

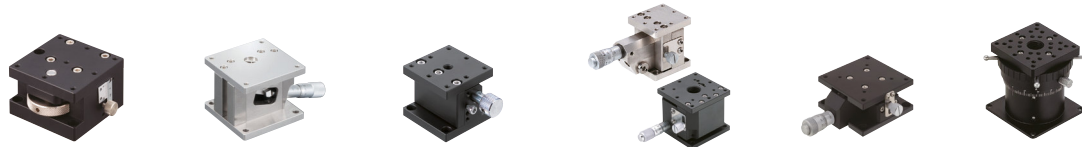
# Stages / Manual Units

Stage POSITIONING STAGES					
[Simplified Adjustments] X-Axis, Feed Screw, Compact	[Simplified Adjustments] X-Axis, Feed Screw, Stroke Selectable	[Simplified Adjustments] X-Axis, Push Screw	[Simplified Adjustments] X-Axis, Feed Screw	[Simplified Adjustments] X-Axis, Feed Screw, Side Clamp Unit / Key Guide Unit	
1892	1892	1893	1894	1895	
[Standard] X-Axis Dovetail Slide, Feed Screw	[Standard] Z-Axis Dovetail Slide, Rapid Feed Screw	[High Precision] X-Axis: Dovetail Slide, Feed Screw, Square / Hex Wrench Feed / Extended Knob / Rectangular / Reinforced Clamp / Low Profile / Long / Compact Carriage	[Simplified Adjustments] X-Axis, Rack & Pinion, Standard	[High Precision] X-Axis Dovetail Slide, Rack & Pinion / Standard / Low Profile	
1896	1896	1897-1901	1902	1903	
[High Precision] X-Axis Dovetail Slide, Rack & Pinion	[High Precision] Dovetail Slide, Rack & Pinion / Compact	Rectangular, Compact Carriage, Extended Knob / Reinforced Clamp / Coarse/Fine Feeds	[Standard] X-Axis Dovetail Slide, Long	[High Precision] X-Axis Dovetail Slide, Rack & Pinion, Long	
1904	1904	1905-1906	1907	1908-1910	
[High Precision] X-Axis Dovetail Slide, Rack & Pinion, Square / Coarse/Fine Feeds	[Simplified Adjustments] X-Axis, Feed Screw, Large Lead	[Simplified Adjustments] X-Axis, Feed Screw, Stroke Selectable	MOUNTS / ADJUSTMENTS / JOINT PLATES	[High Precision] X-Axis Cross Roller, Micrometer Head / Long / Linear Guide	
1911	1912	1913	1915	1916	
[Standard] X-Axis Cross Roller	[High Precision] X-Axis Cross Roller, Micrometer Head / Long / Linear Guide	[Standard] X-Axis Linear Ball Slide	[High Precision] Linear Ball Slide, Micrometer Head / Feed Screw / Coarse/Fine Micrometer Head		
1917	1918	1920	1921		
[High Precision] Linear Ball Slide - Heavy Load / Compact Carriage / Opposed Clamp with Knob	[High Precision] X-Axis Dovetail Slide, Heavy Load Steel	[High Precision] X-Axis Cross Roller, Heavy Load Steel	[High Precision] X-Axis Cross Roller, Micrometer Head / Long / Linear Guide	[Simplified Adjustments] X-Axis, Feed Screw, Heavy Load	
1923, 1924	1925	1926	1927	1927	
[Simplified Adjustments] X-Axis, Open/Close Width Adjusting Units	[Simplified Adjustments] XY-Axis, Push Screw, Standard	[Simplified Adjustments] XY-Axis, Feed Screw, Standard	[Simplified Adjustments] XY-Axis Key Guide	[Standard] XY-Axis Dovetail Slide, Feed Screw	
1928	1929	1930	1931	1931	

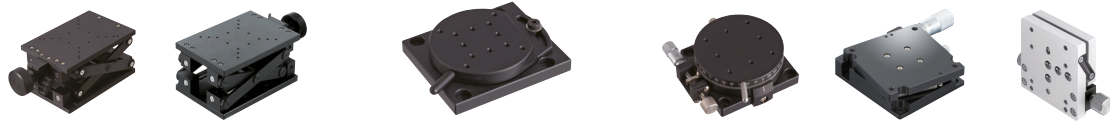
[High Precision] XY-Axis Dovetail Slide, Feed Screw, Square/Hex Wrench Drives	Extended Knob / Reinforced Clamp	[High Precision] XY-Axis Symmetrical Stack Stages	[High Precision] XY-Axis Dovetail Slide, Feed Screw, Rectangular / Square	[Simplified Adjustments] XY-Axis, Rack & Pinion	[Standard] XY-Axis Dovetail Slide, Standard / Low Profile
1932-1934		1935	1936	1937	1938
[High Precision] XY-Axis Dovetail Slide, Rack & Pinion, Rectangular / Reinforced Clamp / Square	[Simplified Adjustments] XY-Axis, Feed Screw, Large Lead	[Standard] XY-Axis Cross Roller	[Standard] XY-Axis Linear Ball Slide		
1939, 1940	1941	1942	1942		
[High Precision] XY-Axis Cross Roller / with Dowel Holes	[Standard] XY-Axis Cross Roller, Low Profile	[High Precision] XY-Axis Cross Roller, Through Hole	[High Precision] XY-Axis Linear Ball Slide - Micrometer Head / Feed Screw	[High Precision] XY-Axis Dovetail Slide / Linear Ball Slide Symmetrical Stack	
1943	1944	1945	1946	1947	
[High Precision] X-Axis Linear Ball Slide, Micrometer Head, Low Profile / Coarse/Fine Micrometer Head / Opposed Clamp with Knob	[Simplified Adjustments] Z-Axis, Push Screw, Standard	[Simplified Adjustments] Z-Axis, Feed Screw, Standard			
1948-1950	1951	1952			
[Standard] Z-Axis Dovetail Slide, Rectangular / Low Profile	[High Precision] Dovetail Slide, Rack & Pinion	[Standard] Z-Axis Dovetail Slide, Long	[High Precision] Z-Axis Dovetail Slide, Rack & Pinion, Long / Rectangular / Reinforced Clamp		
1953	1954	1955	1956-1958		
[High Precision] Z-Axis Dovetail Slide, Slim / Rectangular / Reinforced Clamp	[Standard] Z-Axis Dovetail Slide, Rapid Feed Screw	[High Precision] Z-Axis Dovetail Slide, Feed Screw Hex Wrench / Extended Knob / Thick	[Simplified Adjustments] Z-Axis, Medium Load Capacity, For Set-Up Changes & Initial Setups	[Standard] Z-Axis Linear Ball Slide	
1959, 1960	1961	1962, 1963	1964	1965	
[High Precision] Z-Axis Linear Ball	[Standard] Z-Axis Cross Roller	[High Precision] Z-Axis Cross Roller	[Simplified Adjustments] Z-Axis, Feed Screw, Heavy Load	[Simplified Adjustments] Z-Axis, Rack & Pinion, Scaled Post Units	
1966	1967	1968	1969	1970	



# Stages / Manual Units



[Standard] Horizontal Surface Z-Axis, Micrometer 1971 [Standard] Horizontal Surface Z-Axis 1971 [High Precision] Dovetail Slide, Rack & Pinion 1972 [High Precision] Cross Roller / Linear Guide / Low Profile 1972~1974 [High Precision] Helicoid Screw Stages 1975



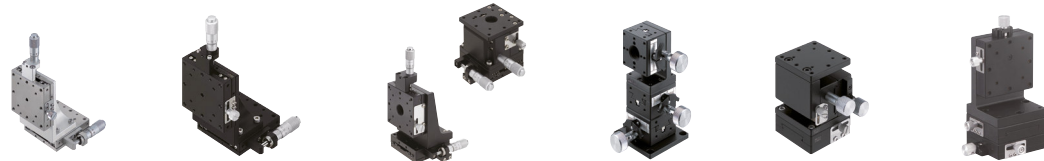
[Standard] Lab Jack (Horizontal Surface Z-Axis) 1976 [High Precision] Lab Jack (Horizontal Surface Z-Axis) 1977 [Simplified Adjustments] Angle Adjusting Units 1978 [Standard] Rotary Stages 1979 [Standard] Square Rotary Stages 1980 [Simplified Adjustments] Tilt Stages 1980



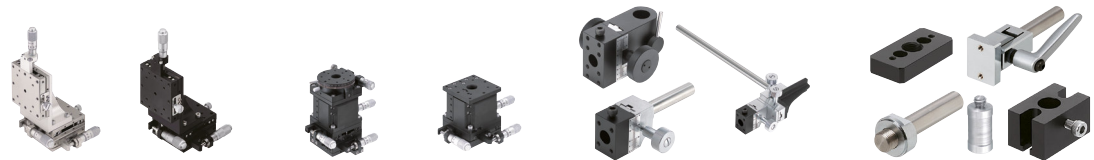
[High Precision] Rotary Stages / Micrometer Heads / Cross Roller / High Load Capacity 1981~1983 Rotary Table 1984 [Standard] Goniometer Stages - Dovetail Slide 1985



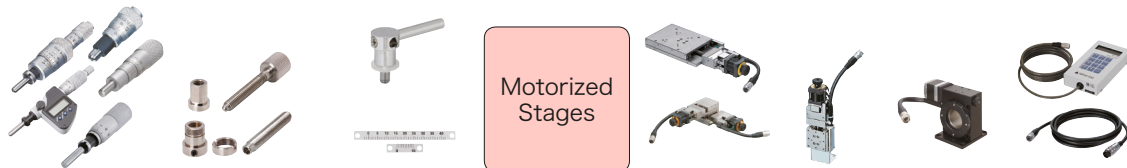
[High Precision] Goniometer Stages - Dovetail Slide / Symmetrical / Cross Roller 1986~1988 [High Precision] X, Y Z-Axis Stages - Selectable 1989 [High Precision] XY-Rotary 1991 [High Precision] XY-Axis Dovetail Slide, Feed Screw 1991 [High Precision] XY-Axis Dovetail Slide, Rack & Pinion / Feed Screw 1992



