

[High Precision] Linear Ball Guide Stages

XY-Axis Micrometer Head / Feed Screw

Travel per Rotation	Small	Medium	Large
Stroke	Short	Medium	Long
Load Capacity	Light	Medium	Heavy

XY-Axis

RoHS 10

Standard Datum Configuration

MISUMI's Linear Ball Guide Stages have Parallel and Orthogonal datums in relation to the motion axis, as shown in the illustrations.

Micrometer Heads

XYSG (25≤A≤100)
XYSGB (Low Temperature Black Chrome Plated) (25≤A≤80)

Clamp (M3x5) (M2x3.5 for A=25)

4-d Through d2 Counterbore Depth ℓ

Feed Screw (Pitch 0.5)

XYSCG (25≤A≤100)
XYSCGB (Low Temperature Black Chrome Plated) (25≤A≤80)

Clamp (M3x5) (M2x3.5 for A=25)

4-d Through d2 Counterbore Depth ℓ

* marked dia. will be Ø7 for A=

Type	Main Body		Ball		Spring	Micrometer Head Bracket		Tip Holder	
	Material	Surface Treatment	Material	Hardness	Material	Material	Surface Treatment	Material	Surface Treatment
XYSG (Micrometer)	440C Stainless Steel	Electroless Nickel Plating	440C Stainless Steel	58 HRC	304 Stainless Steel PB	5052 Aluminum Alloy	Clear Anodize	303 Stainless Steel	—
XYSCG (Feed Screw)	440C Stainless Steel	Low Temp. Black Chrome Plating	440C Stainless Steel	58 HRC	304 Stainless Steel PB	5052 Aluminum Alloy	Black Anodize	303 Stainless Steel	Low Temp. Black Chrome Plating
XYSGB (Micrometer - Low Temp. Black Chrome Plating)	440C Stainless Steel	Electroless Nickel Plating	440C Stainless Steel	58 HRC	304 Stainless Steel PB	5052 Aluminum Alloy	Clear Anodize	303 Stainless Steel	—
XYSCGB (Feed Screw - Low Temp. Black Chrome Plating)	440C Stainless Steel	Low Temp. Black Chrome Plating	440C Stainless Steel	58 HRC	304 Stainless Steel PB	5052 Aluminum Alloy	Black Anodize	303 Stainless Steel	Low Temp. Black Chrome Plating

For Micrometer Head & Feed Screw materials, see P.2102.
For top surface mounting dimensions, see Linear Ball Slide X-Axis Stages on (P.2037).

Micrometer Head (XYSG / XYSGB) / Feed Screw (XYSCG / XYSCGB)

Part Number	Top View				Front View				Side View				Accessories (4 pcs.)												
	Type	A	B	Travel Distance (mm)	E	F	J	K	D	G	R	T	T ₁	P	Q	L	X	d ₁	d ₂	ℓ	Type M-L				
XYSG XYSCG XYSGB (* only)	25*	25	11	±3.2	7	9	6.8	15	9.3	7	20.5	24	3.7	6	8.5	19	20	2.5	4.2	2.5	SCB2-4				
	40*	23.5	20	±6.5	12	18.5	11.5	26	13	8.9	26.5	32	4.5	10	10.5	24.9	32	3.5	6	3.5	SCB3-6				
	50	18.5	15					31									40					50	8	4	SCB4-6
	60*	14	10.3					36									10					29.5	36	6	8
XYSCGB (* only)	70	14.5	10.8	±12.5 ²	17	22 ³	46.5	18	10.8	34.5	40	6.5	14.5	30.8	70	90	4.5	8	5.3	SCB4-6					
	80*	43.5	10				55														8	5.3	SCB4-6		
	100	28.5	-5 ¹				67.5														8	5.3	SCB4-6		

*1 Ends of Feed Screw knob are at 5mm inside of the carriage edges for XYSCG and XYSCGB. *2 Stroke of XYSCG80 and 100 is ±6.5mm. *3 When dimension A of Feed Screw Type XYSCG and XYSCGB are 80 or 100, F will be 20.

Performance

Part Number	Type	A	Stage Surface (mm)	Horizontal Load Capacity (N)	Travel Accuracy			Moment Capacity (N·m)			Moment Rigidity (°/N·cm)			Parallelism	Weight (kg)	
					Straightness	Parallelism	Pitching	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
XYSG XYSCG XYSGB (* only)	25*	25	25 x 25	38.2	3 μm	10 μm	30"	25"	2.0	2.0	2.0	3.00	2.20	3.00	30 μm	0.14
	40*	40	40 x 40	95.2	1 μm ¹	12 μm	25"	15"	5.0	5.0	5.0	0.63	0.70	0.63		0.46
	50	50	50 x 50	144.2					6.0	6.8	6.0	0.24	0.28	0.24		0.56
	60*	60	60 x 60	192.1					9.0	10.0	9.0	0.13	0.16	0.13		0.80
XYSCGB (* only)	70	70	70 x 70	219.7	3 μm	15 μm	40 μm	1.80	12.9	13.8	12.9	0.09	0.10	0.09	1.16	
	80*	80	80 x 80	255.8					17.7	18.2	17.7	0.06	0.08	0.06	1.80	
	100	100	100 x 100	329.6					30.7	31.8	30.7	0.03	0.04	0.03	2.66	

- XYSG, XYSGB: Micrometer Head Resolution 10 μm/division *1 XYSGB, XYSCGB40 and 60 straightness is 3 μm.
- Knob Cover HDCVR13 (Sold Separately): Ø13 mm knob diameter can be increased by installing the cover. P.2035
- Extension Cover HDEXT13 (Sold Separately): Ø13 mm head or Feed Screw knobs can be extended by installing the cover. P.2035

