

Rotary Shafts – D Tolerance h9 (Cold-Drawn) / h7 & g6 (Ground)

Both Ends Stepped & Tapped

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

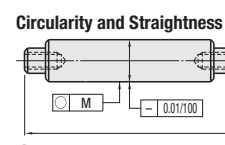
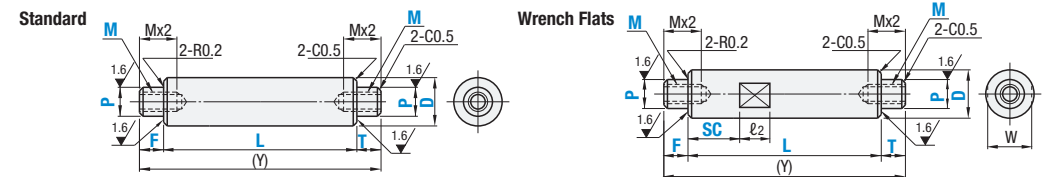


RoHS 10

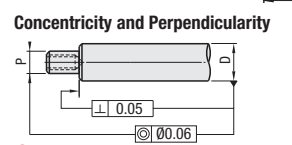
Surface roughness of D part for h9 (Cold-Drawn) is $\sqrt{3.2}$. Surface roughness for h7 (Ground) and g6 (Ground) is $\sqrt{0.4}$.

Type	Standard		Tolerance		Material	Surface Treatment
	Standard	Wrench Flats	D	P		
(1) h9 (Cold-Drawn)	NSFRMH	NSFRMH	h9	h7	1045 Carbon Steel or Equivalent	Black Oxide
	SFRMH	SFRMH				Electroless Nickel Plating
	PSFRMH	PSFRMH				—
	SSFRMH	SSFRMH				—
(2) h7 (Ground)	NSFRMH	NSFRMH	h7	h7	1045 Carbon Steel or Equivalent	Black Oxide
	SFRMH	SFRMH				Electroless Nickel Plating
	PSFRMH	PSFRMH				—
	SSFRMH	SSFRMH				—
(3) h7 (Ground)	NSFRH	NSFRH	h7	h7	1045 Carbon Steel or Equivalent	Black Oxide
	SFRH	SFRH				Electroless Nickel Plating
	PSFRH	PSFRH				—
	SSFRH	SSFRH				—
(4) g6 (Ground)	NSFRH	NSFRH	g6	g6	1045 Carbon Steel or Equivalent	Black Oxide
	SFRH	SFRH				Electroless Nickel Plating
	PSFRH	PSFRH				—
	SSFRH	SSFRH				—

Tolerance Table			
D / P	h9 (Cold-Drawn)	h7 (Ground)	g6 (Ground)
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		
Over	D or Less	Circularity M
5	13	0.004
13	20	0.005
20	40	0.006
40	50	0.007



Tolerances of L, Y & Other Dimensions		
Dimension	Over or Less	Tolerance
2	6	±0.1
6	30	±0.2
30	120	±0.3
120	400	±0.5
400	800	±0.8

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

Part Number	0.1 mm Increment		1 mm Increment		M (Coarse) Selection	1 mm Increment SC Wrench Flats Type Only	W	ℓ ₂	(Y) max.
	Standard	Type	D	L					
(1) D part h9 / P part h7	NSFRMH	NSFRMH	6	15.0-398.0	2.6 3	SC+2≤L SC=0 or SC≥1	5	8	300
	SFRMH	SFRMH	8	15.0-498.0					
	PSFRMH	PSFRMH	10	15.0-598.0					
	SSFRMH	SSFRMH	12	15.0-698.0					
	NSFRMGH	NSFRMGH	15	15.0-798.0					
	SFRMGH	SFRMGH	20	30.0-998.0					
(2) D part h9 / P part g6	NSFRMH	NSFRMH	6	15.0-398.0	3 4 5 6	For M3-M8 M+2≤P	7	8	400
	SFRMH	SFRMH	8	15.0-498.0					
	PSFRMH	PSFRMH	10	15.0-598.0					
	SSFRMH	SSFRMH	12	15.0-698.0					
	NSFRMGH	NSFRMGH	15	15.0-798.0					
	SFRMGH	SFRMGH	20	30.0-998.0					
(3) h7 (Ground) Type	NSFRH	NSFRH	6	15.0-398.0	4 5 6 8 10	For M10-16 M+3≤P	10	10	600
	SFRH	SFRH	8	15.0-498.0					
	PSFRH	PSFRH	10	15.0-598.0					
	SSFRH	SSFRH	12	15.0-698.0					
	NSFRMGH	NSFRMGH	15	15.0-798.0					
	SFRMGH	SFRMGH	20	30.0-998.0					
(4) g6 (Ground) Type	NSFRH	NSFRH	6	15.0-398.0	4 5 6 8 10 12	For M20 or M24 M+4≤P	13	15	700
	SFRH	SFRH	8	15.0-498.0					
	PSFRH	PSFRH	10	15.0-598.0					
	SSFRH	SSFRH	12	15.0-698.0					
	NSFRMGH	NSFRMGH	15	15.0-798.0					
	SFRMGH	SFRMGH	20	30.0-998.0					