[High Precision] XZ-Axis Linear Ball 1993 [High Precision] XZ-Axis Cross Roller 1994 [High Precision] XYZ-Axis Dovetail Slide, Rack & Pinion / Feed Screw 1995, 1996



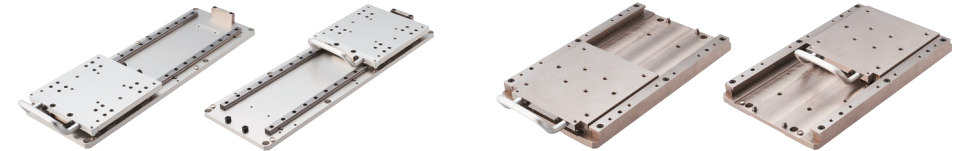
[High Precision] XYZ-Axis Linear Ball 1997, 1998 [High Precision] Combination Stages 1999 Dovetail Slide, Post Mounted 2001 Accessories for Dovetail Slide Stages 2002~2004



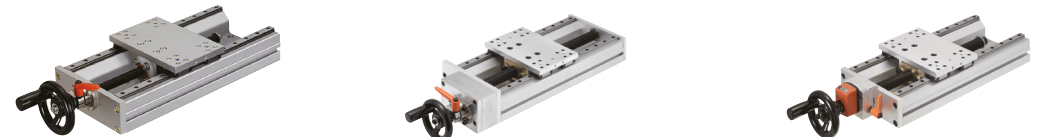
Motorized Stages

Micrometer Head 2005, 2006 Feed Screw 2005, 2006 Stage Maintenance Parts 1999 Product Name Page [Motorized] Linear Ball Slide - X/XY/Z 2009~2012 [Motorized] Rotary Stages / Peripherals for Motorized Stages 2013, 2014

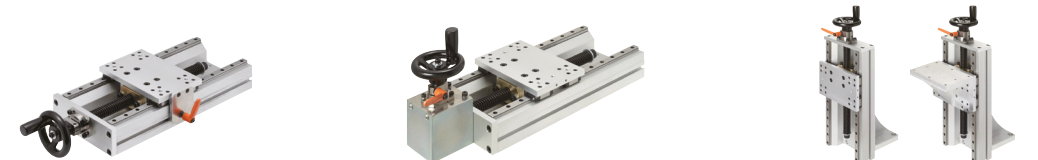
## Manual Units



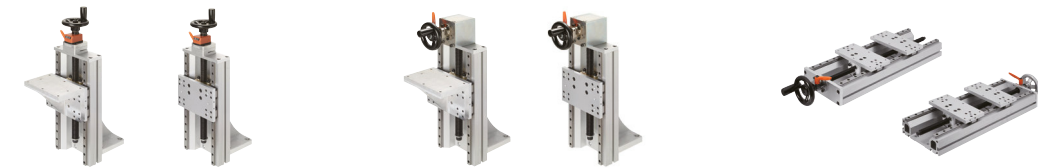
Product Name Page Fixture Slides, Linear Guide Type 2015 Fixture Slides, Guide Rail Type 2016



Manual Unit - Standard Type 2018 Manual Unit - Rapid Feed 2019 Manual Unit - Position Indicator 2020



Manual Unit - Table Fixed Type 2021 Manual Unit - Handwheel Orientation Configurable 2022 Manual Unit - Elevator Type 2023



Manual Unit - Elevator Type, Position Indicator 2024 Manual Unit - Elevator Type, Handwheel Orientation Configurable 2025 Manual Unit, Symmetrical Action Dual Carriage 2026

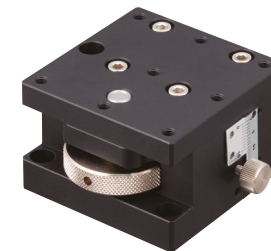
## New Product Guide

Standard Stages  
Goniometer, Dovetail Slide



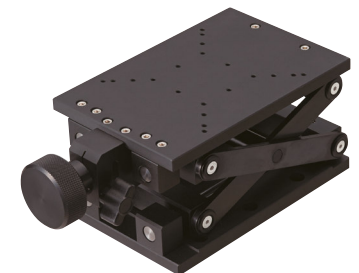
• Circular arc motion stages with arc center located on central vertical line on the stage top.

Standard Stages  
Horizontal Surface Z-Axis, Feed Screw



• Feed screw drive horizontal surface Z-Axis higher load capacity compared to rack & pinion system.

Standard Stages  
Horizontal Surface Z-Axis Lab Jack



• Suitable for Z-axis applications requiring long stroke adjustments.



# Stage Selection Table

Positioning adjustment mechanisms can be compared based on load capacities, motion ranges, accuracy ranges, and selected. Narrow down with your desired specifications and check for details on product listing pages.

The load capacities shown are X-Axis ref. values. For details and XY & Z axis load capacities, please see each product page.  
 The values of "Accuracy Range" are for motion accuracy (Straightness) references.  
 Since the low precision products utilize simplified mechanisms, there are some clearances.

Linear Motion (X-Axis, Y-Axis, Z-Axis)

Load Capacity (N)	Mechanism, Appearance Image	Stroke			Stage Surface Size (X-Axis)	Accuracy Range	Features	Type, Listed Pages		
		~±10	~±100	±100~				X-Axis	XY-Axis	Z-Axis
~19.6	Push Screw 	±5, ±7.5			□20 □25 □40 □60	Low Precision (Simplified)	Standard	XKNG XKNGZ P.1893	XYKNG P.1929	ZKNG P.1951
	Key Guide Type 	15, 20			Stage Width: 40,60		Reinforced Clamp	XKYF XKYL P.1895	XYKYF P.1931	-
	Feed Screw 	±2.5			13x27		Compact	XSEN P.1892	-	-
		25			29x50		Reinforced Clamp	XKCS P.1895	-	-
~39.2		5.6~154			6.7x16~ 6.7x31.4		Long Stroke	XSENC P.1892	-	-
	Feed Screw (Square) 	±5, ±7, ±8			□25 □40 □60	[Standard] 50µm	Standard	XFES P.1896	XYFES P.1931	ZFES P.1961
		±5, ±7, ±9				High Precision 30µm	Standard	XEG P.1897	XYEG P.1933	ZEG P.1962
		±3, ±5, ±7					Extended Knob	XEGL P.1898	XYEGL P.1934	ZEGL P.1963
		±11, ±21			□40 □60		Reinforced Clamp	XEGCL P.1898	XYEGCL P.1934	ZEGCL P.1963
							Hex Wrench Drive	XEEG P.1897	XYEEG P.1933	ZEEG P.1962
							With Dowel Holes	XSC P.1899	XYSC P.1932	ZSC P.1959
							With Dowel Holes Extended Knob	XSCL P.1899	XYSCCL P.1932	-
	Feed Screw (Rectangular) 	±7, ±9, ±13, ±17, ±23			□20 □25 □40 □60 40x25 60x40	Low Precision (Simplified)	Standard	XKNEJ P.1894	XYKNEJ P.1930	ZKNEJ P.1952
		±10, ±20, ±35			□40 □60 40x60 40x90	Med. Precision (Standard) 50µm	Lead 4.5mm	XFHT P.1896	-	-
		±21, ±35			40x60 40x90	High Precision 30µm~	Lead 4.2mm	XSL P.1900	XYSL P.1936	ZSL P.1960
		±27, ±42, ±57			25x40		Standard	XSLCL P.1900	XYSLCL P.1936	ZSLCL P.1960
						Lead 4.2mm Reinforced Clamp	XSLC P.1900	XYSLC P.1936	ZSLC P.1960	
						Low Profile	XLSL P.1901	XYLSL P.1936	ZLSL P.1959	
						[New Product] Long Stroke	XLSL P.1901	XYLSL P.1936	ZLSL P.1959	
	Rack & Pinion 	±12, ±14, ±23			25x40 40x60 40x90	Low Precision (Simplified)	Standard	XKRG P.1902	XYKRG P.1937	-
		±16, ±21, ±35			30x50 40x60 40x90	Med. Precision (Standard) 50µm	Standard	XDTSC P.1903	XYDTSC P.1938	ZDTSC P.1953
		±15, ±20, ±35				Low Profile	XDTSC P.1903	XYDTSC P.1938	ZDTSC P.1953	
		±5, ±10, ±20			□25 □40 □60	High Precision 20µm~	Standard (Square)	XFG P.1911	XYFG P.1940	ZFG P.1957
		±12, ±21, ±35, ±60			24.8x42 40x60 40x90 40x140		Standard (Rectangular)	XWG P.1904	XYWG P.1939	ZWG P.1954
						Reinforced Clamp	XWGCL P.1906	XYWGCL P.1940	ZWGCL P.1958	

