

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

## Both Ends Stepped

Select from h9 (Cold-drawn), h7 (Ground) and g6 (Ground) for your applications.



RoHS10

Type	Tolerance			Material	Surface Treatment
	D	P, Q			
(1) SFRMHQ PSFRMHQ SSFRMHQ	h9 (Cold-drawn)	h7	S45C Equivalent	Black Oxide	
SUS304			Electroless Nickel Plating		
			-		
(2) SFRMGQ PSFRMGQ SSFRMGQ	g6	g6	S45C Equivalent	Black Oxide	
SUS304			Electroless Nickel Plating		
			-		
(3) SFRHQ PSFRHQ SSFRHQ	h7 (Ground)	h7	S45C Equivalent	Black Oxide	
SUS304			Electroless Nickel Plating		
			-		
(4) SFRQ PSFRQ SSFRQ HFRQ PHFRQ	g6 (Ground)	g6	S45C Equivalent	Black Oxide	
			Electroless Nickel Plating		
			SUS304	-	
			SCM435	Black Oxide	
			Hardness 30 - 35HRC	Electroless Nickel Plating	

### Tolerance Table

D, P	h9 (Cold-drawn)	h7 (Ground)	g6 (Ground)
3	0 -0.025	0 -0.010	-0.002 -0.008
3.1-6	0 -0.030	0 -0.012	-0.004 -0.012
6.1-10	0 -0.036	0 -0.015	-0.005 -0.014
10.1-18	0 -0.043	0 -0.018	-0.006 -0.017
18.1-30	0 -0.052	0 -0.021	-0.007 -0.020
30.1-50	0 -0.062	0 -0.025	-0.009 -0.025

### Circularity of Part D

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

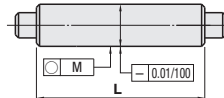
Not applicable to h9 (Cold-drawn).

### Tolerances of L, Y and Other Dimensions

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

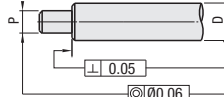
Surface roughness of Part D for h9 (Cold-drawn) is  $\sqrt{1.6}$ . Surface roughness for h7 (Ground) and g6 (Ground) is  $\sqrt{0.8}$ .  
For Retaining Ring Groove Type, see P879.

### Circularity and Straightness

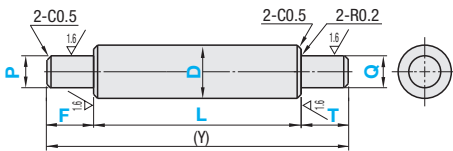


Not applicable to h9 (Cold-drawn).

### Concentricity and Perpendicularity



Not applicable to h9 (Cold-drawn).



### (1)D Tolerance h9 (Cold-drawn) / P, Q Tolerance h7 (2)D Tolerance h9 (Cold-drawn) / P, Q Tolerance g6

Part Number	D	L	F, T	P, Q	(Y)max.
Type					
(1)D Tol. h9 / P, Q Tol. h7	6	15.0-396.0	2≤F≤P×5 2≤T≤Q×5	3 4 5	400
SFRMHQ	8	15.0-496.0		500	
PSFRMHQ	10	15.0-596.0		600	
SSFRMHQ	12	15.0-696.0		700	
(D6 is not available for SSFRMHQ)	15	15.0-796.0		800	
(2)D Tol. h9 / P, Q Tol. g6	20	30.0-996.0		1000	
SFRMGQ	25	30.0-996.0			
PSFRMGQ	30	30.0-996.0			
SSFRMGQ	35	40.0-996.0			
(D6 is not available for SSFRMGQ)					

### (3)h7 (Ground)

Part Number	D	L	F, T	P, Q	(Y)max.
Type					
SFRHQ	6	15.0-396.0	2≤F≤P×5 2≤T≤Q×5	3 4 5	400
PSFRHQ	8	15.0-496.0		500	
SSFRHQ	10	15.0-596.0		600	
	12	15.0-696.0		700	
	15	15.0-796.0		800	
	17	30.0-896.0		900	
	20	30.0-996.0		1000	
	25	30.0-996.0			
	30	30.0-996.0			
	35	40.0-996.0			
	40	40.0-996.0			
	50	40.0-996.0			

### (4)g6 (Ground)

Part Number	D	L	F, T	P, Q	(Y)max.
Type					
SFRQ	6	15.0-396.0	2≤F≤P×5 2≤T≤Q×5	3 4 5	400
PSFRQ	8	15.0-496.0		500	
SSFRQ	10	15.0-596.0		600	
	12	15.0-696.0		700	
	*15	15.0-796.0		800	
	*16	15.0-896.0		900	
	*17	30.0-896.0		1000	
	*18	30.0-896.0			
	*20	30.0-996.0			
	*22	30.0-996.0			
	*25	30.0-996.0			
	*30	30.0-996.0			
	*35	40.0-996.0			
	*40	40.0-996.0			
	*50	40.0-996.0			

When D - P (Q) ≤ 2, chamfer C at the step is 0.2 or less. P, Q dim. cannot be configured to 27, 31, 33, 34, 36, 37, 38, 39, 41, 42, 43, 44, 46, 47, 48 or 49. For HFRQ, PHFRQ, the upper limit for L dim. is 796.



Ordering Example (1)D Tol. h9 / P, Q Tol. h7 (3)h7 (Ground) (4)g6 (Ground)

Part Number	L	F	P	T	Q
SFRMHQ20	- 325	- F25	- P10	- T25	- Q10
SFRHQ15	- 150	- F15	- P8	- T15	- Q8
SFRQ30	- 400	- F28	- P20	- T28	- Q20