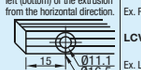
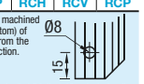
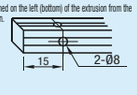
Ordering Example
Part Number - R
HFSMGQ6-3030 - R140

Part Number	R	Slot Width	Mass kg	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Qty. 1 ~ 8	Volume Discount Rate 9~120
HFSMGQ6-3030	140	8	0.8	333	2.83x10⁴	2.83x10⁴		

Alterations
Part Number - A - B - R - (LTP, RTP, TPW---etc.)
HFSMG6-3030 - A400 - B500 - R140 - LTP-RCV

Blind Joint (Pre-Assembly Insertion Double Joints) Connecting Examples



Alterations Code	Tapping (See P.757) LTP	RTP	TPW	D Type Hole (See P.764) LDH	LDV	RDH	RDV	M Type Hole (See P.766) LMH	LMV	RMH	RMV	S Hole (See P.765) LSH	LSV	RSH	RSV	Wrench Hole (See P.759) LCH	LCV	LCP	RCH	RCV	RCP
Spec.	Tapping to the center hole. Tap Shape M12 Depth 36 **LTP:** Tapping on the Left End Face **RTP:** Tapping on the Bottom End Face **TPW:** Tapping on both ends. Ex. LTP 			Adds D type hole in specified position. Can be connected with Single Joints (**P.609**). **LDH, RDH:** D hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LDH  **LDV, RDV:** Adds a hole on the left (bottom) of the extrusion in the vertical (right) direction. Ex. RDV 				Adds M type hole in specified position. Can be connected with Center Joint (**P.605**). **LMH, RMH** M hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LMH  **LMV, RMV:** Adds a hole on the left (bottom) of the extrusion in the vertical (right) direction. Ex. RMV  ⊗LMV and RMV is not applicable to HFSFMG6-3030.				Adds S type hole in the specified position. Can be connected with Pre-Assembly Insertion Double Joints (**P.611**). **LSH, RSH:** S hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LSH  **LSV, RSV:** Adds a hole on the left (bottom) of the extrusion in the vertical (right) direction. Ex. RSV  ⊗LSV and RSV are not applicable to HFSFMG6-3030.						**LCH, RCH:** Wrench hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. RCH  **LCV, RCV:** Wrench hole is machined on the left (bottom) of the extrusion from the vertical (right) direction. Ex. LCV  **LCP, RCP:** Wrench hole is machined on the left (bottom) of the extrusion from the vertical (right) direction. Ex. LCP 
When the tapping and D, M, S or wrench holes are specified in combination, tap depth is the distance to D, M, S or wrench holes.																					
Applicable Extrusion																					
HFSMG6-3030 HFSFMG6-3030 HFSMGQ6-3030																					

Brackets - Overview

For 6 Series (Slot Width 8mm) Aluminum Extrusions

■There are two types of aluminum extrusions connections.

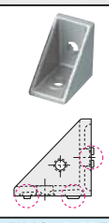
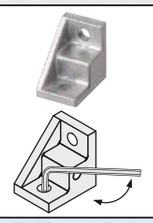
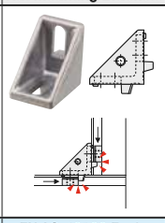
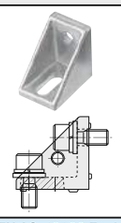
Bracket Connection		**Inserts nuts into the slots of aluminum extrusions and fix with screws. Economical and mountable at desired positions since alterations on extrusions are not required.**
Blind Joint Connection		**Adds hole alterations on the extrusion sides and connects with special joints. Connection without brackets produces clean corners. Recommended where interference needs to be avoided. * For details of Blind Joint Connection, see P.601.**

■About Brackets

・For 1 Slot:Products effective to increase assembly workability and with different surface treatments are available. Various types other than representative ones are also available. See the table below to find the rough features and check the details on each product page. ☞ **P.585~590**

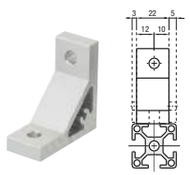
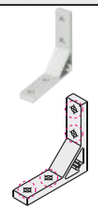
Tabbed Brackets

Mounting surfaces are tabbed to prevent rotations. Other than conventional "HBLFSN6", products with additional functions are also available.

Product Name	Tabbed Reversal Brackets	One-Side Rib Brackets	Nut Mounting Brackets	Brackets with Single Side Tab	Brackets with Slotted Hole on One side	Brackets with Cover
Product Photo						
Material	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.
Features	Tabs on mounting surfaces enable easy positioing. Most conventional type.	One-Sided Tabbed (Side Face), easy to work with hex wrenches.	Nut position adjustment is not required since the long protrusion fixes nuts.	Only one side of bracket has tabs. Suitable when connecting extrusions and plates.	Brackets with Slotted Hole on one side. No interference between screw heads when using Screws with Captured Washer.	Brackets with cover type. Superior in sanitation since dust does not intrude.
Representative Product	HBLFSN6	HBLFSL6	HBLFSR6	HBLFSNK6 HBLFSNE6	HBLFSH6	HBLFSNT6
Page	P.585	P.585	P.586	P.586	P.586	P.587

Extruded Brackets

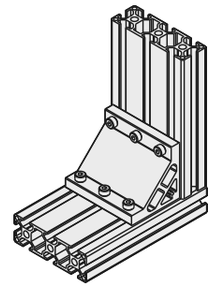
Surfaces are anodized. In addition to the conventional "NBLTS6/HBLTS6", products with additional functions are available.

Product Name	Thick Brackets	Lateral Misalignment Brackets	Scalene Brackets	Thick Brackets	Assembly Brackets for Different Extrusion Sizes
Product Photo					
Material	•EN AW-6063-T5 Equiv. •EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.
Features	Made of the same material as aluminum extrusions with anodizing. Suitable when uniform appearance with the extrusions is desired.	Hole positions are offset. Can be combined with plates of 3mm thickness when mounting plates on the side.	Length of two sides are scalene. Usable where space is narrow.	Two mounting holes are provided on one side. Extrusions can be connected more securely with 4 screws.	Staggered mounting holes Brackets to connect 30, 20 square Extrusions.
Representative Product	•NBLTS6 (EN AW-6063-T5 Equiv.) •HBLTS6(EN AC-51400-T5 Equiv.)	HBLTH6	HBLTF6	HBLTSW6	HBLTS6-5L HBLTS6-5R
Page	P.588	P.589	P.589	P.590	P.590

Side surface and screw holes are not anodized for NBL□□Series (Material: EN AW-6063-T5 Equiv.).

・For Multiple Slot Extrusions:Extrusions with 2 ~ 4 slots can be connected with one bracket.
Check the details on each product page. ☞ **P.591~594**

Product Name	Tabbed Brackets - For 2 Slots	Extruded Brackets - For 2 Slots	Extruded Brackets - For 3 Slots	Extruded Brackets - For 4 Slots
Product Photo				
Material	EN AC-46100 Equiv.	•EN AW-6063-T5 Equiv. •EN AC-51400-T5 Equiv.	•EN AW-6063-T5 Equiv. •EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.
Representative Product	HBLFSD6	•NBLT6 (EN AW-6063-T5 Equiv.) •HBLT6 (EN AC-51400-T5 Equiv.)	•NBLT6 (EN AW-6063-T5 Equiv.) •HBLT6 (EN AC-51400-T5 Equiv.)	HBLUT6
Page	P.591	P.593	P.594	P.594



Side surface and screw holes are not anodized for NBL□□Series (Material: EN AW-6063-T5 Equiv.).

・Special Shape:Products with special functions / shapes are also available. Check the details on each product page. ☞ **P.595~598**

Product Name	Post-Assembly Insertion Easy Brackets	Thin Brackets	Angled Brackets	Free Angle Brackets
Product Photo				
Features	2 aluminum extrusions can be connected with only 1 tightening screw.	Thin and compact type. Effective for space saving at mounting locations.	45°/135° angled type. Extrusions with 45° cut can be connected.	Extrusions can be connected at any arbitrary angle.
Representative Product	HABL6	HBLSS6	HBL45TS6 HBL135TS6	HBLTBC30
Page	P.595	P.596	P.597	P.598

■Perpendicularity

Perpendicularity of Extruded Brackets is manufactured within ±1° tolerance based on JIS Standard H4100 Special Grade.
For applications where perpendicularly is important, use Perpendicularly Machined Type. ☞ **P.588**

■How to Specify Allowable Load of Bracket

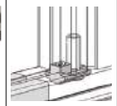
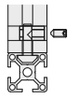
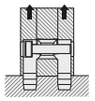
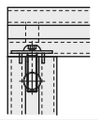
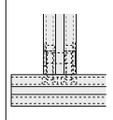
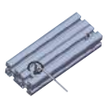


Allowable load per one bracket is calculated with one beam extrusion between two vertical extrusions supported by a bracket under each side of the beam as shown on the left-side figure.

Allowable Load here means the load applied when all mounting holes of the brackets are fixed with screws and the brackets can hold the position (without break or sliding).

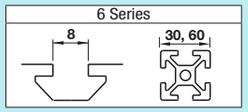
■About Blind Joint Components

Blind Joint Connection is recommended where standard brackets and peripherals interfere.
See the table below and check the details on each product page. ☞ **P.599~614**

Product Name	Blind Brackets	Tapping Joints	Screw Joints	Simple Joints	Center Joint	Post-Assembly Insertion Double Joints	Single Joints	Pre-Assembly Insertion Double Joints	Parallel Joints
Product Photo									
Installation Diagram									
Material	EN 1.1191 Equiv. or EN 1.4308 Equiv.	JIS-SWCH18A	Steel or EN 1.4301 Equiv.	EN 1.1191 Equiv. / EN 1.7220 Equiv.	EN 1.4308 Equiv.	EN 1.4308 Equiv. / EN 1.4301 Equiv.	Steel or EN 1.4301 Equiv.	EN 1.4401 Equiv. / EN 1.4301 Equiv.	EN 1.4308 Equiv. / EN 1.4301 Equiv.
Features	No need for alterations to hide brackets inside of the slot.	・Tapping alteration is not required. ・Most economical Blind Joints.	Joint Plate enables secure and economical connection.	Wrench holes are not required. Requires only one screw for tightening.	Most standard Blind Joints usable with various types of aluminum extrusions.	Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.	D holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.	Can be used for various applications such as to extend extrusions as well as mounting to plates.	Extrusions can be connected in parallel.
Representative Product	HBLBS	HTJ	HCJ	HUJ	HMJ	HPJN	HSJ	HDJSN	HLJ
Page	P.600	P.602	P.603	P.604	P.605	P.607	P.609	P.611	P.613

Tabbed Brackets - For 1 Slot

For 6 Series (Slot Width 8mm) Aluminum Extrusions



Features: Tabbed Brackets to be connected by both L and Cross-Connections.

Tabbed Reversal Brackets

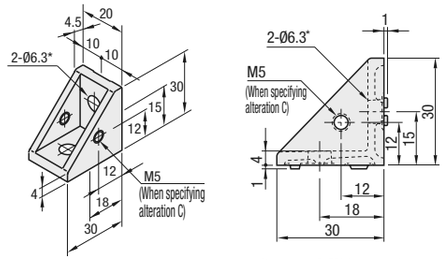


RoHS

HBLFSN6
HBLFSN6-5 (For M5 Screw)
HBLFSNB6 (Black Anodize)
HBLFSNM6 (Electroless Nickel Plating)
CHBLFSN6 (Baked Paint, Silver)

Type	M Material	S Surface Treatment
①HBLFSN6	EN AC-46100 Equiv.	-
②HBLFSN6-5		-
③HBLFSNB6		Black Anodize
④HBLFSNM6		Electroless Nickel Plating
⑤CHBLFSN6		Baked Paint (Silver)

* Baked Paint (Silver) is color coordinated with Clear Coating Extrusions.



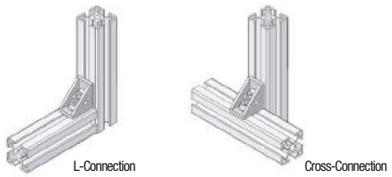
* Ø5.2 when HBLFSN6-5 is specified.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBLFSN6	15	CBM6-12	2	HNTT6-6	2	1176		
HBLFSN6-5 (For M5 Screw)		CBM5-12		HNTT6-5				
HBLFSNB6* (Black Anodize)		CBM6-12		HNTT6-6				
HBLFSNM6 (Electroless Nickel Plating)								
CHBLFSN6 (Baked Paint, Silver)								

* For repairing black anodizing, refer to **P.846**.

Example

Can be installed in either direction.



Features: Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

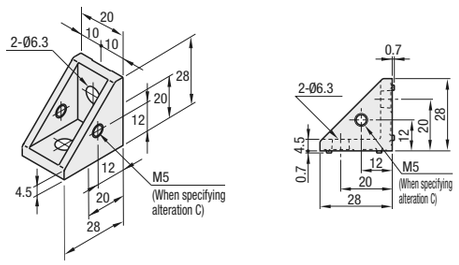
Tabbed Brackets



RoHS

HBLFS6
HBLFSB6 (Cathodic Electrodeposition Paint: Black)

Type	M Material	S Surface Treatment
HBLFS6	EN AC-46100 Equiv.	-
HBLFSB6		Cathodic Electrodeposition Coating Black



Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBLFS6	13	CBM6-12	2	HNTT6-6	2	1176		
HBLFSB6 (Cathodic Electrodeposition Paint: Black)								

Example

Used for L-connections.



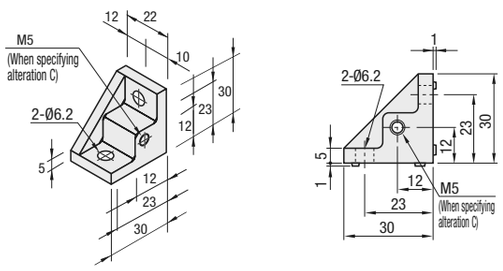
Features: One-Sided Tabbed Rib Brackets. Easy to work with wrenches.

One-Side Rib Brackets



RoHS

HBLFSL6

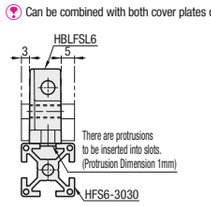


M Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBLFSL6	17	CBM6-12	2	HNTT6-6	2	1176		

Example

Can be combined with both cover plates of 5mm and 3mm thickness.



Features: Pressing nuts against the long tabs makes cumbersome hole positioning unnecessary.

Nut Mounting Brackets

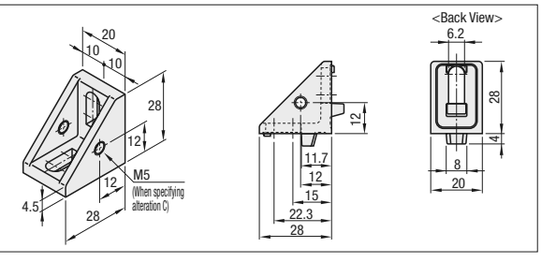


RoHS

HBLFSR6

- Slotted holes are for various nut hole positions.
- Bracket tabs may be damaged when nuts are fallen on them.
- Use of washers are recommended. (Refer to alterations below: SEC)

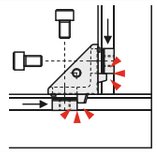
M Material: EN AC-46100 Equiv.



Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBLFSR6	15	CBM6-12	2	HNTT6-6	2	1176		

Example

When nuts are wedged through until the tab, hole positions of bracket and nuts are aligned and fine adjustment becomes unnecessary.
⊗Short Nuts, HNTM and HNTAM are not applicable.



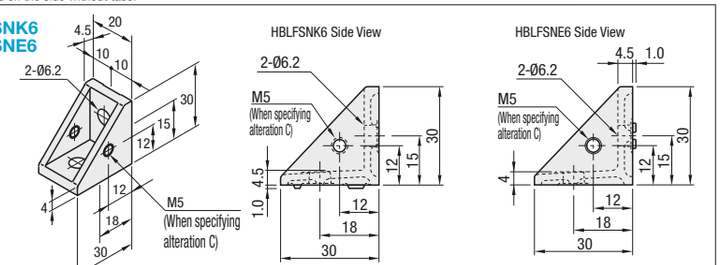
Features: Brackets with single side tabs. Plates can be mounted on the side without tabs.

Brackets with Single Side Tab



RoHS

HBLFSNK6
HBLFSNE6



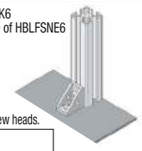
M Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBLFSNK6	15	CBM6-12	2	HNTT6-6	2	1176		
HBLFSNE6								

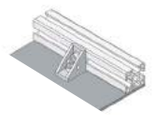
Example

■ Can be mounted on a plate directly.

HBLFSNK6
Example of HBLFSNE6



Example of HBLFSNE6



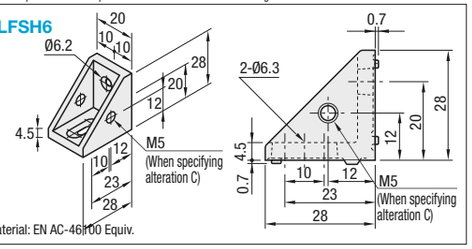
Features: Tabbed Brackets with Slotted Hole on one side. Hex Socket Head Cap Screws with Captured Washer can be used for mounting without interference between screw heads.

Brackets with Slotted Hole on One Side



RoHS

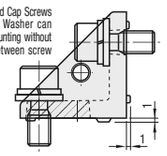
HBLFSH6



M Material: EN AC-46100 Equiv.

Example

Hex Socket Head Cap Screws with Captured Washer can be used for mounting without interference between screw heads.



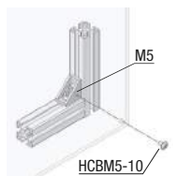
Part Number / Type	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBLFSH6	12	CBM6-12	2	HNTT6-6	2	1176		

Part Number
HBLFS6

Alterations — Part Number HBLFS6 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**) Tapped Hole Position	HBLFSN6 HBLFSN6-5 HBLFSNB6 HBLFSNM6 CHBLFSN6 HBLFS6 HBLFSB6 HBLFSL6 HBLFSR6 HBLFSNK6 HBLFSNE6 HBLFSH6

Example of Cover Mounting
·Specify alteration code C.

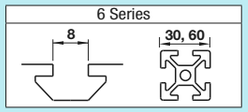


Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLFS6 is specified: Code: SET — Screw: CBM6-12 — Nut: HNTT6-6 SST — SCB6-12 — HNTTSN6-6 SEU — CBM6-12 — HNTU6-6 SSU — SCB6-12 — SHNTU6-6 SEP — CBM6-12 — HNTP6-6 SSP — SCB6-12 — SHNTP6-6 SEC — HCBST6-15 — HNTT6-6 When specifying other than HBLFS6, check for the applicable screws and nuts.	HBLFSN6 HBLFSN6-5 HBLFSNB6 HBLFSNM6 CHBLFSN6 HBLFS6 HBLFSB6 HBLFSL6 HBLFSR6 HBLFSNK6 HBLFSNE6 HBLFSH6

Screws for Black Anodized Brackets and Cathodic Electrodeposition Painted (black) Brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than Black Anodized or Cathodic Electrodeposition Painted (black) Brackets is specified.

Tabbed Brackets - For 1 Slot

For 6 Series (Slot Width 8mm) Aluminum Extrusions



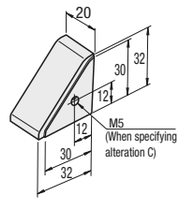
Features: Tabbed Reversal Brackets with Cover. Designed to prevent dust build-up.

Brackets with Cover

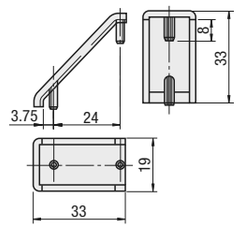


RoHS

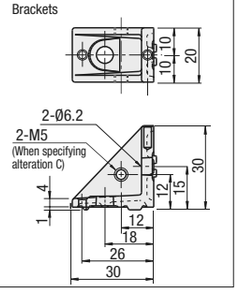
HBLFSNT6



Cover



Brackets

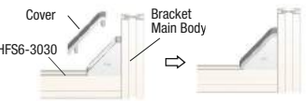


Material Cover: Polyamide (Black)
Bracket: EN AC-46100 Equiv.

Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Accessory Component: Part①	Qty	Part②	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Unit Price 100~200	Volume Discount Rate
HBLFSNT6	17	CBM6-12	2	HNTT6-6	2	Bracket	1	Cover	1	1176			

ex Example

•Example of Mounting Covers to Brackets



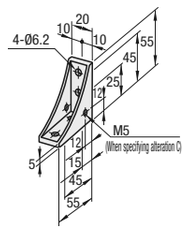
Features: Tabbed Reversal Brackets with two mounting holes on one side can connect extrusions more securely.

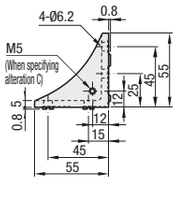
Tabbed Reversal Brackets



RoHS

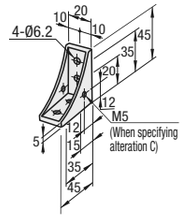
HBLFSSW6
HBLFSSWB6 (Black Anodize)

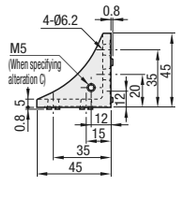




For 50 Sq.

HBLFSSW6-50





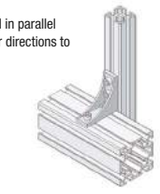
Type	Material	Surface Treatment
HBLFSSW6	EN AC-46100 Equiv.	-
HBLFSSWB6		Black Anodize
HBLFSSW6-50		-

Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Unit Price 100~200	Volume Discount Rate
HBLFSSW6	37	CBM6-12	4	HNTT6-6	4	1764			
HBLFSSWB6* (Black Anodize)									
HBLFSSW6-50	27								

* For repairing black anodizing, refer to **P.846**.

ex Example

Can be connected in parallel and perpendicular directions to the extrusion slot.

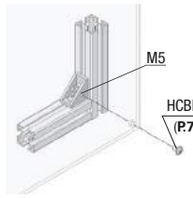


Ordering Example — Part Number: HBLFSNT6, HBLFSSW6

Alterations — Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLFSSW6 - SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**) Tapped Hole Position	HBLFSNT6 HBLFSSW6 HBLFSSWB6 HBLFSSW6-50

C Hole Alterations
(Example of Cover Mounting)
•Specify alteration code C.

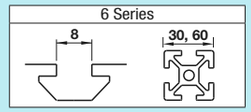


Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLFSSW6 is specified: Code: SET, SST, SEU, SSU, SEP, SSP — Screw: CBM6-12, SCB6-12, CBM6-12, SCB6-12, CBM6-12, SCB6-12 — Nut: HNTT6-6, HNTTSN6-6, HNTU6-6, SHNTU6-6, HNTP6-6, SHNTP6-6; SEC: HCBST6-15 — HNTT6-6. When specifying other than HBLFSSW6, check for the applicable screws and nuts.	HBLFSNT6 HBLFSSW6 HBLFSSWB6 HBLFSSW6-50

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

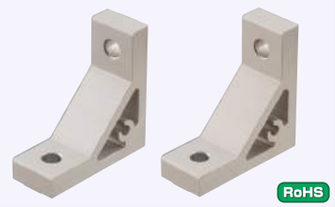
Extruded Brackets - For 1 Slot

For 6 Series (Slot Width 8mm) Aluminum Extrusions



Features: Perpendicularly Machined Type Extruded Brackets with tabs to fit extrusions. Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

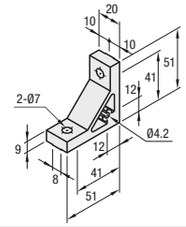
Thick Brackets (Perpendicularly Machined)



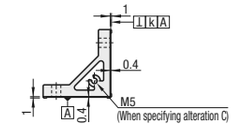
RoHS

HBKTST6
HBKTS6

Part Number	Perpendicularity K
HBKTST6	0.03
HBKTS6	0.06



Perpendicularly Machined Type has protrusions on the bracket bottom to be inserted into aluminum extrusion slots.



Type	Material	Surface Treatment
HBKTST6	EN AC-51400-T5 Equiv.	Anodize
HBKTS6		

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Unit Price 100~200	Volume Discount Rate
HBKTST6 HBKTS6	44	CBM6-15	2	HNTT6-6	2	1176			

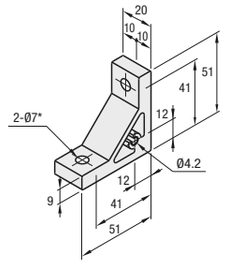
Features: Aluminum Extruded Brackets. Designed to prevent dust from building up with good appearance.

Thick Brackets

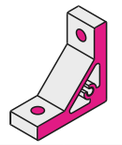


RoHS

NBLTS6
HBLTS6
HBLTS6-5 (For M5 Screw)
HBLTSB6 (Black Anodize)
CHBLTS6 (Clear Coating)



* Ø5.5 for HBLTS6-5.



Both sides and screw holes of NBLTS6 is not anodized.

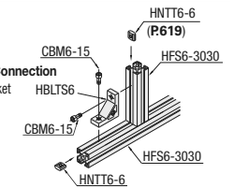
Type	Material	Surface Treatment
NBLTS6	EN AW-6063-T5 Equiv.	Anodize
HBLTS6(-5)	EN AC-51400-T5 Equiv.	Black Anodize
HBLTSB6		Clear Coating (Anodize + Clear Paint)
CHBLTS6		

Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Unit Price 100~200	Volume Discount Rate
NBLTS6 HBLTS6	44	CBM6-15	2	HNTT6-6	2	1176			
HBLTS6-5 (For M5 Screw)		CBM5-15		HNTT6-5					
HBLTSB6* (Black Anodize)		CBM6-15		HNTT6-6					
CHBLTS6 (Clear Coating)									

* For repairing black anodizing, refer to **P.846**.

ex Example

Example of Extrusion Connection
Connection with Thick Bracket



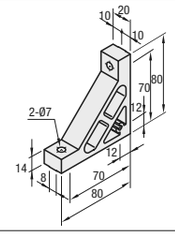
Features: Numbers of screws are the same as HBKTS6. Extrusions can be connected more securely. Perpendicularly Machined.

Ultra Thick Brackets (Perpendicularly Machined)

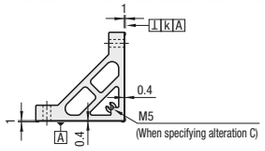


RoHS

HBKUS6
Perpendicularity K: 0.06



Perpendicularly Machined Type has protrusions on the bracket bottom to be inserted into aluminum extrusion slots.



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Unit Price 100~200	Volume Discount Rate
HBKUS6	101	CBM6-20	2	HNTT6-6	2	1176			

Ordering Example — Part Number: HBLTS6

Alterations — Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLTS6 - SET

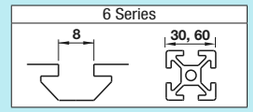
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**) Tapped Hole Position	HBKTS6 NBLTS6 HBLTS6 HBLTS6-5 CHBLTS6 HBKUS6

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLTS6 is specified: Code: SET, SST, SEU, SSU, SEP, SSP, SEC — Screw: CBM6-15, SCB6-15, CBM6-15, SCB6-15, CBM6-15, SCB6-15, HCBST6-20 — Nut: HNTT6-6, HNTTSN6-6, HNTU6-6, SHNTU6-6, HNTP6-6, SHNTP6-6, HNTT6-6. When specifying other than HBLTS6, check for the applicable screws and nuts.	HBKTST6 HBKTS6 NBLTS6 HBLTS6 HBLTS6-5 HBLTSB6 CHBLTS6 HBKUS6

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 1 Slot

For 6 Series (Slot Width 8mm) Aluminum Extrusions



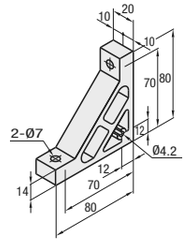
Features: Numbers of screws are the same as HBLTS6. Extrusions can be connected more securely.

Ultra Thick Brackets



RoHS

HBLUS6
HBLUSB6
(Black Anodize)



Type	Material	Surface Treatment
HBLUS6	EN AC-51400-T5 Equiv.	Anodize
HBLUSB6		Black Anodize

Part Number Type	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLUS6								
HBLUSB6* (Black Anodize)	101	CBM6-20	2	HNTT6-6	2	1176		

* For repairing black anodizing, refer to **P.846**.

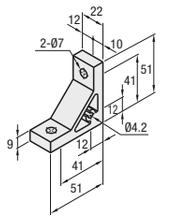
Features: Hole positions are offset. Can be combined with plates of 3mm and 5mm thickness when using taps for mounting covers.

Eccentric Brackets



RoHS

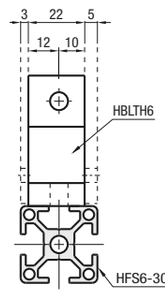
HBLTH6



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Example

They can be combined with cover plates of thickness 3mm and 5mm.



Part Number Type	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTH6	44	CBM6-15	2	HNTT6-6	2	1176		

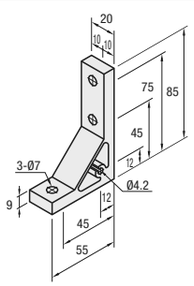
Features: Extruded Brackets with Unequal Sides. Effective when strength is required in narrow clearances between extrusions.

Scalene Brackets



RoHS

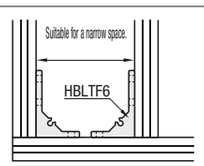
HBLTF6



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number Type	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTF6	62	CBM6-15	3	HNTT6-6	3	1470		

Example



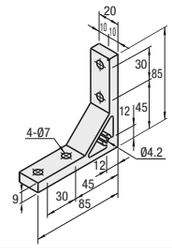
Features: Extruded Brackets with two mounting holes on one side can connect extrusions more securely.

Thick Brackets



RoHS

HBLTSW6



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number Type	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTSW6	76	CBM6-15	4	HNTT6-6	4	1764		

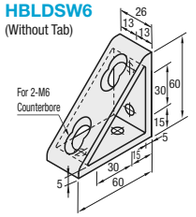
Features: Brackets with two mounting holes on one side can connect extrusions more securely.

Triangle Brackets

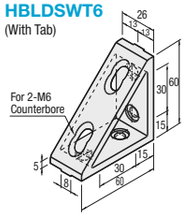


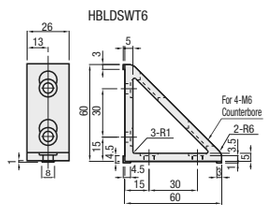
RoHS

HBLDSW6
(Without Tab)



HBLDSWT6
(With Tab)





Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

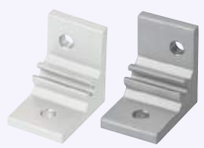
Part Number Type	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLDSW6	100	CBM6-12	4	HNTT6-6	4	1764		
HBLDSWT6	110							

Example

HBLDSWT6 App. Example

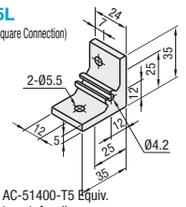
Features: Brackets to connect 30, 20 square Extrusions.

Assembly Brackets for Different Extrusion Sizes

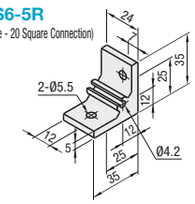


RoHS

HBLTS6-5L
(For 30 Square - 20 Square Connection)



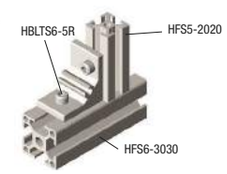
HBLTS6-5R
(For 30 Square - 20 Square Connection)



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

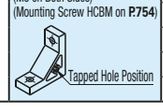
Part Number Type	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTS6-5L	26	CBM5-12	1	HNTT6-5	1	-		
		CBM5-10		HNTT5-5				
HBLTS6-5R		CBM5-12		HNTT6-5				
		CBM5-10		HNTT5-5				

Example



Ordering Example: Part Number **HBLTSW6**

Alterations: Part Number HBLTSW6 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

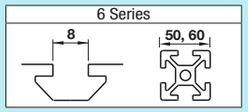
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**) 	HBLUS6 HBLTH6 HBLTF6 HBLTSW6 HBLTS6-5L HBLTS6-5R

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET, SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLTSW6 is specified: Code: SET, Screw: CBM6-15, Nut: HNTT6-6; SST: SCB6-15, HNTTSN6-6; SEU: CBM6-15, HNTU6-6; SSU: SCB6-15, SHNTU6-6; SEP: CBM6-15, HNTP6-6; SSP: SCB6-15, SHNTP6-6; SEC: HCBST6-20, HNTT6-6. When specifying other than HBLTSW6, check for the applicable screws and nuts.	HBLUS6 HBLUSB6 HBLTH6 HBLTF6 HBLTSW6 HBLDSW6 HBLDSWT6 HBLTS6-5L HBLTS6-5R

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Tabbed Brackets - For 2 Slots

For 6 Series (Slot Width 8mm) Aluminum Extrusions



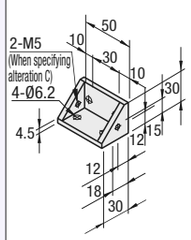
Features: Extrusions with 2 slots (HFS6-6060, etc.) can be connected with one bracket.

Tabbed Reversal Brackets

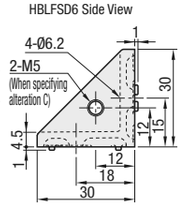


RoHS

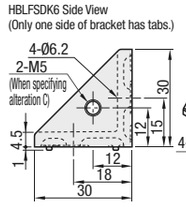
HBLFSD6
HBLFSDK6 (with Single Side Tab)



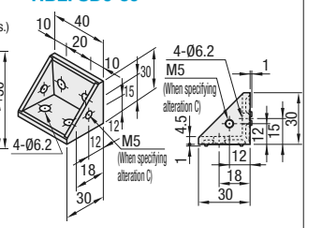
HBLFSD6 Side View



HBLFSDK6 Side View
(Only one side of bracket has tabs.)



For 50 Sq.
HBLFSD6-50



Material: EN AC-46100 Equiv.

Part Number Type	Mass (g)	Applicable Screw, T Nut Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSD6	28	CBM6-12	4	HNTT6-6	4	1764		
HBLFSDK6	28							
HBLFSD6-50	24							

Example

Tabbed Reversal Brackets can be connected in parallel and perpendicular directions to the extrusion slot.



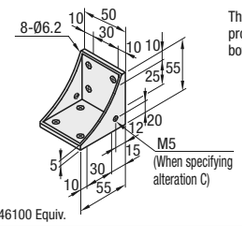
Features: Brackets for 2-slot extrusions with 4 mounting holes on one side can connect extrusions more securely.

Tabbed Reversal Brackets

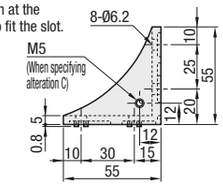


RoHS

HBLFSDD6



There is 0.8 mm protrusion at the bottom to fit the slot.



Material: EN AC-46100 Equiv.

Part Number Type	Mass (g)	Applicable Screw, T Nut Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSDD6	65	CBM6-12	8	HNTT6-6	8	2940		

Features: Ribbed Brackets for 2-slot extrusions with 4 mounting holes on one side can connect extrusions more securely.

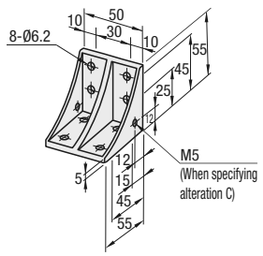
Tabbed Reversal Brackets

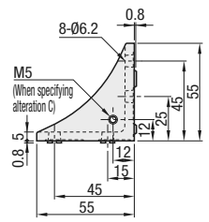




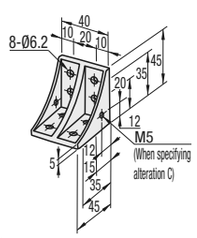
RoHS

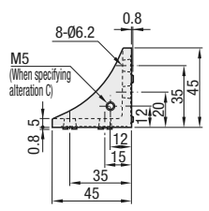
HBLFSDW6





For 50 Sq.
HBLFSDW6-50





Material: EN AC-46100 Equiv.

Part Number Type	Mass (g)	Applicable Screw, T Nut Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSDW6	88	CBM6-12	8	HNTT6-6	8	2940		
HBLFSDW6-50	53							

Example

Tabbed Reversal Brackets can be connected in parallel and perpendicular directions to the extrusion slot.



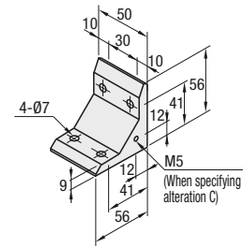
Features: Tabbed Brackets for 2-slot extrusions. Since the tabs stop rotating the brackets when tightening, work efficiency is improved.

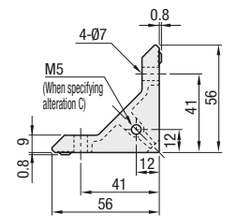
Tabbed Brackets



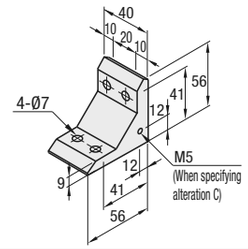
RoHS

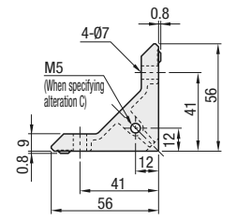
HBLFTD6
HBLFTDB6 (Black Anodize)
HBLFTDM6 (Electroless Nickel Plating)





For 50 Sq.
HBLFTD6-50





Type	Material	Surface Treatment
HBLFTD6 HBLFTD6-50	EN AC-46100 Equiv.	-
HBLFTDB6		Black Anodize
HBLFTDM6		Electroless Nickel Plating

Part Number Type	Mass (g)	Applicable Screw, T Nut Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFTD6	88	CBM6-15	4	HNTT6-6	4	1960		
HBLFTDB6* (Black Anodize)	102							
HBLFTDM6 (Electroless Nickel Plating)								
HBLFTD6-50	86							

* For repairing black anodizing, refer to **P.846**.

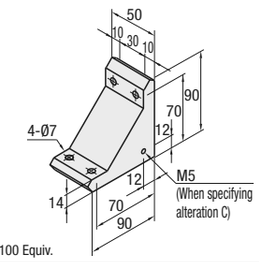
Features: Tabbed Brackets for 2-slot extrusions. Since the tabs stop rotating the brackets when tightening, work efficiency is improved.

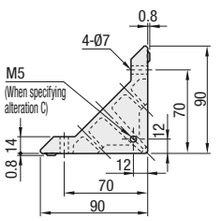
Tabbed Brackets



RoHS

HBLFUD6





Material: EN AC-46100 Equiv.

Part Number Type	Mass (g)	Applicable Screw, T Nut Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFUD6	270	CBM6-20	4	HNTT6-6	4	1960		

Ordering Example

Part Number
HBLFTD6

Alterations

Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLFTD6 - SET

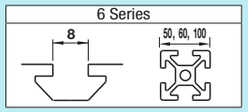
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)  Tapped Hole Position	HBLFSD6, HBLFSDK6, HBLFSD6-50, HBLFSDD6, HBLFSDW6, HBLFSDW6-50, HBLFTD6, HBLFTDB6, HBLFTDM6, HBLFTD6-50, HBLFUD6

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SST (Pre-Assembly Insertion Spring Nuts) SEU SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLFSD6 is specified: Code: SET, Screw: CBM6-12, Nut: HNTT6-6; SST: SC8б-12, HNTTSN6-6; SEU: CBM6-12, HNTU6-6; SSU: SC8б-12, SHNTU6-6; SEP: CBM6-12, HNTP6-6; SSP: SC8б-12, SHNTP6-6; SEC: HC8ST6-15, HNTT6-6. When specifying other than HBLFSD6, check for the applicable screws and nuts.	HBLFSD6, HBLFSDK6, HBLFSD6-50, HBLFSDD6, HBLFSDW6, HBLFSDW6-50, HBLFTD6, HBLFTDB6, HBLFTDM6, HBLFTD6-50, HBLFUD6

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 2 Slots

For 6 Series (Slot Width 8mm) Aluminum Extrusions



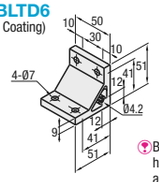
Features: Extruded Brackets to connect 2-slot extrusions (HFS6-6060, etc.).

Thick Brackets



RoHS

NBLTD6
HBLTD6
HBLTDB6
(Black Anodize)
CHBLTD6
(Clear Coating)

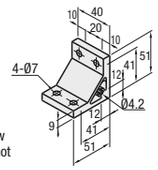




Both sides and screw holes of NBLTD6 is not anodized.

For 50 Sq.

HBLTD6-50



Type	Material	Surface Treatment
NBLTD6	EN AW-6063-T5 Equiv.	Anodize
HBLTD6(-50)	EN AC-51400-T5 Equiv.	Anodize
HBLTDB6		Black Anodize
CHBLTD6		Clear Coating (Anodize + Clear Paint)

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1-99 pc(s).	100-200
NBLTD6	111	CBM6-15	4	HNTT6- 6	4	1960		
HBLTD6								
HBLTDB6* (Black Anodize)								
CHBLTD6 (Clear Coating)								
HBLTD6-50	88							

* For repairing black anodizing, refer to **P.846**.

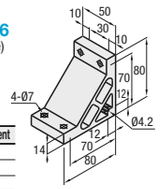
Features: Numbers of screws are the same as HBLTD6. Extrusions can be connected more securely.

Ultra Thick Brackets



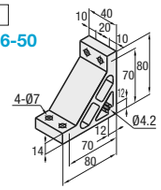
RoHS

HBLUD6
HBLUDB6
(Black Anodize)



For 50 Sq.

HBLUD6-50



Type	Material	Surface Treatment
HBLUD6	EN AC-51400-T5 Equiv.	Anodize
HBLUDB6		Black Anodize
HBLUD6-50		Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1-99 pc(s).	100-200
HBLUD6	256	CBM6-20	4	HNTT6- 6	4	1960		
HBLUDB6* (Black Anodize)								
HBLUD6-50	211	CBM6-20						

* For repairing black anodizing, refer to **P.846**.

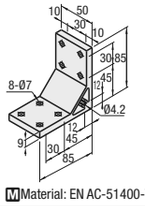
Features: Brackets for 2-slot extrusions with 4 mounting holes on one side can connect extrusions more securely.

Thick Brackets
Triangle Brackets

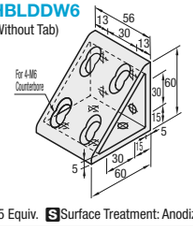


RoHS

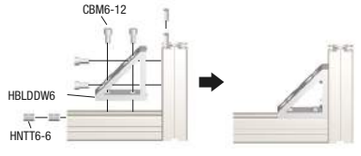
HBLTDW6



HBLDDW6
(Without Tab)



Example



Material: EN AC-51400-T5 Equiv. Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1-99 pc(s).	100-200
HBLTDW6	192	CBM6-15	8	HNTT6- 6	8	2940		
HBLDDW6	190	CBM6-12	8		8	2940		

Ordering Example: Part Number **HBLTD6**

Alterations: Part Number **HBLTD6** - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) - **SET**

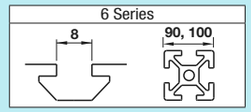
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)	NBLTD6 HBLTD6 CHBLTD6 HBLTD6-50 HBLUD6 HBLUD6-50 HBLTDW6

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLTD6 is specified: Code: SET, Screw: CBM6-15, Nut: HNTT6-6 SST: SCB6-15, HNTTSN6-6 SEU: CBM6-15, HNTU6-6 SSU: SCB6-15, SHNTU6-6 SEP: CBM6-15, HNTP6-6 SSP: SCB6-15, SHNTP6-6 SEC: HCBST6-20, HNTT6-6 When specifying other than HBLTD6, check for the applicable screws and nuts.	NBLTD6 HBLTD6 HBLTDB6 CHBLTD6 HBLTD6-50 HBLUD6 HBLUDB6 HBLUD6-50 HBLTDW6 HBLDDW6

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 3 or More Slots

For 6 Series (Slot Width 8mm) Aluminum Extrusions



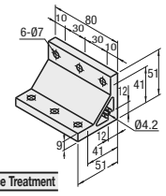
Features: Extruded Brackets to connect Extrusions with 3 slots (HFS6-3090, etc.) with one bracket.

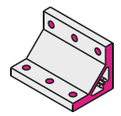
Thick Brackets



RoHS

NBLTT6
HBLTT6





Both sides and screw holes of NBLTT6 is not anodized.

Type	Material	Surface Treatment
NBLTT6	EN AW-6063-T5 Equiv.	Anodize
HBLTT6	EN AC-51400-T5 Equiv.	

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1-99 pc(s).	100-200
NBLTT6	180	CBM6-15	6	HNTT6-6	6	2744		
HBLTT6								

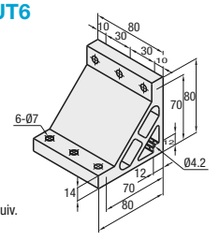
Features: Brackets to connect Extrusions with 3 slots and 4 slots (HFS6-3090, 50100 etc.) with one bracket.

Ultra Thick Brackets



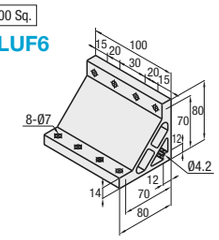
RoHS

HBLUT6



For 100 Sq.

HBLUF6



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1-99 pc(s).	100-200
HBLUT6	409	CBM6-20	6	HNTT6-6	6	2744		
HBLUF6	512		8		8	2940		

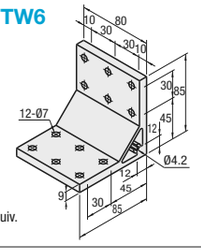
Features: Brackets for 3-slot / 4-slot extrusions with 6 / 8 mounting holes on one side can connect extrusions more securely.

Thick Brackets



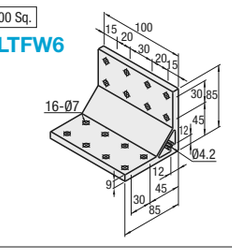
RoHS

HBLTTW6



For 100 Sq.

HBLTFW6



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1-99 pc(s).	100-200
HBLTTW6	308	CBM6-15	12	HNTT6-6	12	4116		
HBLTFW6	384		16		16	4410		

Ordering Example: Part Number **HBLTT6**

Alterations: Part Number **HBLTT6** - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) - **SET**

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on **P.754**)	HBLTT6 HBLUF6 HBLTTW6 HBLTFW6

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLTT6 is specified: Code: SET, Screw: CBM6-15, Nut: HNTT6-6 SST: SCB6-15, HNTTSN6-6 SEU: CBM6-15, HNTU6-6 SSU: SCB6-15, SHNTU6-6 SEP: CBM6-15, HNTP6-6 SSP: SCB6-15, SHNTP6-6 SEC: HCBST6-20, HNTT6-6 When specifying other than HBLTT6, check for the applicable screws and nuts.	NBLTT6 HBLTT6 HBLUT6 HBLUF6 HBLTTW6 HBLTFW6

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Post-Assembly Insertion Easy Brackets / Plate Brackets

For 6 Series (Slot Width 8mm) Aluminum Extrusions

6 Series



Features: 2 aluminum extrusions can be easily connected with only 1 tightening screw. Brackets can be mounted on the extrusion slots after assembly.

Post-Assembly Insertion Easy Brackets

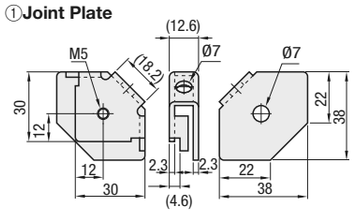


RoHS

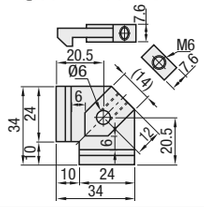
Components	Material	Surface Treatment
①Joint Plate	EN 1.0330 Equiv.	Trivalent Chromate
②Joint Brackets	EN 1.1191 Equiv.	
③Hex Socket Head Cap Screw	EN 1.7220 Equiv.	

HABL6

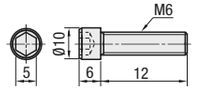
①Joint Plate



②Joint Brackets



③Hex Socket Head Cap Screw



Overtightening may cause deformation of joint plates. (Reference Tightening Torque 10.5N・m)

Part Number / Type	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HABL6	90	Hex Socket Head Cap Screw M6x12	1	600		

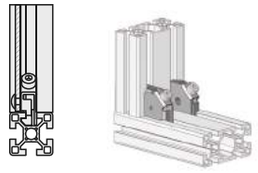
Ordering Example — Part Number: HABL6

Connection Method

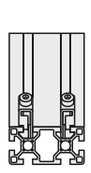
Step	Front View	Side View	Sketch Drawing
1			Place 2 aluminum extrusions and adjust the frame positions.
2			Fit the joint bracket ② in the slot of the aluminum extrusions.
3			Cover the joint bracket ② on the joint plate ①.
4			Overtightening may cause deformation of joint plates. ③Tighten a hex socket head cap screw to fix the plate. (Reference Tightening Torque: 10.5N・m)



Holes are tapped on a bracket for cover mounting.

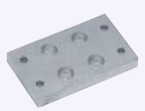


For aluminum extrusions with 2 slots, brackets can be mounted on both sides.



Features: Direct screw-on brackets to use on tapped extrusions.

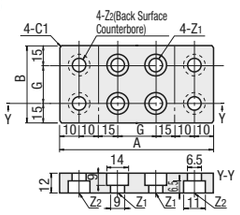
Plate Brackets



Material: EN 1.0038 Equiv.
Surface Treatment: Electroless Nickel Plating

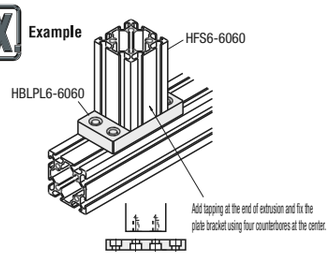
RoHS

HBLPL6



* Screws are not included.

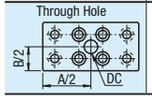
Example



Part Number	Extrusion	A	B	Z₁ Applicable Screw	Z₂ Applicable Screw	G	Mass (g)	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HBLPL6	5050	90	50	M8	M6	20	350		
	6060	100	60			30	470		

Ordering Example — Part Number: HBLPL6 - Extrusion: 5050

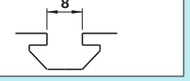
Alterations — Part Number: HBLPL6 - Extrusion: 5050 - (DC): DC12

Alteration	Code	Spec.
Through Hole 	DC	Adds a through hole. DC=Hole Dia. 1 mm Increment ?10≤DC≤20 Ordering Code: DC12

Thin Brackets / Block Brackets

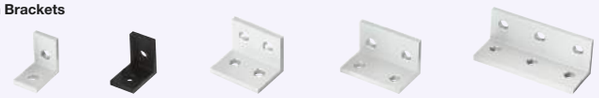
For 6 Series (Slot Width 8mm) Aluminum Extrusions

6 Series



Features: Thin Extruded Brackets with space saving design.

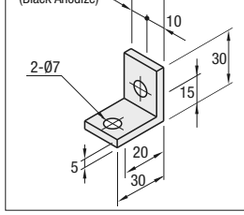
Thin Brackets



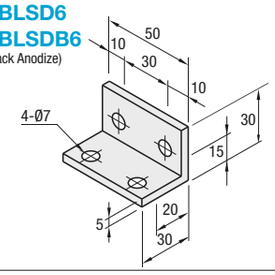
RoHS

Type	Material	Surface Treatment
HBLS□6	EN AC-51400-T5 Equiv.	Anodize
HBLS□B6		Black Anodize
HBLSD6-50		Anodize

HBLSS6
HBLSSB6 (Black Anodize)

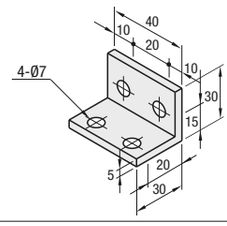


HBLSD6
HBLSDB6 (Black Anodize)

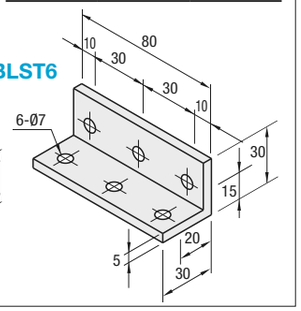


For 50 Sq.

HBLSD6-50



HBLST6

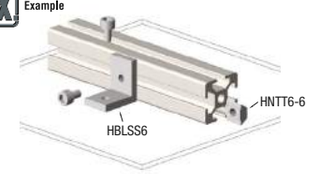


Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1-99 pc(s).	Volume Discount Rate 100~200
HBLSS6	14	CBM6-12	2	HNTT6-6	2	980		
HBLSSB6* (Black Anodize)								
HBLSD6	35		4		4	1568		
HBLSDB6* (Black Anodize)								
HBLSD6-50	28		4		4	1568		
HBLST6	56		6		6	2352		

* For repairing black anodizing, refer to **P.846**.

Ordering Example — Part Number: HBLSS6

Example



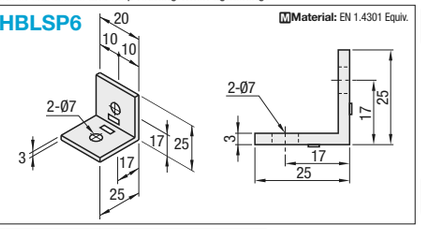
Features: Thin Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

Thin Stainless Steel Tabbed Brackets



RoHS

HBLSP6



Material: EN 1.4301 Equiv.

Ordering Example — Part Number: HBLSP6

Features of HBLSP (Slot Stainless Steel Brackets with Tabs)

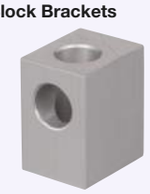


There are protrusions to be inserted into slots. (Depth: 0.9mm)

Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Qty	T Nut	Qty	Allowable Load (N)	Unit Price 1-99 pc(s).	Volume Discount Rate 100~200
HBLSP6	33	CBM6-12	2	HNTT6-6	2	980		

Features: The brackets do not protrude from extrusion widths when used to cross connect extrusions. Space-saving design compared to Tabbed Reversal Brackets.

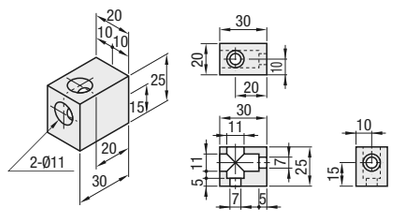
Block Brackets



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

RoHS

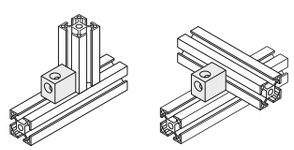
HBLBL6



Part Number / Type	Mass (g)	Applicable Screws and Nuts Set: Screw	Qty	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLBL6	31	CBM6-12	2	980		

Ordering Example — Part Number: HBLBL6

Example



Alterations — Part Number: HBLBL6 - (SET, SST, SEU, SSU, SEP, SSP): SET

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLSS6 is specified:	HBLSS6
			HBLSSB6
			HBLSD6
			HBLSDB6
			HBLST6
			HBLSD6-50
			HBLSP6
			HBLBL6

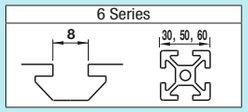
Code	Screw	Nut
SET	CBM6-12	HNTT6-6
SST	SCB6-12	HNTTSN6-6
SEU	CBM6-12	HNTU6-6
SSU	SCB6-12	SHNTU6-6
SEP	CBM6-12	HNTP6-6
SSP	SCB6-12	SHNTP6-6

?When specifying other than HBLSS6, check for the applicable screws and nuts.

?Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
?Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Angled Brackets

For 6 Series (Slot Width 8mm) Aluminum Extrusions



Features: Extruded Brackets to connect extrusions at angles.

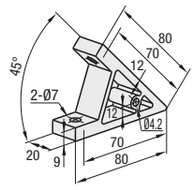
Angled Brackets



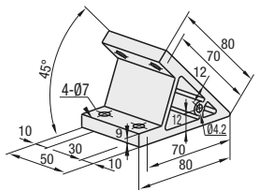
M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

RoHS

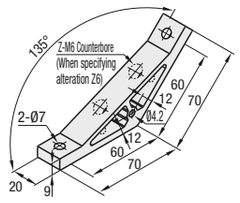
HBL45TS6



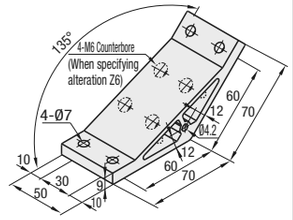
HBL45TD6



HBL135TS6



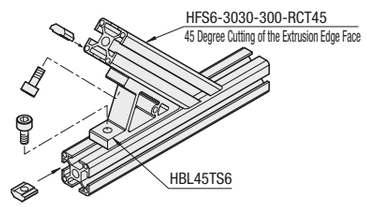
HBL135TD6



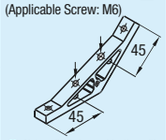
Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1-99 pc(s).	100~200
HBL45TS6	58	CBM6-15	2	HNTT6-6	2	1176		
HBL45TD6	147		4		4	1960		
HBL135TS6	68		2		2	1176		
HBL135TD6	172		4		4	1960		

Ordering Example: Part Number **HBL45TS6**

Example



Alterations: Part Number **HBL45TS6** - (C, SET, SST, SEU, SSU, SEP, SSP, Z6) **SET**

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on **P.754**)	HBL45TS6 HBL45TD6 HBL135TS6
Counterbored Holes on 135 Degree Bracket	Z6	135 Degree Bracket. Adds two counterbored holes on HBL135T□6. (Applicable Screw: M6)  ⊗ Not available in combination with Applicable Screws and Nuts.	HBL135TS6 HBL135TD6

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBL45TS6 is specified:	HBL45TS6 HBL45TD6 HBL135TS6 HBL135TD6

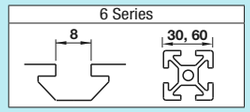
Code	Screw	Nut
SET	CBM6-15	HNTT6-6
SST	SCB6-15	HNTTSN6-6
SEU	CBM6-15	HNTU6-6
SSU	SCB6-15	SHNTU6-6
SEP	CBM6-15	HNTP6-6
SSP	SCB6-15	SHNTP6-6

When specifying other than HBL45TS6, check for the applicable screws and nuts.

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Free Angle Brackets

For 6 Series (Slot Width 8mm) Aluminum Extrusions



Features: Extrusions can be connected at any arbitrary angles.

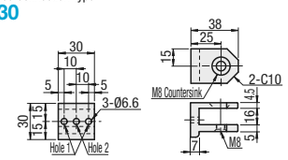
Free Angle Brackets



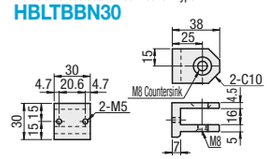
RoHS

Type	M Material	S Surface Treatment
HBLTBA30 HBLTBBN30 HBLTBC30 HBLTBD30	EN AC-51400-T5 Equiv.	Anodize
Included Screw	EN 1.7220 Equiv.	Trivalent Chromate

Extrusion Side Face Connection Type
HBLTBA30

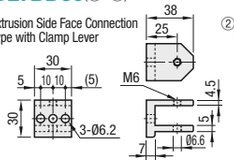


Extrusion Cross Section Connection Type
HBLTBBN30

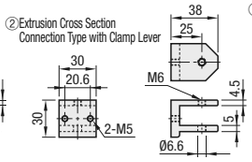


Clamp Lever Type
HBLTBC30(①+③)
HBLTBD30(②+③)

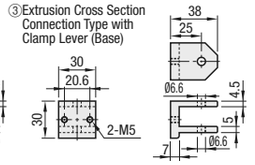
①Extrusion Side Face Connection Type with Clamp Lever



②Extrusion Cross Section Connection Type with Clamp Lever



③Extrusion Cross Section Connection Type with Clamp Lever (Base)



Part Number Type	No.	Applicable Extrusion	Mass (g)	Accessory	Quantity	Unit Price 1 ~ 14 pc(s).	Unit Price 15~50	Volume Discount Rate
HBLTBA	30	30 Square (HFS6)	33	M8x12	1			
HBLTBBN			35					
HBLTBC			86	CLDMC6-32-M	1			
HBLTBD			88					

Ordering Example: Part Number **HBLTBA30**

Alterations: Part Number - (SET, SET1, SET2, SET3, SET4, SET5)
HBLTBA30 - SET2
HBLTBBN30 - SET

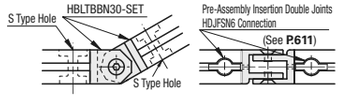
Alterations	Code	How to Use	Part Number Type	No.	Accessory Screw	Quantity	Nuts, Pre-Assembly Insertion Double Joints	Quantity
Applicable Screws and Nuts Set	SET		HBLTBBN	30	CBM5-25	2	HDJFSN6	1
	SET1	Use the hole 1.	HBLTBA		CBM6-15	2	HNTT6-6	2
	SET2	Use the hole 2.			CBM6-15	1	HNTT6-6	1
	SET3	Use the hole 1.	HBLTBC		CBM5-25	2	HDJFSN6	1
					CBM6-15	2	HNTT6-6	2
	SET4	Use the hole 2.	HBLTBC		CBM5-25	2	HDJFSN6	1
					CBM6-15	1	HNTT6-6	1
	SET5		HBLTBD		CBM5-25	4	HDJFSN6	2

When connecting with Pre-Assembly Insertion Double Joints, S type hole machining (**P.765**) is required on extrusions.
Included Screw is not RoHS compliant when -SET□ is specified.

Example

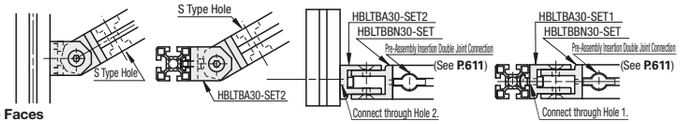
(1) Connection of Two End Sections

Two pieces of HBLTBBN are used to connect two end sections using Pre-Assembly Insertion Double Joints (**P.611**). (With Clamp Lever Type: HBLTBD30)



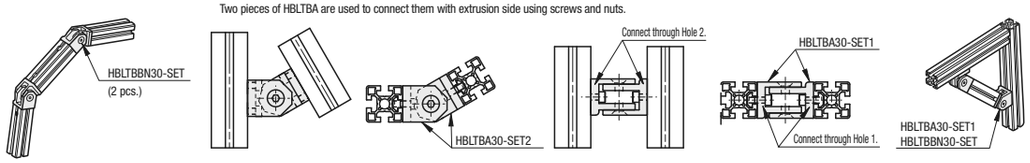
(2) Connection of Two Side Faces

To the extrusion side face, connect with HBLTBA, a screw and a nut. To the end face, use 1 HBLTBBN for 1 HBLTBA using Pre-Assembly Insertion Double Joint. (With Clamp Lever Type: HBLTBC30)



(3) Connection of Two Side Faces

Two pieces of HBLTBA are used to connect them with extrusion side using screws and nuts.



Features: Sheet Metal Brackets to fix at arbitrary positions.

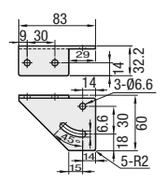
Free Angle Sheet Metal Brackets

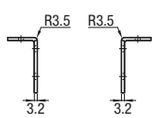


M Material: EN 1.0330 Equiv.
S Surface Treatment: Trivalent Chromate

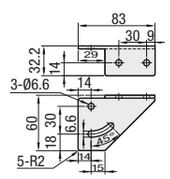
RoHS

HBLPBL6





HBLPBR6



Ordering Example: Part Number **HBLPBL6**

Part Number Type	No.	Applicable Extrusion	Applicable Screw and Nut: Hex Socket Head Cap Screws with Captured Washer	Quantity	Nut	Quantity	Unit Price 1~99 pc(s).	Volume Discount Rate 100~150
HBLPBL HBLPBR	6	30 Square (HFS6)	CBST6-12	4	HNTT6-6	4		

Alterations: Part Number **HBLPBL6** - (SET, SET1) **SET**

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET	Supplies a set of applicable screws and nuts for fixing the bracket to a extrusion.	HBLPBL6 HBLPBR6
Set with applicable screws, nuts and clamp levers.	SET1	Applicable Screw: 3 pcs. Clamp Lever (LNP): 1 pc. Flat Washer (PWF): 1 pc. Applicable Nut: 4 pcs. Set with the above items.	HBLPBL6 HBLPBR6

Example

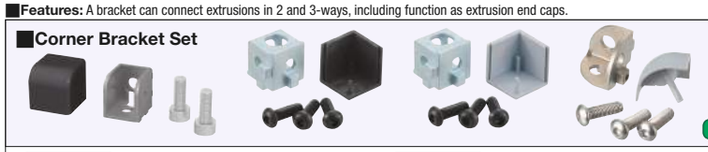


Corner Brackets / Corner Blind Brackets

For 6 Series (Slot Width 8mm) Aluminum Extrusions 30 Square

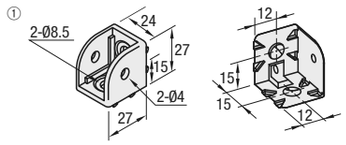
Features: A bracket can connect extrusions in 2 and 3-ways, including function as extrusion end caps.

Corner Bracket Set



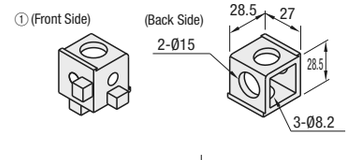
Type	Material	Surface Treatment
HBLCS6	①EN AC-46100 Equiv. ②Polyamide	-
HBLCR6	①EN ZC0400 Equiv. ②Polyamide	Trivalent Chromate
HBLCD6	①EN 1.4308 Equiv. ②Polyamide	-

Two-Way Type **HBLCS6-B**



(Hex Socket Head Cap Screw 2 pcs. included)

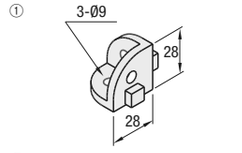
Three-Way Type **HBLCR6-B** (Cap: Black)
HBLCR6-S (Cap: Gray)



(Accessory: Button Head Cap Screws 3 pcs.)

As HBLCR6-□ is zinc die cast, use it under 100°C.

HBLCD6-S (Cap: Gray)



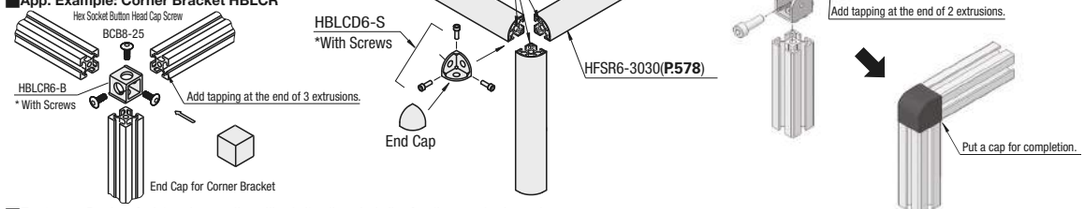
(Accessory: Button Head Cap Screws 3 pcs.)

Part Number	Mass (g)	Included Screw		Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity		1~99 pc(s).	100~120
HBLCS6-B	27	CBS8-25	2	500		
HBLCR6-B HBLCR6-S	59	BCB8-25	3	999		
HBLCD6-S	45	Button Head Cap Screw M8x25	3	1862		

Ordering Example: Part Number **HBLCR6-B**

Example

App. Example: Corner Bracket HBLCR



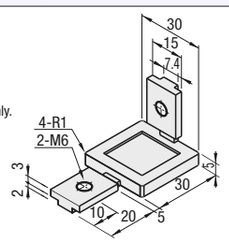
Features: Brackets for internal connection without alterations, including function as extrusion end caps.

Corner Blind Brackets

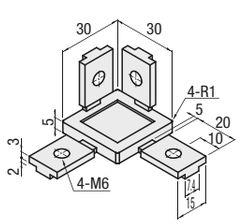


Type	Material	Surface Treatment
HBLBC□6	EN 1.1191 Equiv.	Trivalent Chromate
SHBLBC□6	EN 1.4308 Equiv.	-

Two-Way Type
HBLBCA6
SHBLBCA6
(Stainless Steel)
Applicable to 3030 Square only.



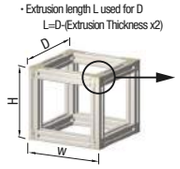
Three-Way Type
HBLBCB6
SHBLBCB6
(Stainless Steel)
Applicable to 3030 Square only.



Part Number	Mass (g)	Included Screw		Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity		1~99 pc(s).	100~150
HBLBCA6 SHBLBCA6 (Stainless Steel)	53	Set Screw M6x8	2	500		
HBLBCB6 SHBLBCB6 (Stainless Steel)	71		4	1000		

Ordering Example: Part Number **SHBLBCA6**

App. Example: Corner Blind Bracket
Extrusion length when installed as below (Unit: mm)
- Extrusion length L used for W
  L=W-(Extrusion Thickness x2)
- Extrusion length L used for D
  L=D-(Extrusion Thickness x2)
- Extrusion length L used for H
  L=H-10
  (Thickness of corner blind brackets x Upper and Lower 2 pcs.)



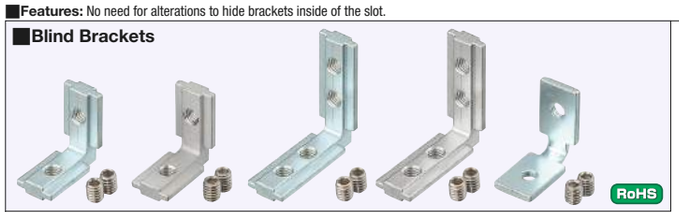


Blind Brackets

For 6 Series (Slot Width 8mm) Aluminum Extrusions

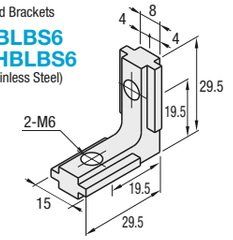
Features: No need for alterations to hide brackets inside of the slot.

Blind Brackets

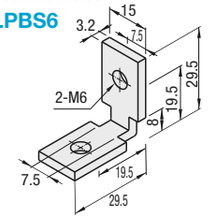


Type	Material	Surface Treatment
HBLBS6	EN 1.1191 Equiv.	Trivalent Chromate
HBLBSL6		
SHBLBS6	EN 1.4308 Equiv.	-
SHBLBSL6		
HBLPBS6	EN 1.0330 Equiv.	Trivalent Chromate

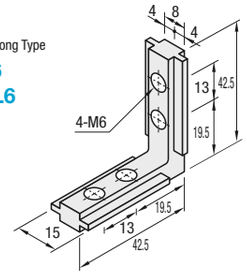
Blind Brackets
HBLBS6
SHBLBS6
(Stainless Steel)



Sheet Metal Blind Brackets
HBLPBS6



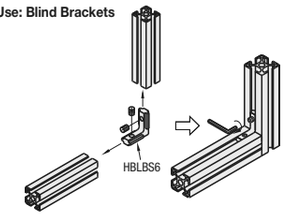
Blind Brackets - Long Type
HBLBSL6
SHBLBSL6
(Stainless Steel)



Part Number Type	Mass (g)	Included Screw Screw	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HBLBS6 SHBLBS6 (Stainless Steel)	30	Set Screw M6x8	2	686		
HBLBSL6 SHBLBSL6 (Stainless Steel)	38		4	957		
HBLPBS6	16		2	500		

Example

How to Use: Blind Brackets



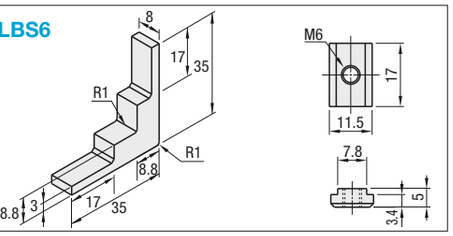
Features: Post-Assembly Insertion Type for Blind Brackets.

Post-Assembly Insertion Blind Brackets



Type	Components	Material	Surface Treatment
HABLBS6	Post-Assembly Insertion BB Body	EN 1.4308 Equiv.	-
	Post-Assembly Insertion BB Nut	EN 1.4301 Equiv. Sintered Alloy	
	Set Screw	EN 1.4301 Equiv.	

HABLBS6



Part Number Type	Mass (g)	Included Screw Screw	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HABLBS6	28	Nut, Set Screw M6x5	2	500		

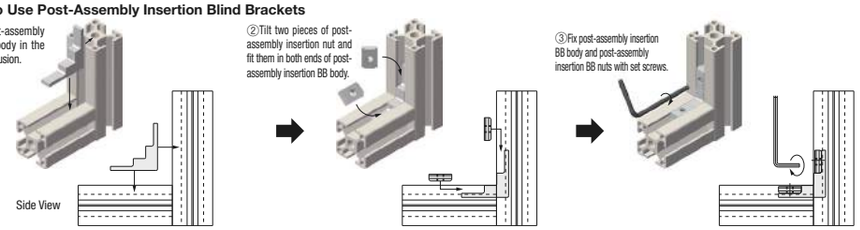
Example

How to Use Post-Assembly Insertion Blind Brackets

①Fit the post-assembly insertion BB body in the slot of the extrusion.

②Tilt two pieces of post-assembly insertion nut and fit them in both ends of post-assembly insertion BB body.

③Fix post-assembly insertion BB body and post-assembly insertion BB nuts with set screws.



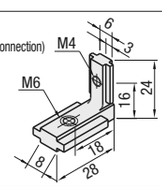
Features: Blind Brackets to connect 30, 20 square Extrusions.

Blind Brackets for Different Extrusion Sizes



Type	Material	Surface Treatment
HBLBS6-5	EN 1.1191 Equiv.	Trivalent Chromate

HBLBS6-5
(For 30 Square - 20 Square Connection)



Part Number Type	Mass (g)	Extrusion Series	Included Screw Screw	Quantity	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HBLBS6-5	20	HFS6 and HFS5	Set Screw M4x5	1		
			Set Screw M6x8	1		

Ordering Example: Part Number **HBLBS6**

Blind Joints - Overview

For 6 Series (Slot Width 8mm) Aluminum Extrusions

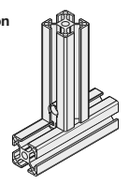
Features of Blind Joints

Connection inside of the extrusions provides good apearance.
Also convenient where interference inside of the corners are not desired or panels need to be inserted into the extrusion slots.

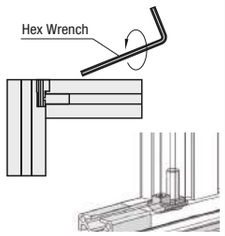
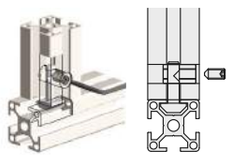
Bracket Connection

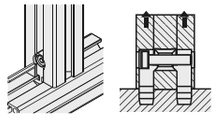
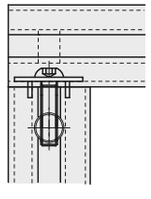
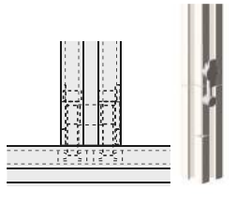
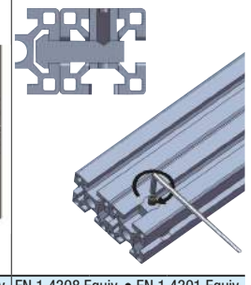


Blind Joint Connection



Product List

Product Name	Tapping Joints	Screw Joints	Simple Joints	Center Joint
Product Photo				
Features	·Tapping is not necessary. ·Most economical Blind Joints.	·Joint Plate enables secure and economical connection.	·Wrench holes are not required. Requires only one screw for tightening.	·Most standard Blind Joints usable with various types of aluminum extrusions.
Installation Diagram				
Material	JIS-SWCH18A	Steel or EN 1.4301 Equiv.	EN 1.1191 Equiv., EN 1.7220 Equiv.	EN 1.4308 Equiv.
Representative Type	HTJ	HCJ	HUJ	HMJ
Applicable Extrusion No.	5 / **6** / 8	5 / **6** / 8 / 8-45	**6**	5 / **6** / 8 / 8-45
Page	P.602	P.603	P.604	P.605
Alterations (pages) required for extrsions	Wrench Hole P.759	Tapping / Wrench Hole P.757, P.754	Tapping P.757	M Hole P.766

Product Name	Post-Assembly Insertion Double Joints	Single Joints	Pre-Assembly Insertion Double Joints	Parallel Joints
Product Photo				
Features	·Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.	·D holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.	·Can be used for various applications such as to extend extrusions as well as mounting to plates.	·Extrusions can be connected in parallel.
Installation Diagram				
Material	EN 1.4308 Equiv. / EN 1.4301 Equiv.	Steel or EN 1.4301 Equiv.	EN 1.4401 Equiv. / EN 1.4301 Equiv.	EN 1.4308 Equiv. • EN 1.4301 Equiv.
Representative Type	HPJN	HSJ	HDJSN	HLJ
Applicable Extrusion No.	5 / **6** / 8 / 8-45	**6** / 8 / 8-45	**6** / 8 / 8-45	5 / **6** / 8
Page	P.607	P.609	P.611	P.613
Alterations (pages) required for extrsions	M Hole P.766	Wrench Hole / D Hole P.759, 764	S Hole P.765	L Hole P.767

Blind Joint Components

Tapping Joints / TJ Plates / Torx Bits for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

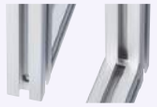
Wrench Hole
P.759

Features: Necessary alteration is only for wrench holes. Most economical Blind Joints. Dedicated Torx Bit is required for tightening.

Tapping Joints

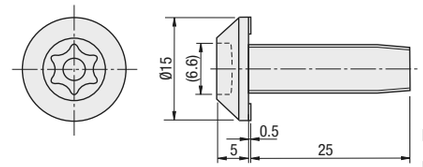


(Reference)Corner section when using this joint



RoHS

HTJ



M Material: JIS-SWCH18A (Carburized)
S Surface Treatment: Trivalent Chromate
*JIS-SWCH18A (Cold Forged Carbon Steel Wire)

・Tapping on the extrusion is not necessary.

Part Number Type	Part Number No.	Torx Bit	Applicable Extrusion (Pilot Hole Dia.)	Proper Tightening Torque (Max.)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HTJ	6	HTJXL40	Ø6.8	24N・m		

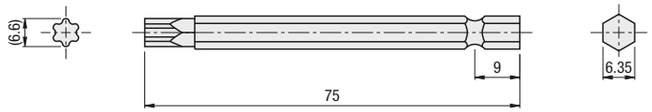
Tapping Joints	Applicable Extrusion No.				[Exception] Extrusion Not Available
HTJ6	6-3030*	6-3060	6-3090	6-30120	*Curved HFSR6-3030 cannot be used, because Wrench Hole Machining is not allowed. Not applicable to HFS6-5050, HFSB6-5050, HFSL6-5050, HFST6-5050, NFS6-5050, HFS6-6060, HFSB6-6060, HFST6-6060, NFS6-6060, NFSB6-6060, HFS6-50100, HFSB6-50100, NFS6-50100.
	6-5050	6-50100	6-100100		
	6-6060	6-60120			

Torx Bit



RoHS

HTJXL



M Material: EN 1.6511 Equiv.

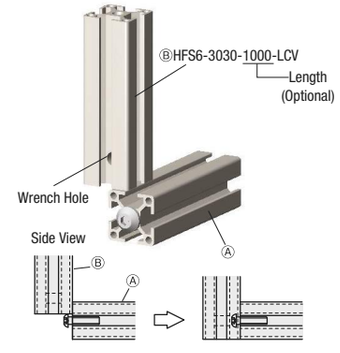
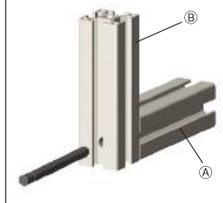
Part Number Type	Part Number No.	Applicable Drive for Torx Bit	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HTJXL	40	T40		

Ordering Example

Part Number
HTJ6
HTJXL40

Example

How to Connect Tapping Joints (Tapped holes are not required for extrusion connection.)

Step	1	2	3
Description	Tighten temporarily the tapping joint on extrusion end face. (Refer to appropriate tightening torque above.)	Pass the head of tapping joint through the slot of Extrusion Ⓑ, and slide it down to the bottom of Ⓐ.	Pass the Torx Bit through wrench hole, and tighten it by a motorized screw driver.
Tapping Joints	 * Tapped holes are not required.		

Blind Joint Components

Screw Joints for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

Tapping P.757 | Wrench Hole P.759

Features: Cost saving blind joints. Including Rotation Stoppers.

Screw Joints



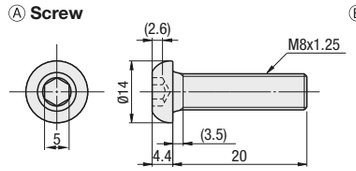
(Reference)
Corner section
when using this joint



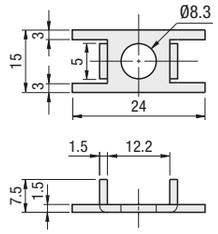
RoHS

HCJ (Trivalent Chromate)
SHCJ (Stainless Steel)

Ⓐ Screw



Ⓑ Joint Plate



Type	Components	Material	Surface Treatment
HCJ	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	
SHCJ	Screw	EN 1.4301 Equiv.	-
	Joint Plate	EN 1.4301 Equiv.	

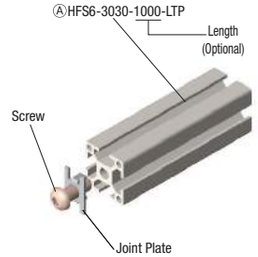
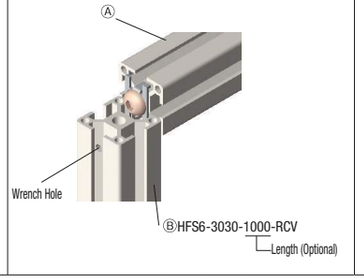
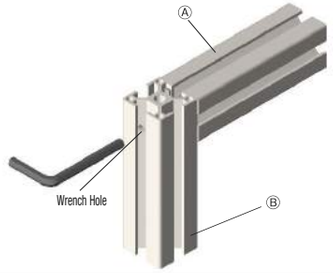
Part Number Type	No.	Components Ⓐ Screw	Ⓑ Joint Plate	HCJ Unit Price 1~99 pc(s).	HCJ Volume Discount Rate 100~	SHCJ Unit Price 1~99 pc(s).	SHCJ Volume Discount Rate 100~120
HCJ (Trivalent Chromate) SHCJ (Stainless Steel)	6	M8	6				

Ordering Example: Part Number **SHCJ6**

Applicable Extrusion No.				[Exception] Extrusion Not Available
6-3030*	6-3060	6-3090	6-30120	* Curved HFSR6-3030 is not applicable since wrench holes cannot be added.
6-5050	6-50100	6-100100		
6-6060	6-6090	6-60120		

Example

How to Connect Screw Joints (Tapped holes or wrench holes are required on the extrusion.)

Step	1	2	3
Description	Mount a screw joint on the tapped hole on the extrusion end face.	Pass the head of screw joint through the slot of Extrusion Ⓑ, and slide it down to the bottom of Ⓐ.	Insert the hex wrench into the wrench hole and tighten it.
Screw Joints			

Features: Screw joint installable without alterations. (Wrench holes are necessary on the mating extrusion.)

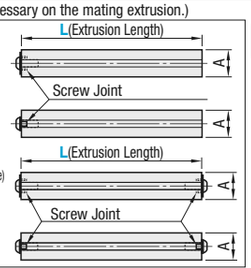
Aluminum Extrusions with Built-in Screw Joints



RoHS

Part Name		Material	Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Screw Joints	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	

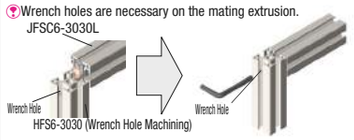
JFSC6-3030L
(Left End Face Screw Joint Pre-Inserted Type)



JFSC6-3030W
(Both End Face Screw Joints Pre-Inserted Type)

Example

Wrench holes are necessary on the mating extrusion.

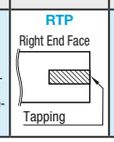


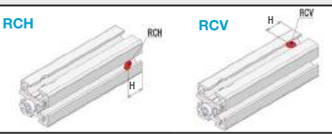
Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component Screw Joints	Quantity	A	Required Wrench for Tightening	Extrusion Unit Price Less than 300mm	300mm or more	Joints, Others
JFSC	6-3030	L (Left End Face only) W (Double End Faces)	100~4000	HFS6-3030 (P.571)	HCJ6	1	30	For M8			
						2					

Ordering Example: Part Number **JFSC6-3030L** - L **1200**

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Tap	Depth
Right End Face Tapping JFS □□-□□□□ L is only applicable to Left End Face Joint Pre-Inserted Type.	RTP 	6-3030	M8	24

Alterations	Code	Spec. Extrusion	H	Hole Dia.
Right End Face Wrench Hole Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.	RCH RCV 	6-3030	15	8

Blind Joint Components

Simple Joint Kits for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

Tapping P.757

Features: Only end tapping is required on extrusions. Simple joints with good workability.

Single Joint Kits



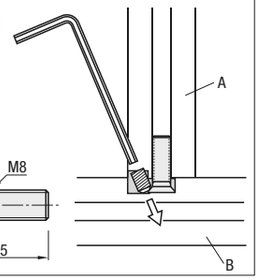
(Reference)Corner section
when using this joint



RoHS

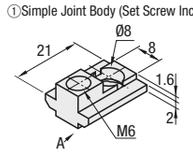
Part Name	Material	Surface Treatment
Main Body	EN 1.1191 Equiv.	Trivalent Chromate
Dedicated Screws	EN 1.7220 Equiv.	Trivalent Chromate
Set Screw		Black Oxide Film

Extrusion A and B are fastened as a set screw pushes the head of the dedicated screw.

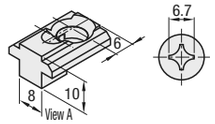


HUJ (Single Joint Kits)

①Simple Joint Body (Set Screw Included)



②Dedicated Screws



Part Number Type	No.	Components ①Simple Joint Body (Set Screw Included)	②Dedicated Screws	HUJ Unit Price 1~99 pc(s).	HUJ Volume Discount Rate 100~300
HUJ	6				

Simple Joints	Applicable Extrusion No.			
HUJ6	6-3030	6-3060	6-3090*	6-30120*
	6-5050			
	6-6060			

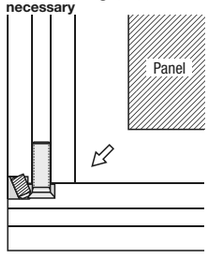
* Rectangle frame might have less fastening points depending on the direction of fastening. (Refer to the app. example of HFS6–3090 on the next page.)

Ordering Example: Part Number **HUJ6**

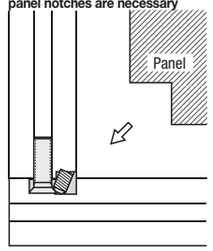
Example

To insert a panel into extrusion slots, notching may be required depending on the mounting direction of Simple Joint.

When notching is not necessary

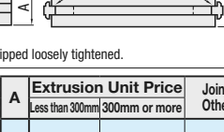
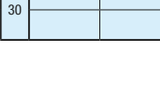
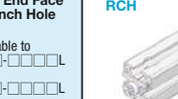


Example of the case when panel notches are necessary



Example

Simple Joint Connection (Connect the extrusion at the corners or the center.)

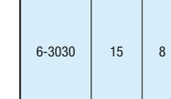
Step	Side View	Sketch Drawing
1	HUJ6 ①Simple Joint Body ②Dedicated Screws  Insert the dedicated screw ② into the simple joint body ① and install them in the tap hole of the extrusion Ⓐ.	 HFS6-3030-1000-LTP
2	 Do not tighten screws too much, or they will not fit into the slot of Extrusion Ⓑ.	 Loosen the screw head for a half revolution from the condition of the screw fully inserted to keep some allowance at X part.
3	 Insert into the slot of Extrusion Ⓑ.	 Ⓑ HFS6-3030-1000
4	 Tighten the set screw of Simple Joint Body with a hex wrench and the steps are finished.	

<Example of HFS6-6060>
• Using 4 simple joints

<Example of HFS6-3090 ①>
• Using 3 simple joints



<Example of HFS6-3090 ②>
• 2 simple joints are used in this example.



Features: Simple joint installable without alterations. (No holes are required on the mating extrusion.)

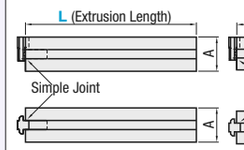
Aluminum Extrusions with Built-in Simple Joints



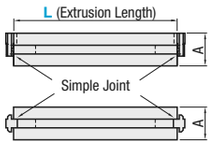
RoHS

Part Name		Material	Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Simple Joints	Main Body	EN 1.1191 Equiv.	Trivalent Chromate
	Dedicated Screws	EN 1.7220 Equiv.	Black Oxide Film
	Set Screw		

JFSU6-3030L
(Left End Face Simple Joint Pre-Inserted Type)

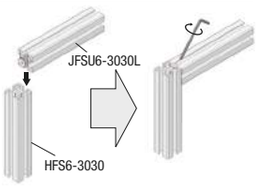


JFSU6-3030W
(Both End Face Simple Joints Pre-Inserted Type)



Joint components will be shipped loosely tightened.

Example

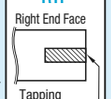


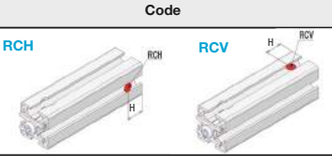
Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component Center Joint	Quantity	A	Extrusion Unit Price Less than 300mm	300mm or more	Joints, Others
JFSU	6-3030	L (Left End Face only) W (Double End Faces)	100~4000	HFS6-3030 (P.571)	HUJ6	1	30			
						2				

Ordering Example: Part Number **JFSU6-3030L** - L **1200**

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Tap	Depth
Right End Face Tapping JFS □□-□□□□ L is only applicable to Left End Face Joint Pre-Inserted Type.	RTP 	6-3030	M8	24

Alterations	Code	Spec. Extrusion	H	Hole Dia.
Right End Face Wrench Hole Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.	RCH RCV 	6-3030	15	8

Blind Joint Components

Center Joint Kits for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

M Type Hole Alterations P.766

■**Features:** Requires only one screw for tightening. Work efficiency enhancing anti-rotation type is added.

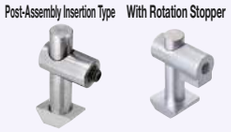
■**Center Joint Kits Pre-Assembly Insertion Type**

(Standard Direction) (90-Degree Rotated)



■**Center Joint Kits**

Post-Assembly Insertion Type With Rotation Stopper



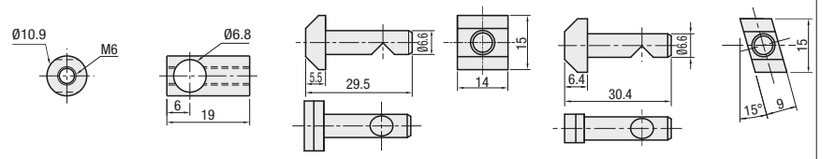
(Ref.) Corner section when using this joint



RoHS

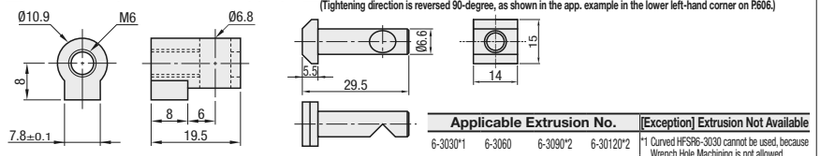
Type	Components (1 pc. each)					
	Joint Guide		Center Post		Set Screw	
	Type	Material	Type	Material	Size	Material
HMJ	Standard	EN 1.4301 Equiv.	Pre-Assembly Insertion Standard Direction	EN 1.4308 Equiv.	No.6: M6x12	EN 1.7220 Equiv. (Surface Treatment: Black Oxide Film)
HMJR			Pre-Assembly Insertion 90-Degree Rotated			
HAMJ			Post-Assembly Insertion Standard Direction			
HZJ	With Rotation Stopper	EN 1.4301 Equiv.	Pre-Assembly Insertion Standard Direction	EN 1.4308 Equiv.		
HAZJ			Post-Assembly Insertion Standard Direction			

■**Joint-Guide (Standard)** ■**Pre-Assembly Insertion Center Post Standard Direction** ■**Post-Assembly Insertion Center Post**



■**Joint-Guide (with Rotation Stopper)** ■**Pre-Assembly Insertion Center Post 90-Degree Reversal Type**

(Tightening direction is reversed 90-degree, as shown in the app. example in the lower left-hand corner on P606.)



Applicable Extrusion No.			[Exception] Extrusion Not Available
6-3030*1	6-3060	6-3090*2	6-30120*2
6-5050	6-50100*2		
6-6060	6-6090		

*1 Curved HFSR6-3030 cannot be used, because Wrench Hole Machining is not allowed.
*2 Cannot be used in the long side direction because standard hole machining is not allowed.

Part Number		Accessory						HMJ HMJR HAMJ		HZJ HAZJ	
								Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
Type	No.	Center Post	Quantity	Joint Guide	Quantity	Set Screw	Quantity	1~99 pc(s).	100~120	1~99 pc(s).	100~120
HMJ HZJ Pre-Assembly Insertion Standard Direction Type	6	Pre-Assembly Insertion Center Post 6	1	Joint Guide 6	1	M6x12	1				
HMJR Pre-Assembly 90-Degree Reversal Type	6	Pre-Assembly Insertion Center Post 6 Rotated		Joint Guide 6		M6x12				-	-
HAMJ HAZJ Post-Assembly Insertion Type	6	Post-Assembly Insertion Center Post 6		Joint Guide 6		M6x12					

Ordering Example: Part Number **HMJ6**

■**Features:** Center joint installable without alterations. (No holes are required on the mating extrusion.)

■**Aluminum Extrusions with Built-in Center Joints**

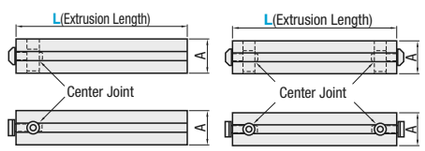


RoHS

Part Name		Material	Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Center Joint	Center Post	EN 1.4308 Equiv.	-
	Joint Guide	EN 1.4301 Equiv.	
	Set Screw	EN 1.7220 Equiv.	Black Oxide Film

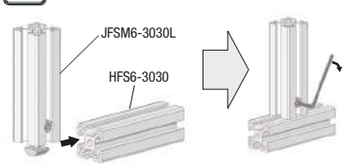
JFSM6-3030L
(Left End Face Center Joint Pre-Inserted Type)

JFSM6-3030W
(Both End Face Center Joints Pre-Inserted Type)



Joint components will be shipped loosely tightened.

Example

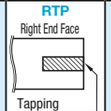


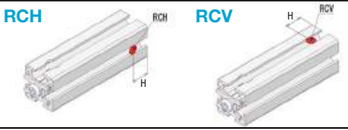
Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component		A	Required Wrench for Tightening	Extrusion Unit Price		Joints, Others
					Center Joint	Quantity			Less than 300mm	300mm or more	
JFSM	6-3030	L (Left End Face only)	100~4000	HFS6-3030 (P.571)	HMJ6	1	30	For M6			
		W (Double End Faces)				2					

Ordering Example: Part Number **JFSM6-3030W** - L **1200**

Alterations

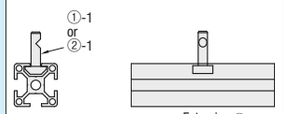
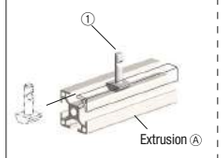
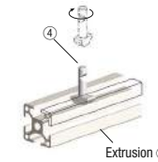
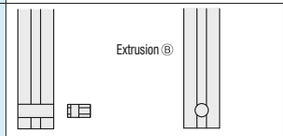
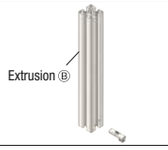
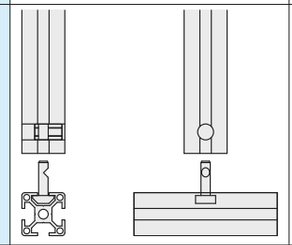
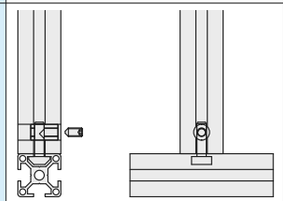
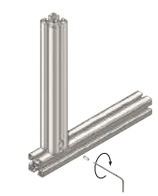
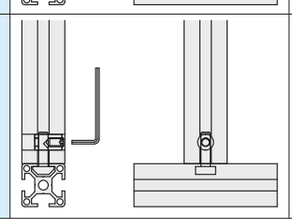
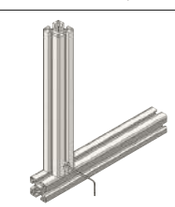
Alterations only on this page are available.

Alterations	Code	Spec.		
		Extrusion	Tap	Depth
Right End Face Tapping JFS □□-□□□□L is only applicable to Left End Face Joint Pre-Inserted Type.	RTP 	6-3030	M8	24

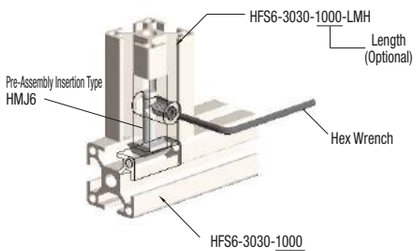
Alterations	Code	Spec.		
		Extrusion	H	Hole Dia.
Right End Face Wrench Hole Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.	RCH RCV 	6-3030	15	8

Example

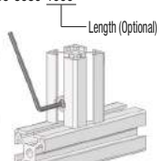
Center Joint Connection Method

Step	Front View / Side View	Standard Type	With Rotation Stopper	Description
1				Mount a center post to extrusion Ⓐ. (Post-Assembly Insertion Type can be inserted by turning from upside of the slot.) Center Post is for Standard Type and With Rotation Stopper Type.
2				Insert a joint guide in the extrusion Ⓑ with M type hole (P.766.). For standard type, adjust the through hole to be upward.
3				Move the extrusion Ⓐ close to the extrusion Ⓑ while putting the center post through the through hole of joint guide.
4				Tighten the set screw to the side of joint guide.
5				When the set screw is tightened against a V groove on the center post, extrusion Ⓐ and Ⓑ are pulled and bound together.

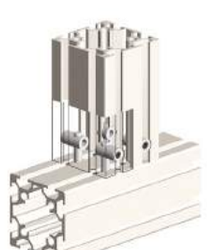
・Product Number for the parts shown on the above example (Standard Type).



・Pre-Assembly Insertion 90-Degree Rotated Type **HMJR**
Can reverse tightening direction by 90 degrees.



・Connecting extrusions with 2 or more slots on one side
Insert joint guide from the both sides of M type hole, and connect and tighten it with two or more center joints.
・For extrusions with three slots, holes are not provided on the center slot. (For extrusions with four rows of slots, all slots are drilled.)



2-slotted extrusions can be connected by using two Center Joint kits.

3-slotted extrusions are connected using two outside slots only.

Blind Joint Components

Post Assembly Insertion Double Joint Kits for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

M Type Hole Alterations P.766

■Post Assembly Insertion Double Joint Kit

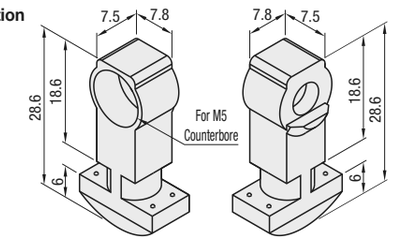


RoHS

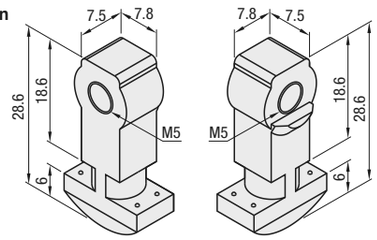
Part Name		Material
Post-Assembly Insertion Double Joint (A, B)		EN 1.4308 Equiv.
Joint Pipe	No.6-30 No.6-50 No.6-90 No.6-100 No.6-120	EN 1.4301 Equiv. (Sintered)
	No.6-60	EN 1.4301 Equiv.
Hex Socket Head Cap Screw		EN 1.4301 Equiv.

