

Stage Selection Table

Manual Stages - Overview

Rotary

Load Capacity (N)	Mechanism, Appearance Image	Travel Distance	Stage Surface Size	Accuracy Range	Features	Type, Listed Pages
9.8~29.4		±22.5°	Ø35 Ø55	Low Precision (Simplified)	Simplified Angle Adjusting	XKRC P.1978
		±10°	□40 □60	Med. Precision (Standard)	Simplified Angle Adjusting (With Micrometer Head)	RTSS P.1980
		Coarse Feed: 360 Fine Feed: ±5°	Ø40 Ø60 Ø80	Med. Precision (Standard)	Coarse/Fine Feeds Standard	RTRS/RTRM P.1979
		Coarse Feed: 360	Ø25	High Precision (Eccentricity 0.05mm)	Small Diameter	RPGE P.1981
		Coarse Feed: 360 Fine Feed: ±5°	Ø38 Ø60 Ø65 Ø100		Coarse / Fine Feeds Standard	RPG P.1982
49.0~58.8		Coarse Feed: 360 Fine Feed: ±5°	Ø60 Ø65 Ø100		Stainless Steel / Through Hole	RPGS/RPGT P.1983
68.6		Coarse Feed: 360	Ø25 Ø40 Ø60	High Precision (Eccentricity 0.05mm)	Coarse/Fine Feeds Standard	REG P.1981
980~1960		Coarse Feed: 360	Ø48 Ø98 Ø198	Low Precision (Simplified)	High Load Capacity	KUS P.1984

Horizontal Surface Z-Axis

ⓘ The values of "Accuracy Range" are for motion accuracy (Straightness) references.

Load Capacity (N)	Mechanism, Appearance Image	Travel Distance	Stage Surface Size	Accuracy Range	Features	Type, Listed Pages
6.9~14.7		±2.5 ±5 ±10	□25 □40 □60	High Precision 30µm	Long	ZLFG P.1972
9.8~39.2		±2 ±3 ±5	□25 □40 □60 □80	High Precision 3µm	Standard	ZLPG ZLPCG P.1973
19.6~29.4		±3	□25 □40 □60 □80	High Precision 5µm	Low Profile	ZLTG ZLTCG P.1974
29.4~49		±3 ±5	□40 □60	Med. Precision (Standard)	Standard (Micrometer Head)	ZLLB P.1971
29.4~58.8		±3	□40 □60	High Precision 3µm	High Load Capacity	ZLPGS ZLPCGS P.1972
29.4~98.1		+5 +7	□40 □60	Med. Precision (Standard)	Standard (Feed Screw)	ZLFD P.1971

Goniometer

Circular arc motion stages with arc centers located on central perpendicular line above the stage tops.



(New Product) Med. Precision (Standard):
GFG/GFWG P.1985
High Precision:
GFG/GFWG P.1986
GPG/GPWG P.1988

Helicoid Screw (Horizontal Surface Z-Axis)

Horizontal surface Z-Axis stages with relatively longer stroke. (±15)



ZHRD P.1975

Lab Jack (Horizontal Surface Z-Axis)

Horizontal surface Z-Axis stages with very large stroke. (±35 Max.)



(New Product) Med. Precision (Standard):
ZLJSP P.1976
High Precision:
ZLJG P.1977

Manual Stage Types

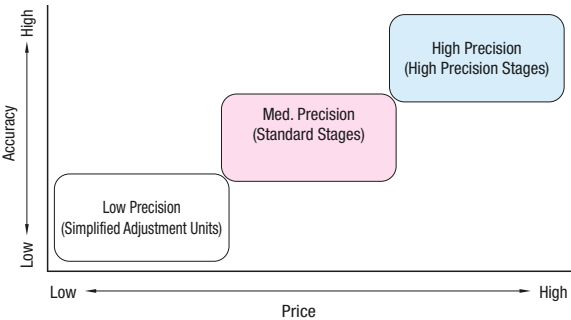
Low precision (Simplified Adjustment Units) and Med. precision (Standard Stages) are MISUMI original products which achieved more "economical prices" than the existing products by revising "Conditions of Guaranteed Accuracies".

Accuracy guarantee and price comparisons between the Precision Stages and the Standard Stages is shown below. Please see P.1885 Selection Chart or the individual product page for the comparison and detailed specifications.

Low Precision, Med. Precision products may very well satisfy your required accuracy conditions. Select a model by reviewing the examples below.

Comparison of Accuracy and Price between High Precision Stages and Standard Accuracy Stages

Standard Accuracy Stages where the surface size, thickness are the same and the stroke is approximate. See each product page for details.



ⓘ The Standard Stages are now defined as C-VALUE product since this catalog. Please be advised that prices are partially revised and lowered.

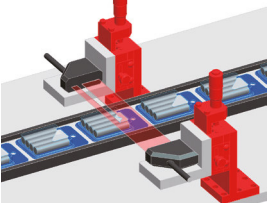
Series	High Precision Stages	Standard Stages
Part Number	XEG60	XFES60
Page	P.1897	P.1896
Photo		
Travel Accuracy (Straightness)	30µm	50µm
Top Face Size	60X60mm	
Thickness	17mm	
Stroke	±9mm	±8mm
Guide	Dovetail Slide	

Difference
20µm
-
-
±1mm
-

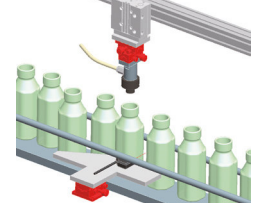


Standard Stages Examples

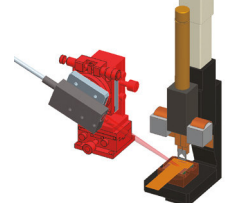
Positioning of Labeling Defects Detection Sensor



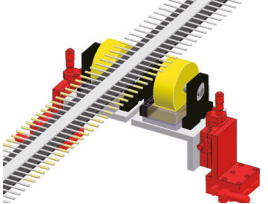
Positioning of Leak Inspection Instrument of Plastic Bottles



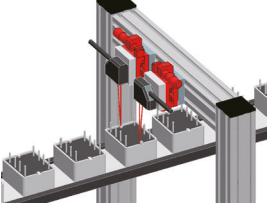
Positioning of Temperature Sensor for Camera Module Thermocompression



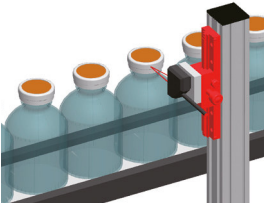
Positioning for Adhesive Application to Cotton Swabs



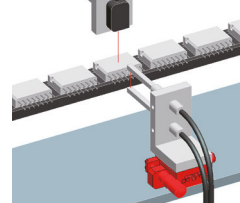
Positioning of Swage Detection Sensor for Converter



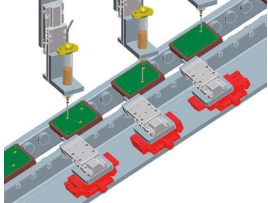
Positioning of Shrink Package Inspection Device



Sensor Positioning for Detecting Defects of Connector Terminal Press Fitting



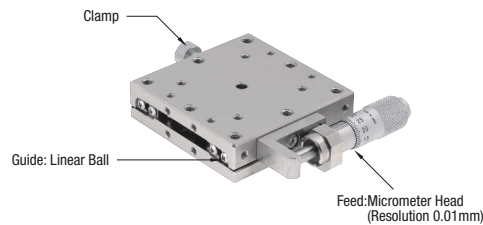
Positioning of Cylinder Stopper for Adhesive Application Device



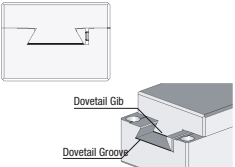
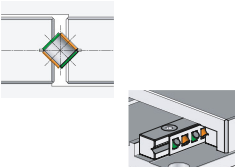
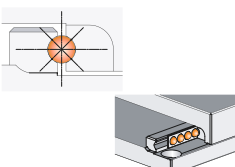
Manual Stages - Overview

What is a Stage?

Stages are mechanical unit products composed of Guides, Feed mechanisms, and Clamps. Since they can easily adjust object positions for inspections, machining, and assembly fixtures. A single unit would be used as an X-Axis, and two units can be combined as an XY-Axis stage. Use a Z-Axis for height adjustments.



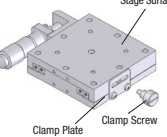
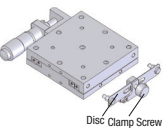
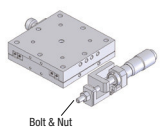
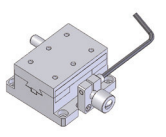
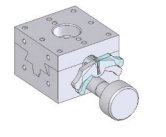
Linear Guidance Structures

	Dovetail Slide	Cross Roller	Linear Ball
			
Structure	Sliding male/female trapezoid grooves facilitate the guiding.	Caged cylindrical rollers are alternately crossed, and placed between two grooved rails. The rolling motion of the rollers facilitates the guiding.	Steel balls are aligned in gothic arch grooves machined on the body of stage. The rolling motion of the rollers facilitates the guiding.
Straightness	[Standard] 50μm [High Precision] 30μm	[Standard] 30μm [High Precision] 3μm	[High Precision, Motorized] 1μm

About Feed Mechanisms

	Rack & Pinion	Feed Screw	Feed Screw	Micrometer Head	Coarse/Fine Micrometer Head	Digital Micrometer Head
						
Guide Mechanism	Dovetail Slide		Cross Roller / Linear Ball Slide			
Travel per Rotation	17~20mm	0.5~10mm	0.5~1mm	0.5mm	0.025~0.5mm	0.5mm
Features	• Suitable for rapid feeding. • Not suitable for accurate positioning.	• Suitable for fine feeding and slightly fast feeding. • Screw lead selectable	• Suitable for fine feeding. • More economical compared to Micrometer Head • Not scaled and incapable of numerical adjustments.	• Suitable for precise positioning by 0.01mm.	• Enables finer adjustment compared to standard Micrometer Head. • 0.5μm Graduation	• With digital display, output • 1μm Graduation

About Clamp Mechanism

	Standard Clamp	Disc Clamp	Opposed Clamp	Slit Clamp	Lever Clamp
					
Features	Clamp plate is pressed against the side of the stage by a clamp screw. It is the most economical and standard holding method.	The stage is immobilized by clamping a disc applying no load on the stage surface. The advantage is that position displacement can be prevented.	The carriage is braced by a bolt from the other side of the micrometer head. The bolt is secured with a nut for vibration resistance and strong holding capacity.	The feed knob shaft is clamped directly. Compared to the conventional model, larger retaining force can be obtained. Drift can be prevented by using it in combination with conventional standard clamp.	The final tightening action of the clamp screw is managed with a lever for easy operation.

Notes on Clamps

The standard clamps for the stages work on frictional forces generated when screws are tightened by turning the knobs and levers. Applied loads exceeding the friction of the clamp mechanical forces can displace the stages. Please devise proper countermeasures to prevent the stage surfaces from being displaced in actual applications. MISUMI offers the following clamp reinforcement measures.

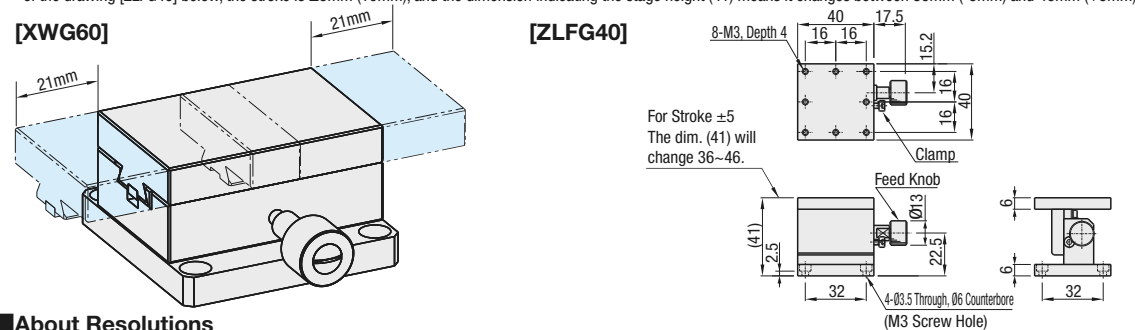
- Selecting the Reinforced Clamp Type Stages (Slit Type Clamp)
- Changing the clamp type when available as "Alterations" (Opposed Clamp, Disc Clamp)

Technical Information

High Precision Stages and Standard Accuracy Stages (Common)

About Stroke (move distance) descriptions.

The dimensions shown in the drawings are for tables at 0mm positions. The dimensions shown in () mean that they would change as the stroke changes. Below diagram [XWG60] as an example, the stroke is $\pm 21\text{mm}$ (42mm) where the table moves 21mm to the right and 21mm to the left, as the position in the diagram as the center. In the case of the drawing [ZLFG40] below, the stroke is $\pm 5\text{mm}$ (10mm), and the dimension indicating the stage height (41) means it changes between 36mm (-5mm) and 46mm (+5mm).

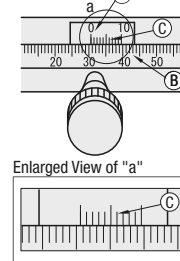


About Resolutions

There are 3 ways of position reading options: Scale Plates, Vernier Scale and Micrometer Heads. These position indicating options can be used as references for applications requiring positional repeatability.

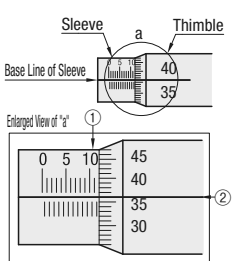
<How to Read Vernier Scale>

- ① The scale (B) value is read at the 0 position of the sub-scale (A) in 1mm resolution. (30mm in the right figure)
- ② While looking at (A) scale, read the graduation (C) aligning the (B) scale as 0.1mm resolution. (0.6mm in the right figure)
- ③ A sum of ① and ② is the value. (30.6mm in the right figure)



<How to Read 0.01mm Micrometer Head>

- ① Read where the position of end face of the thimble is located on the scale of sleeve by 0.5mm resolution. (11.5mm in the right figure)
- ② Read a value of the thimble on the position where the base line of sleeve coincides with the scale line of the thimble. (0.36mm in the right figure)
- ③ The total value of ① and ② is the current position of the stage. (11.86mm in the right figure)



⚠ Although the micrometer head stroke will be expressed $\pm 3.25\text{mm}$ and $\pm 6.5\text{mm}$, the scale starts as 0 (zero) at the left farthest end.
For the case of $\pm 5\text{mm}$ stroke, the relationship of the scale and the stroke would be as shown below.

- When the scale reads 0 (zero): Stroke [-6.5mm]
- When the scale reads 6.5mm: Stroke [0 (zero)]
- When the scale reads 13mm: Stroke [+6.5mm]

About Load Capacity

Load Capacity

It is a force that the stage can withstand with the CG of the load is the stage center. The unit is in (N). If the stage is operated at beyond this load capacity, it may no longer operate smoothly. For the load capacities in horizontal orientation, see [Horizontal] values, and see [Vertical] values for the vertically oriented stages. Please be advised that vertically oriented or inverted stages may not always meet the catalog accuracy values.

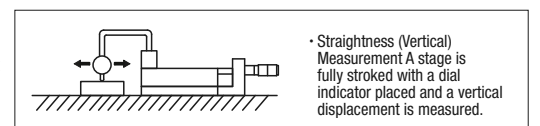
Allowable Moment Load

It indicates loads the stage can withstand when the CG of the load is located away from the stage center. The unit is in (N • m). When CG of the workpiece is located away from the center of the stage (=Overhung), the allowable moment load values will need to be taken in consideration along with the Load Capacity. Products high in this value is defined as [High Rigidity].

About Accuracy Standards

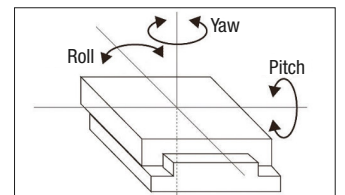
Definition of Straightness

Straightness is a value represented by a maximum difference between an ideal straight line of travel and the actual travel of a top plate over the entire stroke range of the stage. It is the max. deviation in horizontal or vertical direction in relation to the ideal straight axis.



Definition of Pitching / Yawing / Rolling

These indicate the amounts of top plate inclinations during linear motion.
To direction of traveling
Leaning forward and back : Pitching
Rotation in a horizontal plane : Yawing
Leaning right and left : Rolling



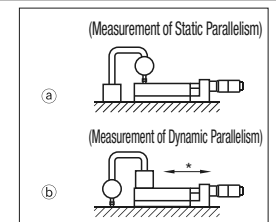
Allowable Moment Capacity (see Overview page) and Moment Rigidity (carriage attitude in angles against these forces) are used to represent the stage's rigidity.

Definition of Parallelism

A value indicating the parallelism of the top surface against the bottom surface. The illustrations on the right show how ① Static Parallelism and ② Dynamic Parallelism are measured.

Caution

Travel accuracy values shown are for single axis configuration.



* The stage is fully stroked and measured.

Technical Information

[Simplified Adjustments] X-Axis, Feed Screw, Compact / Stroke Selectable

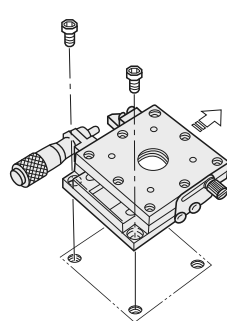
Stage Operating Environment

Operating Environment :10 ~ 50°C, 20 ~ 70%RH (No Condensation)
Recommended Operating Environment: 22±5°C, 20 ~ 70%RH (No Condensation)

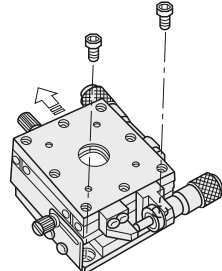
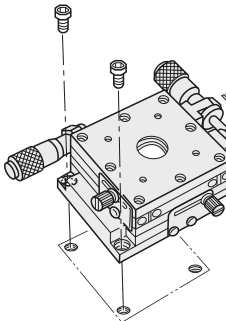
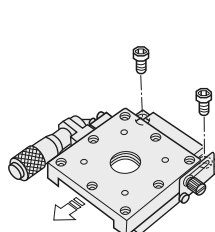
Stage Installation Method

To mount a stage on the base surface, move the top plate to access mounting holes as shown below.

X-Axis Stages

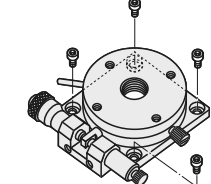


XY-Axis Stages

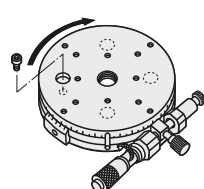


Rotary Stages

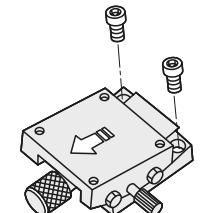
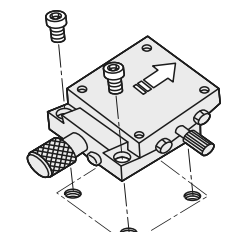
① Plate Type



② No Plate Type
(REG, RPG85, RPG110)



Goniometer Stages



Notes on Mounting Surface Accuracies

Intended product performances may not be achieved if the stage mounting surface or the carried object's mounting surface do not have sufficient flatness.
(General Flatness Guideline: 10µm or better)

Vertical Use of X-Axis Stages

When mounting a stage in vertical orientation, note the directions of the feed mechanisms and springs.

NG	OK

A load exceeding the spring pull force will cause the carriage to drop.

CZ: The carriage does not drop since the micrometer head tip pushes the bracket on the bottom plate.
Standard, CR, A: The stage does not move down when the micrometer head is mounted pointing up.

However, do not apply a load exceeding the specified vertical load capacity.

Standard Stages

Holding Force

Holding Force (Reference) is the (reference) value to hold the stage top surface rest when clamped.

Measured Holding Force

<Test Conditions> Clamp screws are tightened with the tightening torque below and pressed with the test instrument (F in the diagram). The max. holding force is the load measured where the stage top surface starts to move.

- Tightening Torque (Standard)
- ① XDTS (Standard, Dovetail Slide, Rack & Pinion) Size 50 and 60: 0.1N·m; Size 90: 0.15N·m
- ② XDTS (Standard, Dovetail Slide, Low Profile, Rack & Pinion) Size 50 and 60: 0.1N·m; Size 90: 0.15N·m
- ③ XCRS (Standard, Cross Roller) 0.15N·m

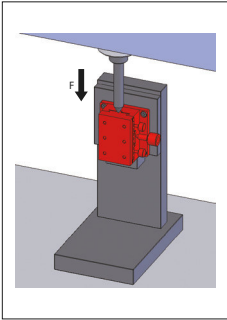
<Max. Holding Force (Ref.)>

Type	Max. Holding Force (Ref.)
a) XDTS	50 30N
	60 60N
	90 70N
b) XDTS	50 10N
	60 20N
	90 40N
c) XCRS	40 60N
	60 60N
	80 70N

<Max. Holding Force (Ref.) depending on Tightening Torque>

Type	Tightening Torque (Standard at 100%)
XDTS60	50% 50N
	100% 60N
	150% 90N
XCRS60	50% 40N
	100% 60N
	150% 100N

<Testing Method>



Max. Holding Force (Ref.) will vary depending on the tightening torque variations. Ensure adequate safety margins for design.

Features: Eliminates frustrations when positions are lost at the final one turn of screws in slotted holes. The low profile of 9.5mm is effective in narrow spaces.

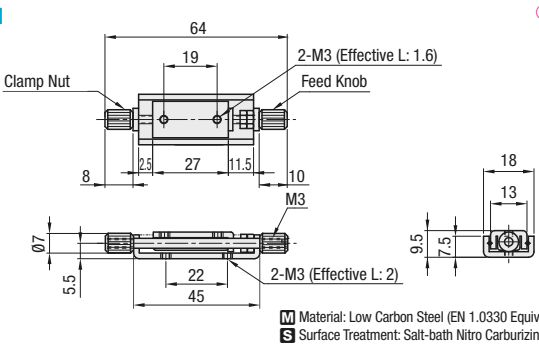
X-Axis Compact Type



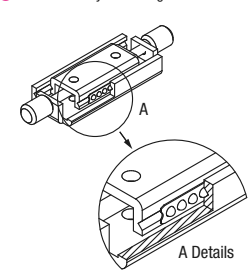
Travel per Rotation: 0.5mm

RoHS

XSEN



Slides smoothly with ball guides on each side.



Part Number	Stage Surface	Travel Distance	Load Capacity (N)	Weight (kg)	Unit Price
Type	No.	(mm)	(mm)		
XSEN	5	13x27	±2.5	19.6	0.03

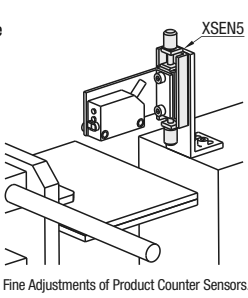
Travel per Rotation: 0.5mm



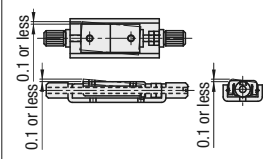
Part Number
XSEN5



Example



Accuracy Standards



There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies.

Features: Five stroke lengths from 60mm to 200mm are offered, mainly for sensor adjustments during setup changes.

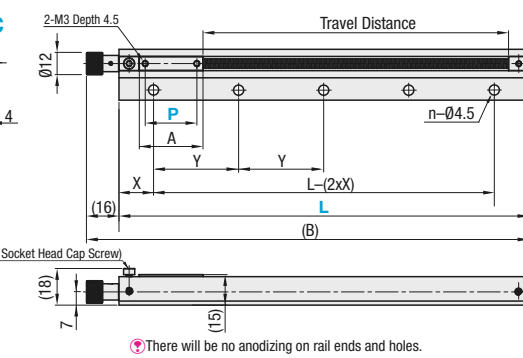
X-Axis Stroke Selectable Type



Travel per Rotation: 0.8mm

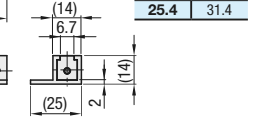
RoHS

XSENC



Material: Aluminum Alloy
Surface Treatment: Clear Anodize
Accessory Hex Socket Head Cap Screw (P.174 SCB4-6) 2 pcs.

Stage Surface (mm)	P	A
10	16	
12	18	
19	25	
25.4	31.4	



Part Number		P (Selection)	X	Y (When 150Y and 200Y)	Number of Holes (n)	(B)	Distance between End Taps L-(2xX)	Travel Distance	Load Capacity (N)	Unit Price
Type	L									
XSENC	60	10 12 19 25.4	10	-	2	76	40	L-A-23	9.8	
	70		14	-	2	86	42	L-A-25		
	80		18	-	2	96	44			
	150		20	-	2	166	110	L-A-30		
	150Y (*)		15	40	4	120				
	200		22	-	2	156				
	200Y (*)		20	40	5	160				

Models denoted by (*) will have added holes on the mounting surface.

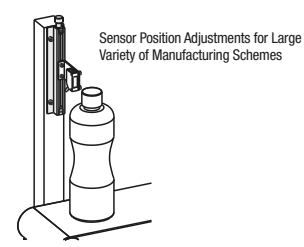
Travel per Rotation: 0.8mm



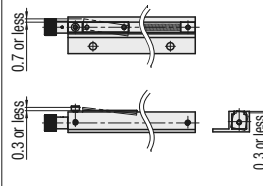
Part Number - P
XSENC150 - 25.4



Example



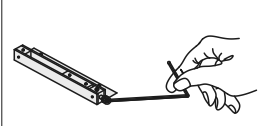
Accuracy Standards



There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies.

One Point

Long stroke moves can be made easily with use of a ball-point hex wrench.

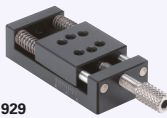


[Simplified Adjustments] X-Axis, Push Screw

Screw Length Standard/Selectable

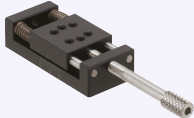
■Features: Economical adjustment unit suitable for applications not requiring high precision. Springs are utilized to minimize backlash. Screw Length Selectable Type is also available for remote operating applications.

Standard



XY-Axis P.1929

Screw Length Selectable

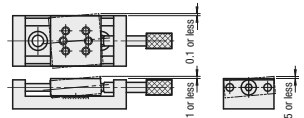


(CL Alteration)



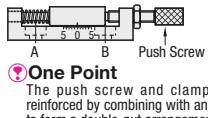
Travel per Rotation: 0.5mm

Accuracy Standards



Not recommended for precise positioning due to its clearance shown on the left.

How to Mount



One Point
The push screw and clamp can be reinforced by combining with an extra nut to form a double-nut arrangement.

Z Dimension Configurable	Type	Main Body	Shaft	Spring	Push Screw	Accessory: *1
Standard (Z Dim. Fixed)	XKNG	Material	Material	Material	Material	
Screw Length Selectable (Z Dimension Selection)	XKNGZ*3	Material	Material	Material	Material	

*1 Hex Socket Low Head Cap Screw CBS P.194, Hex Socket Ultra Low Head Cap Screw CBSS P.195

No.20
M4xP0.7 For Table Clamp Screw
2-M3 Depth 6 For Mounting Z Axis
6-M3 Depth 6.7
2-Ø4.5 Through, Ø7.5 Counterbore Depth 3.2

No.25
M4xP0.7 For Table Clamp Screw
2-M3 Depth 6 For Mounting Z Axis
6-M4 Depth 6.7
2-Ø4.5 Through, Ø7.5 Counterbore Depth 3.2

No.40
M5xP0.8 For Table Clamp Screw
6-M4 Depth 8
M5xP0.5
44.6
55.4
3.5

No.60
M5xP0.8 For Table Clamp Screw
6-M4 Depth 8
M5xP0.5
64.6
75.4
3.5

① Drawing * 2 shows dimensions when scale is set at 0.
② Stroke has been set up based on max. deflection of the spring.
③ Going beyond the stroke will make it less accurate.

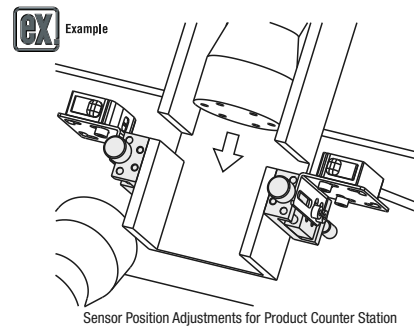
Part Number	No.	Z Available for XKNGZ only	ZXKNG Fixed	Stage Surface	Travel Distance	Load Capacity (N)	Weight (kg)	Unit Price
Type				(mm)	(mm)	Horizontal	Vertical	XKNG XKNGZ
(Standard)	20	28 38	18	20x20	±5	9.8	2	
(Screw Length Selectable)	25			25x25				
XKNGZ*3	40	40 60	27	40x40	±7.5	14.7	8	
	60			60x60				

① Minimum Graduation: 0.5mm ② Travel per Rotation: 0.5mm ③ Vertical load capacity will be lower than the Feed Screw Type since springs are utilized.
④ *3 Please note that for XKNGZ, two push screws (one for XKNG and the other with the selected Z dimension) are included.

Ordering Example
Part Number - Z
XKNG20 - Z40
XKNGZ40 - Z40

Alterations
Part Number - Z - (CL)
XKNG20 - CL
XKNGZ60 - Z60 - CL

Alteration	Opposite Clamp Bolt
Spec.	Opposing clamp screw for table immobilizing (No. 20, 25: M4, Pitch 0.7, L=30mm; No. 40, 60: M5, Pitch 0.8, L=44mm) will be included.
Code	CL

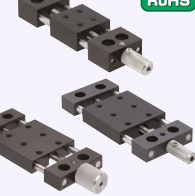


[Simplified Adjustments] X-Axis, Feed Screw

Standard/Large Handle, M6 Mounting Holes

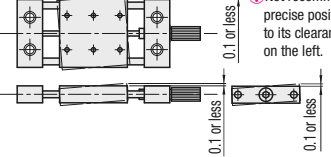
■Features: Economical products with low profiles using a feed screw. Models are also available with large handles and M6 mounting holes that are easy to machine brackets for.

RoHS



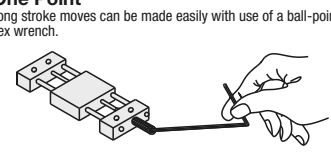
Travel per Rotation 0.7mm

Accuracy Standards



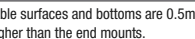
Not recommended for precise positioning due to its clearance shown on the left.

One Point



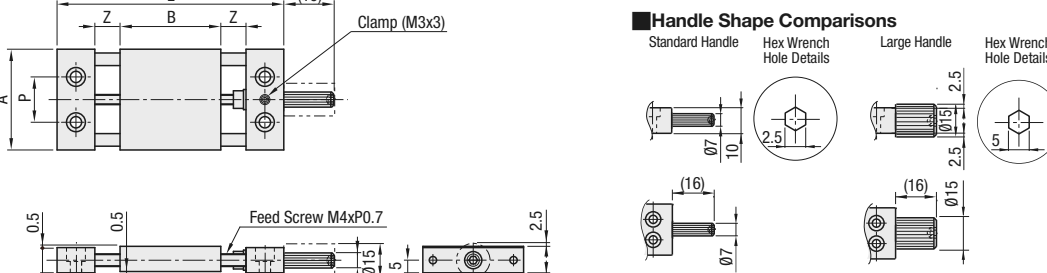
Long stroke moves can be made easily with use of a ball-point hex wrench.

Table surfaces and bottoms are 0.5mm higher than the end mounts.

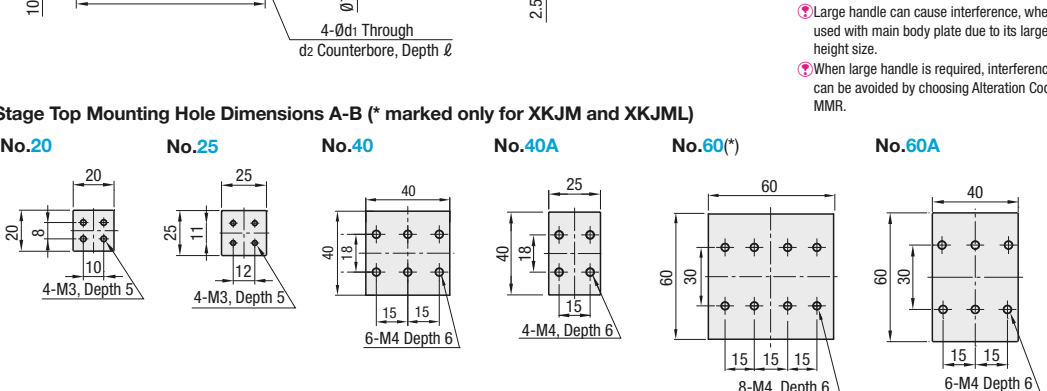


Type	Main Body	Shaft	Knob	Feed Screw	Accessory
Standard	Material	Material	Material	Material	No. 20: CBSST3-12, 4 pcs. (Low Head) No. 25: SCB3-10, 4 pcs. No. 40, 40A, 60, 60A: SCB4-10, 4 pcs.
M6 Mounting Holes	Material	Material	Material	Material	

Handle Shape Comparisons



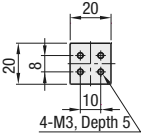
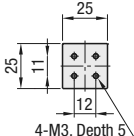
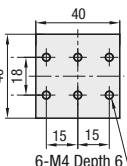
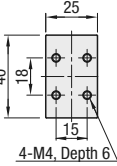
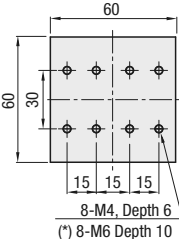
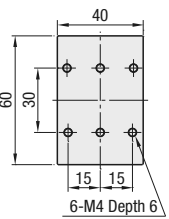
Stage Top Mounting Hole Dimensions A-B (* marked only for XKJM and XKJML)



Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.

Large handle can cause interference, when used with main body plate due to its large height size.

When large handle is required, interference can be avoided by choosing Alteration Code MMR.

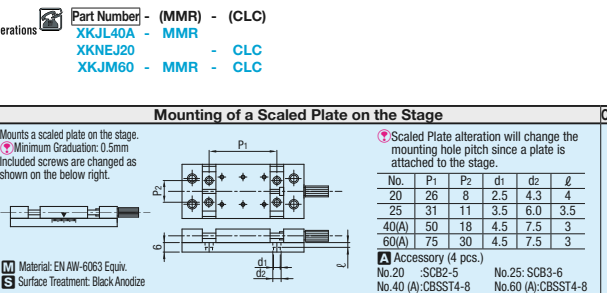
■ Stage Top Mounting Hole Dimensions A-B (* marked only for XKJMJ and XKJML)										can be avoided by choosing Iteration Code MMR.	
No.20	No.25	No.40	No.40A	No.60(*)	No.60A						
											
					(*) 8-M6 Depth 10						
⚠ Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.											

① Travel per Rotation 0.7mm

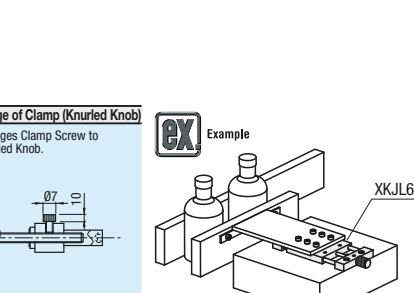
Ordering Example
Part Number
XKNEJ40
XKJML60

Alterations
Part Number - (MMR) - (CLC)
XKJL40A - MMR - CLC
XKNEJ20 - CLC
XKJM60 - MMR - CLC

Mounting of a Scaled Plate on the Stage

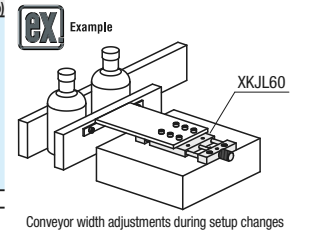


Change of Clamp (Knurled Knob)



Spec.

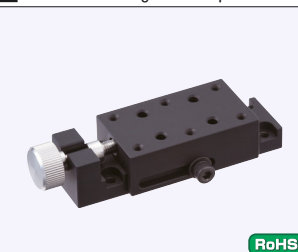
Code



[Simplified Adjustments] X-Axis, Feed Screw, Side Clamp Units / Key Guide Units

[Standard] Dovetail Slide, Feed Screw / Rapid Feed Screw

■ **Features:** Strong side clamp enables desirable mounting of workpieces. Screws with captured spring washers are provided for the clamp providing preload.



RoHS

■ **Accuracy Standards (Ref.)**

Top Surface: $22^{+0.02}_0$

Bottom Surface: $22^{-0.02}_{-0.04}$

XKCS30

4-Ø3.5 Through
Ø6 (From Back) Counterbore Depth 3.5

25 (Travel Distance)

6-M3 Depth 5
R3.25

2-M4
Ø6.5 Counterbore, Depth 3.5

Feed Knob

Clamp Screw (M4)

13.5 (21.5)

80

6

4-M4
Ø6.5 (From Back) Counterbore Depth 3.5

20

30

15

1.2

5.5

Ø3.5

3.5

Section A-A

⚠ **Tips:** Mounting Hole on the Bottom of the Table

Mount from Top: M3

Mount from Bottom: M4

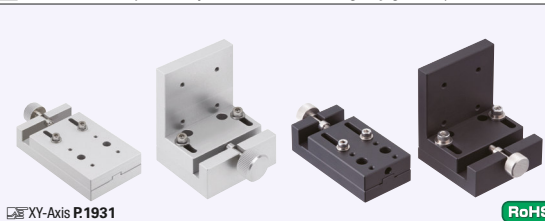
M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

⚠ Vertical (Z-axis) and reversed applications may cause the upper surface being detached or falling off, thus not recommended.

Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Weight (kg)	Unit Price
XKCS	30	29x50	25	0.8	9.8	0.1

Ordering Example
Part Number
XKCS30

■ **Features:** Simplified Adjustment Units utilizing key guides (convex surface). Screw mounting enables strong clamp, and a scale label is included.



RoHS

■ **Accuracy Standards**

⚠ There are some mechanical clearances as shown below, and not recommended for positioning applications requiring accuracies.

0.1 or less

0.1 or less

0.1 or less

0.1 or less

(Ref.) Dimensions

Concave Portion: $10^{+0.05}_0$

Convex Portion: $10^{+0.05}_0$

■ **Flat Type**

XKYF (Clear Anodize)
XKYFB (Black Anodize)

Stage Width

11

L

20 (Travel Distance)

4-M4

4-M5
Ø4.4, Ø7.5 Counterbore Depth 4.5

Feed Knob

Clamp Screw

Mounting Screw Hole Ø7.5

Ø16

17.5

22

A

B

M Material: Aluminum Alloy
S Surface Treatment: Anodize
A Accessory: SCB4-10 4pcs.
Scale seal

■ **L-Shaped Type**

XKYL (Clear Anodize)
XKYL B (Black Anodize)

Stage Width

11

L

15 (Travel Distance)

4-M4

4-M5
Ø4.4, Ø7.5 Counterbore Depth 4.5

Mounting Screw Hole Ø7.5

Clamp Screw

Feed Knob

Ø16

17.5

22

A

B

M Material: Aluminum Alloy
S Surface Treatment: Anodize
A Accessory: SCB4-10 4pcs.
Scale seal

Part Number	Stage Width	Travel Distance (mm)	Travel per Rotation (mm)	A	B	H	L	T	X	Y	Clamp Screw	Load Capacity (N)	Weight (kg)	Unit Price
Clear Anodize	Black Anodize	No.												
XKYF	XKYFB	40	40	20	50	15	-	80	(27.5)	20	20	M4	19.6	0.18
		60	60		60	25	-	100	(29)	30	30	M5	39.2	0.34
XKYL	XKYL B	40	40	15	30	15	58	60	(27.5)	20	20	M4	9.8	0.18
		60	60		30	15	73	60	(29)	30	30	M5	19.6	0.28

Ordering Example
Part Number
XKYF40
XKYL B60

Points on Similar Product Comparison | Travel Accuracy (Straightness) 50µm

P.1897, P.1899, P.1900

■ **Features:** Stages with 0.5mm fine lead.

■ **X-Axis**



RoHS

XFES25
(Standard)

12.5

Ø10

9

20

8-M2, Depth 5

15

18

10

26

(19.5)

4-M2.5
Ø4.2 Counterbore, Depth 2.7

* M2, Depth 4

Clamp Position Change
XFES -R (Right/Left Reversed)

60

25

25

25

25

60

(19.5)

8-M4, Depth 6

4-M5
Ø8 Counterbore, Depth 4.5

* The depth will be short due to the stage shape.

⚠ See the CAD data for details.

XFES40
(Standard)

23.5

Ø10

9

32

8-M3, Depth 6

16

16

40

(19.5)

4-M4
Ø6.5 Counterbore, Depth 3.5

M2, Depth 4

XFES60
(Standard)

34

Ø10

9

50

8-M4, Depth 6

4-M5
Ø8 Counterbore, Depth 4.5

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

■ **X-Axis Stages** ⚠ High Precision Stage Existing Product: XEG (P.1897)

Type	Part Number	No.	Clamp Position	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy	Weight (kg)	Unit Price
XFES	25	40	60	25x25 40x40 60x60	±5 ±7 ±8	0.5	29.4 39.2	9.8 19.6	50µm	0.04 0.08 0.18

⚠ Resolution (Vernier Scale Indication): 0.1mm/division
⚠ Extension Cover HDEXT12-□ (sold separately): Ø12 knobs can be extended by installing the cover. **P2004**
(Caution) Please note that increased knob diameter may interfere with the stage mounting base surfaces.

Ordering Example
Part Number
XFES40

■ **X-Axis**



RoHS

XFHT40

23.5

Ø10

9

32

8-M3, Depth 6

16

16

40

(27.5)

4-M4
Ø6.5 Counterbore, Depth 3.5

32

7

Ø12

XFHT4060

34

Ø10

12

30

6-M4, Depth 6

40

25

25

60

(32.5)

4-M5
Ø8 Counterbore, Depth 4.5

XFHT4090

49

Ø10

12

30

10-M4, Depth 6

40

25

20

20

20

20

90

(48.5)

4-M5
Ø8 Counterbore, Depth 4.5

Clamp Position Change
XFHT -R (Reversed)

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

⚠ High Precision Stage Existing Product: XSC, XSL (P.1899, 1900)

Type	Part Number	No.	Clamp Position	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy	Weight (kg)	Unit Price
XFHT	40	60	4060	40x40 60x60 40x60 40x90	±10 ±20 ±35	4.5	19.6 29.4 39.2	9.8 14.7 19.6	50µm	0.06 0.16 0.17 0.18

⚠ Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example
Part Number
XFHT40

[High Precision] Dovetail Slide, Feed Screw

Square / Extended Knob (Lead 4.2mm)

■ **Features:** Low profile Dovetail Slide Stages with smooth 4.2mm lead feeding. Easy XY integration with dowel holes. See **P.1900** for Rectangular type.

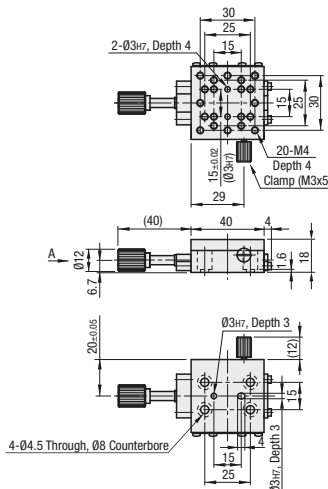
■ **X-Axis, Square**
(Dowel Holes, Lead 4.2mm)



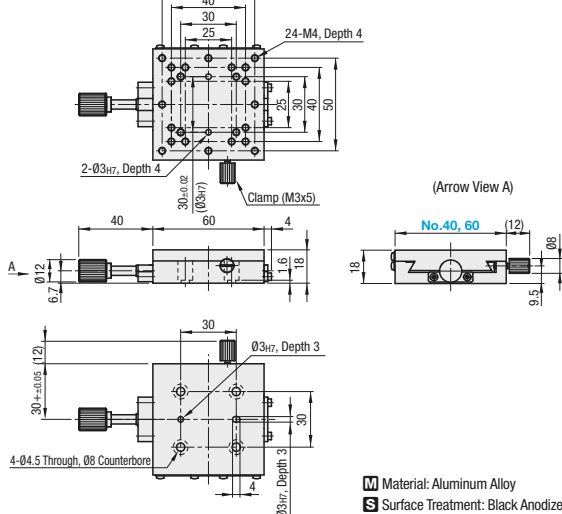
XY-Axis **P.1932**
Z-Axis **P.1959**

RoHS

XSC40



XSC60



Material: Aluminum Alloy
Surface Treatment: Black Anodize

Standard Stages Similar Products: XFHT (P.1896)

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy		Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
					Horizontal	Vertical	Straightness	Parallelism			
XSC	40	40x40	±11	4.2	19.6	9.8	20μm	30μm	0.10	SCB4-5	
	60	60x60	±21		29.4	14.7			0.19		

Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example
Part Number
XSC40

Alterations
Part Number
XSC40 - R

Alteration	Knob Position Change (Left/Right Reversed)
Spec.	
Code	R

See the CAD data for details.

■ **Features:** Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine.

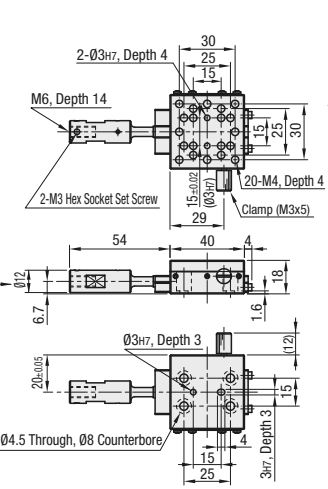
■ **X-Axis, Extended Knob**
(Dowel Holes, Lead 4.2mm)



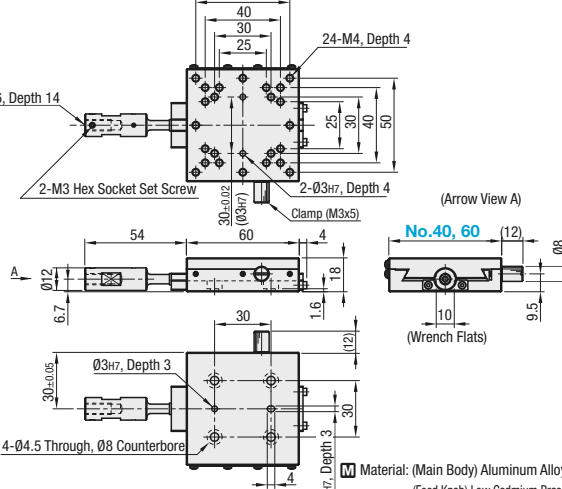
XY-Axis **P.1932**
Z-Axis **P.1959**

RoHS

XSCL40



XSCL60



Material: (Main Body) Aluminum Alloy
(Feed Knob) Low Cadmium Brass
Surface Treatment: Black Anodize

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy		Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
					Horizontal	Vertical	Straightness	Parallelism			
XSCL	40	40x40	±11	4.2	19.6	9.8	20μm	30μm	0.10	SCB4-6	
	60	60x60	±21		29.4	14.7			0.19		

Resolution (Vernier Scale Indication): 0.1mm/division

Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P.1915

Ordering Example
Part Number
XSCL60

Alterations
Part Number
XSCL60 - R

Alteration	Clamp Position Change (Right/Left Reversed)
Spec.	
Code	R

See the CAD data for details.

[High Precision] Dovetail Slide, Feed Screw

Rectangular / Low Profile / Reinforced Clamp (Lead 4.2mm)

■ **Features:** Dovetail Slide Stages with smooth 4.2mm lead feed screw. Reinforced Clamp Type, Low Profile Type (18mm height), and Left/Right Reversed Type are offered. Square type (XSC) listed on **P.1899**

■ **X-Axis, Rectangular**
(Lead 4.2mm)



XY-Axis **P.1936**
Z-Axis **P.1960**

Standard Stages Similar Products: XFHT (P.1896)

Part Number Type	A	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L	E	Load Capacity (N)		Travel Accuracy		Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
							Horizontal	Vertical	Straightness	Parallelism			
XSL	60	40x60	±21	4.2	40	34	39.2	19.6	30μm	30μm	0.20	SCB4-8	
	90	40x90	±35		60	49					0.29		

Resolution (Vernier Scale Indication): 0.1mm/division

Extension Cover HDEXT12 (sold separately): Ø12 knob can be extended. P.2004

Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P.1915

Ordering Example
Part Number
XSL60

Alterations
Part Number
XSL60 - R

Upper Mounting Hole Dimensions
A60

A90

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Alteration	Clamp Position Change (Right/Left Reversed)
Spec.	
Code	R

See the CAD data for details.

■ **Features:** Travel distance per knob rotation is approx. 1/4 of the Rack & Pinion Type. Suitable for fine pitch positioning over a long stroke.

■ **X-Axis, Low Profile**
(Lead 4.2mm)



XY-Axis **P.1936**
Z-Axis **P.1960**

Part Number Type	A	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L	E	Load Capacity (N)		Travel Accuracy		Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
							Horizontal	Vertical	Straightness	Parallelism			
XSLC	60	40x60	±21	4.2	40	40	29.4	14.7	30μm	30μm	0.14	SCB4-5	
	90	40x90	±35		60	55					0.19		

Resolution (Vernier Scale Indication): 0.1mm/division

Extension Cover HDEXT12 (sold separately): Ø12 knob can be extended. P.2004

Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P.1915

Ordering Example
Part Number
XSLC90

Alterations
Part Number
XSLC90 - R

Upper Mounting Hole Dimensions
A60

A90

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Alteration	Knob Position Change (Left/Right Reversed)
Spec.	
Code	R

See the CAD data for details.

■ **Features:** The feed knob is directly retained with a split clamp, resulting in less position drift.

■ **X-Axis, Reinforced Clamp**
(Lead 4.2mm)



XY-Axis **P.1936**
Z-Axis **P.1960**

Part Number Type	A	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L	E	F	Load Capacity (N)		Travel Accuracy		Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
								Horizontal	Vertical	Straightness	Parallelism			
XSLCL	60	40x60	±21	4.2	49	34	26.5	39.2	19.6	30μm	30μm	0.18	SCB4-8	
	90	40x90	±35		63	49	40.5					0.26		

Resolution (Vernier Scale Indication): 0.1mm/division

Extension Cover HDEXT12 (sold separately): Ø12 knob can be extended. P.2004

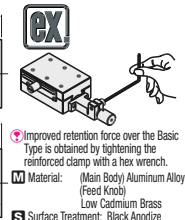
Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P.1915

Ordering Example
Part Number
XSLCL60

Alterations
Part Number
XSLCL60 - R

Upper Mounting Hole Dimensions
A60

A90



Improved retention force over the Basic Type is obtained by tightening the reinforced clamp with a hex wrench.
Material: (Main Body) Aluminum Alloy
(Feed Knob) Low Cadmium Brass
Surface Treatment: Black Anodize

Alteration	Clamp Position Change (Right/Left Reversed)
Spec.	
Code	R

The reinforced clamp and the clamp screw are tightened in the same direction.

[High Precision] Dovetail Slide, Feed Screw

Long (Selectable lead) / Compact Carriage (Lead 4.2mm)

■ **Features:** Dovetail Slide Feed Screw stage with selectable screw lead in 2mm, 5mm, 10mm. Long strokes equivalent of Rack & Pinion stages. Also suitable for vertical uses.

X-Axis Long
(Selectable lead type)

XLSL

① Mount from Top
Use M2 screws.
② Mount from Bottom
Use M3 screws.
③ Mount from Bottom
Use M4 screws.

Ⓐ Mounting Hole Enlarged View

① Mount from Front
② Mount from Back

Ⓜ Material: Aluminum Alloy
Ⓢ Surface Treatment: Black Anodize

Z-Axis **P1959** **RoHS**

Ⓜ The scale in the above figure is for L120, and not for L90, L150.
Ⓜ The external dimensions will be the same if L is the same, even if the move distance per knob rotation is different.

Part Number		Travel per	Travel	L	N	Number of Mounting Holes	ℓ	E	Load Capacity (N)		Travel Accuracy (μm)		Weight	Unit Price
Type	No.	Rotation (mm)	Distance (mm)		Number of Mounting Hole Rows	(N×2)	(mm)	(mm)	Horizontal	Vertical	Straightness	Parallelism	(kg)	
XLSL	90	2	±27	90	3	6	20	55	29.4	14.7	30	30	0.14	
		5												
		10												
	120	2	±42	120	4	8	22.5	80					0.16	
		5												
		10												
	150	2	±57	150	5	10	25	110			40	40	0.18	
		5												
		10												

Ⓜ Resolution (Vernier Scale Indication): 0.1mm/division
Ⓜ Knob Cover HXCV15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. Ⓜ P2004
Ⓜ Adjustable Plate XPL40: Use this plate when connecting stages with non-matching mounting holes. Ⓜ P1915

Ordering Example **Part Number**
XLSL90-5

■ **Features:** Smooth feeding dovetails slide stages in 4.2mm lead. A space saving slim shape (24.8mm width) compared to rectangle type XSL (P1900).

X-Axis, Compact Carriage
(Lead 4.2mm)

XSSL

Ⓜ Material: Aluminum Alloy
Ⓢ Surface Treatment: Black Anodize

Upper Mounting Hole Dimensions
A40
A50
A100

For No.100, tapped mounting holes are as shown below.

Part Number Type	A	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L	E	Load Capacity (N)		Travel Accuracy (μm)		Weight (kg)	Accessory Type M-L Qty.		Unit Price
							Horizontal	Vertical	Straightness	Parallelism				
XSSL	40	24.8x42	±12	4.2	40	25	29.4	14.7	20	30	0.11	SCB4-8	4	
	50	24.8x50	±16		40	29	29.4	14.7	30	30	0.12	SCB3-6	4	
	100	24.8x100	±40		60	54	39.2	19.6	30	30	0.22	SCB4-8	8	

Ⓜ Resolution (Vernier Scale Indication): 0.1mm/division
Ⓜ Extension Cover HDEX12 (Sold Separately): Ø12 feed screw knob can be extended. Ⓜ P2004
Ⓜ Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. Ⓜ P1915

Ordering Example **Part Number**
XSSL50

[High Precision] X-Axis Dovetail Slide, Feed Screw / [Simplified Adjustments] X-Axis Rack & Pinion

Compact Carriage, Low Profile (Lead 4.2mm) / Standard

■ **Features:** Travel distance per knob rotation is approx. 1/4 of the Rack & Pinion Type. Suitable for fine pitch positioning over a long stroke.

X-Axis, Compact Carriage, Low Profile
(Lead 4.2mm)

XSSLC

Ⓜ Material: Aluminum Alloy
Ⓢ Surface Treatment: Black Anodize

Scale
Clamp (M3x5)
Feed Knob

Ⓜ Material: Aluminum Alloy
Ⓢ Surface Treatment: Black Anodize

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy (μm)		Weight (kg)	Accessory Type M-L Qty.		Unit Price
					Horizontal	Vertical	Straightness	Parallelism				
XSSLC	40	24.8x42	±12	4.2	19.6	9.8	30	30	0.08	SCB4-6	4	

Ⓜ Resolution (Vernier Scale Indication): 0.1mm/division
Ⓜ Extension Cover HDEX12 (Sold Separately): Ø12 feed screw knob can be extended. Ⓜ P2004
Ⓜ Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. Ⓜ P1915

Ordering Example **Part Number**
XSSLC40

Alterations

Knob Position Change (Left/Right Reversed)

Spec.

Code

R

■ **Features:** Simplified construction stages with large rapid feeds. Select from Standard or Precision grades based on application needs.

Standard Grade XKRG

Precision Grade XKRKG

Accuracy Standards

Ⓜ There are some mechanical clearances as shown below, and not recommended for positioning applications requiring accuracies.

Stage Top Mounting Hole Dimensions

No.40
No.60
No.90

Ⓜ Material: Aluminum Alloy
Ⓢ Surface Treatment: Black Anodize

Accessories:
(XKRG)
Hex Socket Low Head Cap Screw (CBS4-6) 4pcs.
(XKRGK)
Hex Socket Head Cap Screw (SCB4-6) 4pcs.
* 2pcs for No.40

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	B	X	P	Load Capacity (N)	Weight (kg)	Unit Price	
									XKRG	XKRGK
XKRG XKRGK	40	25x40	±12	25	31	-	29.4	0.10		
	60	40x60	±14	40	45	15	39.2	0.21		
	90	40x90	±23	40	75	15	39.2	0.30		

Ⓜ Travel per Rotation: Approx. 19mm Ⓜ Minimum Graduation: 0.5mm

Ordering Example **Part Number**
XKRG60

[Standard] X-Axis Dovetail Slide, Rack & Pinion

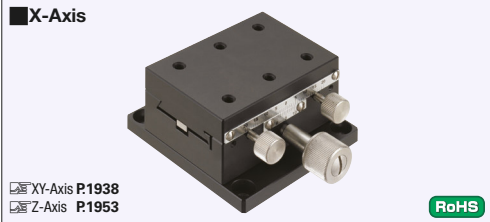
Rectangular, Low Profile

Points on Similar Product Comparison | Travel Accuracy (Straightness) 50µm

P1903, 1904

Features: Rapid feed Rack & Pinion stages with less accuracy and more economical prices than existing products.

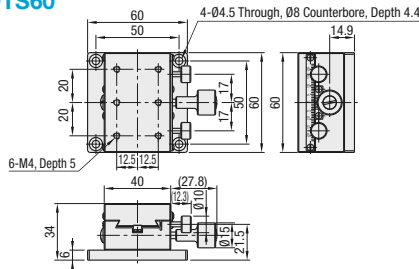
X-Axis



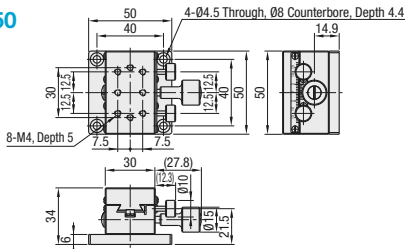
XY-Axis P1938
Z-Axis P1953

RoHS

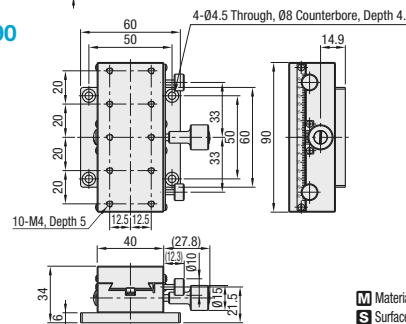
XDTS60



XDTS50



XDTS90



Material: Aluminum Alloy
Surface Treatment: Black Anodize

X-Axis Stages

Low Profile Type: XDTS (P1903)
High Precision Stage Existing Product: XWG (P1904)

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Max. Holding Force (N) (Ref.)	Travel Accuracy Straightness	Weight (kg)	Unit Price
					Horizontal	Vertical				
XDTS	50	30x50	±16	16.7	29.4	14.7	30	50µm	0.20	
	60	40x60	±21				60		0.26	
	90	40x90	±35		39.2	19.6	70		0.36	

Max. Holding Force (Ref.) will vary depending on the tightening torque variations. Ensure adequate safety margins for design. Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P2004

Ordering Example
Part Number
XDTS60

Features: Rapid Feed Rack & Pinion Stages with Low Profile. Stage thickness except the bottom plate is 20mm.

