

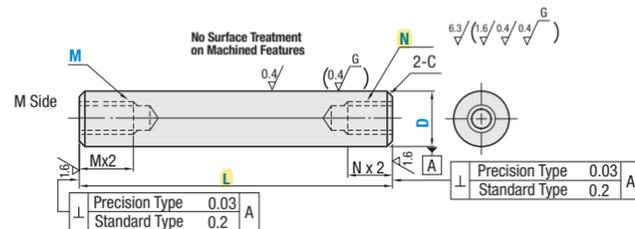
Shafts – Standard & Precision Type / Both Ends Tapped



RoHS10

- Ⓢ Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10 mm). P.199
- Ⓢ Full Length Hardness Guaranteed Shafts P.212.
- Ⓢ Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.198.
- Ⓢ Features of Low Temp. Black Chrome Plating P.213.
- Ⓢ For Shafts with wrench flats and cross-drilled holes, please see P.210.

Precision Type	Type			Material	Hardness	Surface Treatment
	Standard					
	D Tolerance g6	D Tol. h5	D Tol. f8			
VFJW	SFJW	SFUW	—	52100 Bearing Steel Equivalent	Effective Hardened Depth of Induction Hardened P.199 52100 Bearing Steel Equivalent 58 HRC min. SUS440C (13Cr) Stainless Steel Equivalent 56 HRC min.	—
VSFJW	SSFJW	SSFUW	—	SUS440C (13Cr) Stainless Steel Equivalent		
VPFJW	PSFJW	PSFUW	—	52100 Bearing Steel Equivalent		
VPSFJW	PSSFJW	PSSFUW	—	SUS440C (13Cr) Stainless Steel Equivalent		
VRJW	RSFJW	—	—	52100 Bearing Steel Equivalent		
—	—	—	PSFGW	1045 Carbon Steel Equivalent	—	Hard Chrome Plating Plating Hardness: HV 750~ Plating Thickness: 10 μ or More
—	—	—	PSSFGW	304 Stainless Steel	—	Low Temperature Black Chrome Plating



Ⓢ L needs to be Mx2+Nx2≤L Ⓢ When Mx2.5+4+Nx2.5+4≥L, tap pilot hole may go through.

D	D Tolerance		
	g6	h5	f8
4	—	—	—
5	-0.004	0	—
6	-0.012	-0.005	-0.010 -0.028
8	-0.005	0	-0.013
10	-0.014	-0.006	-0.035
12	—	—	—
13	—	—	—
15	-0.006	0	-0.016
16	-0.017	-0.008	-0.043
18	—	—	—
20	-0.007	0	-0.020
25	-0.020	-0.009	-0.053
30	—	—	—
35	-0.009	0	-0.025
40	-0.025	-0.011	-0.064
50	—	—	—

Part Number Type	D	L 1 mm Increment	Selection M (Coarse Threads) / N (Coarse Threads)						C		
			M (Coarse Threads) / N (Coarse Threads)								
Precision Type D Tolerance g6 VFJW VSFJW VPFJW VPSFJW VRJW	4	25-200	2					0.2 or Less			
	5	25-300		2.6	3						
	6	25-350			3						
	8	25-500			3	4	5				
	10	25-500			3	4	5	6			
	12	25-500			4	5	6	8			
	13	25-500			4	5	6	8			
	15	25-500			4	5	6	8	10		
	16	25-500			4	5	6	8	10		
	18	25-500			4	5	6	8	10	12	
20	30-500			4	5	6	8	10	12		
25	30-500			4	5	6	8	10	12	16	
30	30-500			4	5	6	8	10	12	16	20

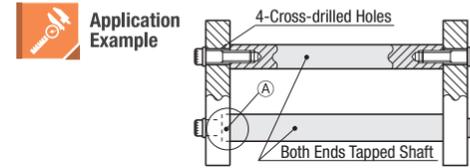
- Ⓢ Total length requires Mx2+Nx2≤L.
- Ⓢ When Mx2.5+4+Nx2.5+4≥L, tap pilot holes may go through and the effective thread length of the smaller tapping may be made shorter to prioritize the effective thread of the larger tapping.

