

Miniature Ball Guide Sets / Shafts for Miniature Ball Guides

With Retaining Ring Straight

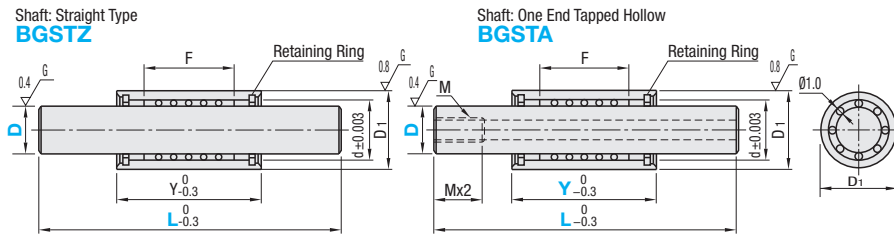
■ Features: Retaining rings in the bushings prevent the ball sliders from falling out.

Miniature Ball Guide Sets - With Retaining Rings

Parts	Material	Hardness	Parts	Material	Hardness
Shafts	EN 1.3505	58HRC~	Ball Retainer	EN CW614N Equiv.	-
Bushing	EN 1.3505 Equiv.	58HRC~	Balls	EN 1.3505 Equiv.	58HRC~
			Retaining Ring	Spring Steel	44HRC~

Accuracy Standards

Circularity of Part D 0.004 or Less (Except Annealed Range)

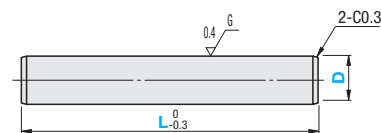


Part Number	Type	D	Shaft Dia. Tolerance	L 1mm Increment	Y	F	D1	M (Coarse)	d	Maximum Stroke mm	Unit Price					
											BGSTZ			BGSTA		
											L40-50	L51-100	L101-150	L40-50	L51-100	L101-150
BGSTZ BGSTA	5	0	-0.005	40~90	17	6	10	M3	7	13						
	6	19			7	11	M3	8	15							
	8	25		8	13	M4	10	24								
	10	30		10	16	M5	12	30								
12	32	11	18	M6	14	32										

■ Features: Most economical products for use with Shaft Supports, or use in plate mounting applications.

Shafts for Miniature Ball Guides - Straight

Type	Material	Hardness
Straight	BGZP	EN 1.3505 Equiv. 58HRC~



Accuracy Standards

Circularity of Part D 0.004 or Less (Except Annealed Range)

Part Number	Type	D	Shaft Dia. Tolerance	L 1mm Increment	d	Unit Price		
						L30-50	L51-100	L101-150
BGZP	2	0	-0.005	30~50	-	-	-	
	3	40~70		-	-	-		
	4	40~90		2.5	-	-	-	
	5	40~90		2.5	-	-	-	
	6	40~90		2.5	-	-	-	
	8	40~150		3.3	-	-	-	
10	40~150	4.2	-	-	-			
12	40~150	5	-	-	-			

Ordering Example: Part Number BGZP5 - L 72

Shafts for Miniature Ball Guides

One End Machined / Both Ends Machined

■ Features: "One end machined" products are applicable to various application requirements.

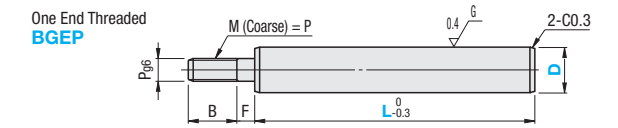
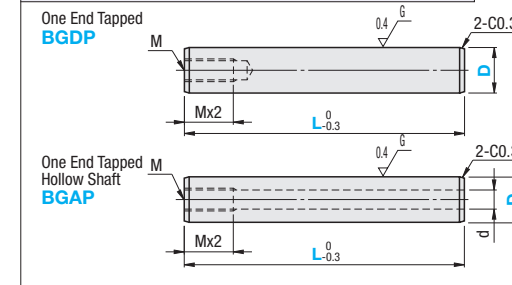
One End Machined



Type	Material	Hardness
One End Tapped	BGDP	EN 1.3505 Equiv. 58HRC~
One End Tapped Hollow	BGAP	EN 1.3505 Equiv. 58HRC~
One End Threaded	BGEP	EN 1.3505 Equiv. 58HRC~

Concentricity of D and P: 0.01 or less

$$6.3 / \left(\sqrt[0.4]{G} \right)$$



Accuracy Standards

Circularity of Part D 0.004 or Less (Except Annealed Range)

Part Number	Type	D	Shaft Dia. Tolerance	L 1mm Increment	F	B	M (Coarse)	d	Unit Price									
									BGDP			BGEP			BGAP			
									L40-50	L51-100	L101-150	L40-50	L51-100	L101-150	L40-50	L51-100	L101-150	
BGDP BGEP BGAP	5	0	-0.005	40~90	4	6	M3	2.5										
	6	8			M4	3.3												
	8	10		M5	4.2													
	10	12		M6	5													

■ Features: "Both ends machined" products are applicable to various application requirements.

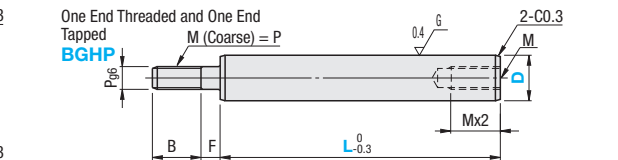
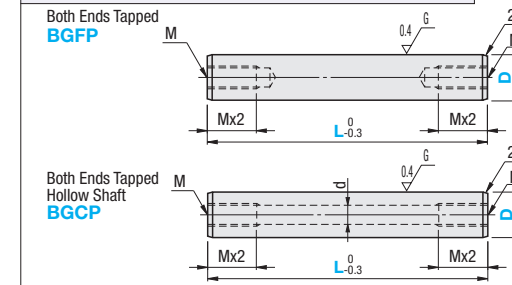
Both Ends Machined



Type	Material	Hardness
Both Ends Tapped	BGFP	EN 1.3505 Equiv. 58HRC~
Both Ends Tapped Hollow	BGCP	EN 1.3505 Equiv. 58HRC~
One End Threaded and One End Tapped	BGHP	EN 1.3505 Equiv. 58HRC~

Concentricity of D and P: 0.01 or less

$$6.3 / \left(\sqrt[0.4]{G} \right)$$



Accuracy Standards

Circularity of Part D 0.004 or Less (Except Annealed Range)

Part Number	Type	D	Shaft Dia. Tolerance	L Selection	F	B	M (Coarse)	d	Unit Price			
									BGFP · BGHP		BGCP	
									L40, 50	L60~	L40, 50	L60~
BGFP BGCP BGHP	5	0	-0.005	40 50 60 70 80 90	4	6	M3	2.5				
	6	8		M4	3.3							
	8	10		M5	4.2							
	10	12		M6	5							

Ordering Example: Part Number BGFP5 - L 70