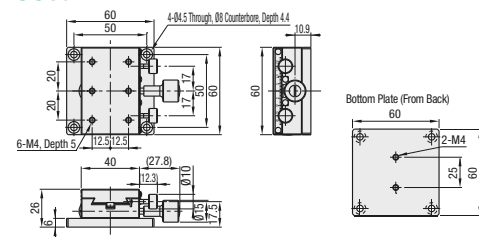
X-Axis Low Profile



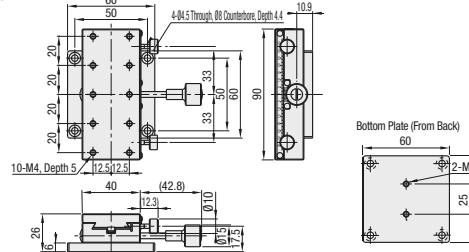
XY-Axis P1938
Z-Axis P1953

RoHS

XDTS60



XDTS90



Material: Aluminum Alloy
Surface Treatment: Black Anodize

X-Axis Stages

Standard Type: XDTS (P1903)

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Max. Holding Force (N) (Ref.)	Travel Accuracy Straightness	Weight (kg)	Unit Price
					Horizontal	Vertical				
XDTS	50	50x30	±15	16.7	19.6	9.8	10	50µm	0.17	
	60	60x40	±20				20		0.21	
	90	90x40	±35		29.4	14.7	40		0.28	

Max. Holding Force (Ref.) will vary depending on the tightening torque variations. Ensure adequate safety margins for design. Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Dovetail Stage Ø15 knobs can be increased in diameter by installing the cover. P2004

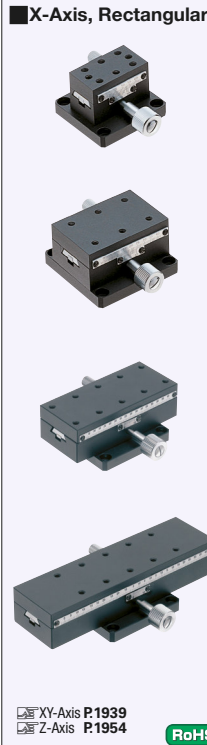
Ordering Example
Part Number
XDTS60

[High Precision] X-Axis Dovetail Slide, Rack & Pinion

Rectangular, Compact Carriage

Features: Dovetail slide stages with 18mm travel per knob rotation. Rectangular form factor contributes to space saving designs. (XFG on P1911)

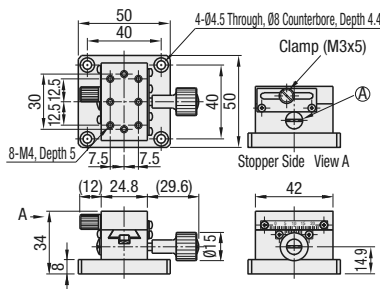
X-Axis, Rectangular



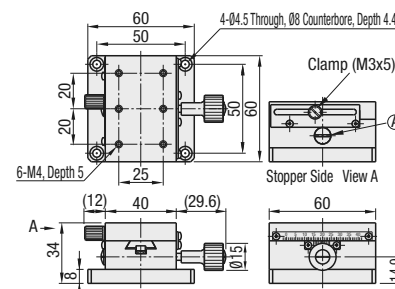
XY-Axis P1939
Z-Axis P1954

RoHS

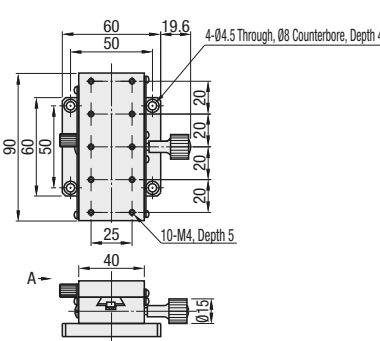
XWG40



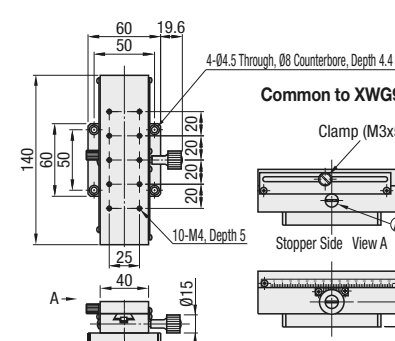
XWG60



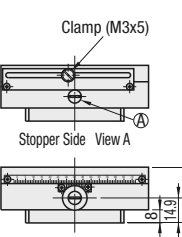
XWG90



XWG140



Common to XWG90/140



Material: Aluminum Alloy
Surface Treatment: Black Anodize

* By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.

Standard Stages Similar Products: XDTS (P 1903) Long Stroke: XLWG (P 1908), XLONG (P 1909), XLARGE (P 1910)

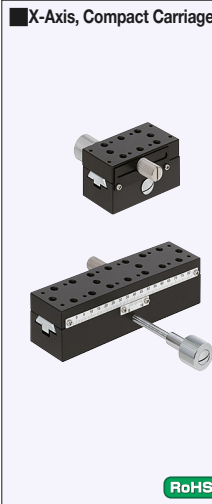
Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy Straightness	Weight (kg)	Unit Price
					Horizontal	Vertical			
XWG	40	24.8x42	±12	18	29.4	14.7	30µm	0.17	
	60	40x60	±21					0.29	
	90	40x90	±35		39.2	19.6		0.40	
	140	40x140	±60					0.56	

Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P2004

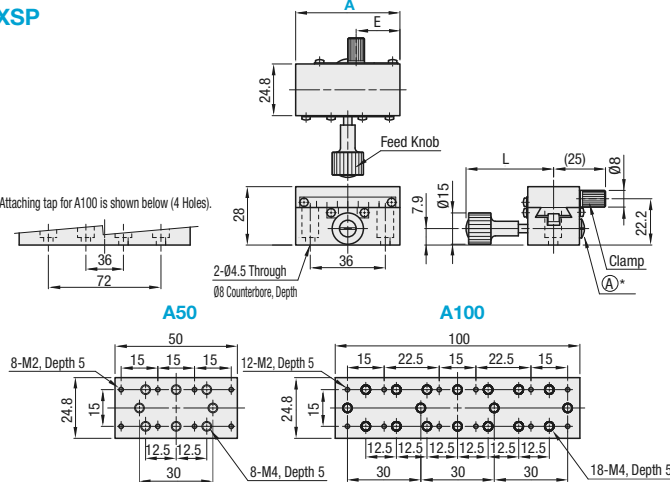
Ordering Example
Part Number
XWG40

Features: Compact Dovetail Slide Rack and Pinion Stages (width: 24.8mm) with 18mm travel per knob rotation.

X-Axis, Compact Carriage



XSP



* By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number Type	A	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L	E	Load Capacity (N)		Travel Accuracy Straightness	Weight (kg)	Accessory (2 pcs.) Type M-L	Unit Price
							Horizontal	Vertical				
XSP	50	50x24.8	±16	18	42	21	29.4	14.7	30µm	0.13	SCB4-8	
	60	60x24.8	±20		63	46	39.2	19.6		0.24		
	100	100x24.8	±40									

Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P2004
Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P1915

Ordering Example
Part Number
XSP100

[High Precision] X-Axis Dovetail Slide, Rack & Pinion
Extended Knob

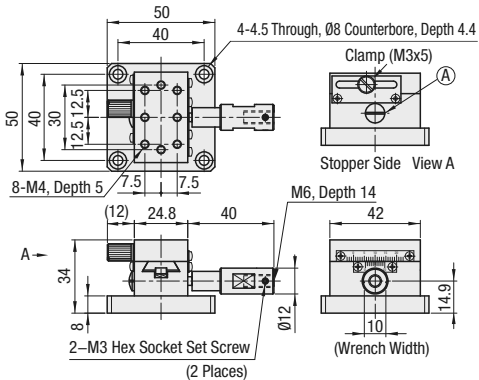
■ **Features:** Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine. Other types of knobs are also installable.

■ **X-Axis, Knob Extension**

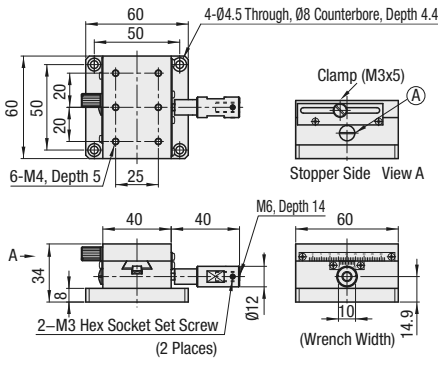


RoHS

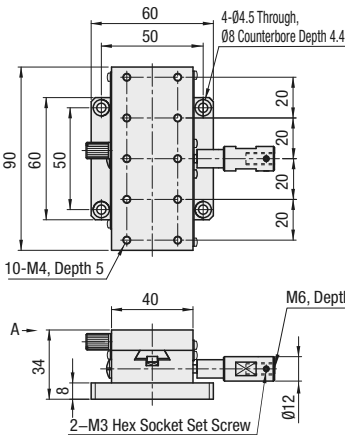
XWGL40



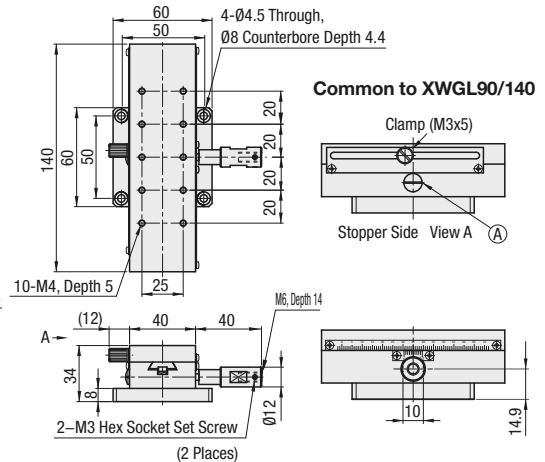
XWGL60



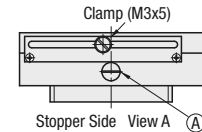
XWGL90



XWGL140



Common to XWGL90/140



Material: Aluminum Alloy
Surface Treatment: Black Anodize

* By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy		Weight (kg)	Unit Price
Type	No.				Horizontal	Vertical	Straightness	Parallelism		
XWGL	40	24.8x42	±12	18	29.4	14.7	20µm	30µm	0.17	
	60	40x60	±21						0.29	
	90	40x90	±35		39.2	19.6	30µm		0.40	
	140	40x140	±60						0.56	

Resolution (Vernier Scale Indication): 0.1mm/division



Ordering Example

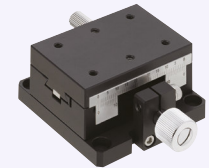
Part Number

XWGL40

[High Precision] X-Axis Dovetail Slide, Rack & Pinion
Rectangular, Reinforced Clamp / Coarse/Fine Feeds

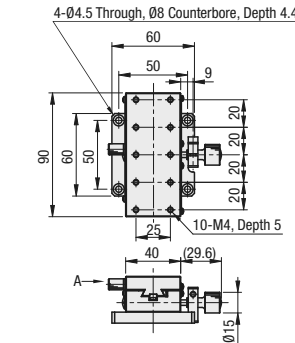
■ **Features:** Feed knob shaft is directly clamped for improved position holding performance compared to the rectangular type XWG (P.1904)

■ **X-Axis, Reinforced Clamp**

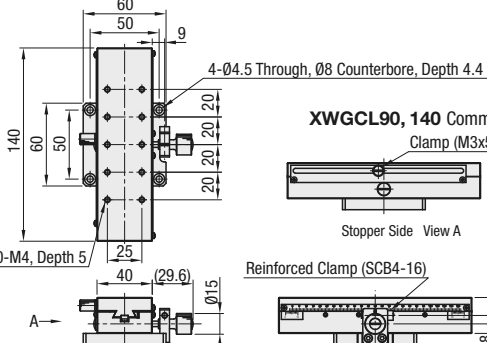


RoHS

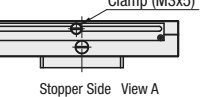
XWGCL90



XWGCL140



Common to XWGCL90, 140



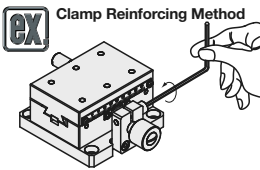
Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy		Weight (kg)	Unit Price
Type	No.				Horizontal	Vertical	Straightness	Parallelism		
XWGCL	40	24.8x42	±12	18	29.4	14.7	20µm	30µm	0.17	
	60	40x60	±21						0.29	
	90	40x90	±35		39.2	19.6	30µm		0.40	
	140	40x140	±60						0.56	

Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P2004



Ordering Example
Part Number
XWGCL40



Retention by only the reinforced clamp is not sufficient to obtain zero backlash. Using with a clamp screw is recommended.

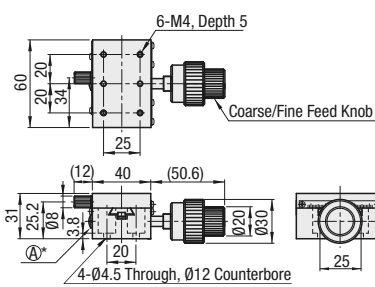
■ **Features:** Suitable for use when both fast feeding and ease of fine adjustments are required. Please note that the coarse/fine feed knob protrudes from the bottom surface.

■ **X-Axis, Coarse/Fine Feeds**



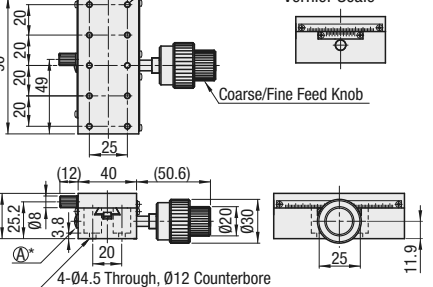
RoHS

XSB60



* By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.

XSB90



Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)		Load Capacity (N)		Travel Accuracy		Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
Type	No.			Coarse	Fine	Horizontal	Vertical	Straightness	Parallelism			
XSB	60	40x60	±21	18	2.3	39.2	19.6	30µm	30µm	0.35	SCB4-8	
	90	40x90	±35							0.46		

Resolution of the Vernier Scale for Coarse/Fine Knob Stages is 0.05mm. Coarse/Fine Feed Knob will interfere with the mating bases.

Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P1915



Ordering Example
Part Number
XSB60

[Standard] X-Axis Dovetail Slide, Rack & Pinion
Long

[High Precision] X-Axis Dovetail Slide, Rack & Pinion
Long

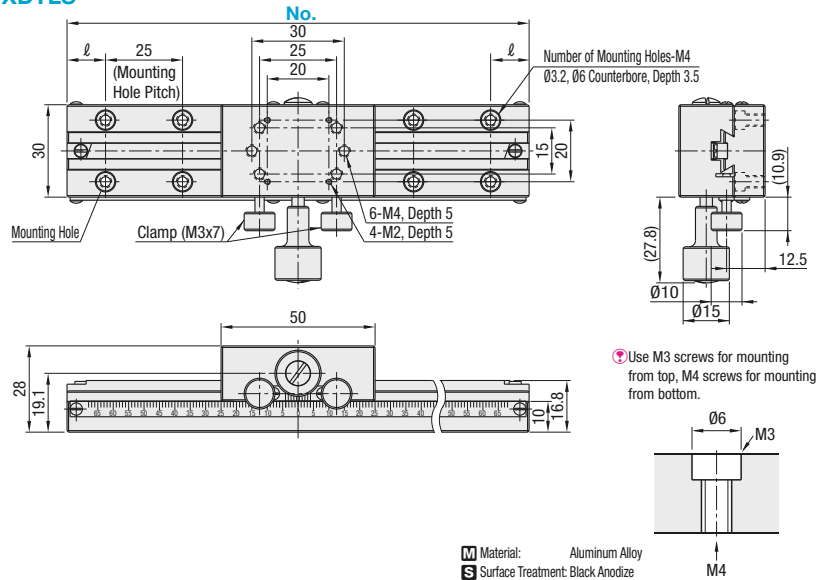
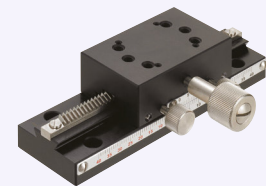
Points on Similar Product Comparison | Travel Accuracy Straightness 50~60μm

P.1908, 1956

Features: Economically priced long stroke Rack & Pinion stages.

X-Axis, Long

XDTLS



Z-Axis P.1955

RoHS

X-Axis Stages High Precision Stage Existing Product: XLWG (P.1908)

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Number of Mounting Holes (Qty)	ℓ	Load Capacity (N)		Travel Accuracy Straightness	Weight (kg)	Unit Price
							Horizontal	Vertical			
XDTLS	80	30x50	±30	16.7	6	15	29.4	14.7	50μm	0.15	
	100		±40		8	12.5				0.18	
	150		±65		12	12.5			60μm	0.23	
	200		±90		16	12.5				0.30	

Resolution (Vernier Scale Indication): 0.1mm/division

Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P.2004



Ordering
Example

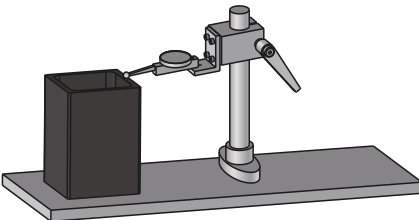
Part Number

XDTLS100

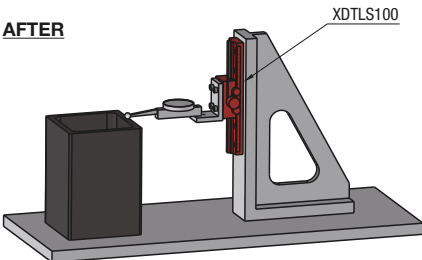


Example Parallelism Inspection Unit

BEFORE



AFTER



Increased Adjustment Accuracy: Fine adjustment of the dial indicator tip can be achieved quantitatively, not with experience.
Improved Safety: Installing a dial indicator onto the stage prevents from falling.

Features: Long stroke stages made of lightweight aluminum alloy. Select a size based on strokes needed. For stages with ±140mm stroke, see XLONG on P.1909.

X-Axis, Long

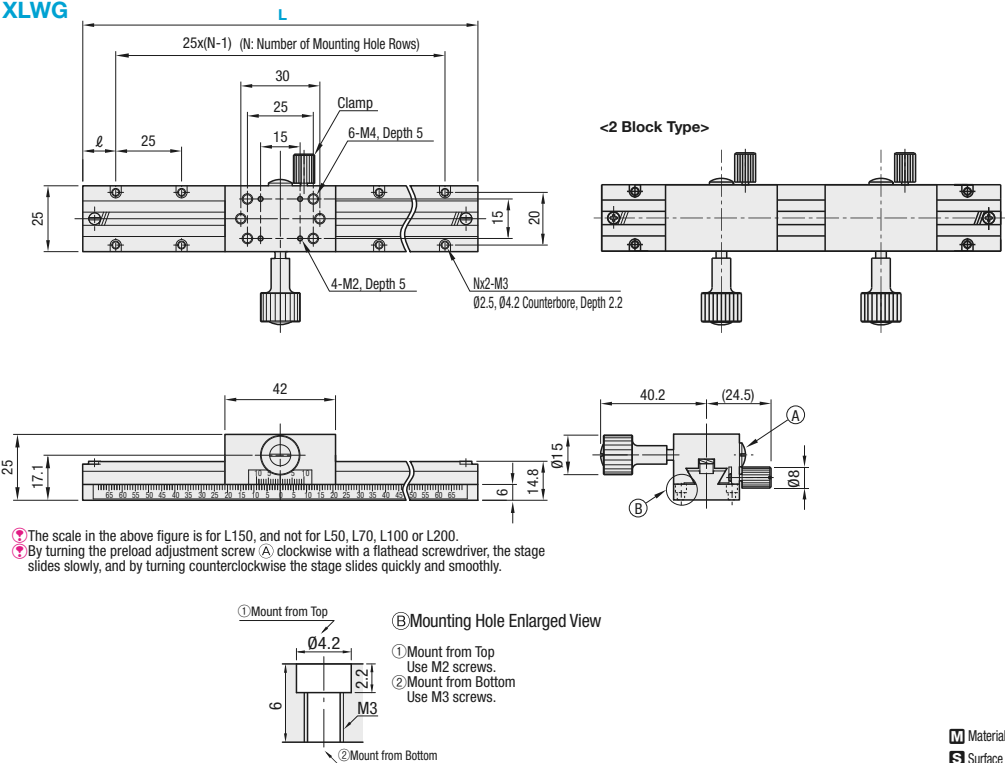


Z-Axis P.1956

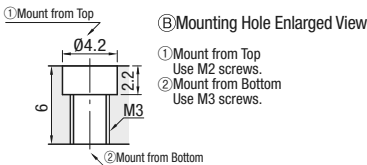
Use Adjustable Plates for XY-Axis Stages (XYPLT) to combine the Long Stroke Stages together. P.1915

RoHS

XLWG



The scale in the above figure is for L150, and not for L50, L70, L100 or L200.
By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.



Material: Aluminum Alloy
Surface Treatment: Black Anodize

Standard Stages Similar Products (available for limited sizes only): XDTLS (P. 1907)

Part Number		L	Number of Blocks	Travel Distance (mm)	Travel per Rotation (mm)	N: Number of Mounting Hole Rows	Number of Mounting Holes (M4)	ℓ (mm)	Load Capacity (N)		Travel Accuracy (μm)		Weight (kg)	Unit Price
Type	No.								Horizontal	Vertical	Straightness	Parallelism		
XLWG	50	50	1	±15	18	2	4	12.5	29.4	14.7	30	30	0.10	
	70	70	1	±25		3	6	10.0					0.12	
	100	100	1	±40		4	8	12.5					40	40
	150	150	1	±65		6	12				0.17			
	150-2		2			8	16				0.24			
	200	200	1	±90							50	50		
	200-2		2										0.28	

Resolution (Vernier Scale Indication): 0.1mm/division

XLWG150-2 and 200-2 have two blocks. Please note that the stroke distances will be shorter than the one block versions.

Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P.2004

Adjustable Plate XPLT40: Use this plate when connecting stages with non-matching mounting holes. P.1915

For orders larger than indicated quantity, please request a quotation.



Ordering
Example

Part Number

XLWG100

Connected Blocks

Mount the included hook on the side.

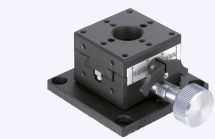
XLONG300
XLONG300-2SB

[High Precision] X-Axis Dovetail Slide, Rack & Pinion

Square, Coarse/Fine Feeds

■ **Features:** Square form factor Dovetail Slide Rack & Pinion stage. The 40 and 60 sizes can be ordered with the bottom plates removed, as alterations.

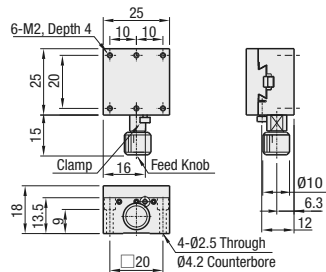
■ X-Axis, Square



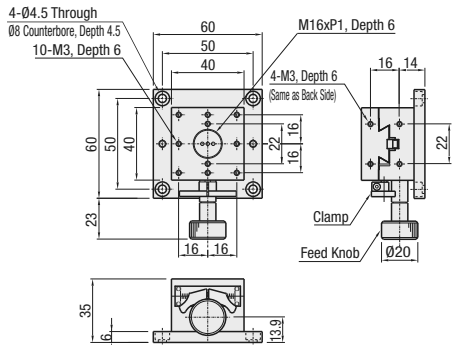
XY-Axis P1940
Z-Axis P1957

RoHS

XFG25

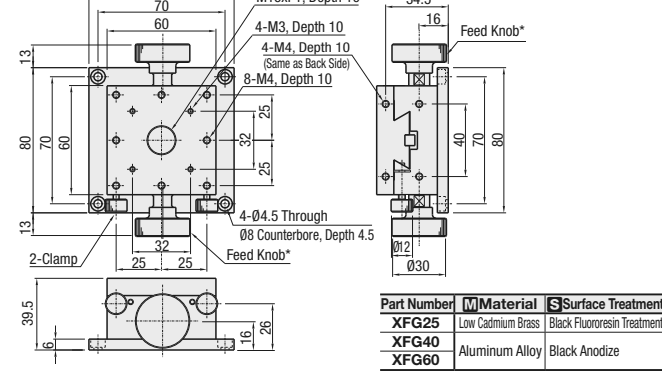


XFG40



* The feed knob for XFG60 can be operated from either side.

XFG60*

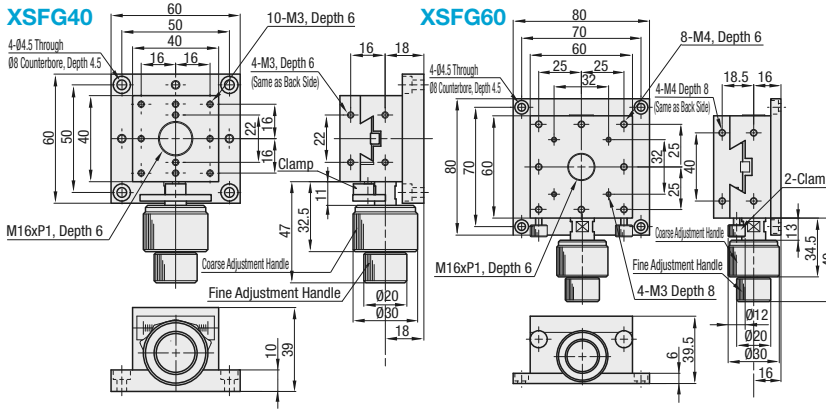


■ **Features:** Square form factor Dovetail Slide Rack & Pinion stage with Coarse/Fine combination feeds. The coarse feed knob provides approx. 18mm travel, and the fine feed knob provides approx. 2.3mm travel per one knob rotation.

■ X-Axis, Coarse/Fine Feeds



RoHS



M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

Part Number	Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)		Load Capacity (N)		Travel Accuracy (μm)		Moment Load Capacity (N·m)			Parallelism (μm)	Weight (kg)	Accessory (4 pcs, Type M-L)	Unit Price
					Coarse	Fine	Horizontal	Vertical	Straightness	Motion Parallelism	Pitching	Yawing	Rolling				
XFG		25	25x25	±5	17	-	29.4	6.9	30	80	0.5	0.5	0.5	50	0.09	SCB2-12	
		40	40x40	±10	20	-		14.7	20	30	3.0	3.0	2.0	40	0.21	SCB4-6	
		60	60x60	±20	18	-	39.2	19.6	30	50	7.0	5.0	7.0	60	0.64	SCB4-6	
XSFG		40	40x40	±10	20	≈2.6	29.4	14.7	20	30	3.0	3.0	2.0	40	0.30	SCB4-10	
		60	60x60	±20	18	≈2.3	39.2	19.6	30	50	7.0	5.0	7.0	60	0.51	SCB4-6	

Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example
Part Number
XFG40
XSFG60

For orders larger than indicated quantity, please check with WOS.

See the CAD data for details.

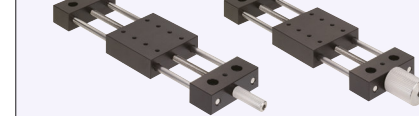
Alteration	No Bottom Plate
Spec.	XFG40, XSFG40 4-Ø3.5 Through (From Back), Ø6 Counterbore, Depth 10 (M3 Screw Hole) XFG60, XSFG60 2-Ø4.5 Through (From Back), Ø8 Counterbore, Depth 6 (M4 Screw Hole) Not applicable to XFG25. The feed knobs will interfere with the mating bases.
Code	M

[Simplified Adjustments] X-Axis, Feed Screw, Large Lead (3.0mm)

Standard/Large Handle, M6 Mounting Holes

■ **Features:** A feed screw type simplified adjustment unit with a 3.0mm 3-starts screw. Suitable for rapid feeding such as making quick fixture moves during set-up changes. Types with M6 mounting holes on the top plate are also available.

■ X-Axis Large Lead

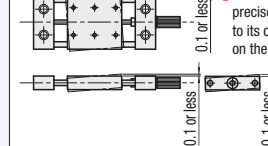


RoHS

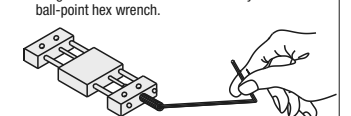
XY-Axis P1941

Travel per Rotation: 3.0mm

■ Accuracy Standards



One Point



	Type		Main Body		Shaft	Knob	Feed Screw	Accessory
	Standard Handle	Large Handle	M Material	S Surface Treatment	M Material	M Material	M Material	
M4 Mounting Hole	XKS	XKSL	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	SCB5-20, 4pcs.
M6 Mounting Holes	XKSM	XKSML						

XKS (Standard Handle, M4 Mounting Holes) XKSM (Standard Handle, M6 Mounting Holes)
XKSL (Large Handle, M4 Mounting Holes) XKSML (Large Handle, M6 Mounting Holes)

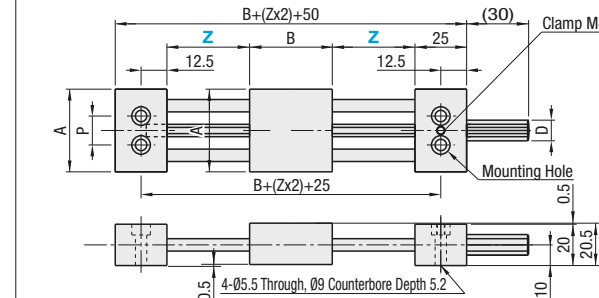
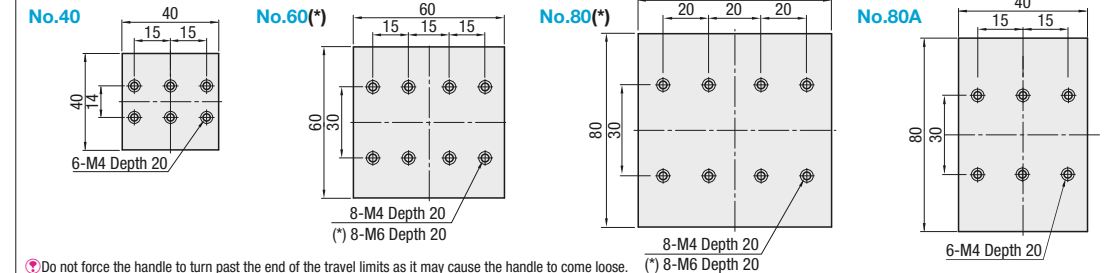


Table surfaces and bottoms are 0.5mm higher than the end mounts.

■ **Stage Top Mounting Hole Dimensions** (*) marked only for XKSM and XKSML



Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.

Part Number	Type	No.	Z Selection		Stage A-B (mm)	D	P	Load Capacity (N)	Unit Price			
			Travel Distance (Zx2)						XKS	XKSM	XKSL	XKSML
XKS XKSL	40	25	40	50	40x40	10 (Standard Handle) 24 (Large Handle)	14	68.6				
			50	75	60x60			58.8				
		60	50	75	80x80			63.7				
			75	100	80x40			53.9				
	80A	25	40	50	60x60		30	68.6				
			50	75	80x80			58.6				
		60	50	75	60x60			58.8				
			75	100	80x80			49.0				

Travel per Rotation: 3.0mm

For orders larger than indicated quantity, please request a quotation.

Ordering Example
Part Number
XKSL60
Z Selection
Z50

Alterations
Part Number
XKSML80
Z Selection
Z50
Material
MMR

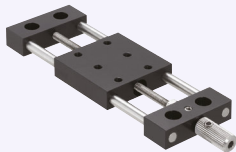
Alteration	Mounting of a Scaled Plate on the Stage	Change of Clamp (Knurled Knob)
Spec.	Mounts a scaled plate on the stage. Minimum Graduation: 0.5mm Scaled Plate alteration will change the mounting hole pitch since a plate is attached to the stage. Material: Aluminum Alloy Surface Treatment: Black Anodize Accessory: SCB4-8 x 4 pcs.	Changes Clamp Screw to Knurled Knob. CLC
Code	MMR	CLC

[Simplified Adjustments] X-Axis, Feed Screw, Stroke Selectable

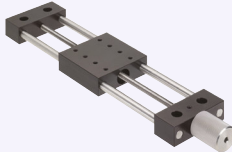
Standard/Large Handle, M6 Mounting Holes

■ **Features:** This series features freely selectable long stroke length/table size combinations. Easy-to-use large Handwheel Type in vertical applications and types with M6 mounting holes on the top plate are also available.

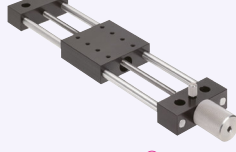
■ Standard Handle



■ Large Handle



(Large Handle, Knurled Knob Clamp)



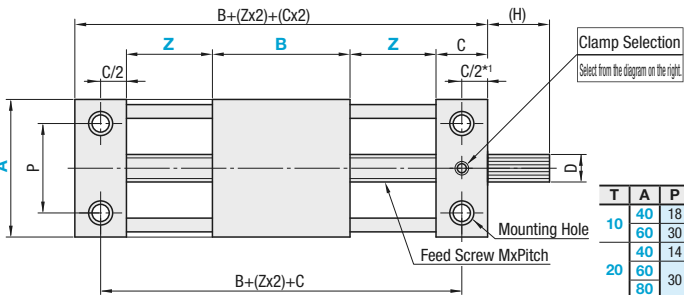
RoHS

Travel per Rotation
0.7mm(T=10) 1.0mm(T=20)

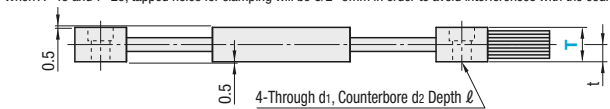
	Type		Main Body		Shaft	Knob	Feed Screw	Accessory				
	Standard Handle	Large Handle	Material	Surface Treatment	Material	Material	Material					
M4 Mounting Hole	XKNEF	XKFL	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	T=10 SCB4-10, 4 pcs. T=20 SCB5-20, 4 pcs.				
M6 Mounting Holes	XKFM	XKFML										
Type	T	D (H)	C	MxPitch	M ₁	d ₁	d ₂	ℓ	R	g	t	
XKNEF	10	7	16	15	M4xP0.7	3	4.5	7.5	4.2	2.5	-	5
XKFM	20	10	30	25	M6xP1.0	4	5.5	9	5.2	4	-	10
XKFL	10	15	16	15	M4xP0.7	3	4.5	7.5	4.2	5	2.5	5
XKFML	20	24	30	25	M6xP1.0	4	5.5	9	5.2	8	2	10

- Table surfaces and bottoms are 0.5mm higher than the end mounts.
- For accuracy standards, see the next page.
- There are two handle sizes available to accommodate the T dimension. For details, see the table on the upper left. Large handle can cause interference, when used with main body plate due to its large height size.
- Large handle can be used in horizontally placed configuration by specifying MMR Alteration.
- Large Lead Type with 3.0mm travel per Rotation is also available. (P1912)
- Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.

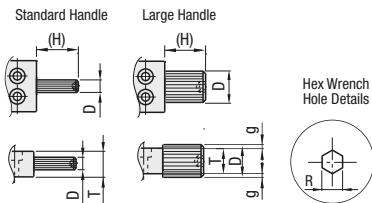
XKNEF (Standard Handle, M4 Mounting Holes) XKFL (Large Handle, M4 Mounting Holes)
XKFM (Standard Handle, M6 Mounting Holes) XKFML (Large Handle, M6 Mounting Holes)



*1 When A=40 and T=20, tapped holes for clamping will be C/2=6mm in order to avoid interferences with the counterbored holes.

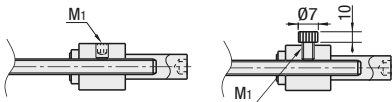


■ Handle Shape Comparisons

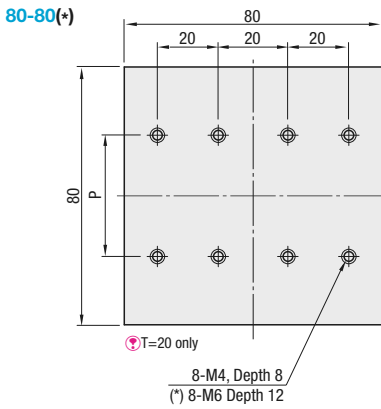
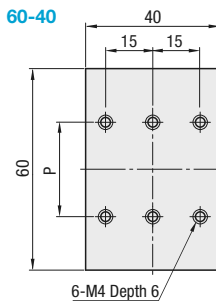
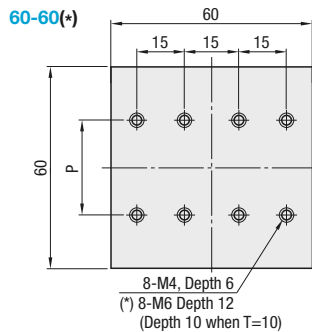
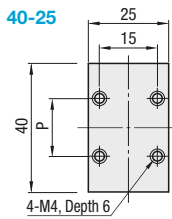
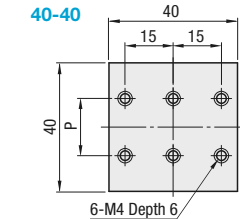


■ Clamp Selection

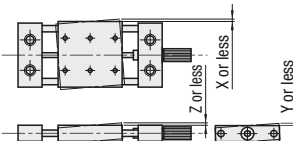
S (Standard Set Screw) K (Knurled Knob)



■ Stage Top Mounting Hole Dimensions (A-B) (* marked only for XKFM and XKFML)



■ Accuracy Standards

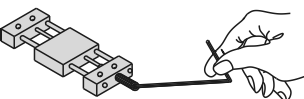


T	X	Y	Z
10	0.1	0.1	0.1
20	0.15	0.15	0.15

There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies.

One Point

Long stroke moves can be made easily with use of a ball-point hex wrench.



Part Number			Z Selection		Clamp Selection	Load Capacity (N)				
Type	T	A-B	Travel Distance (Zx2)			T=10		T=20		
						Z=10~30	Z=40~70	Z=10~30	Z=40~70	
XKNEF XKFL	10 20	40-40	(10)	25	40	60	39.2 (Horizontal) 19.6 (Vertical)	34.3 (Horizontal) 17.2 (Vertical)	78.4 (Horizontal) 39.2 (Vertical)	68.6 (Horizontal) 34.3 (Vertical)
		40-25	10	25	40	60				
		60-60	(15)	30	50	70				
		60-40	15	30	50	70				
XKFM XKFML	10 20	80-80 (T=20 only)	15	30	50	70	-	-		
		60-60	(15)	30	50	70				
		80-80 (T=20 only)	15	30	50	70				
		60-40	15	30	50	70				

Dimensions in () are not selectable when T=10. Travel per Rotation: 0.7mm (T=10), 1.0mm (T=20)



Part Number	Z Selection	Clamp Selection
XKNEF10-40-25	Z40	S
XKFM20-60-60	Z50	K

T	A-B	Unit Price							
		XKNEF XKFM				XKFL XKFML			
		10	15	25	30	40	50	60	70
10	40-40	-	-	-	-	-	-	-	-
	40-25	-	-	-	-	-	-	-	-
	60-60	-	-	-	-	-	-	-	-
	60-40	-	-	-	-	-	-	-	-
20	40-40	-	-	-	-	-	-	-	-
	40-25	-	-	-	-	-	-	-	-
	60-60	-	-	-	-	-	-	-	-
	60-40	-	-	-	-	-	-	-	-
	80-80	-	-	-	-	-	-	-	-

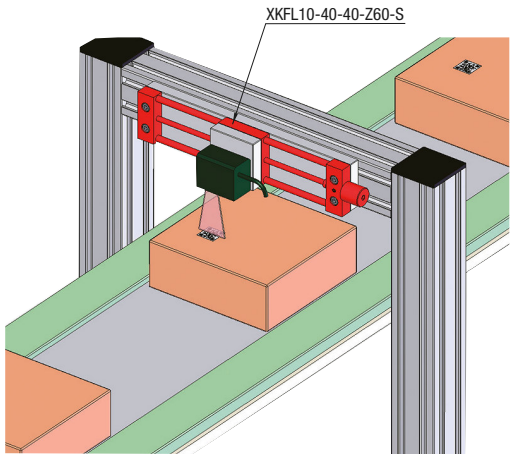


Part Number	Z Selection	Clamp Selection	(MMR)
XKNEF10-40-25	Z40	S	MMR



Bar-code Reader Position Adjustment

Alteration	Mounting of a Scaled Plate on the Stage
	Mounts a scaled plate on the stage. Minimum Graduation: 0.5mm
	Scaled Plate alteration will change the mounting hole pitch since a plate is attached to the stage.
Spec.	 T A P2 10 40 18 60 30 40 14 20 60 30 80 A-B Z P1 40-40 10 25 50 40 60 110 40-25 10 25 35 40 60 95 60-60 15 30 75 50 70 145 60-40 15 30 55 50 70 125 80-80 15 30 95 50 70 165
	M Material: Aluminum Alloy S Surface Treatment: Black Anodize A Accessory: CBSST4-8 x 4 pcs.
Code	MMR



[Standard] X-Axis Cross Roller

Points on Similar Product Comparison | Travel Accuracy (Straightness) 30μm Parallelism 30μm

P.1918

Features: Economical stages with a micrometer head capable of 0.01mm resolution adjustments. Micrometer head position is selectable for X-Axis stages.

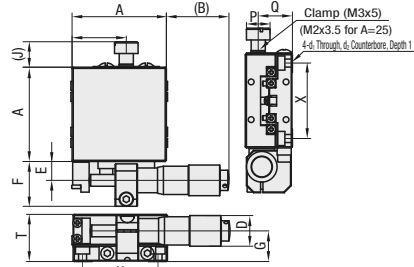
X-Axis



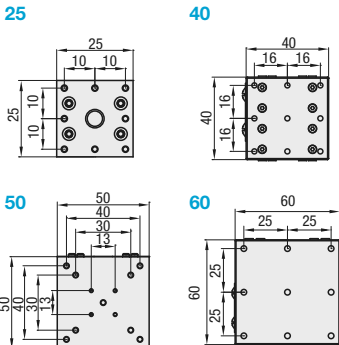
XY-Axis P.1942
Z-Axis P.1967

RoHS

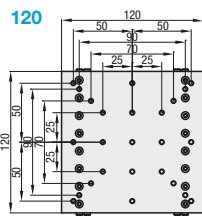
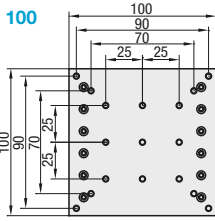
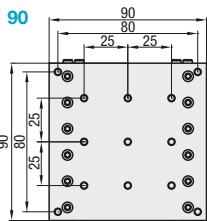
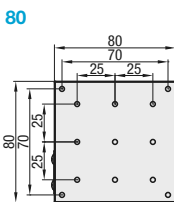
XCRS



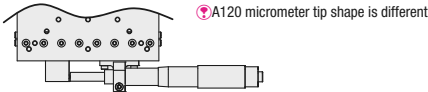
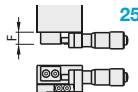
Mounting Hole Dimensions of the Top Table



80, 90, 100, 120 have different plate side shapes. See CAD data for details.



A25 has a different feed bracket configuration.
See the CAD data for details.



Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number		Top View					Front View			Side View					
TYPE	A	(B)	Travel Distance (mm)	E	F	(J)	D	G	T	P	Q	X	d ₁	d ₂	ℓ
XCRS	25	29	± 3.2	7	11.8	(6.8)	9.5	9.3	15	6	6.8	20	2.4	4.2	2.5
	40	26	± 6.5	8	19	(10.8)	13	13	20	10	14.5	32	3.4	6	3.3
	50	23		8	19	(10.8)	13	13	20	10	14.5	40	3.4	6	3.5
	60	21		8	19	(10.8)	13	13	20	10	14.5	50	4.5	8	4.4
	80	22		8	19	(10.8)	13	13	20	10	14.5	70	4.5	8	4.4
	90	34.8	±12.5	8	19	(10.8)	13	13	20	10	14.5	80	4.5	8	5.3
	100	20.8		8	19	(10.8)	13	13	20	10	14.5	90	4.5	8	5.3
	120	88		±25	13.5	26	(10.8)	19.1	11	20	10	14.5	100	4.5	8

Performance

A	Stage Surface (mm)	Load Capacity (N)		Max. Holding Force (N) (Ref.)	Travel Accuracy		Allowable Moment (N-cm)			Moment Rigidity (°/N-cm)			Parallelism	Weight (kg)	Unit Price		
		Horizontal	Vertical		Straightness	Motion Parallelism	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling					
25	25x 25	9.8	4.9	60	30μm	30μm	1.1	0.8	0.4	3.03	2.85	1.80	50μm	0.04			
40	40x 40	19.6	9.8				2.7	2.2	2.0	0.38	0.42	0.28		0.14			
50	50x 50	29.4	14.7				3.5	3.0	3.3	0.20	0.22	0.12		0.18			
60	60x 60	49	19.6	70			5.2	4.3	5.5	0.12	0.11	0.07	60μm	0.24			
80	80x 80	98					19.2	15.1	17.3	0.05	0.05	0.04		0.39			
90	90x 90	117.6					25.0	20.0	22.0	0.05	0.05	0.04		0.49			
100	100x100	147					36.0	30.0	33.0	0.06	0.07	0.05		0.58			
120	120x120	196					57.2	44.7	66.7	0.03	0.02	0.01		0.95			

Max. Holding Force (Ref.) will vary depending on the tightening torque variations. Ensure adequate safety margins for design.
Micrometer Head Resolution: 10μm/division

Ordering Example Model (Type, A) XCRS60

Alterations Part Number - (CR, A--etc.) XCRS40 - CR XCRS60 - AR

Alterations	Micrometer Head Position				
	Side Mount - Right/Left Reversed	Center	Center Mount, Right/Left Reversed	Center Mount, Top/Bottom Reversed	Center Mount, Right/Left & Top/Bottom Reversed
Spec.					
Code	CR	A	AR	AZ	AZR

Notes on Vertical Use of X-Axis Stages

The carriage may drop if mounted vertically with the micrometer head pointed down with Standard, CR, A or AR selected. (A load exceeding the spring pull force will cause the carriage to drop.)
The carriage does not drop when mounted vertically with the micrometer head pointed down with AZ or AZR selected. However, do not apply a load exceeding the specified vertical load capacity for X-Axis as it may decrease the accuracy.

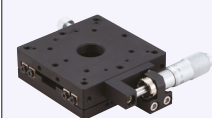
[High Precision] X-Axis Cross Roller Micrometer Head

Features: High precision lightweight X-Axis Stages with Cross Roller slides.

X-Axis

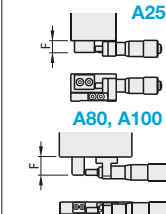
RoHS

XPG



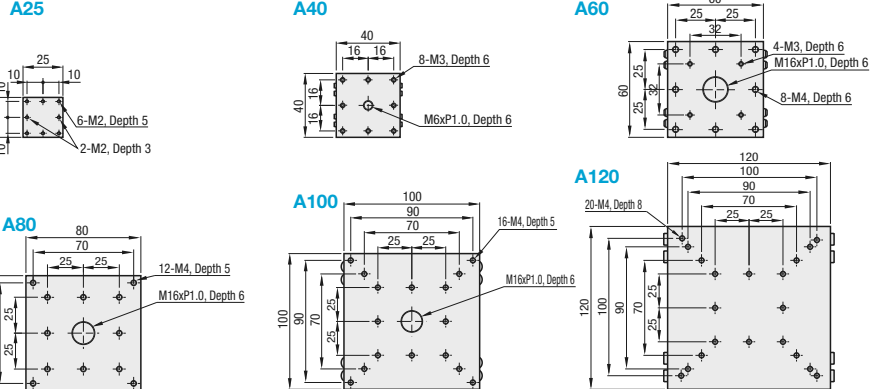
XY-Axis P.1943
Z-Axis P.1968

A25, 80, and 100 have different feed bracket configuration.



See the CAD data for details.

Mounting Hole Dimensions of the Top Table



Material: Aluminum Alloy
Surface Treatment: Black Anodize

Standard Stages Similar Products (available for limited sizes only): XCRS (P.1917)

Part Number		Top View						Front View				Side View					
Type	A	(B)	Travel Distance (mm)	E	F	J	K	D	G	T	T ₁	P	Q	X	d ₁	d ₂	ℓ
XPG	25	25	±3.2	4.5	6.5	6.8	15.0	9.3	8.5	15	4.5	6	10.5	20	2.5	4.2	2.0
	40	26		12.0	18.5	11.3	28.0	13.0	12.8	20	6.5	10	14.5	32	3.5	6.0	3.5
	60	19.8	±6.5	12.0	18.5	11.3	42.5	13.0	12.8	20	6.5	10	14.5	50	4.5	8.0	4.0
	80	43.5		17.0	22.0	11.3	55.0	18.0	11.0	20	5.7	10	14.5	70	4.5	8.0	4.5
	100	28.5	±12.5	17.0	22.0	11.3	67.5	18.0	11.0	20	5.7	10	14.5	90	4.5	8.0	4.5
	120	67.5	±25	13.0	20.0	11.5	67.5	21.0	18.0	30	9.5	10	18.0	100	4.5	8.0	4.5

Performance

A	Stage Surface (mm)	Load Capacity (N)		Travel Accuracy	Moment Load Capacity (N-m)	Moment Rigidity (°/N-cm)			Parallelism	Weight (kg)	Accessory (4 pcs.)	Unit Price
		Horizontal	Vertical			Pitching	Yawing	Rolling				
25	25x25	9.8	4.9	3μm 10μm	30° 25° 15°	1.1	0.8	0.4	30μm	0.04	SCB2-6	
40	40x40	19.6	9.8			2.7	2.2	2.0		0.14	SCB3-6	
60	60x60	49.0	19.6			5.2	4.3	5.5		0.25	SCB4-6	
80	80x80	98.0				19.2	15.1	17.3		0.50	SCB4-6	
100	100x100	147.0				36.0	30.0	33.0		0.70	SCB4-6	
120	120x120	196.0				57.2	44.7	66.7		1.60	SCB4-10	

Micrometer Head Resolution: 10μm/division, Travel per Rotation: 0.5mm

Ordering Example Part Number XPG60

Alterations Part Number - (CR, CZ, A--etc.) XPG40 - CZ

Alterations	Micrometer Head Position			No Micrometer Head
	Side Mount - Right/Left Reversed	Side Mount - Top/Bottom Reversed*	Center	
Spec.				
Code	CR	CZ	A	MN

* CZ: Attach Micrometer on the upper table (Standard Type has them attached to the bottom plate).
Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.
When other micrometer head mounting positions are desired, select from the "Specification Selectable Type" on P.1989.
Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

App. Example List

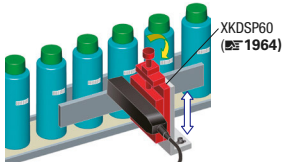
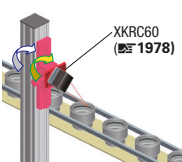
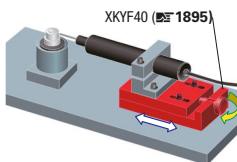
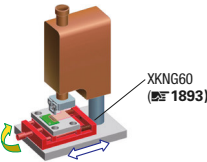
[Standard] X-Axis, Linear Ball Slide Micrometer Head

MISUMI provides various product lineups for positioning and adjustments for FA applications. Please utilize the application examples below for your product selections.

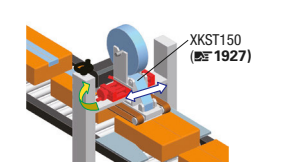
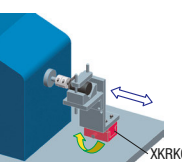
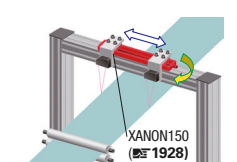
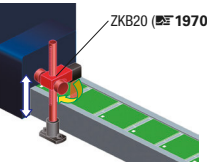
Simplified Adjustment App. Examples: Simplified Adjustment is suitable for the positioning operation that does not require high accuracy. This Simplified Adjustment type includes a product having capability of tightly clamping workpieces once positioning is completed and a product equipped with a characteristic mechanism based on symmetrical action dual carriage.

↔ : Stage Top Travel Direction
↻ : Handle Rotation

- Easy linear adjustment
- Provides strong clamp after linear positioning
- Position adjustment in angle rotation direction
- Fine feed mechanism in vertical direction

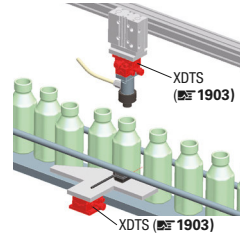


- Fast and long feed mechanism in vertical direction
- Position adjustment by open/close mechanism
- Large and fast feed mechanism
- Provides linear adjustment to heavy workpieces

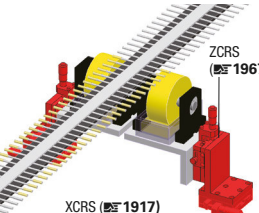


Standard Stages Examples : Suitable for applications requiring approx. 30~50μm motion positioning accuracy and repeatability.

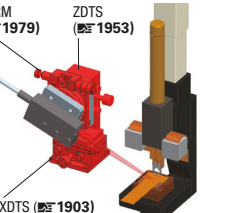
Positioning of Leak Inspection Instrument of Plastic Bottles



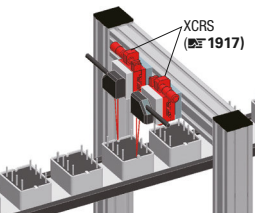
Positioning for Adhesive Application to Cotton Swabs



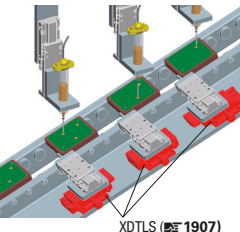
Positioning of Temperature Sensor for Camera Module Thermocompression



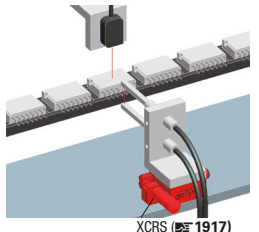
Positioning of Swage Detection Sensor for Converter



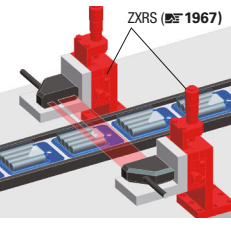
Positioning of Cylinder Stopper for Adhesive Application Device



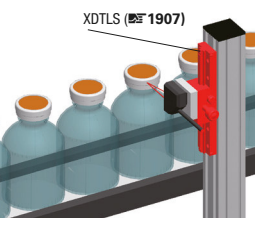
Sensor Positioning for Detecting Defects of Connector Terminal Press Fitting



Positioning of Labeling Defects Detection Sensor



Positioning of Shrink Package Inspection Device

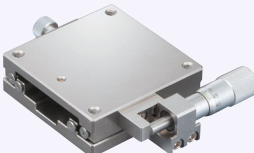
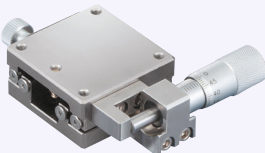


Points on Similar Product Comparison | Travel Accuracy (Straightness) 10μm

P.1921

Features: Incorporated Linear Ball Slide Guide mechanism achieves high load capacity.

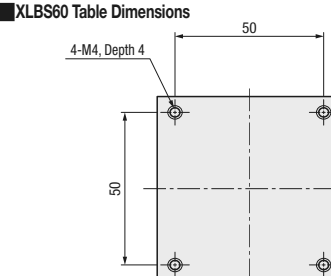
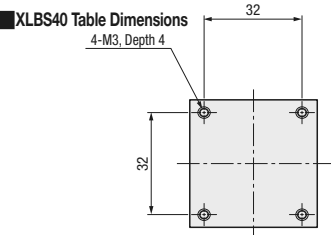
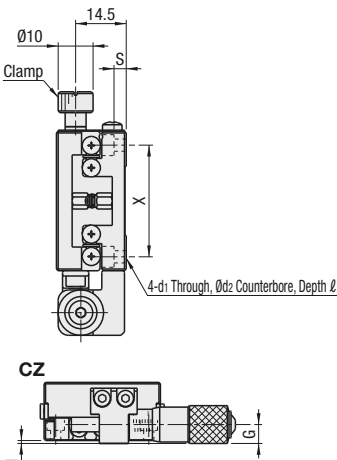
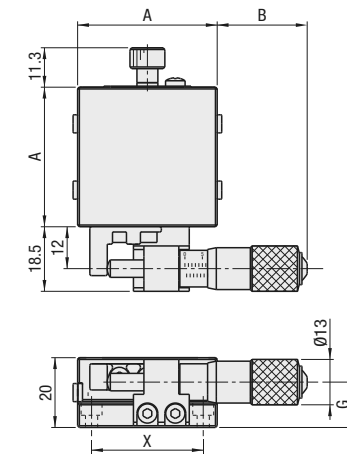
X-Axis



XY-Axis P1942
Z-Axis P1965

RoHS

XLBS



Material: EN 1.4125 Equiv.
Surface Treatment: Electroless Nickel Plating

Accessory: Stainless Steel Hex Socket Low Head Cap Screws
XLBS40 (M3-4, 4 pcs)
XLBS60 (M4-4, 4 pcs)

High Precision Stage Existing Product: XSG (P.1921)

Part Number		Travel Distance (mm)	Top View		Front View		Side View					Unit Price
Type	No.		A	B	Feed Position Standard: CR	Feed Position CZ, CZR	X	S	d1	d2	ℓ	
XLBS	40	±6.5	40	25.8±6.5	13	5.5	32	3.5	3.5	6	3.5	
	60		60	15.8±6.5			50	3	4.5	8	4	

Part Number		Stage Surface (mm)	Load Capacity (N)	Minimum Graduation (μm)	Straightness (μm)	Travel Accuracy		Moment Rigidity ("N·cm)			Parallelism (μm)	Weight (kg)
Type	No.					Pitching	Yawing	Pitching	Yawing	Rolling		
XLBS	40	40x40	98	10	10	30"	25"	0.38	0.35	0.21	30	0.24
	60	60x60	196			35"	30"	0.1	0.08	0.05		0.44

Ordering Example
Part Number
XLBS40

Alterations
Part Number - (CR, CZ, CZR)
XLBS40 - CR

Alterations	Micrometer Head Position		
	Left/Right Reversed	Top/Bottom Reversed	Right/Left & Top/Bottom Reversed
Spec.			
Code	CR	CZ	CZR

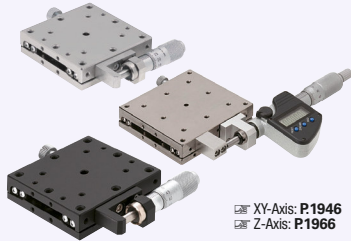
* Same dimensions for CR and CZR.

[High Precision] X-Axis, Linear Ball Slide

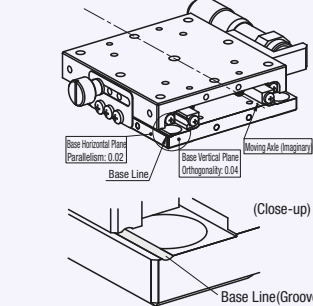
Micrometer Heads / Feed Screws / Digital Micrometer Heads / Coarse/Fine Micrometer Heads

■ **Features:** Highly accurate, rigid, and economical stages. When the feed scale reading is not necessary, further cost savings can be achieved by selecting the screw feed types. ⚙️ XSKG has a fine feed of 0.25 pitch.

■ X-Axis



⚙️ Standard Datum Configuration

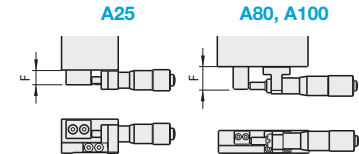


⚙️ MISUMI's Linear Ball Guide Stages have parallel and orthogonal datum in relation to the motion axis. The data are as illustrated.

RoHS

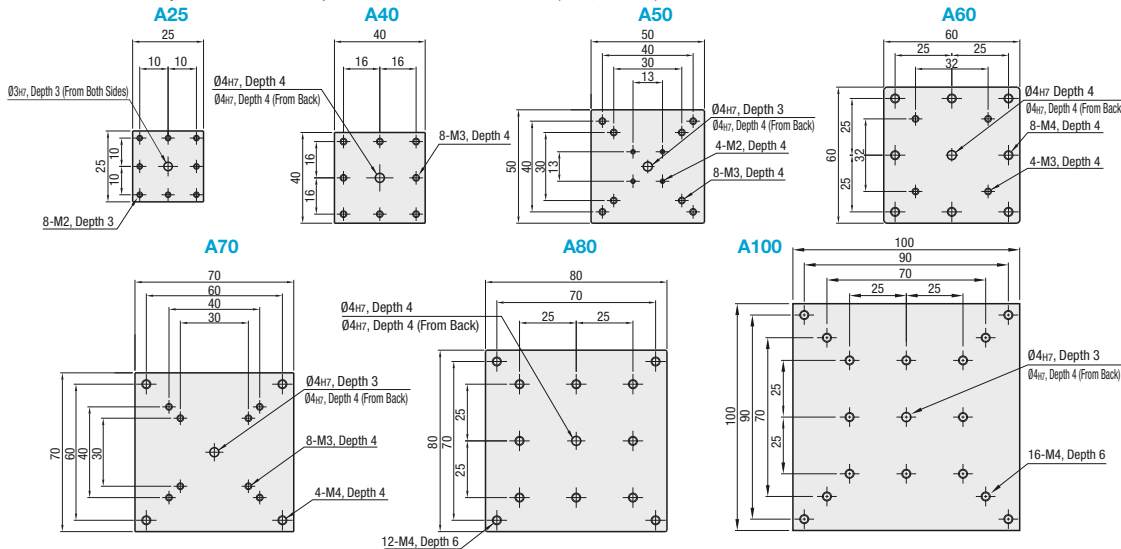
• Shapes of Feed Brackets

⚙️ A25, 80, and 100 have different feed bracket configuration.