Part Number Type	D	L 1 mm Increment	Selection M (Coarse Threads) / N (Coarse Threads)						C	
			M (Coarse Threads) / N (Coarse Threads)							
Standard Type D Tolerance g6 SFJW SSFJW PSFJW PSSFJW RSFJW D≤30, L≤500	4	20-300	2					0.2 or Less		
	5	20-400		2.6	3					
	6	20(15)-900			3					
	8	20(15)-1100			3	4	5			
	10	20(15)-1200			3	4	5	6		
	12	20(15)-1400			(3)	4	5	6	8	
	13	25(15)-1400			(3)	4	5	6	8	
	15	25(15)-1400			(3)	4	5	6	8	10
	16	30(16)-1400			4	5	6	8	10	
	18	30-1400			4	5	6	8	10	12
20	30-1400			4	5	6	8	10	12	
25	35-1400			4	5	6	8	10	12	16
30	35-1500			6	8	10	12	16	20	
35	35-1500			8	10	12	16	20	24	
40	50-1500			10	12	16	20	24	30	
50	65-1500			12	16	20	24	30		

- Ⓢ L () and M () dimensions are applicable only for D diameter tolerance with g6.
- Ⓢ Total length requires Mx2+Nx2≤L.
- Ⓢ When Mx2.5+4+Nx2.5+4≥L, tap pilot holes may go through and the effective thread length of the smaller tapping may be made shorter to prioritize the effective thread of the larger tapping.

Part Number Example

Part Number	L	M	N
VFJW8	200	M4	N4
SSFJW20	500	M6	N10



Unlike Type A, Precision Type requires no steps and is effective for assembly.

Part Number Alterations

Part Number	L	M (MSC)	N (NSC)	(LKC...etc.)
SFJW30	500	M8	N10	LKC

Ⓢ Express T service is not available.

Alteration Details P.200

Alterations	Code	Spec.
	LKC	Alteration to L Dimension Tolerance Ordering Code: LKC Application Notes: Applicable when L=200 or less for precision type. L dimensions can be specified in 0.1 increment for LKC. Ⓢ L<200 → L±0.03 200≤L<500 → L±0.05 L≥500 → L±0.1
	WSC	Wrench Flats at Two Locations Ordering Code: WSC12-X8 Application Notes: Applicable to D=6 or more WSC, X=1 mm Increment Ⓢ WSC+W+L+2<L WSC (X)≥0 Ⓢ Orientation between wrench flats is not coplanar. Ⓢ Not available in combination with SC.
	FC	Set Screw Flat at One Location Ordering Code: FC10-A8 Application Notes: Ⓢ Not applicable to precision shafts FC, A = 1 mm increment Ⓢ FC≤3xD Ⓢ When 1.5xD<FC, FC≤L/2 Ⓢ E=0 or A≥2 Ⓢ Not available in combination with WFC.
	WFC	Set Screw Flats at Two Locations Ordering Code: WFC8-A8-E2 Application Notes: Ⓢ Not applicable to precision shafts WFC / A / E = 1 mm increment Ⓢ WFC≤3xD Ⓢ When 1.5xD<FC, 2WFC≤L/2 Ⓢ A (E) = 0 or A (E) ≥ 2 Ⓢ Orientation between set screw flats is random. Ⓢ Not available in combination with FC.

Alterations	Code	Spec.
	MSC NSC	Change to Fine Tapped Thread Ordering Code: MSC14 (M is changed to MSC) NSC14 (N is changed to NSC) Application Notes: Applicable to D=12 or more
	RC	90° Set Screw Flat at One Location Ordering Code: RC10 Application Notes: Applicable for D=10 to 30 Ⓢ Not applicable to precision shafts. Ⓢ Not available in combination with WRC.
	WRC	90° Set Screw Flats at Two Locations Ordering Code: WRC10-Y10 Application Notes: Applicable for D=10 to 30 Ⓢ Not applicable to precision shafts. Ⓢ Not available in combination with RC. Ⓢ Orientation between set screw flats is random.
	MD ND	Change the effective tap depth to M(N)x3. Ordering Code: MD6/ND6 (M is changed to MD, N is changed to ND) Application Notes: Only applicable to D=6-30 and M (N) = 6-20 Ⓢ One End Tapped: MDx3.5+4≤L Ⓢ Both Ends Tapped: MDx3.5+4+Nx3.5+4≥L
	KC WKC	Keyway Ordering Code: KC10-G10 WKC10-C8-KC10-G10 Application Notes: Only applicable to D=12, 16, 20, 25 and 30.

- Ⓢ Please see Shaft Alteration Overview for details if provided. P.200
- Ⓢ When selecting multiple alteration additions, the distance between machined areas should be greater than 2 mm. P.201
- Ⓢ Alterations may lower hardness. See P.199