

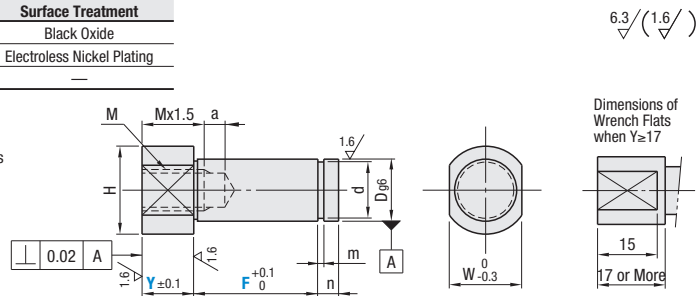
# Cantilever Shafts (Bolt Mount with Retaining Ring Groove)

Standard / Stepped

Cantilever Shafts – Bolt Mount with Retaining Ring Groove Standard

Type	Material	Surface Treatment
FXHA	1045 Carbon Steel or Equivalent	Black Oxide
PFXHA		Electroless Nickel Plating
SFXHA	304 Stainless Steel	—

This type may have centering holes depending on dimensions.



RoHS10

Part Number	Type	No.	Dg <sub>s</sub>	1 mm Increment		M (Coarse)	H	W	d		m	n							
				Y	F				Ref. Dim.	Tolerance									
6	FXHA PFXHA SFXHA	6A	6	-0.004 -0.012	5-100	M 3	10	8	5	+0.075 0	0.7	2							
8		12					10	7	+0.090 0										
8A		8				-0.005 -0.014	M 4	16	14	9.6	0	-0.090							
10								10A	10				10	10	10				
12		2-60				12	-0.006 -0.017	M 8	17	14	11.5	0	-0.110						
13									13	15	12.4								
15									15	-0.006 -0.017	M 10	20	17	14.3	0	-0.110			
16												16	18	15.2					
17									10-150	17	-0.007 -0.020	M 12	23	20	17	0	-0.210		
20													20A	20	24			19	
22	22		-0.007 -0.020	M 16	28								26	21	0	-0.210			
22A					22								27	23.9					
25	4-75		25	-0.007 -0.020	M 12								31	27	23.9	0	-0.210		
25A													25	-0.007 -0.020	M 20			36	32
30		30				-0.007 -0.020	M 16	36										32	28.6
30A								30										30	28.6

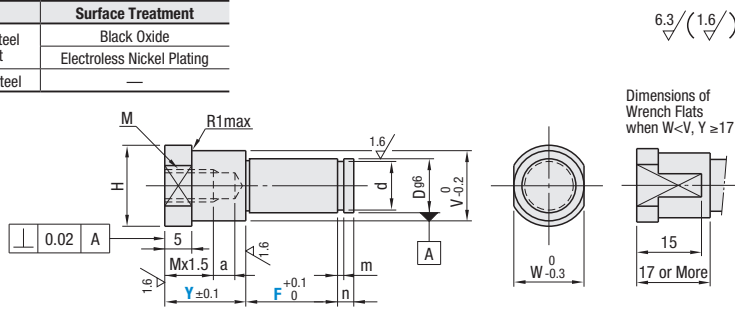
M	a
M3-M10	5
M12-M20	7

When (Mx1.5)+a≥Y+F, the pilot hole for M goes through.  
When Mx1.5 ≥ Y+F, M goes through.

Cantilever Shafts – Bolt Mount with Retaining Ring Groove Stepped

Type	Material	Surface Treatment
FXJA	1045 Carbon Steel or Equivalent	Black Oxide
PFXJA		Electroless Nickel Plating
SFXJA	304 Stainless Steel	—

This type may have centering holes depending on dimensions.



RoHS10

Part Number	Type	No.	Dg <sub>s</sub>	1 mm Increment		M (Coarse)	a	V	H	W	d		m	n					
				Y	F						Ref. Dim.	Tolerance							
6	FXJA PFXJA SFXJA	6A	6	-0.004 -0.012	7-60	M 3	5	8	10	8	5	+0.075 0	0.7	2					
8		12						10	7	+0.090 0									
8A		8				-0.005 -0.014		M 4	14	16	14	9.6	0	-0.090					
10									10A	10	10				10				
12		2-60				12		-0.006 -0.017	M 8	18	20	17	0	-0.110					
13										13	15	12.4							
15										15	-0.006 -0.017	M 10	20	17	14.3	0	-0.110		
16													16	18	15.2				
17										10-100	17	-0.007 -0.020	M 12	21	23	20	0	-0.210	
20														20A	20	24			19
22	22		-0.007 -0.020	M 8	26		28							26	0	-0.210			
22A					22		27							23.9					
25	7-75		25	-0.007 -0.020	M 16		29							31	27	0	-0.210		
25A							25							-0.007 -0.020	M 20			34	36
30		30				-0.007 -0.020		M 12	34									36	32
30A									30									30	28.6

When W<V, width across flats W reaches outer diameter V.  
When (Mx1.5)+a≥Y+F, the pilot hole for M goes through. When Mx1.5 ≥ Y+F, M goes through.