• Mounting Hole Dimensions of the Top Table

* Tolerance for the centrally located bores for low temp. black chromed XSBG and XSCGB is H₈. (A=25, 40, 60, 80)



Type	Main Body		Ball		Spring	Micrometer Head Bracket		Tip Holder	
	M Material	S Surface Treatment	M Material	H Hardness	M Material	M Material	S Surface Treatment	M Material	S Surface Treatment
XSG	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Clear Anodize	EN 1.4305 Equiv.	-
XSCG									
XSBG									
XSDG									
XSKG									
XSBG	LTBC Plating						Black Anodize		LTBC Plating
XSCGB									

⚙️ For Micrometer Head and Feed Screw materials, see P2005 and P2006.

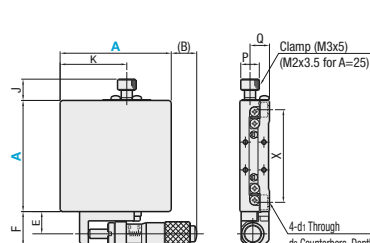
■ Micrometer Heads

XSG

(25≤A≤100)

XSBG (LTBC Plating)

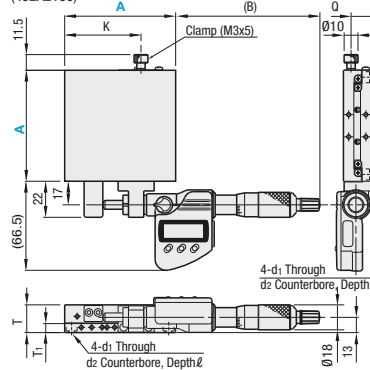
(A=25, 40, 60, 80)



■ Digital Micrometer Heads

XSDG*

(40≤A≤100)



■ Feed Screws

XSCG

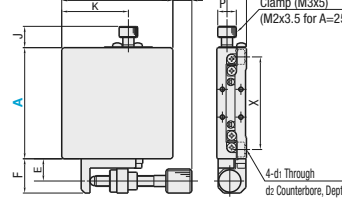
(25≤A≤100)

XSBG (Lead 1.0)

(40≤A≤100)

XSCGB (LTBC Plating, Lead 0.5)

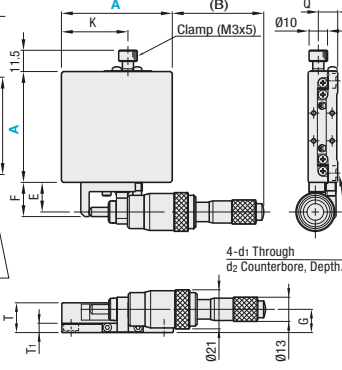
(A=25, 40, 60, 80)



■ Coarse/Fine Micrometer Heads

XSKG

(40≤A≤80)



■ Micrometer Head (XSG, XSBG) / Feed Screw (XSCG, XSBG, XSCGB) ⚙️ Standard Stages Similar Products (available for limited sizes only): XLBS (P1920)

Part Number		Top View				Front View				Side View				Accessory (4 pcs.)					
Type	A	(B)		Travel Distance (mm)	E	F	J	K	D	G	T	T ₁	P	Q	X	d ₁	d ₂	ℓ	TypeM-L
		Micrometer	Feed Screw																
XSG XSCG XSBG (40:Ac100) XSCGB (* only) XSBGB (* only)	25*	25	11	±3.2	7	9	6.8	15	9.3	7	12	3.7	6	8.5	20	2.5	4.2	2.5	SCB2-4
	40*	23.5	20		12	18.5	11.3	26	13	8.9	16	4.5	10	10.5	32	3.5	6	3.5	SCB3-6
	50	18.5	15		12	18.5	11.3	31	13	8.9	16	4.5	10	10.5	40	3.5	6	3.5	SCB3-6
	60*	13.5	10	±6.5	12	18.5	11.3	36	13	8.9	16	5	10	10.5	50	4.5	8	4	SCB4-6
	70	14	10.5		12	18.5	11.3	46.5	13	10	18	6	10	11.5	60	4.5	8	4.5	SCB4-6
	80*	43.5	10		17	22*	11.3	55	18	10.8	20	6.5	10	14.5	70	4.5	8	5.3	SCB4-6
	100	28.5	-5*	±12.5 ^(*)	17	22*	11.3	67.5	18	10.8	20	6.5	10	14.5	90	4.5	8	5.3	SCB4-6

(*) Stroke of XSG80/100, XSBG80/100, XSCGB80 is ±5.5mm. (2) Ends of feed screw knob are at 5mm inside of the carriage edges for XSG and XSBG. (3) When dimension A of Feed Screw Type XSCG, XSBG, XSCGB is 80 or 100, F will be 20.

• Performance

Part Number			Stage Surface (mm)	Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)			Moment Rigidity (N·cm)			Parallelism	Weight (kg)		Unit Price							
	Type	A			Horizontal	Vertical	Straightness	Motor Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching		Yawing	Rolling	Monometer	Feed Screw	XSG	XSCG	XSBG	XSCGB		
XSG XSCG XSBG (40<A≤100) XSCGB (* only) XSCGB (* only)	25*	25x25	39.2	9.8	3μm	10μm	30*	25*	2.0	2.0	3.5	1.9	1.1	1.1	30μm	0.07	0.07								
	40*	40x40	98																0.23	0.23					
	50	50x50	147																	0.28	0.28				
	60*	60x60	196																	0.40	0.40				
	70	70x70	225.4	49	(F4)	7μm	25*	15*	13.8	13.8	12.9	0.06	0.05	0.03	15μm	0.58	0.58								
	XSCGB (* only)	80*	80x80						264.6										20μm	0.90	0.84				
	XSCGB (* only)	100	100x100						343											20μm	1.33	1.27			

⚙️ XSG, XSBG Micrometer Head Resolution: 10μm/division (4) Straightness of XSBG and XSCGB40/60 is 3μm.

■ Digital Micrometer Heads (XSDG) / Coarse/Fine Micrometer Head (XSKG)

Part Number	Top View		Front View										Side View		Accessory (4 pcs.)	
	Type	A	(B) XSDG XSKG	Travel Distance (mm)	E	F	K	G	T	T ₁	Q	X	d ₁	d ₂	ℓ	TypeM-L
XSDG	40	121.5	60		16	18.5	26	11.6	16	4.5	10.5	32	3.5	6	3.5	SCB3-6
	50	116.5	55		16	18.5	31	11.6	16	4.5	10.5	40	3.5	6	3.5	SCB3-6
	60	111.5	50	Coarse Feed ±5.5	16	18.5	36	11.6	16	5	10.5	50	4.5	8	4	SCB4-6
	70	112	50.5	Fine Feed 0.2	16	18.5	46.5	12.5	18	6	11.5	60	4.5	8	4.5	SCB4-6
	80	104	49.5		17	25	55	11	20	6.5	14.5	70	4.5	8	5.3	SCB4-6
XSKG	40	89	±12.5		-	-	67.5	-	20	6.5	14.5	90	4.5	8	5.3	SCB4-6
	80	104	±12.5		-	-	67.5	-	20	6.5	14.5	90	4.5	8	5.3	SCB4-6
	100	89	±12.5		-	-	67.5	-	20	6.5	14.5	90	4.5	8	5.3	SCB4-6

• Performance

Part Number		Stage Surface		Load Capacity (N)		Travel Accuracy				Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Parallelism	Weight (kg)		Unit Price			
Type	A	(mm)	Horizontal	Vertical	Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling	XSDG		XSKG	XSDG	XSKG			
XSDG	40	40x40	98	49	Vertical	1μm	7μm	25"	15"	5.0	5.0	5.0	0.42	0.35	0.21	15μm	0.43	0.30	-	-		
	50	50x50	147							6.8	6.8	6.0	0.15	0.14	0.09		0.48	0.35				
	60	60x60	196							10.0	10.0	9.0	0.08	0.08	0.05		0.60	0.47				
XSKG (40≤A<80)	70	70x70	225.4							3μm	8μm	13.8	13.8	12.9	0.06	0.05	0.03	20μm			0.78	0.65
	80	80x80	264.6									18.2	18.2	17.7	0.04	0.04	0.02				1.10	0.97
	100	100x100	343	31.8	31.8	30.7	0.02	0.02	0.01			1.53	-									

⚙️ XSKG: Coarse / Fine Micrometer Head Coarse Resolution 10μm, Fine Resolution 0.5μm XSDG: Digital Micrometer Head Resolution 1μm

⚙️ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. ⚙️ P2004

⚙️ Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. ⚙️ P2004

Ordering Example

Part Number XSG80

Alterations Part Number (CR, CZ, A... etc.)

XSG60 - MN
XSG80 - CR-P
XSCG40 - A

Alterations	Position of Micrometer Head and Feed Screw			Reinforced Clamp			No Micrometer Head	
	Side Mount, Right/Left Reversed	Side Mount, Top/Bottom Reversed * 5	Center	Disc Clamp	Opposed Clamp	(B) ₁ ±6.5(±3.2)	No Micrometer Head	
Spec.								
	⚙️ Not applicable to XSDG.	⚙️ Not applicable to XSBG, XSCGB and XSDG.		⚙️ Not applicable to 25 square. ⚙️ A disc clamping method that does not apply loads on the stage surface. Better position holding performance than the standard clamping method.	⚙️ Applicable to XSG only. ⚙️ Not applicable to 80 and 100 square. ⚙️ Not applicable in combination with alterations CZ and A. ⚙️ The side drive micrometer head is opposed by a screw (M4x25, pitch 0.5). Improves vibration resistance and has secure position holding performance. ⚙️ When A=25, * marked dimensions are applicable. The specification table dimensions (B) will be 30, and G will be 6.			
Code	CR	CZ	A	H	P		MN	

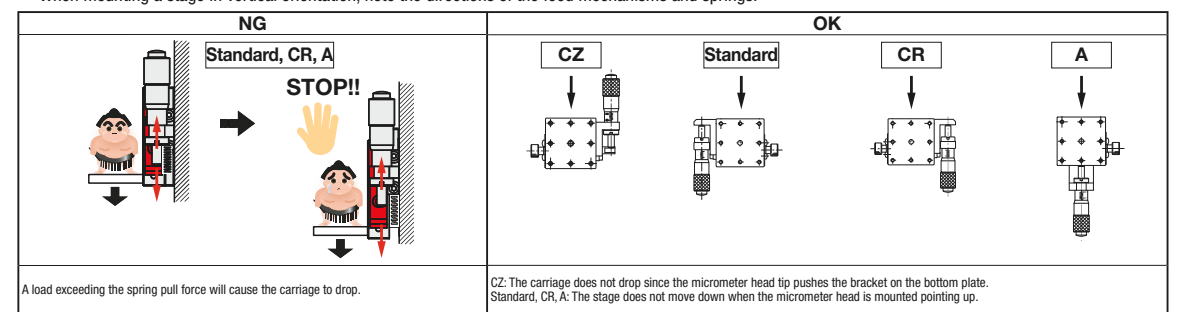
*5 CZ: The micrometer head or the feed screw will be mounted on the top table (mounted on the bottom plate for Standard Type).

⚙️ For micrometer head or feed screw mounted in positions other than shown below, see "Specification Selectable Type" (P.1989).

⚙️ For 25 Square Opposed Clamp, the bracket material is EN 1.4305 Equiv.

■ Vertical Use of X-Axis Stages

When mounting a stage in vertical orientation, note the directions of the feed mechanisms and springs.



⚙️ However, do not apply a load exceeding the specified vertical load capacity.

[High Precision] X-Axis, Linear Ball Slide

High Load Capacity, Compact Carriage

[High Precision] X-Axis, Linear Ball Slide / Knob Covers

Opposed Clamp with Knob

■Features: Compact stages with ±12.5 ~ 25mm strokes.

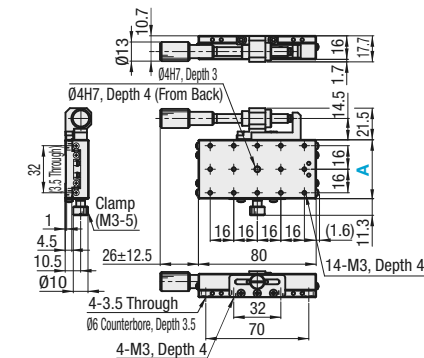
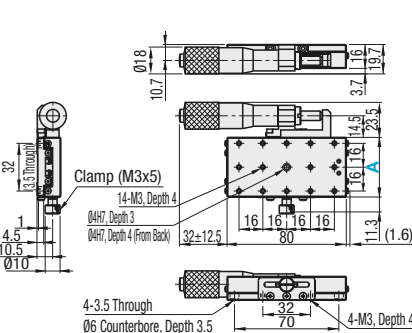
■X-Axis, High Load Capacity, Compact Carriage

■Micrometer Head

■Feed Screw

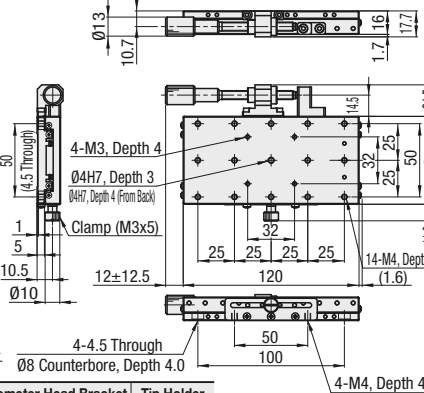
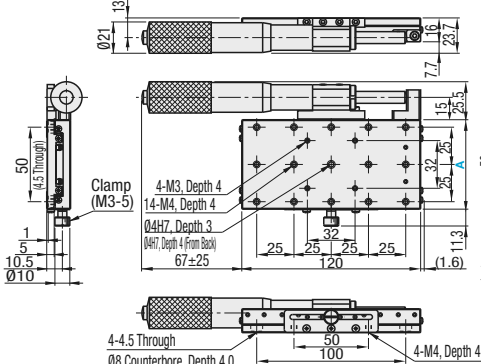
XSGL40

XSGBL40 (Lead 1.0)



XSGL60

XSGBL60 (Lead 1.0)



Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
Material: EN 1.4125 Equiv. Surface Treatment: Electroless Nickel Plating	Material: EN 1.4125 Equiv. Hardness: 58HRC	Material: SUS304WPB	Material: EN AW-5052 Equiv. Surface Treatment: Clear Anodize	Material: EN 1.4305 Equiv.
*For Micrometer Head and Feed Screw materials, see P2005 and P2006.				

Part Number	Stage Surface	Travel Distance	Load Capacity	Travel Accuracy	Moment Load Capacity (N·m)	Moment Rigidity (°/N·cm)	Weight	Accessory (4 pcs.)	Unit Price
Type	A	(mm)	(N)	Horizontal/Vertical/Straightness	Pitching/Yawing	Pitching/Yawing/Rolling	(kg)	Type M-L	XSGL XSGBL
XSGL	40	40x80	±12.5	147	49 3µm 8µm 25" 15"	6.8 6.8 5 0.15 0.13 0.25	0.44	CBM3-6	
XSGBL	60	60x120	±25*	196		10 10 6.8 0.08 0.07 0.14	0.98	CBM4-6	

⚡ XSGL Micrometer Head Resolution: 10µm/division * Feed Screw Type (XSGBL) stroke is ±12.5.
⚡ Knob Cover HDCVR13 (Sold Separately): Ø13 feed screw can be increased in diameter by installing the cover. P2004
⚡ Extension Cover HDEXT13 (Sold Separately): Ø13 feed screw knob can be extended. P2004
⚡ Cautions for Z-Axis Mounting P1891

Ordering Example
Part Number
XSGL40
XSGBL60

Alterations
Part Number - (CR, A, AR)
XSGL40 - A

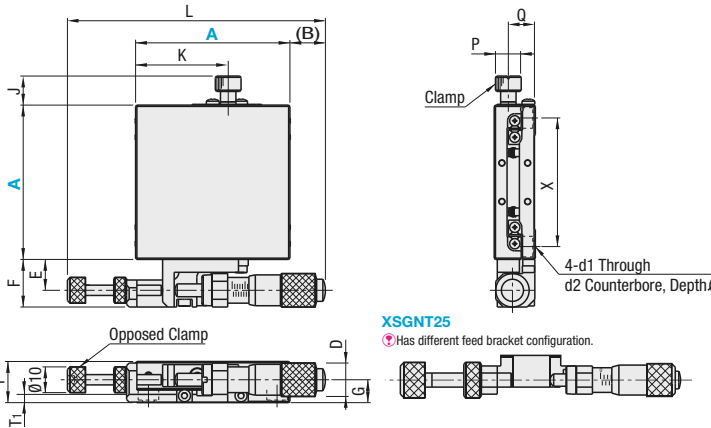
Alterations	Micrometer Head Position		
Spec.	Side Mount - Right/Left Reversed	Center	Center Mount Reversed
Code	CR	A	AR

■Features: Side mounted micrometer shaft is opposed by a knobbed screw to improve vibration resistance and secures greater locking power.

■X-Axis, Opposed Clamp with Knob



XY-Axis P1950 RoHS

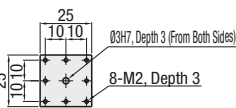


* Bracket material will be different when A=25.
⚡ For micrometer head and opposed clamp materials, see Adjust Screws ANKSS on P1713.
⚡ There is a hex socket (2.5mm hex, depth 2.5) on the end of the Opposed Clamp screw.

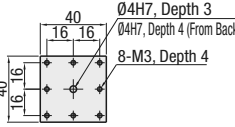
Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
XSGNT	Material: EN 1.4125 Equiv. Surface Treatment: Electroless Nickel Plating	Material: EN 1.4125 Equiv. Hardness: 58HRC~	Material: SUS304WPB	Material: EN AW-5052 Equiv. Surface Treatment: Clear Anodize	Material: EN 1.4305 Equiv.

■Mounting Hole Dimensions of the Top Table

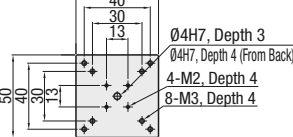
A25



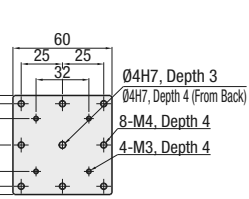
A40



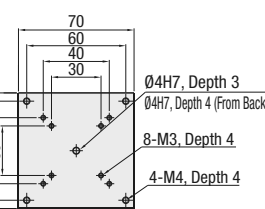
A50



A60



A70



Part Number		Top View						Front View				Side View						Accessory (4 pcs.)
Type	A	(B)	E	F	J	K	L	D	G	T	T ₁	P	Q	X	d ₁	d ₂	ℓ	Type M-L
XSGNT	25	30	7	12	6.8	15	84.5	9.3	6.7	12	3.7	6	8.5	20	2.5	4.2	2.5	SCB2-4
	40	23.8	12	18.5	11.3	26	100.3	13	8.9	16	4.5	10	10.5	32	3.5	6	3.5	SCB3-6
	50	18.8				40												
	60	13.8				50												
	70	14.3				60												
						46.5			10	18	6		11.5	60	4.5	8	4	SCB4-6

■Performance

Part Number	Stage Surface	Travel Distance	Load Capacity	Travel Accuracy	Moment Load Capacity (N·m)	Moment Rigidity (°/N·cm)	Parallelism	Weight	Unit Price
Type	A	(mm)	(mm)	Horizontal/Vertical/Straightness	Motion Parallelism	Pitching/Yawing	Pitching/Yawing/Rolling	(kg)	
XSGNT	25	25x25	±3.2	39.2 9.8	3µm	10µm 30"	2.0 2.0 3.5 1.9 1.1 1.1	30µm	0.07
	40	40x40		98			5.0 5.0 5.0 0.42 0.35 0.21		0.23
	50	50x50	±6.5	147	49	1µm 7µm 25" 15"	6.8 6.8 6.0 0.15 0.14 0.09	15µm	0.28
	60	60x60		196			10.0 10.0 9.0 0.08 0.08 0.05		0.40
	70	70x70		225.4			13.8 13.8 12.9 0.06 0.05 0.03		0.58

⚡ Micrometer Head Resolution: 10µm/division
⚡ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer head or feed screw knob can be increased in diameter to Ø30 by installing the cover. P2004
⚡ Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P2004

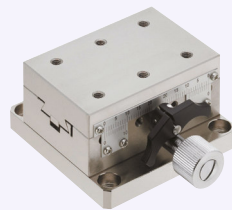
Ordering Example
Part Number
XSGNT60

[High Precision] X-Axis Dovetail Slide, Rack & Pinion

Rectangular, Steel, High Load Capacity

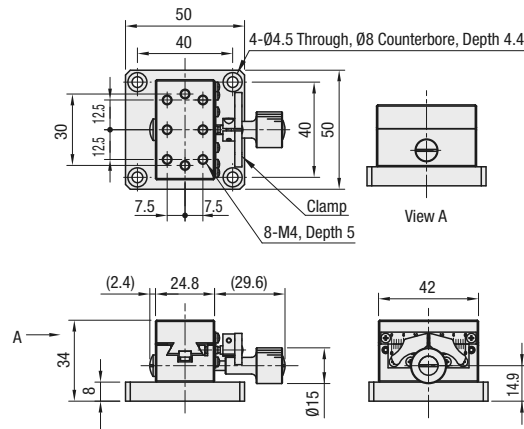
■Features: XWGSR stages are made of steel, with higher horizontal load capacities and impact resistance compared to the XWG Series (P1904).

■ X-Axis, High Load Capacity

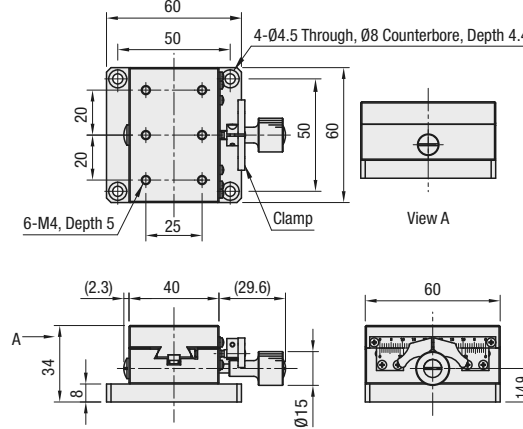


RoHS

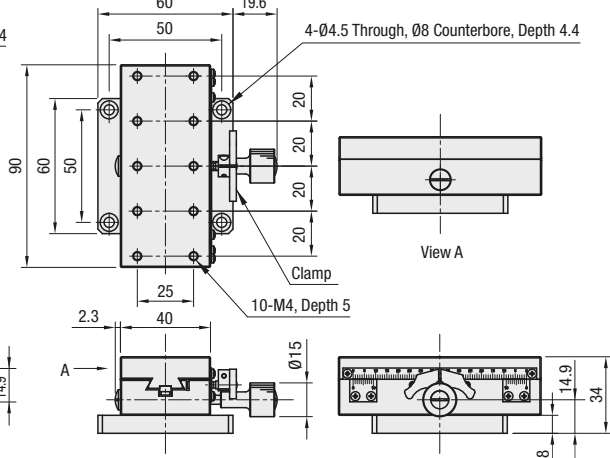
XWGSR40



XWGSR60



XWGSR90



Material: EN 1.1191 Equiv.
Surface Treatment: Electroless Nickel Plating

Part Number	Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Horizontal Load Capacity (N)	Moment Load Capacity (N·m)			Travel Accuracy (µm)		Parallelism	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
							Pitching	Yawing	Rolling	Straightness	Motion Parallelism				
XWGSR		40	24.8x40	±12	18	98	5.0	3.3	2.6	30	40	50µm	0.36	SCB4-10	
		60	40x60	±21		196	15.0	7.8	10.4				0.70		
		90	40x90	±35		294	27.5	16.5	28.6				0.94		

Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P2004

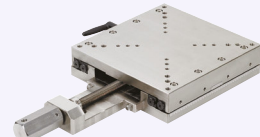
Ordering Example
Part Number
XWGSR40

[High Precision] X-Axis Cross Roller

Steel, High Load Capacity

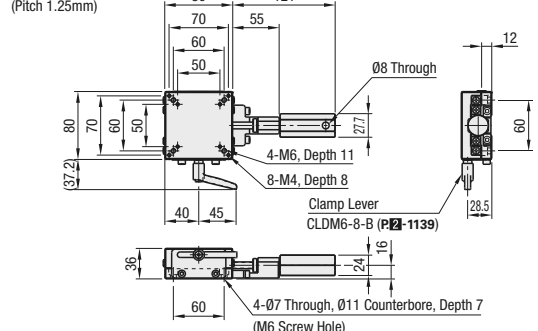
■Features: The stage can position 40 ~ 120kgf loads accurately.

■ X-Axis, High Load Capacity

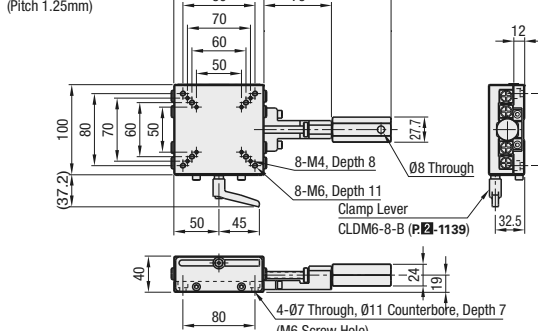


RoHS

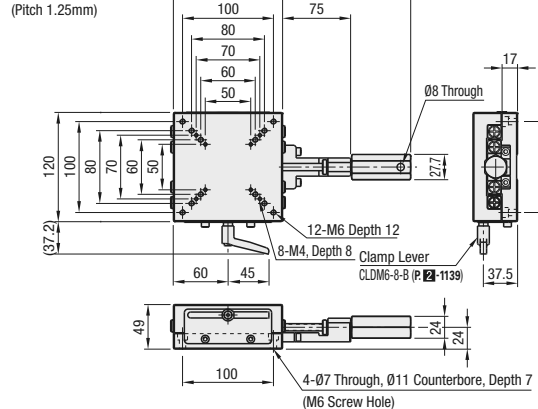
XTOUGH80



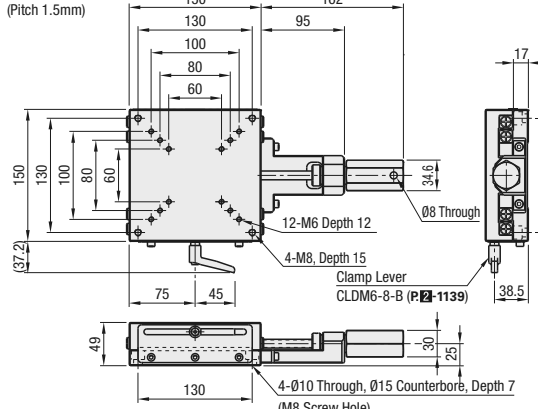
XTOUGH100



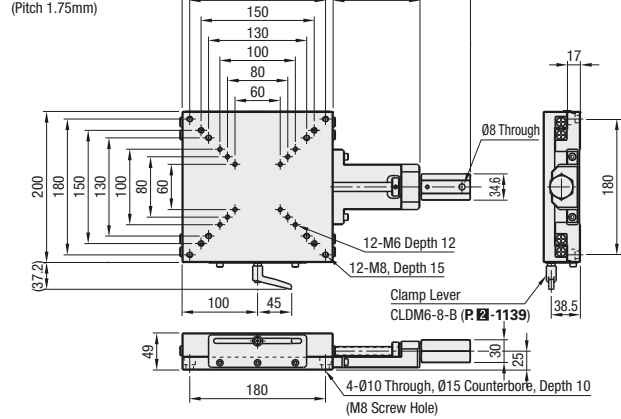
XTOUGH120



XTOUGH150



XTOUGH200



Material: (Main Body) EN 1.1206 Equiv. (Feed Screw) EN 1.4301 Equiv.
Surface Treatment: Electroless Nickel Plating

On the opposite side of the clamp lever, Vernier Scale is provided. Resolution (Vernier Scale Indication): 0.1mm/division The clamp lever cannot be mounted on the opposite side.

Part Number	Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Horizontal Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Parallelism	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
							Straightness	Motion Parallelism	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling				
XTOUGH		80	80x80	±20	1.25	392	6µm	15µm	50°	30°	30.1	25.1	23.0	0.228	0.139	0.059	1.78	SCB6-16	
		100	100x100	±25		588					70.3	58.6	56.0	0.033	0.015	0.021	2.98		
		120	120x120	±30		784					142.9	119.1	120.0	0.024	0.014	0.015	5.18	SCB6-20	
		150	150x150	±40	1.5	980	10µm	20µm	80°	50°	252.9	210.7	219.9	0.009	0.008	0.003	8.48		
		200	200x200	±50	1.75	1176					527.9	439.9	479.8	0.004	0.002	0.003	13.82	SCB8-25	

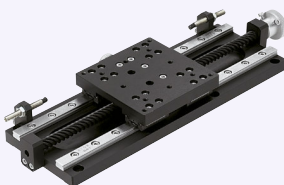
Ordering Example
Part Number
XTOUGH150

[High Precision] Linear Guide / [Simplified Adjustments] X-Axis, Heavy Load Adjustment Unit

[Simplified Adjustments] X-Axis, Left/Right Screw, Open/Close Width Adjusting Units / Rack & Pinion, Standard, Standard/Precision Grade

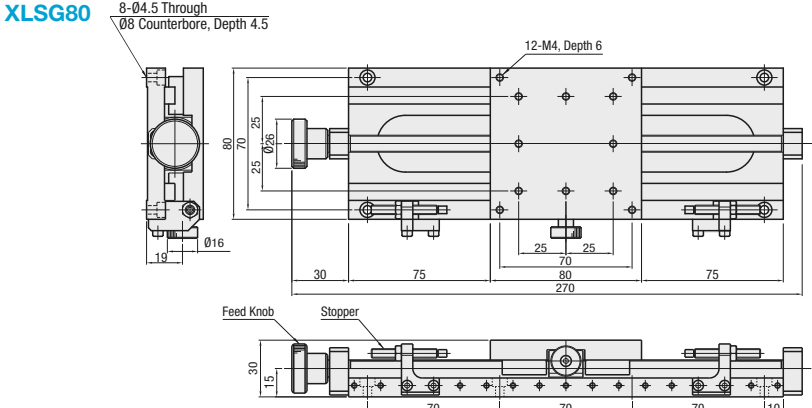
■Features: 128mm stroke stages. Well suited for positioning and set-up changes of large and heavy objects.

■X-Axis, Linear Guide



XLSG80

8-Ø4.5 Through
Ø8 Counterbore, Depth 4.5



12-M4, Depth 6

Feed Knob

Stopper

Material: Aluminum Alloy S Surface Treatment: Black Anodize A Accessory: SCB4-10 (8pcs.)

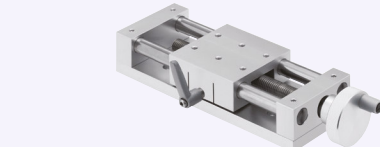
Part Number		Stage Surface	Travel Distance	Travel Distance	Load Capacity (N)	Motion	Moment Load Capacity (N · m)			Parallelism	Weight	Unit Price
Type	No.	(mm)	per Rotation (mm)	(mm)	Horizontal	Parallelism	Pitching	Yawing	Rolling		(kg)	
XLSG	80	80x80	24	128mm	147	25µm	10.6	7.5	11.5	50µm	0.9	

Travel Distance per Rotation: 24mm
Scale is not provided.

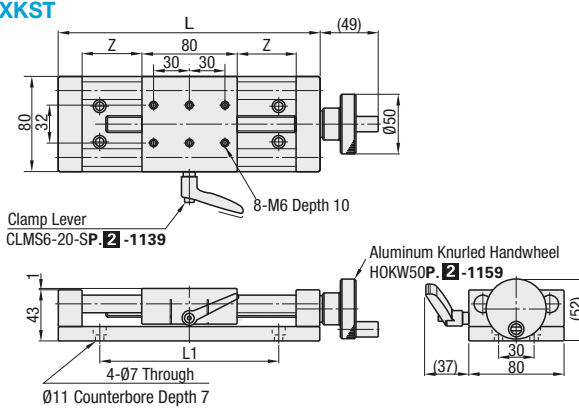
Ordering Example
Part Number
XLSG80

■Features: The shaft is directly clamped with slit providing larger holding force than pushing by the feed screw.

■Standard



XKST



8-M6 Depth 10

Aluminum Knurled Handwheel
HOKWSOP. 2-1159

Clamp Lever
CLMS6-20-SP. 2-1139

4-Ø7 Through
Ø11 Counterbore Depth 7

Travel per Rotation: 2.0mm

Not recommended for precise positioning due to its clearance shown on the left.

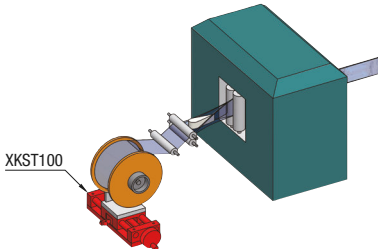
Material: EN 1.1191 Equiv.
Surface Treatment: Black Oxide
Accessory: Hex Socket Head Cap Screw (P. 2-174, SCB5-20), 4 pcs.

Part Number		Stage Surface	Travel Distance	L	L1	Load Capacity (N)	Weight (kg)	Unit Price
Type	No.	(mm)	(mm) (Zx2)					
XKST	50	80x80	50	170	100	196	1.72	
	100		100	220	150		2.00	
	150		150	270	200		2.32	

For orders larger than indicated quantity, please request a quotation.

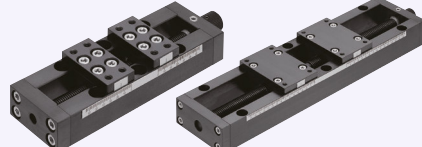
Ordering Example
Part Number
XKST50

ex Example
Sheet Position Adjustment

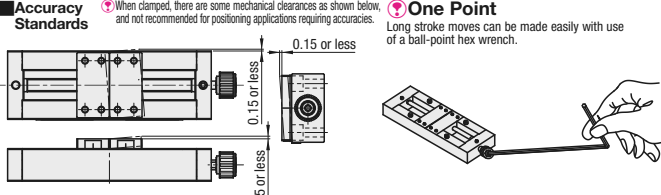


■Features: Two tables open and close with an operation of a single knob, utilizing a left/right screw. For guide width adjustments and centering fixtures.

■Open/Close Width Adjusting Units



XANON60



6-Ø5.5 Through, Ø9.5 Counterbore (M5 Screw Hole)

8-M4, Depth 6

Clamp (M5 Set Screw)

Right-hand Thread

Left-hand Thread

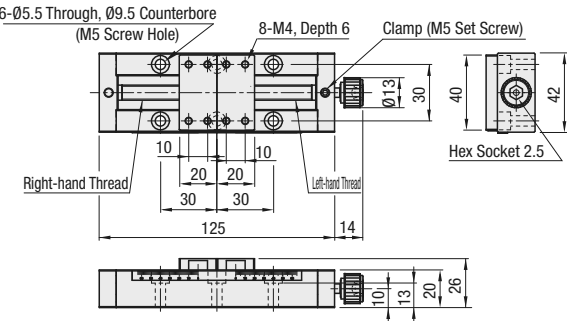
Hex Socket 2.5

See the table below for Travel per Rotation.

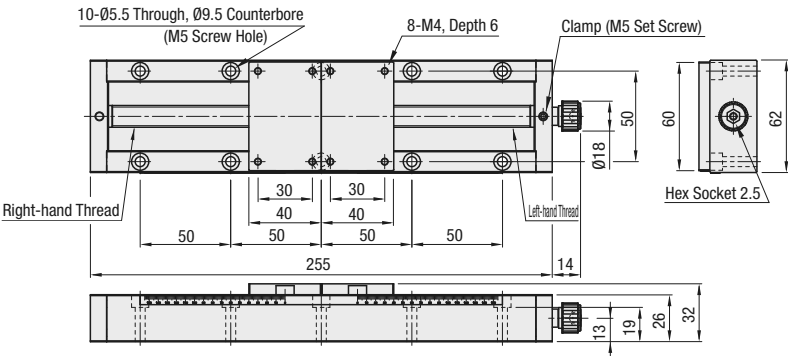
When clamped, there are some mechanical clearances as shown below, and not recommended for positioning applications requiring accuracies.

One Point
Long stroke moves can be made easily with use of a ball-point hex wrench.

XANON60



XANON150



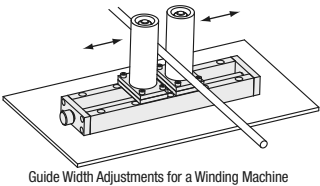
Material: EN 1.1191 Equiv.
Surface Treatment: Black Oxide
Accessory: Hex Socket Head Cap Screw (P. 2-174, SCB5-20), 4 pcs.

Part Number		Stage Surface	Travel Distance	Travel per	Load	Weight	Unit Price
Type	No.	(mm)	(mm)	Rotation (mm)	Capacity (N)	(kg)	
XANON	60	40x20	60 (30 per Side)	2.5 (1.25 per Side)	98 (49 per Side)	0.64	
	150	60x40	150 (75 per Side)	3.5 (1.75 per Side)	196 (98 per Side)	2.16	

Minimum Graduation: 1mm

Ordering Example
Part Number
XANON150

ex Example



Guide Width Adjustments for a Winding Machine

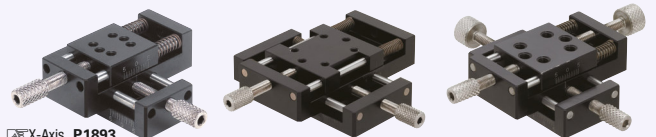
Alterations	Part Number - (R)
XANON60	R
Alteration	Position of Handle (Right and Left Side Reversed)
Spec.	
Code	R

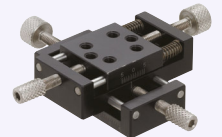
[Simplified Adjustments] XY-Axis, Push Screw

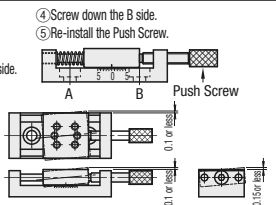
[Simplified Adjustments] XY-Axis, Feed Screw

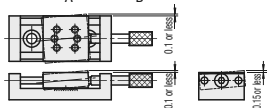
Standard/Large Handles

■Features: Economical unit suitable for applications not requiring high accuracies. The springs used keep backlash low.

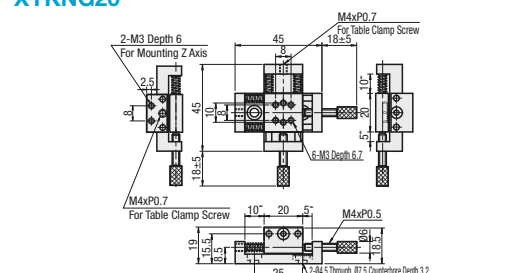
XY-Axis

X-Axis P1893
Z-Axis P1951

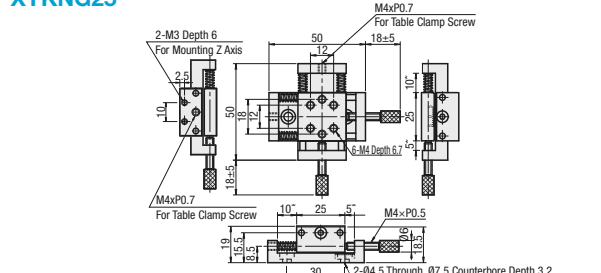
CL Alteration

Travel per Rotation: 0.5mm

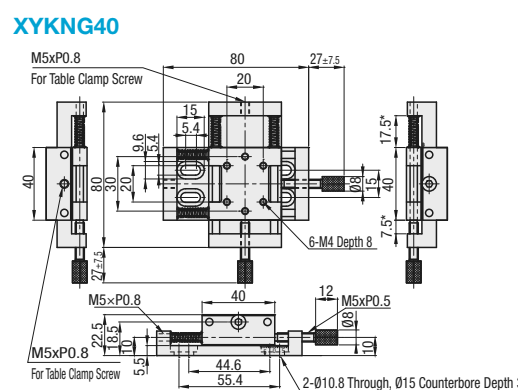
How to Mount
① Remove the Push Screw.
② Screw down the A side.
③ Move the table manually to the A side.

④ Screw down the B side.
⑤ Re-install the Push Screw.

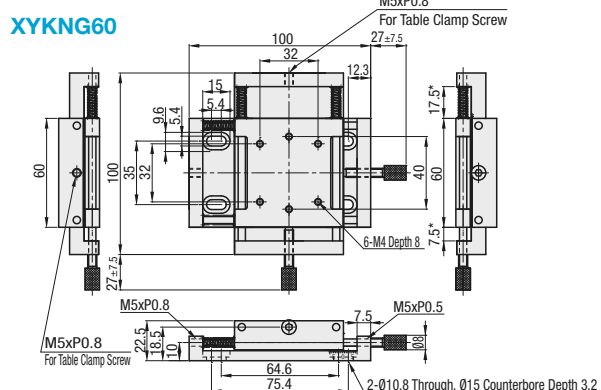
Accuracy Standards
Not recommended for precise positioning due to its clearance shown on the right. Values are for single-axis configuration.


Type	Main Body		Shaft	Spring	Push Screw		Accessory
	Material	Surface Treatment	Material	Material	Material	Surface Treatment	
XYKNG	Aluminum Alloy	Black Anodize	EN 1.4305 Equiv.	EN 1.4301 Equiv.	EN 1.1191 Equiv.	Electroless Nickel Plating	No. 20, 25: CBS4-6, 2 pcs. No. 40, 60: CBS5-8, 4 pcs.

XYKNG20


XYKNG25


XYKNG40


XYKNG60


* Dimensions are for "Scale aligned at 0 mark".

Part Number		Stage Surface	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price
Type	No.					
XYKNG	20	20x20	±5	9.8	0.04	
	25	25x25			0.06	
	40	40x40	±7.5	14.7	0.20	
	60	60x60			0.36	

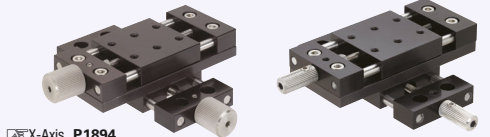
Travel per Rotation: 0.5mm Minimum Graduation: 0.5mm

Alterations

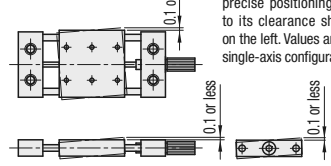
Part Number - (CL)
XYKNG20 - CL

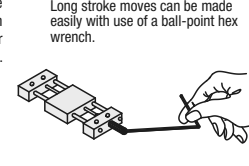
Alteration	Opposite Clamp Bolt
Spec.	Opposing clamp screws for table immobilizing (No. 20, 25: M4, Pitch 0.7, L=30mm; No. 40, 60: M5, Pitch 0.8, L=44mm) are included. Mounted as shown in the photo. 
Code	CL

■Features: Feed screw units are combined into XY arrangements. Operability improving large handles are available.

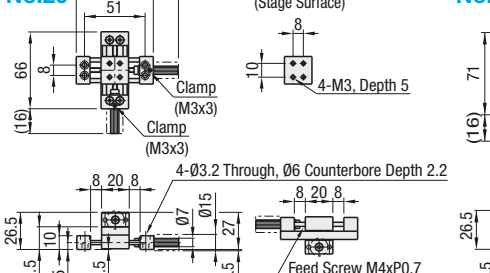
XY-Axis

X-Axis P1894
Z-Axis P1952

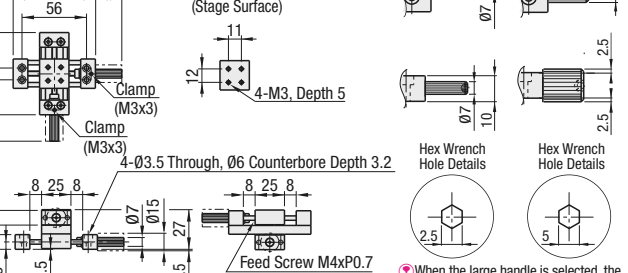
RoHS

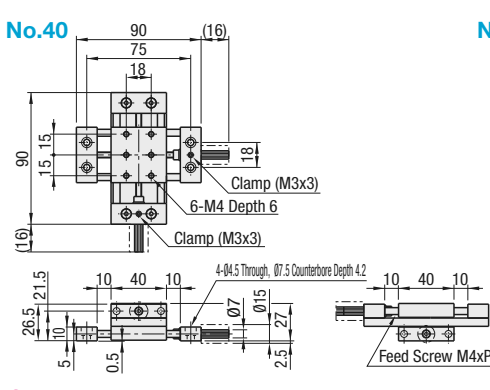
Accuracy Standards

Not recommended for precise positioning due to its clearance shown on the left. Values are for single-axis configuration.

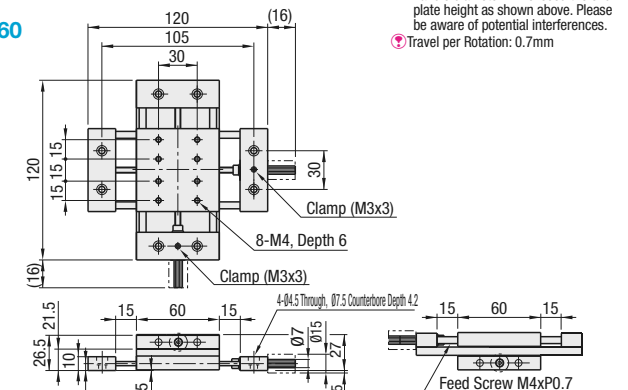
One Point
Long stroke moves can be made easily with use of a ball-point hex wrench.


Type	Main Body		Shaft	Knob	Feed Screw	Accessory
	Material	Surface Treatment	Material	Material	Material	
XYKNEJ	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	No. 20: CBSST3-12, 4 pcs. No. 25: SCB3-10, 4 pcs. No. 40, 60: SCB4-10, 4 pcs.

No.20


No.25


No.40


No.60


Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.

Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price	
Type	No.	Large Handle				XYKNEJ	XYKJL
(Standard Handle) XYKNEJ (Large Handle Selection) XYKJL	20	(Large Handle Top & Bottom)	20x20	±7	18.6	0.10	
	25	(Large Handle Top only)	25x25			0.13	
	40	(Large Handle Bottom only)	40x40	±9	36.2	0.27	
	60		60x60	±13	36.2	0.48	

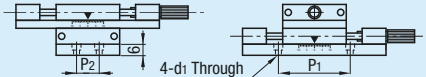
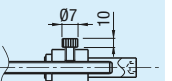
Travel per Rotation: 0.7mm

Ordering Example

Part Number
XYKNEJ40
XYKJL60L

Alterations

Part Number - (MMR) - (CLC)
XYKNEJ20 - MMR
XYKJL40A - CLC
XYKNEJ60 - MMR - CLC

Alteration	Mounting of a Scaled Plate on the Stage		Change of Clamp (Knurled Knob)																														
Spec.	Mounts a scaled plate on the stage. Minimum Graduation: 0.5mm Included screws are changed as shown on the below right.  Large Handle  Accessory (4 pcs.) No.20:SCB2-5 No.25:SCB3-6 No.40:CBSS74-8 No.60:CBSS74-8 MMR alteration will change the mounting hole pitch since a plate is attached to the stage. <table><tr><th>No.</th><th>P1</th><th>P2</th><th>d1</th><th>d2</th><th>ℓ</th></tr><tr><td>20</td><td>26</td><td>8</td><td>2.5</td><td>4.3</td><td>4</td></tr><tr><td>25</td><td>31</td><td>11</td><td>3.5</td><td>6.0</td><td>3.5</td></tr><tr><td>40</td><td>50</td><td>18</td><td>4.5</td><td>7.5</td><td>3</td></tr><tr><td>60</td><td>75</td><td>30</td><td>4.5</td><td>7.5</td><td>3</td></tr></table>		No.	P1	P2	d1	d2	ℓ	20	26	8	2.5	4.3	4	25	31	11	3.5	6.0	3.5	40	50	18	4.5	7.5	3	60	75	30	4.5	7.5	3	Changes Clamp Screw to Knurled Knob. Changes are for both X and Y axes. 
No.	P1	P2	d1	d2	ℓ																												
20	26	8	2.5	4.3	4																												
25	31	11	3.5	6.0	3.5																												
40	50	18	4.5	7.5	3																												
60	75	30	4.5	7.5	3																												
Code	MMR		CLC																														

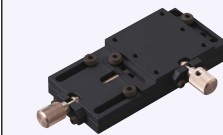
[Simplified Adjustments] XY-Axis,
Feed Screw, Key Guide Units

[Standard] XY-Axis Dovetail
Slide, Feed Screw

[High Precision] XY-Axis Dovetail Slide, Feed Screw
Square / Extended Knob (Lead 4.2mm)

■Features: Have the top and bottom surfaces clamped with screws. Has a very low profile (height: 16mm) and thus, are suitable for adjustment on limited spaces.

■XY-Axis, Low Profile

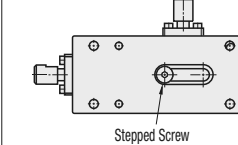


X-Axis P1895

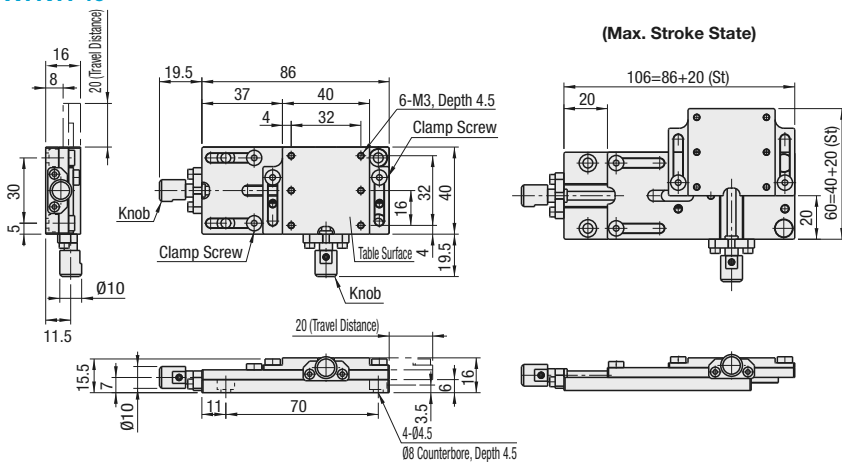
RoHS

One Point
A stepped screw is mounted onto the back face to prevent the table from being pulled up.

Bottom View



XYKYF40



Main Body		Feed Screw		Clamp Screw	
M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface Treatment
Aluminum Alloy	Black Anodize	Steel	Electroless Nickel Plating	Steel	Black Oxide

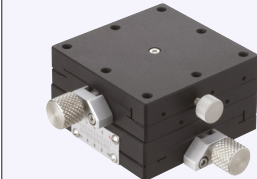
Part Number		Table Surface Size (mm)	Travel Distance (mm)		Travel per Rotation (mm)	Clamp Screw	Load Capacity (N)	Weight (kg)	Unit Price
Type	No.		Top Surface	Bottom Surface					
XYKYF	40	40x40	20	20	0.7	M4	19.6	0.15	

Ordering Example
Part Number
XYKYF40

Points on Similar Product Comparison | Travel Accuracy (Straightness) 50μm

P.1933

■XY-Axis

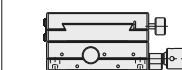
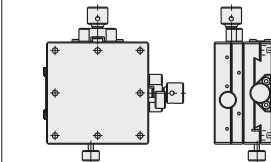


X-Axis P1896

Z-Axis P1961

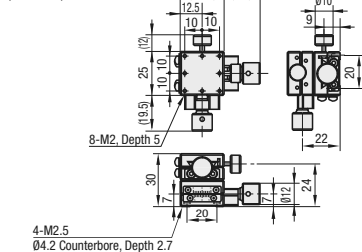
RoHS

Clamp Position Change
XYFES-R (Right/Left Reversed)

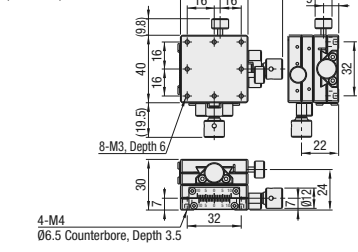


See the CAD data for details.

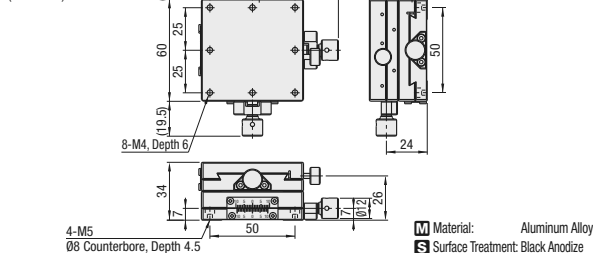
XYFES25
(Standard)



XYFES40
(Standard)



XYFES60
(Standard)



M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

■XY-Axis Stages High Precision Stage Existing Product: XYEG (P.1933)

Type	Part Number	Clamp Position	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
XYFES	25	No Symbol (Standard)	25x25	±5	0.5	27.4	50μm	0.09	
	40	R (Right/Left Reversed)	40x40	±7				0.16	
	60		60x60	±8				0.36	

Resolution (Vernier Scale Indication): 0.1mm/division

Extension Cover HDEXT12- (sold separately): Ø12 knobs can be extended by installing the cover. P2004

(Caution) Please note that increased knob diameter may interfere with the stage mounting base surfaces.

Ordering Example
Part Number
XYFES40

■Features: Low profile (36mm height/axis) XY-Axis Dovetail Slide Stages with smooth 4.2mm lead feeding.

■XY-Axis, Square
(Dowel Holes, Lead 4.2mm)



X-Axis P1899

Z-Axis P1959

RoHS

Standard Stages with Similar Specifications: Combination of XFHT (P.1896)

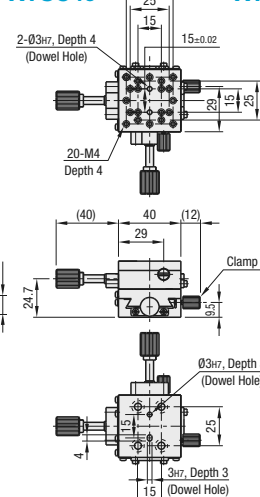
Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy (μm)	Weight (kg)	Accessory (4 pcs.)	Unit Price
Type	No.						Type M-L	
XYSC	40	40x40	±11	14.7	20	0.20	SCB4-5	
	60	60x60	±21	24.5	30	0.38		

Resolution (Vernier Scale Indication): 0.1mm/division

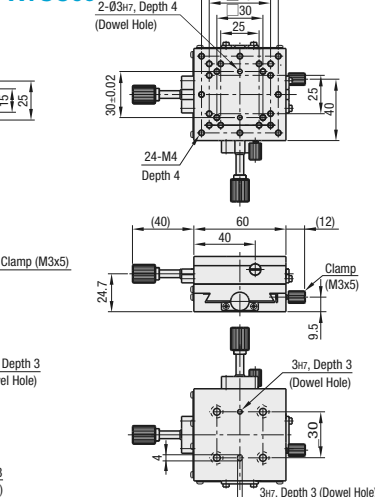
Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. P2004

Ordering Example
Part Number
XYSC60

XYSC40

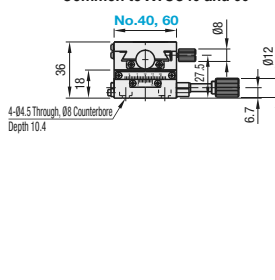


XYSC60

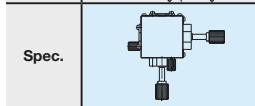


M Material: Aluminum Alloy S Surface Treatment: Black Anodize

Common to XYSC40 and 60



Alteration Knob Position Change (Left/Right Reversed)



Spec.

Code R

See the CAD data for details.

■Features: Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine.

■XY-Axis, Extended Knob
(Dowel Holes, Lead 4.2mm)



X-Axis P1899

Z-Axis P1960

RoHS

For Knob Extension Method, see P.1905 and P.1899.

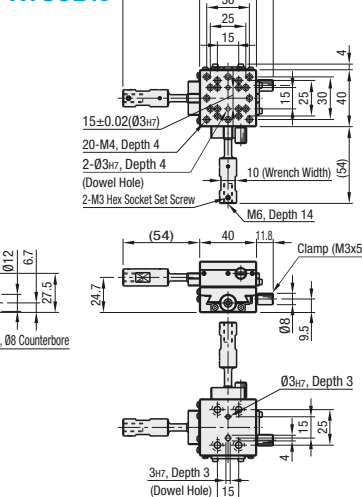
Standard Stages with Similar Specifications: Combination of XFHT (P.1896)

Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy (μm)	Weight (kg)	Accessory (4 pcs.)	Unit Price
Type	No.						Type M-L	
XYSCL	40	40x40	±11	18.6	30	0.21	SCB4-6	
	60	60x60	±21	17.7	30	0.39		

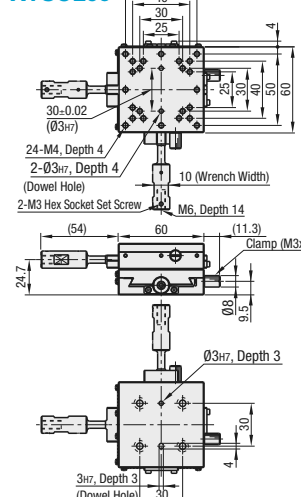
Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example
Part Number
XYSCL40

XYSCL40

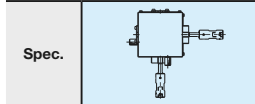


XYSCL60



M Material: (Main Body) Aluminum Alloy S Surface Treatment: Black Anodize
(Feed Knob) Low Cadmium Brass

Alteration Knob Position Change (Left/Right Reversed)



Spec.

Code R

See the CAD data for details.

[High Precision] X-Axis Dovetail Slide, Feed Screw

Hex Wrench Drive

■ **Features:** Economical and low profile (height 30mm ~) dovetail slide XY-Axis stages with feed screws. Good replacement for conventional fine adjustment mechanisms such as adjustment bolts, etc.

XY-Axis
(Lead 0.5mm)

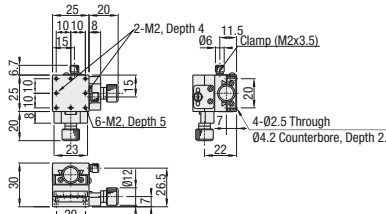


X-Axis: **P.1897**

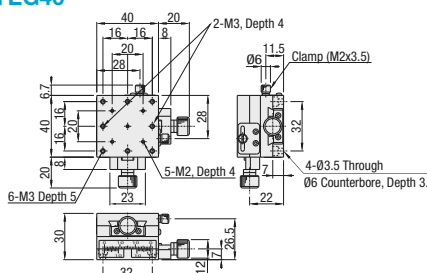
Z-Axis: **P.1962**

RoHS

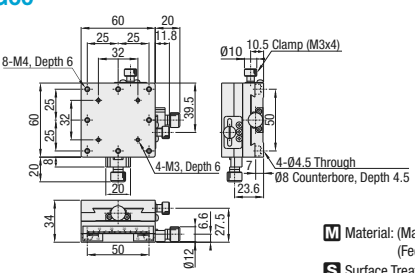
XYEG25



XYEG40



XYEG60



M Material: (Main Body) Low Cadmium Brass
(Feed Knob) Aluminum

S Surface Treatment: Black Fluororesin Treatment

☑ Standard Stages Similar Products: XYFES (P.1931)

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Moment Load Capacity (N · m)			XY Orthogonality	Weight (kg)	Accessory		Unit Price
Type	No.						Pitching	Yawing	Rolling			Type M-L	Quantity	
XYEG	25	25x25	±5	0.5	28.4	30μm	1.3	1.5	1.3	70μm	0.12	SCB2-8	4	
	40	40x40	±7		27.4		3.0	3.0	3.0		0.44	SCB3-6		
	60	60x60	±9		33.3		4.0	4.0	4.0		1.04	SCB4-6		

- ☑ Resolution (Vernier Scale Indication): 0.1mm/division
☑ Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. **P.2004**
☑ Travel accuracy values shown are for single axis configuration.

Ordering Example

Part Number
XYEG25

Alterations

Part Number - (R)
XYEG25 - R

Alteration

Spec.

Code

Clamp Position
(Left/Right Reversed)



R

☑ See the CAD data for details.

■ **Features:** No knob is required since a hex wrench is used to feed the stage, making for a space saving form factor. Unintended position changes can be prevented since the stage cannot be operated without a hex wrench.

