

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

One End Stepped, One End Threaded

Select from h9 (Cold-drawn), h7 (Ground) and g6 (Ground) for your applications. Furthermore, h7 or g6 can be selected for P part tolerance of h9 (Cold-drawn).

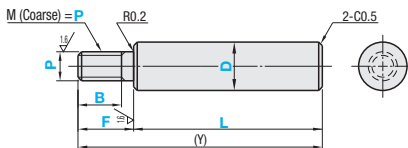


	Type		Tolerance		Material	Surface Treatment
	Standard	Wrench Flats	D	P		
(1)	SFRMHN	SFRMHNS	h9 (Cold-drawn)	h7	S45C	Black Oxide
	PSFRMHN	PSFRMHNS			Equivalent	Electroless Nickel Plating
	SSFRMHN	SSFRMHNS			SUS304	-
(2)	SFRMGN	SFRMGNS	g6 (Ground)	g6	S45C	Black Oxide
	PSFRMGN	PSFRMGNS			Equivalent	Electroless Nickel Plating
	SSFRMGN	SSFRMGNS			SUS304	-
(3)	SFRHN	SFRHNS	h7 (Ground)	h7	S45C	Black Oxide
	PSFRHN	PSFRHNS			Equivalent	Electroless Nickel Plating
	SSFRHN	SSFRHNS			SUS304	-
(4)	SFRN	SFRNS	g6 (Ground)	g6	S45C	Black Oxide
	PSFRN	PSFRNS			Equivalent	Electroless Nickel Plating
	SSFRN	SSFRNS			SUS304	-
	HFRN	HFRNS			SCM435	Black Oxide
	PHFRN	-			SCM435 - 35HRC	Electroless Nickel Plating

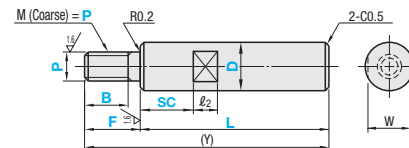
Tolerance Table				
D, P	h9 (Cold-drawn)	h7 (Ground)	g6 (Ground)	
3	0 -0.025	0 -0.001	-0.002 -0.008	
3.1-6	0 -0.030	0 -0.012	-0.004 -0.012	
6.1-10	0 -0.036	0 -0.015	-0.005 -0.014	
10.1-18	0 -0.043	0 -0.018	-0.006 -0.017	
18.1-30	0 -0.052	0 -0.021	-0.007 -0.020	
30.1-50	0 -0.062	0 -0.025	-0.009 -0.025	

Surface roughness of Part D for h9 (Cold-drawn) is $\frac{1.5}{\sqrt{}}$
Surface roughness for h7 (Ground) and g6 (Ground) is $\frac{1.5}{\sqrt{}}$

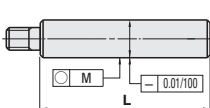
Standard



Wrench Flats



Circularity and Straightness



Not applicable to h9 (Cold-drawn).

Circularity of Part D

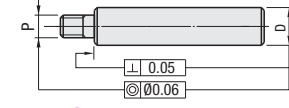
D	over	or Less	Circularity M
5	13		0.004
13	20		0.005
20	40		0.006
40	50		0.007

Not applicable to h9 (Cold-drawn).

Tolerances of L, Y and Other Dimensions

Dimension	over	or Less	Tolerance
2	6		±0.1
6	30		±0.2
30	120		±0.3
120	400		±0.5
400	1000		±0.8

Concentricity and Perpendicularity



Not applicable to h9 (Cold-drawn).

(1)D tolerance h9 (Cold-drawn) / P tolerance h7 (2)D tolerance h9 (Cold-drawn) / P tolerance g6