HPJN (Post-Assembly Insertion Double Joint)

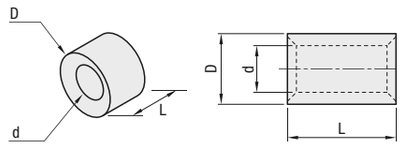
①**Post-Assembly Insertion Double Joint A**



②**Post-Assembly Insertion Double Joint B**



③**Joint Pipe**

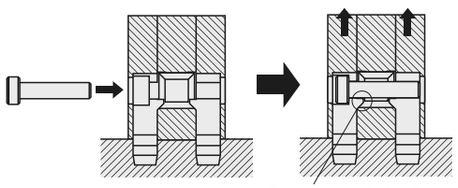


Part Number		Accessory									Unit Price	Volume Discount Rate
Type	No.	①Post-Assembly Insertion Double Joint A	Quantity	②Post-Assembly Insertion Double Joint B	Quantity	③Joint Pipe	Quantity	④Hex Socket Head Cap Screw	Quantity		1 ~ 19 pc(s).	20~200
HPJN	6-30	Post-Assembly Insertion Double Joint A6	1	Post-Assembly Insertion Double Joint B6	1	Joint Pipe 6-30	1	M5x22	1			
	6-60					Joint Pipe 6-60		M5x50				
	6-50					Joint Pipe 6-50		M5x40				
	6-90					Joint Pipe 6-90		M5x80				
	6-100					Joint Pipe 6-100		M5x90				
	6-120					Joint Pipe 6-120		M5x110				

③Joint Pipe

Part Name	L	D	d
Joint Pipe 6-30	12	11	7
Joint Pipe 6-60	42		
Joint Pipe 6-50	32		
Joint Pipe 6-90	72		
Joint Pipe 6-100	82		
Joint Pipe 6-120	102		

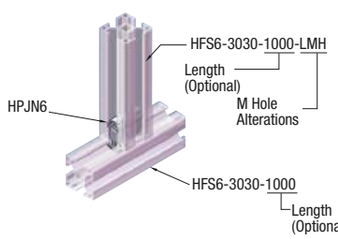
Post Assy. Insert. Double Joint Kit	Applicable Extrusion No.	[Exception] Extrusion Not Available
HPJN6-30	6-3030	Not usable for surfaces without slots.
HPJN6-60	6-3060 6-6060	
HPJN6-50	6-5050 6-50100	
HPJN6-90	6-3090 6-6090	
HPJN6-100	6-50100 6-100100	
HPJN6-120	6-30120 6-60120	



The tapered part of a Joint Pipe and the tab of a post-assembly insertion joint create upward lifting force, connecting the extrusions together.

Example

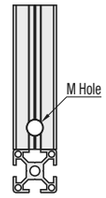
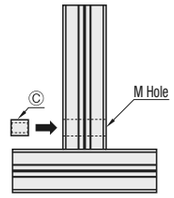
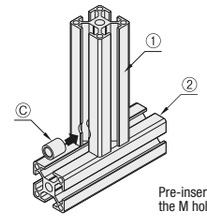
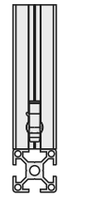
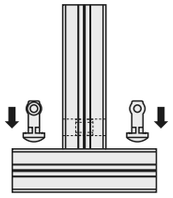
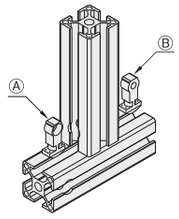
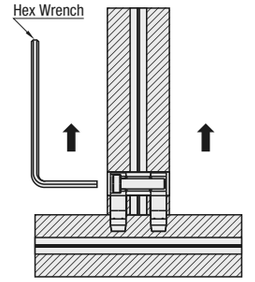
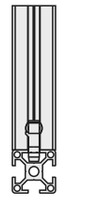
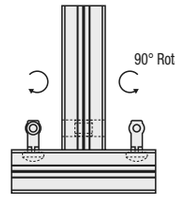
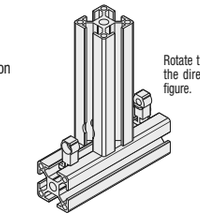
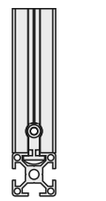
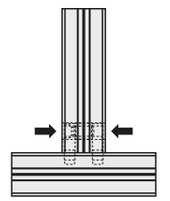
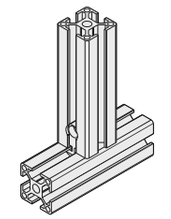
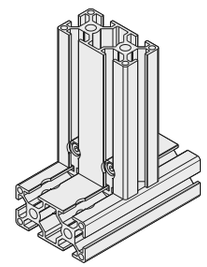
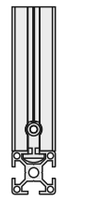
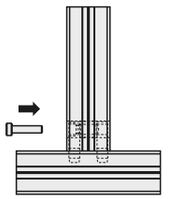
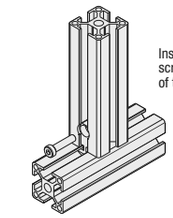
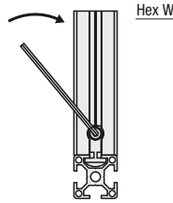
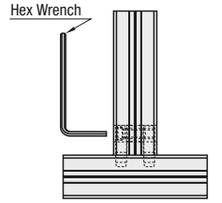
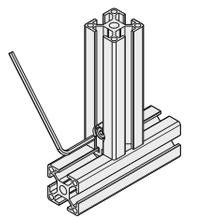
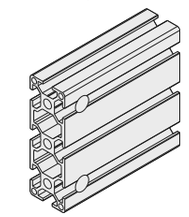
· Installation Example



Ordering Example — Part Number: HPJN6-30

Example

■Pre-Assembly Insertion Double Joint Connection (Connect the extrusion at the corners or the center.)

Step	Front View	Side View	Post-Assembly Insertion Double Joint	Specification Method by Part Number (30 Square as an Example)
1			 Pre-insert the joint pipe Ⓒ into the M hole of extrusion ①.	① HFS6-3030-1000-LMH ② HFS6-3030-1000 Ⓐ Post-Assembly Insertion Double Joint A Ⓑ Post-Assembly Insertion Double Joint B Ⓒ Joint Pipe
2		 Insert the Post-Assembly Double Joints Ⓐ and Ⓑ sideways into the slot of extrusion ②.		 ·When tightening the hex socket head cap screw, pulling force works as illustrated above, and connects two extrusions.
3			 Rotate the joints Ⓐ and Ⓑ 90° in the direction as shown in the left figure.	
4		 Fit the joints Ⓐ and Ⓑ in the slot of the extrusion.		■ App. Example of Rectangle Shape Extrusion 
5			 Insert the hex socket head cap screw into a counterbore hole of the joint Ⓐ.	?For extrusions with three slots, M holes cannot be drilled on the center one. (For description of M hole, refer to P.766)
6		 Tighten the hex socket head cap screw with a hex wrench; the extrusion ① and ② are lifted upward, then 2 extrusions joint together.		 Ex.) HFS6-3090-1000-LMH

Blind Joint Components

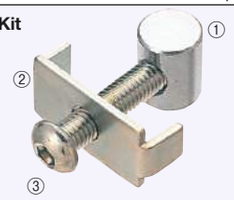
Single Joint Kits for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

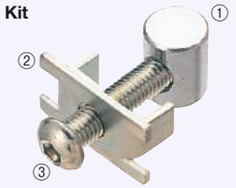
Wrench Hole P.759 | D Type Hole Alterations P.764

Features: D holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.

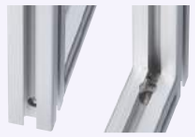
Single Joint Kit
Standard Type



Single Joint Kit
Narrow Type



(Ref.) Corner section when using this joint



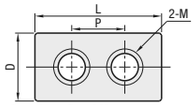
RoHS

Type	Components					
	①Joint Nut		②Plate		③Screw	
	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface Treatment
HSJ	EN 1.0038 Equiv.	Trivalent Chromate	EN 1.0330 Equiv.	Trivalent Chromate	EN 1.7220 Equiv.	Trivalent Chromate
HSJS HSJNS	EN 1.4401 Equiv. EN 1.4301 Equiv.	-	EN 1.4301 Equiv.	-	EN 1.4301 Equiv.	-

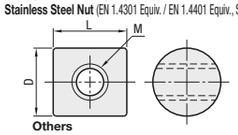
・**Single Joint Kits – Standard**
Use it when edges of two extrusions are connected perpendicularly, after a hole is drilled in each extrusion.

HSJ (Steel Type)
HSJS (Stainless Steel)

①**Joint Nut**
Nut (EN 1.0038 Equiv.)
Stainless Steel Nut (EN 1.4301 Equiv. / EN 1.4401 Equiv., Sintered)

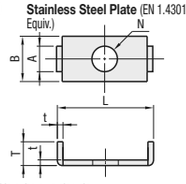


Stainless Steel Nut 6-50, 6-60(EN 1.4301 Equiv.)



Others

②**Joint Plate**
Plate (EN 1.0330 Equiv.)
Stainless Steel Plate (EN 1.4301 Equiv.)

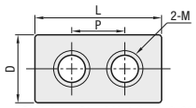


For only Stainless Steel Nut 6-50 and 6-60, the material is EN 1.4301 Equiv.

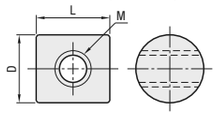
・**Single Joint Kits - Narrow**
Shape of Narrow Type has altered so that its joint section does not collide with the panel when the panel is inserted into the extrusion slot.

HSJNS (Stainless Steel Type)

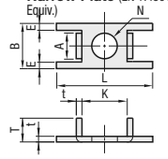
①**Joint Nut**
Stainless Steel Nut (EN 1.4401 Equiv., Sintered)



Stainless Steel Nut 6-50, 6-60



②**Narrow Type Joint Plate**
Narrow Plate (EN 1.4301 Equiv.)



Single Joint Kits - Standard / Narrow

Type	Part Number Type	Part Number No.	Extrusion (Type)	①Joint Nut (1 pc.) EN 1.0038 Equiv.	①Joint Nut (1 pc.) EN 1.4301 Equiv./EN 1.4401 Equiv.	②Joint Plate EN 1.0330 Equiv.	②Joint Plate Quantity	②Joint Plate EN 1.4301 Equiv.	②Joint Plate Quantity	③Hex Socket Button Head Cap Screw EN 1.7220 Equiv.	③Hex Socket Button Head Cap Screw Quantity	③Hex Socket Button Head Cap Screw EN 1.4301 Equiv.	③Hex Socket Button Head Cap Screw Quantity	Steel Type Unit Price 1~99 pc(s).	Steel Type Volume Discount Rate 100~	Stainless Steel Type Unit Price 1~99 pc(s).	Stainless Steel Type Volume Discount Rate 100~160
Standard Type	HSJ HSJS (Stainless Steel)	6	Refer to the Next Page	Nut 6	Stainless Steel Nut 6	Plate 6	1	Stainless Steel Plate 6	1	Button Head Cap Screw M6-25	1	Button Head Cap Screw Stainless Steel M6-25	1				
		6-50		-	Stainless Steel Nut 6-50	-	-	Stainless Steel Plate 6-50	2	-	-		2				
		6-60			Stainless Steel Nut 6-60			Stainless Steel Plate 6									
Narrow Type	HSJNS (Stainless Steel)	6		-	Stainless Steel Nut 6	-	-	Narrow Plate 6	1	-	-	Button Head Cap Screw Stainless Steel M6-25	1	-			
		6-50			Stainless Steel Nut 6-50			Narrow Plate 6-50	2				2				
		6-60			Stainless Steel Nut 6-60			Narrow Plate 6									

For orders larger than indicated quantity, please check with WOS.

①**Dimension of Joint Nut**

Type	Size	M	D	P	L
Nut	6	6	11	-	12
	6-50			20	32
	6-60			30	42

②**Dimension of Joint Plate**

Type	Size	N	A	EN 1.0330 Equiv. B	L	T	t	EN 1.4301 Equiv./EN 1.4401 Equiv. B	E	L	T	t	K
Plate	6	6.5	8	14	29/19	7.6	1.6	14	-	29/19	7.5	1.5	-
	6-50												
Narrow Plate	6	6.5	5	-				15	3	25/19	7.5	1.5	12.2
	6-50												

Ex. Example

Ex.① <Completed> Slide Wrench Hole (LCV Alteration)

Ex.② <Completed> Slide Wrench Hole (LCH Alteration)

Ordering Example: Part Number **HSJ8**

Features: Single joint installable without alterations. (Wrench holes are necessary on the mating extrusion.)

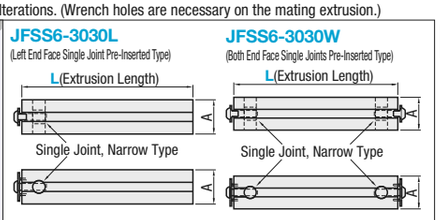
Aluminum Extrusions with Built-in Single Joints



RoHS

Part Name		M Material	S Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Single Joint Kit	Joint Plate	EN 1.4301 Equiv.	-
	Joint Nut	EN 1.4401 Equiv.	
	Hex Socket Button Head Cap Screw	EN 1.4567 Equiv.	

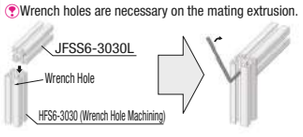
JFSS6-3030L
(Left End Face Single Joint Pre-Inserted Type)



JFSS6-3030W
(Both End Face Single Joints Pre-Inserted Type)

Joint components will be shipped loosely tightened.

Ex. Wrench holes are necessary on the mating extrusion.



Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component Single Joints	Quantity	A	Required Wrench for Tightening	Extrusion Unit Price Less than 300mm	Extrusion Unit Price 300mm or more	Joints, Others
JFSS	6-3030	L (Left End Face only)	100~4000	HFS6-3030 (P.571)	HSJNS6	1	30	For M6			
		W (Double End Faces)				2					

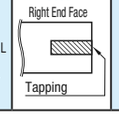
Ordering Example: Part Number - L
JFSS6-3030L - 1200

Alterations

Alterations only on this page are available.

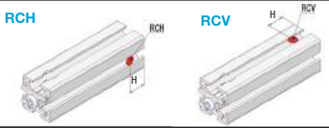
Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping	RTP	6-3030	M8	24

JFS □□-□□□□ L is only applicable to Left End Face Joint Pre-Inserted Type.



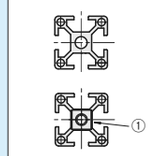
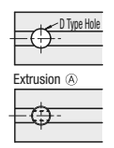
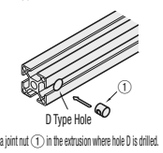
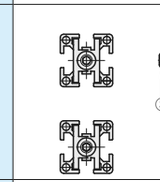
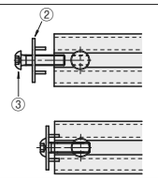
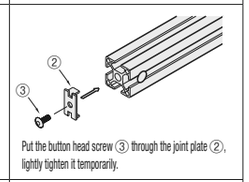
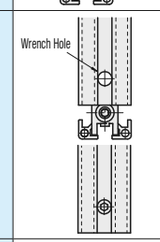
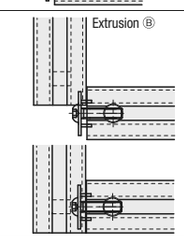
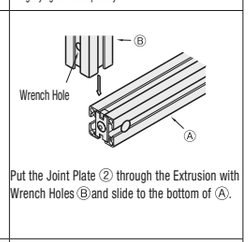
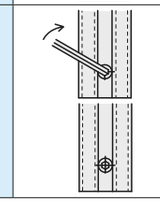
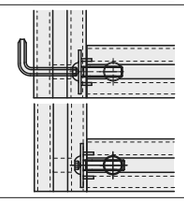
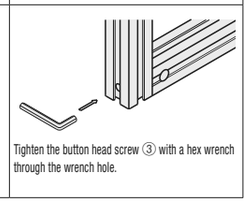
Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole	RCH RCV	6-3030	15	8

Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.



Ex. Example

Single Joint Connection Method (Connect the extrusions at the corners.)

Step	Front View	Side View	Sketch Drawing
1			Drills D type hole in the extrusion.  Insert a joint nut ① in the extrusion where hole D is drilled.
2			 Put the button head screw ③ through the joint plate ②, lightly tighten it temporarily.
3			 Put the Joint Plate ② through the Extrusion with Wrench Holes Ⓑand slide to the bottom of Ⓐ.
4			 Tighten the button head screw ③ with a hex wrench through the wrench hole.

Specification Method by Part Number (30 Square as an Example)

Ⓐ **HFS6-3030-1000-LDH**
- Length (Optional)
- L: Adds a D type hole on the left side of the extrusion in the horizontal direction.

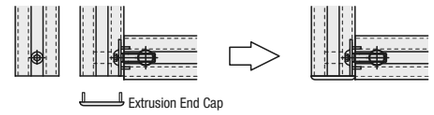
HSJNS6 (Single Joint, Narrow Type)
- ①Stainless Steel Nut 6
- ②Narrow Plate 6
- ③Button Head Cap Screw Stainless Steel M6-25

Ⓑ **HFS6-3030-800-LCV**
- Length (Optional)
- L: Adds a D type hole on the left side of the extrusion in the horizontal direction.
- C: Adds a wrench hole vertically on the left side of the extrusion.

Method of Shortening the Extrusion to Compensate for the Thickness of Extrusion End Cap (Single Joint, Narrow Type)

For normal specification, the extrusion end cap adds its thickness to the length of the extrusion when it is mounted. With optional specification of the extrusion and change of the single joint, extrusion end cap and extrusion can be flat. Specify the extrusion length 3mm shorter (one side) to compensate for the thickness of the extrusion end cap. (The length is shortened by 6mm when wrench holes are located at both ends.)

・To specify options for extrusions, see P.761.



In this case, use HSJNS instead of HSJ or HSJS.
(As the L dimension of HSJ is long, it fits the extrusion end cap.)

Extrusions Applicable to Single Joint (Not applicable to extrusions not listed in the table.)

Features	Extrusion: HFS6 Series 30, 50, 60, 100mm Square Slot Width 8mm — Type	No.	Applicable Single Joint
Four-Side Slots	HFS6 GFS6 EFS6 CAF6 HFSY6 NFS6 NEFS6	3030	HSJ6 / HSJS6 / HSJNS6
		3060	HSJ6 / HSJS6 / HSJNS6
		3090	HSJ6 / HSJS6 / HSJNS6
		30120	HSJ6 / HSJS6 / HSJNS6
		5050	HSJS6-50 / HSJNS6-50
		6060	HSJS6-60 / HSJNS6-60
		6090	HSJS6-60 / HSJNS6-60
		60120	HSJS6-60 / HSJNS6-60
3-Side Slot 1Side Flat	HFSF6 EFSF6 NEFSF6	3030	HSJ6 / HSJS6 / HSJNS6
		3060	HSJ6 / HSJS6 / HSJNS6
		6060	HSJS6-60 / HSJNS6-60
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	-
		6060	-
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	HSJ6 / HSJS6 / HSJNS6
One-Side Slot Three Flats	HFSC6 EFSC6	3030	HSJ6 / HSJS6 / HSJNS6
Light Type	HFSL6	3030	HSJ6 / HSJS6 / HSJNS6
		3060	HSJ6 / HSJS6 / HSJNS6
Black Anodize	HFSB6 EFSB6 NEFSB6	3030	HSJ6 / HSJS6 / HSJNS6
		3060	HSJ6 / HSJS6 / HSJNS6
		5050	HSJS6-50 / HSJNS6-50
		6060	HSJS6-60 / HSJNS6-60
	HFSFB6	3030	HSJ6 / HSJS6 / HSJNS6
	HFSTB6	3030	-
	HFSLB6	3030	HSJ6 / HSJS6 / HSJNS6
		3060	HSJ6 / HSJS6 / HSJNS6

Features	Extrusion: HFS8 Series 40, 80mm Square Slot Width 10mm — Type	No.	Applicable Single Joint
Four-Side Slots	HFS8 GFS8 EFS8 CAF8 HFSY8 NEFS8	4040	HSJ8 / HSJS8 / HSJNS8
		4080	HSJ8 / HSJS8 / HSJNS8
		40120	HSJ8 / HSJS8 / HSJNS8
		40160	HSJ8 / HSJS8 / HSJNS8
3-Side Slot 1Side Flat	HFSF8 GFSF8 EFSF8 NEFSF8	4040	HSJ8 / HSJS8 / HSJNS8
Two-Side Slots Two Flats	HFST8 GFST8 EFST8 NEFST8	4040	-
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	HSJ8 / HSJS8 / HSJNS8
One-Side Slot Three Flats	HFSC8 EFSC8	4040	HSJ8 / HSJS8 / HSJNS8
Light Type	HFSL8	4040	HSJ8 / HSJS8 / HSJNS8
		4080	HSJ8 / HSJS8 / HSJNS8
Black Anodize	HFSB8 EFSB8	4040	HSJ8 / HSJS8 / HSJNS8
		4080	HSJ8 / HSJS8 / HSJNS8
	HFSFB8	4040	HSJ8 / HSJS8 / HSJNS8
	HFSTB8	4040	-
	HFSLB8	4040	HSJ8 / HSJS8 / HSJNS8
		4080	HSJ8 / HSJS8 / HSJNS8

Features	Extrusion: HFS8-45 Series 45mm Square Slot Width 10mm — Type	No.	Applicable Single Joint
Four-Side Slots	HFS8 GFS8 EFS8 NEFS8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
		4590	HSJ8-45 / HSJS8-45 / HSJNS8-45
		45180	HSJ8-45 / HSJS8-45 / HSJNS8-45
3-Side Slot 1Side Flat	HFSF8 GFSF8 EFSF8 NEFSF8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
Two-Side Slots Two Flats	HFST8 GFST8 EFST8	4545	-
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
One-Side Slot Three Flats	HFSC8 EFSC8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
Light Type	HFSL8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
	HFSLF8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
	HFSLT8	4545	-
Black Anodize	HFSB8 EFSB8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
		4590	HSJ8-45 / HSJS8-45 / HSJNS8-45
	HFSFB8	4545	HSJ8-45 / HSJS8-45 / HSJNS8-45
	HFSTB8	4545	-

Blind Joint Components

Pre-Assembly Insertion Double Joint Kits for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

S Type Hole Alterations P.765

Features: Two screws are used for connection. Can be used to extend extrusions as well as mounting to plates. A joint type superior in mounting flexibility.

■Pre-Assembly Insertion Double Joint Kits
Standard Type

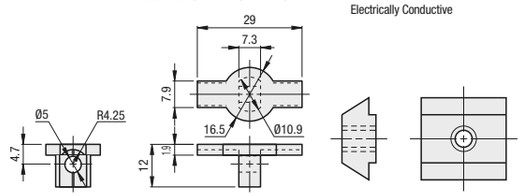


Products shown in the picture come by ordering quantity 1.

HDJSN

①Pre-Assembly Insertion Double Joints
HDJFSN (EN 1.4401 Equiv., Sintered)

②Pre-Assembly Insertion Nuts
HNTTSN (EN 1.4401 Equiv., Sintered)
Electrically Conductive



■Pre-Assembly Insertion Double Joint Kits
Offset Nut Type

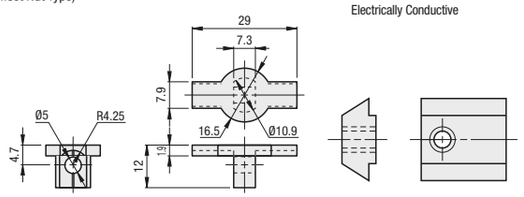


Products shown in the picture come by ordering quantity 1. RoHS

HDJHSN
(Offset Nut Type)

①Pre-Assembly Insertion Double Joints
HDJFSN (EN 1.4401 Equiv., Sintered)

②Pre-Assembly Insertion Offset Nuts
HNTHSN (EN 1.4401 Equiv., Sintered)
Electrically Conductive



Pre-Assembly Insertion Double Joints	Part Number		Usable in any direction	Usable in the short length direction	Usable in the long length direction	Usable in the direction where there is no flat surface at the connecting part.
HDJSN6 HDJHSN6 HDJHSN6	NFS6 HFS6 GFS6 EFS6 CAF6 HFSY6 NFS6 NEFS6	3030	○			
		3060	○			
		3090	○			
		30120		○		
		5050	○			
		50100	○			
		100100	○			
		6060	○			
		6090	○			
		60120		○		
	HFSF6 EFSF6 NEFSF6	3030				○
		3060			○	○
		5050				○
		6060				○
	HFSH6 EFSH6	3030				○
		3060			○	○
	NFSL6 HFSL6 HFSG6	3030	○			
		3060	○			
		6060	○			
	HFSB6 EFSB6 NEFSB6	3030	○			
		3060	○			
		3090	○			
		30120	○			
		5050	○			
		6060	○			
	HFSFB6 EFSFB6	3030				○
	HFSLB6	3030	○			
		3060	○			

Not applicable to extrusions not listed above.

(Ref.) Corner section when using this joint



■Pre-Assembly Insertion Double Joint Kits

Type	Part Number		①Pre-Assembly Insertion Double Joint (2 pcs.)	②Pre-Assembly Insertion Nut (2 pcs.)	③Hex Socket Head Cap Screw (2 pcs.)	Unit Price	Volume Discount Rate
	Type	No.	EN 1.4401 Equiv.	EN 1.4401 Equiv.	EN 1.4301 Equiv.	1~99 pc(s).	100~120
Standard Type	HDJSN (EN 1.4401 Equiv., Sintered)	6	HDJFSN6	HNTTSN6-5	SCB5-25		
Offset Nut Type	HDJHSN (EN 1.4401 Equiv., Sintered)	6	HDJFSN6	HNTHSN6	SCB5-25		

①Pre-Assembly Insertion Double Joint Single Item

Part Number		Unit Price	Volume Discount Rate
Type	No.	1 ~ 99 set(s)	100~
HDJFSN (One set contains 2 pcs.)	6		

Ordering Example — Part Number: HDJSN6

One set (containing 2 pcs.) is required to connect one place.

Features: Pre-Assembly Insertion Double Joint installable without alterations. (No holes are required on the mating extrusion.)

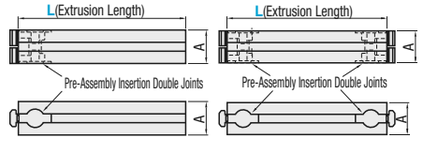
■Aluminum Extrusions with Built-in Pre-Assembly Insertion Double Joints



RoHS

Part Name		Material	Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Pre-Assembly Insertion Double Joint Kits	Pre-Assembly Insertion Double Joints	EN 1.4401 Equiv.	-
	Offset Nut		
	Hex Socket Head Cap Screw	EN 1.4301 Equiv.	

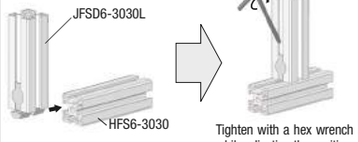
JFSD6-3030L
(Left End Face Pre-Assembly Insertion Double Joint Built-in Type)



JFSD6-3030W
(Both End Face Pre-Assembly Insertion Double Joints Built-in Type)

Joint components will be shipped loosely tightened.

Example



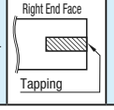
Tighten with a hex wrench while adjusting the position.

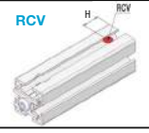
Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component		A	Required Wrench for Tightening	Extrusion Unit Price		Joints, Others
					Pre-Assembly Insertion Double Joints	Quantity			Less than 300mm	300mm or more	
JFSD	6-3030	L (Left End Face only)	100~4000	HFS6-3030 (P.571)	HDJHSN6	1	30	For M5			
		W (Double End Faces)				2					

Ordering Example — Part Number: JFSD6-3030L - 1200

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Tap	Depth
Right End Face Tapping JFS □□-□□□□ L is only applicable to Left End Face Joint Pre-Inserted Type.	RTP 	6-3030	M8	24

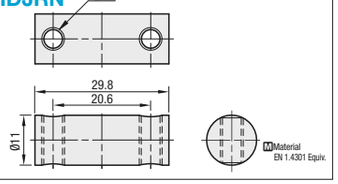
Alterations	Code	Spec. Extrusion	H	Hole Dia.
Right End Face Wrench Hole Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.	RCH  RCV 	6-3030	15	8

■Nuts for Pre-Assembly Insertion Double Joints



RoHS

HDJRN

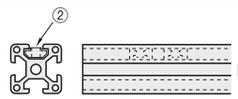
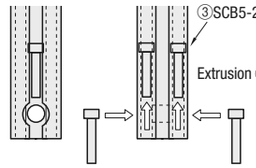
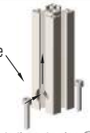
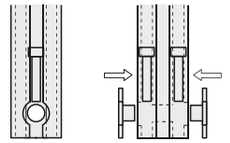
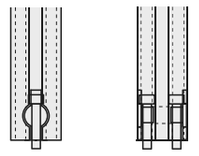
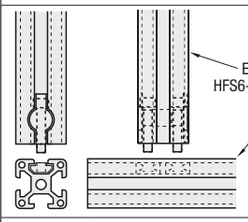
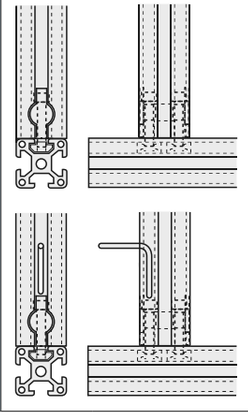


Part Number		Applicable			Mass (g)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
Type	No.	Applicable Extrusion	Pre-Assembly Insertion Double Joints	Screw			
HDJRN	6	HFS6-3030	HDJFSN6	CBM5-40	43		

Ordering Example — Part Number: HDJRN6

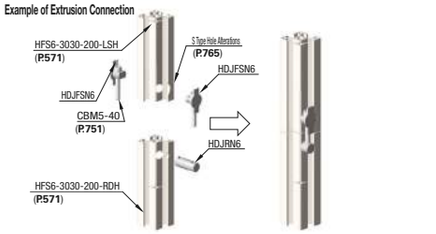
Example

■Pre-Assembly Insertion Double Joint Connection (Connect the extrusion at the center.)

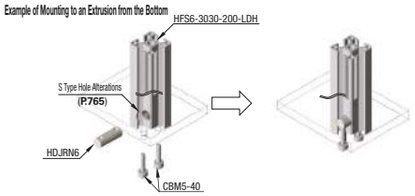
Step	Front View	Side View	Sketch Drawing
1			 ②Pre-insert the pre-assembly insertion nuts into the extrusion Ⓐ.
2			 Insert screw ③ into the extrusion Ⓑ with S type hole. Put the screw head through the S type hole, then move the screw along the slot until the screw tip aligns with S type hole.
3			 Insert Pre-Assembly Double Joint ① into the extrusion Ⓑ where the screws were inserted.
4			 Put the screw through the hole of the Pre-Assembly Double Joint in the slot of the extrusion Ⓑ.
5			 Place the extrusion Ⓑ on the extrusion Ⓐ, then slide the pre-assembly insertion nut and screw from both sides and connect them to the double joint ①.
6			

Example

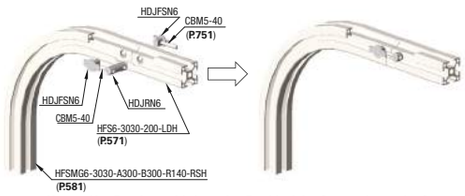
Example of Extrusion Connection



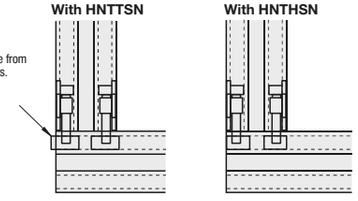
Example of Mounting to an Extrusion from the Bottom



Example of Connection with Bent Extrusions

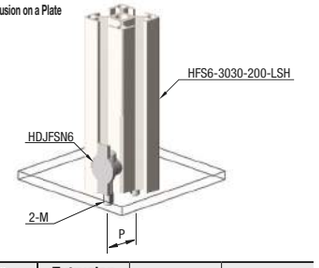


- **How to Use Pre-Assembly Insertion Double Joint Connection at the Corner**
  If HNTHSN6 is used instead of ② HNTTSN6-5, Pre-Assembly Insertion Double Joint can be used at the corner of the extrusion.



- Pre-Assembly Insertion Double Joint Kits, Offset Nut Type
  It is used when installing brackets with angle, truss brackets and angled extrusions.
- The allowable load is the same level as when the bracket is used.

Example of Mounting an Extrusion on a Plate



Part Number		Extrusion Type	M	P
Type	No.			
HDJFSN	6	HFS6-3030	5	20.6
		HFS6-5050		40.6
		HFS6-6060		50.6

Same shape of different surface treatment or material can be also used.

Blind Joint Components

Parallel Joint Kits for 6 Series (Slot Width 8mm) Aluminum Extrusions

Alterations necessary to use this component

L Type Hole Alterations
P.767

Features: Extrusions can be connected in parallel. Post assembly additions enabling type is also provided.

Parallel Joint Kits
Pre-Assembly Insertion Type



Parallel Joints
Post-Assembly Insertion Type



(Ref.) Corner section when using this joint



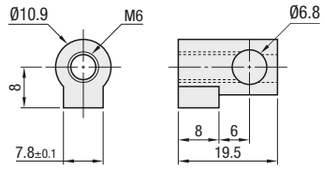
RoHS

Part Name	Material	Surface Treatment
Pre-Assembly Insertion Parallel Post	EN 1.4308 Equiv.	-
Post-Assembly Insertion Parallel Post		
Joint Guide	EN 1.4301 Equiv.	
Set Screw	EN 1.7220 Equiv.	Black Oxide Film

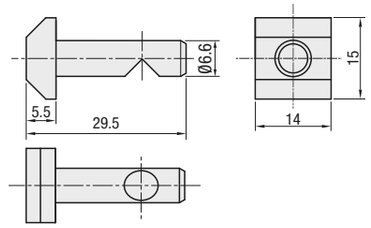
HLJ
(Parallel Joint Kits Pre-Assembly Insertion Type)

HALJ
(Parallel Joint Kits Post-Assembly Insertion Type)

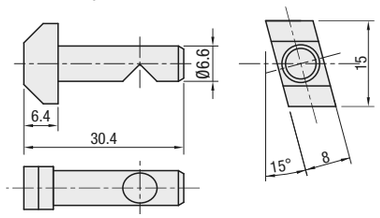
Joint Guide



Parallel Joints
Pre-Assembly Insertion Parallel Post



Post-Assembly Insertion Parallel Post



Part Number		Accessory						Unit Price	Volume Discount Rate
Type	No.	①②Parallel Post	Quantity	③Joint Guide	Quantity	④Set Screw	Quantity	1~99 pc(s).	100~120
HLJ Pre-Assembly Insertion Type	6	Pre-Assembly Insertion Parallel Post 6	1	6	1	M6x12	1		
HALJ Post-Assembly Insertion Type	6	Post-Assembly Insertion Parallel Post 6		6		M6x12			

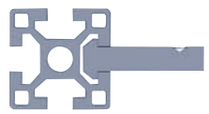
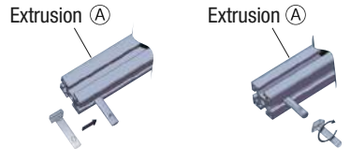
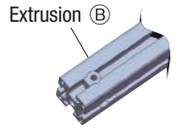
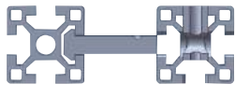
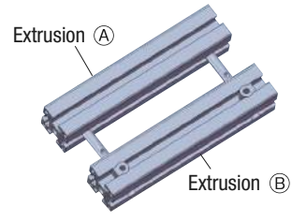
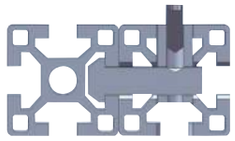
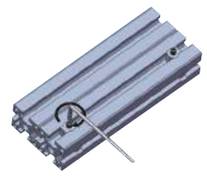
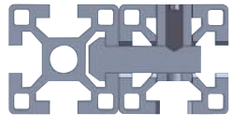
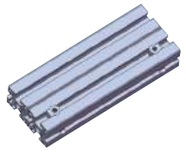
Extrusions Applicable to This Joint

Applicable Extrusion No.				[Exception] Extrusion Not Available
6-3030*1	6-3060*1	6-3090	6-30120	*1 HFSH and HFSC are not applicable since L type holes cannot be added.
6-5050	6-50100			
6-6060	6-6090			

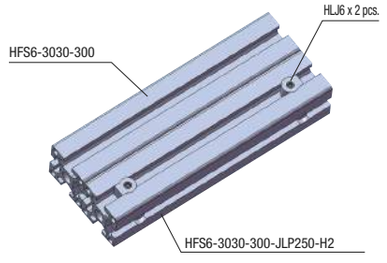
Ordering Example — Part Number: **HLJ6**

Example

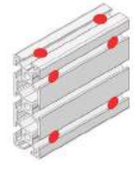
Parallel Joint Connection Method

Step	Front View / Side View	Parallel Joints	Description
1			Mount a parallel post to the extrusion Ⓐ. (Post-Assembly Insertion Type can be inserted by turning from upside of the slot.) Parallel Post is for Standard Type and With Rotation Stopper Type.
2			Insert a Joint Guide into the extrusion Ⓑ with L type Holes (**P.767**). Aligning of the holes is not required.
3			Move the extrusion Ⓐ close to the extrusion Ⓑ while putting the parallel post through the through hole of joint guide.
4			Tighten the set screw to the side of joint guide.
5			When the set screw is tightened against the V groove on the post, the extrusions Ⓐ and Ⓑ will pull together and be bound.

- Part Numbers for the parts shown on the above example



- Connecting extrusions with 2 or more slots on one side
  Insert joint guide from the both ends of L type hole, then connect with two or more parallel joints.
- Connecting extrusions with 3 or more slots
  L type holes are added on the outside rows only. Not applicable on rows in the middle.

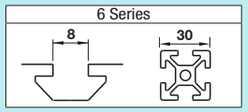


- As long as interference between each joint does not occur, multiple extrusions can be connected. Use multiple connections when strength is required.



Sheet Metal Plates

For 6 Series (Slot Width 8mm) Aluminum Extrusions



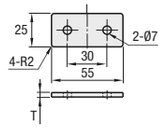
■**Features:** Can be used for reinforcement of connecting extrusions.



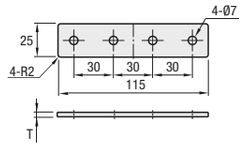
RoHS

Type	Material	Surface Treatment
HPTSS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTSSL		
HPTSD		
SHPTSS	EN 1.4301 Equiv.	-
SHPTSSL		
SHPTSD		

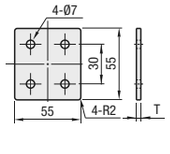
HPTSS6 SHPTSS6



HPTSSL6 SHPTSSL6



HPTSD6 SHPTSD6



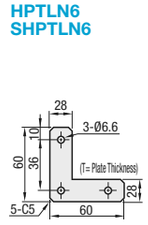
Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTSS6	32	3.2	M6-10	2	M6	2		
SHPTSS6		3						
HPTSSL6	64	3.2		4		4		
SHPTSSL6		3						
HPTSD6	70	3.2						
SHPTSD6		3						



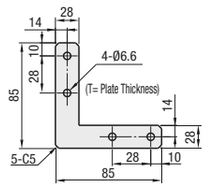
RoHS

Type	Material	Surface Treatment
HPTLN	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTLS		
HPTLD6		
HPTLD6-50		
SHPTLN	EN 1.4301 Equiv.	-
SHPTLS		

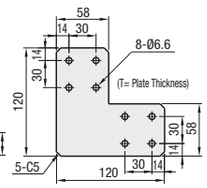
HPTLN6 SHPTLN6



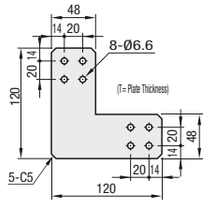
HPTLS6 SHPTLS6



HPTLD6



HPTLD6-50



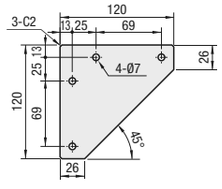
Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTLN6	56	3.2	M6-10	3	M6	3		
SHPTLN6		3						
HPTLS6	92	3.2		4		4		
SHPTLS6		3						
HPTLD6	250	3.2		8		8		
HPTLD6-50	230	3.2						



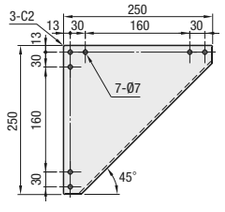
RoHS

Type	Material	Surface Treatment
HPTCUL	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTUL		
HPTWUL		
SHPTCUL	EN 1.4301 Equiv.	-
SHPTUL		
SHPTWUL		

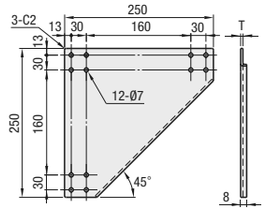
HPTCUL6 SHPTCUL6



HPTUL6 SHPTUL6



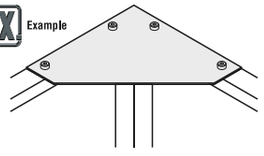
HPTWUL6 SHPTWUL6



Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTCUL6	150	2.3	M6-10	4	M6	4		
SHPTCUL6		2						
HPTUL6	600	2.3		7		7		
SHPTUL6		2						
HPTWUL6	598	2.3		12		12		
SHPTWUL6		2						

Ordering Example: Part Number HPTSS6

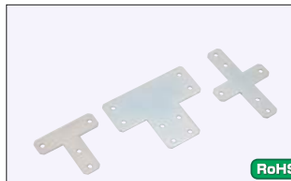
Example



Alterations: Part Number - (SET) HPTSS6 - SET

Not RoHS compliant when -SET is specified.

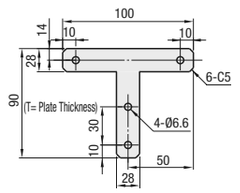
Alteration	Code	Spec.	Part Number
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTSS6
		Material: EN 1.0320 Equiv. (hot coiled) — Set: Screw: CBM Nut: HNTT	SHPTSS6
			HPTSSL6
			SHPTSSL6
			HPTSD6
			SHPTSD6
			HPTLN6
			SHPTLN6
			HPTLS6
			SHPTLS6
			HPTLD6
			HPTLD6-50
			HPTCUL6
			SHPTCUL6
		Material: EN 1.4301 Equiv. — Set: Screw: SCB Nut: HNTTSN	HPTUL6
			SHPTUL6
			HPTWUL6
			SHPTWUL6



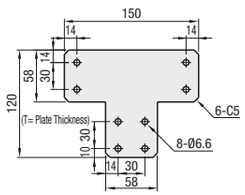
RoHS

Type	Material	Surface Treatment
HPTTS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTTD		
HPTPS		
SHPTTS	EN 1.4301 Equiv.	-

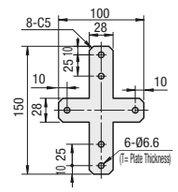
HPTTS6 SHPTTS6



HPTTD6



HPTPS6



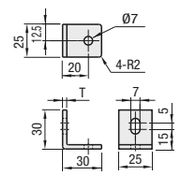
Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTTS6	106	3.2	M6-10	4	M6	4		
SHPTTS6		3						
HPTTD6	217	3.2		8		8		
HPTPS6	140			6		6		



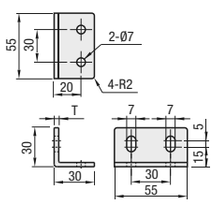
RoHS

Type	Material	Surface Treatment
HPTBS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTBD6		
HPTBD6-50		
HPTBDW		
HPTGS		
SHPTBS	EN 1.4301 Equiv.	-
SHPTBD		
SHPTBDW		

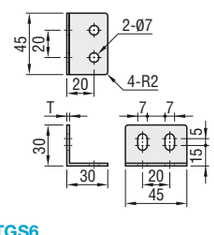
HPTBS6 SHPTBS6



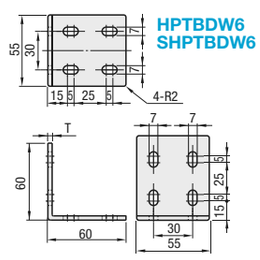
HPTBD6 SHPTBD6



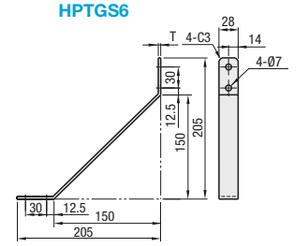
HPTBD6-50



HPTBDW6 SHPTBDW6



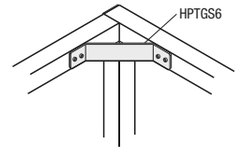
HPTGS6



Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTBS6	31	3.2	M6-10	2	M6	2		
SHPTBS6		3						
HPTBD6	69	3.2		4		4		
SHPTBD6		3						
HPTBD6-50	64	3.2						
HPTBDW6	197	4.5		8		8		
SHPTBDW6		4						
HPTGS6	213	3.2		4		4		

Ordering Example: Part Number HPTTS6

Example



Alterations: Part Number - (SET) HPTTS6 - SET

Not RoHS compliant when -SET is specified.

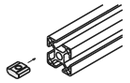
Alteration	Code	Spec.	Part Number
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTTS6
		Material: EN 1.0320 Equiv. (hot coiled) — Set: Screw: CBM Nut: HNTT	SHPTTS6
			HPTTD6
			HPTPS6
			HPTBS6
			SHPTBS6
			HPTBD6
			SHPTBD6
			HPTBD6-50
		Material: EN 1.4301 Equiv. — Set: Screw: SCB Nut: HNTTSN	HPTGS6

Nuts for Aluminum Extrusions - Overview
For 6 Series (Slot Width 8mm)

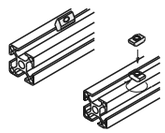
■Nuts for Aluminum Extrusions - Overview

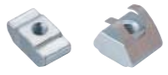
MISUMI offers variety of Pre-Assembly or Post-Assembly Insertion Nuts for Aluminum Extrusions. Select an applicable type specific to your application.

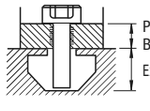
Pre-Assembly Insertion: Insert from the slot ends before assembly. Large width causes less plays in the slots, making screw tightening easy.



Post-Assembly: Mountable from slots after assembly.



Type	Photo	Features	Pre-Assembly Material Steel	Pre-Assembly Material Stainless Steel	Pre-Assembly Page Single Item	Pre-Assembly Page Package	Post-Assembly Material Steel	Post-Assembly Material Stainless Steel	Post-Assembly Page Single Item	Post-Assembly Page Package
Standard		Most standard and economical products. Can be connected temporarily in combination with optional stoppers.	○	○	P.619	P.618	○	○	P.622	P.618
Temporary Holding (Ball Spring)		Can be moved in the extrusions smoothly. Temporary holding is repeatedly possible.	○	○	P.620	P.618	○	○	P.623	P.618
Temporary Holding (Leaf Spring)		Secure temporary holding with springs on both sides.	-	-	-	-	○	○	P.623	P.624
Temporary Holding (Resin Stopper)		Resin stopper on outer circumference prevents aluminum extrusions from being scratched when mounting temporarily.	○	○	P.620	-	-	-	-	-
Post-Assembly Rotational		Insert the nut into the exrusion and turn it in the slot. Large nut width prevents plays.	-	-	-	-	○	○	P.622	-
With Lock		Included set screw enables nut fixing. Convenient where panes and covers are removed frequently.	○	-	P.621	-	○	○	P.624	-
Thread Locking Adhesive Type		Reduces loosening due to vibrations caused by transfer or equipment moves. One-time use and repeated use types are available.	○	-	P.619~620	-	○	-	P.622~624	-
Compact (Short Nuts)		Usable with narrow pitch when multiple nuts are lined in the slots. (Approx. 40% shorter than the standard width)	○	-	P.621	P.621	○	-	P.624	P.624
Square Nuts		Sheet metal type: more economical than standard nuts.	○	○	-	P.621	-	-	-	-
Screw Integrated		Requires less time for screw tightening.	-	○	P.625	-	-	○	P.625	-
Long Nut		Workpieces such as Linear Guides are mountable with desired pitches.	○	○	P.626	-	○	○	P.626	-
Offset Nut (Other than 5 Series)		When connecting the extrusions at corners with Pre-Assembly Insertion Double Joint (refer to P.611), the nut does not protrude from the extrusion.	-	○	P.621	-	-	-	-	-
Conductive Washers (Other than 5 Series)		Electrical conductivity between extrusions is achieved by combining with Toothed Washer (P.625).	-	○	P.625	-	-	-	-	-

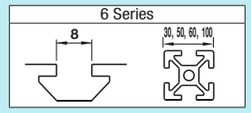


■Aluminum Extrusions and Applicable Screws to Mount Panes/Brackets (Size M - L Dim.)

Slot Width	Extrusion Square	Depth h	Applicable Nut HNTT	Panels/Brackets Thickness b (mm) to be mounted on extrusions													
				0.8	1	1.2	1.5	2	3	4	4.5	5	6	8.2	9	10	12	14
8	30	9	6-3	M3-8		M3-10				M3-12				M3-15	M3-18		M3-20	
			6-4	M4-8		M4-10				M4-12				M4-15	M4-18		M4-20	
			6-5	M5-8		M5-10				M5-12				M5-15	M5-18	M5-20		M5-22
			6-6	×		M6-10				M6-12				M6-15		M6-20		M6-22

"×" means there is no applicable screw. Use one size smaller tapped products.

Nuts for Aluminum Extrusions - Bulk Packages
For 6 Series (Slot Width 8mm)



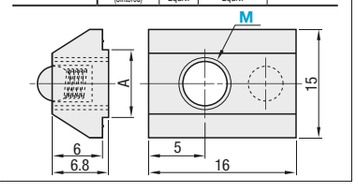
■Features: Bulk packages are cost effective for in-house stock or large quantity uses.

■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)

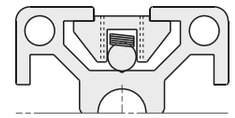


RoHS

Type	M Material Main Body	Ball	Spring	S Surface Treatment
PACK-HNTU	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTU	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	EN 1.4301 WPB Equiv.	-



Example



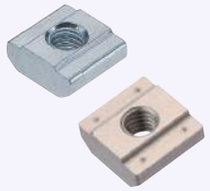
· Does not fall even if the extrusion is placed vertically.

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.

Part Number Type	No.	M				Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTU	6	3	4	5	6		
PACK-SHNTU							

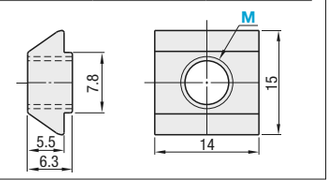
100 pcs. per package

■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

Type	M Material	S Surface Treatment
PACK-HNTT	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTTSN	EN 1.4401 Equiv. (Sintered)	-



Part Number Type	No.	M				Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTT	6	3	4	5	6		
PACK-HNTTSN							

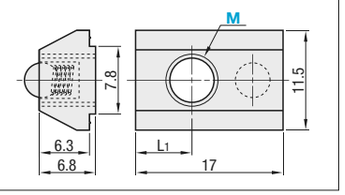
100 pcs. per package

■Post-Assembly Insertion Spring Nuts - Pack (100/Pkg.)

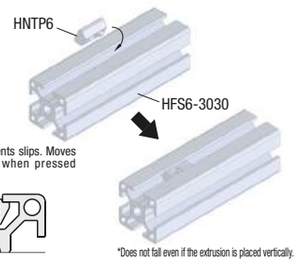


RoHS

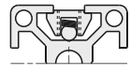
Type	M Material Main Body	Ball	Spring	S Surface Treatment
PACK-HNTP	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTP	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	EN 1.4301 WPB Equiv.	-



Example



Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



*Does not fall even if the extrusion is placed vertically.

Part Number Type	No.	M				L_1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTP	6	3	4	5	6	6		
PACK-SHNTP						6.5		

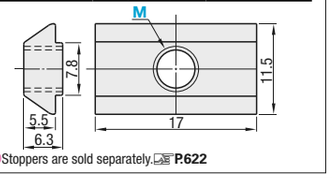
100 pcs. per package

■Post-Assembly Insertion Stopper Nuts / Pack (100/Pkg.)



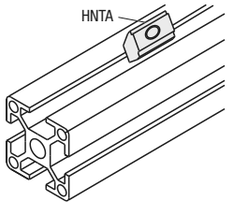
RoHS

Type	M Material	S Surface Treatment
PACK-HNTA	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTASN	EN 1.4401 Equiv. (Sintered)	-



Stoppers are sold separately. P.622

Example



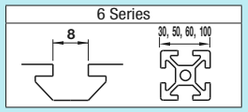
Part Number Type	No.	M				Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTA	6	3	4	5			
		6					
PACK-HNTASN		3	4	5	6		

100 pcs. per package

Ordering Example: Part Number - M
PACK-HNTA6 - 6

Pre-Assembly Insertion Nuts/Stoppers for Aluminum Extrusions - Standard

For 6 Series (Slot Width 8mm)



Tightening Torque ☞P.526

■Pre-Assembly Insertion Nuts

RoHS

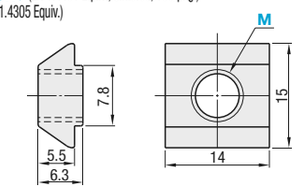


* Electrically conductive

Type	M Material	S Surface Treatment
①HNTT6	EN 1.0301 Equiv.	Trivalent Chromate
②PACK-HNTT6		
③HNTTV6	Thread Locking Adhesive Type, EN 1.0301 Equiv.	
④HNTTZ6	Thread Locking Resin Coating Type, EN 1.0301 Equiv.	
⑤HNTTSN6*	EN 1.4401 Equiv. (Sintered)	-
⑥PACK-HNTTSN6*		
⑦HNTTSS6	EN 1.4305 Equiv.	-

HNTT6 (EN 1.0301 Equiv.)
PACK-HNTT6 (EN 1.0301 Equiv., 100/pkg.)
HNTTV6 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTTZ6 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTTSN6 (EN 1.4401 Equiv., Sintered)
PACK-HNTTSN6 (EN 1.4401 Equiv., Sintered, 100/pkg.)
HNTTSS6 (EN 1.4305 Equiv.)

Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv. EN 1.4401 Equiv. (Sintered) EN 1.4305 Equiv.
6	11.7



Example

· Pre-Assembly Insertion Nuts
Nuts are pre-inserted in the aluminum extrusion.

HNTU
HNTUV
HNTUZ
SHNTU
HNTTBS
HNTT
HNTTV
HNTTZ
HNTTSN
HNTTSS
HNTJ

Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTT6 (EN 1.0301 Equiv.)	3 4 5 6				
HNTTV6 (Thread Locking, EN 1.0301 Equiv.)	6				
HNTTZ6 (Thread Locking, EN 1.0301 Equiv.)					
HNTTSN6 (EN 1.4401 Equiv., Sintered)	3 4 5 6				
HNTTSS6 (EN 1.4305 Equiv.)	6				

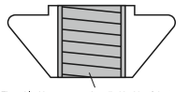
Ordering Example: Part Number HNTT6 - M 6

■Bulk Packages (100 pcs. per package)

Part Number	M	Unit Price (1 ~ 10 packages)	
		Package Price	Price per Pkg.
PACK-HNTT6 (EN 1.0301 Equiv.)	3 4 5 6		
PACK-HNTTSN6 (EN 1.4401 Equiv., Sintered)	3 4 5 6		

When ordering HNTT6 without specifying M, HNTT6-6 is selected automatically.

■Thread Locking Type



Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	8.2N・m	-
Thread Locking Adhesive Type	・Prevents loosening effectively. ・Thread locking properties are lost once loosened. ・Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	11.7N・m	Test Conditions: Measured value (HNTTV6-6) when a screw is loosened after drying for 72 hours at room temperature (25°C), after tightened at 11.7N・m.
Thread Locking Resin Coating Type	・Can be used repeatedly. (Thread locking effect decreases after repeated use.) ・Thread locking effect is immediately seen right after tightening.	10.0N・m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 9.4N・m Measurement with HNTTZ6-6

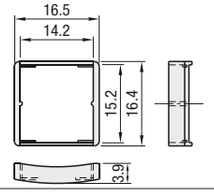
■Pre-Assembly Insertion Stoppers

RoHS



M Material: Polyamide

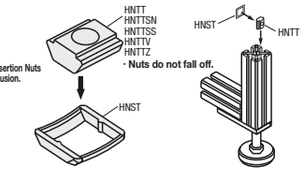
HNST6



Part Number	Applicable Pre-Assembly Insertion Nut	Color	Unit Price
			1 ~ 1500 pc(s).
HNST6	HNTT6 HNTTV6 HNTTZ6 HNTTSN6 HNTTSS6	Black	

Ordering Example: Part Number HNST6

Example



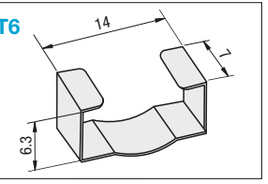
■Pre-Assembly Insertion Metal Stoppers

RoHS



M Material: EN 1.4319 Equiv.

SHNST6

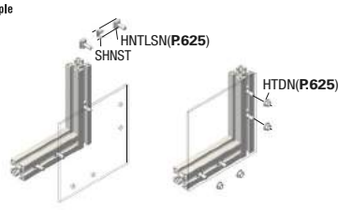


Part Number	Applicable Pre-Assembly Insertion Nut*	Unit Price
		1 ~ 1500 pc(s).
SHNST6	HNTT6 HNTTV6 HNTTZ6 HNTTSN6 HNTTSS6	

Ordering Example: Part Number SHNST6

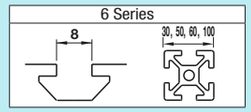
*Can also be used with Pre-Assembly Insertion Screws.

Example



Pre-Assembly Insertion Nuts for Aluminum Extrusions with Temporary Holding Function

For 6 Series (Slot Width 8mm)



Tightening Torque ☞P.526

■Pre-Assembly Insertion Spring Nuts

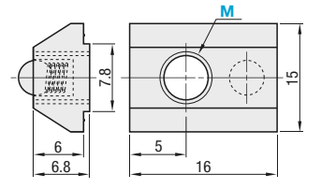
RoHS



Type	M Material			S Surface Treatment
	Main Body	Ball	Spring	
①HNTU6 ②PACK-HNTU6 ③HNTUV6 ④HNTUZ6	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
⑤SHNTU6	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	SUS304-WP8	-
⑥PACK-SHNTU6				

HNTU6 (EN 1.0301 Equiv.)
PACK-HNTU6 (EN 1.0301 Equiv., 100/pkg.)
HNTUV6 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTUZ6 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
SHNTU6 (EN 1.4301 Equiv., Sintered)
PACK-SHNTU6 (EN 1.4301 Equiv., Sintered, 100/pkg.)

Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv., EN 1.4301 Equiv. (Sintered)
6	11.7



Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTU6 (EN 1.0301 Equiv.)	3 4 5 6				
HNTUV6 (Thread Locking, EN 1.0301 Equiv.)	6				
HNTUZ6 (Thread Locking, EN 1.0301 Equiv.)					
SHNTU6 (EN 1.4301 Equiv.)	3 4 5 6				

Ordering Example: Part Number HNTU6 - M 6

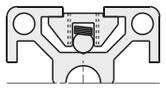
■Bulk Packages (100 pcs. per package)

Part Number	M	Unit Price (1 ~ 10 packages)	
		Package Price	Price per Pkg.
PACK-HNTU6 (EN 1.0301 Equiv.)	3 4 5 6		
PACK-SHNTU6 (EN 1.4301 Equiv.)			

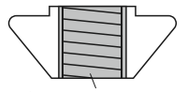
Example

· Does not fall even if the extrusion is placed vertically.

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



■Thread Locking Type



Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	8.2N・m	-
Thread Locking Adhesive Type	・Prevents loosening effectively. ・Thread locking properties are lost once loosened. ・Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	11.7N・m	Test Conditions: Measured value (HNTTV6-6) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 11.7N・m.
Thread Locking Resin Coating Type	・Can be used repeatedly. (Thread locking effect decreases after repeated use.) ・Thread locking effect is immediately seen right after tightening.	10.0N・m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 9.4N・m Measurement with HNTTZ6-6

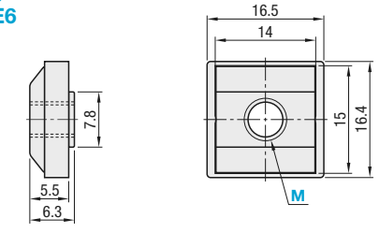
■Stopper Integrated Nuts

RoHS



Type	M Material		S Surface Treatment
	Main Body	Stopper	
①HNTE6	EN 1.0301 Equiv.	Polyamide	Trivalent Chromate
②SHNTE6	EN 1.4301 Equiv.		-

HNTE6
SHNTE6

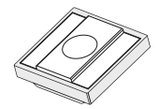


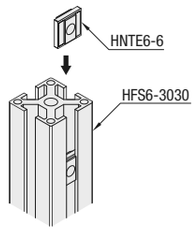
Reference Tightening Torque (N・m)	
M	EN 1.0301 Equiv. / EN 1.4301 Equiv.
6	11.7

Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTE6	3 4 5 6				
SHNTE6	3 4 5 6				

Ordering Example: Part Number HNTE6 - M 5

Example

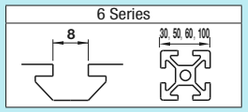




Integrated Pre-Assembly Insertion Nuts and Stoppers.

The nuts do not slip off even if inserted into the vertically-placed extrusions.

Pre-Assembly Insertion Nuts/Stoppers for Aluminum Extrusions - Others
For 6 Series (Slot Width 8mm)



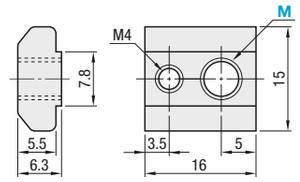
Tightening Torque P.526

■Pre-Assembly Insertion Lock Nut

HNTC6

Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
6	11.7

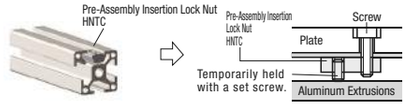




M Material: EN 1.0301 Equiv.
S Surface Treatment: Trivalent Chromate RoHS

Example

• **Pre-Assembly Insertion Lock Nut**
The position of post-assembly insertion lock nuts can be fixed temporarily with the set screw.



Part Number	M	Accessory	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTC6	6	M4x6 Set Screw for Locking 1 pc.				

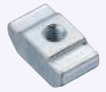
- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.
- Stopper is not included.

Ordering Example

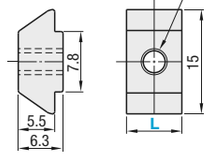
Part Number	-	M
HNTC6	-	6
HNTJ6	-	5

■Pre-Assembly Insertion Short Nuts

HNTJ6
PACK-HNTJ6 (100/pkg.)



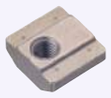
RoHS



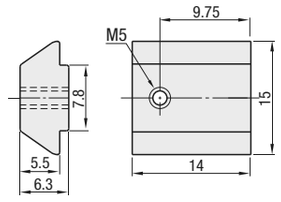
Part Number	M	L	HNTJ6 Unit Price	HNTJ6 Volume Discount Rate			PACK-HNTJ6 (100/pkg.) Unit Price	PACK-HNTJ6 (100/pkg.) Volume Discount Rate	
			1 ~ 499 pc(s).	500~749	750~999	1000~1500	1 ~ 9 pkg(s).	10~19	20~30
HNTJ6 PACK-HNTJ6	4 5	8							
	6	10							

■Pre-Assembly Insertion Offset Nuts

HNTHSN6

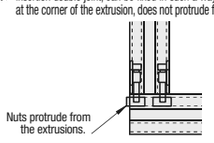


M Material: EN 1.4401 Equiv. (Sintered) RoHS



Example

The pre-assembly insertion offset nut, used in combination with a post-assembly insertion double joint, can be fixed in such a way that the nut, even if connected at the corner of the extrusion, does not protrude from the extrusion (frame).

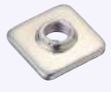


Part Number	Unit Price
	1 ~ 150 pc(s).
HNTHSN6	

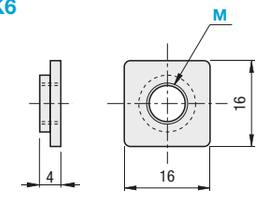
* Electrically conductive

■Pre-Assembly Insertion Square Nuts

HNKK6



M Material: EN 1.0330 Equiv.
S Surface Treatment: Trivalent Chromate RoHS



Example

• Pre-Assembly Insertion Nuts HNKK



Part Number	M	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKK6	4 5 6			

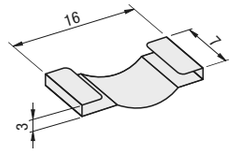
100 pcs. per package
Insert it into the extrusion upside down.

■Metal Stoppers for Pre-Assembly Insertion Square Nuts

HNKKST6



M Material: EN 1.4319 Equiv. RoHS



Example



Part Number	Applicable Pre-Assembly Insertion Nut	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKKST6	HNKK6			

100 pcs. per package

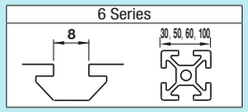
Ordering Example

Part Number	-	M
HNTHSN6 HNKK6 HNKKST6	-	6

• Applicable Extrusions and Brackets
Applicable to extrusions and brackets with the same part number.

(Ex.)	Part Number
Pre-Assembly Insertion Nuts	HNTT6 -□
Pre-Assembly Insertion Stoppers	HNST6
Extrusion	HFS6 -□□□□
Brackets	HBLFSN6

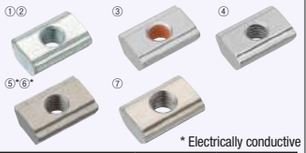
Post-Assembly Insertion Nuts/Stoppers for Aluminum Extrusions - Standard
For 6 Series (Slot Width 8mm)



Tightening Torque P.526

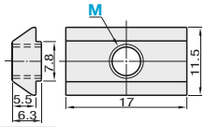
■Post-Assembly Insertion Stopper Nuts RoHS

HNTA6 (EN 1.0301 Equiv.)
PACK-HNTA6 (EN 1.0301 Equiv., 100/pkg.)
HNTAV6 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTAZ6 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTASN6 (EN 1.4401 Equiv., Sintered)
PACK-HNTASN6 (EN 1.4401 Equiv., Sintered, 100/pkg.)
HNTASS6 (EN 1.4305 Equiv.)



* Electrically conductive

Type	M Material	S Surface Treatment
①HNTA6 ②PACK-HNTA6 ③HNTAV6 ④HNTAZ6 ⑤HNTASN6* ⑥PACK-HNTASN6* ⑦HNTASS6	EN 1.0301 Equiv.	Trivalent Chromate
	EN 1.4401 Equiv. (Sintered)	-
	EN 1.4305 Equiv.	-



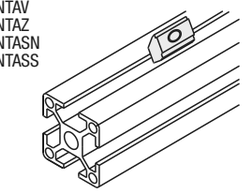
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered) / EN 1.4305 Equiv.
6	11.7

Details of Thread Locking Type P.623

Example

• Post-Assembly Insertion Stopper Nuts

HNTA
HNTAV
HNTAZ
HNTASN
HNTASS



Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTA6 (EN 1.0301 Equiv.)	3 4 5 6				
HNTAV6 (Thread Locking, EN 1.0301 Equiv.)	6				
HNTAZ6 (Thread Locking, EN 1.0301 Equiv.)					
HNTASN6 (EN 1.4401 Equiv., Sintered)	3 4 5 6				
HNTASS6 (EN 1.4305 Equiv.)	6				

Ordering Example

Part Number	-	M
HNTA6	-	6

■Bulk Packages
100 pcs. per package

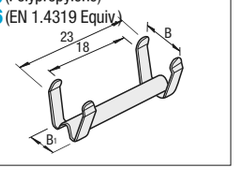
Part Number	M	Unit Price (1 ~ 10 packages)	
		Package Price	Price per Pkg.
PACK-HNTA6 (EN 1.0301 Equiv.)	3 4 5 6		
PACK-HNTASN6 (EN 1.4401 Equiv., Sintered)			

■Post-Assembly Insertion Stoppers / Metal Stoppers RoHS



Type	M Material
①HNAST6	Polypropylene
②HNBST6	EN 1.4319 Equiv.

HNAST6 (Polypropylene)
HNBST6 (EN 1.4319 Equiv.)



Part Number	Applicable Stopper Nut	Color	B	B1	Unit Price	Volume Discount Rate	
					1 ~ 499 pc(s).	500~749	1000~1500
HNAST6	HNTA6 HNTAV6 HNTASN6 HNTASS6	White	9.3	7.8			
HNBST6		-	10.5	6			

■Post-Assembly Insertion Nut and Stopper Set RoHS



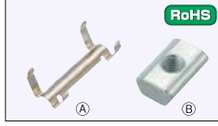
HNTAT6 (EN 1.0301 Equiv. Set)
HNTATSN6 (EN 1.4401 Equiv. Set)

Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTAT6	HNTA6	HNAST6
HNTATSN6*	HNTASN6	

* Electrically conductive

Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTAT6	3 4 5 6				
HNTATSN6	3 4 5 6				

■Post-Assembly Insertion Nut and Metal Stopper Set RoHS



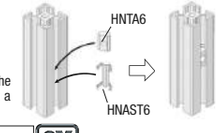
HNTBT6 (EN 1.0301 Equiv. Set)
HNTBTSN6 (EN 1.4401 Equiv. Set)

Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTBT6	HNTA6	HNBST6
HNTBTSN6*	HNTASN6	

* Electrically conductive

Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTBT6	3 4 5 6				
HNTBTSN6	3 4 5 6				

Example



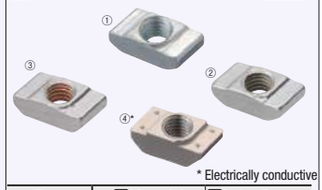
*Insert a stopper into the extrusion and put into a nut on it.

*Does not fall even if the extrusion is placed vertically.

Ordering Example

Part Number	-	M
HNTAT6	-	6

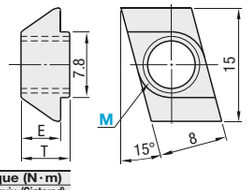
■Post-Assembly Insertion Nuts RoHS



* Electrically conductive

Type	M Material	S Surface Treatment
①HNTF6 ②HNTFV6 ③HNTFZ6	EN 1.0301 Equiv.	Trivalent Chromate
④HNTFSN6*	EN 1.4401 Equiv. (Sintered)	-

HNTF6 (EN 1.0301 Equiv.)
HNTFV6 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTFZ6 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTFSN6 (EN 1.4401 Equiv., Sintered)



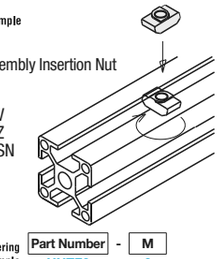
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
6	11.7

Details of Thread Locking Type P.623

Example

• Post-Assembly Insertion Nut

HNTF
HNTFV
HNTFZ
HNTFSN

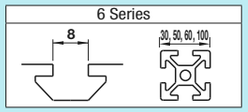


Ordering Example

Part Number	-	M
HNTF6	-	6

Part Number	M	E	T	Unit Price	Volume Discount Rate		
				1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTF6 (EN 1.0301 Equiv.)	3 4 5 6	5.5	6.3				
HNTFV6 (Thread Locking, EN 1.0301 Equiv.)	6						
HNTFZ6 (Thread Locking, EN 1.0301 Equiv.)							
HNTFSN6 (EN 1.4401 Equiv., Sintered)	3 4 5 6	6.4	7.4				

Post-Assembly Insertion Nuts for Aluminum Extrusions with Temporary Holding Function
For 6 Series (Slot Width 8mm)



Tightening Torque P.526

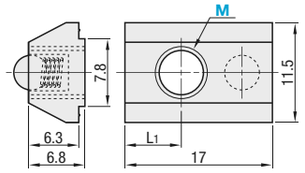
Post-Assembly Insertion Spring Nuts RoHS



* Electrically conductive

Type	M Material			
	Main Body	Ball	Spring	S Surface Treatment
①HNTP6 ②PACK-HNTP6 ③HNTPV6 ④HNTPZ6	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
⑤SHNTP6* ⑥PACK-SHNTP6*	EN 1.4401 Equiv. (Sintered)	EN 1.4301 Equiv.	EN 1.4301 WPB Equiv.	-

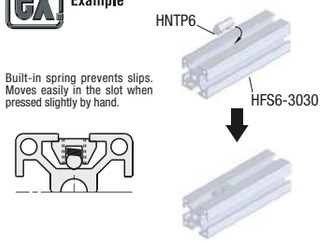
HNTP6 (EN 1.0301 Equiv.)
PACK-HNTP6 (EN 1.0301 Equiv., 100/pkg.)
HNTPV6 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTPZ6 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
PACK-SHNTP6 (EN 1.4401 Equiv., Sintered, Bulk Packages)
SHNTP6 (EN 1.4401 Equiv., Sintered)



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
6	11.7

Example

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



* Does not fall even if the extrusion is placed vertically.

Part Number	M	L1	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTP6 (EN 1.0301 Equiv.)	3 4 5 6	6				
HNTPV6 (Thread Locking, EN 1.0301 Equiv.)	6					
HNTPZ6 (Thread Locking, EN 1.0301 Equiv.)						
SHNTP6 (EN 1.4401 Equiv., Sintered)	3 4 5 6	6.5				

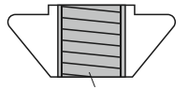
Bulk Packages

Part Number	M	L1	Unit Price (1 ~ 10 packages)	
			Package Price	Price per Pkg.
PACK-HNTP6 (EN 1.0301 Equiv.)	3 4 5 6	6		
PACK-SHNTP6 (EN 1.4401 Equiv., Sintered)		6.5		

100 pcs. per package

Part Number - M
HNTP6 - 6

Thread Locking Type



Thread locking compound applied inside of the tap.

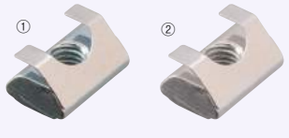
Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating : Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	8.2N·m	-
Thread Locking Adhesive Type	• Prevents loosening effectively. • Thread locking properties are lost once loosened. • Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	11.7N·m	Test Conditions: Measured value (HNTPV6-6) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 11.7N·m.
Thread Locking Resin Coating Type	• Can be used repeatedly. (Thread locking effect decreases after repeated use.) • Thread locking effect is immediately seen right after tightening.	9.4N·m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 8.7N·m Measurement with HNTAZ6-6

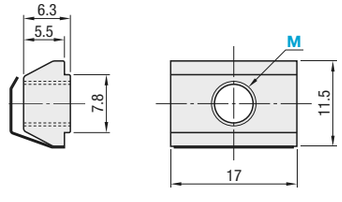
Post-Assembly Insertion Nuts with Leaf Springs RoHS



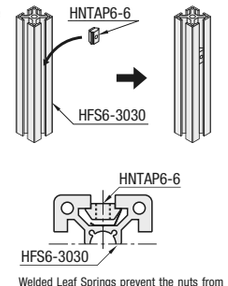
Type	M Material		S Surface Treatment
	Main Body	Wing Part	
①HNTAP6	EN 1.0301 Equiv.	EN 1.4301 Equiv.	Trivalent Chromate
②SHNTAP6	EN 1.4301 Equiv.		-

HNTAP6
SHNTAP6

Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4301 Equiv.
6	11.7



Example

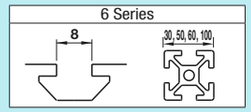


Welded Leaf Springs prevent the nuts from slipping off even if inserted into the vertically-placed extrusions.

Part Number	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTAP6	3 4 5 6				
SHNTAP6	3 4 5 6				

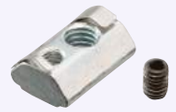
Ordering Example: Part Number - M
HNTAP6 - 6

Post-Assembly Insertion Nuts for Aluminum Extrusions - Others
For 6 Series (Slot Width 8mm)



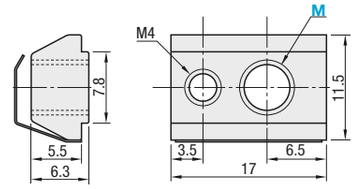
Tightening Torque P.526

Post-Assembly Insertion Lock Nuts with Leaf Springs RoHS



Part	M Material	S Surface Treatment
Main Body	EN 1.0301 Equiv.	Trivalent Chromate
Wing Part	EN 1.4301 Equiv.	-

HNTRP6



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
6	11.7

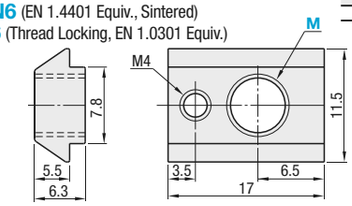
Part Number	M	Accessory	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTRP6	6	M4x4 Set Screw for Locking 1 pc.				

Post-Assembly Insertion Lock Nuts RoHS



Type	M Material	S Surface Treatment
HNTR6, HNTRZ6	EN 1.0301 Equiv.	Trivalent Chromate
HNTRSN6	EN 1.4401 Equiv. (Sintered)	-

HNTR6 (EN 1.0301 Equiv.)
HNTRSN6 (EN 1.4401 Equiv., Sintered)
HNTRZ6 (Thread Locking, EN 1.0301 Equiv.)



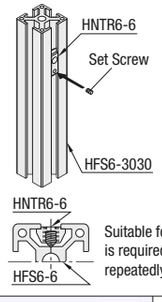
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
6	11.7

Part Number	M	Accessory	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTR6 (EN 1.0301 Equiv.)	3 4 5 6	M4x6 Set Screw for Locking 1 pc.				
HNTRSN6 (EN 1.4401 Equiv., Sintered)						
HNTRZ6 (Thread Locking, EN 1.0301 Equiv.)	6					

Ordering Example: Part Number - M
HNTR6 - 6

Example

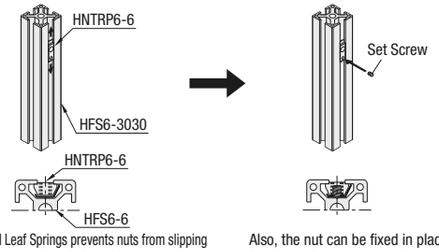
Post-Assembly Insertion Lock Nut (HNTR)



The nut can be fixed in place by itself by tightening the included set screw.

Suitable for use where high repeatability is required, such as mounting sensors or repeatedly replacing panels.

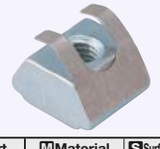
Post-Assembly Insertion Lock Nut with Leaf Springs (HNTRP)



Welded Leaf Springs prevents nuts from slipping off even if inserted into the vertically-oriented extrusions, leading to easy locating.

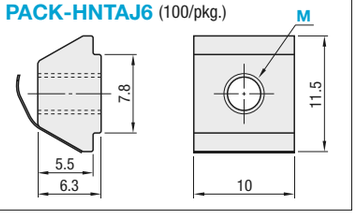
Also, the nut can be fixed in place by tightening the included set screw.

Post-Assembly Insertion Short Nuts RoHS



Part	M Material	S Surface Treatment
Main Body	EN 1.0301 Equiv.	Trivalent Chromate
Wing Part	EN 1.4319 Equiv.	-

HNTAJ6
PACK-HNTAJ6 (100/pkg.)



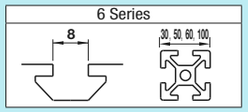
- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.

Ordering Example: Part Number - M
HNTAJ6 - 6

Part Number	M	HNTAJ6				PACK-HNTAJ6			
		Unit Price	Volume Discount Rate			Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500	1 pkg.	2~4	5~9	10~20
HNTAJ6 PACK-HNTAJ6	3 4 5 6								

100 pcs. per package

Pre-Assembly Insertion Screws / Post-Assembly Insertion Screws / Conductive Washers / Toothed Washers / Flanged Nuts for Aluminum Extrusions
For 6 Series (Slot Width 8mm)



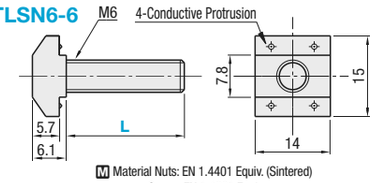
Tightening Torque P.526

Pre-Assembly Insertion Screws



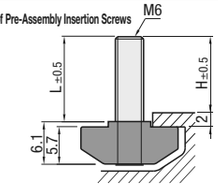
RoHS

HNTLSN6-6



M Material Nuts: EN 1.4401 Equiv. (Sintered)
Screw: EN 1.4301 Equiv.

Effective Length of Pre-Assembly Insertion Screws



Slot of Aluminum Extrusion

Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HNTLSN6-6	13	11.8	HFS6	11.7			
	17	16.8					
	22	21.8					

Part Number - L
HNTLSN6-6 - 17

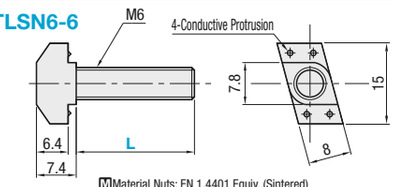
* Electrically conductive

Post-Assembly Insertion Screws



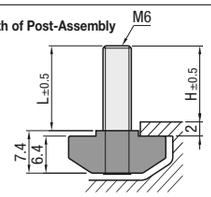
RoHS

HATLSN6-6



M Material Nuts: EN 1.4401 Equiv. (Sintered)
Screw: EN 1.4301 Equiv.

Effective Length of Post-Assembly Insertion Screws



Slot of Aluminum Extrusion

Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HATLSN6-6	13	12.0	HFS6	11.7			
	17	17.0					
	22	22.0					

Part Number - L
HATLSN6-6 - 17

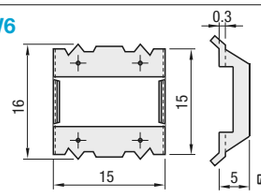
* Electrically conductive

Conductive Washers



RoHS

HDW6



M Material: EN 1.4301 Equiv.

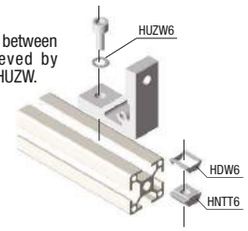
⚠Be careful not to injure your hand when fitting onto nut.

Part Number	Applicable Pre-Assembly Insertion Nut	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HDW6	HNTT6		

Part Number
HDW6

Example

Electrical conductivity between extrusions is achieved by combining HDW and HUZW.

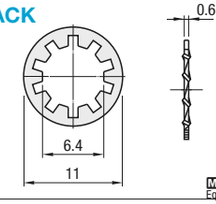


Toothed Washers
(Internal Teeth Type)

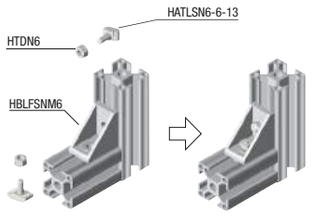


RoHS

HUZW6PACK



M Material: EN 1.4301 Equiv.



Part Number	Unit Price 1~4 pkg(s)	Volume Discount Rate 5~10
HUZW6PACK		

100 pcs. per package

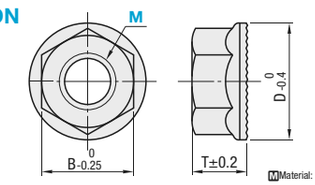
Part Number
HUZW6PACK

Flanged Nuts



RoHS

HTDN

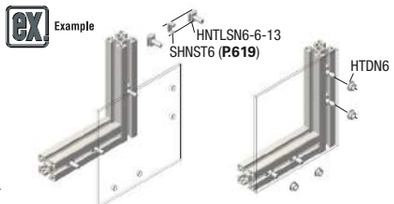


M Material: EN 1.4301 Equiv.

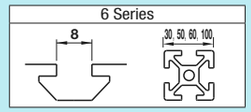
Part Number Type	M	B	T	D	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HTDN (Stainless Steel)	4	7	4.2	10			
	5	8	5.5	12			
	6	10	6.0	13			

Ordering Example
Part Number
HTDN6

Example

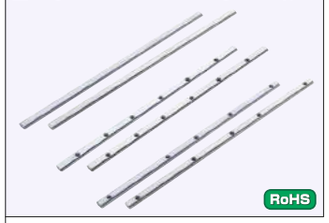


Long Nuts for Aluminum Extrusions
For 6 Series (Slot Width 8mm)



Tightening Torque P.526

Long Nuts L Dimension Configurable Type

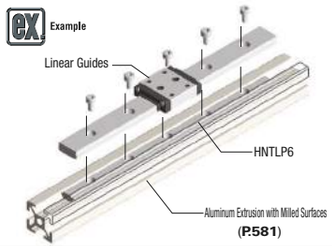


RoHS

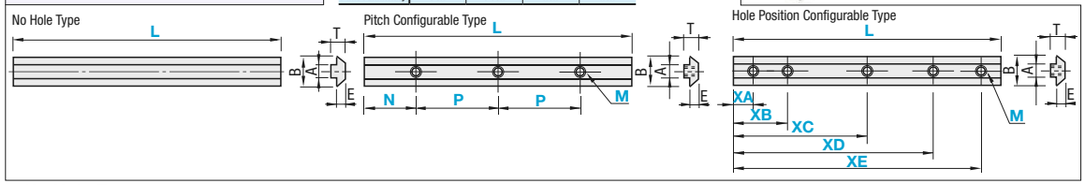
Type Pre-Assembly	Type Post-Assembly	Material	Surface Treatment	Reference Tightening Torque (N·m)
HNTLF6	HNTALF6	EN 1.0301 Equiv.	Trivalent Chromate	11.7
HNTLP6	HNTALP6			
HNTLS6	HNTALS6			
SHNTLF6	-	EN 1.4305 Equiv.	-	
SHNTLP6	SHNTALP6			
SHNTLS6	SHNTALS6			

Cross Section Shape	A	B	E	T
Pre-Assembly	7 .8	15	5.5	6.3
Post-Assembly	7.8	11.5	5.5	6.3

Example



(P.581)



No Hole Type

Part Number	L 1mm Increment	HNTLF Unit Price (Less than 300mm)	HNTLF Unit Price/m (300mm or More)	SHNTLF Unit Price (Less than 300mm)	SHNTLF Unit Price/m (300mm or More)	HNTALF Unit Price (Less than 300mm)	HNTALF Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLF6 SHNTLF6 (Post-Assembly Insertion) HNTALF6	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000						

Pitch Configurable Type

Part Number	L 1mm Increment	M	N 1mm Increment	P 1mm Increment	Number of Taps S	HNTLP Unit Price (Less than 300mm)	HNTLP Unit Price/m (300mm or More)	SHNTLP Unit Price (Less than 300mm)	SHNTLP Unit Price/m (300mm or More)	HNTALP Unit Price (Less than 300mm)	HNTALP Unit Price/m (300mm or More)	SHNTALP Unit Price (Less than 300mm)	SHNTALP Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLP6 SHNTLP6 (Post-Assembly Insertion) HNTALP6 SHNTALP6	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	3 4 5 6	5≤N≤L-5	2M≤P≤L-2M	2≤S≤20								

Hole Position Configurable Type

Part Number	L 1mm Increment	M	XA ~ XE 1mm Increment	HNTLS Unit Price (Less than 300mm)	HNTLS Unit Price/m (300mm or More)	SHNTLS Unit Price (Less than 300mm)	SHNTLS Unit Price/m (300mm or More)	HNTALS Unit Price (Less than 300mm)	HNTALS Unit Price/m (300mm or More)	SHNTALS Unit Price (Less than 300mm)	SHNTALS Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLS6 SHNTLS6 (Post-Assembly Insertion) HNTALS6 SHNTALS6	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	3 4 5 6	5~L-5								

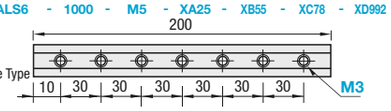
Number of tapped holes can be specified between 1 to 5.

Part Number - L
HNTLF6 - 1800
HNTALF6 - 400

Part Number - L - M - N - P - S
HNTLP6 - 200 - M3 - N10 - P30 - 7
HNTALP6 - 210 - M5 - N8 - P15 - 8

Part Number - L - M - XA - XB - XC - XD - XE
HNTLS6 - 1050 - M5 - XA20 - XB105
SHNTLS6 - 1050 - M5 - XA20 - XB105 - XC250 - XD500 - XE755
HNTALS6 - 1000 - M5 - XA25 - XB55 - XC78 - XD992 - XE975

(Ex.) Pitch Configurable Type



Hole Machining Charge

Pitch Configurable Type	Unit Price / Hole	Hole Position Configurable Type	Unit Price / Hole
HNTLP, HNTALP		HNTLS, HNTALS	
SHNTLP, SHNTALP		SHNTLS, SHNTALS	

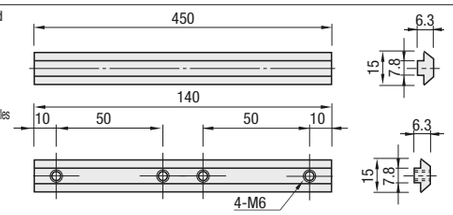
Long Nuts L Dimension Fixed Type



RoHS

L Dimension Fixed without Holes
HNTK6

L Dimension Fixed with Holes
HNTLG6
SHNTLG6



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv., EN 1.4305 Equiv.
6	11.7

Type	Material	Surface Treatment
HNTK6	EN 1.0301 Equiv.	Trivalent Chromate
HNTLG6		
SHNTLG6	EN 1.4305 Equiv.	-

L Dimension Fixed without Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTK6			

Ordering Example
Part Number
HNTLG6

Alterations
Part Number - (SET)
HNTLG6 - SET

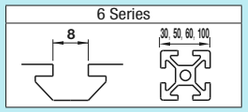
L Dimension Fixed with Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTLG6			
SHNTLG6 (Stainless Steel)			

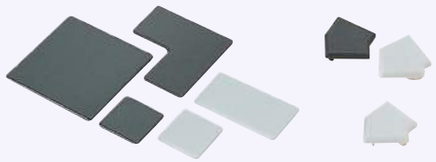
Alteration	Code	Spec.	Type
Hex Socket Set Screw Set	SET	Hex socket set screws come as a set. (Type: HNTLG / SHNTLG; Set Screw: MSSK / MSSU; Quantity: 4 / 4)	HNTLG6, SHNTLG6

Extrusion End Caps

For 6 Series (Slot Width 8mm) Aluminum Extrusions



■**Features:** Standard caps for protecting extrusion end faces. Alterations for Aluminum Extrusions not necessary.

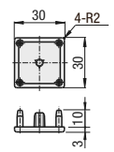


Type	Material
HFC	Polyamide
HFCL	Low Density Polyethylene

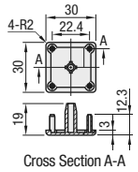
- Some products are not required to specify colors. In that case, color is black.
- The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.
- HFCL is not applicable to extrusions with Wrench Hole in Fixed Position (**P.761**), D Type Hole (**P.764**), or L Type Hole (**P.767**).

RoHS

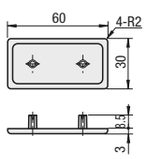
HFC6-3030



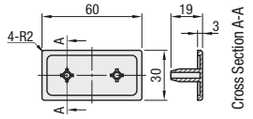
HFCL6-3030



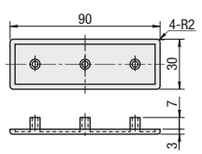
HFC6-3060



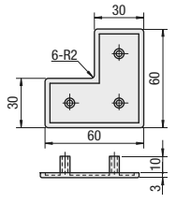
HFCL6-3060



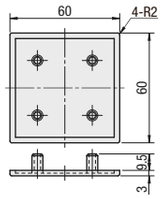
HFC6-3090



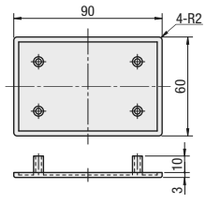
HFC6-606030



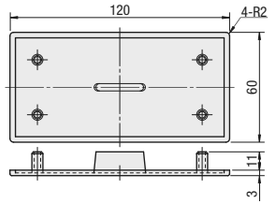
HFC6-6060



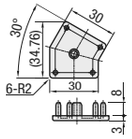
HFC6-6090



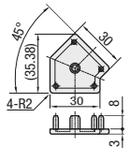
HFC6-60120



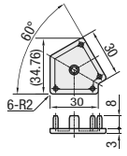
HFC30A6



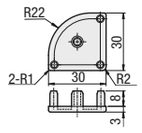
HFC45A6



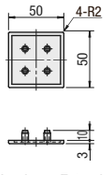
HFC60A6



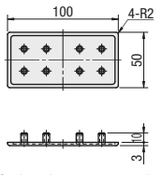
HFCR6-3030



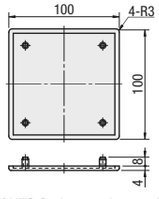
HFC6-5050



HFC6-50100



HFC6-100100



For Aluminum Extrusions other than GFS Series, the same extrusion end caps as of HFS Series can be used. For caps for GFS Series, see **P.628**.

Part Number Type	Part Number No.	Color	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~200	Applicable Extrusion
HFC6	3030	B (Black) S (Light Gray)				6-3030
	3060					6-3060
	3090					6-3090
	606030					6-606030
	6060					6-6060
	6090					6-6090
	60120					6-60120
HFCL6	3030					6-3030
	3060					6-3060
HFC30A6						30A6-30
HFC45A6						45A6-30
HFC60A6						60A6-30
HFCR6-3030						6-3030
HFC6	5050					6-5050
	50100					6-50100
	100100					6-100100

Ordering Example: Part Number - Color → HFC30A6 - B

When using Aluminum Extrusion HFS6-30120, please use 2 pieces of HFC6-3060.



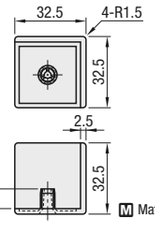
■**Features:** Three-sided extrusion end caps for protecting 3 corners. Alterations not necessary.

■Three-Sided Caps for Corners



RoHS

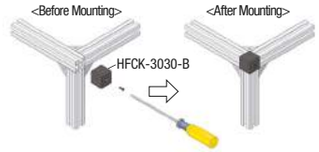
HFCK6-3030



- The pin shape and numbers of extrusion caps may be changed to prevent caps from easily falling off.

Material: Polyamide

Example



- Tapping on extrusion is not required.

Part Number	Color	Accessory	Applicable Extrusion *	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~200
HFCK6-3030	B (Black)	HFBMB4-12	6-3030			

* For Aluminum Extrusion EFS Series, the same extrusion end caps as of HFS Series can be used.

Ordering Example: Part Number - Color → HFCK6-3030 - B

■**Features:** Extrusion End Caps Screw Mounting Type. Requires no alteration and excels in safety.

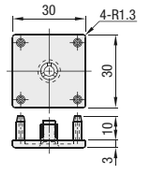
■Screw Mounted



RoHS

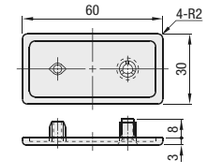
HFCB6-3030

(Screw Fixing Type)



HFCB6-3060

(Screw Fixing Type)



Material: Polyamide (Black, Light Gray, Yellow)

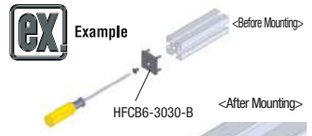
Part Number Type	Part Number No.	Color	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~500	Applicable Extrusion *
HFCB6	3030	B (Black) S (Light Gray) Y (Yellow)				6-3030
	3060	Yellow Type is only available for 3030.				6-3060

* For Aluminum Extrusion EFS Series, the same extrusion end caps as of HFS Series can be used.

- Flat Head Screw is included for Screw Mount Type. (Black: HFBMB4-12, Light Gray, Yellow: SHFBS4-12)

Part Number - Color → HFCB6-3030 - B

Example



- Tapping on extrusion is not required.



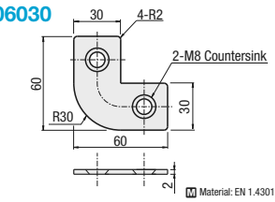
■**Features:** End plates for HFCR6-606030. Alterations are required on extrusions.

■End Plates



RoHS

HFCR6-606030



Material: EN 1.4301 Equiv.

Part Number Type	Applicable Screw (Not included)	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~200	Applicable Extrusion
HFCR6-606030	SHFBS8-12				HFSR6-606030

- For HFCR6-606030, alterations on the extrusion end section and applicable screws are required for mounting. (Screws are not included.)

■**End plates mounting for HFSR6-606030**

Alterations Code	Hole Machining for End Plate Mounting LTS	RTS	TSW
Spec.	The diagram below shows the basic extrusion position. LTS: Machined on the Left End RTS: Machined on the Right End TSW: Machined on Both Ends Ex. LTS 		
Applicable Extrusion	Applicable Screw		
HFSR6-606030	SHFBS8-12		

Part Number → HFCR6-606030

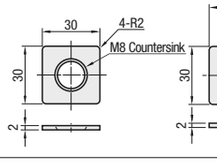
■**Features:** Extrusion End Caps only for High Rigidity Aluminum Extrusions GFS6-3030 and GFS6-3060.

■Plates for High Rigidity Type

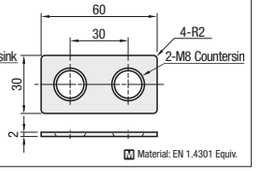


RoHS

HFCD6-3030



HFCD6-3060



Material: EN 1.4301 Equiv.

Part Number Type	Part Number No.	Applicable Screw (Not included)	Applicable Extrusion	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HFCD6	3030	SHFBS8-15	GFS6-3030		
	3060		GFS6-3060		

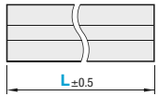
- Special alteration is required on cross sections of extrusions to mount extrusion end caps. (**P.768**)

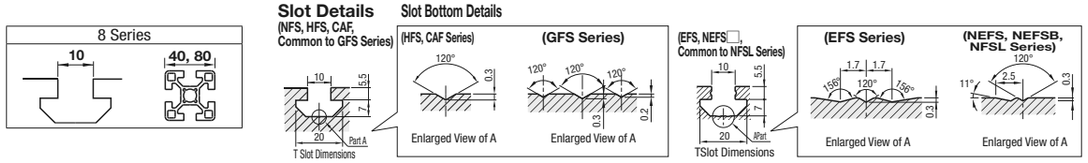
Ordering Example: Part Number → HFCD6-3030

8 Series Aluminum Extrusions - Overview

8 Series

Aluminum extrusions with 10mm slot width. Available in 40mm and 80mm in size. Applicable to M8 bolts.
Slot Depth 12.5mm, T Slot Dimension 20mm, L Dimension Tolerance ±0.5mm





Variations

	Standard Aluminum Extrusions			Lightweight Aluminum Extrusions		High Rigidity Aluminum Extrusions
	HFS Series	EFS Series	NFS (NEFS) Series	HFSL Series	NFSL Series	GFS Series
Cross Section Photo						
Material	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	EN AW-6061 Equiv.
Features	Standard cross section shape.	Have rigidity Equiv. to HFS Series yet lighter and more economical.	Significant price reduction has been achieved by material change. Strength(*) is the same as that of HFS and EFS Series.	Lightweight and economical extrusions. Suitable for use when light weight and economical price are given priority over strength.	Further price reduction has been achieved by changing the material of HFSL. Strength(*) is the same as that of HFSL Series.	These thick extrusions offer high rigidity and are suitable for use in high load.
Surface Treatment	Clear Anodize (HFS) Black Anodize (HFSB) Clear Coating (CAF) Baked Paint (Yellow) (HFSY)	Clear Anodize (EFS) Black Anodize (EFSB)	Clear Anodize Black Anodize	Clear Anodize Black Anodize	Clear Anodize	Clear Anodize
8 Series Representative Product	HFS8-4040 HFSB8-4040 CAF8-4040 HFSY8-4040	EFS8-4040 EFSB8-4040	NEFS8-4040 NFSB8-4040	HFSL8-4040 HFSLB8-4040	NFSL8-4040	GFS8-4040
Mass (kg/m) (**)	1.73	1.61	1.61	1.27	1.27	2.17
Cross Sectional Moment of Inertia (**) ℓx	10.4×10^4	10.5×10^4	10.5×10^4	7.54×10^4	7.54×10^4	13.76×10^4
Cross Sectional Moment of Inertia (**) ℓy	10.4×10^4	10.5×10^4	10.5×10^4	7.54×10^4	7.54×10^4	13.76×10^4

* Cross Sectional Moment of Inertia is equal to that of HFS, EFS and HFSL Series, however proof stress and tensile strength slightly decrease.
** Mass and Cross Sectional Moment of Inertia are for 40 square extrusions.

