

Standard / Precision Grade, Dimension Configurable

Part Number		Material	Surface Treatment
Standard Grade	Precision Grade		
FW	FWAS	EN 1.0038 Equiv.	-
FWSSC	FWASC		-
FWSSB	FWASB	EN 1.1191 Equiv.	Black Oxide
FWSSM	FWASM		Electroless Nickel Plating
FWSSR	FWASR		LTBC Plating
FWSSA	FWASA	Aluminum Alloy 2000 series	Clear Anodize
FWSSAB	-		Black Anodize
FWSB	-	Brass (UNS EN CW614N Equiv.)	-
FWSSS	FWASS	EN 1.4301 Equiv.	-
FWSSSR	FWASSR		LTBC Plating
FWSSUS	FWASUS	EN 1.4401 Equiv.	-

 **Hardened Type**
 **P120**

* D=16 or Less: C0.2 or Less
 D=16.5 or More: C0.5 or Less

Standard Grade Precision Grade

25 / (6.3 / 1.6)

RoHS10

■ Standard Grade

Part Number	D	V 0.5mm Increment (V3 or More)	T 0.1mm Increment	Unit Price										
				FWS	FWSSC	FWSSB	FWSSM	FWSSR	FWSSA	FWSSAB	FWSBB	FWSSS	FWSSSR	FWSUS
FWS FWSSC FWSSB FWSSM FWSSR FWSSA FWSSAB FWSBB FWSSS FWSSSR FWSUS	4.0~10.0 0.5mm Increment	0 (No Hole Machining) (Selection) 2.0 2.6 (0.5mm Increment) 3.0 90.0	1.0~ 2.0											
			2.1~ 5.0											
			5.1~ 10.0											
	10.5~20.0 0.5mm Increment		1.0~ 2.0											
			2.1~ 5.0											
			5.1~ 10.0											
	21~30 1mm Increment		1.0~ 2.0											
			2.1~ 5.0											
			5.1~ 10.0											
	31~40 1mm Increment	1.0~ 2.0										-		
		2.1~ 5.0										-		
		5.1~ 10.0										-		
	41~50 1mm Increment	1.0~ 2.0										-		
		2.1~ 5.0										-		
		5.1~ 10.0										-		
	51~60 1mm Increment	1.0~ 2.0										-		
	2.1~ 5.0										-			
	5.1~ 10.0										-			
61~80 1mm Increment	5.0~ 10.0											-		
81~100 1mm Increment	5.0~ 10.0											-		
🌀Material: EN AW-2017 Equiv., EN 1.4401 Equiv., Brass→ T≥2 🌀No specification available for sizes without declaration of value.				🌀D / V Machining Conditions D≤60→ V≤D-2 D≥61→ V≤D-4		🌀D / V Machining Conditions of Material EN AW-2017 Equiv. 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								

 **Ordering Example** **Part Number** - **D** - **V** - **T**
FWSSC - D71 - V50.0 - T10.0

■ Precision Grade

Part Number	D	V 0.5mm Increment (V3 or More)	T 0.1mm Increment	Unit Price							
				FWAS	FWASC	FWASB	FWASM	FWASR	FWASA	FWASS	FWASSR
FWAS FWASC FWASB FWASM FWASR FWASA FWASS FWASSR FWASU	4.0~10.0 0.5mm Increment	0 (No Hole Machining)	1.0~ 2.0								
			2.1~ 5.0								
			5.1~ 10.0								
	10.5~20.0 0.5mm Increment	2.0 (Selection)	1.0~ 2.0								
			2.1~ 5.0								
			5.1~ 10.0								
	21~30 1mm Increment	2.6 (0.5mm Increment)	1.0~ 2.0								
			2.1~ 5.0								
			5.1~ 10.0								
	31~40 1mm Increment	3.0 , 90.0	1.0~ 2.0								-
			2.1~ 5.0								-
			5.1~ 10.0								-
41~50 1mm Increment	3.0 , 90.0	1.0~ 2.0								-	
		2.1~ 5.0								-	
		5.1~ 10.0								-	
51~60 1mm Increment	3.0 , 90.0	1.0~ 2.0								-	
		2.1~ 5.0								-	
		5.1~ 10.0								-	
61~80 1mm Increment	3.0 , 90.0	5.0~ 10.0						-	-	-	-
81~100 1mm Increment		5.0~ 10.0						-	-	-	-

Material: EN AW-2017 Equip.→ T≥2

No specification available for sizes without declaration of value.

D / V Machining Conditions

D≤60→ V≤D-2
D≥61→ V≤D-4

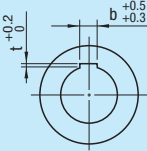
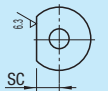
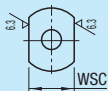
D / V Machining Conditions of Material EN AW-2017 Equip.