XY-Axis, Hex Wrench Drive
(Lead 0.5mm)

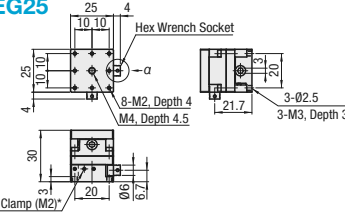


X-Axis: **P.1897**

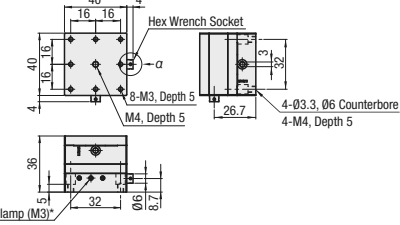
Z-Axis: **P.1962**

RoHS

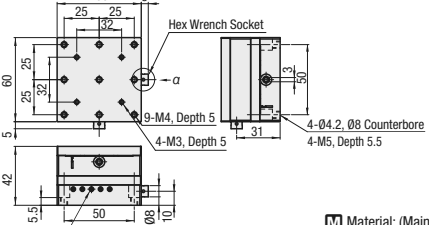
XYEEG25



XYEEG40



XYEEG60



M Material: (Main Body) Low Cadmium Brass
(Hex Wrench Socket) Aluminum

S Surface Treatment: Black Fluororesin Treatment

*A tapped hole in the center can be used as a clamp by using an included hex socket set screw.
Other tapped holes are for factory preload adjustments and sealed, thus cannot be used.

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Moment Load Capacity (N · m)			XY Orthogonality	Weight (kg)	Accessory		Unit Price	
							Pitching	Yawing	Rolling			Type M-L	Quantity		
XYEEG	25	25x25	±3	0.5	28.4	30μm	1.3	1.5	1.3	70μm	0.12	SCB2-8	3		
	40	40x40	±5		27.4		3.0	3.0	3.0			SCB3-6			
	60	60x60	±7		33.3		4.0	4.0	4.0			SCB4-6			

☑ Resolution (Vernier Scale Indication): 0.1mm/division (XYEEG has no vernier scale)
☑ Travel accuracy values shown are for single axis configuration.

Ordering Example

Part Number
XYEEG25

Alterations

Part Number - (R)
XYEEG25 - R

Alteration

Spec.

Code

Clamp Position
(Left/Right Reversed)



R

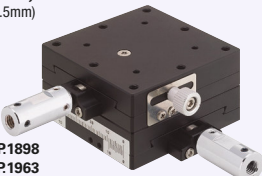
☑ See the CAD data for details.

[High Precision] X-Axis Dovetail Slide, Feed Screw

Extended Knob / Reinforced Clamp

■ **Features:** Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine. Use adhesive to prevent the knob extension from pulling off.

XY-Axis, Extended Knob
(Lead 0.5mm)

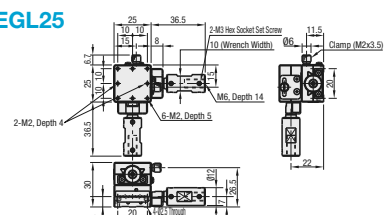


X-Axis: **P.1898**

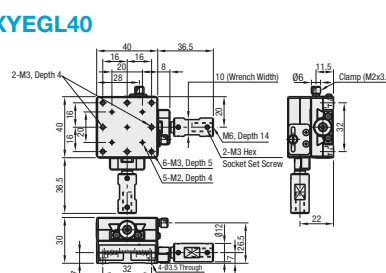
Z-Axis: **P.1963**

RoHS

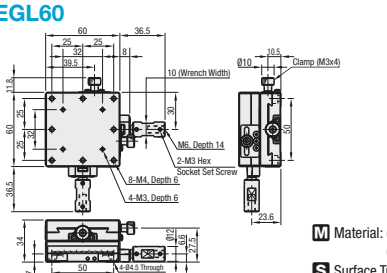
XYEGL25



XYEGL40



XYEGL60



M Material: (Main Body) Low Cadmium Brass
(Feed Knob) Aluminum

S Surface Treatment: Black Fluororesin Treatment

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (μm)	Moment Load Capacity (N · m)			XY Orthogonality	Weight (kg)	Unit Price
							Pitching	Yawing	Rolling			
XYEGL	25	25x25	±5	0.5	28.4	30	1.3	1.5	1.3	70	0.20	
	40	40x40	±7		27.4		3.0	3.0	3.0			
	60	60x60	±9		33.3		4.0	4.0	4.0			

☑ Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. **P.2004**
☑ Travel accuracy values shown are for single axis configuration.
☑ **Tips: Knob Extension Method**
Use the M6-Depth 14 tapped hole on the knob. Knob length and diameter can be increased for large objects and plates placed on the carriage.
(Ex. ①) Seven Lobe knob (P.21171) NKSM6-30 can be mounted to further lengthen the knob by 36mm.

Ordering Example

Part Number
XYEGL60

Alterations

Part Number - (R)
XYEGL60 - R

Alteration

Spec.

Code

Clamp Position
(Left/Right Reversed)



R

☑ See the CAD data for details.

■ **Features:** The feed knob shaft is clamped directly for improved position holding performance of the XY Dovetail Slide Stage.

XY-Axis, Reinforced Clamp
(Lead 0.5mm)

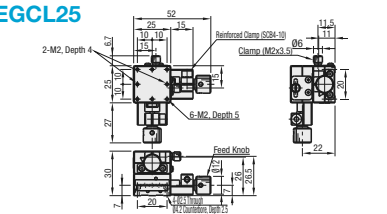


X-Axis: **P.1898**

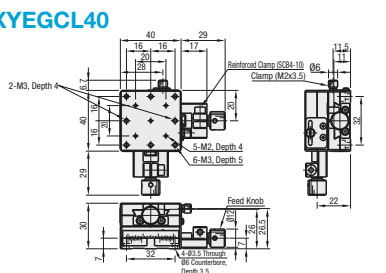
Z-Axis: **P.1963**

RoHS

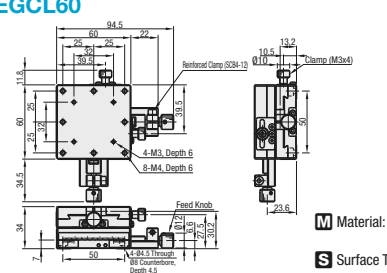
XYEGCL25



XYEGCL40



XYEGCL60



M Material: (Main Body) Low Cadmium Brass
(Feed Knob) Aluminum

S Surface Treatment: Black Fluororesin Treatment

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (μm)	Moment Load Capacity (N · m)			XY Orthogonality	Weight (kg)	Unit Price
							Pitching	Yawing	Rolling			
XYEGCL	25	25x25	±5	0.5	28.4	30	1.3	1.5	1.3	70μm	0.20	
	40	40x40	±7		27.4		3.0	3.0	3.0			
	60	60x60	±9		33.3		4.0	4.0	4.0			

☑ Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. **P.2004**
☑ Travel accuracy values shown are for single axis configuration.

Ordering Example

Part Number
XYEGCL60

Alterations

Part Number - (R)
XYEGCL60 - R

Alteration

Spec.

Code

Clamp Position
(Left/Right Reversed)



R

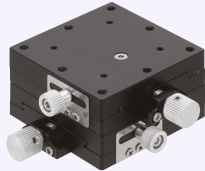
☑ See the CAD data for details.

[High Precision] XY-Axis Dovetail Slide, Feed Screw

Symmetrical Stack, Space Saving

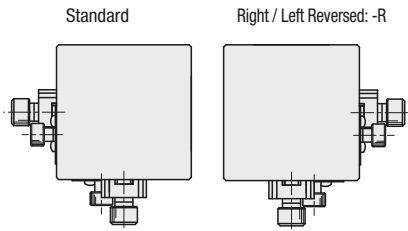
■ **Features:** Since two side faces out of four are freely configurable, this type of stage product can be symmetrically aligned with its reserved type for combination use or can be configured for space-saving.

■ Symmetrical Stack, Space Saving



Dovetail Slide DSXYEG

- The number of faces intended for feed knob / clamp operations is limited to two.
- Space needed for adjustment is saved.
- It is also possible to reposition two stages in such a way that they become much closer to each other.



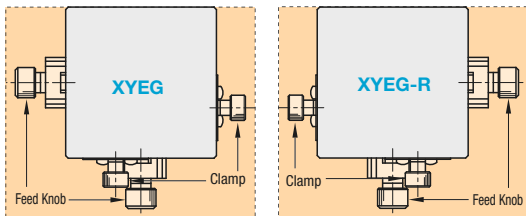
⚙ When symmetrical use as shown on the above figure is desired, select one ☐ Type and one ☐-R Type, respectively. (Those types are not sold as a set.)

RoHS

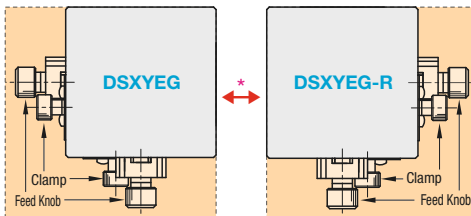
⚙ (Note) For dimension details, see the CAD data or the catalog's X-Axis stage dimension details on P.1933.

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Stage Configuration (XEG: P.1897)		Reference Part Number (Page)	Unit Price
					Top	Bottom		
DSXYEG	25	25x25	±5	28.4	XEG25-R	XEG25	XYEG (Asymmetrical) (P.1933)	
	25-R				XEG25	XEG25-R		
	40	40x40	±7	27.4	XEG40-R	XEG40		
	40-R				XEG40	XEG40-R		
	60	60x60	±9	33.3	XEG60-R	XEG60		
	60-R				XEG60	XEG60-R		

■ XYEG



■ DSXYEG



* Realization of Space Saving

⬜: Accessible Space

- Three open sides are needed for Feed Knobs and Clamps
- Sufficient space must be retained for adjustment.



Ordering
Example

Part Number

DSXYEG60
DSXYEG60-R

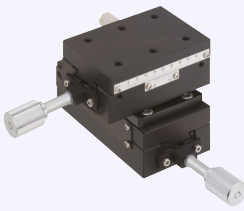
⚙ For symmetrical use, select one standard stage and one reversed (-R Type) stage, respectively, as indicated above.

[High Precision] XY-Axis Dovetail Slide, Feed Screw

Rectangular / Reinforced Clamp / Low Profile (Lead 4.2mm)

■ **Features:** Smooth feeding 4.2mm lead Dovetail Slide Feed Screw Stages.

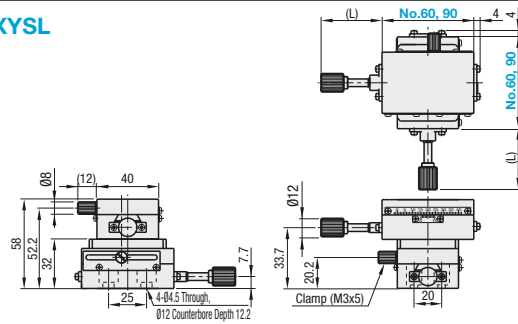
■ XY-Axis, Rectangular (Lead 4.2mm)



X-Axis: P.1900
Z-Axis: P.1960

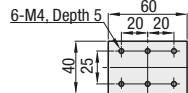
RoHS

XYSL

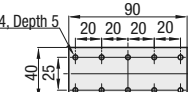


•Stage Top Mounting Hole Dimensions

No.60



No.90



⬜ Material: Aluminum Alloy
⬜ Surface Treatment: Black Anodize

Part Number		Stage Surface	Travel Distance	(L)	E	Travel per Rotation	Load Capacity	Travel Accuracy (μm)		Weight	Accessory (4 pcs.)	Unit Price
Type	No.	(mm)	(mm)			(mm)	(N)	Straightness	Parallelism	(kg)	Type M-L	
XYSL	60	40x60	±21	40	34	4.2	34.3	30	30	0.45	SCB4-8	
	90	40x90	±35	60	49					0.63		

⚙ Resolution (Vernier Scale Indication): 0.1mm/division
⚙ Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. ⬜ P.2004
⚙ Travel accuracy values shown are for single axis configuration.



Part Number
XYSL60



Alterations Part Number - (R)
XYSL90 - R

⚙ See the CAD data for details.

■ The feed knob is directly retained with a split clamp, resulting in less position drift.

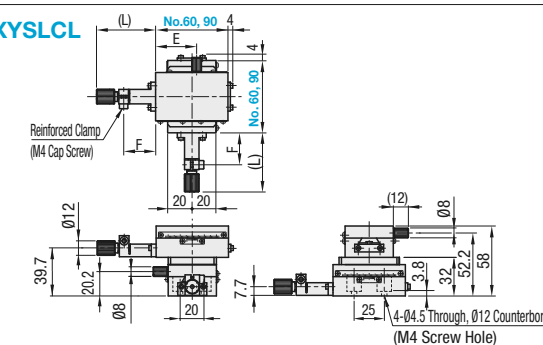
■ XY-Axis, Reinforced Clamp (Lead 4.2mm)



X-Axis: P.1900
Z-Axis: P.1960

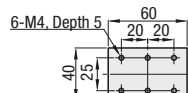
RoHS

XYSLCL

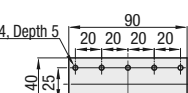


•Stage Top Mounting Hole Dimensions

No.60



No.90



⬜ Material: Aluminum Alloy
⬜ Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	(L)	E	F	Travel per Rotation	Load Capacity	Travel Accuracy (μm)	Weight	Accessory (4 pcs.)	Unit Price
Type	No.	(mm)	(mm)	(mm)	(mm)	(mm)	(N)	Straightness Parallelism	(kg)	Type M-L	
XYSLCL	60	40x60	±21	49	34	26	37.4	30	30	0.37	SCB4-8
	90	40x90	±35	63	49	40.5	36.7			0.53	

⚙ Resolution (Vernier Scale Indication): 0.1mm/division
⚙ Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. ⬜ P.2004
⚙ Travel accuracy values shown are for single axis configuration.



Part Number
XYSLCL90



Alterations Part Number - (R)
XYSLCL60 - R

⚙ The reinforced clamp and the clamp screw are tightened in the same direction.

⚙ See the CAD data for details.

■ Travel distance per knob rotation is approx. 1/4 of the Rack & Pinion Type. Suitable for fine pitch positioning over a long stroke.

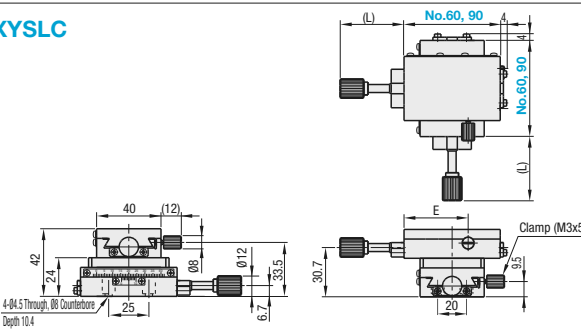
■ XY-Axis, Low Profile (Lead 4.2mm)



X-Axis: P.1900
Z-Axis: P.1960

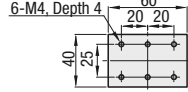
RoHS

XYSLC

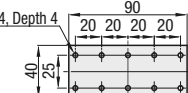


•Stage Top Mounting Hole Dimensions

No.60



No.90



⬜ Material: Aluminum Alloy
⬜ Surface Treatment: Black Anodize

Part Number		Stage Surface (mm)	Travel Distance (mm)	(L)	E	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy (μm)		Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
Type	No.							Straightness	Parallelism			
XYSLC	60	40x60	±21	40	40	4.2	24.5	30	30	0.33	SCB4-5	
	90	40x90	±35	60	55					0.43		

⚙ Resolution (Vernier Scale Indication): 0.1mm/division
⚙ Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. ⬜ P.2004
⚙ Travel accuracy values shown are for single axis configuration.



Part Number
XYSLC60



Alterations Part Number - (R)
XYSLC90 - R

⚙ The reinforced clamp and the clamp screw are tightened in the same direction.

⚙ See the CAD data for details.

[Simplified Adjustments] XY-Axis, Rack & Pinion

[Standard] XY-Axis Dovetail Slide, Rack & Pinion

Rectangular / Low Profile

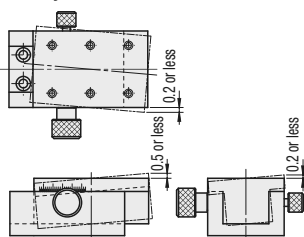
■ **Features:** Rack & Pinion mechanism enables rapid and large distance adjustments.

■ XY-Axis



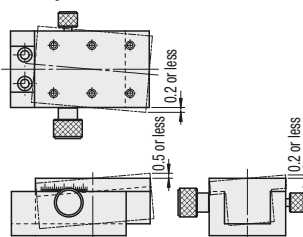
■ X-Axis **P.1902**
● Travel per Rotation: approx. 19mm

■ Accuracy Standards



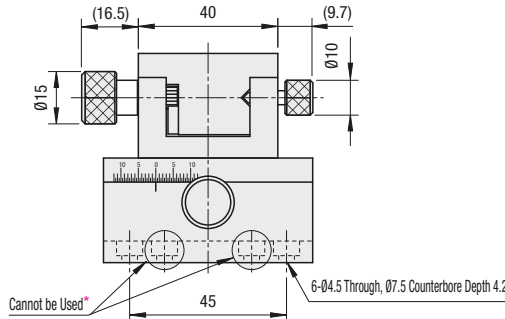
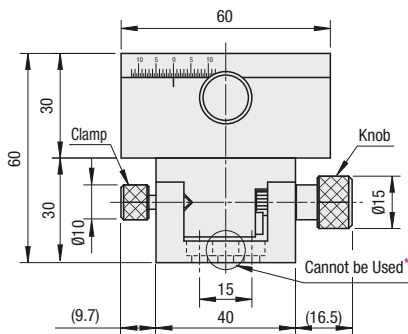
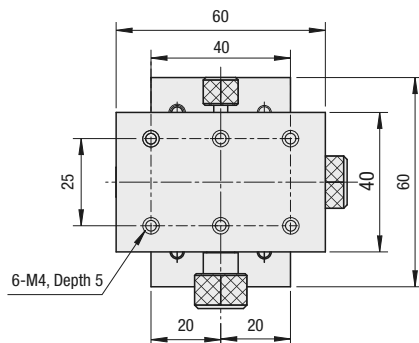
● There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies. Values are for single-axis configuration.

■ Accuracy Standards



● There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies. Values are for single-axis configuration.

XYKRG60



● Not suitable for precise positioning (See Accuracy Standards Chart)
● Minimum Graduation: 0.5mm (Dimensions when scale is set at 0)
● These counterbored holes are NOT useable since permanently covered by the table top plate. (For XY Stacking)

■ Material: Aluminum Alloy
■ Surface Treatment: Black Anodize
■ Accessory: Hex Socket Low Head Cap Screw (P2-194, CBS4-6) 4 pcs.

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price
XYKRG	60	40x60	±14	34.3	0.42	

● Travel per Rotation: Approx. 19mm

● For orders larger than indicated quantity, please request a quotation.

Ordering Example
Part Number
XYKRG60

Points on Similar Product Comparison | Travel Accuracy (Straightness) 50µm

■ P.1937, ■ P.1938

■ **Features:** Rapid feed Rack & Pinion stages with less accuracy and more economical prices than existing products.

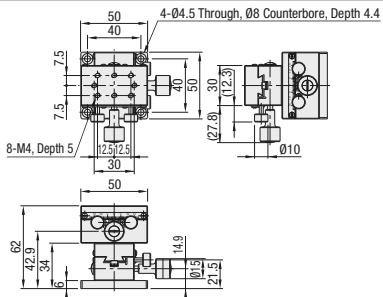
■ XY-Axis



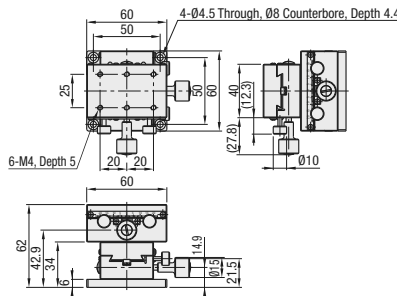
■ X-Axis **P.1903**
■ Z-Axis **P.1953**

RoHS

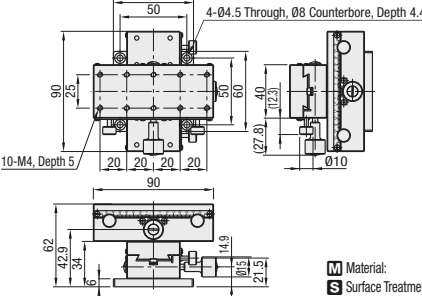
XYDTS50



XYDTS60



XYDTS90



■ Material: Aluminum Alloy
■ Surface Treatment: Black Anodize

■ **XY-Axis Stages** ● High Precision Stage Existing Product: XYWG (P.1937)

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
XYDTS	50	30x30	±16	16.7	24.5	50µm	0.39	
	60	40x60	±21		34.3		0.52	
	90	40x90	±35				0.72	

● Resolution (Vernier Scale Indication): 0.1mm/division
● Knob Cover HDVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. ■ P.2004
● Travel accuracy values shown are for single axis configuration.

● For orders larger than indicated quantity, please request a quotation.

Ordering Example
Part Number
XYDTS60

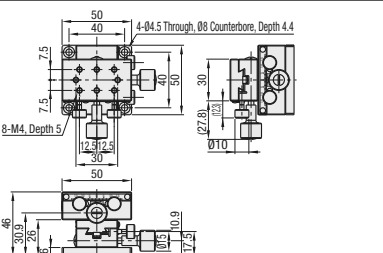
■ XY-Axis, Low Profile



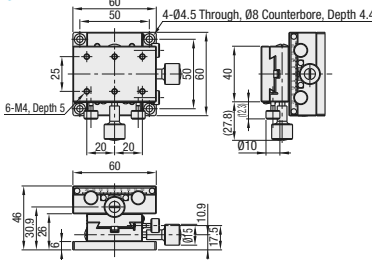
■ X-Axis **P.1903**
■ Z-Axis **P.1953**

RoHS

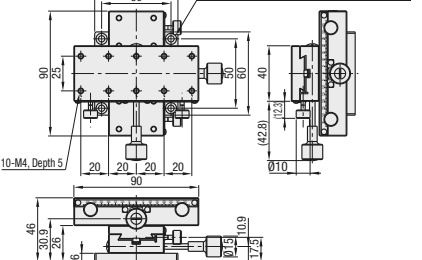
XYDTS50



XYDTS60



XYDTS90



■ Material: Aluminum Alloy
■ Surface Treatment: Black Anodize

● See the CAD data for details.

● Please note that the mounting plate and the bottom feed knob may interfere when the bottom plate is removed for use.

■ **XY-Axis Stages** ● Standard Type: XYDTS (P.1938)

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
XYDTS	50	50x30	±15	14.7	24.5	50µm	0.33	
	60	60x40	±20				0.42	
	90	90x40	±35				0.57	

● Resolution (Vernier Scale Indication): 0.1mm/division
● Knob Cover HDVR15 (Sold Separately): Dovetail Stage Ø15 knobs can be increased in diameter by installing the cover. ■ P.2004
● Travel accuracy values shown are for single axis configuration.

● For orders larger than indicated quantity, please request a quotation.

Ordering Example
Part Number
XYDTS90

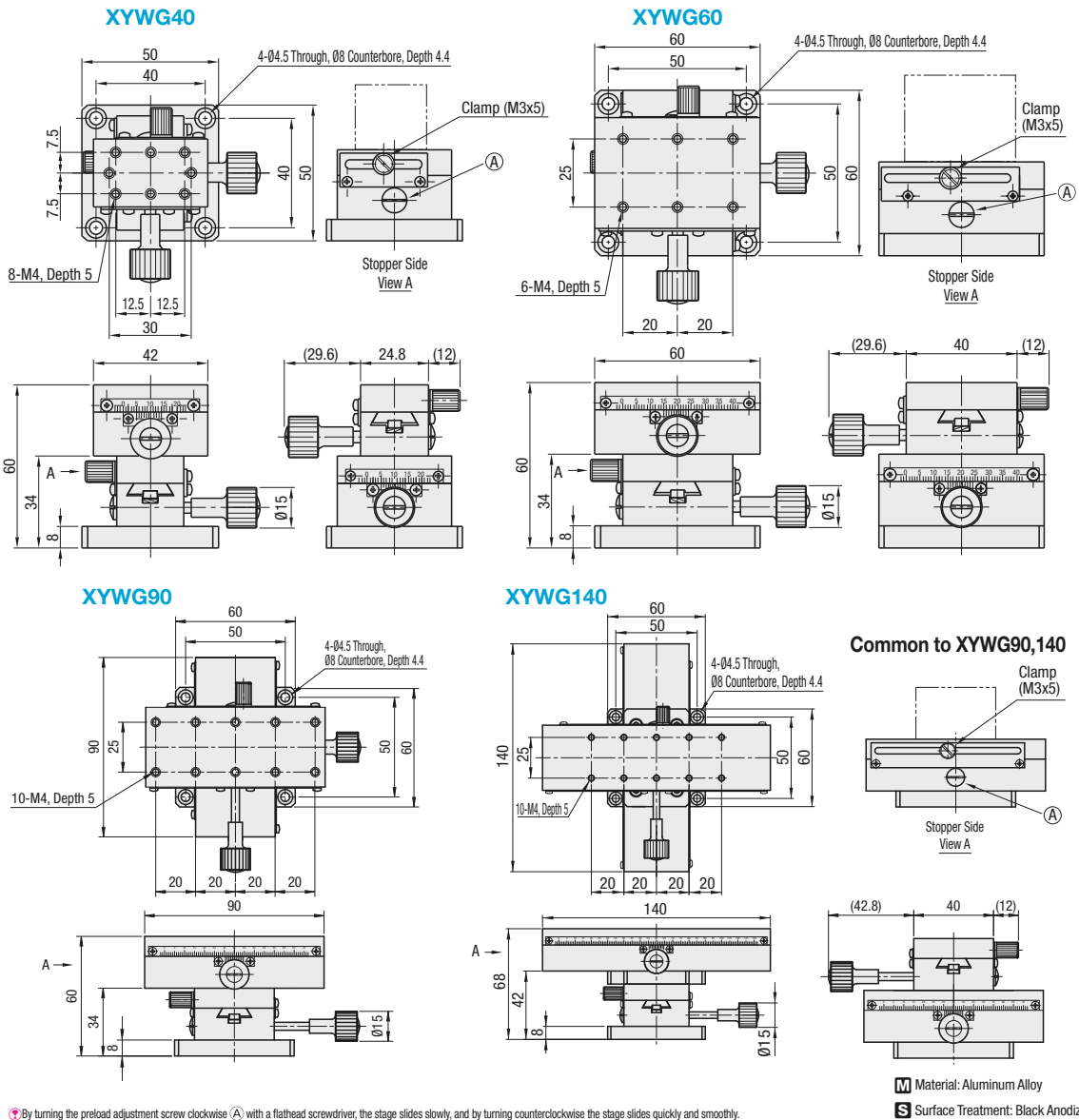
[High Precision] XY-Axis Dovetail Slide, Rack & Pinion Rectangular

■Features: Square Dovetail Slide XY-Axis Stages with 18mm travel per knob rotation. Can be utilized for smooth long distance moves.

■XY-Axis, Rectangular

✎ X-Axis: P1904
✎ Z-Axis: P1954

RoHS



✎ By turning the preload adjustment screw clockwise (A) with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.

✎ Standard Stages Similar Products (available for limited sizes only): XYDTS (P1938)

Part Number		Stage Surface	Travel Distance	Travel per Rotation	Load Capacity	Travel Accuracy	Weight	Unit Price
Type	No.	(mm)	(mm)	(mm)	(N)	Straightness	(kg)	
XYWG	40	24.8x42	±12	18	24.5	30μm	0.29	
	60	40x60	±21		34.3		0.51	
	90	40x90	±35				0.73	
	140	40x140	±60				1.08	

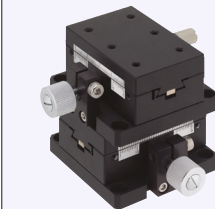
✎ Resolution (Vernier Scale Indication): 0.1mm/division
✎ Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. ✎ P2004
✎ Travel accuracy values shown are for single axis configuration.

Ordering Example
Part Number
XYWG90

[High Precision] XY-Axis Dovetail Slide, Rack & Pinion Rectangular, Reinforced Clamp / Square

■Features: Feed knob shaft is directly clamped for improved position holding performance compared to XYWG on P1939.

■XY-Axis, Reinforced Clamp

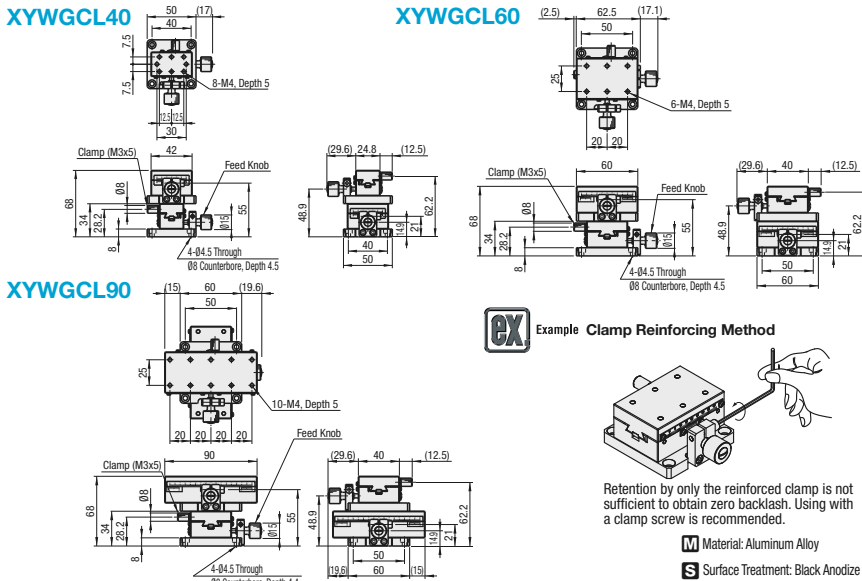


✎ X-Axis: P1906
✎ Z-Axis: P1958

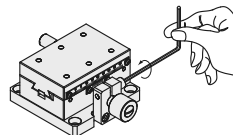
RoHS

Part Number		Stage Surface	Travel Distance	Travel per Rotation	Load Capacity	Travel Accuracy	Orthogonality	Weight	Unit Price
Type	No.	(mm)	(mm)	(mm)	(N)	Straightness (μm)	(μm)	(kg)	
XYWGCL	40	24.8x42	±12	18	24.5	30	100	0.35	
	60	40x60	±21		34.3			0.59	
	90	40x90	±35					0.81	

✎ Resolution (Vernier Scale Indication): 0.1mm/division
✎ Knob Cover HDCVR15 (Sold Separately): Ø15 knob diameter can be increased to Ø24 by installing the cover. ✎ P2004
✎ Travel accuracy values shown are for single axis configuration.



Example Clamp Reinforcing Method



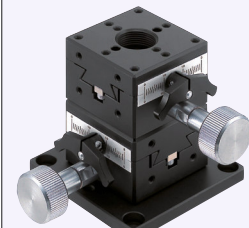
Retention by only the reinforced clamp is not sufficient to obtain zero backlash. Using with a clamp screw is recommended.

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

Ordering Example
Part Number
XYWGCL140

■Features: Square Dovetail Slide XY-Axis Stages with 18mm travel per knob rotation. Each size has a different clamp configuration. The XYFG40 has a lever type clamp. (See P1957 for details.)

■XY-Axis, Square



✎ X-Axis: P1911
✎ Z-Axis: P1957

RoHS

Part Number	Stage Surface	Travel Distance	Travel per Rotation	Load Capacity	Travel Accuracy	Weight	Accessory (4 pos.)	Unit Price
Type	No.	(mm)	(mm)	(N)	Straightness	(kg)	Type M-L	
XYFG	25	25x25	±5	17	28.4	0.18	SCB2-12	
	40	40x40	±10	20	27.4	0.37	SCB4-6	
	60	60x60	±20	18	29.4	1.19	SCB4-6	

✎ Resolution (Vernier Scale Indication): 0.1mm/division
✎ Travel accuracy values shown are for single axis configuration.

Alterations
Part Number - (M)
XYFG40 - M

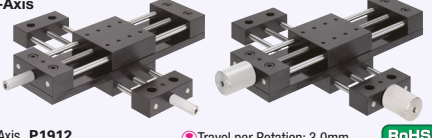
✎ See the CAD data for details.

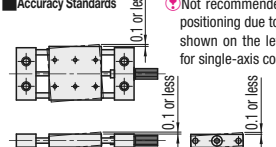
Alteration	No Bottom Plate
Spec.	XYFG40 4-Ø4.3 Through (From Back), Ø6 Counterbore, Depth 10 (M3 Screw Hole)
	XYFG60 2-Ø4.5 Through (From Back), Ø8 Counterbore, Depth 6 (M4 Screw Hole)
Code	M

[Simplified Adjustments] XY-Axis, Feed Screw, Large Lead (3.0mm)

Standard/Large Handle Selectable

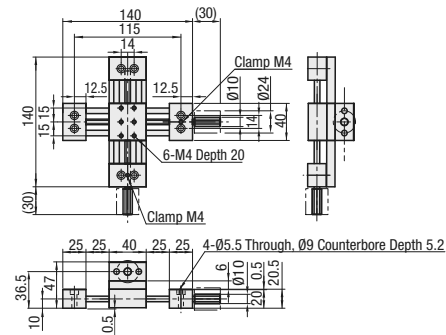
■Features: 3.0mm lead feed screw stages are combined into XY arrangement. Convenient when rapid feeding characteristic is desired.

XY-Axis

X-Axis **P.1912**
Travel per Rotation: 3.0mm
RoHS

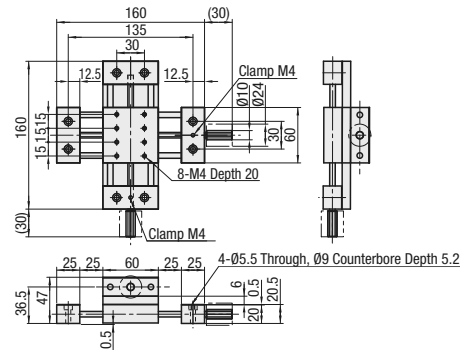
Accuracy Standards

Not recommended for precise positioning due to its clearance shown on the left. Values are for single-axis configuration.
One Point
Long stroke moves can be made easily with use of a ball-point hex wrench.

Type		Main Body		Shaft	Knob	Feed Screw	Accessory
Standard Handle	Large Handle	Material	Surface Treatment	Material	Material	Material	
XYKS	XYKSL	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	SCB5-20, 4pcs.

No.40

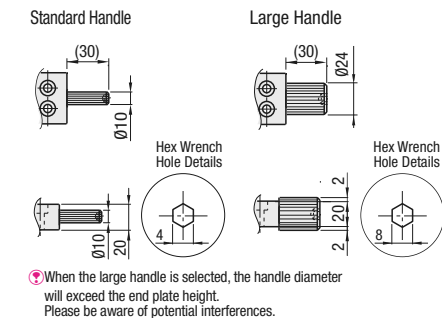


No.60

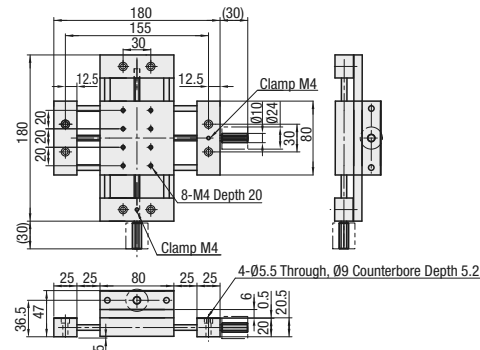


Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.

Handle Shape Comparisons



No.80



Part Number		Stage Surface	Travel Distance	Load Capacity	Weight	Unit Price		
Type	No.	Large Handle	(mm)	(N)	(kg)	XYKS	XYKSL	XYKSL
(Standard Handle)	40	(Large Handle Top & Bottom)	40x40	±25	62.7	0.66		
XYKS	60	(Large Handle Top only)	60x60	±25	62.7	1.17		
(Large Handle Selection)	80	(Large Handle Bottom only)	80x80	±25	56.8	1.64		
XYKSL								

Travel per Rotation: 3.0mm

Alterations Part Number - (MMR, CLC)
XYKSL40A - MMR

Alterations
Spec.
Code

Mounting of a Scaled Plate on the Stage
Scaled Plate will be mounted.
Minimum Graduation: 0.5mm
Included screws are changed as shown on the below right.
MMR alteration will change the mounting hole pitch since a plate is attached to the stage.
Accessory (4 pcs.)
No.40:CBST4-8 No.60:CBST4-8
No.80:CBST4-8
MMR

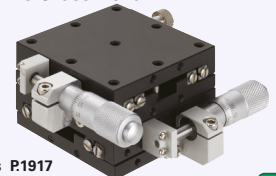
Change of Clamp (Knurled Knob)
Changes Clamp Screw to Knurled Knob.
Changes are for both X and Y axes.
CLC

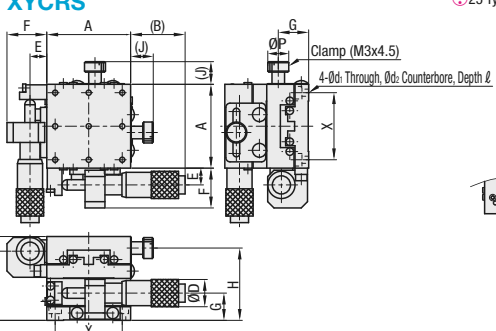
[Standard] XY-Axis Cross Roller / XY-Axis Linear Ball Slide

Points on Similar Product Comparison | Travel Accuracy Straightness: 30µm, Parallelism: 60µm

P.1943, P.1946

■Features: Economical stages with a micrometer head capable of 0.01mm resolution adjustments.

XY-Axis Cross Roller

X-Axis **P.1917**
Z-Axis **P.1967**
RoHS

XYCRS

25 Type has different feed bracket configuration.
A120 micrometer tip shape is different.
Material: Aluminum Alloy
Surface Treatment: Black Anodize

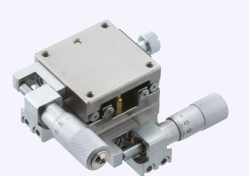
Part Number		Top View										Front View					Side View				
TYPE		A	(B)	Travel Distance (mm)	E	F	(J)	D	G	H	L	T	P	Q	X	d1	d2	ℓ			
XYCRS	25	29	29	±3.2	7	11.8	(6.6)	9.5	9.3	21.8	24.3	30	6	6.8	20	2.4	4.2	2.5			
	40	26			8	19	(10.8)	13	13	34.5	33	40	10	14.5	32	3.4	6	3.3			
	50	23		±6.5	8	19	(10.8)	13	13	34.5	33	40	10	14.5	40	3.4	6	3.5			
	60	21			8	19	(10.8)	13	13	34.5	33	40	10	14.5	50	4.5	8	4.4			
	80	22			8	19	(10.8)	13	13	34.5	33	40	10	14.5	70	4.5	8	4.4			
	90	34.8		±12.5	8	19	(10.8)	13	13	34.5	33	40	10	14.5	80	4.5	8	5.3			
	100	20.8			8	19	(10.8)	13	13	34.5	33	40	10	14.5	90	4.5	8	5.3			
	120	88		±25	13.5	26	(10.8)	19.1	11	34.5	31	40	10	14.5	100	4.5	8	5.3			

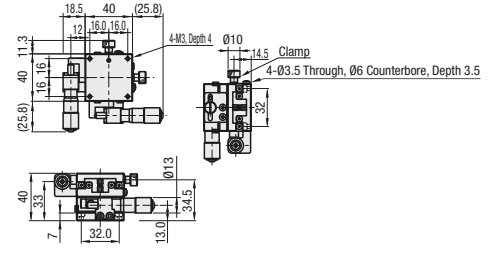
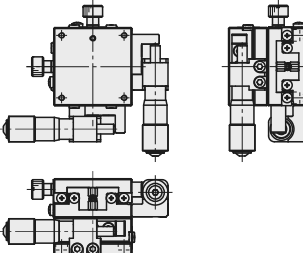
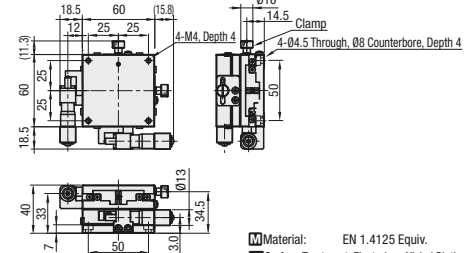
Performance

A	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy		Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Parallelism	Weight (kg)	Unit Price
			Straightness	Motion Parallelism	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
25	25x25	9.8	30µm	60µm	0.4	0.8	0.4	4.83	5.70	4.83	100µm	0.09	
40	40x40	17.6			2.0	2.2	2.0	0.66	0.84	0.66		0.28	
50	50x50	28			3.4	3	3.4	0.35	0.4	0.35		0.36	
60	60x60	44.1			5.2	4.3	5.2	0.19	0.22	0.19		0.48	
80	80x80	93.1			17.3	15.1	17.3	0.09	0.10	0.09	120µm	0.77	1.00
90	90x90	110			22.0	20.0	22.0	0.09	0.10	0.09		1.00	
100	100x100	140			33.0	30.0	33.0	0.11	0.14	0.11		1.20	
120	120x120	180			57.2	44.7	57.2	0.04	0.04	0.04		1.91	

Ordering Example Part Number
XYCRS60

Points on Similar Product Comparison | Travel Accuracy (Straightness) 10µm

XY-Axis, Linear Ball Slide

X-Axis **P.1920**
Z-Axis **P.1965**
RoHS

XYLBS40
(Standard)

XYLBS-CR
(Reversed)

XYLBS60
(Standard)

Material: EN 1.4125 Equiv.
Surface Treatment: Electroless Nickel Plating

High Precision Stage Existing Product: XYSG (P.1946)

Part Number		Stage Surface	Travel Distance	Load Capacity	Minimum Capacity	Travel Accuracy			Moment Rigidity (°/N·cm)			Parallelism	Weight	Included Screw	Unit Price
Type	No.	(mm)	(mm)	(N)	(N)	Straightness	Pitching	Yawing	Pitching	Yawing	Rolling	(µm)	(kg)	(Stainless Steel Hex Socket/Low Head Cap Screw)	
XYLBS	40	No Symbol (Standard)	40x40	95.6	10	10µm	30"	25"	0.59	0.7	0.59	60	0.48	M3-8, 4 pcs.	
	60	CR (Right/Left Reversed)	60x60	191.6	10	10µm	35"	30"	0.15	0.16	0.15	60	0.88	M4-8, 4 pcs.	

Ordering Example Part Number
XYLBS40

[High Precision] XY-Axis Cross Roller / Cross Roller with Dowel Holes

Micrometer Head / Feed Screw

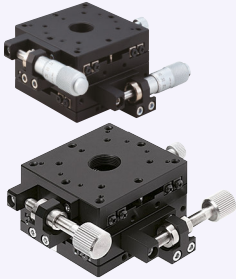
[Standard] XY-Axis Cross Roller

Low Profile

P.1945

■ **Features:** High mounting repeatability is obtained with the dowel holes of XYPGN.

XY-Axis

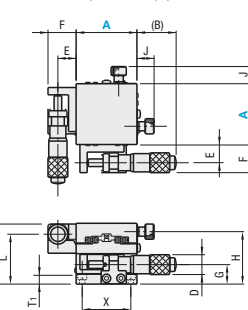


X-Axis: P.1918
Z-Axis: P.1968

RoHS

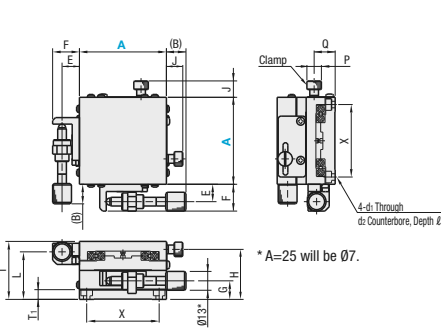
Micrometer Head

XYPG (25≤A≤120)
XYPGN (A=40, 60) (with Dowel Holes)



Feed Screw (Pitch 0.5)

XYPG (25≤A≤120)
XYPGN (A=40, 60) (with Dowel Holes)

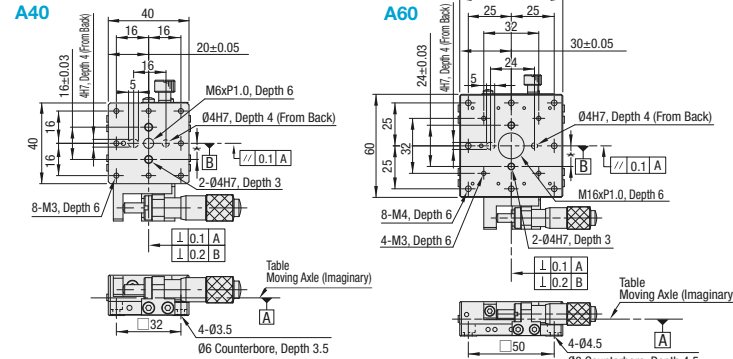


* A=25 will be Ø7.

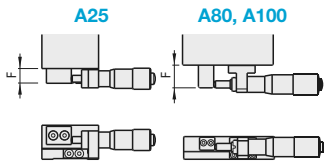
For mounting hole dimensions of the Cross Roller Stage top table, see P.1918.

● **Mounting Hole Dimensions on the Top/Bottom of the Table of XY-Axis Stages with Dowel Holes**

- H7 hole and H7 long hole on bottom surface, and 2 H7 holes on upper surface.
- Theoretical dimension tolerance of dowel holes on top and bottom surfaces is ±0.165.



● A25, 80, and 100 have different feed bracket configuration.



See the CAD data for details.

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

Standard Stages Similar Products: XYCRS (P.1942)

Micrometer Head (XYPG, XYPGN), Feed Screw (XYPG)

Part Number		Top View										Front View					Side View				
Type	A	Standard Micrometer		Feed Screw		E	F	J	D	G	H	T ₁	L	T	P	Q	X	d ₁	d ₂	ℓ	
		(B)	Travel Distance (mm)	(B)	Travel Distance (mm)																
XYPG	25	25	±3.2	11	±3.2	4.5	6.5	6.8	9.3	8.5	25.9	4.5	23.5	30	6	10.5	20	2.5	4.2	2	
	40	25.8	±6.5	25.8	±6.5	12	18.5	11.3	13	12.8	34.5	6.5	32.8	40	10	14.5	32	3.5	6	3.5	
	60	19.8		19.8		12	18.5	11.3	13	12.8	34.5	6.5	32.8	40	10	14.5	50	4.5	8	4	
XYPGN	80	43.5	±12.5	10	-	17	22*	11.3	18	11	34.5	5.7	31	40	10	14.5	70	4.5	8	4.5	
(Dowel Hole Type for 40 and 60 only)	*100	28.5	-	-	-	17	22	11.3	18	11	34.5	5.7	31	40	10	14.5	90	4.5	8	4.5	
	*120	67.5	±25	-	-	13	20	11.5	21	18	48.0	9.5	48	60	10	18	100	4.5	8	4.5	

* A100 and 120 are not available for Feed Screw Type (XYPG). * When A=80 for the Feed Screw Type (XYPG), F=20.

Performance

A	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)				Moment Rigidity ("N·cm)				Parallelism	Weight (kg)	Accessory (4 pcs.)	Unit Price			
			Straightness	Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling	Pitching	Yawing				Rolling	Type	M-L	XYPG
25	25x25	9.8	3μm	20μm	30"	30"	0.4	0.8	0.4	4.83	5.70	4.83	60μm	0.08	SCB2-6	-	-	-	-		
40	40x40	17.6					2.0	2.2	2.0	0.66	0.84	0.66		0.3	SCB3-6	-	-	-	-	-	-
60	60x60	44.1					5.2	4.3	5.2	0.19	0.22	0.19		0.52	SCB4-6	-	-	-	-	-	-
80	80x80	93.1					17.3	15.1	17.3	0.09	0.10	0.09		1.00	SCB4-6	-	-	-	-	-	-
100	100x100	140.1					33.0	30.0	33.0	0.11	0.14	0.11		1.40	SCB4-6	-	-	-	-	-	-
120	120x120	180.3					57.2	44.7	57.2	0.04	0.04	0.04		3.20	SCB4-10	-	-	-	-	-	-

● XYPG and XYPGN: Micrometer Head Resolution: 10μm/division



Express service is not available.

Alterations	Position of Micrometer Head and Feed Screw				Spec.
	Side Mount - Right / Left Reversed	Center	Disc Clamp	Opposed Clamp	
Code	CR	A	H	P	MN
	CR	A	H	P	

Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.

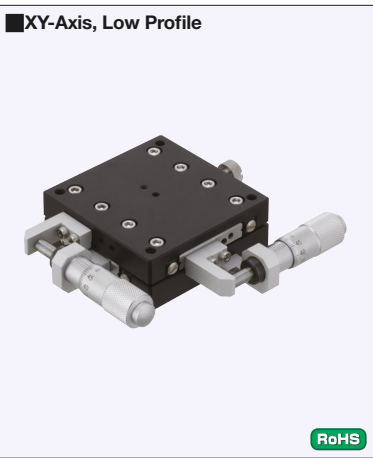
For micrometer head or feed screw mounted in positions other than shown below, see "Specification Selectable Type" (P.1989).

Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004

Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

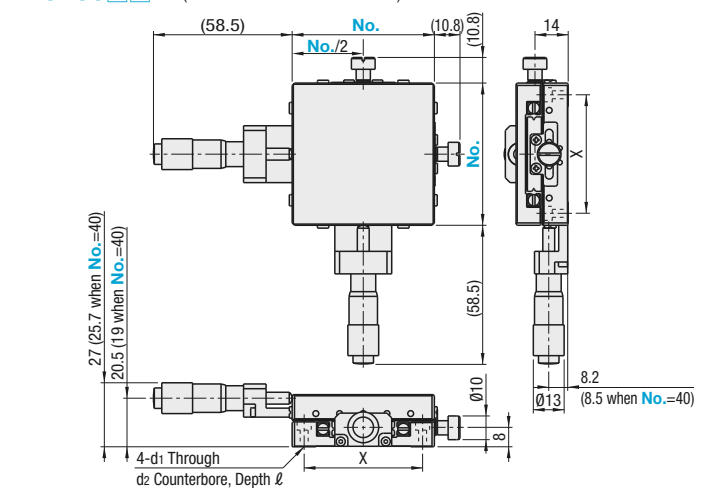
Points on Similar Product Comparison | Travel Accuracy (Straightness) 30μm

XY-Axis, Low Profile

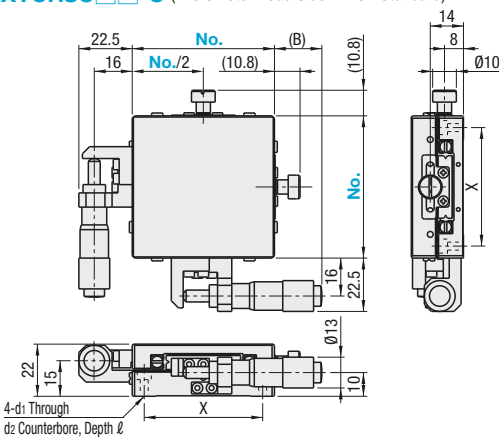


RoHS

XYCRSC□□-A (Micrometer Head Center Drive)



XYCRSC□□-C (Micrometer Head Side Drive - Standard)

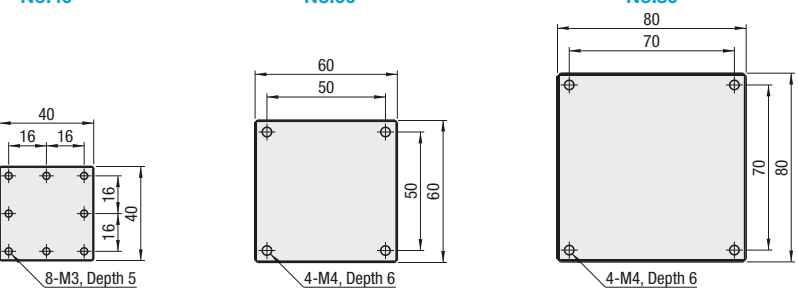


Mounting Hole Dimensions of the Top Table

No.40

No.60

No.80



M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

XY-Axis Stages High Precision Stage Existing Product: XYSPG (P.1945)

Part Number	Type	No.	Micrometer Head Position	Stage Surface (mm)	Travel Distance (mm)	Top View (B)				Side View				Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
						X	d ₁	d ₂	ℓ	X	d ₁	d ₂	ℓ				
XYCRSC	40	40	A (Center)	40x40	±6.5	36	32	3.4	6	3.5	9.8	30μm	0.2	-	-	-	-
XYCRSC	60	60	C (Standard)	60x60	±6.5	20	50	4.5	8	4.5	29.4	30μm	0.4	-	-	-	-
XYCRSC	80	80	CR (Right/Left Reversed)	80x80	±6.5	11	70	4.5	8	4.5	39.2	30μm	0.7	-	-	-	-

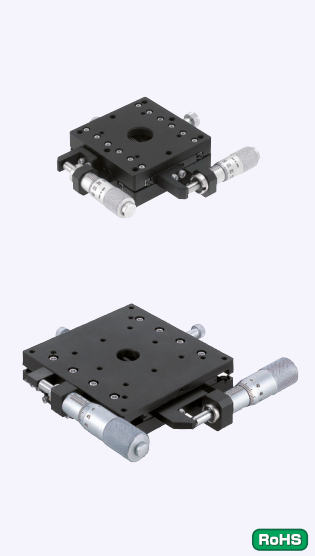


[High Precision] Cross Roller

Low Profile / Through Hole

■ **Features:** Extra low profile achieved by XY-Axis unitized construction in comparison to YYPG (P.1943). 28mm height or less and no need for orthogonal aligning.

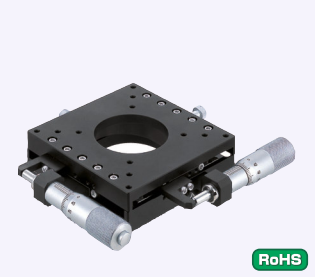
■ XY-Axis, Low Profile



	XYSPG	40	SCB3-10	4
		60	SCB4-10	
		80	SCB4-10	
		100	SCB4-10	

■ **Features:** There is a Ø50 through hole in the stage center. Useful for illuminating from directly below.

■ XY-Axis, Through Hole



M	Material:	Aluminum Alloy
S	Surface Treatment:	Black Anodize
A	Accessory:	SCB4-14 (4 pcs.)

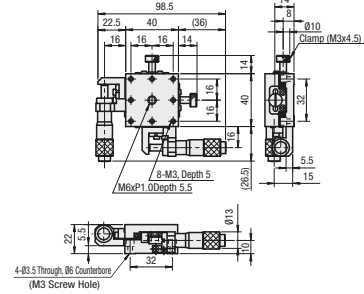
☞ Standard Stages Similar Products (available for limited sizes only): XYCRSC (P.1944)

Part Number		Stage Surface	Travel Distance	Load Capacity	Travel Accuracy				Moment Load Capacity (N · m)			Moment Rigidity ("N · cm)			Parallelism	Weight (kg)	Unit Price
Type	No.	(mm)	(mm)	(N)	Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
XYSPG	40	40x40	±6.5	9.8	3μm	20μm	40°	20"	0.7	0.8	0.7	0.57	0.50	0.64	50μm	0.2	
	60	60x60		29.4					2.3	1.9	2.3	0.19	0.13	0.15		0.4	
	80	80x80	±12.5	39.2					5.1	4.2	5.1	0.13	0.13	0.11		0.7	
	100	100x100							5.1	4.2	5.1	0.08	0.10	0.08		1.1	
XYPPG	100	100x100	±12.5	63.7	3μm	20μm	25°	15°	4.6	3.9	4.6	0.07	0.08	0.10	50μm	1.0	

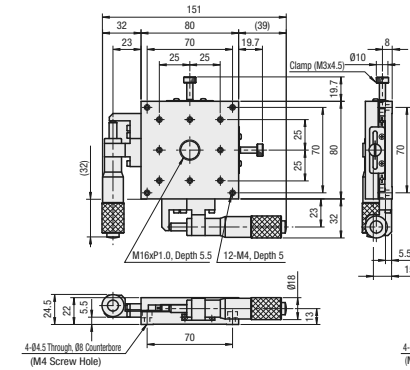
☞ Micrometer Head Resolution: 10μm/division

Ordering Example	Part Number
	XYSPG80

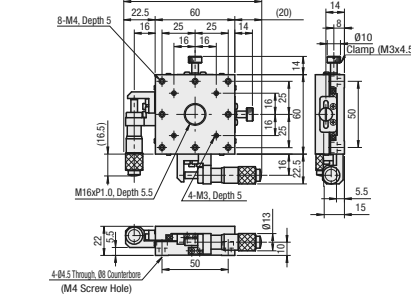
XYSPG40



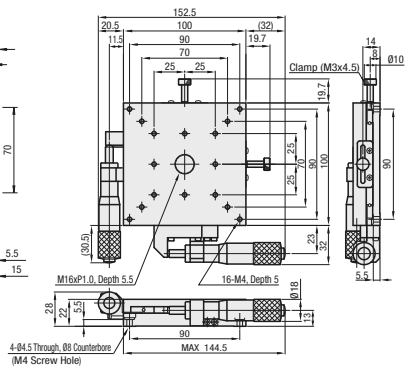
XYSPG80



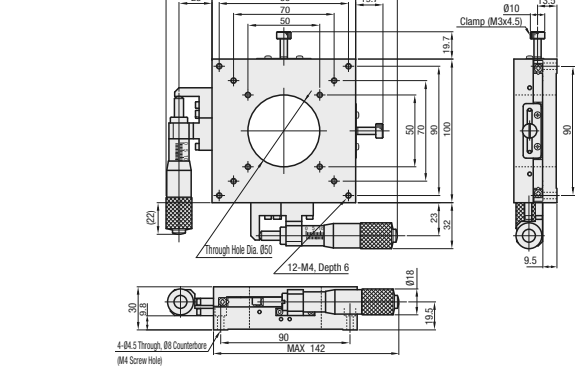
XYSPG60



XYSPG100



XYPPG100



Alterations	Part Number - (CR, A)
	XYSPG60 - CR

Alterations	Micrometer Position	
	Side Mount - Right / Left Reversed	Center
Spec.		
Code	CR	A

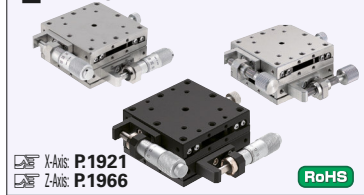
- ☞ Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.
- ☞ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer head knob can be increased in diameter by installing the cover. ☞ P2004
- ☞ Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. ☞ P2004

[High Precision] Linear Ball

Micrometer Head / Feed Screw

■ **Features:** Highly accurate, rigid, and economical stages. Even an XY stack is only 40mm high or less, and orthogonality alignment is not needed.

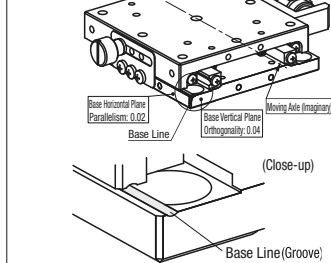
■ XY-Axis



☞ X-Axis P.1921

☞ Z-Axis P.1966

RoHS



☞ MISUMI's Linear Ball Guide Stages have parallel and orthogonal datum in relation to the motion axis. The data are as illustrated.

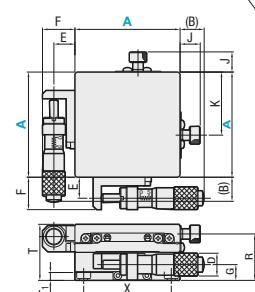
■ Micrometer Head

XYSG

(25≤A≤100)

XYSGB (LTBC Plating)

(25≤A≤80)



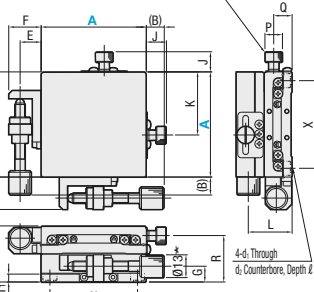
■ Feed Screw (Pitch 0.5)

XYSCG

(25≤A≤100)

XYSCGB (LTBC Plating)

(25≤A≤80)



Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
XYSG (Micrometer)	Material: EN 1.4125 Equiv. Surface Treatment: Electroless Nickel Plating	Material: EN 1.4125 Equiv. Hardness: 58HRC-	Material: SUS304WPB	Material: EN AW-5052 Equiv. Surface Treatment: Clear Anodize	Material: EN 1.4305 Equiv. Surface Treatment: Black Anodize
XYSCG (Feed Screw)					
XYSGB (Micrometer, LTBC Plating)					
XYSCGB (Feed Screw, LTBC Plating)					

☞ For Micrometer Head and Feed Screw materials, see P2005.

☞ For top surface mounting dimensions, see Linear Ball Slide X-Axis Stages on P.1921. ☞ See the CAD data for details.

