

Metal Collar

Flanged, Standard Grade / Precision Grade

Type		Material	Surface Treatment	Hardness
Standard	Configurable			
Standard Grade	Precision Grade			
-	FTCLS	Steel for General Structure	-	-
-	FTCLC FTCLMC	S45C Equivalent	Black Oxide	-
-	TCLB FTCLB FTCLMB	Brass (JIS C3604)	Electroless Nickel Plating	-
-	FTCLBB	2000series Aluminum Alloy	Clear Anodize	-
-	TCLA FTCLA	Aluminum Alloy	Black Anodize	-
-	FTCLAB	SUS304	-	-
-	TCLSS FTCLSS	SUS304	-	-
-	FTCLCH FTCLBH	S45C Equivalent	Black Oxide	45-50HRC
-	FTCLMH	S45C Equivalent	Electroless Nickel Plating	-
-	FTCLSK	SKS3 Equivalent	-	55HRC-
-	FTCLSH FTCMSH	SUS440C or 13Cr stainless	-	45-50HRC

Standard

Standard Grade

Dimension Configurable

Dimension Configurable

Circumference C0.5 or Less

⚠ Depending on thickness and length, S45C Hardened Type may be less than 45HRC.
⚠ Stainless Steel Hardened Type may be discolored due to hardening.

Standard Type, Standard Grade

Part Number	Type	V	D Selection	L	0.1mm Increment	Unit Price			
						L10.0-25.0	25.1-50.0	50.1-75.0	75.1-100.0
TCLB TCLM TCLA TCLSS	Type	2	5 6 8 10	10.0-16.0					
		3	5 6 8 10 12						
		4	6 8 10 12 13 14 15 16 20	10.0-50.0					
		5	8 10 12 13 14 15 16 20						
		6	8 10 12 13 14 15 16 20 25						
		8	10 12 13 14 15 16 20 25 30						
		10	12 13 14 15 16 20 25 30 35 40 50						
		12	15 16 20 25 30 35 40 50						
		15	20 25 30 35 40 50 60	10.0-100.0					
		16	20 25 30 35 40 50 60						
20	25 30 35 40 50 60								
25	30 35 40 50 60								
30	40 50 60								

Ordering Example: Part Number - D - L
TCLB10 - 20 - 60.0

Standard Grade, Dimension Configurable

Part Number	V	D	H	T	L	Unit Price																
						FTCLS	FTCLC	FTCLB	FTCLMB	FTCLBB	FTCLA	FTCLSS	FTCLCH	FTCLBH	FTCLMH	FTCLSK	FTCLSH					
FTCLS FTCLC FTCLB FTCLM FTCLBB FTCLA FTCLAB FTCLSS FTCLCH FTCLBH FTCLMH FTCLSK FTCLSH	(Selection)	4.0-10.0	6.0-20.0	1-20	10.0-25.0																	
		(0.5mm Increment)	(0.5mm Increment)		25.1-50.0																	
		10.5-20	12.5-30		50.1-75.0																	
		(0.5mm Increment)	(0.5mm Increment)		75.1-100.0																	
		2.0	21-30		23-40	10.0-25.0																
		(1mm Increment)	(1mm Increment)		(1mm Increment)	25.1-50.0																
		2.6	31-40		33-50	50.1-75.0																
		(0.5mm Increment)	(1mm Increment)		(1mm Increment)	75.1-100.0																
		3.0-55.0	41-50		43-60	10.0-25.0																
		(1mm Increment)	(1mm Increment)		(1mm Increment)	25.1-50.0																
51-60	53-70		50.1-75.0																			
(1mm Increment)	(1mm Increment)		75.1-100.0																			

Ordering Example: Part Number - V - D - H - T - L
FTCLB - V10.5 - D20 - H30 - T4 - L23.8