Part Number		0.1mm Increment			1mm Increment	P (Coarse) Selection	1mm Increment SC Wrench Flats Type only	W	l2	(Y) max.
Standard	Type	D	L	F	B					
(1)D Tol. h9 / P Tol. h7 SFRMHN PSFRMHN SSFRMHN (D6 is not available for SFRMHN.)	(1)D Tol. h9 / P Tol. h7 SFRMHNS PSFRMHNS SSFRMHNS (D6 is not available for SSFRMHNS.)	6	15.0-395.0	5 ≤ F ≤ P × 7	When P ≤ 6 B = P × 3 & B = F - 2 When P = 8 or 10 B = P × 3 & B = F - 3 When P ≥ 12 B = P × 3 & B = F - 5	3 4 5	SC + l2 ≤ L SC = 0 or SC ≥ 1	5	8	400 500 600 700 800
		8	15.0-495.0			3 4 5 6				
		10	15.0-595.0			4 5 6 8				
		12	15.0-695.0			5 6 8 10				
		15	15.0-795.0			5 6 8 10 12				
(2)D Tol. h9 / P Tol. g6 SFRMGN PSFRMGN SSFRMGN (D6 is not available for SSFRMGN.)	(2)D Tol. h9 / P Tol. g6 SFRMGNS PSFRMGNS SSFRMGNS (D6 is not available for SSFRMGNS.)	20	30.0-995.0	6 8 10 12 16						
		25	30.0-995.0	8 10 12 16 20						
		30	30.0-995.0	8 10 12 16 20 24						
		35	40.0-995.0	10 12 16 20 24 30						
				16 20 24 30						

(3)h7 (Ground)

Part Number		0.1mm Increment			1mm Increment	P (Coarse) Selection	1mm Increment SC Wrench Flats Type only	W	l2	(Y) max.
Standard	Type	D	L	F	B					
SFRHN	SFRHNS	6	15.0-395.0	5 ≤ F ≤ P × 7	When P ≤ 6 B = P × 3 & B = F - 2 When P = 8 or 10 B = P × 3 & B = F - 3 When P ≥ 12 B = P × 3 & B = F - 5	3 4 5	SC + l2 ≤ L SC = 0 or SC ≥ 1	5	8	400 500 600 700 800 900
		8	15.0-495.0			3 4 5 6				
		10	15.0-595.0			4 5 6 8				
		12	15.0-695.0			5 6 8 10				
		15	15.0-795.0			5 6 8 10 12				
PSFRHN	PSFRHNS	17	30.0-895.0	5 6 8 10 12						
		20	30.0-995.0	6 8 10 12 16						
		25	30.0-995.0	8 10 12 16 20						
		30	30.0-995.0	8 10 12 16 20 24						
		35	40.0-995.0	10 12 16 20 24 30						
SSFRHN	SSFRHNS	40	40.0-995.0	12 16 20 24 30						
		50	40.0-995.0	16 20 24 30						

(4)g6 (Ground)

Part Number		0.1mm Increment			1mm Increment	P (Coarse) Selection	1mm Increment SC Wrench Flats Type only	W	l2	(Y) max.
Standard	Type	D	L	F	B					
SFRN	SFRNS	6	15.0-395.0	5 ≤ F ≤ P × 7	When P ≤ 6 B = P × 3 & B = F - 2 When P = 8 or 10 B = P × 3 & B = F - 3 When P ≥ 12 B = P × 3 & B = F - 5	3 4 5	SC + l2 ≤ L SC = 0 or SC ≥ 1	5	8	400 500 600 700 800 900
		8	15.0-495.0			3 4 5 6				
		10	15.0-595.0			4 5 6 8				
		12	15.0-695.0			5 6 8 10				
		15	15.0-795.0			5 6 8 10 12				
PSFRN	PSFRNS	13	15.0-695.0	5 6 8 10 12						
		* 15	15.0-795.0	5 6 8 10 12						
		16	15.0-895.0	5 6 8 10 12						
		17	30.0-895.0	5 6 8 10 12						
		18	30.0-895.0	5 6 8 10 12						
*HFRN (Only * marked sizes are available.)	*HFRNS (D13, D16, D18 or D22 is not available for SSFRN.)	* 20	30.0-995.0	6 8 10 12 16						
		* 22	30.0-995.0	8 10 12 16						
		* 25	30.0-995.0	8 10 12 16 20						
		* 30	30.0-995.0	8 10 12 16 20 24						
		* 35	40.0-995.0	10 12 16 20 24 30						
*PHFRN (Only * marked sizes are available.)	*PHFRNS (D13, D16, D18 or D22 is not available for SSFRN.)	* 40	40.0-995.0	12 16 20 24 30						
		* 50	40.0-995.0	16 20 24 30						

When D-P ≥ 2, chamfer C at the step is 0.2 or less. For HFRN, HFRNS, PHFRN, the upper limit for L dim. is 795.0.



Ordering Example (1)D part h9 / P part h7 SFRMHN30 - 250 - F30 - B8 - P10
(3)h7 (Ground) with Wrench Flat SFRHNS25 - 200 - F25 - B15 - P12 - SC30
(4)g6 (Ground)