


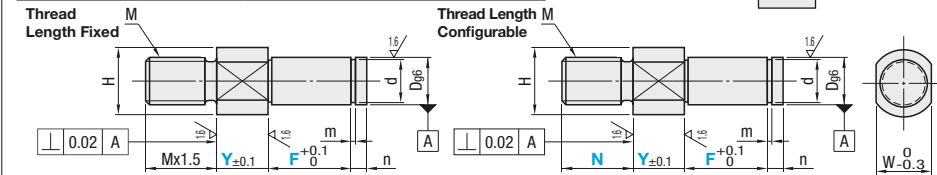
Cantilever Shafts

Threaded with Retaining Ring Groove

Standard



Type	Material	Surface Treatment
FXAA, FXNAA	EN 1.1191 Equiv.	Black Oxide
PFXAA, PFXNAA	EN 1.4301 Equiv.	Electroless Nickel Plating
SFXAA, SFXNAA	EN 1.4301 Equiv.	-
HFXAA	EN 1.7220 Equiv. Hardness: 35 ~ 40HRC	Black Oxide



Dimensions of Wrench Flats when $Y \geq 17$

6.3 / (1.6 / 3)


RoHS

This type may have centering holes depending on dimensions.
Refer to the table on P.884 for thread undercut dimensions.

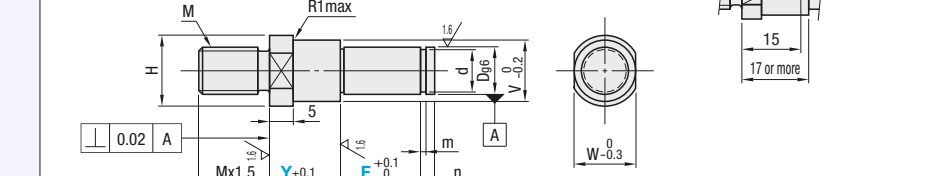
Part Number	Type	No.	Dg6	1mm Increment		Y	F	N	H	W	M (Coarse)	d (Ref. Dim.)	Tolerance	m	n	Unit Price			
				Y	F											N	FXAA	PFXAA	SFXAA
3	3A	3	-0.002	2-30	3-50	3-6	7	5	M 3	2	+0.060	0.5	2	2					
4	4A	4	-0.008				11	9	M 4	3	0								
5	5A	5	-0.004				12	10	M 5	4	+0.075	0.7							
6	6A	6	-0.012				9	7	M 6	5	0								
8	8A	8	-0.005				13	11	M 8	7	+0.090	0.9							
10	10A	10	-0.014				14	12	M 10	9.6	-0.090	1.15							
12	12	12	-0.006	5-100	8-16	18	15	M12	11.5	12.4	0	-0.110	4	4					
13	13	13				20	17								14.3				
15	15	15				21	18								15.2				
16	16	16				22	19								16.2				
17	17	17				23	20								17				
20	20	20				26	24								M20	19	0	1.35	
22	22	22	-0.007	10-150	20-40	28	24	M20	21	0	-0.210	5	5						
25	25	25				31	27	M20	23.9										
25A	25A	25				31	27	M16	28.6										
30	30	30				36	32	M20											
30A	30A	30				36	32	M16											

HFXAA is applicable to D6 or larger specifications. N is available for Thread Length Configurable Type only.

Stepped



Type	Material	Surface Treatment
FXBA, FXNBA	EN 1.1191 Equiv.	Black Oxide
PFXBA, PFXNBA	EN 1.4301 Equiv.	Electroless Nickel Plating
SFXBA, SFXNBA	EN 1.4301 Equiv.	-
PHFXBA	EN 1.7220 Equiv. Hardness: 35 ~ 40HRC	Electroless Nickel Plating



Dimensions of Wrench Flats when $W < V, Y \geq 17$

6.3 / (1.6 / 3)


RoHS

This type may have centering holes depending on dimensions.
Refer to the table on P.884 for thread undercut dimensions.

