



Driving Shafts – Both Ends Stepped 904	Driving Shafts – One End Stepped, One End Double Stepped 906	Driving Shafts – with Flange 908	Driving Shafts – One End Stepped with Flange 910
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D Tolerance h9 (Cold-Drawn) / h7 (Ground)
Economy type h9 (Cold-Drawn) and standard grade h7 (Ground) are now available.
Standard Model: **SFMR P.854-886**

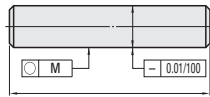


Rotary Shafts with Keyways have been standardized.
Rotary Shafts with Keyways have been standardized. Specification has become easier.
Standard Model: **SFMR P.856, 860, 864, 868**

Accuracy Standards of Rotary Shafts & Driving Shafts Values in () are for driving shafts

⊗ Not applicable to h9 (Cold-Drawn).

Circularity, Straightness



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

Circularity of Part D

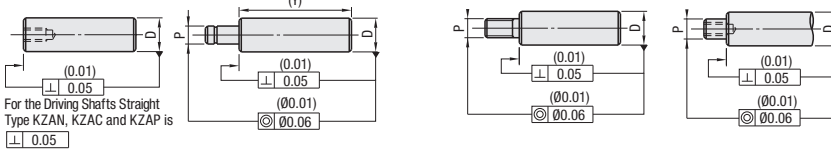
Over	D	To	Circularity M
2	2.5	0.006	(0.003)
3	13	0.004	(0.003)
13	20	0.005	(0.003)
20	40	0.006	(0.005)
40	50	0.007	(0.005)

Tolerances of L, Y & Other Dimensions

Over	Dimension	To	Dimension Tolerance
2	6	6	±0.1 (±0.1)
6	30	30	±0.2 (±0.1)
30	120	120	±0.3 (±0.1)
120	400	400	±0.5 (±0.2)
400	1000	1000	±0.8 (±0.2)

Circularity of Driving Shafts Straight Type KZAN, KZAC and KZAP is the same as that of rotary shafts.

Concentricity, Perpendicularity



For the Driving Shafts Straight Type KZAN, KZAC and KZAP is 0.05

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

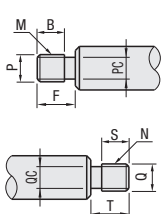
Detailed dimensions of Keyway for Shaft Dia. (D-P-Q)

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

Rotary Shafts Thread Undercut (PC/Q C) Dimensions (Reference)

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

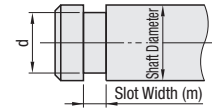
Coarse Thread



Combined with Fine Thread Alteration

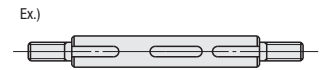
P (=M) Q (=N)	PC QC	PMC QMC	PC QC
3	2.4	3	2.4
4	3.2	4	3.2
5	4.1	5	4.1
6	4.4	6	4.8
8	6.0	8	6.4
10	7.7	10	8.4
12	9.4	12	10.4
16	13.0	15	13.4
20	16.4	17	15.4
24	19.6	20	18.4
30	25.0	25	22.7
		30	27.7

Detailed Retaining Ring Groove Dimensions Rotary & Driving Shafts

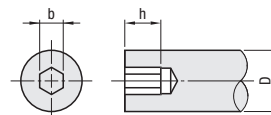


Shaft Diameter	d Tolerance	Slot Width (m) Tolerance	Applicable Retaining Ring
2	1.2	0.4	JIS E Type 1.2
2.5	1.5	+0.06 0	JIS E Type 1.5
3	2		JIS E Type 2
4	3	0.7	JIS E Type 3
5	4		JIS E Type 4
6	5	+0.075 0	JIS E Type 5
7	6		JIS E Type 6
8	7	+0.09 0	JIS E Type 7
9	8		JIS E Type 8
10	9.6	0/-0.09	JIS C Type 10
11	10.5	0	JIS C Type 11
12	11.5		JIS C Type 12
13	12.4		JIS C Type 13
14	13.4	1.15	JIS C Type 14
15	14.3		JIS C Type 15
16	15.2	-0.11	JIS C Type 16
17	16.2		JIS C Type 17
18	17	0	JIS C Type 18
19	18		JIS C Type 19
20	19		JIS C Type 20
21	20	1.35	JIS C Type 21
22	21		JIS C Type 22
23	22	0	JIS C Type 23
24	22.9		JIS C Type 24
25	23.9	-0.21	JIS C Type 25
26	24.9		JIS C Type 26
28	26.6	1.35	JIS C Type 28
29	27.6		JIS C Type 29
30	28.6	1.65	JIS C Type 30
32	30.3		JIS C Type 32
35	33	0	JIS C Type 35
40	38		JIS C Type 40
45	42.5	-0.25	JIS C Type 45
50	47		JIS C Type 50

Ⓛ The example below shows the keyway shape for the specs KC, WKc, K=0, KC+A≥L and WKc+C+K+E>L.



Rotary Shafts Detailed Hex 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