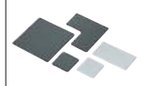
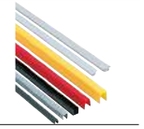
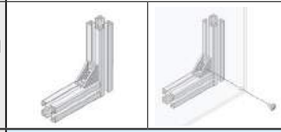
8 Series Aluminum Extrusions Lineup

Number of Slots (Vertical Axis): Four-Side Slot Type can be jointed as desired; Flat Plane Type (1 - 3 sides) provides ornamental side(s).
Number of Slot Lines (Horizontal Axis): There are extrusions with one or multiple slots on one side. Ones with multiple slots are suitable where strength is required.
Also available are Angled, Outer Surface R, Milled Surface, Bending and Slot Width Mixed Type.

Variations			HFS Series							EFS Series							NFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•		
		Black Anodize	•	•	•	•				•	•	•	•				•	•					
		Clear Coating	•	•	•																		
		Yellow Paint	•																				
		Page	P.631	P.633	P.635	P.636	P.637	P.638	P.639 P.640	P.631	P.633	P.635	P.636	P.637			P.631	P.633	P.635	P.636	P.637		
Flat Plane	One Flat	Clear Anodize	•	•	•				•	•	•	•					•	•					
		Black Anodize	•							•													
		Clear Coating																					
		Yellow Paint																					
		Page	P.632	P.634	P.635				P.639	P.632	P.634	P.635					P.632	P.634					
	Two Flats	Clear Anodize	•	•						•	•	•					•						
		Black Anodize	•							•													
		Clear Coating																					
		Yellow Paint																					
		Page	P.632	P.634						P.632	P.634	P.635					P.632						
	3 Sides Flat	Clear Anodize	•							•													
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page	P.632							P.632													

Accessories for 8 Series Aluminum Extrusions

MISUMI provides various types of mounting components and accessories.

Product Name	Brackets	Blind Joint	Nut	Extrusion End Caps	Slot Cover
Product Photo					
Mounted Product Photo					
Material	EN AC-46100 Equiv., EN AC-51400-T5 Equiv., etc.	EN 1.1191 Equiv., EN 1.4308 Equiv., EN 1.4301 Equiv., etc.	EN 1.0301 Equiv., EN 1.4301 Equiv., EN 1.4401 Equiv., etc.	Polyamide	Polyethylene, etc.
Features	Brackets to connect extrusions with screws and nuts. Alterations on aluminum extrusions for mounting are not required. Cover plates can be mounted by using Side Tapped Hole Type Brackets.	Suitable for locations where equipment is loaded and unloaded or doors are to be mounted. Alterations are required on the aluminum extrusions.	Nuts for mounting brackets and other accessories. Selectable from various types: Pre-Assembly Insertion Type, Post-Assembly Insertion Type, Thread Locking Adhesive Type, Spring-integrated Type convenient for vertical positioning.	Caps for protecting extrusion end faces. Can be mounted without any alterations.	Protects extrusion slots from dust. Can be cut with scissors. Various colors and materials are available.
Variations	Brackets for 1 Slot ~ 4 Slots Surface Treatment (Black Anodize, Electroless Nickel Plating, etc.) Brackets with Cover, etc.	-	Standard (Single Item, Bulk Packages, Stopper Sets) With Additional Functions (Temporary Holding, Thread Locking Adhesive, Holding Function) Screw Integrated, Long Nuts	Three-Sided Caps for Corners Screw Mounted	Elastomer Sponge Aluminum, etc.
Page No.	Brackets - Overview **P.641** Screws **P.751**~	Overview **P.659**	Overview **P.667**	**P.677**	**P.773**

8 Series Applications

Suited for locations where forces apply, such as for larger clean booths, equipment bases and structural material, etc. Can be used as you desire with wide variety of products.

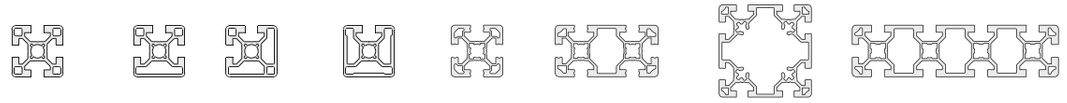
Usable in combination with different slot width extrusions

Extrusions with different slot width can be combined when integrating frames and coverings.
8 Series, 5 Series, 6 Series Slot Width Mixed Extrusions (**P.640**) and Assembly Brackets for Different Extrusion Sizes (**P.648**, **658**) are available.
Utilize these aluminum extrusions to assemble them as you desire.

(Additional Info.) Number of Slots and Number of Slot Lines

Number of Slots (Vertical Axis)
Four-Side Slots **One Flat** **Two Flats** **3 Sides Flat**

Number of Slot Lines (Horizontal Axis)
1 Slot **2 Slots (Rectangle)** **2 Slots (Square)** **3 Slots or More**



Variations			HFSL Series							NFSL Series							GFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize	•	•						•	•						•	•				•	
		Black Anodize	•	•																			
		Clear Coating																					
		Yellow Paint																					
		Page	P.631	P.633						P.631	P.633						P.631	P.633				P.638	
Flat Plane	One Flat	Clear Anodize															•						
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page															P.632						
	Two Flats	Clear Anodize															•						
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page															P.632						
	3 Sides Flat	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					

8 Series Aluminum Extrusions 40, 80mm Square

1 Slot

8 Series



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.641 ~ P.658	P.659 ~ P.664	P.667 ~ P.676	P.677	P.755 ~ P.768

■**Features:** Standard extrusions for equipment bases, etc.

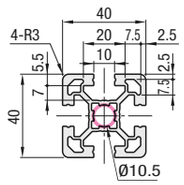


RoHS

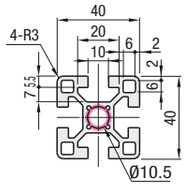
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6 Equiv.	Clear Anodize
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	
NFSL8	KNFSL8		Black Anodize
NEFSB8	KNEFSB8		
EFS8	KEFS8	EN AC-51400-T5 Equiv.	Clear Anodize
HFS8	KHFS8		
HFSL8	KHFSL8		
EFSB8	KEFSB8		Black Anodize
HFSB8	KHFSB8		
HFSLB8	KHFSLB8		
CAF8	KCAF8		Clear Coating (Anodize + Clear Coating)
HFSY8	KHFSY8		Baked Paint (Yellow)

Cut surface and altered parts are not surface treated.

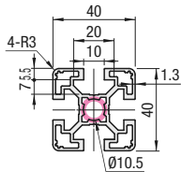
NEFS8-4040
NEFSB8-4040 (Black Anodize)
EFS8-4040
EFSB8-4040 (Black Anodize)



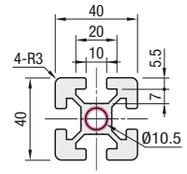
HFS8-4040
HFSB8-4040 (Black Anodize)
CAF8-4040 (Clear Coating)
HFSY8-4040 (Baked Paint, Yellow)



NFSL8-4040
HFSL8-4040 (Light Type)
HFSLB8-4040
(Light Type, Black Anodize)



GFS8-4040 (High Rigidity)



■Configuradle Length Extrusion

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NEFS8	4040	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.61	596	10.5x10⁴	10.5x10⁴						
NEFSB8 (Black Anodize)												
EFS8			1.73	640	10.4x10⁴	10.4x10⁴						
EFSB8 (Black Anodize)												
HFS8												
HFSB8 (Black Anodize)												
CAF8 (Clear Coating)												
HFSY8 (Baked Paint, Yellow)												
NFSL8			1.27	478	7.54x10⁴	7.54x10⁴						
HFSL8 (Light Type)												
HFSLB8 (Light Type, Black Anodize)												
GFS8 (High Rigidity)			2.17	806	13.76x10⁴	13.76x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusion (1000mm)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Qty. 1 ~ 19	Volume Discount Rate 20~120
KHFS8	4040	1000	640	10.4x10⁴	10.4x10⁴		

■Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

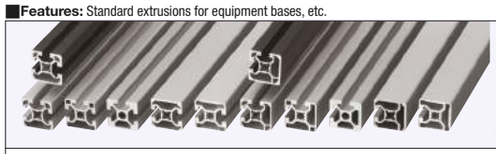
Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	4040	4000 (Effective Length)	596	10.5x10⁴	10.5x10⁴		
KNEFSB8 (Black Anodize)							
KEFS8			640	10.4x10⁴	10.4x10⁴		
KEFSB8 (Black Anodize)							
KHFS8							
KHFSB8 (Black Anodize)							
KCAF8 (Clear Coating)							
KHFSY8 (Baked Paint)							
KNFSL8			478	7.54x10⁴	7.54x10⁴		
KHFSL8 (Light Type)							
KHFSLB8 (Light Type, Black Anodize)							
KGFS8 (High Rigidity)			806	13.76x10⁴	13.76x10⁴		

Ordering Example

Part Number	-	L
HFS8-4040	-	800
KHFS-4040	-	1000
KHFS8-4040	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

■**Features:** Standard extrusions for equipment bases, etc.

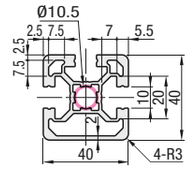


RoHS

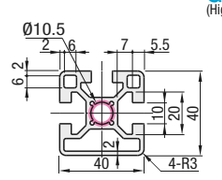
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS□8	KNEFS□8	EN AW-6063-T5 Equiv.	Clear Anodize
GFS□8	KGFS□8	EN AW-6061-T6 Equiv.	
EFS□8	KEFS□8	EN AC-51400-T5 Equiv.	Black Anodize
HFS□8	KHFS□8		
EFS□B8	KEFS□B8		
HFS□B8	KHFS□B8		

Cut surface and altered parts are not surface treated.

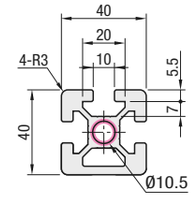
NEFSF8-4040
EFSF8-4040
EFSFB8-4040
(Black Anodize)



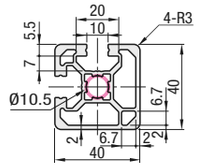
HFSF8-4040
HFSFB8-4040
(Black Anodize)



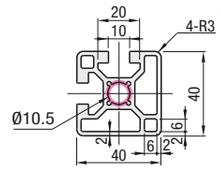
GFSF8-4040
(High Rigidity)



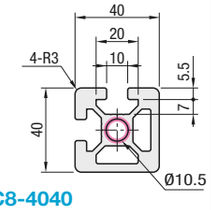
NEFST8-4040
EFST8-4040
EFSTB8-4040
(Black Anodize)



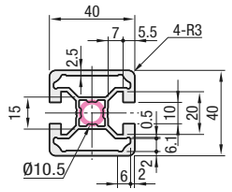
HFST8-4040
HFSTB8-4040
(Black Anodize)



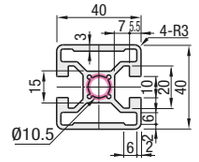
GFST8-4040
(High Rigidity)



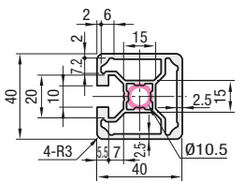
EFSH8-4040



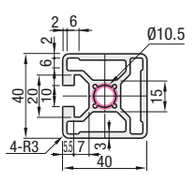
HFSH8-4040



EFSC8-4040



HFSC8-4040



■Configurable Length Extrusion

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NEFSF8	4040	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.53	568	9.96x10⁴	10.12x10⁴						
EFSF8												
EFSFB8 (Black Anodize)			1.63	601	9.63x10⁴	9.94x10⁴						
HFSF8												
HFSFB8 (Black Anodize)			2.21	820	14.61x10⁴	13.6x10⁴						
GFSF8 (High Rigidity)												
NEFST8			1.51	558	9.92x10⁴	9.92x10⁴						
EFST8												
EFSTB8 (Black Anodize)			1.61	596	9.86x10⁴	9.82x10⁴						
HFST8												
HFSTB8 (Black Anodize)			2.28	846	14.57x10⁴	14.57x10⁴						
GFST8 (High Rigidity)												
EFSH8			1.56	579	10.37x10⁴	10.57x10⁴						
HFSH8			1.65	612	9.74x10⁴	10.44x10⁴						
EFSC8			1.54	571	10.22x10⁴	10.52x10⁴						
HFSC8			1.66	617	9.97x10⁴	10.51x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusion (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFSF8	4040	4000 (Effective Length)	586	9.96x10⁴	10.12x10⁴		
KEFSF8							
KEFSFB8 (Black Anodize)			601	9.63x10⁴	9.94x10⁴		
KHFSF8							
KHFSFB8 (Black Anodize)			820	14.61x10⁴	13.6x10⁴		
KGFSF8 (High Rigidity)							
KNEFST8			558	9.92x10⁴	9.92x10⁴		
KEFST8							
KEFSTB8 (Black Anodize)			596	9.86x10⁴	9.82x10⁴		
KHFST8							
KHFSTB8 (Black Anodize)			846	14.57x10⁴	14.57x10⁴		
KGFST8 (High Rigidity)			579	10.37x10⁴	10.57x10⁴		
KEFSH8			612	9.74x10⁴	10.44x10⁴		
KHFSH8			571	10.22x10⁴	10.52x10⁴		
KEFSC8			617	9.97x10⁴	10.51x10⁴		
KHFSC8							

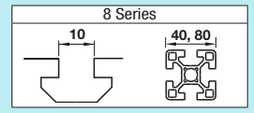
Ordering Example

Part Number	-	L
HFSF8-4040	-	800
KHFSF8-4040	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

8 Series Aluminum Extrusions 40, 80mm Square

2 Slots



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.641 ~ P.658	P.659 ~ P.664	P.667 ~ P.676	P.677	P.755 ~ P.768

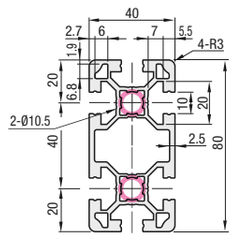
■**Features:** Extrusions with [1x2 slots]. Effective where forces apply.



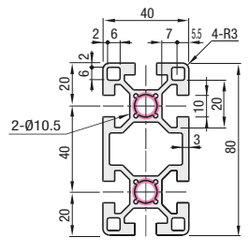
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFSB8	KNEFSB8	EN AW-6063-T5 Equiv.	Black Anodize
NEFS8	KNEFS8		Clear Anodize
NFSL8	KNFSL8		
GFS8	KGFS8	EN AW-6061-T6 Equiv.	
EFS8 HFS8 HFSL8	KEFS8 KHFS8 KHFSL8	EN AC-51400-T5 Equiv.	
EFSB8 HFSB8 HFSLB8	KEFSB8 KHFSB8 KHRFSLB8		Black Anodize
CAF8	KCAF8		Clear Coating (Anodize + Clear Coating)

Cut surface and altered parts are not surface treated.

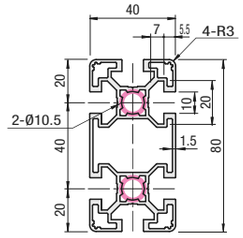
NEFS8-4080
NEFSB8-4080 (Black Anodize)
EFS8-4080
EFSB8-4080 (Black Anodize)



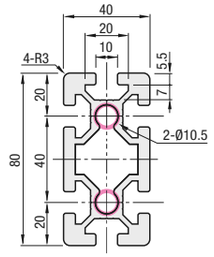
HFS8-4080
HFSB8-4080 (Black Anodize)
CAF8-4080 (Clear Coating)



NFSL8-4080
HFSL8-4080 (Light Type)
HFSLB8-4080 (Light Type, Black Anodize)



GFS8-4080 (High Rigidity)



■**Configurable Length Extrusions**

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NEFS8	4080	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	2.79	1034	19.9x10⁴	72.6x10⁴						
NEFSB8 (Black Anodize)												
EFS8												
EFSB8 (Black Anodize)												
HFS8			3.0	1109	19.8x10⁴	71.9x10⁴						
HFSB8 (Black Anodize)												
CAF8 (Clear Coating)												
NFSL8			2.12	785	13.4x10⁴	52.9x10⁴						
HFSL8 (Light Type)												
HFSLB8 (Light Type, Black Anodize)												
GFS8 (High Rigidity)			3.62	1340	25.21x10⁴	90.87x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusions (1000mm)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Qty. 1~19	Volume Discount Rate 20~120
KHFS8	4080	1000	1109	19.8x10⁴	71.9x10⁴		

■Fixed Length Extrusions (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

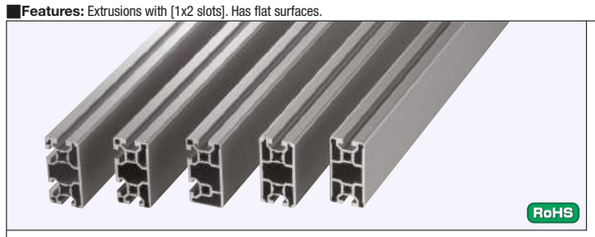
Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	4080	4000 (Effective Length)	1034	19.9x10⁴	72.6x10⁴		
KNEFSB8 (Black Anodize)							
KEFS8							
KEFSB8 (Black Anodize)							
KHFS8			1109	19.8x10⁴	71.9x10⁴		
KCAF8 (Clear Coating)							
KHFSB8 (Black Anodize)							
KNFSL8			785	13.4x10⁴	52.9x10⁴		
KHFSL8 (Light Type)							
KHFSLB8 (Light Type, Black Anodize)							
KGFS8 (High Rigidity)			1340	25.21x10⁴	90.87x10⁴		

Ordering Example

Part Number	-	L
HFS8-4080	-	800
KHFS8-4080	-	1000
KHFS8-4080	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

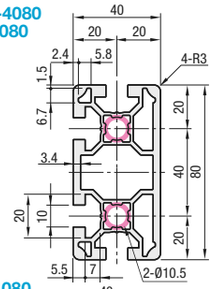
■**Features:** Extrusions with [1x2 slots]. Has flat surfaces.



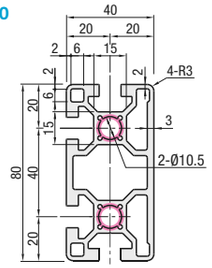
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFSF8	KNEFSF8	EN AW-6063-T5 Equiv.	Clear Anodize
EFS□8	KEFS□8	EN AC-51400-T5 Equiv.	
HFS□8	KHFS□8		

Cut surface and altered parts are not surface treated.

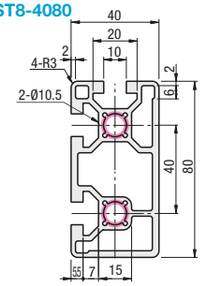
NEFSF8-4080
EFSF8-4080



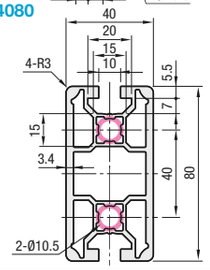
HFSF8-4080



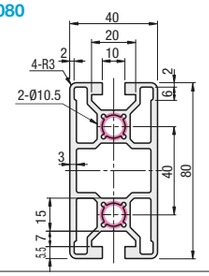
HFST8-4080



EFSH8-4080



HFSH8-4080



■**Configurable Length Extrusions**

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
NEFSF8	4080	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	2.81	1041	20.37x10⁴	72.20x10⁴						
EFSF8												
HFSF8			2.98	1104	20.3x10⁴	70.5x10⁴						
HFST8			3.10	1149	21.18x10⁴	77.16x10⁴						
EFSH8			2.77	1027	20.72x10⁴	70.73x10⁴						
HFSH8			3.01	1113	20.67x10⁴	70.16x10⁴						

Extrusions without anodizing are also available.
Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

■Fixed Length Extrusions (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFSF8	4080	4000 (Effective Length)	1041	20.37x10⁴	72.20x10⁴		
KEFSF8							
KHFSF8			1104	20.3x10⁴	70.5x10⁴		
KHFST8			1149	21.18x10⁴	77.16x10⁴		
KEFSH8			1027	20.72x10⁴	70.73x10⁴		
KHFSH8			1113	20.67x10⁴	70.16x10⁴		

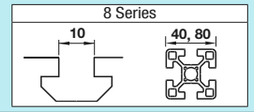
Ordering Example

Part Number	-	L
HFSF8-4080	-	800
KHFSF8-4080	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

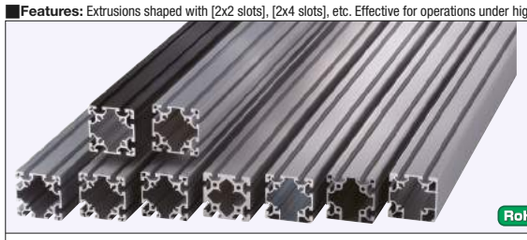
8 Series Aluminum Extrusions 40, 80mm Square

2 or More Slots



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.641 ~ P.658	P.659 ~ P.664	P.667 ~ P.676	P.677	P.755 ~ P.768

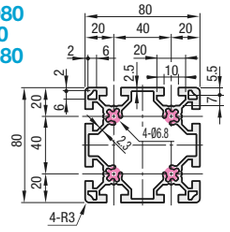
■**Features:** Extrusions shaped with [2x2 slots], [2x4 slots], etc. Effective for operations under high-loading environment.



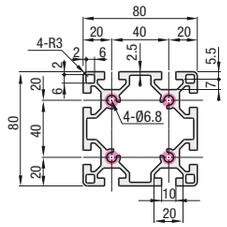
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	Clear Anodize
EFS8	KEFS8	EN AC-51400-T5 Equiv.	
EFS□8	KEFS□8		
HFS8	KHFS8		
HFS□8	KHFS□8		Black Anodize
EFSB8	KEFSB8		
HFSB8	KHFSB8		
CAF8	KCAF8		Clear Coating (Anodize + Clear Coating)

Cut surface and altered parts are not surface treated.

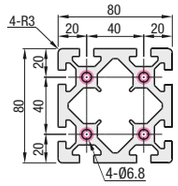
NEFS8-8080
EFS8-8080
EFSB8-8080
(Black Anodize)



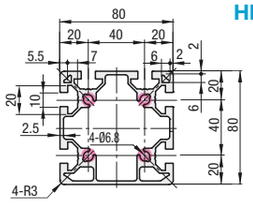
HFS8-8080
HFSB8-8080
(Black Anodize)
CAF8-8080
(Clear Coating)



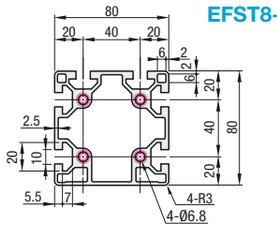
HFSH8-8080
(Heavy Type)



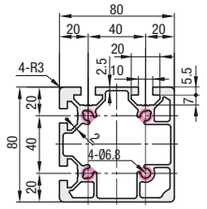
EFSF8-8080



HFSF8-8080



EFST8-8080



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFS8	8080	50~4000	4.45	1649	130.0x10⁴	130.0x10⁴						
EFS8												
EFSB8 (Black Anodize)												
HFS8			4.57	1691	129.1x10⁴	129.1x10⁴						
HFSB8 (Black Anodize)												
CAF8 (Clear Coating)												
HFSH8 (Heavy Type)			7.13	2641	183x10⁴	183x10⁴						
EFSF8			4.39	1627	130.6x10⁴	131.6x10⁴						
HFSF8			4.66	1726	128.4x10⁴	129.6x10⁴						
EFST8			4.39	1626	134.2x10⁴	134.2x10⁴						

■Applicable to 6000mm depending on products.
Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.
Some extrusions are not applicable.

■Fixed Length Extrusions (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

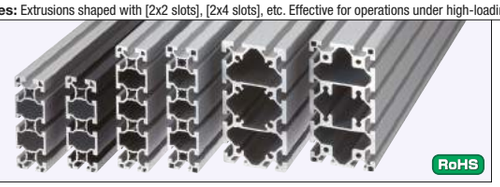
Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	8080	4000 (Effective Length)	1649	130.0x10⁴	130.0x10⁴		
KEFS8							
KEFSB8 (Black Anodize)							
KHFS8			1691	129.1x10⁴	129.1x10⁴		
KHFSB8 (Black Anodize)							
KCAF8 (Clear Coating)							
KHFSH8 (Heavy Type)			2641	183x10⁴	183x10⁴		
KEFSF8			1627	130.6x10⁴	131.6x10⁴		
KHFSF8			1726	128.4x10⁴	129.6x10⁴		
KEFST8			1626	134.2x10⁴	134.2x10⁴		

Ordering Example

Part Number	-	L
HFS8-8080	-	800
KHFS8-8080	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

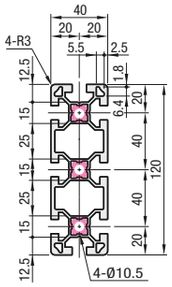
■**Features:** Extrusions shaped with [2x2 slots], [2x4 slots], etc. Effective for operations under high-loading environment.



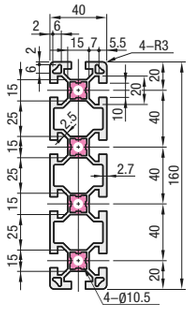
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	Clear Anodize
HFS8	KHFS8	EN AC-51400-T5 Equiv.	
EFS8	KEFS8		Black Anodize
HFSB8	KHFSB8		
EFSB8	KEFSB8		

Cut surface and altered parts are not surface treated.

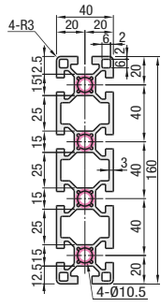
NEFS8-40120
EFS8-40120
EFSB8-40120
(Black Anodize)



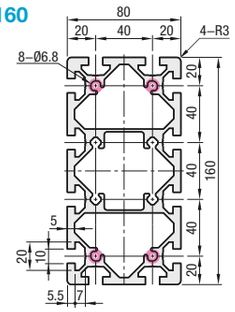
EFS8-40160
EFSB8-40160
(Black Anodize)



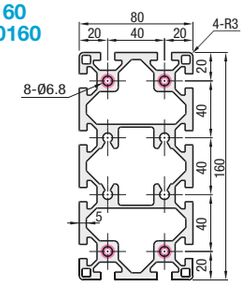
HFS8-40160



EFS8-80160



HFS8-80160
HFSB8-80160
(Black Anodize)



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFS8	40120	50~4000	3.98	1474	29.0x10⁴	223.5x10⁴						
EFS8												
EFSB8 (Black Anodize)												
EFS8	40160		5.25	1945	38.8x10⁴	506x10⁴						
EFSB8 (Black Anodize)												
HFS8			5.54	2049	38.6x10⁴	498x10⁴						
EFS8	80160		9.83	3643	304.4x10⁴	1007x10⁴						
HFS8			10.51	3891	295x10⁴	1001x10⁴						
HFSB8 (Black Anodize)												

■Applicable to 6000mm depending on products.
Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.
Some extrusions are not applicable.

■Fixed Length Extrusions (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	40120	4000 (Effective Length)	1474	29.0x10⁴	222.2x10⁴		
KEFS8							
KEFSB8 (Black Anodize)							
KEFS8	40160		1945	38.8x10⁴	506x10⁴		
KEFSB8 (Black Anodize)							
KHFS8			2049	38.6x10⁴	498x10⁴		
KEFS8	80160		3643	304.4x10⁴	1006x10⁴		
KHFS8			3891	295x10⁴	1001x10⁴		
KHFSB8 (Black Anodize)							

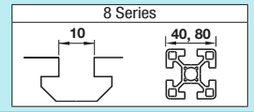
Ordering Example

Part Number	-	L
HFS8-80160	-	800
KEFS8-40120	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

8 Series Aluminum Extrusions 40, 80mm Square

Other Shapes / Aluminum Extrusions with Parallel Surfacing



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.641 ~ P.658	P.659 ~ P.664	P.667 ~ P.676	P.677	P.755 ~ P.768

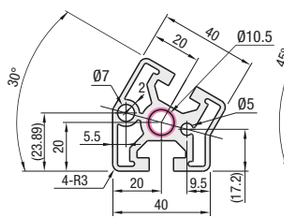
■**Features:** Can be used when making angles or making outer surface in radius.



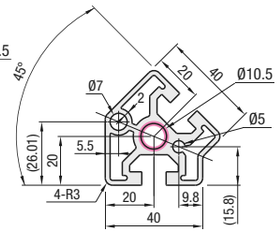
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	Clear Anodize
HFS8 HFS□8 EFS8 HFS□□A8 HFS45TR8	KHFS8 KHFS□8 KEFS8 KHFS□□A8 KHFS45TR8	EN AC-51400-T5 Equiv.	

Cut surface and altered parts are not surface treated.

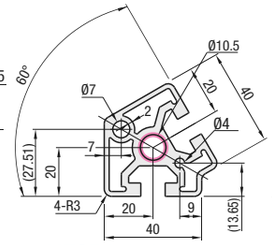
HFS30A8-40



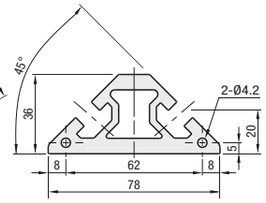
HFS45A8-40



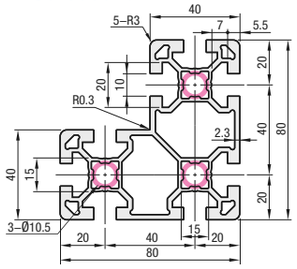
HFS60A8-40



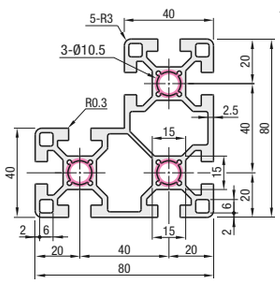
HFS45TR8-40



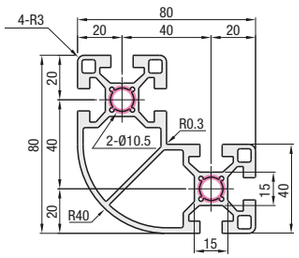
NEFS8-808040
EFS8-808040



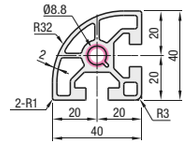
HFS8-808040



HFSR8-808040



HFSR8-4040



■Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	50~160
HFS30A8	40	1.88	694	9.89x10⁴	10.64x10⁴						
HFS45A8		1.83	676	9.87x10⁴	10.37x10⁴						
HFS60A8		1.84	679	9.99x10⁴	10.53x10⁴						
HFS45TR8		2.74	1012	12.23x10⁴	38.19x10⁴						
NEFS8	808040	4	1484	94.82x10⁴	94.82x10⁴						
EFS8											
HFS8		4.19	1550	94.2x10⁴	94.2x10⁴						
HFSR8		3.61	1339	80.99x10⁴	80.99x10⁴						
HFSR8	4040	1.53	564	7.79x10⁴	7.79x10⁴						

50~4000

■Applicable to 6000mm depending on products. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Some extrusions are not applicable.

■Fixed Length Extrusions (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KHFS30A8	40	694	9.89x10⁴	10.64x10⁴		
KHFS45A8		676	9.87x10⁴	10.37x10⁴		
KHFS60A8		679	9.99x10⁴	10.53x10⁴		
KHFS45TR8		1012	12.23x10⁴	38.19x10⁴		
KNEFS8	808040	1484	94.82x10⁴	94.82x10⁴		
KEFS8						
KHFS8		1550	94.2x10⁴	94.2x10⁴		
KHFSR8	4040	564	7.79x10⁴	7.79x10⁴		

4000 (Effective Length)

Ordering Example: Part Number - L
HFS30A8-40 - 800
KHFS30A8-40 - 4000

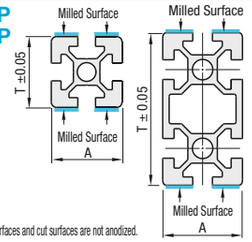
Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

■**Features:** Milled on surfaces. Usable for Linear Guides, etc.

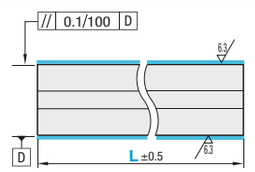
■Aluminum Extrusions with Parallel Surfacing



HFSP
GFSP



Milled surfaces and cut surfaces are not anodized.



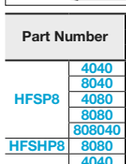
Type	Material	Surface Treatment
HFSP8	EN AC-51400-T5 Equiv.	Clear Anodize
GFSP8	EN AW-6061-T6 Equiv.	

For detailed dimensions and shapes EXCEPT the slots on the milled surface, A and T dimensions, please refer to the drawing of the product of the below Part Number without "P". ((Ex.) HFSP8-4040→ Ref. fig. HFS8-4040 on P.631))

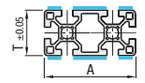
Square Type
HFSP8-4040



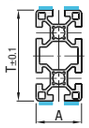
HFSP8-8080



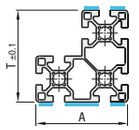
Rectangle Type (Horizontal)
HFSP8-8040



Rectangle Type (Vertical)
HFSP8-4080

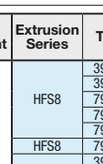


L-Shaped Type
HFSP8-808040

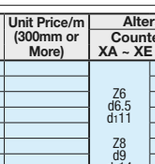


HFSP8-8080

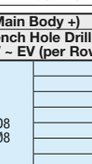
GFSP8-4040



GFSP8-8040



GFSP8-4080



Part Number		L 0.5mm Increment	Extrusion Series	T	A	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)	Alteration Charge (Main Body +) Counterboring XA ~ XE (per Row)		Wrench Hole Drilling AV ~ EV (per Row)		Tapping (Refer to P.757.) Tap Shape	Left LTP	Right RTP	Both TPW
HFSP8	4040	100~3000	HFS8	39	40			Z6 d6.5 d11		D8 Ø8		M12 Depth 36			
	8040			39	80										
	4080			79	40				-			M8 Depth 24			
	8080			79	80				-			M12 Depth 36			
	808040			79	80										
HFSHP8	8080		HFS8	79	80			Z8 d9 d14	-			M8 Depth 24			
GFSP8	4040		GFS8	39	40							M12 Depth 36			
	8040			39	80										
	4080			79	40				-						

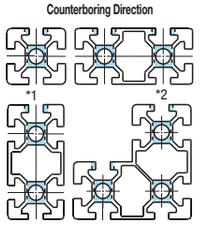
Ordering Example: Part Number - L
HFSP8-4040 - 300

Alterations: Adds a hole at a specified position.

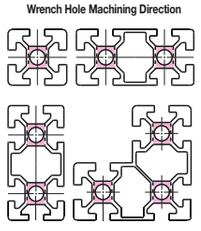
- Nuts for Extrusion
  Use nuts aluminum extrusions on **P.667-676**

Alterations	Counterboring							Wrench Hole					
Code	Z Selection			XA	XB	XC	XD	XE	D Selection	AV	BV	CV	DV	EV
Spec.	Z	d	d₁	Distance from the Left End Plane mm					D	Distance from the Left End Plane mm				
Specifications of Hole Size and Position	6	6.5	11	7~(L-7)					8	7~(L-7)				
	8	9	14											

Counterboring Direction

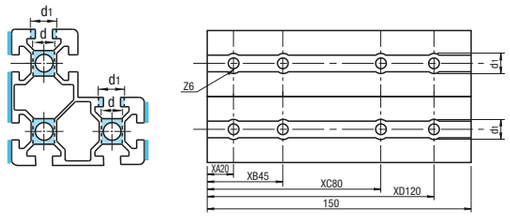


Wrench Hole Machining Direction



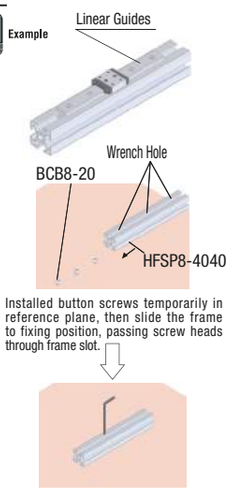
*1 When the cross section is rectangle (vertical), counterboring is not available for extrusions exceeding 60mm in the longitudinal direction.
*2 When the cross section is L-shaped, counterboring is not available for extrusions exceeding 60mm in longitudinal direction, except for the lower portion.

Ordering Example: HFSP8 - 808040 - 150 - Z6 - XA20 - XB45 - XC80 - XD120
HFSP8 - 4040 - 2000 - D8 - AV100 - BV120 - CV1000 - DV1880 - EV1900



When the cross section is L-shaped, select distance from left end with lower section in the back.

Example

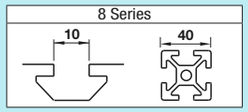


Installed button screws temporarily in reference plane, then slide the frame to fixing position, passing screw heads through frame slot.

Put wrench in the wrench hole and tighten the screw.

8 Series Aluminum Extrusions 40, 80mm Square

Bent Aluminum Extrusions / Slot Width Mixed Extrusions / Brackets for Reinforcement



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.641 ~ P.658	P.659 ~ P.664	P.667 ~ P.676	P.677	P.755 ~ P.768

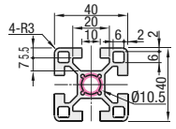
Features: Bending is applied to HFS8-4040.

Bent Aluminum Extrusions

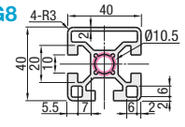


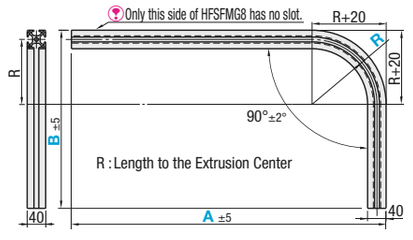
RoHS

HFSMG8



HFSFMG8





- Bending is applied after anodizing; therefore, bent section may slightly discolor and becomes white.
- When R=140, the frame slot may be deformed and becomes narrower in width at the spot where the frame is bent. Therefore, slot nut cannot be used.

M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

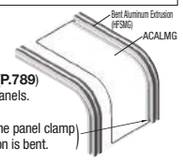
A and B dimensions not indicated in the price list are not available.

Part Number Type	No.	A 1mm Increment	B 1mm Increment	R*	Series	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy
HFSMG HFSFMG	8-4040	200~1500	200~1000	140 300* 500*	HFS8	1.73	640	$10.4x10^4$	$10.4x10^4$

* Bent panels for R300 and R500 are not available.

Ordering Example: Part Number - A - B - R
HFSMG8-4040 - A350 - B700 - R140

Example



Insert Panel Clamps (**P.789**) into slots to secure panels.

(Please be sure not to insert the panel clamp to the spot where the extrusion is bent.

Part Number Type	No.	A	Unit Price R140 B 200~300	301~400	401~500	501~600	601~700	701~800	801~900	901~1000	R300 B 400~500	501~600	601~700	701~800	801~900	901~1000	R500 B 600~700	701~800	801~900
HFSMG HFSFMG	8-4040	200~300									-	-	-	-	-	-	-	-	-
		301~400									-	-	-	-	-	-	-	-	-
		401~500															-	-	-
		501~600															-	-	-
		601~700																	
		701~800																	-
		801~900																-	-
		901~1000															-	-	-
		1001~1100															-	-	-
		1101~1200															-	-	-
		1201~1300															-	-	-
		1301~1400															-	-	-
		1401~1500															-	-	-

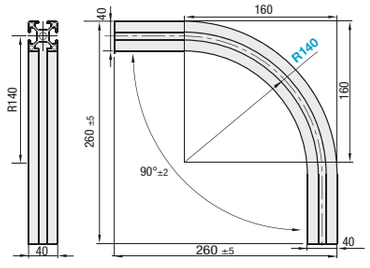
Features: Bent Aluminum Extrusions with a 140mm radius.

90-Degree Bent Aluminum Extrusions for Corner



RoHS

HFSMGQ8-4040



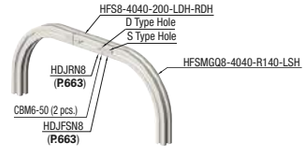
- Bending is applied after anodizing; therefore, bent section may slightly discolor and becomes white.
- The slot shape may change during the bending process, resulting in narrow slot width.

M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number	R	Slot Width	Mass kg	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price Qty. 1 ~ 8	Volume Discount Rate 9~120
HFSMGQ8-4040	140	10	1.2	640	$10.4x10^4$	$10.4x10^4$		

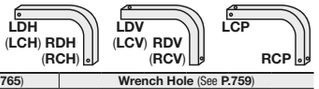
Ordering Example: Part Number - R
HFSMGQ8-4040 - R140

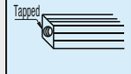
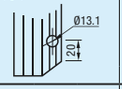
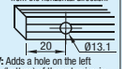
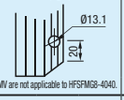
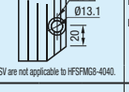
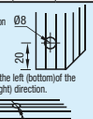
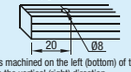
Example



Alterations: Part Number - A - B - R - (LTP, RTP, TPW--etc.)
HFSMG8-4040 - A400 - B500 - R140 - LTP-RCV
HFSMGQ8-4040 - R140 - LTP-RCV

Blind Joint (Pre-Assembly Insertion Double Joints) Connecting Examples



Alterations	Tapping (See P.757)			D Type Hole (See P.764)				M Type Hole (See P.766)				S Hole (See P.765)				Wrench Hole (See P.759)					
Code	LTP	RTP	TPW	LDH	LDV	RDH	RDV	LMH	LMV	RMH	RMV	LSH	LSV	RSH	RSV	LCH	LCV	LCP	RCH	RCV	RCP
Spec.	Tapping to the center hole. Tap Shape M12 Depth 36 **LTP:** Tapping on the Left End Face **RTP:** Tapping on the Bottom End Face **TPW:** Tapping on both ends. Ex. LTP 			Adds D type hole in specified position. Can be connected with Single Joints (**P.661**). **LDH,RDH:** D type hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LDH  **LDV,RDV:** Adds a hole on the left (bottom) of the extrusion in the vertical (right) direction. Ex. RDV 			Adds M type hole in specified position. Can be connected with Center Joints (**P.662**). **LMH,RMH:** M type hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LMH  **LMV,RMV:** Adds a hole on the left (bottom) of the extrusion in the vertical (right) direction. Ex. RMV  ⊗LMV and RMV are not applicable to HFSFMG8-4040.			Adds S type hole in specified position. Can be connected with Pre-Assembly Insertion Double Joints (**P.663**). **LSH,RSH:** S type hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LSH  **LSV,RSV:** Adds a hole on the left (bottom) of the extrusion in the vertical (right) direction. Ex. RSV  ⊗LSV and RSV are not applicable to HFSFMG8-4040.								**LCH,RCH:** Wrench hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. RCH  **LCV,RCV:** Wrench hole is machined on the left (bottom)of the extrusion from the vertical (right) direction. Ex. LCV  **LCP,RCP:** Wrench hole is machined on the left (bottom) of the extrusion from the vertical (right) direction. Ex. LCP 				
Applicable Extrusion																					
HFSMG8-4040 HFSFMG8-4040 HFSMGQ8-4040																					

Features: Mixed Slot Width Extrusions of HFS6 and HFS8 series as well as HFS5 and HFS8 series.

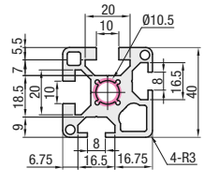
Aluminum Extrusions - Slot Width Mixed



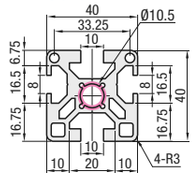
RoHS

M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Clear Anodize

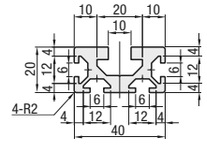
HFS8-6T-4040



HFS8-6H-4040



HFS8-5Y-2040

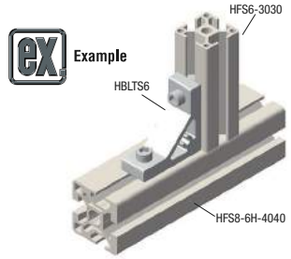


Cut surfaces are not anodized.

Part Number Type	Shape	No.	L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFS8-6	T	4040	50~4000	1.86	767	$11.14x10^4$	$11.04x10^4$		
	H			1.90	704	$10.74x10^4$	$11.04x10^4$		
HFS8-5	Y	2040		1.12	418	$1.70x10^4$	$6.24x10^4$		

Ordering Example: Part Number - L
HFS8-6T-4040 - 800

Example



Alterations: Part Number - L - (Alterations Code)
HFS8-6T-4040 - 800 - TPW

Alterations Spec. Code			Tapping (Main Body +) ⊗Not applicable to HFS8-5Y. Tap Shape	Left LTP	Right RTP	Both TPW
HFS8-6	T / H	4040	M12 Depth 36			

For details of tapping, refer to **P.757**.

Features: Reinforcement Brackets machined from extrusions. Usable on locations needing more strength after connecting with brackets.

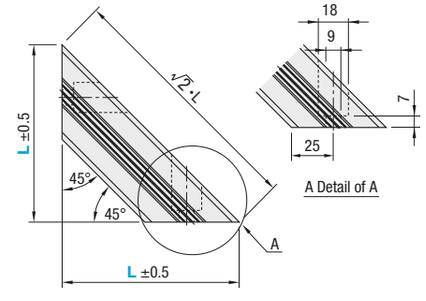
Brackets for Reinforcement



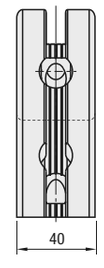
RoHS

M Material: A6061SS-T6 Equiv.
S Surface Treatment: Anodize
(No surface treatment on 45 deg. cut ends and counterbores.)

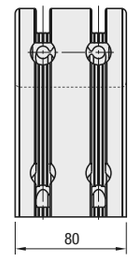
GFBL8-4040 GFBL8-4080



<Front View> GFBL8-4040



<Front View> GFBL8-4080



This product is for reinforcement, not for single use. Can be used with bracket connections.
Use Washer Integrated Screws (SCBS8-20) to connect to extrusions.

Part Number Type	No.	L 1mm Increment	Applicable Screw and Nut Screw	Quantity	Nut	Quantity	L100~300 Unit Price 1 - 4 pc(s).	Volume Discount Rate 5~20	21~50	L301~500 Unit Price 1 - 4 pc(s).	Volume Discount Rate 5~20	21~50
GFBL8	4040	100~500	SCB8-20	2	HNTT8-8	2						
	4080			4		4						

Ordering Example: Part Number - L
GFBL8-4040 - 300

Alterations: Part Number - L - (SET, SST, SEU, SSU, SEP, SSP)
GFBL8-4040 - 500 - SET

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	**SET** **SST** (Stainless Steel) **SEU** (Pre-Assembly Insertion Spring Nuts) **SSU** (Pre-Assembly Insertion Spring Nuts Stainless Steel) **SEP** (Post-Assembly Insertion Spring Nuts) **SSP** (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) CODE: SET, SST, SEU, SSU, SEP, SSP — Screw: SCBS8-20 — Nut: HNTT8-8, HNTTSN8-8, HNTU8-8, SHNTU8-8, HNTP8-8, SHNTP8-8. Screws for Brackets for Reinforcement are SCBS8-20 (**P.178**).	GFBL8-4040 / GFBL8-4080

Not RoHS compliant when -SET, -SEU or -SEP are specified.

Brackets - Overview

For 8 Series (Slot Width 10mm) Aluminum Extrusions

■There are two types of aluminum extrusions connections.

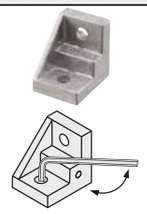
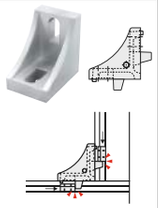
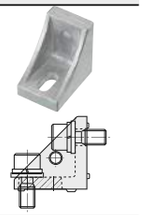
Bracket Connection		**Inserts nuts into the slots of aluminum extrusions and fix with screws. Economical and mountable at desired positions since alterations on extrusions are not required.**
Blind Joint Connection		**Adds hole alterations on the extrusion sides and connects with special joints. Connection without brackets produces clean corners. Recommended where interference needs to be avoided. * For details of Blind Joint Connection, see P.659.**

■About Brackets

・For 1 Slot:Products effective to increase assembly workability and with different surface treatments are available. Various types other than representative ones are also available. See the table below to find the rough features and check the details on each product page. ☞ **P.643~P.648**

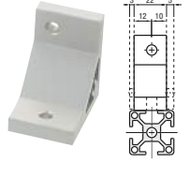
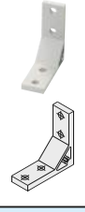
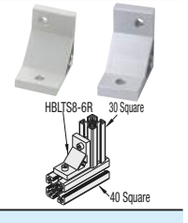
Tabbed Brackets

Mounting surfaces are tabbed to prevent rotations. Other than conventional "HBLFSN8", products with additional functions are also available.

Product Name	Tabbed Reversal Brackets	One-Side Rib Brackets	Brackets with Single Side Tab	Nut Mounting Brackets	Brackets with Cover	Brackets with Slotted Hole on One Side
Product Photo						
Material	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.
Features	Tabs on mounting surfaces enable easy positioing. Most conventional type.	One-Sided Tabbed (Side Face), easy to work with hex wrenches.	Only one side of bracket has tabs. Suitable when connecting extrusions and plates.	Nut position adjustment is not required since the long protrusion fixes nuts.	Brackets with cover type. Superior in sanitation since dust does not intrude.	Brackets with Slotted Hole on one side. No interference between screw heads when using Screws with Captured Washer.
Representative Product	HBLFSN8	HBLFSL8	HBLFSNK8 HBLFSNE8	HBLFSR8	HBLFSNT8	HBLFSH8
Page	P.643	P.643	P.644	P.644	P.644	P.645

Extruded Brackets

Surfaces are anodized. In addition to the conventional "NBLTS8/HBLTS8", products with additional functions are available.

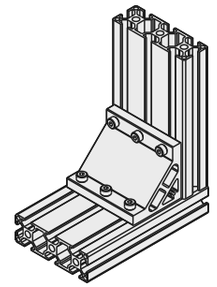
Product Name	Thick Brackets	Offset Brackets	Scalene Brackets	Thick Brackets	Assembly Brackets for Different Extrusion Sizes
Product Photo					
Material	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.
Features	Made of the same material as aluminum extrusions with anodizing. Suitable when uniform appearance with the extrusions is desired.	Hole positions are offset. Can be combined with plates of 3mm and 5mm thickness when mounting plates on the side.	Length of two sides are scalene. Usable where space is narrow.	Two mounting holes are provided on one side. Extrusions can be connected more securely with 4 screws.	Staggered mounting holes Brackets to connect 40, 30 square Extrusions.
Representative Product	• NBLTS8 (EN AW-6063-T5 Equiv.) • HBLTS8 (EN AC-51400-T5 Equiv.)	HBLTH8	HBLTF8	HBLTSW8	HBLTS8-6L HBLTS8-6R
Page	P.646	P.646	P.647	P.648	P.648

Side surface and screw holes are not anodized for NBL□□Series (Material: EN AW-6063-T5 Equiv.).

・For Multiple Slot Extrusions:Extrusions with 2 ~ 4 slots can be connected with one bracket.
Check the details on each product page. ☞ **P.649~P.651**

Product Name	Tabbed Brackets - For 2 Slots	Extruded Brackets - For 2 Slots	Extruded Brackets - For 3 Slots	Extruded Brackets - For 4 Slots
Product Photo				
Material	EN AC-46100 Equiv.	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.
Representative Product	HBLFSD8	• NBLTD8 (EN AW-6063-T5 Equiv.) • HBLTD8 (EN AC-51400-T5 Equiv.)	• NBLUT8 (EN AW-6063-T5 Equiv.) • HBLUT8 (EN AC-51400-T5 Equiv.)	NBLUQ8 (EN AW-6063-T5 Equiv.) HBLUQ8 (EN AC-51400-T5 Equiv.)
Page	P.649	P.650	P.651	P.651

Side surface and screw holes are not anodized for NBL□□Series (Material: EN AW-6063-T5 Equiv.).



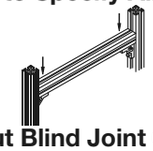
• Special Shape:Products with special functions/shapes are also available. Check the details on each product page. ☞ **P.652~P.656**

Product Name	Post-Assembly Insertion Easy Brackets	Thin Brackets	Angled Brackets	Free Angle Brackets
Product Photo				
Features	2 aluminum extrusions can be connected with only 1 tightening screw.	Thin and compact type. Effective for space saving at mounting locations.	45°/135° angled type. Extrusions with 45° cut can be connected.	Extrusions can be connected at any arbitrary angle.
Representative Product	HABL8	HBLSS8	HBL45TS8 HBL135TS8	HBLTBC40
Page	P.652	P.653	P.655	P.656

■Perpendicularity

Perpendicularity of Extruded Brackets is manufactured within ±1° tolerance based on JIS Standard H4100 Special Grade.
For applications where perpendicularly is important, use Perpendicularly Machined Type. ☞ **P.646, 647**

■How to Specify Allowable Load of Bracket

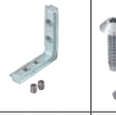
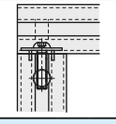
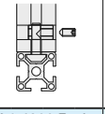
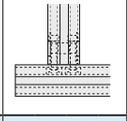
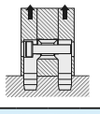


Allowable load per one bracket is calculated with one beam extrusion between two vertical extrusions supported by a bracket under each side of the beam as shown on the left-side figure.

Allowable Load here means the load applied when all mounting holes of the brackets are fixed with screws and the brackets can hold the position (without break or sliding).

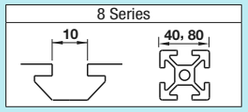
■About Blind Joint Components

Blind Joint Connection is recommended where standard brackets and peripherals interfere.
See the table below and check the details on each product page. ☞ **P.657~664**

Product Name	Blind Brackets	Tapping Joints	Screw Joints	Single Joints	Center Joint	Pre-Assembly Insertion Double Joints	Post-Assembly Insertion Double Joints	Parallel Joints
Product Photo								
Installation Diagram								
Material	EN 1.1191 Equiv. or EN 1.4308 Equiv.	JIS-SWCH18A	Steel or EN 1.4301 Equiv.	Steel or EN 1.4301 Equiv.	EN 1.4308 Equiv.	EN 1.4401 Equiv. / EN 1.4301 Equiv.	EN 1.4308 Equiv./EN 1.4301 Equiv.	EN 1.4308 Equiv./EN 1.4301 Equiv.
Features	No need for alterations to hide brackets inside of the slot.	・Tapping alteration is not required. • Most economical Blind Joints.	Joint Plate enables secure and economical connection.	D type holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.	Most standard Blind Joints usable with various types of aluminum extrusions.	Can be used for various applications such as to extend extrusions as well as mounting to plates.	Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.	Extrusions can be connected in parallel.
Representative Product	HBLBS	HTJ	HCJ	HSJ	HMJ	HDJSN	HPJN	HLJ
Page	P.658	P.660	P.660	P.661	P.662	P.663	P.664	P.664

Tabbed Brackets - For 1 Slot

For 8 Series (Slot Width 10mm) Aluminum Extrusions



Features: Tabbed Brackets to be connected by both L and Cross-Connections.

Tabbed Reversal Brackets



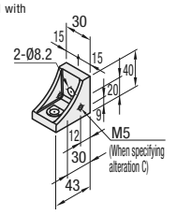
RoHS

Type	Material	Surface Treatment
①HBLFSNF8	EN AC-46100 Equiv.	-
②HBLFSN8		-
③HBLFSNB8		Black Anodize
④HBLFSNM8		Electroless Nickel Plating
⑤CHBLFSN8		Baked Paint (Silver)

* Baked Paint (Silver) is color coordinated with Clear Coating Extrusions.

Tabbed Reversal Brackets (Depth 40mm)

HBLFSNF8

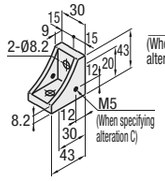


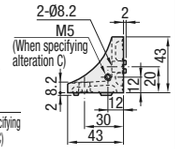


Tabbed Reversal Brackets

HBLFSN8
HBLFSNB8 (Black Anodize)

HBLFSNM8 (Electroless Nickel Plating)
CHBLFSN8 (Baked Paint, Silver)



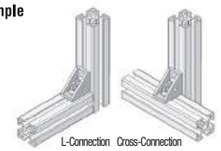


Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSNF8	48	CBM8-20	2	HNTT8-8	2	2058		
HBLFSN8	50							
HBLFSNB8* (Black Anodize)								
HBLFSNM8 (Electroless Nickel Plating)								
CHBLFSN8 (Baked Paint, Silver)								

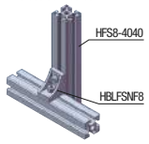
* For repairing black anodizing, refer to **P.846.**

Example

Can be installed in either direction.

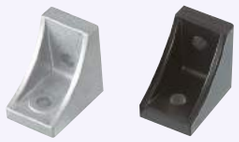


HBLFSNF8 prevents brackets from protruding from extrusions when cross connected.



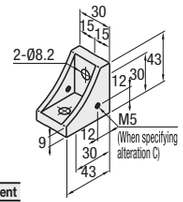
Features: Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

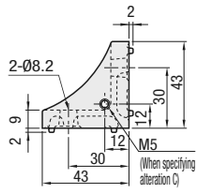
Tabbed Brackets



RoHS

HBLFS8
HBLFSB8
(Cathodic Electrodeposition Paint: Black)





Type	Material	Surface Treatment
HBLFS8	EN AC-46100 Equiv.	-
HBLFSB8		Cathodic Electrodeposition Coating: Black

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFS8	54	CBM8-20	2	HNTT8-8	2	2058		
HBLFSB8* (Cathodic Electrodeposition Paint: Black)								

Example

Used for L connection.



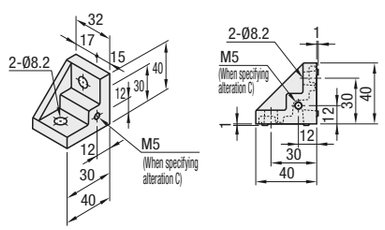
Features: One-Sided Tabbed Rib Brackets. Easy to work with wrenches.

One-Side Rib Brackets



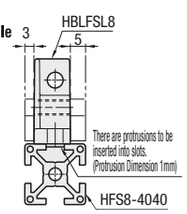
RoHS

HBLFSL8



Material: EN AC-46100 Equiv.

Example



Can be combined with both cover plates of 5mm and 3mm thickness.

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSL8	46	CBM8-20	2	HNTT8-8	2	2058		

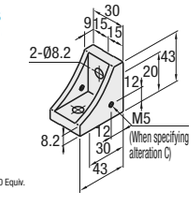
Features: Brackets with single side tabs. Panels can be mounted on the side without tabs.

Brackets with Single Side Tab

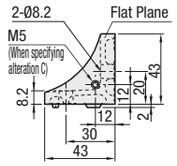


RoHS

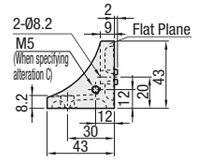
HBLFSNK8
HBLFSNE8



HBLFSNK8 Side View



HBLFSNE8 Side View



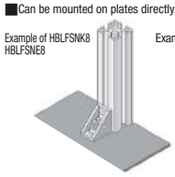
Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSNK8	50	CBM8-20	2	HNTT8-8	2	2058		
HBLFSNE8								

Example

Can be mounted on plates directly.

Example of HBLFSNK8
HBLFSNE8



Example of HBLFSNE8



Features: Pressing nuts against the long tabs makes cumbersome hole positioning unnecessary.

Nut Mounting Brackets

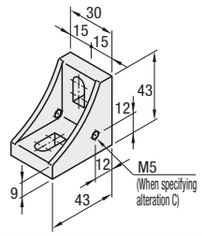


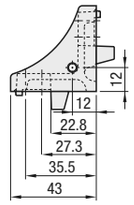
RoHS

HBLFSR8

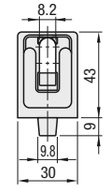
- Slotted holes are for various nut hole positions.
- Bracket tabs may be damaged when nuts are fallen on them.
- Use of washers are recommended. (Refer to alterations below: SEC)

Material: EN AC-46100 Equiv.





<Back View>

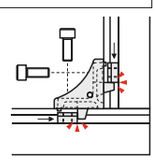


Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSR8	55	CBM8-20	2	HNTT8-8	2	2058		

Example

When nuts are wedged through until the tab, hole positions of bracket and nuts are aligned and fine adjustment becomes unnecessary.

- Short Nuts, HNTM and HNTAM are not applicable.



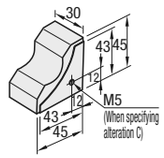
Features: Tabbed Reversal Brackets with Cover. Designed to prevent dust build-up.

Brackets with Cover

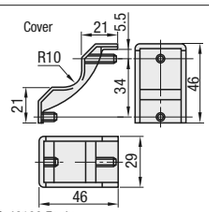


RoHS

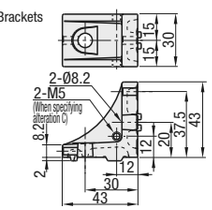
HBLFSNT8



Cover



Brackets

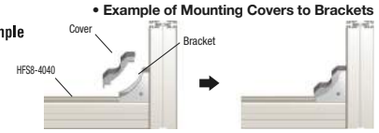


Material Cover: Polyamide, Bracket: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Accessory Component: Part①	Quantity	Part②	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSNT8	56	CBM8-20	2	HNTT8-8	2	Bracket Body	1	Bracket Cover	1	2058		

Example

• Example of Mounting Covers to Brackets



Ordering Example: Part Number **HBLFSNK8**

Alterations: Part Number HBLFSNK8 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)  Tapped Hole Position	HBLFSNF8, HBLFSN8, HBLFSNB8, HBLFSNM8, CHBLFSN8, HBLFS8, HBLFSB8, HBLFSL8, HBLFSNK8, HBLFSNE8, HBLFSR8, HBLFSNT8

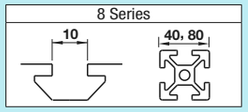
Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET, SST (Stainless Steel), SEU (Pre-Assembly Insertion Spring Nuts), SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel), SEP (Post-Assembly Insertion Spring Nuts), SSP (Post-Assembly Insertion Spring Nuts Stainless Steel), SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLFS8 is specified: SET: CBM8-20 / HNTT8-8; SST: SCB8-20 / HNTTSN8-8; SEU: CBM8-20 / HNTU8-8; SSU: SCB8-20 / SHNTU8-8; SEP: CBM8-20 / HNTP8-8; SSP: SCB8-20 / SHNTP8-8; SEC: HCBST8-24 / HNTT8-8. When specifying other than HBLFS8, check for the applicable screws and nuts.	HBLFSNF8, HBLFSN8, HBLFSNB8, HBLFSNM8, CHBLFSN8, HBLFS8, HBLFSB8, HBLFSL8, HBLFSNK8, HBLFSNE8, HBLFSR8, HBLFSNT8

- Screws for Black Anodized Brackets and Cathodic Electrodeposition Painted (black) Brackets are HCBMTB (Trivalent Chromate Black) on **P.751.**
- Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than Black Anodized or Cathodic Electrodeposition Painted (black) Brackets is specified.

Tabbed Brackets - For 1 Slot

For 8 Series (Slot Width 10mm) Aluminum Extrusions

8 Series



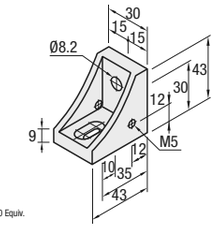
Features: Brackets with Slotted Hole on one side. Hex Socket Head Cap Screws with Captured Washer can be used for mounting without interference between screw heads.

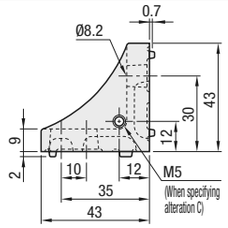
Brackets with Slotted Hole on One Side



RoHS

HBLFSH8





Ⓜ Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSH8	52	CBM8-20	2	HNTT8-8	2	2058		

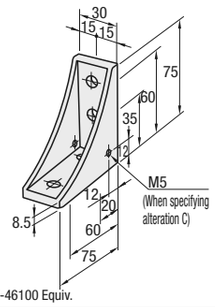
Features: Brackets with two mounting holes on one side can connect extrusions more securely.

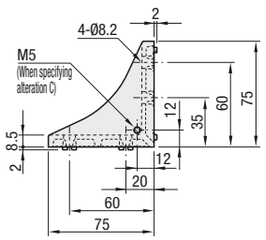
Tabbed Reversal Brackets



RoHS

HBLFSSW8

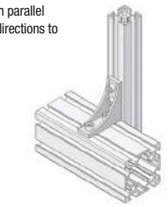




Ⓜ Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSSW8	105	CBM8-20	4	HNTT8-8	4	3087		

Example Can be connected in parallel and perpendicular directions to the extrusion slot.



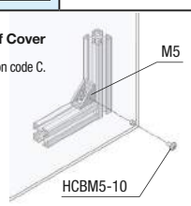
Ordering Example Part Number: HBLFSSW8

Alterations Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLFSSW8 - SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)  Tapped Hole Position	HBLFSH8 HBLFSSW8

Example

Example of Cover Mounting
• Specify alteration code C.



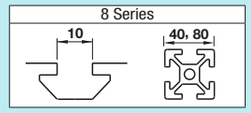
Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLFSSW8 is specified: Code / Screw / Nut: SET CBM8-20 HNTT8-8; SST SCB8-20 HNTTSN8-8; SEU CBM8-20 HNTU8-8; SSU SCB8-20 SHNTU8-8; SEP CBM8-20 HNTP8-8; SSP SCB8-20 SHNTP8-8; SEC HCBST8-24 HNTT8-8 Ⓟ When specifying other than HBLFSSW8, check for the applicable screws and nuts.	HBLFSH8 HBLFSSW8

Ⓟ Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Extruded Brackets - For 1 Slot

For 8 Series (Slot Width 10mm) Aluminum Extrusions

8 Series



Features: Perpendicularly machined type Extruded Brackets with tabs to fit extrusions. Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

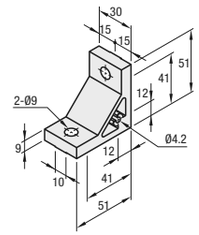
Thick Brackets (Perpendicularly Machined)



RoHS

Part Number	Perpendicularity K
HBKTST8	0.03
HBKTS8	0.06
HBKTSB8 (Black Anodize)	

HBKTST8
HBKTS8
HBKTSB8
(Black Anodize)

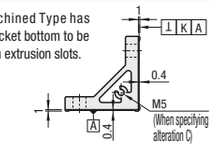


Type	Material	Surface Treatment
HBKTST8	EN AC-51400-T5 Equiv.	Anodize
HBKTS8		
HBKTSB8		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBKTST8 HBKTS8 HBKTSB8* (Black Anodize)	65.8	CBM8-20	2	HNTT8-8	2	2058		

* For repairing black anodizing, refer to **P.846**.

Perpendicularly Machined Type has protrusions on the bracket bottom to be inserted into aluminum extrusion slots.



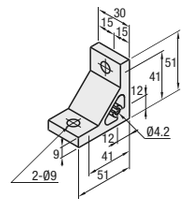
Features: Aluminum Extruded Brackets. Designed to prevent dust from building up with good appearance.

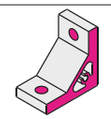
Thick Brackets



RoHS

NBLTS8
HBLTS8
HBLTSB8
(Black Anodize)
CHBLTS8
(Clear Coating)





Ⓟ Both sides and screw holes of NBLTS8 is not anodized.

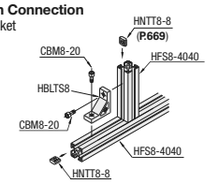
Type	Material	Surface Treatment
NBLTS8	EN AW-6063-T5 Equiv.	Anodize Ⓟ
HBLTS8	EN AC-51400-T5 Equiv.	
HBLTSB8		Black Anodize
CHBLTS8		Clear Paint Anodize + Clear Paint

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLTS8 HBLTS8 HBLTSB8* (Black Anodize)	65.8	CBM8-20	2	HNTT8-8	2	2058		
CHBLTS8 (Clear Coating)	66							

* For repairing black anodizing, refer to **P.846**.

Example

Example of Extrusion Connection
Connection with Thick Bracket



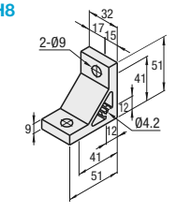
Features: Hole positions are offset. Can be combined with plates of 3mm and 5mm thickness when using taps for mounting covers.

Eccentric Brackets

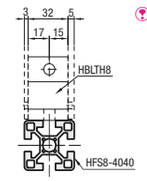


RoHS

HBLTH8



Example



Ⓟ They can be combined with cover plates of thickness 3mm and 5mm.

Ⓜ Material: EN AC-51400-T5 Equiv.
Ⓢ Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTH8	68	CBM8-20	2	HNTT8-8	2	2058		

Ordering Example Part Number: HBLTH8

Alterations Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLTH8 - SET

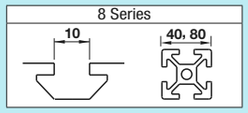
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)  Tapped Hole Position	HBKTST8 NBLTS8 HBLTS8 CHBLTS8 HBLTH8

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLTS8 is specified: Code / Screw / Nut: SET CBM8-20 HNTT8-8; SST SCB8-20 HNTTSN8-8; SEU CBM8-20 HNTU8-8; SSU SCB8-20 SHNTU8-8; SEP CBM8-20 HNTP8-8; SSP SCB8-20 SHNTP8-8; SEC HCBST8-24 HNTT8-8 Ⓟ When specifying other than HBLTS8, check for the applicable screws and nuts.	HBKTST8 HBKTS8 HBKTSB8 NBLTS8 HBLTS8 HBLTSB8 CHBLTS8 HBLTH8

Ⓟ Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Ⓟ Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 1 Slot

For 8 Series (Slot Width 10mm) Aluminum Extrusions



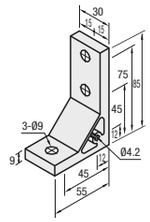
Features: Extruded Brackets with Unequal Sides. Effective when strength is required in narrow clearances between extrusions.

Scalene Brackets



RoHS

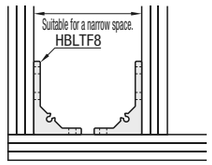
HBLTF8



M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTF8	90	CBM8-20	3	HNTT8-8	3	2572		

ex Example



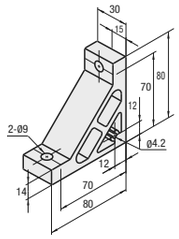
Features: Numbers of screws are the same as HBLTS8. Extrusions can be connected more securely.

Ultra Thick Brackets



RoHS

HBLUS8
HBLUSB8
(Black Anodize)



Type	M Material	S Surface Treatment
HBLUS8	EN AC-51400-T5 Equiv.	Anodize
HBLUSB8		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLUS8								
HBLUSB8* (Black Anodize)	151	CBM8-25	2	HNTT8-8	2	2058		

* For repairing black anodizing, refer to **P.846**.

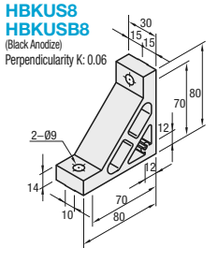
Features: Numbers of screws are the same as HBKTS8. Extrusions can be connected more securely. Perpendicularly Machined.

Ultra Thick Brackets (Perpendicularly Machined)

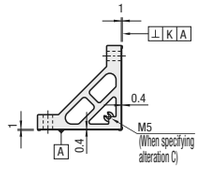


RoHS

HBKUS8
HBKUSB8
(Black Anodize)
Perpendicularity K: 0.06



There are protrusions on the bracket bottom to be inserted into aluminum extrusion slots.



Type	M Material	S Surface Treatment
HBKUS8	EN AC-51400-T5 Equiv.	Anodize
HBKUSB8		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBKUS8								
HBKUSB8* (Black Anodize)	151	CBM8-25	2	HNTT8-8	2	2058		

* For repairing black anodizing, refer to **P.846**.

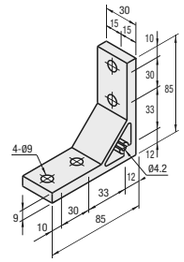
Features: Extruded Brackets with two mounting holes on one side can connect extrusions more securely.

Thick Brackets



RoHS

HBLTSW8



M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTSW8	113	CBM8-20	4	HNTT8-8	4	3087		

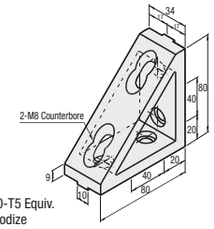
Features: Brackets with two mounting holes on one side can connect extrusions more securely.

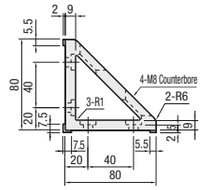
Triangle Brackets



RoHS

HBLDSWT8
(With Tab)



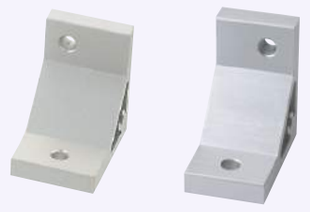


M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLDSWT8	195	CBM8-15	4	HNTT8-8	4	3087		

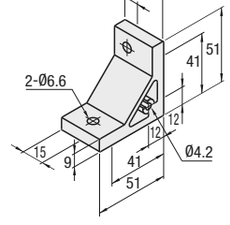
Features: Brackets to connect 40, 30 square Extrusions.

Assembly Brackets for Different Extrusion Sizes

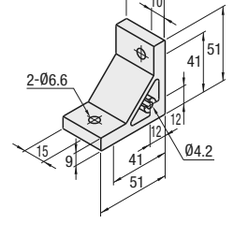


RoHS

HBLTS8-6L



HBLTS8-6R

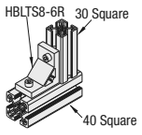


M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

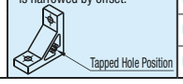
Part Number	Mass (g)	Applicable Screw, T Nut				Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity	1~99 pc(s).	100~200
HBLTS8-6L	66	CBM6-20 CBM6-15	1	HNTT8-6 HNTT6-6	1		
HBLTS8-6R		CBM6-20 CBM6-15	1	HNTT8-6 HNTT6-6	1		

Ordering Example: Part Number HBLTSW8

ex Example



Alterations — Part Number HBLTSW8 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) — SET

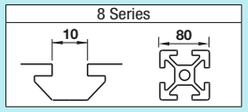
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**) *Tapping Direction: Tapping is applied on only one side which is narrowed by offset.  Tapped Hole Position	HBLTF8 HBLUS8 HBKUS8 HBLTSW8 HBLTS8-6L* HBLTS8-6R*

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLTSW8 is specified: Code / Screw / Nut SET / CBM8-20 / HNTT8-8 SST / SCB8-20 / HNTTSN8-8 SEU / CBM8-20 / HNTU8-8 SSU / SCB8-20 / SHNTU8-8 SEP / CBM8-20 / HNTP8-8 SSP / SCB8-20 / SHNTP8-8 SEC / HCBST8-24 / HNTT8-8 When specifying other than HBLTSW8, check for the applicable screws and nuts.	HBLTF8 HBLUS8 HBLUSB8 HBKUS8 HBKUSB8 HBLTSW8 HBLDSWT8 HBLTS8-6L HBLTS8-6R

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Tabbed Brackets - For 2 Slots

For 8 Series (Slot Width 10mm) Aluminum Extrusions



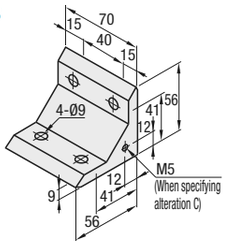
Features: Tabbed Brackets for 2-slot extrusions. Since the tabs stop rotating the brackets when tightening, work efficiency is improved.

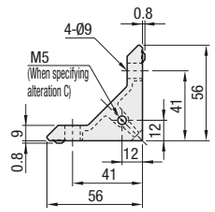
Tabbed Brackets



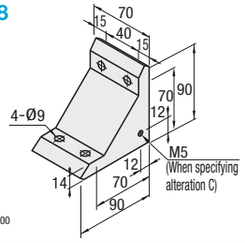
RoHS

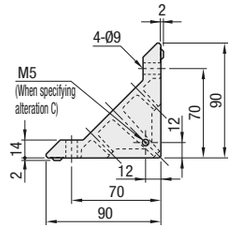
HBLFTD8





HBLFUD8





Material: EN AC-46100 Equiv.

Part Number / Type	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFTD8	140	CBM8-20	4	HNTT8-8	4	3087		
HBLFUD8	370	CBM8-25				3920		

Example

Can be connected in parallel and perpendicular directions to the extrusion slot.



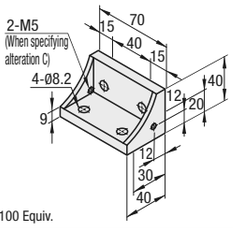
Features: Extrusions with 2 slots (HFS8-8080, etc.) can be connected with one bracket.

Tabbed Reversal Brackets

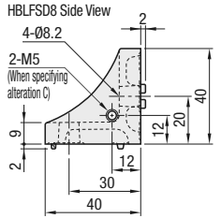


RoHS

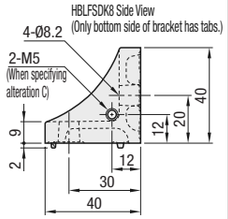
HBLFSD8
HBLFSDK8
(with Single Side Tab)



HBLFSD8 Side View



HBLFSDK8 Side View (Only bottom side of bracket has tabs.)



Material: EN AC-46100 Equiv.

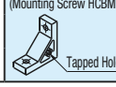
Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLFSD8	89	CBM8-20	4	HNTT8-8	4	3087		
HBLFSDK8								

Ordering Example

Part Number
HBLFSD8

Alterations

Part Number	-	(C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLFSD8	-	SET

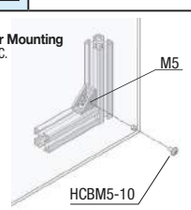
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)  Tapped Hole Position	HBLFTD8
			HBLFUD8
			HBLFSD8
			HBLFSDK8

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLFSD8 is specified:	HBLFTD8
		Code | Screw | Nut SET | CBM8-20 | HNTT8-8 SST | SCB8-20 | HNTTSN8-8 SEU | CBM8-20 | HNTU8-8 SSU | SCB8-20 | SHNTU8-8 SEP | CBM8-20 | HNTP8-8 SSP | SCB8-20 | SHNTP8-8 SEC | HCBST8-24 | HNTT8-8	HBLFUD8
		When specifying other than HBLFSD8, check for the applicable screws and nuts.	HBLFSD8
			HBLFSDK8

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

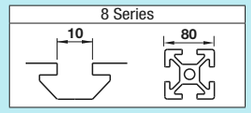
Example

Example of Cover Mounting
•Specify alteration code C.



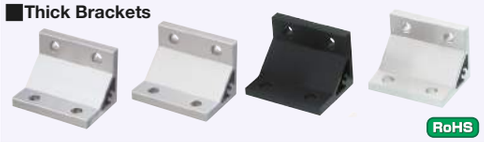
Extruded Brackets - For 2 Slots

For 8 Series (Slot Width 10mm) Aluminum Extrusions



Features: Brackets to connect Extrusions with 2 slots (HFS8-8080 etc.) with one bracket.

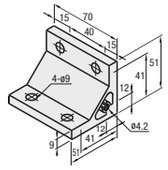
Thick Brackets

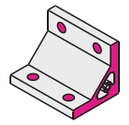


RoHS

NBLTD8
HBLTD8
HBLTDB8
(Black Anodize)
CHBLTD8
(Clear Coating)

Type	Material	Surface Treatment
NBLTD8	EN AW-6063-T5 Equiv.	Anodize (P)
HBLTD8	EN AC-51400-T5 Equiv.	
HBLTDB8		Black Anodize
CHBLTD8		Anodize





(P)Both sides and screw holes of NBLTD8 is not anodized.

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
NBLTD8 HBLTD8 HBLTDB8* (Black Anodize) CHBLTD8 (Clear Coating)	154	CBM8-20	4	HNTT8-8	4	3087		

* For repairing black anodizing, refer to **P.846**.

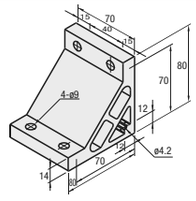
Features: Numbers of screws are the same as HBLTD8. Extrusions can be connected more securely.

Ultra Thick Brackets



RoHS

HBLUD8



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLUD8	380	CBM8-25	4	HNTT8-8	4	3920		

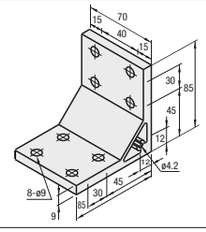
Features: Brackets for 2-slot extrusions with 4 mounting holes on one side can connect extrusions more securely.

Thick Brackets



RoHS

HBLTDW8

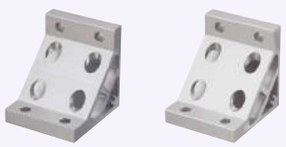


Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLTDW8	267	CBM8-20	8	HNTT8-8	8	4410		

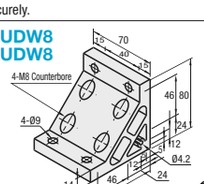
Features: Numbers of screws are the same as HBLTDW8. Extrusions can be connected more securely.

Ultra Thick Brackets



RoHS

NBLUDW8
HBLUDW8



Type	Material	Surface Treatment
NBLUDW8	EN AW-6063-T5 Equiv.	Anodize (P)
HBLUDW8	EN AC-51400-T5 Equiv.	



(P)Both sides and screw holes of NBLUDW8 is not anodized.

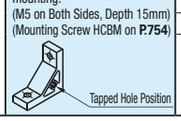
Part Number	Mass (g)	Applicable Screw, T Nut: Screw	Quantity	T Nut	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
NBLUDW8	332	CBM8-15 CBM8-25	4	HNTT8-8	8	5586		
HBLUDW8	332	CBM8-15 CBM8-25	4	HNTT8-8	8	5586		

Ordering Example

Part Number
HBLTD8

Alterations

Part Number	-	(C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLTD8	-	SET

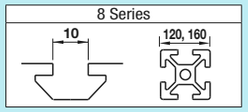
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on **P.754**)  Tapped Hole Position	NBLTD8
			HBLTD8
			CHBLTD8
			HBLTDW8 HBLUD8 NBLUDW8 HBLUDW8

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLTD8 is specified:	NBLTD8
		Code | Screw | Nut SET | CBM8-20 | HNTT8-8 SST | SCB8-20 | HNTTSN8-8 SEU | CBM8-20 | HNTU8-8 SSU | SCB8-20 | SHNTU8-8 SEP | CBM8-20 | HNTP8-8 SSP | SCB8-20 | SHNTP8-8 SEC | HCBST8-24 | HNTT8-8	HBLTD8
		(P)When specifying other than HBLTD8, check for the applicable screws and nuts.	HBLTDB8
			CHBLTD8
			HBLTDW8
			HBLUD8
			HBLUDW8

(P)Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
(P)Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 3 or More Slots

For 8 Series (Slot Width 10mm) Aluminum Extrusions



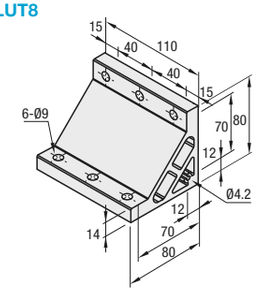
Features: Brackets to connect Extrusions with 3 slots (HFS8-40120 etc.) with one bracket.

Ultra Thick Brackets

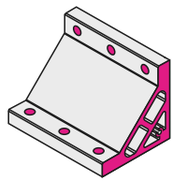


RoHS

NBLUT8
HBLUT8



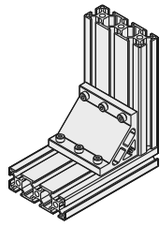
Type	Material	Surface Treatment
NBLUT8	EN AW-6063-T5 Equiv.	Anodize(P)
HBLUT8	EN AC-51400-T5 Equiv.	



(P)Both sides and screw holes of NBLUT8 is not anodized.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLUT8	564	CBM8-25	6	HNTT8-8	6	5292		
HBLUT8								

Example



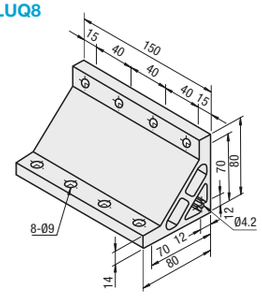
Features: Brackets to connect Extrusions with 4 slots (HFS8-40160 etc.) with one bracket.

Brackets for Heavy Load

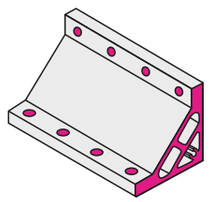


RoHS

NBLUQ8
HBLUQ8



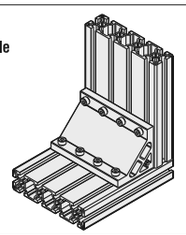
Type	Material	Surface Treatment
NBLUQ8	EN AW-6063-T5 Equiv.	Anodize(P)
HBLUQ8	EN AC-51400-T5 Equiv.	



(P)Both sides and screw holes of NBLUQ8 is not anodized.

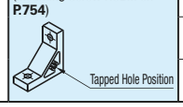
Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLUQ8	770	CBM8-25	8	HNTT8-8	8	7056		
HBLUQ8								

Example



Ordering Example: Part Number **HBLUT8**

Alterations: Part Number HBLUT8 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on P.754)  Tapped Hole Position	NBLUT8
			HBLUT8
			NBLUQ8
			HBLUQ8

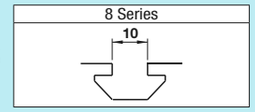
Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBLUT8 is specified: Code: SET; Screw: CBM8-25; Nut: HNTT8-8. (P) When specifying other than HBLUT8, check for the applicable screws and nuts.	NBLUT8
			HBLUT8
			NBLUQ8
			HBLUQ8

Code	Screw	Nut
SET	CBM8-25	HNTT8-8
SST	SCB8-25	HNTTSN8-8
SEU	CBM8-25	HNTU8-8
SSU	SCB8-25	SHNTU8-8
SEP	CBM8-25	HNTP8-8
SSP	SCB8-25	SHNTP8-8
SEC	HCBST8-29	HNTT8-8

(P)Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Post-Assembly Insertion Easy Brackets

For 8 Series (Slot Width 10mm) Aluminum Extrusions



Features: 2 aluminum extrusions can be easily connected with only 1 tightening screw. Brackets can be mounted on the extrusion slots after assembly.

Post-Assembly Insertion Easy Brackets

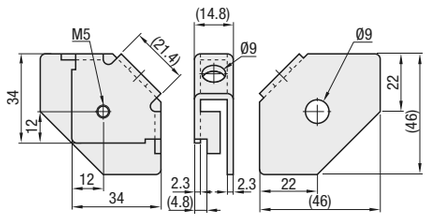


RoHS

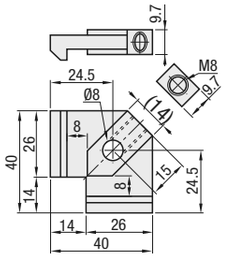
Components	Material	Surface Treatment
①Joint Plate	EN 1.0330 Equiv.	Trivalent Chromate
②Joint Brackets	EN 1.1191 Equiv.	
③Hex Socket Head Cap Screw	EN 1.7220 Equiv.	

HABL8

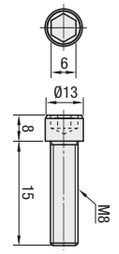
①Joint Plate



②Joint Brackets



③Hex Socket Head Cap Screw

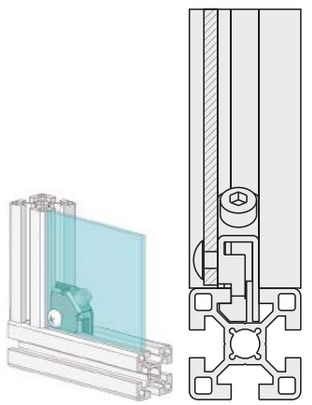


(P)Overtightening may cause deformation of joint plates. (Reference Tightening Torque 15N · m)

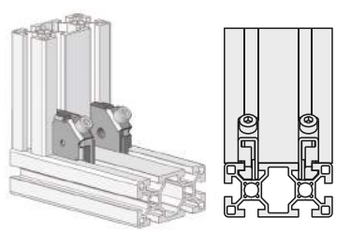
Part Number Type	Mass (g)	Included Screw		Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity		1~99 pc(s).	100~200
HABL8	120	Hex Socket Head Cap Screw M8x15	1	800		

Ordering Example: Part Number **HABL8**

Example

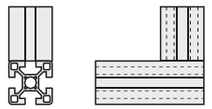
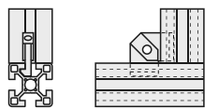
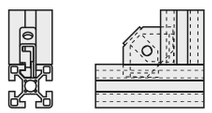
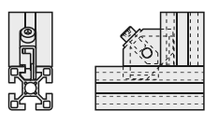


Holes are tapped on a bracket for cover mounting.



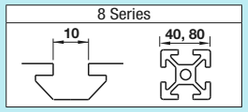
For aluminum extrusions with 2 slots, brackets can be mounted on both sides.

Connection Method

StepFront View	Side View	Sketch Drawing
1		 Place 2 aluminum extrusions and adjust the frame positions.
2		 Fit the joint bracket ② in the slot of the aluminum extrusions.
3		 Cover the joint bracket ② on the joint plate ①.
4		 (P)Overtightening may cause deformation of joint plates. Tighten a hex socket head cap screw ③ to fix the plate. (Reference Tightening Torque: 15N • m)

Thin Brackets

For 8 Series (Slot Width 10mm) Aluminum Extrusions



Features: Thin Extruded Brackets with space saving design.

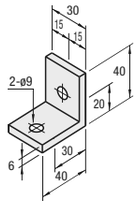
Thin Brackets



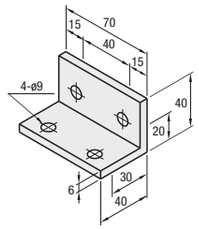
RoHS

Type	Material	Surface Treatment
HBLS_8	EN AC-51400-T5 Equiv.	Anodize
HBLSSB8		Black Anodize

HBLSS8
HBLSSB8
(Black Anodize)



HBLSD8

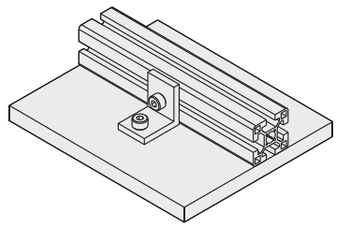


Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
		Screw	Quantity	T Nut	Quantity			
HBLSS8	34	CBM8-15	2	HNTT8-8	2	1666		
HBLSSB8* (Black Anodize)								
HBLSD8	80		4		4	2352		

* For repairing black anodizing, refer to **P.846**.

Ordering Example | Part Number
HBLSS8

Example



Alterations

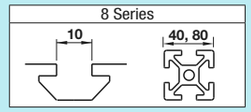
Part Number - (SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLSS8 - SET

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) / SEU (Pre-Assembly Insertion Spring Nuts) / SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) / SEP (Post-Assembly Insertion Spring Nuts) / SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) / SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLSS8 is specified: SET: CBM8-15 / HNTT8-8 SST: SCB8-15 / HNTTSN8-8 SEU: CBM8-15 / HNTU8-8 SSU: SCB8-15 / SHNTU8-8 SEP: CBM8-15 / HNTP8-8 SSP: SCB8-15 / SHNTP8-8 SEC: HCBST8-20 / HNTT8-8 When specifying other than HBLSS8, check for the applicable screws and nuts.	HBLSS8 HBLSSB8 HBLSD8

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

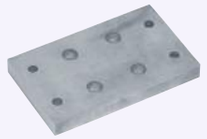
Plate Brackets / Block Brackets

For 8 Series (Slot Width 10mm) Aluminum Extrusions



Features: Direct screw-on brackets to use on tapped extrusions.

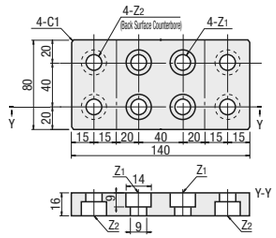
Plate Brackets



Material: EN 1.0038 Equiv.
Surface Treatment: Electroless Nickel Plating

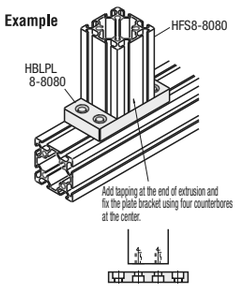
RoHS

HBLPL8



* Screws are not included.

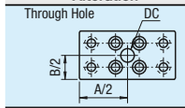
Example



Part Number	Extrusion	Z_1 Applicable Screw	Z_2 Applicable Screw	Mass (g)	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HBLPL8	8080	M8	M8	1240		

Ordering Example | Part Number - Extrusion
HBLPL8 - 8080

Alterations | Part Number - Extrusion - (DC)
HBLPL8 - 8080 - DC20

Alteration	Code	Spec.
Through Hole, DC 	DC	Adds a through hole. DC=Hole Dia. 1 mm Increment 10≤DC≤20 Ordering Code DC12

Features: The brackets do not protrude from extrusion widths when used to cross connect extrusions. Space-saving design compared to Tabbed Reversal Brackets.

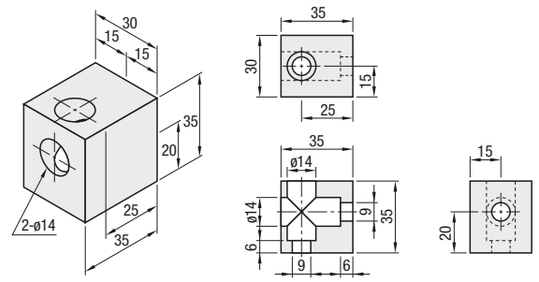
Block Brackets



Material: EN AC-51400-T5 Equiv.
Surface Treatment: Anodize

RoHS

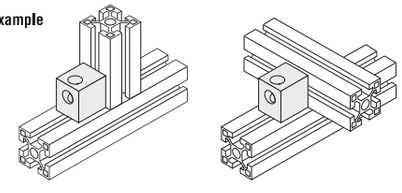
HBLBL8



Part Number Type	Mass (g)	Applicable Screws and Nuts Set Screw	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HBLBL8	79	CBM8-15	2	1666		

Ordering Example | Part Number
HBLBL8

Example



Alterations | Part Number - (SET, SST, SEU, SSU, SEP, SSP)
HBLBL8 - SET

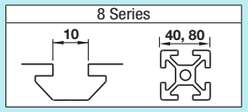
Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) / SEU (Pre-Assembly Insertion Spring Nuts) / SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) / SEP (Post-Assembly Insertion Spring Nuts) / SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) CODE / Screw / Nut SET: CBM8-15 / HNTT8-8 SST: SCB8-15 / HNTTSN8-8 SEU: CBM8-15 / HNTU8-8 SSU: SCB8-15 / SHNTU8-8 SEP: CBM8-15 / HNTP8-8 SSP: SCB8-15 / SHNTP8-8	HBLBL8

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Angled Brackets

For 8 Series (Slot Width 10mm) Aluminum Extrusions

8 Series



Features: Extruded Brackets to connect extrusions at angles.

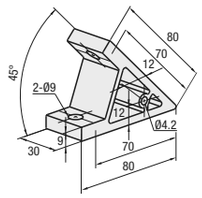
Angled Brackets



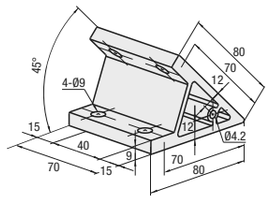
RoHS

Type	Material	Surface Treatment
HBL45T□8	EN AC-51400-T5 Equiv.	Anodize
HBL135T□8		

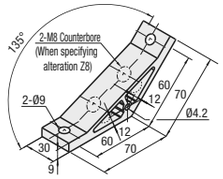
HBL45TS8



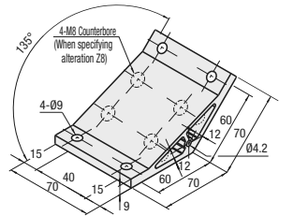
HBL45TD8



HBL135TS8



HBL135TD8

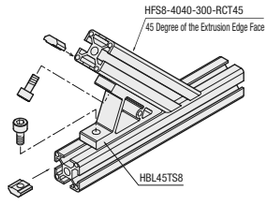


Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBL45TS8	88	CBM8-20	2	HNTT8-8	2	2058		
HBL45TD8	204		4		4	2940		
HBL135TS8	103		2		2	2058		
HBL135TD8	240		4		4	2940		

Ordering Example — Part Number: HBL45TS8

Example

Combination of these app. examples can be selected on our website.
Selection Step Details P.87

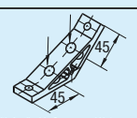




*Enter the search keyword in the search box on e-Catalog. The search result will be shown in "Modular Assembler" area.

e-Catalog Search Keyword: #MA901 Search

Alterations — Part Number: HBL45TS8 - (C, SET, SST, SEU, SSU, SEP, SSP, Z8): SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on P.754) 	HBL45TS8 HBL135TS8
Counterbored Holes on 135 Degree Bracket	Z8	135 Degree Bracket Adds two counterbored holes on HBL135T□8. (Applicable Screws: M8)  ⊗Not available in combination with Applicable Screws and Nuts.	HBL135TS8 HBL135TD8

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.) (Ex.) When HBL45TS8 is specified:	HBL45TS8 HBL45TD8 HBL135TS8 HBL135TD8

CODE	Screw	Nut
SET	CBM8-20	HNTT8-8
SST	SCB8-20	HNTTSN8-8
SEU	CBM8-20	HNTU8-8
SSU	SCB8-20	SHNTU8-8
SEP	CBM8-20	HNTP8-8
SSP	SCB8-20	SHNTP8-8

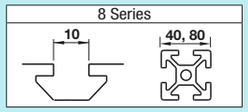
When specifying other than HBL45TS8, check for the applicable screws and nuts.

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Free Angle Brackets

For 8 Series (Slot Width 10mm) Aluminum Extrusions

8 Series



Features: Extrusions can be connected at any arbitrary angles.

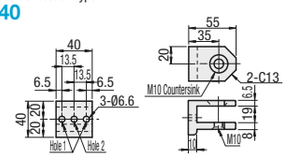
Free Angle Brackets



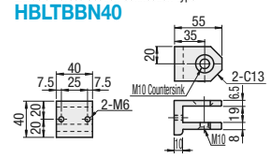
RoHS

Type	Material	Surface Treatment
HBLTBA40 HBLTBBN40 HBLTBC40 HBLTBD40	EN AC-51400-T5 Equiv.	Anodize
Included Screw	EN 1.7220 Equiv.	Trivalent Chromate

Extrusion Side Face Connection Type
HBLTBA40

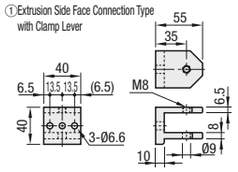


Extrusion Cross Section Connection Type
HBLTBBN40

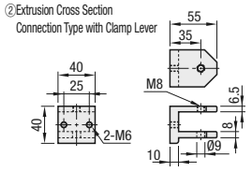


Clamp Lever Type
HBLTBC40 (①+③)
HBLTBD40 (②+③)

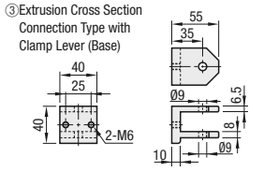
①Extrusion Side Face Connection Type with Clamp Lever



②Extrusion Cross Section Connection Type with Clamp Lever



③Extrusion Cross Section Connection Type with Clamp Lever (Base)



Part Number Type	No.	Applicable Extrusion	Mass (g)	Accessory	Quantity	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~50
HBLTBA	40	40 Square (HFS8)	97	M10×16	1		
HBLTBBN			98				
HBLTBC			267	CLDM8-40-M	1		
HBLTBD			269				

Ordering Example — Part Number: HBLTBA40

Alterations — Part Number: HBLTBA40 - SET2; HBLTBBN40 - SET; (SET, SET1, SET2, SET3, SET4, SET5)

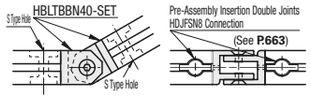
Alterations	Code	How to Use	Part Number Type	No.	Accessory Screw	Quantity	Nuts, Pre-Assembly Insertion Double Joints	Quantity
Applicable Screws and Nuts Set	SET		HBLTBBN	40	CBM6-35	2	HDJFSN8	1
	SET1	Use the hole 1.	HBLTBA		CBM6-20	2	HNTT8-6	2
	SET2	Use the hole 2.			CBM6-20	1	HNTT8-6	1
	SET3	Use the hole 1.	HBLTBC		CBM6-35	2	HDJFSN8	1
					CBM6-20	2	HNTT8-6	2
	SET4	Use the hole 2.	HBLTBC		CBM6-35	2	HDJFSN8	1
					CBM6-20	1	HNTT8-6	1
	SET5		HBLTBD		CBM6-35	4	HDJFSN8	2

When connecting with Pre-Assembly Insertion Double Joints, S type hole machining (**P.765**) is required on extrusions.
Included Screw is not RoHS compliant when -SET □ is specified.

