

Metal Collar

Standard Grade / Precision Grade, Dimension Configurable



RoHS10

Part Number		Material	Surface Treatment
Standard Grade	Precision Grade		
FNCL	FAC	EN 1.0038 Equiv.	-
FNCLC	FACS	EN 1.1191 Equiv.	-
FNCLB	FABSC		Black Oxide
FNCLM	FAMSC		Electroless Nickel Plating
FNCLR	FARSC		LTBC Plating
FNCLBB	-	Brass (JIS EN 0861-40 Equiv.)	-
FNCLA	FAASC	Aluminum Alloy 2000 series	Clear Anodize
FNCLAB	-	EN 1.4301 Equiv.	Black Anodize
FNCLSS	FSASC		-
FNCLSSR	FSASCR		LTBC Plating

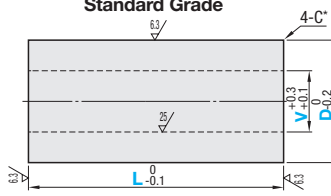
*1 Machining Conditions
10.0≤L≤50.0→ (D-V)/2≥1
50.1≤L≤100.0→ (D-V)/2≥2

*2 Machining Limits of Collar Thickness and Overall Length
(Material: EN AW-2017 Equiv., Brass)
4≤D≤10 → V≤D-2
10.5≤D≤30 → V≤D-4
31≤D≤60 → V≤D-6
61≤D≤80 → V≤D-8
81≤D≤100→ V≤D-10

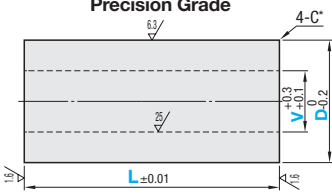
*3 Machining Limits of V and Overall Length
L≤Vx8

Hardened Type P137

Standard Grade



Precision Grade



* D=16 or Less: C0.1 ~ 0.2
D=16.5 or More: C0.5 or Less

Standard Grade

Part Number	V 0.5mm Increment (V3 or More)	D	L 0.1mm Increment	Unit Price							
				FNCL	FNCLC	FNCLB	FNCLM	FNCLR	FNCLBB	FNCLA FNCLAB	FNCLSS
FNCL FNCLC FNCLB FNCLM FNCLR FNCLBB FNCLA FNCLAB FNCLSS FNCLSSR	(Selection) 2.0 2.6 (0.5mm Increment) 3.0~90.0	4.0~10.0 (0.5mm Increment)	10.0~ 25.0								
			25.1~ 50.0								
			50.1~ 75.0								
			75.1~ 100.0								
		10.5~20.0 (0.5mm Increment)	10.0~ 25.0								
			25.1~ 50.0								
			50.1~ 75.0								
			75.1~ 100.0								
		21~30 (1mm Increment)	10.0~ 25.0								
			25.1~ 50.0								
			50.1~ 75.0								
			75.1~ 100.0								
		31~40 (1mm Increment)	10.0~ 25.0								
			25.1~ 50.0								
			50.1~ 75.0								
			75.1~ 100.0								
		41~50 (1mm Increment)	10.0~ 25.0								
			25.1~ 50.0								
			50.1~ 75.0								
			75.1~ 100.0								
		51~60 (1mm Increment)	10.0~ 25.0								
			25.1~ 50.0								
			50.1~ 75.0								
			75.1~ 100.0								
61~75 (1mm Increment)	10.0~ 25.0										
	25.1~ 50.0										
	50.1~ 75.0										
	75.1~ 100.0										
76~80 (1mm Increment)	10.0~ 25.0										
	25.1~ 50.0										
	50.1~ 75.0										
	75.1~ 100.0										
81~100 (1mm Increment)	10.0~ 25.0										
	25.1~ 50.0										
	50.1~ 75.0										
	75.1~ 100.0										

*1 Machining Conditions *1, *2, *3 *Foreign Exchange and Foreign Trade Act restricts the export of collars whose O.D. is more than 75mm and over length exceed O.D. Size D>75/L75 is discontinued.

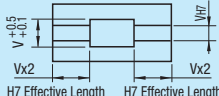
Ordering Example Part Number - V - D - L
FNCLB - V10.5 - D19.5 - L50.5

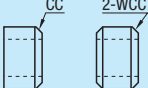
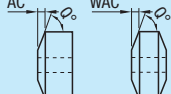
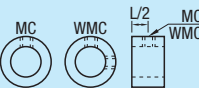
Precision Grade

Part Number	V	D	L	Unit Price							
	0.5mm Increment (V3 or More)			FAC	FACS	FABSC	FAMSC	FARSC	FAASC	FSASC	FSASCR
FAC FACS FABSC FAMSC FARSC FAASC FSASC FSASCR	(Selection) 2.0 2.6 <										

Alterations Part Number - V - D - L - (VKC, DKC, HKC)
FNCLB - V10.5 - D45 - L70.5 - VKC

When both I.D./O.D. tolerance changes are specified, the concentricity is $\varnothing 0.02$.

