

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	SUJ2	58HRC~	Ball Retainer	C3604	-
Bushing	SUJ2	58HRC~	Balls	SUJ2	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			40~150	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	SUJ2 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			30~50				
	3			40~70				
	4							
	5	0	-0.005	40~90	2.5			
	6							
	8			40~150	3.3			
	10			4.2				
	12			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	SUJ2 58HRC~
One End Tapped Hollow	BGAP	SUJ2 58HRC~
One End Threaded	BGEP	SUJ2 58HRC~

Concentricity of D and P: 0.01 or less

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				5	8	M4	3.3									
	10					10	M5	4.2									
	12			40~150		12	M6	5									

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

■ **Both Ends Machined**

Type	Material	Hardness
Both Ends Tapped	BGFP	SUJ2 58HRC~
Both Ends Tapped Hollow	BGCP	SUJ2 58HRC~
One End Threaded and One End Tapped	BGHP	SUJ2 58HRC~

Concentricity of D and P: 0.01 or less

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				5	8	M4	3.3				
	10			40 50 60 70 80 90 100		10	M5	4.2				
	12					12	M6	5				

Ordering Example: Part Number BGFP5 - L 70