

Miniature Ball Guide Set Standard

= For customers using industry standard products =
 The part enclosed in the red frame is as per industry standard specifications (SUSJ2 material, Straight Shafts, Straight Bushings).
 Select from the specifications here.

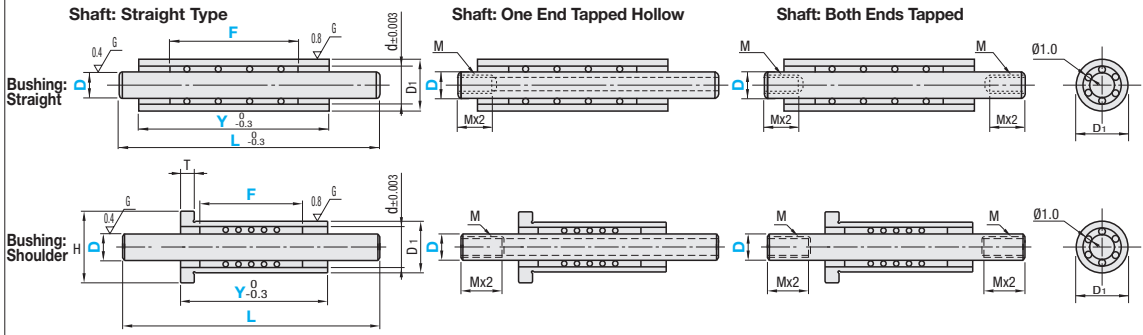
Miniature Ball Guide Set Compact

= For customers selecting Misumi original standard =
 The part enclosed in red frame is as per standard specifications (SUJ2 material, Straight Shafts, Straight Bushings).
 Select from the specifications here.

Features: Most common specification in miniature ball guide sets.

Bushing Type	Shafts			Shafts / Bushings	Ball Retainer	Balls	Material		Hardness	
	Straight	One End Tapped Hollow	Both Ends Tapped				Shafts / Bushings	Balls	Shafts / Bushings	Balls
Straight Type	BGZ	BGA	BGY	SUJ2	C3604 Equivalent (RoHS Compliant)	SUJ2	58HRC~	58HRC~	SUS440C Equivalent	58HRC~
Shoulder Type	SSBGZ	SSBGA	SSBGY	SUS440C Equivalent		SUJ2	58HRC~	58HRC~		SUS440C Equivalent
	BGHZ	BGHA	BGHY	SUJ2		SUJ2	58HRC~	58HRC~		
	SSBGHZ	SSBGHA	SSBGHY	SUS440C Equivalent		SUS440C Equivalent	58HRC~	58HRC~		

Accuracy P367



Type	D	Shaft Dia. Tolerance	L		Y Selection	F Selection	D1 O.D. Tolerance	T	H	d	M (Coarse)
			Straight One End Tapped Hollow 1mm Increment	Both Ends Tapped Selection							
Straight L Dimension Configurable	0 -0.005	3	40~70	-	10 20 30	10 15 20	7	2.5	9	5	-
			40~90	40 50 60 70 80 90	10 20 30	10 15 20	8	3	10	6	M3
			40~150	40 50 60 70 80 90 100	20 30 40	15 20 30	11	4	13	8	M4
					30 40 50	20 30 40	12		14	10	M5
						16		18	12	M6	

Sizes in () are applicable to BGZ, BGH, SSBGZ and SSBGH only. When designing, it is recommended to prevent the ball slider from falling out of the bushing. Calculate the stroke as "(Y-F)x2". The stroke of bushing or shaft is twice as much as the travel distance of ball slider (Y-F).

Ordering Example: Part Number - L - Y - F
 BGZ5 - 72 - 20 - 15

D	Y	Unit Price							
		BGZ		BGHZ		SSBGZ		SSBGHZ	
3	10	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-
4	10	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-
5	10	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-
6	10	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-
8	10	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-
10	10	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-
12	10	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-