Load Capacity (N)	Mechanism, Appearance Image	Stroke			Stage Surface Size (X-Axis)	Accuracy Range	Features	Type, Listed Pages		
		~±10	~±100	±100~				X-Axis	XY-Axis	Z-Axis
~39.2	Rack & Pinion (Long Stroke) 	±30, ±40, ±65, ±90			30x50	Med. Precision (Standard) 50µm~	Long Stroke	XDTLS P.1907	-	ZDTLS P.1955
		±15, ±25, ±40, ±65, ±90			25x42	High Precision 30µm~	Long Stroke	XLWG P.1908	-	ZLWG P.1956
		60, 160, 260, 360			40x40		Ultra Long Stroke (Block Combination)	XLARGE P.1910	-	-
		±140			40x50		Ultra Long Stroke	XLONG P.1909	-	-
~343	Cross Roller 	±3.2, ±6.5, ±12.5, ±25			□25 □40 □50 □60 □80 □90 □100 □120	Med. Precision (Standard) 30µm	Standard	XCRS P.1917	XYCRS P.1942	ZCRS P.1967
		±3.2, ±6.5, ±12.5, ±25			□25 □40 □60 □80 □100 □120	High Precision 3µm	Standard	XPG P.1918	XYPG XYPCG P.1943	ZPG P.1968
		±6.5, ±20			25x60 60x110		Long Stroke	XLPG P.1916	-	-
	Linear Ball 	±6.5			□40 □60	Med. Precision (Standard) 10µm	Standard	XLBS P.1920	XYLBS P.1942	ZLBS P.1965
		±6.5, ±12.5			□25 □40 □50 □60 □70 □80 □100	High Precision 1µm~	Standard	XSG P.1921	XYSG XYSCG XYSCGB P.1946	ZSG ZSCG ZSCGB P.1966
		±6.5, ±12.5			□40 □50 □60 □70 □80 □100		Digital Micrometer Head	XSDG P.1921	-	-
		±6.5			□40 □50 □60 □70 □80		Coarse/Fine Feeds	XSKG P.1921	XYSKG P.1949	-
		±3.2, ±6.5			□25 □40 □50 □60 □70		Opposed Clamp with Knob	XSGNT P.1923	XYSGNT P.1950	-
	Feed Screw 	±6			□40 □60	Low Precision (Simplified)	Led. Load	XKDSP P.1964	-	-
		10, 15, 25, 30, 40, 50, 60, 70			Stage Width: 40, 60, 80		Stroke Selectable Type	XKNEF P.1913	-	-
		25, 40, 50, 75			□40 □60 □80 80x40		Large Lead	XKS P.1912	XYKS P.1941	-
		50, 100, 150			80x80		Heavy Load Type	XKST P.1927	-	ZKST P.1969
	60, 150			40x20 60x40		Right/Left Screw Open/Close Width Adjusting	XANON P.1928	-	-	
~1176	Rack & Pinion 	±12, ±21, ±35			24.8x40 40x60 40x90	High Precision 30µm~	High Load Capacity	XWGSR P.1925	-	-
	Linear Guide 	128			80x80		Long Stroke	XLSG P.1927	-	-
	Cross Roller 	±20, ±25, ±30, ±40, ±50			□80 □100 □120 □150 □200	High Precision 6µm~	High Load Capacity	XTOUGH P.1926	-	-
~1470	Manual Units 	53~353			Stage Width: 150	Low Precision (Simplified)	Standard Position Indicator Symmetrical Action Dual Carriage, etc.	P.2017~ 7 types featured		

## Other Low Profile Types, Slim, Extended Knob, Through Hole

Dovetail Slide Feed Screw	Compact Carriage XSSL (P.1901) Compact Carriage Low Profile XSSLC (P.1902)
Dovetail Slide, Rack & Pinion	Extended Knob XWGL (P.1905) Compact Carriage XSP (P.1904)
Cross Roller	Low Profile (Standard) XYCRSC (P.1944) Low Profile (High Precision) XYSPG (P.1945) Through Hole XYPPG (P.1945)

## Coarse/Fine Feeds

Dovetail Slide, Rack & Pinion	Square XSG (P.1911) Rectangular XSB (P.1906)
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## Space Saving


Dovetail Slide Feed Screw	DSXYEG (P.1935)
Linear Ball	Micrometer Head DSXYSG (P.1947) Feed Screw DSXYSCG (P.1947)



# 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	<b>XKRC</b> P.1978
		±10°	□40 □60	Med. Precision (Standard)	Simplified Angle Adjusting (With Micrometer Head)	<b>RTSS</b> P.1980
		Coarse Feed: 360 Fine Feed: ±5°	Ø40 Ø60 Ø80	Med. Precision (Standard)	Coarse/Fine Feeds Standard	<b>RTRS/RTRM</b> P.1979
		Coarse Feed: 360	Ø25	High Precision (Eccentricity 0.05mm)	Small Diameter	<b>RPGE</b> P.1981
		Coarse Feed: 360 Fine Feed: ±5°	Ø38 Ø60 Ø65 Ø100		Coarse / Fine Feeds Standard	<b>RPG</b> P.1982
49.0~58.8		Coarse Feed: 360 Fine Feed: ±5°	Ø60 Ø65 Ø100	High Precision (Eccentricity 0.05mm)	Stainless Steel / Through Hole	<b>RPGS/RPGT</b> P.1983
68.6		Coarse Feed: 360	Ø25 Ø40 Ø60		Coarse/Fine Feeds Standard	<b>REG</b> P.1981
980~1960		Coarse Feed: 360	Ø48 Ø98 Ø198	Low Precision (Simplified)	High Load Capacity	<b>KUS</b> 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	<b>ZLFG</b> P.1972
9.8~39.2		±2 ±3 ±5	□25 □40 □60 □80	High Precision 3µm	Standard	<b>ZLPG</b> <b>ZLPCG</b> P.1973
19.6~29.4		±3	□25 □40 □60 □80	High Precision 5µm	Low Profile	<b>ZLTG</b> <b>ZLTCG</b> P.1974
29.4~49		±3 ±5	□40 □60	Med. Precision (Standard)	Standard (Micrometer Head)	<b>ZLLB</b> P.1971
29.4~58.8		±3	□40 □60	High Precision 3µm	High Load Capacity	<b>ZLPGS</b> <b>ZLPCGS</b> P.1972
29.4~98.1		+5 +7	□40 □60	Med. Precision (Standard)	Standard (Feed Screw)	<b>ZLFD</b> P.1971

## Goniometer

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



(New Product) Med. Precision (Standard):  
**GFSG** 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

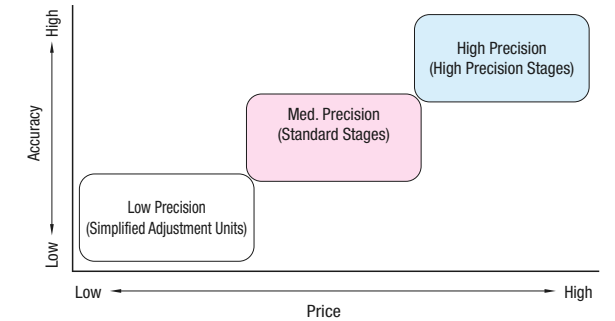
Low precision (Simplified Adjustment Units) and Med. precision (Standard Stages) are MISUMI original products which achieved more "economical prices" than the existing products by revising "Conditions of Guaranteed Accuracies".

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.

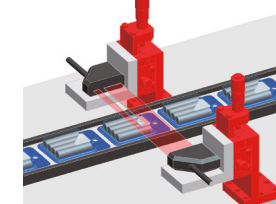
Series	High Precision Stages	Standard Stages
Part Number	<b>XEG60</b>	<b>XFES60</b>
Page	<b>P.1897</b>	<b>P.1896</b>
Photo		
Travel Accuracy (Straightness)	30µm	50µm
Top Face Size	60X60mm	
Thickness	17mm	
Stroke	±9mm	±8mm
Guide	Dovetail Slide	

Difference
20µm
-
-
±1mm
-

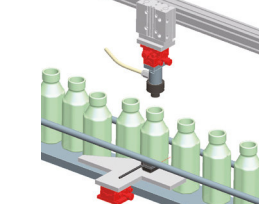


### Example Standard Stages Examples

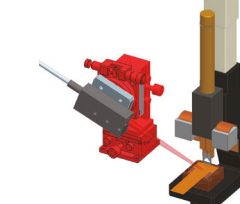
Positioning of Labeling Defects Detection Sensor



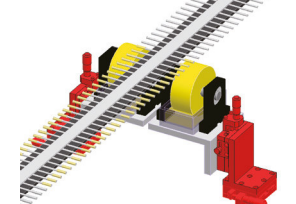
Positioning of Leak Inspection Instrument of Plastic Bottles



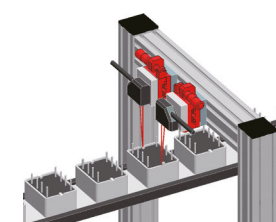
Positioning of Temperature Sensor for Camera Module Thermocompression



Positioning for Adhesive Application to Cotton Swabs



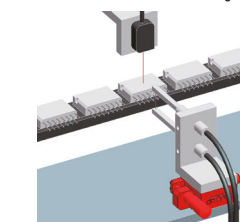
Positioning of Swage Detection Sensor for Converter



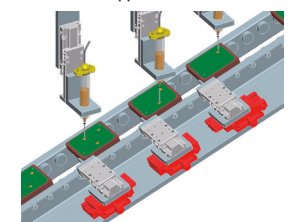
Positioning of Shrink Package Inspection Device



Sensor Positioning for Detecting Defects of Connector Terminal Press Fitting



Positioning of Cylinder Stopper for Adhesive Application Device



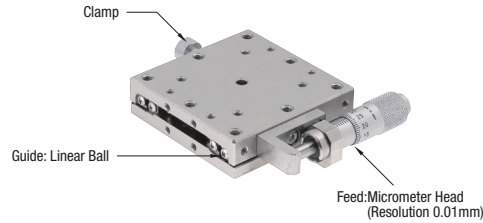


# Manual Stages - Overview

# Technical Information

## 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
<b>Structure</b>	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.
<b>Straightness</b>	[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
<b>Guide Mechanism</b>	Dovetail Slide	Cross Roller / Linear Ball Slide				
<b>Travel per Rotation</b>	17~20mm	0.5~10mm	0.5~1mm	0.5mm	0.025~0.5mm	0.5mm
<b>Features</b>	<ul style="list-style-type: none"> <li>Suitable for rapid feeding.</li> <li>Not suitable for accurate positioning.</li> </ul>	<ul style="list-style-type: none"> <li>Suitable for fine feeding and slightly fast feeding.</li> <li>Screw lead selectable</li> </ul>	<ul style="list-style-type: none"> <li>Suitable for fine feeding.</li> <li>More economical compared to Micrometer Head</li> <li>Not scaled and incapable of numerical adjustments.</li> </ul>	<ul style="list-style-type: none"> <li>Suitable for precise positioning by 0.01mm.</li> </ul>	<ul style="list-style-type: none"> <li>Enables finer adjustment compared to standard Micrometer Head.</li> <li>0.5µm Graduation</li> </ul>	<ul style="list-style-type: none"> <li>With digital display, output</li> <li>1µm Graduation</li> </ul>

## About Clamp Mechanism

	Standard Clamp	Disc Clamp	Opposed Clamp	Slit Clamp	Lever Clamp	
<b>Features</b>	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.

