Pulleys, Idlers, Flat Belts, Round Belts

Pulleys, Idlers Flat Belts, Round Belts





Product Name	Pulleys for Flat Belts - Width T=6 ~ 32	Idlers for Flat Belts - Width T=6 ~ 32	Pulleys for Flat Belts - Width L=25 ~ 100
Page	1327	1328	1329






Idlers for Flat Belts - Width L=25 ~ 100	Economy Pulleys for Flat Belts - Width L=110 ~ 500	Economy Idlers for Flat Belts - Width L=110 ~ 500	Pulleys for Flat Belts - Width L=110 ~ 500
1330	1331	1332	1333






Idlers for Flat Belts - Width L=110 ~ 500	Pulleys for Flat Belts with Urethane - Width L=25 ~ 100	Economy Pulleys for Flat Belts with Urethane - Width L=110 ~ 500	Shaft Pulleys for Flat Belts - Width L=25 ~ 100
1334	1335	1336	1337







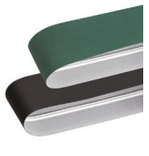
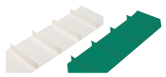
Idlers for Flat Belts - Width L=38 ~ 90	Width L=100 ~ 300	Pulleys for Round Belts - Set Screw, Trapezoid Groove	Set Screw, U Groove	Clamping / Trapezoid Groove
1338	1338	1339	1339	1340





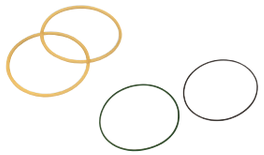


Clamping / U Groove	Idlers for Round Belts - Narrow	Wide	Pulleys for Round Belts - Double	Idlers for Round Belts - Double
1340	1341	1342	1343	1344




Flat Belts	Flat Belts - With Meandering Prevention Crosspiece	Flat Belts with Crosspieces	Stainless Steel Belt	Pulleys for Stainless Steel Belts - Crowned	Idlers for Stainless Steel Belts - Crowned
1355	1363	1368	1369	1370	1370




Polyurethane Round Belts - Welded Joint, Seamless	Polyurethane Round Belts - Open End
1371	1372

Pulleys, Idlers, Flat Belts, Round Belts

Overview

■Pulleys and Idlers for Flat Belts

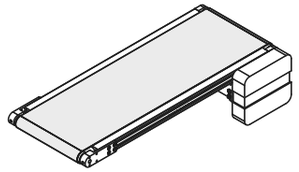
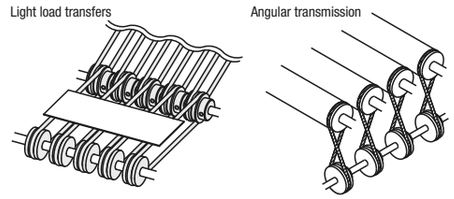
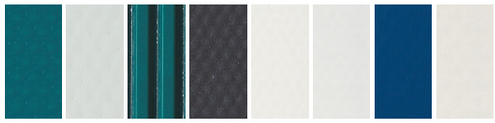
MISUMI pulleys and idlers for flat belts are offered in a wide variety of shapes and sizes.
You can choose the most suitable product for your needs, such as meandering and slip prevention.

[Pulleys and Idlers for Flat Belts List by Type]

	Belt Width (mm)		O.D. (mm)	Standard Type: Straight Type	Standard Type: Crowned	Standard Type: Crosspiece Groove Straight Type	Stainless Steel Belt: Crowned	Urethane Lined Type	Economy Type	Shaft Type
										
				Typical straight configuration. Flanged type can be selected.	Meandering preventing Crowned configuration. Flanged type can be selected.	Shape with groove for meandering prevention. Compatible with belt with crosspiece.	Crowned shape for meandering prevention.	Urethane lining is applied (partially press-fit) to prevent slip of the belt and the pulley.	Economical product with thin pipe.	Shaft integrated product. Contributes to reduction of the number of parts.
Pulley	Width Selection	6~32	15~100	P.1327	P.1327	-	-	P.1327	-	-
	Width Configurable	25~100	15~80	-	P.1329	P.1329	-	P.1335	-	P.1337
		110~500	18~80	-	P.1333	P.1333	-	P.1336	P.1331	-
		40~160	50~100	-	-	-	P.1370	-	-	-
Idler	Width Selection	6~32	15~50	P.1328	P.1328	-	-	-	-	-
	Width Configurable	25~100	15~80	P.1330	P.1330	P.1330	-	-	-	-
		110~500	18~80	P.1334	P.1334	P.1334	-	-	P.1332	-
		40~160	50~100	-	-	-	P.1370	-	-	-

■Flat Belts, Round Belts

Flat Belts: 12 types of MISUMI flat belts are available - General Purpose, Sliding, Inclined Transfer, Grip Type, Oil Resistant, Heat Resistant, Non-Adhesive, Food Conveyor, Packaged Goods Conveyor, Electronic Parts Conveyor, Flat Belts with crosspieces, and Stainless Steel Types. Meandering Prevention Cross-piece Type is also available.
Round Belts: Five types of MISUMI round belts are available: Standard Type, High Tension Type, Conductive Type, Seamless Type and Hollow Rope Type.
Also, Welded Joint and Open End are selectable for Standard Type and High Tension Type.

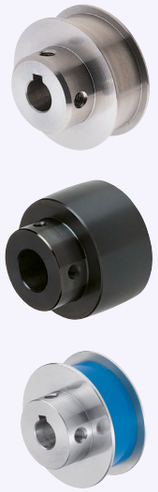
	Flat Belts	Round Belts
App. Example		
	Flat Belts have rectangular cross section. These belts can transfer a variety of workpieces such as food / electronic parts / corrugated cardboard, etc.	Round Belts have cross section in round rope-form. These belts are easy to install and can be replaced without dismantling the machine thus making it easy to maintain.
Features	 Wide range of specifications, ply count, colors, surface shapes are available	
	Depending on applications, selection can be made from 12 types and 108 TYPEs.	Depending on applications, selection can be made from 5 types.
Applicable Belt Width/Dia.	5mm~500mm	Ø2~Ø15

- **Cautions on Storing** (for safe use)
  - ・Avoid direct sunlight.
  - ・Store in a place with no rain fall.
  - ・Store in a place with humidity of less than 80%, temperature of 0 ~ 40°C.
  - ・Do not store in stacks and avoid hard bending during storage.
  - ・Do not place directly on the ground.
  - ・Avoid contact with oil and chemicals.

[Features of Round Belts]
Suitable for conveying lightweight objects. Flexible on designs such as multi-shafts transmission or right angle transmission.
High elasticity and hardness, and excels in abrasion resistance, oil resistance and weather resistance.
Not applicable to aromatic compounds (toluene, benzene, naphthalene, etc.). Avoid using or storing in humid locations.

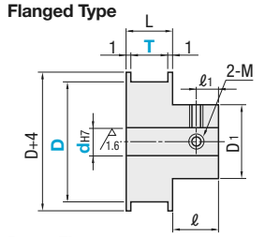
Pulleys for Flat Belts — Width T=6 ~ 32

Flanged, Crowned, Press-Fit Urethane

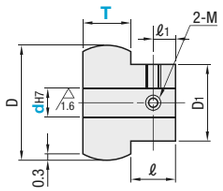


Type			Material	Surface Treatment
Flanged	Crowned	Press-Fit Urethane		Lining
HBPG	HBPCG	-	EN 1.1191 Equiv.	Black Oxide
HBPM	HBPCM			Electroless Nickel Plating
HBPA	HBPCA		Aluminum Alloy 2000 series	Clear Anodize
HBPS	HBPCS		EN 1.4301 Equiv.	-
-	-	HBPUS		Urethane Shore A70

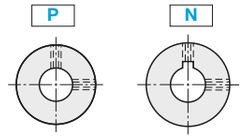
Flanged Type



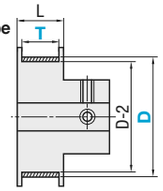
Crowned 6.3 ▽ (1.6 ▽)



Shaft Hole Specifications



Press-Fit Urethane Type

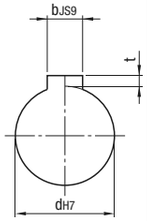


Shore A70 (Blue) Urethane is press-fit on Roller surface.
D dimension does not change.
Urethane Thickness 1mm

■Keyway Dimensions

N: New JIS (B1301) Keyway Dimensions

Nominal	dH7		bJS9		t Tolerance	
N8	8	+0.015 0	3	±0.0125	1.4	+0.1 0
N10	10					
NK10	10		4	±0.0150	1.8	
N12	12	+0.018 0				
N15	15		5		2.3	
N20	20	+0.021 0	6		2.8	
N30	30		8	±0.0180	3.3	+0.2 0
N40	40	+0.025 0	12	±0.0215		



RoHS

Part Number Type	D	dH7 P (Round Hole + Tap) Selection	dH7 N (Keyway + Tap) Selection	T Selection	D1	ℓ	ℓ1	M	L
Flanged Type HBPG HBPM HBPA HBPS Crowned HBPCG HBPCM HBPCA HBPCS Press-Fit Urethane Type HBPUS	15	5 6	-	6* 11 16 21 27 32	12	8	4	3	T+2
	18	5 6 8	-		16				
	20	5 6 8	8						
	28	6 8 10	8		20				
	30	6 8 10 12	8 10 12						
	35	8 10 12	10 12						
	40	8 10 12	10 12						
	45	10 12	10 12		30	12	6	5	
	50	10 12	10 12						
	60	10 12 15	10 12 15		50	16	8	8	
	80	15 20 30	15 20 30						
	100	20 30 40	20 30 40		60				

⊗*T=6 is not available for Crowned. ?Specify NK10 when Keyway + Tap with shaft bore dia. 10 and keyway width 4.0mm (height 1.8mm) is desired.

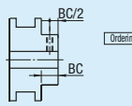
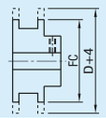
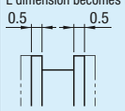
Ordering Example

Part Number	-	P	-	N	-	T
HBPM30	-	P6			-	11
HBPCG35			-	NK10	-	32

D	Unit Price								
	Flanged Type				Crowned				Press-Fit Urethane Type
	HBPG	HBPM	HBPA	HBPS	HBPCG	HBPCM	HBPCA	HBPCS	HBPUS
15									
18									
20									
28									
30									
35									
40									
45									
50									
60									
80									
100									

Alterations

Part Number	-	P, N	-	T	-	(BC, HRC, FC, TC)
HBPM18	-	P8	-	11	-	BC6.5

Alterations Code	Boss Cut BC	Knurl Flat Thread HRC	Flange Cut FC	Flange Thickness TC
Spec.	Cuts the hub length in 0.5mm increment. ?M+3≤BC≤ℓ  Ordering Code BC6.5	Machines knurling flat pattern on the roller section.  ?Applicable to HBPG, HBPM, HBPA and HBPS.	Lowers the flange by cutting. FC: 0.5mm Increment  ?D≤FC<D+4 Ordering Code FC42 ⊗Not applicable to Crowned.	Machines flange thickness to 0.5mm. L dimension becomes 1mm shorter.  ⊗Not applicable to Crowned.

