

# Rotary Shafts - D Tolerance h9 (Cold-drawn) / h7 (Ground) / g6 (Ground)

## Both Ends Tapped with Keyways

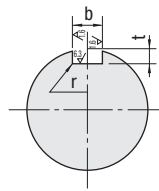
Number of keyways can be specified up to 3.



RoHS 10

Type	D Tolerance	Material	Surface Treatment
(1) SFMKRW PSFMKRW SSFMKRW	h9 (Cold-drawn)	S45C Equivalent SUS304	Black Oxide Electroless Nickel Plating -
(2) SFHKRW PSFHKRW SSFHKRW	h7 (Ground)	S45C Equivalent SUS304	Black Oxide Electroless Nickel Plating -
(3) SFGKRW PSFGKRW SSFGKRW	g6 (Ground)	S45C Equivalent SUS304	Black Oxide Electroless Nickel Plating -

Detailed Keyway Dimensions

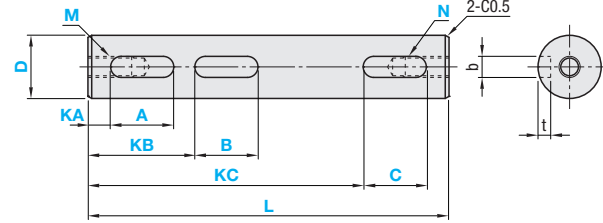


Shaft Dia.	b		t		r
	Reference Dimension	Tolerance (N9)	Reference Dimension	Tolerance	
6	2	-0.04	1.2	+0.1 0	0.08- 0.16
8, 10	3	-0.029	1.8		
12	4	0	2.5		
13-17	5	-0.03	3.0	+0.2 0	0.16- 0.25
18-22	6	0	3.5		
25, 30	8	0	4.0	+0.2 0	0.25- 0.4
35	10	-0.036	5.0		
40	12	0	5.0		
50	14	-0.043	5.5		

When KA < 1, KA+A=L, KB+B=L and L-KC-C=1, keyway is shaped as shown below.

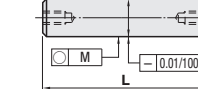


- Surface roughness of Part D for h9 (Cold-drawn) is  $6.3 \sqrt{\text{mm}}$ . Surface roughness for h7 (Ground) and g6 (Ground) is  $1.6 \sqrt{\text{mm}}$ .
- The number of keyways can be specified within the range between 1 and 3.
- When the clearance between keyways is less than 2mm, these keyways will interfere.



Thread depths of M (Coarse) and N (Coarse) are Mx2 and Nx2, respectively.

Circularity and Straightness



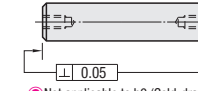
Not applicable to h9 (Cold-drawn).

Circularity of Part D

D over or Less	Circularity M	
5	13	0.004
13	20	0.005
20	40	0.006
40	50	0.007

Not applicable to h9 (Cold-drawn).

Perpendicularity



Not applicable to h9 (Cold-drawn).

Tolerances of L and Other Dimensions

Dimension over or Less	Tolerance	
2	6	±0.1
6	30	±0.2
30	120	±0.3
120	400	±0.5
400	1000	±0.8

### (1)h9 (Cold-drawn)

Part Number		D <sub>h9</sub> Tolerance	L 0.1mm Increment	M (Coarse) / N (Coarse) Selection	Keyway (1) KA, A	Keyway (2) KB, B	Keyway (3) KC, C
Type							
SFMKRW PSFMKRW SSFMKRW (D6 is not available for SSFMKRW)	6	-0.030	15.0-400.0	2.6 (3) (4)	KA+A≤L KA≥0 b≤A≤100	KB+B≤L KB≥KA+A b≤B≤100	KC+C≤L KC≥KB+B b≤C≤100
	8	0	15.0-500.0	2.6 (3) (4) (5) (6)			
	10	-0.036	15.0-600.0	3 4 (5) (6)			
	12	0	15.0-700.0	4 5 (6) (8)			
	15	-0.043	15.0-800.0	4 5 6 (8)			
	20	0	30.0-1000.0	4 5 6 8 10			
	25	0	50.0-1000.0	4 5 6 8 10 12			
	30	-0.052	60.0-1000.0	6 8 10 12 16			
	35	-0.062	70.0-1000.0	6 8 10 12 16 20			

### (2)h7 (Ground)

M, N Sizes in ( ) are selectable when KA≥Mx2 and L-KC-C≥Nx2.