Precision Grade, Dimension Configurable

Part Number	V	D	H	T	L	Unit Price				
						FTCLMC	FTCLMB	FTCLMM	FTCMSH	
FTCLMC FTCLMB FTCLMM FTCMSH	(Selection)	4.0-10.0	6.0-20.0	1.0-20.0	10.0-25.0					
		(0.5mm Increment)	(0.5mm Increment)		25.1-50.0					
		10.5-20	12.5-30		50.1-75.0					
		(0.5mm Increment)	(0.5mm Increment)		75.1-100.0					
		2.0	21-30		23-40	10.0-25.0				
		(1mm Increment)	(1mm Increment)		(1mm Increment)	25.1-50.0				
		2.6	31-40		33-50	50.1-75.0				
		(0.5mm Increment)	(1mm Increment)		(1mm Increment)	75.1-100.0				
		3.0-55.0	41-50		43-60	10.0-25.0				
		(1mm Increment)	(1mm Increment)		(1mm Increment)	25.1-50.0				
51-60	53-70		50.1-75.0							
(1mm Increment)	(1mm Increment)		75.1-100.0							

D-V Machining Conditions: H-D≥2, T≤L-1, D/10≤L≤Vx8
 4≤D≤10 → V≤D-2
 10.5≤D≤30 → V≤D-4
 31≤D≤60 → V≤D-6

Ordering Example: Part Number - V - D - H - T - L
FTCLMB - V10.5 - D20 - H30 - T4 - L23.8

Alterations: Standard Grade (FTCLB - V10.5 - D20 - H30 - T4 - L23.8 - TCB), Precision Grade (FTCLMB - V10.5 - D20 - H30 - T4 - L23.8 - TSB)

⚠ Not applicable to Standard Type. ⚠ Not applicable to Anodized Products. ⚠ Not applicable to Hardened Type (products with hardness indications H).

Alterations	Code	Negative Tolerance	Positive Tolerance	Zero, Negative Tolerance	Zero, Positive Tolerance
		TCB	TCC	TCD	TCE
Standard Grade Tolerance		Changes shoulder thickness tolerance (T). T -0.1 T -0.3 Ordering Code: TCB	Changes shoulder thickness tolerance (T). T +0.3 T +0.1 Ordering Code: TCC	Changes shoulder thickness tolerance (T). T 0 T -0.2 Ordering Code: TCD	Changes shoulder thickness tolerance (T). T +0.2 T 0 Ordering Code: TCE

Alterations	Code	Shoulder Thickness Tolerance	Negative Tolerance	Positive Tolerance	Zero, Negative Tolerance	Zero, Positive Tolerance
		TSA	TSB	TSC	TSD	TSE
Precision Grade Tolerance		Changes shoulder thickness tolerance (T). T ± 0.025 Ordering Code: TSA	Changes shoulder thickness tolerance (T). T -0.01 T -0.06 Ordering Code: TSB	Changes shoulder thickness tolerance (T). T +0.06 T +0.01 Ordering Code: TSC	Changes shoulder thickness tolerance (T). T 0 T -0.05 Ordering Code: TSD	Changes shoulder thickness tolerance (T). T +0.05 T 0 Ordering Code: TSE

Alterations	C Chamfering (One Side)	Tapping	Set Screw Hole (1-set 2-set)	Slitting	I.D. Tolerance
	CC	VM (Coarse Thread) VMA (Fine Thread)	MC, WMC	SLC	VKC
Spec.	Chamfers C plane. Ordering Code: CC1.5 CC=0.5mm Increment CC<(D-V)/2-0.5	Adds a tapped hole (through). Ordering Code: VM: V should be specified as VM or VMA. Ex) FTCLS-VMA4-D10-H13-T18 L≤Mx8 Tapped Hole Dia. VM VMA Pitch Coarse 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 0.75 40 10 1.5 1.0 50 12 1.75 1.0 55 16 2.0 1.5 90 18 - 1.5 100 20 2.5 1.5 100	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 - T ≥ MC, WMC + 2 MC, WMC=Select from table below. 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. D, V and L dimension tolerances are the values before alteration. They may change after alteration depending on materials.	Changes the I.D. Tolerance to H7. Ordering Code: VKC Machining Conditions D≥6 V≥3 L≤Vx5 D V 6-10 D-Vx2 10.5-20 D-Vx3 21-30 D-Vx6 31-40 D-Vx8 41-50 D-Vx10 51-60 D-Vx12 61-70 D-Vx14 71-80 D-Vx16 81-90 D-Vx18 91-100 D-Vx20