(3) h7 (Ground) Type

Part Number	0.1 mm Increment		1 mm Increment		M (Coarse) Selection	1 mm Increment SC With Wrench Flats Only	W	ℓ ₂	(Y) max.
	Standard	Type	D	L					
NSFRHH, SFRHH, PSFRHH, SSFRHH	NSFRHH	NSFRHH	6	15.0-398.0	2.6 3	SC+2≤L SC=0 or SC≥1	5	8	300
	SFRHH	SFRHH	8	15.0-498.0					
	PSFRHH	PSFRHH	10	15.0-598.0					
	SSFRHH	SSFRHH	12	15.0-698.0					
	NSFRHH	NSFRHH	15	15.0-798.0					
	SFRHH	SFRHH	20	30.0-998.0					
	PSFRHH	PSFRHH	25	30.0-998.0					
	SSFRHH	SSFRHH	30	30.0-998.0					
	NSFRHH	NSFRHH	35	40.0-998.0					
	SSFRHH	SSFRHH	40	40.0-998.0					
NSFRHH	NSFRHH	50	40.0-998.0						

(4) g6 (Ground) Type

Part Number	0.1 mm Increment		1 mm Increment		M (Coarse) Selection	1 mm Increment SC Wrench Flats Type Only	W	ℓ ₂	(Y) max.
	Standard	Type	D	L					
NSFRH, SFRH, PSFRH, SSFRH	NSFRH	NSFRH	6	15.0-398.0	2.6 3	SC+2≤L SC=0 or SC≥1	5	8	300
	SFRH	SFRH	8	15.0-498.0					
	PSFRH	PSFRH	10	15.0-598.0					
	SSFRH	SSFRH	12	15.0-698.0					
	NSFRH	NSFRH	13	15.0-698.0					
	SFRH	SFRH	15	15.0-798.0					
	PSFRH	PSFRH	16	15.0-898.0					
	SSFRH	SSFRH	17	30.0-898.0					
	NSFRH	NSFRH	18	30.0-898.0					
	SFRH	SFRH	20	30.0-998.0					
	PSFRH	PSFRH	22	30.0-998.0					
	SSFRH	SSFRH	25	30.0-998.0					
	NSFRH	NSFRH	30	30.0-998.0					
	SFRH	SFRH	35	40.0-998.0					
NSFRH	NSFRH	50	40.0-998.0						

⊖ When D-P(Q)≤2, chamfer C at the step is 0.2 or less. ⊖ Mx4≤(Y) is required for (Y). ⊖ When (Y) is less than the depth of tapped thread, the pilot hole might go through.

Rotary Shafts – D Tolerance h9 (Cold-Drawn) / h7 & g6 (Ground)

Both Ends Stepped & Tapped, continued

Available Types

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

Type	NSFRMH, NSFRMGH, NSFRMHHS, NSFRMGHS, SFRMH, SFRMGH, SFRMHHS, SFRMGHS, PSFRMH, PSFRMGH, PSFRMHHS, PSFRMGHS								SSFRMH, SSFRMGH, SSFRMHHS, SSFRMGHS									
	Min. L	L50.1	L100.1	L150.1	L200.1	L300.1	L400.1	L600.1	L800.1	Min. L	L50.1	L100.1	L150.1	L200.1	L300.1	L400.1	L600.1	L800.1
D	50.0	100.0	150.0	200.0	300.0	400.0	600.0	800.0	998.0	50.0	100.0	150.0	200.0	300.0	400.0	600.0	800.0	998.0
6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
15	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
30	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
35	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

(3) h7 (Ground) (4) g6 (Ground)

Type	NSFRHH, NSFRH, NSFRHHS, NSFRHHS, SFRHH, SFRH, SFRHHS, SFRHS, PSFRHH, PSFRH, PSFRHHS, PSFRHHS								SSFRHH, SSFRH, SSFRHHS, SSFRHHS									
	Min. L	L50.1	L100.1	L150.1	L200.1	L300.1	L400.1	L600.1	L800.1	Min. L	L50.1	L100.1	L150.1	L200.1	L300.1	L400.1	L600.1	L800.1
D	50.0	100.0	150.0	200.0	300.0	400.0	600.0	800.0	998.0	50.0	100.0	150.0	200.0	300.0	400.0	600.0	800.0	998.0
6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
13	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
15	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
16	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
17	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
18	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
22	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
30	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
35	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Part Number Example
 Part Number - L - F - P - T - M - SC
 SFRMH30 - 250 - F30 - P28 - T30 - M20
 SSFRH20 - 200 - F25 - P18 - T25 - M10 - SC20

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

Part Number Alterations
 Part Number - L - F - P - T - M - SC - (KC, WKC, FC...etc.)
 SSFRMGHS25 - 300 - F15 - P18 - T15 - M10 - SC30 - LKC

Alterations	Keyway	Set Screw Flat	2 Set Screw Flats (Angle Specified)	Slit Cam Groove	L Dimension Tolerance	Concentricity
	Code	KC, WKC, KZ	FC, WFC	SFC	UC	LKC
Spec.	KC: Adds a keyway. Ordering Code: KC50-A10 WKC: Adds two keyways. Ordering Code: WKC50-C8-K40-E10 ⊖ KC, A, WKC, C, E, K, KZ, Z=0.1 mm increment ⊖ A, C, E, Z≤100 ⊖ For keyway details refer to P.853. ⊖ If 3 keyways are required use both KC and WKC. ⊖ If 4th keyway is required use KZ only as addition to KC and WKC. ⊖ When keyway position is less than 1 mm away from the end face, R is not applied. Ex.	FC: Adds 1 set screw flat. Ordering Code: FC10-G3 WFC: Adds 2 set screw flats. Ordering Code: WFC10-J3-W10-V3 ⊖ FC / G / WFC / J / W / V = 1 mm increment ⊖ G / J / V ≤ 50	Add			