Example

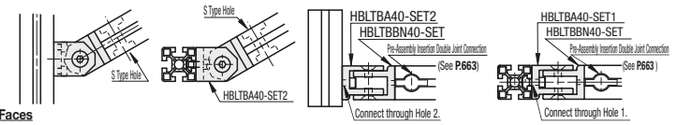
(1) Connection of Two End Sections

Two pieces of HBLTBBN are used to connect two end sections using Pre-Assembly Insertion Double Joints (**P.663**). (With Clamp Lever Type: HBLTBD40)



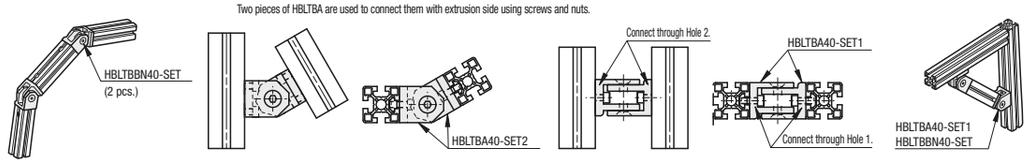
(2) Connection of Two Side Faces

To the extrusion side face, connect with HBLTBA, a screw and a nut. To the end face, use 1 HBLTBBN for 1 HBLTBA using Pre-Assembly Insertion Double Joints. (With Clamp Lever Type: HBLTBC40)



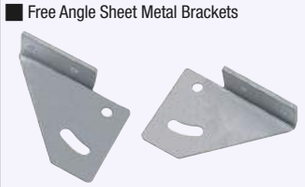
(3) Connection of Two Side Faces

Two pieces of HBLTBA are used to connect them with extrusion side using screws and nuts.



Features: Sheet Metal Brackets to fix at arbitrary positions.

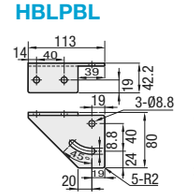
Free Angle Sheet Metal Brackets



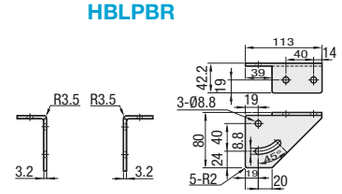
Material: EN 1.0330 Equiv.
Surface Treatment: Trivalent Chromate

RoHS

HBLPBL



HBLPBR



Ordering Example — Part Number: HBLPBL8

Part Number Type	No.	Applicable Extrusion	Applicable Screw and Nut: Hex Socket Head Cap Screws with Captured Washer	Quantity	Nut	Quantity	Unit Price 1~99 pc(s).	Volume Discount Rate 100~150
HBLPBL HBLPBR	8	40 Square (HFS8)	CBST8-15	4	HNTT8-8	4		

Example



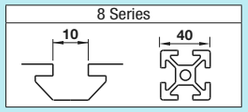
Alterations — Part Number: HBLPBL8 - SET; (SET, SET1)

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET	Supplies a set of applicable screws and nuts for fixing the bracket to a extrusion.	HBLPBL8 HBLPBR8
Set with applicable screws, nuts and clamp levers	SET1	Applicable Screw: 3 pcs. Clamp Lever (LNP): 1 pc. Flat Washer (PWF): 1 pc. Applicable Nut: 4 pcs. Set with the above items.	HBLPBL8 HBLPBR8

Corner Brackets, Corner Blind Brackets

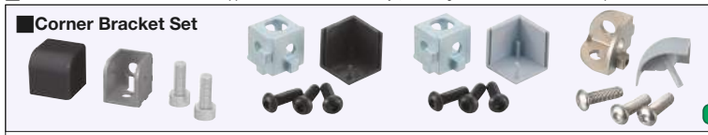
For 8 Series (Slot Width 10mm) Aluminum Extrusions 40 Square

8 Series



Features: Brackets to connect end-tapped extrusions in 2 and 3-ways, including function as extrusion end caps.

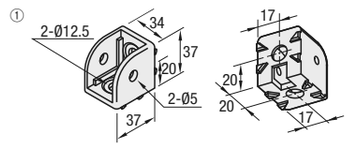
Corner Bracket Set



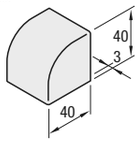
RoHS

Type	Material	Surface Treatment
HBLCS8	①EN AC-46100 Equiv. ②Polyamide	-
HBLCR8	①EN ZC0400 Equiv. ②Polyamide	Trivalent Chromate
HBLCD8	①EN 1.4308 Equiv. ②Polyamide	-

Two-Way Type **HBLCS8-B**

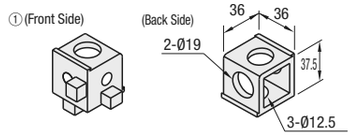


②End Cap for Corner Brackets

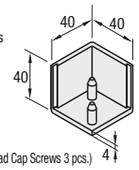


(Hex Socket Head Cap Screw 2 pcs. included)

Three-Way Type **HBLCR8-B** (Cap: Black)
HBLCR8-S (Cap: Gray)



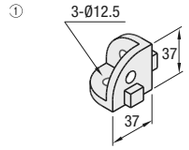
②End Cap for Corner Brackets



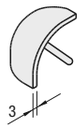
(Accessory: Button Head Cap Screws 3 pcs.)

As HBLCR8-□ is zinc die cast, use it under 100°C.

HBLCD8-S (Cap: Gray)



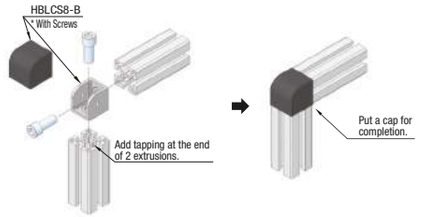
②End Cap for Corner R Brackets



(Accessory: Button Head Cap Screws 3 pcs.)

Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HBLCS8-B	64	CBS12-30	2	800		
HBLCR8-B	84	CBS12-30	3	1623		
HBLCR8-S	84			1623		
HBLCD8-S	64	Button Head Cap Screw M12x30	3	3026		

Ordering Example — Part Number: HBLCS8-B



Features: Brackets for internal connection without alterations, including function as extrusion end caps.

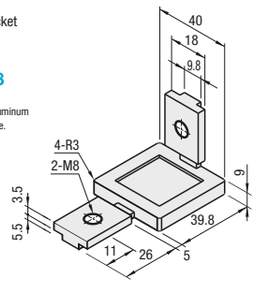
Corner Blind Brackets



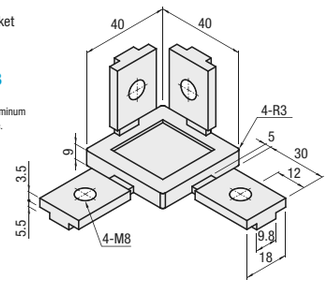
RoHS

Type	Material	Surface Treatment
HBLBCA8	EN 1.1191 Equiv.	Trivalent Chromate
SHBLBCA8	EN 1.4308 Equiv.	-
HBLBCB8	EN 1.1191 Equiv.	Trivalent Chromate
SHBLBCB8	EN 1.4308 Equiv.	-

Corner Blind Bracket
Two-Way Type
HBLBCA8
SHBLBCA8
(Stainless Steel)
Not applicable to Aluminum Extrusions 80 square.



Corner Blind Bracket
Three-Way Type
HBLBCB8
SHBLBCB8
(Stainless Steel)
Not applicable to Aluminum Extrusions 80 square.

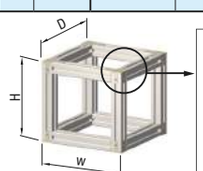


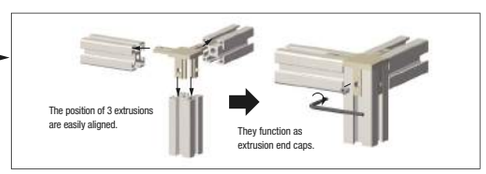
Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~150
HBLBCA8	128	Set Screw M8x10	2	700		
SHBLBCA8 (Stainless Steel)						
HBLBCB8	180	Set Screw M8x10	4	1400		
SHBLBCB8 (Stainless Steel)						

Ordering Example — Part Number: HBLBCA8

App. Example: Corner Blind Bracket

Length of extrusion fitted as shown on the right (mm)
- Extrusion length L used for W
  L=W-(Extrusion Thickness x2)
- Extrusion length L used for D
  L=D-(Extrusion Thickness x2)
- Extrusion length L used for H
  L=H-18
  (Thickness of corner blind brackets x Upper and Lower 2 pcs.)





Blind Brackets, Free Angle Brackets

For 8 Series (Slot Width 10mm) Aluminum Extrusions

Features: No need for alterations to hide brackets inside of the slot.

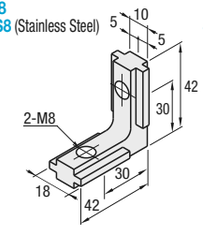
Blind Brackets



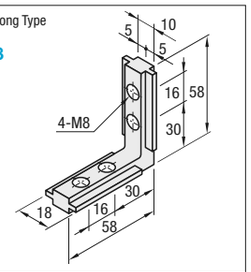
RoHS

Type	Material	Surface Treatment
HBLBS8	EN 1.1191 Equiv.	Trivalent Chromate
SHBLBS8	EN 1.4308 Equiv.	-
HBLBSL8	EN 1.1191 Equiv.	Trivalent Chromate
SHBLBSL8	EN 1.4308 Equiv.	-

Blind Bracket
HBLBS8
SHBLBS8 (Stainless Steel)



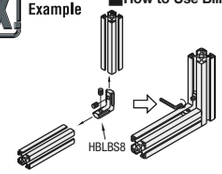
Blind Bracket - Long Type
HBLBSL8
SHBLBSL8



Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HBLBS8	70	Set Screw M8x10	2	1274		
SHBLBS8 (Stainless Steel)						
HBLBSL8	87		4	1554		
SHBLBSL8 (Stainless Steel)						

Example

How to Use Blind Brackets



Features: Blind Brackets Post Assy. Insertion Type.

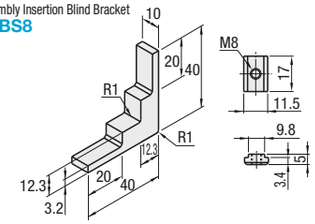
Post-Assembly Insertion Blind Bracket



RoHS

Type	Components	Material
HABLBS8	Post-Assembly Insertion BB Body	EN 1.4308 Equiv.
	Post-Assembly Insertion BB Nut	EN 1.4301 Equiv. Sintered Alloy
	Set Screw	EN 1.4301 Equiv.

Post-Assembly Insertion Blind Bracket
HABLBS8



Part Number / Type	Mass (g)	Accessory	Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HABLBS8	47	Nut, Set Screw M8x6	2	700		

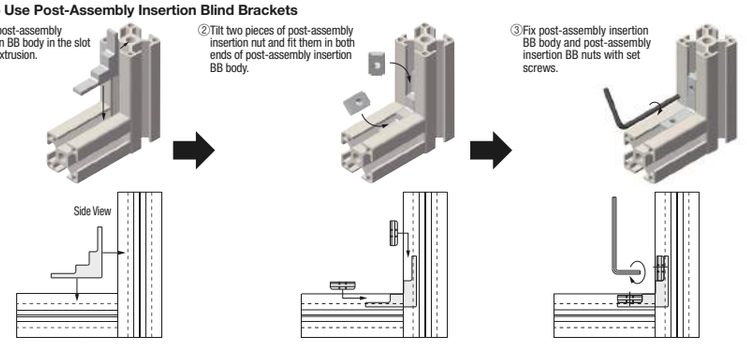
Example

How to Use Post-Assembly Insertion Blind Brackets

①Fit the post-assembly insertion BB body in the slot of the extrusion.

②Tilt two pieces of post-assembly insertion nut and fit them in both ends of post-assembly insertion BB body.

③Fix post-assembly insertion BB body and post-assembly insertion BB nuts with set screws.



Features: Blind Brackets to connect 40, 30 square Extrusions.

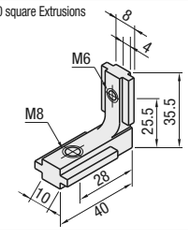
Blind Bracket for Different Extrusion Sizes



RoHS

Type	Material	Surface Treatment
HBLBS8-6	EN 1.1191 Equiv.	Trivalent Chromate

Blind Bracket for 40 and 30 square Extrusions
HBLBS8-6



Part Number	Mass (g)	Connectable Extrusion Series	Included Set Screw	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HBLBS8-6	50	HFS8 and HFS6 HFS8-45 and HFS6	M6x8: 1 pc., M8x10: 1 pc.		

Ordering Example — Part Number: HBLBS8

Blind Joints - Overview

For 8 Series (Slot Width 10mm) Aluminum Extrusions

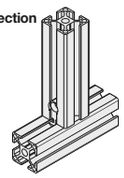
■Features of Blind Joints

Connection inside of the extrusions provides good apearance.
Also convenient where interference inside of the corners are not desired or panels need to be inserted into the extrusion slots.

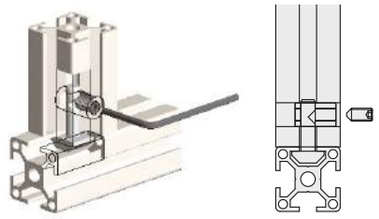
Bracket Connection

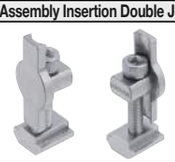
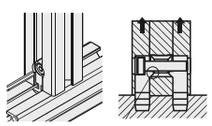
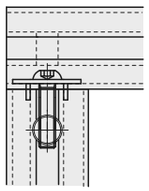
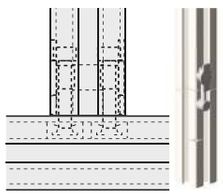
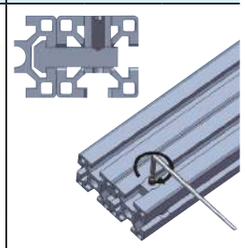


Blind Joint Connection



■Product List

Product Name	Tapping Joints	Screw Joints	Center Joint
Product Photo			
Features	・Tapping is not necessary. ・Most economical Blind Joints.	・Joint Plate enables secure and economical connection.	・Most standard Blind Joints usable with various types of aluminum extrusions.
Installation Diagram			
Material	JIS-SWCH18A	Steel or EN 1.4301 Equiv.	EN 1.4308 Equiv.
Representative Type	HTJ	HCJ	HMJ
Applicable Extrusion No.	5 / 6 / 8	5 / 6 / 8 / 8-45	5 / 6 / 8 / 8-45
Page	P.660	P.660	P.662
Alterations (pages) required for extrsions	Wrench Hole P.759	Tapping / Wrench Hole P.757, 759	M Type Hole P.766

Product Name	Post-Assembly Insertion Double Joints	Single Joints	Pre-Assembly Insertion Double Joints	Parallel Joints
Product Photo				
Features	・Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.	・D type holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.	・Can be used for various applications such as to extend extrusions as well as mounting to plates.	・Extrusions can be connected in parallel.
Installation Diagram				
Material	EN 1.4308 Equiv. / EN 1.4301 Equiv.	Steel or EN 1.4301 Equiv.	EN 1.4401 Equiv. / EN 1.4301 Equiv.	EN 1.4308 Equiv., EN 1.4301 Equiv.
Representative Type	HPJN	HSJ	HDJSN	HLJ
Applicable Extrusion No.	5 / 6 / 8 / 8-45	6 / 8 / 8-45	6 / 8 / 8-45	5 / 6 / 8
Page	P.663	P.661	P.663	P.664
Alterations (pages) required for extrsions	M Type Hole P.766	Wrench Hole / D Type Hole P.759, 764	S Type Hole P.765	L Type Hole P.767

Blind Joint Components

Tapping Joints / Screw Joints for 8 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.602-603**.

Alterations necessary to use this component

Wrench Hole	Tapping
P.759	P.757

■Features: Necessary alteration is only for wrench holes. Most economical Blind Joints. Dedicated Torx Bit is required for tightening.

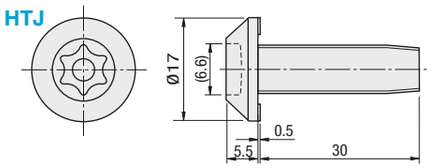
■Tapping Joints

(Reference)Corner section when using this joint



RoHS

HTJ



· Tapping on the extrusion is not necessary.

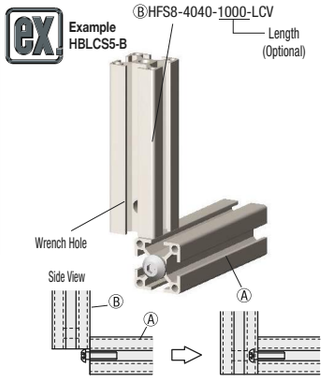
Ⓜ Material: JIS-SWCH18A (Carburized)
Ⓢ Surface Treatment: Trivalent Chromate
* JIS-SWCH18A (Cold Forged Carbon Steel Wire)

Part Number Type	No.	Torx Bit	Applicable Extrusion (Pilot Hole Dia.)	Proper Tightening Torque (Max.)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HTJ	8	HTJXL40	Ø10.5	74N · m		

For orders larger than indicated quantity, please check with WOS.

Applicable Extrusion No.				[Exception] Extrusion Not Available
8-4040*	8-4080	8-40120	8-40160	* Curved HFSR8-4040 is not applicable since wrench holes cannot be added.

ex Example HBLCS5-B

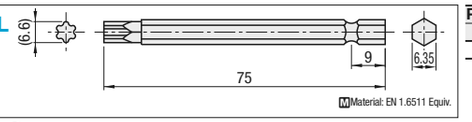


■Torx Bit



RoHS

HTJXL



Ⓜ Material: EN 1.6511 Equiv.

Part Number Type	No.	Applicable Drive for Torx Bit	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HTJXL	40	T40		

■Features: Cost saving blind joints. Including Rotation Stoppers.

■Screw Joints



(Reference)Corner section when using this joint

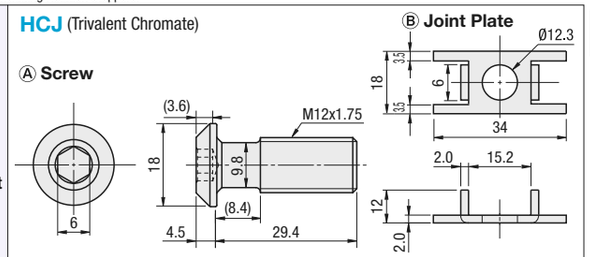


RoHS

HCJ (Trivalent Chromate)

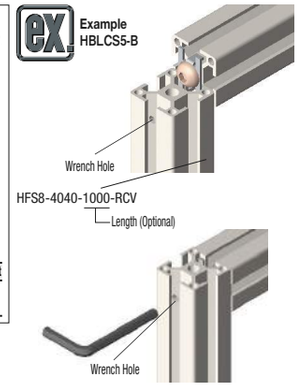
Ⓐ Screw

Ⓑ Joint Plate



Type	Components	Ⓜ Material	Ⓢ Surface Treatment
HCJ	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	

ex Example HBLCS5-B



Part Number Type	No.	Components Ⓐ Screw	Components Ⓑ Joint Plate	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HCJ (Trivalent Chromate)	8	M12	8		

Ordering Example: Part Number HTJ8

Applicable Extrusion No.				[Exception] Extrusion Not Available
8-4040*	8-4080	8-40120	8-40160	*Curved HFSR8-4040 cannot be used, because Wrench Hole Machining is not allowed.

■ Features: Screw joint installable without alterations. (Wrench holes are necessary on the mating extrusion.)

■Aluminum Extrusions with Built-in Screw Joints

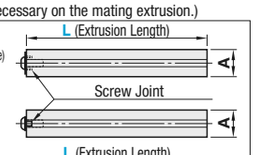


RoHS

Part Name		Ⓜ Material	Ⓢ Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Screw Joints	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	

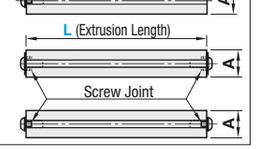
JFSC8-4040L

(Left End Face Screw Joint Pre-Inserted Type)

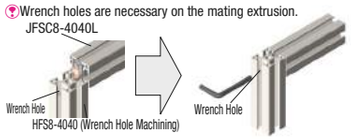


JFSC8-4040W

(Both End Face Screw Joints Pre-Inserted Type)



Wrench holes are necessary on the mating extrusion.



Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component Screw Joints	Built-in Joint Component Quantity	A	Required Wrench for Tightening	Extrusion Unit Price Less than 300mm	Extrusion Unit Price 300mm or more	Joints, Others
JFSC	8-4040	L (Left End Face only) / W (Double End Faces)	100~4000	HFS8-4040 (P.631)	HCJ8	1 / 2	40	For M12			

Ordering Example: Part Number JFSC8-4040L - 1200

Alteration * With Screws

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping Applicable to Left End Pre-Inserted Type only.	RTP Right End Face Tapping	8-4040	M12	36

Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole Applicable to Left End Pre-Inserted Type only.	RCH  RCV	8-4040	20	8

Blind Joint Components

Single Joint Kits for 8 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.609**.

Alterations necessary to use this component

Wrench Hole P.759 | D Type Hole Alterations P.764

Features: D holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.

Single Joint Kits
Standard Type

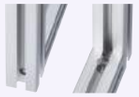


Single Joint Kits
Narrow Type



RoHS

(Ref.) Corner section when using this joint

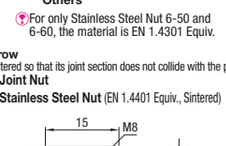


Type	Components					
	①Joint Nut		②Plate		③Screw	
	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface Treatment
HSJ	EN 1.0038 Equiv.	Trivalent Chromate	EN 1.0330 Equiv.	Trivalent Chromate	EN 1.7220 Equiv.	Trivalent Chromate
HSJS HSJNS	EN 1.4401 Equiv. EN 1.4301 Equiv.	-	EN 1.4301 Equiv.	-	EN 1.4301 Equiv.	-

• **Single Joint Kits – Standard**
Use it when edges of two extrusions are connected perpendicularly, after a hole is drilled in each extrusion.

HSJ
(Steel Type)
HSJS
(Stainless Steel)

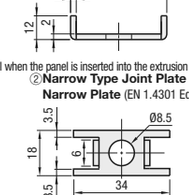
①**Joint Nut** (EN 1.0038 Equiv.)
Stainless Steel Nut (EN 1.4301 Equiv. / EN 1.4401 Equiv., Sintered)



Others

For only Stainless Steel Nut 6-50 and 6-60, the material is EN 1.4301 Equiv.

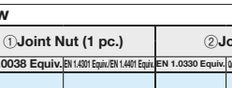
②**Joint Plate**
Plate (EN 1.0330 Equiv.)
Stainless Steel Plate (EN 1.4301 Equiv.)



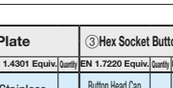
• **Single Joint Kits - Narrow**
Shape of Narrow Type has altered so that its joint section does not collide with the panel when the panel is inserted into the extrusion slot.

HSJNS
(Stainless Steel)

①**Joint Nut**
Stainless Steel Nut (EN 1.4401 Equiv., Sintered)



②**Narrow Type Joint Plate**
Narrow Plate (EN 1.4301 Equiv.)



Extrusions Applicable to Single Joint
(Not applicable to extrusions not listed in the table.)

Features	Extrusion: HFS8 Series 40, 80mm Square Slot Width 10mm		
	Type	No.	Applicable Single Joint
Four-Side Slots	HFS8 GFS8 EFS8 CAF8 HFSY8 NEFS8	4040 4080 40120 40160	HSJ8 / HSJS8 / HSJNS8 HSJ8 / HSJS8 / HSJNS8 HSJ8 / HSJS8 / HSJNS8 HSJ8 / HSJS8 / HSJNS8
3-Side Slot 1Side Flat	HFSF8 GFSF8 EFSF8 NEFSF8	4040	HSJ8 / HSJS8 / HSJNS8
Two-Side Slots Two Flats	HFST8 GFST8 EFST8 NEFST8	4040	-
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	HSJ8 / HSJS8 / HSJNS8
One-Side Slot Three Flats	HFSC8 EFSC8	4040	HSJ8 / HSJS8 / HSJNS8
Light Type	HFSL8	4040 4080	HSJ8 / HSJS8 / HSJNS8 HSJ8 / HSJS8 / HSJNS8
Black Anodize	HFSB8 EFSB8 HFSFB8 HFSTB8 HFSLB8	4040 4080 4040 4040 4040 4080	HSJ8 / HSJS8 / HSJNS8 HSJ8 / HSJS8 / HSJNS8 HSJ8 / HSJS8 / HSJNS8 - HSJ8 / HSJS8 / HSJNS8 HSJ8 / HSJS8 / HSJNS8

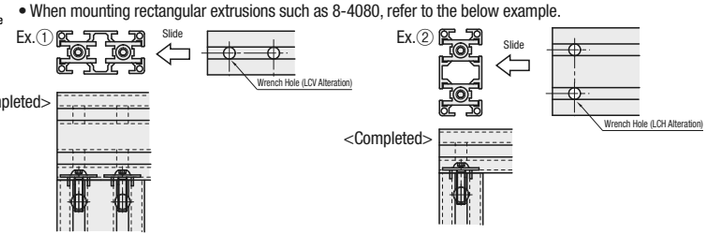
Single Joint Kits - Standard / Narrow

Type	Part Number: Type	Part Number: No.	Extrusion (Type)	①Joint Nut (1 pc.): EN 1.0038 Equiv.	①Joint Nut (1 pc.): EN 1.4301 Equiv./EN 1.4401 Equiv.	②Joint Plate: EN 1.0330 Equiv.	②Joint Plate: Quantity	②Joint Plate: EN 1.4301 Equiv.	②Joint Plate: Quantity	③Hex Socket Button Head Cap Screw: EN 1.7220 Equiv.	③Hex Socket Button Head Cap Screw: Quantity	③Hex Socket Button Head Cap Screw: EN 1.4301 Equiv.	③Hex Socket Button Head Cap Screw: Quantity	Steel Type: Unit Price 1~99 pc(s).	Steel Type: Unit Price 100~120	Steel Type: Volume Discount Rate	Stainless Steel Type: Unit Price 1~99 pc(s).	Stainless Steel Type: Unit Price 100~120	Stainless Steel Type: Volume Discount Rate
Standard Type	HSJ HSJS (Stainless Steel)	8	See the table on the top right.	Nut 8	Stainless Steel Nut 8	Plate 8	1	Stainless Steel Plate 8	1	Button Head Cap Screw M8-35	1	Button Head Cap Screw Stainless Steel M8-35	1						
Narrow Type	HSJNS (Stainless Steel)	8		-	Stainless Steel Nut 8	-	-	Narrow Plate 8	1	-	-	Button Head Cap Screw Stainless Steel M8-35	1	-					

Ordering Example: Part Number **HSJ8**

Example

• When mounting rectangular extrusions such as 8-4080, refer to the below example.



Features: Single joint installable without alterations. (Wrench holes are necessary on the mating extrusion.)

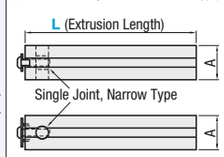
Aluminum Extrusions with Built-in Single Joints



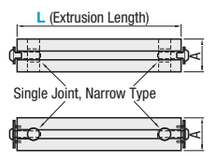
RoHS

Part Name	M Material	S Surface Treatment
Aluminum Extrusion	EN AC-51400-T5 Equiv.	Anodize
Single Joint Kit: Joint Plate	EN 1.4301 Equiv.	-
Single Joint Kit: Joint Nut	EN 1.4401 Equiv.	
Single Joint Kit: Hex Socket Button Head Cap Screw	EN 1.4567 Equiv.	

JFSS8-4040L
(Left End Face Single Joint Pre-Inserted Type)

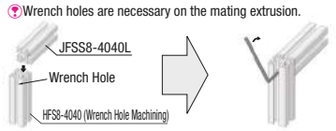


JFSS8-4040W
(Both End Face Single Joints Pre-Inserted Type)



Joint components will be shipped loosely tightened.

Wrench holes are necessary on the mating extrusion.



Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component: Single Joints	Built-in Joint Component: Quantity	A	Required Wrench for Tightening	Extrusion Unit Price: Less than 300mm	Extrusion Unit Price: 300mm or more	Joints, Others
JFSS	8-4040	L (Left End Face only) W (Double End Faces)	100~4000	HFS8-4040 (P.631)	HSJNS8	1 2	40	For M8			

Ordering Example: Part Number **JFSS8-4040L - 1200**

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Tap	Depth
Right End Face Tapping JFS□□-□□□□L is only applicable to Left End Face Joint Pre-Inserted Type.	RTP Right End Face Tapping	8-4040	M12	36

Alterations	Code	Spec. Extrusion	H	Hole Dia.
Right End Face Wrench Hole Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.	RCH RCV	8-4040	20	8

Blind Joint Components

Center Joint Kits for 8 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.605**.

Alterations necessary to use this component

M Type Hole Alterations P.766

Features: Requires only one screw for tightening. Work efficiency enhancing anti-rotation type is added.

Center Joint Kits
Pre-Assembly Insertion Type

(Standard Direction) (90-Degree Rotated)



Center Joint Kits
Post-Assembly Insertion Type



Center Joint Kits
With Rotation Stopper



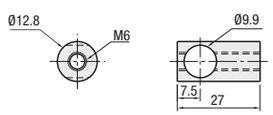
RoHS

(Ref.) Corner section when using this joint

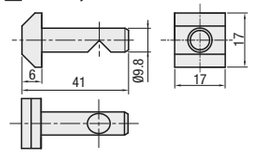


Type	Components (1 pc. each): Joint Guide Type	Joint Guide M Material	Center Post Type	Center Post M Material	Set Screw Size	Set Screw M Material
HMJ	Standard	EN 1.4301 Equiv.	Pre-Assembly Insertions Standard Direction	EN 1.4308 Equiv.	NO.8:M6x16	EN 1.7220 Equiv. (Surface Treatment: Black Oxide Film)
HMJR			Pre-Assembly Insertion 90-Degree Rotated			
HAMJ			Post-Assembly Insertion Standard Direction			
HZJ	With Rotation Stopper	EN 1.4301 Equiv.	Pre-Assembly Insertion Standard Direction	EN 1.4308 Equiv.		
HAZJ			Post-Assembly Insertion Standard Direction			

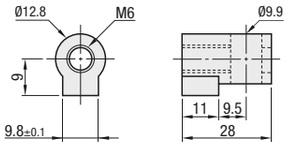
Joint-Guide (Standard)



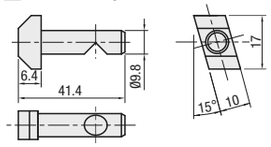
Pre-Assembly Insertion Center Post Standard Direction



Joint-Guide (with Rotation Stopper)



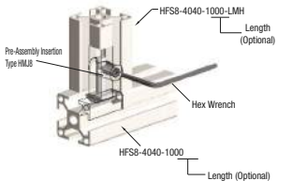
Post-Assembly Insertion Center Post



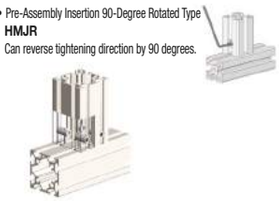
Applicable Extrusion No.				[Exception] Extrusion Not Available
8-4040*1	8-4080	8-40120	8-40160*2	*1 Curved HFSR8-4040 cannot be used, because Wrench Hole Machining is not allowed. *2 Cannot be used in the long side direction because standard hole machining is not allowed.

Example

•Product Number for the parts shown on the above example (Standard Type).



• Pre-Assembly Insertion 90-Degree Rotated Type
HMJR
Can reverse tightening direction by 90 degrees.



2-slotted extrusions can be connected by using two Center Joint kits.

3-slotted extrusions are connected using two outside slots only.

Part Number: Type	Part Number: No.	Accessory: Center Post	Quantity	Joint Guide	Quantity	Set Screw	Quantity	HMJ HMJR HAMJ: Unit Price 1~99 pc(s).	HMJ HMJR HAMJ: Volume Discount Rate 100~120	HZJ HAZJ: Unit Price 1~99 pc(s).	HZJ HAZJ: Volume Discount Rate 100~120
HMJ HZJ (Pre-Assembly Insertion Standard Direction Type)	8	Pre-Assembly Insertion Center Post 8	1	Joint Guide 8	1	M6x16	1				
HMJR (Pre-Assembly 90-Degree Reversal Type)	8	Pre-Assembly Insertion Center Post 8 Rotated								-	-
HAMJ HAZJ (Post-Assembly Insertion Type)	8	Post-Assembly Insertion Center Post 8									

Ordering Example: Part Number **HMJ8**

Features: Center joint installable without alterations. (No holes are required on the mating extrusion.)

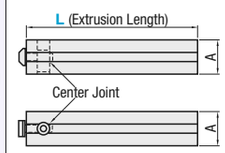
Aluminum Extrusions with Built-in Center Joints



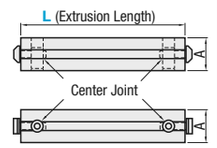
RoHS

Part Name	M Material	S Surface Treatment
Aluminum Extrusion	EN AC-51400-T5 Equiv.	Anodize
Center Joint: Center Post	EN 1.4308 Equiv.	-
Center Joint: Joint Guide	EN 1.4301 Equiv.	
Center Joint: Set Screw	EN 1.7220 Equiv.	Black Oxide Film

JFSM8-4040L
(Left End Face Center Joint Pre-Inserted Type)

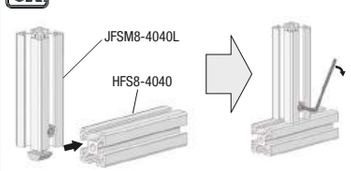


JFSM8-4040W
(Both End Face Center Joints Pre-Inserted Type)



Joint components will be shipped loosely tightened.

Example



Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component: Center Joint	Built-in Joint Component: Quantity	A	Required Wrench for Tightening	Extrusion Unit Price: Less than 300mm	Extrusion Unit Price: 300mm or more	Joints, Others
JFSM	8-4040	L (Left End Face only) W (Double End Faces)	100~4000	HFS8-4040 (P.631)	HMJ8	1 2	40	For M6			

Ordering Example: Part Number **JFSM8-4040L - 1200**

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Tap	Depth
Right End Face Tapping JFS□□-□□□□L is only applicable to Left End Face Joint Pre-Inserted Type.	RTP Right End Face Tapping	8-4040	M12	36

Alterations	Code	Spec. Extrusion	H	Hole Dia.
Right End Face Wrench Hole Applicable to JFSC□-□□□□L and JFSS□-□□□□L only.	RCH RCV	8-4040	20	8

Blind Joint Components

Pre-Assembly Insertion Double Joint Kits for 8 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.611**.

Alterations necessary to use this component

S Type Hole Alterations P.765

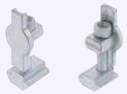
Features: Two screws are used for connection. Can be used to extend extrusions as well as mounting to plates. A joint type superior in mounting flexibility.

Pre-Assembly Insertion Double Joint Kits

-Standard Type-



-Offset Nut Type-



Products shown in the picture come by ordering quantity 1.

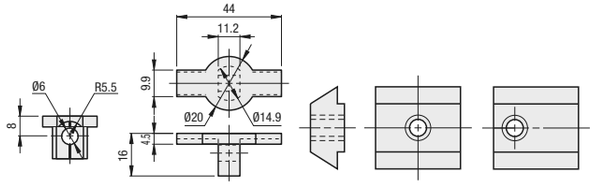
RoHS

HDJSN
HDJHSN
(Offset Nut Type)

① Pre-Assembly Insertion Double Joint
HDJFSN (EN 1.4401 Equiv., Sintered)

② Pre-Assembly Insertion Nut
HNTTSN
(EN 1.4401 Equiv., Sintered)
Electrically Conductive

HNTHSN
(EN 1.4401 Equiv., Sintered)
Electrically Conductive



Pre-Assembly Insertion Double Joint	Part Number		Usable in any direction	Usable in the short length direction	Usable in the long length direction	Usable in the direction where there is no flat surface at the connecting part.
HDJSN8 HDJHSN8 HDJFSN8	NFS8	4040	○			
	HFS8	4080	○			
	GFS8	40120		○		
	EFS8	40160		○		
	HFSY8	8080	○			
	NEFS8	80160		○		
	HFSH8	8080	○			
	HFSF8	4040				○
	GFSF8	4080			○	○
	EFSF8	8080				○
	NEFSF8	80160				○
	HFSH8	4040				○
	EFSH8	4080			○	○
	NFSL8	4040	○			
	HFSL8	4080	○			
		4040	○			
		4080	○			
	HFSB8	40120		○		
	EFSB8	40160		○		
		8080	○			
		80160		○		
	HFSFB8	4040				○
	HFSLB8	4040	○			
		4080	○			

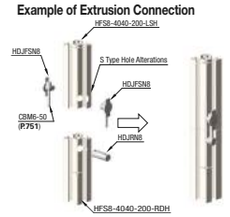
Not applicable to extrusions not listed above.

Pre-Assembly Insertion Double Joint Kits

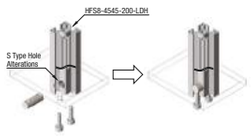
Type	Part Number		① Pre-Assembly Insertion Double Joint (2 pcs.)	② Pre-Assembly Insertion Nut (2 pcs.)	③ Hex Socket Head Cap Screw (2 pcs.)	Unit Price	Volume Discount Rate
	Type	No.	EN 1.4401 Equiv.	EN 1.4401 Equiv.	EN 1.4301 Equiv.	1~99 pc(s).	100~120
Standard Type	HDJSN (EN 1.4401 Equiv., Sintered)	8	HDJFSN8	HNTTSN8-6	SCB6-35		
Offset Nut Type	HDJHSN (EN 1.4401 Equiv., Sintered)	8	HDJFSN8	HNTHSN8	SCB6-35		

Example

Example of Extrusion Connection



Example of Mounting to an Extrusion from the Bottom

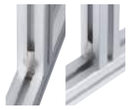


① Pre-Assembly Insertion Double Joint Single Item

Part Number		Unit Price	Volume Discount Rate
Type	No.	1~99 pc(s).	100~120
HDJFSN (One set contains 2 pcs.)	8		

One set is required to connect one place.

(Reference)
Corner section when using this joint

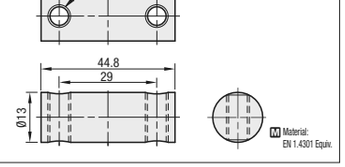


Nuts for Pre-Assembly Insertion Double Joints Joint Nut



RoHS

HDJRN



Part Number		Applicable			Mass (g)	Unit Price	Volume Discount Rate
Type	No.	Applicable Extrusion	Pre-Assembly Insertion Double Joints	Screw		1~99 pc(s).	100~120
HDJRN	8	HFS8-4040	HDJFSN8	CBM6-50	52		

Ordering Example: Part Number — HDJSN8 HDJRN8

Features: Pre-Assembly Insertion Double Joint installable without alterations. (No holes are required on the mating extrusion.)

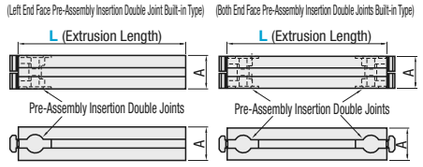
Pre-Assembly Double Joint Aluminum Extrusions with Built-in



RoHS

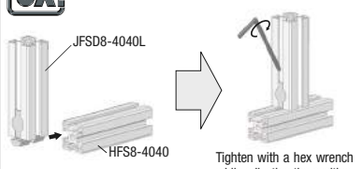
Part Name		M Material	S Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Pre-Assembly Insertion Double Joint Kit	Pre-Assy. Insert. Double Joint: Offset Nut	EN 1.4401 Equiv.	-
	Hex Socket Head Cap Screw	EN 1.4301 Equiv.	

JFSD8-4040L (Left End Face Pre-Assembly Insertion Double Joint Built-in Type)
JFSD8-4040W (Both End Face Pre-Assembly Insertion Double Joints Built-in Type)



Joint components will be shipped loosely tightened.

Example



Tighten with a hex wrench while adjusting the position.

Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component: Pre-Assy. Insert. Double Joint	Built-in Joint Component: Quantity	A	Required Wrench for Tightening	Extrusion Unit Price: Less than 300mm	Extrusion Unit Price: 300mm or more (JPY/m)	Joints, Others
JFSD	8-4040	L (Left End Face only)	100~4000	HFS8-4040 (P.631)	HDJHSN8	1	40	For M6			
		W (Double End Faces)				2					

When L<300mm
Unit prices are indicated in the table regardless of the length.
When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified L dimension + Joint or other Unit Price = Total Price

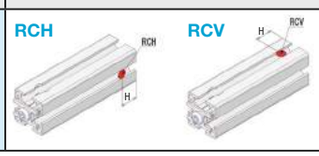
Ordering Example: Part Number — JFSD8-4040L - 1200

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping Applicable to Left End Pre-Inserted Type only.	RTP Right End Face Tapping	8-4040	M12	36

Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole Applicable to Left End Pre-Inserted Type only.	RCH RCV	8-4040	20	8



Blind Joint Components

Post Assembly Insertion Double Joint Kits / Parallel Joint Kits for 8 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.607**.

Alterations necessary to use this component

Post-Assy. Insert. Double	Parallel
M Type Hole Alterations P.766	L Type Hole Alterations P.767

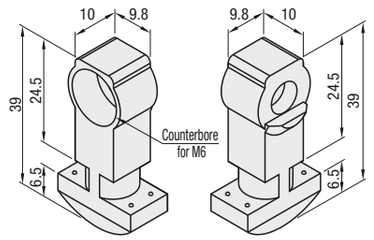
Post Assembly Insertion Double Joint Kits



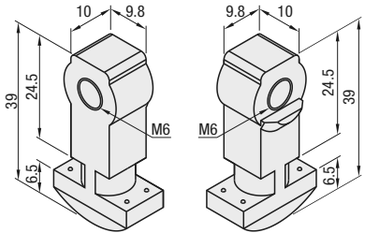
RoHS

HPJN (Post-Assembly Insertion Double Joints)

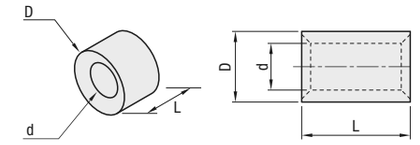
① Post-Assembly Insertion Double Joint A



② Post-Assembly Insertion Double Joint B



③ Joint Pipe



Part Name		M Material
Post-Assembly Insertion Double Joint (A, B)		EN 1.4308 Equiv.
Joint Pipe	No.8-40	EN 1.4301 Equiv. (Sintered)
	No.8-80	EN 1.4301 Equiv.
Hex Socket Head Cap Screw		EN 1.4301 Equiv.

Part Number		Accessory								Unit Price	Volume Discount Rate
Type	No.	① Post-Assembly Insertion Double Joint A	Quantity	② Post-Assembly Insertion Double Joint B	Quantity	③ Joint Pipe	Quantity	④ Hex Socket Head Cap Screw	Quantity	1 ~ 19 pc(s).	20~200
HPJN	8-40	Post-Assembly Insertion Double Joint A8	1	Post-Assembly Insertion Double Joint B8	1	Joint Pipe 8-40	1	M6x30	1		
	8-80					Joint Pipe 8-80		M6x70			

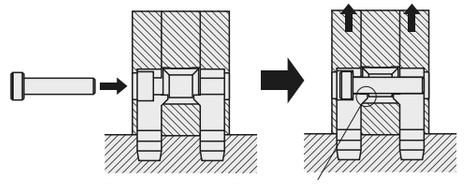
③ Joint Pipe

Part Name	L	D	d
Joint Pipe 8-40	15	13	8
Joint Pipe 8-80	55		

For details of fastening method, see **P.607**.

Ordering Example: Part Number — HPJN8-40

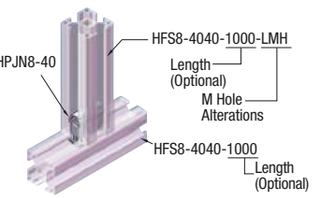
Post Assy. Insert. Double Joint Kit	Applicable Extrusion No.		[Exception] Extrusion Not Available
HPJN8-40	8-4040		Not usable for surfaces without slots.
HPJN8-80	8-4080	8-8080	



The tapered part of a Joint Tube and the tab of a post-assembly insertion joint create upward lifting force, connecting the extrusions together.

Example

• Installation Example



Features: Extrusions can be connected in parallel. Post assembly additions enabling type is also provided.

Parallel Joint Kits

Pre-Assembly Insertion Type



Post-Assembly Insertion Type



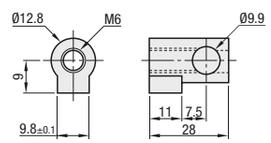
(Ref.) Corner section when using this joint



RoHS

HLJ
(Parallel Joint Kit Pre-Assembly Insertion Type)
HALJ
(Parallel Joint Kit Post-Assembly Insertion Type)

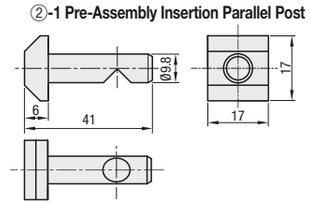
Joint Guide (Component ①)



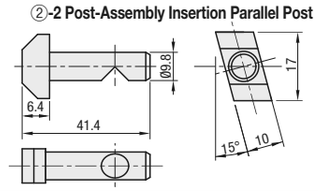
Part Name	M Material	S Surface Treatment
Pre-Assembly Insertion Parallel Post	EN 1.4308 Equiv.	-
Post-Assembly Insertion Parallel Post		
Joint Guide	EN 1.4301 Equiv.	
Set Screw	EN 1.7220 Equiv.	Black Oxide Film

Parallel Joints (Component ②)

②-1 Pre-Assembly Insertion Parallel Post



②-2 Post-Assembly Insertion Parallel Post



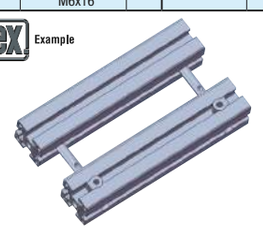
Part Number		Accessory						Unit Price	Volume Discount Rate
Type	No.	①② Parallel Post	Quantity	③ Joint Guide	Quantity	④ Set Screw	Quantity	1~99 pc(s).	100~120
HLJ (Pre-Assembly Insertion Type)	8	Pre-Assembly Insertion Parallel Post 8	1	8	1	M6x16	1		
HALJ (Post-Assembly Insertion Type)	8	Post-Assembly Insertion Parallel Post 8		8		M6x16			

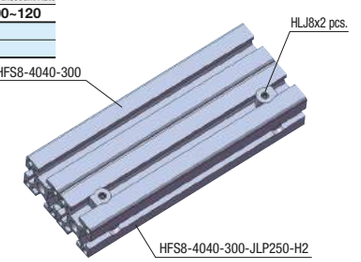
Applicable Extrusion No.				[Exception] Extrusion Not Available
8-4040 *1	8-4080 *1	8-40120	8-40160	*1. HFSH and HFSC are not applicable since L holes cannot be added.

For details of fastening method, see **P.607**.

Ordering Example: Part Number — HLJ8

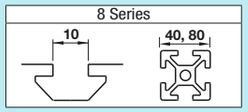
Example





Sheet Metal Plates

For 8 Series (Slot Width 10mm) Aluminum Extrusions



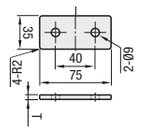
■**Features:** Can be used for reinforcement of aluminum extrusions.



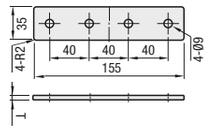
RoHS

Type	Material	Surface Treatment
HPTSS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTSSL		
HPTSD		
SHPTSS	EN 1.4301 Equiv.	-
SHPTSSL		
SHPTSD		

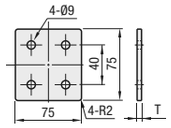
HPTSS8
SHPTSS8



HPTSSL8
SHPTSSL8



HPTSD8
SHPTSD8



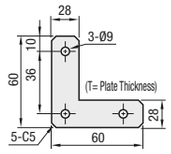
Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTSS8	61	3.2	M8-15	2	M8	2		
SHPTSS8		3						
HPTSSL8	122	3.2		4		4		
SHPTSSL8		3						
HPTSD8	131	3.2						
SHPTSD8		3						



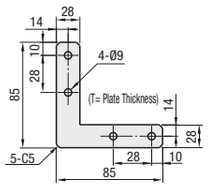
RoHS

Type	Material	Surface Treatment
HPTLN	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTLS		
HPTLD		
SHPTLN	EN 1.4301 Equiv.	-
SHPTLS		

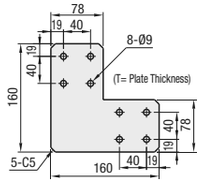
HPTLN8
SHPTLN8



HPTLS8
SHPTLS8



HPTLD8



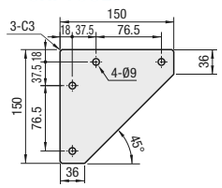
Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTLN8	50	3.2	M8-15	3	M8	3		
SHPTLN8		3						
HPTLS8	89	3.2		4		4		
SHPTLS8		3						
HPTLD8	445	3.2		8		8		



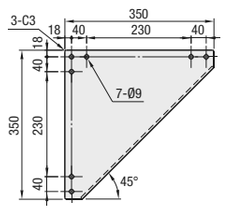
RoHS

Type	Material	Surface Treatment
HPTCUL	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTUL		
HPTWUL		
SHPTCUL	EN 1.4301 Equiv.	-

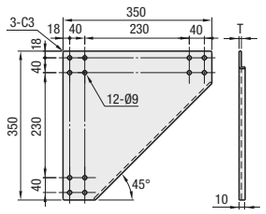
HPTCUL8
SHPTCUL8



HPTUL8



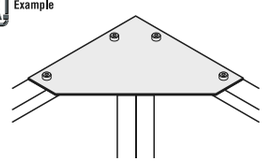
HPTWUL8



Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTCUL8	360	3.2	M8-15	4	M8	4		
SHPTCUL8		3						
HPTUL8	1760	3.2		7		7		
HPTWUL8	1758			12		12		

Ordering Example: Part Number **HPTSS8**

Example



Alterations: Part Number - (SET) **HPTSS8 - SET**

Not RoHS compliant when -SET is specified.

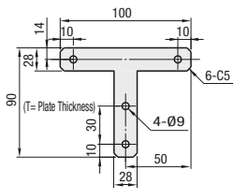
Alteration	Code	Spec.	Part Number
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set. Material: EN 1.0320 Equiv. (hot coiled) — Set: Screw: CBM Nut: HNTT; Material: EN 1.4301 Equiv. — Set: Screw: SCB Nut: HNTTSN	HPTSS8
			SHPTSS8
			HPTSSL8
			SHPTSSL8
			HPTSD8
			SHPTSD8
			HPTLN8
			SHPTLN8
			HPTLS8
			SHPTLS8
			HPTLD8
			HPTCUL8
			SHPTCUL8
			HPTUL8
			HPTWUL8



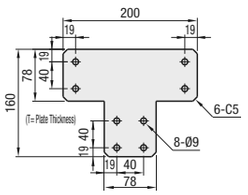
RoHS

Type	Material	Surface Treatment
HPTTS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTTD		
HPTPS		
SHPTTS	EN 1.4301 Equiv.	-

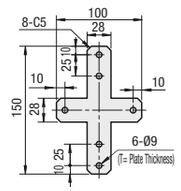
HPTTS8
SHPTTS8



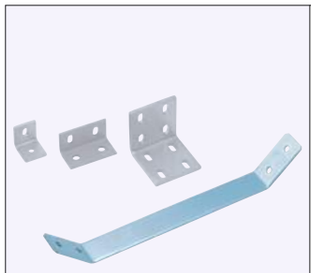
HPTTD8



HPTPS8



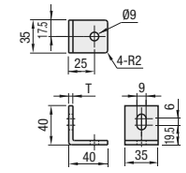
Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTTS8	103	3.2	M8-15	4	M8	4		
SHPTTS8		3						
HPTTD8	514	3.2		8		8		
HPTPS8	135			6		6		



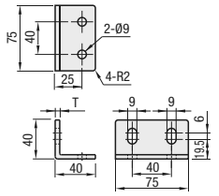
RoHS

Type	Material	Surface Treatment
HPTBS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTBD		
HPTBDW		
HPTGS		
SHPTBS	EN 1.4301 Equiv.	-
SHPTBD		

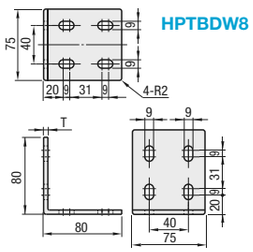
HPTBS8
SHPTBS8



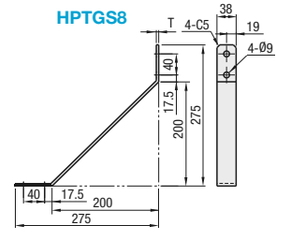
HPTBD8
SHPTBD8



HPTBDW8



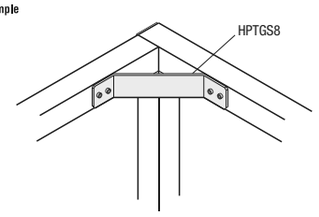
HPTGS8



Part Number	Mass (g)	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTBS8	83	4.5	M8-15	2	M8	2		
SHPTBS8		4						
HPTBD8	179	4.5		4		4		
SHPTBD8		4						
HPTBDW8	461	6		8		8		
HPTGS8	560	4.5		4		4		

Ordering Example: Part Number **HPTBS8**

Example



Alterations: Part Number - (SET) **HPTBS8 - SET**

Not RoHS compliant when -SET is specified.

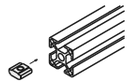
Alteration	Code	Spec.	Part Number
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set. Material: EN 1.0320 Equiv. (hot coiled) — Set: Screw: CBM Nut: HNTT; Material: EN 1.4301 Equiv. — Set: Screw: SCB Nut: HNTTSN	HPTTS8
			SHPTTS8
			HPTTD8
			HPTPS8
			HPTBS8
			SHPTBS8
			HPTBD8
			SHPTBD8
			HPTBDW8
			HPTGS8

Nuts for Aluminum Extrusions - Overview
For 8 Series (Slot Width 10mm)

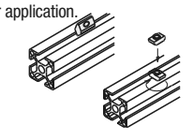
■Nuts for Aluminum Extrusions - Overview

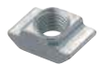
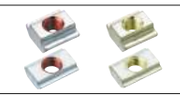
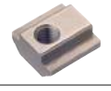
MISUMI offers variety of Pre-Assembly or Post-Assembly Insertion Nuts for Aluminum Extrusions. Select an applicable type specific to your application.

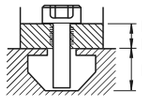
Pre-Assembly Insertion: Insert from the slot ends before assembly. Large width causes less plays in the slots, making screw tightening easy.



Post-Assembly Insertion: Mountable from slots after assembly.



Type	Photo	Features	Pre-Assembly Material Steel	Pre-Assembly Material Stainless Steel	Pre-Assembly Page Single Item	Pre-Assembly Page Package	Post-Assembly Material Steel	Post-Assembly Material Stainless Steel	Post-Assembly Page Single Item	Post-Assembly Page Package
Standard		Most standard and economical products. Can be connected temporarily in combination with optional stoppers.	○	○	P.669	P.668	○	○	P.672	P.668
Temporary Holding (Ball Spring)		Can be moved in the extrusions smoothly. Temporary holding is repeatedly possible.	○	○	P.670	P.668	○	○	P.673	P.668
Temporary Holding (Leaf Spring)		Secure temporary holding with springs on both sides.	-	-	-	-	○	○	P.673	P.674
Temporary Holding (Resin Stopper)		Resin stopper on outer circumference prevents aluminum extrusions from being scratched when mounting temporarily.	○	○	P.670	-	-	-	-	-
Post-Assembly Rotational		Insert the nut into the exrusion and turn it in the slot. Large nut width prevents plays.	-	-	-	-	○	○	P.672	-
With Lock		Included set screw enables nut fixing. Convenient where panes and covers are removed frequently.	○	-	P.671	-	○	○	P.674	-
Thread Locking Adhesive Type		Reduces loosening due to vibrations caused by transfer or equipment moves. One-time use and repeated use types are available.	○	-	P.669, 670	-	○	-	P.672~674	-
Compact (Short Nuts)		Usable with narrow pitch when multiple nuts are lined in the slots. (Approx.40% shorter than the standard width)	○	-	P.671	P.671	○	-	P.674	P.674
Square Nuts		Sheet metal type: more economical than standard nuts.	○	○	-	P.671	-	-	-	-
Screw Integrated		Requires less time for screw tightening.	-	○	P.675	-	-	○	P.675	-
Long Nut		Workpieces such as Linear Guides are mountable with desired pitches.	○	○	P.676	-	○	○	P.676	-
Offset Nut (Other than 5 Series)		When connecting the extrusions at corners with Pre-Assembly Insertion Double Joint (refer to **P.663**), the nut does not protrude from the extrusion.	-	○	P.671	-	-	-	-	-
Conductive Washers (Other than 5 Series)		Electrical conductivity between extrusions is achieved by combining with Toothed Washer (**P.675**).	-	○	P.675	-	-	-	-	-

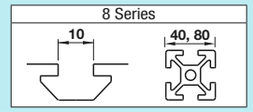


■Aluminum Extrusions and Applicable Screws to Mount Panes/Brackets (Size M - L Dim.)

Slot Width	Extrusion Square	Depth h	Applicable Nut HNTT	Panels/Brackets Thickness b (mm) to be mounted on extrusions 0.8	1	1.2	1.5	2	3	4	4.5	5	6	8.2	9	10	12	14
10	40	12.5	8-4	M4-12					M4-15					M4-20			×	M4-25
			8-5	M5-12					M5-15					M5-20			M5-22	M5-25
			8-6	M6-12					M6-15					M6-20				M6-25
			8-8	×					M8-15					M8-20				M8-25

"×" means there is no applicable screw. Use one size smaller tapped products.

Nuts for Aluminum Extrusions - Bulk Packages
For 8 Series (Slot Width 10mm)



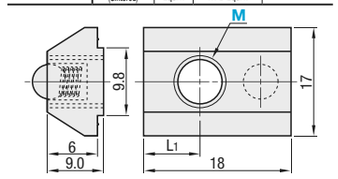
■Features: Bulk packages are cost effective for in-house stock or large quantity uses.

■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

Type	M Material Main Body	Ball	Spring	S Surface Treatment
PACK-HNTU	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTU	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	EN 1.4301 WPB Equiv.	-



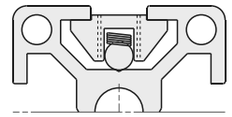
Part Number Type	No.	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTU	8	4 5 6 8	6		
PACK-SHNTU			5.5		

100 pcs. per package

Example

- **Does not fall even if the extrusion is placed vertically.**

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.

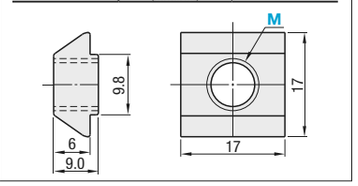


■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

Type	M Material	S Surface Treatment
PACK-HNTT	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTTSN	EN 1.4401 Equiv. (Sintered)	-



Part Number Type	No.	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTT	8	4 5 6 8		
PACK-HNTTSN				

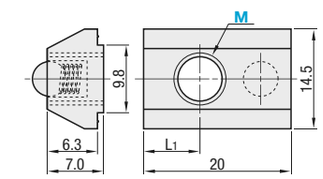
100 pcs. per package

■Post-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

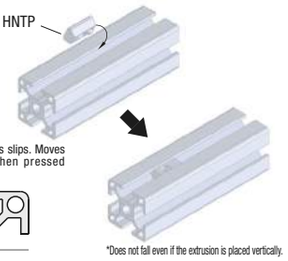
Type	M Material Main Body	Ball	Spring	S Surface Treatment
PACK-HNTP	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTP	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	EN 1.4301 WPB Equiv.	-



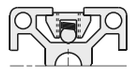
Part Number Type	No.	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTP	8	4 5 6 8	8		
PACK-SHNTP			8.5		

100 pcs. per package

Example



Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



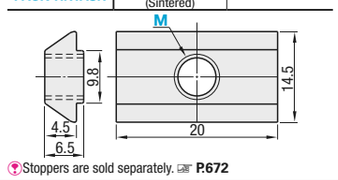
*Does not fall even if the extrusion is placed vertically.

■Post-Assembly Insertion Stopper Nuts - Pack (100/Pkg.)



RoHS

Type	M Material	S Surface Treatment
PACK-HNTA	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTASN	EN 1.4401 Equiv. (Sintered)	-

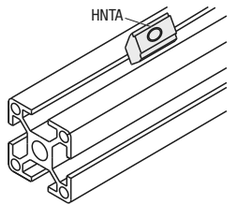


Stoppers are sold separately. ☞ **P.672**

Part Number Type	No.	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTA	8	4 5 6		
		8		
PACK-HNTASN		4 5 6 8		

100 pcs. per package

Example

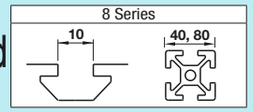


Ordering Example: Part Number - M

PACK-HNTP8 - 6

Pre-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Standard

For 8 Series (Slot Width 10mm)



Tightening Torque P.526

Pre-Assembly Insertion Nuts



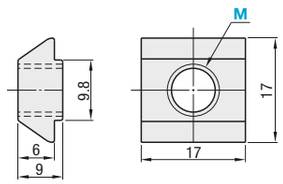
RoHS

* Electrically conductive

Type	M Material	S Surface Treatment
①HNTT8	EN 1.0301 Equiv.	Trivalent Chromate
②PACK-HNTT8		
③HNTTV8	Thread Locking Adhesive Type, EN 1.0301 Equiv.	
④HNTTZ8	Thread Locking Resin Coating Type, EN 1.0301 Equiv.	
⑤HNTTSN8*	EN 1.4401 Equiv. (Sintered)	-
⑥PACK-HNTTSN8*		
⑦HNTTSS8	EN 1.4305 Equiv.	-

HNTT8 (EN 1.0301 Equiv.)
PACK-HNTT8 (EN 1.0301 Equiv., 100/pkg.)
HNTTV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTTZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTTSN8 (EN 1.4401 Equiv., Sintered)
PACK-HNTTSN8 (EN 1.4401 Equiv., Sintered, 100/pkg.)
HNTTSS8 (EN 1.4305 Equiv.)

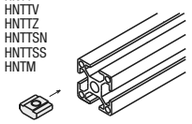
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered) / EN 1.4305 Equiv.
8	23.5



Example

- **Pre-Assembly Insertion Nuts**
  Nuts are pre-inserted in the aluminum extrusion.

HNTU
HNTUV
HNTUZ
SHNTU
HNTT
HNTTV
HNTTZ
HNTTSN
HNTTSS
HNTM



Part Number	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTT8 (EN 1.0301 Equiv.)	4 5 6 8				
HNTTV8 (Thread Locking, EN 1.0301 Equiv.)	8				
HNTTZ8 (Thread Locking, EN 1.0301 Equiv.)					
HNTTSN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8				
HNTTSS8 (EN 1.4305 Equiv.)	8				

Ordering Example: Part Number HNTT8 - M 8

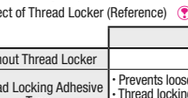
Bulk Packages

100 pcs. per package

Part Number	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTT8 (EN 1.0301 Equiv.)	4 5 6 8		
PACK-HNTTSN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8		

When ordering HNTT8 without specifying M, HNTT8-8 is selected automatically.

Thread Locking Type



Thread locking compound applied inside of the tap.

Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.

Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.

Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	17.9N·m	-
Thread Locking Adhesive Type	· Prevents loosening effectively. · Thread locking properties are lost once loosened. · Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	25.6N·m	Test Conditions: Measured value (HNTTV8-8) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N·m.
Thread Locking Resin Coating Type	· Can be used repeatedly. (Thread locking effect decreases after repeated use.) · Thread locking effect is immediately seen right after tightening.	21.8N·m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 20.3N·m Measurement with HNTTZ8-8

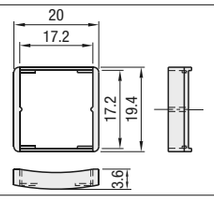
Pre-Assembly Insertion Stoppers

HNST8



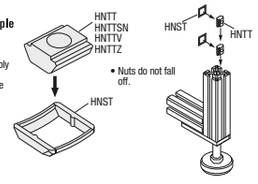
RoHS

M Material: Polyamide



Example

- Hold Pre-Assembly Insertion Nuts temporarily in the extrusion.

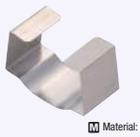


Part Number	Applicable Pre-Assembly Insertion Nut	Color	Unit Price 1 ~ 1500 pc(s).
HNST8	HNTT8 HNTTV8 HNTTZ8 HNTTSN8 HNTTSS8	Black	

Ordering Example: Part Number HNST8

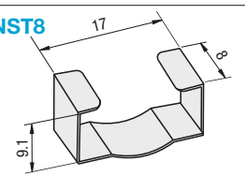
Pre-Assembly Insertion Metal Stoppers

SHNST8



RoHS

M Material: EN 1.4319 Equiv.



Example



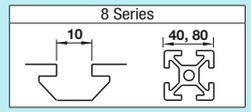
*Can also be used with Pre-Assembly Insertion Screws.

Part Number	Applicable Pre-Assembly Insertion Nut*	Unit Price 1 ~ 1500 pc(s).
SHNST8	HNTT8 HNTTV8 HNTTZ8 HNTTSN8 HNTTSS8	

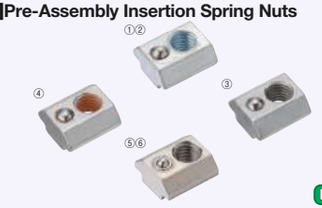
Ordering Example: Part Number SHNST8

Pre-Assembly Insertion Nuts for Aluminum Extrusions

For 8 Series (Slot Width 10mm)



Pre-Assembly Insertion Spring Nuts

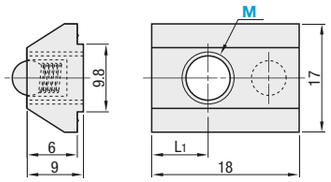


RoHS

Type	M Material Main Body	Ball	Spring	S Surface Treatment
①HNTU8 ②PACK-HNTU8 ③HNTUV8 ④HNTUZ8	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
⑤SHNTU8 ⑥PACK-SHNTU8	EN 1.4301 Equiv.	EN 1.4301 Equiv.	SUS304-WP8	-

HNTU8 (EN 1.0301 Equiv.)
PACK-HNTU8 (EN 1.0301 Equiv., 100/pkg.)
HNTUV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTUZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
SHNTU8 (EN 1.4301 Equiv.)
PACK-SHNTU8 (EN 1.4301 Equiv., 100/pkg.)

Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv., EN 1.4301 Equiv. (Sintered)
8	23.5



Part Number	M	L1	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTU8 (EN 1.0301 Equiv.)	4 5 6 8	6				
HNTUV8 (Thread Locking, EN 1.0301 Equiv.)	8					
HNTUZ8 (Thread Locking, EN 1.0301 Equiv.)						
SHNTU8 (EN 1.4301 Equiv.)	4 5 6 8	5.5				

Ordering Example: Part Number HNTU8 - M 8

Bulk Packages

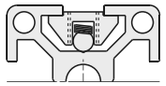
100 pcs. per package

Part Number	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTU8 (EN 1.0301 Equiv.)	4 5 6 8	6		
PACK-SHNTU8 (EN 1.4301 Equiv.)		5.5		

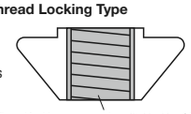
Example

- Does not fall even if the extrusion is placed vertically.

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



Thread Locking Type



Thread locking compound applied inside of the tap.

Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.

Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.

Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	17.9N·m	-
Thread Locking Adhesive Type	· Prevents loosening effectively. · Thread locking properties are lost once loosened. · Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	25.6N·m	Test Conditions: Measured value (HNTTV8-8) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N·m.
Thread Locking Resin Coating Type	· Can be used repeatedly. (Thread locking effect decreases after repeated use.) · Thread locking effect is immediately seen right after tightening.	21.8N·m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 20.3N·m Measurement with HNTTZ8-8

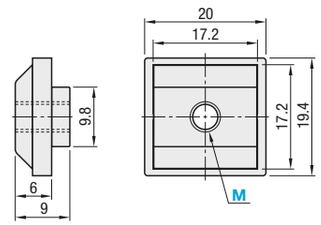
Stopper Integrated Nuts

HNTE8
SHNTE8



RoHS

Type	M Material Main Body	Stopper	S Surface Treatment
①HNTE8	EN 1.0301 Equiv.	Polyamide	Trivalent Chromate
②SHNTE8	EN 1.4301 Equiv.		-



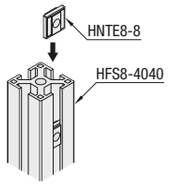
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4301 Equiv.
8	23.5

Part Number	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTE8	4 5 6 8				
SHNTE8	3 4 5 6 8				

Ordering Example: Part Number HNTE8 - M 8

Example



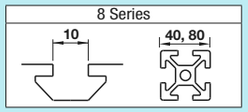


Integrated Pre-Assembly Insertion Nuts and Stoppers.

The nuts do not slip off even if inserted into the vertically-placed extrusions.

Pre-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Others
For 8 Series (Slot Width 10mm)

8 Series



■Pre-Assembly Insertion Lock Nuts

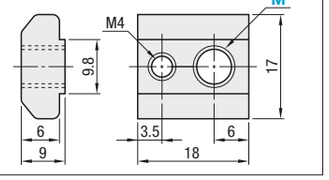


RoHS

M Material: EN 1.0301 Equiv. S Surface Treatment: Trivalent Chromate

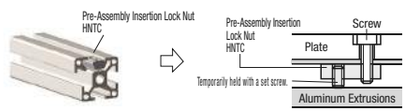
HNTC8

Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
8	23.5



Example

• **Pre-Assembly Insertion Lock Nuts**
The position of post-assembly insertion lock nuts can be fixed temporarily with the set screw.



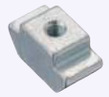
Part Number	M	Accessory	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTC8	8	M4x8 Set Screw for Locking 1 pc.				

- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.
- Stopper is not included.

Ordering Example

Part Number	-	M
HNTC8	-	8
HNTJ8	-	4

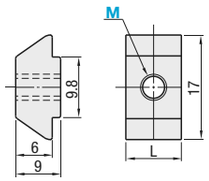
■Pre-Assembly Insertion Short Nuts



RoHS

M Material: EN 1.0301 Equiv. S Surface Treatment: Trivalent Chromate

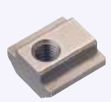
HNTJ8
PACK-HNTJ8



Part Number	M	L	HNTJ8				PACK-HNTJ8		
			Unit Price	Volume Discount Rate			Unit Price	Volume Discount Rate	
			1 ~ 499 pc(s).	500~749	750~999	1000~1500	1 ~ 9 pkg(s).	10~19	20~30
HNTJ8PACK-HNTJ8	3	8							
	4								
	8	12							

100 pcs. per package

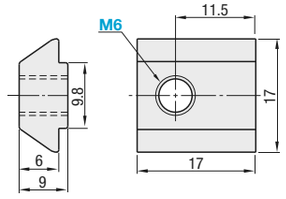
■Pre-Assembly Insertion Offset Nuts



RoHS

* Electrically conductive M Material: EN 1.4401 Equiv. (Sintered)

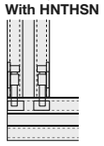
HNTHSN8



Example

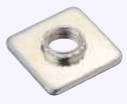
The pre-assembly insertion offset nut, used in combination with a post-assembly insertion double joint, can be fixed in such a way that the nut, even if connected at the corner of the extrusion, does not protrude from the extrusion (frame).

With HNTHSN



Part Number	Unit Price
	1 ~ 150 pc(s).
HNTHSN8	

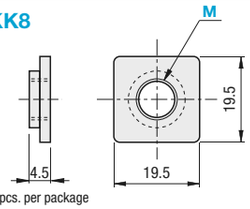
■Pre-Assembly Insertion Square Nuts



RoHS

M Material: EN 1.0330 Equiv. S Surface Treatment: Trivalent Chromate

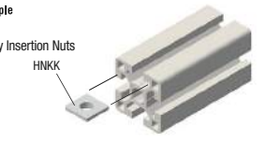
HNKK8



100 pcs. per package
Insert it into the extrusion upside down.

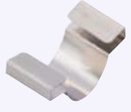
Example

• Pre-Assembly Insertion Nuts



Part Number	M	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKK8	4 5 6 8			

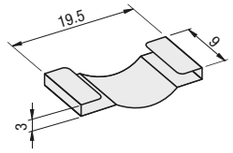
■Metal Stoppers for Pre-Assembly Insertion Square Nuts



RoHS

M Material: EN 1.4319 Equiv.

HNKKST8



100 pcs. per package

Example



Part Number	Applicable Pre-Assembly Insertion Nut	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKKST8	HNKK8			

Ordering Example

Part Number	-	M
HNTHSN8 HNKK8 HNKKST8	-	8

• Applicable Extrusions and Brackets

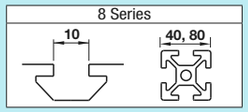
Applicable to extrusions and brackets with the same part number.

(Ex.) Part Number

Pre-Assembly Insertion Nuts	HNTT8 -□
Pre-Assembly Insertion Stoppers	HNST8
Extrusion	HFS8 -□□□□
Brackets	HBLFSN8

Post-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Standard
For 8 Series (Slot Width 10mm)

8 Series



■Post-Assembly Insertion Stopper Nuts

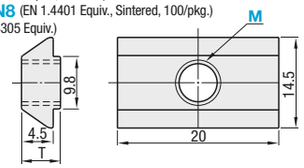


RoHS

* Electrically conductive

Type	M Material	S Surface Treatment
①HNTA8	EN 1.0301 Equiv.	Trivalent Chromate
②PACK-HNTA8		
③HNTAV8		
④HNTAZ8		
⑤HNTASN8*	EN 1.4401 Equiv. (Sintered)	-
⑥PACK-HNTASN8*		
⑦HNTASS8	EN 1.4305 Equiv.	-

HNTA8 (EN 1.0301 Equiv.)
PACK-HNTA8 (EN 1.0301 Equiv., 100/pkg.)
HNTAV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTAZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTASN8 (EN 1.4401 Equiv., Sintered)
PACK-HNTASN8 (EN 1.4401 Equiv., Sintered, 100/pkg.)
HNTASS8 (EN 1.4305 Equiv.)



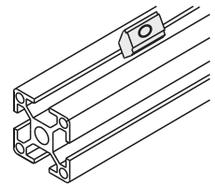
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered) / EN 1.4305 Equiv.
8	23.5

Details of Thread Locking Type P.670

Example

• Post-Assembly Insertion Stopper Nuts

HNTA
HNTAV
HNTAZ
HNTASN
HNTASS



Ordering Example

Part Number	-	M
HNTA8	-	8

Part Number Type	M	T	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTA8 (EN 1.0301 Equiv.)	4 5 6	6.5				
	8					
HNTAV8 (Thread Locking, EN 1.0301 Equiv.)	8					
HNTAZ8 (Thread Locking, EN 1.0301 Equiv.)						
HNTASN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8	6.0				
HNTASS8 (EN 1.4305 Equiv.)	8	6.5				

■Bulk Packages

100 pcs. per package

Part Number	M	Unit Price (1 ~ 10 packages)	
		Package Price	Price per Pkg.
PACK-HNTA8 (EN 1.0301 Equiv.)	4 5 6		
	8		
PACK-HNTASN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8		

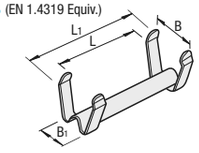
■Post-Assembly Insertion Stoppers

RoHS



Type	M Material
①HNAST8	Polypropylene
②HNBST8	EN 1.4319 Equiv.

HNAST8 (Polypropylene)
HNBST8 (EN 1.4319 Equiv.)



Part Number Type	Applicable Stopper Nut	Color	L	B	L1	B1	Unit Price	Volume Discount Rate	
							1 ~ 499 pc(s).	500~999	1000~1500
HNAST8	HNTA8 HNTAV8 HNTAZ8	White	21	11.1	26	9.8			
HNBST8	HNTASN8 HNTASS8	-	23	12.5	28	8			

■Post-Assembly Insertion Nut and Stopper Set

RoHS



HNTAT8 (EN 1.0301 Equiv. Set)
HNTATSN8 (EN 1.4401 Equiv. Set)

Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTAT8	HNTA8	HNAST8
HNTATSN8*	HNTASN8	

* Electrically conductive

Part Number Type	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTAT8	4 5 6				
	8				
HNTATSN8	4 5 6 8				

■Post-Assembly Insertion Nut and Metal Stopper Set

RoHS



HNTBT8 (EN 1.0301 Equiv. Set)
HNTBTSN8 (EN 1.4401 Equiv. Set)

Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTBT8	HNTA8	HNBST8
HNTBTSN8*	HNTASN8	

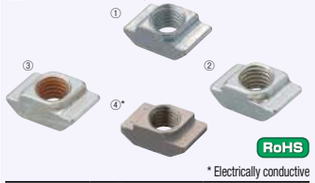
* Electrically conductive

Part Number Type	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTBT8	4 5 6				
	8				
HNTBTSN8	4 5 6 8				

Ordering Example

Part Number	-	M
HNAST8 HNTAT8	-	8

■Post-Assembly Insertion Nuts

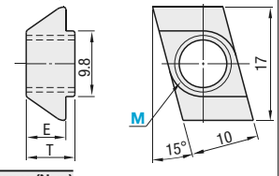


RoHS

* Electrically conductive

Type	M Material	S Surface Treatment
①HNTF8	EN 1.0301 Equiv.	Trivalent Chromate
②HNTFV8		
③HNTFZ8		
④HNTFSN8*	EN 1.4401 Equiv. (Sintered)	-

HNTF8 (EN 1.0301 Equiv.)
HNTFV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTFZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTFSN8 (EN 1.4401 Equiv., Sintered)



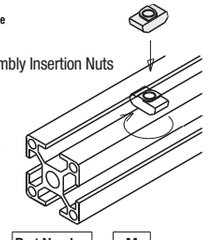
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
8	23.5

Details of Thread Locking Type P.670

Example

• Post-Assembly Insertion Nuts

HNTF
HNTFV
HNTFZ
HNTFSN

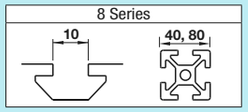


Ordering Example

Part Number	-	M
HNTF8	-	8

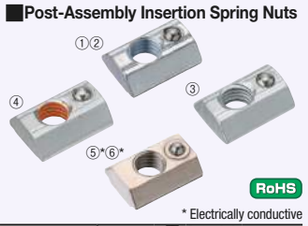
Part Number Type	M	E	T	Unit Price	Volume Discount Rate		
				1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTF8 (EN 1.0301 Equiv.)	4 5 6 8	6.0	9.0				
HNTFV8 (Thread Locking, EN 1.0301 Equiv.)	8						
HNTFZ8 (Thread Locking, EN 1.0301 Equiv.)							
HNTFSN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8	6.4	8.9				

Post-Assembly Insertion Nuts for Aluminum Extrusions with Temporary Holding Function
For 8 Series (Slot Width 10mm)



Tightening Torque P.526

■Post-Assembly Insertion Spring Nuts

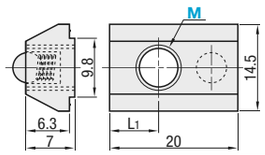


RoHS

* Electrically conductive

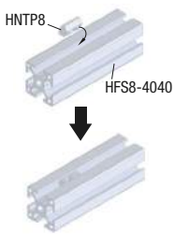
Type	M Material			S
	Main Body	Ball	Spring	Surface Treatment
①HNTP8 ②PACK-HNTP8 ③HNTPV8 ④HNTPZ8	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
⑤SHNTP8* ⑥PACK-SHNTP8*	EN 1.4401 Equiv. (Sintered)	EN 1.4301 Equiv.	SUS304-WP8	-

HNTP8 (EN 1.0301 Equiv.)
PACK-HNTP8 (EN 1.0301 Equiv., 100/pkg.)
HNTPV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTPZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
SHNTP8 (EN 1.4401 Equiv., Sintered)
PACK-SHNTP8 (EN 1.4401 Equiv., Sintered, 100/pkg.)

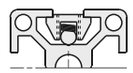


Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
8	23.5

Example



Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



*Does not fall even if the extrusion is placed vertically.

Part Number / Type	M	L1	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTP8 (EN 1.0301 Equiv. E quivalent)	4 5 6 8	8				
HNTPV8 (Thread Locking, EN 1.0301 Equiv.)	8					
HNTPZ8 (Thread Locking, EN 1.0301 Equiv.)	8					
SHNTP8 (EN 1.4401 Equiv., Sintered)	4 5 6 8	8.5				

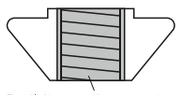
■Bulk Packages

Part Number	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTP8 (EN 1.0301 Equiv.)	4 5 6 8	8		
PACK-SHNTP8 (EN 1.4401 Equiv., Sintered)		8.5		

100 pcs. per package

Ordering Example: Part Number - M → HNTP8 - 8

■Thread Locking Type



Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating : Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	17.9N·m	-
Thread Locking Adhesive Type	• Prevents loosening effectively. • Thread locking properties are lost once loosened. • Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	25.6N·m	Test Conditions: Measured value (HNTPV8-8) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N·m.
Thread Locking Resin Coating Type	• Can be used repeatedly. (Thread locking effect decreases after repeated use.) • Thread locking effect is immediately seen right after tightening.	20.3N·m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 19.1N·m Measurement with HNTAZ8-8

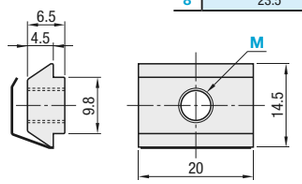
■Post-Assembly Insertion Nuts with Leaf Springs



RoHS

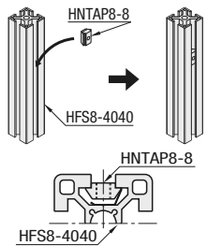
Type	M Material		S
	Main Body	Wing Part	Surface Treatment
①HNTAP8	EN 1.0301 Equiv.	EN 1.4301 Equiv.	Trivalent Chromate
②SHNTAP8	EN 1.4301 Equiv.	EN 1.4301 Equiv.	-

HNTAP8
SHNTAP8



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4301 Equiv.
8	23.5

Example

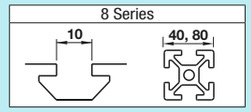


Welded Leaf Springs prevent the nuts from slipping off even if inserted into the vertically-placed extrusions.

Part Number / Type	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTAP8	4 5 6 8				
SHNTAP8	4 5 6 8				

Ordering Example: Part Number - M → HNTAP8 - 8

Post-Assembly Insertion Nuts for Aluminum Extrusions - Others
For 8 Series (Slot Width 10mm)



Tightening Torque P.526

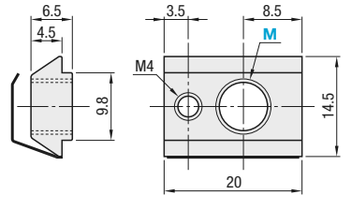
■Post-Assembly Insertion Lock Nuts with Leaf Springs



RoHS

Part	M Material	S Surface Treatment
Main Body	EN 1.0301 Equiv.	Trivalent Chromate
Wing Part	EN 1.4301 Equiv.	-

HNTRP8



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
8	23.5

Part Number	M	Accessory	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTRP8	8	M4x4 Set Screw for Locking				

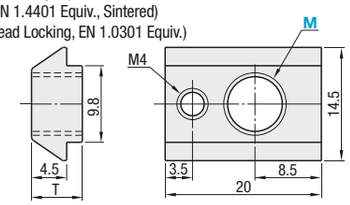
■Post-Assembly Insertion Lock Nuts



RoHS

Type	M Material	S Surface Treatment
HNTR8, HNTRZ8	EN 1.0301 Equiv.	Trivalent Chromate
HNTRSN8	EN 1.4401 Equiv. (Sintered)	-

HNTR8 (EN 1.0301 Equiv.)
HNTRSN8 (EN 1.4401 Equiv., Sintered)
HNTRZ8 (Thread Locking, EN 1.0301 Equiv.)



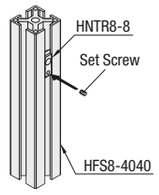
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
8	23.5

Part Number / Type	M	T	Accessory	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTR8 (EN 1.0301 Equiv.)	4 5 6 8	6.5	M4x6 Set Screw for Locking 1 pc.				
HNTRSN8 (EN 1.4401 Equiv., Sintered)		6.0					
HNTRZ8 (Thread Locking, EN 1.0301 Equiv.)	8	6.5					

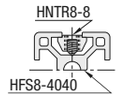
Ordering Example: Part Number - M → HNTR8 - 8

Example

■Post-Assembly Insertion Lock Nut

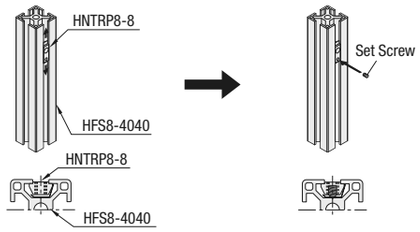


The nut can be fixed in place by itself by tightening the included set screw.



Suitable for use where high repeatability is required, such as mounting sensors or repeatedly replacing panels.

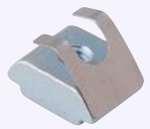
■Post-Assembly Insertion Lock Nut with Leaf Springs



Welded Leaf Springs prevents nuts from slipping off even if inserted into the vertically-oriented extrusions, leading to easy locating.

Also, the nut can be fixed in place by tightening the included set screw.

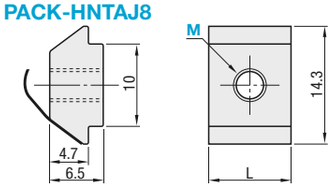
■Post-Assembly Insertion Short Nut



RoHS

Part	M Material	S Surface Treatment
Main Body	EN 1.0301 Equiv.	Trivalent Chromate
Wing Part	EN 1.4319 Equiv.	-

HNTAJ8
PACK-HNTAJ8



- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.

Ordering Example: Part Number - M → HNTAJ8 - 8

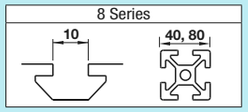
Part Number / Type	M	L	HNTAJ8 Unit Price 1 ~ 499 pc(s).	HNTAJ8 Volume Discount Rate 500~749	750~999	1000~1500	PACK-HNTAJ8 Unit Price 1 pkg.	PACK-HNTAJ8 Volume Discount Rate 2~4	5~9	10~20
HNTAJ8 PACK-HNTAJ8	3 4	10								
	8	12								

100 pcs. per package

Pre-Assembly Insertion Screws / Conductive Washers / Toothed Washers / Flanged Nuts for Aluminum Extrusions

For 8 Series (Slot Width 10mm)

8 Series



Tightening Torque P.526

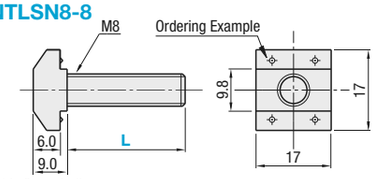
Pre-Assembly Insertion Screws



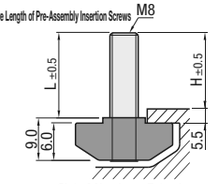
RoHS

Material: Screw NutEN 1.4401 Equiv. (Sintered) EN 1.4301 Equiv.

HNTLSN8-8 Ordering Example



Effective Length of Pre-Assembly Insertion Screws



Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HNTLSN8-8	20	17.5	HFS8	23.5			
	25	22.5					

Part Number - L
HNTLSN8-8 - 20

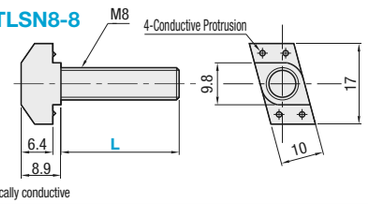
Post-Assembly Insertion Screws



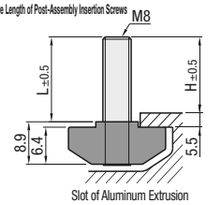
RoHS

Material: Screw NutEN 1.4401 Equiv. (Sintered) EN 1.4301 Equiv.

HATLSN8-8



Effective Length of Post-Assembly Insertion Screws



Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HATLSN8-8	20	17.0	HFS8	23.5			
	25	22.0					

Part Number - L
HATLSN8-8 - 20

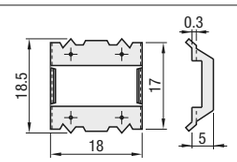
Conductive Washers



RoHS

Material: EN 1.4301 Equiv.

HDW8



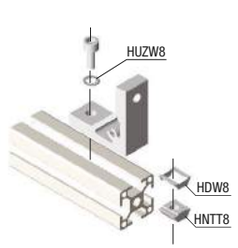
⚠Be careful not to injure your hand when fitting onto nut.

Part Number Type	Applicable Pre-Assembly Insertion Nut	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HDW8	HNTT8		

Part Number
HDW8

Example

Electrical conductivity between extrusions is achieved by combining HDW and HUZW.



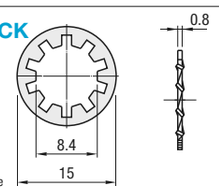
Toothed Washers (Internal Teeth Type)



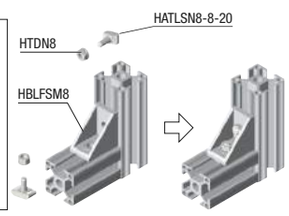
RoHS

Material: EN 1.4301 Equiv.

HUZW8PACK



100 pcs. per package



Part Number	Unit Price 1 ~ 4 pkg(s)	Volume Discount Rate 5~10
HUZW8PACK		

Part Number
HUZW8PACK

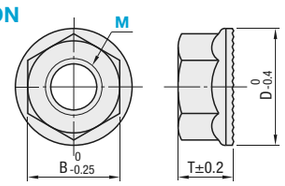
Flanged Nuts



RoHS

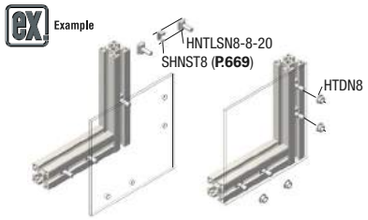
Material: EN 1.4301 Equiv.

HTDN



Part Number Type	M	B	T	D	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HTDN (Stainless Steel)	4	7	4.2	10			
	5	8	5.5	12			
	6	10	6.0	13			
	8	12	7.5	17			

Example

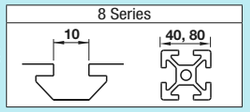


Ordering Example Part Number
HTDN6

Long Nuts for Aluminum Extrusions

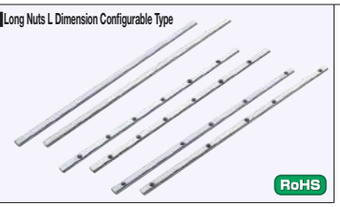
For 8 Series (Slot Width 10mm)

8 Series



Tightening Torque P.526

Long Nuts L Dimension Configurable Type

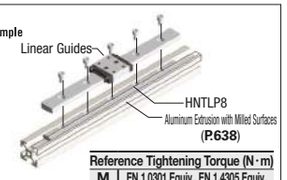


RoHS

Type Pre-Assembly	Post-Assembly	Material	Surface Treatment	Reference Tightening Torque
HNTLF8	HNTALF8	EN 1.0301 Equiv.	Trivalent Chromate	23.5
HNTLP8	HNTALP8			
HNTLS8	HNTALS8			
SHNTLF8	-	EN 1.4305 Equiv.	-	
SHNTLP8	SHNTALP8			
SHNTLS8	SHNTALS8			

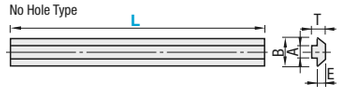
Cross Section Shape	A	B	E	T
Pre-Assembly	9.8	17	6	9
Post-Assembly	9.8	14.5	4.5	6.5

Example

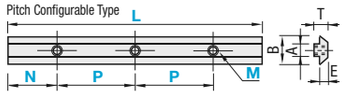


Reference Tightening Torque (N·m) M	EN 1.0301 Equiv., EN 1.4305 Equiv.
8	23.5

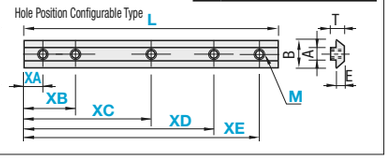
No Hole Type



Pitch Configurable Type



Hole Position Configurable Type



No Hole Type

Part Number	L 1mm Increment	HNTLF Unit Price (Less than 300mm)	HNTLF Unit Price/m (300mm or More)	SHNTLF Unit Price (Less than 300mm)	SHNTLF Unit Price/m (300mm or More)	HNTALF Unit Price (Less than 300mm)	HNTALF Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLF8 SHNTLF8 (Post-Assembly Insertion) HNTALF8	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000						

Pitch Configurable Type

Part Number	L 1mm Increment	M	N 1mm Increment	P 1mm Increment	Number of Taps S	HNTLP Unit Price (Less than 300mm)	HNTLP Unit Price/m (300mm or More)	SHNTLP Unit Price (Less than 300mm)	SHNTLP Unit Price/m (300mm or More)	HNTALP Unit Price (Less than 300mm)	HNTALP Unit Price/m (300mm or More)	SHNTALP Unit Price (Less than 300mm)	SHNTALP Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLP8 SHNTLP8 (Post-Assembly Insertion) HNTALP8 SHNTALP8	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	4 5 6 8	5≤N≤L-5	2M≤P≤L-2M	2≤S≤20								

Hole Position Configurable Type

Part Number	L 1mm Increment	M	XA ~ XE 1mm Increment	HNTLS Unit Price (Less than 300mm)	HNTLS Unit Price/m (300mm or More)	SHNTLS Unit Price (Less than 300mm)	SHNTLS Unit Price/m (300mm or More)	HNTALS Unit Price (Less than 300mm)	HNTALS Unit Price/m (300mm or More)	SHNTALS Unit Price (Less than 300mm)	SHNTALS Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLS8 SHNTLS8 (Post-Assembly Insertion) HNTALS8	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	4 5 6 8	5~L-5								

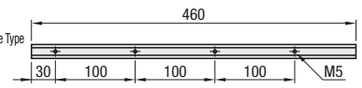
Number of tapped holes can be specified between 1 to 5.

Part Number - L
HNTLF8 - 1800
HNTALF8 - 400

Part Number - L - M - N - P - S
HNTLP8 - 460 - M5 - N30 - P100 - 4
HNTALP8 - 210 - M8 - N8 - P16 - 8

Part Number - L - M - XA - XB - XC - XD - XE
HNTLS8 - 1050 - M8 - XA20 - XB105
SHNTLS8 - 1050 - M8 - XA20 - XB105 - XC250 - XD500 - XE755
HNTALS8 - 1000 - M8 - XA25 - XB55 - XC78 - XD975 - XE992

(Ex.) Pitch Configurable Type



Hole Machining Charge

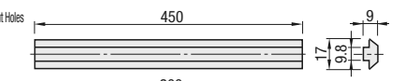
Pitch Configurable Type	Unit Price / Hole	Hole Position Configurable Type	Unit Price / Hole
HNTLP, HNTALP		HNTLS, HNTALS	
SHNTLP, SHNTALP		SHNTLS, SHNTALS	

Long Nuts L Dimension Fixed Type

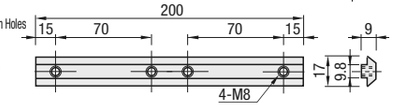


RoHS

L Dimension Fixed without Holes
HNTK8



L Dimension Fixed with Holes
HNTLG8
SHNTLG8



Reference Tightening Torque (N·m) M	EN 1.0301 Equiv., EN 1.4305 Equiv.
8	23.5

Type	Material	Surface Treatment
HNTK8	EN 1.0301 Equiv.	Trivalent Chromate
HNTLG8		
SHNTLG8	EN 1.4305 Equiv.	-

L Dimension Fixed without Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTK8			

Ordering Example Part Number
HNTLG8

Alterations Part Number - (SET)
HNTLG8 - SET

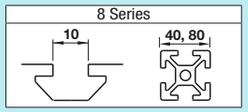
L Dimension Fixed with Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTLG8			
SHNTLG8 (Stainless Steel)			

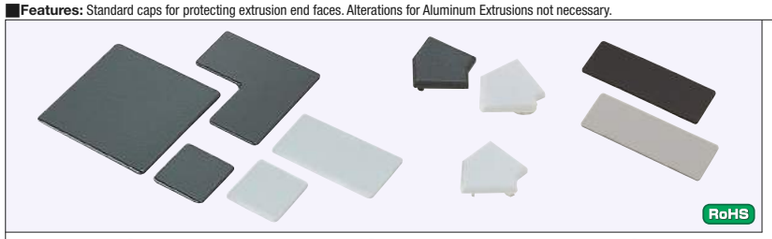
Alteration	Code	Spec.	Type
Hex Socket Set Screw Set	SET	Hex socket set screws come as a set. Type: HNTLG — Set Screw: MSSK — Quantity: 4; SHNTLG — MSSU — 4	HNTLG8; SHNTLG8

Extrusion End Caps

For 8 Series (Slot Width 10mm) Aluminum Extrusions



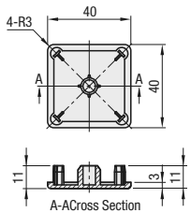
■**Features:** Standard caps for protecting extrusion end faces. Alterations for Aluminum Extrusions not necessary.



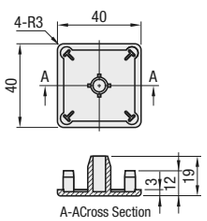
Type	Material
HFC	Polyamide
HFCL	Low Density Polyethylene

- Some products are not required to specify colors. In that case, color is black.
- The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.
- HFCL is not applicable to extrusions with Wrench Hole in Fixed Position (**P.761**), D Type Hole (**P.764**), or L Type Hole (**P.767**).

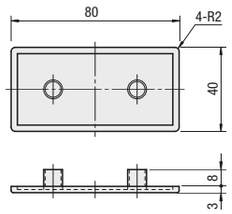
HFC8-4040



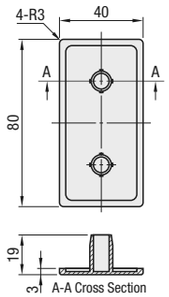
HFCL8-4040



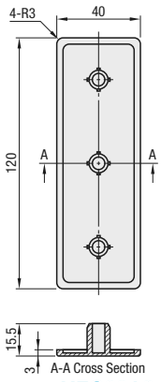
HFC8-4080



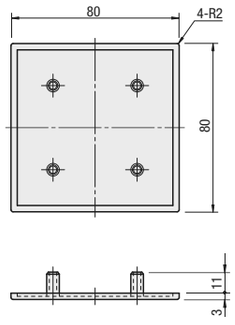
HFCL8-4080



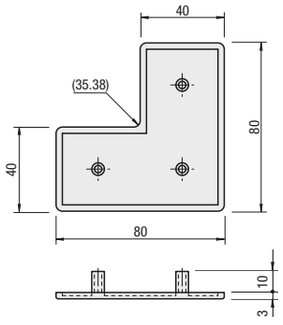
HFC8-40120



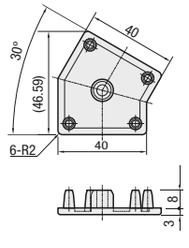
HFC8-8080



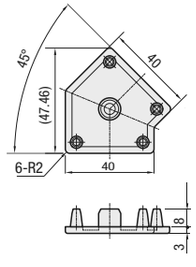
HFC8-808040



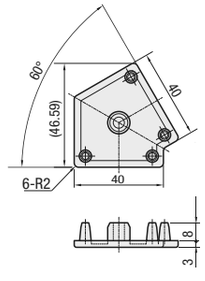
HFC30A8



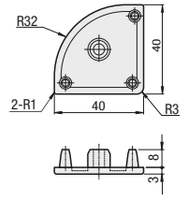
HFC45A8



HFC60A8



HFCR8-4040



For Aluminum Extrusions other than GFS Series, the same extrusion end caps as of HFS Series can be used. For caps for GFS Series, ☞ **P.678**

Part Number Type	Part Number No.	Color	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~200	Applicable Extrusion
HFC8	4040	B (Black) S (Light Gray)				8-4040
	4080					8-4080
	40120					8-40120
	8080					8-8080
	808040					8-808040
HFCL8	4040					8-4040
	4080					8-4080
HFC30A8						30A8-40
HFC45A8						45A8-40
HFC60A8						60A8-40
HFCR8-4040						8-4040

Not applicable to EFSH8-4040.