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

Part Number	Type	Top View										Side View										Accessory (4 pcs.)	
		A	Micrometer	Feed Screw	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	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					26														SCB3-6	
	50	18.5	15	±6.5	12	18.5		31	13	8.9	26.5	32	4.5	10	10.5	24.9	32	3.5	6	3.5		SCB3-6	
	60*	14	10.3					36														SCB4-6	
	70	14.5	10.8					46.5		10	29.5	36	6		11.5	28	60	4.5	8	4.5		SCB4-6	
	80*	43.5	10	±12.5*	17	22*		55	18	10.8	34.5	40	6.5		14.5	30.8	70	7	8	5.3		SCB4-6	
	100	28.5	-5*					67.5									90	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 Load Capacity (N · m)			Moment Rigidity (1/N · cm)			Parallelism	Weight (kg)	Unit Price			
					Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Pitching	Yawing	Rolling			XYSG	XYSCG	XYSGB	XYSCGB
XYSG	25*	25x25	38.2	3μm	10μm	30°	25°	2.0	2.0	2.0	3.00	2.20	3.00	30μm	0.14				
	40*	40x40	95.1	1μm*	12μm	25°	15°	5.0	5.0	5.0	0.63	0.70	0.63		0.46				
	50	50x50	144.1					6.0	6.8	6.0	0.24	0.28	0.24		0.56				
	60*	60x60	192.1					9.0	10.0	9.0	0.13	0.16	0.13		0.80				
	70	70x70	219.5					12.9	13.8	12.9	0.09	0.10	0.09		1.16				
	80*	80x80	255.8					17.7	18.2	17.7	0.06	0.08	0.06		1.80				
	100	100x100	329.6					30.7	31.8	30.7	0.03	0.04	0.03		2.66				

☞ XYSG, XYSGB Micrometer Head Resolution: 10μm/division *4. XYSGB, XYSCGB40 and 60 straightness is 3μm.

Ordering Example	Part Number
	XYSG40
	XYSCGB60

Alterations	Part Number - (CR, A, H, P, MN)
	XYSG40 - A

Alterations	Position of Micrometer Head and Feed Screw		Reinforced Clamp		No Micrometer Head
	Side Mount - Right / Left Reversed	Center	Disc Clamp	Opposed Clamp	No Micrometer Head
Spec.					
Code	CR	A	H	P	MN

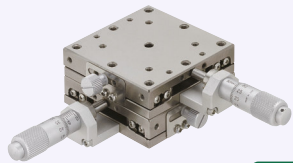
- ☞ For 25 Square Opposed Clamp, the bracket material is EN 1.4305 Equiv. ☞ Standard Stages Similar Products: XYLSB (P.1942)
- ☞ When Position Change Alteration is selected, mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.
- ☞ For micrometer head or feed screw mounted in positions other than shown below, see "Specification Selectable Type" (P.1989).

[High Precision] Linear Ball

Symmetrical Stack, Space Saving

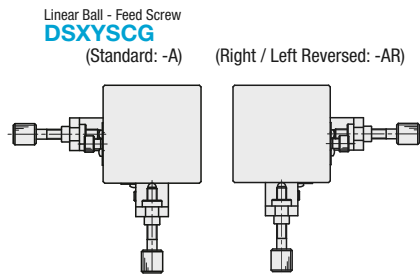
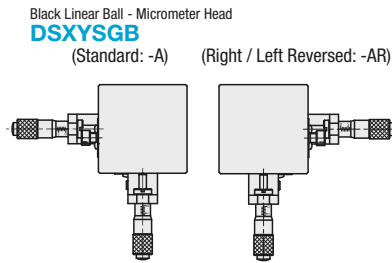
■ **Features:** Since two side faces out of four are freely configurable, this type of stage product can be symmetrically aligned with its reserved type for combination use or can be configured for space-saving.

■ Symmetrical Stack, Space Saving



RoHS

- The number of faces intended for knob / clamp operations is limited to two.
- Space for adjustment is saved
- It is also possible to reposition two stages in such a way that they become much closer to each other.



☞ For dimension details, see the CAD data or the catalog's X-Axis stage dimension details on **P.1946**

Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Stage Configuration		Reference Part Number (Page)	Unit Price	
Type	No.				Top	Bottom		DSXYSGB	DSXYSCG
Black Linear Ball Micrometer Head DSXYSGB Linear Ball Feed Screw DSXYSCG	25-A	25x25	±3.2	38.2	X□□□-AR	X□□□-A	XYSG□-A (P.1946) XYSCG□-A (P.1946) (Asymmetrical)		
	25-AR				X□□□-A	X□□□-AR			
	40-A	40x40	±6.5	95.2	X□□□-AR	X□□□-A			
	40-AR				X□□□-A	X□□□-AR			
	50-A	50x50		144.2	X□□□-AR	X□□□-A		-	
	50-AR				X□□□-A	X□□□-AR			
	60-A	60x60		192.1	X□□□-AR	X□□□-A			
	60-AR				X□□□-A	X□□□-AR			
	70-A	70x70		329.6	X□□□-AR	X□□□-A		-	
	70-AR				X□□□-A	X□□□-AR			
	80-A	80x80	±12.5(*)	255.8	X□□□-AR	X□□□-A			
	80-AR				X□□□-A	X□□□-AR			
	100-A	100x100		329.6	X□□□-AR	X□□□-A		-	
	100-AR				X□□□-A	X□□□-AR			

* Stroke is ±6.5mm for Feed Screw Type.



Ordering Example

Part Number

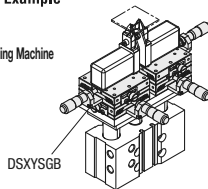
DSXYSGB80-A
DSXYSGB80-AR

☞ For symmetrical use, select one standard stage (-A Type) and one reversed (-AR Type) stage, respectively, as indicated above.



Example

Lead Wire Cutting Machine

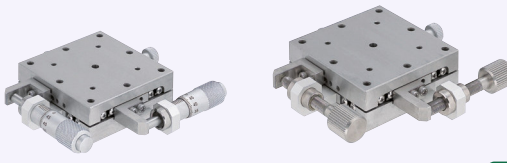


[High Precision] XY-Axis Linear Ball Slide

Low Profile

■ **Features:** Extra low profile achieved by XY-Axis unitized construction in comparison to XYSG (P.1946). 26mm height or less and no need for orthogonal aligning.

■ XY-Axis, Low Profile



RoHS

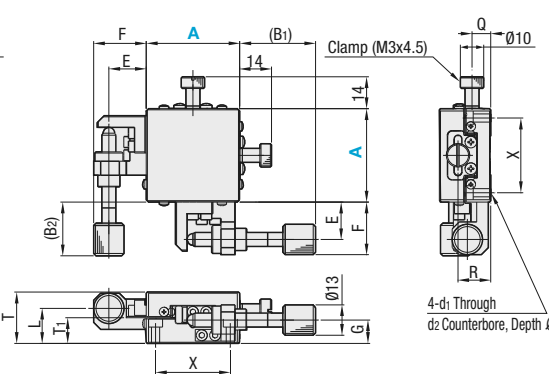
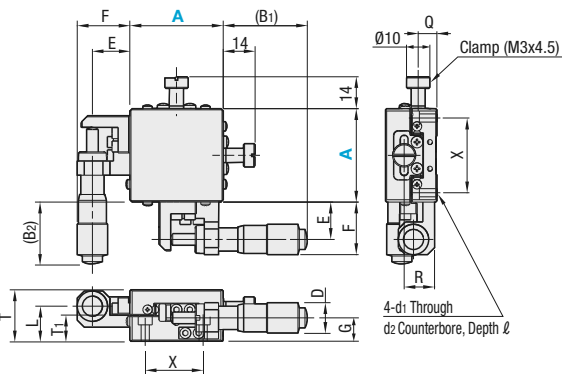
Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
M Material S Surface Treatment	M Material S Surface Treatment	M Material S Surface Treatment	M Material S Surface Treatment	M Material
EN 1.4125 Equiv. Electroless Nickel Plating	EN 1.4125 Equiv. 58HRC~	SUS304WPB	EN AW-5052 Equiv. Clear Anodize	EN 1.4305 Equiv.
☞ For materials of Micrometer Head and Feed Screw components, see P2005, P2006 . ☞ For top surface mounting hole dimensions, see Linear Ball Slide X-Axis Stages on P.1921 .				

■ Micrometer Head

XYSSG (A=40,60,80,100)

■ Feed Screw (Lead 0.5)

XYSSCG (A=40,60,80,100)



■ Micrometer Head (XYSSG), Feed Screw (XYSSCG)

Part Number		Top View						Front View						Side View						Accessory (4 pcs.)
Type	A	Micrometer		Feed Screw		Travel Distance (mm)	E	F	D	G	T	L	T ₁	Q	R	X	d ₁	d ₂	ℓ	Type M-L
		(B ₁)	(B ₂)	(B ₁)	(B ₂)															
XYSSG XYSSCG	40	36	26.5	32.5	23	±6.5	16	22.5	13	10	22	15	10.5	8	14	32	3.5	6	3.5	SCB3-10
	60	20.3	16.5	16.8	13	±6.5	16	22.5	13	10	22	15	10.5	8	14	50	4.5	8	4.5	SCB4-10
	80	39	32	0	-7 ^{*1}	±12.5 ^{*2}	23	32 ^{*2}	18 ^{*2}	15	26	17	12.5	9.5	16.5	70	4.5	8	6.5	SCB4-10
	100	29	22	-10	-17	±12.5 ^{*2}	23	32 ^{*2}	18 ^{*2}	15	26	17	12.5	9.5	16.5	90	4.5	8	6.5	SCB4-10

*1. The end of feed screw (XYSSCG) is at 7mm inside of the stage end face. *2. For XYSSCG Feed Screw Type A=80, 100, travel distance per rotation is ±6.5, F=30, and D=13.

• Performance

Part Number	Type	A	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N · m)			Moment Rigidity (°/N · cm)			Parallelism	Weight (kg)	Unit Price	
					Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			XYSSG	XYSSCG
XYSSG XYSSCG	40	40x40	88.2	3μm	12μm	40"	20"		4.5	5.0	4.5	0.80	0.68	0.85	30μm	0.34		
	60	60x60	186.2						9.0	8.1	9.0	0.21	0.19	0.20		0.64		
	80	80x80	255.8						16.4	15.9	16.4	0.09	0.06	0.08	40μm	1.32		
	100	100x100	329.3						27.6	28.6	27.6	0.06	0.03	0.06		2.66		

☞ XYSSG: Micrometer Head Resolution: 10μm/division



Ordering Example

Part Number

XYSSG40



Alterations

☞ Part Number - (CR, A, MN)
XYSSG40 - **CR**

Alterations	Position of Micrometer Head and Feed Screw		No Micrometer Head
Spec.	Side Mount - Right/Left Reversed	Center	No Micrometer Head
Code	CR	A	MN

☞ When Position Change Alteration is selected, mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.

☞ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. ☞ **P2004**

☞ Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. ☞ **P2004**

[Simplified Adjustments] Z-Axis, Push Screw

[Simplified Adjustments] Z-Axis, Feed Screw

Standard / Large Handles

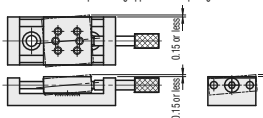
■Features: Economical product configured for Z-axis use by adding a bracket to a push screw type X-axis stage. The unit is more compact and has finer feeding characteristic compared to the Feed Screw Type on P.1952-. Utilize for light loads.

■Z-Axis, Push Screw

RoHS

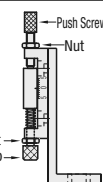
■Accuracy Standards

⚠ There are some mechanical clearances as shown below, and not recommended for positioning applications requiring accuracies.



⚠One Point

The push screw and clamp (Alterations: -CL) can be reinforced by combining with an extra nut to form a double-nut arrangement.

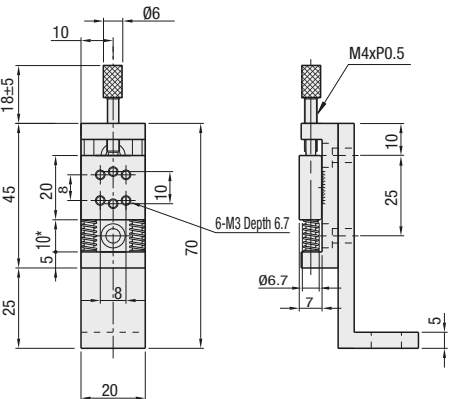
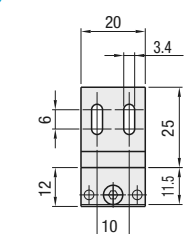


Type	Main Body	Shaft	Spring	Push Screw	Accessory
	M Material S Surface Treatment	M Material	M Material	M Material	
ZKNG	Aluminum Alloy Black Anodize	EN 1.4305 Equiv.	EN 1.4301 Equiv.	EN 1.1191 Equiv. (Electroless Nickel Plating)	Hex Socket Low Head Cap Screw (CBS4-6) 2 pcs.

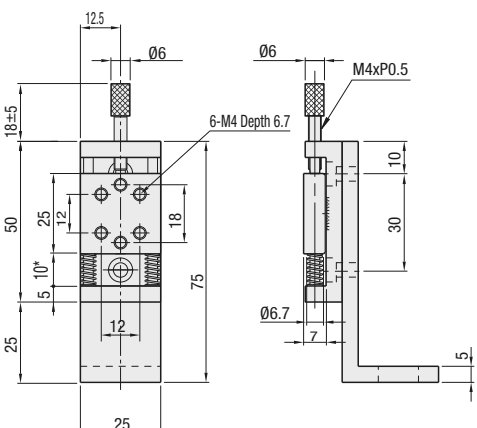
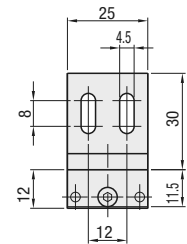
✂ X-Axis: P.1893
✂ XY-Axis: P.1929 ⚠ Travel per Rotation: 0.5mm

* Dimensions when scale is set at 0

ZKNG20



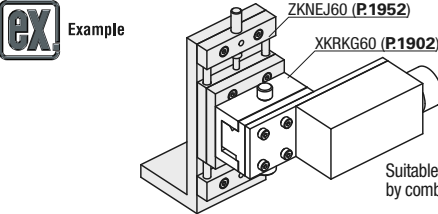
ZKNG25



Part Number	Stage Surface	Travel Distance	Load Capacity	Weight	Unit Price
Type	No.	(mm)	(mm)	(N)	(kg)
ZKNG	20	20x20	±5	2	0.05
	25	25x25	±5	2	0.07

⚠ Travel per Rotation: 0.5mm ⚠ Minimum Graduation: 0.5mm

Ordering Example Part Number ZKNG20



Suitable for low magnification camera XZ-axis adjustments by combining with an X-Axis Rack & Pinion Unit on P.1902.

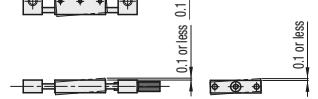
■Features: Product configured for Z-axis use by adding a bracket to a feed screw type X-axis stage. Excels in load capacities compared to the Push Screw Type on P.1951.

■Z-Axis, Feed Screw

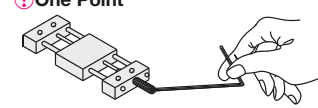
RoHS

■Accuracy Standards

⚠ Not recommended for precise positioning due to its clearance shown on the left.



⚠One Point

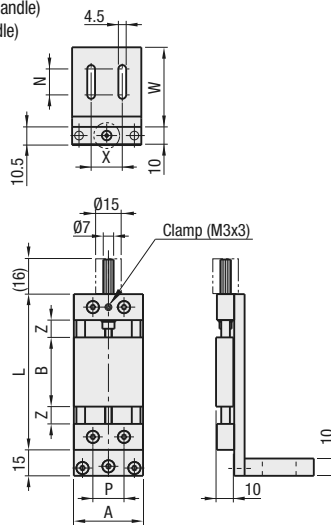


Long stroke moves can be made easily with use of a ball-point hex wrench.

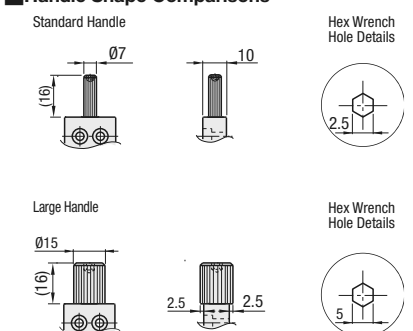
Type	Main Body	Shaft	Knob	Feed Screw	Accessory
	M Material S Surface Treatment	M Material	M Material	M Material	
Standard Handle Large Handle	ZKNEJ ZKJL	Aluminum Alloy Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.
					Hex Socket Head Cap Screw (SCB4-15) 2 pcs.

✂ X-Axis: P.1890
✂ XY-Axis: P.1930 ⚠ Travel per Rotation 0.7mm

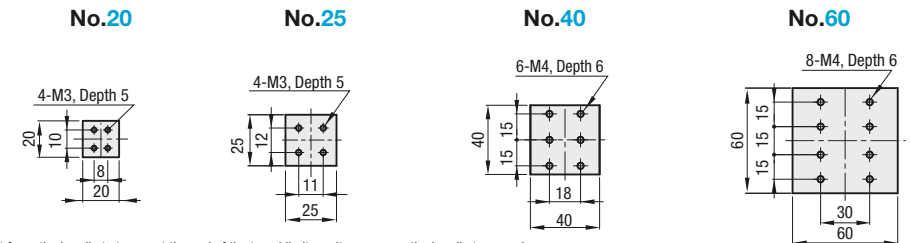
ZKNEJ (Standard Handle) ZKJL (Large Handle)



■Handle Shape Comparisons



■Stage Top Mounting Hole Dimensions



⚠ Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.

Part Number	Stage Surface	Travel Distance	Z	L	P	W	X	N	Load Capacity	Weight	Unit Price
Type	No.	(mm)	(mm)						(N)	(kg)	ZKNEJ ZKJL
ZKNEJ ZKJL	20	20x20	±7	8	66	8	36	10	10	0.08	
	25	25x25	±7	8	71	11	36	15	10	0.10	
	40	40x40	±9	10	90	18	46	18	15	0.22	
	60	60x60	±13	15	120	30	56	40	20	0.39	

⚠ Travel per Rotation: 0.7mm

Ordering Example Part Number ZKJL40

Alterations Part Number - (MMR) - (CLC)
ZKJL60 - CLC
ZKNEJ20 - MMR
ZKNEJ40 - MMR - CLC

Alterations	Mount a Scaled Label	Change of Clamp (Knurled Knob)
Spec.	Adds a scaled label on a Z-axis bracket. ⚠ Minimum Graduation: 0.5mm	Changes Clamp Screw to Knurled Knob.
Code	MMR	CLC

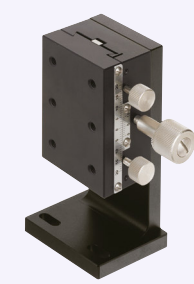
[Standard] Z-Axis Dovetail Slide, Rack & Pinion
Rectangular / Low Profile

Points on Similar Product Comparison | Travel Accuracy (Straightness) 50µm

P.1954

Features: Rapid feed Rack & Pinion stages with less accuracy and more economical prices than existing products.

Z Axis, Rectangular



X-Axis P.1903
XY-Axis P.1938

RoHS

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

Z-Axis Stages High Precision Stage Existing Product: ZWG (P.1954)

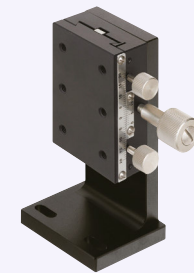
Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy	Weight (kg)	Unit Price
Type	A					Straightness		
ZDTS	50	30x50	±16	16.7	14.7	50µm	0.26	
	60	40x60	±21		19.6		0.38	
	90	40x90	±35				0.51	

Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P.2004

Ordering Example Part Number ZDTS90

Features: Rapid Feed Rack & Pinion Stages with Low Profile. Stage thickness except the bottom plate is 20mm.

Z-Axis Low Profile



X-Axis P.1903
XY-Axis P.1938

RoHS

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

Z-Axis Stages Standard Type: ZDTS (P.1953)

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy	Weight (kg)	Unit Price
Type	A					Straightness		
ZDTSC	50	50x30	±15	16.7	9.8	50µm	0.23	
	60	60x40	±20		14.7		0.33	
	90	90x40	±35				0.43	

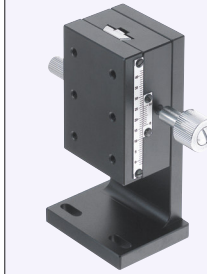
Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Dovetail Stage Ø15 knobs can be increased in diameter by installing the cover. P.2004

Ordering Example Part Number ZDTS60

[High Precision] Z-Axis Dovetail Slide, Rack & Pinion
Rectangular

Features: Rectangular Dovetail Slide Z-Axis Stages with 18mm travel per knob rotation. Narrower widths compared to ZFG (P.1957) are provided.

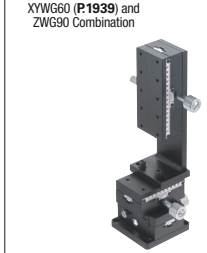
Z Axis, Rectangular



X-Axis P.1904
XY-Axis P.1939

RoHS

Example



XYWG60 (P.1939) and ZWG90 Combination

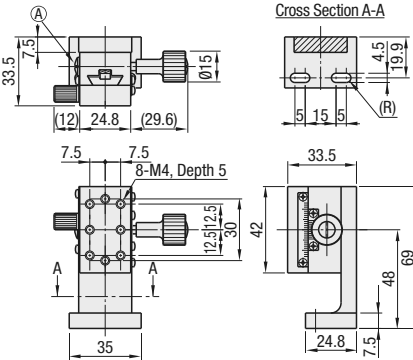
Standard Stages Similar Products: ZDTS (P.1953)

Part Number	Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Travel Accuracy (µm) Straightness	Load Capacity (N)	Weight (kg)	Unit Price
ZWG	40		24.8x42	±12	18	20	14.7	0.17	
	60		40x60	±21		30	19.6	0.33	
	90		40x90	±35				0.45	
	140		40x140	±60				0.68	

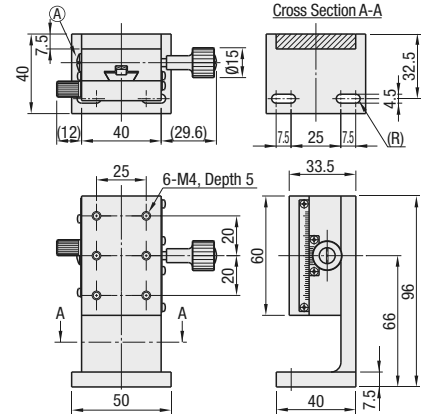
Resolution (Vernier Scale Indication): 0.1mm/division
Knob Cover HDCVR15 (Sold Separately): Dovetail Stage Ø15 knobs can be increased in diameter by installing the cover. P.2004

Ordering Example Part Number ZWG60

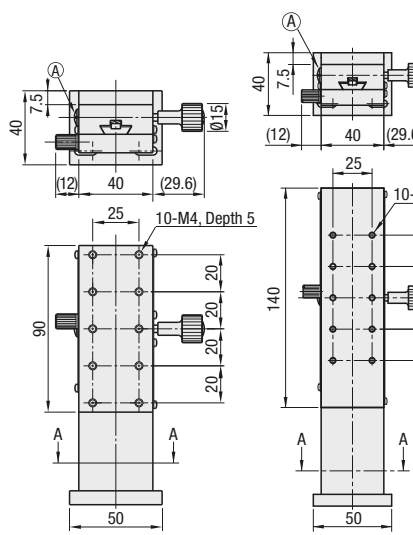
ZWG40



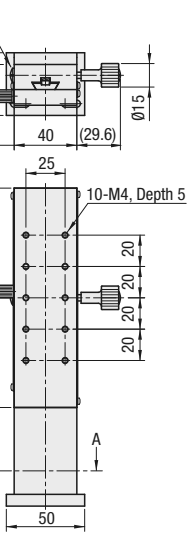
ZWG60



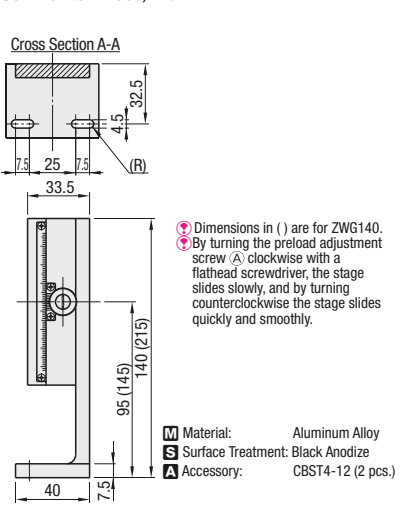
ZWG90



ZWG140



Common to ZWG90, 140

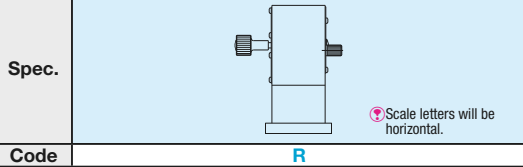


Dimensions in () are for ZWG140.
By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize
A Accessory: CBST4-12 (2 pcs.)

Alterations Part Number ZWG60 - (R) - R

Alteration Feed Knob Position Change (Left/Right Reversed)



[Standard] Z-Axis Dovetail Slide, Rack & Pinion
Long

[High Precision] Z-Axis Dovetail Slide, Rack & Pinion
Long

Points on Similar Product Comparison | Travel Accuracy (Straightness) 50~60µm

P.1956

Features: Economically priced long stroke Rack & Pinion stages.

Z-Axis, Long

ZDTLS80

Arrow View A

ZDTLS100

ZDTLS150

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

X-Axis P.1907 RoHS

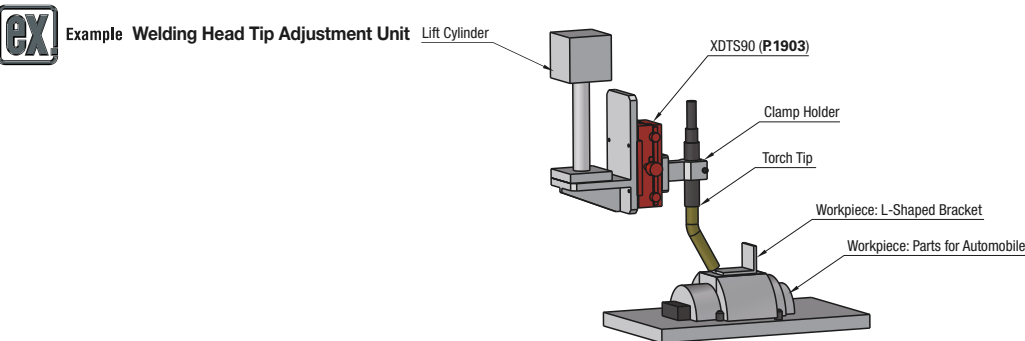
Z-Axis Stages High Precision Stage Existing Product: ZLWG (P.1956)

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
Type	No.							
ZDTLS	80	30x50	±30	16.7	14.7	50µm	0.16	
	100		±35			60µm	0.19	
	150		±65			60µm	0.24	

Resolution (Vernier Scale Indication): 0.1mm/division

Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P.2004

Ordering Example Part Number ZDTLS100



Assuring Repeatability: Adjustment by a stage not by a clamp holder secures repeatability preventing misalignment of the torch.

Features: Long stroke stages made of lightweight aluminum alloy. Length is selectable in accordance with the stroke required.

Z-Axis, Long

ZLWG
(L=50, 70, 100, 150, 150-2)

X-Axis P.1904 RoHS

Standard Stages Similar Products (available for limited sizes only): ZDTLS (P.1955)

Part Number		L	Number of Blocks	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
Type	No.								
ZLWG	50	50	1	±15	18	14.7	30µm	0.120	
	70	70	1	±25				0.135	
	100	100	1	±40				0.160	
	150	150	1	±65			40µm	0.215	
	150-2		2	±44				0.285	

Resolution (Vernier Scale Indication): 0.1mm/division

Knob Cover HDCVR15 (Sold Separately): Dovetail Stage Ø15 knobs can be increased in diameter by installing the cover. P.2004

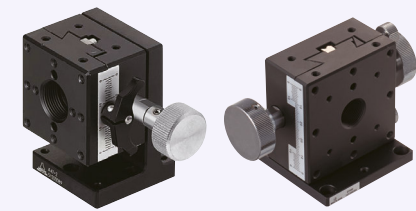
ZLWG150-2 has two blocks. Please note that the stroke distances will be shorter than the one block versions.

Ordering Example Part Number ZLWG100

[High Precision] Dovetail Slide, Rack & Pinion Square

■Features: Square Dovetail Slide Z-Axis Stages with 18mm travel per knob rotation. Suitable for smooth long distance moves.

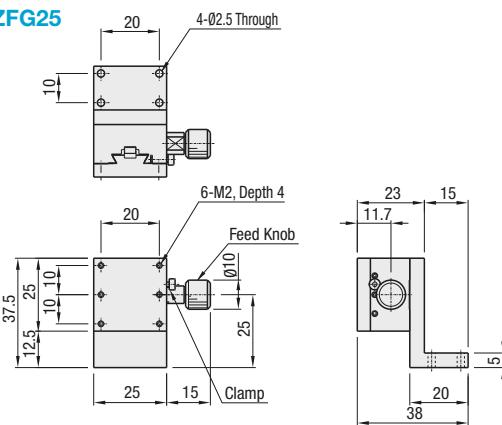
■Z Axis, Square



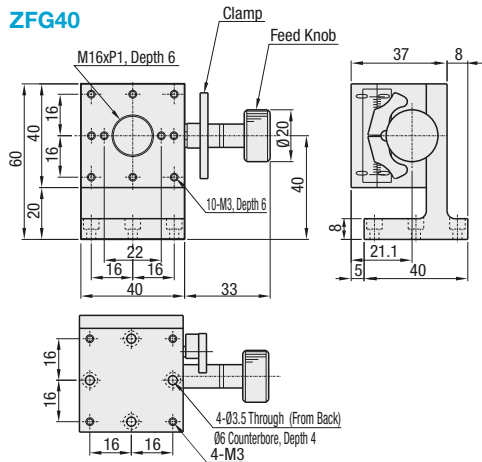
☐ X-Axis P.1911
☐ XY-Axis P.1940

RoHS

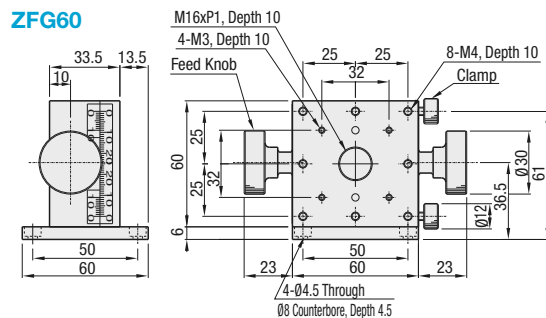
ZFG25



ZFG40



ZFG60



☑ Vernier scale of ZFG25 will be on the opposite side of the clamp mount side.

Part Number	Material		Surface Treatment	
	Main Body	Bracket	Main Body	Bracket
ZFG25	Low Cadmium Brass	Aluminum Alloy	Black Fluororesin Treatment	Black Anodize
ZFG40	Aluminum Alloy		Black Anodize	
ZFG60				

Part Number		Stage Surface	Travel Distance	Travel per Rotation	Load Capacity	Travel Accuracy	Weight	Accessory (4 pcs.)	Unit Price
Type	No.	(mm)	(mm)	(mm)	(N)	Straightness	(kg)	Type M-L	
ZFG	25	25x25	±5	17	6.9	30μm	0.11	SCB2-8	
	40	40x40	±10	20	14.7	20μm	0.23	SCB3-8	
	60	60x60	+20	18	19.6	30μm	0.60	SCB4-6	

☑ Resolution (Vernier Scale Indication): 0.1mm/division

☑ For orders larger than indicated quantity, please request a quotation.



☑ Tips: Lever Clamp 3D View

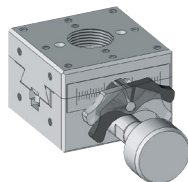
Some models are equipped with "Lever Clamps" as shown below.
The standard clamp knobs are small in diameter and may require significant forces for sufficient clamping. The wing-shaped lever clamp can be operated with an index finger and the thumb with little effort. Please note that the actual clamping force obtained is the same as the standard clamps.
The lever clamps can not be removed due to its construction.



Alteration	Feed Knob Position Change (Left / Right Reversed)		
	ZFG25	ZFG40	ZFG60
Spec.			
Code	R		

Clamp Screw	Holding Force	Features	Caution
Standard Clamp	Equiv.	Economical, Space Saving	Small Knob
Lever Clamp		Good Operability	Limited to Some Models only

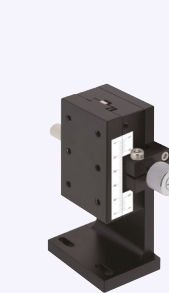
Lever Clamp Models:
XFG40 (P.1911)
XYFG40 (P.1940)
ZFG40 (P.1957)
XZFG40 (P.1992)
XYZFG40 (P.1995)
XWGSR40 (P.1925)
XWGSR60 (P.1925)
XWGSR90 (P.1925)



[High Precision] Dovetail Slide, Rack & Pinion Rectangular, Reinforced Clamp

■Features: Feed knob shaft is directly clamped for improved position holding performance compared to ZWG on P.1954.

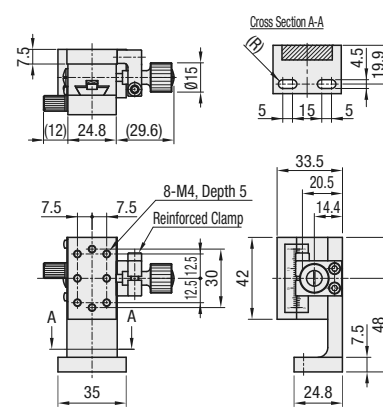
■Z Axis, Reinforced Clamp



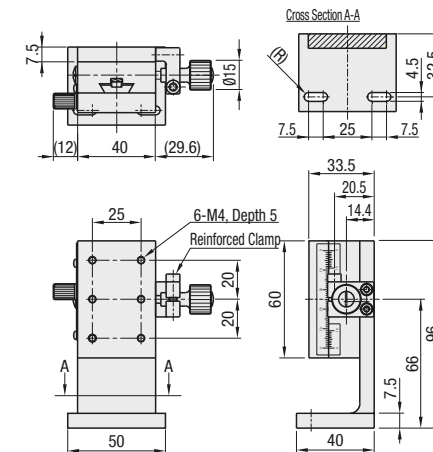
☐ X-Axis P.1906
☐ XY-Axis P.1940

RoHS

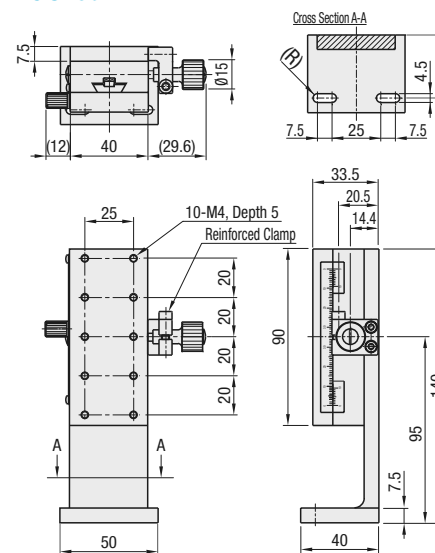
ZWGCL40



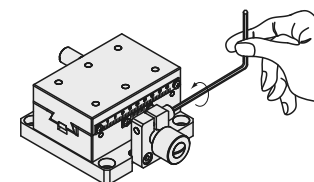
ZWGCL60



ZWGCL90



☑ Example Clamp Reinforcing Method



Retention by only the reinforced clamp is not sufficient to obtain zero backlash. Using with a clamp screw is recommended.

☑ Material: Aluminum Alloy ☑ Surface Treatment: Black Anodize

Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy Straightness (μm)	Weight (kg)	Accessory (2 pcs.)	Unit Price
Type	A							
ZWGCL	40	24.8x42	±12	14.7	30	0.23	CBST4-12	
	60	40x60	±21	19.6		0.38		
	90	40x90	±35			0.51		

☑ Resolution (Vernier Scale Indication): 0.1mm/division

☑ For orders larger than indicated quantity, please request a quotation.

☑ Knob Cover HDCVR15 (Sold Separately): Ø15 knob can be increased in diameter by installing the cover. ☑ P.2004



[Standard] Z-Axis Dovetail Slide, Feed Screw

[High Precision] Z-Axis Dovetail Slide, Feed Screw

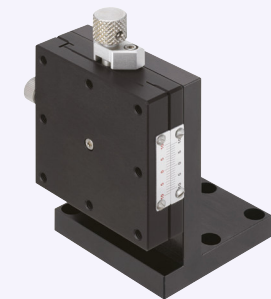
Standard, Hex Wrench Drive

Points on Similar Product Comparison | Travel Accuracy Straightness 50μm

P.1962

Features: Z-Axis Stages with fine feeding of 0.5mm lead.

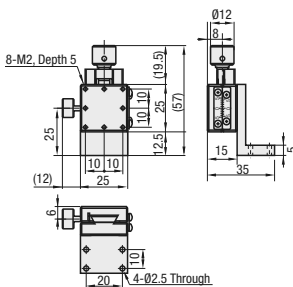
Z-Axis



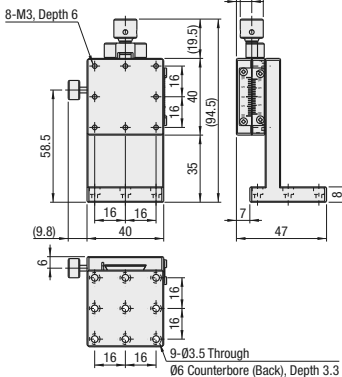
X-Axis P.1896
XY-Axis P.1931

RoHS

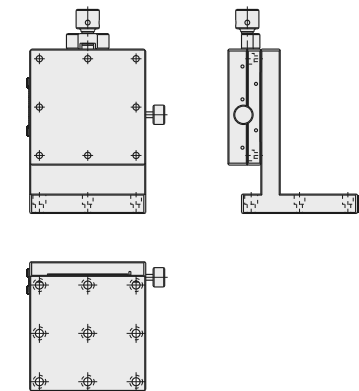
ZFES25
(Standard)



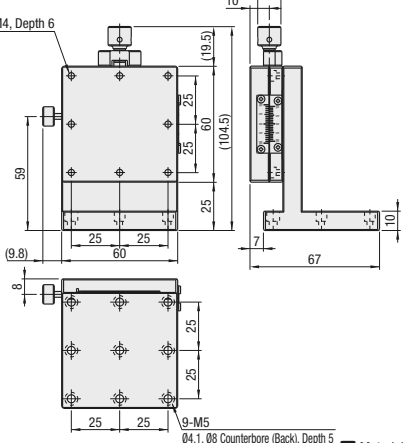
ZFES40
(Standard)



Clamp Position Change
ZFES R
(Reversed)



ZFES60
(Standard)



See the CAD data for details.

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Z-Axis Stages High Precision Stage Existing Product: ZEG (P.1962)

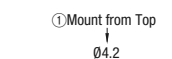
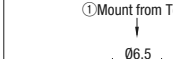
Type	Part Number	No.	Clamp Position	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
ZFES	25	25x25	No Symbol (Standard)	25x25	±5	0.5	9.8	50μm	0.06	
	40	40x40	R (Right/Left Reversed)	40x40	±7				0.18	
	60	60x60		60x60	±8		19.6		0.40	

Resolution (Vernier Scale Indication): 0.1mm/division

Extension Cover HDEXT12- (sold separately): 012 knobs can be extended by installing the cover. P.2004
(Caution) Please note that increased knob diameter may interfere with the stage mounting base surfaces.

Ordering Example
Part Number
ZFES40

Tips: Mounting Hole on the Bottom of the Table of XFES, XYFES and ZFES60
Can be mounted from the top and the bottom.

Mounting Hole Enlarged View		25 (XFES/XYFES)	40 (XFES/XYFES)	60 (XFES/XYFES)	ZFES60
					
Mounting Screw Dia.	①	M2	M3	M4	M4
	②	M2.5	M4	M5	M5

Features: Dovetail Slide is applied as a guide mechanism to realize smooth operation.

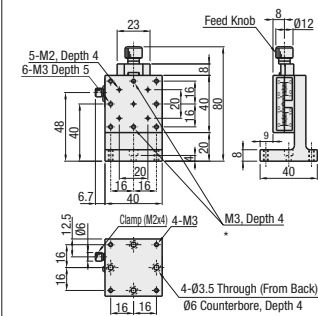
Z-Axis
(Lead 0.5mm)



X-Axis P.1897
XY-Axis P.1933

RoHS

ZEG40



* The depth will be short due to the stage shape.

Standard Stages Similar Products: ZFES (P.1961)

Part Number	Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Straightness	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
ZEG	25	25x25	±5	0.5	9.8	30μm	0.09	SCB2-8		
	40	40x40	±7				0.26	SCB3-8		
	60	60x60	±9		19.6		0.75	SCB4-10		

Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example
Part Number
ZEG25

Alteration	Spec.	Code
Clamp Position (Left/Right Reversed)	R	

See the CAD data for details.

Features: Hex wrench feed drives prevent inadvertent position changes.

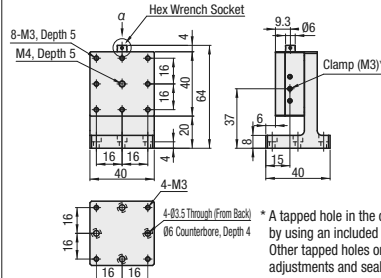
Z-Axis, Hex Wrench Drive
(Lead 0.5mm)



X-Axis P.1897
XY-Axis P.1933

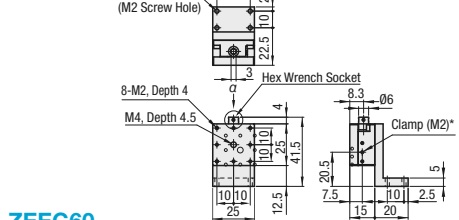
RoHS

ZEEG40

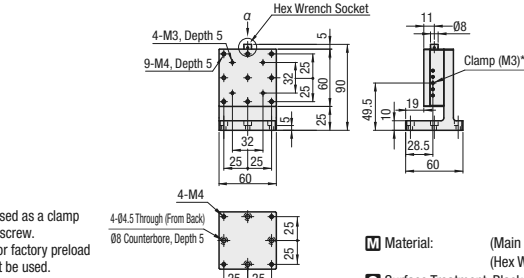


* A tapped hole in the center can be used as a clamp by using an included hex socket set screw. Other tapped holes on the side are for factory preload adjustments and sealed, thus cannot be used.

ZEEG25



ZEEG60



Material: (Main Body) Low Cadmium Brass
(Hex Wrench Socket) Aluminum
Surface Treatment: Black Fluororesin Treatment

Part Number	Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Straightness	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
ZEEG	25	25x25	±3	0.5	9.8	20μm	0.08	SCB2-8		
	40	40x40	±5				0.29	SCB3-8		
	60	60x60	±7		19.6		0.67	SCB4-10		

Resolution (Vernier Scale Indication): 0.1mm/division (ZEEG has no vernier scale.)

Ordering Example
Part Number
ZEEG60

[Standard] Linear Ball Slide

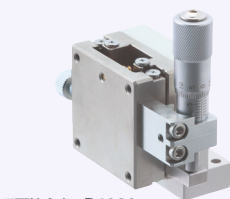
Micrometer Head

Points on Similar Product Comparison | Travel Accuracy Straightness 10µm

P.1966

Features: Incorporated Linear Ball Slide Guide mechanism achieves high load capacity.

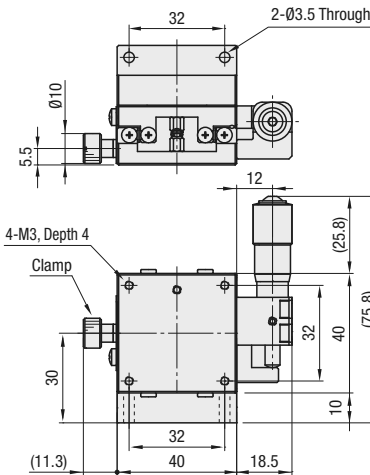
Z-Axis



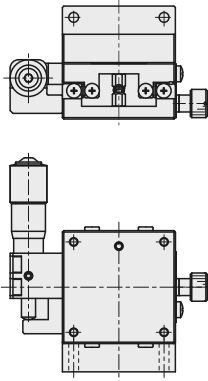
X-Axis P.1920
XY-Axis P.1942

RoHS

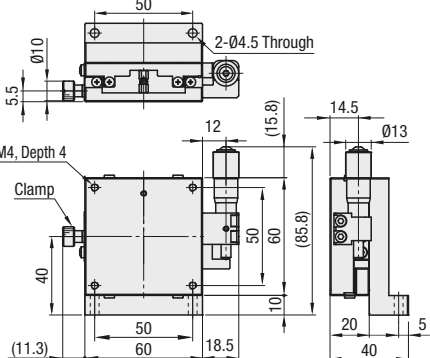
ZLBS40
(Standard)



ZLBS-CR
(Reversed)



ZLBS60
(Standard)



Material: (Main Body) EN 1.4125 Equiv.,
(Bracket) Steel (EN 1.0038 Equiv.)
Surface Treatment: (Main Body) Electroless Nickel Plating,
(Bracket) Electroless Nickel Plating

High Precision Stage Existing Product: ZSG (P.1966)

Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Minimum Graduation (µm)	Travel Accuracy			Moment Rigidity ("N·cm)			Weight (kg)	Included Screw (Stainless Steel Hex Socket Low Head Cap Screw)	Unit Price
Type	No.					Straightness	Pitching	Yawing	Pitching	Yawing	Rolling			
ZLBS	40	No Symbol (Standard)	40x40	±6.5	19.6	10	10µm	30"	25"	0.38	0.35	0.21	0.43	M3-16, 2 pcs.
	60	CR (Right/Left Reversed)	60x60					35"	30"	0.1	0.08	0.05	0.83	M4-16, 2 pcs.

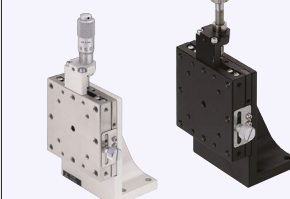
Ordering Example
Part Number
ZLBS40

[High Precision] Z-Axis Linear Ball

Micrometer Head / Feed Screw

Features: High Precision/rigidity Linear Ball Slide Z-Axis Stages. Further cost savings is possible by selecting the Feed Screw Type. LTBC plated Types are also available. Suitable for applications where light reflections are to be avoided.

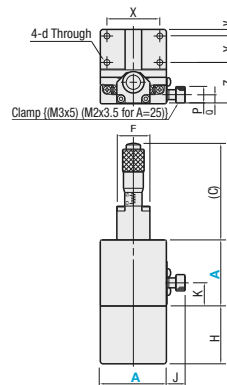
Z-Axis



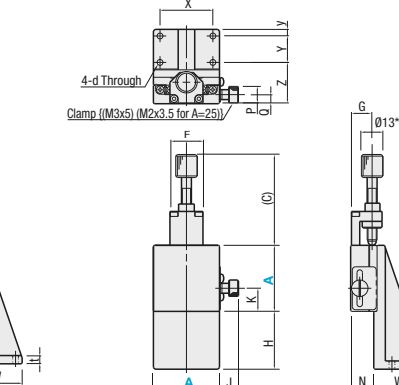
X-Axis P.1921
XY-Axis P.1946

RoHS

Micrometer Head
ZSG (25≤A≤80)
ZSGB (LTBC Plating: A25, 40, 60, 80)



Feed Screw (Pitch 0.5)
ZSCG (25≤A≤80)
ZSCGB (LTBC Plating: A25, 40, 60, 80)



*A=25 will be Ø7

Type	Main Body		Ball		Spring	Micrometer Head Bracket		Tip Holder							
	M	Material	S	Surface Treatment	M	Material	H	Hardness	M	Material	S	Surface Treatment	M	Material	S
ZSG	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Clear Anodize	EN 1.4305 Equiv.	-						
ZSCG		LTBC Plating					Black Anodize			LTBC Plating					
ZSGB	EN 1.4125 Equiv.	LTBC Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Black Anodize	EN 1.4305 Equiv.	-						
ZSCGB							LTBC Plating			Black Anodize	LTBC Plating				

For Micrometer Head and Feed Screw materials, see P.2005 and P.2006.

Standard Stages Similar Products: ZLBS (P.1965)

Micrometer Head (ZSG, ZSGB) / Feed Screw (ZSCG, ZSCGB)

Part Number	Front View										Side View										Top View								Accessory (4 pcs.)	
	Type	A	H	(C)	Travel Distance (mm)	F	K	J	D	G	N	W	t	P	Q	X	Y	y	Z	d	Type	M-L								
ZSG	25*	12.5	37	23	±3.2	13	10	6.8	9.3	10	12	20	5	6	3.5	20	10	2.5	19.5	2.5	SCB2-8									
	40*	35				20	14	11.3	13	13	14	31	5	10	5.5	32	16	4	25	3.5	SCB3-10									
	50	30				20	19	11.3	13	13	14	57	5	10	5.5	40	40	6	25	3.5	SCB3-10									
	60*	25				20	24	11.3	13	13	14	42	8	10	5.5	50	25	5	26	4.5	SCB4-12									
	70	25				20	23.5	11.3	13	14	16	55	8	10	6.5	40	40	4	27	3.5	SCB3-12									
ZSGB (* only)	80*	20	96		±12.5*1	24	25	11.3	18	16.5	20	45	7	10	5.5	50	25	5	35	4.5	SCB4-12									

*1. When A=80, the feed screw (ZSCG, ZSCGB) travel is ±6.5.

Performance

Part Number	Type	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity ("N·cm)			Weight (kg)	Unit Price			
				Straightness	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling		ZSG	ZSCG	ZSGB	ZSCGB
ZSG	25*	25x25	9.8	3µm	30"	25"	2.0	2.0	3.5	1.90	1.10	1.10	0.23				
	40*	40x40					5.0	5.0	5.0	0.42	0.35	0.21	0.32				
	50	50x50					6.8	6.8	6.0	0.15	0.14	0.09	0.44				
	60*	60x60	49	1µm	25"	15"	10.0	10.0	9.0	0.08	0.08	0.05	0.58			-	-
	70	70x70					13.8	13.8	12.9	0.06	0.05	0.03	0.84			-	-
ZSGB (* only)	80*	80x80		3µm			18.2	18.2	17.7	0.04	0.04	0.02	1.20				

ZSG, ZSGB Micrometer Head Resolution: 10µm/division *2. ZSGB and ZSCGB straightness is 3µm.

Ordering Example
Part Number
ZSG60
ZSGB60

Alterations
Part Number - (C, CR, CU, H, P)
ZSG40 - C

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.1989).

Alterations	Position of Micrometer Head and Feed Screw			Reinforced Clamp																						
Spec.	Side Up	Side Up and Right/Left Reversed	Side Down	Disc Clamp	Opposed Clamp																					
			⊗ Not applicable to ZSGB and ZSCGB.	<table><thead><tr><th>A</th><th>J1</th><th>P1</th></tr></thead><tbody><tr><td>40, 50, 60, 70</td><td>15.8</td><td>10</td></tr><tr><td>80</td><td>14.8</td><td>15</td></tr></tbody></table> ⊗ Not applicable to 25 square. ⊕ A disc clamping method that does not apply loads on the stage surface. Better position holding performance than the standard clamping method.	A	J1	P1	40, 50, 60, 70	15.8	10	80	14.8	15	<table><thead><tr><th>A</th><th>(B1)</th></tr></thead><tbody><tr><td>25</td><td>17.5</td></tr><tr><td>40</td><td>24.5</td></tr><tr><td>50</td><td>19.5</td></tr><tr><td>60</td><td>14.5</td></tr><tr><td>70</td><td>4.0</td></tr></tbody></table> ⊗ Not applicable to ZSGB, ZSGB and ZSCGB. ⊕ Applicable only when alteration C or CR is selected with ZS25, 40, 50, 60, and 70. ⊕ The side drive micrometer head is opposed by a screw (M4x25, pitch 0.5). Improves vibration resistance and has secure position holding performance. ⊕ When A=25, * marked dimensions are applicable. 0 dimension in the table will be 6. Note that the micrometer protrudes 17.5mm (±3.2) from the Z-axis bracket.	A	(B1)	25	17.5	40	24.5	50	19.5	60	14.5	70	4.0
	A	J1	P1																							
40, 50, 60, 70	15.8	10																								
80	14.8	15																								
A	(B1)																									
25	17.5																									
40	24.5																									
50	19.5																									
60	14.5																									
70	4.0																									
Code	C	CR	CU	H	P																					

Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004
For 25 Square Opposed Clamp, the bracket material is EN 1.4305 Equiv.

[Standard] Z-Axis Cross Roller

[High Precision] Z-Axis Cross Roller

Points on Similar Product Comparison | Travel Accuracy (Straightness) 30µm

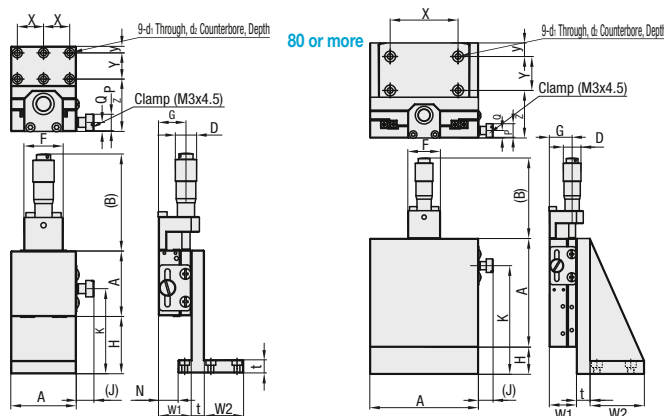
P.1994

Features: Economical stages with a micrometer head capable of 0.01mm resolution adjustments.

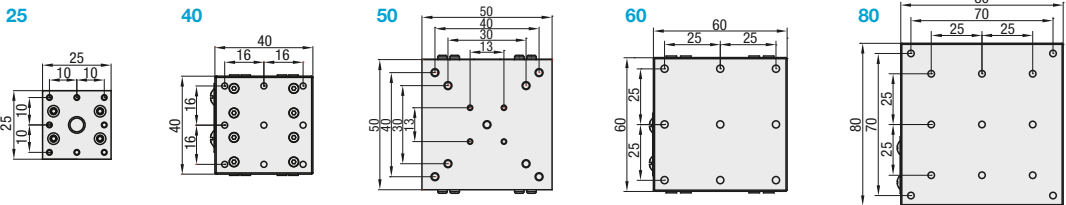
Z-Axis



ZCRS
60 or less



Mounting Hole Dimensions of the Top Table



For mounting hole dimensions of the Cross Roller Stage A90, 100, 120 top table, see P.1917.

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

Part Number		Front View				Side View				Top View			
TYPE	A	(B)	H	Travel Distance (mm)	F	K	(J)	D	G	N	W1	W2	t
ZCRS	25	41	35	±3.2	13	42.5	(6.8)	9.5	12.5	7	15	24	8
	40	59	35	±6.5	24	52	(10.8)	13	16.8	12	20	24	8
	50	59	30	±6.5	24	60	(10.8)	13	16.8	20	10	30	10
	60	59	25	±6.5	24	64	(10.8)	13	16.8	10	20	40	10
	80	59	20	±12.5	24	80	(10.8)	13	16.8	-	20	40	10
	90	80	20	±12.5	24	84	(10.8)	13	16.8	-	20	40	10
ZCRS	100	80	20	±25	24	85.5	(10.8)	13	16.8	-	20	40	10
	120	164.5	20	±25	24	74	(10.8)	19.1	12.7	-	20	50	10

Performance

Part Number		Stage Surface	Load Capacity	Travel Accuracy	Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Weight	Unit Price
TYPE	A	(mm)	(N)	Straightness	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling	(kg)	
ZCRS	25	25x25	4.9	30µm	1.1	0.8	0.4	3.03	2.85	1.8	0.06	
	40	40x40	9.8		2.7	2.2	2.0	0.38	0.42	0.28	0.24	
	50	50x50	14.7		3.5	3.0	3.3	0.2	0.22	0.12	0.34	
	60	60x60	19.6		5.2	4.3	5.5	0.12	0.11	0.07	0.46	
	80	80x80			19.2	15.1	17.3	0.05	0.05	0.04	0.76	
	90	90x90			25.0	20.0	22.0	0.05	0.05	0.04	1.03	
	100	100x100			36.0	30.0	33.0	0.06	0.07	0.05	1.2	
	120	120x120			57.2	44.7	66.7	0.03	0.02	0.01	1.79	

Max. Holding Force (Ref.) will vary depending on the tightening torque variations. Ensure adequate safety margins for design.
Micrometer Head Resolution: 10µm/division

Ordering Example Model (Type, A) ZCRS40

Features: Cross Roller Z-Axis Stages made of lightweight aluminum alloy.

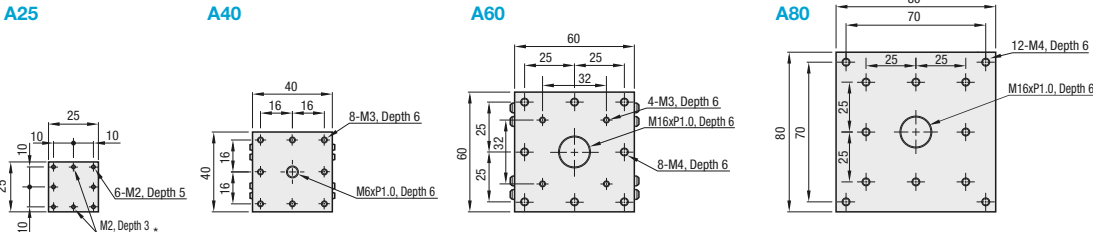
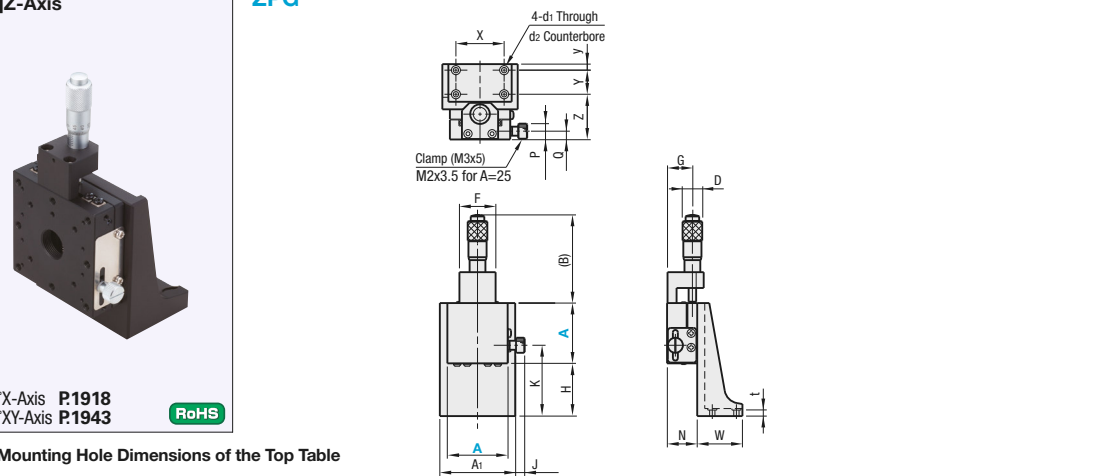
Z-Axis

ZPG



X-Axis P.1918
Y-Axis P.1943

Mounting Hole Dimensions of the Top Table



M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

See the CAD data for detailed dimensions. * The depth will be short due to the stage shape.

Standard Stages Similar Products (available for limited sizes only): ZCRS (P.1967)

Micrometer Head (ZPG)

Part Number		Front View				Side View				Top View				Accessory (4 pcs.)
Type	A	A1	H	(B)	Travel Distance (mm)	F	K	J	D	G	N	W	t	Type M-L
ZPG	25	25	12.5	37.0	±3.2	11	22.5	6.8	9.3	12.5	15	20	5	6
	40	50	35.0	58.5	±6.5	24	47.0	6.3	13.0	16.8	20	30	4	10
	60	70	20.0	58.5	±6.5	24	37.5	6.3	13.0	16.8	20	45	7	10
	80	80	20.0	96.0	±12.5	24	45.0	11.5	18.0	16.5	20	45	7	10

Performance

Part Number		Stage Surface	Load Capacity	Travel Accuracy	Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Weight	Unit Price
Type	A	(mm)	(N)	Straightness	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling	(kg)	
ZPG	25	25x25	4.9	3µm	30"	30"		1.1	0.8	0.4	3.03	2.85
	40	40x40	9.8		25"	15"		2.7	2.2	2.0	0.38	0.42
	60	60x60	19.6					5.2	4.3	5.5	0.12	0.11
	80	80x80	49.0					19.2	15.1	17.3	0.05	0.05

Micrometer Head Resolution: 10µm/division

Ordering Example Part Number ZPG60

Alterations Part Number (C, CR, CU, H, P) ZPG80 CU Express service is not available.