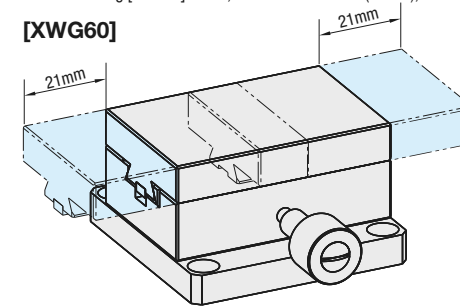
- Selecting the Reinforced Clamp Type Stages (Slit Type Clamp)
- Changing the clamp type when available as "Alterations" (Opposed Clamp, Disc Clamp)

## High Precision Stages and Standard Accuracy Stages (Common)

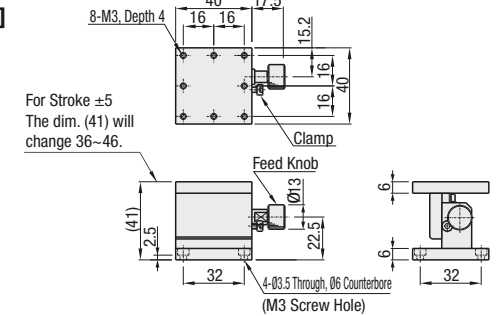
### About Stroke (move distance) descriptions.

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 ±21mm (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 ±5mm (10mm), and the dimension indicating the stage height (41) means it changes between 36mm (-5mm) and 46mm (+5mm).

[XWG60]



[ZLFG40]



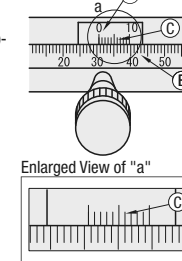
For Stroke ±5  
The dim. (41) will change 36~46.

### 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.

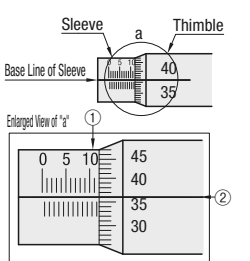
#### <How to Read Vernier Scale>

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



#### <How to Read 0.01mm Micrometer Head>

- 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)
- 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)
- 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 ±3.25mm and ±6.5mm, the scale starts as 0 (zero) at the left farthest end.  
For the case of ±5.5mm 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.

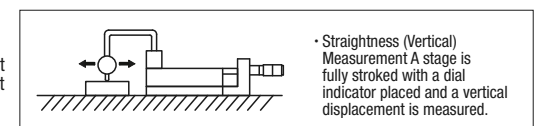
#### Allowable Moment Load

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

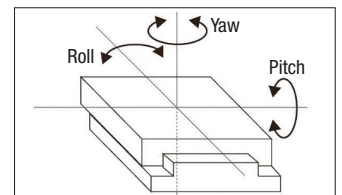
#### Definition of Straightness

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

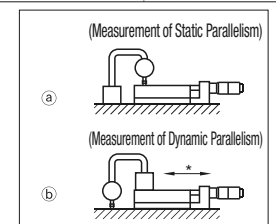
These indicate the amounts of top plate inclinations during linear motion. To direction of traveling  
Leaning forward and back : Pitching  
Rotation in a horizontal plane : Yawing  
Leaning right and left : Rolling



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 (a) Static Parallelism and (b) 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

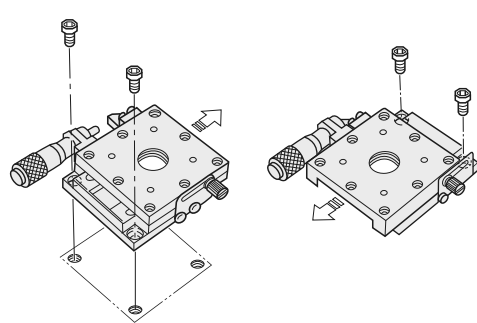
## Stage Operating Environment

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

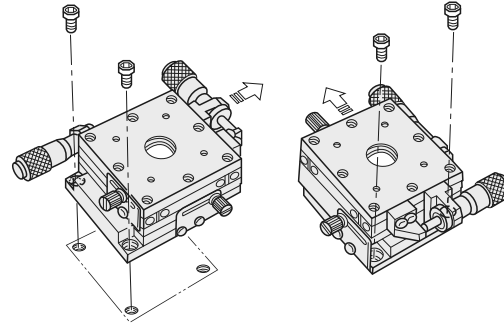
## Stage Installation Method

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

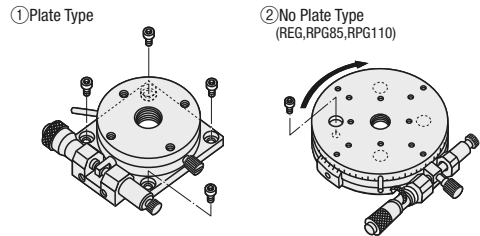
### X-Axis Stages



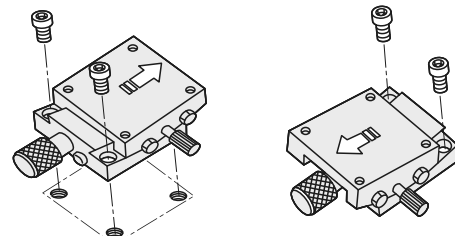
### XY-Axis Stages



### Rotary Stages



### 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
<p>Standard, CR, A</p> <p>STOP!!</p>	<p>CZ Standard CR A</p>
<p>A load exceeding the spring pull force will cause the carriage to drop.</p>	<p>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.</p>

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)
- Ⓐ XDTs (Standard, Dovetail Slide, Rack & Pinion) Size 50 and 60: 0.1N·m; Size 90: 0.15N·m
- Ⓑ XDTSC (Standard, Dovetail Slide, Low Profile, Rack & Pinion) Size 50 and 60: 0.1N·m; Size 90: 0.15N·m
- Ⓒ XCRS (Standard, Cross Roller): 0.15N·m

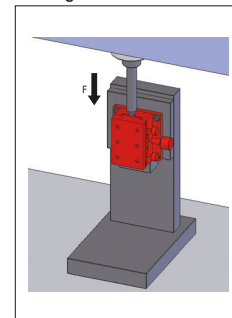
#### <Max. Holding Force (Ref.)>

Type	Size	Max. Holding Force (Ref.)
Ⓐ XDTs	50	30N
	60	60N
	90	70N
Ⓑ XDTSC	50	10N
	60	20N
	90	40N
Ⓒ XCRS	40	60N
	60	60N
	80	70N

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

Type	Tightening Torque (Standard at 100%)		
	50%	100%	150%
XDTs60	50N	60N	90N
XCRS60	40N	60N	100N

#### <Testing Method>

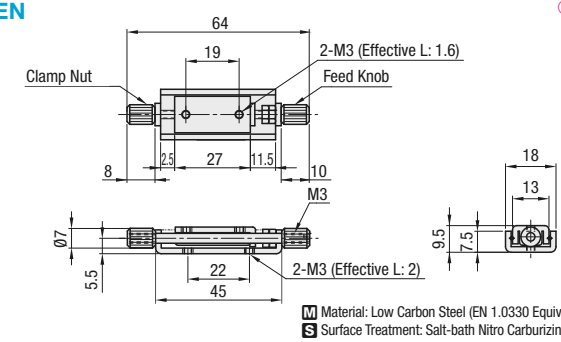
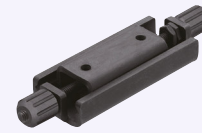


Max. Holding Force (Ref.) will vary depending on the tightening torque variations. Ensure adequate safety margins for design.

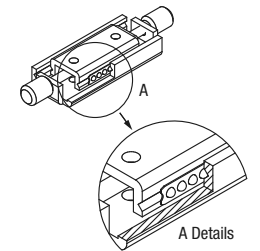
Features: Eliminates frustrations when positions are lost at the final one turn of screws in slotted holes. The low profile of 9.5mm is effective in narrow spaces.

## X-Axis Compact Type

### XSEN



Slides smoothly with ball guides on each side.



Travel per Rotation: 0.5mm

RoHS

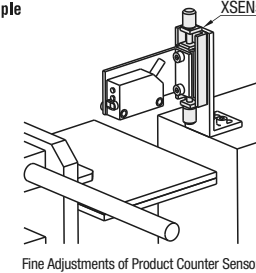
Material: Low Carbon Steel (EN 1.0330 Equiv.)  
 Surface Treatment: Salt-bath Nitro Carburizing

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

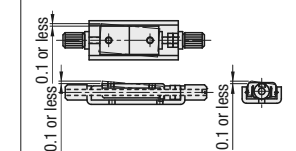
Travel per Rotation: 0.5mm

Ordering Example: XSEN5

Example: XSEN5



## Accuracy Standards

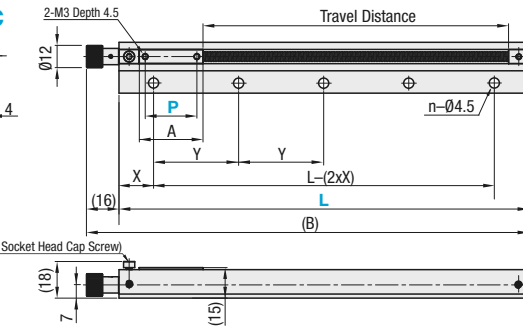


There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies.

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

## X-Axis Stroke Selectable Type

### 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

Travel per Rotation: 0.8mm

RoHS

There will be no anodizing on rail ends and holes.