Alteration	Code	Spec.	Alteration	Code	Spec.																																										
I.D. Tolerance 	VKC	Changes the I.D. Tolerance to H7. Not applicable for FNCLAB. Ordering Code VKC Machining Conditions When V≥8 and L≥Vx5, adds a central relief shown on the right.  D≥6 V≥3 <table><tr><td>6~10</td><td>D-Vz 2</td></tr><tr><td>10.5~20</td><td>D-Vz 3</td></tr><tr><td>21~30</td><td>D-Vz 6</td></tr><tr><td>31~40</td><td>D-Vz 8</td></tr><tr><td>41~50</td><td>D-Vz10</td></tr><tr><td>51~60</td><td>D-Vz12</td></tr><tr><td>61~70</td><td>D-Vz14</td></tr><tr><td>71~80</td><td>D-Vz16</td></tr><tr><td>81~90</td><td>D-Vz18</td></tr><tr><td>91~100</td><td>D-Vz20</td></tr></table>	6~10	D-Vz 2	10.5~20	D-Vz 3	21~30	D-Vz 6	31~40	D-Vz 8	41~50	D-Vz10	51~60	D-Vz12	61~70	D-Vz14	71~80	D-Vz16	81~90	D-Vz18	91~100	D-Vz20	O.D. Tolerance 	DKC (g6) HKC (h7)	Changes the O.D. Tolerance to g6 or h7. Ordering Code DKC, HKC Machining Conditions D≥6 Not applicable for FNCLAB <table><tr><td>D</td><td>D-V</td></tr><tr><td>6~10</td><td>D-Vz 2</td></tr><tr><td>10.5~20</td><td>D-Vz 3</td></tr><tr><td>21~30</td><td>D-Vz 6</td></tr><tr><td>31~40</td><td>D-Vz 8</td></tr><tr><td>41~50</td><td>D-Vz10</td></tr><tr><td>51~60</td><td>D-Vz12</td></tr><tr><td>61~70</td><td>D-Vz14</td></tr><tr><td>71~80</td><td>D-Vz16</td></tr><tr><td>81~90</td><td>D-Vz18</td></tr><tr><td>91~100</td><td>D-Vz20</td></tr></table>	D	D-V	6~10	D-Vz 2	10.5~20	D-Vz 3	21~30	D-Vz 6	31~40	D-Vz 8	41~50	D-Vz10	51~60	D-Vz12	61~70	D-Vz14	71~80	D-Vz16	81~90	D-Vz18	91~100	D-Vz20
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Alterations	C Chamfering (One Side - Both Sides)	Taper (One Side - Both Sides)	Tapping	Set Screw Hole (1-set 2-set)	Slitting																																																												
																																																																	
Code	CC, WCC	AC, WAC	VM (Coarse Thread) VMA (Fine Thread)	MC, WMC	SLC																																																												
Spec.	Chamfers C plane. Ordering Code CC1.5 WCC2.5 CC, WCC=0.5mm Increment CC, WCC≤10 CC, WCC<(D-V) / 2 L-CC≥5 L-(WCCx2)≥5	Adds a taper. Ordering Code AC3.5-Q60 WAC5.0-Q30 AC, WAC=0.5mm Increment Q=Selection from 15, 20, 30 and 60 AC≤L-5 (D-V) / 2≥tanQxAC(WAC)+0.5	Adds a tapped hole (through). Ordering Code VMA-VMA4-D10-L18 Ex.) FNCL-VMA4-D10-L18 For the machining limits of tap dia. and overall length (L), see the table below. Tap dia.≤D / 2 <table><tr><th>Tapped Hole Dia. VM VMA</th><th>VM Pitch (Coarse)</th><th>VMA Pitch (Fine)</th><th>L max</th></tr><tr><td>4</td><td>0.7</td><td>0.5</td><td>20</td></tr><tr><td>5</td><td>0.8</td><td>0.5</td><td>30</td></tr><tr><td>6</td><td>1.0</td><td>0.75</td><td>35</td></tr><tr><td>8</td><td>1.25</td><td></td><td>40</td></tr><tr><td>10</td><td>1.5</td><td>1.0</td><td>50</td></tr><tr><td>12</td><td>1.75</td><td></td><td>55</td></tr><tr><td>16</td><td>2.0</td><td></td><td>90</td></tr><tr><td>18</td><td>-</td><td>1.5</td><td>100</td></tr><tr><td>20</td><td>2.5</td><td></td><td></td></tr></table>	Tapped Hole Dia. VM VMA	VM Pitch (Coarse)	VMA Pitch (Fine)	L max	4	0.7	0.5	20	5	0.8	0.5	30	6	1.0	0.75	35	8	1.25		40	10	1.5	1.0	50	12	1.75		55	16	2.0		90	18	-	1.5	100	20	2.5			Adds a tapped hole (coarse thread) at D part. Ordering Code MC3 WMC5 For the condition of thickness (D-V) / 2, see table below. L≥MC, WMCx3 MC, WMC=Select from table below. <table><tr><th>MC, WMC</th><th>(D-V)/2</th></tr><tr><td>3, 4</td><td>3 or More</td></tr><tr><td>5, 6, 8</td><td>5 or More</td></tr><tr><td>10, 12</td><td>8 or More</td></tr></table>	MC, WMC	(D-V)/2	3, 4	3 or More	5, 6, 8	5 or More	10, 12	8 or More	Adds a slit. Ordering Code SLC For the condition of thickness (D-V) / 2, see table below. Slit width is fixed. <table><tr><th>O.D. D</th><th>SLC</th><th>(D-V)/2</th></tr><tr><td>10.0~20.0</td><td>1</td><td>5 or Less</td></tr><tr><td>20.5~40</td><td>2</td><td>10 or Less</td></tr><tr><td>41~</td><td>3</td><td>20 or Less</td></tr></table> D, V and L dimension tolerances are the values before alteration. They may change after alteration depending on materials.	O.D. D	SLC	(D-V)/2	10.0~20.0	1	5 or Less	20.5~40	2	10 or Less	41~	3	20 or Less
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