Idlers for Flat Belts — Width T=6 ~ 32

Flanged, Crowned



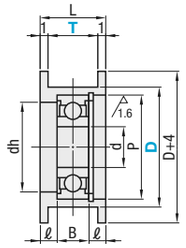
Type		Material	Surface Treatment	Material	Accessory
Flanged	Crowned			Bearing	
HBG	HBGC	EN 1.1191 Equiv.	Black Oxide	Steel	Retaining Ring (EN 1.4301 Equiv.)
HBGM	HBGCM		Electroless Nickel Plating		
HBGA	HBGCA	EN AW-2017 Equiv.	Clear Anodize		
HBGS	HBGCS	EN 1.4301 Equiv.	-	Stainless Steel	
HBGP	-	Polyacetal	-	Steel	

* Bearing Accuracy: JIS B1514 Class 0
?Bearings are press-fit.
?Bearings cannot be disassembled.

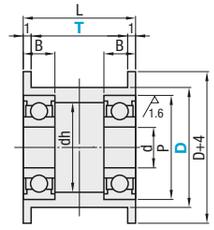
6.3 ▽ (1.6 ▽)

Flanged Type

T=6, 11

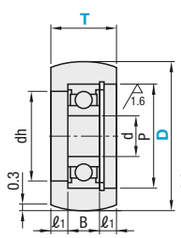


T=16, 21, 27, 32

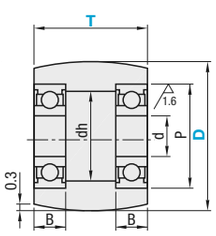


Crowned

T=11



T=16, 21, 27, 32



RoHS

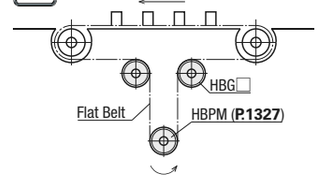
Part Number Type	D	T	P	dh	ℓ	ℓ1	L	Bearing No.	Bearing d	Bearing B	Unit Price Flanged Type HBG	HBGM	HBGA	HBGS	HBGP	Crowned HBGC	HBGCM	HBGCA	HBGCS
Flanged Type HBG HBGM HBGA HBGS HBGP (Applicable to * only) Crowned HBGC HBGCM HBGCA HBGCS	15	6*1	11	9	2	-	8	694ZZx1	4	4						-	-	-	-
	20		16	13	1.5			625ZZx1	5	5					-	-	-	-	-
	20	11	16	13	4	3	13	625ZZx1	5	5					-				
	*25		19	16	3.5	2.5		626ZZx1	6	6									
	*30			17				698ZZx1	8										
	15	16	11	9	-	-	18	685ZZx2	5	5					-				
	20		16	13				625ZZx2											
	25		19	16				626ZZx2	6	6									
	*30			17				698ZZx2	8										
	35		26 (22)*2	23 (17)*2				6000ZZx2 (6900ZZx2)*2	10	8 (6)*2					-				
	*40																		
	15	21	11	9	-	-	23	685ZZx2	5	5					-				
	20		16	14				688ZZx2	8										
	25		19	17				698ZZx2		6									
	*30							698ZZx2											
	35		26	23				6000ZZx2	10	8					-				
	*40																		
	*50		28	25				6001ZZx2	12	8									
	15	27	11	9	-	-	29	685ZZx2	5	5					-				
	20		16	14				688ZZx2	8										
	25		19	17				698ZZx2		6									
	30							698ZZx2											
	40		26	23				6000ZZx2	10	8									
	50		28	25				6001ZZx2	12										
	15	32	11	9	-	-	34	685ZZx2	5	5					-				
	20		16	14				688ZZx2	8										
	25		19	17				698ZZx2		6									
	30																		
	40		26	23				6000ZZx2	10	8									
	50		28	25				6001ZZx2	12										

?For detailed bearing dimensions, see ☞ **P989, 991**. ?HBGP is only applicable to sizes marked with *. ⊗*1 T=6 is not available for Crowned.
?*2 Values in ( ) are Bearing Dimensions when T=16 and D=35 or 40 for Crowned.

Ordering Example

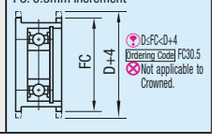
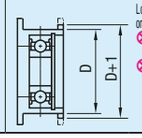
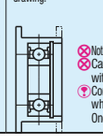
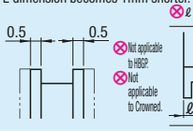
Part Number	-	T
HBG15	-	6
HBGCS50	-	21

Example



Alterations

Part Number	-	T	-	(FC, KLC, KFC, TC)
HBG15	-	6	-	KFC

Alterations Code	Flange Cut FC	One Side Low Flange KLC	One Flange Type KFC	Flange Thickness TC
Spec.	Lowers the flange by cutting. FC: 0.5mm Increment  ?D≤FC<D+4 Ordering Code FC30.5 ⊗Not applicable to Crowned.	 Lowers the flange on one side. ⊗Not applicable to Crowned. ⊗Cannot be combined with Alteration KFC	Cuts off the flange on the right side of the drawing.  ⊗Not applicable to Crowned. ⊗Cannot be combined with Alteration KLC ?Combine FC and KFC when Flange Cut + One Flange is desired.	Machines flange thickness to 0.5mm. L dimension becomes 1mm shorter. ⊗ℓ dimensions are changed in the following models.  ⊗Not applicable to HBGP. ⊗Not applicable to Crowned.

Part Number	ℓ2	ℓ3
HBG15-6 HBG□15-6	1	2
HBG20-6 HBG□20-6	0.4	1.6

Pulleys for Flat Belts Width L=25 ~ 100

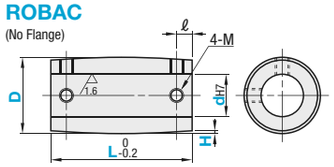
Crowned, Crosspiece Groove Straight



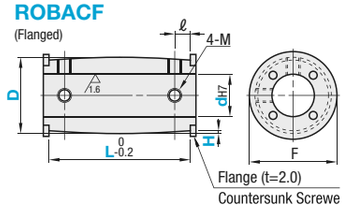
RoHS

Crowned

ROBAC
(No Flange)



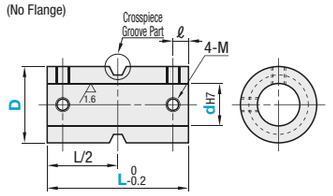
ROBACF
(Flanged)

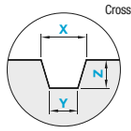


6.3 (1.6)

Crosspiece Groove Straight

ROBAM
(No Flange)





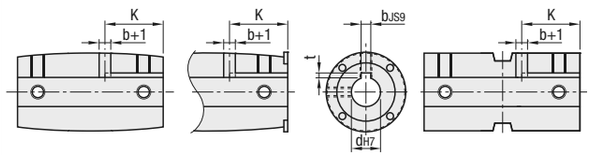
X≥Y
For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions". ☞ P.1363

M Material: EN AW-5052 Equiv.
S Surface Treatment: Clear Anodize

New JIS (B1301) Keyway Dimensions

Nominal		dH7		bJS9		t Tolerance	
N8	8	+0.015 0	3	±0.0125	1.4	+0.1 0	
N10	10						
NK10	10		4	±0.0150	1.8		
N12	12	+0.018 0					
N15	15		5		2.3		
N20	20	+0.021 0	6		2.8		
N25	25		8	±0.0180	3.3	+0.2 0	
N30	30						

Shape of Keyway



For Crosspiece Groove Straight, key length is shorter under the following conditions in order to avoid causing interference with through holes made by keyway machining.

When L/2-X/2≤K≤L/2+X/2,
K=L/2-(X/2+(b+1)/2+1)

Part Number Type	D	dH7 Round Hole + Tap	dH7 Keyway + Tap	1mm Increment L	Crowned only H	Crosspiece Groove Straight only: 0.1mm Increment X	Y	Z	Key Length K	M Round Hole + Tap	M Keyway + Tap	ℓ	F
Crowned **ROBAC** **ROBACF** Crosspiece Groove Straight **ROBAM**	15	8	N8	Crowned 25~100	0.3	-	-	-	25	M4	M3	3.5	-
	20	8	N8						25				-
		10	N10, NK10										
	25	8	N8						25				26
		10	N10, NK10										
	30	8	N8	Crosspiece Groove Straight 50~100	0.5	7.0~15.0	5.0~12.0	4.0~7.0	25				31
		10	N10, NK10										
		12	N12					4.0~6.0	30				
	35	10	N10, NK10					4.0~7.0	25				36
		12	N12						30		M4		
		15	N15										
	40	12	N12						30		M3		41
		15	N15								M4		
		20	N20								M5		
Crosspiece Groove Part is only available in D dimension 30 or larger.	50	15	N15	When Keyway is selected for Crosspiece Groove Straight D=60 or 80 60~100	0.8				30	M5	M4	4	51
		20	N20								M5		
		25	N25										
	60	20	N20						30	M6	M5	4.5	61
		25	N25								M6		
		30	N30										
	80	25	N25						30	M8	M6	6	81
		30	N30										
		35	-						-		-		

K=L (No Flange) or K=L+4 (Flanged) when L≤36(N8, N10, NK10) or L≤43(N12, N15, N20) or L≤45(N25, N30).
Flanged Type is only applicable to D=25 or more; Flanged Type with Keyways to D30 or more.
Specify NK10 when Keyway + Tap with shaft bore with keyway width 4.0mm (height 1.8mm) is desired.