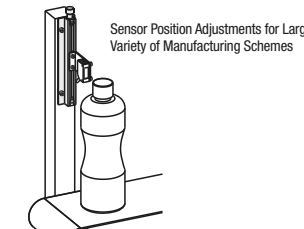
Part Number Type	L	P (Selection)	X	Y (When 150Y and 200Y)	Number of Taps (n)	(B)	Distance between End Taps L-(2xX)	Travel Distance	Load Capacity (N)	Unit Price
XSENC	60	10	-	-	2	76	40	L-A-23	9.8	
	70	14	-	-	2	86	42	L-A-25		
	80	18	-	-	2	96	44			
	150	20	-	-	2	166	110	L-A-30		
	150Y (*)	15	40	4	4	120				
	200	22	-	-	2	216	156			
	200Y (*)	20	40	5	5	160				

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

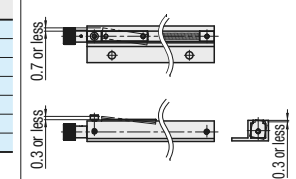
Travel per Rotation: 0.8mm

Ordering Example: XSENC150 - P - 25.4

Example: XSENC150



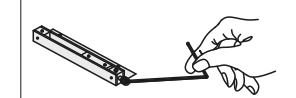
## Accuracy Standards



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

**RoHS**

**Accuracy Standards**

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

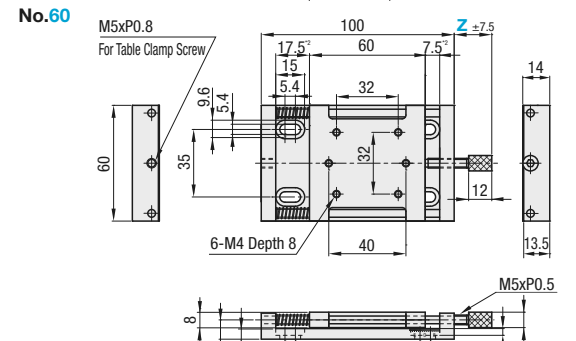
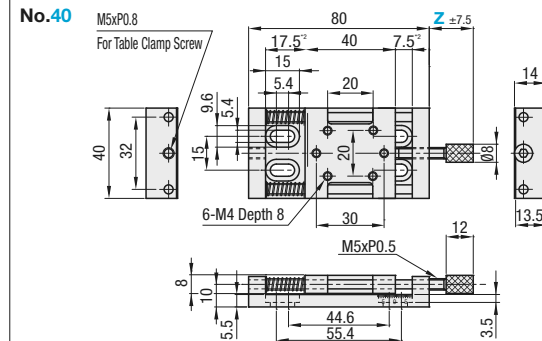
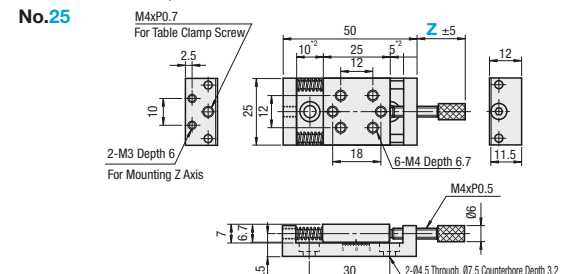
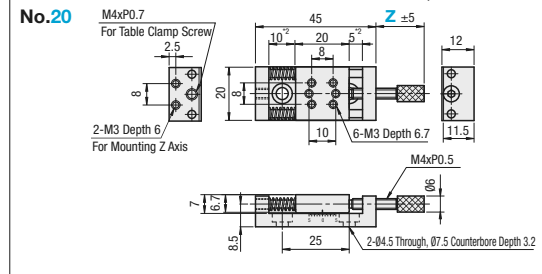
**How to Mount**

- Remove the Push Screw.
- Screw down the A side.
- Move the table manually to the A side.
- Screw down the B side.
- Re-install the Push Screw.

**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
		M Material   S Surface Treatment	M Material	M Material	M Material   S Surface Treatment	
Standard (Z Dim. Fixed)	XKNG	Aluminum Alloy	EN 1.4305 Equiv.	EN 1.4301 Equiv.	EN 1.1191 Electroless Nickel Plating	No. 20, 25 CBS4-6, 2 pcs. No. 40, 60: CBS5-8, 4 pcs.
Screw Length Selectable (Z Dimension Selection)	XKNGZ*3					

\*1 Hex Socket Low Head Cap Screw CBS P.194, Hex Socket Ultra Low Head Cap Screw CBS5 P.195



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

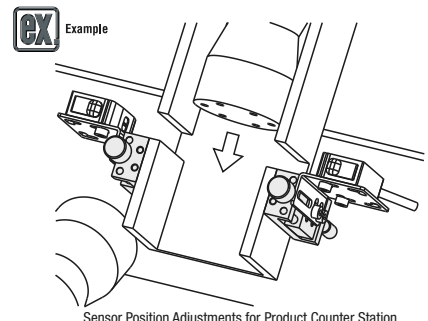
Part Number Type	No.	Z Available for XKNGZ only		ZXKNG Fixed	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)		Weight (kg)	Unit Price	
		Horizontal	Vertical				Horizontal	Vertical		XKNG	XKNGZ
(Standard) XKNG (Screw Length Selectable) XKNGZ*3	20	20	38	18	20x20	±5	9.8	2	0.04		
	25				25x25				0.06		
	40	40	60	27	40x40	±7.5	14.7	8	0.10		
	60				60x60				0.20		

Minimum Graduation: 0.5mm | Travel per Rotation: 0.5mm | Vertical load capacity will be lower than the Feed Screw Type since springs are utilized.  
\*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 - Z - 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**

XY-Axis P.1930  
Z-Axis P.1952

Travel per Rotation 0.7mm

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

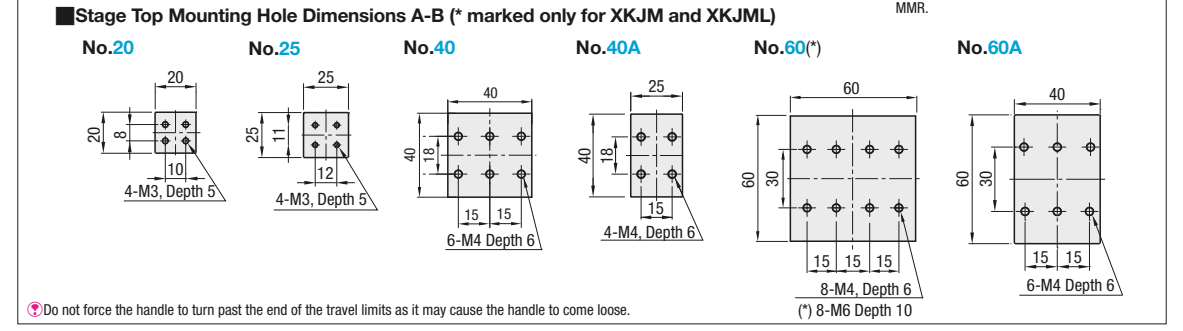
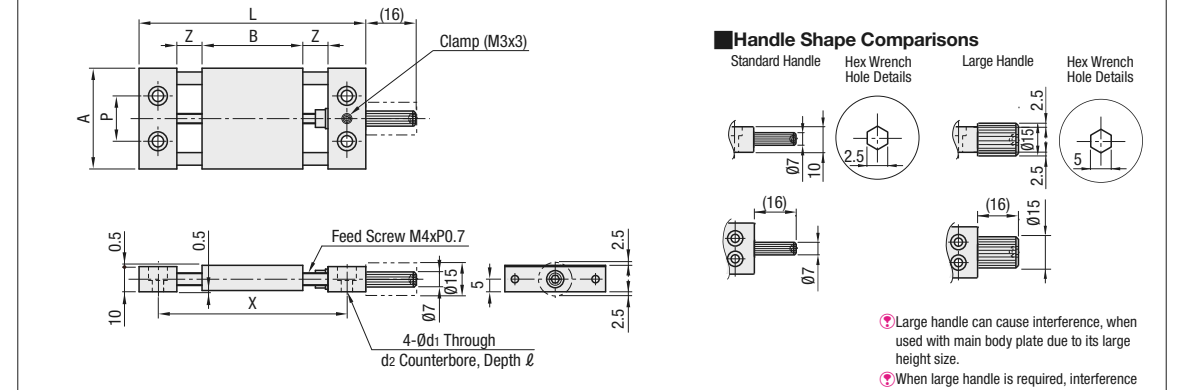
**Accuracy Standards**

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	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	No. 20: CBSST3-12, 4 pcs. (Low Head) No. 25: SCB3-10, 4 pcs. No. 40, 60, 60A: SCB4-10, 4 pcs.
M6 Mounting Holes	XKJL	XKJLM			



Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	A	L	Z	B	P	X	d1	d2	l	Load Capacity (N)		Weight (kg)	Unit Price	
													Horizontal	Vertical		XKNEJ XKJL	XKJL XKJML
XKNEJ XKJL	20	20x20	±7	20	66	8	20	8	51	3.2	6	2.3	19.6	9.8	0.04		
	25	25x25		25	71		25	11	56	3.5		3.2			0.05		
	40	40x40					10	40							0.10		
	40A	40x25		40	90		17.5	25	18	75					0.10		
	60	60x60					15	60							0.18		
	60A	60x40					25	40							0.15		
XKJM XKJML	60	60x60	±13	60	120	15	60	30	105	4.5	7.5	4.2	39.2	19.6	0.18		

Travel per Rotation 0.7mm  
Ordering Example: XKNEJ40 XKJML60

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

Alterations	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.	Changes Clamp Screw to Knurled Knob.
Code	MMR	CLC