4≤D≤ 10 → V≤D- 2 61≤D≤ 80 → V≤D- 8
10.5≤D≤ 30 → V≤D- 4 81≤D≤100 → V≤D-10
31≤D≤ 60 → V≤D- 6

 Ordering Example: **Part Number** - **D** - **V** - **T**
FWASB - **D15.5** - **V5.5** - **T2.6**

Alterations Ordering Example **Part Number** - **D** - **V** - **T** - (KC, SC, WSC, VKC, DKC, HKC)
FWASS - D20 - V10 - T5 - VKC

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

Alterations	Code	Spec.																																				
Keyway Relief 	KC	Adds an keyway relief. <u>Ordering Code</u> KC Machining Conditions ⚠ V≥8 ⚠ Not available for D61 ~ 100 <table> <tr> <th>V</th><th>b</th><th>t</th><th>D-V</th></tr> <tr> <td>8 ~ 10.5</td><td>3</td><td>2.0</td><td>7 or More</td></tr> <tr> <td>11 ~ 12.5</td><td>4</td><td>2.5</td><td>8 or More</td></tr> <tr> <td>13 ~ 17.5</td><td>5</td><td>3.0</td><td>10 or More</td></tr> <tr> <td>18 ~ 22.5</td><td>6</td><td>3.5</td><td>12 or More</td></tr> <tr> <td>23 ~ 30.5</td><td>8</td><td>4.0</td><td>14 or More</td></tr> <tr> <td>31 ~ 38.5</td><td>10</td><td>4.0</td><td>14 or More</td></tr> <tr> <td>39 ~ 42.5</td><td>12</td><td>4.0</td><td>14 or More</td></tr> <tr> <td>43 ~ 44.0</td><td>14</td><td>4.5</td><td>16 or More</td></tr> </table>	V	b	t	D-V	8 ~ 10.5	3	2.0	7 or More	11 ~ 12.5	4	2.5	8 or More	13 ~ 17.5	5	3.0	10 or More	18 ~ 22.5	6	3.5	12 or More	23 ~ 30.5	8	4.0	14 or More	31 ~ 38.5	10	4.0	14 or More	39 ~ 42.5	12	4.0	14 or More	43 ~ 44.0	14	4.5	16 or More
V	b	t	D-V																																			
8 ~ 10.5	3	2.0	7 or More																																			
11 ~ 12.5	4	2.5	8 or More																																			
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23 ~ 30.5	8	4.0	14 or More																																			
31 ~ 38.5	10	4.0	14 or More																																			
39 ~ 42.5	12	4.0	14 or More																																			
43 ~ 44.0	14	4.5	16 or More																																			
One Flat 	SC	Adds a flat. <u>Ordering Code</u> SC10 SC=1mm Increment SC≥V/2+2 ⚠ Not available for D4 ~ 8.																																				
Two Flats 	WSC	Adds two flats. <u>Ordering Code</u> WSC10 WSC=1mm Increment WSC≥V+4 ⚠ Not available for D4 ~ 8.																																				

Alterations	Code	Spec.																						
I.D. Tolerance 	VKC	Changes the I.D. Tolerance to H7. <u>Ordering Code</u> VKC Machining Conditions $\text{D} \geq 6$ $V \geq 3$  Not applicable for FWSSAB. <table><tr><th>D</th><th>D-V</th></tr><tr><td>6-10</td><td>D-V≥ 2</td></tr><tr><td>10.5-20</td><td>D-V≥ 3</td></tr><tr><td>21-30</td><td>D-V≥ 6</td></tr><tr><td>31-40</td><td>D-V≥ 8</td></tr><tr><td>41-50</td><td>D-V≥ 10</td></tr><tr><td>51-60</td><td>D-V≥ 12</td></tr><tr><td>61-70</td><td>D-V≥ 14</td></tr><tr><td>71-80</td><td>D-V≥ 16</td></tr><tr><td>81-90</td><td>D-V≥ 18</td></tr><tr><td>91-100</td><td>D-V≥ 20</td></tr></table>	D	D-V	6-10	D-V ≥ 2	10.5-20	D-V ≥ 3	21-30	D-V ≥ 6	31-40	D-V ≥ 8	41-50	D-V ≥ 10	51-60	D-V ≥ 12	61-70	D-V ≥ 14	71-80	D-V ≥ 16	81-90	D-V ≥ 18	91-100	D-V ≥ 20
D	D-V																							
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81-90	D-V ≥ 18																							
91-100	D-V ≥ 20																							
O.D. Tolerance 	DKC (g6) HKC (h7)	Changes the O.D. Tolerance to g6 or h7. <u>Ordering Code</u> DKC, HKC Machining Conditions $\text{D} \geq 6$ $V \geq 3$  When $D \geq 43$, $T \geq 1.5$.  Not applicable for FWSSAB. <table><tr><th>D</th><th>D-V</th></tr><tr><td>6-10</td><td>D-V≥ 2</td></tr><tr><td>10.5-20</td><td>D-V≥ 3</td></tr><tr><td>21-30</td><td>D-V≥ 6</td></tr><tr><td>31-40</td><td>D-V≥ 8</td></tr><tr><td>41-50</td><td>D-V≥ 10</td></tr><tr><td>51-60</td><td>D-V≥ 12</td></tr><tr><td>61-70</td><td>D-V≥ 14</td></tr><tr><td>71-80</td><td>D-V≥ 16</td></tr><tr><td>81-90</td><td>D-V≥ 18</td></tr><tr><td>91-100</td><td>D-V≥ 20</td></tr></table>	D	D-V	6-10	D-V ≥ 2	10.5-20	D-V ≥ 3	21-30	D-V ≥ 6	31-40	D-V ≥ 8	41-50	D-V ≥ 10	51-60	D-V ≥ 12	61-70	D-V ≥ 14	71-80	D-V ≥ 16	81-90	D-V ≥ 18	91-100	D-V ≥ 20
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