Ordering Example

■Crowned

Part Number	-	d	-	L	-	H
ROBAC30	-	NK10	-	L62	-	H0.3

■Crosspiece Groove Straight

Part Number	-	d	-	L	-	X	-	Y	-	Z
ROBAM40	-	15	-	L82	-	X7.8	-	Y6.0	-	Z5.0

D	Body Price Crowned ROBAC L25~50	ROBAC L51~75	ROBAC L76~100	ROBACF L25~50	ROBACF L51~75	ROBACF L76~100	Crosspiece Groove Straight ROBAM L50~75	ROBAM L76~100	Keyway Machining Charge (Body Price +)
15				-	-	-	-	-	
20				-	-	-	-	-	
25							-	-	
30									
35									
40									
50									
60									
80									

Idlers for Flat Belts Width L=25 ~ 100

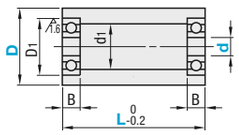
Straight, Crosspiece Groove Straight, Crowned



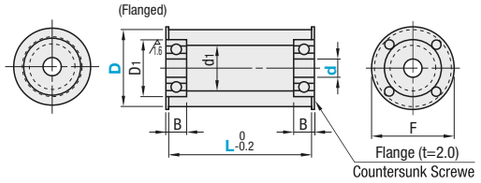
RoHS

Straight

ROFAN
(No Flange)



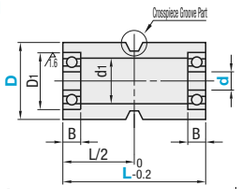
ROFAF
(Flanged)

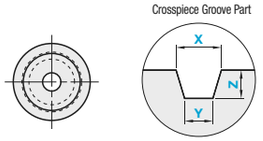


6.3 (1.6)

Crosspiece Groove Straight

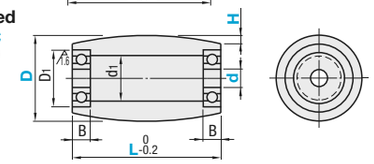
ROFAM
(No Flange)





Crowned

ROFAC
(No Flange)



X≥Y
For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions". ☞ P.1363

M Material: EN AW-5052 Equiv.
S Surface Treatment: Clear Anodize
* Bearing Accuracy: JIS B1514 Class 0
Bearings are press-fit. Cannot be disassembled.

Part Number Type	D	d	1mm Increment L	Crosspiece Groove Straight only: 0.1mm Increment X	Y	Z	Crowned only Selection H	d1	Bearing Dimension No.	D1	B	F
Straight **ROFAN** **ROFAF** Crosspiece Groove Straight **ROFAM** Crowned **ROFAC**	15	(5)	Straight Crowned 25~100	-	-	-	0.3	7	B675ZZ	8	2.5	-
		(6)						9	B676ZZ	10	3	
	20	(6)						10	B686ZZ	13	5	-
		(8)						10	B678ZZ	12	3.5	
	25	6						10	B696ZZ	15	5	26
		(8)							B688ZZ	16		
	30	8				2.0~4.5		15	B698ZZ	19	6	31
		(10)							B6900ZZ	22		
		(12)							B6901ZZ	24		
	35	10				4.0~6.0		17	B6900ZZ	22	6	36
		12							B6901ZZ	24		
		(15)							B6902ZZ	28	7	
	40	8	Crosspiece Groove Straight 50~100	7.0~15.0	5.0~12.0	4.0~7.0	0.5	17	B628ZZ	24	8	41
		10							B6000ZZ	26		
		12							B6901ZZ	24	6	
		15							B6902ZZ	28	7	
Crosspiece Groove Straight is only available in D dimension 30 or larger.		(20)				4.0~6.0	0.8	22	B6804ZZ	32		
	50	10	L≥Bx2+2					17	B6200ZZ	30	9	51
		12						22	B6001ZZ	28	8	
		15						17	B6902ZZ		7	
		20						27	B6904ZZ	37	9	
		(25)							B6905ZZ	42		
	60	12				4.0~7.0		22	B6201ZZ	32	10	61
		15							B6002ZZ		9	
		20							B6904ZZ	37	9	
		25						32	B6905ZZ	42		
		30							B6906ZZ	47		
	80	25						41	B6205ZZ	52	15	81
		30							B6006ZZ	55	13	
		35							B6907ZZ		10	

Sizes in ( ) for d are only applicable to No Flange Type. For detailed bearing dimensions, see ☞ P989, 991.

Ordering Example

■Straight

Part Number	-	d	-	L
ROFAN30	-	10	-	L52

■Crosspiece Groove Straight

Part Number	-	d	-	L	-	X	-	Y	-	Z
ROFAM40	-	12	-	L82	-	X7.8	-	Y6.0	-	Z5.0

■Crowned

Part Number	-	d	-	L	-	H
ROFAC60	-	20	-	L75	-	H0.5

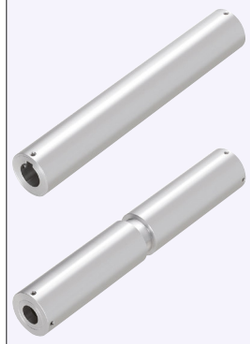
D	Unit Price Straight ROFAN L25~50	ROFAN L51~75	ROFAN L76~100	ROFAF L25~50	ROFAF L51~75	ROFAF L76~100	Crosspiece Groove Straight ROFAM L50~75	ROFAM L76~100	Crowned ROFAC L25~50	ROFAC L51~75	ROFAC L76~100
15				-	-	-	-	-			
20				-	-	-	-	-			
25							-	-			
30											
35											
40											
50											
60											
80											

Economy Pulleys for Flat Belts

Width L=110 ~ 500

Crowned, Crosspiece Groove Straight

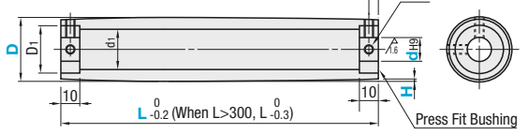
Features: Compared with conventional products, price reductions have been realized.



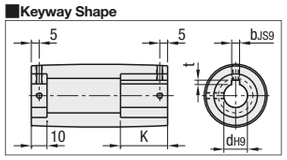
Type		Material	Surface Treatment
Crowned	Crosspiece Groove Straight		
RBWAC	RBWAM	Aluminum Alloy 5000 series EN AW-6063 Equiv. (Crowned D38 or larger)	-
RBWWC	RBWWM		Clear Anodize

6.3 (1.6)

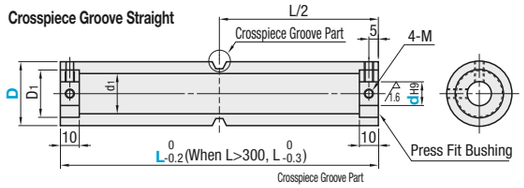
Crowned



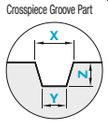
Keyway Shape



Crosspiece Groove Straight



Crosspiece Groove Part



New JIS (B1301) Keyway Dimensions

Nominal	dH9		bJS9		t Tolerance	
N8	8	+0.036 0	3	±0.0125	1.4	+0.1 0
N10	10					
NK10	10		4	±0.0150	1.8	
N12	12	+0.043 0				
N15	15		5		2.3	
N20	20	+0.052 0	6		2.8	
N25	25		8	±0.0180	3.3	+0.2 0
N30	30					
N35	35	+0.062 0	10			
N40	40		12	±0.0215		
N50	50		14		3.8	

X≥Y

For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions". P.1363

RoHS

Crowned

Part Number Type	D	dH9 Round Hole + Tap	dH9 Keyway + Tap	10mm Increment L	H Selection L=110~300	H Selection L=310~500	Key Length K	d1	D1	M
Crowned RBWAC RBWWC	18	8	-	110~500	0.3	0.5	-	10	12	M3
	28	8	N8				25	20	22	M3
		10	N10, NK10				30			
		12	N12				-			M4
		15	-							
	38	12	N12				30	30	32	M3
		15	N15							M4
		20	N20							M5
		25	-				-			M6
	48	15	N15		0.5	0.8	30	40	42	M4
		20	N20							M5
		25	N25							M6
		30	N30			1.0				
	58	20	N20		0.8	1.2	30	50	52	M5
		25	N25							M6
		30	N30							
		35	N35							M8
	78	25	N25				30	70	72	M6
		30	N30							
		35	N35							M8
		40	N40							
		50	N50							

Specify NK10 when Keyway + Tap with shaft bore dia. 10 and keyway width 4.0mm (height 1.8mm) is desired.

Crosspiece Groove Straight

Part Number Type	D	dH9 Round Hole + Tap	dH9 Keyway + Tap	10mm Increment L	0.1mm Increment X	0.1mm Increment Y	0.1mm Increment Z	Key Length K	d1	D1	M
Crosspiece Groove Straight RBWAM RBWWM	38	12	N12	110~500	7.0~15.0	5.0~12.0	4.0~6.0	30	20	22	M3
		15	-					-			M4
	48	15	N15					30	30	32	M4
		20	N20								M5
		25	-					-			M6
	58	20	N20					30	40	42	M5
		25	N25								M6
		30	N30								
		35	-					-			M8
	78	25	N25					30	60	62	M6
		30	N30								
		35	N35								M8
		40	N40								
		50	N50								

Ordering Example

	Part Number	d	L	H	X	Y	Z
(Crowned)	RBWAC28	10	350	H0.5			
(Crosspiece Groove Straight)	RBWWM58	N25	250		X14.0	Y11.8	Z5.0

Body Price Crowned

D	RBWAC L110~150	RBWAC L160~200	RBWAC L210~250	RBWAC L260~300	RBWAC L310~350	RBWAC L360~400	RBWAC L410~450	RBWAC L460~500	RBWWC L110~150	RBWWC L160~200	RBWWC L210~250	RBWWC L260~300	RBWWC L310~350	RBWWC L360~400	RBWWC L410~450	RBWWC L460~500	Keyway Machining Charge (Body Price +)
18																	-
28																	
38																	
48																	
58																	
78																	

Body Price Crosspiece Groove Straight

D	RBWAM L110~150	RBWAM L160~200	RBWAM L210~250	RBWAM L260~300	RBWAM L310~350	RBWAM L360~400	RBWAM L410~450	RBWAM L460~500	RBWWM L110~150	RBWWM L160~200	RBWWM L210~250	RBWWM L260~300	RBWWM L310~350	RBWWM L360~400	RBWWM L410~450	RBWWM L460~500	Keyway Machining Charge (Body Price +)
38																	
48																	
58																	
78																	

Economy Idlers for Flat Belts

Width L=110 ~ 500

Straight, Crowned, Crosspiece Groove Straight

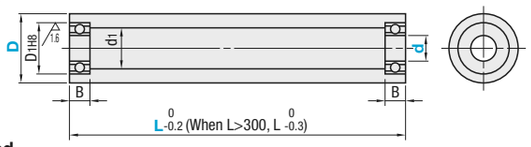
Features: Compared with conventional products, price reductions have been realized.



