

Metal Washer

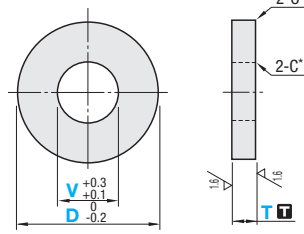
Standard Grade / Precision Grade / High Precision Grade I.D. / O.D. Tolerance Selectable / Dimension Configurable



RoHS 10

Part Number	M	Material	S	Surface Treatment	H	Hardness
AWSC						
AWSB		S45C Equivalent		Black Oxide		-
AWSM				Electroless Nickel Plating		-
AWSS		SUS304		-		-
AWSH		SUS440C Equivalent		-		45~50HRC

Stainless Steel Hardened Type (AWSH) may be discolored due to hardening.



2-C*
2-C*
1/16
V +0.3
D -0.2
T

T Dimension Tolerance Selection Table			
A	±0.005	-	-
B	-0.1 -0.3	SB	-0.01 -0.03
C	+0.3 +0.1	SC	+0.03 +0.01
D	0 -0.2	SD	0 -0.02
E	+0.2 0	SE	+0.02 0

2/ (1/16)
*D=16 or Less: C0.2 or Less
D=16.5 or More: C0.5 or Less

I.D./O.D. Tolerance Selectable, Dimension Configurable

Part Number	Tolerance Selection	D	V 0.5mm Increment	T 0.1mm Increment	Unit Price													
					High Precision Grade - Tolerance A				Standard Grade - Tolerance B-E					Precision Grade - Tolerance SB-SE				
					AWSC	AWSB	AWSM	AWSH	AWSC	AWSB	AWSM	AWSS	AWSH	AWSC	AWSB	AWSM	AWSS	AWSH
AWSC AWSB AWSM AWSS AWSH	High Precision Grade A Standard Grade B C D E Precision Grade SB SC SD SE	5.0~10.0 0.5mm Increment	3.0~58.0	1.0~ 2.9														
				3.0~ 5.0														
				5.1~10.0														
		10.5~20.0 0.5mm Increment		1.0~ 2.9														
				3.0~ 5.0														
				5.1~10.0														
		21~30 1mm Increment		1.0~ 2.9														
				3.0~ 5.0														
				5.1~10.0														
		31~40 1mm Increment		1.0~ 2.9														
				3.0~ 5.0														
				5.1~10.0														
		41~50 1mm Increment		1.0~ 2.9														
				3.0~ 5.0														
				5.1~10.0														
		51~60 1mm Increment		1.0~ 2.9														
				3.0~ 5.0														
				5.1~10.0														

D≤60...V≤D-2 D≥61...V≤D-4 High Precision Grade (Tolerance A) is not available for AWSS.

Ordering Example

Part Number - T Tolerance Selection - D - V - T

AWSB - B - D20.0 - V8.0 - T5.0

AWSS - SB - D20.0 - V8.0 - T5.0

Metal Washer

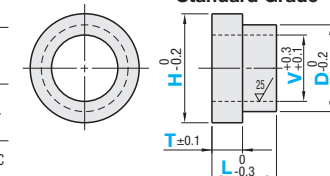
Flanged



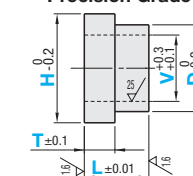
RoHS 10

Part Number	M	Material	S	Surface Treatment	H	Hardness
FTCSS		Steel for General Structure		-	-	-
FTCC		S45C Equivalent		Black Oxide	-	-
FTCB				Electroless Nickel Plating	-	-
FTCM				-	-	-
FTCSK		SKS3 Equivalent		Black Oxide	55HRC~	-
FTCSKB				Electroless Nickel Plating	-	-
FTCSKM				-	-	-
FTCS		SUS440C Equivalent		-	-	45~50HRC
FTCMS				-	-	-

Stainless Steel Hardened Type (FTCS, FTCMS) may be discolored by hardening.



Standard Grade
H 0~0.2
T ±0.1
L 0
Circumference C0.5 or Less



Precision Grade
H 0~0.2
T ±0.1
L ±0.01
Circumference C0.5 or Less

Standard Grade / Precision Grade

Part Number	D	H	V 0.5mm Increment (V3 or More)	T 0.1mm Increment	L 0.1mm Increment	Unit Price									
						Standard Grade					Precision Grade				
Standard Grade FTCSS FTCC FTCB FTCM FTCSK FTCSKB FTCSKM FTCS	Precision Grade FTCMC FTCMB FTCMM FTCMS	5.0~9.0 (0.5mm Increment) 9.5~20.0 (0.5mm Increment) 21~30 (1mm Increment) 31~40 (1mm Increment) 41~50 (1mm Increment) 51~60 (1mm Increment)	7.0~12.0 (0.5mm Increment) 11.5~25.0 (0.5mm Increment) 23~40 (1mm Increment) 33~50 (1mm Increment) 43~60 (1mm Increment) 53~70 (1mm Increment)	(Selection) 2.0 2.6 (0.5mm Increment) 3.0~58.0	1.0~8.0 2.0~10.0										

Machining Conditions			Machining Conditions of Material SKS3 (FTCSK, FTCSKB, FTCSKM)		
D	H	V	D	H	V
For 5 ~ 20	D+2±HsDx1.5	V≤D-2	For 5 ~ 10	D+2±HsDx1.4	V≤D-2
For 21 ~ 40	D+2±HsDx1.4	V≤D-4	For 10.5 ~ 30		V≤D-4
For 41 ~ 60	D+2±HsDx1.2	V≤D-6	For 31 ~ 60	D+2±HsDx1.2	V≤D-6

Ordering Example

Part Number - D - H - V - T - L

FTCMS - D25 - H30 - V8.0 - T2.0 - L5.0

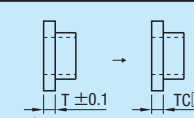
Alterations

Part Number - D - H - V - T - L - (TCB, TCC, TCD, TCE, TSA, TSB, TSC, TSD, TSE, VKC, DKC, HKC)

FTCMM - D25 - H30 - V8.0 - T2.0 - L5.0 - TSC - VKC

Alterations		Spec.		Alterations		Spec.	
I.D. Tolerance	V KC	Changes the I.D. Tolerance to H7. Ordering Code VKC Machining Conditions D≥6 V≥3		O.D. Tolerance	DKC (g6) HKC (h7)	Changes the O.D. Tolerance to g6 or h7. Ordering Code DKC, HKC Machining Conditions When D≥43, T≥1.5. D≥6	
		D	D-V			D	D-V
		6~10	D-V≥2			6~10	D-V≥2
		10.5~20	D-V≥3			10.5~20	D-V≥3
		21~30	D-V≥6			21~30	D-V≥6
		31~40	D-V≥8			31~40	D-V≥8
		41~50	D-V≥10			41~50	D-V≥10
		51~60	D-V≥12			51~60	D-V≥12

Not applicable to the Hardened Products (FTCSK, FTCSKB, FTCSKM, FTCS, FTCMS).

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 -0.3		Changes shoulder thickness tolerance (T). T +0.3 +0.1		Changes shoulder thickness tolerance (T). T 0 -0.2		Changes shoulder thickness tolerance (T). T +0.2 0	
		[Ordering Code] TCB		[Ordering Code] TCC		[Ordering Code] TCD		[Ordering Code] TCE	

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