Alterations	Micrometer Head Position	
Spec.	Side Up	Side Down
	A H	A H
	25 12.5	25 12.5
	40 35	40 20
Code	C	CU

Mounting dimensions of micrometer heads and clamps are different from those of standard products. Bracket shapes differ depending on the sizes. See the CAD data for detailed dimensions.
Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob can be increased in diameter by installing the cover. P2004
Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. P2004

[Simplified Adjustments] Z-Axis, Heavy Load Adjustment Unit

[Simplified Adjustments] Z-Axis, Rack & Pinion, Scaled Post Units

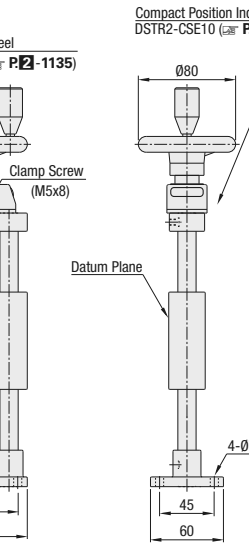
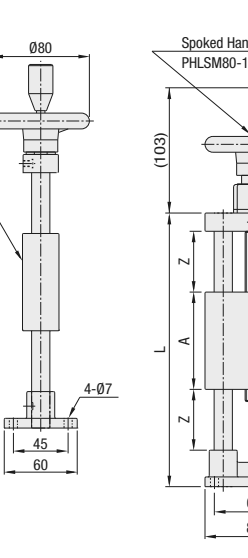
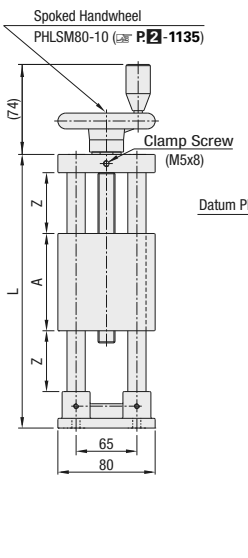
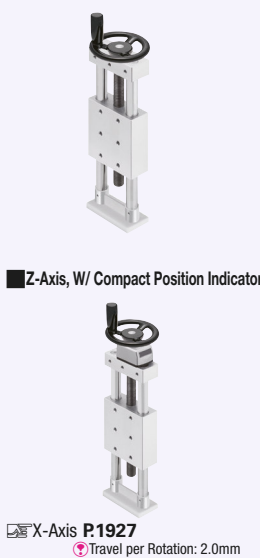
■Features: Large shaft diameter increases the load capacity.

■Z-Axis, Standard

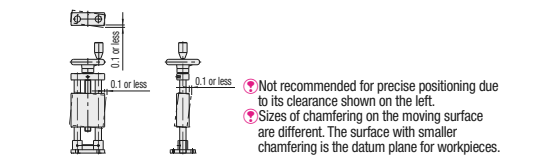
RoHS

ZKST (w/o Compact Position Indicator)

ZKSTP (w/ Compact Position Indicator)



■Accuracy Standards

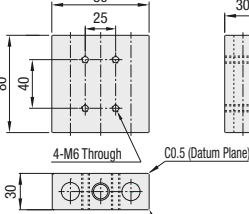
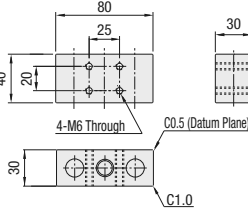


Type	Main Body		Shaft (Ø15)		Feed Screw (M16)	Stand Bracket		Accessory
	M Material	S Surface Treatment	M Material	H Hardness	M Material	M Material	S Surface Treatment	
ZKST	Aluminum Alloy	Clear Anodize	EN 1.4125 Equiv.	56HRC~	EN 1.4305 Equiv.	EN AC-51300 Equiv.	Clear Anodize	Mounting Screw (SCB6-18 x 4 pcs.)
ZKSTP								

•Stage Top Mounting Hole Dimensions

40-25, 40-50

80-25, 80-50



Part Number		L	Stage Surface (mm)	Travel Distance (mm) (Zx2)	Travel per Rotation (mm)	Load Capacity (N)	Weight (kg)		Unit Price	
Type	A-Z						ZKST	ZKSTP	ZKST	ZKSTP
ZKST ZKSTP	40-25	135	40x80	50	2	49	1.01	1.07		
	40-50	185		100			1.20	1.26		
	80-25	175	80x80	50			1.32	1.38		
	80-50	225		100			1.51	1.57		

Ordering Example
Part Number
ZKST40-25
ZKSTP80-50

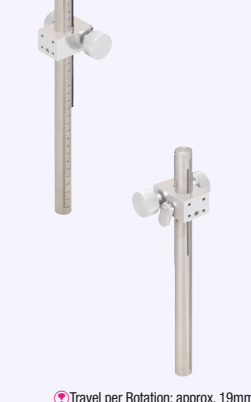
Alterations
Part Number - (R)
ZKSTP40-50 - R
Applicable to ZKSTP only.

Alterations	Compact Position, Indicator Direction
Spec.	
Code	R

■Features: Long stroke adjustment units developed for height adjustments during set-up changes that require long travels.

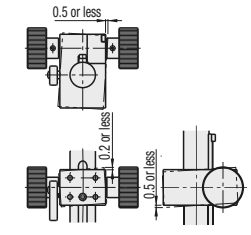
■Z-Axis

RoHS



Travel per Rotation: approx. 19mm

■Accuracy Standards



Part Number		L	L1	Travel Distance (mm) (LM)	Load Capacity (N)	Weight (kg)	Unit Price
Type	Df8						
ZKB	20	-0.020	110	70	25	0.6	
		-0.053		70		0.7	
			160	120		0.7	
				120		0.9	
			210	170		1.0	

Travel per Rotation: Approx. 19mm

Ordering Example
Part Number - L - L1
ZKB20 - 300 - 210

For orders larger than indicated quantity, please request a quotation.

Alterations
Part Number - L - L1 - (U, L)
ZKB20 - 300 - 210 - U30

Alterations	Change of Rack Gear Mounting Position	Change of Scale Placement Position
Spec.	Lowers the rack gear placed at 10mm from the top end in 10mm increments. Applicable Size [L-L1] 200-110, 250-160 300-210 U≤40 Ordering Code U30	Moves the scale position from the right side to the left side facing the mounting surface. Ordering Code L
Code	U	L

Example
Combination Example of Shaft Support Products



[High Precision] Z-Axis Cross Roller

Micrometer Head / Feed Screw

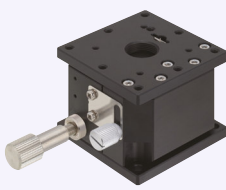
■Features: Suitable for highly accurate fine adjustment of horizontal surface of Z-axis.

■Horizontal Surface Z-Axis, Cross Roller

ZLPG (Micrometer Head Lead 0.5)

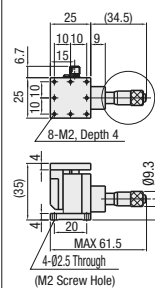


ZLPCG (Feed Screw Pitch 0.5)

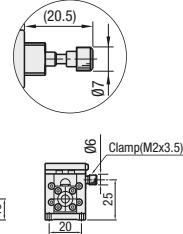


RoHS

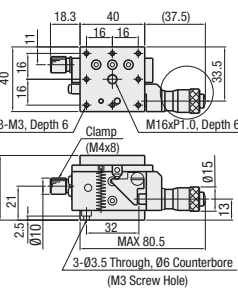
ZLPG25 (Micrometer Head)



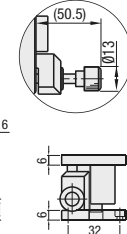
ZLPCG25 (Feed Screw)



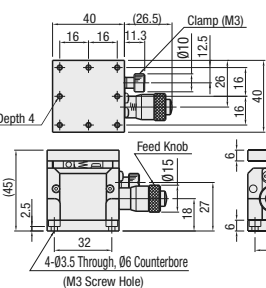
ZLPG40 (Micrometer Head)



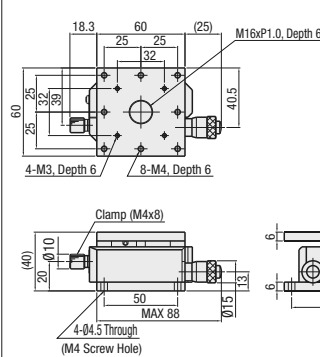
ZLPCG40 (Feed Screw)



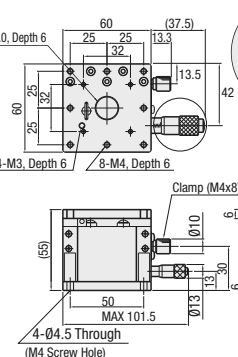
ZLPG40H (Micrometer Head)



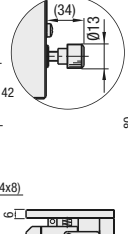
ZLPG60L (Micrometer Head)



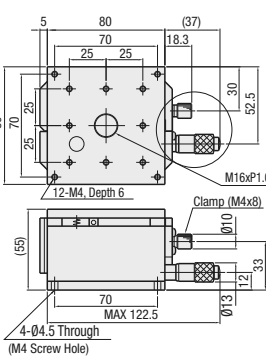
ZLPG60 (Micrometer Head)



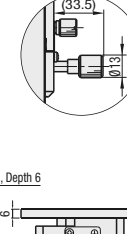
ZLPCG60 (Feed Screw)



ZLPG80 (Micrometer Head)



ZLPCG80 (Feed Screw)



Material: Aluminum Alloy

See the CAD data for details. Surface Treatment: Black Anodize

Standard Stages Similar Products (available for limited sizes only): ZLLB (P.1971)

Part Number		Stage Surface	Travel Distance	Load Capacity	Travel Accuracy	Moment Load Capacity (N · m)			Moment Rigidity (1/N · cm)			Parallelism	Weight	Accessory		Unit Price		
Type	No.	(mm)	(mm)	(N)	Straightness	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling		(kg)	Type	M-L	Quantity	ZLPG	ZLPCG
ZLPG ZLPCG (* only)	25*	25x25	±2	9.8	3μm	0.7	0.5	0.5	4.08	2.50	2.37	50μm	0.06	SCB2-8	4			
	40*	40x40	±3			2.3	1.5	2.0	1.96	1.63	0.97		0.20	SCB3-6	3			
	40H	40x40	±3	19.6		3.6	2.2	2.4	1.03	0.52	0.6	0.20	SCB3-6				-	
	60L	60x60	±3			2.3	1.5	4.2	1.01	0.72	0.21	0.30	SCB4-10	4			-	
	60*	60x60	±5			39.2*1	6.2	4.1	6.2	0.11	0.23	0.17	0.60		SCB4-10			
	80*	80x80	±5	29.4		3.8	2.5	6.3	0.55	0.22	0.06	1.00	SCB4-10					

Micrometer Head Resolution: 10μm/division *1. ZLPCG60 (feed screw) load capacity is 29.4N.

Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P2004

Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. P2004

Though having a repeatability, the lift may misalign with the scale graduation depending on the stroke, due to the principle of leverage used for the structure. Use the micrometer head scale for reference only.



Ordering
Example

Part Number

ZLPG40

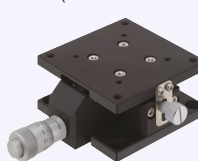
[High Precision] Z-Axis, Linear Guide Low Profile

Micrometer Head / Feed Screw

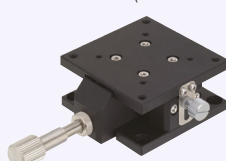
■Features: Low profile horizontal surface Z-Axis stages with 33mm profile height. Height can be kept low even for an XYZ configuration.

■Horizontal Surface Z-Axis, Linear Guide Low Profile

ZLTG (Micrometer Head Lead 0.5)

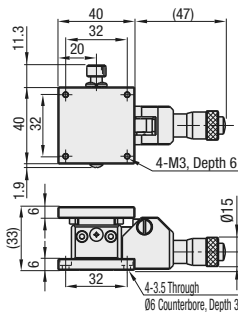


ZLTCG (Feed Screw Pitch 0.5)

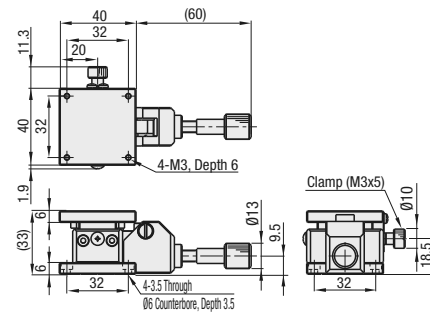


RoHS

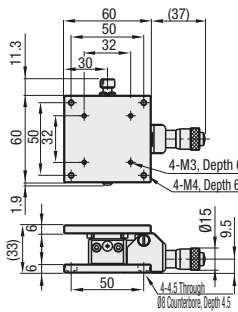
ZLTG40



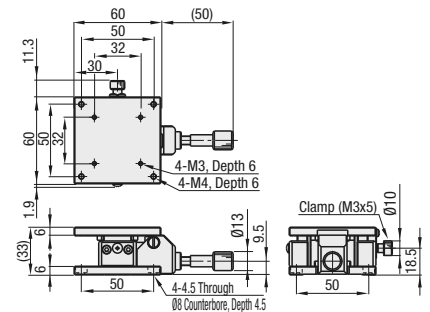
ZLTCG40



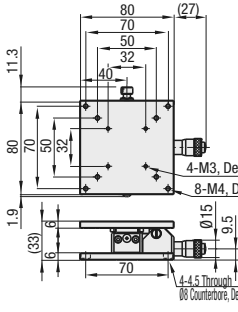
ZLTG60



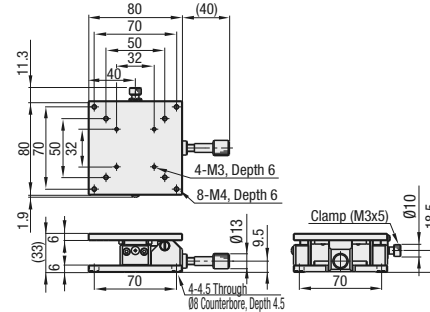
ZLTCG60



ZLTG80



ZLTCG80



See the CAD data for details.

For Feed Screw and Micrometer Head materials, see P2005, 2006.

Material: Aluminum Alloy

Surface Treatment: Black Anodize

Part Number		Stage Surface	Travel Distance	Load Capacity	Travel Accuracy	Moment Load Capacity (N · m)			Moment Rigidity (1/N · cm)			Parallelism	Weight	Accessory	Unit Price
Type	A	(mm)	(mm)	(N)	Straightness (μm)	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling	(μm)	(kg)	(4 pcs.)	
ZLTG	40	40x40	±3	19.6	5	0.9	1.5	0.5	3.66	0.91	5.64	100	0.16	SCB3-6	
	60	60x60	±3	29.4			2.3	0.7	3.67	0.25	4.81		0.24	SCB4-6	
	80	80x80	±3	3.0			0.6	3.52	0.07	4.99	0.32		SCB4-6		
ZLTCG	40	40x40	±3	19.6	5	0.9	1.5	0.5	3.66	0.91	5.64	100	0.14	SCB3-6	
	60	60x60	±3	29.4			2.3	0.7	3.67	0.25	4.81		0.22	SCB4-6	
	80	80x80	±3	3.0			0.6	3.52	0.07	4.99	0.30		SCB4-6		

Micrometer Head Resolution: 10μm/division

Though having a repeatability, the lift may misalign with the scale graduation depending on the stroke, due to the principle of leverage used for the structure. Use the micrometer head scale for reference only.



Ordering
Example

Part Number

ZLTG80

[High Precision] Helicoid Screw, Z-Axis Level Stages

High Load Capacity

[Standard] Lab Jack Horizontal Surface Z-Axis Stages

High Load Capacity

■Features: Longer strokes than the Cross Roller Horizontal Surface Z-Axis Stages and equivalent load capacities to the Lab Jacks. The multi-start screws used prevent plays.

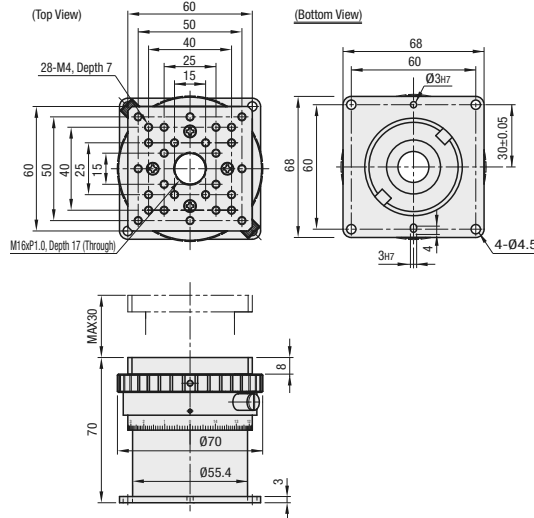
■Helicoid Screw, Horizontal Surface Z-Axis Stages



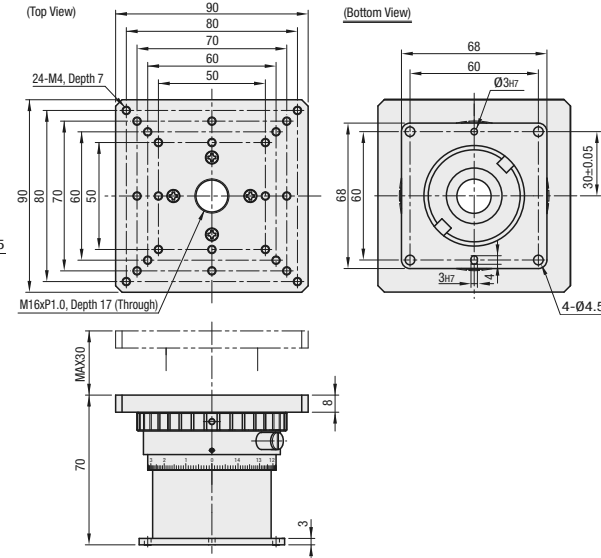
RoHS

■With Mount Plates (60, 90 Square)

ZHRD30-60

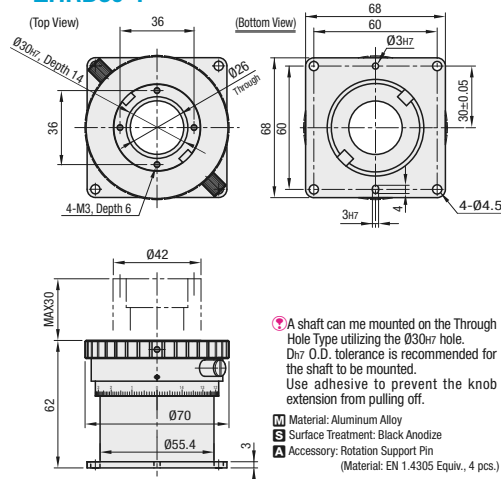


ZHRD30-90

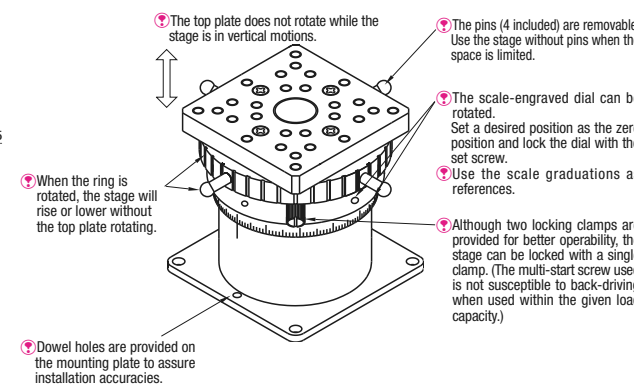


■Through Hole Type

ZHRD30-T



[Overview: Helicoid Screw, Horizontal Surface Z-Axis Stages]



Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Parallelism (μm)	Weight (kg)	Accessory (4 pcs.)	Unit Price
Type	No.								
ZHRD	30-60	60x60	30	(15) *	68.6	50μm	0.50	SCB4-8	
	30-90	90x90					0.59		
	30-T	-					0.42		

⚠ When elevating the plate with moment load applied to its top face, some play might occur.
* The travel distance per knob rotation varies to some extent depending on the current table position.

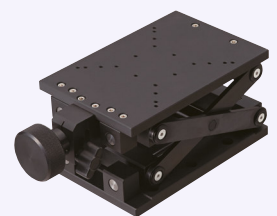
Ordering Example
Part Number
ZHRD30-60

Points on Similar Product Comparison | Parallelism: 400μm

P.1977

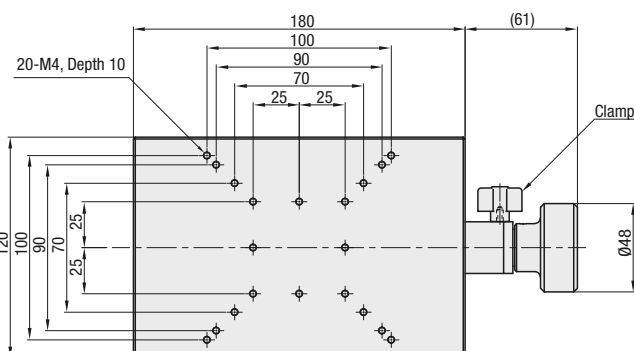
■Features: Suitable for Z-axis applications requiring long stroke adjustments. Differ from the existing products in accuracy range. Existing Products: ZLJG (P.1977)

■Horizontal Surface Z-Axis_Lab Jack

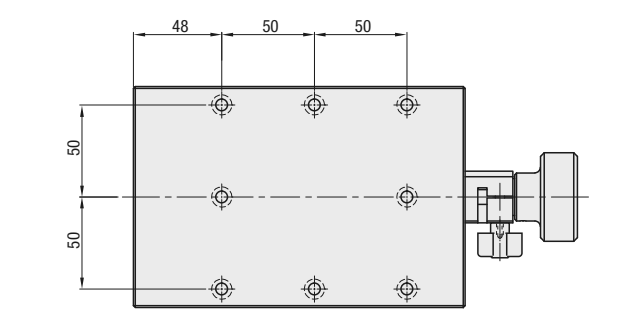
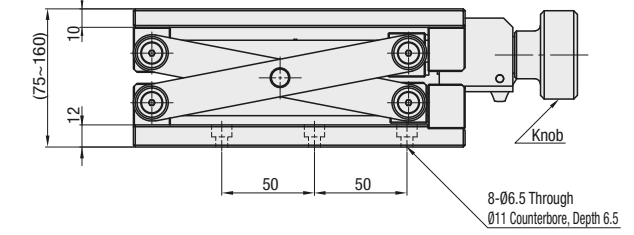
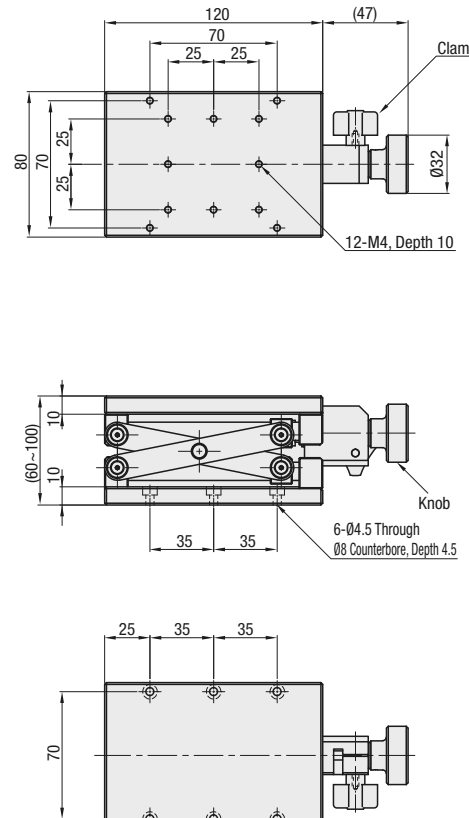


RoHS

ZLJS120



ZLJS80



⚠ Knob operated elevating table with relatively high load capacity. A split clamp on the operating shaft securely holds the load in position.
⚠ Counterclockwise rotation of the knob elevates the stage surface.
⚠ There is some play in the horizontal direction.

Ⓜ Material: Aluminum Alloy
Ⓢ Surface Treatment: Black Anodize

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Parallelism (μm)	Load Capacity (N)	Weight (kg)	Unit Price
Type	No.							
ZLJS	80	80x120	40	(2)*	400	68.6	1.25	
	120	120x180	70	(3)*		98	3	

* The travel distance per knob rotation varies to some extent depending on the current table position.

Ordering Example
Part Number
ZLJS80

[Standard] Rotary Stages

[Standard] Rotary Stages (Square) / [Simplified Adjustments] Tilt Stages
Micrometer Head

P.1981

P.1981

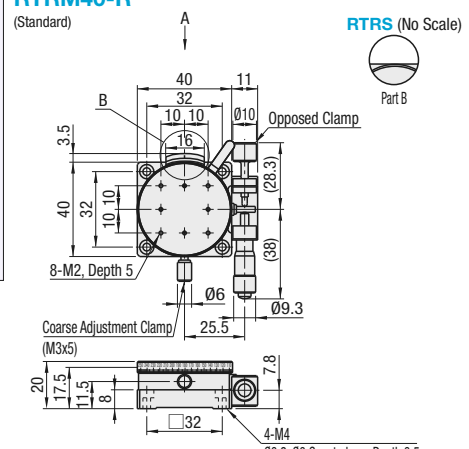
Features: Micrometer equipped rotary stages capable of fine feeds after rough adjustment.

Rotary



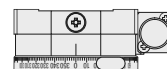
RoHS

RTRM40-R
(Standard)

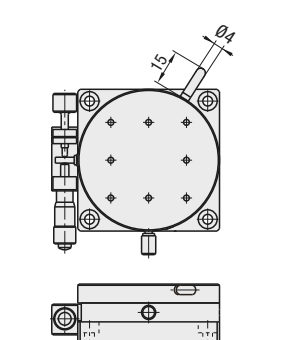


RTSR (No Scale)
Part B

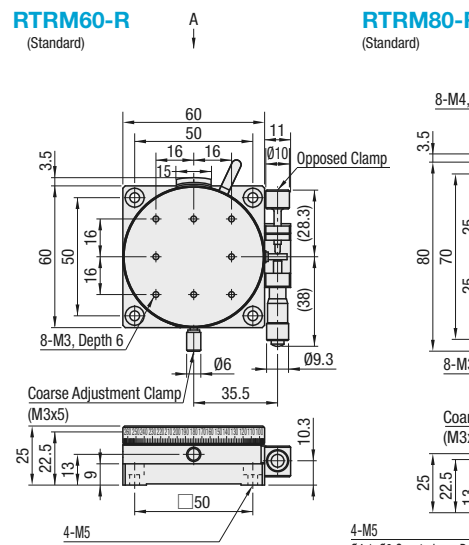
Arrow View A



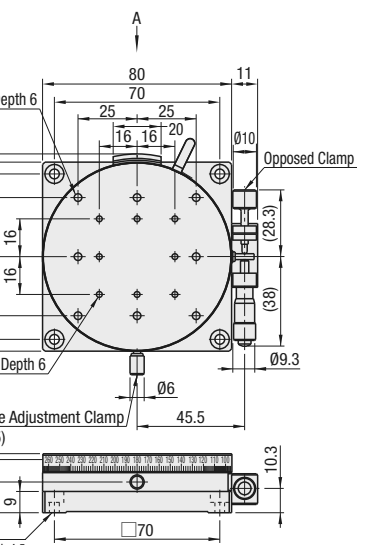
RTR-L
(Reversed)



RTRM60-R
(Standard)



RTRM80-R
(Standard)



See the CAD data for details.

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Rotary Stages High Precision Stage Existing Product: RPG (P.1981)

Part Number			Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price	
Type	No.	Micrometer Head Position					RTRM	RTSR
RTRM (w/ Scale) RTSR (No Scale)	40	R (Standard)	Ø40	Coarse 360° Fine Feed ±5°	9.8	0.10		
	60	L (Reversed)	Ø60		29.4	0.27		
	80		Ø80		39.2	0.46		

Bottom plate can be mounted from the top or the bottom. (Ref.) P.1961

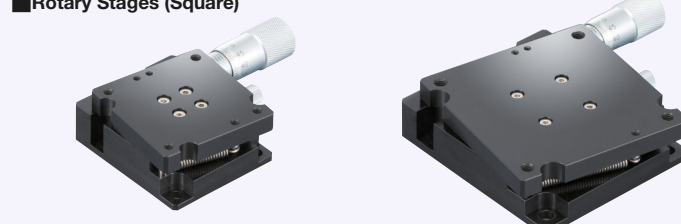
Ordering Example

Part Number

RTRM40-R
RTSR60-L

Features: Best suited for fine angle adjustments.

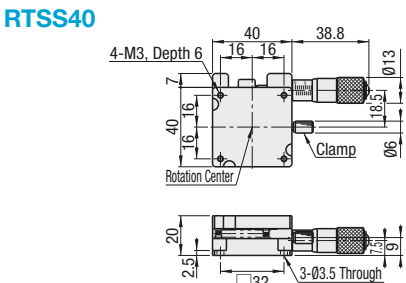
Rotary Stages (Square)



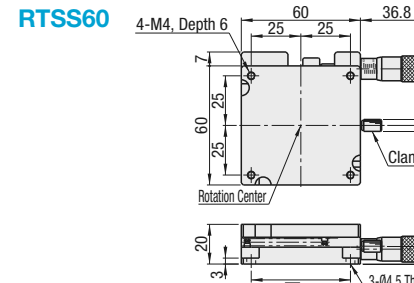
Accessory: Stainless Steel Hex Socket Low Head Cap Screws
RTSS40 (M3-6, 3 pcs.)
RTSS60 (M4-8, 3 pcs.)

RoHS

RTSS40



RTSS60



Material: Aluminum Alloy
Surface Treatment: Black Anodize

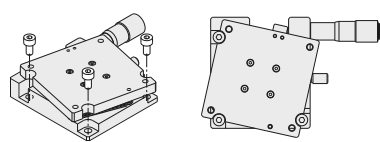
Part Number		Stage Surface (mm)	Travel Distance (°)	Load Capacity (N)	Resolution (°/Scale)	Parallelism (μm)	Weight (kg)	Unit Price 1 ~ 4 pc(s).
Type	No.							
RTSS	40	40x40	±10	9.8	≈1'51"	50	0.14	
	60	60x60		29.4	≈1'12"		0.26	

Ordering Example

Part Number

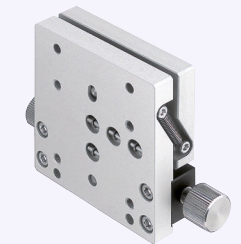
RTSS40

How to Mount Rotary Stages
Move the carriage to gain access to the mounting holes. (mounted at 3 locations)
See illustrations below.



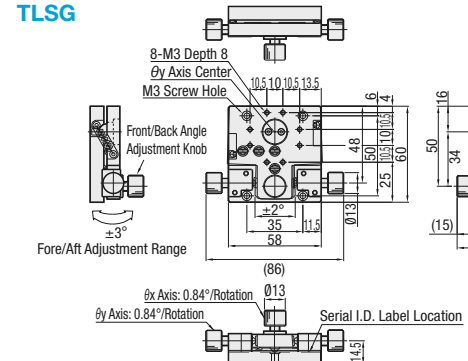
Features: Can be used to adjust in tilt direction (2 directions).

Tilt Stages



RoHS

TLSC



Material: Aluminum Alloy
Surface Treatment: Clear Anodize

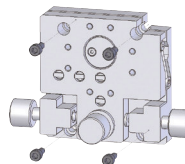
Part Number	Load Capacity (N)	Weight (kg)	Accessory: Hex Socket Head Cap Screw (Stainless Steel)	Unit Price
TLSC	9.8	0.22	M3x10 (4 pcs.)	

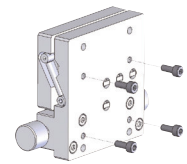
For orders larger than indicated quantity, please request a quotation.

See our website for Strut Clamps (TLSC), Rod Adapters (TLRA) and Camera Mounting Adapters for Tilt Stages.

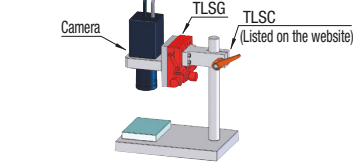
Tips: How to Mount Tilt Stages

- Counterbore Hole Mounting
- M3 Screw Hole Mounting





Example Camera Angle Adjustment



[Standard] Goniometer Stages - Dovetail Slide, 1-Axis

[High Precision] Goniometer Stages - Dovetail Slide, 1-Axis / 2-Axis

P.1986

Points on Similar Product Comparison | Height Tolerance of Rotation Center: ±1.0

Features: Circular arc motion stages with arc centers located on central perpendicular line above the stage tops are offered with higher accuracy and at lower price than existing products.

1-Axis

The height of Rotation Center is as shown below.

GFG

Material (Main Body): Aluminum Alloy, **Material (Shaft):** Low Cadmium Brass
Surface Treatment (Main Body): Black Anodize

• Table Mounting Hole Dimensions

A25

A40

A60

A80

1-Axis												
Part Number		Top View		Front View			Side View					
Type	A-H	B	J	H ₁	D	G	P	Q	X	ℓ	d ₁	d ₂
GFGS	25- 20	16	5.3	15	9	5.5	6	6.1	20	3	2.1	4.2
	25- 35	16	5.3	15	9	5.95	6	6.6	20	3	2.1	4.2
	40- 25	16	6.5	15	9	4.8	8	5.3	32	2	3.5	6
	40- 40	20	6.5	20	12	8.55	8	9.1	32	5	3.5	6
	40- 60	20	6.5	20	12	8.55	8	9.1	32	5	3.5	6
	60- 35	22	10.2	25	12	9	10	9.7	50	3	4.5	8
	60- 60	22	10.2	20	12	7	10	7.7	50	3	4.5	8
	60- 80	22	10.2	20	12	7	10	7.7	50	3	4.5	8
	80-100	26	10.2	30	15	11	10	12.2	70	7	4.5	8
	80-130	26	10.2	30	15	11	10	12.2	70	7	4.5	8

Performance								
Part Number	Stage Surface	Height of Rotation Center	Travel Distance	Travel per Rotation	Load Capacity	Weight	Unit Price	
Type	A-H	(mm)	H (mm)		(N)	(kg)		
GFGS	25- 20	25x25	20±1.0	±15°	≈2.0°	19.6	0.04	
	25- 35		35±1.0	±10°	≈1.3°			
	40- 25		25±1.0	±20°	≈2.8°		0.08	
	40- 40	40x40	40±1.0	±15°	≈1.9°	29.4	0.11	
	40- 60		60±1.0	±10°	≈1.3°			
	60- 35		35±1.0	±25°	≈1.9°		0.22	
	60- 60	60x60	60±1.0	±20°	≈1.3°	58.8		
	60- 80		80±1.0	±15°	≈1.0°		0.26	
	80-100	80x80	100±1.0	±18°	≈1.3°	49	0.56	
	80-130		130±1.0	±15°	≈1.0°		0.54	

Resolution (Vernier Scale Indication): 0.1°/division
Please note that, when the stage is moved in a travel distance higher than the predetermined value, the top plate may come off.

2-Axis: Combination Table		
Stage Surface (mm)	Height of Rotation Center H (mm)	Combination of Part Numbers
25x25	20±1.0	GFGS25-20 GFGS25-35
40x40	25±1.0	GFGS40-25 GFGS40-40
	40±1.0	GFGS40-40 GFGS40-60
	35±1.0	GFGS60-35 GFGS60-60
60x60	60±1.0	GFGS60-60 GFGS60-80
	100±1.0	GFGS80-100 GFGS80-130

Ordering Example

Part Number

GFGS40-25

Alterations

Part Number - (NR)

GFGS40-25 - NR

Alteration

Feed Knob Position Change

Side Mount - Right/Left Reversed

Spec.

Code

NR

See the CAD data for details.

Features: Circular arc motion stages with arc centers located on central perpendicular line above the stage tops. Suitable for large angle positioning applications.

1-Axis

The height of Rotation Center is as shown below.

GFG

Material: Low Cadmium Brass
Surface Treatment: Black Fluoresin Treatment

2-Axis

The height of Rotation Center is as shown below.

GFWG

Material: Low Cadmium Brass
Surface Treatment: Black Fluoresin Treatment

• Table Mounting Hole Dimensions

A25

A30

A40

A50

A60

A80

1-Axis												
Part Number		Top View		Front View			Side View				Accessory (4 pcs.)	
Type	A-H	B	J	H ₁	D	G	P	Q	X	ℓ	d ₁	d ₂
GFG	25-20	19	9	15	10	5.5	10	6.2	20	3	2.5	4.2
	25-35	19	9	15	10	6	10	7.7	20	3	2.5	4.2
	30-30	19.5	8.7	14	10	6.5	6	6.3	13	5	2.3	3.8
	30-44	19.5	8.7	13	10	6.5	6	6.3	13	5	2.3	3.8
	40-25	17.5	8	15	9	4.8	10	5.8	32	2	3.5	6
	40-40	18	8	20	12	8.5	10	9.7	32	5	3.5	6
	40-60	18	8	20	12	8.5	10	9.7	32	5	3.5	6
	50-50	18	7.7	18	12	7	10	7	40	3	3.5	6
	50-68	18	7.7	18	12	8	10	8	40	3	3.5	6
	50-86	18	7.7	18	12	8	10	8	40	3	3.5	6
GFWG	60-35	18	8.6	25	12	9	12	10	50	3	4.5	8
	60-60	18	8.6	20	12	7	12	8.5	50	3	4.5	8
	60-80	18	8.6	20	12	7	12	8.5	50	3	4.5	8
	80-100	25	14	30	15	11	15	14	70	7	4.5	8
	80-130	25	14	30	15	11	15	13	70	7	4.5	8
	25-20	19	9	15	10	5.5	10	6.2	20	3	2.5	4.2
	25-35	19	9	15	10	6	10	7.7	20	3	2.5	4.2
	30-30	19.5	8.7	14	10	6.5	6	6.3	13	5	2.3	3.8
	30-44	19.5	8.7	13	10	6.5	6	6.3	13	5	2.3	3.8
	40-25	17.5	8	15	9	4.8	10	5.8	32	2	3.5	6

Performance										
Part Number	Stage Surface	Height of Rotation	Travel	Travel per	Load Capacity	Moment	Load Capacity (N·m)	Weight	Unit Price	
Type	A-H	(mm)	Distance	Rotation	(N)	Pitching	Yawing	Rolling	(kg)	
GFG	25-20	25x25	20	±15°	≈2.0°	19.6	0.3	0.3	0.3	0.07
	25-35		35	±10°						
	30-30	30x30	30	±10°	≈2.06°	9.8	0.5	0.5	0.5	0.10
	30-44		44							
	40-25	40x40	25	±20°	≈2.2°	29.4	0.8	1.0	1.0	0.18
	40-40		40	±15°	≈1.89°					0.24
	40-60		60	±15°	≈1.33°					
	50-50		50	±10°	≈1.55°					
	50-68	50x50	68	±10°	≈1.2°	1.0	1.2	1.2	0.36	
	50-86		86							±8°
	60-35	60x60	35	±25°	≈2.0°	58.8	1.5	2.0	2.0	0.72
	60-60		60	±20°	≈1.3°					0.58
	60-80		80	±15°	≈1.0°					
	80-100		80x80	100	±18°					≈1.0°
80-130	130	±15°								

Resolution (Vernier Scale Indication): 0.1°/division
Please note that, when the stage is moved in a travel distance higher than the predetermined value, the top plate may come off.

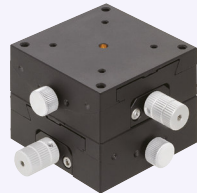
2-Axis																
Part Number		Top View		Front View					Side View					Accessory (4 pcs.)		
Type	A-H	B	J	H ₁	H ₂	D	G ₁	Q ₂	P	Q ₁	G ₂	X	ℓ	d ₁	d ₂	Type M-L
GFWG	25-20	19	9	15	30	10	6	21.15	10	7.7	20.5	20	3	2.5	4.2	SCB2-6
	30-30	19.5	8.7	13	27	10	6.5	19.3	6	6.3	19.5	13	5	2.3	3.8	SCB2-8
	40-25	17.5/18*	8	20	35	12	8.5	25.8	10	9.7	24.8	32	5	3.5	6	SCB3-6
	40-40	18	8	20	40	12	8.5	29.7	10	9.7	28.5	32	5	3.5	6	SCB3-8
	50-50	18	7.7	18	36	12	8	25	10	8	25	40	3	3.5	6	SCB3-6
	50-68	18	7.7	18	36	12	8	26	10	8	26	40	3	3.5	6	
	60-35	18	8.6	20	45	12	7	30	12	8.5	29	50	3	4.5	8	SCB4-8
	60-60	18	8.6	20	40	12	7	28.5	12	8.5	27	50	3	4.5	8	
	80-100	25	14	30	60	15	11	44	15	13	41	70	7	4.5	8	
	* GFWG40-25 knob length (B): Top 17.5, Bottom 18mm															
Part Number		Stage Surface (mm)	Height of Rotation Center (mm)	Travel Distance		Travel per Rotation		Moment Load Capacity (N·m)			Load Capacity (N)		Weight (kg)	Unit Price		
Type	A-H							Pitching	Yawing	Rolling						
GFWG	25-20	25x25	20	(Top)±15°/(Bottom)±10°	(Top)±2.0°/(Bottom)±2.0°	0.3	0.3	0.3	0.3	19.6	0.14					
	30-30	30x30	30	(Top)±10°/(Bottom)±10°	(Top)±2.06°/(Bottom)±1.5°	0.5	0.5	0.5	0.5	9.8	0.20					
	40-25		25	(Top)±20°/(Bottom)±15°	(Top)±2.2°/(Bottom)±1.89°	0.8	1.0	0.8	0.8	27.4	0.42					
	40-40		40	(Top)±15°/(Bottom)±10°	(Top)±1.89°/(Bottom)±1.33°	1.0				26.4	0.48					
	50-50		50	(Top)±10°/(Bottom)±10°	(Top)±1.55°/(Bottom)±1.2°	1.8	1.2	1.0	1.0	24.5	0.72					
	50-68		68	(Top)±10°/(Bottom)±8°	(Top)±1.2°/(Bottom)±0.97°											
	60-35		35	(Top)±25°/(Bottom)±20°	(Top)±2.0°/(Bottom)±1.3°	1.5	2.0	1.5	1.5	51.9	1.30					
	60-60		60	(Top)±20°/(Bottom)±15°	(Top)±1.3°/(Bottom)±1.0°					52.9	1.16					
	80-100	80x80	100	(Top)±18°/(Bottom)±15°	(Top)±1.0°/(Bottom)±1.0°	2.0	3.0	2.0	2.0	42.1	1.28					

[High Precision] Goniometer Stages - Dovetail Slide, 2-Axis

Symmetrical Stack, Space Saving

■ **Features:** Since two side faces out of four are freely configurable, this type of stage product can be symmetrically aligned with its reserved type for combination use or can be configured for space-saving.

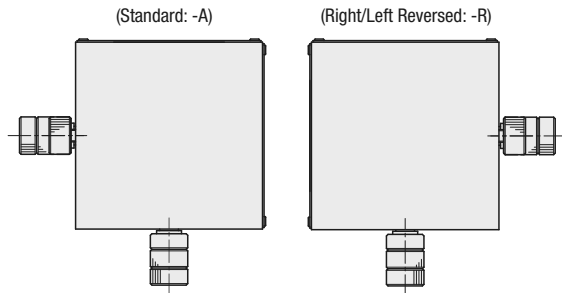
■ Symmetrical Stack, Space Saving



RoHS

DSGFWG

- The number of faces intended for knob / clamp operations is limited to two.
- Space for adjustment is saved.
- It is also possible to reposition two stages in such a way that they become much closer to each other.



⚠ When symmetrical use as shown on the above figure is desired, select one □□-□□ Type and one □□-□□-R Type, respectively. (Those types are not sold as a set.)

(⚠ **Note**) For dimension details, see the CAD data or the catalog's 1-axis stage dimension details on **P.1986**.

Part Number		Stage Surface (mm)	Travel (O) (Top / Bottom)	Horizontal Load Capacity (N)	Stage Configuration (GFG: P.1986)		Reference Part Number (Page)	Unit Price
Type	No.				Top	Bottom		
DSGFWG	25-20	25x25	±15/±10	19.6	GFG25-20-NR	GFG25-35	GFWG (P.1986)	
	25-20-R				GFG25-20	GFG25-35-NR		
	30-30	30x30	±10/±10	9.8	GFG30-30-NR	GFG30-44		
	30-30-R				GFG30-30	GFG30-44-NR		
	40-25	40x40	±20/±15	27.4	GFG40-25-NR	GFG40-40		
	40-25-R				GFG40-25	GFG40-40-NR		
	40-40		±15/±10	26.4	GFG40-40-NR	GFG40-60		
	40-40-R				GFG40-40	GFG40-60-NR		
	50-50	50x50	±10/±10	24.5	GFG50-50-NR	GFG50-68		
	50-50-R				GFG50-50	GFG50-68-NR		
	50-68		±10/±8		GFG50-68-NR	GFG50-86		
	50-68-R				GFG50-68	GFG50-86-NR		
	60-35	60x60	±25/±20	51.9	GFG60-35-NR	GFG60-60		
	60-35-R				GFG60-35	GFG60-60-NR		
	60-60		±20/±15	52.9	GFG60-60-NR	GFG60-80		
	60-60-R				GFG60-60	GFG60-80-NR		
	80-100	80x80	±18/±15	42.1	GFG80-100-NR	GFG80-130		
	80-100-R				GFG80-100	GFG80-130-NR		



Ordering Example

Part Number

DSGFWG60-60
DSGFWG60-60-R

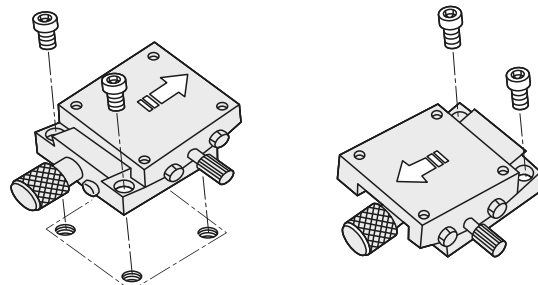
⚠ For symmetrical use, select one standard stage and one reversed (-R Type) stage, respectively, as indicated above.

⚠ Extension Cover HDEXT12 (Sold Separately): Ø12 knob can be extended. **P.2004**



How to Mount a Goniometer Stage:

Move the top plate to access mounting holes as shown below.



[High Precision] Goniometer Stages - Cross Roller, 1-Axis / 2-Axis

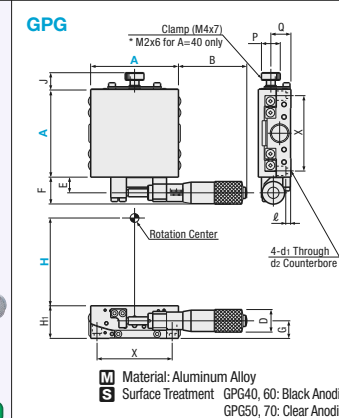
■ **Features:** High Accuracy Stages with Cross Roller Guides. Excellent operability makes them suitable for frequent positioning applications. Also suitable for fine feeding.

■ 1-Axis

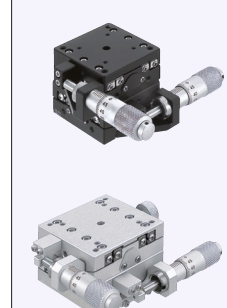


RoHS

GPG

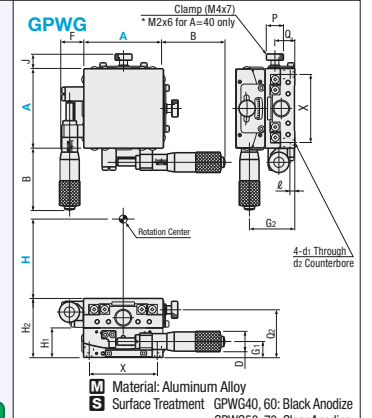


■ 2-Axis

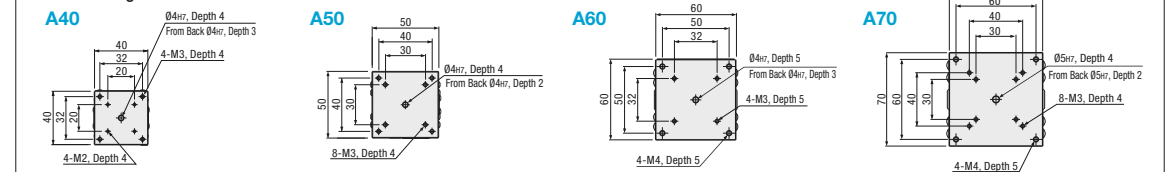


RoHS

GPWG



• Table Mounting Hole Dimensions



Part Number		Top View				Front View				Side View			
Type	A-H	B	J	E	F	H ₁	D	G	P	Q	X	ℓ	d ₁ d ₂
GPG	40-40	38	5.5	7.5	14	20	13	11	3.8	14	32	3	3.5 6
	40-60												
	40-80												
	50-50												
	50-68	31	13	11.5	18	18	13	9.3	15	10	40	3	3.5 6
	60-50												
	60-75												
	60-100												
	70-70	52	13.3	12.5	21.5	26	18	14	15	17.5	60	4	4.5 8
	70-96												
	70-122												
	70-122												
	70-122												
	70-122												
	70-122												
	70-122												

• Performance

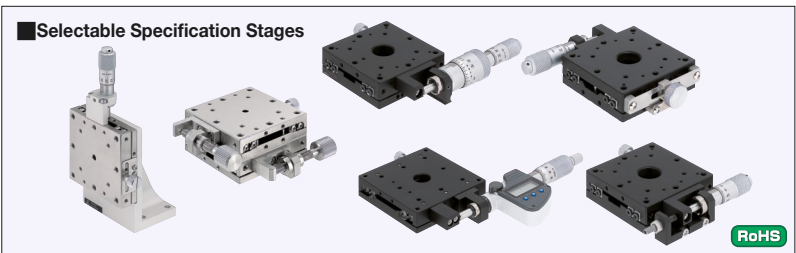
Part Number		Stage Surface (mm)	Height of Rotation Center H(mm)	Rotation Center Runout	Travel Distance	Resolution (°/division) (Micrometer)	Load Capacity (N)	Moment Load Capacity (N · m)			Moment Rigidity (°/N · cm)			Weight (kg)	Accessory (4 pcs.) TypeM-L	Unit Price	
Type	A-H							Pitch	Yaw	Roll	Pitch	Yaw	Roll				
GPG	40-40	40x40	40±0.2	0.01mm or Less	±7°	≈42	29.4	1.0	0.8	0.9	1.30	1.15	0.27	0.13	SCB3-6		
	40-60		60±0.2		±4°	≈30											
	40-80		80±0.2		±4°	≈23											
	50-50		50±0.2		±3°	≈53		1.5	1.2	2.5	0.60	0.26	0.37	0.23	SCB3-6		
	50-68	50x50	68±0.2		±3°	≈40											
	50-86	86±0.2	±3°		≈33												
	60-50	60x60	50±0.2		±4°	≈33		1.5	2.0	2.6	0.27	0.09	0.10	0.31	SCB4-10		
	60-75		75±0.2		±3°	≈24											0.30
	60-100		100±0.2		±3°	≈18											
	60-125		125±0.2		±2.5°	≈15								49.0			3.6
	70-70	70x70	70±0.2		±3°	≈25											
	70-96	96±0.2	±3°		≈19												
70-122	122±0.2	±3°	≈15														

Part Number		Stage Surface (mm)	Height of Rotation Center H(mm)	Travel Distance	Resolution ("/division) (Micrometer)	Load Capacity (N)	Moment Load Capacity (N · m)			Moment Rigidity ("/N · cm)			Weight (kg)	Accessory (4 pcs.) TypeM-L	Unit Price
Type	A-H						Pitch	Yaw	Roll	Pitch	Yaw	Roll			
GPWG	40-40	40x40	40±0.4	(Top)±7°/(Bottom)±4°	(Top)±42°/(Bottom)±30°	27.4	1.0	0.8	0.9	1.57	2.30	1.57	0.26	SCB3-6	
	40-60		60±0.4	(Top)±4°/(Bottom)±4°	(Top)±30°/(Bottom)±23°										
	50-50		50±0.4	(Top)±3°/(Bottom)±3°	(Top)±53°/(Bottom)±40°										
	50-68	50x50	68±0.4	(Top)±3°/(Bottom)±3°	(Top)±40°/(Bottom)±33°	27.4	1.5	1.2	1.5	0.97	0.52	0.97	0.46	SCB3-6	
	60-50		50±0.4	(Top)±4°/(Bottom)±4°	(Top)±33°/(Bottom)±24°										
	60-75		75±0.4	(Top)±4°/(Bottom)±3°	(Top)±24°/(Bottom)±18°										
	60-100	60x60	100±0.4	(Top)±3°/(Bottom)±2.5°	(Top)±18°/(Bottom)±15°	46.0	1.5	2.0	1.5	0.37	0.18	0.37	0.62	SCB4-10	
	70-70		70±0.4	(Top)±3°/(Bottom)±3°	(Top)±25°/(Bottom)±19°								0.60		
	70-96		96±0.4	(Top)±3°/(Bottom)±3°	(Top)±19°/(Bottom)±15°										
70-96	70x70	70±0.4	(Top)±3°/(Bottom)±3°	(Top)±25°/(Bottom)±19°	44.1	3.6	2.8	3.6	0.23	0.12	0.23	1.06	SCB4-8		
70-96	96±0.4	(Top)±3°/(Bottom)±3°	(Top)±19°/(Bottom)±15°												

[High Precision] X / XY / Z-Axis Stages - Selectable

■ **Features:** Various X, XY, and Z-Axis Linear Ball Slide / Cross Roller Stages (P.1918, P.1921, P.1946, P.1966, respectively) that can be customer specified on ① feed mechanism mount position, ② feed type, ③ clamp type, and ④ grease type.

■ **Selectable Specification Stages**



Part Number			Stage Used
Type	Axis	Guide	
FS	X	R	XSG (P.1921)
		C	XPG (P.1918)
	XY	R	XYSG (P.1946)
	Z	R	ZSG (P.1966)

* Refer to the stage with the same size as the table.
Guide Type R: Linear Ball Slide
C: Cross Roller Slide

Stage				①Feed Position		②Feeding Method				③Clamp Type		④Grease	
Axis	Type	Size	Unit Price	Center/Side	Micrometer Head (Stroke: mm)	Price	Feed Screw (Pitch/Stroke: mm)	Price	Selection	Price	Selection	Price	
X-Axis	FSXR (Linear Ball)	25		(Center): A, AR (Side): AZ, AZR C, CR CZ, CZR	N (Standard ±3.2)	N: M: D:	F (Hex Socket 0.5/±3.2) B (Feed Screw 0.5/±3.2)	F, B, J:	S (Standard)	S: H: P:	G (Standard) R (Clean Env. Compatible)*	G: R:	
		40			N (Standard ±6.5)		S (Standard)						
		50			M (Coarse Fine Feed ±6.5)		H (Disc)						
		60			F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		P (Opposed) Applicable only when C and CR, and the feed type is N or F.						
		70			S (Standard) H (Disc)								
X-Axis	FSXC (Cross Roller)	80			N (Standard ±12.5) M (Coarse Fine Feed ±6.5) D (Digital Micrometer ±12.5) *1. Only applicable to feed position A, AR and C.								
		25		(Center): A, AR (Side): AZ, AZR C, CR CZ	N (Standard ±3.2)	N: M:	B (Feed Screw 0.5/±3.2)	B:	S (Standard)	S:	G (Standard)	G: R:	
		40			N (Standard ±6.5)								
		60			M (Coarse Fine Feed ±6.5)								
		80			N (Standard ±12.5) M (Coarse Fine Feed ±6.5)								
		*3											
XY-Axis	FSXYR (Linear Ball)	25		(Center): A, AR (Side): C, CR	N (Standard ±3.2)	N: M: D:	F (Hex Socket 0.5/±3.2) B (Feed Screw 0.5/±3.2)	F, B, J:	S (Standard)	S: H: P:	G (Standard) R (Clean Env. Compatible)*	G: R:	
		40			N (Standard ±6.5)		S (Standard)						
		50			M (Coarse Fine Feed ±6.5)		H (Disc) Only applicable to C, CR.						
		60			F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		P (Opposed) Applicable only when C and CR, and the feed type is N or F.						
		70			S (Standard) H (Disc) Only applicable to C, CR.								
Z-Axis	FSZR (Linear Ball)	80			N (Standard ±12.5) M (Coarse Fine Feed ±6.5) D (Digital Micrometer ±12.5) *1. Only applicable to feed position A and AR.								
		25		(Center): AZ, AZR (Side): C, CR CZ, CZR	N (Standard ±3.2)	N: M:	F (Hex Socket 0.5/±3.2) B (Feed Screw 0.5/±3.2)	F, B, J:	S (Standard)	S: H: P:	G (Standard) R (Clean Env. Compatible)*	G: R:	
		40			N (Standard ±6.5)		S (Standard)						
		50			M (Coarse Fine Feed ±6.5)		H (Disc)						
		60			F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		P (Opposed) Applicable only when C and CR, and the feed type is N or F.						
70		S (Standard) H (Disc)											
Z-Axis	FSZR (Linear Ball)	80		Feeding direction of C, CR is upward; that of the others is downwards.	N (Standard ±12.5) M (Coarse Fine Feed ±6.5) Not applicable to C, CR.								

*1. Only clamp position will be changed for Digital Micrometer A and AR. *2. When feed type M (coarse/fine feed) or D (digital micrometer) is selected, grease R (clean env. compatible) is not applicable. *3. Combination with M, B is not available for cross roller stages AZ and CZ. Combination with B is not available for cross roller stages with Table Size 80.

Ordering Example

Part Number - ① Feed Position - ② Feeding Method - ③ Clamp Type - ④ Grease

FSXYR40 - C - F - S - R

- ☞ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. **P2004**
- ☞ Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. **P2004**

☞ One Point:

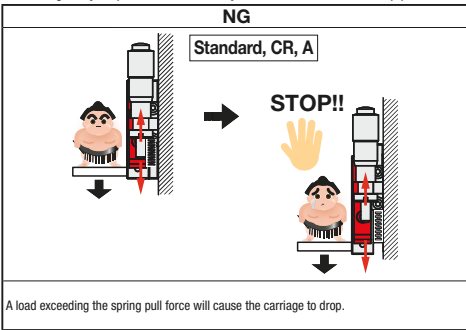
Differences of using X-Axis Stages (XSG  P.1921 and XPG  P.1918) vertically versus the true Z-Axis Stages (ZSG  P.1966 and ZPG  P.1968). The true Z-Axis stages are designed and constructed with considerations given to the micrometer head/feed screw drive directions and the spring force direction to prevent the stage surfaces from falling due to the loads, (Center drive is the standard.)

Notes on Vertical Uses of X-Axis Stage

The carriage may drop if mounted vertically with the micrometer head tip pointed down with XSG  or -CR / -A selected. (The carriage does not drop when mounted with the micrometer head tip pointing up.)

NG

Standard, CR, A



A load exceeding the spring pull force will cause the carriage to drop.

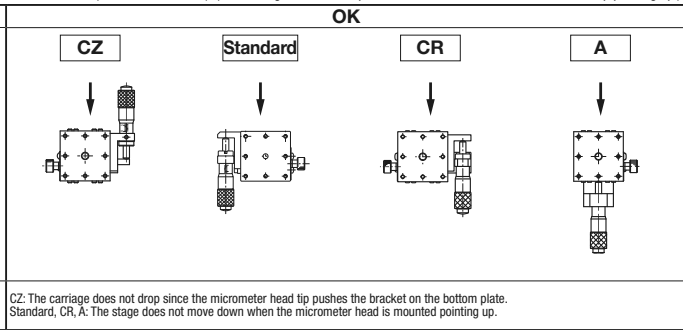
OK

CZ

Standard

CR

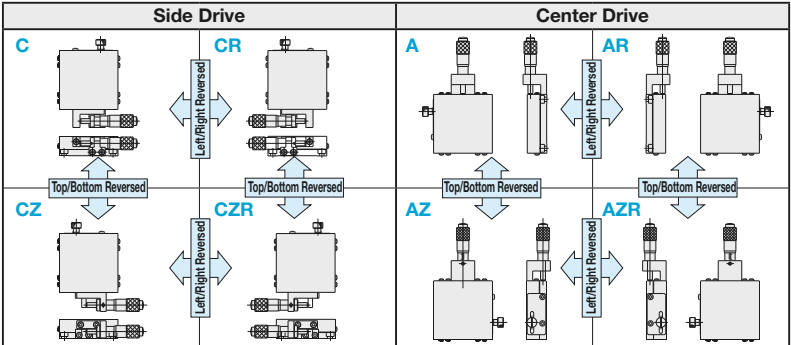
A



CZ: The carriage does not drop since the micrometer head tip pushes the bracket on the bottom plate.
Standard, CR, A: The stage does not move down when the micrometer head is mounted pointing up.