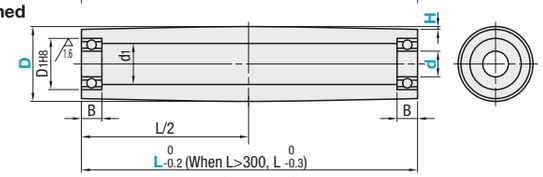
Type			Material	Surface Treatment
Straight	Crowned	Crosspiece Groove Straight		
RFWAS	RFWAC	RFWAM	Aluminum Alloy	-
RFWWS	RFWWC	RFWWM		Clear Anodize

6.3 (1.6)

Straight

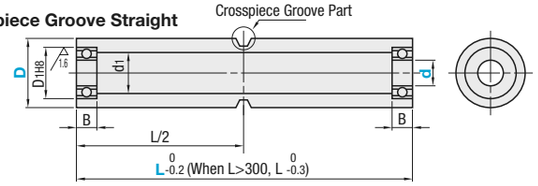


Crowned

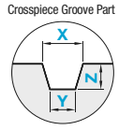


Crosspiece Groove Straight

Crosspiece Groove Part



Crosspiece Groove Part



X≥Y

For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions". P.1363

* Bearing Accuracy: JIS B1514 Class 0

The bearings are removable. Temporarily held with tape for shipping.

RoHS

Straight , Crowned

Part Number Type	D	d	10mm Increment L	H Selection	d1	Bearing Dimension No.	D1	B
Straight RFWAS RFWWS Crowned RFWAC RFWWC	18	8	110~500	0.3	10	678ZZ	12	3.5
	28	8			20	608ZZ	22	7
		10				6900ZZ	22	6
	38	15			30	6002ZZ	32	9
		20				6804ZZ	32	7
	48	15		0.5	30	6202ZZ	35	11
		20				6904ZZ	37	9
		25			40	6905ZZ	42	9
		30				6806ZZ	42	7
	58	20		0.8	40	6204ZZ	47	14
		25				6005ZZ	47	12
		30				6906ZZ	47	9
		40			50	6808ZZ	52	7
	78	30			60	6306ZZ	72	19
		35				6207ZZ	72	17

Crosspiece Groove Straight

Part Number Type	D	d	10mm Increment L	0.1mm Increment X	0.1mm Increment Y	0.1mm Increment Z	d1	Bearing Dimension No.	D1	B
Crosspiece Groove Straight RFWAM RFWWM	38	12	110~500	7.0~15.0	5.0~12.0	4.0~6.0	20	6001ZZ	28	8
		15						6002ZZ	32	9
	48	15					30	6002ZZ	32	9
		20						6904ZZ	37	9
		25						6905ZZ	42	9
	58	20					40	6204ZZ	47	14
		25						6905ZZ	42	9
		30						6906ZZ	47	9
		35						6807ZZ	47	7
	78	30					60	6306ZZ	72	19
		35						6207ZZ	72	17
		40						6008ZZ	68	15

Ordering Example

	Part Number	d	L	H	X	Y	Z
(Straight)	RFWWS28	8	200				
(Crowned)	RFWAC28	10	350	H0.5			
(Crosspiece Groove Straight)	RFWWM58	20	250		X14.0	Y11.8	Z5.0

Unit Price Straight

D	RFWAS L110~150	RFWAS L160~200	RFWAS L210~250	RFWAS L260~300	RFWAS L310~350	RFWAS L360~400	RFWAS L410~450	RFWAS L460~500	RFWWS L110~150	RFWWS L160~200	RFWWS L210~250	RFWWS L260~300	RFWWS L310~350	RFWWS L360~400	RFWWS L410~450	RFWWS L460~500
18																
28																
38																
48																
58																
78																

Unit Price Crowned

D	RFWAC L110~150	RFWAC L160~200	RFWAC L210~250	RFWAC L260~300	RFWAC L310~350	RFWAC L360~400	RFWAC L410~450	RFWAC L460~500	RFWWC L110~150	RFWWC L160~200	RFWWC L210~250	RFWWC L260~300	RFWWC L310~350	RFWWC L360~400	RFWWC L410~450	RFWWC L460~500
18																
28																
38																
48																
58																
78																

Unit Price Crosspiece Groove Straight

D	RFWAM L110~150	RFWAM L160~200	RFWAM L210~250	RFWAM L260~300	RFWAM L310~350	RFWAM L360~400	RFWAM L410~450	RFWAM L460~500	RFWWM L110~150	RFWWM L160~200	RFWWM L210~250	RFWWM L260~300	RFWWM L310~350	RFWWM L360~400	RFWWM L410~450	RFWWM L460~500
38																
48																
58																
78																

Pulleys for Flat Belts Width L=110 ~ 500

Crowned, Crosspiece Groove Straight

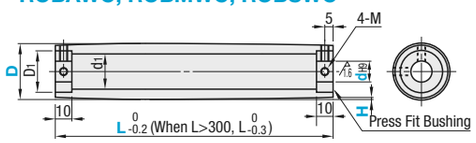


Type		Material	Surface Treatment
Crowned	Crosspiece Groove Straight		
ROBAWC	ROBAWM	Aluminum Alloy 5000 series	Clear Anodize
ROBMWC	ROBMWM	EN 1.0480 Equiv.	Electroless Nickel Plating
ROBSWC	ROBSWM	EN 1.4301 Equiv.	-

6.3 (1.6)

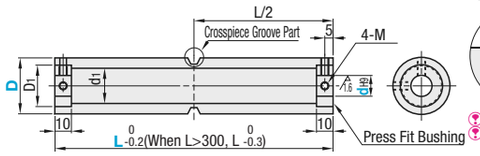
Crowned

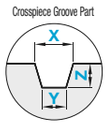
ROBAWC, ROBMWC, ROBSWC



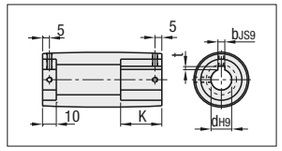
Crosspiece Groove Straight

ROBAWM, ROBMWM, ROBSWM





■Keyway Shape



■New JIS (B1301) Keyway Dimensions

Nominal		dH9		bJS9		t Tolerance	
N8	8	+0.036 0	3	±0.0125	1.4	+0.1 0	
N10	10						
NK10	10		4	±0.0150	1.8		
N12	12	+0.043 0					
N15	15		5		2.3		
N20	20	+0.052 0	6		2.8		
N25	25		8	±0.0180	3.3	+0.2 0	
N30	30	+0.062 0					
N35	35		10				

X≥Y

For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions". ☞P.1363

Part Number									dH9		10mm Increment	H Selection		0.1mm Increment			K	d1			D1	M	
Type		D							Round Hole + Tap	Keyway + Tap	L	L=110~300	L=310~500	X	Y	Z	Key Length	Aluminum (EN AW-5052 Equiv.)	Steel (EN 1.0480 Equiv.)	Stainless Steel (EN 1.4301 Equiv.)		Round Hole + Tap	Keyway + Tap
		30							8	N8													
									10	N10, NK10													
									12	N12													
		35							10	N10													
									12	N12													
									15	N15													
		40							12	N12													
									15	N15													
									20	N20													
		50							15	N15													
									20	N20													
									25	N25													
		(60)							20	N20													
									25	N25													
									30	N30													
		(80)							25	N25													
									30	N30													
									35	N35													

Crowned
ROBAWC
ROBMWC
ROBSWC

Crosspiece Groove Straight
ROBAWM
ROBMWM
ROBSWM

Pulleys for Flat Belts with Urethane

Crowned, Crosspiece Groove Straight

Width L=25 ~ 100

■Features: Urethane lining is applied on the surface to increase friction resistance for the prevention of slip between belt and pulley.



RoHS

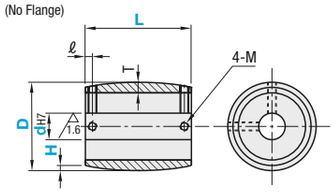
Type				Material		Hardness
Crowned		Crosspiece Groove Straight				
No Flange	Flanged	No Flange	Flanged	Core	Lining	
RWCUN	RWCUF	RWMUN	RWMUF	EN AW-5052 Equiv.	Urethane (Natural Color)	Shore A90
RWCGN	RWCGF	RWMGN	RWMGF			Shore A70

Urethane is heat-bonded on the outer circumference of the core material.

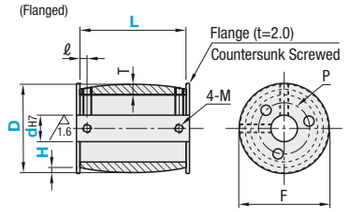
6.3 (1.6)

Crowned

(No Flange)

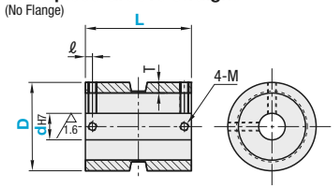


(Flanged)

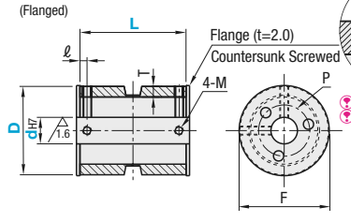


Crosspiece Groove Straight

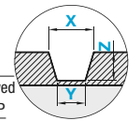
(No Flange)



(Flanged)



Crosspiece Groove Part



X≥Y

For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions". ☞P.1363

Part Number Type	D	dH7	1mm Increment L	H Selection Crowned Type only	1mm Increment X	Y	Z	T	M	ℓ	F	P
Crowned (No Flange) RWCUN (Flanged) RWCUF RWCGN RWCGF	15	8	Crowned 25~100	0.3	-	-	-	2	M4	4.5	-	-
	20	8						2			-	-
		10						3			-	-
	25	8										
		10										
	30	*8						3			31	19
		*10									-	-
		12										
	35	*10						3	M4	4.5	36	24
		*12										
		*15										
Crosspiece Groove Straight (No Flange) RWMUN (Flanged) RWMUF RWMGN RWMGF	40	*12	Crosspiece Groove Straight 50~100	0.5	7~15	5~12	4~5	6			41	23
		*15										
		20									-	-
	50	*15						6	M5	5	51	33
		*20										
		*25										
Crosspiece Groove Straight is available in D dimension 40 or larger.	60	*20					4~7	8	M6	5.5	61	39
		*25										
		*30										
	80	*25						8	M8	7	81	59
		*30										
		*35										

Flanged Type is applicable to * marked d dimensions only. Urethane may discolor over time, but there is no effect on properties.

Ordering Example

■Crowned: Part Number - d - L - H
RWCUN30 - 10 - 62 - H0.3

■Crosspiece Groove Straight: Part Number - d - L - X - Y - Z
RWMGF40 - 15 - 82 - X7 - Y6 - Z5

D	Unit Price Crowned Shore A90 RWCUN L25~50	RWCUN L51~75	RWCUN L76~100	RWCUF L25~50	RWCUF L51~75	RWCUF L76~100	Crowned Shore A70 RWCGN L25~50	RWCGN L51~75	RWCGN L76~100	RWCGF L25~50	RWCGF L51~75	RWCGF L76~100
15				-	-	-				-	-	-
20				-	-	-				-	-	-
25				-	-	-				-	-	-
30												
35												
40												
50												
60												
80												

D	Unit Price Crosspiece Groove Straight Shore A90 RWMUN L50~75	RWMUN L76~100	RWMUF L50~75	RWMUF L76~100	Crosspiece Groove Straight Shore A70 RWMGN L50~75	RWMGN L76~100	RWMGF L50~75	RWMGF L76~100
40								
50								
60								
80								

Economy Pulleys for Flat Belts with Urethane

Crowned, Crosspiece Groove Straight

Width L=110 ~ 500

■Features: Compared with conventional products, price reductions have been realized.