Example: XKJL60  
Conveyor width adjustments during setup changes

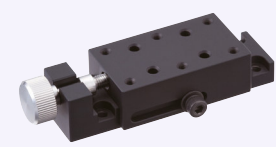


# [Simplified Adjustments] X-Axis, Feed Screw, Side Clamp Units / Key Guide Units

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

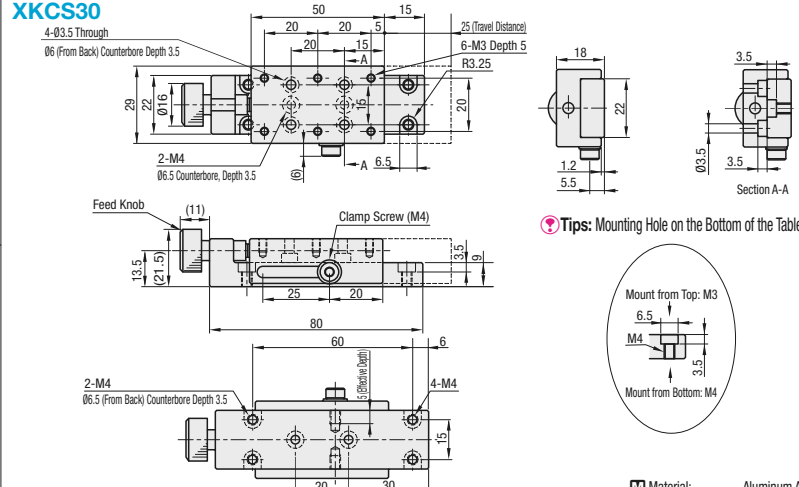
P.1897, P.1899, P.1900

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



RoHS

### XKCS30



**Accuracy Standards (Ref.)**

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

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

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

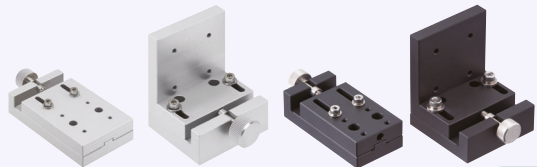
Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Weight (kg)	Unit Price
<b>XKCS</b>	<b>30</b>	29x50	25	0.8	9.8	0.1	

Ordering Example  
Part Number: **XKCS30**

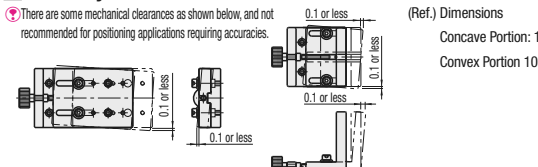
**Features:** Simplified Adjustment Units utilizing key guides (convex surface). Screw mounting enables strong clamp, and a scale label is included.



RoHS

### Accuracy Standards

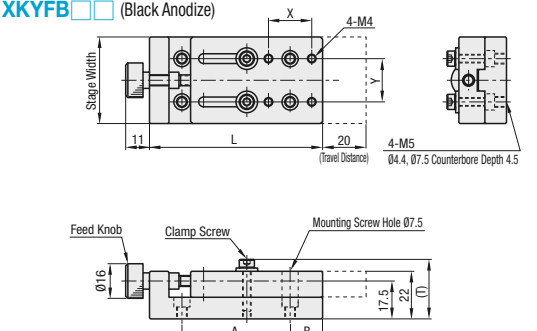
There are some mechanical clearances as shown below, and not recommended for positioning applications requiring accuracies.



(Ref.) Dimensions  
Concave Portion:  $10^{+0.1}$   
Convex Portion:  $10^{-0.1}$

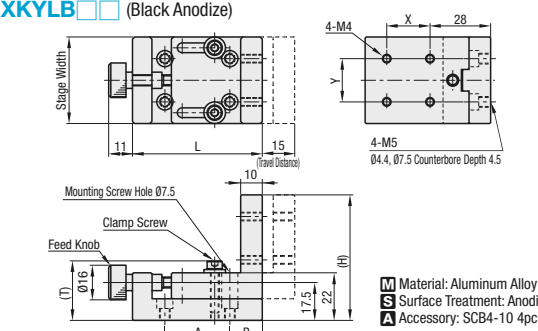
### Flat Type

**XKYF** (Clear Anodize)  
**XKYFB** (Black Anodize)



### L-Shaped Type

**XKYL** (Clear Anodize)  
**XKYL B** (Black Anodize)



Material: Aluminum Alloy  
Surface Treatment: Anodized  
Accessory: SCB4-10 4pcs. Scale seal


Part Number Type	No.	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
<b>XKYF</b>	<b>XKYFB</b>	40	40	20	50	15	-	80	(27.5)	20	20	M4	19.6	0.18	
		60	60	15	60	25	-	100	(29)	30	30	M5	39.2	0.34	
<b>XKYL</b>	<b>XKYL B</b>	40	40	15	30	15	58	60	(27.5)	20	20	M4	9.8	0.18	
		60	60	15	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

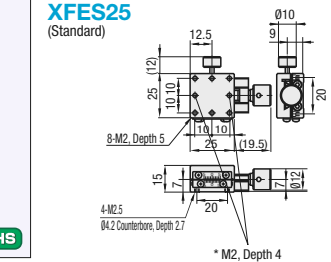
**Features:** Stages with 0.5mm fine lead.

### X-Axis

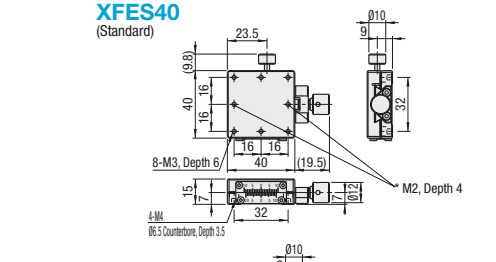


RoHS

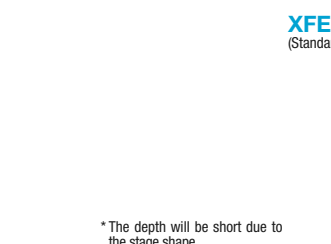
### XFES25 (Standard)



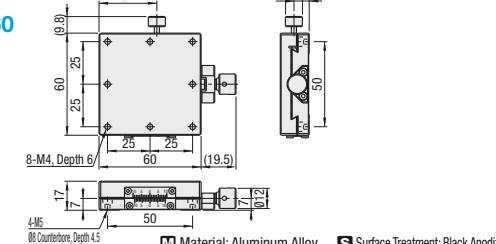
### XFES40 (Standard)



### XFES60 (Standard)



### XFES60 (Standard)



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

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

Material: Aluminum Alloy  
Surface Treatment: Black Anodize


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

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
						Horizontal	Vertical			
<b>XFES</b>	25	No Symbol (Standard)	25x25	±5	0.5	29.4	9.8	50µm	0.04	
	40	R (Right/Left Reversed)	40x40	±7						
	60	R (Right/Left Reversed)	60x60	±8						

Resolution (Vernier Scale Indication): 0.1mm/division  
Extension Cover HDEXT12-□ (sold separately): Ø12 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.

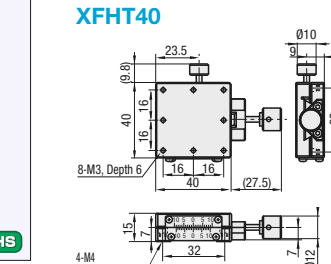
Ordering Example  
Part Number: **XFES40**

### X-Axis

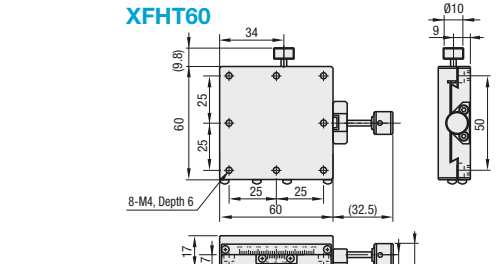


RoHS

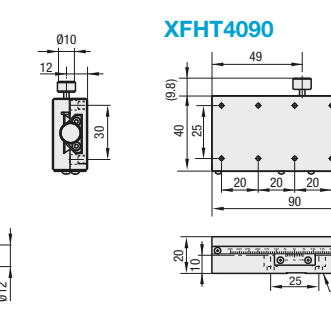
### XFHT40



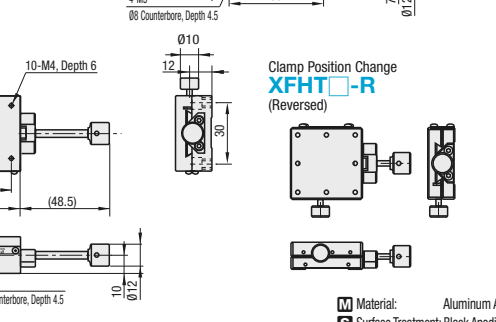
### XFHT60



### XFHT4060



### XFHT4090



Clamp Position Change  
**XFHT** □ -R (Reversed)

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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

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
						Horizontal	Vertical			
<b>XFHT</b>	40	No Symbol (Standard)	40x40	±10	4.5	19.6	9.8	50µm	0.06	
	60	R (Right/Left Reversed)	60x60	±20						
	4060	R (Right/Left Reversed)	40x60	±20						
	4090	R (Right/Left Reversed)	40x90	±35						

Resolution (Vernier Scale Indication): 0.1mm/division

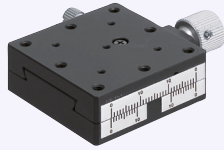
Ordering Example  
Part Number: **XFHT40**

# [High Precision] Dovetail Slide, Feed Screw

## Hex Wrench Drive

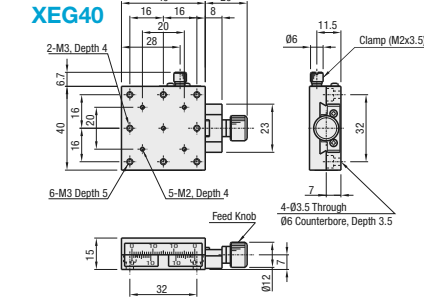
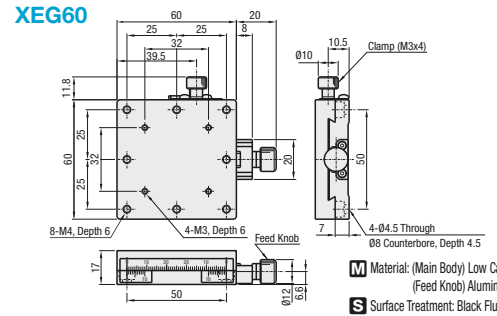
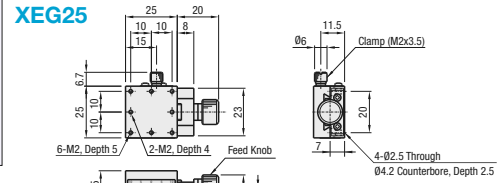
■ **Features:** Low profile (height 15mm ~) dovetail slide stages with feed screws.