Ordering Example: Part Number **HFC30A8** - Color **B**

ex

When using Aluminum Extrusion HFS8-80160, please use 2 pieces of HFC8-8080.

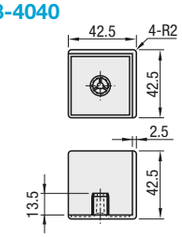


■**Features**: Extrusion End Caps for protecting 3 sides at corners.

■Three-Sided Caps for Corners



HFCK8-4040



The pin shape and numbers of extrusion caps may be changed to prevent caps from easily falling off.

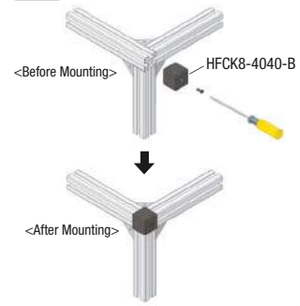
Material: Polyamide

Part Number	Color	Accessory	Applicable Extrusion *	Unit Price 1 ~ 14 pc (s).	Volume Discount Rate 15~19	Volume Discount Rate 20~200
HFCK8-4040	B (Black)	HFBMB5-15	8-4040			

* For Aluminum Extrusion EFS Series, the same extrusion end caps as of HFS Series can be used.

Ordering Example: Part Number **HFCK8-4040-B**

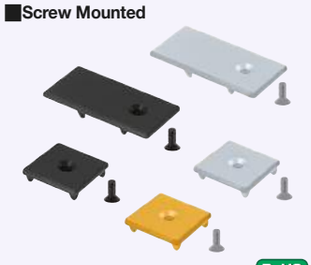
ex Example



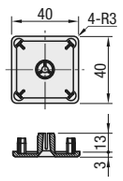
Tapping on extrusion is not required.

■**Features:** Extrusion End Caps Screw Mounting Type. Requires no alteration and excels in safety.

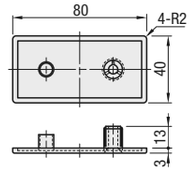
■Screw Mounted



HFCB8-4040 (Screw Fixing Type)



HFCB8-4080 (Screw Fixing Type)



Material: Polyamide (Black, Light Gray, Yellow)

Part Number Type	Part Number No.	Color	Unit Price 1 ~ 14 pc(s).	Volume Discount Rate 15~19	Volume Discount Rate 20~500	Applicable Extrusion *
HFCB8	4040	B (Black) S (Light Gray) Y (Yellow)				8-4040
	4080	Yellow Type is available for 4040 only.				8-4080

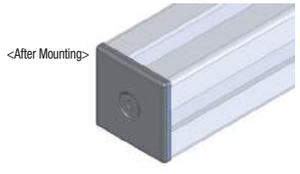
* For Aluminum Extrusion EFS Series, the same extrusion end caps as of HFS Series can be used.

Flat Head Screw is included for Screw Mount Type. (Black: HFBMB5-15, Light Gray, Yellow: SHFBS5-15)

Ordering Example: Part Number **HFCB8-4040-S**

ex Example





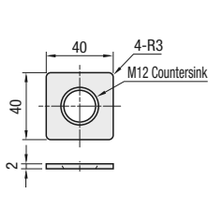
Tapping on extrusion is not required.

■**Features:** Extrusion End Caps only for GFS8-4040 and GFS8-4080. Alterations are required.

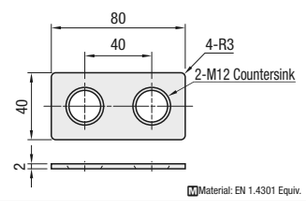
■Plates for High Rigidity Type



HFCD8-4040



HFCD8-4080



Material: EN 1.4301 Equiv.

Part Number Type	Part Number No.	Applicable Screw	Applicable Extrusion	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~50
HFCD8	4040	SHFBS12-20 (Not included)	GFS8-4040		
	4080		GFS8-4080		

Ordering Example: Part Number **HFCD8-4040**

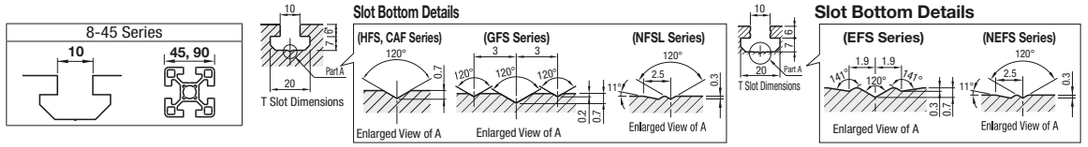
Special alteration is required on cross sections of extrusions to mount extrusion end caps. (**P.768**)

8-45 Series Aluminum Extrusions - Overview

8-45 Series

Aluminum extrusions with 10mm slot width. Available in 45mm, 50mm, 60mm, 90mm and 100mm in size. Applicable to M8 bolts.
Slot Depth 13mm, T Slot Dimension 20mm, L Dimension Tolerance ±0.5mm





*5.5 for Light Type (HFSL, HFSLF, HFSLT, NFSL).

Variations

	Standard Aluminum Extrusions			Lightweight Aluminum Extrusions		High Rigidity Aluminum Extrusions
	HFS Series	EFS Series	NFS (NEFS) Series	HFSL Series	NFSL Series	GFS Series
Cross Section Photo						
Material	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6063-T5 Equiv.	EN AW-6061-T6 Equiv.
Features	Standard cross section shape.	Have rigidity Equiv. to HFS Series yet lighter and more economical.	Significant price reduction has been achieved by material change. Strength(*) is the same as that of HFS and EFS Series.	Lightweight and economical extrusions. Suitable for use when light weight and economical price are given priority over strength.	Further price reduction has been achieved by changing the material of HFSL. Strength(*) is the same as that of HFSL Series.	These thick extrusions offer high rigidity and are suitable for use in high load.
Surface Treatment	Clear Anodize (HFS) Black Anodize (HFSB) Clear Coating (CAF) Baked Paint (Yellow) (HFSY)	Clear Anodize (EFS) Black Anodize (EFSB)	Clear Anodize Black Anodize	Clear Anodize Black Anodize	Clear Anodize	Clear Anodize
8-45 Series Representative Product	HFS8-4545 HFSB8-4545 CAF8-4545	EFS8-4545 EFSB8-4545	NEFS8-4545 NFSB8-4545	HFSL8-4545 HFSLB8-4545	NFSL8-4545	GFS8-4545
Mass (Kg/m) (**)	2.1	1.93	1.93	1.7	1.7	3.16
Cross Sectional Moment of Inertia (**) ℓx	15.13×10^4	15.42×10^4	15.42×10^4	11.73×10^4	11.73×10^4	23.64×10^4
Cross Sectional Moment of Inertia (**) ℓy	15.13×10^4	15.42×10^4	15.42×10^4	11.73×10^4	11.73×10^4	23.64×10^4

* Cross Sectional Moment of Inertia is equal to that of HFS, EFS and HFSL Series, however proof stress and tensile strength slightly decrease.
** Mass and Cross Sectional Moment of Inertia are for 45 square extrusions.

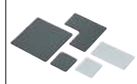
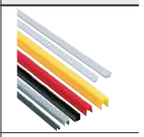
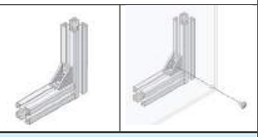
8-45 Series Aluminum Extrusions Lineup

Number of Slots (Vertical Axis): Four-Side Slot Type can be jointed as desired; Flat Plane Type (1 - 3 sides) provides ornamental side(s).
Number of Slot Lines (Horizontal Axis):There are extrusions with one or multiple slots on one side. Ones with multiple slots are suitable where strength is required.
Also available are Angled, Outer Surface R, Milled Surface, Bending and Slot Width Mixed Type.

Variations			HFS Series							EFS Series							NFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize	•	•	•	•	•	•		•	•			•			•	•	•		•		
		Black Anodize	•	•	•	•				•	•												
		Clear Coating	•	•	•																		
		Yellow Paint																					
		Page	P.681, P.687 P.689	P.684 P.687	P.685	P.685	P.686	P.690		P.681 P.689	P.684 P.687			P.686			P.681, P.687 P.689	P.684 P.687	P.685 P.688		P.686		
Flat Plane	One Flat	Clear Anodize	•	•						•	•						•						
		Black Anodize	•																				
		Clear Coating																					
		Yellow Paint																					
		Page	P.683, P.687 P.689	P.684						P.682	P.689						P.682						
	Two Flats	Clear Anodize	•							•							•						
		Black Anodize	•																				
		Clear Coating																					
		Yellow Paint																					
		Page	P.683, P.687 P.689							P.683							P.683						
	3 Sides Flat	Clear Anodize	•							•													
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page	P.683							P.683													

Accessories for 8-45 Series Aluminum Extrusions

MISUMI provides various types of mounting components and accessories.

Product Name	Brackets	Blind Joint	Nut	Extrusion End Caps	Slot Cover
Product Photo					
Mounted Product Photo					
Material	EN AC-46100 Equiv., EN AC-51400-T5 Equiv., etc.	EN 1.1191 Equiv., EN 1.4308 Equiv., EN 1.4301 Equiv., etc.	EN 1.0301 Equiv., EN 1.4301 Equiv., EN 1.4401 Equiv., etc.	Polyamide	Polyethylene, etc.
Features	Brackets to connect extrusions with screws and nuts. Alterations on aluminum extrusions for mounting are not required. Cover plates can be mounted by using Side Tapped Hole Type Brackets.	Suitable for locations where equipment is loaded and unloaded or doors are to be mounted. Alterations are required on the aluminum extrusions.	Nuts for mounting brackets and other accessories. Selectable from various types: Pre-Assembly Insertion Type, Post-Assembly Insertion Type, Thread Locking Adhesive Type, Spring-integrated Type convenient for vertical positioning.	Caps for protecting extrusion end faces. Can be mounted without any alterations.	Protects extrusion slots from dust. Can be cut with scissors. Various colors and materials are available.
Variations	Brackets for 1 Slot ~ 4 Slots Surface Treatment (Black Anodize, Electroless Nickel Plating, etc.) Brackets with Cover, etc.	-	Standard (Single Item, Bulk Packages, Stopper Sets) With Additional Functions (Temporary Holding, Thread Locking Adhesive, Holding Function) Screw Integrated, Long Nuts	Three-Sided Caps for Corners Screw Mounted	Elastomer Sponge Aluminum, etc.
Page No.	Brackets - Overview **P.691** Screws **P.751**~	Overview **P.705**	Overview **P.713**	**P.723**	**P.773**

8-45 Series Applications

Suited for locations where forces apply, such as for larger clean booths, equipment bases and structural material, etc.
Square extrusions up to 100 square are lined up. Useful when higher strength is required.

Usable in combination with different slot width extrusions

Extrusions with different slot width can be combined when integrating frames and coverings.
Assembly Brackets for Different Extrusion Sizes (**P.697**,**704**) enable common use of 8-45 Series and 6 Series.

(Additional Info.) Number of Slots and Number of Slot Lines

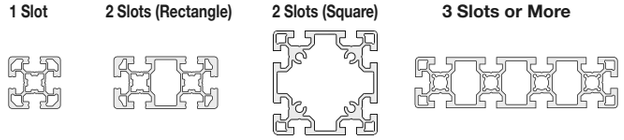
Number of Slots (Vertical Axis)

Four-Side Slots / One Flat / Two Flats / 3 Sides Flat



Number of Slot Lines (Horizontal Axis)

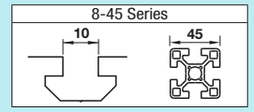
1 Slot / 2 Slots (Rectangle) / 2 Slots (Square) / 3 Slots or More



Variations			HFSL Series							NFSL Series							GFS Series						
Number of Slots (Vertical Axis)		Color	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed	1 Slot	2 Slots Rectangle	2 Slots Square	3 Slots or More	Other Shapes	Parallel Surfacing	Bending Slot Width Mixed
Four-Side Slots	No Flat Plane	Clear Anodize	•	•						•	•						•	•	•	•		•	
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page	P.681	P.684						P.681	P.684						P.681, P.687 P.689	P.684 P.687	P.685 P.688	P.688		P.690	
Flat Plane	One Flat	Clear Anodize	•														•						
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page	P.682														P.682						
	Two Flats	Clear Anodize	•														•						
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page	P.683														P.683						
	3 Sides Flat	Clear Anodize																					
		Black Anodize																					
		Clear Coating																					
		Yellow Paint																					
		Page																					

8-45 Series Aluminum Extrusions 45, 90mm Square

1 Slot



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.691 ~ P.704	P.704 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

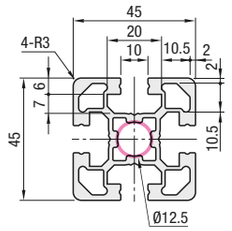
Features: Standard extrusions for equipment bases, etc.



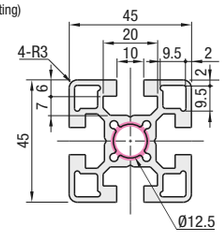
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6 Equiv.	Clear Anodize
NEFS8 NFSL8	KNEFS8 KNFSL8	EN AW-6063-T5 Equiv.	
EFS8 HFS8 HFSL8	KEFS8 KHFS8 KHFSL8	EN AC-51400-T5 Equiv.	
EFSB8 HFSB8	KEFSB8 KHFSB8		Black Anodize
CAF8	KCAF8		Clear Coating (Anodize + Clear Paint)

Cut surface and altered parts are not surface treated.

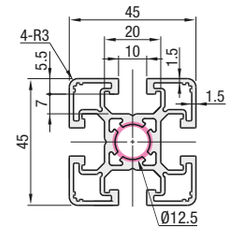
NEFS8-4545
EFS8-4545
EFSB8-4545
(Black Anodize)



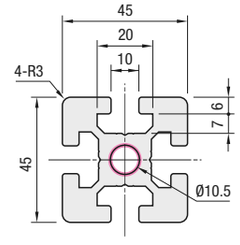
HFS8-4545
HFSB8-4545 (Black Anodize)
CAF8-4545 (Clear Coating)



NFSL8-4545
HFSL8-4545 (Light Type)
For Slot Covers for HFSL8-4545, use HSCA8 (**P.773**).



GFS8-4545 (High Rigidity)



Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFS8	4545	50~4000 Applicable to 6000mm depending on products. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.93	713	15.42x10⁴	15.42x10⁴						
EFS8												
EFSB8 (Black Anodize)												
HFS8			2.1	777	15.13x10⁴	15.13x10⁴						
HFSB8 (Black Anodize)												
CAF8 (Clear Coating)												
NFSL8			1.7	628	11.73x10⁴	11.73x10⁴						
HFSL8 (Light Type)												
GFS8 (High Rigidity)			3.16	1171	23.64x10⁴	23.64x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	4545	4000 (Effective Length)	713	15.42x10⁴	15.42x10⁴		
KEFS8							
KEFSB8 (Black Anodize)							
KHFS8			777	15.13x10⁴	15.13x10⁴		
KHFSB8 (Black Anodize)							
KCAF8 (Clear Coating)							
KNFSL8			628	11.73x10⁴	11.73x10⁴		
KHFSL8 (Light Type)							
KGFS8 (High Rigidity)			1171	23.64x10⁴	23.64x10⁴		

Ordering Example

Part Number	-	L
HFS8-4545	-	800
KHFS8-4545	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

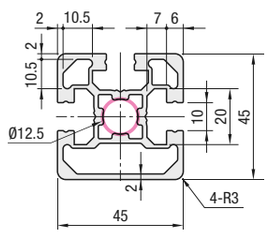
Features: 1-slot Aluminum 45mm Square Extrusions with a Flat Side



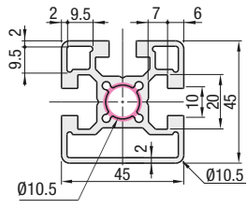
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFSF8	KGFSF8	EN AW-6061-T6 Equiv.	Clear Anodize
NEFSF8	KNEFSF8	EN AW-6063-T5 Equiv.	
EFSF8	KEFSF8	EN AC-51400-T5 Equiv.	
HFSF8	KHFSF8		
HFSLF8	KHFSLF8		
HFSFB8	KHFSFB8		Black Anodize

Cut surface and altered parts are not surface treated.

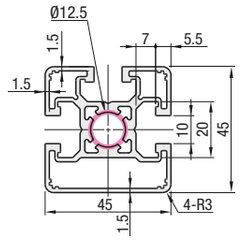
NEFSF8-4545
EFSF8-4545



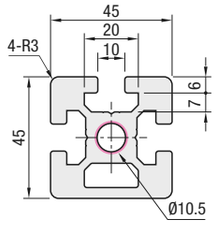
HFSF8-4545
HFSFB8-4545 (Black Anodize)



HFSLF8-4545 (Light Type)
For Slot Covers for HFSLF8-4545, use HSCA8 (**P.773**).



GFSF8-4545 (High Rigidity)



Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price 300mm or More 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFSF8	4545	50~4000 Applicable to 6000mm depending on products. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.83	677	14.58x10⁴	15.00x10⁴						
EFSF8												
HFSF8			1.97	730	13.88x10⁴	14.58x10⁴						
HFSFB8 (Black Anodize)												
HFSLF8 (Light Type)			1.60	590	10.88x10⁴	11.33x10⁴						
GFSF8			3.16	1172	24.54x10⁴	23.36x10⁴						

Extrusions without anodizing are also available. Refer to Information of Special Orders (**P.103**) and contact the person in charge of Special Orders at MISUMI QCT Center.

Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFSF8	4545	4000 (Effective Length)	677	14.58x10⁴	15.00x10⁴		
KEFSF8							
KHFSF8			730	13.88x10⁴	14.58x10⁴		
KHFSFB8 (Black Anodize)							
KHFSLF8 (Light Type)			590	10.88x10⁴	11.33x10⁴		
KGFSF8			1172	24.54x10⁴	23.36x10⁴		

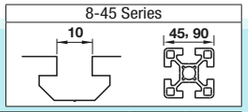
Ordering Example

Part Number	-	L
HFSF8-4545	-	800
KHFSF8-4545	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

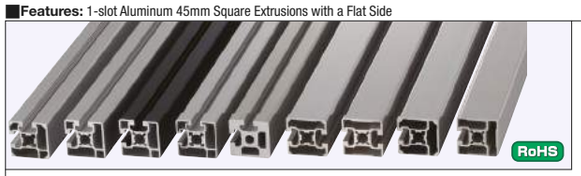
8-45 Series Aluminum Extrusions 45, 90mm Square

1 Slot



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.691 ~ P.704	P.705 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

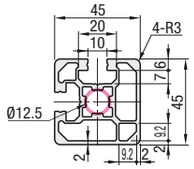
■**Features:** 1-slot Aluminum 45mm Square Extrusions with a Flat Side



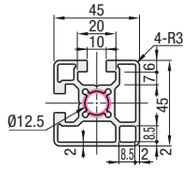
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS□8	KGFS□8	EN AW-6061-T6 Equiv.	Clear Anodize
NEFS□8	KNEFS□8	EN AW-6063-T5 Equiv.	
EFS□8	KEFS□8	EN AC-51400-T5 Equiv.	
HFS□8	KHFS□8		
HFSL□8	KHFSL□8		
HFS□B8	KHFS□B8		Black Anodize

Cut surface and altered parts are not surface treated.

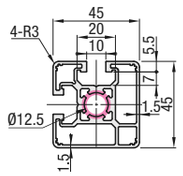
NEFST8-4545
EFST8-4545



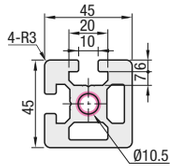
HFST8-4545
HFSTB8-4545 (Black Anodize)



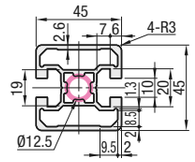
HFSLT8-4545 (Light Type)



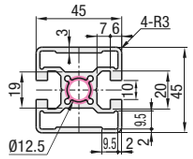
GFST8-4545 (High Rigidity)



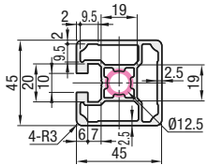
EFSH8-4545



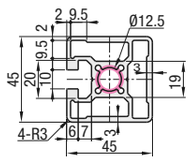
HFSH8-4545



EFSC8-4545



HFSC8-4545



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFST8	4545	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	1.80	667	14.67x10⁴	14.67x10⁴						
EFST8												
HFST8			1.92	713	14.00x10⁴	14.00x10⁴						
HFSTB8 (Black Anodize)												
HFSLT8 (Light Type)			1.58	585	11.13x10⁴	11.13x10⁴						
GFST8 (High Rigidity)			3.22	1195	24.46x10⁴	24.46x10⁴						
EFSH8			1.82	674	14.60x10⁴	14.86x10⁴						
HFSH8			1.97	731	14.30x10⁴	14.71x10⁴						
EFSC8			1.82	675	14.93x10⁴	15.27x10⁴						
HFSC8			1.98	735	14.41x10⁴	15.02x10⁴						

■Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFST8	4545	4000 (Effective Length)	667	14.67x10⁴	14.67x10⁴		
KEFST8							
KHFST8			713	14.00x10⁴	14.00x10⁴		
KHFSTB8 (Black Anodize)							
KHFSLT8 (Light Type)			585	11.13x10⁴	11.13x10⁴		
KGFST8 (High Rigidity)			1195	24.46x10⁴	24.46x10⁴		
KEFSH8			674	14.60x10⁴	14.86x10⁴		
KHFSH8			731	14.30x10⁴	14.71x10⁴		
KEFSC8			675	14.93x10⁴	15.27x10⁴		
KHFSC8			735	14.41x10⁴	15.02x10⁴		

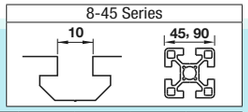
Ordering Example

Part Number	-	L
HFST8-4545	-	800
KHFST8-4545	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see P.755.

8-45 Series Aluminum Extrusions 45, 90mm Square

2 Slots



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.691 ~ P.704	P.705 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

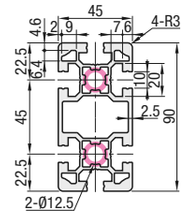
■**Features:** Extrusions with [1x2 slots]. Effective where forces apply.



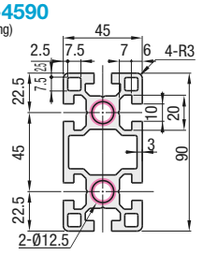
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6 Equiv.	Clear Anodize
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	
NFSL8	KNFSL8		
EFS8	KEFS8	EN AC-51400-T5 Equiv.	
HFS8	KHFS8		
EFSF8	KEFSF8		
HFS□8	KHFS□8		
EFSB8	KEFSB8		Black Anodize
HFSB8	KHFSB8		
CAF8	KCAF8		Clear Coating (Anodize + Clear Coating)

Cut surface and altered parts are not surface treated.

NEFS8-4590
EFS8-4590
EFSB8-4590
(Black Anodize)

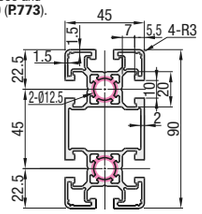


HFS8-4590
HFSB8-4590
(Black Anodize)
CAF8-4590
(Clear Coating)

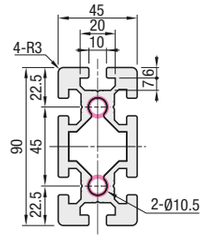


NFSL8-4590
HFSL8-4590
(Light Type)

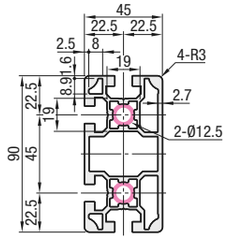
Use HSCA8 as a slot cover for HFSL8-4590 and NFSL8-4590 (P.773).



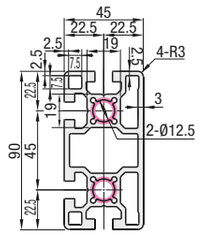
GFS8-4590
(High Rigidity)



EFSF8-4590



HFSF8-4590



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFS8	4590	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	3.75	1390	32.67x10⁴	125.3x10⁴						
EFS8												
EFSB8 (Black Anodize)												
HFS8			4.14	1534	32.29x10⁴	124.7x10⁴						
HFSB8 (Black Anodize)												
CAF8 (Clear Coating)												
NFSL8			2.98	1101	22.87x10⁴	87.16x10⁴						
HFSL8 (Light Type)												
GFS8 (High Rigidity)			5.22	1935	42.99x10⁴	163.4x10⁴						
EFSF8			3.60	1335	32.14x10⁴	117.9x10⁴						
HFSF8			3.80	1408	30.92x10⁴	116.8x10⁴						

■Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

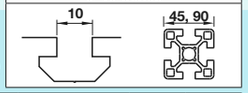
Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	4590	4000 (Effective Length)	1390	32.67x10⁴	125.3x10⁴		
KEFS8							
KEFSB8 (Black Anodize)							
KHFS8			1534	32.29x10⁴	124.7x10⁴		
KHFSB8 (Black Anodize)							
KCAF8							
KNFSL8			1101	22.87x10⁴	87.16x10⁴		
KHFSL8 (Light Type)							
KGFS8 (High Rigidity)			1935	42.99x10⁴	163.4x10⁴		
KEFSF8			1335	32.14x10⁴	117.9x10⁴		
KHFSF8			1408	30.92x10⁴	116.8x10⁴		

Ordering Example

Part Number	-	L
HFS8-4590	-	800
KHFS8-4590	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see P.755.

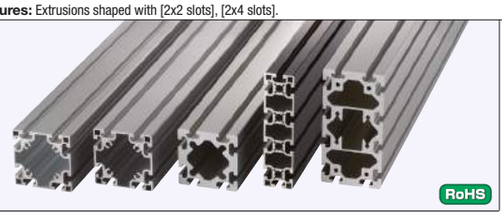


8-45 Series Aluminum Extrusions 45, 90mm Square

2 or More Slots

Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.691 ~ P.704	P.705 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

■**Features:** Extrusions shaped with [2x2 slots], [2x4 slots].

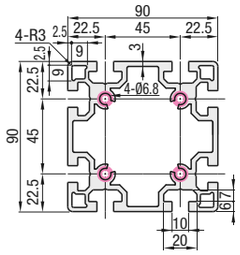


RoHS

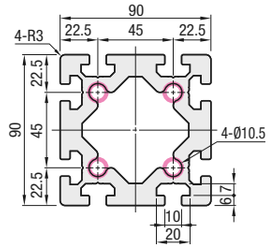
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6 Equiv.	Clear Anodize
NFS8	KNFS8	EN AW-6063-T5 Equiv.	
HFS8	KHFS8	EN AC-51400-T5 Equiv.	
HFSB8	KHFSB8		Black Anodize
CAF8	KCAF8		Clear Coating (Anodize + Clear Paint)

Cut surface and altered parts are not surface treated.

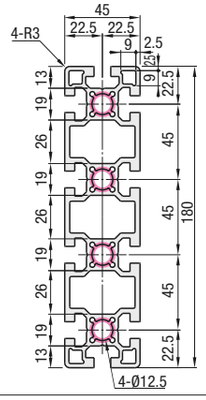
NFS8-9090
HFS8-9090
HFSB8-9090 (Black Anodize)
CAF8-9090 (Clear Coating)



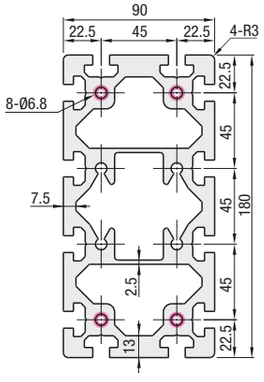
GFS8-9090 (High Rigidity)



HFS8-45180
HFSB8-45180 (Black Anodize)



HFS8-90180
HFSB8-90180 (Black Anodize)



Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NFS8	9090	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	5.80	2162	209.2x10⁴	209.2x10⁴						
HFS8												
HFSB8 (Black Anodize)												
CAF8 (Clear Coating)												
GFS8 (High Rigidity)			9.60	3592	320.2x10⁴	320.2x10⁴						
HFS8	45180		7.12	2636	60.8x10⁴	804x10⁴						
HFSB8 (Black Anodize)												
HFS8	90180		17.07	6320	599x10⁴	2136x10⁴						
HFSB8 (Black Anodize)												

Fixed Length Extrusions (Effective Length 4000mm P.526)

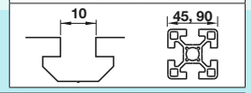
Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNFS8	9090	4000 (Effective Length)	2162	209.2x10⁴	209.2x10⁴		
KHFS8							
KHFSB8 (Black Anodize)							
KCAF8							
KGFS8 (High Rigidity)			3592	320.2x10⁴	320.2x10⁴		
KHFS8	45180		2636	60.8x10⁴	804x10⁴		
KHFSB8 (Black Anodize)							
KHFS8	90180		6320	599x10⁴	2136x10⁴		
KHFSB8 (Black Anodize)							

Ordering Example

Part Number	-	L
HFS8-90180	-	800
KHFS8-9090	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

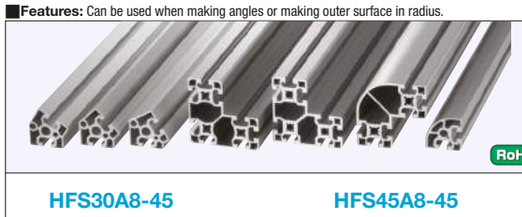


8-45 Series Aluminum Extrusions 45, 90mm Square

Other Shapes

Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.691 ~ P.704	P.705 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

■**Features:** Can be used when making angles or making outer surface in radius.

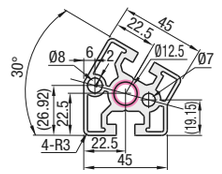


RoHS

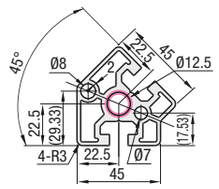
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	Clear Anodize
HFS8 EFS8 HFS□8 HFS□□A8	KHFS8 KEFS8 KHFS□8 KHFS□□A8	EN AC-51400-T5 Equiv.	

Cut surface and altered parts are not surface treated.

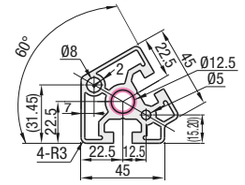
HFS30A8-45



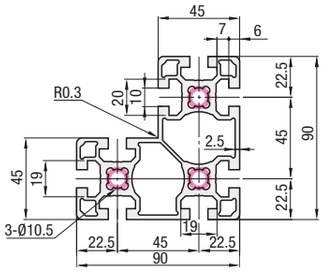
HFS45A8-45



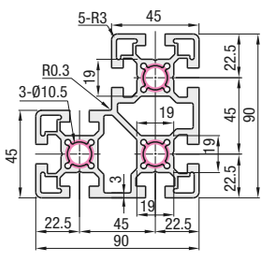
HFS60A8-45



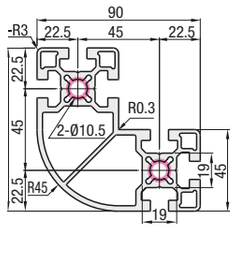
NEFS8-909045
EFS8-909045



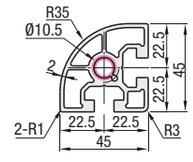
HFS8-909045



HFSR8-909045



HFSR8-4545



Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
HFS30A8	45	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	2.30	851	14.91x10⁴	15.95x10⁴						
HFS45A8			2.22	821	14.73x10⁴	15.49x10⁴						
HFS60A8			2.26	834	14.94x10⁴	15.93x10⁴						
NEFS8	909045		5.36	1988	149.72x10⁴	149.72x10⁴						
EFS8												
HFS8			5.55	2053	149.6x10⁴	149.6x10⁴						
HFSR8	4545		4.67	1731	128.2x10⁴	128.2x10⁴						
HFSR8			1.79	662	11.30x10⁴	11.30x10⁴						

Fixed Length Extrusions (Effective Length 4000mm P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

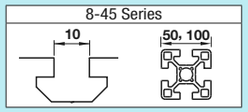
Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KHFS30A8	45	4000 (Effective Length)	851	14.91x10⁴	15.95x10⁴		
KHFS45A8			821	14.73x10⁴	15.49x10⁴		
KHFS60A8			834	14.94x10⁴	15.93x10⁴		
KNEFS8	909045		1988	149.72x10⁴	149.72x10⁴		
KEFS8							
KHFS8			2053	149.6x10⁴	149.6x10⁴		
KHFSR8	4545		662	11.30x10⁴	11.30x10⁴		

Ordering Example

Part Number	-	L
HFS30A8-45	-	800
KHFS30A8-45	-	4000

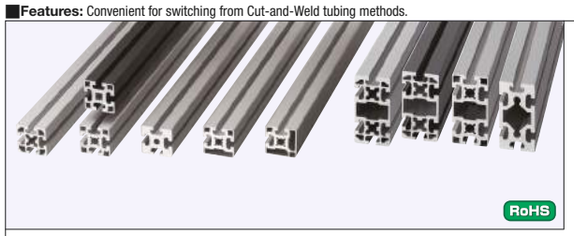
Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see **P.755**.

8-45 Series Aluminum Extrusions 50, 100mm Square



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Cap	Alterations
P.691 ~ P.704	P.704 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

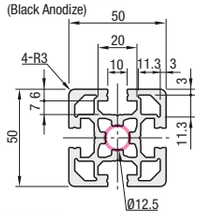
■**Features:** Convenient for switching from Cut-and-Weld tubing methods.



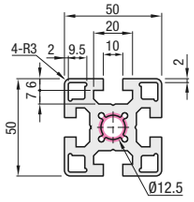
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	Clear Anodize
GFS8	KGFS8	EN AW-6061-T6 Equiv.	
EFS8 HFS8 HFS□8	KEFS8 KHFS8 KHFS□8	EN AC-51400-T5 Equiv.	
EFSB8 HFSB8	KEFSB8 KHFSB8		Black Anodize

Cut surface and altered parts are not surface treated.

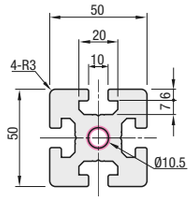
NEFS8-5050
EFS8-5050
EFSB8-5050
(Black Anodize)



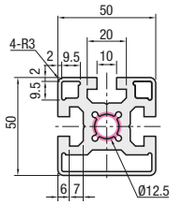
HFS8-5050
HFSB8-5050
(Black Anodize)



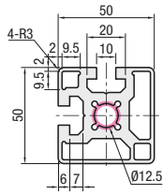
GFS8-5050 (High Rigidity)



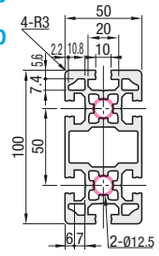
HFSF8-5050



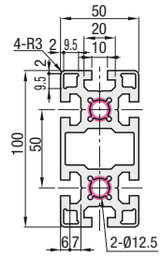
HFST8-5050



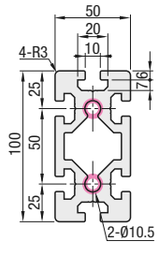
NEFS8-50100
EFS8-50100
EFSB8-50100
(Black Anodize)



HFS8-50100
HFSB8-50100
(Black Anodize)



GFS8-50100
(High Rigidity)



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFS8	5050	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	2.84	1053	26.98x10⁴	26.98x10⁴						
EFS8												
EFSB8 (Black Anodize)												
HFS8			3.43	1150	26.64x10⁴	26.64x10⁴						
HFSB8 (Black Anodize)												
GFS8 (High Rigidity)			4.4	1633	38.16x10⁴	38.16x10⁴						
HFSF8			3.11	1165	23.82x10⁴	25.95x10⁴						
HFST8			2.97	1114	23.74x10⁴	23.74x10⁴						
NEFS8	50100		5.39	1996	53.0x10⁴	211.21x10⁴						
EFS8												
EFSB8 (Black Anodize)												
HFS8			5.96	2206	51.67x10⁴	211.19x10⁴						
HFSB8 (Black Anodize)												
GFS8 (High Rigidity)			7	2593	68.08x10⁴	273.12x10⁴						

■Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

Extrusions without anodizing are also available. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center.

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	5050	4000 (Effective Length)	1053	26.98x10⁴	26.98x10⁴		
KEFS8							
KEFSB8 (Black Anodize)							
KHFS8			1150	26.64x10⁴	26.64x10⁴		
KHFSB8 (Black Anodize)							
KGFS8 (High Rigidity)			1633	38.16x10⁴	38.16x10⁴		
KHFSF8			1165	23.82x10⁴	25.95x10⁴		
KHFST8			1114	23.74x10⁴	23.74x10⁴		
KNEFS8	50100		1996	53.0x10⁴	211.21x10⁴		
KEFS8							
KEFSB8 (Black Anodize)							
KHFS8			2206	51.67x10⁴	211.19x10⁴		
KHFSB8 (Black Anodize)							
KGFS8 (High Rigidity)			2593	68.08x10⁴	273.12x10⁴		

Ordering Example

Part Number	-	L
HFS8-5050	-	800
KHFS8-5050	-	4000

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see P.755.

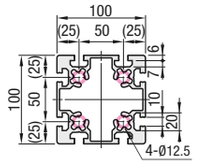
■**Features:** Extrusions shaped with [1x2 slots], [2x4 slots].



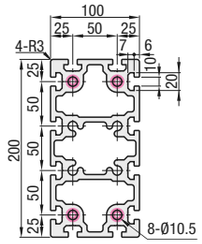
Type		Material	Surface Treatment
Configurable Length	Fixed Length		
NEFS8	KNEFS8	EN AW-6063-T5 Equiv.	Clear Anodize
GFS8	KGFS8	EN AW-6061-T6 Equiv.	

Cut surface and altered parts are not surface treated.

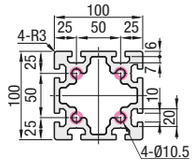
NEFS8-100100



GFS8-100200 (High Rigidity)



GFS8-100100 (High Rigidity)



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NEFS8	100100	50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center. Some extrusions are not applicable.	7.86	2922	376.0x10⁴	376.0x10⁴						
GFS8 (High Rigidity)	100200		10.68	3957	465.8x10⁴	465.8x10⁴						
			20.45	7574	874.3x10⁴	3179.53x10⁴						

■Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

Extrusions without anodizing are also available. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI QCT Center.

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNEFS8	100100	4000 (Effective Length)	2922	376.0x10⁴	376.0x10⁴		
KGFS8 (High Rigidity)	100200		3957	465.8x10⁴	465.8x10⁴		
			7574	874.3x10⁴	3179.53x10⁴		

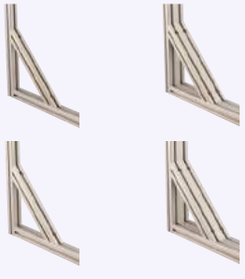
Ordering Example

Part Number	-	L
NEFS8-100100	-	800
KNEFS8-100100	-	4000

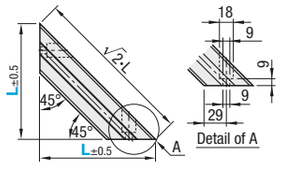
Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see P.755.

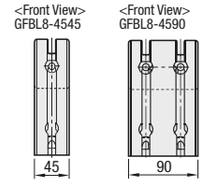
■**Features:** Reinforcement Brackets machined from extrusions. Usable on locations needing more strength after connecting with brackets.

■Brackets for Reinforcement

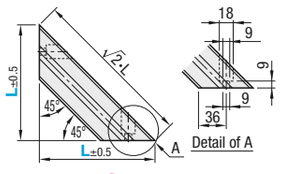


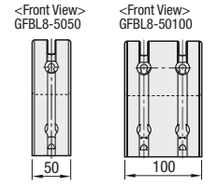
GFBL8-4545
GFBL8-4590





GFBL8-5050
GFBL8-50100





Material: EN AW-6061-T6 Equiv.

Surface Treatment: Anodize
(No surface treatment on 45 (No surface treatment on 45 deg. cut ends and counterbores.)

This product is for reinforcement, not for single use. Can be used with bracket connections.

Use Screws with Captured Washer (HCBST8-24) to connect to extrusions.

Part Number		L 1mm Increment	Applicable Screw and Nut				L100~300			L301~500		
Type	No.		Screw	Quantity	Nut	Quantity	Unit Price 1 ~ 4 pc(s).	Volume Discount Rate 5~20	Volume Discount Rate 21~50	Unit Price 1 ~ 4 pc(s).	Volume Discount Rate 5~20	Volume Discount Rate 21~50
GFBL8	4545	100~500	HCBST8-24	2	HNTT8-8	2						
	4590			4		4						
	5050			2		2						
	50100			4		4						

Ordering Example

Part Number	-	L
GFBL8-4545	-	300

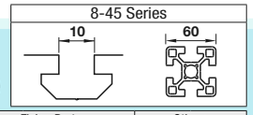
Alterations

Part Number	-	(SET, SEU, SEP)
GFBL8-4545	-	SET

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SEU (Pre-Assembly Insertion Spring Nuts) SEP (Post-Assembly Insertion Spring Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) <When SET is specified> Screw: HCBST8-24, Nut: HNTT8-8 <When SEU is specified> Screw: HCBST8-24, Nut: HNTU8-8 <When SEP is specified> Screw: HCBST8-24, Nut: HNTP8-8	GFBL8-4545 GFBL8-4590 GFBL8-5050 GFBL8-50100

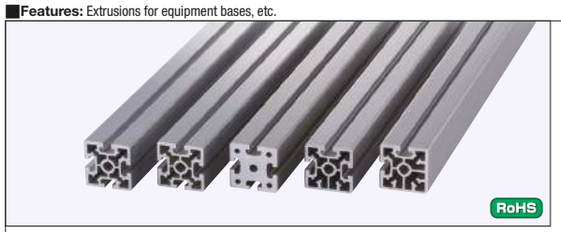
Not RoHS compliant when -SET, -SEU or -SEP are specified.

8-45 Series Aluminum Extrusions 60 mm Square



Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.691 ~ P.704	P.705 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

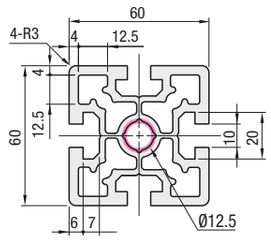
■**Features:** Extrusions for equipment bases, etc.



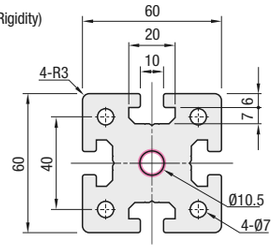
Type		M Material	S Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6 Equiv.	Clear Anodize
NFS8	KNFS8	EN AW-6063-T5 Equiv.	
HFS8 HFS□8	KHFS8 KHFS□8	EN AC-51400-T5 Equiv.	

(?)Cut surface and altered parts are not surface treated.

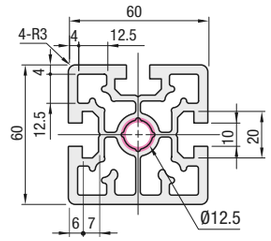
NFS8-6060
HFS8-6060



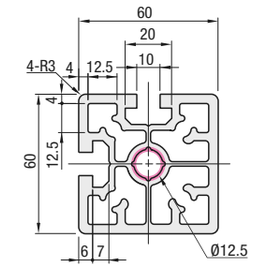
GFS8-6060 (High Rigidity)



HFSF8-6060



HFST8-6060



■Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
NFS8		50~4000 ■Applicable to 6000mm depending on products. Refer to Information of Special Orders (P.103) and contact the person in charge of Special Orders at MISUMI OCT Center. (?)Some extrusions are not applicable.	4.17	1478	56.44x10⁴	56.44x10⁴						
HFS8												
GFS8 (High Rigidity)	6060		6.96	2577	79.86x10⁴	79.86x10⁴						
HFSF8			4.16	1509	58.16x10⁴	56.19x10⁴						
HFST8			4.14	1519	57.90x10⁴	57.90x10⁴						

■Fixed Length Extrusions (Effective Length 4000mm ☞P.526)

(?)Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KNFS8		4000 (Effective Length)	1478	56.44x10⁴	56.44x10⁴		
KHFS8							
KGFS8 (High Rigidity)	6060		2577	79.86x10⁴	79.86x10⁴		
KHFSF8			1509	58.16x10⁴	56.19x10⁴		
KHFST8			1519	57.90x10⁴	57.90x10⁴		

Ordering Example: Part Number - L → HFS8-6060 - 800

Alterations: Alterations are available for Configurable Length Extrusions. For details of alterations, see P.755.

■Measure of Allowable Load

Extrusion	Height x Width (mm)	NFS, HFS Series Allowable Load (N)	NFS, HFS Series Allowable Load (kgf)	GFS Series Allowable Load (N)	GFS Series Allowable Load (kgf)	Difference of Allowable Load from HFS Series
60 sq. x 60 sq.	60x60	1,743	177	2,682	273	1.54 times

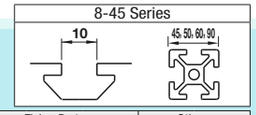
(?)The value indicates the concentrated load of the extrusion on the center when the 1000mm long extrusion is supported at both ends.

■Mechanical Characteristics (Reference Actual Measurement)

Series	NFS Series	HFS Series	GFS Series
Material (JIS Symbol)	EN AW-6063-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AW-6061-T6 Equiv.
Tensile Strength (N/mm²)	155 or more	245 or more	265 or more (Actual Measurement 278)
Proof Stress (N/mm²)	110 or more	205 or more	245 or more (Actual Measurement 247)
Longitudinal Elastic Modulus (N/mm²)	69,972	69,972	69,972
Brinell Hardness (HB)	88	88	88
Surface Treatment	Anodize 9μm or more		

Special Use: 8-45 Series Aluminum Extrusions

Aluminum Extrusions with Parallel Surfacing

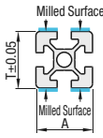


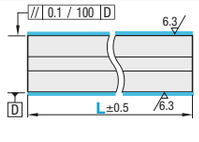
Fixing Parts			Others	
Brackets	Joints	Nut	Extrusion End Caps	Alterations
P.691 ~ P.704	P.705 ~ P.710	P.713 ~ P.722	P.723	P.755 ~ P.768

■**Features:** Milled on upper and lower surfaces. Usable for Linear Guides on P.■ -519~.



HFSP
GFSP



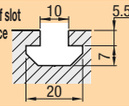


(?)Milled surfaces and cut surfaces are not anodized.

Type	M Material	S Surface Treatment
HFSP8	EN AC-51400-T5 Equiv.	Clear Anodize
GFSP8	EN AW-6061-T6 Equiv.	

(?)For detailed dimensions and shapes EXCEPT the slots on the milled surface, A and T dimensions, please refer to the drawing of the product of the below Part Number without "P". ((Ex.) HFSP8-4545→ Ref. fig. HFS8-4545 on P.681))

Detailed view of slot on milled surface Slot Details



*Due to the extrusion tolerance, the thickness tolerance of the slot on the milled surface becomes as shown above, while T dimension tolerance is ±0.1.

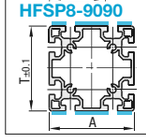
Square Type
HFSP8-4545
HFSP8-5050



HFSP8-6060



HFSP8-9090



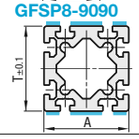
GFSP8-4545
GFSP8-5050



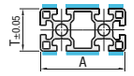
GFSP8-6060



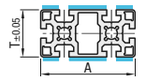
GFSP8-9090



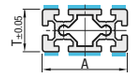
Rectangle Type (Horizontal)
HFSP8-9045



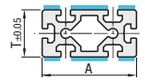
HFSP8-10050



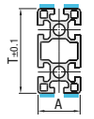
GFSP8-9045



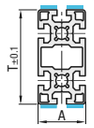
GFSP8-10050



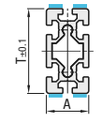
Rectangle Type (Vertical)
HFSP8-4590



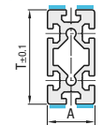
HFSP8-50100



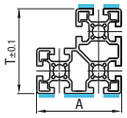
GFSP8-4590



GFSP8-50100



L-Shaped Type
HFSP8-909045



Part Number		L 0.5mm Increment	Extrusion Series	T	A	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)	Alteration Charge (Main Body +) Counterboring XA ~ XE (per Row)	Alteration Charge (Main Body +) Wrench Hole Drilling AV ~ EV (per Row)	Tapping (Refer to P.757) Tap Shape	Tapping (Refer to P.757) Left LTP	Tapping (Refer to P.757) Right RTP	Tapping (Refer to P.757) Both TPW
HFSP8	4545	100~3000	HFS8-45	44	45			Z6 d6.5 d111		M12 Depth 18 (Heli-coil is inserted to Ø12.5)			
	5050			49	50								
	10050				100								
	50100			99	50								
	6060			59	60								
	9045			44	90			Z8 d9 d114	-				
	4590				45								
	9090			89									
	909045				90					M8 Depth 24			
										M12 Depth 18 (Heli-coil is inserted to Ø12.5)			
GFSP8	4545		GFS8-45	44	45			Z6 d6.5 d111		M12 Depth 18 (Heli-coil is inserted to Ø12.5)			
	5050			49	50								
	10050				100								
	50100			99	50				-				
	6060			59	60								
	9045			44	90			Z8 d9 d114					
	4590				45								
	9090			89	90				-				
										M12 Depth 36			

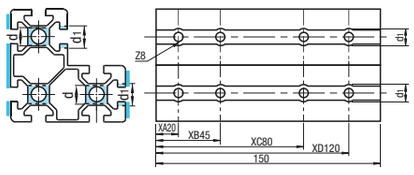
Ordering Example: Part Number - L → HFSP8-4545 - 300

Alterations: Adds a hole at a specified position. (?)For details of tapping, refer to P.757.

- Nuts for Extrusions Use nuts for aluminum extrusions on P.713~722.

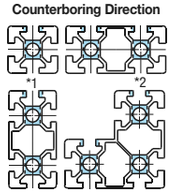
Alterations	Counterboring							Wrench Hole					
Code	Z Selection			XA	XB	XC	XD	XE	D Selection	AV	BV	CV	DV	EV
Spec.	Z	d	d1	Distance from the Left End Plane mm					D	Distance from the Left End Plane mm				
Specifications of Hole Size and Position	6	6.5	11	7~(L-7)					8	7~(L-7)				
	8	9	14											

Ordering Example:
HFSP8 - 909045 - 150 - Z8 - XA20 - XB45 - XC80 - XD120
HFSP8 - 4545 - 2000 - D8 - AV100 - BV120 - CV1000 - DV1880 - EV1900
HFSP8 - 9090 - 800 - LTP

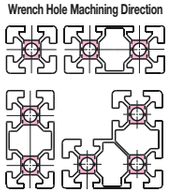


(?)When the cross section is L-shaped, select distance from left end with lower section in the back.

Counterboring Direction



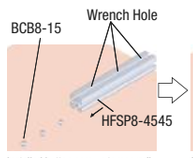
Wrench Hole Machining Direction



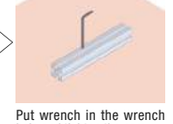
*1 When the cross section is rectangle (vertical), counterboring is not available for extrusions exceeding 60mm in the longitudinal direction.
*2 When the cross section is L-shaped, counterboring is not available for extrusions exceeding 60mm in longitudinal direction, except for the lower portion.

Example





Installed button screws temporarily in reference plane, then slide the frame to fixing position, passing screw heads through frame slot.



Put wrench in the wrench hole and tighten the screw.

(?)Being extruded sections, products can twist. Supporting overall length of extrusion for use is recommended. See Aluminum Extrusion Tolerance Data on P.514.

Brackets - Overview

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions

There are Two Types of Aluminum Extrusions Connections.

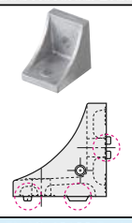
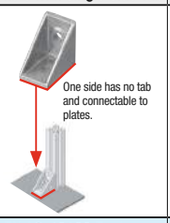
Bracket Connection		**Inserts nuts into the slots of aluminum extrusions and fix with screws. Economical and mountable at desired positions since alterations on extrusions are not required.**
Blind Joint Connection		**Adds hole alterations on the extrusion sides and connects with special joints. Connection without brackets produces clean corners. Recommended where interference needs to be avoided. * For details of Blind Joint Connection, see P.705.**

About Brackets

• For 1 Slot: Products effective to increase assembly workability and with different surface treatments are available. Various types other than representative ones are also available. See the table below to find the rough features and check the details on each product page. ☞ **P.693~P.698**

Tabbed Brackets

Mounting surfaces are tabbed to prevent rotations. Other than conventional "HBLFSN5", products with additional functions are also available.

Product Name	Tabbed Reversal Brackets	Brackets with Single Side Tab	Brackets with Cover	Tabbed Brackets (number of holes doubled)
Product Photo				
Material	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.	EN AC-46100 Equiv.
Features	Tabs on mounting surfaces enable easy positioing. Most conventional type.	Only one side of bracket has tabs. Suitable when connecting extrusions and plates.	Brackets with cover type. Superior in sanitation since dust does not intrude.	Large Size Type with dounbled number of screws to be used. Extrusions can be connected more securely.
Representative Product	HBLFSN8-45	HBLFSNK8-45 HBLFSNE8-45	HBLFSNT8-45	HBLFSSW8-45
Page	**P.693**	**P.693**	**P.694**	**P.694**

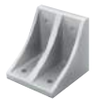
Extruded Brackets

Surfaces are anodized. In addition to the classic "NBLTS5 / HBLTS5", products with additional function are available.

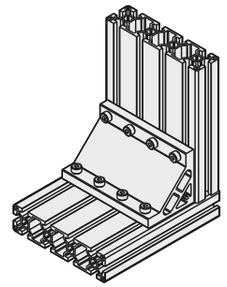
Product Name	Thick Brackets	Scalene Brackets	Thick Brackets	Assembly Brackets for Different Extrusion Sizes
Product Photo				
Material	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.	EN AC-51400-T5 Equiv.
Features	Made of the same material as aluminum extrusions with anodizing. Suitable when uniform appearance with the extrusions is desired.	Length of two sides are scalene. Usable where space is narrow.	Two mounting holes are provided on one side. Extrusions can be connected more securely with 4 screws.	Staggered mounting holes Brackets to connect 45 and 30 square Extrusions.
Representative Product	• NBLT8-45 (EN AW-6063-T5 Equiv.) • HBLT8-45(EN AC-51400-T5 Equiv.)	HBLTF8	HBLTSW8	HBLTS845-6L HBLTS845-6R
Page	**P.695**	**P.695**	**P.697**	**P.697**

Side surface and screw holes are not anodized for NBL□□Series (Material: EN AW-6063-T5 Equiv.).

• For Multiple Slot Extrusions: Extrusions with 2 ~ 4 slots can be connected with one bracket. Check the details on each product page. ☞ **P.699~P.701**

Product Name	For 2 Slots Tabbed Brackets	For 2 Slots Extruded Brackets	For 4 Slots Extruded Brackets
Product Photo			
Material	EN AC-46100 Equiv.	• EN AW-6063-T5 Equiv. • EN AC-51400-T5 Equiv.	A6N01SS-TS
Representative Product	HBLFSDW8-90	• NBLT08-45(EN AW-6063-T5 Equiv.) • HBLT08-45(EN AC-51400-T5 Equiv.)	HBLUQ8-45
Page	**P.699**	**P.699**	**P.701**

Side surface and screw holes are not anodized for NBL□□Series (Material: EN AW-6063-T5 Equiv.).



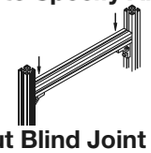
• Special Shape: Products with special functions / shapes are also available. Check the details on each product page. ☞ **P.652,701~703**

Product Name	Post-Assembly Insertion Easy Brackets	Thin Brackets	Angled Brackets	Free Angle Brackets
Product Photo				
Features	2 aluminum extrusions can be connected with only 1 tightening screw.	Thin and compact type. Effective for space saving at mounting locations.	45° / 135° angled type. Extrusions with 45° cut can be connected.	Extrusions can be connected at any arbitrary angle.
Representative Product	HABL8 (Combination use with 8 Series type is possible.)	HBLSS8-45	HBL45TS8-45 HBL135TS8-45	HBLTBC45
Page	**P.652**	**P.701**	**P.702**	**P.703**

Perpendicularity

Perpendicularity of Extruded Brackets is manufactured within ±1° tolerance based on JIS Standard H4100 Special Grade. For applications where perpendicularly is important, use Perpendicularly Machined Type. ☞ **P.695~P.696**

How to Specify Allowable Load of Bracket

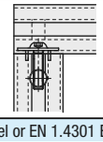
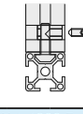
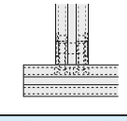
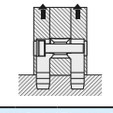


Allowable load per one bracket is calculated with one beam extrusion between two vertical extrusions supported by a bracket under each side of the beam as shown on the left-side figure.

Allowable Load here means the load applied when all mounting holes of the brackets are fixed with screws and the brackets can hold the position (without break or sliding).

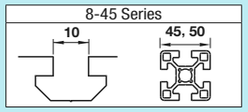
About Blind Joint Components

Blind Joint Connection is recommended where standard brackets and peripherals interfere. See the table below and check the details on each product page. ☞ **P.704~P.710**

Product Name	Blind Brackets	Screw Joints	Single Joints	Center Joint	Pre-Assembly Insertion Double Joints	Post-Assembly Insertion Double Joints
Product Photo						
Installation Diagram						
Material	EN 1.1191 Equiv. or EN 1.4308 Equiv.	Steel or EN 1.4301 Equiv.	Steel or EN 1.4301 Equiv.	EN 1.4308 Equiv.	EN 1.4401 Equiv. / EN 1.4301 Equiv.	EN 1.4308 Equiv. / EN 1.4301 Equiv.
Features	No need for alterations to hide brackets inside of the slot.	Joint Plate enables secure and economical connection.	D type holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.	Most standard Blind Joints usable with various types of aluminum extrusions.	Can be used for various applications such as to extend extrusions as well as mounting to plates.	Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.
Representative Product	HBLBS	HCJ	HSJ	HMJ	HDJSN	HPJN
Page	**P.704**	**P.706**	**P.707**	**P.708**	**P.709**	**P.710**

Tabbed Brackets

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions



■**Features:** Tabbed Brackets to be connected by both L and Cross-Connections.

■**Tabbed Reversal Brackets**

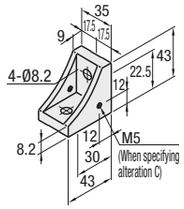


RoHS

Type	Material	Surface Treatment
HBLFSN8-45	EN AC-46100 Equiv.	-
HBLFSNB8-45		Black Anodize
HBLFSNM8-45		Electroless Nickel Plating
CHBLFSN8-45		Baked Paint (Silver)
HBLFSN8-50		-

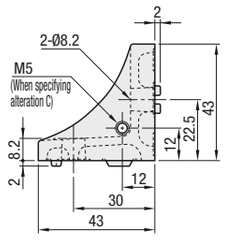
*Baked Paint (Silver) is color coordinated with Clear Coating Extrusions.

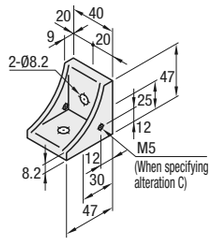
Tabbed Reversal Brackets
HBLFSN8-45
HBLFSNB8-45
(Black Anodize)
HBLFSNM8-45
(Electroless Nickel Plating)
CHBLFSN8-45
(Baked Paint, Silver)

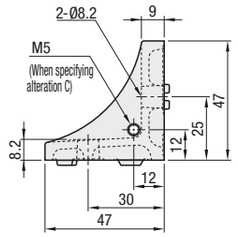


For 50 Sq.

Tabbed Reversal Brackets
HBLFSN8-50







Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSN8-45	55	CBM8-20	2	HNTT8-8	2	2058		
HBLFSNB8-45*(Black Anodize)								
HBLFSNM8-45 (Electroless Nickel Plating)								
CHBLFSN8-45 (Baked Paint, Silver)								
HBLFSN8-50	78							

* For repairing black anodizing, refer to **P.846.**

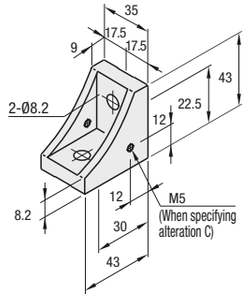
■**Features:** Brackets with single side tabs. Plates can be mounted on the side without tabs.

■**Brackets with Single Side Tab**

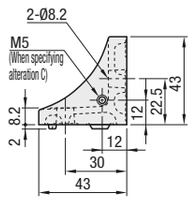


RoHS

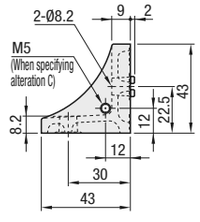
HBLFSNK8-45
HBLFSNE8-45



HBLFSNK8-45 Side View



HBLFSNE8-45 Side View

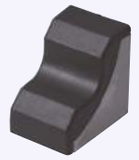


Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSNK8-45	55	CBM8-20	2	HNTT8-8	2	2058		
HBLFSNE8-45								

■**Features:** Tabbed Reversal Brackets with Cover. Designed to prevent dust build-up.

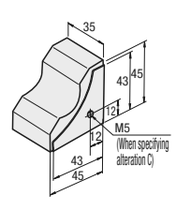
■**Brackets with Cover**

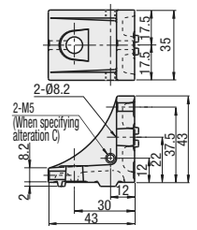


RoHS

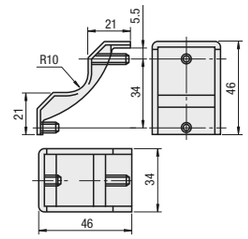
HBLFSNT8-45

Brackets





Cover



Material: EN AC-46100 Equiv. (Main Body), Polyamide Black (Cover)

Part Number	Mass (g)	Accessory Component				Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Part①	Quantity	Part②	Quantity	Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSNT8-45	62	Bracket Body	1	Bracket Cover	1	CBM8-20	2	HNTT8-8	2	2058		

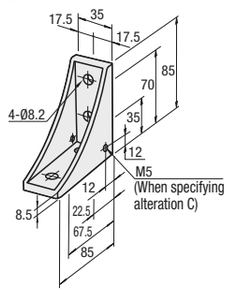
■**Features:** Brackets with two mounting holes on one side can connect extrusions more securely.

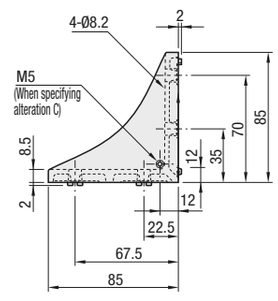
■**Tabbed Reversal Brackets**



RoHS

HBLFSSW8-45





Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSSW8-45	136	CBM8-20	4	HNTT8-8	4	3087		

Ordering Example: Part Number → HBLFSNK8-45

Alterations: Part Number (HBLFSNK8-45) - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) → HBLFSNK8-45 - SET

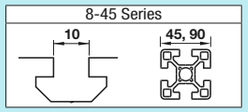
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**) 	HBLFSN8-45 HBLFSNB8-45 HBLFSNM8-45 CHBLFSN8-45 HBLFSN8-50 HBLFSNK8-45 HBLFSNE8-45 HBLFSSW8-45

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts) Stainless Steel SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts) Stainless Steel SEC (Screws with Captured Washer and Nuts	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLFSN8-45 is specified: Code / Screw / Nut SET / CBM8-20 / HNTT8-8 SST / SCB8-20 / HNTTSN8-8 SEU / CBM8-20 / HNTU8-8 SSU / SCB8-20 / SHNTU8-8 SEP / CBM8-20 / HNTP8-8 SSP / SCB8-20 / SHNTP8-8 SEC / HCBST8-24 / HNTT8-8 When specifying other than HBLFSN8-45, check for the applicable screws and nuts.	HBLFSN8-45 HBLFSNB8-45 HBLFSNM8-45 CHBLFSN8-45 HBLFSN8-50 HBLFSNK8-45 HBLFSNE8-45 HBLFSNT8-45 HBLFSSW8-45

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 1 Slot

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions



Features: Perpendicularly Machined Type Extruded Brackets with tabs to fit extrusions. Brackets with tabs to fit in slots of extrusions and stop rotating when tightening.

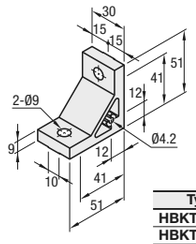
Thick Brackets (Perpendicularly Machined)



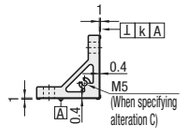
RoHS

HBKTST8
HBKTS8
HBKTSB8
(Black Anodize)

Part Number	Perpendicularity K
HBKTST8	0.03
HBKTS8	0.06
HBKTSB8 (Black Anodize)	



There are protrusions on the bracket bottom to be inserted into aluminum extrusion slots.



Type	Material	Surface Treatment
HBKTST8	EN AC-51400-T5 Equiv.	Anodize
HBKTS8		
HBKTSB8		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBKTST8	65.8	CBM8-20	2	HNTT8-8	2	2058		
HBKTS8								
HBKTSB8* (Black Anodize)								

* For repairing black anodizing, refer to **P.846**.

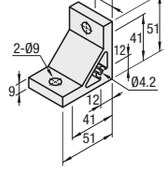
Features: Aluminum Extruded Brackets. Designed to prevent dust from building up with good appearance.

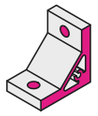
Thick Brackets



RoHS

NBLTS8-45
HBLTS8-45
CHBLTS8-45
(Clear Coating)





Both sides and screw holes of NBLTS8-45 is not anodized.

Type	Material	Surface Treatment
NBLTS8-45	EN AW-6063-T5 Equiv.	Anodize
HBLTS8-45	EN AC-51400-T5 Equiv.	
CHBLTS8-45		Clear Paint Anodize (+ Clear Paint)

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLTS8-45	80	CBM8-20	2	HNTT8-8	2	2058		
HBLTS8-45								
CHBLTS8-45 (Clear Coating)								

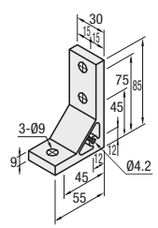
Features: Extruded Brackets with Unequal Sides. Effective when strength is required in narrow clearances between extrusions.

Scalene Brackets

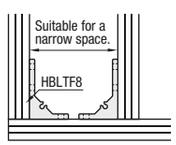


RoHS

HBLTF8



Example



M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTF8	90	CBM8-20	3	HNTT8-8	3	2572		

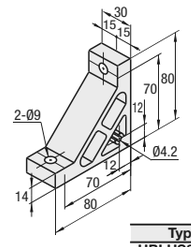
Features: Numbers of screws are the same as HBLTS8-45. Extrusions can be connected more securely.

Ultra Thick Brackets



RoHS

HBLUS8
HBLUSB8
(Black Anodize)



Type	Material	Surface Treatment
HBLUS8	EN AC-51400-T5 Equiv.	Anodize
HBLUSB8		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLUS8	151	CBM8-25	2	HNTT8-8	2	2058		
HBLUSB8* (Black Anodize)								

* For repairing black anodizing, refer to **P.846**.

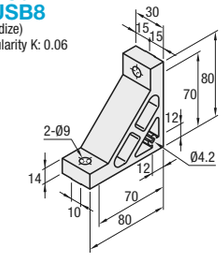
Features: Numbers of screws are the same as HBKTS8. Extrusions can be connected more securely. Perpendicularly Machined.

Ultra Thick Brackets (Perpendicularly Machined)

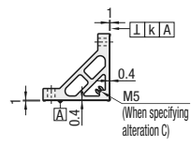


RoHS

HBKUS8
HBKUSB8
(Black Anodize)
Perpendicularity K: 0.06



There are protrusions on the bracket bottom to be inserted into aluminum extrusion slots.



Type	Material	Surface Treatment
HBKUS8	EN AC-51400-T5 Equiv.	Anodize
HBKUSB8		Black Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBKUS8	151	CBM8-25	2	HNTT8-8	2	2058		
HBKUSB8* (Black Anodize)								

* For repairing black anodizing, refer to **P.846**.

Ordering Example Part Number: **HBLUS8**

Alterations Part Number - (C, SET, SST, SEU, SSU, SEP, SSP, SEC)
HBLUS8 - SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)	HBKTS8
			NBLTS8-45
			HBLTS8-45
			CHBLTS8-45
			HBLTF8
			HBKUS8
			HBLUS8



Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set Nuts Set	SET (Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price.)	HBKTS8
	SST (Stainless Steel)		HBKTST8
	SEU (Pre-Assembly Insertion Spring Nuts)		NBLTS8-45
	SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel)		HBLTS8-45
	SEP (Post-Assembly Insertion Spring Nuts)		CHBLTS8-45
	SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)		HBLTF8
	SEC (Screws with Captured Washer and Nuts)		HBKUS8
			HBKUSB8
			HBLUS8
			HBLUSB8

(Ex.) When HBLTS8-45 is specified:

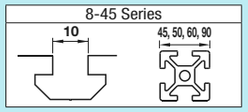
Code	Screw	Nut
SET	CBM8-20	HNTT8-8
SST	SCB8-20	HNTTSN8-8
SEU	CBM8-20	HNTU8-8
SSU	SCB8-20	SHNTU8-8
SEP	CBM8-20	HNTP8-8
SSP	SCB8-20	SHNTP8-8
SEC	HCBST8-24	HNTT8-8

When specifying other than HBLTS8-45, check for the applicable screws and nuts.

Screws for black anodized brackets are HCBMTB (Trivalent Chromate Black) on **P.751**.
Included Screw is not RoHS compliant when -SET, -SEU or -SEP other than black anodized brackets is specified.

Extruded Brackets - For 1 Slot

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions

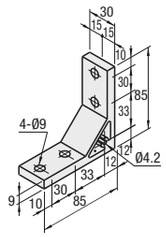


Features: Extruded Brackets with two mounting holes on one side can connect extrusions more securely.

Thick Brackets



HBLTSW8



M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

RoHS

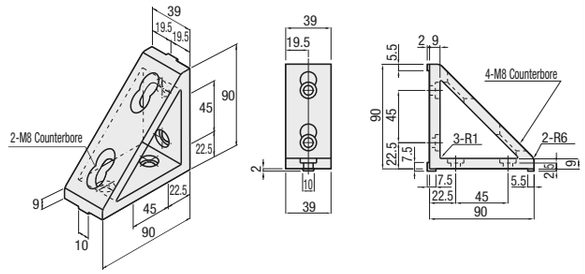
Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTSW8	113	CBM8-20	4	HNTT8-8	4	3087		

Features: Extruded Brackets with two mounting holes on one side can connect extrusions more securely.

Triangle Brackets



HBLDSWT8-45



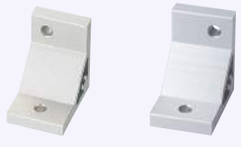
M Material: A6N01SS-T
S Surface Treatment: Anodize

RoHS

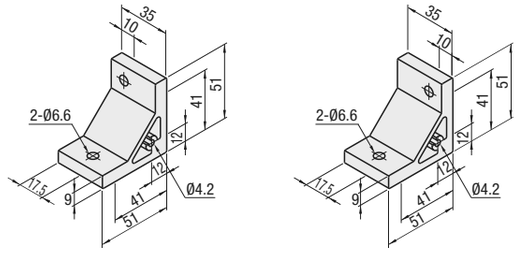
Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLDSWT8-45	235	CBM8-15	4	HNTT8-8	4	3087		

Features: Brackets to connect 45, 30 square Extrusions.

Assembly Brackets for Different Extrusion Sizes



HBLTS845-6L
HBLTS845-6R

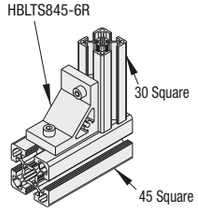


M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

RoHS

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTS845-6L	78	CBM6-20	1	HNTT8-6	1	-		
		CBM6-15		HNTT6-6				
HBLTS845-6R		CBM6-20		HNTT8-6				
		CBM6-15		HNTT6-6				

Example



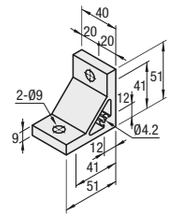
Features: Extruded Brackets to connect 50 square Extrusions.



RoHS

For 50 Sq.

HBLTS8-50



M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTS8-50	89	CBM8-20	2	HNTT8-8	2	2058		

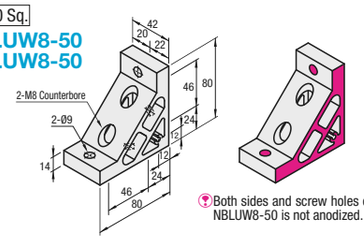
Features: Extruded Brackets for 50 square Extrusions with two mounting holes on one side.



RoHS

For 50 Sq.

NBLUW8-50
HBLUW8-50



Both sides and screw holes of NBLUW8-50 is not anodized.

Type	M Material	S Surface Treatment
NBLUW8-50	EN AW-6063-T5 Equiv.	Anodize
HBLUW8-50	EN AC-51400-T5 Equiv.	

Part Number	Mass (g)	Extrusion Series	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
			Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLUW8-50	223	HFS8-5050	CBM8-15	2	HNTT8-8	4	2793		
			CBM8-25						
HBLUW8-50		HFS8-5050	CBM8-15						
			CBM8-25						

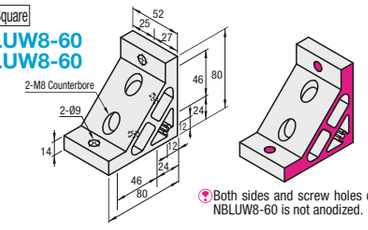
Features: Extruded Brackets to connect 60 square Extrusions.



RoHS

For 60 Square

NBLUW8-60
HBLUW8-60



Both sides and screw holes of NBLUW8-60 is not anodized.

Type	M Material	S Surface Treatment
NBLUW8-60	EN AW-6063-T5 Equiv.	Anodize
HBLUW8-60	EN AC-51400-T5 Equiv.	

Part Number	Mass (g)	Extrusion Series	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
			Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLUW8-60	275	HFS8-6060	CBM8-15	2	HNTT8-8	4	2793		
			CBM8-25						
HBLUW8-60			CBM8-15						
			CBM8-25						

Ordering Example: Part Number — HBLTS845-6L, HBLUW8-50

Alterations: Part Number HBLTS845-6L - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

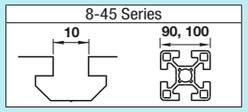
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on P.754) *Tapping Direction: For HBLTS845-6□, tapping is only applied on the narrow side of the offset. 	HBLTSW8
			HBLTS845-6L*
			HBLTS845-6R*
			HBLTS8-50
			HBLUW8-50
			HBLUW8-60

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLTSW8 is specified: Code: SET — Screw: CBM8-20 — Nut: HNTT8-8 SST — SCB8-20 — HNTTSN8-8 SEU — CBM8-20 — HNTU8-8 SSU — SCB8-20 — SHNTU8-8 SEP — CBM8-20 — HNTP8-8 SSP — SCB8-20 — SHNTP8-8 SEC — HCBST8-24 — HNTT8-8 When specifying other than HBLTSW8, check for the applicable screws and nuts.	HBLTSW8 HBLTS845-6L HBLTS845-6R HBLTS8-50 NBLUW8-50 HBLUW8-50 NBLUW8-60 HBLUW8-60

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Tabbed Brackets / Extruded Brackets - For 2 or More Slots

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions



Features: Ribbed Brackets for 2-slot extrusions with 4 mounting holes on one side can connect extrusions securely.

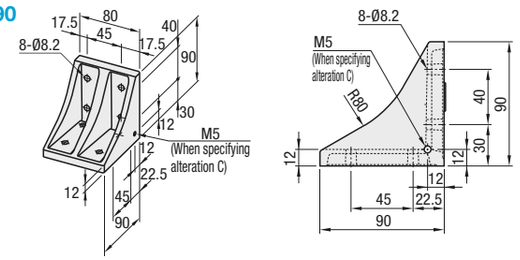
Tabbed Reversal Brackets



RoHS

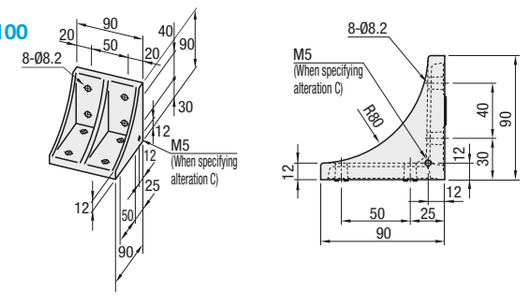
For 90 Square

HBLFSDW8-90



For 100 Sq.

HBLFSDW8-100



M Material: EN AC-46100 Equiv.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLFSDW8-90	360	SCB8-22	8	HNTT8-8	8	4986		
HBLFSDW8-100	450					5586		

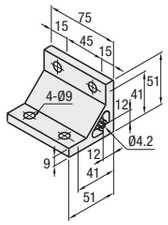
Features: Extruded Brackets to connect Extrusions with 2 slots (HFS8-9090 etc.) with one bracket.

Thick Brackets

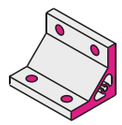


RoHS

NBLTD8-45
HBLTD8-45



Type	M Material	S Surface Treatment
NBLTD8-45	EN AW-6063-T5 Equiv.	Anodize (P)
HBLTD8-45	EN AC-51400-T5 Equiv.	



(P) Both sides and screw holes of NBLTD8-45 is not anodized.

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
NBLTD8-45	163	CBM8-20	4	HNTT8-8	4	2940		
HBLTD8-45								

Features: Numbers of screws are the same as HBLTD8-45. Extrusions can be connected more securely.

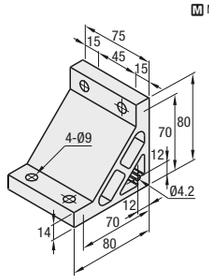
Ultra Thick Brackets



RoHS

HBLUD8-45

M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize



Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLUD8-45	387	CBM8-25	4	HNTT8-8	4	3920		

Features: Brackets for 2-slot extrusions with 4 mounting holes on one side can connect extrusions more securely.

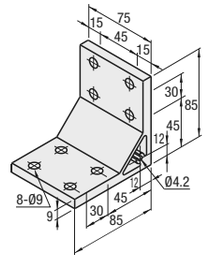
Thick Brackets



RoHS

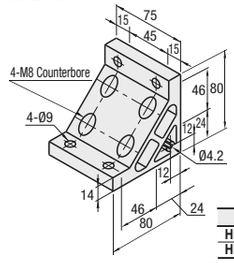
Thick Brackets

HBLTDW8-45



Ultra Thick Brackets

HBLUDW8-45



Type	M Material	S Surface Treatment
HBLTDW8-45	EN AC-51400-T5 Equiv.	Anodize
HBLUDW8-45		

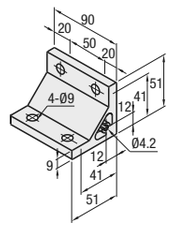
Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTDW8-45	287	CBM8-20	8	HNTT8-8	8	4410		
HBLUDW8-45	359	CBM8-15	4		8	5586		
		CBM8-25						

Features: Extruded Brackets for 2-slot extrusions (100 square).



RoHS

HBLTD8-100



Type	M Material	S Surface Treatment
HBLTD8-100	EN AC-51400-T5 Equiv.	Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLTD8-100	181	CBM8-20	4	HNTT8-8	4	2940		

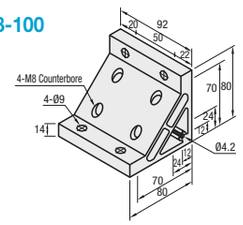
Features: Brackets for 100 square Extrusions with 4 mounting holes on one side.



RoHS

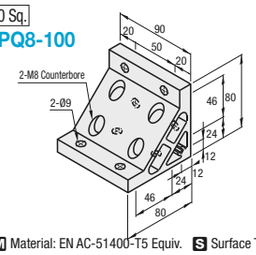
For 100 Sq.

HBLUW8-100



For 100 Sq.

HBLPQ8-100

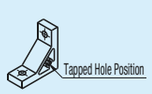


M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number	Mass (g)	Extrusion Series	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
			Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLUW8-100	440	HFS8-50100	CBM8-15	4	HNTT8-8	8	5586		
			CBM8-25						
HBLPQ8-100	470	GFS8-50100	CBM8-15						
			CBM8-25						

Ordering Example: Part Number HBLTD8-45

Alterations — Part Number HBLTD8-45 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

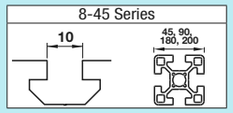
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on P.754)  Tapped Hole Position	HBLFSDW8-100 HBLTD8-45 HBLUD8-45 HBLTDW8-45 HBLUDW8-45 HBLTD8-100 HBLUW8-100 HBLPQ8-100

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) (Ex.) When HBLTD8-45 is specified: Code: SET / Screw: CBM8-20 / Nut: HNTT8-8 SST / CBM8-20 / HNTTSN8-8 SEU / CBM8-20 / HNTU8-8 SSU / SCB8-20 / SHNTU8-8 SEP / CBM8-20 / HNTP8-8 SSP / SCB8-20 / SHNTP8-8 SEC / HCBST8-24 / HNTT8-8 (P) When specifying other than HBLTD8-45, check for the applicable screws and nuts.	HBLFSDW8-90 HBLFSDW8-100 NBLTD8-45 HBLTD8-45 HBLUD8-45 HBLTDW8-45 HBLUDW8-45 HBLTD8-100 HBLUW8-100 HBLPQ8-100

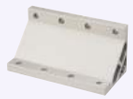
(P) Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Extruded Brackets - For 4 Slots / Thin Brackets

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions

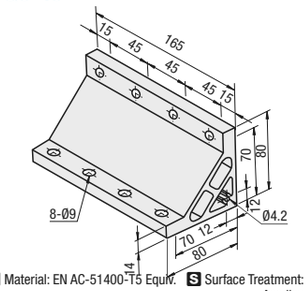


■Features: Brackets to connect Extrusions with 4-slots (HFS8-45180 etc.) with one bracket.



For 180 Square

HBLUQ8-45



RoHS

M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLUQ8-45	846	CBM8-25	8	HNTT8-8	8	7056		

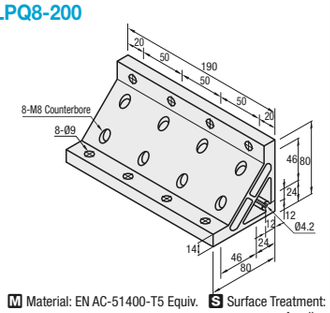
Ordering Example: Part Number HBLUQ8-45

■Features: Brackets for GFS8-100200.



For 200 Square

HBLPQ8-200



RoHS

M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number	Mass (g)	Extrusion Series	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
			Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLPQ8-200	910	GFS8-100200	CBM8-15 CBM8-25	8	HNTT8-8	16	11172		

Alterations: Part Number HBLUQ8-45 - (C, SET, SST, SEU, SSU, SEP, SSP, SEC) SET

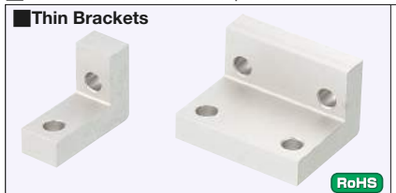
Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides) (Mounting Screw HCBM on **P.754**)	HBLUQ8-45 HBLPQ8-200

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel) SEC (Screws with Captured Washer and Nuts)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) When specifying other than HBLUQ8-45, check for the applicable screws and nuts. (Ex.) When HBLUQ8-45 is specified: Code / Screw / Nut SET / CBM8-25 / HNTT8-8 SST / SCB8-25 / HNTTSN8-8 SEU / CBM8-25 / HNTU8-8 SSU / SCB8-25 / SHNTU8-8 SEP / CBM8-25 / HNTP8-8 SSP / SCB8-25 / SHNTP8-8 SEC / HCBST8-29 / HNTT8-8	HBLUQ8-45 HBLPQ8-200

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

■Features: The brackets do not protrude from extrusion widths when used to cross connect extrusions. Space-saving design compared to Tabbed Reversal Brackets.

■Thin Brackets

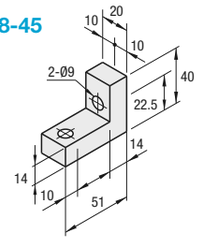


RoHS

Type	M Material	S Surface Treatment
HBLSS8-45 HBLSD8-45	EN AC-51400-T5 Equiv.	Anodize

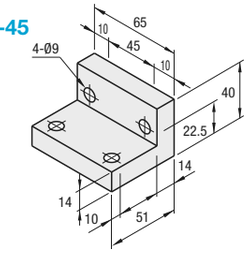
Thin Brackets

HBLSS8-45



Thin Brackets

HBLSD8-45



Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBLSS8-45	52	CBM8-25	2	HNTT8-8	2	1666		
HBLSD8-45	175		4		4	2352		

Ordering Example: Part Number HBLSS8-45

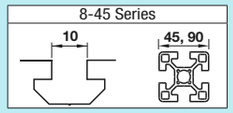
Alterations: Part Number HBLSS8-45 - (SET, SST, SEU, SSU, SEP, SSP) SET

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) <When SET is specified> Screw: CBM8-25, Nut: HNTT8-8 <When SST is specified> Screw: SCB8-25, Nut: HNTTSN8-8 <When SEU is specified> Screw: CBM8-25, Nut: HNTU8-8 <When SSU is specified> Screw: SCB8-25, Nut: SHNTU8-8 <When SEP is specified> Screw: CBM8-25, Nut: HNTP8-8 <When SSP is specified> Screw: SCB8-25, Nut: SHNTP8-8	HBLSS8-45 HBLSD8-45

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

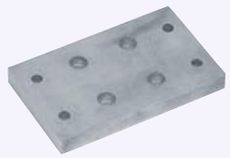
Plate Brackets / Angled Brackets

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions



■Features: Direct screw-on brackets to use on tapped extrusions.

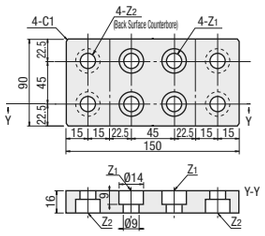
■Plate Brackets



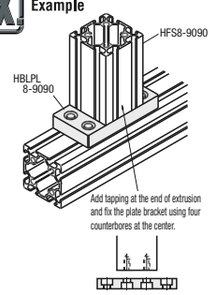
M Material: EN 1.0038 Equiv.
S Surface Treatment: Electroless Nickel Plating

RoHS

HBLPL8



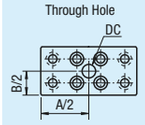
Example



Part Number Type	Extrusion	Z_1	Z_2	Mass (g)	Unit Price	Volume Discount Rate
		Applicable Screw			1 ~ 9 pc(s).	10~50
HBLPL8	9090	M8	M8	1,490		

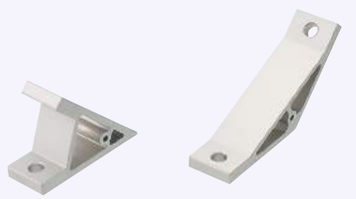
Ordering Example: Part Number HBLPL8 - Extrusion 9090

Alterations: Part Number HBLPL8 - 9090 - (DC) DC20

Alteration	Code	Spec.
Through Hole 	DC	Adds a through hole. DC=Hole Dia. 1 mm Increment 10≤DC≤20 Ordering Code DC12

■Features: Brackets to connect extrusions at angles.

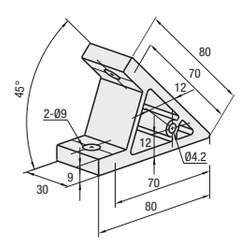
■Angled Brackets



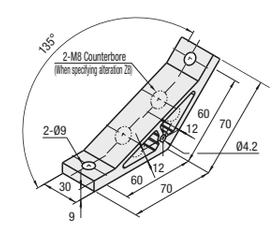
RoHS

Type	M Material	S Surface Treatment
HBL45TS8 HBL135TS8	EN AC-51400-T5 Equiv.	Anodize

HBL45TS8



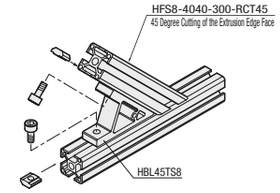
HBL135TS8



Part Number	Mass (g)	Applicable Screw, T Nut				Allowable Load (N)	Unit Price	Volume Discount Rate
		Screw	Quantity	T Nut	Quantity		1~99 pc(s).	100~200
HBL45TS8	88	CBM8-20	2	HNTT8-8	2	2058		
HBL135TS8	103							

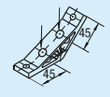
Ordering Example: Part Number HBL45TS8

Example



Alterations: Part Number HBL135TS8 - (C, SET, SST, SEU, SSU, SEP, SSP, Z8) SET

Alterations	Code	Spec.	Applicable Bracket
Mounting Hole Alteration for Cover	C	Adds taps on a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw HCBM on **P.754**)	HBL45TS8 HBL135TS8

Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET SST (Stainless Steel) SEU (Pre-Assembly Insertion Spring Nuts) SSU (Pre-Assembly Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly Insertion Spring Nuts) SSP (Post-Assembly Insertion Spring Nuts Stainless Steel)	Applicable screws and nuts for fixing the brackets on extrusions come in a set. (Adds to the bracket price) Ex.) <When SET is specified> Screw: CBM8-25, Nut: HNTT8-8, <When SST is specified> Screw: SCB8-25, Nut: HNTTSN8-8, <When SEU is specified> Screw: CBM8-25, Nut: HNTU8-8, <When SSU is specified> Screw: SCB8-25, Nut: SHNTU8-8, <When SEP is specified> Screw: CBM8-25, Nut: HNTP8-8, <When SSP is specified> Screw: SCB8-25, Nut: SHNTP8-8	HBL45TS8 HBL135TS8
Counterbored Holes on 135 Degree Bracket	Z8	135 Degree Bracket 2 Counterbore holes for HBL135TS8 (Applicable Screws: M8)  Not available in combination with Applicable Screws and Nuts.	HBL135TS8

Included Screw is not RoHS compliant when -SET, -SEU or -SEP are specified.

Free Angle Brackets

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions

Features: Extrusions can be connected at any arbitrary angle.

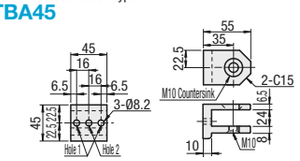
Free Angle Brackets



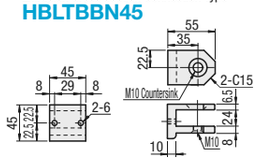
RoHS

Type	Material	Surface Treatment
HBLTBA45 HBLTBBN45 HBLTBC45 HBLTBD45	EN AC-51400-T5 Equiv.	Anodize
Included Screw	EN 1.7220 Equiv.	Trivalent Chromate

Extrusion Side Face Connection Type
HBLTBA45

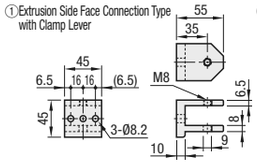


Extrusion Cross Section Connection Type
HBLTBBN45

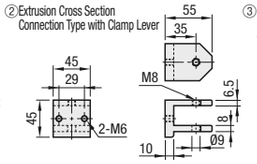


Clamp Lever Type
HBLTBC45 (①+③)
HBLTBD45 (②+③)

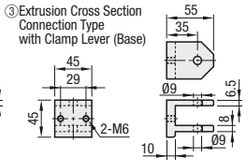
①Extrusion Side Face Connection Type with Clamp Lever



②Extrusion Cross Section Connection Type with Clamp Lever



③Extrusion Cross Section Connection Type with Clamp Lever (Base)



Part Number Type	No.	Applicable Extrusion	Mass (g)	Accessory	Quantity	Unit Price 1 ~ 14 pc(s).	Unit Price 15~50	Volume Discount Rate
HBLTBA	45	45 Square (HFS8-45)	113	M10x16	1			
HBLTBBN			116					
HBLTBC			299	CLDMC8-50-M	1			
HBLTBD			301					

Ordering Example: Part Number **HBLTBA45**

Alterations: Part Number - (SET·SET1·SET2·SET3·SET4·SET5)
HBLTBA45 - SET2
HBLTBBN45 - SET

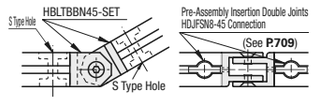
Alterations	Code	How to Use	Part Number Type	No.	Accessory Screw	Quantity	Nuts, Pre-Assembly Insertion Double Joints	Quantity
Applicable Screws and Nuts Set	SET		HBLTBBN	45	CBM6-35	2	HDJFSN8-45	1
	SET1	Use the hole 1	HBLTBA		CBM6-20	2	HNTT8-6	2
	SET2	Use the hole 2			CBM8-20	1	HNTT8-8	1
	SET3	Use the hole 1	HBLTBC		CBM6-35	2	HDJFSN8-45	1
					CBM6-20	2	HNTT8-6	2
	SET4	Use the hole 2	HBLTBC		CBM6-35	2	HDJFSN8-45	1
					CBM8-20	1	HNTT8-8	1
	SET5		HBLTBD		CBM6-35	4	HDJFSN8-45	2

When connecting with Pre-Assembly Insertion Double Joints, S type hole machining (**P.765**) is required on extrusions.
Included Screw is not RoHS compliant when -SET□ is specified.

Example

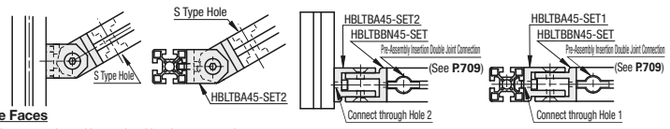
(1) Connection of Two End Sections

Two pieces of HBLTBBN are used to connect two end sections using Pre-Assembly Insertion Double Joints (**P.709**). (With Clamp Lever Type: HBLTBD45)



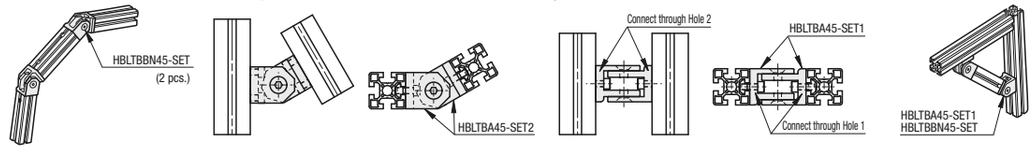
(2) Connection of Two Side Faces

To the extrusion side face, connect with HBLTBA, a screw and a nut. To the end face, use 1 HBLTBBN for 1 HBLTBA using Pre-Assembly Insertion Double Joint. (With Clamp Lever Type: HBLTBC45)



(3) Connection of Two Side Faces

Two pieces of HBLTBA are used to connect them with extrusion side using screws and nuts.



Features: Sheet Metal Brackets to fix at arbitrary positions.

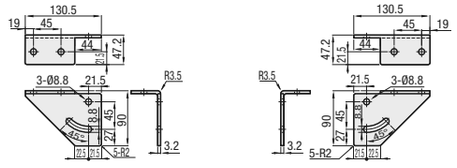
Free Angle Sheet Metal Brackets



Material: EN 1.0330 Equiv.
Surface Treatment: Trivalent Chromate

RoHS

HBLPBL8-45 **HBLPBR8-45**



Ordering Example: Part Number **HBLPBL8-45**

Part Number Type	No.	Applicable Extrusion	Applicable Screw and Nut: Hex Socket Head Cap Screws with Captured Washer	Quantity	Nut	Quantity	Unit Price 1~99 pc(s).	Unit Price 100~150	Volume Discount Rate
HBLPBL HBLPBR	8-45	45 Square (HFS8-45)	CBST8-15	4	HNTT8-8	4			

Alterations: Part Number - (SET, SET1)
HBLPBL8-45 - SET

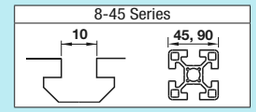
Alterations	Code	Spec.	Applicable Bracket
Applicable Screws and Nuts Set	SET	Supplies a set of applicable screws and nuts for fixing the bracket to a extrusion.	HBLPBL8-45 HBLPBR8-45
Set with applicable screws, nuts and clamp levers	SET1	Applicable Screw: 3 pcs. Clamp Lever (LNP): 1 pc. Flat Washer (PWF) 1 pc. Applicable Nut: 4 pcs. Set with the above items.	HBLPBL8-45 HBLPBR8-45

Example



Blind Brackets

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions



Features: No need for alterations to hide brackets inside of the slot.

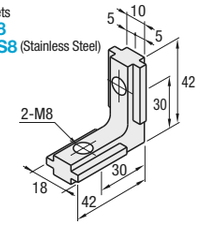
Blind Brackets



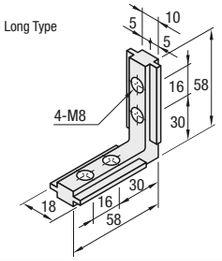
RoHS

Type	Material	Surface Treatment
HBLBS8	EN 1.1191 Equiv.	Trivalent Chromate
HBLBSL8		
SHBLBS8	EN 1.4308 Equiv.	-

Blind Brackets
HBLBS8
SHBLBS8 (Stainless Steel)



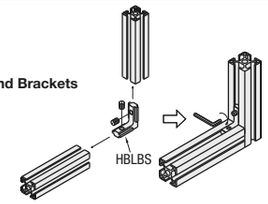
Blind Brackets - Long Type
HBLBSL8



Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HBLBS8	70	Set Screw M8x10	2	1274		
SHBLBS8						
HBLBSL8	87		4	1554		

Example

How to Use: Blind Brackets



Features: Blind Brackets Post Assy. Insertion Type.

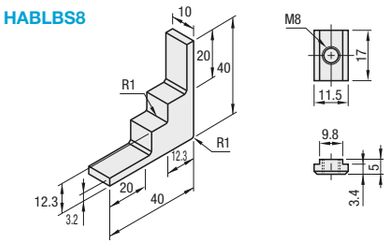
Post-Assembly Insertion Blind Brackets



RoHS

Type	Components	Material
HABLBS8	Post-Assembly Insertion BB Body	EN 1.4308 Equiv.
	Post-Assembly Insertion BB Nut	EN 1.4301 Equiv. Sintered Alloy
	Set Screw	EN 1.4301 Equiv.

HABLBS8

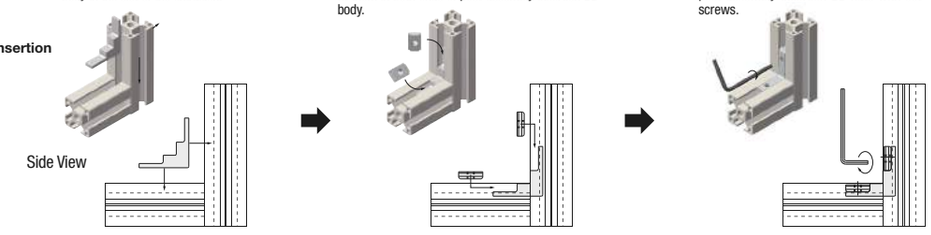


Part Number	Mass (g)	Included Screw: Screw	Included Screw: Quantity	Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HABLBS8	47	Nut, Set Screw M8x6	2	700		

Example

①Fit the post-assembly insertion BB body in the slot of the extrusion.
②Tilt two pieces of post-assembly insertion nut and fit them in both ends of post-assembly insertion BB body.
③Fix post-assembly insertion BB body and post-assembly insertion BB nuts with set screws.

How to Use Post-Assembly Insertion Blind Brackets



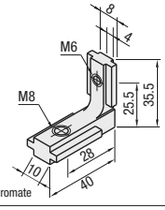
Features: Blind Brackets to connect 45 and 30 square Extrusions.

Blind Brackets for Different Extrusion Sizes



RoHS

For 45-30 Square Connection
HBLBS8-6



Material: EN 1.1191 Equiv. Surface Treatment: Trivalent Chromate

Part Number	Mass (g)	Connectable Extrusion Series	Included Set Screw	Unit Price 1~99 pc(s).	Volume Discount Rate 100~120
HBLBS8-6	50	HFS8 and HFS6 HFS8-45 and HFS6	M6x8: 1 pc., M8x10: 1 pc.		