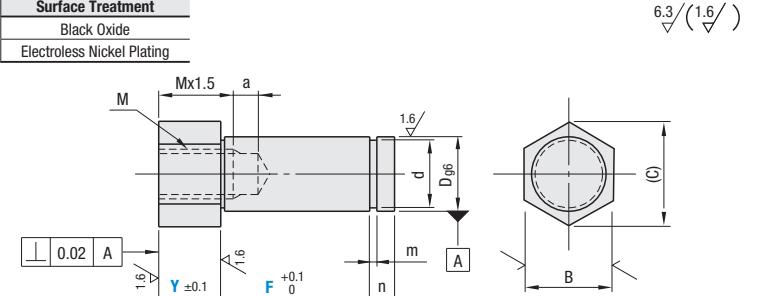
# Cantilever Shafts (Bolt Mount with Retaining Ring Groove)

Hex

Cantilever Shafts – Bolt Mount with Retaining Ring Groove Hex

Type	Material	Surface Treatment
LXHA	1045 Carbon Steel or Equivalent	Black Oxide
PLXHA		Electroless Nickel Plating

This type may have centering holes depending on dimensions.



RoHS10

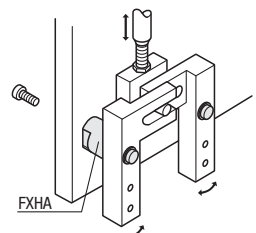
Part Number	Type	No.	Dg <sub>s</sub>	1 mm Increment		M (Coarse)	a	B	C	d		m	n					
				Y	F					Ref. Dim.	Tolerance							
6	LXHA PLXHA	6	6	-0.004 -0.012	5-100	M 3	5	8	9.2	5	+0.075 0	0.7	2					
8		10						11.5	7	+0.090 0								
10		10				-0.005 -0.014		M 6	13	15.0	9.6	0	-0.090					
12									12	14	16.2			11.5				
13		2-60				13		-0.006 -0.017	M 8	17	19.6	12.4	0	-0.110				
15										15	14.3							
16										16	-0.006 -0.017	M 10	20	21.9	15.2	0	-0.110	
17													17	16.2				
18										10-150	18	-0.007 -0.020	M 12	24	27.7	17	0	-0.210
20														20	19			
22	22		-0.007 -0.020	M 16	27		31.2							23.9	0	-0.210		
25					25		21											
25A	25		-0.007 -0.020	M 12	32		36.9							28.6	0	-0.210		
30					30		-0.007 -0.020							M 20			32	36.9
30A		30				M 16		32	36.9								28.6	

When (Mx1.5)+a≥Y+F, the pilot hole for M goes through. When Mx1.5≥Y+F, M also goes through.

Part Number Example  
FXHA12 - 5 - F15  
PLXHA10 - 20 - F35

Part Number Alterations  
FXHA15 - 20 - F22 - APC

Application Example



Alterations	Y Dimension Tolerance	Four Wrench Flats	Add a Pilot	Dimensions of Wrench Flats	Additional Straight Slot Groove	Y Dimension	Retaining Ring Set										
	Code	YKC	WSC	APC	FW	MM		YC	SET								
Spec.	Changes Y dimension tolerance to ±0.05. Applicable to all types. Ordering Code: YKC	Changes from two wrench flats to four wrench flats. Applicable to Standard / Stepped Types. Ordering Code: WSC	Adds a pilot to the shaft seat. Applicable to all types. For 8A and 12A, pilot depth is 2mm. Ordering Code: APC	Applies Wrench Flat Dimension Changes. 1mm Increment Ordering Code: FW3 D≤FW≤15 When FW=0, there are no Wrench Flats Applicable to Standard / Stepped Types.	Adds a flat head screwdriver slot to D. Ordering Code: MM It will not be aligned with wrench flats.	Increases Y dimension by increments. 1mm Increment Ordering Code: YC10.8	Attaches a retaining ring to each applicable shaft diameter. Ordering Code: SET Applicable to all types Retaining Ring Shape No. 6, 8: E Type Retaining Ring No. 10-30A: C Type Retaining Ring  Retaining Ring Material <table border="1"> <thead> <tr> <th>Cantilever Shafts</th> <th>Retaining Ring</th> </tr> </thead> <tbody> <tr> <td>Material</td> <td>Material</td> </tr> <tr> <td>1045 Carbon Steel or Equivalent</td> <td>Black Oxide</td> </tr> <tr> <td>304 Stainless Steel</td> <td>Electroless Nickel Plating</td> </tr> <tr> <td></td> <td>304 Stainless Steel</td> </tr> </tbody> </table>	Cantilever Shafts	Retaining Ring	Material	Material	1045 Carbon Steel or Equivalent	Black Oxide	304 Stainless Steel	Electroless Nickel Plating		304 Stainless Steel
Cantilever Shafts	Retaining Ring																
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