Part Number		D <sub>h7</sub> Tolerance	L 0.1mm Increment	M (Coarse) / N (Coarse) Selection	Keyway (1) KA, A	Keyway (2) KB, B	Keyway (3) KC, C
Type							
SFHKRW PSFHKRW SSFHKRW	6	-0.012	15.0-400.0	2.6 (3) (4)	KA+A≤L KA≥0 b≤A≤100	KB+B≤L KB≥KA+A b≤B≤100	KC+C≤L KC≥KB+B b≤C≤100
	8	0	15.0-500.0	2.6 (3) (4) (5) (6)			
	10	-0.015	15.0-600.0	3 4 (5) (6)			
	12	0	15.0-700.0	4 5 (6) (8)			
	15	-0.018	15.0-800.0	4 5 6 (8)			
	20	0	30.0-1000.0	4 5 6 8 (10) (12)			
	25	0	50.0-1000.0	5 6 8 10 (12) (16)			
	30	-0.021	60.0-1000.0	6 8 10 12 16			
	35	0	70.0-1000.0	6 8 10 12 16 20			
	40	0	80.0-1000.0	10 12 16 20 24			
50	-0.025	100.0-1000.0	12 16 20 24 30				

### (3)g6 (Ground)

M, N Sizes in ( ) are selectable when KA≥Mx2 and L-KC-C≥Nx2.

Part Number		D <sub>g6</sub> Tolerance	L 0.1mm Increment	M (Coarse) / N (Coarse) Selection	Keyway (1) KA, A	Keyway (2) KB, B	Keyway (3) KC, C
Type							
SFGKRW PSFGKRW SSFGKRW (D13, D16, D18 or D22 is not available for SSFGKRW)	6	-0.012	15.0-400.0	2.6 (3) (4)	KA+A≤L KA≥0 b≤A≤100	KB+B≤L KB≥KA+A b≤B≤100	KC+C≤L KC≥KB+B b≤C≤100
	8	-0.005	15.0-500.0	2.6 (3) (4) (5) (6)			
	10	-0.014	15.0-600.0	3 4 (5) (6)			
	12	0	15.0-700.0	4 5 (6) (8)			
	13	0	15.0-700.0	4 5 6 (8)			
	15	-0.006	15.0-800.0	4 5 6 (8)			
	16	-0.017	15.0-900.0	4 5 6 8 (10)			
	17	0	30.0-900.0	4 5 6 8 (10) (12)			
	18	0	30.0-900.0	4 5 6 8 (10) (12)			
	20	0	30.0-1000.0	4 5 6 8 10 (12) (16)			
22	-0.007	40.0-1000.0	4 5 6 8 10 12 (16)				
25	-0.020	50.0-1000.0	4 5 6 8 10 12 (16)				
30	0	60.0-1000.0	6 8 10 12 16				
35	0	70.0-1000.0	6 8 10 12 16 20				
40	-0.009	80.0-1000.0	10 12 16 20 24				
50	-0.025	100.0-1000.0	12 16 20 24 30				

M, N Sizes in ( ) are selectable when KA≥Mx2 and L-KC-C≥Nx2.



Ordering Example: Part Number - L - M - N - Keyway (1) - Keyway (2) - Keyway (3)  
 KA - A KB - B KC - C

- 1 Keyway SFMKRW10 - 325 - M4 - N4 - KA20 - A50
- 2 Keyways SFHKRW30 - 300 - M10 - N10 - KA20 - A50 - KB120 - B20
- 3 Keyways SFGKRW25 - 350 - M8 - N8 - KA10 - A60 - KB90 - B30 - KC210 - C30