

Rotary Shafts

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Product Name	Rotary Shafts-Straight-	-Straight with Keyway-	-Retaining Ring Grooves on Both Ends-	-Retaining Ring Grooves on Both Ends with Keyway-
Page	731	733	735	737
Product Name	-One End Tapped-	-One End Tapped with Keyway-	-Both Ends Tapped-	-Both Ends Tapped with Keyways-
Page	739	741	743	745
Product Name	-One End Stepped-	-One End Stepped, One End Tapped-	-One End Stepped and Threaded-	-One End Stepped and Threaded, One End Tapped-
Page	747	749	751	753
Product Name	-One End Stepped and Tapped-	-One End Stepped, Both Ends Tapped-	-Both Ends Stepped-	-Both Ends Stepped and Threaded-
Page	755	757	759	761
Product Name	-Both Ends Stepped and Tapped-	-One End Stepped with Retaining Ring Grooves-	Both Ends Stepped With Retaining Ring Grooves-	-Both Ends Stepped, One End Threaded-
Page	763	765	765	767
Product Name	-Both Ends Stepped, One End Threaded, One End Tapped-	-Both Ends Double Stepped-	Hollow Rotary Shafts-Straight-	Rotary Shafts-D-Cut-
Page	767	769	770	771
Product Name	Shaft for Tension-Pull - Retaining Ring Groove-	-Push Type / Pull Type-	Rotary Shaft-End Shape Selectable-	Driving Shaft-Straight-
Page	772	773	775	777

Product Name	Driving Shaft-One End Stepped-	-Both Ends Stepped--One End Stepped, One End Double Stepped-	-With Flange-	-One End Stepped with Flange-
Page	779	781	783	785



D Tolerance h9 (Cold-drawn) / h7 (Ground)
 Economy type h9 (Cold-drawn) and standard grade h7 (Ground) are now available.
 Standard Model: SFMR Page **P.731~P.764**

Rotary Shafts with Keyways have been standardized.
 Rotary Shafts with Keyways have been standardized.
 Specification has become easier.
 Standard Model: SFMKR Page **P.733, P.737, P.741, P.745**

Accuracy Standards of Rotary Shafts and Driving Shafts

Values in () are for driving shafts

Not applicable to h9 (Cold-drawn).

Circularity, Straightness

Circularity of Part D

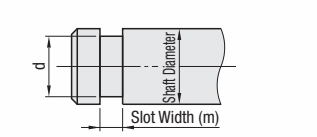
D	To	Circularity M
2	2.5	0.006 (0.003)
3	13	0.004 (0.003)
13	20	0.005 (0.003)
20	40	0.006 (0.005)
40	50	0.007 (0.005)

Straightness of size D2, D2.5 is 0.1/100.

Tolerances of L, Y and Other Dimensions

Dimension	To	Dimension Tolerance
2	6	±0.1 (±0.1)
6	30	±0.2 (±0.1)
30	120	±0.3 (±0.1)
120	400	±0.5 (±0.2)
400	800 (500)	±0.8 (±0.2)

Detailed Retaining Ring Groove Dimensions Rotary and Driving Shafts



Shaft Diameter	d Tolerance	Slot Width (m) Tolerance	Applicable Retaining Ring
2	1.2	0.4	JIS E Type 1.2
2.5	1.5	+0.06	JIS E Type 1.5
3	2	0	JIS E Type 2
4	3	0	JIS E Type 3
5	4	+0.075	JIS E Type 4
6	5	0	JIS E Type 5
7	6	0	JIS E Type 6
8	7	+0.09	JIS E Type 7
9	8	0	JIS E Type 8
10	9.6	0/-0.09	JIS C Type 10
11	10.5	0	JIS C Type 11
12	11.5	0	JIS C Type 12
13	12.4	0	JIS C Type 13
14	13.4	0	JIS C Type 14
15	14.3	-0.11	JIS C Type 15
16	15.2	0	JIS C Type 16
17	16.2	0	JIS C Type 17
18	17	0	JIS C Type 18
19	18	0	JIS C Type 19
20	19	0	JIS C Type 20
21	20	0	JIS C Type 21
22	21	0	JIS C Type 22
23	22	0	JIS C Type 23
24	22.9	0	JIS C Type 24
25	23.9	-0.21	JIS C Type 25
26	24.9	0	JIS C Type 26
28	26.6	0	JIS C Type 28
29	27.6	0	JIS C Type 29
30	28.6	0	JIS C Type 30
32	30.3	0	JIS C Type 32
35	33	0	JIS C Type 35
40	38	-0.25	JIS C Type 40
45	42.5	0	JIS C Type 45
50	47	2.2	JIS C Type 50

Concentricity, Perpendicularity

For the Driving Shafts Straight Type KZAN, KZAC and KZAP is

Detailed Dimensions for Keyway and Threaded Relief of Rotary Shafts and Driving Shafts

Detailed dimensions of Keyway for Shaft Dia. (D-P-Q)

Shaft Diameter	Reference Dimension b	Tolerance (N9)	Reference Dimension t	Tolerance	r
6~7	2	-0.004	1.2	0	0.08~0.16
8~10	3	-0.029	1.8	+0.1	0
11~12	4	0	2.5	0	0.16~0.25
13~17	5	-0.03	3.0	0	0
18~22	6	0	3.5	0	0.25~0.4
23~30	8	0	4.0	0	0
31~38	10	-0.036	5.0	+0.2	0
39~44	12	0	5.0	0	0
45~50	14	-0.043	5.5	0	0

The example below shows the keyway shape for the specs KC, WKC, K=0, KC+A2L and WKC+C+K+A+E-L.

Rotary Shafts Thread Undercut (PC/QC) Dimensions (Reference)

When Thread undercut machining (PC/QC) is specified, PC/QC dimension is as shown in the table below. As for the PC and QC Dimensions for the Fine Thread alteration (PMC/QMC), also refer to the tables below.

- Coarse Thread

P (=M)	PC	QC
3	2.4	
4	3.2	
5	4.1	
6	4.4	
8	6.0	
10	7.7	
12	9.4	
16	13.0	
20	16.4	
24	19.6	
30	25.0	

- Combined with Fine Thread Alteration

PMC	QMC	PC	QC
3	2.4		
4	3.2		
5	4.1		
6	4.8		
8	6.4		
10	8.4		
12	10.4		
15	13.4		
17	15.4		
20	18.4		
25	22.7		
30	27.7		

Rotary Shafts Detailed Hexagon Socket Dimensions for Shaft Dia. D

Shaft Diameter	b	h
6~7	2.5	4
8~9	3	5
10~11	4	6
12~15	5	8
16~19	6	9
20~24	8	12
25~30	10	15