■ **X-Axis**  
(Lead 0.5mm)



XY-Axis **P.1933**  
Z-Axis **P.1962**

RoHS



⚙️ Standard Stages Similar Products: XFES (P.1896)

Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy (μm)			Moment Load Capacity (N·m)			Parallelism	Weight (kg)	Accessory		Unit Price
				Horizontal	Vertical	Straightness	Parallelism	Pitching	Yawing	Rolling	Type M-L			Quantity		
<b>XEG</b>	25	25x25	±5	0.5	29.4	9.8	30	30	2.0	1.5	1.3	40μm	0.07	SCB2-8	4	
	40	40x40	±7		4.0	3.0			3.0	0.19	SCB3-6					
	60	60x60	±9		39.2	19.6			5.0	4.0	4.0			0.60		

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

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

⚙️ XY-Axis Mounting Plate XPLTE: Use this plate when connecting stages with non-matching mounting holes. **P.1915**

📞 Ordering Example  
Part Number **XEG25**

🔄 Alterations  
Part Number - (R)  
**XEG25** - R

**Alteration** **Clamp Position Change (Right/Left Reversed)**

Spec.

Code **R**

⚙️ See the CAD data for details.

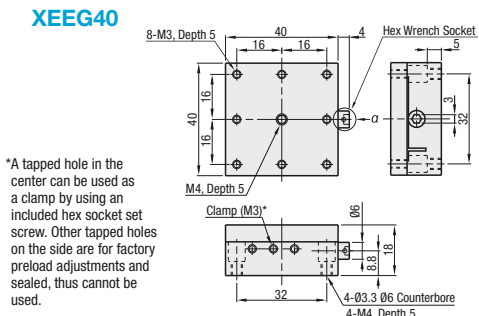
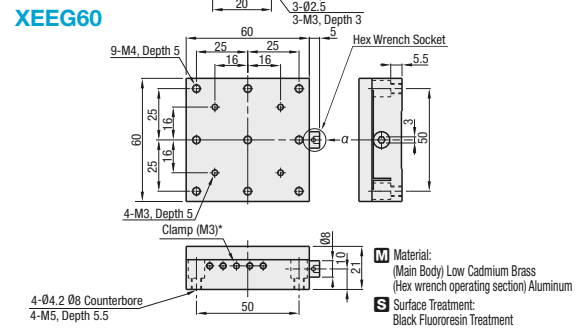
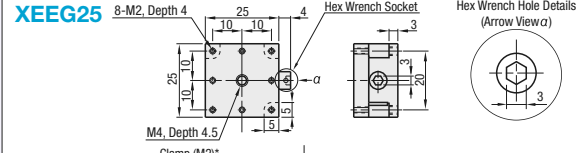
■ **Features:** No knob is required since a hex wrench is used to feed the stage, making for a space saving form factor. Unintended position changes can be prevented since the stage cannot be operated without a hex wrench.

■ **X-Axis, Hex Wrench Drive**  
(Lead 0.5mm)



XY-Axis **P.1933**  
Z-Axis **P.1962**

RoHS



\*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.

Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy (μm)			Moment Load Capacity (N·m)			Parallelism	Weight (kg)	Accessory		Unit Price
				Horizontal	Vertical	Straightness	Parallelism	Pitching	Yawing	Rolling	Type M-L			Quantity		
<b>XEEG</b>	25	25x25	±3	0.5	29.4	9.8	30	80	2.0	1.5	1.3	50μm	0.07	SCB2-8	3	
	40	40x40	±5		4.0	3.0			3.0	0.19	SCB3-6					
	60	60x60	±7		39.2	19.6			5.0	4.0	4.0			0.60		

⚙️ Resolution (Vernier Scale Indication): 0.1mm/division (XEEG has no vernier scale)

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

⚙️ XY-Axis Mounting Plate XPLTE: Use this plate when connecting stages with non-matching mounting holes. **P.1915**

📞 Ordering Example  
Part Number **XEEG60**

# [High Precision] Dovetail Slide, Feed Screw

## Extended Knob / Reinforced Clamp

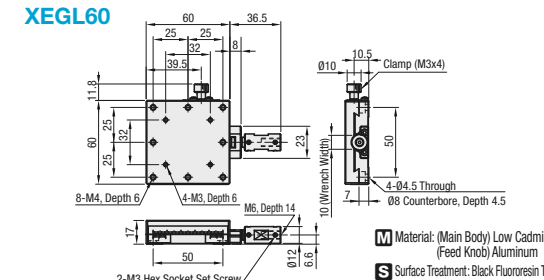
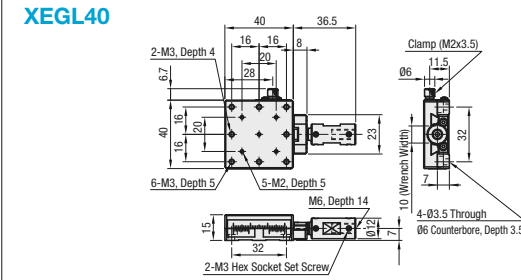
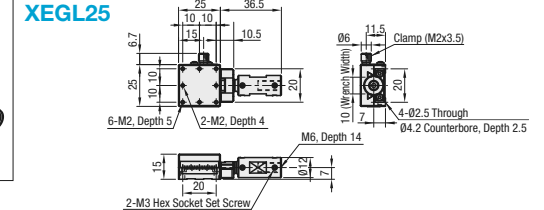
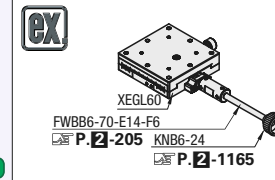
■ **Features:** Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine. Use adhesive to prevent the knob extension from pulling off.

■ **X-Axis, Extended Knob**  
(Lead 0.5mm)



XY-Axis **P.1934**  
Z-Axis **P.1963**

RoHS



Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy (μm)		Moment Load Capacity (N·m)			Parallelism	Weight (kg)	Accessory (4 pcs.)		Unit Price
				Horizontal	Vertical	Straightness	Parallelism	Pitching	Yawing	Rolling			Type M-L	Quantity	
<b>XEGL</b>	25	25x25	±5	0.5	29.4	9.8	30	30	2.0	1.5	1.3	40μm	0.1	SCB2-8	
	40	40x40	±7		4.0	3.0			3.0	0.19	SCB3-6				
	60	60x60	±9		39.2	19.6			5.0	4.0	4.0			0.5	

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

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

⚙️ XY-Axis Mounting Plate XPLTE: Use this plate when connecting stages with non-matching mounting holes. **P.1915**

📞 Ordering Example  
Part Number **XEGL60**

🔄 Alterations  
Part Number - (R)  
**XEGL60** - R

**Alteration** **Clamp Position Change (Right/Left Reversed)**

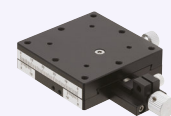
Spec.

Code **R**

⚙️ See the CAD data for details.

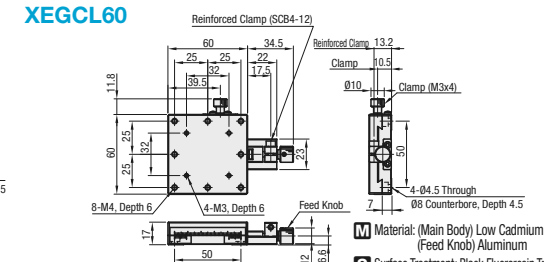
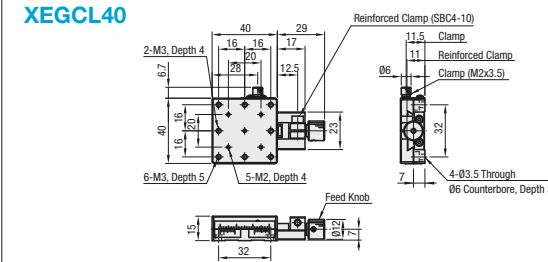
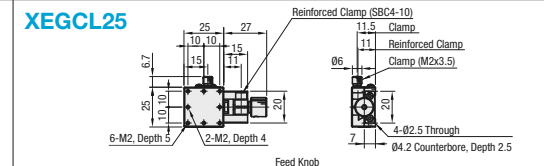
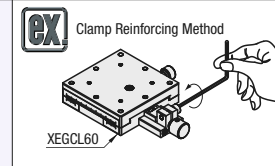
■ **Features:** The feed knob shaft is clamped directly for improved position holding performance of the stage.

■ **X-Axis, Reinforced Clamp**  
(Lead 0.5mm)



XY-Axis **P.1934**  
Z-Axis **P.1963**

RoHS



Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy (μm)		Moment Load Capacity (N·m)			Parallelism	Weight (kg)	Accessory (4 pcs.)		Unit Price
				Horizontal	Vertical	Straightness	Parallelism	Pitching	Yawing	Rolling			Type M-L	Quantity	
<b>XEGL</b>	25	25x25	±5	0.5	29.4	9.8	30	30	2.0	1.5	1.3	40μm	0.08	SCB2-8	
	40	40x40	±7		4.0	3.0			3.0	0.19	SCB3-6				
	60	60x60	±9		39.2	19.6			5.0	4.0	4.0			0.50	

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

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

⚙️ XY-Axis Mounting Plate XPLTE: Use this plate when connecting stages with non-matching mounting holes. **P.1915**

📞 Ordering Example  
Part Number **XEGL40**

🔄 Alterations  
Part Number - (R)  
**XEGL60** - R

**Alteration** **Clamp Position Change (Right/Left Reversed)**

Spec.

Code **R**

⚙️ See the CAD data for details.

⚙️ Reinforced Clamp position will not change when an alteration R is specified.