Part Number Alterations: Part Number - (CR / A / H / P / MN)
Example: XYSCG40 - A

Part Number Example: XYSG40, XYSCGB60

Alterations	Position of Micrometer and Feed Screw		Reinforced Clamp		No Micrometer Head	
	Side Mount - Left/Right Reversed (mirrored)	Center	Disc Clamp	Opposed Clamp	No Micrometer Head	
Spec.			 A: 40, 50, 60, 70, 80, 100 J1: 17.5, 15.8, 14.8, 15	 A: *25, 40, 50, 60, 70 B1: 17.5, 24.5, 19.5, 14.5, 4.0		
Code	CR	A	H	P	MN	

Not applicable to 25 square.
Combination with alteration A is not available.
A disc clamping mechanism that does not apply any load on the carriage plate. Holds the carriage in position better than the Standard Clamp.

Applicable to XYSG only.
Not applicable to 80 and 100 Square.
Combination with alteration A is not available.
The Micrometer shaft is opposed by a screw (M4x25, Pitch 0.5) from the tip and. Improves vibration resistance and secures greater locking power.
When A=25, the dimension will be *. Also, the dimensions will be B=30, and G=6.

Applicable to XYSG and XYSCGB only.
Micrometer head and bracket will be removed before shipment.
Since there is a spring inside, the carriage will not be stationary unless the clamp is tightened.
Combination with alteration H is not available.

- Standard Stages Similar Products: XYLBS
- For Micrometer Head or Feed Screw mounted in positions other than shown above, see "Specification Selectable Type." (P.2084)

[High Precision] Linear Ball Guide Stages

XY-Axis Coarse / Fine Micrometer Head

Travel per Rotation	Small	Medium	Large
Stroke	Short	Medium	Long
Load Capacity	Light	Medium	Heavy

XY-Axis Coarse / Fine Micrometer Head

RoHS 10

Standard Datum Configuration

MISUMI's Linear Ball Slide Guide Stages have Parallel and Orthogonal datum in relation to the motion axis as shown in the illustrations.

XYSGK (40≤A≤80)

Clamp (M3x5)

4-d Through d2 Counterbore Depth ℓ

A80 / A100

4-d Through d2 Counterbore Depth ℓ

Type	Main Body		Ball		Spring	Micrometer Head Bracket		Tip Holder	
	Material	Surface Treatment	Material	Hardness	Material	Material	Surface Treatment	Material	Surface Treatment
XYSGK	440C Stainless Steel	Electroless Nickel Plating	440C Stainless Steel	58 HRC	304 Stainless Steel PB	5052 Aluminum Alloy	Clear Anodize	303 Stainless Steel	—

For Micrometer Head and Feed Screw materials, see P.2102.
For top surface mounting dimensions, see Linear Ball Slide X-Axis Stages on P.2037.

Part Number	Top View				Front View				Side View				Accessories (4 pcs.)							
	Type	A	B	E	F	K	G	R	T	T ₁	Q	L		X	d ₁	d ₂	ℓ	Type M-L		
XYSGK	40	60	16	18.5	26	11.6	26.5	32	4.5	10.5	27.6	32	3.5	6	3.5	SCB3-6				
	50	31			36	11.4											5	27.4	50	4
	60	50			46.5	12.5											6	30.5	60	4.5
	70	50.5	25	55	10.8	29.5	36	6	11.5	30.5	60	4.5	8	4.5	5.3	SCB4-6				
80	49.5	17	25	25	55	10.8	34.5	40	6.5	14.5	30.8	70								

Performance

Part Number	Type	A	Stage Surface (mm)	Travel Distance (mm)	Horizontal Load Capacity (N)	Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Parallelism	Weight (kg)	
						Straightness	Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing			Rolling
XYSGK	40	40	40 x 40	Coarse	95.2	1 μm	12 μm	25"	15"	5.0	5.0	5.0	0.63	0.70	0.63	30 μm	0.44
	50	50	50 x 50	±6.5mm	144.2					6.0	6.8	6.0	0.24	0.28	0.24		0.54
	60	60	60 x 60	Fine Feed 0.2 mm	192.1					9.0	10.0	9.0	0.13	0.16	0.13		0.78
	70	70	70 x 70	219.5	12.9					13.8	12.9	0.09	0.10	0.09	1.14		
80	80	80 x 80	255.8	3 μm	15 μm	17.7	18.2	17.7	0.06	0.08	0.06	40 μm	1.78				

Coarse / Fine Micrometer Head Resolution Coarse: 10 μm, Fine: 0.5 μm

Part Number Example: XYSGK40

Part Number Alterations: Part Number - (CR, A, H)
Example: XYSGK40 - A

Alterations	Position of Micrometer Head and Feed Screw		Reinforced Clamp	
	Side Mount - Right / Left Reversed	Center	Disc Clamp	
Spec.			 A: 40, 50, 60, 70, 80 J1: 15.8, 14.8 P1: 10, 15	
Code	CR	A	H	

Combination with alteration A is not available.
A disc clamping mechanism that does not apply loads on the stage surface. Better position holding performance than the standard clamping method.

- Mounting dimensions of Micrometer Head, Feed Screw and clamp are different from those of standard products. See the CAD data for details.
- For Micrometer Head or Feed Screw mounted in positions other than shown below, see "Specification Selectable Type." P.2084
- Knob cover HDCVR13 (Sold separately): Ø13 mm knob diameter can be increased by installing the cover. P.2035
- Extension cover HDEXT13 (Sold separately): Ø13 mm head or Feed Screw knobs can be extended by installing the cover. P.2035