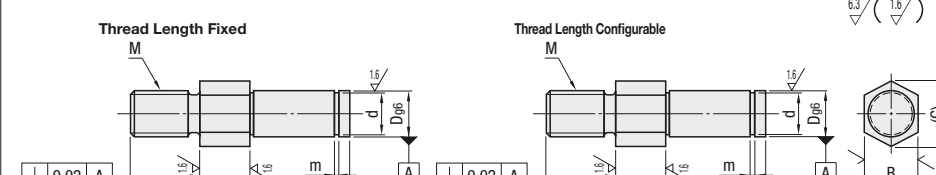
Part Number	Type	No.	Dg6	1mm Increment		Y	F	V	H	W	M (Coarse)	d (Ref. Dim.)	Tolerance	m	n	Unit Price			
				Y	F											FXBA	PFXBA	SFXBA	PHFXBA
3	3A	3	-0.002	7-30	3-50	3-50	5	7	5	M 3	2	+0.060	0.5	2	2				
4	4A	4	-0.008				9	11	9	M 4	3	0							
5	5A	5	-0.004				10	12	10	M 5	4	+0.075	0.7						
6	6A	6	-0.012				7	9	7	M 6	5	0							
8	8A	8	-0.005				11	13	11	M 8	7	+0.090	0.9						
10	10A	10	-0.014				12	14	12	M 10	9.6	-0.090	1.15						
12	12	12	-0.006	5-100	8-16	18	20	17	M12	11.5	12.4	0	-0.110	4	4				
13	13	13				20	17	14.3											
15	15	15				21	18	15.2											
16	16	16				22	19	16.2											
17	17	17				23	20	17											
20	20	20				24	26	M20								19	0	1.35	
22	22	22	-0.007	10-150	20-40	26	28	M20	21	0	-0.210	5	5						
25	25	25				29	31	M20	23.9										
25A	25A	25				29	31	M16	28.6										
30	30	30				34	36	M20											
30A	30A	30				34	36	M16											

When $W < V$, wrench flats W reaches O.D.V. PHFXBA is applicable to D6 or larger specifications.

Hex



Type	Material	Surface Treatment
LXAA, LXNAA	EN 1.1191 Equiv.	Black Oxide
PLXAA, PLXNAA	EN 1.4301 Equiv.	Electroless Nickel Plating
SLXAA, SLXNAA	EN 1.4301 Equiv.	-



6.3 / (1.6 / 3)

RoHS

This type may have centering holes depending on dimensions.
Refer to the table below for thread undercut dimensions.

Part Number	Type	No.	Dg6	1mm Increment		Y	F	N	B	(C)	M (Coarse)	d (Ref. Dim.)	Tolerance	m	n	Unit Price			
				Y	F											N	LXAA	PLXAA	SLXAA
3	3	3	-0.002	2-30	3-50	3-6	6	6.9	M 3	2	+0.060	0.5	2	2					
4	4	4	-0.008				11	9	M 4	3	0								
5	5	5	-0.004				12	10	M 5	4	+0.075	0.7							
6	6	6	-0.012				9	7	M 6	5	0								
8	8	8	-0.005				13	11	M 8	7	+0.090	0.9							
10	10	10	-0.014				14	12	M 10	9.6	-0.090	1.15							
12	12	12	-0.006	5-100	8-16	18	19.6	M12	11.5	12.4	0	-0.110	4	4					
13	13	13				20	17								14.3				
15	15	15				21	18								15.2				
16	16	16				22	19								16.2				
17	17	17				23	20								17				
20	20	20				24	27								M20	19	0	1.35	
22	22	22	-0.007	10-150	20-40	26	31.2	M16	21	23.9	0	-0.210	5	5					
25	25	25				31	36.9								M20	28.6			
25A	25A	25				31	36.9								M16	28.6			
30	30	30				36	42.6								M20				
30A	30A	30				36	42.6								M16				

N is available for Thread Length Configurable Type only.

Ordering Example

Part Number - Y - F - N

FXAA10 - 25 - F18

PLXNAA12 - 15 - F25 - N12

Alterations

Part Number - Y - F - N - (YKC, WSC, SET)

FXAA20 - 20 - F20 - YKC

Example



Retaining Ring Set

FXAA

Thrust Washer

Plain Bearing

Alterations	Y Dimension Tolerance		Four Wrench Flats		Retaining Ring Set
	YKC	WSC	YKC	WSC	
Code	YKC	WSC	YKC	WSC	SET
Spec.	Changes Y dimension tolerance to ± 0.05 . Applicable to all types. Ordering Code YKC	Changes two wrench flats to four wrench flats. Applicable to Standard and Stepped Types. Ordering Code WSC	Retaining Ring applicable to each shaft diameter is included. Ordering Code SET Applicable to all types. Retaining Ring Shape No.=3 ~ 8A: E Type Retaining Ring No.=10 ~ 30A: C Type Retaining Ring Retaining Ring Material Cantilever Shafts		
	Material	Surface Treatment	Material	Material	Retaining Ring
	EN 1.1191 Equiv.	Black Oxide	EN 1.4301 (CSP) Equiv.	Electroless Nickel Plating	Spring Steel
	EN 1.7220 Equiv.	Black Oxide	EN 1.4301 (CSP) Equiv.	Electroless Nickel Plating	Spring Steel

Thread Undercut Dimensions

Thread Dia. (M)	g	r	f
3			2.1-2.4
4	1.2-1.5	0.2-0.3	2.9-3.2
5			3.9-4.1
6			4.3-4.9
8	1.5-2.5	0.2-0.6	6.3-6.6
10			8.1-8.3
12	1.5-3.0		9.8-10.1
16		0.2-1.0	13.6-13.8
20	1.5-4.0		17.0-17.2

