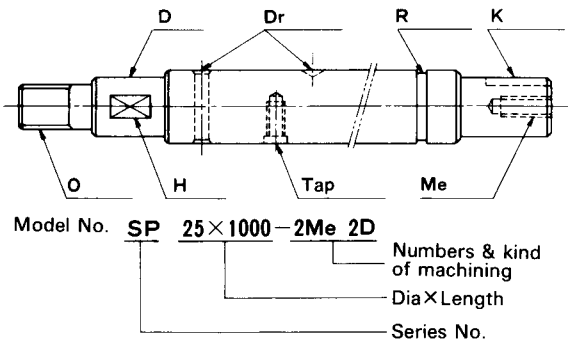


Kind of shafts

- S Series:** standard shafts in the full length
- SC Series:** shafts cut to the requested length from the standard shafts
- SP Series:** shafts cut to the requested length from the standard shafts and specially machined such as steps, female thread, stepped male thread and planning
- NP Series:** shafts custom-made from stock in case the standard shafts shown above are not suitable
- SS Series:** standard shafts made of stainless steel SUS440C
- PS Series:** standard pipe shafts made of SUJ-2
- SQ Series:** Tempered shaft ends. Quick delivery series.

Designated numbers



1. As for the material, SUJ-2 is used for solid and pipe shafts, and SUS440C for stainless shafts.
2. The surface hardness is around HRC 58-63.
3. High-frequency induction hardening is used. The standard hardening depth is 1-2 mm.
4. Surface roughness is 1.5 S. or less.
5. In case anti-corrosion treatment is necessary, hard chromium plating (0.01mm deep) will be used. Shafts made of SUS 440C are also available.
6. The shaft's outside diameter is normally set to keep a tolerance of about a 10 μm clearance between itself and the linear motion ball bearing, if a stricter to tolerance is needed, we also manufacture shafts having closer outer diameter tolerances (For instance h_s, h₆ types).
7. Pipe shafts are recommended if you are aiming for lightweight machinery or need big diameter shafts. About a 40 to 50% weight reduction is possible compared with solid shafts.
8. We have standard gauge shafts in stock (3-60mm) whose overall length is shown on another table, if the shaft length you need is within these dimensions we will machine to your specifications and deliver them. If possible, on your request we will also make shaft lengths outside the set dimensions.
9. Standard sway is less than the value calculated by the following formula:

$$y = 2XL/d (\mu m) \quad y: \text{maximum sway of shaft}$$

$$d: \text{diameter of shaft} \quad L: \text{length of shaft}$$
 We also manufacture shafts with the highest precision whose sway is a half of the value.
10. We manufacture specially customized shafts based on your specifications with regard to steps, male thread, female thread, boring, planing, ring groove, key groove, OP tap and the like.

Outer diameter tolerance

Table 121 :

Shaft Dia	Ordinary Clearance	Tight Clearance
	f6~g6	h6
3	-0.009	0
4	-0.017	-0.008
5		0
6		-0.009
8	-0.010	0
10	-0.019	-0.011
12		0
16		-0.011
20		0
25	-0.010	-0.013
30A	-0.021	0
30B		-0.019
35		0
40	-0.012	-0.016
50A	-0.025	0
50B		-0.019
60		0
80	-0.015	-0.022
100	-0.031	0

Table 122 :

J I S No.	Chemical Analysis %							
	C	Si	Mn	P	S	Cr	Ni	Cu
SUJ-2	0.95~ 1.10	0.15~ 0.35	<0.50	<0.025	<0.025	1.30~ 1.60	<0.25	<0.25
SUS440C	0.95~ 1.20	<1.00	<1.00	<0.040	<0.030	16.00~ 18.00		