Ordering Example: Part Number **HBLBS8**

Blind Joints - Overview

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions

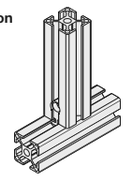
■Features of Blind Joints

Connection inside of the extrusions provides good apearance.
Also convenient where interference inside of the corners are not desired or panels need to be inserted into the extrusion slots.

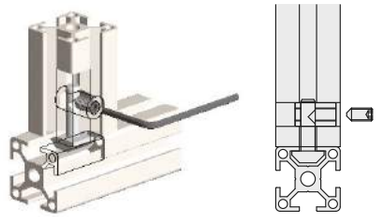
Bracket Connection

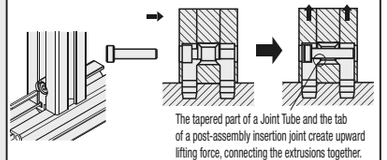
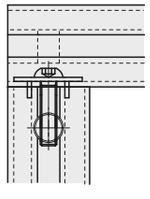
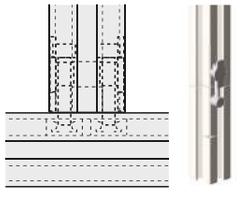


Blind Joint Connection



■Product List

Product Name	Screw Joints				Center Joints			
Product Photo								
Features	・Joint Plate enables secure and economical connection.				・Most standard Blind Joints usable with various types of aluminum extrusions.			
Installation Diagram								
Material	Steel or EN 1.4301 Equiv.				EN 1.4308 Equiv.			
Representative Type	HCJ				HMJ			
Applicable Extrusion No.	5	6	8	8-45	5	6	8	8-45
Page	P.706				P.708			
Alterations (pages) required for extrsions	Tapping / Wrench Hole P.757, 759				M Type Hole P.766			

Product Name	Post-Assembly Insertion Double Joints				Single Joints			Pre-Assembly Insertion Double Joints		
Product Photo										
Features	・Connects securely at two locations. Tightest connection can be achieved of all Blind Joints.				・D type holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.			・Can be used for various applications such as to extend extrusions as well as mounting to plates.		
Installation Diagram	 The tapered part of a Joint Tube and the tab of a post-assembly insertion joint create upward lifting force, connecting the extrusions together.									
Material	EN 1.4308 Equiv. / EN 1.4301 Equiv.				Steel or EN 1.4301 Equiv.			EN 1.4401 Equiv. / EN 1.4301 Equiv.		
Representative Type	HPJN				HSJ			HDJSN		
Applicable Extrusion No.	5	6	8	8-45	6	8	8-45	6	6	8-45
Page	P.710				P.707			P.709		
Alterations (pages) required for extrsions	M Type Hole P.766				Wrench Hole / D Type Hole P.759, 764			S Type Hole P.765		

Blind Joint Components

Screw Joints for 8-45 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see P.603.
Alterations necessary to use this component

Tapping	Wrench Hole
P.757	P.759

■**Features:** Cost saving blind joints. Including Rotation Stoppers.

■Screw Joints



(Reference) Corner section when using this joint

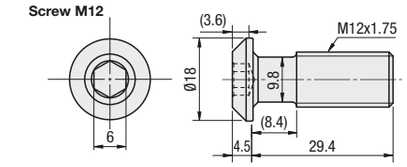


RoHS

HCJ (Trivalent Chromate)

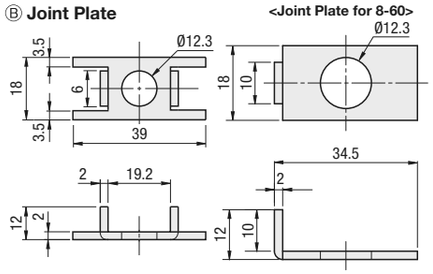
Ⓐ Screw

Screw M12



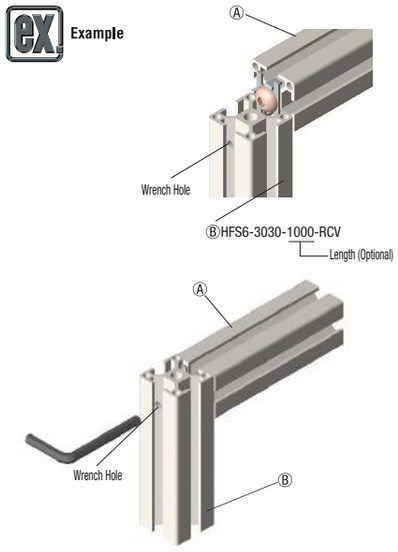
Ⓑ Joint Plate

<Joint Plate for 8-60>



Type	Components	Material	Surface Treatment
HCJ	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	

Example



Part Number Type	No.	Components Ⓐ Screw	Components Ⓑ Joint Plate	Unit Price 1~99 pc(s).	Unit Price 100~160	Volume Discount Rate
HCJ (Trivalent Chromate)	8-45	M12	8-45			
	8-60		For 8-60			

Screw Joints	Applicable Extrusion No.	[Exception] Extrusion Not Available
HCJ8-45	8-4545* 8-4590* 8-45180	* Not applicable to HFSL (light type). *Curved HFSR8-4545 is not applicable since wrench holes cannot be added. For GFS8-100100 and GFS8-100200, bracket connection is recommended as they are heavy.
HCJ8-60	8-6060	-

Ordering Example: Part Number **HCJ8-45**

■**Features:** Screw joint installable without alterations. (Wrench holes are necessary on the mating extrusion.)

■Aluminum Extrusions with Built-in Screw Joints

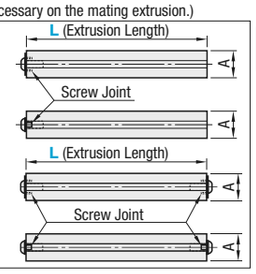


RoHS

Part Name		Material	Surface Treatment
Aluminum Extrusion		EN AC-51400-T5 Equiv.	Anodize
Screw Joints	Screw	EN 1.7220 Equiv.	Trivalent Chromate
	Joint Plate	EN 1.0330 Equiv.	

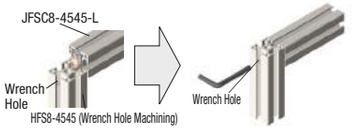
JFSC□-□□□□L
(Left End Face Screw Joint Pre-Inserted Type)

JFSC□-□□□□W
(Both End Face Screw Joints Pre-Inserted Type)



Example

Ⓟ Wrench holes are necessary on the mating extrusion.

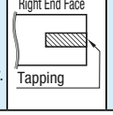


Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component Screw Joints	Built-in Joint Component Quantity	A	Required Wrench for Tightening	Extrusion Unit Price Less than 300mm	Extrusion Unit Price 300mm or more	Joints, Others
JFSC	8-4545	L (Left End Face only)	100~4000	HFS8-4545 (P.681)	HCJ8-45	1	45	For M12			
		W (Double End Faces)				2					
	8-6060	L (Left End Face only)		HFS8-6060 (P.689)	HCJ8-60	1	60				
		W (Double End Faces)				2					

Ordering Example: Part Number **JFSC** - **L**
JFSC8-4545L - 1200

Alterations

Ⓟ Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping Ⓟ Applicable to Left End Pre-Inserted Type only.	RTP 	8-4545	M12 (Heli-Coil Insert)	18

Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole Ⓟ Applicable to Left End Pre-Inserted Type only.	RCH  RCV 	8-4545	22.5	8

Blind Joint Components

Single Joint Kits for 8-45 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.609**.

Alterations necessary to use this component

Wrench Hole P.759 | D Type Hole Alterations P.764

Features: D type holes added on the extrusions do not penetrate to the flat surface. Blind Joints with very good appearance.

Single Joint Kits
Standard Type



Single Joint Kits
Narrow Type



RoHS

(Ref.) Corner section when using this joint



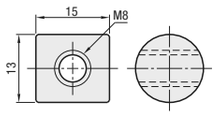
Type	Components					
	①Joint Nut		②Plate		③Screw	
	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface Treatment
HSJ	EN 1.0038 Equiv.	Trivalent Chromate	EN 1.0330 Equiv.	Trivalent Chromate	EN 1.7220 Equiv.	Trivalent Chromate
HSJS HSJNS	EN 1.4401 Equiv. EN 1.4301 Equiv.	-	EN 1.4301 Equiv.	-	EN 1.4301 Equiv.	-

- **Single Joint Kits – Standard**
  Use it when edges of two extrusions are connected perpendicularly, after a hole is drilled in each extrusion.
- **Single Joint Kits - Narrow**
  Shape of Narrow Type has altered so that its joint section does not collide with the panel when the panel is inserted into the extrusion slot.

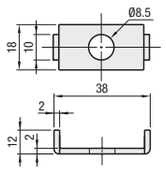
HSJ (Steel Type)

HSJS, HSJNS (Stainless Steel Type)

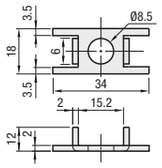
①**Joint Nut**
Nut (EN 1.0038 Equiv.)
Stainless Steel Nut (EN 1.4301 Equiv. / EN 1.4401 Equiv., Sintered)



②**Joint Plate**
Plate (EN 1.0330 Equiv.)
Stainless Steel Plate (EN 1.4301 Equiv.)



②**Narrow Type Joint Plate**
Narrow Plate (EN 1.4301 Equiv.)



Extrusions Applicable to Single Joint
(Not applicable to extrusions not listed in the table.)

Features	Extrusion: HFS8-45 Series 45mm Square, Slot Width 10mm		
	Type	No.	Applicable Single Joint
Four-Side Slots	HFS8 GFS8 EFS8 NEFS8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
		4590	HSJ8-45 HSJS8-45 HSJNS8-45
		45180	HSJ8-45 HSJS8-45 HSJNS8-45
3-Side Slot 1Side Flat	HFSF8 GFSF8 EFSF8 NEFSF8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
Two-Side Slots Two Flats	HFST8 GFST8 EFST8	4545	-
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
One-Side Slot Three Flats	HFSC8 EFSC8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
Light Type	HFSL8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
	HFSLF8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
	HFSLT8	4545	-
Black Anodize	HFSB8 EFSB8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
		4590	HSJ8-45 HSJS8-45 HSJNS8-45
	HFSFB8	4545	HSJ8-45 HSJS8-45 HSJNS8-45
	HFSTB8	4545	-

Single Joint Kits - Standard / Narrow

Refer to the table on the right for the application to each extrusion.

Type	Part Number Type	Part Number No.	①Joint Nut (1 pc.)	②Joint Plate (1 pc.)	③Hex Socket Button Head Cap Screw (1 pc.)	Unit Price 1~99 pc(s).	Unit Price 100~200	Volume Discount Rate
Standard Type	HSJ	8-45	Nut 8-45	Plate 8-45	Button Head Cap Screw M6-25			
	HSJS (Stainless Steel)		Stainless Steel Nut 8-45	Stainless Steel Plate 8-45	Button Head Cap Screw Stainless Steel M6-25			
Narrow Type	HSJNS (Stainless Steel Type)		Stainless Steel Nut 8-45	Narrow Plate 8-45	Button Head Cap Screw Stainless Steel M6-25			

* Not applicable to 45 Square Light Type Series (HFSL8-45).

For orders larger than indicated quantity, please check with WOS.

②Dimension of Joint Plate

Type	Size	N	A	EN 1.0330 Equiv. B	L	T	t	EN 1.4301 Equiv./EN 1.4401 Equiv. B	E	L	T	t	K
Plate	8-45	8.5	10	18	38	12	2.0	18	-	43	12	2.0	-
Narrow Plate	8-45	8.5	6	-				18	3.5	39	12	2.0	19.2

Ordering Example: Part Number **HSJ8-45**

Features: Single joint installable without alterations. (Wrench holes are necessary on the mating extrusion.)

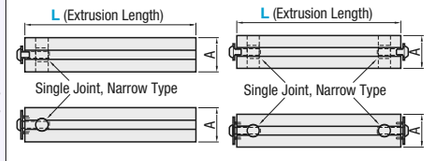
Single Joints Aluminum Extrusions with Built-in



RoHS

Part Name	M Material	S Surface Treatment
Aluminum Extrusion	EN AC-51400-T5 Equiv.	Anodize
Single Joints Kit: Joint Plate	EN 1.4301 Equiv.	-
Single Joints Kit: Joint Nut	EN 1.4401 Equiv.	-
Single Joints Kit: Hex Socket Button Head Cap Screw	EN 1.4567 Equiv.	-

JFSS8-4545L
(Left End Face Single Joint Pre-Inserted Type)

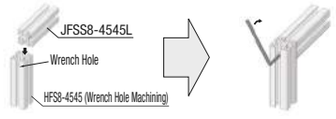


JFSS8-4545W
(Both End Face Single Joints Pre-Inserted Type)

Joint components will be shipped loosely tightened.

Example

Wrench holes are necessary on the mating extrusion.



Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component: Single Joints	Built-in Joint Component: Quantity	A	Required Wrench for Tightening	Extrusion Unit Price: Less than 300mm	Extrusion Unit Price: 300mm or more	Joints, Others
JFSS	8-4545	L (Left End Face only)	100~4000	HFS8-4545 (P.681)	HSJNS8-45	1	45	For M8			
		W (Double End Faces)				2					

Ordering Example: Part Number **JFSS8-4545L - 1200**

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping Applicable to Left End Pre-Inserted Type only.	RTP Right End Face Tapping	8-4545	M12 (Heli-Coil Insert)	18

Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole Applicable to Left End Pre-Inserted Type only.	RCH RCV	8-4545	22.5	8

Blind Joint Components

Center Joint Kits for 8-45 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.605**.

Alterations necessary to use this component

M Type Hole Alterations P.766

Features: Requires only one screw for tightening. Work efficiency enhancing anti-rotation type is added.

Center Joint Kits Pre-Assembly Insertion Type

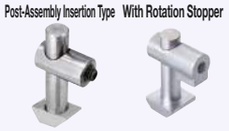
RoHS

(Standard Direction) (90-Degree Rotated)



Center Joint Kits

Post-Assembly Insertion Type With Rotation Stopper



(Ref.) Corner section when using this joint

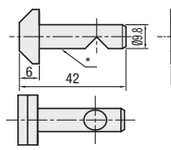


Type	Components (1 pc. each) Joint Guide: Type	Joint Guide: M Material	Center Post: Type	Center Post: M Material	Set Screw: Size	Set Screw: M Material
HMJ	Standard	EN 1.4301 Equiv.	Pre-Assembly Insertion Standard Direction	EN 1.4308 Equiv.	No.5: M4x8 NO.8-45: M6x20	EN 1.7220 Equiv. (Surface Treatment: Black Oxide Film)
HMJR			Pre-Assembly Insertion 90-Degree Rotated			
HAMJ			Post-Assembly Insertion Standard Direction			

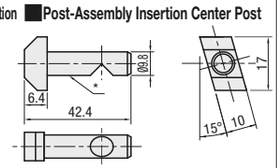
Joint-Guide (Standard)



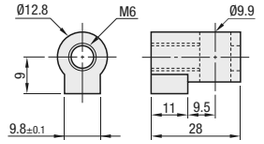
Pre-Assembly Insertion Center Post Standard Direction



Post-Assembly Insertion Center Post

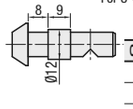


Joint-Guide (with Rotation Stopper)



For center posts No.8-45, Extrusion Mating Section (Ø12) is provided as below.

* For 8-45



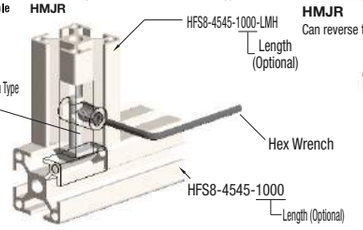
Center Joint No.	Applicable Extrusion No.	[Exception] Extrusion Not Available
5 6 8 8-45	8-4545*1 8-4590*1 8-45180*2	*1 HFSL8-4545, HFSLF8-4545, HFSLT8-4545 and HFSL8-4590 cannot be used because the thickness of slot extrusion is different. Curved HFSR8-4545 is not applicable since wrench holes cannot be added. * 2 Cannot be used in the long side direction because standard hole machining is not allowed.

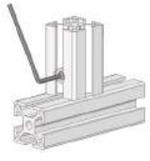
Part Number Type	No.	Accessory: Center Post	Quantity	Joint Guide	Quantity	Set Screw	Quantity	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HMJ Pre-Assembly Insertion Standard Direction Type	8-45	Pre-Assembly Insertion Center Post 8-45	1	Joint Guide 8-45	1	M6x20	1		
HMJR Pre-Assembly Insertion 90-Degree Rotated Type	8-45	Pre-Assembly Insertion Center Post 8-45 Rotated							
HAMJ Post-Assembly Insertion Type	8-45	Post-Assembly Insertion Center Post 8-45							

Ordering Example: Part Number **HMJ8-45**

Example

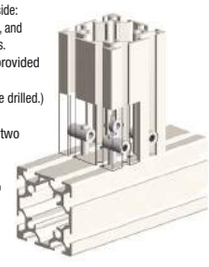
- Pre-Assembly Insertion Standard Direction Type **HMJR**
- Pre-Assembly Insertion 90-Degree Rotated Type **HMJR** Can reverse tightening direction by 90 degrees.
- Connecting extrusions with 2 or more slots on one side: Insert joint guide from the both sides of M type hole, and connect and tighten it with two or more center joints.
- For extrusions with three slots, holes are not provided on the center slot. (For extrusions with four rows of slots, all slots are drilled.)





2-slotted extrusions can be connected by using two Center Joint kits.

3-slotted extrusions are connected using two outside slots only.



Features: Center joint installable without alterations. (No holes are required on the mating extrusion.)

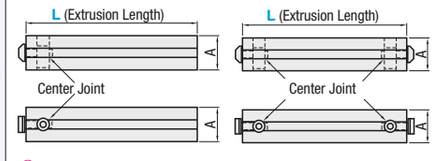
Aluminum Extrusions with Built-in Center Joints



RoHS

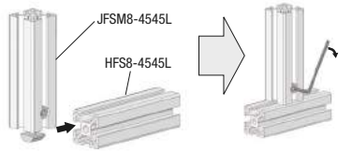
Part Name	M Material	S Surface Treatment
Aluminum Extrusion	EN AC-51400-T5 Equiv.	Anodize
Center Joint: Center Post	EN 1.4308 Equiv.	-
Center Joint: Joint Guide	EN 1.4301 Equiv.	-
Center Joint: Set Screw	EN 1.7220 Equiv.	Black Oxide Film

JFSM8-4545L
(Left End Face Center Joint Pre-Inserted Type)



JFSM8-4545W
(Both End Face Center Joints Pre-Inserted Type)

Joint components will be shipped loosely tightened.



Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component: Single Joints	Built-in Joint Component: Quantity	A	Required Wrench for Tightening	Extrusion Unit Price: Less than 300mm	Extrusion Unit Price: 300mm or more	Joints, Others
JFSM	8-4545	L (Left End Face only)	100~4000	HFS8-4545 (P.681)	HSJNS8-45	1	45	For M8			
		W (Double End Faces)				2					

Ordering Example: Part Number **JFSM8-4545L - 1200**

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping Applicable to Left End Pre-Inserted Type only.	RTP Right End Face Tapping	8-4545	M12 (Heli-Coil Insert)	18

Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole Applicable to Left End Pre-Inserted Type only.	RCH RCV	8-4545	22.5	8

Blind Joint Components

Pre-Assembly Insertion Double Joint Kits for 8-45 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.611**.

Alterations necessary to use this component

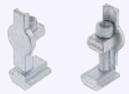
S Type Hole Alterations
P.765

Features: Two screws are used for connection. Can be used to extend extrusions as well as mounting to plates. A joint type superior in mounting flexibility.

■Pre-Assembly Insertion Double Joint Kits
- Standard Type



- Offset Nut Type



Products shown in the picture come by ordering quantity 1.

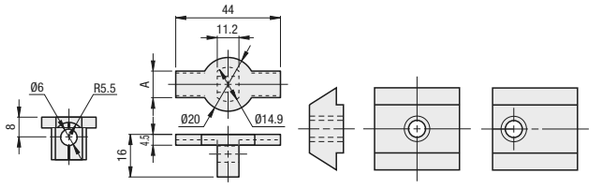
RoHS

HDJSN
HDJHSN
(Offset Nut Type)

①Pre-Assembly Insertion Double Joints
HDJFSN (EN 1.4401 Equiv., Sintered)

②Pre-Assembly Insertion Nuts
HNTTSN
(EN 1.4401 Equiv., Sintered)
Electrically Conductive

HNTHSN
(EN 1.4401 Equiv., Sintered)
Electrically Conductive



Pre-Assembly Insertion Double Joint	Part Number		Usable in any direction	Usable in the short length direction	Usable in the long length direction	Usable in the direction where there is no flat surface at the connecting part.
HDJSN8-45 HDJHSN8-45 HDJFSN8-45	NFS8 HFS8 GFS8 EFS8 NEFS8	4545	○			
		4590	○			
		45180		○		
		5050	○			
		50100	○			
		6060	○			
		9090	○			
		90180		○		
	HFSF8	4545				○
	GFSF8	4590			○	○
	EFSF8	5050				○
	NEFSF8	6060				○
	HFSH8 EFSH8	4545				○
	NFSL8	4545	○			
	HFSL8	4590	○			
	HFSLF8	4545				○
	HFSB8 EFSB8	4545	○			
		4590	○			
		5050	○			
		50100	○			
		9090	○			
		90180		○		
	HFSFB8	4545				○

Not applicable to extrusions not listed above.

■Pre-Assembly Insertion Double Joint Kit

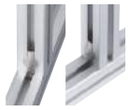
Type	Part Number		①Pre-Assembly Insertion Double Joint (2 pcs.)	②Pre-Assembly Insertion Nut (2 pcs.)	③Hex Socket Head Cap Screw (2 pcs.)	Unit Price	Volume Discount Rate
	Type	No.	EN 1.4401 Equiv.	EN 1.4401 Equiv.	EN 1.4301 Equiv.	1-99 pc(s).	100~120
Standard Type	HDJSN (EN 1.4401 Equiv., Sintered)	8-45	HDJFSN8-45	HNTTSN8-6	SCB6-35		
Offset Nut Type	HDJHSN (EN 1.4401 Equiv., Sintered)	8-45	HDJFSN8-45	HNTHSN8	SCB6-35		

①Pre-Assembly Insertion Double Joint Single Item

Part Number		Unit Price	Volume Discount Rate
Type	No.	1-99 pc(s).	100~120
HDJFSN (One set contains 2 pcs.)	8-45		

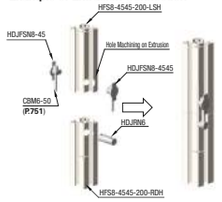
One set is required to connect one place.

(Reference)
Corner section when using this joint

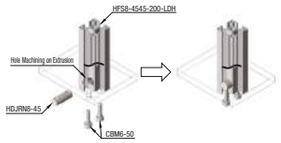


Example

Example of Extrusion Connection



Example of Mounting to an Extrusion from the Bottom



Part Number		Applicable			Mass (g)	Unit Price	Volume Discount Rate
Type	No.	Applicable Extrusion	Pre-Assembly Insertion Double Joints	Screw		1-99 pc(s).	100~120
HDJRN	8-45	HFS8-4545	HDJFSN8-45	CBM6-50	56		

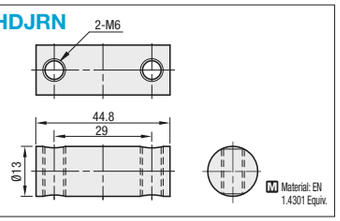
Ordering Example: Part Number **HDJSN8-45 HDJRN8**

■Nuts for Pre-Assembly Insertion Double Joints Joint Nut



RoHS

HDJRN



Material: EN 1.4301 Equiv.

■**Features:** Pre-Assembly Insertion Double Joint installable without alterations. (No holes are required on the mating extrusion.)

■Aluminum Extrusion with Built-in Pre-Assembly Insertion Double Joints

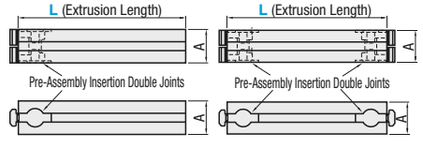


RoHS

Part Name	Material	Surface Treatment
Aluminum Extrusion	EN AC-51400-T5 Equiv.	Anodize
Pre-Assembly Insertion Double Joint Kit: Pre-Assy. Insert. Double Joint	EN 1.4401 Equiv.	-
Pre-Assembly Insertion Double Joint Kit: Offset Nut / Hex Socket Head Cap Screw	EN 1.4301 Equiv.	

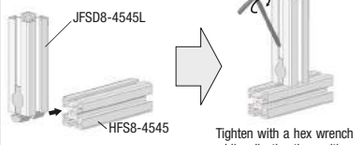
JFSD8-4545L
(Left End Face Pre-Assembly Insertion Double Joint Built-in Type)

JFSD8-4545W
(Both End Face Pre-Assembly Insertion Double Joints Built-in Type)



Joint components will be shipped loosely tightened.

Example



Tighten with a hex wrench while adjusting the position.

Part Number		Joint Component	L 0.5mm Increment	Extrusion	Built-in Joint Component: Pre-Assy. Insert. Double Joint	Built-in Joint Component: Quantity	A	Required Wrench for Tightening	Extrusion Unit Price: Less than 300mm	Extrusion Unit Price: 300mm or more (JPY/m)	Joints, Others
JFSD	8-45	L (Left End Face only)	100~4000	HFS8-4545 (P.681)	HDJHSN8-45	1	45	For M6			
		W (Double End Faces)				2					

■When L<300mm
Unit prices are indicated in the table regardless of the length.
■When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified L dimension + Joint or other Unit Price = Total Price

Ordering Example: Part Number **JFSD8-4545L - 1200**

Alterations

Alterations only on this page are available.

Alterations	Code	Spec. Extrusion	Spec. Tap	Spec. Depth
Right End Face Tapping Applicable to Left End Pre-Inserted Type only.	RTP Right End Face Tapping	8-45	M12 (Heli-Coil Insert)	18

Alterations	Code	Spec. Extrusion	Spec. H	Spec. Hole Dia.
Right End Face Wrench Hole Applicable to Left End Pre-Inserted Type only.	RCH RCV	8-45	22.5	8

Blind Joint Components

Post-Assembly Insertion Double Joint Kits for 8-45 Series (Slot Width 10mm) Aluminum Extrusions

For details of fastening method, see **P.607**.

Alterations necessary to use this component

M Type Hole Alterations
P.766

■Post Assembly Insertion Double Joint Kits

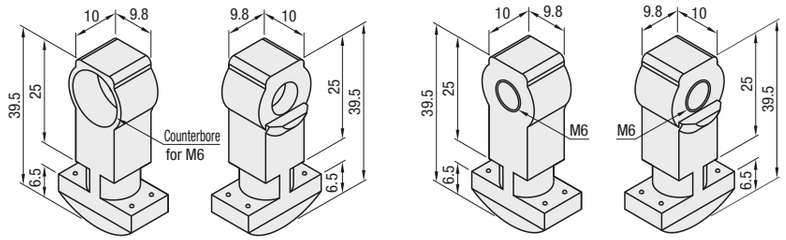


RoHS

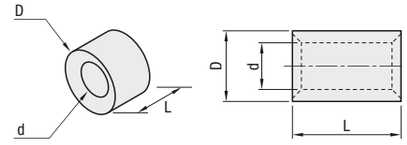
HPJN (Post-Assembly Insertion Double Joint)

①Post-Assembly Insertion Double Joint A

②Post-Assembly Insertion Double Joint B



③Joint Pipe

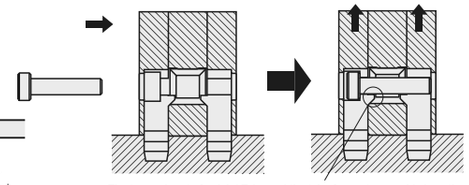


Part Name		Material
Post-Assembly Insertion Double Joint (A, B)		EN 1.4308 Equiv.
Joint Pipe	No.8-45 No.8-50 No.8-60 No.8-100	EN 1.4301 Equiv. (Sintered)
	No.8-90	EN 1.4301 Equiv.
Hex Socket Head Cap Screw		EN 1.4301 Equiv.

Part Number		Accessory								Unit Price	Volume Discount Rate
Type	No.	①Post-Assembly Insertion Double Joint A	Quantity	②Post-Assembly Insertion Double Joint B	Quantity	③Joint Pipe	Quantity	④Hex Socket Head Cap Screw	Quantity	1 ~ 19 pc(s).	20~200
HPJN	8-45	Post-Assembly Insertion Double Joint A8-45	1	Post-Assembly Insertion Double Joint B8-45	1	Joint Pipe 8-45	1	M6x35	1		
	8-90					Joint Pipe 8-90		M6x80			
	8-50					Joint Tube 8-50		M6x40			
	8-60					Joint Tube 8-60		M6x50			
	8-100					Joint Tube 8-100		M6x90			

③Joint Pipe

Part Name	L	D	d
Joint Pipe 8-45	19	13	8
Joint Pipe 8-90	64		
Joint Pipe 8-50	24	7	4.7
Joint Pipe 8-60	34		
Joint Pipe 8-100	74		



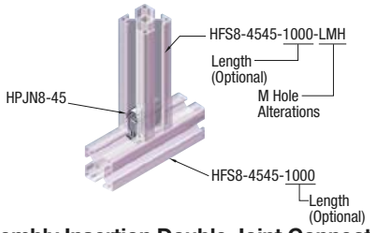
The tapered part of a Joint Tube and the tab of a post-assembly insertion joint create upward lifting force, connecting the extrusions together.

Post Assembly Insertion Double Joint Kits	Applicable Extrusion No.	[Exception] Extrusion Not Available	
HPJN8-45	8-4545*	* HFSL8-4545, HFSLF8-4545 and HFSLT8-4545 cannot be used because the thickness of slot extrusion is different.	Not usable for surfaces without slots.
HPJN8-90	8-4590* 8-9090		
HPJN8-50	8-5050 8-50100	* HFSLT8-4590 cannot be used because the thickness of slot extrusion is different.	
HPJN8-60	8-6060		
HPJN8-100	8-100100 8-50100 8-100200		

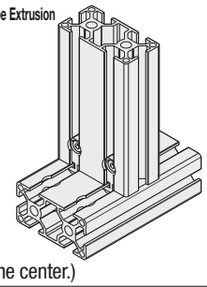
Ordering Example: Part Number **HPJN8-45**

Example

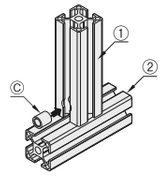
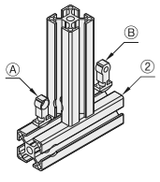
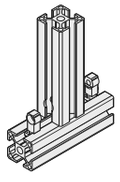
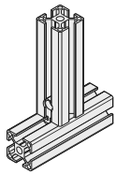
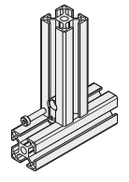
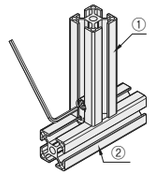
·Installation Example



App. Example of Rectangle Shape Extrusion

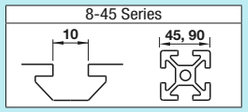


■**Pre-Assembly Insertion Double Joint Connection** (Connect the extrusion at the corners or the center.)

1	2	3	4	5	6
					
Pre-insert the joint tube Ⓒ into the M hole of extrusion ①.	Insert the Post-Assembly Double Joints Ⓐ and Ⓑ sideways into the slot of extrusion ②.	Rotate the joints Ⓐ and Ⓑ 90° in the direction as shown in the left figure.	Fit the joints Ⓐ and Ⓑ in the slot of the extrusion.	Insert the hex socket head cap screw into a counterbore hole of the joint Ⓐ.	Tighten the hex socket head cap screw with a hex wrench; the extrusion ① and ② are lifted upward, then 2 extrusions joint together.

Sheet Metal Plates

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions



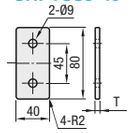
■**Features:** Can be used for reinforcement of aluminum extrusions.



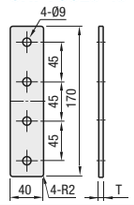
RoHS

Type	Material	Surface Treatment
HPTSS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTSSL		
HPTSD8-45		
HPTSD8-50		
SHPTSS	EN 1.4301 Equiv.	-
SHPTSSL		
SHPTSD		

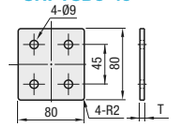
HPTSS8-45
SHPTSS8-45



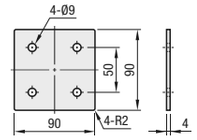
HPTSSL8-45
SHPTSSL8-45



HPTSD8-45
SHPTSD8-45



HPTSD8-50



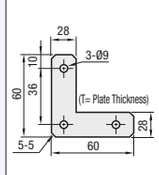
Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTSS8-45	80	3.2	M8-15	2	M8	2		
SHPTSS8-45		3						
HPTSSL8-45	160	3.2		4		4		
SHPTSSL8-45		3						
HPTSD8-45	150	3.2						
SHPTSD8-45		3						
HPTSD8-50	202	3.2						



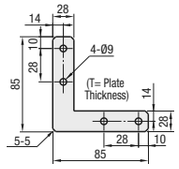
RoHS

Type	Material	Surface Treatment
HPTLN	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTLS		
HPTLD8-45		
HPTLD8-50		
SHPTLN	EN 1.4301 Equiv.	-
SHPTLS		

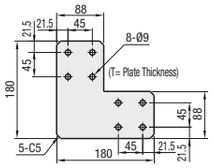
HPTLN8
SHPTLN8



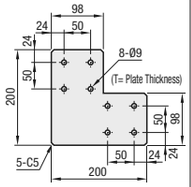
HPTLS8
SHPTLS8



HPTLD8-45



HPTLD8-50



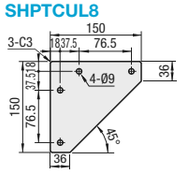
Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTLN8*	50	3.2	M8-15	3	M8	3		
SHPTLN8*		3						
HPTLS8*	89	3.2		4		4		
SHPTLS8*		3		4		4		
HPTLD8-45	535	3.2		8		8		
HPTLD8-50	569	3.2						



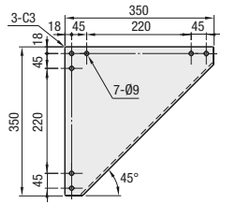
RoHS

Type	Material	Surface Treatment
HPTCUL	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTUL		
HPTWUL		
SHPTCUL	EN 1.4301 Equiv.	-

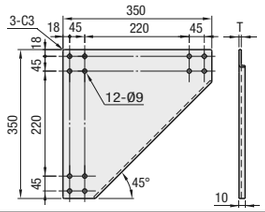
HPTCUL8
SHPTCUL8



HPTUL8-45



HPTWUL8-45



Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTCUL8*	360	3.2	M8-15	4	M8	4		
SHPTCUL8*		3		4		4		
HPTUL8-45	1760	3.2		7		7		
HPTWUL8-45	1758			12		12		

Ordering Example: Part Number — HPTSS8-45

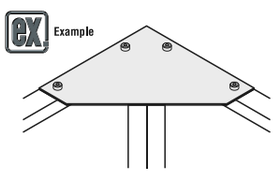
Alterations: Part Number - (SET) — HPTSS8-45 - SET

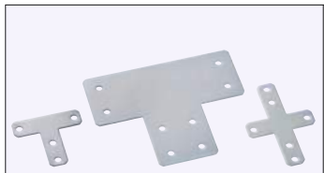
Not RoHS compliant when -SET is specified.

Alteration	Code	Spec.		Part Number
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.		HPTSS8-45
				SHPTSS8-45
				HPTSSL8-45
				SHPTSSL8-45
				HPTSD8-45
				HPTSD8-50
				SHPTSD8-45
		Material	Set	HPTLN8*
		EN 1.0320 Equiv. (hot coiled)	Screw: CBM	SHPTLN8*
			Nut: HNTT	HPTLS8*
		EN 1.4301 Equiv.	Screw: SCB	SHPTLS8*
			Nut: HNTTSN	HPTLD8-45
				HPTLD8-50
				HPTCUL8*
				SHPTCUL8*
				HPTUL8-45
				HPTWUL8-45

8* is in common with 8-45.

Example

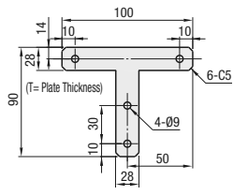




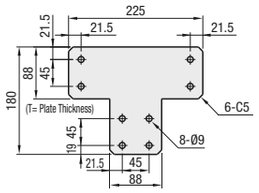
RoHS

Type	Material	Surface Treatment
HPTTS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTTD		
HPTPS		
SHPTTS	EN 1.4301 Equiv.	-

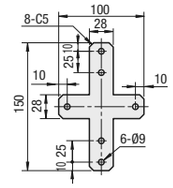
HPTTS8
SHPTTS8



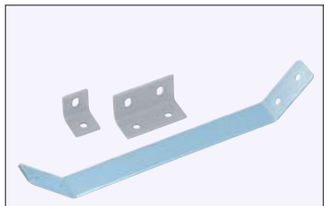
HPTTD8-45



HPTPS8



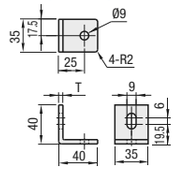
Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTTS8*	103	3.2	M8-15	4	M8	4		
SHPTTS8*		3		4		4		
HPTTD8-45	633	3.2		8		8		
HPTPS8*	135	3.2		6		6		



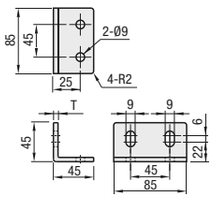
RoHS

Type	Material	Surface Treatment
HPTBS	EN 1.0320 Equiv. (hot coiled)	Trivalent Chromate
HPTGS		
SHPTBS	EN 1.4301 Equiv.	-
SHPTBD		

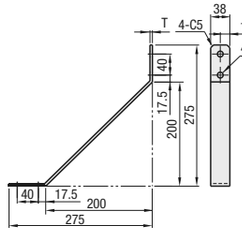
HPTBS8
SHPTBS8



SHPTBD8-45



HPTGS8



Part Number	Mass g	T	Applicable Screw and Nut				Unit Price	Volume Discount Rate
			Screw	Quantity	Nut	Quantity	1~99 pc(s).	100~120
HPTBS8*	83	4.5	M8-15	2	M8	2		
SHPTBS8*		4						
SHPTBD8-45	234	4		4		4		
HPTGS8*	560	4.5		4		4		

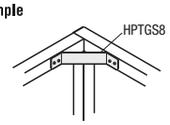
Ordering Example: Part Number — SHPTBD8-45

Alterations: Part Number - (SET) — SHPTBD8-45 - SET

Alteration	Code	Spec.		Part Number
Applicable Screws and Nuts Set	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.		HPTTS8*
				SHPTTS8*
		Material	Set	HPTTD8-45
		EN 1.0320 Equiv. (hot coiled)	Screw: CBM	HPTPS8*
			Nut: HNTT	HPTBS8*
		EN 1.4301 Equiv.	Screw: SCB	SHPTBS8*
			Nut: HNTTSN	SHPTBD8-45
				HPTGS8*

8* is in common with 8-45.

Example

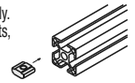


Nuts for Aluminum Extrusions - Overview
For 8-45 Series (Slot Width 10mm)

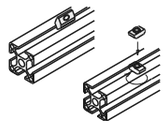
■Nuts for Aluminum Extrusions - Overview

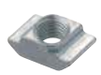
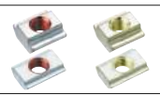
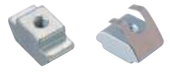
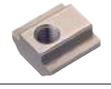
MISUMI offers variety of Pre-Assembly or Post-Assembly Insertion Nuts for Aluminum Extrusions. Select an applicable type specific to your application.

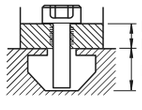
Pre-Assembly Insertion: Insert from the slot ends before assembly. Large width causes less plays in the slots, making screw tightening easy.



Post-Assembly: Mountable from slots after assembly.



Type	Photo	Features	Pre-Assembly Material Steel	Pre-Assembly Material Stainless Steel	Pre-Assembly Page Single Item	Pre-Assembly Page Package	Post-Assembly Material Steel	Post-Assembly Material Stainless Steel	Post-Assembly Page Single Item	Post-Assembly Page Package
Standard		Most standard and economical products. Can be connected temporarily in combination with optional stoppers.	○	○	P.715	P.714	○	○	P.718	P.714
Temporary Holding (Ball Spring)		Can be moved in the extrusions smoothly. Temporary holding is repeatedly possible.	○	○	P.716	P.714	○	○	P.719	P.714
Temporary Holding (Leaf Spring)		Secure temporary holding with springs on both sides.	-	-	-	-	○	○	P.719	P.720
Temporary Holding (Resin Stopper)		Resin stopper on outer circumference prevents aluminum extrusions from being scratched when mounting temporarily.	○	○	P.716	-	-	-	-	-
Post-Assembly Rotational		Insert the nut into the exrusion and turn it in the slot. Large nut width prevents plays.	-	-	-	-	○	○	P.718	-
With Lock		Included set screw enables nut fixing. Convenient where panes and covers are removed frequently.	○	-	P.717	-	○	○	P.720	-
Thread Locking Adhesive Type		Reduces loosening due to vibrations caused by transfer or equipment moves. One-time use and repeated use types are available.	○	-	P.715~P.716	-	○	-	P.718~P.720	-
Compact (Short Nuts)		Usable with narrow pitch when multiple nuts are lined in the slots. (Approx. 40% shorter than the standard width)	○	-	P.717	P.717	○	-	P.720	P.720
Square Nuts		Sheet metal type: more economical than standard nuts.	○	○	-	P.717	-	-	-	-
Screw Integrated		Requires less time for screw tightening.	-	○	P.721	-	-	○	P.721	-
Long Nut		Workpieces such as Linear Guides are mountable with desired pitches.	○	○	P.722	-	○	○	P.722	-
Offset Nut (Other than 5 Series)		When connecting the extrusions at corners with Pre-Assembly Insertion Double Joint (refer to **P.709**), the nut does not protrude from the extrusion.	-	○	P.717	-	-	-	-	-
Conductive Washers (Other than 5 Series)		Electrical conductivity between extrusions is achieved by combining with Toothed Washer (**P.721**).	-	○	P.721	-	-	-	-	-

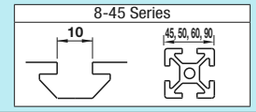


■Aluminum Extrusions and Applicable Screws to Mount Panes / Brackets (Size M - L Dim.)

Slot Width	Extrusion Square	Depth h	Applicable Nut HNTT	Panels / Brackets Thickness b (mm) to be Mounted on Extrusions 0.8	1	1.2	1.5	2	3	4	4.5	5	6	8.2	9	10	12	14
10	45	13	8-4	M4-12						M4-15				M4-20			×	M4-25
			8-5	M5-12						M5-15				M5-20			M5-22	M5-25
			8-6	M6-12						M6-15				M6-20				M6-25
			8-8	×						M8-15				M8-20				M8-25

"×" means there is no applicable screw. Use one size smaller tapped products.

Nuts for Aluminum Extrusions - Bulk Packages
For 8-45 Series (Slot Width 10mm)



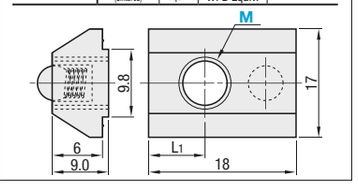
■Features: Bulk packages are cost effective for in-house stock or large quantity uses.

■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

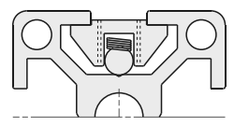
Type	M Material Main Body	Ball	Spring	S Surface Treatment
PACK-HNTU	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTU	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	EN 1.430 WPB Equiv.	-



Example

- Does not fall even if the extrusion is placed vertically.

Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



Part Number Type	No.	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTU	8	4 5 6 8	6		
PACK-SHNTU			5.5		

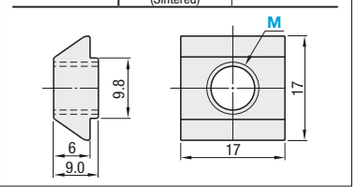
100 pcs. per package

■Pre-Assembly Insertion Spring Nuts - Pack (100/Pkg.)



RoHS

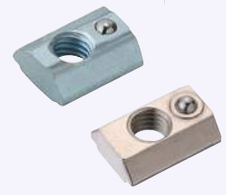
Type	M Material	S Surface Treatment
PACK-HNTT	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTTSN	EN 1.4401 Equiv. (Sintered)	-



Part Number Type	No.	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTT	8	4 5 6 8		
PACK-HNTTSN				

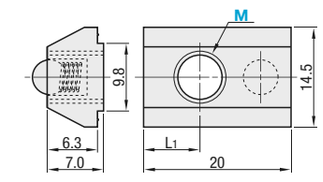
100 pcs. per package

■Post-Assembly Insertion Spring Nuts - Pack (100/Pkg.)

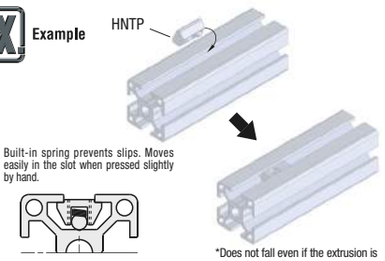


RoHS

Type	M Material Main Body	Ball	Spring	S Surface Treatment
PACK-HNTP	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
PACK-SHNTP	EN 1.4301 Equiv. (Sintered)	EN 1.4301 Equiv.	EN 1.4301 WPB Equiv.	-



Example



Part Number Type	No.	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTP	8	4 5 6 8	8		
PACK-SHNTP			8.5		

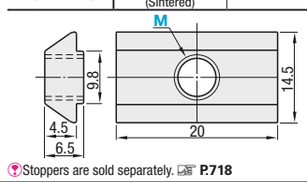
100 pcs. per package

■Post-Assembly Insertion Stopper Nuts - Pack (100/Pkg.)



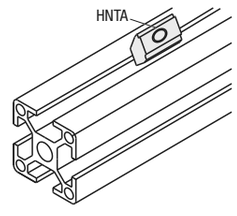
RoHS

Type	M Material	S Surface Treatment
PACK-HNTA	EN 1.0301 Equiv.	Trivalent Chromate
PACK-HNTASN	EN 1.4401 Equiv. (Sintered)	-



Stoppers are sold separately. P.718

Example



Part Number Type	No.	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTA	8	4 5 6		
		8		
PACK-HNTASN		4 5 6 8		

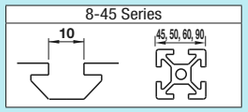
100 pcs. per package

Ordering Example

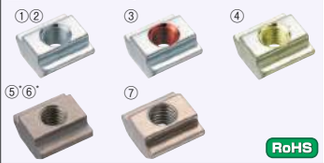
Part Number	-	M
PACK-HNTA8	-	8
PACK-SHNTP8	-	6

Pre-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Standard
For 8-45 Series (Slot Width 10mm)

8-45 Series



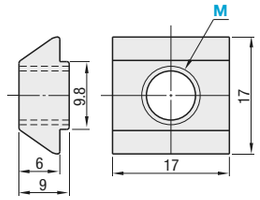
■Pre-Assembly Insertion Nuts



* Electrically conductive

Type	Material	Surface Treatment
①HNTT8	EN 1.0301 Equiv.	Trivalent Chromate
②PACK-HNTT8		
③HNTTV8	Thread Locking Adhesive Type, EN 1.0301 Equiv.	
④HNTTZ8	Thread Locking Resin Coating Type, EN 1.0301 Equiv.	
⑤HNTTSN8*	EN 1.4401 Equiv. (Sintered)	-
⑥PACK-HNTTSN8*		
⑦HNTTSS8	EN 1.4305 Equiv.	-

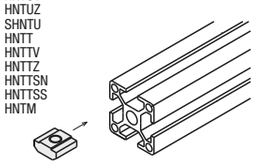
HNTT8 (EN 1.0301 Equiv.)
PACK-HNTT8 (EN 1.0301 Equiv.)
HNTTV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTTZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTTSN8 (EN 1.4401 Equiv., Sintered)
PACK-HNTTSN8 (EN 1.4401 Equiv., Sintered)
HNTTSS8 (EN 1.4305 Equiv.)



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered) / EN 1.4305 Equiv.
8	23.5

Example

•**Pre-Assembly Insertion Nuts**
Aluminum Extrusion
Nuts are pre-inserted in the aluminum extrusion.
HNTU
HNTUV
HNTUZ
SHNTU
HNTT
HNTTV
HNTTZ
HNTTSN
HNTTSS
HNTM



Part Number	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTT8 (EN 1.0301 Equiv.)	4 5 6 8				
HNTTV8 (Thread Locking, EN 1.0301 Equiv.)	8				
HNTTZ8 (Thread Locking, EN 1.0301 Equiv.)	8				
HNTTSN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8				
HNTTSS8 (EN 1.4305 Equiv.)	8				

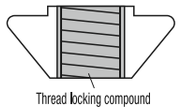
Ordering Example: Part Number HNTT8 - M 8

■Bulk Packages 100 pcs. per package

Part Number	M	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTT8 (EN 1.0301 Equiv.)	4 5 6 8		
PACK-HNTTSN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8		

When ordering HNTT8 without specifying M, HNTT8-8 is selected automatically.

■Thread Locking Type



Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

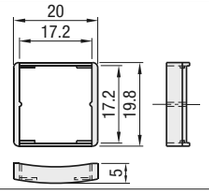
	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	17.9N·m	-
Thread Locking Adhesive Type	• Prevents loosening effectively. • Thread locking properties are lost once loosened. •Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	25.6N·m	Test Conditions: Measured value (HNTTV8-8) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N·m.
Thread Locking Resin Coating Type	• Can be used repeatedly. (Thread locking effect decreases after repeated use.) • Thread locking effect is immediately seen right after tightening.	21.8N·m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 20.3N·m Measurement with HNTTZ8-8

■Pre-Assembly Insertion Stoppers

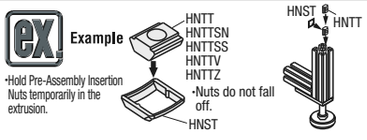


Material: Polyamide

HNST8-45



Example



•Hold Pre-Assembly Insertion Nuts temporarily in the extrusion.
•Nuts do not fall off.

Part Number	Applicable Pre-Assembly Insertion Nut	Color	Unit Price 1 ~ 1500 pc(s).
HNST8-45	HNTT8 HNTTV8 HNTTZ8 HNTTSN8 HNTTSS8	Gray	

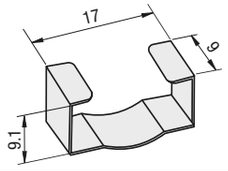
Ordering Example: Part Number HNST8-45

■Pre-Assembly Insertion Metal Stoppers

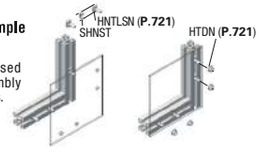


Material: EN 1.4319 Equiv.

SHNST8



Example



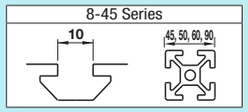
*Can also be used with Pre-Assembly Insertion Screws.

Part Number	Applicable Pre-Assembly Insertion Nut*	Unit Price 1 ~ 1500 pc(s).
SHNST8	HNTT8 HNTTV8 HNTTZ8 HNTTSN8 HNTTSS8	

Ordering Example: Part Number SHNST8

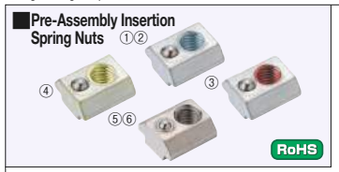
Pre-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions with Temporary Holding Function - Stopper Integrated Nuts / Spring Nuts
For 8-45 Series (Slot Width 10mm)

8-45 Series



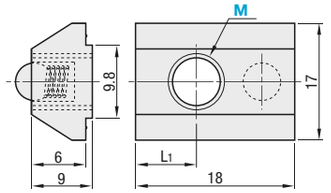
Tightening Torque P.526

■Pre-Assembly Insertion Spring Nuts



Type	Material Main Body	Ball	Spring	Surface Treatment
①HNTU8	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
②PACK-HNTU8				
③HNTUV8				
④HNTUZ8				
⑤SHNTU8	EN 1.4301 Equiv.	EN 1.4301 Equiv.	SUS304-WP8	-
⑥PACK-SHNTU8				

HNTU8 (EN 1.0301 Equiv.)
PACK-HNTU8 (EN 1.0301 Equiv., 100/pkg.)
HNTUV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTUZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
SHNTU8 (EN 1.4301 Equiv.)
PACK-SHNTU8 (EN 1.4301 Equiv., 100/pkg.)



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv., EN 1.4301 Equiv. (Sintered)
8	23.5

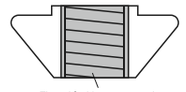
Part Number	M	L1	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTU8 (EN 1.0301 Equiv.)	4 5 6 8	6				
HNTUV8 (Thread Locking, EN 1.0301 Equiv.)	8					
HNTUZ8 (Thread Locking, EN 1.0301 Equiv.)	8					
SHNTU8 (EN 1.4301 Equiv.)	4 5 6 8	5.5				

Ordering Example: Part Number HNTU8 - M 8

■Bulk Packages 100 pcs. per package

Part Number	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTU8 (EN 1.0301 Equiv.)	4 5 6 8	6		
PACK-SHNTU8 (EN 1.4301 Equiv.)		5.5		

■Thread Locking Type

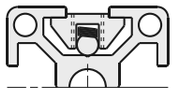


Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

Example

•Does not fall even if the extrusion is placed vertically.

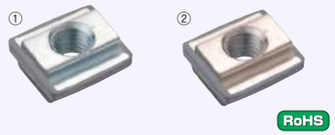
Built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.



■Effect of Thread Locker (Reference)

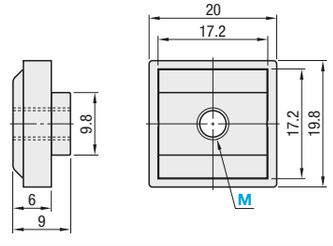
	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	17.9N·m	-
Thread Locking Adhesive Type	• Prevents loosening effectively. • Thread locking properties are lost once loosened. • Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	25.6N·m	Test Conditions: Measured value (HNTTV8-8) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N·m.
Thread Locking Resin Coating Type	• Can be used repeatedly. (Thread locking effect decreases after repeated use.) • Thread locking effect is immediately seen right after tightening.	21.8N·m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 20.3N·m Measurement with HNTTZ8-8

■Stopper Integrated Nuts



Type	Material Main Body	Stopper	Surface Treatment
①HNTE8-45	EN 1.0301 Equiv.	Polyamide	Trivalent Chromate
②SHNTE8-45	EN 1.4301 Equiv.		-

HNTE8-45
SHNTE8-45

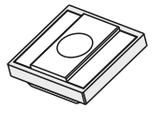


Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
8	23.5

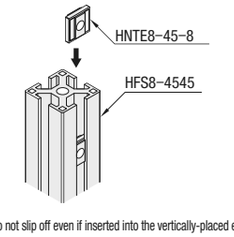
Part Number	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTE8-45	4 5 6 8				
SHNTE8-45	4 5 6 8				

Ordering Example: Part Number HNTE8-45 - M 8

Example



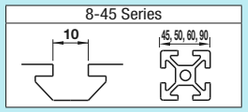
Integrated Pre-Assembly Insertion Nuts and Stoppers.



The nuts do not slip off even if inserted into the vertically-placed extrusions.

Pre-Assembly Insertion Nuts for Aluminum Extrusions - Others

For 8-45 Series (Slot Width 10mm)



■Pre-Assembly Insertion Lock Nut

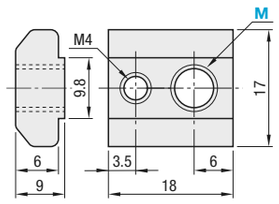


RoHS

M Material: EN 1.0301 Equiv.
S Surface Treatment: Trivalent Chromate

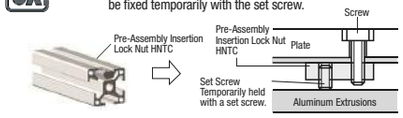
HNTC8

Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
8	23.5



Example

- **Pre-Assembly Insertion Lock Nut**
  The position of post-assembly insertion lock nuts can be fixed temporarily with the set screw.



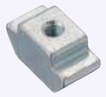
Part Number	M	Accessory	Unit Price	Volume Discount Rate		
			1 - 499 pc(s).	500~749	750~999	1000~1500
HNTC8	8	M4x8 Set Screw for Locking 1 pc.				

- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.
- Stopper is not included.

Ordering Example

Part Number	-	M
HNTC8	-	8
HNTJ8	-	8

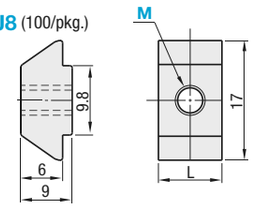
■Pre-Assembly Insertion Short Nuts



RoHS

M Material: EN 1.0301 Equiv.
S Surface Treatment: Trivalent Chromate

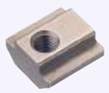
HNTJ8
PACK-HNTJ8 (100/pkg.)



Part Number	M	L	HNTJ8				PACK-HNTJ8		
			Unit Price	Volume Discount Rate			Unit Price	Volume Discount Rate	
			1 ~ 499 pc(s).	500~749	750~999	1000~1500	1 ~ 9 pkg(s).	10~19	20~30
HNTJ8 PACK-HNTJ8	3 4	8							
	8	12							

100 pcs. per package

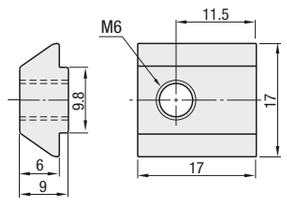
■Pre-Assembly Insertion Offset Nuts



RoHS

* Electrically conductive M Material: EN 1.4401 Equiv. (Sintered)

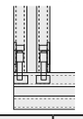
HNTHSN8



Example

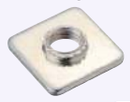
The pre-assembly insertion offset nut, used in combination with a post-assembly insertion double joint, can be fixed in such a way that the nut, even if connected at the corner of the extrusion, does not protrude from the extrusion (frame).

With HNTHSN



Part Number	Unit Price
	1 ~ 150 pc(s).
HNTHSN8	

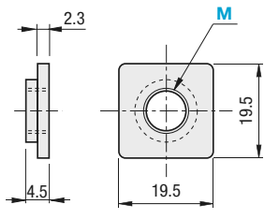
■Pre-Assembly Insertion Square Nuts



RoHS

100 pcs. per package
Insert it into the extrusion upside down.
M Material: EN 1.0330 Equiv.
S Surface Treatment: Trivalent Chromate

HNKK8

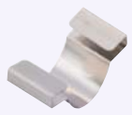


Example



Part Number	M	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKK8	4 5 6 8			

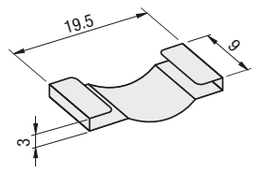
■Metal Stoppers for Pre-Assembly Insertion Square Nuts



RoHS

M Material: EN 1.4319 Equiv.

HNKKST8



100 pcs. per package

Example



Part Number	Applicable Pre-Assembly Insertion Nut	Unit Price	Volume Discount Rate	
		1 ~ 9 pkg(s).	10~19	20~30
HNKKST8	HNKK8			

Example

Part Number	-	M
HNTHSN8 HNKK8 HNKKST8	-	8

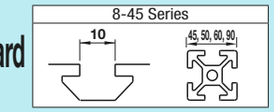
- **Applicable Extrusions and Brackets**
  Applicable to extrusions and brackets with the same part number.

(Ex.)

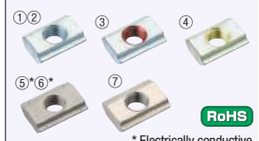
Part Number	
Pre-Assembly Insertion Nuts	HNTT8- □
Pre-Assembly Insertion Stoppers	HNST8
Extrusion	HFS8- □□□
Brackets	HBLFSN8

Post-Assembly Insertion Nuts / Stoppers for Aluminum Extrusions - Standard

For 8-45 Series (Slot Width 10mm)



■Post-Assembly Insertion Stopper Nuts

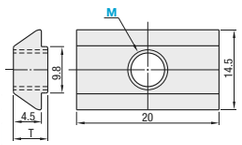


RoHS

* Electrically conductive

Type	M Material	S Surface Treatment
①HNTA8	EN 1.0301 Equiv.	Trivalent Chromate
②PACK-HNTA8		
③HNTAV8		
④HNTAZ8		
⑤HNTASN8*	EN 1.4401 Equiv. (Sintered)	-
⑥PACK-HNTASN8*		
⑦HNTASS8	EN 1.4305 Equiv.	-

HNTA8 (EN 1.0301 Equiv.)
PACK-HNTA8 (EN 1.0301 Equiv., 100/pkg.)
HNTAV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTAZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTASN8 (EN 1.4401 Equiv., Sintered)
PACK-HNTASN8 (EN 1.4401 Equiv., Sintered, 100/pkg.)
HNTASS8 (EN 1.4305 Equiv.)

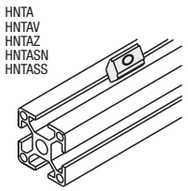


Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered) / EN 1.4305 Equiv.
8	23.5

Details of Thread Locking Type (**P.716**)

Example

- Post-Assembly Insertion Stopper Nuts



Part Number Type	M	T	Unit Price	Volume Discount Rate		
			1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTA8 (EN 1.0301 Equiv.)	4 5 6 8	6.5				
HNTAV8 (Thread Locking, EN 1.0301 Equiv.)	8	6.5				
HNTAZ8 (Thread Locking, EN 1.0301 Equiv.)	8	6.5				
HNTASN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8	6.0				
HNTASS8 (EN 1.4305 Equiv.)	8	6.5				

Ordering Example

Part Number	-	M
HNTA8	-	8

■Bulk Packages

100 pcs. per package

Part Number	M	T	Unit Price (1 ~ 10 packages)	
			Package Price	Price per Pkg.
PACK-HNTA8 (EN 1.0301 Equiv.)	4 5 6 8	6.5		
PACK-HNTASN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8	6		

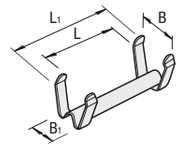
■Post-Assembly Insertion Stoppers

RoHS



Type	M Material
①HNAST8	Polypropylene
②HNBST8	EN 1.4319 Equiv.

HNAST8 (Polypropylene)
HNBST8 (EN 1.4319 Equiv.)



Part Number Type	Applicable Stopper Nut	Color	L	B	L1	B1	Unit Price	Volume Discount Rate	
							1 ~ 499 pc(s).	500~999	1000~1500
HNAST8	HNTA8 HNTAV8 HNTAZ8 HNTASN8 HNTASS8	White	21	11.1	26	9.8			
HNBST8		-	23	12.5	28	8			

■Post-Assembly Insertion Nut and Stopper Set

RoHS



HNTAT8 (EN 1.0301 Equiv. Set)
HNTATSN8 (EN 1.4401 Equiv. Set)

Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTAT8	HNTA8	HNAST8
HNTATSN8*	HNTASN8	

* Electrically conductive

Part Number Type	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTAT8	4 5 6 8				
HNTATSN8	4 5 6 8				

■Post-Assembly Insertion Nut and Metal Stopper Set

RoHS



HNTBT8 (EN 1.0301 Equiv. Set)
HNTBTSN8 (EN 1.4401 Equiv. Set)

Type	Ⓑ Stopper Nut	Ⓐ Stopper
HNTBT8	HNTA8	HNBST8
HNTBTSN8*	HNTASN8	

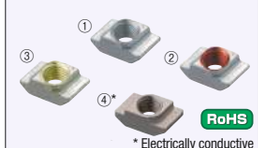
* Electrically conductive

Part Number Type	M	Unit Price	Volume Discount Rate		
		1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTBT8	4 5 6 8				
HNTBTSN8	4 5 6 8				

Ordering Example

Part Number	-	M
HNTAT8 HNAST8	-	8

■Post-Assembly Insertion Nuts

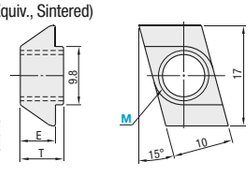


RoHS

* Electrically conductive

Type	M Material	S Surface Treatment
①HNTF8	EN 1.0301 Equiv.	Trivalent Chromate
②HNTFV8		
③HNTFZ8		
④HNTFSN8*	EN 1.4401 Equiv. (Sintered)	-

HNTF8 (EN 1.0301 Equiv.)
HNTFV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTFZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
HNTFSN8 (EN 1.4401 Equiv., Sintered)

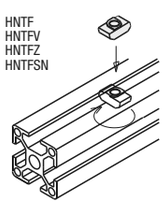


Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
8	23.5

Details of Thread Locking Type (**P.716**)

Example

- Post-Assembly Insertion Nut

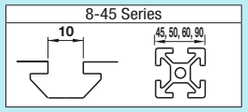


Part Number Type	M	E	T	Unit Price	Volume Discount Rate		
				1 ~ 499 pc(s).	500~749	750~999	1000~1500
HNTF8 (EN 1.0301 Equiv.)	4 5 6 8	6.0	9.0				
HNTFV8 (Thread Locking, EN 1.0301 Equiv.)	8	6.0	9.0				
HNTFZ8 (Thread Locking, EN 1.0301 Equiv.)	8	6.0	9.0				
HNTFSN8 (EN 1.4401 Equiv., Sintered)	4 5 6 8	6.4	8.9				

Ordering Example

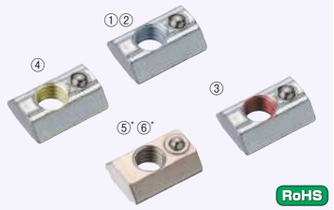
Part Number	-	M
HNTF8	-	8

Post-Assembly Insertion Nuts for Aluminum Extrusions with Temporary Holding Function
For 8-45 Series (Slot Width 10mm)

8-45 Series


Tightening Torque P.526

■Post-Assembly Insertion Spring Nuts

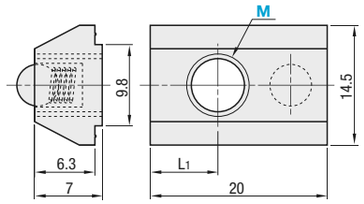


RoHS

* Electrically conductive

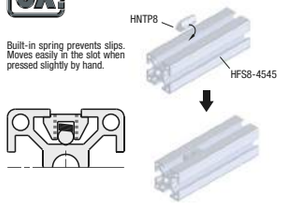
Type	M Material			S Surface Treatment
	Main Body	Ball	Spring	
①HNTP8 ②PACK-HNTP8 ③HNTPV8 ④HNTPZ8	EN 1.0301 Equiv.	EN 1.4301 Equiv.	JIS-SWP-A	Trivalent Chromate
⑤SHNTP8* ⑥PACK-SHNTP8*	EN 1.4401 Equiv. (Sintered)	EN 1.4301 Equiv.	SUS304-WP8	-

HNTP8 (EN 1.0301 Equiv.)
PACK-HNTP8 (EN 1.0301 Equiv., 100/pkg.)
HNTPV8 (Thread Locking Adhesive Type, EN 1.0301 Equiv.)
HNTPZ8 (Thread Locking Resin Coating Type, EN 1.0301 Equiv.)
SHNTP8 (EN 1.4401 Equiv., Sintered)
PACK-SHNTP8 (EN 1.4401 Equiv., Sintered, 100/pkg.)



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
8	23.5

Example



* Does not fall even if the extrusion is placed vertically.

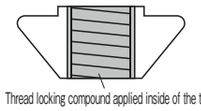
Part Number / Type	M	L1	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTP8 (EN 1.0301 Equiv.)	4 5 6 8	8				
HNTPV8 (Thread Locking, EN 1.0301 Equiv.)	8					
HNTPZ8 (Thread Locking, EN 1.0301 Equiv.)	8					
SHNTP8 (EN 1.4401 Equiv., Sintered)	4 5 6 8	8.5				

■Bulk Packages

Part Number	M	L1	Unit Price (1 ~ 10 packages) Package Price	Price per Pkg.
PACK-HNTP8 (EN 1.0301 Equiv.)	4 5 6 8	8		
PACK-SHNTP8 (EN 1.4401 Equiv., Sintered)		8.5		

Part Number - M
HNTP8 - 8

■Thread Locking Type



Nuts with thread locker applied on the inside of tap. Reduce loosening caused by vibration during transportation and operation of equipment.
Thread Locking Adhesive: A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating: Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

■Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between screws and nuts.

	Characteristics	Loosening Torque after Tightening (1st time)	Remarks
Without Thread Locker	-	17.9N·m	-
Thread Locking Adhesive Type	· Prevents loosening effectively. · Thread locking properties are lost once loosened. · Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	25.6N·m	Test Conditions: Measured value (HNTPV8-8) when a screw is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N·m.
Thread Locking Resin Coating Type	· Can be used repeatedly. (Thread locking effect decreases after repeated use.) · Thread locking effect is immediately seen right after tightening.	20.3N·m	Thread locking effect decreases after repeated use. Loosening Torque at 5 Repeats: 19.1N·m Measurement with HNTAZ8-8

■Post-Assembly Insertion Nuts with Leaf Springs

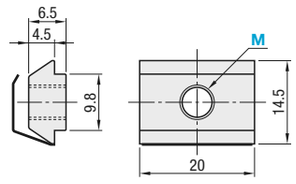


RoHS

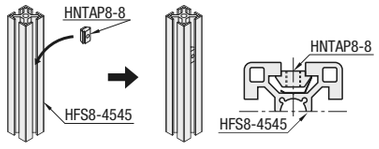
Type	M Material		S Surface Treatment
	Main Body	Wing Part	
HNTAP8	EN 1.0301 Equiv.	EN 1.4301 Equiv.	Trivalent Chromate
SHNTAP8	EN 1.4301 Equiv.		-

HNTAP8
SHNTAP8

Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
8	23.5



Example

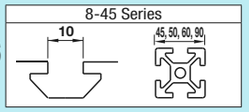


Welded Leaf Springs prevent the nuts from slipping off even if inserted into the vertically-placed extrusions.

Part Number	M	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTAP8	4 5 6 8				
SHNTAP8	4 5 6 8				

Ordering Example: Part Number - M
HNTAP8 - 8

Post-Assembly Insertion Nuts, Others - Post-Assembly Insertion Lock Nuts / Short Nuts
For 8-45 Series (Slot Width 10mm)

8-45 Series


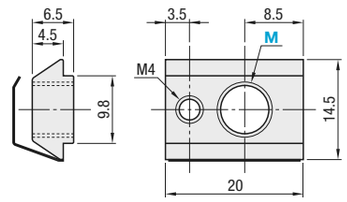
■Post-Assembly Insertion Lock Nuts with Leaf Springs



RoHS

Part	M Material	S Surface Treatment
Main Body	EN 1.0301 Equiv.	Trivalent Chromate
Wing Part	EN 1.4301 Equiv.	-

HNTRP8



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv.
8	23.5

Part Number	M	Accessory	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTRP8	8	M4 Set Screw for Locking				

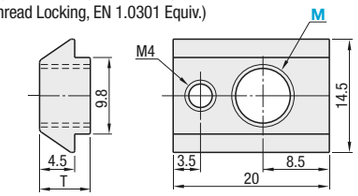
■Post-Assembly Insertion Lock Nuts



RoHS

Type	M Material	S Surface Treatment
HNTR8, HNTRZ8	EN 1.0301 Equiv.	Trivalent Chromate
HNTRSN8	EN 1.4401 Equiv. (Sintered)	-

HNTR8 (EN 1.0301 Equiv.)
HNTRSN8 (EN 1.4401 Equiv., Sintered)
HNTRZ8 (Thread Locking, EN 1.0301 Equiv.)



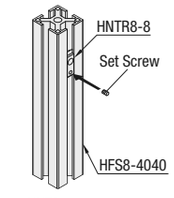
Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv. / EN 1.4401 Equiv. (Sintered)
8	23.5

Part Number / Type	M	T	Accessory	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~749	750~999	1000~1500
HNTR8 (EN 1.0301 Equiv.)	4 5 6 8	6.5	M4x6 Set Screw for Locking 1 pc.				
HNTRSN8 (EN 1.4401 Equiv., Sintered)		6.0					
HNTRZ8 (Thread Locking, EN 1.0301 Equiv.)	8	6.5					

Ordering Example: Part Number - M
HNTR8 - 8

Example

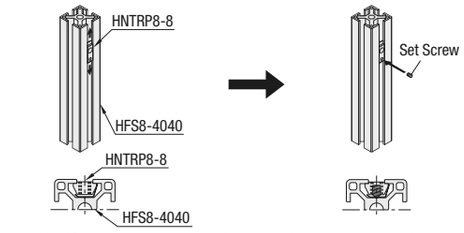
■Post-Assembly Insertion Lock Nuts



The nut can be fixed in place by itself by tightening the included set screw.

Suitable for use where high repeatability is required, such as mounting sensors or repeatedly replacing panels.

■Post-Assembly Insertion Lock Nuts with Leaf Springs



Welded Leaf Springs prevents nuts from slipping off even if inserted into the vertically-oriented extrusions, leading to easy locating.

Also, the nut can be fixed in place by tightening the included set screw.

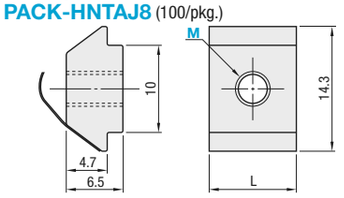
■Post-Assembly Insertion Short Nuts



RoHS

Part	M Material	S Surface Treatment
Main Body	EN 1.0301 Equiv.	Trivalent Chromate
Wing Part	EN 1.4319 Equiv.	-

HNTAJ8
PACK-HNTAJ8 (100/pkg.)



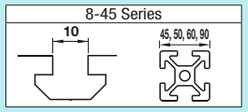
- Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.

Ordering Example: Part Number - M
HNTAJ8 - 8

Part Number	M	L	HNTAJ8 Unit Price 1 ~ 499 pc(s).	HNTAJ8 Volume Discount Rate 500~749	750~999	1000~1500	PACK-HNTAJ8 Unit Price 1 pkg.	PACK-HNTAJ8 Volume Discount Rate 2~4	5~9	10~20
HNTAJ8 PACK-HNTAJ8	3 4	10								
	8	12								

100 pcs. per package

Pre-Assembly Insertion Screws / Post-Assembly Insertion Screws / Conductive Washers / Toothed Washers / Flanged Nuts for Aluminum Extrusions
For 8-45 Series (Slot Width 10mm)



Tightening Torque P.526

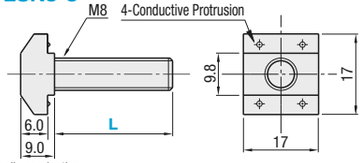
■Pre-Assembly Insertion Screws



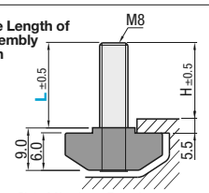
RoHS

Ⓜ Material Nuts: EN 1.4401 Equiv. (Sintered)
Screw: EN 1.4301 Equiv.

HNTLSN8-8



■Effective Length of Pre-Assembly Insertion Screws



Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HNTLSN8-8	20	17.5	HFS8	23.5			
	25	22.5					

Part Number - L
HNTLSN8-8 - 20

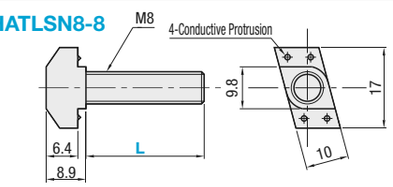
■Post-Assembly Insertion Screws



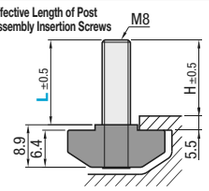
RoHS

Ⓜ Material Nuts: EN 1.4401 Equiv. (Sintered)
Screw: EN 1.4301 Equiv.

HATLSN8-8



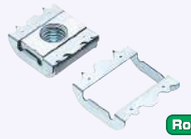
■Effective Length of Post Assembly Insertion Screws



Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	Unit Price 1 ~ 299 pc(s).	Volume Discount Rate 300~499	500~600
HATLSN8-8	20	17.0	HFS8	23.5			
	25	22.0					

Part Number - L
HATLSN8-8 - 20

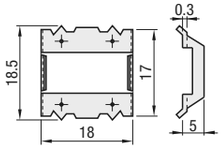
■Conductive Washers



RoHS

Ⓜ Material: EN 1.4301 Equiv.

HDW8



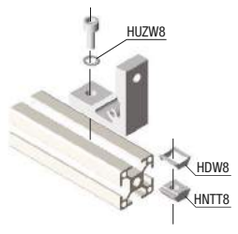
⚠ Be careful not to injure your hand when fitting onto nut.

Part Number Type	Applicable Pre-Assembly. Insertion Nut	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
HDW8	HNTT8		

Part Number
HDW8

Example

Electrical conductivity between extrusions is achieved by combining HDW and HUZW.



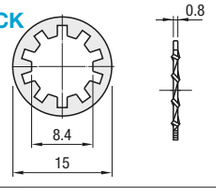
■Toothed Washers
(Internal Teeth Type)



RoHS

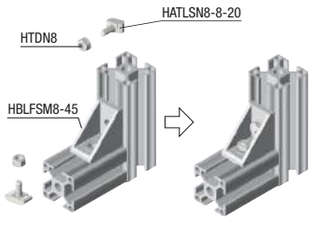
100 pcs. per package Ⓜ Material: EN 1.4301 Equiv.

HUZW8PACK



Part Number	Unit Price 1 ~ 4 pkg(s)	Volume Discount Rate 5~10
HUZW8PACK		

Part Number
HUZW8PACK



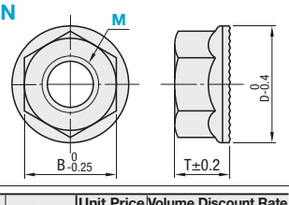
■Flanged Nuts

RoHS



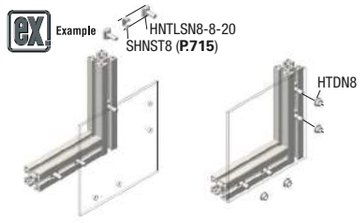
Ⓜ Material: EN 1.4301 Equiv.

HTDN



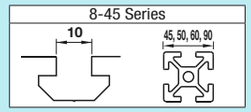
Part Number Type	M	B	T	D	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HTDN (Stainless Steel)	4	7	4.2	10			
	5	8	5.5	12			
	6	10	6.0	13			
	8	12	7.5	17			

Example



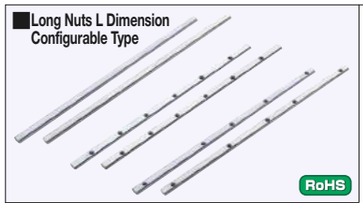
Ordering Example: Part Number
HTDN6

Long Nuts for Aluminum Extrusions
For 8-45 Series (Slot Width 10mm)



Tightening Torque P.526

■Long Nuts L Dimension Configurable Type

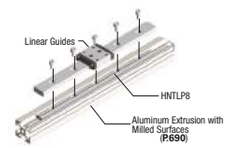


RoHS

Type Pre-Assembly	Type Post-Assembly	Ⓜ Material	Ⓢ Surface Treatment	Reference Tightening Torque (N·m)
HNTLF8	HNTALF8	EN 1.0301 Equiv.	Trivalent Chromate	23.5
HNTLP8	HNTALP8			
HNTLS8	HNTALS8			
SHNTLF8	-	EN 1.4305 Equiv.	-	
SHNTLP8	SHNTALP8			
SHNTLS8	SHNTALS8			

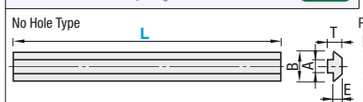
Cross Section Shape	A	B	E	T
Pre-Assembly	9.8	17	6	9
Post-Assembly	9.8	14.5	4.5	6.5

Example

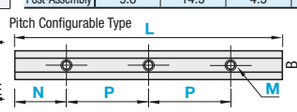


Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv., EN 1.4305 Equiv.
8	23.5

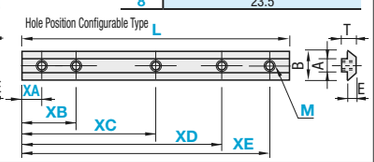
No Hole Type



Pitch Configurable Type



Hole Position Configurable Type



■No Hole Type

Part Number	L 1mm Increment	HNTLF Unit Price (Less than 300mm)	HNTLF Unit Price/m (300mm or More)	SHNTLF Unit Price (Less than 300mm)	SHNTLF Unit Price/m (300mm or More)	HNTALF Unit Price (Less than 300mm)	HNTALF Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLF8 SHNTLF8 (Post-Assembly Insertion) HNTALF8	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000						

■Pitch Configurable Type

Part Number	L 1mm Increment	M	N 1mm Increment	P 1mm Increment	Number of Taps S	HNTLP Unit Price (Less than 300mm)	HNTLP Unit Price/m (300mm or More)	SHNTLP Unit Price (Less than 300mm)	SHNTLP Unit Price/m (300mm or More)	HNTALP Unit Price (Less than 300mm)	HNTALP Unit Price/m (300mm or More)	SHNTALP Unit Price (Less than 300mm)	SHNTALP Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLP8 SHNTLP8 (Post-Assembly Insertion) HNTALP8 SHNTALP8	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	4 5 6 8	5≤N≤L-5	2M≤P≤L-2M	2≤S≤20								

■Hole Position Configurable Type

Part Number	L 1mm Increment	M	XA ~ XE 1mm Increment	HNTLS Unit Price (Less than 300mm)	HNTLS Unit Price/m (300mm or More)	SHNTLS Unit Price (Less than 300mm)	SHNTLS Unit Price/m (300mm or More)	HNTALS Unit Price (Less than 300mm)	HNTALS Unit Price/m (300mm or More)	SHNTALS Unit Price (Less than 300mm)	SHNTALS Unit Price/m (300mm or More)
(Pre-Assembly Insertion) HNTLS8 SHNTLS8 (Post-Assembly Insertion) HNTALS8 SHNTALS8	(Pre-Assembly Insertion) 50~2000 (Post-Assembly Insertion) 50~1000	4 5 6 8	5~L-5								

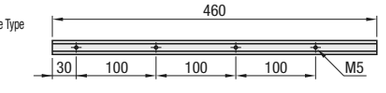
Number of tapped holes can be specified between 1 to 5.

Part Number - L
HNTLF8 - 1800
HNTALF8 - 400

Part Number - L - M - N - P - S
HNTLP8 - 460 - M5 - N30 - P100 - 4
HNTALP8 - 210 - M8 - N8 - P16 - 8

Part Number - L - M - XA - XB - XC - XD - XE
HNTLS8 - 1050 - M8 - XA20 - XB105
SHNTLS8 - 1050 - M8 - XA20 - XB105 - XC250 - XD500 - XE755
HNTALS8 - 1000 - M8 - XA25 - XB55 - XC78 - XD975 - XE992

(Ex.) Pitch Configurable Type



■Hole Machining Charge

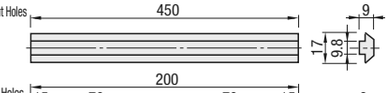
Pitch Configurable Type	Unit Price / Hole	Hole Position Configurable Type	Unit Price / Hole
HNTLP·HNTALP		HNTLS·HNTALS	
SHNTLP·SHNTALP		SHNTLS·SHNTALS	

■Long Nuts L Dimension Fixed Type

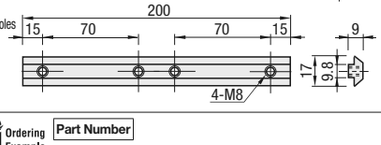


RoHS

L Dimension Fixed without Holes
HNTK8



L Dimension Fixed with Holes
HNTLG8
SHNTLG8



Reference Tightening Torque (N·m)	
M	EN 1.0301 Equiv., EN 1.4305 Equiv.
8	23.5

Type	Ⓜ Material	Ⓢ Surface Treatment
HNTK8	EN 1.0301 Equiv.	Trivalent Chromate
HNTLG8		
SHNTLG8	EN 1.4305 Equiv.	-

■L Dimension Fixed without Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTK8			

■L Dimension Fixed with Holes

Part Number	Unit Price 1 ~ 499 pc(s).	Volume Discount Rate 500~999	1000~1500
HNTLG8			
SHNTLG8 (Stainless Steel)			

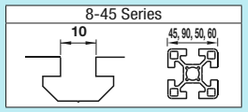
Ordering Example: Part Number
HNTLG8

Alterations: Part Number - (SET)
HNTLG8 - SET

Alteration	Code	Spec.	Type
Hex Socket Set Screw Set	SET	Hex socket set screws come as a set. Type: HNTLG / SHNTLG; Set Screw: MSSK / MSSU; Quantity: 4 / 4	HNTLG8 / SHNTLG8

Extrusion End Caps

For 8-45 Series (Slot Width 10mm) Aluminum Extrusions



■**Features:** Standard caps for protecting extrusion end faces. Alterations for Aluminum Extrusions not necessary.



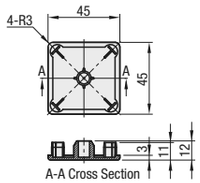


RoHS

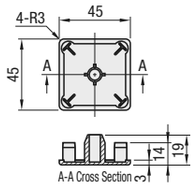
Type	Material
HFC	Polyamide
HFCL	Low Density Polyethylene

- Some products are not required to specify colors. In that case, color is black.
- The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.
- HFCL is not applicable to extrusions with Wrench Hole in Fixed Position (**P.761**), D Type Hole (**P.764**), or L Type Hole (**P.767**).

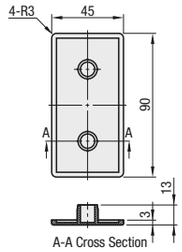
HFC8-4545



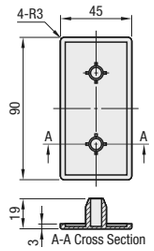
HFCL8-4545



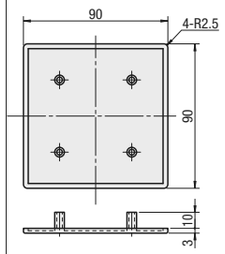
HFC8-4590



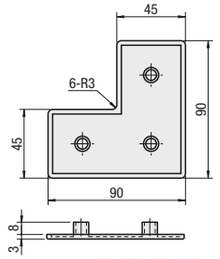
HFCL8-4590



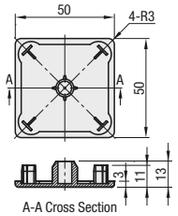
HFC8-9090



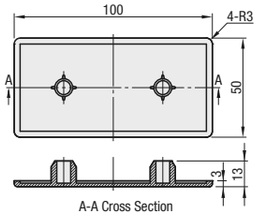
HFC8-909045



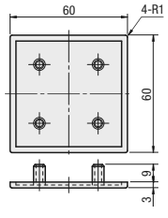
HFC8-5050



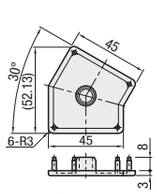
HFC8-50100



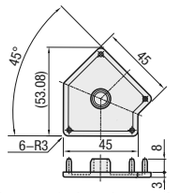
HFC6-8-6060



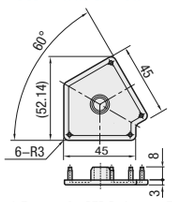
HFC30A8-45



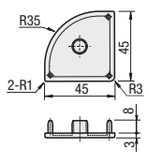
HFC45A8-45



HFC60A8-45



HFCR8-4545



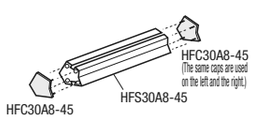
For Aluminum Extrusions other than GFS Series, the same extrusion end caps as of HFS Series can be used. For caps for GFS Series, see **P.734**.

Part Number		Color	Unit Price	Volume Discount Rate		Applicable Extrusion
Type	No.		1 ~ 14 pc(s).	15~19	20~200	
HFC8	4545	B (Black) S (Light Gray)				8-4545
	4590					8-4590
	9090					8-9090
	909045					8-909045
HFCL8	4545					8-4545
	4590					8-4590
HFC30A8-45						30A8-45
HFC45A8-45						45A8-45
HFC60A8-45						60A8-45
HFCR8-4545						8-909045
HFC8	5050					8-5050
	50100					8-50100
HFC6-8	6060					8-6060 (6-6060)

- HFC8-5050 cannot be used for 6-5050 extrusion.
- HFC6-8-6060 can be used for both 6-6060 and 8-6060.

Ordering Example: Part Number HFC30A8-45 - Color B

EX



When using Aluminum Extrusion HFS8-90180, please use 2 pieces of HFC8-9090.



■**Features:** Extrusion End Caps Screw Mounting Type. Requires no alteration and excels in safety.

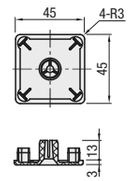
■**Screw Mounted**



RoHS

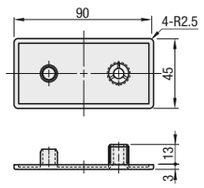
HFCB8-4545

(Screw Fixing Type)



HFCB8-4590

(Screw Fixing Type)



- The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.

Material: Polyamide (Black, Light Gray)

Part Number		Color	Unit Price	Volume Discount Rate		Applicable Extrusion *
Type	No.		1 ~ 14 pc(s).	15~19	20~500	
HFCB8	4545	B (Black) S (Light Gray)				8-4545
	4590					8-4590

* For Aluminum Extrusion EFS Series, the same extrusion end caps as of HFS Series can be used.

- Flat Head Screw is included for Screw Mount Type. (Black: HFBMB6-20, Light Gray: SHFBS6-20)

Ordering Example: Part Number HFCB8-4545 - Color B

EX Example

<Before Mounting>



<After Mounting>



- Tapping on extrusion is not required.

■**Features**: Extrusion End Caps only for High Rigidity Aluminum Extrusions. Alterations are required on the cross sections.

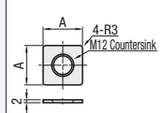
■**Plates for High Rigidity Type**



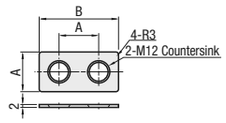
RoHS

HFCD8

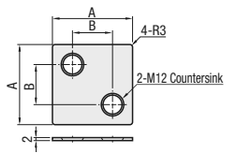
Shape AA



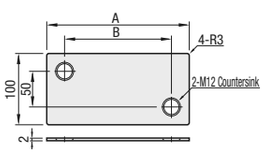
Shape BB



Shape AC



Shape AD



Material: EN 1.4301 Equiv.

Part Number		Shape	A	B	Applicable Screw	Applicable Extrusion	Unit Price	Volume Discount Rate
Type	No.						1 ~ 9 pc(s).	10~50
HFCD8	4545	AA	45	-	SHFBS12-20 (Not included)	GFS8-4545		
	4590	AB		90		GFS8-4590		
	5050	AA	50	-		GFS8-5050		
	50100	AB		100		GFS8-50100		
	6060	AA	60	-		GFS8-6060		
	9090	AC	90	45		GFS8-9090		
	100100		100	50		GFS8-100100		
	100200	AD	200	150		GFS8-100200		

Ordering Example: Part Number HFCD8-4545

- Special alteration is required on cross sections of extrusions to mount extrusion end caps. (**P.768**)

SLF Series Aluminum Extrusions - Overview

Aluminum Extrusions with No Slot Type

■Features of SLF Series

Point1

No Slot Type prevents dust from being collected in the slots. Best suited to prevent accumulation of foreign objects in aluminum extrusions.



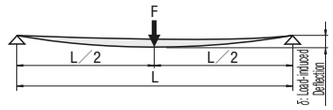
Point2

Various accessories for aluminum extrusions can be utilized by combining with Slot Type.



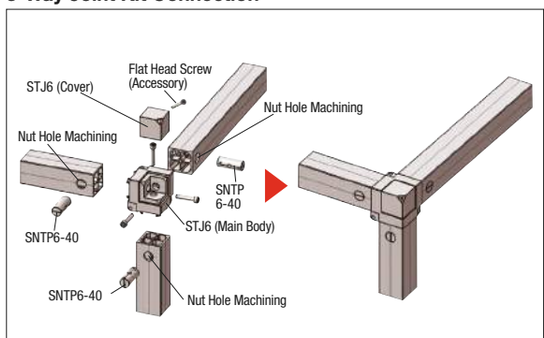
Point3

Lighter weight and excels in bending strength (Cross Sectional Moment of Inertia).
(See each product page for details.)

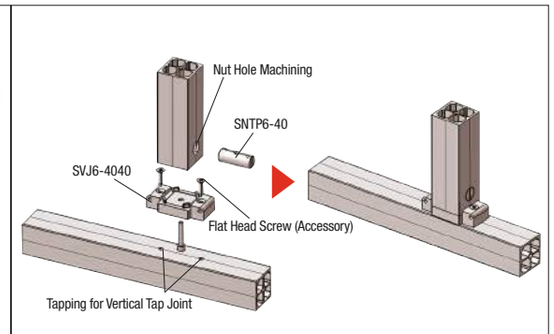


■Connection Methods (Joint Connection, Screw Connection)

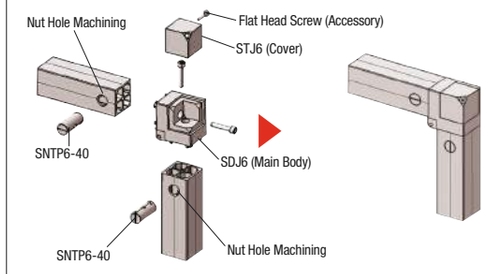
3-Way Joint Kit Connection



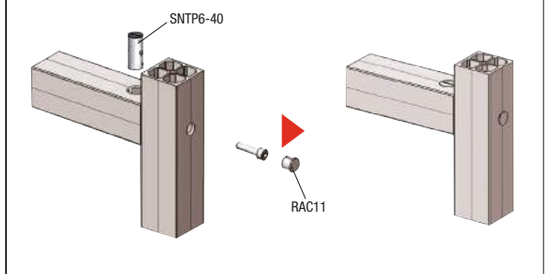
Vertical Joint Kit Connection



2-Way Joint Kit Connection

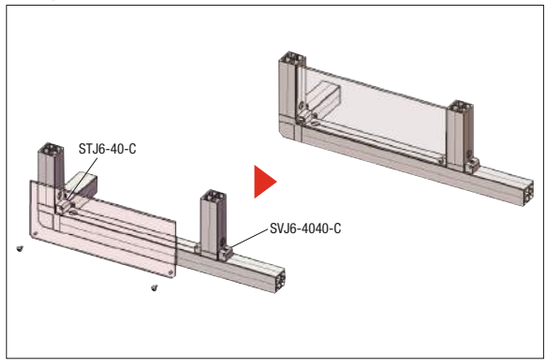


• Screw Connection



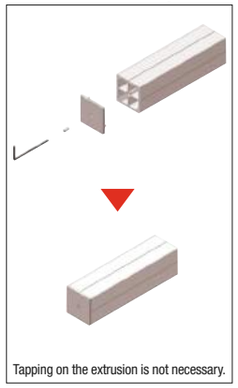
■Panel Mount Examples

Using Joint Kit



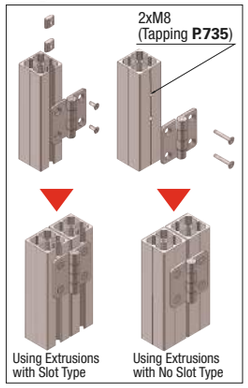
■App. Examples of Accessories

Extrusion End Caps



Tapping on the extrusion is not necessary.

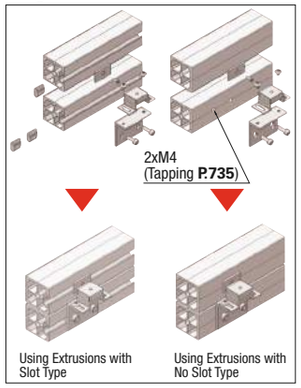
Hinges



Using Extrusions with Slot Type

Using Extrusions with No Slot Type

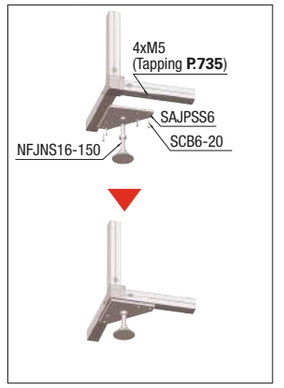
Magnetic Catches



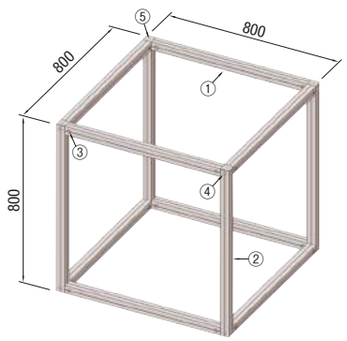
Using Extrusions with Slot Type

Using Extrusions with No Slot Type

Leveling Mounts, Casters

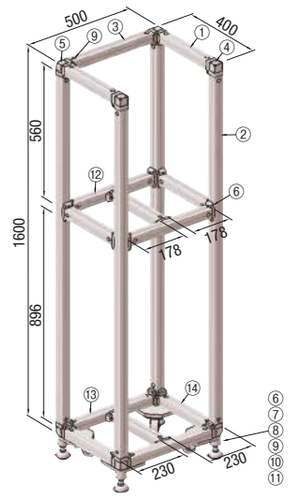


■Example 1



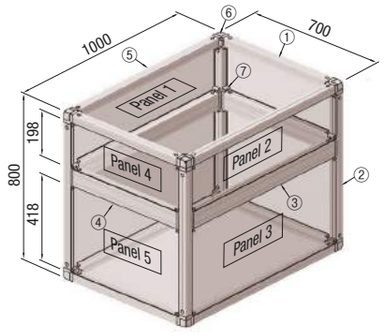
No.	Name	Part Number	Qty.	Page
①	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-720-NHW	8	727
②	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-797-Z6-AZX20-BZX780-AZY20-BZY780	4	727
③	Round Nut	SNTT6-40	16	730
④	Caps for Wrench Hole	RAC11	16	730
⑤	Extrusion End Caps	SLDC6-4040	4	730

■Example 2



No.	Name	Part Number	Qty.	Page
①	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-296-NHW	6	727
②	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-1496-NHW-SY916-SZ916	4	727
③	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-396-NHW	1	727
④	2-Way Joint Kits	SDJ6-40-SET	2	729
⑤	3-Way Joint Kits	STJ6-40-SET	6	729
⑥	Joint Kits Vertical Mount	SVJ6-4080	12	729
⑦	Plates for Casters & Leveling Mounts	SAJPCS6	4	731
⑧	Caster	CHJSS50A	4	1075
⑨	Adjuster	NFJNS16-150	4	1107
⑩	Hex Socket Head Cap Screw	SCB6-18	20	751
⑪	Hex Socket Head Cap Screw	SCB6-12	16	751
⑫	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-396-NHW-SY198	2	727
⑬	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-396-NHW-SZ198-T6-ATX48-BTX88-CTX308-DTX348	2	727
⑭	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-296-NHW-T6-ATX48-BTX88-CTX308-DTX348	2	727

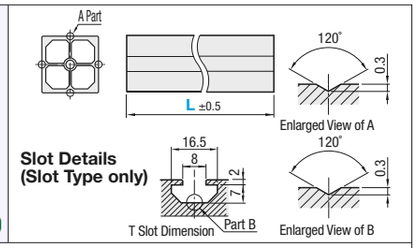
■Example 3



No.	Name	Part Number	Qty.	Page	Notes
①	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-596-NHW	4	727	
②	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-696-NHW-SXD458-SYD458	4	727	
③	Aluminum Extrusions SLF Series 40 Square	SLF6-4080-896-NVW	2	727	
④	Aluminum Extrusions SLF Series 40 Square	SLF6-4080-596-NVW	2	727	
⑤	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-896-NVW	4	727	
⑥	3-Way Joint Kits	STJ6-40-C-SET	8	729	
⑦	Joint Kits Vertical Mount	SVJ6-4080-C-SET	8	729	
⑧	Panel 1	PCTTA4H-918-618-3-F896-G596-N5	1	969	Polycarbonate Plate - Antistatic, Transparent
⑨	Panel 2	PCTTA4H-918-208-3-F896-G186-N5	2	969	Polycarbonate Plate - Antistatic, Transparent
⑩	Panel 3	PCTTA4H-918-428-3-F896-G406-N5	2	969	Polycarbonate Plate - Antistatic, Transparent
⑪	Panel 4	PCTTA4H-618-208-3-F596-G186-N5	2	969	Polycarbonate Plate - Antistatic, Transparent
⑫	Panel 5	PCTTA4H-618-428-3-F596-G406-N5	2	969	Polycarbonate Plate - Antistatic, Transparent
⑬	Phillips Truss Machine Screws	HCBM5-10	20	754	

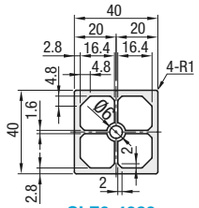
SLF Series 40, 80mm Square



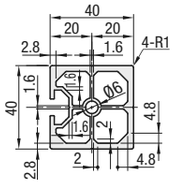


RoHS

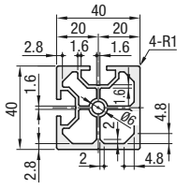
SLF6-4040



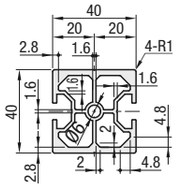
SLFC6-4040



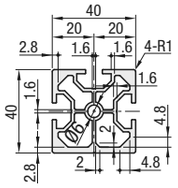
SLFT6-4040



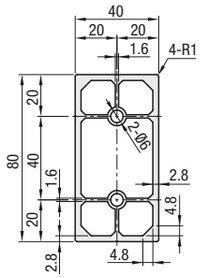
SLFH6-4040



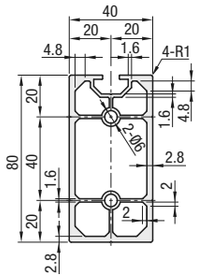
SLFF6-4040



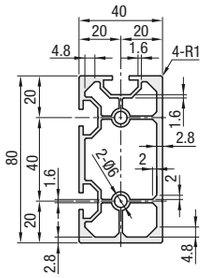
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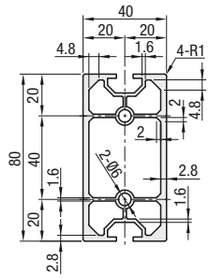
SLFC6-4080



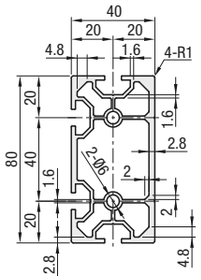
SLFT6-4080



SLFH6-4080



SLFF6-4080



Material: EN AW-6063-T5 Equiv.