☞ However, do not apply a load exceeding the specified vertical load capacity.

① Feed Position



② Feeding Method

N (Standard Micrometer Head)

Table Size 25 (Stroke ±3.2mm, Min. Reading 0.01mm)

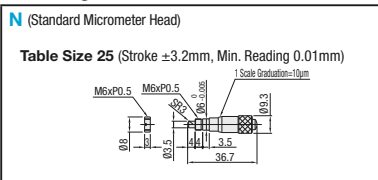


Table Size 40~70 (Stroke ±6.5mm, Min. Reading 0.01mm)

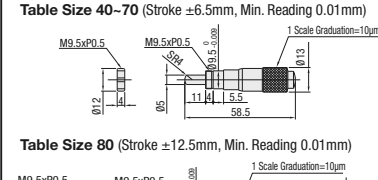
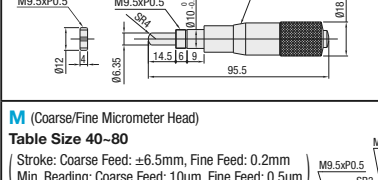


Table Size 80 (Stroke ±12.5mm, Min. Reading 0.01mm)



F (Hex Socket Screw Pitch 0.5)

Table Size 25 (M3xP0.5, Stroke ±3.2mm)

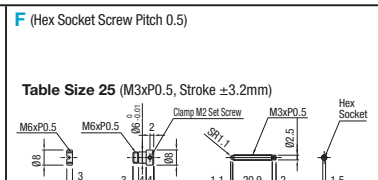
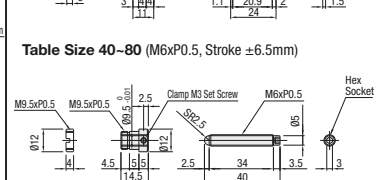


Table Size 40~80 (M6xP0.5, Stroke ±6.5mm)



☞ The screw shaft can be locked with a set screw on the bushing.

B (Feed Screw Pitch 0.5)

J (Feed Screw Pitch 1.0)

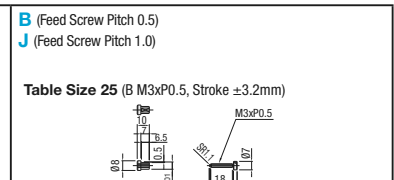
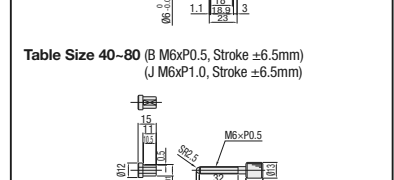


Table Size 25 (B M3xP0.5, Stroke ±3.2mm)

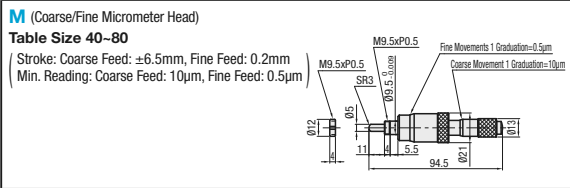
Table Size 40~80 (B M6xP0.5, Stroke ±6.5mm)
(J M6xP1.0, Stroke ±6.5mm)



M (Coarse/Fine Micrometer Head)

Table Size 40~80

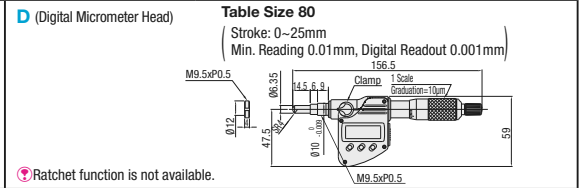
(Stroke: Coarse Feed: ±6.5mm, Fine Feed: 0.2mm
Min. Reading: Coarse Feed: 10µm, Fine Feed: 0.5µm)



D (Digital Micrometer Head)

Table Size 80

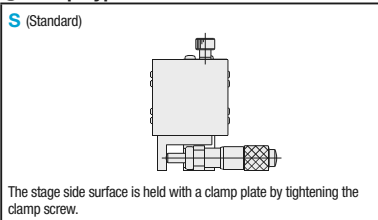
(Stroke: 0~25mm
Min. Reading 0.01mm, Digital Readout 0.001mm)



☞ Ratchet function is not available.

③ Clamp Type

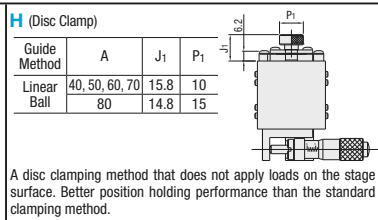
S (Standard)



The stage side surface is held with a clamp plate by tightening the clamp screw.

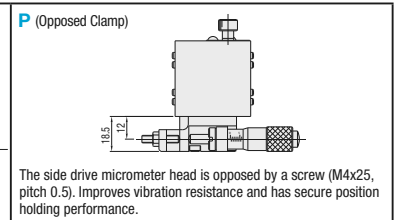
H (Disc Clamp)

Guide Method	A	J ₁	P ₁
Linear	40, 50, 60, 70	15.8	10
Ball	80	14.8	15



A disc clamping method that does not apply loads on the stage surface. Better position holding performance than the standard clamping method.

P (Opposed Clamp)



The side drive micrometer head is opposed by a screw (M4x25, pitch 0.5). Improves vibration resistance and has secure position holding performance.

④ Grease

Grease Performance	Item	Condition	Unit	Measurement Method	G (Standard)		
					Guide Mechanism Surface	Drive Component	Clean Env. Compatible
					Lithium Soap-based	Urea-based	Lithium Soap-based
					Mineral Oil	Mineral Oil (Mixture)	Fine Synthetic Oil
	Thickener	-	-	-	131	-	100
	Base Oil	-	-	-	12.2	-	-
	Base Oil Kinetic Viscosity	40°C	mm ² /s	JIS K2220 5.19	283	275	315
	Miscible Consistency	100°C	-	JIS K2220 7	181°C	280°C	220°C
	Dropping Point	-	°C	JIS K2220 8	0.24	0.26	0.7
	Evaporation Amount	-	wt%	-	2.8	0.0	2.6
	Oil Separation	100°Cx24hr	-	JIS K2220 5.7	-	-	0.22
	Low Temperature Torque	(Starting) (Rotation)	-30°C	N · m	JIS K2220 514	-	0.06
	Operating Temperature	In Air	°C	-	-25~120°C	-15~150°C	-40~120°C

* The guide mechanism grease for the Linear Ball Guide Stages are R (clean environment compatible) by default.
The only change applicable when the R (clean environment compatible) alteration is specified is the grease for other drive components.

[Grease Change Locations]

- Guide Mechanism Surfaces (Slide Surfaces, Slide Contacts, Guides)
- Drive Components (Micrometer Heads, Feed Screws)

[High Precision] Dovetail Slide, Rack & Pinion / X: Feed Screw, Z: Rack & Pinion

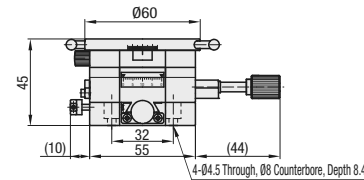
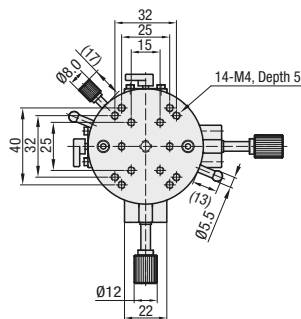
■ XY-Axis + Rotary



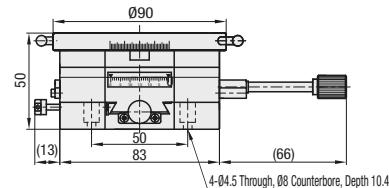
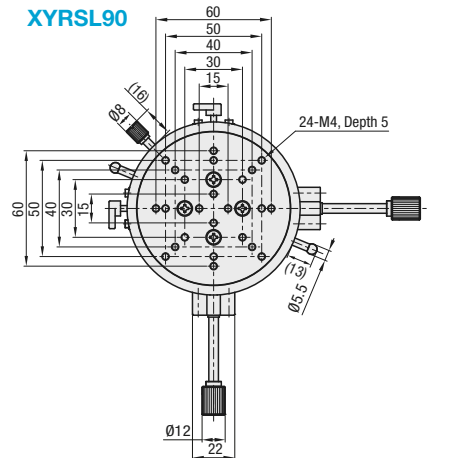
 Scale is provided with the actual product.
For specifications, see Specification Diagram



XYRSL60



XYRSL90



M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

Part Number		Stage Surface	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Straightness (μm)	Weight (kg)	Unit Price
Type	No.							
XYRSL	60	Ø60	XY ±21	4.2	34.3	30	0.39	
			360° Rotation					
	90	Ø90	XY ±35				0.88	
			360° Rotation					



■ XZ-Axis Feed Screw
(Lead 0.5mm)



X-Axis P.1897
Z-Axis P.1962

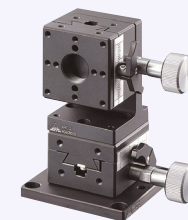


Part Number		Stage Configuration		Stage Surface (mm)	External Dimension (mm)			Travel Distance (mm)		Load Capacity (N)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
Type	No.	Bottom	Top		W	D	H	X	Z				
XZEG	25	XEG25	ZEG25	25x25	45	31.7	72.5	±5	±5	9.8	0.17	SCB2-8	
	40	XEG40	ZEG40	40x40	60	46.7	95.0	±7	±7				
	60	XEG60	ZEG60	60x60	80.5	71.8	122.5	±9	±9	19.6	1.35	SCB4-6	

For dimension details, see the CAD data and the catalog page for each stage. (XEG: **P1897**, ZEG: **P1962**)



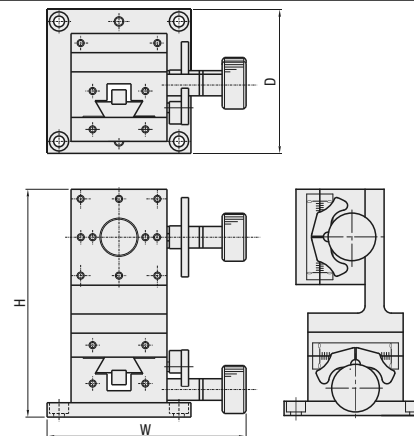
■ XZ-Axis, Rack & Pinion



 X-Axis **P.1911**
 Z-Axis **P.1957**



XZFG



Part Number	M Material	S Surface Treatment
XZFG25	Low Cadmium Brass	Black Fluororesin Treatment
XZFG40	Aluminum Alloy	Black Anodize
XZFG60		

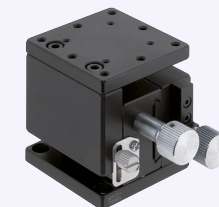
Part Number		Stage Configuration		Stage Surface (mm)	External Dimension (mm)			Travel Distance (mm)		Load Capacity (N)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
Type	No.	Bottom	Top		W	D	H	X	Z				
XZFG	25	XF625	ZF625	25x25	40	38	55.5	±5	±5	6.9	0.20	SCB2-12	
	40	XF640	ZF640	40x40	83	60	95.0	±10	±10	14.7	0.45	SCB4-6	
	60	XF660	ZF660	60x60	110	80	105.5	±20	±20	19.6	1.25	SCB4-6	

📌 For dimension details, see the CAD data and the catalog page for each stage. (XFG: **P1911**, ZFG: **P1957**)

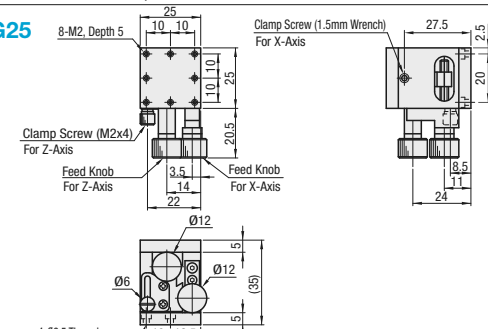
📌 For orders larger than indicated quantity, please request a quotation.



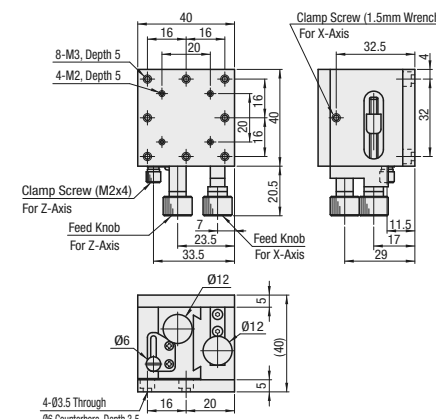
■ Moving Horizontal Surface XZ Stage



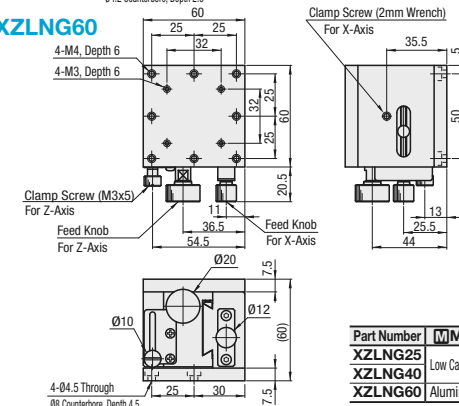
XZLNG25



XZLNG40



XZLNG60



Part Number	M Material	S Surface Treatment
XZLNG25	Low Cadmium Brass	Black Fluororesin Treatment
XZLNG40		
XZLNG60	Aluminum Alloy	Black Anodize

Part Number		Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy	Weight (kg)	Accessory (4 pcs.)	Unit Price
Type	No.					Straightness		Type M-L	
XZLNG	25	25x25	X:±5 Z:±10	X: 0.5 Z:±14	9.8	30µm	0.17	SCB2-5	
	40	40x40	X:±7 Z:±10				0.51	SCB3-6	
	60	60x60	X:±10 Z:±26	X: 0.5 Z:±20			0.62	SCB4-8	

⚠ No graduated scale on XZLNG

📌 For orders larger than indicated quantity, please request a quotation.

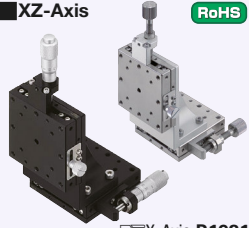


[High Precision] Linear Ball

Micrometer Head / Feed Screw

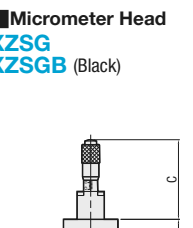
■Features: High Precision/rigidity Linear Ball Slide XZ-Axis Stages. Further cost savings is possible by selecting the Feed Screw Type.

■XZ-Axis



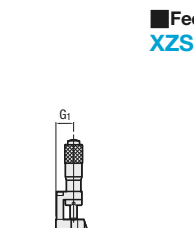
RoHS

■Micrometer Head

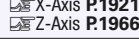


XZSG
XZSGB (Black)

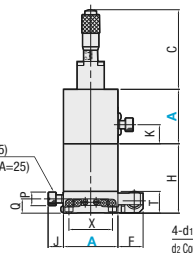
■Feed Screw (Pitch 0.5)

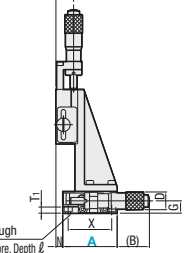


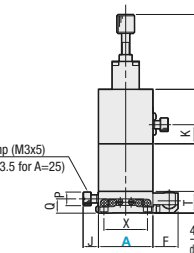
XZSCG

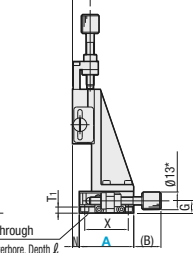












Clamp (M3x5)
(M2x3.5 for A=25)

4-d1 Through
dz Counterbore, Depth ℓ

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

4-d1 Through
dz Counterbore, Depth ℓ

For top surface mounting dimensions and feed bracket shapes, see Linear Ball Slide X-Axis Stages on P.1921.

For Z-Axis of A=25 has different bracket shape. See P.1709.

• Characteristics of Black Chrome Plating ■ P.304.

Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
	Material	Material	Material	Material	Material
XZSG	EN 1.4125	EN 1.4125	SUS304WPB	EN AW-5052	EN 1.4305
XZSCG	Electroless Nickel Plating	58HRC~		Clear Anodize	-
XZSGB	UBC Plating			Black Anodize	UBC Plating

For Micrometer Head and Feed Screw materials, see P.2005 and P.2006.

■Micrometer Head (XZSG, XZSGB) / Feed Screw (XZSCG) Standard Stages with Similar Specifications: Combination of XLBS (P.1920) and ZLBS (P.1965)

Part Number		Front View										Side View										Accessory (4 pcs.)		
Type	A	H	C		K	Q	P	J	F	T	T ₁	N	(B)		Travel Distance (mm)	D	G	G ₁	X	d ₁	d ₂	ℓ	Type M-L	
			Micrometer	Feed Screw									Micrometer	Feed Screw										
XZSG XZSCG XZSGB (*only)	25*	24.5	37.0	23	10	8.5	6	6.8	11.7	12	3.7	7	25	11	±3.2	9.3	7	10	20	2.5	4.2	2.5	SCB2-4	
	40*	51	58.5	55	14	10.5	10	11.3	18.5	16	4.5	5	24	20.3	±6.5	13	8.9	13	32	3.5	6	3.5	SCB3-6	
	50	46			19						20	18.7	15.3	40										
	60*	41			24						5	21	14	10.3					50					4.0
	70	43			23.5						18	6	12	14.5					10.8					60
	80*	40	96.0		25	14.5			26*1	20	6.5	20	43.5	10	±12.5*2	18	10.8	16.5	70		5.3	SCB4-6		

• Performance

*1 When feed screw A=80, F=20

*2 Travel distance of Feed Screw Type XZSCG80 is ±6.5mm.

Part Number	Stage Surface	Load Capacity	Travel Accuracy	Moment Load Capacity (N · m)	Moment Rigidity (°/N · cm)	Weight	Unit Price
Type	A	(N)	Straightness	Pitching	Yawing	(kg)	XZSG XZSCG XZSGB
XZSG XZSCG XZSGB (*only)	25*	25x25	9.8	3μm	30"	2.0	
	40*	40x40				5.0	
	50	50x50	49.0	1μm ³	25"	6.8	
	60*	60x60			15"	10.0	
	70	70x70				13.8	
	80*	80x80		3μm		18.2	

XZSG, XZSGB Micrometer Head Resolution: 10μm/division *3 XZSGB Straightness is 3μm.
Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

Ordering Example

Part Number

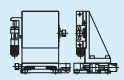
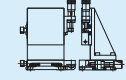
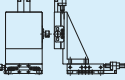
XZSG80

Alterations

Part Number

XZSG40 - (C, CU, A, R)

XZSG40 - C

Alterations	Position of Micrometer Head and Feed Screw			
Spec.	Side Up	Side Down	Center	Reversed
				
		Not applicable to XZSGB.	Not applicable to XZSGB.	
Code	C	CU	A	R

Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.

[High Precision] Cross Roller

Micrometer Head

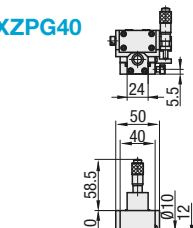
■Features: Cross Roller XZ-Axis Stages made of lightweight aluminum alloy.

■XZ-Axis

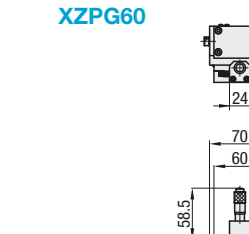


RoHS

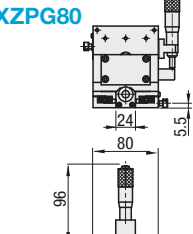
XZPG40

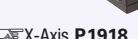


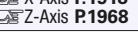
XZPG60



XZPG80







For top surface mounting hole dimensions, see Cross Roller X-Axis Stages on P.1918.

Standard Stages with Similar Specifications: Combination of XCRS (X-Axis, P.1917) and ZCRS (P.1967)

Part Number	No.	Stage Configuration	Stage Surface	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price
XZPG	40	XPG40	ZPG40	40x40	±6.5	9.8	0.34
	60	XPG60	ZPG60	60x60	±6.5	19.6	0.70
	80	XPG80	ZPG80	80x80	±12.5	49.0	1.30

For dimension details, see the CAD data and the catalog page for each stage.
Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

For orders larger than indicated quantity, please request a quotation.

Ordering Example

Part Number

XZPG60

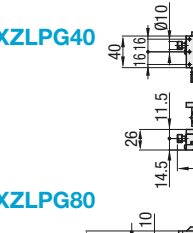
■Features: Cross Roller XZ-Axis Stages made of lightweight aluminum alloy. The horizontal surfaces move vertically.

■X + Horizontal Surface Z-Axis

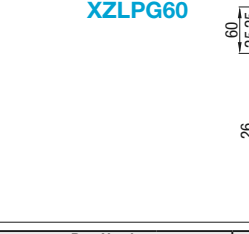


RoHS

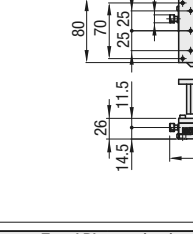
XZLPG40



XZLPG60



XZLPG80







Material: Aluminum Alloy

Surface Treatment: Black Anodize

Part Number	No.	Stage Configuration	Stage Surface	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price
XZLPG	40	XPG40	ZLPG40	40x40	±6.5	9.8	0.35
	60	XPG60	ZLPG60	60x60	±6.5	19.6	0.63
	80	XPG80	ZLPG80	80x80	±12.5	29.4	1.47

For dimension details, see the CAD data and the catalog page for each stage.
Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

Ordering Example

Part Number

XZLPG80

[High Precision] Dovetail Slide, Rack & Pinion / XY: Feed Screw, Z: Rack & Pinion

[High Precision] Dovetail Slide, Feed Screw

■Features: Dovetail Slide XYZ-Axis Stages with approx.18mm of travel per rotation.

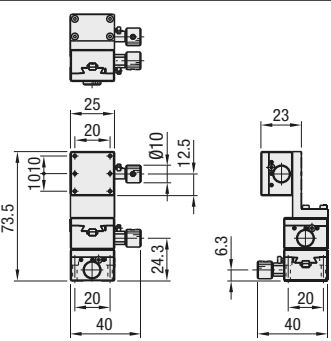
■XYZ-Axis, Rack & Pinion



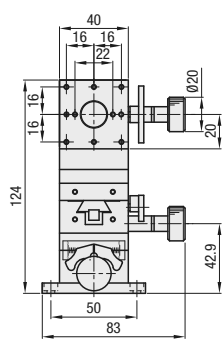
☑ X-Axis: P.1911
☑ XY-Axis: P.1939
☑ Z-Axis: P.1957

RoHS

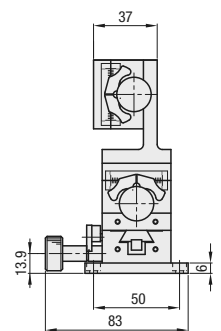
XYZFG25



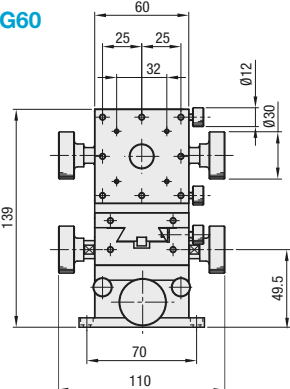
XYZFG40



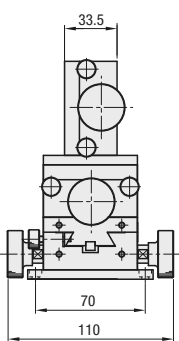
XYZFG60



XYZFG60



XYZFG60



Part Number	Stage Configuration		Stage Surface (mm)	Travel Distance (mm)			Load Capacity (N)	Weight (kg)	Accessory (4 pcs.)		Unit Price
	Type	No.	Bottom	Top	X	Y	Z		Type	M-L	
XYZFG	25	XYFG25	ZFG25	25x25	±5	±5	±5	6.9	0.29	SCB2-12	
	40	XYFG40	ZFG40	40x40	±10	±10	±10	14.7	0.61	SCB4-6	
	60	XYFG60	ZFG60	60x60	±20	±20	±20	19.6	1.79	SCB4-6	

☑ For dimension details, material and characteristics, see the CAD data and the catalog page for each stage.
☑ XYFG P.1939, ☑ ZFG P.1957

■Features: XYZ-Axes Stages with a vertically moving horizontal surface Z-axis.

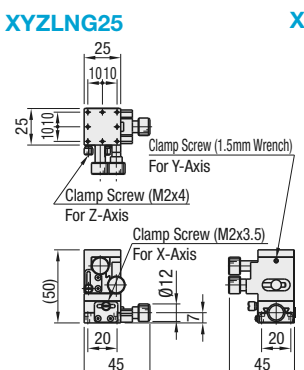
■XY + Horizontal Surface Z-Axis



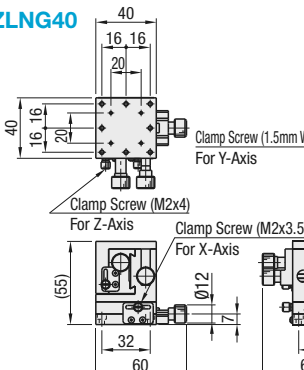
☑ X-Axis: P.1897
☑ XZ-Axis: P.1992

RoHS

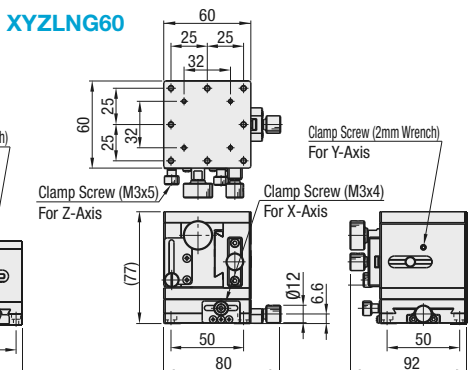
XYZLNG25



XYZLNG40



XYZLNG60



Part Number	Stage Configuration		Stage Surface (mm)	Travel Distance (mm)			Load Capacity (N)	Weight (kg)	Accessory (4 pcs.)		Unit Price
	Type	No.	Bottom	Top	X	Y	Z		Type	M-L	
XYZLNG	25	XEG25-R	XZLNG25	25x25	±5	±5	±10	9.8	0.24	SCB2-8	
	40	XEG40-R	XZLNG40	40x40	±7	±7	±7	0.70	SCB3-6		
	60	XEG60-R	XZLNG60	60x60	±9	±10	±26	1.22	SCB4-6		

☑ For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage. ☑ XEG P.1897, ☑ XZLNG P.1992

■Features: XYZ-Axis low profile (height 15mm →) dovetail slide stages with feed screws.

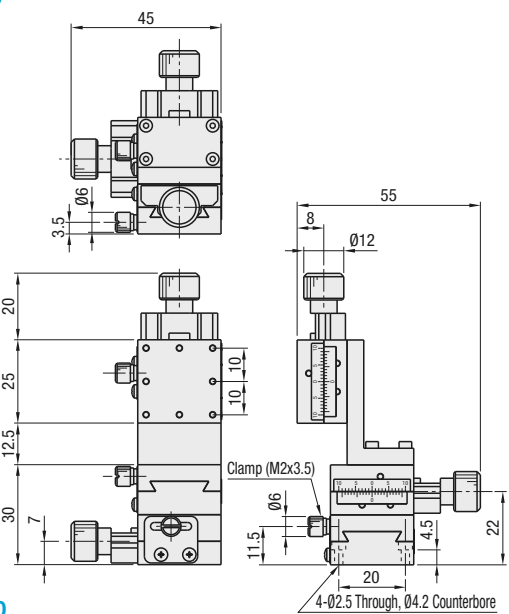
■XYZ-Axis Feed Screw (Lead 0.5mm)



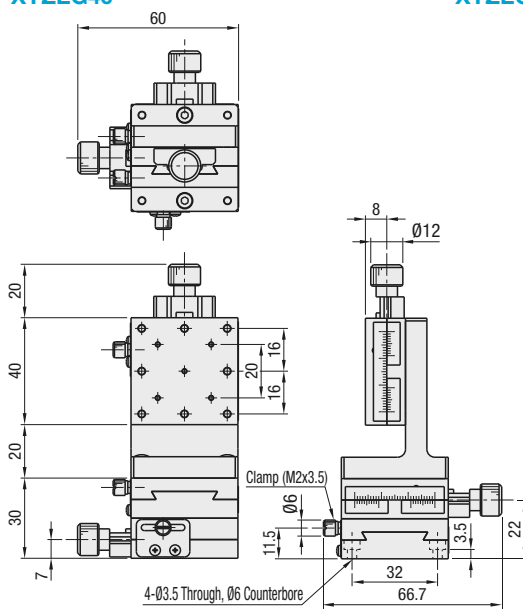
☑ X-Axis: P.1897
☑ XY-Axis: P.1933
☑ Z-Axis: P.1962

RoHS

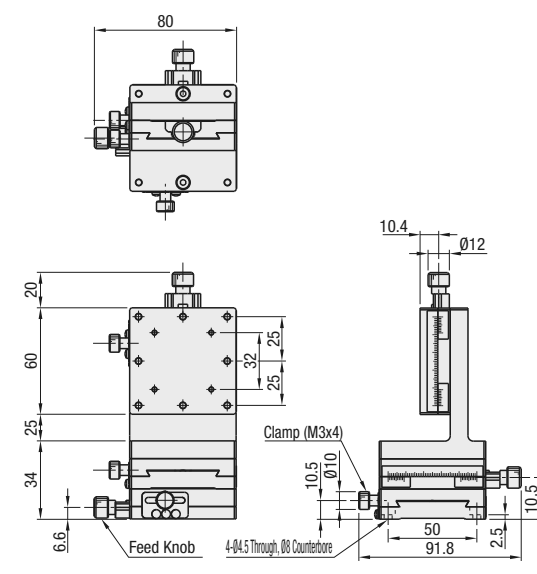
XYZEG25



XYZEG40



XYZEG60



☑ Standard Stages with Similar Specifications: Combination of XYFES (P.1931) and ZFES (P.1961)

Part Number	Stage Configuration		Stage Surface (mm)	Travel Distance (mm)			Load Capacity (N)	Weight (kg)	Accessory (4 pcs.)		Unit Price
	Type	No.	Bottom	Top	X	Y	Z		Type	M-L	
XYZEG	25	XYEG25	ZEG25	25x25	±5	±5	±5		0.24	SCB2-8	
	40	XYEG40	ZEG40	40x40	±7	±7	±7	9.8	0.65	SCB3-6	
	60	XYEG60	ZEG60	60x60	±9	±9	±9	19.6	1.95	SCB4-6	

☑ For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage. ☑ XYEG P.1933, ☑ ZEG P.1962

☑ Extension Cover HDEXT12 (Sold Separately): Ø12 knob can be extended. ☑ P.2004

Ordering Example

Part Number

XYZEG25

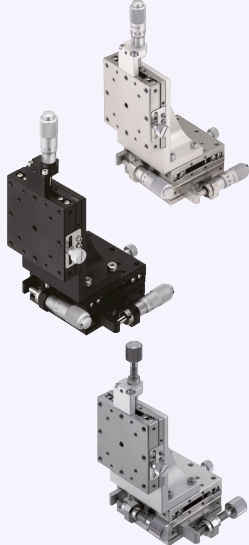
☑ Material: (Main Body) Low Cadmium Brass
(Feed Knob) Aluminum
☑ Surface Treatment: Black Fluororesin Treatment

[High Precision] Linear Ball Micrometer Head / Feed Screw

■Features: High Precision/rigidity Linear Ball Slide XYZ-Axis Stages. Further cost savings is possible by selecting the Feed Screw Type.

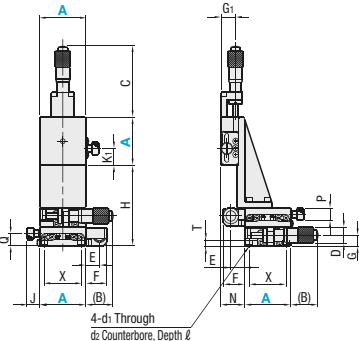
■XYZ-Axis

RoHS



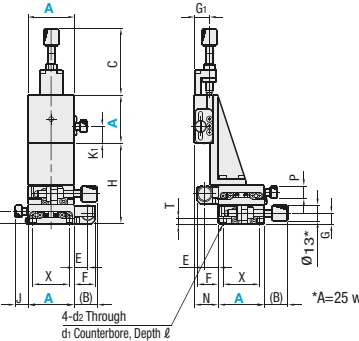
■Micrometer Head

XYZSG
(25≤A≤80)
XYZSGB (Black)
(A=25, 40, 60, 80)



■Feed Screw (Pitch 0.5)

XYZSCG
(25≤A≤80)



⚠For top surface mounting dimensions, see Linear Ball Slide X-Axis Stages on P1921.

⚠For Micrometer Head and Feed Screw materials, see P2005 and P2006.

Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder						
Micrometer Head	Feed Screw	MMaterial	SSurface Treatment	MMaterial	HHardness	MMaterial	SSurface Treatment	MMaterial	SSurface Treatment	MMaterial	SSurface Treatment
XYZSG	XYZSCG	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Clear Anodize	EN 1.4305 Equiv.	-	-
XYZSGB	-	EN 1.4125 Equiv.	LTBC Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Black Anodize	EN 1.4305 Equiv.	LTBC Plating	-

■Micrometer Head (XYZSG, XYZSGB) / Feed Screw (XYZSCG) ⚠Standard Stages with Similar Specifications: Combination of XYLBS (P1942) and ZLBS (P1965)

Part Number		Front View										Side View												Accessory (4 pcs.)	
Type	A	H	(C)		K1	Q	J	(B)		Travel Distance (mm)	E	F	N	T	D	G	P	G1	X	d1	d2	ℓ	Type M-L		
			Micrometer	Feed Screw				Micrometer	Feed Screw																
XYZSG XYZSCG XYZSGB (*only)	25*	36.5	37	23	10	8.5	6.8	25	11	±3.2	7	11.7	7	3.7	9.3	7	6	10	20	2.5	4.2	2.5	SCB2-4		
	40*	67	58.5	55	14	10.5	11.3	23.5	20.3	±6.5	12	18.5	5	4.5	13	8.9	10	13	32	3.5	6	3.5	SCB3-6		
	50	62	58.5	55	19	10.5	11.3	18.5	15.3	±6.5	12	18.5	20	4.5	13	8.9	10	13	40	3.5	6	3.5	SCB3-6		
	60*	57	58.5	55	24	10.5	11.3	13.5	10.3	±6.5	12	18.5	21	5	13	8.9	10	13	50	4.5	8	4	SCB4-6		
	70	61	58.5	55	23.5	11.5	11.3	14	10.8	±6.5	12	18.5	12	6	13	10	10	14	60	4.5	8	4.5	SCB4-6		
	80*	60	96	55	25	14.5	11.3	43.5	10	±12.5 ^{*1}	17	26 ^{*2}	20	6.5	18	10.8	10	16.5	70	4.5	8	5.3	SCB4-6		

• Performance

Part Number		Stage Surface (mm)	Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N · m)			Moment Rigidity ("/N · cm)			Weight (kg)	Unit Price		
Type	A			Straightness	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling		XYZSG	XYZSCG	XYZSGB
XYZSG XYZSCG XYZSGB (* only)	25*	25x25	49	3μm	30"	25"	2.0	2.0	2.0	4.10	3.30	4.90	0.37			
	40*	40x40					5.0	5.0	5.0	0.98	0.91	1.05	0.78			
	50	50x50					6.0	6.0	6.0	0.38	0.37	0.39	1.00			-
	60*	60x60					9.0	9.0	9.0	0.21	0.21	0.21	1.38			
	70	70x70					12.9	12.9	12.9	0.14	0.13	0.15	2.00			-
	80*	80x80					17.7	17.7	17.7	0.10	0.10	0.10	3.00			

⚠XYZSG and XYZSGB: Micrometer Head Resolution: 10μm/division

⚠Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. ☑ P2004

⚠Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. ☑ P2004

Ordering Example

Part Number

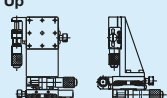
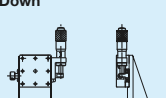
XYZSG40

Alterations

Part Number

XYZSG40 - (C, CU, A, R)

C

Alterations	Position of Micrometer Head and Feed Screw			
Spec.	Side Up	Side Down	Center	Reversed
	 ⚠The micrometer heads may interfere depending on each axis stroke position. Please check and verify the usable stroke ranges with the CAD data.	 ⚠Not applicable to XYZSGB.		
Code	C	CU	A	R

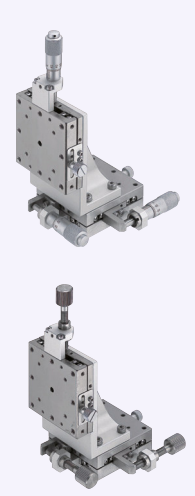
⚠Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.

[High Precision] Linear Ball Low Profile

■Features: XYZ-Axis Stages with low profile Linear Ball Slide XY-Axis.

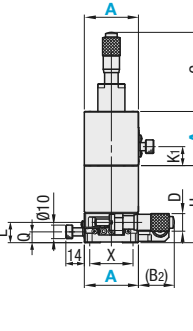
■XYZ-Axis

RoHS



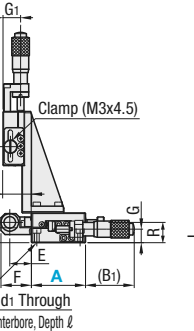
■Micrometer Head

XYZSSG



■Feed Screw (Pitch 0.5)

XYZSSCG



⚠For top surface mounting dimensions and feed bracket shapes, see Linear Ball Slide X-Axis Stages on P1921.

⚠For Micrometer Head and Feed Screw materials, see P2005 and P2006.

Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder					
MMaterial	SSurface Treatment	MMaterial	HHardness	MMaterial	SSurface Treatment	MMaterial	SSurface Treatment	MMaterial	SSurface Treatment
EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Clear Anodize	EN 1.4305 Equiv.	-	-
EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Black Anodize	EN 1.4305 Equiv.	LTBC Plating	-

■Micrometer Head (XYZSSG), Feed Screw (XYZSSCG)

Part Number				Front View										Side View										Accessory (4 pcs.)	
Type	A	H	K1	C		(B2)		Travel Distance (mm)	D	L	Q	X	R	G	G1	T1	E	F	(B1)		d1	d2	ℓ	Type M-L	
				Micrometer	Feed Screw	Micrometer	Feed Screw												Micrometer	Feed Screw					
XYZSSG XYZSSCG	40	57	14	58.5	55	26.5	23	±6.5	13	15	8	32	14	10	13	10.5	16	22.5	36	32.5	3.5	6	3.5	SCB3-10	
	60	47	24	58.5	55	16.5	13	±6.5	13	15	8	50	14	10	13	10.5	16	22.5	20.3	16.8	4.5	8	4.5	SCB4-10	
	80	46	25	96	55	32	-7"1	±12.5"2	18"2	17	9.5	70	16.5	15	16.5	12.5	23	32"2	39	0	4.5	8	6.5	SCB4-10	

*1. The end of feed screw (XYZSSCG) is at 7mm inside of the stage end face. *2 When feed screw XYZSSCG A=80, stroke=±6.5, D=13, F=30.

• Performance

Part Number		Stage Surface (mm)	Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N · m)			Moment Rigidity ("/N · cm)			Weight (kg)	Unit Price	
Type	A			Straightness	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling		XYZSSG	XYZSSCG
XYZSSG XYZSSCG	40	40×40	49	3μm	40"	20"	4.5	5.0	4.5	1.15	0.89	1.27	0.66		
	60	60×60					9.0	8.1	9.0	0.29	0.24	0.28	1.22		
	80	80×80					16.4	15.9	16.4	0.13	0.08	0.12	2.52		

⚠XYZSSG: Micrometer Head Resolution: 10μm/division

⚠Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. ☑ P2004

⚠Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. ☑ P2004

Ordering Example

Part Number

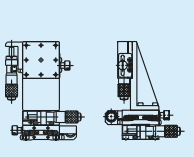
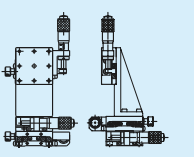
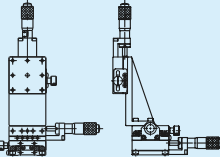
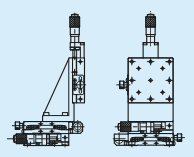
XYZSSG40

Alterations

Part Number

XYZSSG40 - (C, CU, A, R)

C

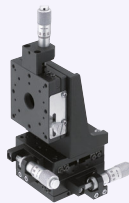
Alterations	Position of Micrometer Head and Feed Screw			
Spec.	Side Up	Side Down	Center	Reversed
				
Code	C	CU	A	R

⚠Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.

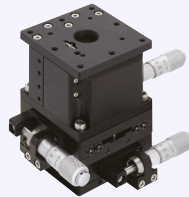
[High Precision] Combination Stages

■ **Features:** Lightweight XYZ-Axis Cross Roller Stages made of aluminum alloy. Choose from combinations of XY-Axis profile heights and Z-axis stroke requirements.

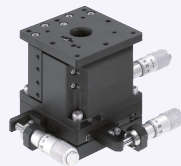
■ Combination Stages



XYZPG



XYZLPG

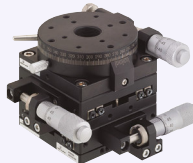


XYZLSPG

RoHS

■ **Features:** Combination Stages of Cross Roller as the base and Rotary/Goniometer Stages.

■ Combination Stages



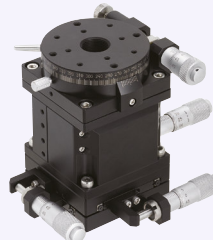
①XYRPG



③XYRSPG



②XYZLRPG



④XYZLRSPG

RoHS

☞ XY-Axis and Rotary Stage integrated P.1991

Part Number		Stage Configuration		Stage Surface	External Dimension (mm)			Travel Distance (mm)			Load Capacity	Weight	Unit Price
Type	No.	Bottom	Top	(mm)	W	D	H	X	Y	Z	(N)	(kg)	
XYZPG	40	XYPG40 (P.1943)	ZPG40 (P.1968)	40x40	84.5	77.5	173.5	±6.5	±6.5	±6.5	9.8	0.48	
	60	XYPG60 (P.1943)	ZPG60 (P.1968)	60x60	98.5	91.5	178.5				19.6	0.95	
	80	XYPG80 (P.1943)	ZPG80 (P.1968)	80x80	149.5	143.5	236	±12.5	±12.5	±12.5	49.0	1.80	
XYZLPG	40	XYPG40 (P.1943)	ZLPG40 (P.1973)	40x40	96	77	80	±6.5	±6.5	±3.0	9.8	0.48	
	60	XYPG60 (P.1943)	ZLPG60 (P.1973)	60x60	115	92	95				39.2	1.12	
	80	XYPG80 (P.1943)	ZLPG80 (P.1973)	80x80	150	135	95	±12.5	±12.5	±5.0	29.4	2.00	
XYZLSPG	40	XYSPG40 (P.1945)	ZLPG40 (P.1973)	40x40	100	81	62	±6.5	±6.5	±3.0	7.8	0.40	
	60	XYSPG60 (P.1945)	ZLPG60 (P.1973)	60x60	119	97	77				23.5	1.00	
	80	XYSPG80 (P.1945)	ZLPG80 (P.1973)	80x80	151	102	77	±12.5	±12.5	±5.0	29.4	1.70	

☞ For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage.

☞ For included screw sizes, see the pages for the bottom stages.

☞ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob can be increased in diameter by installing the cover. ☞ P.2004

☞ Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. ☞ P.2004

Combinations of Cross Roller stages listed in this catalog.

Part Number		Stage Configuration			Stage Surface	External Dimension (mm)			Travel Distance (mm)				Load Capacity	Weight	Unit Price
Type	No.	Bottom	Middle	Top	(mm)	W	D	H	X	Y	Z	θ	(N)	(kg)	
①XYRPG (XY-Axis + Rotary)	38	XYPG40 (P.1943)	RPG38 (P.1982)	-	Ø38	85	84	60	±6.5	±6.5	-	Coarse 360°	9.8	0.37	
	60	XYPG60 (P.1943)	RPG60 (P.1982)	-	Ø60	99	98	65	±6.5	±6.5	-	Fine Feed ±5°	29.4	0.78	
	85	XYPG80 (P.1943)	RPG80 (P.1982)	-	Ø85	150	137	65	±12.5	±12.5	-	Fine Feed ±5°	39.2	1.48	
②XYZLRPG (XY-Axis + Horizontal Surf. Z-Axis + Rotary)	38	XYPG40 (P.1943)	ZLPG40 (P.1973)	RPG38 (P.1981)	Ø38	96	84	100	±6.5	±6.5	±3.0	Coarse 360°	8.9	0.57	
	60	XYPG60 (P.1943)	ZLPG60 (P.1973)	RPG60 (P.1981)	Ø60	115	98	120	±6.5	±6.5	±3.0	Fine Feed ±5°	29.4	1.40	
	85	XYPG80 (P.1943)	ZLPG80 (P.1973)	RPG85 (P.1981)	Ø85	150	137	120	±12.5	±12.5	±5.0	Fine Feed ±5°	24.7	2.48	
③XYRSPG (Low Profile XY-Axis + Rotary)	38	XSPG40 (P.1945)	RPG38 (P.1982)	-	Ø38	99	84	42	±6.5	±6.5	-	Coarse 360°	8.8	0.29	
	60	XSPG60 (P.1945)	RPG60 (P.1982)	-	Ø60	103	101	47	±6.5	±6.5	-	Fine Feed ±5°	26.4	0.68	
	85	XSPG80 (P.1945)	RPG80 (P.1982)	-	Ø85	151	132	47	±12.5	±12.5	-	Fine Feed ±5°	34.3	1.18	
④XYZLRSPG (Low Profile XY-Axis + Horizontal Surf. Z + Rotary)	38	XSPG40 (P.1945)	ZLPG40 (P.1973)	RPG38 (P.1981)	Ø38	100	84	82	±6.5	±6.5	±3.0	Coarse 360°	6.8	0.49	
	60	XSPG60 (P.1945)	ZLPG60 (P.1973)	RPG60 (P.1981)	Ø60	119	101	102	±6.5	±6.5	±3.0	Fine Feed ±5°	20.6	1.28	
	85	XSPG80 (P.1945)	ZLPG80 (P.1973)	RPG85 (P.1981)	Ø85	151	132	102	±12.5	±12.5	±5.0	Fine Feed ±5°	22.5	2.18	

☞ For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage.

☞ For included screw sizes, see the pages for the bottom stages.

☞ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob can be increased in diameter by installing the cover. ☞ P.2004

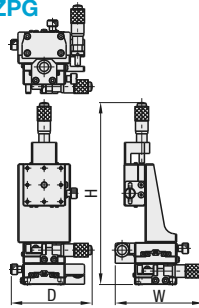
☞ Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. ☞ P.2004



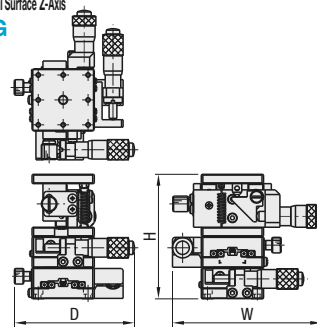
Ordering
Example

Part Number
XYZRPG38

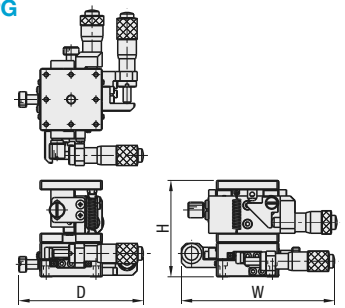
■ XY+Z
XYZPG



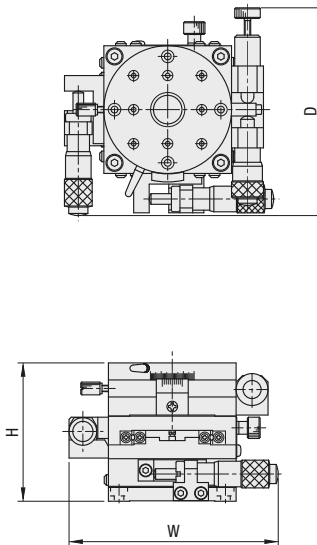
■ XY + Horizontal Surface Z-Axis
XYZLPG



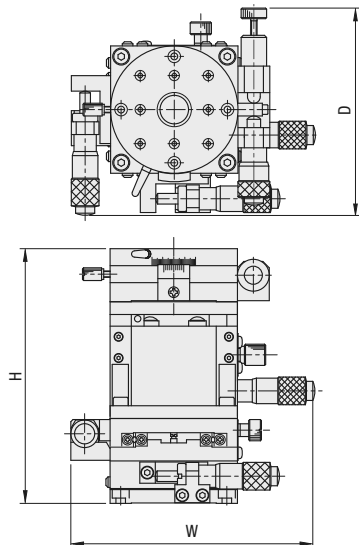
■ Low Profile XY-Axis + Horizontal Surface Z-Axis
XYZLSPG



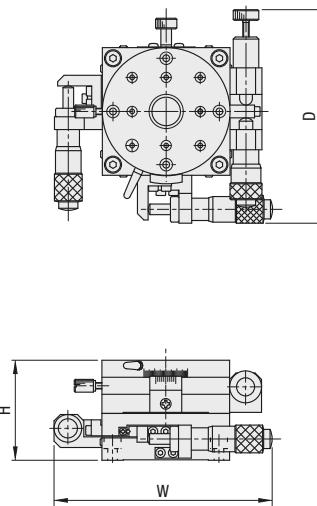
■ ①XYRPG
(XY-Axis + Rotary)



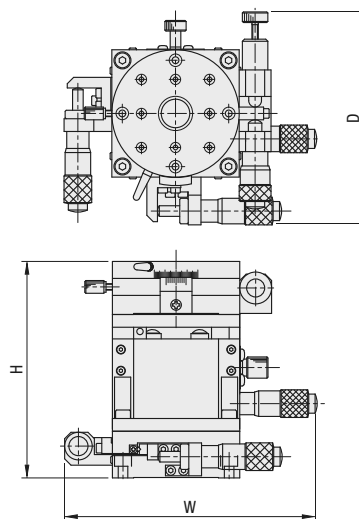
■ ②XYZLRPG
(XY-Axis + Horizontal Surf. Z-Axis + Rotary)



■ ③XYRSPG
(Low Profile XY-Axis + Rotary)



■ ④XYZLRSPG
(Low Profile XY-Axis + Horizontal Surf. Z-Axis + Rotary)



☞ The shapes are different depending on the size. See details on CAD data.

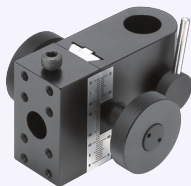
[High Precision] Dovetail Slide, Post Mounted

Accessories for Dovetail Slide Stages

Base / Shaft / CCD Camera Adapter / Holder

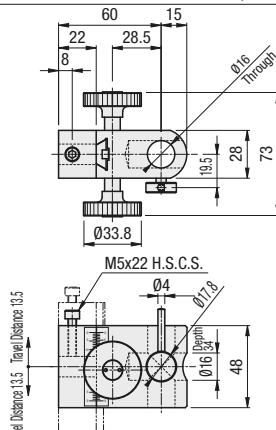
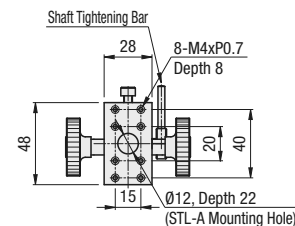
■Features: Stages mountable on posts. STLC48 can be mounted directly on Ø16 posts. STLX35 and STLXYZ35 can be used with Ø12 Post Clamps.

■1-Axis Slide with Crossed Mounting Bores



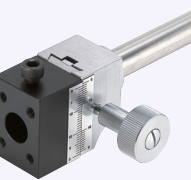
STLC48

Hold the left knob facing the stage surface with the left hand, turn (tighten) the right knob clockwise with the right hand to obtain resilient carriage motion. Turn the right knob counterclockwise (loosen) to obtain quick and smooth carriage motion.



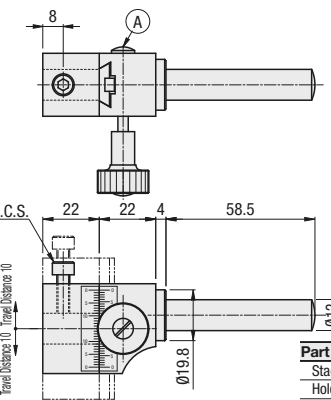
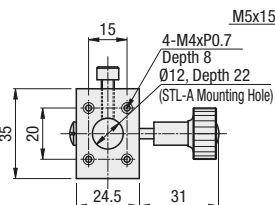
Part Name	Material	Surface Treatment
Stage	Aluminum Alloy	Black Anodize
Holder		

■1-Axis Slide with a Shaft



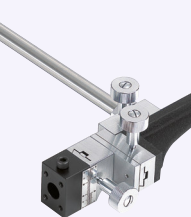
STLX35

By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.



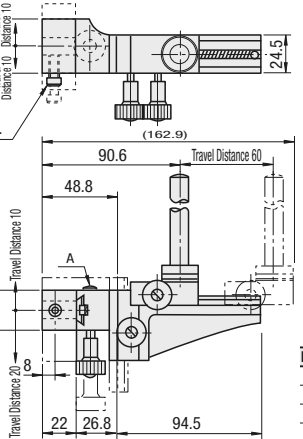
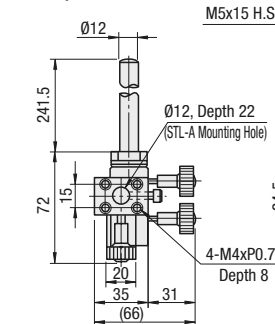
Part Name	Material	Surface Treatment
Stage	Aluminum Alloy	Black Anodize
Holder	Low Cadmium Brass	Nickel Chrome Plating
Shaft	EN 1.4305 Equiv.	-
Washer	Low Cadmium Brass	Nickel Chrome Plating

■3-Axis Slide with a Shaft



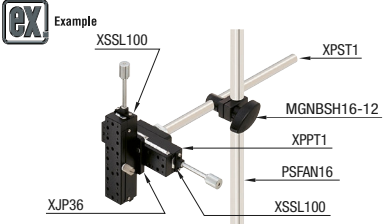
STLXYZ35

By turning the preload adjustment screw (A) clockwise with a flathead screwdriver, the stage slides slowly, and by turning counterclockwise the stage slides quickly and smoothly.



Part Name	Material	Surface Treatment
Stage	Aluminum Alloy	Black Anodize
Holder	Brass	Nickel Chrome Plating
Shaft	EN 1.4305 Equiv.	-
Washer	Brass	Nickel Chrome Plating

⚠ Each of the above stages is not provided with any clamping mechanism but, based on its own weight, can prevent itself from being slid as long as the applied load falls within the allowable load range.
* When a stage with a clamp is needed, combine a Dovetail Stage (P1900, 1901), Base Plate and Shaft for stages (P2002).



Part Number	Travel Distance (mm)
STLC48	48
STLX35	35
STLXYZ35	35

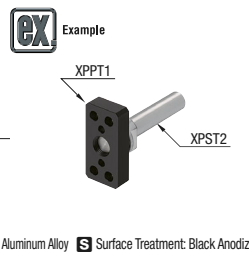
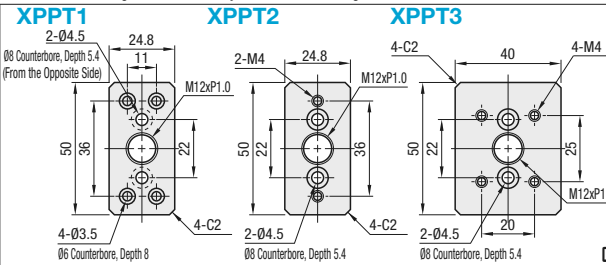
Part Number		Travel Distance (mm)			Travel per Rotation (mm)	Load Capacity (N)	Weight (kg)	Unit Price 1 ~ 10 pc(s)
Type	No.	X-Axis	Y-Axis	Z-Axis				
STLC	48	27	-	-	18	29.4	0.35	
STLX	35	20	-	-		19.6	0.26	
STLXYZ	35	20	30	60		19.6	0.96	

■Features: Accessories can be combined with dovetail stages to form a variety of Post Mounted Stages.

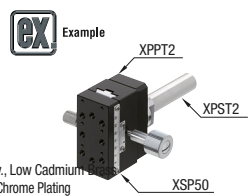
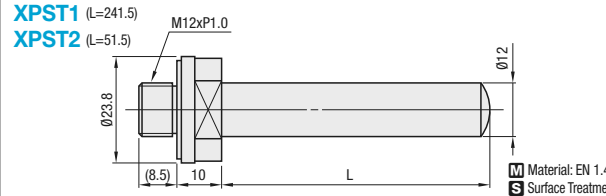
■Base for Stages



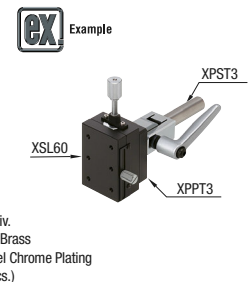
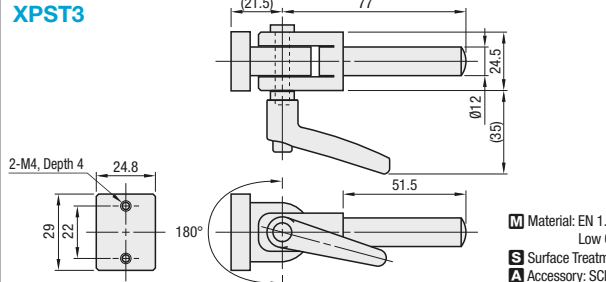
• Base Plates to connect the Dovetail Stages (P1906, 1904, 1900, 1901) and XPST1, 2, 3 (below).
• For applicable stages, see the table below.



■Shaft for Stages (Ø12)



■Shaft for Stages (with Lever)



Ordering Example	Part Number
	XPPT1
	XPST1
	XPST3

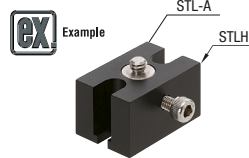
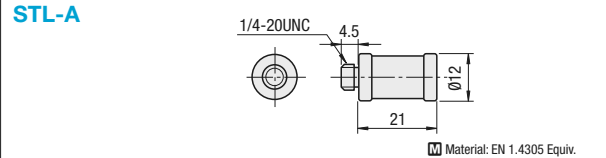
Part Number	Applicable Stage	Accessory: Type M-L (Qty)	Unit Price
Type	No.		1 ~ 10 pc(s).
XPPT	1	XSSL, XSLC	SCB4-8 (2 pcs.), SCB3-6 (4 pcs.)
	2	XSP	SCB4-8 (4 pcs.)
	3	XSL, XSLC, XSB	SCB4-8 (6 pcs.)

Part Number		Unit Price 1 ~ 10 pc(s)
Type	No.	
XPST	1	
	2	
	3	

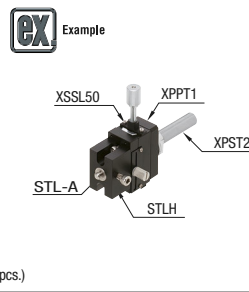
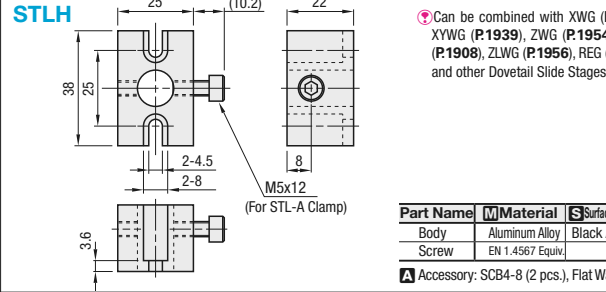
⚠ Not compatible with XSC.

■Features: Common to all camera manufacturers.