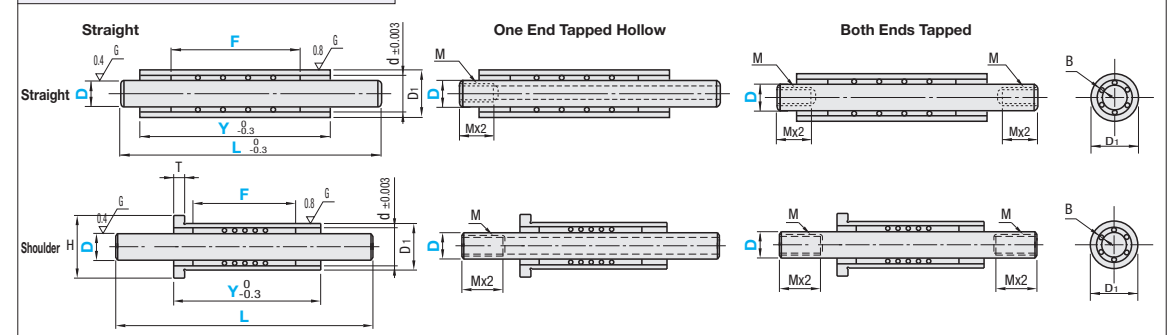
Basic Load Rating Table		
D	F	Basic Load Rating Co (Static) N
3	10	30.4
	15	50.7
	20	71
4	10	40.4
	15	67.3
	20	87.5
5	10	50.7
	15	84.5
	20	109.9
6	10	101.5
	15	113.2
	20	182.9
8	10	105.1
	15	126.1
	20	189.2
10	10	147.7
	15	221.5
	20	307.7
12	10	187.4
	15	281.1
	20	390.5

D	Y	Unit Price														
		BGA		BGHA		SSBGA		SSBGHA		BGY		BGHY		SSBGY		SSBGHY
5	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Features: The O.D. is 1 ~ 2mm smaller compared to the Standard Type, contributing to space savings.

Bushing Type	Shafts			Shafts / Bushings	Ball Retainer	Balls	Material		Hardness	
	Straight	One End Tapped Hollow	Both Ends Tapped				Shafts / Bushings	Balls	Shafts / Bushings	Balls
Straight Type	BYZ	BYA	BYY	SUJ2	C3604 Equivalent (RoHS Compliant)	SUJ2	58HRC~	58HRC~	SUS440C Equivalent	58HRC~
Shoulder Type	BYHZ	BYHA	BYHY	SUJ2		SUJ2	58HRC~	58HRC~		SUS440C Equivalent

Accuracy P367



Type	D	Shaft Dia. Tolerance	L		Y Selection	F Selection	D1 O.D. Tolerance	T	H	d	M (Coarse)	B
			Straight One End Tapped Hollow 1mm Increment	Both Ends Tapped Selection								
Straight L Dimension Configurable	0 -0.005	3	30~50	-	10 15 20	10 15 20	5	2.5	7	3.2	-	-
			40~70	-	10 20 30	10 15 20	6	3	8	4.2	-	
			40~90	40 50 60 70 80 90	20 30 40	15 20 30	7	4	9	5.2	-	
			40~150	40 50 60 70 80 90 100	30 40 50	20 30 40	8		10	6.2	M3	
						9		11	7.2	M3	0.6	
						11		13	9.2	M4		
						14		16	12	M5		
						16		18	14	M6	1.0	

Sizes in () are applicable to BYZ and BYHZ only. When designing, it is recommended to prevent the ball slider from falling out of the bushing. Calculate the stroke as "(Y-F)x2". The stroke of bushing or shaft is twice as much as the travel distance of ball slider (Y-F).

Ordering Example: Part Number - L - Y - F
 BYZ5 - 72 - 20 - 15

D	Y	Unit Price					
		BYZ		BYHZ			
2	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-
3	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-
4	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-
5	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-
6	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-
8	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-
10	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-
12	10	-	-	-	-	-	-
	15	-	-	-	-	-	-
	20	-	-	-	-	-	-

Basic Load Rating Table		
D	F	Basic Load Rating Co (Static) N
2	10	15.0
	15	24.4
	20	33.7
3	10	16.3
	15	26.5
	20	36.7
4	10	21.1
	15	34.3
	20	47.5
5	10	26.1
	15	42.4
	20	58.7
6	10	33.2
	15	53.2
	20	73.5
8	10	42.4
	15	68.7
	20	95.0
10	10	53.2
	15	81.6
	20	113.4
12	10	67.3
	15	101.5
	20	139.5

D	Y	Unit Price											
		BYA		BYHA		BYY		BYHY					
5	10	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-
6	10	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-
8	10	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-
10	10	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-
12	10	-	-	-	-	-	-	-	-	-	-	-	-
	20	-	-	-	-	-	-	-	-	-	-	-	-
	30	-	-	-	-	-	-	-	-	-	-	-	-