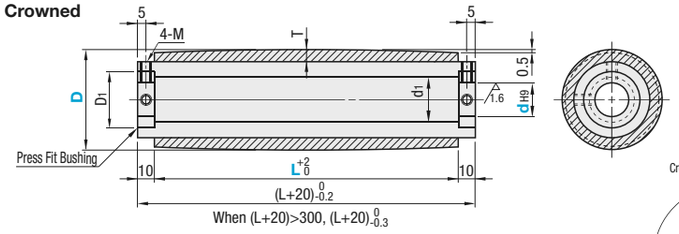
RoHS

Type		Material		Hardness
Crowned	(Crosspiece Groove Straight)	Core	Lining	
RWBCU	RWBMU	Aluminum Alloy	Urethane (Natural Color)	Shore A90
RWBCG	RWBMG			Shore A70

Urethane is heat-bonded on the outer circumference of the core material.

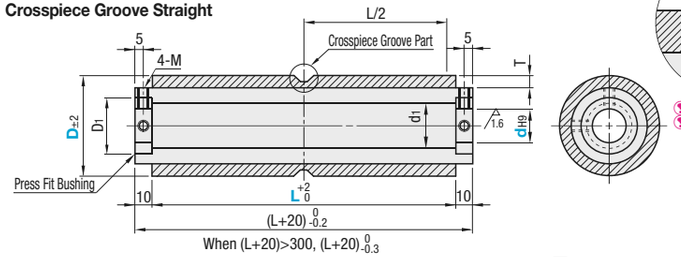
6.3 (1.6)

Crowned



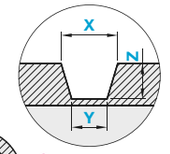
When (L+20)>300, (L+20)0 -0.3

Crosspiece Groove Straight



When (L+20)>300, (L+20)0 -0.3

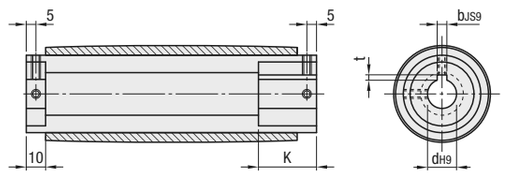
Crosspiece Groove Part



X≥Y

For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions". ☞P.1363

■Keyway Shape



■New JIS (B1301) Keyway Dimensions

Nominal	dH9		bJS9		t Tolerance	
N10	10	+0.036 0	3	±0.0125	1.4	+0.1 0
NK10	10	0				
N12	12	+0.043 0	4	±0.0150	1.8	
N20	20		6		2.8	
N25	25	+0.052 0	8	±0.0180	3.3	+0.2 0
N30	30					
N35	35	+0.062 0	10			

Part Number Type	D	dH9 Round Hole + Tap	dH9 Keyway + Tap	10mm Increment L	1mm Increment X	Y	Z	Urethane Thickness T	Keyway Length K	d1	D1	M
Crowned RWBCU RWBCG	28	8	-	110~500	-	-	-	5	-	10	12	M3
	38	12	N12					5	25	20	22	
		15	-						-			
Crosspiece Groove Straight RWBMU RWBMG	48	*10	*N10, *N10		7~15	7~12	4~7	10	25	20	22	
		*15	-						-			
		20	N20		-	-	-	5	30	30	32	M5
		25	-						-			
Crosspiece Groove Straight is applicable to * marked d dimension only.	58	*20	*N20					10	30	30	32	
		*25	-						-			
	78	*25	*N25		7~15	7~12	4~7	10	30	50	52	M6
		*30	*N30									
		*35	*N35									

Urethane may discolor over time, but there is no effect on properties.

Specify NK10 when Keyway + Tap with shaft bore dia. 10 and keyway width 4.0mm (height 1.8mm) is desired.

Ordering Example

■Crowned: Part Number - d - L
RWBCU58 - N20 - 320

■Crosspiece Groove Straight: Part Number - d - L - X - Y - Z
RWBMG48 - 15 - 120 - X8 - Y7 - Z5

D	Body Price Crowned RWBCU L110~150	RWBCU L160~200	RWBCU L210~250	RWBCU L260~300	RWBCU L310~350	RWBCU L360~400	RWBCU L410~450	RWBCU L460~500	RWBCG L110~150	RWBCG L160~200	RWBCG L210~250	RWBCG L260~300	RWBCG L310~350	RWBCG L360~400	RWBCG L410~450	RWBCG L460~500	Keyway Machining Charge (Body Price +)
28																	-
38																	
48																	
58																	
78																	

D	Body Price Crosspiece Groove Straight RWBMU L110~150	RWBMU L160~200	RWBMU L210~250	RWBMU L260~300	RWBMU L310~350	RWBMU L360~400	RWBMU L410~450	RWBMU L460~500	RWBMG L110~150	RWBMG L160~200	RWBMG L210~250	RWBMG L260~300	RWBMG L310~350	RWBMG L360~400	RWBMG L410~450	RWBMG L460~500	Keyway Machining Charge (Body Price +)
48																	
58																	
78																	

Shaft Pulleys for Round Belts

Width L=25 ~ 100

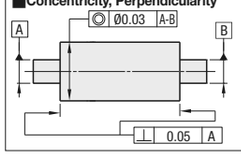
Straight, Crowned, Crosspiece Groove Straight

■**Features:** Flat belt pulleys with integrated shafts. Useful in reducing assembly part counts.

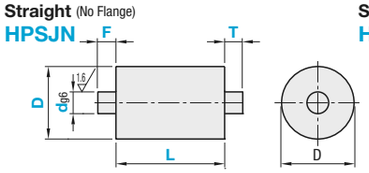


RoHS

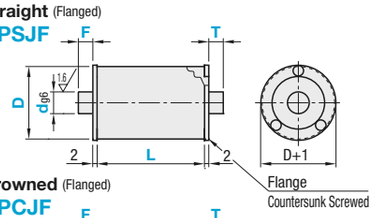
■**Concentricity, Perpendicularity**



Straight (No Flange) **HPSJN**

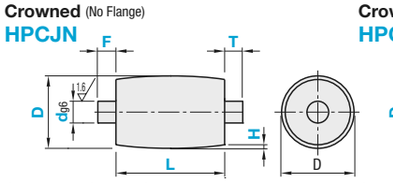


Straight (Flanged) **HPSJF**

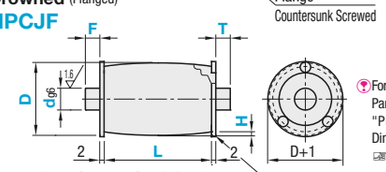


6.3 (1.6)

Crowned (No Flange) **HPCJN**

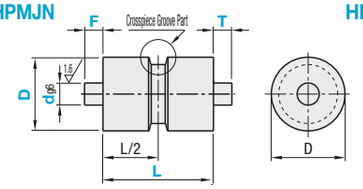


Crowned (Flanged) **HPCJF**

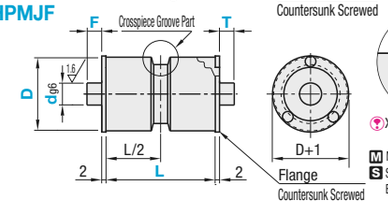


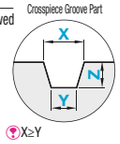
For Crosspiece Groove Part Dimensions, see "Pulley, Idler Relief Dimensions" ☞P.1363

Crosspiece Groove Straight (No Flange) **HPMJN**



Crosspiece Groove Straight (Flanged) **HPMJF**





X≥Y

M Material: EN 1.1191 Equiv.
S Surface treatment: Electroless Nickel Plating

Part Number Type	D	d_{g6}	1mm Increment L	1mm Increment F, T	Crowned Type only H	Crosspiece Groove Straight only: 0.1mm Increment X	Y	Z
Straight HPSJN HPSJF	20	6	Straight Crowned 25~100 Crosspiece Groove Straight 50~100	4≤F, T≤60 F, T≤dx5 For Crowned, when D=50 ~ 80, 8≤F, T≤60	0.3 0.5	7.0~15.0	5.0~12.0	4.0~5.0
		8						
	30	8						4.0~7.0
		10						
		12						
	35	10						
		12						
		15						
Crowned HPCJN HPCJF	40	12						
		15						
		20						
Crosspiece Groove Straight HPMJN HPMJF	50	15						
		20						
		25						
	60	20						
		25						
		30						
	80	25						
		30						
		35						

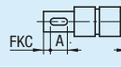
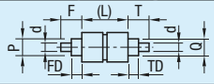
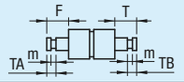
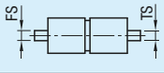
Ordering Example

	Part Number	-	d	-	L	-	F	-	T	-	H	-	X	-	Y	-	Z
(Straight)	HPSJN40	-	15	-	52	-	F50	-	T10								
(Crowned)	HPCJF60	-	20	-	75	-	F25	-	T40	-	H0.5						
(Crosspiece Groove Straight)	HPMJN30	-	12	-	76	-	F15	-	T50			-	X14.0	-	Y11.8	-	Z5.0

D	Unit Price															
	Straight						Crowned						Crosspiece Groove Straight			
	HPSJN			HPSJF			HPCJN			HPCJF			HPMJN		HPMJF	
	L25~50	L51~75	L76~100	L25~50	L51~75	L76~100	L25~50	L51~75	L76~100	L25~50	L51~75	L76~100	L50~75	L76~100	L50~75	L76~100
20																
30																
35																
40																
50																
60																
80																

Alterations

Part Number	-	d	-	L	-	F	-	T	-	X	-	Y	-	Z	-	(FKC, TKC, FD, TD, TA, TB, FS, TS)
HPMJN30	-	12	-	L76	-	F50	-	T15	-	X14.0	-	Y11.8	-	Z5.0	-	FKC5-A15

Alterations	Keyway Machining	Step Machining	Retaining Ring Groove	Shaft Dia. Change
				