Surface Treatment: Clear Anodize

Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
SLF6	4040	50~4000	1.61	595	11.54x10⁴	11.54x10⁴						
SLFC6	4040	50~4000	1.60	592	10.88x10⁴	11.68x10⁴						
SLFT6	4040	50~4000	1.60	591	11.03x10⁴	11.03x10⁴						
SLFH6	4040	50~4000	1.60	591	10.26x10⁴	11.82x10⁴						
SLFF6	4040	50~4000	1.59	589	10.40x10⁴	11.18x10⁴						
SLF6	4080	50~4000	2.44	902	20.07x10⁴	70.10x10⁴						
SLFC6	4080	50~4000	2.43	901	20.22x10⁴	68.47x10⁴						
SLFT6	4080	50~4000	2.42	897	18.92x10⁴	68.63x10⁴						
SLFH6	4080	50~4000	2.43	899	20.37x10⁴	66.86x10⁴						
SLFF6	4080	50~4000	2.42	896	19.06x10⁴	67.02x10⁴						

For orders larger than indicated quantity, please check with WOS.

Fixed Length Extrusion (Effective Length 4000mm ☞ P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KSLF6	4040	4000 (Effective Length)	1.61	595	11.54x10⁴	11.54x10⁴		
KSLFC6	4040	4000 (Effective Length)	1.60	592	10.88x10⁴	11.68x10⁴		
KSLFT6	4040	4000 (Effective Length)	1.60	591	11.03x10⁴	11.03x10⁴		
KSLFH6	4040	4000 (Effective Length)	1.60	591	10.26x10⁴	11.82x10⁴		
KSLFF6	4040	4000 (Effective Length)	1.59	589	10.40x10⁴	11.18x10⁴		
KSLF6	4080	4000 (Effective Length)	2.44	902	20.07x10⁴	70.10x10⁴		
KSLFC6	4080	4000 (Effective Length)	2.43	901	20.22x10⁴	68.47x10⁴		
KSLFT6	4080	4000 (Effective Length)	2.42	897	18.92x10⁴	68.63x10⁴		
KSLFH6	4080	4000 (Effective Length)	2.43	899	20.37x10⁴	66.86x10⁴		
KSLFF6	4080	4000 (Effective Length)	2.42	896	19.06x10⁴	67.02x10⁴		

Part Number - L

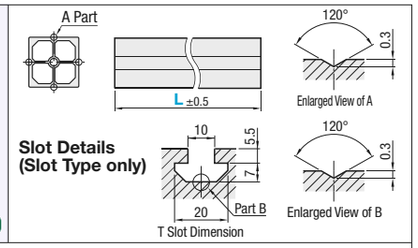
SLF6-4040 - 800

KSLF6-4040 - 4000

Alterations: Alterations are required for connecting two extrusions. For details of alterations, see P.733~736.

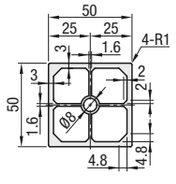
SLF Series 50, 100mm Square



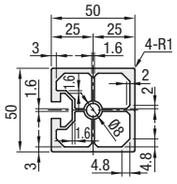


RoHS

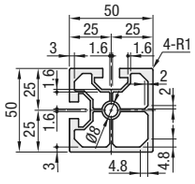
SLF8-5050



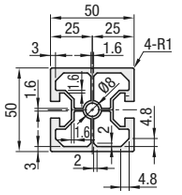
SLFC8-5050



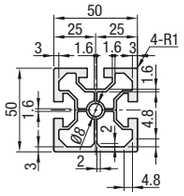
SLFT8-5050



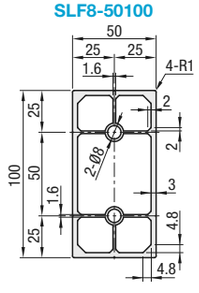
SLFH8-5050



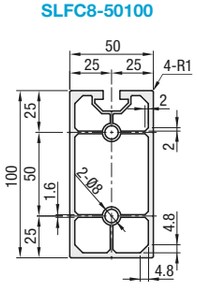
SLFF8-5050



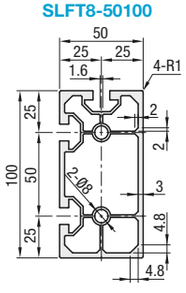
SLF8-50100



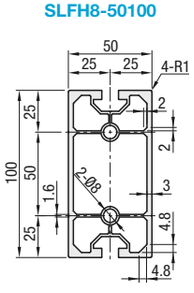
SLFC8-50100



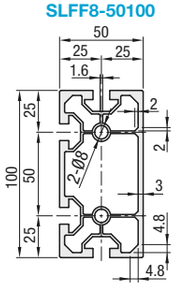
SLFT8-50100



SLFH8-50100



SLFF8-50100



Material: EN AW-6063-T5 Equiv.

Surface Treatment: Clear Anodize

Configurable Length Extrusions

Part Number		L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price (Less than 300mm) 1 ~ 9 pc(s).	Volume Discount Rate Less Than 300mm 10~49	Volume Discount Rate Less Than 300mm 50~160	Unit Price/m (300mm or More) 1 ~ 9 pc(s).	Volume Discount Rate 300mm or More 10~49	Volume Discount Rate 300mm or More 50~160
SLF8	5050	50~4000	2.09	776	24.25x10⁴	24.25x10⁴						
SLFC8	5050	50~4000	2.18	808	24.34x10⁴	24.76x10⁴						
SLFT8	5050	50~4000	2.27	840	24.86x10⁴	24.86x10⁴						
SLFH8	5050	50~4000	2.27	840	24.47x10⁴	25.27x10⁴						
SLFF8	5050	50~4000	2.36	873	25.37x10⁴	24.98x10⁴						
SLF8	50100	50~4000	3.36	1243	42.34x10⁴	145.2x10⁴						
SLFC8	50100	50~4000	3.26	1208	42.80x10⁴	147.3x10⁴						
SLFT8	50100	50~4000	3.44	1275	43.02x10⁴	152.8x10⁴						
SLFH8	50100	50~4000	3.36	1243	43.33x10⁴	151.6x10⁴						
SLFF8	50100	50~4000	3.53	1306	43.52x10⁴	156.5x10⁴						

Fixed Length Extrusion (Effective Length 4000mm ☞ P.526)

Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number		L mm	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	Cross Sectional Moment of Inertia mm⁴ ℓy	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~20
KSLF8	5050	4000 (Effective Length)	2.09	776	24.25x10⁴	24.25x10⁴		
KSLFC8	5050	4000 (Effective Length)	2.18	808	24.34x10⁴	24.76x10⁴		
KSLFT8	5050	4000 (Effective Length)	2.27	840	24.86x10⁴	24.86x10⁴		
KSLFH8	5050	4000 (Effective Length)	2.27	840	24.47x10⁴	25.27x10⁴		
KSLFF8	5050	4000 (Effective Length)	2.36	873	25.37x10⁴	24.98x10⁴		
KSLF8	50100	4000 (Effective Length)	3.36	1243	42.34x10⁴	145.2x10⁴		
KSLFC8	50100	4000 (Effective Length)	3.26	1208	42.80x10⁴	147.3x10⁴		
KSLFT8	50100	4000 (Effective Length)	3.44	1275	43.02x10⁴	152.8x10⁴		
KSLFH8	50100	4000 (Effective Length)	3.36	1243	43.33x10⁴	151.6x10⁴		
KSLFF8	50100	4000 (Effective Length)	3.53	1306	43.52x10⁴	156.5x10⁴		

Part Number - L

SLF8-5050 - 800

KSLF8-5050 - 4000

Alterations: Alterations are required for connecting two extrusions. For details of alterations, see P.733~736.

Joint Kits - for SLF Series

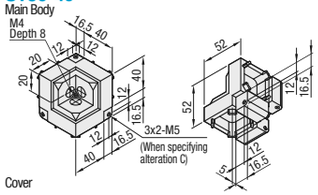
■Joint Kits



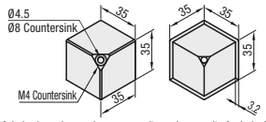
RoHS

Three-Way Type
STJ6-40

Main Body

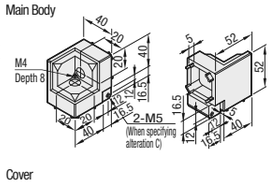


Cover

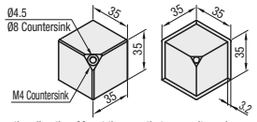


Two-Way Type
SDJ6-40

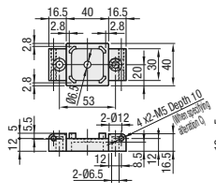
Main Body



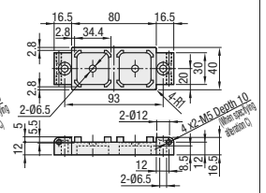
Cover



Vertical Mount
SVJ6-4040



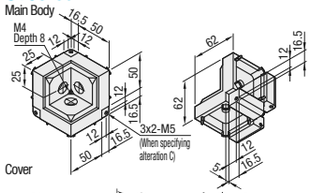
SVJ6-4080



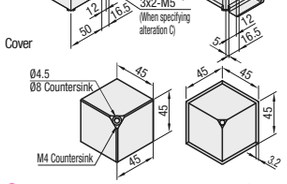
Main body and cover have concavity and convexity for indexing mounting direction. Mount them so that concavity and convexity on them may engage each other.

STJ8-50

Main Body

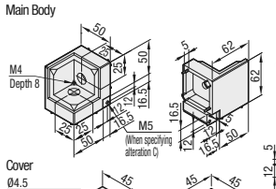


Cover

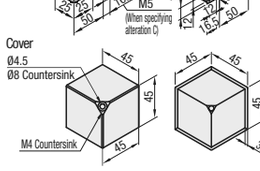


SDJ8-50

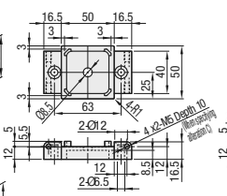
Main Body



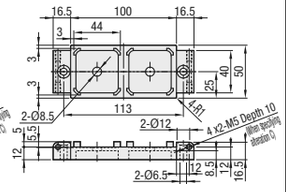
Cover



SVJ8-5050



SVJ8-50100



Main body and cover have concavity and convexity for indexing mounting direction. Mount them so that concavity and convexity on them may engage each other.

Type	Material			
	Main Body & Cover	Flat Head Screw	Round Nut	Hex Socket Head Cap Screw
STJ	EN AC-46100 Equiv.	EN 1.4301 Equiv.	-	-
SDJ	EN AC-46100 Equiv.	EN 1.4301 Equiv.	-	-
SVJ	EN AC-46100 Equiv.	EN 1.4301 Equiv.	EN 1.4301 Equiv.	EN 1.4301 Equiv.

■Three-Way Type & Two-Way Type

Part Number	Accessory (except for Main Body and Cover)		Applicable Nut		Unit Price	Volume Discount Rate
	Flat Head Screw for Cover Mounting	Quantity	Nut	Quantity	1~99 pc(s).	100~200
STJ6-40 (Three-Way Type)	SHFBS4-45	1	SNTT6-40	3		
STJ8-50 (Three-Way Type)	SHFBS4-60	1	SNTT8-50	3		
SDJ6-40 (Two-Way Type)	SHFBS4-45	1	SNTT6-40	2		
SDJ8-50 (Two-Way Type)	SHFBS4-60	1	SNTT8-50	2		

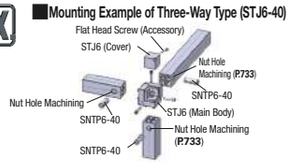
Applicable nuts are not included. See **P.730**.

■Vertical Mount

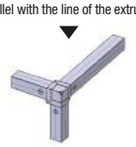
Part Number	Accessory (except for Main Body and Cover)						Unit Price	Volume Discount Rate
	Round Nut	Quantity	Hex Socket Head Cap Screw	Quantity	Flat Head Screw	Quantity	1~99 pc(s).	100~200
SVJ6-4040	SNTT6-40	1	SCB6-35	1	SFB6-25	2		
SVJ6-4080	SNTT6-80	1	SCB6-35	2	SFB6-25	2		
SVJ8-5050	SNTT8-50	1	SCB8-35	1	SFB6-25	2		
SVJ8-50100	SNTT8-100	1	SCB8-35	2	SFB6-25	2		

Ordering Example — Part Number: STJ6-40, SDJ8-50, SVJ8-5050

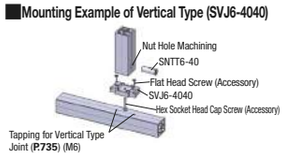
■Mounting Example of Three-Way Type (STJ6-40)



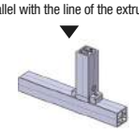
Insert nut so that the line on the side of nut may be in parallel with the line of the extrusion.



■Mounting Example of Vertical Type (SVJ6-4040)



Insert nut so that the line on the side of nut may be in parallel with the line of the extrusion.



Alterations — Part Number: STJ6-40 - (C, SEP, SEG, SET, SES) C

Alterations	Code	Spec.
Mounting Hole Alteration for Cover	C	Adds taps on the joint body for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting Screw ☞ **P.753** HCBM)

Alterations	Code	Spec.	Applicable Joint
Applicable Screws and Nuts Set	SEP, SEG, SET, SES	Supplies a set of applicable nuts for fixing the three-way type or two-way type joint to a extrusion. (Adds the unit price to the joint price.) (Screws are included with nuts.)	STJ6-40, SDJ6-40, STJ8-50, SDJ8-50

Code	Nut	Screw
SEP	SNTP	SCB
SEG	SNTG	
SET	SNTT	
SES	SNTTS	

For sizes and quantities of nuts and screws, refer to Applicable Screw and Nut in the price list.

Alterations	Code	Spec.	Applicable Joint
Changes Included Screw and Nut	SEP, SEG, SES	Changes the nuts and screws included with Vertical Type Joint. (Adds the unit price to the joint price.)	SVJ6-4040, SVJ6-4080, SVJ8-5050, SVJ8-50100

Code	Nut	Screw
SEP	SNTP	SCB8-20
SEG	SNTG	
SES	SNTTS	

For sizes and quantities of nuts and screws, refer to Accessory in the price list.

Nuts and Extrusion End Caps - for SLF Series

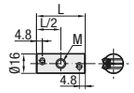
■Plunger Type

RoHS

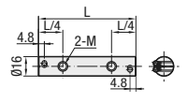


Material		
Main Body & Ball	Spring	Hex Socket Head Cap Screw
EN 1.4301 Equiv.	SUS304-WP8	EN 1.4301 Equiv.

SNTP6-40
SNTP8-50



SNTP6-80
SNTP8-100



A built-in plunger enables easy positioning within the extrusion.

Part Number	Accessory		M	L	Unit Price	Volume Discount Rate
	Hex Socket Head Cap Screw	Quantity			1~99 pc(s).	100~200
SNTP6-40	SCB6-35	1	6	40		
SNTP8-50	SCB8-35	1	8	50		
SNTP6-80	SCB6-35	2	6	80		
SNTP8-100	SCB8-35	2	8	100		

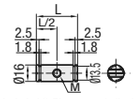
■O-Ring Type

RoHS

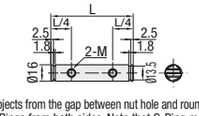


Material		
Main Body	O-Ring	Hex Socket Head Cap Screw
EN 1.4301 Equiv.	Silicon Rubber	EN 1.4301 Equiv.

SNTG6-40
SNTG8-50



SNTG6-80
SNTG8-100



Included O-Ring prevents the intrusion of foreign objects from the gap between nut hole and round nut.
Insert a nut into the extrusion and mount O-Rings from both sides. Note that O-Rings may be cut in the extrusion if mounted primarily.

Part Number	Accessory			M	L	Unit Price	Volume Discount Rate
	Hex Socket Head Cap Screw	Quantity	O-Ring			1~99 pc(s).	100~200
SNTG6-40	SCB6-35	1	NSSW14	6	40		
SNTG8-50	SCB8-35	1	NSSW14	8	50		
SNTG6-80	SCB6-35	2	NSSW14	6	80		
SNTG8-100	SCB8-35	2	NSSW14	8	100		

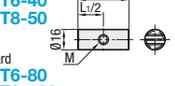
■Standard

RoHS

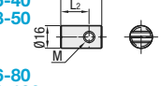


Material	
Main Body	Hex Socket Head Cap Screw
EN 1.4301 Equiv.	EN 1.4301 Equiv.

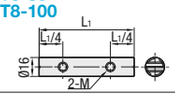
Standard
SNTT6-40
SNTT8-50



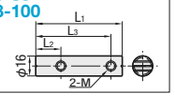
Short
SNTTS6-40
SNTTS8-50



Standard
SNTT6-80
SNTT8-100



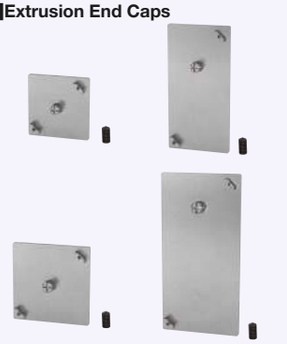
Short
SNTTS6-80
SNTTS8-100



Part Number	Accessory		M	L_1	L_2	L_3	Unit Price	Volume Discount Rate
	Hex Socket Head Cap Screw	Quantity					1~99 pc(s).	100~200
SNTT6-40	SCB6-35	1	6	40	-	-		
SNTT8-50	SCB8-35	1	8	50	-	-		
SNTT6-80	SCB6-35	2	6	80	-	-		
SNTT8-100	SCB8-35	2	8	100	-	-		
SNTTS6-40	SCB6-35	1	6	29	20	-		
SNTTS8-50	SCB8-35	1	8	35	25	-		
SNTTS6-80	SCB6-35	2	6	69	20	60		
SNTTS8-100	SCB8-35	2	8	85	25	75		

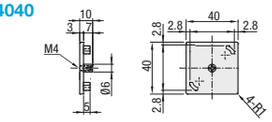
Ordering Example — Part Number: SNTP6-40

■Extrusion End Caps

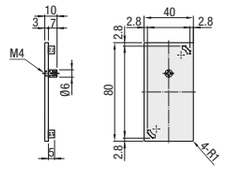


RoHS

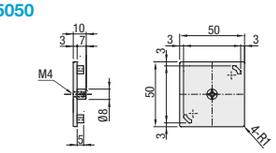
SLDC6-4040



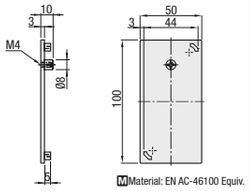
SLDC6-4080



SLDC8-5050



SLDC8-50100



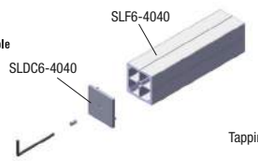
Material: EN AC-46100 Equiv.

Set screws (MSSFS4-8) are included with Extrusion End Cap.

Part Number	Unit Price	Volume Discount Rate
	1~99 pc(s).	100~200
SLDC6-4040		
SLDC6-4080		
SLDC8-5050		
SLDC8-50100		

Ordering Example — Part Number: SLDC6-4040, SLDC8-50100

Example



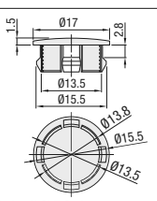
Tapping on the extrusion is not necessary.

■Caps for Wrench Hole

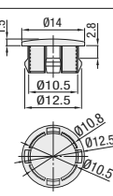
RoHS



RAC14



RAC11



Applicable to all SLF Series.

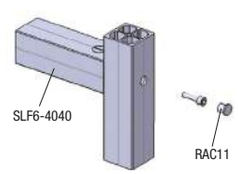
Material: Polyamide

30 pcs./pkg.

Part Number		Unit Price	Volume Discount Rate
Type	No.	1 ~ 2 pkg(s).	3 ~ 10 packages
RAC	14		
	11		

Ordering Example — Part Number: RAC14

Example

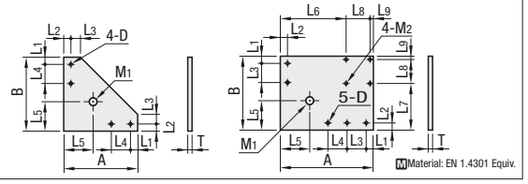


■Plates for Footings



Side surfaces polished. RoHS

①SAJPSS6, 8 ②SAJPCS6, 8



Material: EN 1.4301 Equiv.

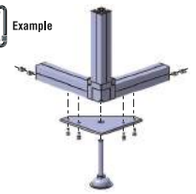
Part Number Type	No.	A	B	T	M1	M2	D	L1	L2	L3	L4	L5	L6	L7	L8	L9	Mass kg	Unit Price 1 ~ 8 pc(s).	Volume Discount Rate 9~50
SAJPSS	6	155	155	8	16	-	7	15	15	20	40	62	-	-	-	-	1.03		
	8	175	175			-	9		20	25	50	72	-	-	-	-	1.23		
SAJPCS	6	195	155			6	7		15	40	40	62	138	98	50	7	2.1		
	8	225	175				9		20	50	50	72	168	118			2.5		

Part Number Type	No.	APPLICABLE EXTRUSION	Applicable Parts: Leveling Mount	Caster Mounting: Main Body	Caster Mounting: Screw	Caster Mounting: Quantity	Extrusion Slot Mounting: Screw	Extrusion Slot Mounting: Quantity	Extrusion Slot Mounting: Nut	Extrusion Slot Mounting: Quantity	* No-Slot Extrusion Mounting: Screw	* No-Slot Extrusion Mounting: Quantity
SAJPSS	6	40 Square	FJFNS16-150	-	-	-	SCB6-15	4	HNTTSN6-6	4	SCB6-18	4
	8	50 Square					SCB8-20		HNTTSN8-8		SCB8-18	
SAJPCS	6	40 Square		CHJFS50A	SCB6-12	4	SCB6-15	5	HNTTSN6-6	5	SCB6-18	5
	8	50 Square					SCB8-20		HNTTSN8-8		SCB8-18	

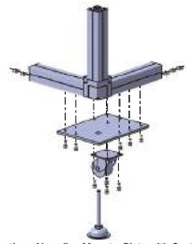
Applicable parts are not assembled with the plate.
* Tapping alteration is required for mounting on no-slot extrusions. (Details P.735).
Nuts and screws listed in the table are examples; other types are also available.
Extrusion will protrude 5mm from the plate when mounted.

Ordering Example: Part Number SAJPSS6

Example



Mounting of Leveling Mount (Mounting by using nuts into slots)



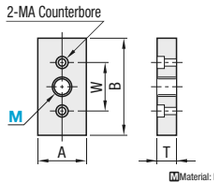
Mounting of Leveling Mount + Plate with Caster (Mounting by using nuts into slots)

■Foot Base



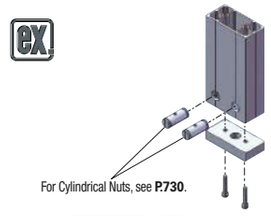
RoHS

SLFS4080
SLFS50100



All surface polished. Material: EN 1.4301 Equiv.

Part Number	M	A	B	W	T	Counterbore MA	Applicable Extrusion	Applicable Screw: Screw	Applicable Screw: Quantity	Unit Price 1 ~ 8 pc(s).	Volume Discount Rate 9~50
SLFS4080	16	40	80	40	16	6	SLF6-4080	SCB6-35	2		
SLFS50100		50	100	50		8	SLF8-50100	SCB8-35	2		



For Cylindrical Nuts, see P.730.

Use Cylindrical Nuts (P.730) to mount Foot Bases for SLF Series. For nut hole machining, see Nut Hole Machining in Fixed Position (P.733).

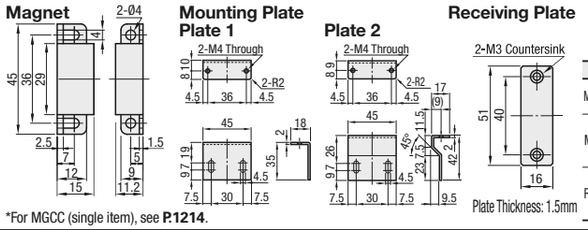
Part Number - M
SLFS4080 - 16

■Magnetic Catch Set



RoHS

SMGCC



*For MGCC (single item), see P.1214.

Part		Material
Magnetic Catches	Housing	Polyacetal
	Magnet	Neodymium Iron Boron Magnet
Mounting Plate	Plate	EN 1.4301 Equiv.
	Plate Mounting Screw	EN 1.4301 Equiv.
	Magnet Mounting Screw	EN 1.4301 Equiv.
Receiving Plate	Plate	EN 1.4016 Equiv.
	Receiving Plate Mounting Screw	EN 1.4301 Equiv.
	Acorn Nut	EN 1.4301 Equiv.

Part Number Type	No.	MAGNET	Applicable Extrusion: Extrusion	Applicable Extrusion: Door	Retaining Force N (kgf)	Components (Accessory): Extrusion: Mounting Plate	Extrusion: Plate Mounting Screw: Size	Extrusion: Plate Mounting Screw: Quantity	Extrusion: Magnet Mounting Screw	Extrusion: Magnet Mounting Screw: Quantity	Door: Receiving Plate: Plate	Door: Receiving Plate: Mounting Screw	Door: Receiving Plate: Acorn Nut	Unit Price 1 ~ 4 pc(s).	Volume Discount Rate 5~20
SMGCC	4040	1 (MGCC1: Black)	SLF□6-4040	SLF□6-4040	MGCC1(1.0)	Plate 1	M4x10	2	M4x4	2	Receiving Plate	M3x10	2		
	4050	2 (MGCC2: Gray)	SLF□8-5050	SLF□6-4040	MGCC2(1.4)	Plate 2	M4x15								
	5050	3 (MGCC3: White)	SLF□8-5050	SLF□8-5050	MGCC3(2.0)	Plate 1	M4x15								

Use SHNTE8-3 (P.670) to mount a receiving plate on 50 sq. slotted extrusions. Use Acorn Nuts for panel doors.

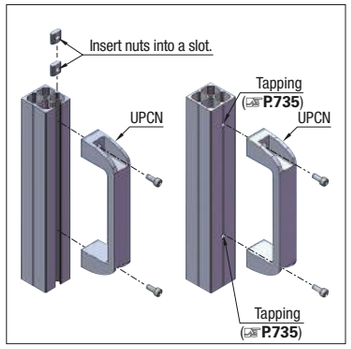
Part Number - Magnet
SMGCC4040 - 1

■About Mounting Accessories for SLF Series

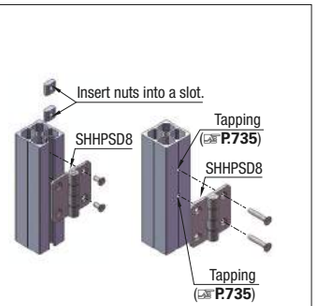
Accessories for SLF Series are for slot mounting.
Tapping alteration is required for mounting without using slots. (Details P.735)

	How to Mount Accessory	Applicable Extrusion		Applicable Accessory	Page
Slot Type	As same as existing HFS and EFS Series, insert nuts into slots and fix accessories with screws.	SLF6 Series Applicable Nut: 6 Series (P.617~)	SLFF6-4040, 4080 (Three-Side Slots) SLFT6-4040, 4080 (Two-Side Slots) SLFH6-4040, 4080 (Slots on Opposite Sides) SLFC6-4040, 4080 (One-Side Slot)	Handle	P.825~830
				Hinges	P.805~814
		SLF8 Series Applicable Nut: 8 Series (P.667~)	SLFF8-5050, 50100 (Three-Side Slots) SLFT8-5050, 50100 (Two-Side Slots) SLFH8-5050, 50100 (Slots on Opposite Sides) SLFC8-5050, 50100 (One-Side Slot)	Magnetic Catches	P.815~820
				Casters and Leveling Mounts	P.811~846
No Slot Type	Machine taps on no-slot sides. Mount accessories on the extrusion directly with screws. For tapping alterations, see P.735. Specify tapping alterations after confirming the hole position and diameter of the mounting accessory.	SLF6 Series	SLF6-4040, 4080 (No Slot Type) This is also applicable when mounting on a no-slot side of the Slot Type.	Handle	P.825~830
				Hinges	P.805~814
		SLF8 Series	SLF8-5050, 50100 (No Slot Type) This is also applicable when mounting on a no-slot side of the Slot Type.	Magnetic Catches	P.815~820
				Casters and Leveling Mounts	P.811~846

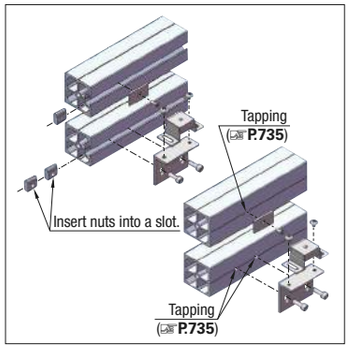
Handle Mounting Example



Hinge Mounting Example



Magnetic Catch Mounting Example



■Stainless Steel and Aluminum Resin Accessories for SLF Series

Accessory	Part Number				Material	Page	Applicable Extrusion
Handle	UWANSS UHFNSS	110			EN 1.4301 Equiv.	P.825	All SLF Series
		120					
		125					
		160					
		200					
		250					
	UPCN	19	B	36	Glass Fiber Reinforced Nylon 6	P.1184	
			W	51			
		21	M	36			
			R	51			
		26	G	41			
				57			
		27		45			
				63			
		28		52			
				50			
				71			
Hinges	SHHPSD	8		2	EN 1.4301 Equiv.	P.1197	SLF6 Series (40 Square)
				3			
		845		2			SLF6 Series (40 Square), SLF8 Series (50 Square)
				3			
	SHHPSL SHHPSR SHHPSLC SHHPSRC	8		2		P.1207	SLF6 Series (40 Square)
				3			
		845		2			SLF6 Series (40 Square), SLF8 Series (50 Square)
				3			
Magnetic Catch Set	SMGCC	4040		1 (MGCC1: Black)	-	P.731	Extrusion: SLF□6-4040, Door: SLF□6-4040
		4050		2 (MGCC2: Gray)			Extrusion: SLF□8-5050, Door: SLF□6-4040
		5050		3 (MGCC3: White)			Extrusion: SLF□8-5050, Door: SLF□8-5050

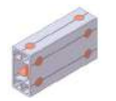
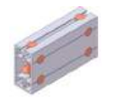
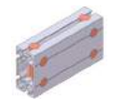
Accessories for SLF Series listed in the table above are for reference; other types are also available.
For details of accessories, see each listed page.

Alterations for SLF Series

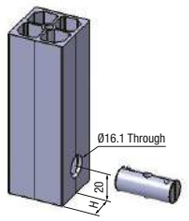
Nut Hole Machining

■Alterations are required for connecting two extrusions of SLF Series.
■See below for the standardization of right/left-hand end face and horizontal/vertical positions.

Square				
SLF6-4040/SLF8-5050	SLFC6-4040/SLFC8-5050	SLFT6-4040/SLFT8-5050	SLFH6-4040/SLFH8-5050	SLFF6-4040/SLFF8-5050
				

Rectangle				
SLF6-4080/SLF8-50100	SLFC6-4080/SLFC8-50100	SLFT6-4080/SLFT8-50100	SLFH6-4080/SLFH8-50100	SLFF6-4080/SLFF8-50100
				

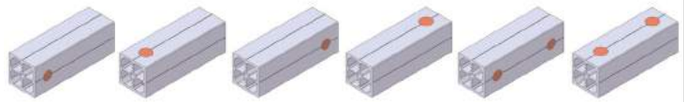
■Nut Hole Machining in Fixed Position

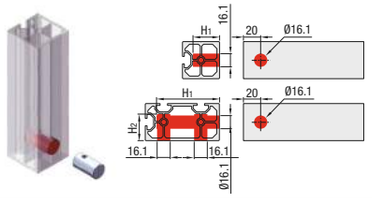


Extrusion Series	H(mm)
SLF□6-40□□	20
SLF□8-50□□	25

Nut hole machining for 3-Way/2-Way Joint Kit connections and screw connections.

Left-hand Side Horizontal	Left-hand Side Vertical	Right-hand Side Horizontal	Right-hand Side Vertical	Both Sides Horizontal	Both Sides Vertical
LNH	LNV	RNH	RNV	NHW	NVW





Extrusion Series	H_1(mm)	H_2(mm)
SLF□6-4040	29	-
SLF□6-4080	69	29
SLF□8-5050	35	-
SLF□8-50100	85	35

When using Short Nuts (SNTTS) with Extrusions with Slot Type, nut holes not going through the slots can be provided.

Left-hand Side Horizontal	Left-hand Side Vertical	Right-hand Side Horizontal	Right-hand Side Vertical	Both Sides Horizontal	Both Sides Vertical
LSH	LSV	RSH	RSV	SHW	SVW

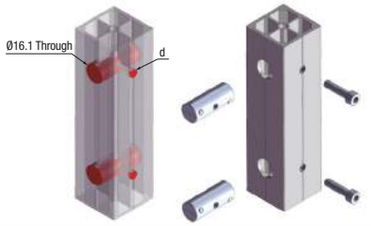


Ordering Example: Part Number - L
SLF6-4040 - 2000 - NHW

Type		Nut Hole Machining (Fixed Position)					
		Left-hand Side Horizontal	Left-hand Side Vertical	Right-hand Side Horizontal	Right-hand Side Vertical	Both Sides Horizontal	Both Sides Vertical
		LNH	LNV	RNH	RNV	NHW	NVW
SLF6	4040						
SLFC6							
SLFT6							
SLFH6							
SLFF6							
SLF6	4080						
SLFC6							
SLFT6							
SLFH6							
SLFF6							
SLF8	5050						
SLFC8							
SLFT8							
SLFH8							
SLFF8							
SLF8	50100						
SLFC8							
SLFT8							
SLFH8							
SLFF8							

Type		Short Nut Hole Machining (Fixed Position)					
		Left-hand Side Horizontal	Left-hand Side Vertical	Right-hand Side Horizontal	Right-hand Side Vertical	Both Sides Horizontal	Both Sides Vertical
		LSH	LSV	RSH	RSV	SHW	SVW
SLF6	4040	-	-	-	-	-	-
SLFC6			-		-		-
SLFT6							
SLFH6		-	-	-	-	-	-
SLFF6		-		-		-	
SLF6	4080	-	-	-	-	-	-
SLFC6		-		-		-	
SLFT6							
SLFH6		-	-	-	-	-	-
SLFF6			-		-		-
SLF8	5050	-	-	-	-	-	-
SLFC8			-		-		-
SLFT8							
SLFH8		-	-	-	-	-	-
SLFF8		-		-		-	
SLF8	50100	-	-	-	-	-	-
SLFC8		-		-		-	
SLFT8							
SLFH8		-	-	-	-	-	-
SLFF8			-		-		-

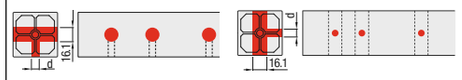
■Position Specification: Nut/Screw Hole Machining



Nut/screw hole machining is provided at specified positions.
Hole positions are specifiable up to 5.

Horizontal
AH, BH, CH, DH, EH

Vertical
AV, BV, CV, DV, EV



*For standardized positions and machining directions, see figures on **P.733**.

Specifications of Hole Size and Position

Extrusion Series	d (mm)
SLF□6-4040	6.5
SLF□6-4080	6.5
SLF□8-5050	9
SLF□8-50100	9

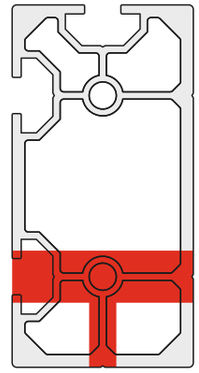
Ordering Example: Part Number - L
SLF6-4040 - 2000 - AH50 - BH600

Type		Nut Hole Machining (Specified Position)	
		Horizontal	Vertical
		AH~EH	AV~EV
SLF6	4040		
SLFC6			
SLFT6			
SLFH6			
SLFF6			
SLF6	4080		
SLFC6			
SLFT6			
SLFH6			
SLFF6			
SLF8	5050		
SLFC8			
SLFT8			
SLFH8			
SLFF8			
SLF8	50100		
SLFC8			
SLFT8			
SLFH8			
SLFF8			

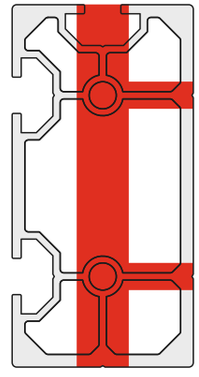
Example



■Nut holes go through the extrusion when specified at slot direction for Slot Type.



■Machining is provided at a bottom slot only when horizontal nut hole machining is specified for the rectangular extrusions.

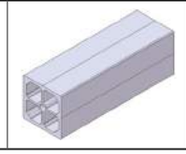
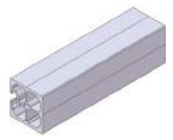
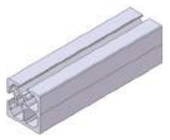


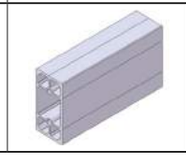
■2 screw holes are provided when vertical nut hole machining is specified for the rectangular extrusions.

Alterations for SLF Series

Tapping for Vertical Type Joints / Counterbores in Specified Position / Tapping in Specified Position

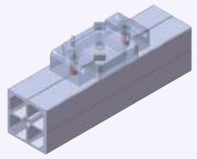
■**Alterations are required for connecting two extrusions of SLF Series.**
■**See below for the standardization of right/left-hand end face and horizontal/vertical positions.**

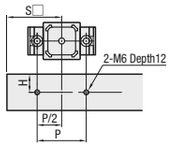
Square					
Machined Surface	SLF6-4040/SLF8-5050	SLFC6-4040/SLFC8-5050	SLFT6-4040/SLFT8-5050	SLFH6-4040/SLFH8-5050	SLFF6-4040/SLFF8-5050
Z Plane / Y Plane / Q Plane / X Plane					

Rectangle					
Machined Surface	SLF6-4080/SLF8-50100	SLFC6-4080/SLFC8-50100	SLFT6-4080/SLFT8-50100	SLHH6-4080/SLHH8-50100	SLFF6-4040/SLFF8-50100
Z Plane / Y Plane / Q Plane / X Plane					

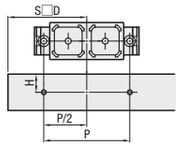
■Tapping for Vertical Type Joints

Tapping for Vertical Type Joint is provided at specified positions.

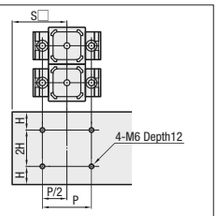




Alteration Code	Applicable Joint	H (mm)	P (mm)
SX, SY	SVJ6-4040	20	53
SZ, SQ	SVJ8-5050	25	63



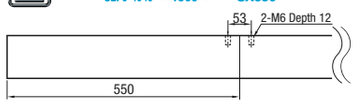
Alteration Code	Applicable Joint	H (mm)	P (mm)
SXD, SYD	SVJ6-4080	20	93
SZD, SQD	SVJ8-50100	25	113



Alteration Code	Applicable Joint	H (mm)	P (mm)
SX, SY	SVJ6-4040	20	53
SZ, SQ	SVJ8-5050	25	63

■How to Specify Ordering Code
①Confirm the left end face of the extrusion according to the standard positions.
②Decide a machining plane and measure the distance from the left end face to the joint center (0.5mm increment).

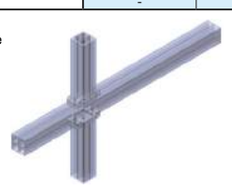
Ordering Example: Part Number - L - Machined Surface, Position
SLF6-4040 - 1500 - SX550

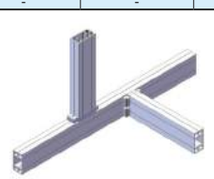


Type		Applicable Joint: SVJ6-4040/SVJ8-5050 Plane X (SX)	Plane Y (SY)	Plane Z (SZ)	Plane Q (SQ)	SVJ6-4080/SVJ8-50100 Plane X (SXD)	Plane Y (SYD)	Plane Z (SZD)	Plane Q (SQD)
Number of Tapped Holes		2	2	2	2	2	2	2	2
SLF6	4040								
SLFC6	4040		-				-		
SLFT6	4040		-	-			-	-	
SLFH6	4040		-		-		-		-
SLFF6	4040		-	-	-		-	-	-
SLF8	5050								
SLFC8	5050		-				-		
SLFT8	5050		-	-			-	-	
SLFH8	5050		-		-		-		-
SLFF8	5050		-	-	-		-	-	-

Type		Applicable Joint: SVJ6-4040/SVJ8-5050 Plane X (SX)	Plane Y (SY)	Plane Z (SZ)	Plane Q (SQ)	SVJ6-4080/SVJ8-50100 Plane X (SXD)	Plane Z (SZD)
Number of Tapped Holes		2	4	2	4	2	2
SLF6	4080						
SLFC6	4080			-			-
SLFT6	4080		-	-			-
SLFH6	4080	-		-		-	-
SLFF6	4080	-	-	-		-	-
SLF8	50100						
SLFC8	50100			-			-
SLFT8	50100		-	-			-
SLFH8	50100	-		-		-	-
SLFF8	50100	-	-	-		-	-

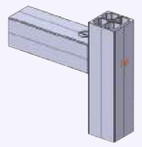
Example





■Position Specification: Counterbore Hole Machining

Counterbore hole machining is provided at specified positions. Hole positions are specifiable up to 5.



■Machined Surface, Position

From X Plane to Z Plane
AZX BZX CZX DZX EZX
From Z Plane to X Plane
AZZ BZZ CZZ DZZ EZZ
From Y Plane to Q Plane
AZY BZY CZY DZY EZY
From Q Plane to Y Plane
AZQ BZQ CZQ DZQ EZQ

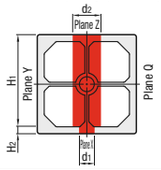




For standard positions and machining planes, see the figures on **P.735**.

■Counterbore Hole Dia., Dimensions, Machined Surface

Cross Section View (Machining is provided from Z plane to X plane.)

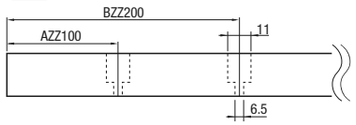


Extrusion Type	Z	d1	d2	H1	H2
SLF□-4040	6	6.5	11	37.2	2.8
	8	9	14		
SLF□-4080	6	6.5	11	77.2	2.8
	8	9	14		
SLF□-5050	6	6.5	11	47	3
	8	9	14		
SLF□-50100	6	6.5	11	97	3
	8	9	14		

■How to Specify Ordering Code
①Confirm the left end face of the extrusion according to the standard positions.
②Decide a machining plane and a counterbore hole dia.. Specify the counterbore position in 0.5mm increment from the left end face to any desired position.

Type		Counterbore Hole Dia.	Position Specification: Counterbore Hole Machining Plane X (AZX-EZX)	Plane Y (AZY-EZY)	Plane Z (AZZ-EZZ)	Plane Q (AZQ-EZQ)
SLF6	4040	Z6 Z8				
SLFC6	4040	Z6 Z8				-
SLFT6	4040	Z6 Z8	-		-	
SLFH6	4040	Z6 Z8		-		-
SLFF6	4040	Z6 Z8	-	-		-
SLF8	5050	Z6 Z8				
SLFC8	5050	Z6 Z8				-
SLFT8	5050	Z6 Z8	-		-	
SLFH8	5050	Z6 Z8		-		-
SLFF8	5050	Z6 Z8	-	-		-

Ordering Example: Part Number - L - Counterbore Hole Dia. - Machined Surface, Position
SLF6-4040 - 1500 - Z6 - AZZ100-BZZ200

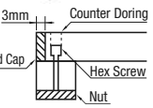


Type		Counterbore Hole Dia.	Position Specification: Counterbore Hole Machining Plane X (AZX-EZX)	Plane Y (AZY-EZY)	Plane Z (AZZ-EZZ)	Plane Q (AZQ-EZQ)
SLF6	4080	Z6 Z8				
SLFC6	4080	Z6 Z8	-			
SLFT6	4080	Z6 Z8	-			-
SLFH6	4080	Z6 Z8	-		-	
SLFF6	4080	Z6 Z8	-		-	-
SLF8	50100	Z6 Z8				
SLFC8	50100	Z6 Z8	-			
SLFT8	50100	Z6 Z8	-			-
SLFH8	50100	Z6 Z8	-		-	
SLFF8	50100	Z6 Z8	-		-	-

Example



■SLF8-50100-1000-Z8-AZQ120-BZQ250: When counterbored holes are specified on Y or Q plane for rectangular extrusions, 2 counterbored holes are provided at the same distance from the left end face.



■When the extrusion and the extrusion end cap are desired to be flat, specify counterbore holes shifted by 3mm.

■Position Specification: Tapped Hole Machining

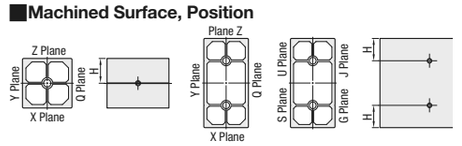
Tapped hole machining is provided at specified positions.



Tapped Hole Dia.	Machined Surface
T3	X
T5	Y
T6	Z
T8	Q
	U
	S
	J
	G

Code	T3	T5	T6	T8
Dia.	M3	M5	M6	M8
Depth	6	10	12	12

■Machined Surface, Position



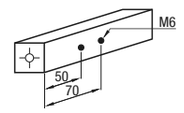
*2 tapped holes are provided when Y and Q planes are specified.
*1 tapped hole is provided when U, S, J and G planes are specified.

Extrusion Type	H
SLF6-4040	20
SLF8-5050	25

Extrusion Type	H
SLF6-4080	20
SLF8-50100	25

■Alteration Specification Example

M6 Tapped Holes are machined on Q at 50mm and 70mm for the left end side.



Product Code: T6-ATQ50-BTQ70

■How to Specify Ordering Code
①Confirm the left end face of the extrusion according to the standard positions.
②Decide a tapped hole dia. and machining plane. Specify the tapped hole position in 0.5mm increment from the left end face to any desired position.

Type		Tapped Hole Dia.	Position Specification: Tapped Hole Machining Plane X (ATX-ETX)	Plane Y (ATY-ETY)	Plane Z (ATZ-ETZ)	Plane Q (ATQ-ETQ)
SLF6	4040	T3 T5 T6 T8				
SLFC6	4040	T3 T5 T6 T8		-		
SLFT6	4040	T3 T5 T6 T8		-	-	
SLFH6	4040	T3 T5 T6 T8		-		-
SLFF6	4040	T3 T5 T6 T8		-	-	-
SLF8	5050	T3 T5 T6 T8				
SLFC8	5050	T3 T5 T6 T8		-		
SLFT8	5050	T3 T5 T6 T8		-	-	
SLFH8	5050	T3 T5 T6 T8		-		-
SLFF8	5050	T3 T5 T6 T8		-	-	-

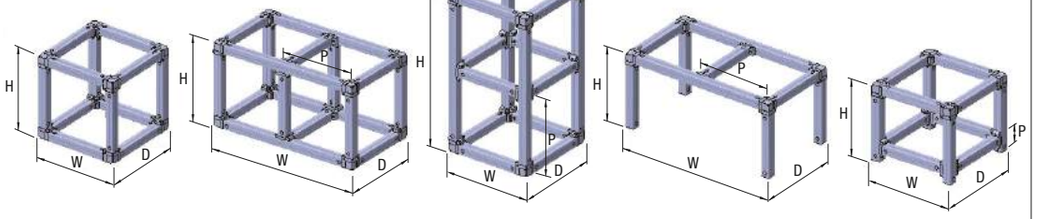
Ordering Example: Part Number - L - Tapped Hole Dia. - Machined Surface, Position
SLF6-4040 - 1500 - T6 - ATX100-BTX200

Type		Tapped Hole Dia.	Position Specification: Tapped Hole Machining Plane X (ATX-ETX)	Plane Y (ATY-ETY)	Plane Z (ATZ-ETZ)	Plane Q (ATQ-ETQ)	Plane U (ATU-ETU)	Plane S (ATS-ETS)	Plane J (ATJ-ETJ)	Plane G (ATG-ETG)
SLF6	4080	T3 T5 T6 T8								
SLFC6	4080	T3 T5 T6 T8			-					
SLFT6	4080	T3 T5 T6 T8		-	-		-	-		
SLFH6	4080	T3 T5 T6 T8	-		-					
SLFF6	4080	T3 T5 T6 T8	-	-	-		-	-		
SLF8	50100	T3 T5 T6 T8								
SLFC8	50100	T3 T5 T6 T8			-					
SLFT8	50100	T3 T5 T6 T8		-	-		-	-		
SLFH8	50100	T3 T5 T6 T8	-		-					
SLFF8	50100	T3 T5 T6 T8	-	-	-		-	-		

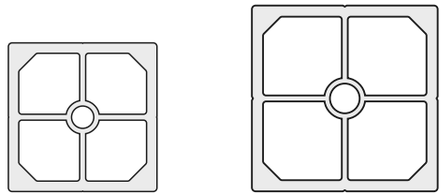
SLF Series Standard Units / Alterations

Selectable Unit Configuration

XA XB XC XD XE



Selectable Extrusion Profile



SLF6-4040

SLF8-5050

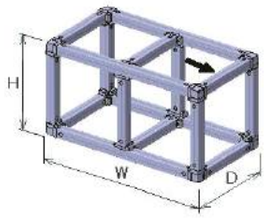
Unit	Part Number			W 1mm increment	D 1mm increment	H 1mm increment	P 1mm increment
	Type	Unit Config.	Extrusion Type				
4-Side No Slot Standard Unit	SLU	XA	6-4040	300~1800	300~1800	300~1800	-
		XB XC XD					0 60~1720
		XE					0 60~1740
		XA	8-5050	300~1800	300~1800	300~1800	-
		XB XC XD					0 75~1675
		XE					0 75~1725

When P=0, there is no middle extrusion.

Ordering Example

Part Number	-	W	-	D	-	H	-	P
SLUXB6-4040	-	W600	-	D600	-	H800	-	P300

How to Order

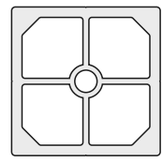


When an "XB" configuration unit of W620mm, D480mm and H570mm with SLF6-4040 extrusions is desired:

SLU XB 6-4040 - W620 - D480 - H570 - P300

- SLU: Aluminum Extrusions Standard Units (Common)
- XB: Unit Config.
- 6-4040: Extrusion Type
- W620: Width
- D480: Depth
- H570: Height
- P300: Distance up to the center position of middle extrusion

Extrusion Type



■P Dimension Specification Method: Specify P dimension by each surface as below.

XB



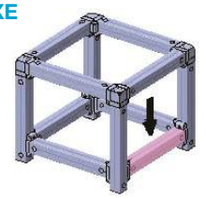
XC



XD



XE



Alterations

Alterations	Code	Spec.	Unit Config.	Extrusion Type
Standard Type	NN	The nuts are changed from Plunger Type (SNTP) to Standard Type (SNTT).	XA	6-4040
				8-5050
			XB	6-4040
				8-5050
			XC	6-4040
				8-5050
			XD	6-4040
				8-5050
			XE	6-4040
				8-5050

Alterations	Code	Spec.	Unit Config.	Extrusion Type
O-Ring Type	ON	The nuts are changed from Plunger Type (SNTP) to O-Ring Type (SNTG).	XA	6-4040
				8-5050
			XB	6-4040
				8-5050
			XC	6-4040
				8-5050
			XD	6-4040
				8-5050
			XE	6-4040
				8-5050

SLF Series Standard Unit Price / Caster & Leveling Mount Combination

[How to See the Price List] For SLUXA6-4040-W1000-D800-H400 unit, see the Unit Config. column to find XA, see the Extrusion Type column and find 4040 row and look to the right. Next, select the column according to the total W+D+H value 2200. The cross point value is the unit price. This price includes all the components necessary (joint, screws, etc.). For details of these components, see the next page.

■Standard Units

Part Number			(W+D+H)											
Type	Unit Config.	Extrusion Type	900 ~ 1249	1250 ~ 1599	1600 ~ 1949	1950 ~ 2299	2300 ~ 2649	2650 ~ 2999	3000 ~ 3349	3350 ~ 3699	3700 ~ 4049	4050 ~ 4399	4400 ~ 4749	4750 ~ 5099	5100 ~ 5449
SLU	XA	6-4040													
		8-5050													
	XB	6-4040													
		8-5050													
	XC	6-4040													
		8-5050													
	XD	6-4040													
		8-5050													
	XE	6-4040													
		8-5050													

■Caster & Leveling Mount Combination

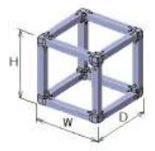
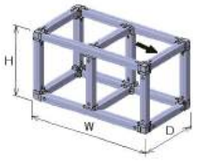
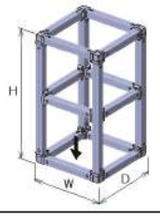
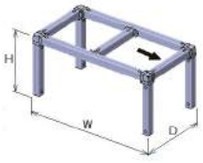
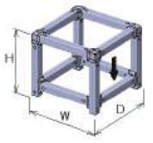
Part Number			Ex.①Plate & Leveling Mount			Ex.②Plate & Caster & Leveling Mount				
			Plate	Leveling Mount		Plate	Caster		Leveling Mount	
Type	Unit Config.	Square	Part Number	Part Number	Allowable Load (kgf)	Part Number	Part Number	Allowable Load (kgf)	Part Number	Allowable Load (kgf)
SLU	XA	6-4040	SAJPSS6	FJFNS16-150	1700	SAJPCS6	CHJS50A	120	FJFNS16-150	1700
		8-5050	SAJPSS8			SAJPCS8				
	XB	6-4040	SAJPSS6			SAJPCS6				
		8-5050	SAJPSS8			SAJPCS8				
	XC	6-4040	SAJPSS6			SAJPCS6				
		8-5050	SAJPSS8			SAJPCS8				
	XD	6-4040	SAJPSS6			SAJPCS6				
		8-5050	SAJPSS8			SAJPCS8				
	XE	6-4040	SAJPSS6			SAJPCS6				
		8-5050	SAJPSS8			SAJPCS8				

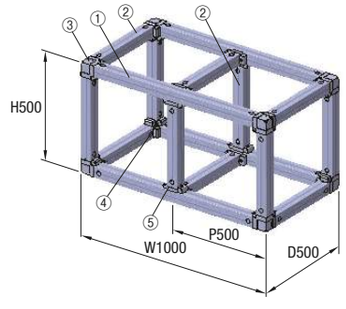
The allowable load of leveling mount and caster is for one.

SLF Series Standard Unit Component List

Bracket Connection Type										
Unit Config.	Extrusion Type	Extrusion Type	Extrusion Qty.			Joints		Nut	Extrusion End Caps	Machining
XA	6-40	SLF6-4040	W-104	D-104	H-104	STJ6-40		SNTP6-40	-	Hole Qty.
			4	4	4	8		24	-	24
	8-50	SLF8-5050	W-124	D-124	H-124	STJ8-50		SNTP8-50	-	Hole Qty.
			4	4	4	8		24	-	24
XB	6-40	SLF6-4040	W-104	D-104	H-104	STJ6-40	SVJ6-4040-SEP	SNTP6-40	-	Hole Qty.
			4	6	6	8	8	24	-	48
	8-50	SLF8-5050	W-124	D-124	H-124	STJ8-50	SVJ8-5050-SEP	SNTP8-50	-	Hole Qty.
			4	6	6	8	8	24	-	48
XC	6-40	SLF6-4040	W-104	D-104	H-104	STJ6-40	SVJ6-4040-SEP	SNTP6-40	-	Hole Qty.
			6	6	4	8	8	24	-	48
	8-50	SLF8-5050	W-124	D-124	H-124	STJ8-50	SVJ8-5050-SEP	SNTP8-50	-	Hole Qty.
			6	6	4	8	8	24	-	48
XD	6-40	SLF6-4040	W-104	D-104	H-52	STJ6-40	SVJ6-4040-SEP	SNTP6-40	-	Hole Qty.
			2	3	4	4	2	12	-	18
	8-50	SLF8-5050	W-124	D-124	H-62	STJ8-50	SVJ8-5050-SEP	SNTP8-50	-	Hole Qty.
			2	3	4	4	2	12	-	18
XE	6-40	SLF6-4040	W-104	D-104	H-52	STJ6-40	SVJ6-4040-SEP	SNTP6-40	-	Hole Qty.
			4	4	4	4	8	12	-	36
	8-50	SLF8-5050	W-124	D-124	H-62	STJ8-50	SVJ8-5050-SEP	SNTP8-50	-	Hole Qty.
			4	4	4	4	8	12	-	36

■Unit Diagram

XA	XB	XC	XD	XE
				



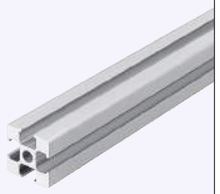
* For SLUXB6-4040-W1000-D500-H500-P500

No.	Name	Part Number	Qty.	Page
①	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-896-NVW-SX448-SQ448	4	P.727
②	Aluminum Extrusions SLF Series 40 Square	SLF6-4040-396-NVW	12	P.727
③	3-Way Joint Kits	STJ6-40	8	P.729
④	Joint Kits Vertical Mount	SVJ6-4040-SEP	8	P.729
⑤	SLF Series with Nut & Plunger	SNTP6-40	24	P.730

Aluminum Extrusions 15mm Square

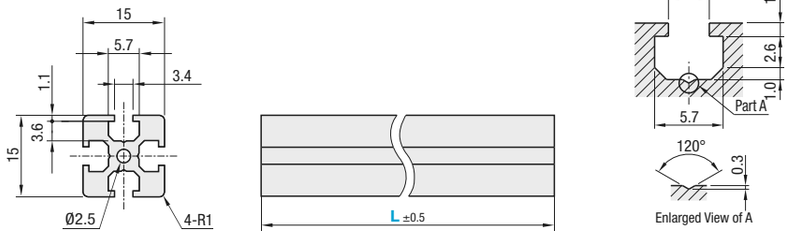
Brackets for Aluminum Extrusions 15mm Square / Square Nuts for Aluminum Extrusions 15mm Square

■Aluminum Extrusions 15mm Square



RoHS

HFS3-1515 (Configurable Length Extrusion)
KHFS3-1515 (Fixed Length Extrusion)



Cut surfaces are not anodized.

M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number		L	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price (Less than 300mm)	Unit Price/m (300mm or More)	Unit Price	Volume Discount Rate
					ℓx	ℓy			1 ~ 9 pc(s).	10~20
HFS3	1515	50~2000 0.5mm Increment	0.34	126	0.280x10⁴	0.280x10⁴				-
KHFS3		2000					-	-		

Ordering Example: Part Number - L
HFS3-1515 - 800
KHFS3-1515 - 2000

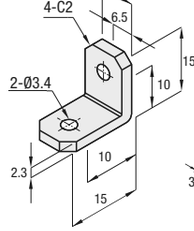
When L<300mm
Unit prices are indicated in the table regardless of the length.
When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified O.A.L. = Sales Price

■Brackets for Aluminum Extrusions 15mm Square

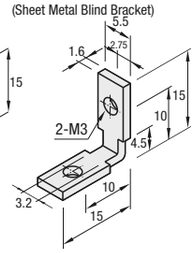


RoHS

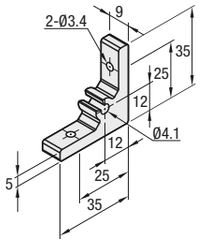
HPTBS3 (Sheet Metal Bracket)



HBLPBS3 (Sheet Metal Blind Bracket)



HBLTBS3 (Extruded Brackets)



Type	M Material	S Surface Treatment
HPTBS3	EN 1.0330 Equiv.	Trivalent Chromate
HBLPBS3		
HBLTBS3	A6061SS-T5 Equiv.	Clear Anodize

Part Number Type	No.	Mass (g)	Applicable Extrusion	Applicable Screw, T Nut				Allowable Load (N)	Unit Price 1~99 pc(s).	Volume Discount Rate 100~200
				Screw	Quantity	T Nut	Quantity			
HPTBS3	3	8	HFS3-1515	CBM3-6	2	HNSQ3-3	2	160		
HBLPBS3	4	2		Set Screw M3x4 (Included)				140		
HBLTBS3	3	10		CBM3-8	2	HNSQ3-3	2	530		

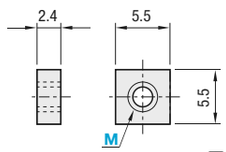
For orders larger than indicated quantity, please check with WOS.

■Square Nuts for Aluminum Extrusions 15mm Square



RoHS

HNSQ

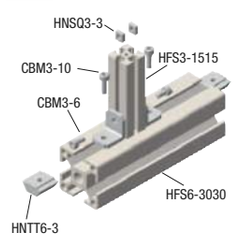


100 pcs. per package

M Material: EN 1.0038 Equiv.
S Surface Treatment: Trivalent Chromate

Part Number Type	No.	M	Applicable Extrusion	Unit Price 1~4 pkg(s)	Volume Discount Rate 5~9	10~150
HNSQ	3	3	HFS3-1515			

Example



Ordering Example: Part Number - M
HPTBS3
HBLPBS3
HNSQ3 - 3

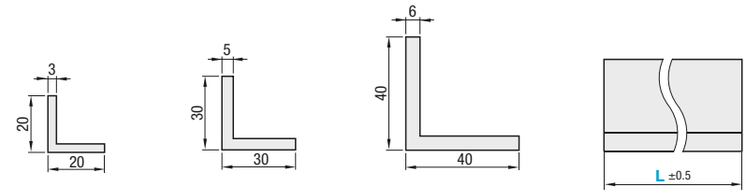
Aluminum Extrusions for Brackets

■For Thin Brackets



RoHS

HFLBS5 **HFLBS6** **HFLBS8**



M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

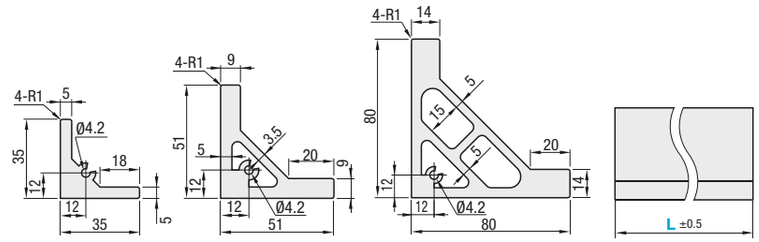
Part Number Type	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
				ℓx	ℓy		
HFLBS5	50~3000	0.3	111	0.4x10⁴	0.4x10⁴		
HFLBS6		0.75	275	2.2x10⁴	2.2x10⁴		
HFLBS8		1.2	444	6.4x10⁴	6.4x10⁴		

■For Thick Brackets



RoHS

NFLBT5 **HFLBT5** **NFLBT6** **HFLBT6** **NFLBT8** **HFLBT8**



Type	M Material	S Surface Treatment
HFLBT□	EN AC-51400-T5 Equiv.	Clear Anodize
NFLBT□	A6063SS-T5	Clear Anodize

Part Number Type	No.	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
					ℓx	ℓy		
HFLBT	5	50~3000	1.13	420	3.70x10⁴	3.70x10⁴		
	6		2.3	850	19.06x10⁴	19.06x10⁴		
	8		5.3	1961	109.9x10⁴	109.9x10⁴		
NFLBT	5		1.13	420	3.70x10⁴	3.70x10⁴		
	6		2.3	850	19.06x10⁴	19.06x10⁴		
	8		5.3	1961	109.9x10⁴	109.9x10⁴		

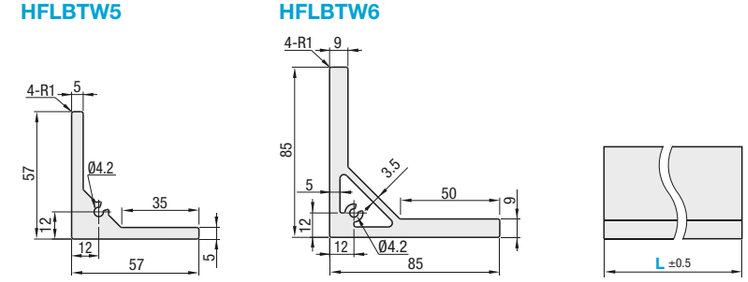
HFLBT6 is the base material component for HBLTS6 (**P.588**) and HBLTS8 (**P.646**).

■For Thick Brackets



RoHS

HFLBTW5 **HFLBTW6**



M Material: EN AC-51400-T5 Equiv. S Surface Treatment: Anodize

Part Number Type	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
				ℓx	ℓy		
HFLBTW5	50~3000	1.9	700	17.4x10⁴	17.4x10⁴		
HFLBTW6		4.0	1491	100.0x10⁴	100.0x10⁴		

Ordering Example: Part Number - L
HFLBT5 - 800

When L<300mm
Unit prices are indicated in the table regardless of the length.
When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified O.A.L. = Sales Price

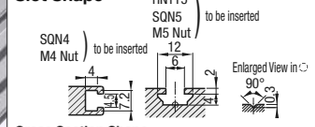
Non-Flanged Flat Aluminum Extrusions / Extrusion End Caps

Common to Bar Nuts and Pre-Assembly Insertion Nuts

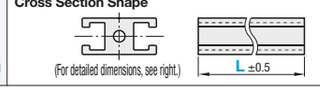


RoHS

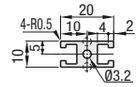
Slot Shape



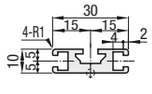
Cross Section Shape



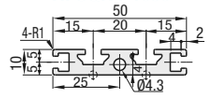
HFSQN4-1020



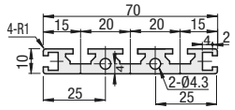
HFSQN4-1030



HFSQN4-1050



HFSQN4-1070



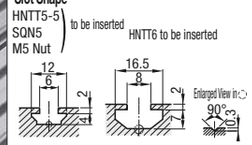
M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Nut Bar Nut	Pre-Assembly Insertion Nuts	Applicable Extrusion End Cap		Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSQN4	1020	50~3000	0.31	116	0.13x10⁴	0.3x10⁴	SQN4	-	HFCQN	4-1020		
	1030		0.46	171	0.18x10⁴	1.13x10⁴	SQN4 SQN5	HNTT 5-5		4-1030		
	1050		0.82	304	0.31x10⁴	5.64x10⁴				4-1050		
	1070		1.18	347	0.43x10⁴	16.2x10⁴				-		

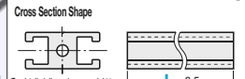


RoHS

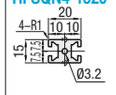
Slot Shape



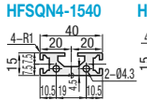
Cross Section Shape



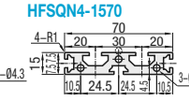
HFSQN4-1520



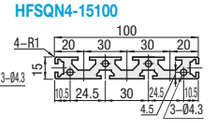
HFSQN4-1540



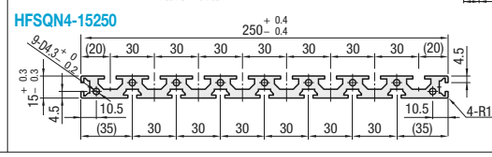
HFSQN4-1570



HFSQN4-15100



HFSQN4-15250



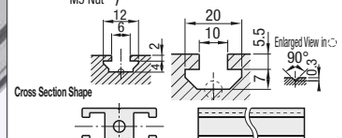
M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Nut Bar Nut	Pre-Assembly Insertion Nuts		Applicable Extrusion End Cap		Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSQN4	1520	50~3000	0.50	186	0.45x10⁴	0.44x10⁴	SQN4 SQN5	HNTT 5-5	-	HFCQN	4-1520		
	1540		0.94	347	0.83x10⁴	4.49x10⁴					4-1540		
	1570		1.66	613	1.37x10⁴	24.6x10⁴			HNTT 6-6		4-1570		
	15100		2.37	876	1.92x10⁴	72.2x10⁴					-		
	15250		5.62	2080	2.21x10⁴	171.4x10⁴					-		

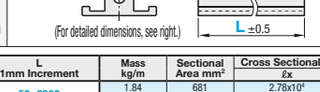


RoHS

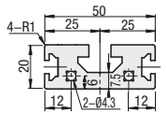
Slot Shape HNTT5-5 SQN5 M5 Nut to be inserted HNTT8 to be inserted



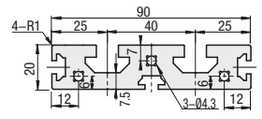
Cross Section Shape



HFSQN4-2050



HFSQN4-2090



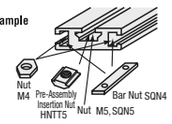
M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Nut Bar Nut	Pre-Assembly Insertion Nuts		Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSQN4	2050	50~3000	1.84	681	2.78x10⁴	14.8x10⁴	SQN4	HNTT 5-5	HNTT 8-8		
	2090		3.34	1234	4.78x10⁴	84.1x10⁴	SQN5				

Ordering Example: Part Number - L
HFSQN4-1050 - 1000

When L<300mm
Unit prices are indicated in the table regardless of the length.
When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified O.A.L. = Sales Price

Example



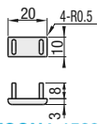
■Extrusion End Caps



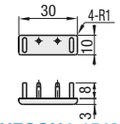
M Polyamide (Black)

RoHS

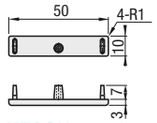
HFCQN4-1020



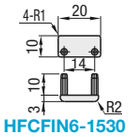
HFCQN4-1030



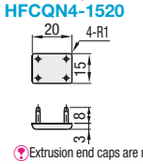
HFCQN4-1050



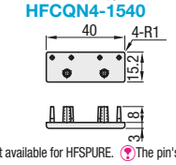
HFCFIN5-1020



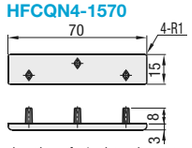
HFCQN4-1520



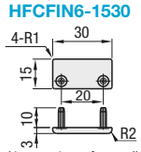
HFCQN4-1540



HFCQN4-1570



HFCFIN6-1530



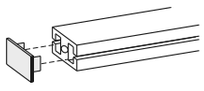
Extrusion end caps are not available for HFSPURE. The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.

Part Number Type	Part Number Extrusion	Color	Unit Price 1 ~ 8 pc(s).	Unit Price 9~200	Volume Discount Rate	Applicable Extrusion
HFCQN4	1020	B (Black)				HFSQN4-1020
	1030					HFSQN4-1030
	1050					HFSQN4-1050
	1520					HFSQN4-1520
	1540					HFSQN4-1540
	1570					HFSQN4-1570
HFCFIN5	1020					HFSFIN5-1020
HFCFIN6	1530					HFSFIN6-1530

For orders larger than indicated quantity, please check with WOS.

Ordering Example: Part Number - Color
HFCQN4-1020 - B

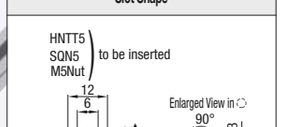
Example



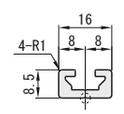


RoHS

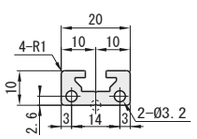
Slot Shape



HFSPURE5-8516



HFSFIN5-1020





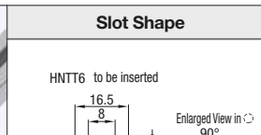
M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	Part Number No.	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Extrusion End Cap	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSPURE	5	8516	50~3000	0.23	83	0.05x10⁴	0.24x10⁴	-		
HFSFIN		1020		0.36	131	0.12x10⁴	0.53x10⁴	HFCFIN5-1020		

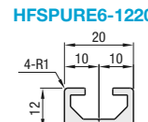


RoHS

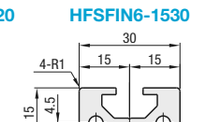
Slot Shape



HFSPURE6-1220



HFSFIN6-1530





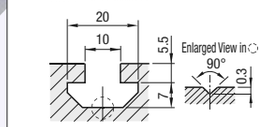
M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	Part Number No.	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Extrusion End Cap	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSPURE	6	1220	50~3000	0.33	121	0.17x10⁴	0.58x10⁴	-		
HFSFIN		1530		0.82	302	0.62x10⁴	2.85x10⁴	HFCFIN6-1530		

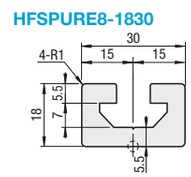


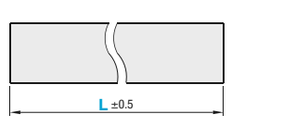
RoHS

Slot Shape



HFSPURE8-1830





M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSPURE8	1830	50~3000	0.98	361	1.12x10⁴	3.65x10⁴		

Ordering Example: Part Number - L
HFSFIN5-1020 - 1200

When L<300mm
Unit prices are indicated in the table regardless of the length.
When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified O.A.L. = Sales Price

Alterations: **Specified hole machining is available.**
⊗Not applicable to HFSQN.

Alterations	Counterboring				Unit Price
Code	Z Selection			XA XB XC XD XE	One Counterbore Hole
Spec.	Z	d	d1	Distance from the Left End mm	
Specifications of Hole Size and Position	3	3.5	6.5	7~(L-7)	
	4	4.5	8		
	5	5.5	9.5		
	6	6.5	11		
	8	9	14		

The hole intervals are specified in XA, XB, XC, XD, XE order from the left end.
HFSFIN6 - 1530 - 150 - Z5 - XA20 - XB45 - XC80 - XD120

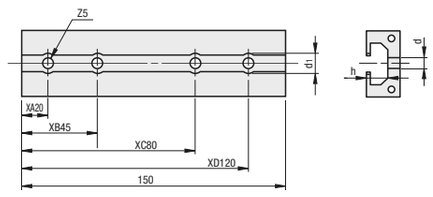


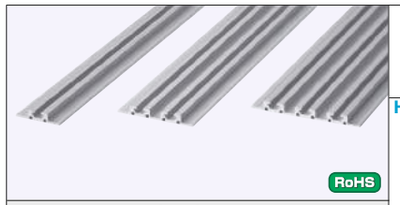
Table 1

Counterbore Hole Z	d	d1
3	3.5	6.5
4	4.5	8
5	5.5	9.5
6	6.5	11
8	9	14

The counterbore depth h is from the extrusion surface.

Flanged Flat Extrusions / Extrusion End Caps

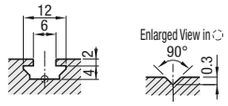
Common to Bar Nuts and Pre-Assembly Insertion Nuts

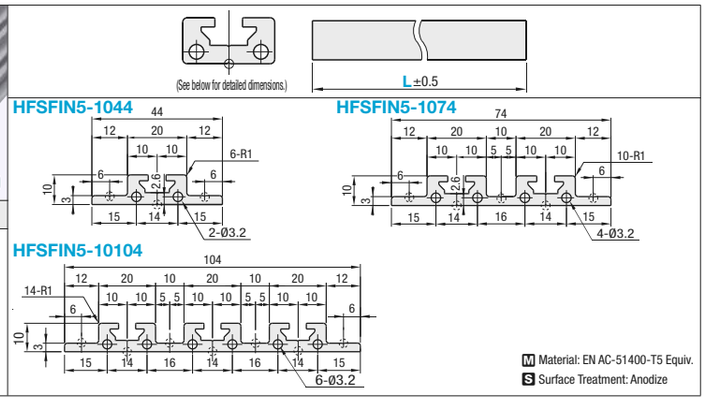


RoHS

Slot Shape

HNTT5
SQN5
M5Nut
to be inserted

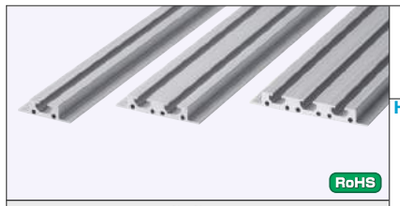




M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Non-flanged HFSPURE5-8516, HFSFIN5-1020 are listed on the previous page.

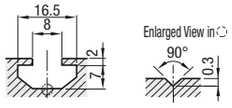
Part Number Type	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Extrusion End Cap	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSFIN5	1044	50~3000	0.55	203	$0.16x10^4$	$2.43x10^4$	HFCFIN5-1020		
	1074		0.99	364	$0.30x10^4$	$13.68x10^4$			
	10104		1.42	526	$0.44x10^4$	$40.88x10^4$			

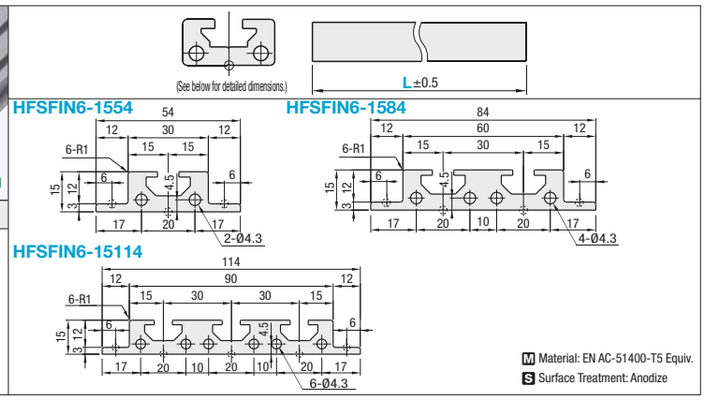


RoHS

Slot Shape

HNTT6 to be inserted





M Material: EN AC-51400-T5 Equiv.
S Surface Treatment: Anodize

Non-flanged HFSPURE6-1220, HFSFIN6-1530, HFSPURE8-1830 are listed on the previous page.

Part Number Type	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Extrusion End Cap	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSFIN6	1554	50~3000	1.01	374	$0.78x10^4$	$6.10x10^4$	HFCFIN6-1530		
	1584		1.83	676	$1.43x10^4$	$28.69x10^4$			
	15114		2.64	979	$2.07x10^4$	$81.74x10^4$			

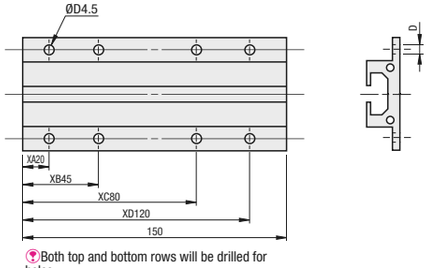
Ordering Example: Part Number - L
HFSFIN5-1044 - 1200

When L<300mm
Unit prices are indicated in the table regardless of the length.
When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified O.A.L. = Sales Price

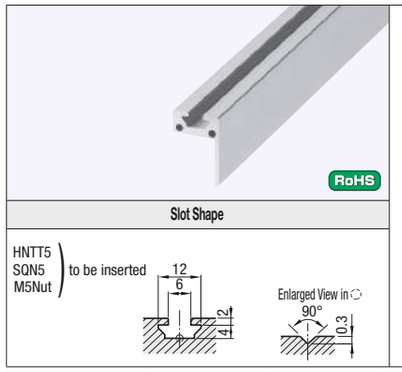
Alterations **Specified hole machining is available.**

The hole intervals are specified in XA, XB, XC, XD, XE order from the left end.
HFSFIN5 - 1044 - 150 - D4.5 - XA20 - XB45 - XC80 - XD120

Alterations	Through Hole						Unit Price
Code	D Selection	XA	XB	XC	XD	XE	1 Through Hole
Spec.	ØD	Distance from the Left End mm					
Specifications of Hole Size and Position	3.5	7~(L-7)					
	4.5						
	5.5						
	6.5						
	-						



Both top and bottom rows will be drilled for holes.

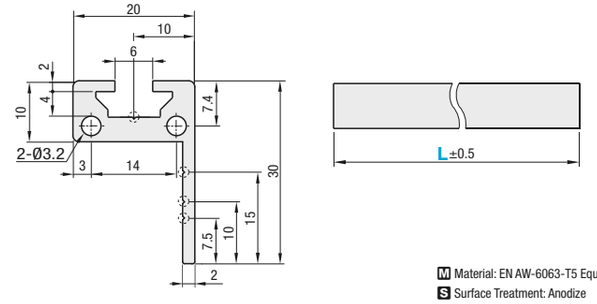


RoHS

Slot Shape

HNTT5
SQN5
M5Nut
to be inserted

HFSFIL5-3020



M Material: EN AW-6063-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	Part Number Extrusion	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Applicable Extrusion End Cap	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSFIL5	3020	50~3000	0.45	166	$0.89x10^4$	$0.77x10^4$	HFCFIN5-1020		

Ordering Example: Part Number - L
HFSFIL5-3020 - 1200

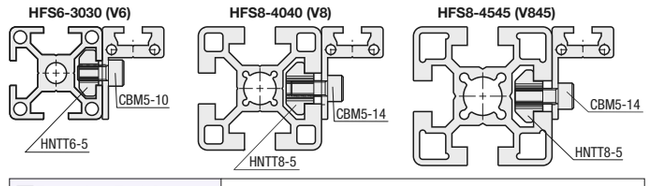
When L<300mm
Unit prices are indicated in the table regardless of the length.
When L≥300mm
Prices are calculated as follows:
Unit Price/m x Specified O.A.L. = Sales Price

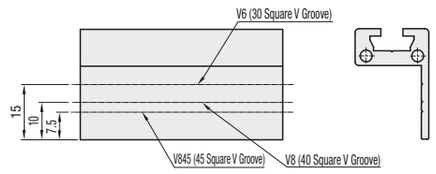
Alterations **Specified hole machining is available.**

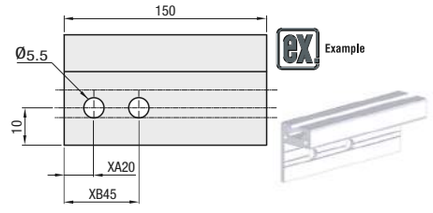
The hole intervals are specified in XA, XB, XC, XD, XE order from the left end.
HFSFIL5 - 3020 - 150 - V8 - XA20 - XB45

Alterations	Through Hole Position						Unit Price
Code	V V-Groove Selection	XA	XB	XC	XD	XE	1 Through Hole
Spec.	Applicable V Groove	Distance from the Left End mm					
Hole Position *Hole diameter will be Ø5.5 only.	V6	7~(L-7)					
	V8						
	V845						

The V selection determines the hole centerline distances to make both extrusions even flat for each extrusion size.







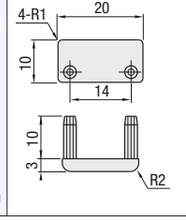
Example

Extrusion End Caps

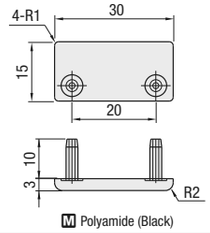


RoHS

HFCFIN5-1020

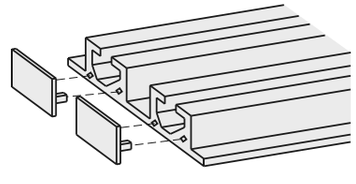


HFCFIN6-1530



M Polyamide (Black)

Example



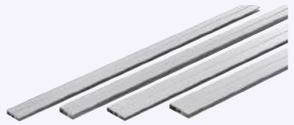
The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.

Part Number Type	Part Number Extrusion	Color	Unit Price 1 ~ 8 pc(s).	Volume Discount Rate 9~200	Applicable Extrusion
HFCFIN5	1020	B (Black)			HFSFIN5-1020 HFSFIN5-1044 HFSFIN5-1074 HFSFIN5-10104 HFSFIL5-3020
HFCFIN6	1530				HFSFIN6-1530 HFSFIN6-1554 HFSFIN6-1584 HFSFIN6-15114

Ordering Example: Part Number - Color
HFCFIN5-1020 - B

Fence Extrusions / Joint Brackets

■C Extrusions

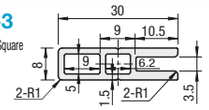


RoHS

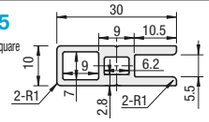


Cut surfaces are not anodized.

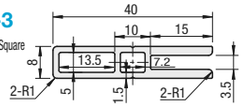
HFSFES30-3
3mm Thick One-Sided for 30 Square



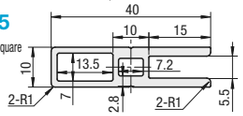
HFSFES30-5
5mm Thick One-Sided for 30 Square



HFSFES40-3
3mm Thick One-Sided for 40 Square



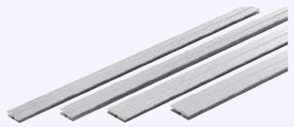
HFSFES40-5
5mm Thick One-Sided for 40 Square



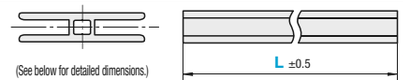
M Material: EN AW-6063-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	No.	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSFES	30-3	50~4000	0.34	125	1074	9933		
	30-5		0.41	150	2035	10690		
	40-3		0.42	153	1430	22510		
	40-5		0.48	176	2656	23830		

■H Extrusions

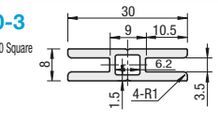


RoHS

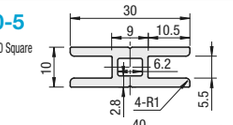


Cut surfaces are not anodized.

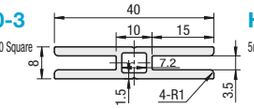
HFSFEW30-3
3mm Thick Both-Sided for 30 Square



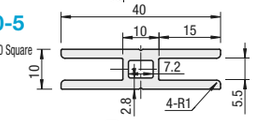
HFSFEW30-5
5mm Thick Both-Sided for 30 Square



HFSFEW40-3
3mm Thick Both-Sided for 40 Square



HFSFEW40-5
5mm Thick Both-Sided for 40 Square



M Material: EN AW-6063-T5 Equiv.
S Surface Treatment: Anodize

Part Number Type	No.	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴ ℓx	ℓy	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFSFEW	30-3	50~4000	0.395	145	1132	10040		
	30-5		0.476	175	2148	10160		
	40-3		0.51	188	1524	23770		
	40-5		0.64	235	2844	23890		

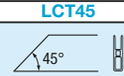
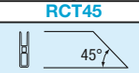
Ordering Example: Part Number - L → HFSFES30-3 - 1200

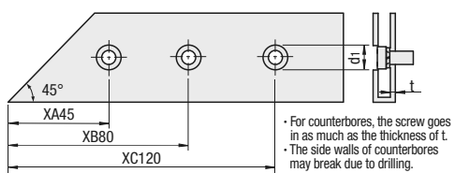
Alterations: Specified hole machining is available.

Alterations	Counterboring						Through Hole						Unit Price	
Code	Z Selection			XA	XB	XC	XD	XE	D Selection	XA	XB	XC	XD	XE	One Counterbore Hole	1 Through Hole
Spec.	Z	d	d1	Distance from the Left End mm					ØD	Distance from the Left End mm						
Specifications of Hole Size and Position	5	5.5	9.5	7~(L-7)					3.5	7~(L-7)						
	6	6.5	11						4.5							
	-								5.5							
									6.5							

■Specified Hole Machining
(1) Select hole type and size Z (for Counterbore) or D (for Through hole).
(2) Specify the distance from the left end to holes XA, XB, XC, XD and XE in order.
(3) Specify up to 5 counterbores or through holes. ⊗Combination of counterbore and through hole is not available.

Part Number - L - Alterations
HFSFES30-3 - 150 - LCT45 - Z5 - XA45 - XB80 - XC120

Alteration	45° Cut Ⓣ Applicable to HFSFES only.	
	Left	Right
Code	LCT45	RCT45
Spec.		



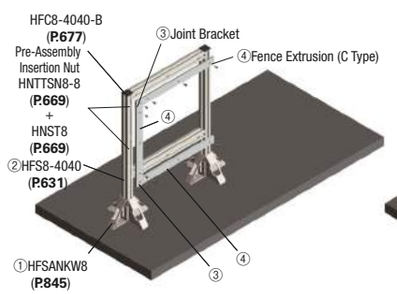
- For counterbores, the screw goes in as much as the thickness of t.
- The side walls of counterbores may break due to drilling.

■Panel Mounting

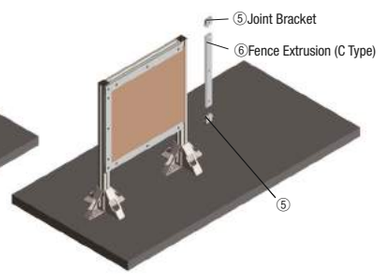
(1) Assembling Panel Extrusions
③ Joint Brackets and ④ Fence Extrusions (C Type) are mounted with screws on the ② Extrusion Frame fastened to the base with ① Anchors.

(2) Inserting Panel
Panels are installed by sliding into the extrusion slots.

(3) Fixing Panel
Panels are mounted onto the ⑥ Fence Extrusions (C Type) with ⑤ Joint Brackets.
(Install additional aluminum extrusions with anchors.)



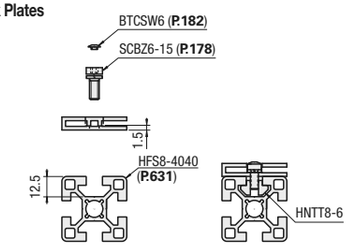




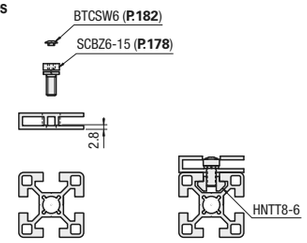
■Connecting Fence Extrusions to Aluminum Extrusions

Fence extrusions need to be drilled before connecting to aluminum extrusion.
(1) Example of Counterbore Holes (Even if the cover caps for screws BTCSW are not used, there is no problem.)

3mm Thick Plates

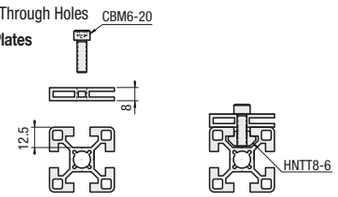


5mm Thick Plates

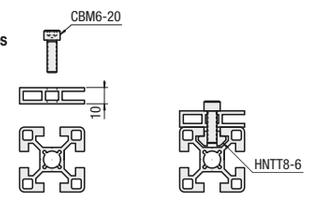


(2) Example of Through Holes

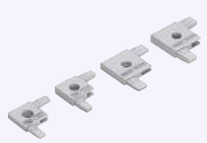
3mm Thick Plates



5mm Thick Plates

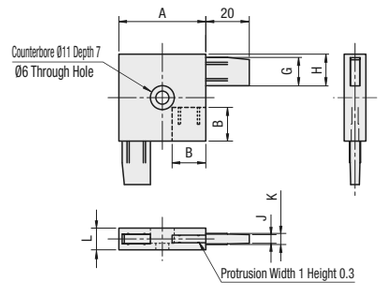


■Joint Brackets



RoHS

HFSJD



M Material: Polyamide

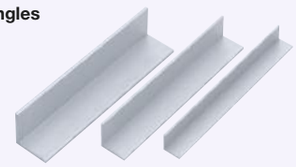
Part Number Type	No.	A	B	G	H	J	K	L	Unit Price
HFSJD	30-3	30	10.5	7.5	8.5	4	4.5	8	
	30-5	30	10.5	7.5	8.5	5.5	6.5	10	
	40-3	40	15.5	12	13	4	4.5	8	
	40-5	40	15.5	12	13	5.5	6.5	10	

Ordering Example: Part Number → HFSJD30-3

Aluminum Extrusions

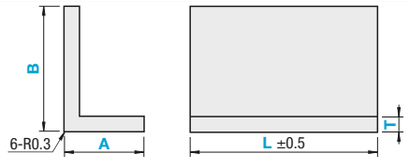
Angles / Channels / Flat Bars / Square Tubing

■Angles



RoHS

HFHL



M Material: EN AW-6063-T5 Equiv. S Surface Treatment: Clear Anodize

Part Number Type	A	B	T	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia ℓx×10⁴	Cross Sectional Moment of Inertia ℓy×10⁴	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFHL (Angles)	15	30	2	50~2000	0.232	86	0.14	0.807		
	20	20	2		0.206	76	0.288	0.288		
			3		0.301	111	0.403	0.403		
	20	40	2		0.315	116	0.348	1.964		
			3		0.464	171	0.489	2.82		
	25	25	3		0.381	141	0.819	0.819		
		50	3		0.583	216	0.993	5.661		
	30	30	2		0.315	116	1.019	1.019		
			3		0.464	171	1.458	1.458		
			5		0.745	275	2.21	2.21		
	40	40	2		0.412	156	2.47	2.47		
			3		0.626	231	3.58	3.58		
			5		1.016	375	5.56	5.56		
	50	50	3		0.785	291	7.15	7.15		
	60	60	5		1.553	575	19.9	19.9		
	75	75	6		2.333	864	46.88	46.88		
	100	100			3.143	1164	114.3	114.3		
	150	150			4.763	1764	397.5	397.5		

Ordering Example: Part Number - T - L → HFHL3030 - 3 - 800

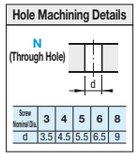
Alterations: Part Number - T - L - N - (XA, ...YA,...) → HFHL2040 - 2 - 90 - N8 - XA42-XB62-YA20-YB42

Alterations	Through Hole
Spec.	Adds through holes on the extrusion. N is a nominal diameter.

Face of Extrusion	N (Selection)
X	3 4 5 6 8
Y	

- 5+N/2 is needed from an end.
- Only 1 dia. is selectable for N.
- When A=15, only N3, N4 and N5 are available.
- One face has up to five holes.

Hole Machining Details



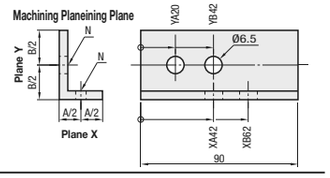
Screw Nominal Dia.	3	4	5	6	8
d	3.5	4.5	5.5	6.5	9

Ordering Code: Specifications of Hole Size and Position (Ex.)

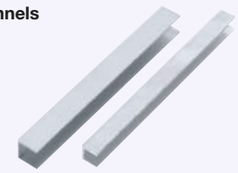
- N (Select from the table)
- Extrusion Planeion Plane
- Hole machining on this plane (in the order of A, B and C)
- Distance from the End (1mm Inclement)

N6 X A 42-XB62
Y A 20-YB42

Machining Planeining Plane

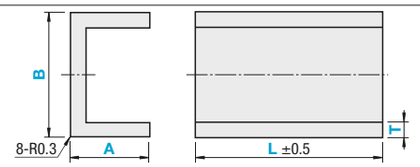


■Channels



RoHS

HFHC



M Material: EN AW-6063-T5 Equiv. S Surface Treatment: Clear Anodize

Part Number Type	A	B	T	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia ℓx×10⁴	Cross Sectional Moment of Inertia ℓy×10⁴	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFHC (Channels)	15	15	2	50~2000	0.222	82	0.1433	0.227		
		30			0.304	112	0.232	1.471		
	20	20			0.304	112	0.453	0.719		
		40			0.412	152	0.576	3.688		
	25	25			0.381	142	1.479	0.911		
		50	3		0.761	282	1.640	10.42		

Ordering Example: Part Number - T - L → HFHC1515 - 2 - 800

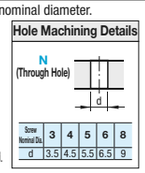
Alterations: Part Number - T - L - N - (XA, ...YA,...ZA,...) → HFHC2040 - 2 - 90 - N8 - XA50-YA20-ZA20-ZB42

Alterations	Through Hole
Spec.	Adds through holes on the extrusion. N is a nominal diameter.

Face of Extrusion	N (Selection)
X	3 4 5 6 8
Y	
Z	

- 5+N/2 is needed from an end.
- Only 1 dia. is selectable for N.
- When A and B dimensions are 15, only N3, 4 and 5 can be selected.
- One face has up to five holes.

Hole Machining Details



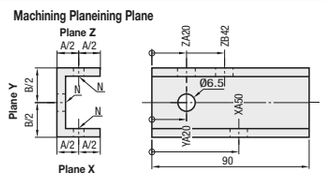
Screw Nominal Dia.	3	4	5	6	8
d	3.5	4.5	5.5	6.5	9

Ordering Code: Specifications of Hole Size and Position (Ex.)

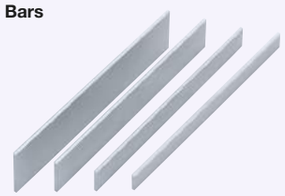
- N (Select from the table.)
- Extrusion Planeion Plane
- Hole machining on this plane (in the order of A, B and C)
- Distance from the End (1mm Inclement)

N6 X A 50
Y A 20
Z A 20-ZB42

Machining Planeining Plane

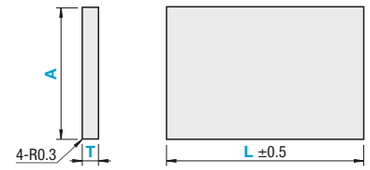


■Flat Bars



RoHS

HFHF



M Material: EN AW-6063-T5 Equiv. S Surface Treatment: Clear Anodize

Part Number Type	A	T	L 1mm Increment	Unit Price (Less than 300mm) T 2	3	5	Unit Price/m (300mm or More) T 2	3	5
HFHF (Flat Bars)	10	3	50~2000	-		-	-		-
	15	2 3				-			-
	20	2 3 5							
	25	2 3 5							
	30	2 3 5							
	40	3 5		-			-		
	50	3 5		-			-		

Ordering Example: Part Number - T - L → HFHF30 - 3 - 500

A	Mass kg/m T 2	3	5	Sectional Area mm² T 2	3	5	Cross Sectional Moment of Inertia ℓx×10⁴ T 2	3	5	Cross Sectional Moment of Inertia ℓy×10⁴ T 2	3	5
10	-	0.081	-	-	30	-	-	0.003	-	-	0.023	-
15	0.08	0.122	-	30	45	-	0.001	0.003	-	0.056	0.084	-
20	0.108	0.163	0.271	40	60	100	0.001	0.005	0.021	0.133	0.200	0.333
25	0.135	0.202	0.338	75	125	184	0.002	0.006	0.026	0.029	0.389	0.649
30	0.163	0.244	0.406	60	90	150	0.002	0.007	0.031	0.450	0.675	1.125
40	-	0.330	0.542	-	120	200	-	0.009	0.042	-	1.600	2.670
50	-	0.405	0.675	-	150	250	-	0.011	0.052	-	3.125	5.208

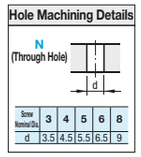
Alterations: Part Number - T - L - N - (YA,...) → HFHF20 - 2 - 90 - N8 - YA20-YB55

Alterations	Through Hole
Spec.	Adds through holes on the extrusion. N is a nominal diameter.

