

MIKI PULLEY couplings standard bore processing specification

This specification is applicable to bore processing 6mm~65mm of the servoflex coupling. (SFC model is not applicable.)

■ Specification Contents

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* For couplings whose bores are processed as a standard product, this specification may not be suitable.

1 Bore processing tolerances for mating shaft tolerances

Unless there is a special order, it is processed by H7. For bore processing below 10mm, it will be H8.

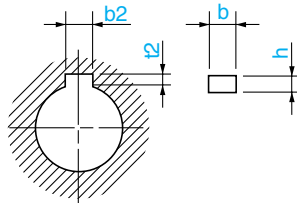
Tolerances other than H7 require consultation. When pilot bores are additionally processed, the surface treatment of the processed portion is shaved. If an additional surface treatment after bore processing is required, contact us.

2 Keyway dimensions for bore diameters (Following table)

Unless there is a special order, it is processed by the former JIS (second class). For bore diameters under 12mm, keyways are not processed.

Shaft tolerance	Recommended bore tolerance
h6~h9	H7
j6	G7
k6	F7
m6	F7

* The j6, k6 and m6 are adopted as new standard motor shafts.



Previous JIS (2nd class) correspondence

Unit [mm]

Bore dia.	b2		t2		Keyway dimension b×h
	Basic dimension	Tolerance (E9)	Basic dimension	Tolerance	
12 or more, 13 or less	4	+0.050	1.5	+0.3	4×4
Over 13, 20 or less	5	+0.020	2.0	0	5×5
Over 20, 30 or less	7	+0.061	3.0	+0.3 0	7×7
Over 30, 40 or less	10	+0.025	3.5		10×8
Over 40, 50 or less	12	+0.075 +0.032			12×8
Over 50, 60 or less	15		15×10		
Over 60, 65 or less	18		6.0	18×12	

New JIS correspondence

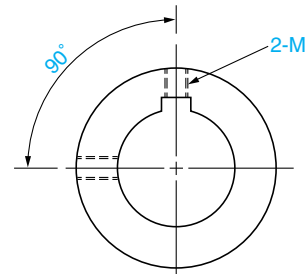
Unit [mm]

Bore dia.	b2		t2		Keyway dimension b×h
	Basic dimension	Tolerance (H9)	Basic dimension	Tolerance	
12	4	+0.030 0	1.8	+0.3 0	4×4
Over 12, 17 or less	5		2.3		5×5
Over 17, 22 or less	6		2.8		6×6
Over 22, 30 or less	8	+0.036 0	3.3	+0.3 0	8×7
Over 30, 38 or less	10				10×8
Over 38, 44 or less	12	+0.043 0	3.8		12×8
Over 44, 50 or less	14		4.3		14×9
Over 50, 58 or less	16		4.3	16×10	
Over 58, 65 or less	18		4.4	18×11	

3 Nominal setscrew diameters for keyways

Keyway Basic dimension b ₂	Setscrew nominal diameter
4	M4
5	M4
6	M5
7	M6
8	M6
10	M8
12	M8
14	M10
15	M10
16	M10
18	M10

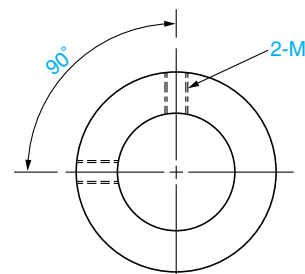
* If this is not a special order, the positions of setscrews will be 2 points, 90° apart from each other.



4 Nominal setscrew diameters for bore diameters (without keyway)

Bore dia.	Setscrew nominal diameter
6 or more, less than 12	M4

* If this is not a special order, the positions of setscrews will be 2 points, 90° apart from each other.



Physical and Mechanical Property of Metals

Physical property

Metal material	Ratio	Longitudinal elastic modulus $\times 10^3$ [N/mm ²]	Rigidity modulus $\times 10^3$ [N/mm ²]	Thermal conductivity [W/ (m · k)]	Thermal expansion $\times 10^{-6}$ [1/k]
Low-carbon steel (0.08C~0.12C)	7.86	206	79	57~60	11.3~11.6
Medium carbon steel (0.40C~0.50C)	7.84	205	82	44	10.7
High-carbon steel (0.8C~1.6C)	7.81~7.83	196~202	80~81	37~43	9.6~10.9
Chrome steel (SCr430)	7.84	—	—	44.8	12.6 (300~470k)
Chrome-molybdenum steel (SCM440)	7.83	—	—	42.7	12.3
Martensitic stainless steel (SUS410)	7.80	200	—	24.9	9.9
Austenitic stainless steel (SUS304)	8.03	197	73.7	15	17.3
Tool steel (SKD6)	7.75	206	82	42.2 (373k)	10.8
Gray iron (FC)	7.05~7.3	73.6~127.5	28.4~39.2	44~58.6	9.2~11.8
Nodular graphite cast iron (FCD)	7.10	161	78	33.5~37.7	10
Duralumin (A2017-T4)	2.79	69	—	201	23.4
Super duralumin (A2024-T4)	2.77	74	29	121	23.2
Extra super duralumin (A7075-T6)	2.80	72	28	130	23.6
Lautan (AC2A-T6)	2.79	72	—	121	24.0
Silumin (AC3A-F)	2.66	71	—	121	20.4
Aluminum casting alloy (AC4CH-T6)	2.68	72	—	151	21.5
Aluminum die casting alloy (ADC12)	2.70	72	—	100	21.0
Zinc die casting alloy (ZDC-2)	6.60	89	—	113	27.4

Mechanical property

Metal material	Yield point [N/mm ²]	Tensile strength [N/mm ²]	Hardness [HB]
S20C-N	245	402	116~174
S30C-N	284	471	137~197
S30C-H	333	539	152~212
S45C-N	343	569	167~229
S45-H	490	686	201~269
SS400	216	402~510	—
SCM420	—	932	262~352
SCM435	785	932	269~331
SUS303	206	520	187 or less
SUS304	206	520	200 or less
FC200	—	200	223 or less
FC250	—	250	241 or less
FC300	—	300	262 or less
FC350	—	350	277 or less
FCD400	250	400	201 or less
FCD450	280	450	143~217
FCD500	320	500	170~241
A2014-T4	245	412	—
A2017-T4	196	353	—
A7075-T6	471	539	—