Code	FKC, TKC	FD, TD	TA, TB	FS, TS
Spec.	Adds a keyway on shaft F (T). FKC, TKC, A, B=1mm Increment Ordering Code FKC5-A10 (TKC0-B10) FKC=0 or 2≤FKC; FKC+A≤F-2; TKC=0 or 2≤TKC; TKC+B≤T-2; For keyway details, see ☞P.820. ⊗FKC: Combination with FD or TA is not available. ⊗TKC: Combination with TD or TB is not available. ⊗Combination of FKC and TKC is not available.	Adds a step on shaft F (T). FD, TD, P, Q=1mm Increment Ordering Code FD5-P8 (TD5-Q8) FD≤F-2; TD≤T-2; No Flange: d<P(Q)<D-2; Flanged : d<P(Q)<D-12	Adds a Retaining Ring Groove. Retaining ring is not included. TA, TB = 1mm Increment Ordering Code TA5 (TB5) 4≤TA≤F-2 (When FD is specified: 4≤TA≤F-FD-2); 4≤TB≤T-2 (When TD is specified: 4≤TB≤T-FD-2); For dimensions of Retaining Ring Groove, refer to ☞P.820	Changes shaft diameter (d). FS, TS=1mm Increment Ordering Code FS17 (TS17)

D	FS (TS) Specification Range	D	FS (TS) Specification Range
20	6~18	50	15~48
30	8~28	60	20~58
35	10~33	80	25~78
40	12~38		

Idlers for Flat Belts

Width L=38 ~ 90, Width L=100 ~ 300

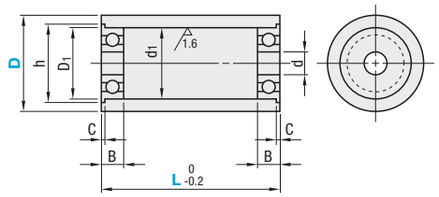
■**Width L38 ~ 90**



RoHS

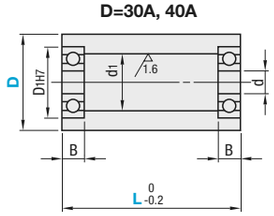
Type	M Material	S Surface Treatment	M Material Bearing
ROFB	EN 1.1191 Equiv.	Black Oxide	Steel
ROFM		Electroless Nickel Plating	
ROFA	Aluminum Alloy 5000 series	Clear Anodize	
ROFS	EN 1.4301 Equiv.	-	Stainless Steel

6.3 (1.6)



The bearings are removable.

D=30A, 40A



* Bearing Accuracy: JIS B1514 Class 0

Part Number Type	D	L Selection							d	d_1	Bearing Dimension No.	D_1	B	C	h
ROFB ROFM ROFA ROFS	20	38	45	50					6	15	FL696ZZx2	15	5	1.2	17
	25	38	45	50	60					17	FL606ZZx2	17	6		19
	30	38	45	50	60	70									
	30A	38	45	50	60	70					B698ZZx2	19		-	-
	35	38	45	50	60	70	85	90	8	22	FL608ZZx2	22	7	1.5	25
	40	38	45	50	60	70	85	90							
	40A	38	45	50	60	70	85	90	10		B6000ZZx2	26	8	-	-

For detailed bearing dimensions, see ☞P.989, 991.

Ordering Example

	Part Number	-	L
	ROFM25	-	50

D	Unit Price											
	ROFB			ROFM			ROFA			ROFS		
	L38~50	L60, 70	L85, 90	L38~50	L60, 70	L85, 90	L38~50	L60, 70	L85, 90	L38~50	L60, 70	L85, 90
20		-	-		-	-		-	-		-	-
25			-			-			-			-
30			-			-			-			-
30A			-			-			-			-
35												
40												
40A												

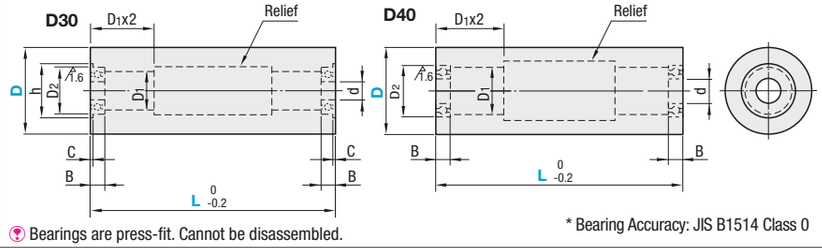
■**Width L100 ~ 300**



RoHS

ROFWB (S45C+ Black Oxide)
ROFAWB (EN AW-5052 Equiv. + Clear Anodize)

6.3 (1.6)



Bearings are press-fit. Cannot be disassembled.

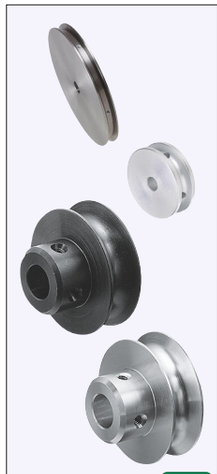
* Bearing Accuracy: JIS B1514 Class 0

Part Number Type	D	L 10mm Increment	d	D_1	Bearing Dimension No.	D_2	B	C	h	Unit Price ROFWB L100~150	L160~200	L210~250	L260~300	ROFAWB L100~150	L160~200	L210~250	L260~300
ROFWB ROFAWB	30	100~300	8	10	FL678ZZ	12	3.5	0.8	13.6								
	40		12	18	B6801ZZ	21	5	-	-								

Ordering Example

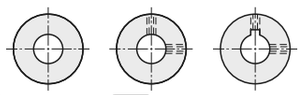
	Part Number	-	L
	ROFWB40	-	150

Pulleys for Round Belts
Set Screw Type



Trapezoid Groove		U Groove		Material	Surface Treatment
Shape A	Shape B	Shape A	Shape B		
MBRDF	MBRD	MBRF	MBR	EN 1.1191 Equiv.	Black Oxide
MBRDFM	MBRDM	MBRFM	MBRM		Electroless Nickel Plating
-	MBRDS	-	MBRS	EN 1.4301 Equiv.	-
MBRDFA	MBRDA	MBRFA	MBRA	Aluminum Alloy 5000 series	Clear Anodize

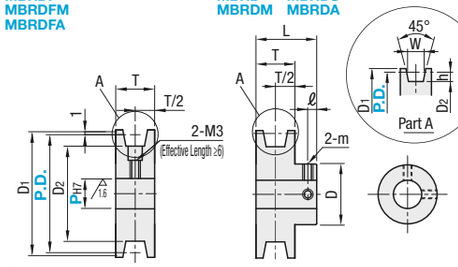
Shaft Hole: H Round Hole, P Round Hole + Tap, N New JIS Keyway + Tap, C Old JIS Keyway + Tap



Trapezoid Groove

A Shape: MBRDF, MBRDFM, MBRDFA

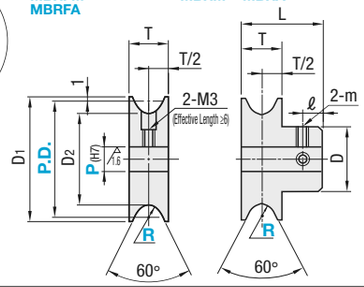
B Shape (With Hub): MBRD, MBRDM, MBRDS, MBRDA



U Groove

A Shape: MBRF, MBRFM, MBRFA

B Shape (With Hub): MBR, MBRM, MBRS, MBRA



6.3 (1.6)

Trapezoid grooves suppress slipping of round belts. See the next page for details.
Set screws are not included. See P.2-211.
For keyway dimensions, see P.1377.

Part Number Type	P.D.	Belt Radius Trapezoid	R U Groove	Shaft Bore Specification, I.D. Selection: 1mm Increment H, P(H7)	Selection: N (New JIS)	Selection: C (Old JIS)	D1	D2	h	W	T	L	ℓ	D	m	Applicable Belt Dia.	Unit Price MBRDF MBRF	MBRDFM MBRFM	MBRDFA MBRFA	MBRD MBR	MBRDM MBRM	MBRDS MBRS	MBRDA MBRA
	*15	1		4~7	-	-	17	13	1	2.2	5	11	3	12	M3	2	-	-	-				
	*20						22	18						16									
	*30			4~12	8, 10, NK10		32	28						20									
	*40						42	38															
	20	1.5		4~12	8	-	22	17	1.5	3.3	10	16	3	16	M3	3							
	30			5~12	8, 10, NK10		32	27						20									
	40						42	37															
	45			5~20	8~20 (8~15)	10	47	42				20	5	25	M4								
	60						62	57															
Trapezoid Groove	18	2		5~12	(8)	-	20	14	2	4.4	10	16	3	16	M3	4							
A Shape	23						25	19															
MBRDF	28				8, 10, NK10		30	24						20									
MBRDFM	30						32	26															
MBRDFA	40						42	36															
	45			5~20	8~20 (8~15) NK10	10	47	41				20	5	25	M4								
B Shape	48						50	44															
MBRD	60						62	56															
MBRDM	80						82	76															
MBRDS	28	2.5		5~12	8, 10, NK10	-	30	23	2.5	5.5	10	16	3	20	M3	5							
MBRDA	40			5~20	8~20 (8~15) NK10	10	42	35				20	5	25	M4								
	48						50	43															
	50						52	45															
	60						62	55															
	75						77	70															
	80						82	75															
U Groove	28	3		5~12	8, 10, NK10	-	30	22	3	6.6	10	16	3	20	M3	6							
A Shape	38						40	32															
MBRF	48			5~20	8~20 (8~15) NK10	10	50	42				20	5	25	M4								
MBRFM	50						52	44															
MBRFA	58						60	52															
B Shape	60						62	54															
MBR	75						77	69															
MBRM	80						82	74															
MBRS	95						97	89															
MBRA	100						102	94															
	50	4		5~20	8~20 NK10	10 12 15	52	42	4	8.8	12	24	6	30	M4 (M5) *1	8							-
	60						62	52															-
	80						82	72															-
	100						102	92															-
	120						122	112															-
	60	5		5~20	8~20 NK10	10 12 15	62	50	5	11	15	27	6	30	M4 (M5) *1	10							-
	80						82	70															-
	100						102	90															-
	120						122	110															-
	140						142	130															-

Shaft Hole Dia. 6.35 is available for Shaft Hole Specification H and P. Values in ( ) are for Shape B.
Shaft Hole Dia. 9 is not available for Shaft Hole Specification N.
Sizes with * will be B Shape only. *1 When shaft diameter is 15mm or more, set screw size is (M5).
For keyway dimensions, see P.1377.
Specify NK10 when Keyway + Tap with shaft bore dia. 10 and keyway width 4.0mm (height 1.8mm) is desired.