Face of Extrusion	N (Selection)
Y	3 4 5 6 8

- 5+N/2 is needed from an end.
- Only 1 dia. is selectable for N.
- When A=10, only N3, N4 and N5 are available.
- One face has up to five holes.

Hole Machining Details



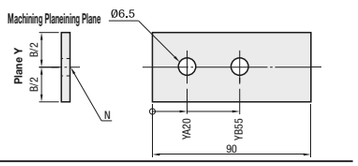
Screw Nominal Dia.	3	4	5	6	8
d	3.5	4.5	5.5	6.5	9

Ordering Code: Specifications of Hole Size and Position (Ex.)

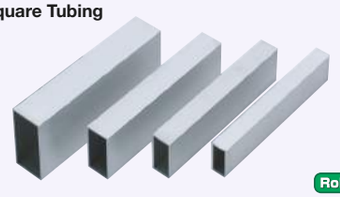
- N (Select from the table)
- Extrusion Planeion Plane
- Hole machining on this plane (in the order of A, B and C)
- Distance from the End (1mm Inclement)

N6 Y A 20-YB55

Machining Planeining Plane

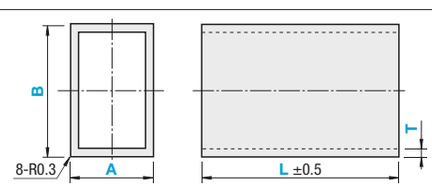


■Square Tubing



RoHS

HFHQ



M Material: EN AW-6063-T5 Equiv. S Surface Treatment: Clear Anodize

Part Number Type	A	B	T	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia ℓx×10⁴	Cross Sectional Moment of Inertia ℓy×10⁴	Unit Price (Less than 300mm)	Unit Price/m (300mm or More)
HFHQ (Square Tubing)	15	15	1.5	50~2000	0.220	81	0.249	0.249		
		30			0.342	126	0.454	1.406		
	20	20	2		0.398	144	0.787	0.787		
		40			0.607	224	1.437	4.445		
	25	25			0.497	184	1.634	1.634		
		50			0.766	284	2.96	9.007		
	30	30			0.607	224	2.941	2.941		
		60			0.934	344	5.297	15.94		
	40	40			0.824	304	7.336	7.336		
		80			1.257	464	13.11	38.97		
	50	50			1.036	384	14.77	14.77		

Ordering Example: Part Number - T - L → HFHQ3030 - 2 - 500

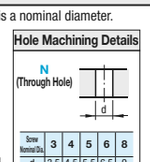
Alterations: Part Number - T - L - N - (XA,...YA,...ZA,...QA,..) → HFHQ2040 - 2 - 90 - N8 - YA60-ZA20-QA45

Alterations	Through Hole
Spec.	Adds through holes on the extrusion. N is a nominal diameter.

Face of Extrusion	N (Selection)
X	3 4 5 6 8
Y	
Z	
Q	

- 5+N/2 is needed from an end.
- Only 1 dia. is selectable for N.
- When A and B dimensions are 15, only N3, 4 and 5 can be selected.
- One face has up to five holes.

Hole Machining Details



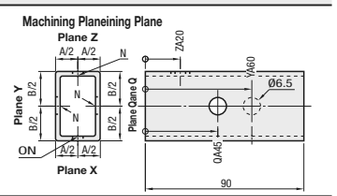
Screw Nominal Dia.	3	4	5	6	8
d	3.5	4.5	5.5	6.5	9

Ordering Code: Specifications of Hole Size and Position (Ex.)

- N (Select from the tablee)
- Extrusion Planeion Plane
- Hole machining on this plane (in the order of A, B and C)
- Distance from the End (1mm Inclement)

N6 Y A 60
Z A 20
Q A 45

Machining Planeining Plane



Hex Socket Head Cap Screws for Aluminum Extrusions - Single Item / Bulk Packages

Features: Standard screws to connect various brackets for wide range of applications.

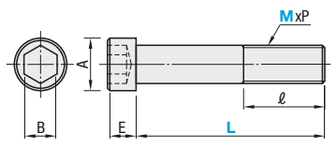
Hex Socket Head Cap Screws RoHS



Type	M Material	S Surface Treatment
CBM	EN 1.7220 Equiv.	Bright Chromate Plating
SCB	EN 1.4301 Equiv.	-
HCBMTB	EN 1.7220 Equiv.	Trivalent Chromate (Black)

CBM (Bright Chromate Plating)
SCB (Stainless Steel)
HCBMTB (Trivalent Chromate, Black)

Part Number ☐ is not RoHS compliant.

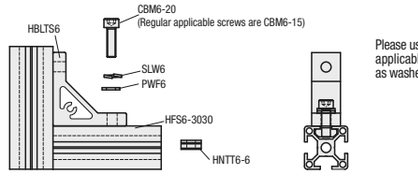


ℓ	Part Number Type	M	L	MxP	A	E	B	CBM Unit Price 1~99 pcs.	CBM Volume Discount Rate 100~500	SCB Unit Price 1~9 pc(s).	SCB Volume Discount Rate 10~29	30~99	100~500	HCBMTB Unit Price 1~99 pc(s).	HCBMTB Volume Discount Rate 100~500
Full Thread	CBM SCB	3	18	3x0.5	5.5	3	2.5							-	-
18	HCBMTB		35											-	-
Full Thread	CBM SCB	4	18	4x0.7	7	4	3							-	-
20	HCBMTB		45											-	-
Full Thread	CBM	5	6	5x0.8	8.5	5	4							-	-
	SCB		8												
	HCBMTB		10												
			14												
			18											-	-
			22												
Full Thread	CBM	6	8	6x1.0	10	6	5							-	-
	SCB		12												
	HCBMTB		14											-	-
			15												
			16											-	-
			18											-	-
			20												
			22											-	-
			30											-	-
24			60											-	-
Full Thread	CBM	8	12	8x1.25	13	8	6							-	-
	SCB		15												
	HCBMTB		18											-	-
			20												
			22											-	-
			25												
28			80											-	-

For other specs., see **P.174, 176.**

Ordering Example — Part Number: CBM6-8

Example



Please use screws of different length from regular applicable ones depending on conditions, such as washers for bracket loosening prevention.

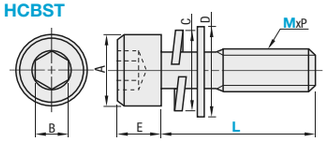
Features: Screws with washers have optimum shank lengths for extrusion connections using brackets.

Screws with Captured Spring Washer RoHS



Screw	M Material: Structural Alloy Steel H Hardness: 32~44HRC * Strength Class 10.9 JIS 0209 (6g)
Washer	Spring Washer JIS B1251 Flat Washer JIS B1256
S Surface Treatment	Trivalent Chromate

HCBST



Part Number Type	M	L	MxP	A	E	B	C	D	HCBST Unit Price 1~99 pc(s).	HCBST Volume Discount Rate 100~300
HCBST	5	12	5x0.8	8.5	5	4	8.5	10		
		16								
	6	15	6x1.0	10	6	5	11.5	12.5		
		20								
		25								
	8	20	8x1.25	13	8	6	14.5	17		
		24								
		29								

Ordering Example — Part Number: HCBST6-15

For Hex Socket Head Cap Screws with Captured Spring Washer of stainless steel with black oxide film, see **P.178.**

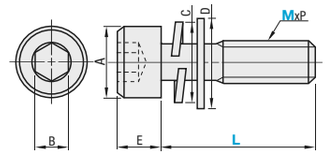
Features: Bulk Packages of Screws with Captured Spring Washer HCBST. Bulk packages are cost effective for in-house stocks and large quantity use.

Screws with Captured Spring Washer Bulk Packages (500 pcs. per Package) RoHS



Screw	M Material: Structural Alloy Steel H Hardness: 32 ~ 44HRC *Strength Class 10.9 JIS 0209(6g)
Washer	Spring Washer JIS B1251 Flat Washer JIS B1256
S Surface Treatment	Trivalent Chromate

HCBST☐-☐☐-SET1



Part Number Type	M -L-SET1 (500 pcs. per pkg.)		MxP	A	E	B	C	D	Height of Spring Washer and Flat Washer when tightened (Ref.)	Package Price	Price per 1 pc.
HCBST	5 - 12	SET1	5x0.8	8.5	5	4	8.5	10	2.3		
	16										
	6 - 15		6x1.0	10	6	5	11.5	12.5	3.1		
	20										
	25										
	8 - 20		8x1.25	13	8	6	14.5	17	3.6		
	24										
	29										

Ordering Example — Part Number: HCBST6-15-SET1

List of Hex Socket Head Cap Screws with Captured Washer for each Bracket

Extrusion	Bracket	Hex Socket Head Cap Screws with Captured Washer	Bracket (With Tapped Hole)	Hex Socket Head Cap Screws with Captured Washer
HFS5 Series	HBLFSL5	Not applicable	HBLFSL5-C	Not applicable
	HBLFSN5	HCBST5-12	HBLFSN5-C	HCBST5-12
	HBLFSSW5	Not applicable	HBLFSSW5-C	Not applicable
	HBLFSD5	HCBST5-12	HBLFSD5-C	HCBST5-12
	HBLFUD5	HCBST5-16	HBLFUD5-C	HCBST5-16
	HBLT☐5	HCBST5-12	HBLT☐5-C	HCBST5-12
	HBLU☐5	HCBST5-16	HBLU☐5-C	HCBST5-16
	HBLS☐5	Not applicable	-	-
	HBLFSNT5 (With Cover)	Not applicable	HBLFSNT5-C (With Cover)	Not applicable
HFS6 Series	HBLFSL6	Not applicable	HBLFSL6-C	Not applicable
	HBLFSN6	Not applicable	HBLFSN6-C	Not applicable
	HBLFS6	HCBST6-15	HBLFS6-C	HCBST6-15
	HBLFSSW6(-50)	HCBST6-15	HBLFSSW6(-50)-C	HCBST6-15
	HBLFSD6	Not applicable	HBLFSD6-C	Not applicable
	HBLFSDD6	Not applicable	HBLFSDD6-C	Not applicable
	HBLSDW6(-50)	HCBST6-15	HBLFSDW6(-50)-C	HCBST6-15
	HBLFTD6(-50)	HCBST6-20	HBLFTD6(-50)-C	HCBST6-20
	HBLFUD6(-50)	HCBST6-25	HBLFUD6(-50)-C	HCBST6-25
	HBLT☐6(-50)	HCBST6-20	HBLT☐6-C(-50)	HCBST6-20
	HBLU☐6(-50)	HCBST6-25	HBLU☐6-C(-50)	HCBST6-25
	HBLS☐6(-50)	Not applicable	-	-
	HBLD☐6 (Triangle)	Not applicable	-	-
	HBLFSNT6 (With Cover)	Not applicable	HBLFSNT6-C (With Cover)	Not applicable
HFS8 Series	HBLFSN8(-45)	HCBST8-24	HBLFSN8(-45)-C	HCBST8-24
	HBLFS8	HCBST8-24	HBLFS8-C	HCBST8-24
	HBLFSSW8(-45)	HCBST8-24	HBLFSSW8(-45)-C	HCBST8-24
	HBLFSD8	HCBST8-24	HBLFSD8-C	HCBST8-24
	HBLFTD8	HCBST8-24	HBLFTD8-C	HCBST8-24
	HBLFUD8	HCBST8-29	HBLFUD8-C	HCBST8-29
	HBLT☐8(-45)	HCBST8-24	HBLT☐8(-45)-C	HCBST8-24
	HBLU☐8(-45)	HCBST8-29	HBLU☐8(-45)-C	HCBST8-29
	HBLS☐8(-45)	HCBST8-20	-	-
	HBLDSWT8(-45) (Triangle)	Not applicable	-	-
	HBLFSNT8 (With Cover)	Not applicable	HBLFSNT8-C (With Cover)	Not applicable

If not applicable, failures may occur such as screw heads interfering with each other.

Screws for Aluminum Extrusions - Single Item / Bulk Packages

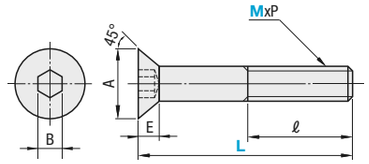
Features: Flathead screws for countersunk holes such as on hinges, etc.

Hex Socket Flat Head Cap Screws RoHS



Type	Material	Surface Treatment
HFBCM	EN 1.7220 Equiv.	Trivalent Chromate
SHFBS	EN 1.4301 Equiv.	-
HFBMB	EN 1.7220 Equiv.	Trivalent Chromate (Black)

HFBCM (Trivalent Chromate)
SHFBS (Stainless Steel)
HFBMB (Trivalent Chromate, Black)



ℓ	Part Number Type	M - L	MxP	A	E	B	HFBCM Unit Price 1 ~ 39 pc(s).	HFBCM Volume Discount Rate 40~99	HFBCM Volume Discount Rate 100~120	SHFBS Unit Price 1 ~ 39 pc(s).	SHFBS Volume Discount Rate 40~99	SHFBS Volume Discount Rate 100~120	HFBMB Unit Price 1 ~ 39 pc(s).	HFBMB Volume Discount Rate 40~99	HFBMB Volume Discount Rate 100~120
Full Thread	HFBCM / SHFBS / HFBMB	3 - 6	3x0.5	6	1.7	2				-	-	-	-	-	-
		8											-	-	-
		10											-	-	-
		12													
Full Thread	HFBCM / SHFBS / HFBMB	4 - 6	4x0.7	8	2.3	2.5							-	-	-
		8											-	-	-
		10													
		12													
Full Thread	HFBCM / SHFBS / HFBMB	5 - 6	5x0.8	10	2.8	3							-	-	-
		8													
		10													
		12													
		15													
		20													
		35											-	-	-
16		40											-	-	-
		45					-	-	-				-	-	-
Full Thread	HFBCM / SHFBS / HFBMB	6 - 8	6x1.0	12	3.3	4									
		10													
		12													
		15													
		20													
Full Thread	HFBCM / SHFBS / HFBMB	8 - 12	8x1.25	16	4.4	5									
		15													
		16													
		20													
Full Thread	HFBCM / SHFBS / HFBMB	10 - 16	10x1.5	20	5.5	6				-	-	-	-	-	-
		18													
Full Thread	SHFBS	12 - 20	12x1.75	24	6.5	8	-	-	-						

Ordering Example — Part Number: HFBCM4-6

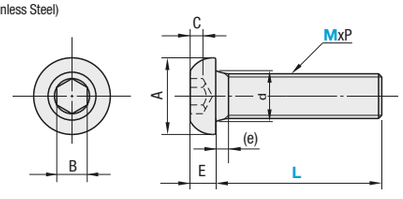
Features: Convenient screws for visible locations such as panel mounting.

Hex Socket Button Head Cap Screws RoHS



Type	Material	Hardness	Surface Treatment
HBCBM	EN 1.7220 Equiv.	31HRC	Trivalent Chromate
SBCB	EN 1.4301 Equiv.	-	-

HBCBM (Trivalent Chromate)
SBCB (Stainless Steel)



JIS B 1174

Part Number Type	M - L	A	E	B	C (Min.)	d	(e) (Max.)	Unit Price 1 ~ 199 pc(s).	Volume Discount Rate 200~299	300~499	500~600
HBCBM	5 - 10	9.5	2.75	3	1.56	5.7	1.6				
	5 - 15										
	6 - 20	10.5	3.3	4	2.08	6.8	2				
	6 - 25										
	8 - 20	14	4.4	5	2.6	9.2	2.5				
	8 - 25										
	8 - 35										
SBCB	4 - 12	7.5	2.2	2.5	1.3	4.7	2.1				
	6 - 25	10.5	3.3	4	2.08	6.8	3				
	8 - 25	14	4.4	5	2.6	9.2	3.5				
	8 - 35										
	10 - 30	17.5	5.5	6	3.12	11.2	4.5				
	12 - 35	21	6.6	8	4.16	14.2	5.25				

Ordering Example — Part Number: HBCBM6-20

For other specs., refer to **P.185**.

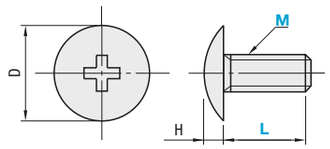
Features: Flathead screws for countersunk holes such as on hinges, etc.

Phillips Truss Machine Screws RoHS



Type	Material	Surface Treatment
HCBM	Carbon Steel for Mechanical Structure	Trivalent Chromate
SHCBM	EN 1.4301 Equiv.	-
HCBMB	Carbon Steel for Mechanical Structure	Trivalent Chromate (Black)

HCBM (Trivalent Chromate)
HCBMB (Trivalent Chromate, Black)
SHCBM (Stainless Steel)



Part Number Type	M - L	D	H	HCBM Unit Price 1 ~ 79 pc(s).	HCBM Volume Discount Rate 80 - 99 pcs.	HCBM Volume Discount Rate 100~200	SHCBM Unit Price 1 ~ 79 pc(s).	SHCBM Volume Discount Rate 80 - 99 pcs.	SHCBM Volume Discount Rate 100~200	HCBMB Unit Price 1 ~ 79 pc(s).	HCBMB Volume Discount Rate 80 - 99 pcs.	HCBMB Volume Discount Rate 100~200
HCBM / SHCBM	3 - 6	6.9	1.9							-	-	-
HCBM / SHCBM / HCBMB	4 - 5	9.4	2.5							-	-	-
	8											
	10											
	12											
HCBM / SHCBM / HCBMB	5 - 8	12	3.1									
	10											
	12											
	15											
	30						-	-	-	-	-	-
	35						-	-	-	-	-	-
HCBM / SHCBM / HCBMB	6 - 10	14	3.7									
	12											
	15						-	-	-	-	-	-

Ordering Example — Part Number: HCBM5-12

Features: Bulk packages of Hex Socket Flat Head Cap Screws and Phillips Truss Machine Screws. Bulk packages are cost effective for in-house stocks and large quantity use.

Hex Socket Flat Head Cap Screws / Phillips Truss Machine Screws Small Screw Bulk Packages (500 pcs. per package) RoHS



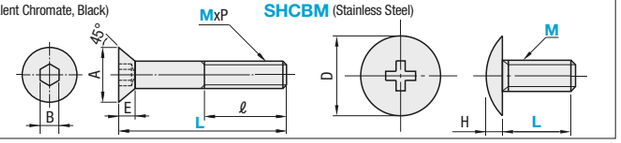
Type		Material	Surface Treatment
Hex Socket Flat Head Cap Screws	HFBCM	EN 1.7220 Equiv.	Trivalent Chromate
	SHFBS	EN 1.4301 Equiv.	-
	HFBMB	EN 1.7220 Equiv.	Trivalent Chromate (Black)
Phillips Truss Machine Screws	HCBM	Carbon Steel for Mechanical Structure	Trivalent Chromate
	SHCBM	EN 1.4301 Equiv.	-
	HCBMB	Carbon Steel for Mechanical Structure	Trivalent Chromate (Black)

Hex Socket Flat Head Cap Screws Bulk Packages

HFBCM (Trivalent Chromate)
SHFBS (Stainless Steel)
HFBMB (Trivalent Chromate, Black)

Phillips Truss Machine Screws Bulk Packages

HCBM (Trivalent Chromate)
HCBMB (Trivalent Chromate, Black)
SHCBM (Stainless Steel)



Hex Socket Flat Head Cap Screws

Part Number Type	M	L	SET / (500 pcs. per pkg.)	M×P	ℓ	A	E	B
HFBCM / SHFBS / HFBMB	3	6 8 10 12	SET1	3x0.5	Full Thread	6	1.7	2
	4	6 8 10 12		4x0.7	Full Thread	8	2.3	2.5
	5	6 8 10 12 15 20 35 40 45		5x0.8	Full Thread	10	2.8	3
					16			
	6	8 10 12 15 20		6x1.0	Full Thread	12	3.3	4
	8	12 15 16 20		8x1.25	Full Thread	16	4.4	5
	10	16 18		10x1.5	Full Thread	20	5.5	6

Phillips Truss Machine Screws

Part Number Type	M	L	SET / (500 pcs. per pkg.)	D	H
HCBM / SHCBM / HCBMB	3	6	SET1	6.9	1.9
	4	5 8 10 12		9.4	2.5
	5	8 10 12 15 30 35		12	3.1
	6	10 12 15		14	3.7

Ordering Example — Part Number: HFBCM5-10-SET1

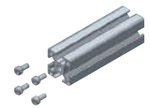
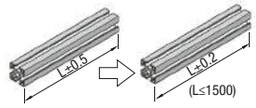
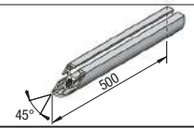
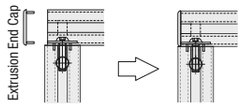
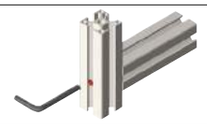
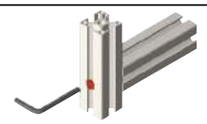
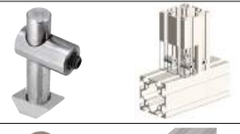
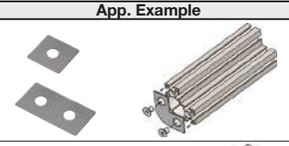
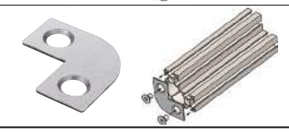
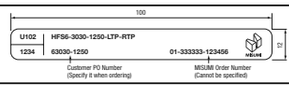
M-L	HFBCM Unit Price of Set of 500 pcs. (SET1)	SHFBS Unit Price of Set of 500 pcs. (SET1)	HFBMB Unit Price of Set of 500 pcs. (SET1)
3-6		-	
8			-
10			
12			
4-6			
8			-
10			
12			
5-6			-
8			
10			
12			
15			
20			
35			
40			-
45	-		
6-8			
10			
12			
15			
20			
8-12			
15			
16			
20			
10-16			-
18		-	

M-L	HCBM Unit Price of Set of 500 pcs. (SET1)	SHCBM Unit Price of Set of 500 pcs. (SET1)	HCBMB Unit Price of Set of 500 pcs. (SET1)
3-6			-
4-5			-
8			
10			
12			
5-8			
10			
12			
15			
30		-	-
35			
6-10			
12			
15		-	-

Alterations for Aluminum Extrusions - Overview / Labeling Service / Chamfering Alterations

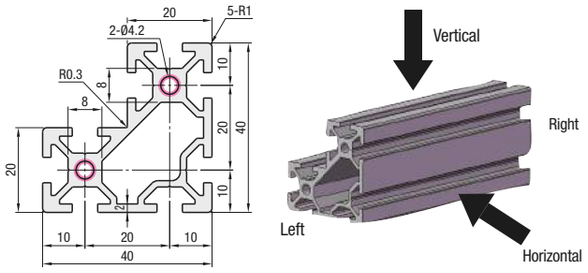
(Applicable Extrusion: P.529 ~ P.690)

MISUMI Aluminum Extrusion products can be utilized for structure building with highly enhanced design flexibility when available alteration options are applied. Some alterations are not applicable depending on extrusion types and sizes. Check for the available alterations on each product page price lists. The hyphens (-) in the price lists denote the unavailable items.

Type	Alterations	Page	Alteration Codes	App. Example	Contents
End Tapping	End Tapping (Center Hole)	P.757	LTP/RTP/TPW LHP/RHP/HPW		Adds tapped holes on extrusion ends. Blind Joints which require this alteration • Screw Joints **P.552, 603, 660, 706** • Simple Joints **P.604**
	End Tapping (4 Side Holes)	P.768	LSP/RSP/SPW		Adds tapped holes on extrusion corner ends.
Cutting Method Change	High Precision Cut	P.758	SC		Applies High Precision Cut with an overall length tolerance of (Standard=L±0.5).→ L±0.2 ⓟOnly applicable to L≤1500
	45-Degree Cut	P.758	L□T45/R□T45		Cuts with 45-degree angle.
Drill Wrench Hole	Wrench Hole in Fixed Position	P.759	LWP/RWP		Wrench access hole(s) for Blind Joints are drilled. The hole location will be aligned with the mating extrusion's tapped hole location. Blind Joints which require this alteration • Screw Joints **P.552, 603, 660, 706** • Single Joints **P.609, 661, 707** • Tapping Joints **P.552, 602, 660**
	Hole Position Change for Extrusion End Cap Thickness	P.760	FL/FR		Offsets the wrench access hole for the thickness of Extrusion End Cap (3mm). The extrusion end cap will be flat with the adjacent extrusion surface.
	Wrench Hole in Specified Position	P.761	AH/BH/AV/BV		Adds a wrench hole in a desired position from the left end. Use for Blind Jointing in beam sections, etc.
Counterboring	Counterbores in Specified Position	P.763	Z6/XA100		Adds a counterbored hole in a desired position from the left end. Can be used for connecting extrusions or installing tables, etc.
Blind Joint Dedicated Holes	D Hole	P.764	LDH/RDH		Adds required holes for Single Joint connections. (Single Joints **P.609, 661, 707**)
	S Hole	P.765	LSH		Adds required holes for Pre-Assembly. Insertion Double Joint connections. (Pre-Assembly Insertion Double Joints **P.611, 663, 709**)
	M Hole	P.766	LMH		Adds required holes for Post-Assembly Insertion Double Joints, Center Joint connections. (Post-Assembly Insertion Double Joints **P.554, 607, 664, 710**)
	L Hole	P.767	JLP		Adds required holes for Parallel Joint connections. (Parallel Joints **P.554, 613, 664**)
Special Extrusions End Plates Mounting	GFS Series End Tapping	P.768	LTS/RTS/TSW		Adds tapped holes on extrusion ends. Blind Joints which require this alteration • Screw Joints **P.552, 603, 660, 706** • Simple Joints **P.604**
	HFSR End Tapping	P.768	LTS/RTS/TSW		Necessary alteration to use Ends Protection Plates for HFSR series on **P.555, 568, 615, 628**.
Chamfering	End Face C Chamfering	See Below	CW		Adds C Chamfering on extrusion ends.
Labeling	Labeling	See Below	ZZZ		Adds a sticker with catalog No. etc. on the aluminum extrusions. Although number of characters are limited, customer's own serial number or unit number can be labeled.

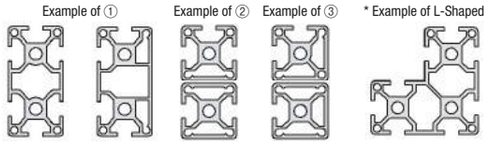
■Standard of Extrusion Position and Indications

For some hole alterations, specifying of "Which end (L or R) to apply the alterations" and "Which direction (horizontal or vertical) to apply the alterations" will be required. Using our standard specifying method for orientation, then L/R and H/V are determined as shown below.



■Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
① On the vertical length
② Flat side down
③ One flat side down and another flat side right



ⓟWhen the extrusion is on the vertical length and also has a flat side, ① has the priority.

LR (Left and Right of Extrusions):

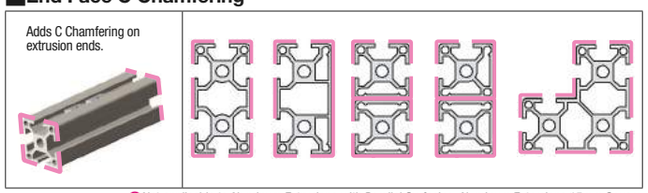
Place extrusions properly, then determine the right and left.
Since most extrusion cross sections are symmetrical and can be used in any orientation. However, please specify the L/R parameters in your orders for administrative purposes. Extrusions ① with different alterations applied on left and right ends, and ② with non-symmetrical cross sections are not reversible therefore the L/R specifications will become critically important.

HVP (Horizontal / Vertical / Cross):

Specify the hole alterations with the extrusion properly oriented, and according to the connection method with the mating extrusion.

■End Face C Chamfering

Adds C Chamfering on extrusion ends.



Alteration	Code	Spec.
End Face C Chamfering	CW	Adds C Chamfering on both extrusion ends. (Thread Chamfering C0.2 ~ 0.3)

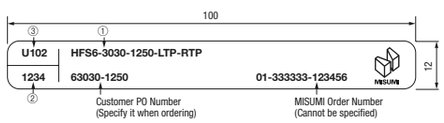
Ordering Example — Part Number: HFS6 - 3030 - 500 - CW

⊗Not applicable to Aluminum Extrusions with Parallel Surfacing, Aluminum Extrusions 15mm Square

■Labeling on Aluminum Extrusions

Adds a sticker with catalog No. etc. on the aluminum extrusion. (Free of Charge)
When placing an order, please add:
(1) a serial number of four digits beginning with -ZZZ
(2) Specify a unit number of 3 digits or less beginning with -U.

(Ex.) **HFS6-3030-1250-LTP-RTP-ZZZ1234-U102**
①Part Number ②Serial Number ③Unit Number





Detailed Specs

Please specify the serial number by 1 digit or more.
Make ③ blank if the unit number is not specified.
If Part Number exceeds 41 digits, "..." follows from the 42nd digit.
If Customer PO Number exceeds 21 digits, "..." follows from the 22nd digit.

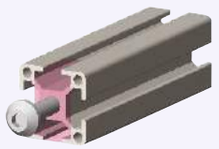
Tapping

Blind Joints which require this alteration

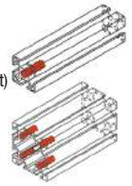
Screw Joints P.552, etc.

Simple Joints P.604

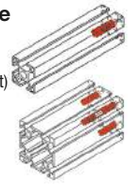
Adds tapped holes on extrusion ends.



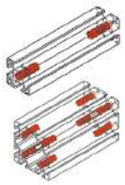
Left Side
LTP
LHP
(Heli-Coil Insert)



Right Side
RTP
RHP
(Heli-Coil Insert)



Both Sides
TPW
HPW
(Heli-Coil Insert)



The number of tap varies depending on the extrusion type (the number of pilot hole for tapping in the end). See each product page for the tapping positions.

For specifying tapping hole dia. and depth of this alteration, check for the list of alteration fees.

⊗See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations: Code: Features	Type	No.	Page	Tapping: End Tapping: Tap Shape	Number of Tapped Holes (per End)	Left: LTP	Right: RTP	Both: TPW	Tap Shape	Left: LHP	Right: RHP	Both: HPW
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P529	M5 Depth 15	1				M3 Depth 6			
		2040	P530		2							
		2060	P531		3							
		2080			4							
		2525		M8 Depth 24	1				M5 Depth 10			
		2550			2							
		4040	P530	M5 Depth 15	4				M3 Depth 6			
		4060	P531									
		4080										
		404020	P532		2							
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P529		1							
		2040	P530		2							
		4040			4							
Two-Side Slots Two Flats	HFST5 NFST5	2020	P529		1				M3 Depth 6			
		4040	P530		4							
Two Slots on Opposite Sides	HFSH5	2020	P529		1							
One-Side Slot Three Flats	HFSC5											
Angled	HFS30A5 HFS45A5 HFS60A5	20	P532		1							
Black Anodize	HFSB5 NFSB5	2020	P529		2							
		2040	P530									
		2525	P531	M8 Depth 24	1				M5 Depth 10			
		2550			2							
		4040	P530	M5 Depth 15	4				M3 Depth 6			
	HFSF5	2020	P529		1							
	HFST5			M4 Depth 12					-			
Curved	HFSR5	404020	P532	M5 Depth 15	2				M3 Depth 6			
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571	M8 Depth 24	1				M5 Depth 10			
		3060	P573		2							
		30120	P576		3							
		5050			10							
		50100	P579		1							
		100100			2							
		6060	P575		4							
		60120	P577		1							
		606030	P578		2							
3-Side Slot 1Side Flat	HFSF6 NFSF6	3030	P571		1							
		3060	P574		2							
		4060	P575		3							
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P572		1							
		3060	P574		2							
		5050	P579		4							
		6060	P575		1							
Two Slots on Opposite Sides	HFSH6	3030	P572		1							
		3060	P574		2							
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P572		1							
Light Type	NFSL6 HFSL6	3060	P573		2							
		5050	P579		4							
Heavy Type	HFSG6	6060	P575		4							
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578		1							
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571		1							
		3060	P573		2							
		3090	P576		3							
		30120			4							
		5050	P579		4							
		50100										
		100100										
		6060	P575									
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P572		1							
	HFSLB6	3060	P573		2							
Curved	NFSR6 HFSR6	3030	P578		1							
		606030			2	360	360	720				

Alterations: Code: Features	Type	No.	Page	Tapping: End Tapping: Tap Shape	Number of Tapped Holes (per End)	Left: LTP	Right: RTP	Both: TPW	Tap Shape	Left: LHP	Right: RHP	Both: HPW
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P631	M12 Depth 36	1				M8 Depth 15			
		4080	P633		2							
		40120	P636		3							
		40160										
		8080	P635	M8 Depth 24	4				M5 Depth 10			
		80160	P636									
		808040	P637	M12 Depth 36	3				M8 Depth 15			
	HFSH8	8080	P635	M8 Depth 24	4				M5 Depth 10			
3-Side Slot 1Side Flat	HFSF8	4080	P632		1				M8 Depth 15			
	NFSF8	4080	P634	Depth 36	2							
	EFSF8 GFSF8	8080	P635	M8 Depth 24	4				M5 Depth 10			
Two-Side Slots Two Flats	HFST8 NEFST8 EFST8 GFST8	4040	P632	M12	1				M8 Depth 15			
		4080	P634	Depth 36	2							
		8080	P635	M8 Depth 24	4				M5 Depth 10			
Two Slots on Opposite Sides	HFSH8	4040	P632		1							
	EFSH8	4080	P634		2							
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P632	M12 Depth 36	1				M8 Depth 15			
Light Type	HFSL8	4040	P631		1							
	NFSL8	4080	P633		2							
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637		1							
Black Anodize	HFSB8 EFSB8	4040	P631		1							
		4080	P633		2							
		40120	P636		3							
		40160	P636		4							
		8080	P635	M8 Depth 24	4				M5 Depth 10			
		80160	P636									
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P632	M12 Depth 36	1				M8 Depth 15			
	HFSTB8	4080	P633		2							
	HFSLB8	4040	P631		1							
Curved	HFSR8	4040	P637	M 10 Depth 30	1				M6 Depth 14			
		808040		M12 Depth 36	2				M8 Depth 15			
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8* CAF8	4545	P681	M12 Depth 18 (Heli-coil is inserted to Ø12.5)	1				M10 Depth 18			
		4590	P684		2							
		45180	P685		4							
		5050	P687		1							
		50100			2							
		5060	P689		1							
		9090*	P685	M8 Depth 24	4				M5 Depth 10			
		90180										
		909045	P686	M12 Depth 18 (Heli-coil is inserted to Ø12.5)	3				M10 Depth 18			
		100100*	P688		4							
		100200*			4							
3-Side Slot 1Side Flat	HFSF8	4545*	P682		1							
	EFSF8	4590	P684		2							
	NEFSF8 GFSF8*	5050	P687		1							
		6060	P689									
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P683		1							
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P683	M12 Depth 18 (Heli-coil is inserted to Ø12.5)	1							
One-Side Slot Three Flats	HFSC8 EFSC8											
Light Type	HFSL8	4545	P681		2							
Four-Side Slots	NFSL8	4590	P684									
Three-Side Slots	HFSLF8	4545	P682									
Two-Side Slots	HFSLT8		P683									
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686		1							
Black Anodize	HFSB8 EFSB8	4545	P681		2							
		4590	P684		4							
		45180	P685		1							
		5050	P687		2							
		50100										
		9090	P685	M8 Depth 24	4				M5 Depth 10			
		90180										
	HFSFB8	4545	P682	M12 Depth 18 (Heli-coil is inserted to Ø12.5)	1				M10 Depth 18			
	HFSTB8		P683									
Curved	HFSR8	4545	P686	M12 Depth 36	2				M8 Depth 15			
		909045										

For LHP, RHP and HPW, Heli-coil is inserted into the pilot holes to reduce the tapped hole diameter. Heli-coil is not RoHS compliant type.

For ★ marked GFS series, tapping diameter is M12 Depth 36 for LTP, RTP and TPW, M8 Depth 15 for LHP, RHP and HPW.

Ordering Example (Part Number)

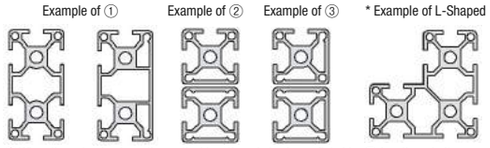
HFS6 - 3030 - 500 - LTP
HFS8 - 4080 - 1200 - TPW

■Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.

① On the vertical length
② Flat side down
③ One flat side down and another flat side right

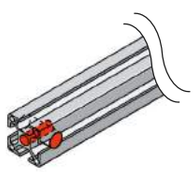
Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

■Notes for combination use of tapping hole (D Hole, S Hole and M Hole)

•When D, S, M holes are specified in the same direction as the tapped holes, the tap depths will be changed to avoid interferences with D, S, and M holes.



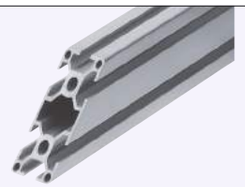
(Ex.) HFS6-3030-500-LDH-LTP

Extrusion (Series)	Square (mm)	Standard Tap Depth	Tap Depth When D Type Hole and S Type Hole are Specified	Tap Depth When M Type Hole is Specified
5 Series	20,40	15mm	-	6mm
	25	24mm		-
6 Series	30,50,60,100		9mm	9mm
8 Series	40	36mm	13mm	13mm
	80	24mm		
8-45 Series	45	18mm	14mm	
	90	24mm		
GFS8	40,80	36mm	13mm	13mm
	45,50,60,90,100	36mm	14mm	13mm

• EFS and CAF are the same as HFS series.

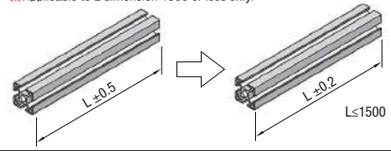
Extrusion Cut

45-Degree Cut / High Precision Cut

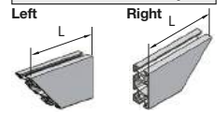


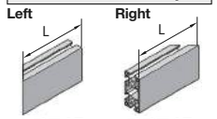
• High Precision Cut SC

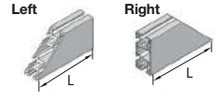
• Changes the tolerance of the full length L from L ±0.5 •••▸ L ±0.2.
Applicable to L dimension 1500 or less only.

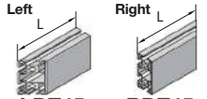


• 45-Degree Cut L□T45 : Adds a 45 degree cut on the left end in the specified direction.
R□T45 : Adds a 45 degree cut on the right end in the specified direction.

Cut with cross the section facing down
Left Right

LAT45 RAT45

Cut with cross the section facing back
Left Right

LBT45 RBT45

Cut with cross the section facing up
Left Right

LCT45 RCT45

Cut with cross the section facing front
Left Right

LDT45 RDT45

The cut direction can be specified as four directions against the cross section.
In case of angled cut, it is impossible to specify other alterations in the same direction.

⊗See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations: Code: Features	Type	No.	Page	Extrusion Cut: High Precision Cut: SC	45-Degree Cut: Left: LAT45 LBT45 LCT45 LDT45	45-Degree Cut: Right: RAT45 RBT45 RCT45 RDT45
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P529			
		2040	P530			
		2060	P531			
		2080				
		2525				
		2550				
		4040	P530			
		4060	P531			
		4080				
		404020	P532			
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P529			
		2040	P530			
		4040				
Two-Side Slots Two Flats	HFST5 NFST5	2020	P529			
		4040	P530			
Two Slots on Opposite Sides	HFSH5	2020	P529			
One-Side Slot Three Flats	HFSC5					
Angled	HFS30A5 HFS45A5 HFS60A5	20	P532		-	-
Black Anodize	HFSB5 NFSB5	2020	P529			
		2040	P530			
		2525	P531			
		2550				
		4040	P530			
	HFSF5	2020	P529			
	HFST5					
Curved	HFSR5	404020	P532		-	-
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571			
		3060	P573			
		30120	P576			
		5050				
		50100	P579			
		100100				
		6060	P575			
		6090	P577			
		60120				
		606030	P578			
		30300	P576		-	-
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P572			
		3060	P574			
		5050	P579			
		6060	P575			
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P572			
		3060	P574			
		5050	P579			
		6060	P575			
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P572			
		3060	P574			
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P572			
Light Type	NFSL6 HFSL6	3060	P571			
		5050	P573			
		6060	P579			
Heavy Type	HFSG6	6060	P575			
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578		-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571			
		3060	P573			
		3090	P576			
		30120				
		5050	P579			
		50100				
		100100				
		6060	P575			
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P572			
	HFSLB6	3060	P573			
Curved	NFSR6	3030	P578			
	HFSR6	606030			-	-

Alterations: Code: Features	Type	No.	Page	Extrusion Cut: High Precision Cut: SC	45-Degree Cut: Left: LAT45 LBT45 LCT45 LDT45	45-Degree Cut: Right: RAT45 RBT45 RCT45 RDT45
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P631			
		4080	P633			
		40120	P636			
		40160			-	-
		8080	P635			
		80160	P636		-	-
		808040	P637			
	HFSH8	8080	P635			
3-Side Slot 1Side Flat	HFSF8	4080	P632			
	NFSF8	4080	P634			
	EFSF8 GFSF8	8080	P635			
Two-Side Slots Two Flats	HFST8 NEFST8 EFST8 GFST8	4040	P632			
		4080	P634			
		8080	P635			
Two Slots on Opposite Sides	HFSH8	4040	P632			
	EFSH8	4080	P634			
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P632			
Light Type	HFSL8	4040	P631			
	NFSL8	4080	P633			
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637		-	-
Black Anodize	HFSB8 EFSB8	4040	P631			
		4080	P633			
		40120	P636			
		40160	P636		-	-
		8080	P635			
		80160	P636		-	-
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P632			
	HFSLB8	4040	P631			
		4080	P633			
Curved	HFSR8	4040	P637		-	-
		808040	P686		-	-
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P681			
		4590	P684			
		45180	P685		-	-
		5050	P687			
		6060	P689		-	-
		9090	P685			
		90180				
		909045	P686		-	-
		100100	P688			
		100200				
3-Side Slot 1Side Flat	HFSF8 EFSF8 NEFSF8 GFSF8	4545	P682			
		4590	P684			
		5050	P687			
		6060	P689			
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P683			
		5050	P687			
		6060	P689			
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P683			
One-Side Slot Three Flats	HFSC8 EFSC8					
Light Type Four-Side Slots Three-Side Slots Two-Side Slots	HFSL8	4545	P681			
	NFSL8	4590	P684			
	HFSLF8 HFSLT8	4545	P682 P683			
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686		-	-
Black Anodize	HFSB8 EFSB8	4545	P681			
		4590	P684			
		45180	P685		-	-
		5050	P687			
		50100				
		9090	P685			
		90180			-	-
	HFSFB8 EFSFB8 HFSTB8	4545	P682 P683			
Curved	HFSR8	4545	P686		-	-
		909045				

Ordering Example (Part Number)

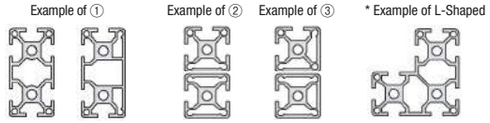
HFS8 - 4040 - 600 - SC
HFS5 - 2020 - 1000 - LAT45 - RBT45

■Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.

① On the vertical length
② Flat side down
③ One flat side down and another flat side right

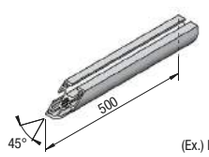
Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

■Notes for 45 Degree Cut of HFSR Series.

•As standard, the frame is placed like the following diagram for R sector like HFSR6-3030.



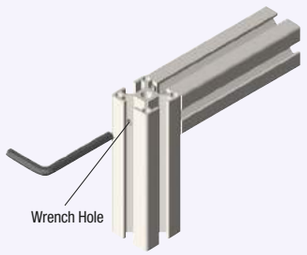
(Ex.) HFSR6-3030-500-LCT45

Fastening Location Wrench Access Hole Alterations

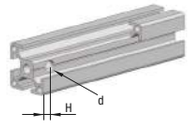
Blind Joints which require this alteration

Screw Joints	Single Joints	Tapping Joints
P.552, etc.	P.609, etc.	P.552, etc.

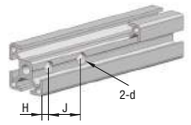
Wrench access holes used for Blind Joint connections, etc. are drilled.



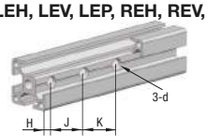
1 Slot - LCH, LCV, LCP, RCH, RCV, RCP



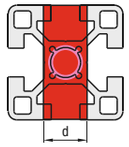
2 Slots - LWH, LWV, LWP, RWH, RWV, RWP



3 Slots - LEH, LEV, LEP, REH, REV, REP



Cross Section View



Hole Position and Size

Extrusion Series	H(mm)	J(mm)	K(mm)	Wrench Hole d(mm)
HFS5	10	20	20	7.35
HFS5 (25 Square)	12.5	25	25	
HFS6	15	30	30	5
HFS6 (50 Square)	15	20	20	8
HFS8	20	40	40	8
HFS8-45	22.5	45	45	

* Wrench Hole d dim. can be selected for Extrusion Series 6. Specify with X5 or X8.

Alteration Code Specification Method

Drilling option is specifiable by combining symbols in the first, second and third column in the table.

Drills two rows of wrench holes horizontally on the left side of the extrusion. **-LWH**

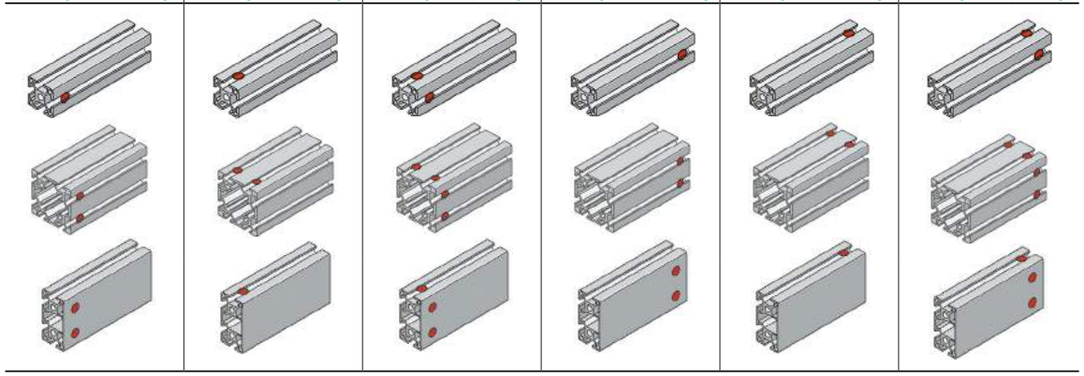
Drills two rows of wrench holes crisscross on the left side of the extrusion. **-LWP**

Meaning of Option Symbols		
First	Second	Third
L (Left)	C (Wrench Holes in Single Line)	H (Horizontal)
R (Right)	W (Wrench Holes in Two Lines)	V (Vertical)
	E (Wrench Holes in Three Lines)	P (Crisscross)

* For additional descriptions on various options, see Alteration Overview (**P.755**).

Alteration Code Example

Wrench Hole					
Left Side			Right Side		
One Row Horizontally (Two Rows, Three Rows)	One Row Vertically (Two Rows, Three Rows)	One Row Crisscross (Two Rows, Three Rows)	One Row Horizontally (Two Rows, Three Rows)	One Row Vertically (Two Rows, Three Rows)	One Row Crisscross (Two Rows, Three Rows)
LCH(LWH,LEH)	LCV(LWV,LEV)	LCP(LWP,LEP)	RCH(RWH,REH)	RCV(RWV,REV)	RCP(RWP,REP)



Ordering Example — Part Number

HFS6 - 3030 - 500 - LCH - X5

HFS8 - 4080 - 1200 - RCP

⊗See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations: Features	Alterations: Type	Alterations: Code No.	Alterations: Page	Wrench Access Hole Dia.	Wrench Hole: Horizontal Drilling on the Left 1 Row LCH	2 Rows LWH	3 Rows LEH	Vertical Drilling on the Left 1 Row LCV	2 Rows LWV	3 Rows LEV	Crisscross Drilling on the Left 1 Row LCP	2 Rows LWP	3 Rows LEP	Horizontal Drilling on the Right 1 Row RCH	2 Rows RWH	3 Rows REH	Vertical Drilling on the Right 1 Row RCV	2 Rows RWV	3 Rows REV	Crisscross Drilling on the Right 1 Row RCP	2 Rows RWP	3 Rows REP
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P529	Ø7.35																		
		2040	P530																			
		2060	P531																			
		2080																				
		2525																				
		2550																				
		4040	P530																			
		4060	P531																			
		4080																				
		404020	P532																			
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P529																			
		2040	P530																			
		4040																				
Two-Side Slots Two Flats	HFST5 NFST5	2020	P529																			
		4040	P530																			
Two Slots on Opposite Sides	HFSH5	2020	P529																			
One-Side Slot Three Flats	HFSC5																					
Angled	HFS30A5 HFS45A5 HFS60A5	20	P532		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Anodize	HFSB5 NFSB5	2020	P529																			
		2040	P530																			
		2525	P531																			
		2550																				
		4040	P530																			
	HFSFB5 HFSTB5	2020	P529																			
Curved	HFSR5	2020																				
		404020	P532		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

⊗See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations: Features	Alterations: Type	Alterations: Code No.	Alterations: Page	Wrench Access Hole Dia.	Wrench Hole: Horizontal Drilling on the Left 1 Row LCH	2 Rows LWH	3 Rows LEH	Vertical Drilling on the Left 1 Row LCV	2 Rows LWV	3 Rows LEV	Crisscross Drilling on the Left 1 Row LCP	2 Rows LWP	3 Rows LEP	Horizontal Drilling on the Right 1 Row RCH	2 Rows RWH	3 Rows REH	Vertical Drilling on the Right 1 Row RCV	2 Rows RWV	3 Rows REV	Crisscross Drilling on the Right 1 Row RCP	2 Rows RWP	3 Rows REP
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571	Ø5 Ø8																		
		3060	P573																			
		3090	P576																			
		30120																				
		5050	P579																			
		50100						-	-	-	-	-	-				-	-	-	-	-	-
		100100																				
		6060	P575																			
		6090	P577																			
		60120																				
		606030	P578																			
		3090	P576					-	-	-	-	-	-				-	-	-	-	-	-
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P572																			
		3060	P574																			
		5050	P579																			
		6060	P575																			
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P572																			
		3060	P574																			
		5050	P579																			
		6060	P575																			
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P572																			
		3060	P574																			
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P572																			
Light Type	NFSL6	3030	P571																			
	HFSL6	3060	P573																			
		5050	P579																			
Heavy Type	HFSQ6	6060	P575																			
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571																			
		3060	P573																			
		3090	P576																			
		30120																				
		5050	P579																			
		50100																				
		100100																				
		6060	P575																			
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P572																			
	HFSLB6	3060	P573																			
Curved	NFSR6 HFSR6	3030	P578		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		606030																				
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4040	P631	Ø8																		
		4080	P633																			
		40120	P636																			
		40160	P635																			
		8080	P636					-	-	-	-	-	-				-	-	-	-	-	-
		80160	P637																			
		808040	P635																			
3-Side Slot 1Side Flat	HFSF8 EFSF8 NFSF8 GFSF8	4040	P632																			
		4080	P634																			
		8080	P635																			
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4040	P632																			
		4080	P634																			
		8080	P635																			
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P632																			
		4080	P634																			
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P632																			
Light Type	HFSL8	4040	P631	Ø8																		
	NFSL8	4080	P633																			
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Anodize	HFSB8 EFSB8	4040	P631																			
		4080	P633																			
		40120	P636																			
		40160	P635																			
		8080	P636					-	-	-	-	-	-				-	-	-	-	-	-
		80160	P637																			
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P632																			
	HFSLB8	4040	P631																			
		4080	P633																			
Curved	HFSR8	4040	P637		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		808040																				
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P681	Ø8																		
		4590	P684																			
		45180	P685																			
		5050	P687																			
		50100																				
		6060	P689																			
		9090	P685																			
		90180						-	-	-	-	-	-				-	-	-	-	-	-
		909045	P686																			
		100100	P688																			
		100200																				
3-Side Slot 1Side Flat	HFSF8 EFSF8 NEFSF8 GFSF8	4545	P682																			
		4590	P684																			
		5050	P687																			
		6060	P689																			
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P683																			
		5050	P687																			
		6060	P689																			
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P683																			
One-Side Slot Three Flats	HFSC8 EFSC8																					
Light Type	HFSL8	4545	P681																			
Four-Side Slots	NFSL8	4590	P684																			
Three-Side Slots	HFSLF8	4545	P682																			
Two-Side Slots	HFSLT8		P683																			
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Anodize	HFSB8 EFSB8	4545	P681																			
		4590	P684																			
		45180	P685					-	-	-	-	-	-				-	-	-	-	-	-
		5050	P687																			
		50100																				
		9090	P685																			
		90180						-	-	-	-	-	-				-	-	-	-	-	-
	HFSFB8	4545	P682																			
	HFSTB8		P683																			
Curved	HFSR8	4545	P686		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		909045																				

Standard of Extrusion Position

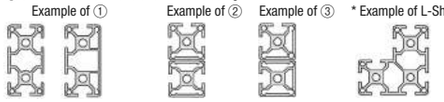
Placing method of the extrusion, which is a basis to determine right and left is shown as follows.

① On the vertical length

② Flat side down

③ One flat side down and another flat side right

Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority. * For L-shaped, both vertical and horizontal hole machining are only in the long length direction.

Hole(s) on smooth surfaces.

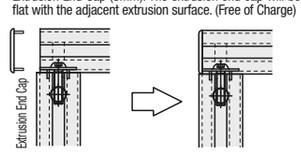
Specifying Wrench Access Hole in the flat surface direction provides holes on the flat surface also. To maintain the smoothness of the flat surface without wrench access holes, use of Simple Joint Kits (**P.604**) is recommended.

- Wrench access hole can be drilled using a jig on **P.846**.



Available Alteration Combinations

Offsets the wrench access hole for the thickness of Extrusion End Cap (3mm). The extrusion end cap will be flat with the adjacent extrusion surface. (Free of Charge)

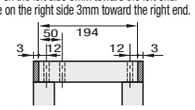


In order to make the extrusion and the extrusion end cap flat,

-FL : Shifts the wrench hole on the left side 3mm toward the left end.

-FR : Shifts the wrench hole on the right side 3mm toward the right end.

Example



For HFS6-3030-194-LCV-FL-RCV-FR:
The wrench access holes originally to be drilled at 15mm will be moved to 12mm to take the extrusion end cap thickness in account.

Note that this alteration is an additional modifier of the Wrench Access Hole Alteration. Adding this modifier alone to other alterations will be invalid.

Ordering Example — Part Number

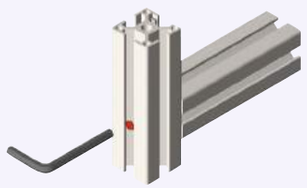
HFS6 - 3030 - 2160 - LCV - FL - RCV - FR

Wrench Hole in Specified Position

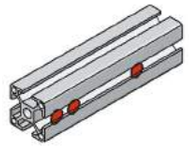
Blind Joints which require this alteration

Screw Joints	Single Joints	Tapping Joints
P.552, etc.	P.609, etc.	P.552, etc.

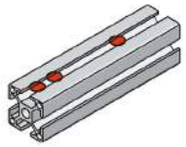
Adds drilled holes for Blind Joint (mainly for beams) connections at specified locations.



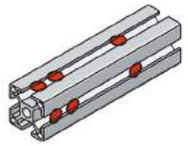
Horizontal AH, BH, CH, DH, EH



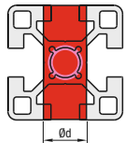
Vertical AV, BV, CV, DV, EV



Crisscross (Horizontal + Vertical) AP, BP, CP, DP, EP



Cross Section View

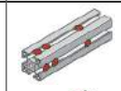
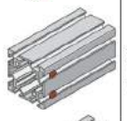
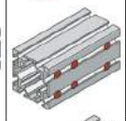
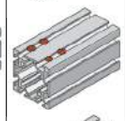
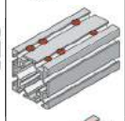
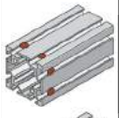
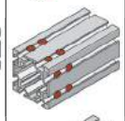
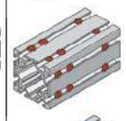
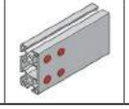
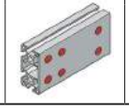
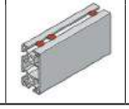
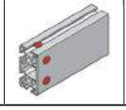
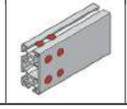
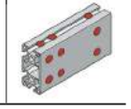


Alteration Code Specification Method

Alteration Code specified in 0.5mm increments (from Left End)	Extrusion Series	Ød
AH, BH, CH, DH, EH (Horizontal) AV, BV, CV, DV, EV (Vertical) AP, BP, CP, DP, EP (Crisscross)	5 Series	7.35
	6 Series	5,8
	8 Series	8
	8-45 Series	

* Wrench Hole d dim. can be selected for Extrusion Series 6. Specify with X5 or X8.
For additional descriptions on various options, see Alteration Overview (**P.755**).
⊗Up to 5 locations in Vertical, Horizontal, and Crisscross directions can be specified.

Alteration Code Example

Horizontal			Vertical			Crisscross		
AH (1 Location Horizontal)	AH BH (2 Locations Horizontal)	AH BH CH (3 Locations Horizontal)	AV (1 Location Vertical)	AV BV (2 Locations Vertical)	AV BV CV (3 Locations Vertical)	AP (1 Location Crisscross)	AV BV (2 Locations Crisscross)	AP BP CP (3 Locations Crisscross)
								
								
								

Ordering Example — Part Number

HFS6-3030-300-X8-AH30-BH280
HFS8-4040-300-AH30-BH280-AV100-BV280

⊗See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

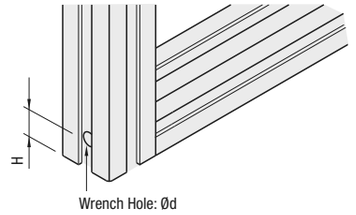
Alterations Code: Features	Type	No.	Page	Wrench Hole in Specified Position: Wrench Access Hole Dia.	Horizontally AH–EH	Vertically AV–EV	Crisscross AP–EP
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P529	Ø7.35			
		2040	P530				
		2060	P531				
		2080					
		2525					
		2550					
		4040	P530				
		4060	P531				
		4080					
		404020	P532				
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P529				
		2040	P530				
		4040					
Two-Side Slots Two Flats	HFST5 NFST5	2020	P529				
		4040	P530				
Two Slots on Opposite Sides	HFSH5	2020	P529				
One-Side Slot Three Flats	HFSC5						
Angled	HFS30A5 HFS45A5 HFS60A5	20	P532		-	-	-
Black Anodize	HFSB5 NFSB5	2020	P529				
		2040	P530				
		2525	P531				
		2550					
		4040	P530				
	HFSFB5	2020	P529				
	HFSTB5						
Curved	HFSR5	2020	P529		-	-	-
		404020	P532				

⊗See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations Code: Features	Type	No.	Page	Wrench Hole in Specified Position: Wrench Access Hole Dia.	Horizontally AH–EH	Vertically AV–EV	Crisscross AP–EP
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571	Ø5 Ø8			
		3060	P573				
		3090	P576				
		30120					
		5050	P579				
		50100			-	-	-
		100100					
		6060	P575				
		6090	P577				
		60120					
		606030	P578				
		30300	P576		-	-	-
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P572				
		3060	P574				
		5050	P579				
		6060	P575				
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P572				
		3060	P574				
		5050	P579				
		6060	P575				
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P572				
		3060	P574				
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P572				
Light Type	NFSL6 HFSL6		P571				
		3060	P573				
		5050	P579				
Heavy Type	HFSG6	6060	P575				
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578		-	-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571				
		3060	P573				
		3090	P576				
		30120					
		5050	P579				
		50100					
		100100					
		6060	P575				
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P572				
	HFSLB6						
		3060	P573				
Curved	NFSR6 HFSR6	3030	P578		-	-	-
		606030					
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P631	Ø8			
		4080	P633				
		40120	P636				
		40160					
		8080	P635				
		80160	P636				
		808040	P637				
	HFSH8	8080	P635				
3-Side Slot 1Side Flat	HFSF8 NFSF8 EFSF8 GFSF8	4040	P632				
		4080	P634				
		8080	P635				
Two-Side Slots Two Flats	HFST8 NEFST8 EFST8 GFST8	4040	P632				
		4080	P634				
		8080	P635				
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P632				
		4080	P634				
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P632				
Light Type	HFSL8 NFSL8	4040	P631				
		4080	P633				
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637		-	-	-
Black Anodize	HFSB8 EFSB8	4040	P631				
		4080	P633				
		40120	P636				
		40160					
		8080	P635				
		80160	P636		-	-	-
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P632				
	HFSLB8	4040	P631				
		4080	P633				
Curved	HFSR8	4040	P637		-	-	-
		808040					
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P681	Ø8			
		4590	P684				
		45180	P685		-	-	-
		5050	P687				
		50100					
		6060	P689				
		9090	P685				
		90180			-	-	-
		909045	P686				
		100100	P688				
		100200					
3-Side Slot 1Side Flat	HFSF8 EFSF8 NEFSF8 GFSF8	4545	P682				
		4590	P684				
		5050	P687				
		6060	P689				
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P683				
		5050	P687				
		6060	P689				
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P683				
One-Side Slot Three Flats	HFSC8 EFSC8						
Light Type Four-Side Slots Three-Side Slots Two-Side Slots	HFSL8 NFSL8 HFSLF8 HFSLT8	4545	P681 P684 P682 P683				
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686		-	-	-
Black Anodize	HFSB8 EFSB8	4545	P681				
		4590	P684				
		45180	P685		-	-	-
		5050	P687				
		50100					
		9090	P685				
		90180			-	-	-
	HFSFB8	4545	P682				
	HFSTB8		P683				
Curved	HFSR8	4545	P686		-	-	-
		909045					

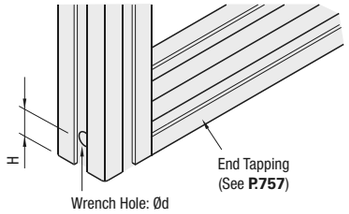
Alterations Needed for Various Joints

Tapping Joint Drilling



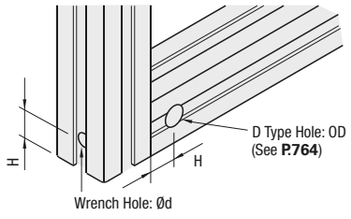
A wrench access hole is needed for a Tapping Joint.

Screw Joint Drilling



For a Screw Joint, a wrench access hole on one extrusion, and a hole tapping (**P.757**) on the other extrusion are needed.

Single Joint Drilling

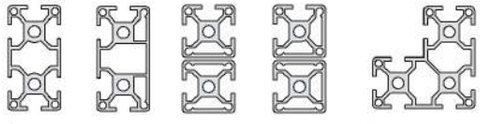


For a Single Joint, a wrench access hole on one extrusion, and a D Hole (**P.764**) on the other extrusion are needed.

Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
① On the vertical length
② Flat side down
③ One flat side down and another flat side right

Example of ① Example of ② Example of ③ * Example of L-Shaped

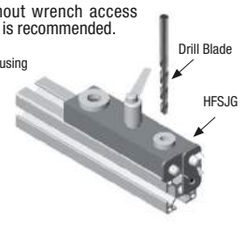


When the extrusion is on the vertical length and also has a flat side, ① has the priority.

Hole(s) on smooth surfaces.

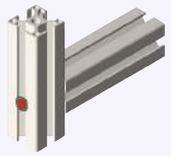
Specifying Wrench Access Hole in the flat surface direction provides holes on the flat surface also. To maintain the smoothness of the flat surface without wrench access holes, use of Simple Joint Kits (**P.604**) is recommended.

・Wrench access hole can be drilled using a jig on **P.846**.

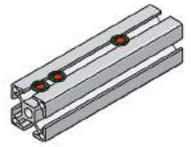


Counterbores in Specified Position

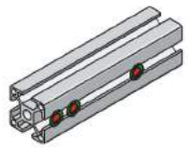
Counterbores useable for various purposes are added at customer specified locations.



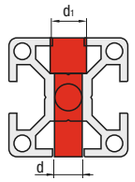
Top to Bottom (Vertical)
XA XB XC XD XE



Right to Left (Horizontal)
YA YB YC YD YE



Cross Section View



Counterbore is added on every slot for multiple slotted extrusions.

Alteration Code Specification Method

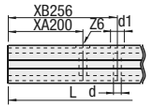
- As for the Counterbore, it is possible to select one type of hole diameter in Z selection and specify up to five holes in one direction.
- Specify the desired hole position from the left end.

Alterations	Counterboring				
Code	Z Selection				XA XB XC XD XE YA YB YC YD YE
Spec.	Extrusion Series	Z	d	d1	Distance from the Left End (0.5mm Increment)
Specify Counterbores and Locations	HFS5	5	5.5	9.5	7~(L-7)
	HFS6 GFS6	6	6.5	11	
		8	9	14	
	HFS8(-45) GFS8	6	6.5	11	
		8	9	14	
		12	13	19	10~(L-10)

Ordering Example

Part Number

HFS6-3030-500-Z6-XA200-XB256



See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

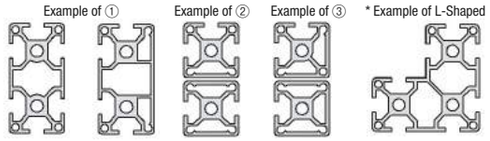
Alterations Code Features	Type	No.	Page	Counterbores in Specified Position: Counterbored	From Top to Bottom XA~XE	From Right to Left YA~YE
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P529	Z5 d5.5 d1 9.5		
		2040	P530			
		2060	P531			
		2080				
		2525				
		2550				
		4040	P530			
		4060	P531			
		4080				
		404020	P532		-	-
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P529			
		2040	P530			-
		4040				
Two-Side Slots Two Flats	HFST5 NFST5	2020	P529			
		4040	P530			-
Two Slots on Opposite Sides	HFSH5	2020	P529		-	
One-Side Slot Three Flats	HFSC5					
Angled	HFS30A5 HFS45A5 HFS60A5	20	P532	Z6 d6.5 d1 11	-	-
Black Anodize	HFSB5 NFSB5	2020	P529			
		2040	P530			
		2525	P531			
		2550			-	
		4040	P530			
	HFSFB5 HFSTB5	2020	P529			
Curved	HFSR5	2020	P529		-	-
		404020	P532			
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571	Z6 d6.5 d1 11		
		3060	P573			
		3090	P576			
		30120			-	
		5050	P579			
		50100			-	
		100100				
		6060	P575			
		6090	P577			
		60120			-	
		606030	P578		-	-
		30300	P576		-	
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P572			
		3060	P574			-
		5050	P579			
		6060	P575			
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P572			
		3060	P574			-
		5050	P579			
		6060	P575			
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P572		-	
		3060	P574			
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P572			-
			P571			
Light Type	NFSL6 HFSL6	3060	P573			
		5050	P579			
Heavy Type	HFSG6	6060	P575			
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578	Z8 d9 d1 14	-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571			
		3060	P573			
		3090	P576			
		30120			-	
		5050	P579			
		50100				
		100100				
		6060	P575			
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P572			
	HFSLB6					-
		3060	P573			
Curved	NFSR6 HFSR6	3030	P578		-	-
		606030				

Alterations Code Features	Type	No.	Page	Counterbores in Specified Position: Counterbored	From Top to Bottom XA~XE	From Right to Left YA~YE
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P631	Z6 d6.5 d1 11		
		4080	P633			
		40120	P636		-	
		40160				
		8080	P635			
		80160	P636		-	
		808040	P637			
	HFSH8	8080	P635			
3-Side Slot 1Side Flat	HFSF8 NFSF8 EFSF8 GFSF8	4040	P632			
		4080	P634			-
		8080	P635			
Two-Side Slots Two Flats	HFST8 NFST8 EFST8 GFST8	4040	P632			
		4080	P634			-
		8080	P635			
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P632		-	
		4080	P634			
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P632			-
Light Type	HFSL8 NFSL8	4040	P631			
		4080	P633			
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637	Z12 d13 d1 19	-	-
Black Anodize	HFSB8 EFSB8	4040	P631			
		4080	P633			
		40120	P636		-	
		40160				
		8080	P635			
		80160	P636		-	
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P632			
	HFSLB8	4040	P631			-
		4080	P633			
Curved	HFSR8	4040	P637		-	-
		808040				
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P681	Z6 d6.5 d1 11 Z8 d9 d1 14 Z12 d13 d1 19		
		4590	P684			
		45180	P685		-	
		5050	P687			
		50100				
		6060	P689		-	
		9090	P685			
		90180			-	
		909045	P686			
		100100	P688		-	
		100200				
3-Side Slot 1Side Flat	HFSF8 EFSF8 NEFSF8 GFSF8	4545	P682			
		4590	P684			-
		5050	P687			
		6060	P689			
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P683			
		5050	P687			-
		6060	P689			
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P683		-	
One-Side Slot Three Flats	HFSC8 EFSC8					-
Light Type Four-Side Slots Three-Side Slots Two-Side Slots	NFSL8	4545	P681			
	HFSL8	4590	P684			
	HFSLF8	4545	P682			
	HFSLT8		P683			-
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686		-	
Black Anodize	HFSB8 EFSB8	4545	P681			
		4590	P684			
		45180	P685		-	
		5050	P687			
		50100				
		9090	P685			-
		90180			-	
	HFSFB8 HFSTB8	4545	P682			
			P683			-
Curved	HFSR8	4545	P686		-	
		909045				

Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
① On the vertical length
② Flat side down
③ One flat side down and another flat side right

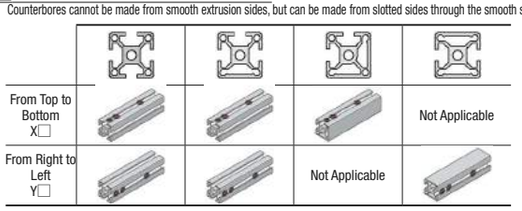
Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

Notes on Flat Sided Extrusions

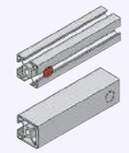
Counterbores cannot be made from smooth extrusion sides, but can be made from slotted sides through the smooth sides.



D Type Hole Alterations

Blind Joints which require this alteration
Single Joints
P.609, etc.

Adds D Holes for Single Joint connections.

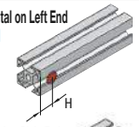


(Reference) Corner section when using Single Joints

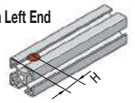


D Holes do not penetrate through the smooth sides, enabling esthetically pleasing connections.

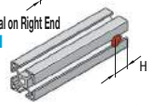
Horizontal on Left End
LDH



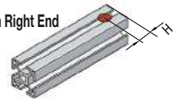
Vertical on Left End
LDV



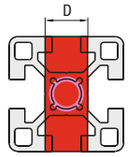
Horizontal on Right End
RDH



Vertical on Right End
RDV



Cross Section View



D Hole is added on every slot for multiple slotted extrusions.

Hole Position and Size

Extrusion Series	H(mm)	D Hole ØD(mm)
HFS6	15	11.1
HFS8	20	13.1
HFS8-45	22.5	15.1

Ordering Example

Part Number

HFS6-3030-2000-LDH-RDH

See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

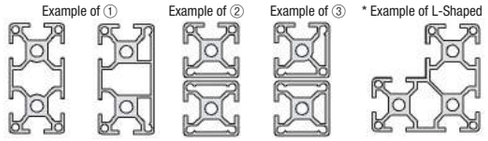
Alterations Code Features	Type	No.	Page	D Hole Dia.	D Hole: Left Side Horizontally LDH	Left Side Vertically LDV	Right Side Horizontally RDH	Right Side Vertically RDV
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571	D11.1				
		3060	P573					
		3090	P576					
		30120			-		-	
		5050	P579					
		50100			-		-	
		100100						
		6060	P575					
		6090	P577					
		60120			-		-	
		606030	P578		-		-	
		30300	P576		-		-	
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P572					
		3060	P574					
		5050	P579					
		6060	P575					
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P572					
		3060	P574					
		5050	P579					
		6060	P575					
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P572					
		3060	P574					
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P572					
			P571					
Light Type	NFSL6 HFSL6	3060	P573					
		5050	P579					
Heavy Type	HFSG6	6060	P575					
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578		-	-	-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571					
		3060	P573					
		3090	P576					
		30120			-		-	
		5050	P579					
		50100						
		100100						
		6060	P575					
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P572					
	HFSLB6							
		3060	P573					
Curved	NFSR6 HFSR6	3030	P578		-	-	-	-
		606030						
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P631	D13.1				
		4080	P633					
		40120	P636			-		-
		40160						
		8080	P635					
		80160	P637		-		-	
		808040	P637					
	HFSH8	8080	P635					
3-Side Slot 1Side Flat	HFSF8 NFSF8 EFSF8 GFSF8	4040	P632					
		4080	P634					
		8080	P635					
Two-Side Slots Two Flats	HFST8 NFST8 EFST8 GFST8	4040	P632					
		4080	P634					
		8080	P635					
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P632					
		4080	P634					
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P632					
Light Type	HFSL8	4040	P631					
	NFSL8	4080	P633					
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637		-	-	-	-
Black Anodize	HFSB8 EFSB8	4040	P631					
		4080	P633					
		40120	P636			-		-
		40160	P636					
		8080	P635					
		80160	P636			-		-
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P632					
	HFSLB8	4040	P631					
		4080	P633					
Curved	HFSR8	4040	P637		-	-	-	-
		808040						

Alterations Code Features	Type	No.	Page	D Hole Dia.	D Hole: Left Side Horizontally LDH	Left Side Vertically LDV	Right Side Horizontally RDH	Right Side Vertically RDV
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P681	D15.1				
		4590	P684					
		45180	P685			-		-
		5050	P687					
		50100				-		-
		6060	P689					
		9090	P685					
		90180				-		-
		909045	P686		-	-	-	-
		100100	P688					
		100200				-		-
3-Side Slot 1Side Flat	HFSF8 EFSF8 NEFSF8 GFSF8	4545	P682					
		4590	P684					
		5050	P687					
		6060	P689					
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P683					
		5050	P687					
		6060	P689					
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P683					
One-Side Slot 3 Sides Flat	HFSC8 EFSC8							
Light Type	HFSL8	4545	P681					
Four-Side Slots	NFSL8	4590	P684					
Three-Side Slots	HFSLF8	4545	P682					
Two-Side Slots	HFSLT8		P683					
Angled	HFS30A8 HFS45A8 HFS60A8	45	P686		-	-	-	-
Black Anodize	HFSB8 EFSB8	4545	P681					
		4590	P684					
		45180	P685			-		-
		5050	P687					
		50100				-		-
		9090	P685					
		90180				-		-
	HFSFB8 HFSTB8	4545	P682					
			P683					
Curved	HFSR8	4545	P686		-	-	-	-
		909045						

Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
① On the vertical length
② Flat side down
③ One flat side down and another flat side right

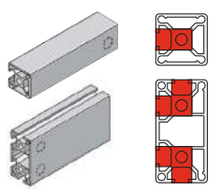
Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

Additional Info. on Smooth Sided Extrusions

D Holes in flat surface direction are blind holes, and do not penetrate through the flat surface.



・D holes and wrench access hole can be drilled using a jig on P.846.



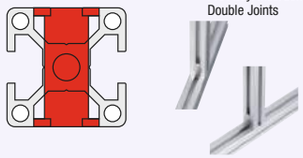
S Type Hole Alterations

Blind Joints which require this alteration

Pre-Assembly Insertion Double Joints
P.611, etc.

Drilling of S Holes for Pre Assy. Insertion Double Joint connections.

(Reference) Corners when using Pre Assy. Insertion Double Joints

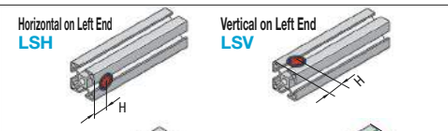


Horizontal on Left End **LSH**

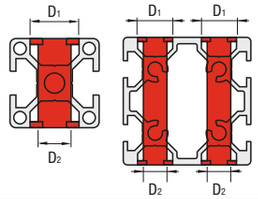
Vertical on Left End **LSV**

Horizontal on Right End **RSH**

Vertical on Right End **RSV**



Cross Section View

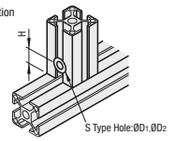


S Hole is added on every slot for multiple slotted extrusions.

Hole Position and Size

Extrusion Series	S Hole H(mm)	S Hole ØD1(mm)	S Hole ØD2(mm)
HFS6	15	16.5	11.1
HFS8	20	20	13.1
HFS8-45	22.5	20	15.1

Pre-Assembly Insertion Double Joint Drilling



Ordering Example: HFS6-3030-2000-LSH-RSV (Part Number)

See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations Features	Type	No.	Page	S Hole Dia.	S Hole Left Side Horizontally LSH	S Hole Left Side Vertically LSV	S Hole Right Side Horizontally RSH	S Hole Right Side Vertically RSV
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P.571	D1Ø16.5 D2Ø11.1				
		3060	P.573					
		3090	P.576					
		30120			-			-
		5050	P.579					
		50100						
		100100						
		6060	P.575					
		6090	P.577					
		60120						
		606030	P.578		-	-	-	-
		30300	P.576			-		-
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P.572					
		3060	P.574		-		-	
		5050	P.579					
		6060	P.575					
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P.572					
		3060	P.574		-	-	-	-
		5050	P.579					
		6060	P.575					
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P.572					
		3060	P.574					
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P.572		-	-	-	-
Light Type	NFSL6 HFSL6	3030	P.572					
		3060	P.573					
		5050	P.579					
Heavy Type	HFSG6	6060	P.575					
Angled	HFS30A6 HFS45A6 HFS60A6	30	P.578		-	-	-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P.571					
		3060	P.573					
		3090	P.576					
		30120			-			-
		5050	P.579					
		50100						
		100100						
		6060	P.575					
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P.572		-	-	-	-
	HFSLB6	3060	P.573					
Curved	NFSR6 HFSR6	3030	P.578		-	-	-	-
		606030						
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P.631	D1Ø20 D2Ø13.1				
		4080	P.633					
		40120	P.636					
		40160			-			-
		8080	P.635					
		80160	P.636					
		808040	P.637		-	-	-	-
	HFSH8	8080	P.635					
3-Side Slot 1Side Flat	HFSF8 NFSF8 EFSF8 GFSF8	4040	P.632					
		4080	P.634					
		8080	P.635					
Two-Side Slots Two Flats	HFST8 NEFST8 EFST8 GFST8	4040	P.632					
		4080	P.634		-	-	-	-
		8080	P.635					
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P.632					
		4080	P.634					
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P.632		-	-	-	-
Light Type	HFSL8 NFSL8	4040	P.631					
		4080	P.633					
Angled	HFS30A8 HFS45A8 HFS60A8	40	P.637		-	-	-	-
Black Anodize	HFSB8 EFSB8	4040	P.631					
		4080	P.633					
		40120	P.636					
		40160	P.636		-			-
		8080	P.635					
		80160	P.636			-		-
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P.632		-	-	-	-
	HFSLB8	4080	P.633					
Curved	HFSR8	4040	P.637		-	-	-	-
		808040						

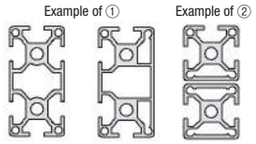
Alterations Features	Type	No.	Page	S Hole Dia.	S Hole Left Side Horizontally LSH	S Hole Left Side Vertically LSV	S Hole Right Side Horizontally RSH	S Hole Right Side Vertically RSV
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P.681	D1Ø20 D2Ø15.1				
		4590	P.684					
		45180	P.685		-			-
		5050	P.687					
		50100						
		6060	P.689					
		9090						
		90180	P.685					
		909045	P.686		-	-	-	-
		100100	P.688					
		100200				-		-
3-Side Slot 1Side Flat	HFSF8 EFSF8 NEFSF8 GFSF8	4545	P.682					
		4590	P.684		-		-	
		5050	P.687					
		6060	P.689					
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P.683					
		5050	P.687					
		6060	P.689		-	-	-	-
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P.683					
One-Side Slot Three Flats	HFSC8 EFSC8				-		-	
Light Type	HFSL8	4545	P.681					
Four-Side Slots	NFSL8	4590	P.684					
Three-Side Slots	HFSLF8	4545	P.682					
Two-Side Slots	HFSLT8		P.683					
Angled	HFS30A8 HFS45A8 HFS60A8	45	P.686		-	-	-	-
Black Anodize	HFSB8 EFSB8	4545	P.681					
		4590	P.684					
		45180	P.685		-			-
		5050	P.687					
		50100						
		90180	P.685			-		-
	HFSFB8 HFSTB8	4545	P.682 P.683					
Curved	HFSR8	4545	P.681		-		-	
		909045	P.686			-		-

Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.

① On the vertical length
② Flat side down

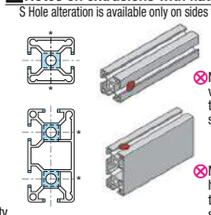
Example of ① Example of ②



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

Notes on extrusions with flat (smooth) sides

S Hole alteration is available only on sides that are not smooth.



Not applicable in vertical direction towards smooth surfaces.

Not applicable in horizontal direction towards smooth surfaces.

Notes on large extrusions and L-sectioned extrusions

Maximum length available for S Holes is 100mm. Not available in the direction over 100mm for large extrusions such as 30120.

S Hole alteration on L-sectioned extrusions is not possible, irrespective of directions.

M Type Hole Alterations

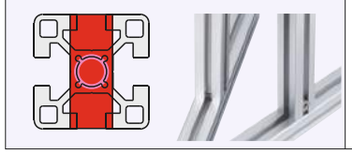
Blind Joints which require this alteration

Post-Assembly Insertion Double Joints
P.554, etc.

Center Joint
P.553, etc.

Drilling of M Holes for Center Joint and Post Assy. Insertion Double Joint connections.

(Reference) Corners when using Center Jointing

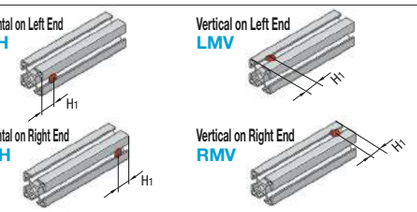


Horizontal on Left End **LMH**

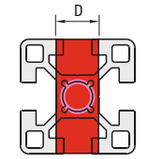
Vertical on Left End **LMV**

Horizontal on Right End **RMH**

Vertical on Right End **RMV**



Cross Section View

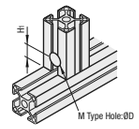


M Hole is added on every slot for multiple slotted extrusions, except for the middle slot of 3-slotted extrusion.

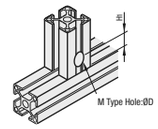
Hole Position and Size

Extrusion Series	M Hole H1(mm)	M Hole ØD(mm)
HFS5	10	7.1
HFS5 (25 Square)	-	-
HFS6	15	11.1
HFS8	20 *(20.5)	13.1
HFS8-45		

Post-Assembly Insertion Double Joint Drilling



Center Joint Drilling



Ordering Example: HFS6-3030-2000-LMH-RMH (Part Number)

* Only for 45 Square Light Type (HFSL8-45) Series, H1 dimension is 20.5.

See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations Features	Type	No.	Page	M Hole Dia.	M Hole Left Side Horizontally LMH	M Hole Left Side Vertically LMV	M Hole Right Side Horizontally RMH	M Hole Right Side Vertically RMV
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P.529	ØD7.1				
		2040	P.530					
		2060	P.531					
		2080						
		2525			-	-	-	-
		2550			-	-	-	-
		4040	P.530					
		4060	P.531					
		4080						
		404020	P.532					
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P.529					
		2040	P.530					
Two-Side Slots Two Flats	HFST5 NFST5	2020	P.529					
		4040	P.530					
Two Slots on Opposite Sides	HFSH5	2020	P.529					
One-Side Slot Three Flats	HFSC5							
Angled	HFS30A5 HFS45A5 HFS60A5	20	P.532		-	-	-	-
Black Anodize	HFSB5 NFSB5	2020	P.529					
		2040	P.530					
		2525	P.531		-	-	-	-
		2550			-	-	-	-
		4040	P.530					
	HFSFB5 HFSTB5	2020	P.529					
Curved	HFSR5	404020	P.532		-	-	-	-
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P.571	D Ø11.1				
		3060	P.573					
		3090	P.576					
		30120			-			-
		5050	P.579					
		50100						
		100100						
		6060	P.575					
		6090	P.577					
		60120						
		606030	P.578		-	-	-	-
		30300	P.576			-		-
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P.572					
		3060	P.574					
		5050	P.579					
		6060	P.575					
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P.572					
		3060	P.574					
		5050	P.579					
		6060	P.575					
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P.572					
		3060	P.574					
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P.572					
Light Type	NFSL6 HFSL6		P.571					
		3060	P.573					
		5050	P.579					
Heavy Type	HFSG6	6060	P.575					
Angled	HFS30A6 HFS45A6 HFS60A6	30	P.578		-	-	-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P.571					
		3060	P.573					
		3090	P.576					
		30120			-			-
		5050	P.579					
		50100						
		100100						
		6060	P.575					
	HFSFB6 EFSFB6 HFSTB6 EFSTB6	3030	P.572					
	HFSLB6							
		3060	P.573					
Curved	NFSR6 HFSR6	3030	P.578		-	-	-	-
		606030						

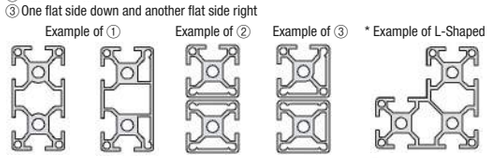
Alterations Features	Type	No.	Page	M Hole Dia.	M Hole Left Side Horizontally LMH	M Hole Left Side Vertically LMV	M Hole Right Side Horizontally RMH	M Hole Right Side Vertically RMV
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P.631	D Ø13.1				
		4080	P.633					
		40120	P.636					
		40160				-		-
		8080	P.635					
		80160	P.636			-		-
	HFSH8	8080	P.635					
3-Side Slot 1Side Flat	HFSF8 NFSF8 EFSF8 GFSF8	4040	P.632					
		4080	P.634					
		8080	P.635					
Two-Side Slots Two Flats	HFST8 NEFST8 EFST8 GFST8	4040	P.632					
		4080	P.634					
		8080	P.635					
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P.632					
		4080	P.634					
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P.632					
Light Type	HFSL8 NFSL8	4040	P.631					
		4080	P.633					
Angled	HFS30A8 HFS45A8 HFS60A8	40	P.637		-	-	-	-
Black Anodize	HFSB8 EFSB8	4040	P.631					
		4080	P.633					
		40120	P.636					
		40160	P.636			-		-
		8080	P.635					
		80160	P.636			-		-
	HFSFB8 EFSFB8 HFSTB8 EFSTB8	4040	P.632					
	HFSLB8	4040	P.631					
		4080	P.633					
Curved	HFSR8	4040	P.637		-	-	-	-
		808040						
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8	4545	P.681	D Ø13.1				
		4590	P.684					
		45180	P.685			-		-
		5050	P.687					
		50100						
		6060	P.689					
		9090	P.685					
		90180				-		-
		909045	P.686		-	-	-	-
		100100	P.688					
		100200				-		-
3-Side Slot 1Side Flat	HFSF8 EFSF8 NEFSF8 GFSF8	4545	P.682					
		4590	P.684					
		5050	P.687					
		6060	P.689					
Two-Side Slots Two Flats	HFST8 EFST8 NEFST8 GFST8	4545	P.683					
		5050	P.687					
		6060	P.689					
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P.683					
One-Side Slot Three Flats	HFSC8 EFSC8							
Light Type	HFSL8	4545	P.681					
Four-Side Slots	NFSL8	4590	P.684					
Three-Side Slots	HFSLF8	4545	P.682					
Two-Side Slots	HFSLT8		P.683					
Angled	HFS30A8 HFS45A8 HFS60A8	45	P.686		-	-	-	-
Black Anodize	HFSB8 EFSB8	4545	P.681					
		4590	P.684					
		45180	P.685			-		-
		5050	P.687					
		50100						
		9090	P.685					
		90180				-		-
	HFSFB8 HFSTB8	4545	P.682 P.683					
Curved	HFSR8	4545	P.686		-	-	-	-
		909045						

Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.

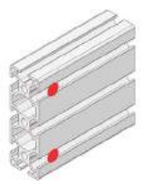
① On the vertical length
② Flat side down
③ One flat side down and another flat side right

Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

For extrusions with three slots, M holes cannot be drilled on the center slot.



ex.)HFS6-3090-1000-LMH

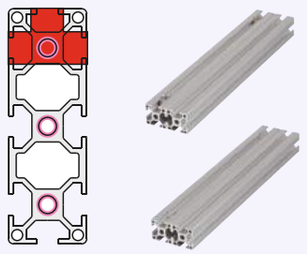
L Hole Alterations

Blind Joints which require this alteration

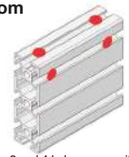
Parallel Joints
☞P.554, etc.

Drilling of L Holes for Parallel Joint Connections.

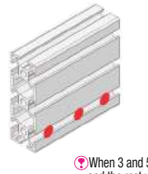
(Reference) Corner section when using Parallel Joints

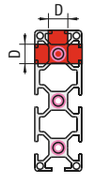


L Holes Crisscross on Bottom
JLP

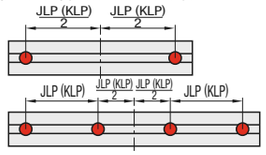


L Holes Crisscross on Top
KLP

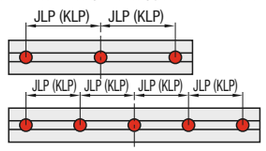




When 2 and 4 holes are specified, they will be symmetrically placed about a center point.



When 3 and 5 holes are specified, there will be one hole at the center and the rest will be symmetrically placed about the center hole.



For extrusions with multiple slots on one surface, only a slot on each end will be hole machined.

Alteration	Hole Pitch (1mm Increment)	H (Number of Holes)	No.	D
JLP KLP	D+4.9~ L-D-10 / H-1	2 3 4 5	5	7.1
			6	11.1
			8	13.1

Ordering Example (Part Number)
HFS6 - 3090 - 1200 - JLP1100 - H2
HFS8 - 4080 - 1800 - KLP870 - H3
HFS8 - 4080 - 1800 - JLP870 - KLP870-H3

Hole pitch on Top/Bottom can be separately specified, but the number of holes will be equal on top and bottom.

See the table below for the applicable extrusions and alteration charges. Indicated with "-" in the table are not applicable.

Alterations Code Features	Type	No.	Page	L Hole (Charge per 1 Hole Location) L Hole Dia.	Crisscross on Top Section JLP	Crisscross on Bottom Section KLP
Four-Side Slots	HFS5 NFS5 CAF5 HFSY5	2020	P529	Ø7.1		-
		2040	P530			
		2060	P531			
		2080				
		2525			-	-
		2550				
		4040	P530			
		4060	P531			
		4080				
		404020	P532			
3-Side Slot 1Side Flat	HFSF5 NFSF5	2020	P529			-
		2040	P530			
		4040				
Two-Side Slots Two Flats	HFST5 NFST5	2020	P529			
		4040	P530		-	-
Two Slots on Opposite Sides	HFSH5	2020	P529			
One-Side Slot Three Flats	HFSC5					
Angled	HFS30A5 HFS45A5 HFS60A5	20	P532			
Black Anodize	HFSB5 NFSB5	2020	P529			
		2040	P530			
		2525	P531		-	-
		2550				
		4040	P530			
	HFSFB5	2020	P529			-
	HFSTB5					
Curved	HFSR5	2020	P529		-	
		404020	P532			
Four-Side Slots	HFS6 EFS6 NFS6 NEFS6 GFS6 CAF6 HFSY6	3030	P571	Ø11.1		-
		3060	P573			
		3090	P576			
		30120				
		5050	P579		-	-
		50100				
		100100				
		6060	P575			
		6090	P577			
		60120				
		606030	P578			
		30300	P576			
3-Side Slot 1Side Flat	HFSF6 EFSF6 NFSF6 NEFSF6	3030	P572			-
		3060	P574			
		5050	P579		-	
		6060	P575			
Two-Side Slots Two Flats	HFST6 EFST6 NEFST6	3030	P572			
		3060	P574			
		5050	P579			-
		6060	P575			
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P572		-	
		3060	P574			
One-Side Slot Three Flats	HFSC6 EFSC6	3030	P572			
Light Type	NFSL6 HFSL6		P571			
		3060	P573			
		5050	P579		-	-
Heavy Type	HFSG6	6060	P575			
Angled	HFS30A6 HFS45A6 HFS60A6	30	P578		-	-
Black Anodize	HFSB6 EFSB6 NFSB6 NEFSB6	3030	P571			
		3060	P573			
		3090	P576			
		30120				
		5050	P579		-	-
		50100				
		100100				
		6060	P575			
	HFSFB6 EFSFB6	3030	P572			-
	HFSTB6 EFSTB6					-
	HFSLB6					-
		3060	P573			
Curved	NFSR6 HFSR6	3030	P578		-	
		606030				

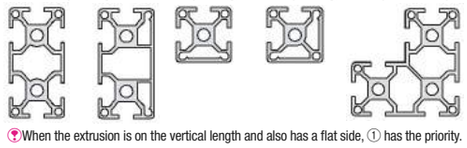
Alterations Code Features	Type	No.	Page	L Hole (Charge per 1 Hole Location) L Hole Dia.	Crisscross on Top Section JLP	Crisscross on Bottom Section KLP
Four-Side Slots	HFS8 EFS8 NFS8 NEFS8 GFS8 CAF8 HFSY8	4040	P631	Ø13.1		-
		4080	P633			
		40120	P636			
		40160				
		8080	P635			
		80160	P636			
		808040	P637			
	HFSH8	8080	P635			
3-Side Slot 1Side Flat	HFSF8 NFSF8 EFSF8 GFSF8	4040	P632			-
		4080	P634			
		8080	P635			
Two-Side Slots Two Flats	HFST8 NEFST8 EFST8 GFST8	4040	P632			
		4080	P634			
		8080	P635			
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P632		-	-
		4080	P634			
One-Side Slot Three Flats	HFSC8 EFSC8	4040	P632			
Light Type	HFSL8 NFSL8	4040	P631			
		4080	P633			
Angled	HFS30A8 HFS45A8 HFS60A8	40	P637		-	-
Black Anodize	HFSB8 EFSB8	4040	P631			
		4080	P633			
		40120	P636			
		40160	P636			
		8080	P635			
		80160	P636			
	HFSFB8 EFSFB8	4040	P632			-
	HFSTB8 EFSTB8					
	HFSLB8	4040	P631			
		4080	P633			
Curved	HFSR8	4040	P637		-	
		808040				

* Number of holes determines the alteration fee. (Price in the Table x Number of Holes)

■Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
① On the vertical length
② Flat side down
③ One flat side down and another flat side right

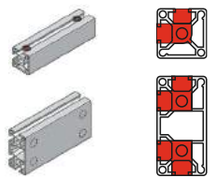
Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

■Additional Info. on Smooth Sided Extrusions

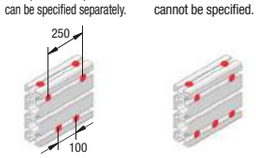
D Holes in smooth side direction are blind holes, and do not penetrate through the smooth side.



■Notes on JLP / KLP Combination Use

Hole pitch on Top/Bottom can be separately specified, but the number of holes will be equal on top and bottom.

- Hole pitch on Top/Bottom can be specified separately.
- Uneven number of holes cannot be specified.



Other Special Alterations

■End plates mounting for GFS series

Machines countersink and tapped hole in order to mount the end plate for high rigidity aluminum extrusions.

Alterations Code		Hole Machining for End Plate Mounting LTS	RTS	TSW
Spec.		Machined on the Left End Screw / End Plate / Extrusion / Countersink Depth 36* * Depth 24 for GFS6 Series	Machined on the Right End Extrusion / Screw / End Plate / Countersink Depth 36* * Depth 24 for GFS6 Series	Machined on both ends. Countersink Depth 36* Countersink Depth 36* * Depth 24 for GFS6 Series
Applicable Extrusion	Applicable Screw			
GFS6-3030	SHFBS8-15 x 1 pc.			
GFS6-3060	SHFBS8-15 x 2 pcs.			
GFS8-4040	SHFBS12-20 x 1 pc.			
GFS8-4545				
GFS8-5050				
GFS8-6060				
GFS8-4080	SHFBS12-20 x 2 pcs.			
GFS8-4590				
GFS8-50100				
GFS8-9090				
GFS8-100100				
GFS8-100200				

Screws are not included.

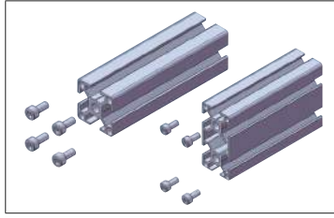
■End plates mounting for HFSR5-404020 and HFSR6-606030

Machines countersunk and tapped holes to mount the plates on P.555, 568, 615, 628.

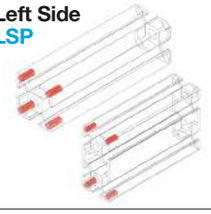
Alterations Code		Hole Machining for End Plate Mounting LTS	RTS	TSW
Spec.		The diagram below shows the basic extrusion position. LTS: Machined on the Left End RTS: Machined on the Right End TSW: Machined on Both Ends  Ex. LTS		
Applicable Extrusion	Applicable Screw			
HFSR5-404020	SHFBS5-6			
HFSR6-606030	SHFBS8-12			

Screws are not included.

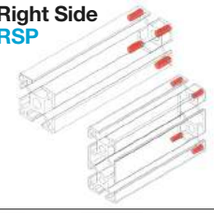
■Tapping (Corner Section)



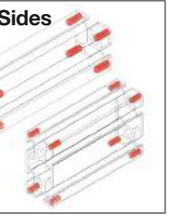
Left Side
LSP



Right Side
RSP



Both Sides
SPW



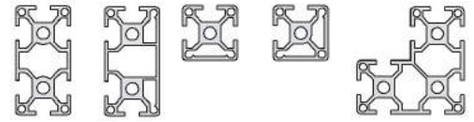
Alterations Code Extrusion	Features	Type	No.	Page	Tapping End Tapping Tap Shape	Number of Tapped Holes (per End)	Left LSP	Right RSP	Both SPW
HFS6 Series	Four-Side Slots	CAF6	3030	P.571	M5 Depth 10				
			3060	P.573					
		HFS6	3030	P.571					
			3060	P.573					
			3090	P.576					
			30120						
			6090	P.577					
			60120						
			606030	P.578					
		HFSV6	3030	P.580					
			3060						
	3-Side Slot 1Side Flat	HFSF6	3030	P.572					
			3060	P.574					
	Two-Side Slots Two Flats	HFST6	3030	P.572					
			3060	P.574					
	Two Slots on Opposite Sides	HFSH6	3030	P.572					
			3060	P.574					
	One-Side Slot Three Flats	HFSC6	3030	P.572					
	Black Anodize	HFSB6	3030	P.571					
			3060	P.573					
		HFSFB6	3030	P.572					
		HFSTB6	3030						

Ordering Example (Part Number)
HFS6 - 3030 - 500 - LSP
HFST6 - 3060 - 500 - SPW

■Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
① On the vertical length
② Flat side down
③ One flat side down and another flat side right

Example of ① Example of ② Example of ③ * Example of L-Shaped



When the extrusion is on the vertical length and also has a flat side, ① has the priority.

For center section tapping, see P.757.