■CCD Camera Adapters



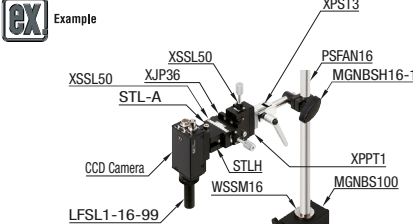
■CCD Camera Holder



Ordering Example	Part Number
	STL-A
	STLH

Part Number	Unit Price	Volume Discount Rate
Type	1 pc.	2, 3 pcs. 4 ~ 10 pcs.
STL-A		

Part Number	Unit Price
Type	1 ~ 10 pc(s).
STLH	



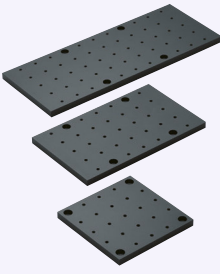
⚠ Economical Scaled Post Unit is available as Simplified Adjustment Units. See ZKB on P.1970

Accessories for Stages

Tooling Plates, Knob Covers, Extension Covers

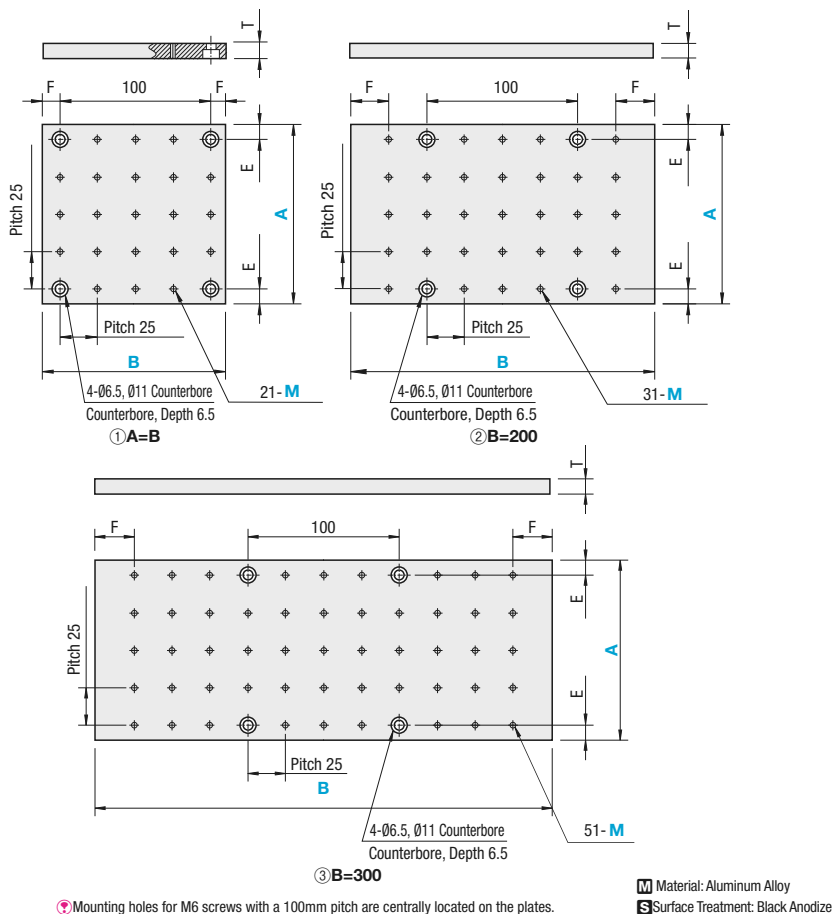
■ **Features:** Stages and holders are unitized to be fixed to an isolator. Tapped holes are selectable from M4 and M6. (Hole Pitch: 25mm)

■ Tooling Plates



RoHS

BBA



Part Number		M	A	B	Drawing	Tapped Holes	T	E	F	Unit Price 1 ~ 10 pc(s).
Type										
BBA	4	120	120	120	①	21	10	10	10	
			150	150		45	10	25	25	
			200	200			10	25	25	
	6	200	120	200	②	31	10	10	25	
			150	200			10	25	25	
			120	200			10	10	25	
			150	300	③	51	10	25	25	
			200	300		73	10	25	25	

Ordering Example: Part Number BBA 4 - 120 - 200

For orders larger than indicated quantity, please request a quotation.

■ **Features:** Ø13 micrometer head or feed screw can be increased in diameter by installing the cover.

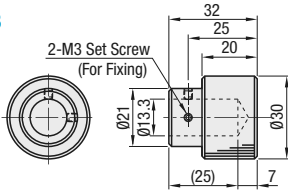
■ Knob Covers

RoHS

HDCVR13



* Sold by set of 3.



Material: ABS Resin (Black)

Example



Three pieces of Knob Covers (HDCVR13) are included in one order.

Part Number		Unit Price 1 ~ 10 pc(s).
Type	No.	
HDCVR	13	



Part Number
HDCVR13

For orders larger than indicated quantity, please request a quotation.

■ **Features:** Ø15 knobs can be increased in diameter by installing the cover. See below for the list of applicable stages.

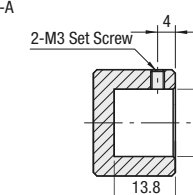
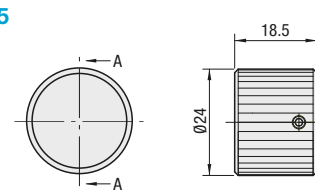
■ Knob Covers

RoHS

HDCVR15



* Sold by set of 3.



Material: Aluminum Alloy (M)
Surface Treatment: Black Anodize (S)

Part Number		Applicable Stage	Unit Price 1 ~ 10 pc(s).
Type	No.		
HDCVR	15	XWG (P.1904), XYWG (P.1939), ZWG (P.1954), XLWG (P.1908), ZLWG (P.1956), XSP (P.1904), XDTS (P.1903), XYDTS (P.1938), ZDTS (P.1953), XDTLS (P.1907), ZDTLS (P.1955) (Knob Dia. Ø15)	

Three Knob Covers (HDCVR15) come in a package per order.

For orders larger than indicated quantity, please request a quotation.



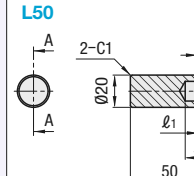
Part Number
HDCVR15

■ **Features:** Feed knob of Ø12 and Ø13 micrometer head and feed screw can be extended.

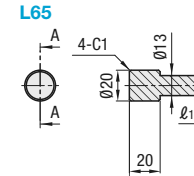
■ Extension Covers



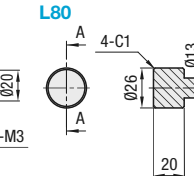
HDEXT L50



L65



L80



Material: EN AW-2017 Equiv. (M)
Surface Treatment: Clear Anodize (S)
Accessory: Set Screw M5X3-3 (2 pcs.) (A)

Part Number			Applicable Knobs	Knob O.D.	V	ℓ	ℓ1	Unit Price 1 ~ 10 pc(s).
Type	No.	L						
HDEXT	12	50	Ø12	Ø20	12.3	16	8	
		65		Ø26				
		80		Ø26				
	13	50	Ø13	Ø20	13.3	14	7	
		65		Ø20				
		80		Ø26				

For orders larger than indicated quantity, please request a quotation.



Part Number
HDEXT12-65

Stage Maintenance Parts

Micrometer Head

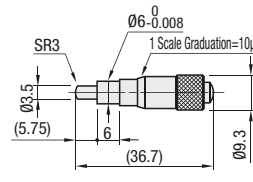
■Features: Micrometer head which enables fine adjustment can be ordered separately. Economical MISUMI original products are also available.

■Micrometer Head



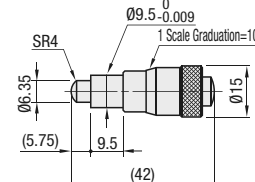
MCLN1

(Stroke ±3.25mm)



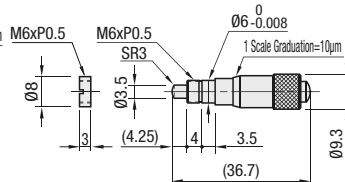
MCLN2

(Stroke ±3.25mm)



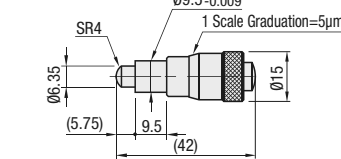
MCLN3 (w/ Nut)

(Stroke ±3.25mm)



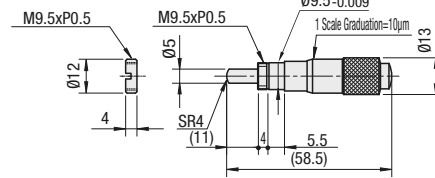
MCLN4

(Stroke ±3.25mm)



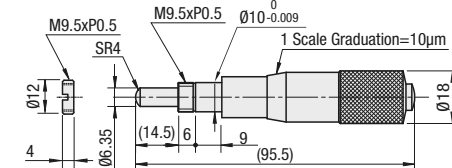
MCLN6 (w/ Nut)

(Stroke ±6.5mm)

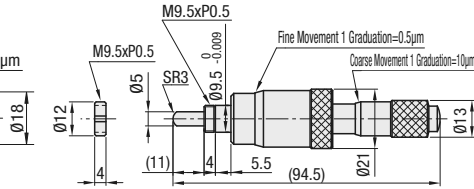


MCLN12 (w/ Nut)

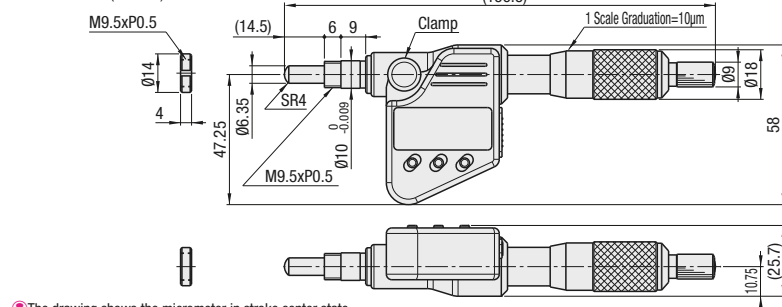
(Stroke ±12.5mm)



MCLN83 (w/ Nut)



MCLN84 (w/ Nut)



①The drawing shows the micrometer in stroke center state.
②Micrometer has a bolt/nut system, so the total length doesn't change.

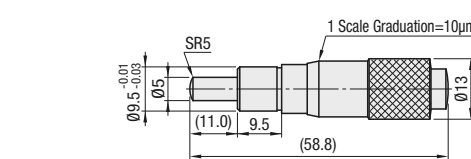
■Material: Spindle: JIS-SKS (TS for cold work), Handle: Free Cutting Steel, Nut/Thread: Low Cadmium Brass

■Accessory: Dedicated Wrench (w/ Nut Type only)

■Standard Micrometer Head (MISUMI Original)



MCMH6



Type	Spindle	Main Body
MCMH	Material: EN 1.4005 Equiv.	Material: EN 1.0762 Equiv. Surface Treatment: Trivalent Chromate

Part Number Type	No.	Stroke (mm)	Minimum Graduation (mm)	Travel Distance per Rotation (mm)	Weight (kg)	Unit Price
MCLN	1	±3.25	0.01	0.5	0.01	
	2				0.03	
	3				0.01	
	4				0.03	
	6	±6.5	0.005	0.25	0.03	
MCLN	12	±12.5	0.01	0.5	0.09	
	83	Coarse Feed ±6.5 Fine Feed 0.2	Coarse Feed 0.01 Fine Feed 0.0005	0.5	0.10	
	84	±12.5	0.001	0.5	0.235	
MCMH	6	±6.5	0.01	0.5	0.03	

Ordering Example
Part Number
MCLN6
MCMH6

Stage Maintenance Parts

Feed Screws / Clamp Screws with Levers / Vernier Scale

■Features: Precision finished screw/bushing fits minimizes play.

■Feed Screw

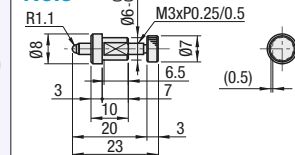


RoHS

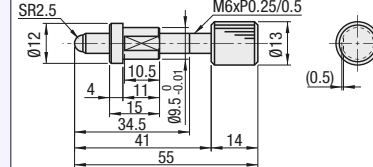
■Knob Type

XBMF (Lead 0.25) (No. =3, 6)
XBM (Lead 0.5) (No. =3, 6, 12)

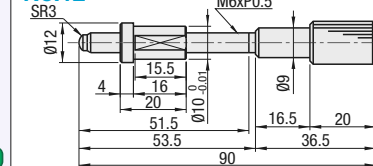
No.3



No.6



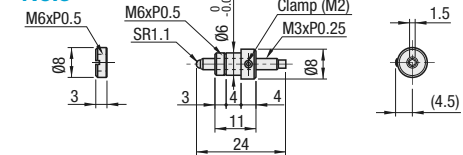
No.12



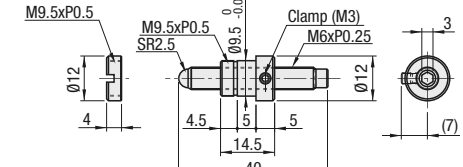
■Hex Socket Type

XBRF (Lead 0.25) (No. =3, 6)

No.3



No.6



①Hex Socket Type can be locked with a set screw on the bushing.

■Material: Screw: EN 1.4305 Equiv., Nut: Low Cadmium Brass

Feed Screw	Part Number (Lead) Type	No.	Stroke	Linear Ball Slide Type / Cross Roller Type Applicable Stage Surface Size	Weight (g)
With Knob	(0.25) XBMF (" only)	3*	±3.2	25 Square	5
	(0.5) XBM	6*	±6.5	40 ~ 80 square	30
	(0.5) XBM	12	±12.5	100/120 Square	50
Hex Socket Head Cap Screw	(0.25) XBRF	3	±3.2	25 Square	5
	(0.25) XBRF	6	±6.5	40 ~ 80 square	15

Part Number Type	No.	Unit Price 1 ~ 10 pc(s).
XBM	3	
	6	
	12	

Part Number Type	No.	Unit Price 1 ~ 2 pc(s).	Volume Discount Rate 3 ~ 10 pcs.
XBMF	3		
	6		
XBRF	3		
	6		

①A dedicated wrench is included with XBRF.

Ordering Example
Part Number
XBMF3

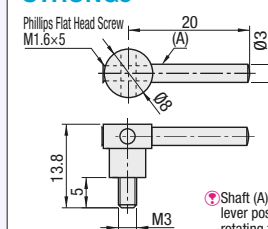
■Features: Clamp Screws with Levers. More torque can be applied for clamping compared to the standard clamp screws. Dovetail slide stage clamps can be reinforced.

■Clamp Screws with Levers for Dovetail Stages

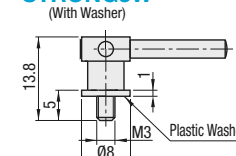


RoHS

STRONG3

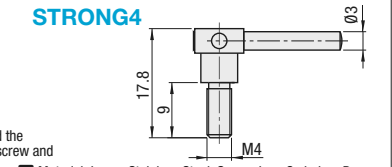


STRONG3W (With Washer)



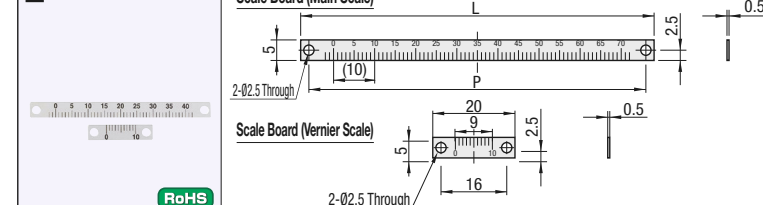
①Shaft (A) is fixed with a Phillips flat head screw (M1.6x5), and the lever position can be turned by 90 degrees by removing the screw and rotating the shaft.

Type	No.	Applicable Stage
STRONG	3	XLWG (P1908), XSLC (P1900), XSC (P1899), XSSLC (P1902), XWG (P1904), XSL (P1900), XSL (P1901), XSP (P1904), XSB (P1906)
	3W	
	4	XLONG (P1909)



■Material: Lever: Stainless Steel, Screw: Low Cadmium Brass

■Vernier Scale



RoHS

Type	No.	L	P	Applicable Stage
VNIR	40	36	32	XWG, XYWG, XSL, XSLC, XSC, XSSLC, XSSLC
	60	56	52	
	90	86	82	
	140	136	132	

①Resolution: 0.1mm
②See the XY Stage Overview pages for vernier scale reading instructions. ■P.1890

■Material: EN AW-1050A Equiv.

Ordering Example
Part Number
STRONG3
VNIR60

Part Number Type	No.	Unit Price 1 ~ 4 pc(s).	Volume Discount Rate 5 ~ 7 pcs. 8 ~ 10 pcs.
STRONG	3		
	3W		
	4		

①For orders larger than indicated quantity, please request a quotation.

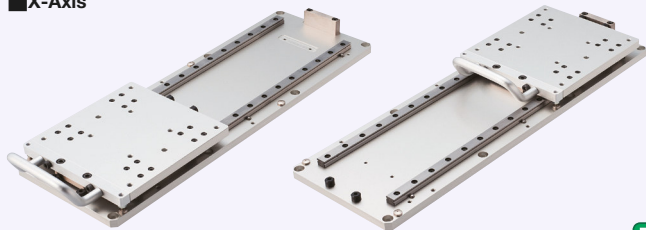
Part Number Type	No.	Unit Price 1 ~ 10 pc(s).
VNIR	40	
	60	
	90	
	140	

Fixture Slides

Linear Guide Type

■Features: Sliders based on linear guides. By adopting those linear guides, the sliders achieve smooth sliding motion and thus, are suitable for applications frequently repeated.

■X-Axis



RoHS

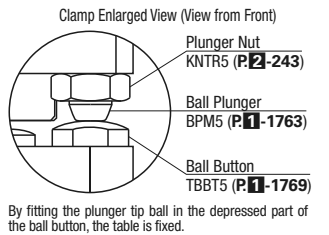
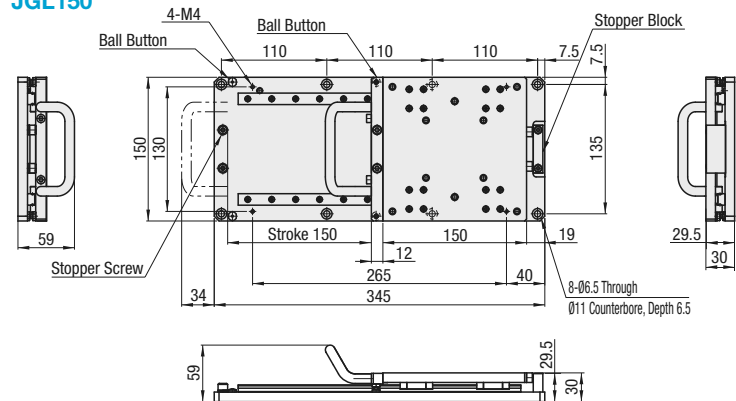
❗Tips

Only on JGL250, by repositioning the ball buttons and stroke end stopper screws, the stroke can be shortened.
Shortening the stroke can prevent the handle from protruding from the base plate O.D.

For how to adjust the stroke, see the Stroke Adjustment Method Table.

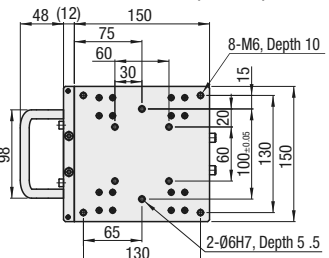
When plunger locking in the front side is not needed, remove the ball buttons.

JGL150

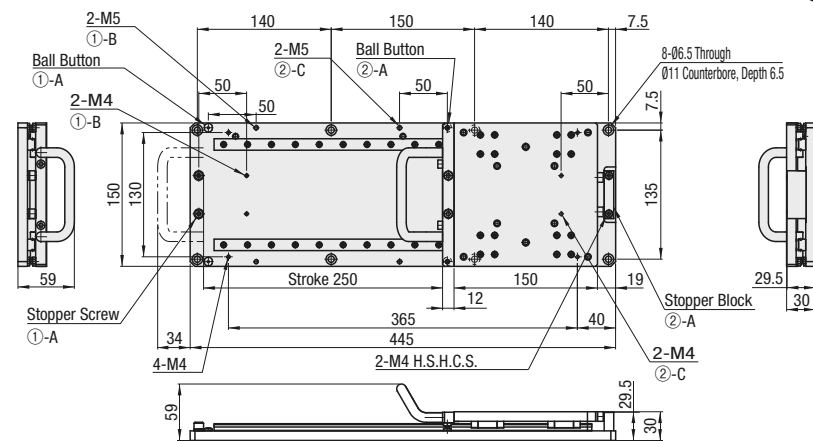


By fitting the plunger tip ball in the depressed part of the ball button, the table is fixed.

Table Dimensions (Common)



JGL250



Main Body	Material	Surface Treatment
Table	Aluminum Alloy	Clear Anodize
Base Plate	Aluminum Alloy	Clear Anodize
Knob	Aluminum Alloy	Clear Anodize
Handle Bracket	Aluminum Alloy	Clear Anodize
Linear Guide	Carbon Steel	Electroless Nickel Plating
Stopper Block	EN 1.1191 Equiv.	Electroless Nickel Plating

Stroke Adjustment Method

Stopper Parts		
Ball Button + Stopper (Screw or Block)		
Mounting Positions of Stopper Parts		
Stroke after adjustment	① Pulling Side	② Pushing Side
250 (before shipping)	A	A
200	B	A
200	A	C
150	B	C

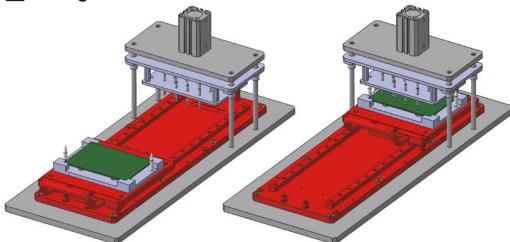
❗Only on JGL250, by recombining the stopper part mounting hole positions on the above two sides, the stroke can be changed.

Part Number		Stroke (mm)	Table Size (mm)	Base Length (mm)	(Ref. Value) Required Thrust (N)	(Ref. Value) Plunger Holding Force (N)	Load Capacity (kN)	Weight (kg)	Unit Price
Type	No.								
JGL	150	150	150x150	345	2	23	4.5	2.8	
	250	150, 200, 250	150x150	445	2	23	4.5	3.4	

- ❗Upon delivery, the stroke is set to 250 for JGL250.
- ❗Required Thrust: Force required to move the table by using the knob
- ❗Load Capacity: Max. allowable value of load applied vertically to the table surface
- ❗Values on the (Ref. Value) columns in the above table are measured when no load is applied.



■Testing Electronic Board



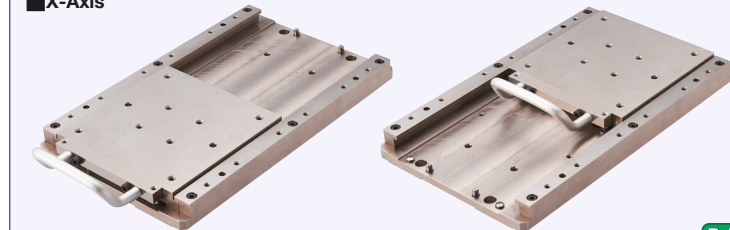
Ordering Example
Part Number
JGL250

Fixture Slides

Guide Rail Type

■Features: Have the sliding mechanism achieving high load capacity by leveraging guide rails. Are excellent in durability and suitable for machining, pressing or other load-intensive applications.

■X-Axis



RoHS

❗Tips

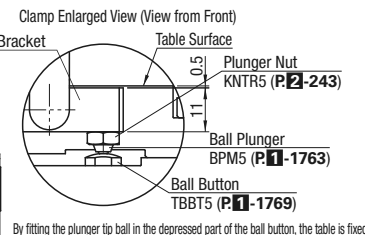
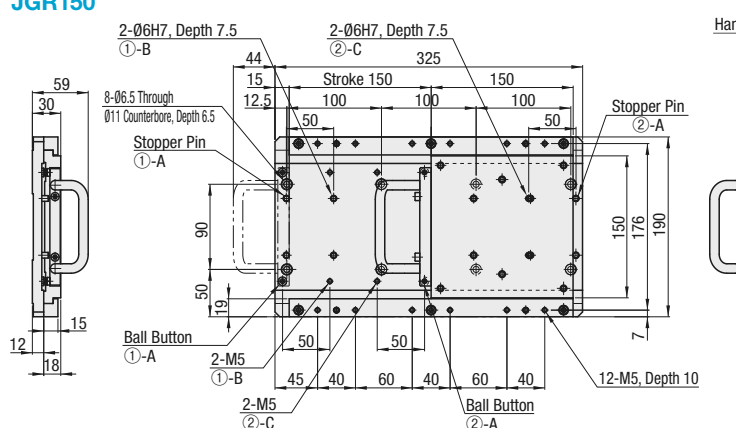
By repositioning the ball buttons and stroke end stopper pins, the stroke can be shortened.
Shortening the stroke can prevent the handle from protruding from the base plate O.D.

For how to adjust the stroke, see the Stroke Adjustment Method Table.

❗Antirust oil is applied to the sliding surface before delivery.

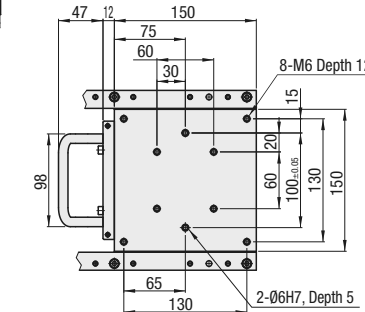
❗For the customer's convenience, in addition to the undersized and removable stopper pins installed onto the stopper part (4 places lengthwise), the oversized stopper pins are included with the product. Replace the undersized stopper pins with the oversized ones, if needed.

JGR150

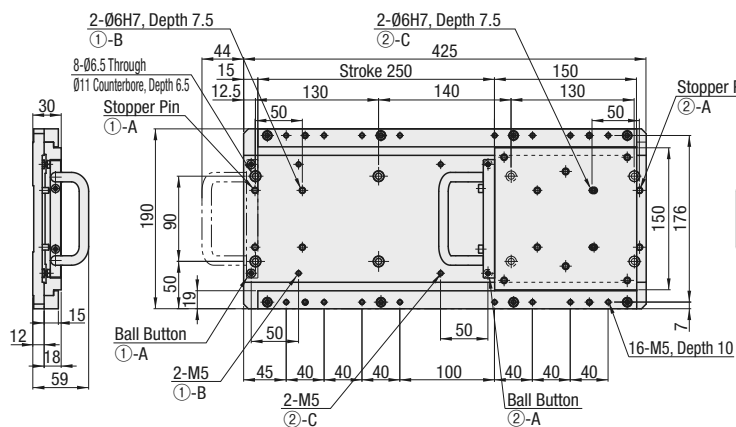


By fitting the plunger tip ball in the depressed part of the ball button, the table is fixed.

Table Dimensions (Common)



JGR250



Main Body	Material	Surface Treatment
Table	EN 1.1191	
Plate	Equiv. Thermal Refined	Electroless Nickel Plating
Guide Rail	Aluminum Alloy	Electroless Nickel Plating
Handle Bracket	EN 1.1191 Equiv.	Clear Anodize
Knob	Aluminum Alloy	Clear Anodize

Stroke Adjustment Method

Stopper Parts		
Ball Button + Stopper Pin		
Stroke after adjustment		
JGR150	JGR250	Mounting Positions of Stopper Parts
150 (before shipping)	250 (before shipping)	① Pulling Side ② Pushing Side
100	200	A A
100	200	A C
50	150	B C

❗By recombining the stopper part mounting hole positions on the above two sides, the stroke can be changed.

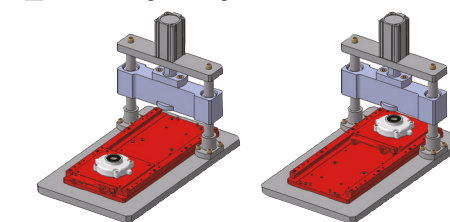
Part Number		Stroke (mm)	Table Size (mm)	Base Length (mm)	(Ref. Value) Required Thrust (N)	(Ref. Value) Plunger Holding Force (N)	Load Capacity (kN)	Weight (kg)	Unit Price
Type	No.								
JGR	150	50, 100, 150	150x150	325	10	30	37.2	9.2	
	250	150, 200, 250	150x150	425	10	30	37.2	11.1	

- ❗Upon delivery, the stroke is set to 150 for JGR150, and to 250 for JGR250.
- ❗Required Thrust: Force required to move the table by using the knob (on the sliders having antirust oil applied)
- ❗Load Capacity: Max. allowable value of load applied vertically to the table surface
- ❗Values on the (Ref. Value) columns in the above table are measured when no load is applied.

Ordering Example
Part Number
JGR150

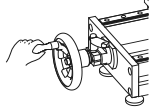
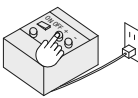
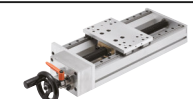
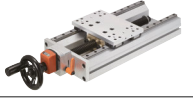
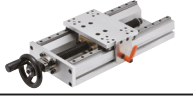
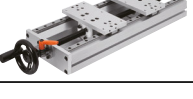


■Press-Fitting Bearing



Manual Units - Overview

Product List

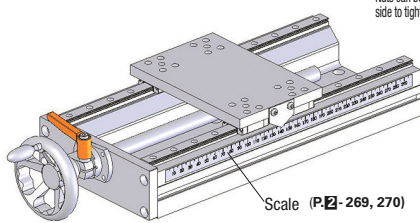
Type		Manual	Motorized (with Motor)
Standard			
		Features: Units best suited for simplified positioning. Shipping cost is small.	
		P2018	Type: KUK / KUG Listed on our website
Rapid Feed			
		Features: Built-in speed multiplier enables feed rate of 2.5 times of the standard units.	
		P2019	-
With Position Indicator	Standard		
		Features: Position Indicator allows easy position adjustments.	
		P2020	-
With Position Indicator	Elevator Type		
		Features: Units suited for up-and-down movements.	
		P2023	-
Table Fixed Type			
		Features: Direct table clamping avoids position drifts.	
		P2021	-
Handwheel Orientation Configurable	Standard		
		Features: Handwheel orientation is selectable. Best suited for use in limited spaces.	
		P2022	-
Handwheel Orientation Configurable	Elevator Type		
		Features: Units suited for up-and-down movements.	
		P2025	-
Symmetrical Action Dual Carriages			
		Features: Right and left tables move simultaneously. Usable as an inspection component.	
		P2026	-

Description of Rotary Tables KUS si moved to P.1983.

Example App. Example of Manual Units

Horizontal

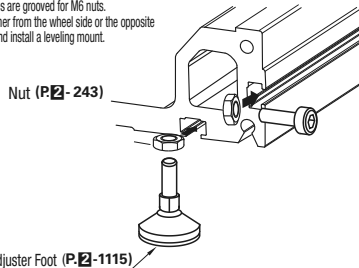
Scales can be installed on the frame side surfaces.



* Application Example of KUE14-C-320

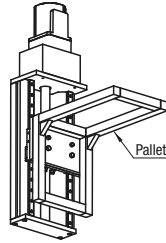
Usage of Frame Slots

Side and bottom surfaces are grooved for M6 nuts. Nuts can be inserted either from the wheel side or the opposite side to tighten screws and install a leveling mount.



Transfer

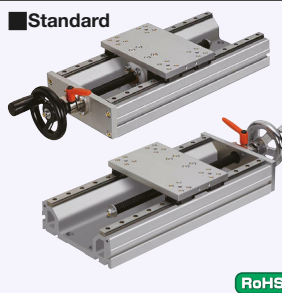
Used to move workpieces vertically.



Manual Units Standard

Features: Units best suited for simple manual positioning.

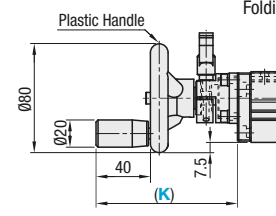
Standard



RoHS

KUE (Standard)

Handwheel Type A



Plastic Handle

Ø80

Ø20

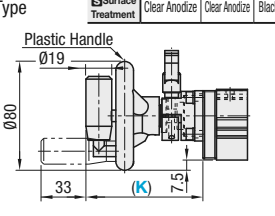
40

7.5

(K)

Handwheel Type B

Folding Type



Plastic Handle

Ø19

Ø80

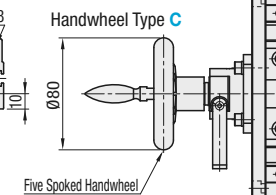
33

(K)

7.5

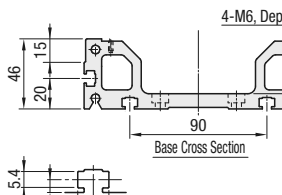
Handwheel Type C

Five Spoked Handwheel



Ø80

Base Cross Section



4-M6, Depth 18

15

20

90

10

5.4

4.2

6

10.2

Enlarged View of Nut Slot

Use M6 nuts.

45

3.5

P

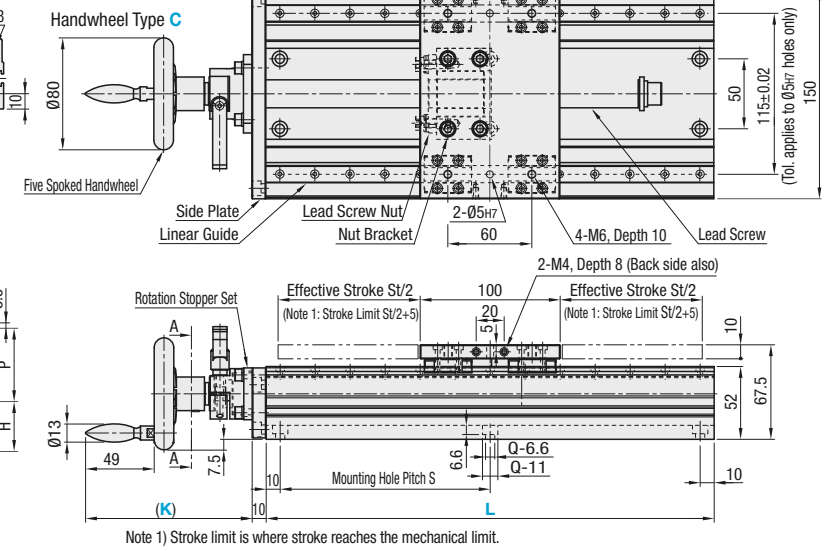
H

150

Arrow View A-A

Components

Parts	Base	Table	Lead Screw	Lead Screw Nut	Nut Bracket	Side Plate
M Material	Aluminum Alloy	Aluminum Alloy	EN 1.1191 Equiv.	Brass	Aluminum Alloy	Aluminum Alloy
S Surface Treatment	Clear Anodize	Clear Anodize	Black Oxide	-	Clear Anodize	Clear Anodize



Side Plate

Linear Guide

Lead Screw Nut

Nut Bracket

2-Ø5H7

60

4-M6, Depth 10

Lead Screw

2-M4, Depth 8 (Back side also)

Effective Stroke St/2

(Note 1: Stroke Limit St/2+5)

100

20

50

10

67.5

52

10

6.6

Q-6.6

Q-11

Mounting Hole Pitch S

(K)

10

10

115±0.02

150

(Tol. applies to Ø5/7 holes only)

Note 1) Stroke limit is where stroke reaches the mechanical limit.

Part Number		Handwheel Type	Base Length L (mm)	Effective Stroke St(mm)	Lead Screw		Allowable Load (N)		Allowable Moment (N·m)			N	H	P	Base Mounting Hole		(K)			Mass (kg)		
Type	No.				Thread Dia.	Lead	Horizontal	Vertical	Ma	Mb	Mc				S	Q (Number of Holes)	A	B	C	A	B	C
KUE	14	A Plastic Handle B Plastic Offset Handwheel - Folding Type C Five Spoked Handwheel	170	53	14	3	245	49	7	7	13	5.5	34.5	43	150	4	100	82	115	2.9	2.9	3.2
			220	103											200	4				3.4	3.4	3.7
			320	203											150	6				4.4	4.4	4.7
			370	253											175	6				4.9	4.9	5.2
			420	303											200	6				5.4	5.4	5.7
			470	353											150	8				5.9	5.9	6.2
	20		170	53	20	4	1470	294	43	43	81	7.5	32.5	45.5	150	4	103	85	118	3.5	3.5	3.8
			220	103											200	4				4	4	4.3
			320	203											150	6				5	5	5.3
			370	253											175	6				5.5	5.5	5.8
			420	303											200	6				6	6	6.3
			470	353											150	8				6.5	6.5	6.8

Ordering Example	Part Number	-	Handwheel Type	-	L
	KUE14	-	A	-	320

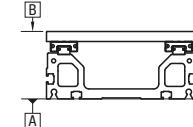
Part Number		Handwheel Type	Unit Price 1 ~ 2 pc(s).					
Type	No.		L=170	L=220	L=320	L=370	L=420	L=470
KUE	14	A						
		B						
		C						
	20	A						
		B						
		C						

Accuracy

Type	Parallelism (mm)	Backlash (mm)
KUE	0.15	0.3

Parallelism is the degree of running parallelism for dimension B against dimension A. (See the diagram on the right.)
Backlash is not a guaranteed value but reference value.

Parallelism Fig.

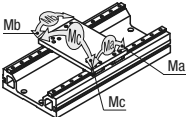


Required Torque, Required Turning Force

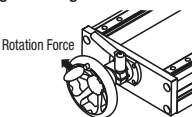
Part Number		Required Torque (N·m)		Required Turning Force (N)	
Type	No.	Horizontal	Vertical	Horizontal	Vertical
KUE	14	0.04	0.2	1.5	7.7
	20	0.06	0.4	2.3	16.2

Torque and turning force required at max. load capacity.
Turning force is the force that rotates the handwheel. (See the diagram on the right.)
Vertical values are those when elevating the table.

Moment Diagram



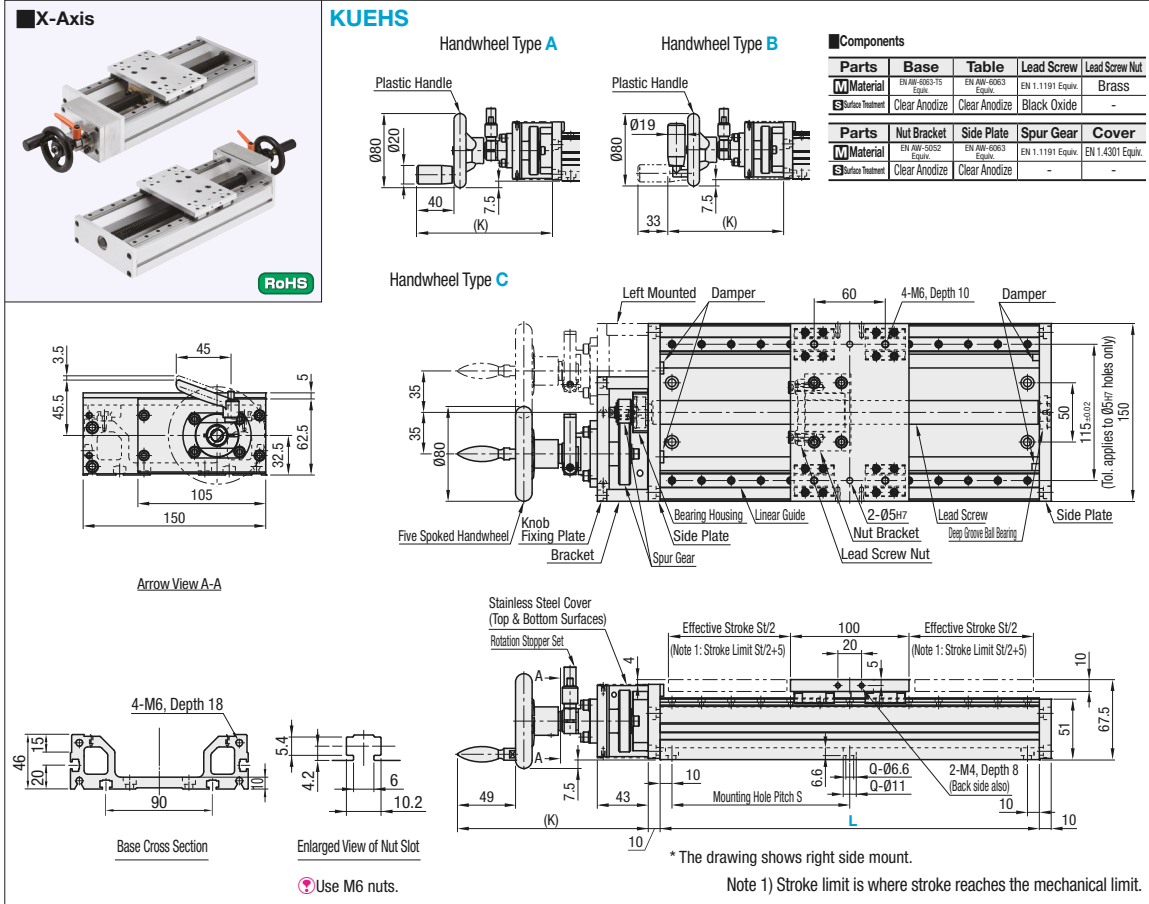
Turning Force Fig.



Manual Units

Rapid Feed

■ **Features:** Built-in speed multiplier enables feed rate of 2.5 times of the standard units.



Part Number	Type	No.	Handwheel Type	Base Length L (mm)	Effective Stroke St(mm)	Lead Screw		Allowable Load (N)			Allowable Moment (N·m)			Base Mounting Hole Q (Number of Holes)			Mass (kg)		
						Thread Dia.	Lead	Horizontal	Vertical	Ma	Mb	Mc	S	A	B	C	A	B	C
KUEHS	20		A Plastic Handle	320	203	20	4	490	98	14	14	27	150	6	6.2	6.2	6.2		
			B Plastic Offset Handwheel	370	253														
			C Folding Type	420	303														
			D Five Spoked Handwheel	470	353														

Ordering Example: Part Number - Handwheel Type - Handwheel Position - L
KUEHS20 - A - L - 320

Part Number	Type	No.	Knob Type	Unit Price 1 ~ 2 pc(s).			
				L=320	L=370	L=420	L=470
KUEHS	20		A				
			B				
			C				

■ **Required Torque, Required Turning Force**

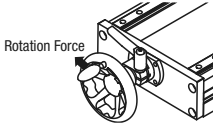
Part Number	Type	No.	Required Torque (N·m)		Required Turning Force (N)	
			Horizontal	Vertical	Horizontal	Vertical
KUEHS	20		0.147	1.051	5.653	40.41

*Torque and turning force required at max. load capacity.

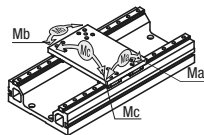
*Turning force is the force that rotates the handwheel.

*Vertical values are those when elevating the table.

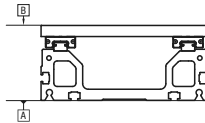
■ **Turning Force Fig.**



■ **Moment Diagram**



■ **Parallelism Fig.**



■ **Accuracy**

Type	Parallelism (mm)	Backlash (mm)
KUEHS	0.15	0.3

*Parallelism is the degree of running parallelism for dimension B against dimension A.

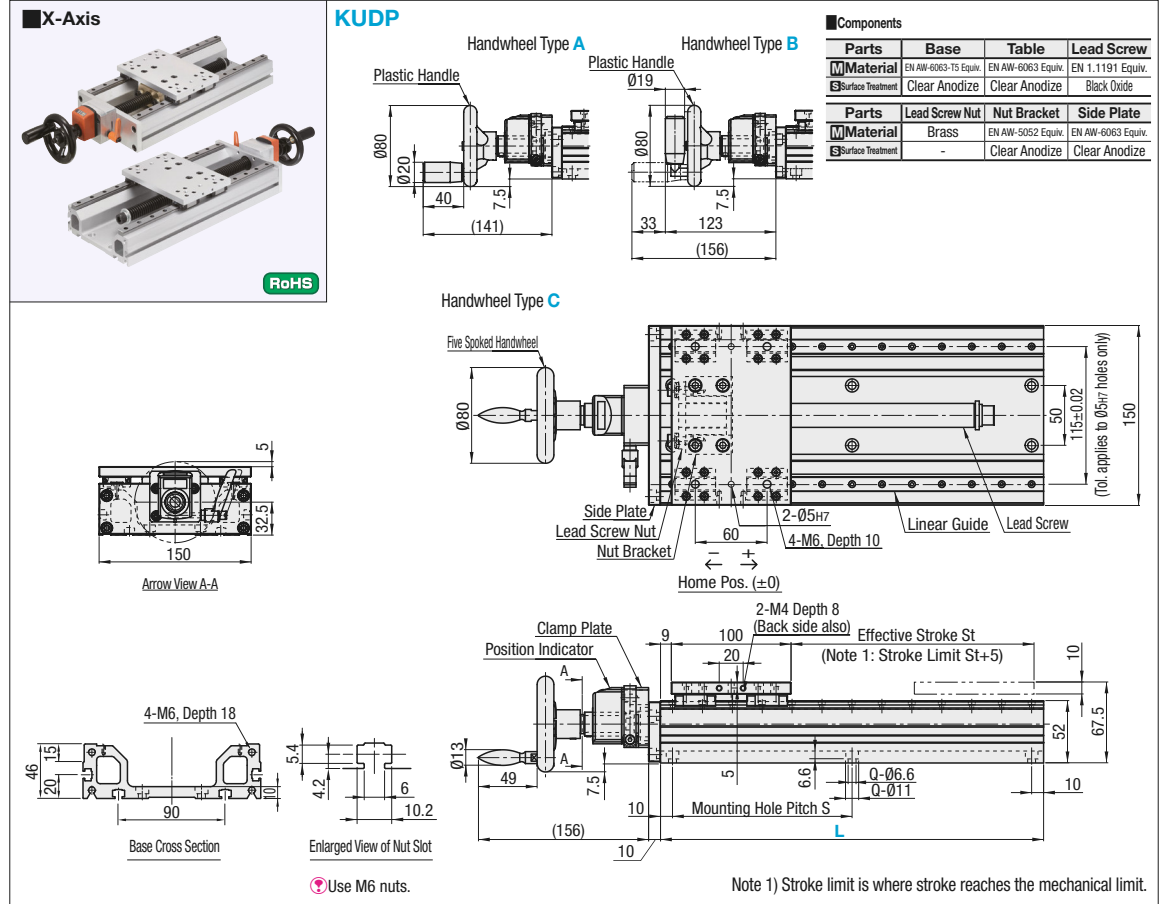
(See the diagram below.)

*The backlash value shown is for a lead screw model, and is a reference value.

Manual Units

With Position Indicator

■ **Features:** Position Indicator allows easy position adjustments.



Part Number	Type	No.	Handwheel Type	Base Length L (mm)	Effective Stroke St(mm)	Lead Screw		Allowable Load (N)			Allowable Moment (N·m)			Base Mounting Hole Q (Number of Holes)			Mass (kg)		
						Thread Dia.	Lead	Horizontal	Vertical	Ma	Mb	Mc	S	A	B	C	A	B	C
KUDP	20		A Plastic Handle	170	53	20	4	490	98	14	14	27	150	4	3.8	3.8	4.1		
			B Plastic Offset Handwheel	220	103														
			C Folding Type	320	203														
			D Five Spoked Handwheel	370	253														
				420	303														
				470	353														

Ordering Example: Part Number - Handwheel Type - L
KUDP20 - A - 320

Part Number	Type	No.	Handwheel Type	Unit Price 1 ~ 2 pc(s).			
				L=170	L=220	L=320	L=370
KUDP	20		A				
			B				
			C				

■ **Required Torque, Required Turning Force**

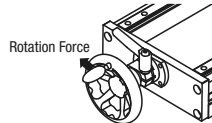
Part Number	Type	No.	Required Torque (N·m)		Required Turning Force (N)	
			Horizontal	Vertical	Horizontal	Vertical
KUDP	20		0.059	0.333	2.261	12.823

*Torque and turning force required at max. load capacity.

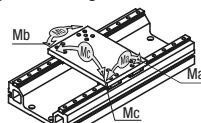
*Turning force is the force that rotates the handwheel.

*Vertical values are those when elevating the table.

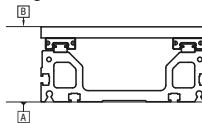
■ **Turning Force Fig.**



■ **Moment Diagram**



■ **Parallelism Fig.**



■ **Accuracy**

Type	Parallelism (mm)	Backlash (mm)
KUDP	0.15	0.3

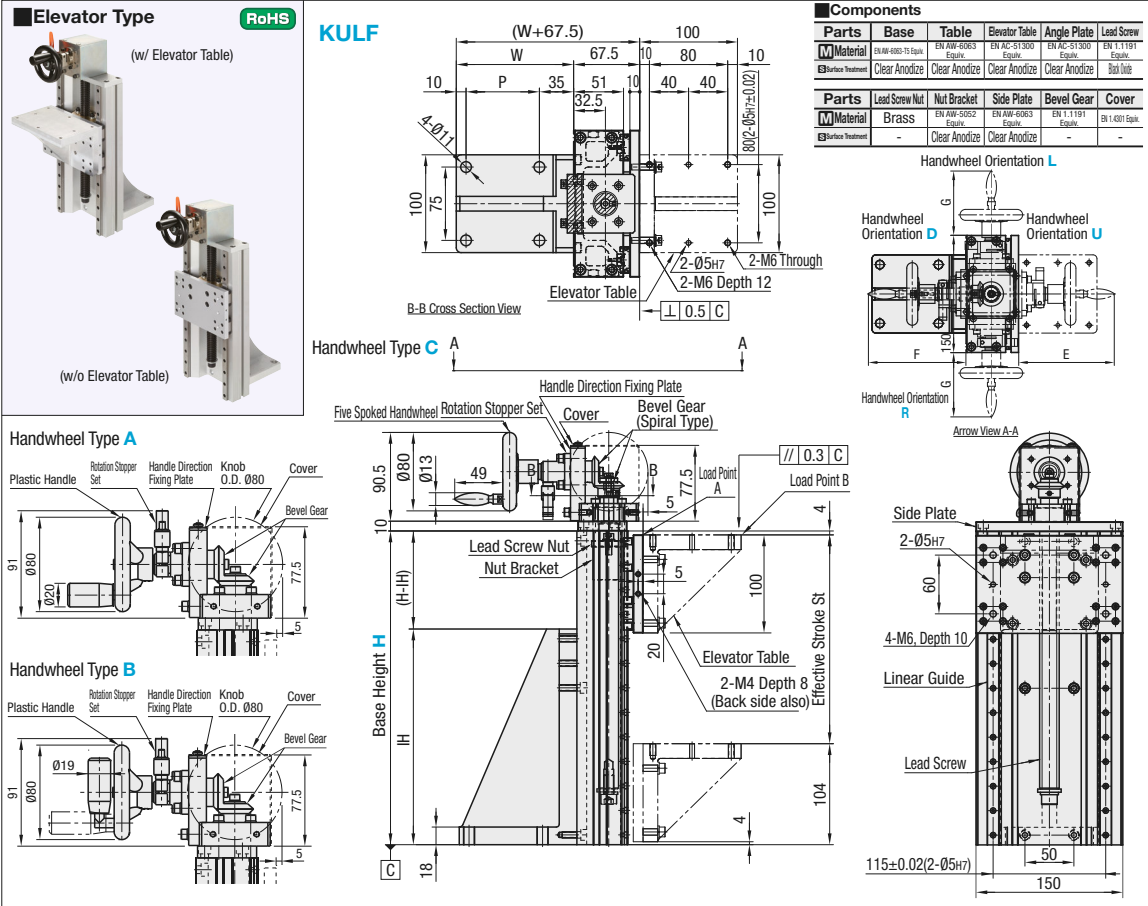
*Parallelism is the degree of running parallelism for dimension B against dimension A. (See the diagram below.)

*Backlash is not a guaranteed value but reference value.

Manual Units

Elevator Type, Handwheel Orientation Configurable

■ **Features:** Units suited for up-and-down movements. Simple vertical positioning is possible.



Part Number		Handwheel Type	Handwheel Orientation Configuration	Elevator Table Selection	Base Length L (mm)	Effective Stroke St (mm)	Lead Screw		Allowable Load (N) When Load Applied to Point A	Allowable Moment (N·m) When Load Applied to Point B	Handwheel Type												W	P	IH	Mass (kg)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Type	No.						Thread	Lead			Ma	Mb	Mc	A			B			C						Handwheel Type			A	B	C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
															E	F	G	E	F	G	E	F	G																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</

Ordering Example: KULF20 - A - L - 320 (w/ Elevator Table)

Ordering Example: KULF20 - A - U - N - 320 (w/o Elevator Table)

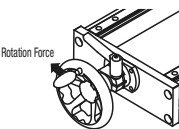
Part Number	Type	No.	Handwheel Type	Unit Price					
				H=170	H=220	H=320	H=370	H=420	H=470
KULF	20	A	A						
			B						
			C						

■ Required Torque, Required Turning Force

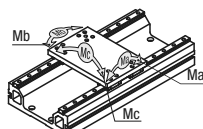
Part Number	Type	No.	Required Torque (N·m)	Required Turning Force (N)
KULF	20	Horizontal	1.085	41.740
		Vertical		

*Torque and turning force required at max. load capacity.
*Turning force is the force that rotates the handwheel.

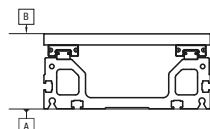
■ Turning Force Fig.



■ Moment Diagram



■ Parallelism Fig.



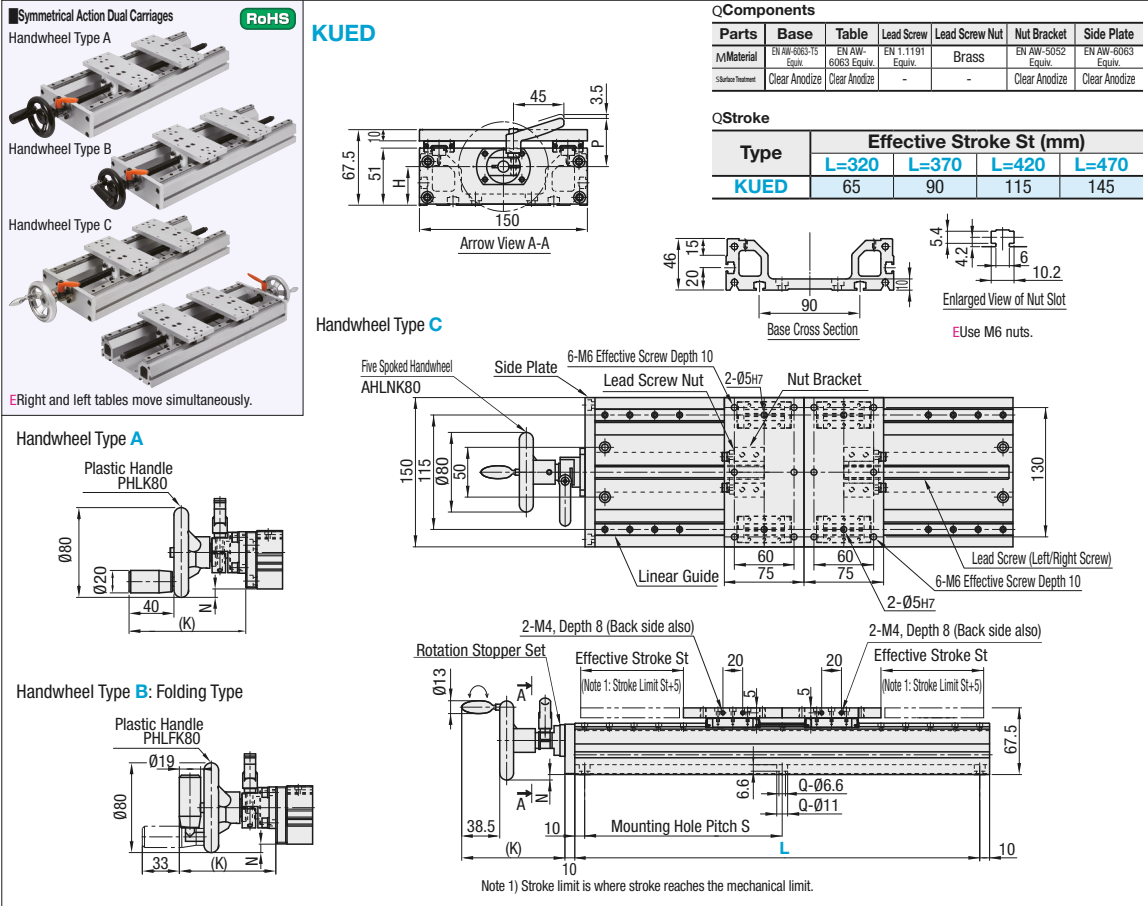
■ Accuracy

Type	Parallelism (mm)	Backlash (mm)
KULF	0.15	0.5

*Parallelism is the degree of running parallelism for dimension B against dimension A. (See the diagram below.)
*Backlash is not a guaranteed value but reference value.

Manual Units - Symmetrical Action Dual Carriages

■ **Features:** Units best suited for simple manual positioning and capable of moving right and left tables simultaneously.



Part Number		Handwheel Type	Base Length L (mm)	Effective Stroke Stroke St(mm)	Lead Screw		Allowable Load (N)		Allowable Moment (N·m)		Base Mounting Hole		Mass (kg)				
Type	No.				Thread Dia.	Lead	Horizontal	Vertical	Ma	Mb	Mc	S	Q (Number of Holes)	Handwheel Type			
													A	B	C		
KUED	14	A	Plastic Handle	320	65	14	3	122.5	24.5	0.5	0.5	6	150	6	4.9	4.6	4.6
				370	90								175	6	5.4	5.1	5.1
				420	115								200	6	5.9	5.6	5.6
		C	- Folding Type Five Spoked Handwheel	470	145								150	8	6.4	6.1	6.1
				320	65								150	6	5.5	5.2	5.2
				370	90								175	6	6	5.7	5.7
	20	B	Plastic Offset Handwheel	420	115	20	4	245	49	1	1	13	200	6	6.5	6.2	6.7
				470	145								150	8	7	6.7	6.7
				320	65								150	6	5.5	5.2	5.2
		C	- Folding Type Five Spoked Handwheel	370	90								175	6	6	5.7	5.7
				420	115								200	6	6.5	6.2	6.7
				470	145								150	8	7	6.7	6.7

Ordering Example: KUED14 - A - L - 320

Part Number	Type	No.	Handwheel Type	Mass (kg)			
				L=320	L=370	L=420	L=470
KUED	14	A	A	4.9	5.4	5.9	6.4
			B	4.6	5.1	5.6	6.1
			C	4.6	5.1	5.6	6.1
	20	B	A	5.5	6	6.5	7
			B	5.2	5.7	6.2	6.7
			C	5.2	5.7	6.2	6.7

QAllowable Load, Allowable Moment

Part Number	Type	No.	Allowable Load (N) Horizontal	Allowable Load (N) Vertical	Allowable Moment (N·m) Ma	Allowable Moment (N·m) Mb	Allowable Moment (N·m) Mc
KUED	14	14	122.5	24.5	0.5	0.5	6
		20	245	49	1	1	13

*The above allowable load/moment is a value measured per table.

QRequired Torque, Required Turning Force

Part Number	Type	No.	Required Torque (N·m) Horizontal	Required Torque (N·m) Vertical	Required Turning Force (N) Horizontal	Required Turning Force (N) Vertical
KUED	14	14	0.039	0.223	1.503	8.586
		20	0.059	0.433	2.261	17.022

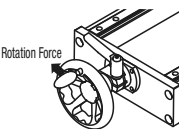
*The above torque / turning force is a value required when the allowable load is applied to the two tables.
*Turning force is the force that rotates the handwheel. (See the diagram on the right.)
*Vertical values are those when elevating the table.

QAccuracy

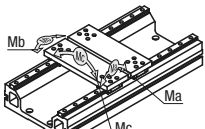
Type	Parallelism (mm)	Backlash (mm)
KUED	0.15	0.3

*Parallelism is the degree of running parallelism for dimension B against dimension A. (See the diagram on the right.)
*Backlash is not a guaranteed value but reference value.

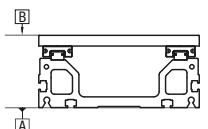
■ Turning Force Fig.



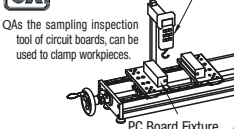
■ Moment Diagram



■ Parallelism Fig.



Example



QUsage of Frame Slots

Side and bottom surfaces are grooved for M6 nuts. Nuts can be inserted either from the wheel side or the opposite side to tighten screws and install a leveling mount.