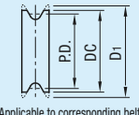
Ordering Example

Part Number	-	Belt Radius	-	R	-	Shaft Bore Specification, I.D.
MBRDF30	-	1.5	-	2	-	H5
MBR60						N12

Alterations

Part Number	-	Belt Radius	-	R	-	Shaft Bore Specification, I.D.	-	(DC)
MBRD40	-	1.5	-		-	H6	-	DC

Alteration Code	O.D. Cut DC
Spec.	Reduces D1 diameter by cutting. Ordering Code DC



Belt Radius R	DC
Applicable	
1	P.D.+0.8
1.5	P.D.+1.2
2	P.D.+1.6
2.5	P.D.+1.8

Applicable to corresponding belt radius R 1, 1.5, 2, 2.5 only.
Surface treatment may not be applied to the machined area.

Pulleys for Round Belts
Clamping Type

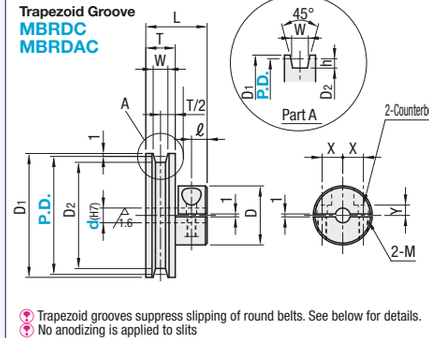


Type: Trapezoid Groove	Type: U Groove	Material	Surface Treatment	Accessory
MBRDC	MBRC	EN 1.1191 Equiv.	Black Oxide	Hex Socket Head Cap Screw (x2) EN 1.7220 Equiv.
MBRDAC	MBRAC	EN AW-5052 Equiv.	Clear Anodize	Hex Socket Head Cap Screws (x2) Stainless Steel

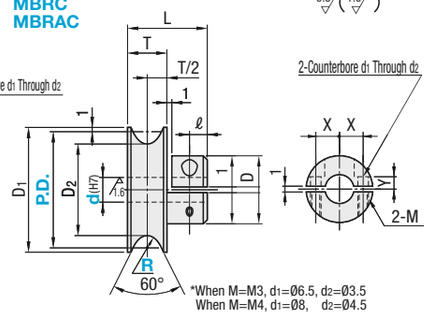
Tolerance d is the tolerance before slitting.

6.3 (1.6)

Trapezoid Groove: MBRDC, MBRDAC



U Groove: MBRC, MBRAC



Trapezoid grooves suppress slipping of round belts. See below for details.
No anodizing is applied to slits

*When M=M3, d1=Ø6.5, d2=Ø3.5
When M=M4, d1=Ø8, d2=Ø4.5

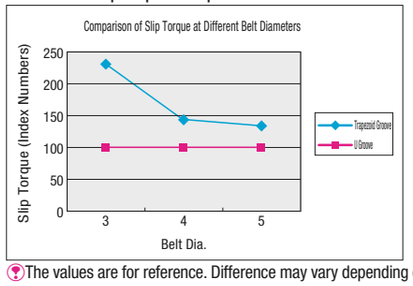
Part Number Type	P.D.	Belt Radius Trapezoid	R U Groove	d (H7) Selection	D	D1	D2	h	W	L	T	ℓ	X	Y	M	Applicable Belt Dia.	Unit Price MBRDC MBRC	MBRDAC MBRAC
	20	1		4 5	16	22	18	1	2.2	11	5	2.5	5	3	M3	2		
	30			4 5 6 6.35 8	20	32	28						7	3.5				
	40					42	38											
	30	1.5		5 6 6.35 8	20	32	27	1.5	3.3	16	10	2.5	7	3.5	M3	3		
	40					42	37											
	45			5 6 6.35 8 10 11 12	25	47	42			20		4.5	9	4.5	M4			
	60					62	57											
	23	2		5 6 6.35 8	20	25	19	2	4.4	16	10	2.5	7	3.5	M3	4		
	28					30	24											
	30					32	26											
	40					42	36											
Trapezoid Groove	45			5 6 6.35 8 10 11 12	25	47	41			20		4.5	9	4.5	M4			
MBRDC	48					50	44											
MBRDAC	60					62	56											
	80					82	76											
	28	2.5		5 6 6.35 8	20	30	23	2.5	5.5	16	10	2.5	7	3.5	M3	5		
	40			5 6 6.35 8 10 11 12	25	42	35			20		4.5	9	4.5	M4			
	48					50	43											
	50					52	45											
U Groove	60					62	55											
MBRC	75					77	70											
MBRAC	80					82	75											
	28	3		5 6 6.35 8	20	30	22	3	6.6	16	10	2.5	7	3.5	M3	6		
	38			5 6 6.35		40	32			20		4.5	6.5		M4			
	48			5 6 6.35 8 10 11 12	25	50	42						9	4.5				
	50					52	44											
	58					60	52											
	60					62	54											
	75					77	69											
	95					97	89											
	100					102	94											

Ordering Example

Part Number	-	Belt Radius	-	R	-	d
MBRDC30	-	2			-	5
MBRC60			-	2.5	-	6

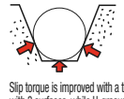
Alterations Left-hand Page

<Difference of Slip Torque for Trapezoid and U Grooves> * Index numbers as compared with values for U groove as base value (100)



Test Conditions
- Size: P.D. 60
- Material: EN AW-5052 Equiv., Surface Treatment: Black Oxide
- Belt: MBT3, 4, 5 (P.1371)

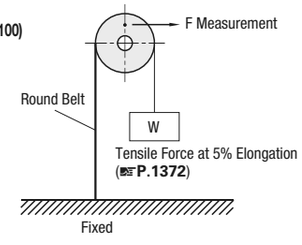
Trapezoid Groove Shape



U Groove Shape



Slip torque is improved with a trapezoid-grooved pulley, as it contacts belts with 3 surfaces, while U-grooved pulley contacts belts with one surface.



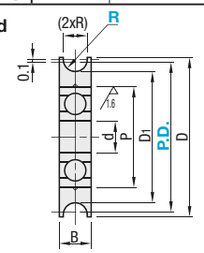
The values are for reference. Difference may vary depending on operating environment.

Idlers for Round Belts
Narrow Type

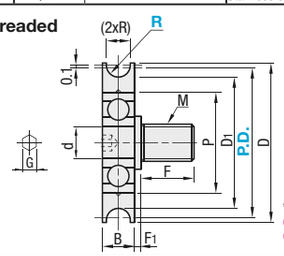


Type		Main Body		Thread		Bearing
Standard	Threaded	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material
MBF	MBFN	EN 1.1191 Equiv.	Black Oxide	EN 1.1191 Equiv.	Black Oxide	Steel
MBFM	MBFNM		Electroless Nickel Plating		Electroless Nickel Plating	
MBFA	MBFNA	Aluminum Alloy 5000 series	Clear Anodize	EN 1.4301 Equiv.	-	Stainless Steel
MBFS	MBFNS	EN 1.4301 Equiv.	-			

Standard



Threaded



6.3 (1.6)

*Bearing Accuracy: JIS B1514 Class 0
Bearings are glued.
Threaded pins are swaged on.

RoHS

Part Number Type	P.D.	R	F	d	P	D	D1	B	Bearing	M	G	F1	Applicable Round Belt Dia.
	*15	1.1	-	4	11	17	13	4	694ZZ	-	-	-	2
	*20				13	21	18	5	624ZZ				
	*30			5	16	32	28		625ZZ				
	*20	1.6	-	4	13	22	17	5	624ZZ	-	-	-	3
	*23			5	16	25	20		625ZZ				
	*30					32	27						
	*18	2.1	-	5	11	20	14	5	685ZZ	-	-	-	4
	23		8	6	15	25	19	6	696ZZ	M6	3	1.0	
	28				19	30	24		626ZZ		3		
	30			8		32	26		698ZZ		4		
	40		12	12	24	42	36		6901ZZ	M10	6	1.5	
	48					50	44						
	28	2.6	8	6	19	30	23	6	626ZZ	M6	3	1.0	5
	40			8		42	35		698ZZ		4		
	48					50	43						
	50		12	12	24	52	45		6901ZZ	M10	6	1.5	
	38	3.1	10	8	24	40	32	8	628ZZ	M8	4	1.0	6
	48					50	42						
	50		12	12	28	52	44		6001ZZ	M10	6	1.5	
	60					62	54						
	100			20	37	102	94	9	6904ZZ				
	50	4.1	12	12	32	52	42	10	6201ZZ	M10	6	1.5	8
	60					62	52						
	60	5.1	12	20	42	62	50	12	6004ZZ	M10	6	1.5	10
	80					82	70						
	*140		-			142	130			-	-	-	

Standard: MBF, MBFM, MBFA, MBFS
Threaded: MBFN, MBFNM, MBFNA, MBFNS

Sizes marked with * are available for Standard Type only.

For detailed bearing dimensions, see P.989, 991.

P.D.	R	Unit Price							
		Standard				Threaded			
		MBF	MBFM	MBFA	MBFS	MBFN	MBFNM	MBFNA	MBFNS
15	1.1					-	-	-	-
20						-	-	-	-
30						-	-	-	-
20	1.6					-	-	-	-
23						-	-	-	-
30						-	-	-	-
18	2.1					-	-	-	-
23									
28									
30									
40									
48									
28	2.6								
40									
48									
50									
38	3.1								
48									
50									
60									
100									
50	4.1								
60									
60	5.1								
80									
140						-	-	-	-

Ordering Example

Part Number	-	R
MBF28	-	2.6
MBFN38	-	3.1
MBG40	-	2

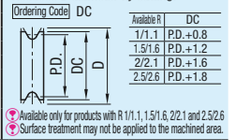
Alterations

Part Number - R - (DC)
MBFN40 - 2.1 - DC

Alterations	O.D. Cut
Code	DC
Spec.	Reduces D diameter by cutting.

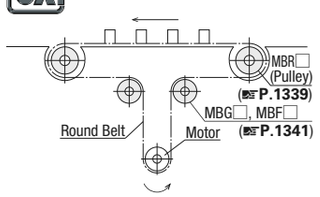
Ordering Code: DC

Available R	DC
1/1.1	P.D.+0.8
1.5/1.6	P.D.+1.2
2/2.1	P.D.+1.6
2.5/2.6	P.D.+1.8



Available only for products with R 1/1.1, 1.5/1.6, 2/2.1 and 2.5/2.6
Surface treatment may not be applied to the machined area.

Example

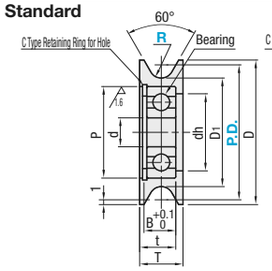


Idlers for Round Belts
Wide

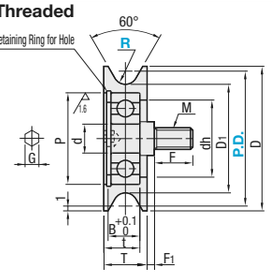


Type		Main Body		Thread		Bearing	Accessory
Standard	Threaded	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	A Accessory
MBG	MBGN	EN 1.1191 Equiv.	Black Oxide	EN 1.1191 Equiv.	Black Oxide	Steel	Retaining Ring (EN 1.4301 Equiv.)
MBGM	MBGNM		Electroless Nickel Plating		Electroless Nickel Plating		
MBGA	MBGNA	EN AW-5052 Equiv.	Clear Anodize	EN 1.4301 Equiv.	-		
MBGS	MBGNS	EN 1.4301 Equiv.	-			Stainless Steel	
MBGJ	MBGNJ	Polyacetal				Steel	

Standard



Threaded



6.3 (1.6)

* Bearing Accuracy: JIS B1514 Class 0
Bearings are press-fit.
Cannot be disassembled.
Threaded pins are swaged on.

RoHS

Part Number Type	P.D.	R	d	P	dh	D	D1	T	t	B	Bearing	M	G	F	F1	Applicable Round Belt Dia.
	*15	1	3	10	8	17	13	10	6.5	5	623ZZ	-	-	-	-	2
	*20		5	16	13	22	18		7.5	6	625ZZ					
	*30					32	28	12	9							
	*20	1.5	4	13	11	22	17	10	7.5	6	624ZZ	-	-	-	-	3
	30		6	19	16	32	27	12	9	7	626ZZ	M6	3	8	1	
	*23	2	5	16	13	25	19	10	7.5	6	625ZZ	-	-	-	-	4
	28		6	19	16	30	24	12	9	7	626ZZ	M6	3	8	1	
	30					32	26									
	40		10	26	23	42	36	15	11.5	9.2	6000ZZ	M8	5	10	1.5	
	48		12	28	25	50	44				6001ZZ	M10	6	12		
	60					62	56									
	*23	2.5	5	16	13	25	18	10	7.5	6	625ZZ	-	-	-	-	5
	28		6	19	16	30	23	12	9	7	626ZZ	M6	3	8	1	
	40		10	26	23	42	35	15	11.5	9.2	6000ZZ	M8	5	10	1.5	
	48		12	28	25	50	43				6001ZZ	M10	6	12		
	50					52	45									
	60					62	55									
	28	3	6	19	16	30	22	12	9	7	626ZZ	M6	3	8	1	6
	38		10	26	23	40	32	15	11.5	9.2	6000ZZ	M8	5	10	1.5	
	48		12	28	25	50	42				6001ZZ	M10	6	12		
	50					52	44									
	60					62	54									
	80					82	74									
	100					102	94									
	50	4	12	28	25	52	42	15	11.5	9.2	6001ZZ	M10	6	12	1.5	8
	60					62	52									
	80					82	72									
	100		15	32	28	102	92	16	12.5	10.2	6002ZZ				1	
	120					122	112									
	60	5	12	28	25	62	50	15	11.5	9.2	6001ZZ	M10	6	12	1.5	10
	80					82	70									
	100		15	32	28	102	90	16	12.5	10.2	6002ZZ				1	
	120					122	110									
	140					142	130									

Standard: MBG, MBGM, MBGA, MBGS, MBGJ
Threaded: MBGN, MBGNM, MBGNA, MBGNS, MBGNJ

Sizes marked with * are available for Standard Type only.

For applicable sizes, refer to the price list.

For detailed bearing dimensions, see P.989, 991.

P.D.	R	Unit Price								
		Standard					Threaded			
		MBG	MBGM	MBGA	MBGS	MBGJ	MBGN	MBGNM	MBGNA	MBGNS	MBGNJ
15	1					-	-	-	-	-	-
20						-	-	-	-	-	-
30						-	-	-	-	-	-
20	1.5						-	-	-	-	-
30						-					-
23	2						-	-	-	-	-
28						-					-
30						-					-
40						-					-
48						-					-
60						-					-
23	2.5						-	-	-	-	-
28						-					-
40						-					-
48						-					-
50						-					-
60						-					-
28	3										
38						-					-
48						-					-
50						-					-
60						-					-
80						-					-
100						-					-
50	4										
60						-					-
80						-					-
100						-					-
120						-					-
60	5										
80						-					-
100						-					-
120						-					-
140						-					-

■Ordering Example, Days to Ship, Volume Discount Rate, Alterations and App. Example Left-hand Page

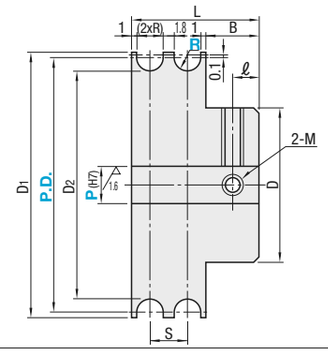
Pulleys for Round Belts
Double

■Pulleys for Round Belts



RoHS

Type	Material	Surface Treatment	Accessory
MBWAC	Aluminum Alloy 5000 series	Clear Anodize	Set Screw 2 pcs. (EN 1.4301 Equiv.)
MBWS	EN 1.4301 Equiv.	-	

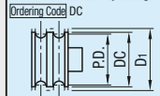


Part Number Type	P.D.	R	Shaft Bore Specification, I.D. P (H7) 1mm Increment	S	D	D1	D2	L	ℓ	B	M (Coarse)	Accessory: Set Screw	Applicable Round Belt Dia.	Unit Price MBWAC	Unit Price MBWS
MBWAC MBWS	15	1.1	3~8	4	12	17	13	14	3	5.8	M3	M3x3	2		
	20		4~10		16	22	18								
	30		4~12		20	32	28								
	20	1.6	3~10	5	16	22	17	16	3	5.8	M3	M3x3	3		
	30		5~12		20	32	27								
	40					42	37								
	45		5~20		30	47	42								
	23	2.1	5~12	6	20	25	19	18	3	5.8	M3	M3x3	4		
	28					30	24								
	30					32	26								
	40					42	36								
	45		5~18		25	47	41	20	4	7.8	M4	M4x3			
	48		5~20		30	50	44								
	28	2.6	5~12	7	20	30	23	20	3	5.8	M3	M3x3	5		
	40		5~20		30	42	35	22	4	7.8	M4	M4x3			
	50					52	45								
	28	3.1	5~12	8	22	30	22	22	3	5.8	M3	M3x3	6		
	38		5~20		30	40	32	24	4	7.8	M4	M4x3			
	48					50	42								
	50					52	44								
	60					62	54								
	75					77	69								
	100					102	94								
	50	4.1	5~20	10	30	52	42	30	5	9.8	M5	M5x4	8		
	60					62	52								
	100					102	92								
	60	5.1	5~20	12	34	62	50	34	5	9.8	M5	M5x4	10		
	100					102	90								
	140					142	130								

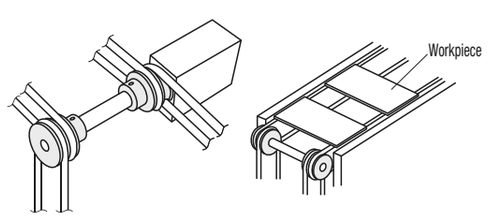
For MBWAC, surface treatment may not be applied to shaft bores.

Ordering Example: Part Number - R - Shaft Bore Specification, I.D. → MBWS30 - 1.6 - P5

Alterations: Part Number - R - Shaft Bore Specification, I.D. - (DC) → MBWA40 - 2.6 - P8 - DC

Alterations Code	O.D. Cut DC
Spec.	Reduces D1 diameter by cutting. Ordering Code DC  Available R / DC: 1.1 P.D.+0.8; 1.6 P.D.+1.2; 2.1 P.D.+1.6; 2.6 P.D.+1.8 Applicable only to products with R 1.1, 1.6, 2.1 and 2.6. Surface treatment may not be applied to the machined area.

Example



Idlers for Round Belts
Double

■Idlers for Round Belts

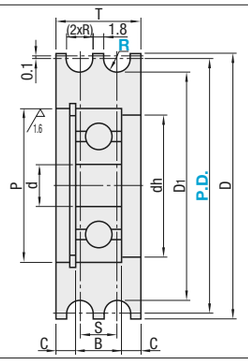


RoHS

Type	Material: Bearing	Material: Main Body	Surface Treatment	Accessory
MBXAC	Stainless Steel	EN AW-5052 Equiv.	Clear Anodize	Retaining Ring (EN 1.4301 Equiv.)
MBXS		EN 1.4301 Equiv.	-	

* Bearing Accuracy: JIS B1514 Class 0

Bearings are press-fit. Cannot be disassembled.

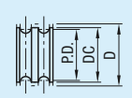


Part Number Type	P.D.	R	S	d	P	dh	D	D1	T	B	C	Bearing	Applicable Round Belt Dia.	Unit Price MBXAC	Unit Price MBXS
MBXAC MBXS	15	1.1	4	3	10	8	17	13	9	4	2.5	623ZZ	2		
	20			4	13	11	22	18	10	5		624ZZ			
	30			6	19	16	32	28	11	6		626ZZ			
	20	1.6	5	4	13	11	22	17	11	5	3	624ZZ	3		
	30			6	19	16	32	27		6	2.5	626ZZ			
	40			10	26	23	42	37	14	8	3	6000ZZ			
	45						47	42							
	23	2.1	6	6	15	13	25	19	13	5	4	696ZZ	4		
	28				19	16	30	24		6	3.5	626ZZ			
	30						32	26							
	40			10	26	23	42	36	14	8	3	6000ZZ			
	45						47	41							
	48						50	44							
	28	2.6	7	8	19	16	30	23	15	6	4.5	698ZZ	5		
	40			10	26	23	42	35	16	8	4	6000ZZ			
	50			12	32	27	52	45		10	3	6201ZZ			
	28	3.1	8	6	19	16	30	22	17	6	5.5	626ZZ	6		
	38			10	26	23	40	32	18	8	5	6000ZZ			
	48						50	42							
	50			12	32	27	52	44		10	4	6201ZZ			
	60						62	54							
	75						77	69							
	100						102	94							
	50	4.1	10	12	32	27	52	42	21	10	5.5	6201ZZ	8		
	60						62	52							
	100			15	35	30	102	92		11	5	6202ZZ			
	60	5.1	12	15	35	30	62	50	25	11	7	6202ZZ	10		
	100						102	90							
	140						142	130							

For detailed bearing dimensions, see P.989, 991.

Ordering Example: Part Number - R → MBXS30 - 1.6

Alterations: Part Number - R - (DC) → MBXA40 - 2.6 - DC

Alterations Code	O.D. Cut DC
Spec.	Reduces D diameter by cutting. Ordering Code DC  Available R / DC: 1.1 P.D.+0.8; 1.6 P.D.+1.2; 2.1 P.D.+1.6; 2.6 P.D.+1.8 Applicable only to products with R 1.1, 1.6, 2.1 and 2.6. Surface treatment may not be applied to the machined area.