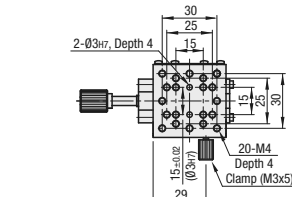
# [High Precision] Dovetail Slide, Feed Screw

## Square / Extended Knob (Lead 4.2mm)

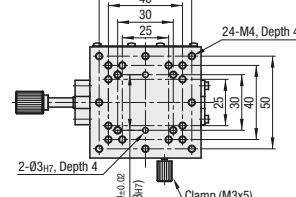
Features: Low profile Dovetail Slide Stages with smooth 4.2mm lead feeding. Easy XY integration with dowel holes. See P.1900 for Rectangular type.

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

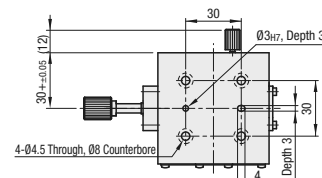
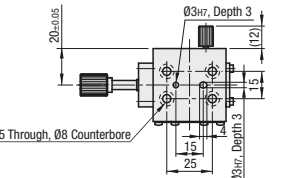
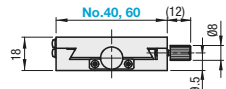
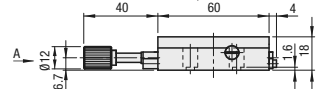
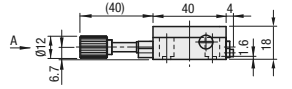
XSC40



XSC60



(Arrow View A)



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

RoHS

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.)	Unit Price
						Horizontal	Vertical	Straightness	Parallelism			
XSC	40	60	40x40	±11	4.2	19.6	9.8	20μm	30μm	0.10	SCB4-5	
			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

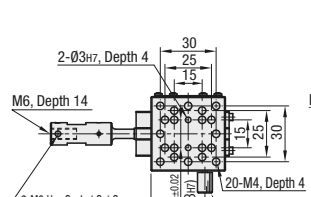
Alteration	Knob Position Change (Left/Right Reversed)
Spec.	
Code	R

See the CAD data for details.

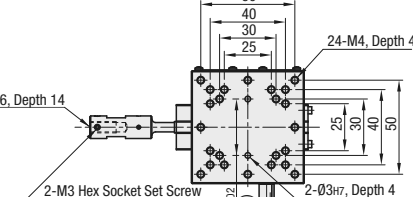
Features: Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine.

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

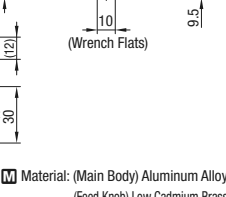
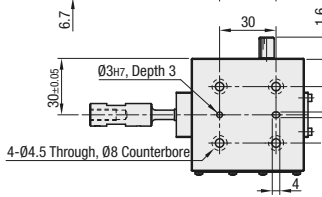
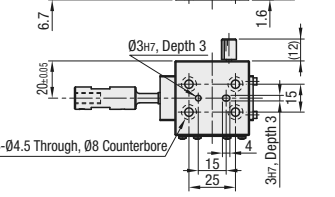
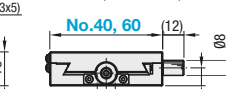
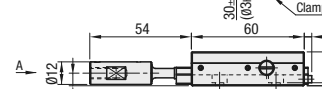
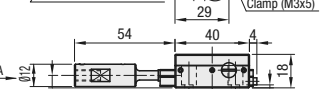
XSCL40



XSCL60



(Arrow View A)



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

RoHS

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.)	Unit Price
						Horizontal	Vertical	Straightness	Parallelism			
XSCL	40	60	40x40	±11	4.2	19.6	9.8	20μm	30μm	0.10	SCB4-6	
			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.

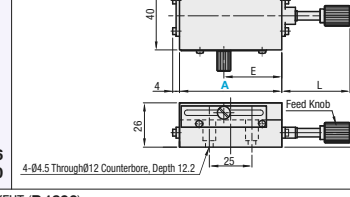
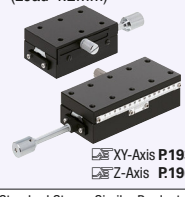
# [High Precision] Dovetail Slide, Feed Screw

## 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)

XSL

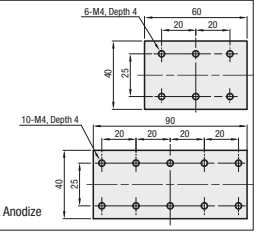


Upper Mounting Hole Dimensions

A60

A90

Material: Aluminum Alloy  
Surface Treatment: Black Anodize



Standard Stages Similar Products: XFHT (P.1896)

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

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

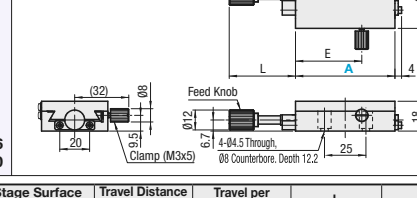
Alteration	Clamp Position Change (Right/Left Reversed)
Spec.	
Code	R

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)

XSLC

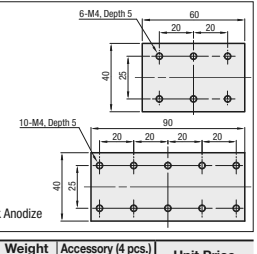


Upper Mounting Hole Dimensions

A60

A90

Material: Aluminum Alloy  
Surface Treatment: Black Anodize



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

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

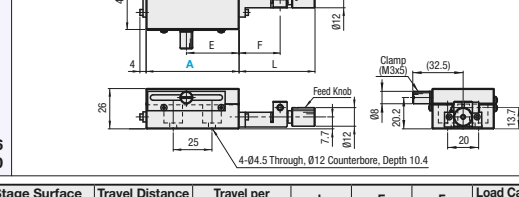
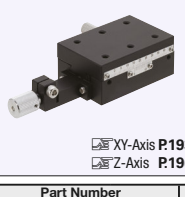
Alteration	Knob Position Change (Left/Right Reversed)
Spec.	
Code	R

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)

XSLCL

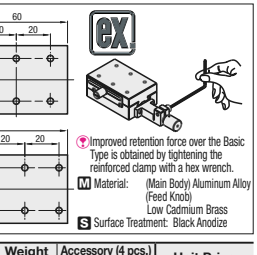


Upper Mounting Hole Dimensions

A60

A90

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



Part Number	Type	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L	E	F	Load Capacity (N)		Travel Accuracy		Weight (kg)	Accessory (4 pcs.)	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	

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

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

See the CAD data for details.

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)

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

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

**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

Resolution (Vernier Scale Indication): 0.1mm/division  
Extension Cover HDXTR12 (Sold Separately): Ø12 feed screw knob can be extended. P2004  
Adjustable Plate XPLT40: Use this plate when connecting stages with non-matching mounting holes. P1915

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

Resolution (Vernier Scale Indication): 0.1mm/division  
Knob Cover HDXTR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P2004  
Adjustable Plate XPLT40: 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

Part Number Type	A (mm)	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L (mm)	E (mm)	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 SCB3-6	4	
	50	24.8x50	±16		40	29								0.12
	100	24.8x100	±40		60	54								

Resolution (Vernier Scale Indication): 0.1mm/division  
Extension Cover HDXTR12 (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

**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

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy (µm)		Weight (kg)	Accessory		Unit Price
					Horizontal	Vertical	Straightness	Parallelism		Type M-L	Qty.	
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 HDXTR12 (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: Part Number - (R) XSSLC40 - R

Alteration: 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**

Part numbers (in yellow): Not RoHS Compliant  
Travel per Rotation: approx. 19mm

**XKRG** **XKRKG**

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

\* XKRG40/60 counterbored holes are not available for use since they are covered by the table plate. (For XY mounting)

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

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

Ordering Example: Part Number XKRG60



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

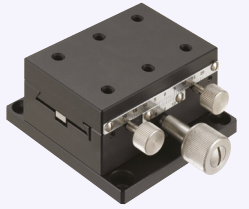
## Rectangular, Low Profile

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

P.1903, 1904

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

**X-Axis**



XY-Axis P.1938  
Z-Axis P.1953

RoHS

**X-axis Stages**

Low Profile Type: XDTSC (P.1903)  
High Precision Stage Existing Product: XWG (P.1904)

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				
XDTSC	50	30x50	±16	16.7	29.4	14.7	30	50µm	0.20	
	60	40x60	±21		39.2	19.6	60		0.26	
	90	40x90	±35			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. P.2004

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

**X-axis Stages**


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				
XWG	40	24.8x42	±12	18	29.4	14.7	30	30µm	0.17	
	60	40x60	±21		39.2	19.6	60		0.29	
	90	40x90	±35			70	0.40			
	140	40x140	±60			140	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. P.2004

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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

**X-Axis Low Profile**



XY-Axis P.1938  
Z-Axis P.1953

RoHS

**X-axis Stages**

Standard Type: XDTSC (P.1903)

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				
XDTSC	50	50x30	±15	16.7	19.6	9.8	10	50µm	0.17	
	60	60x40	±20		29.4	14.7	20		0.21	
	90	90x40	±35			40	0.28			

See the CAD data for details.  
Please note that the mounting plate and the feed knob may interfere when the bottom plate is removed for use.

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

**X-axis Stages**

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				
XDTSC	50	50x30	±15	16.7	19.6	9.8	10	50µm	0.17	
	60	60x40	±20		29.4	14.7	20		0.21	
	90	90x40	±35			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. P.2004


Material: Aluminum Alloy  
Surface Treatment: Black Anodize

# [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 P.1911)

**X-Axis, Rectangular**



XY-Axis P.1939  
Z-Axis P.1954

RoHS

**X-axis Stages**

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

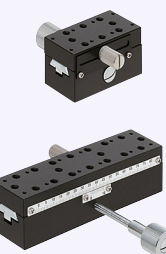
Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy Straightness	Weight (kg)	Unit Price
					Horizontal	Vertical			
XWG	40	24.8x42	±12	18	29.4	14.7	30µm	0.17	
	60	40x60	±21		39.2	19.6		0.29	
	90	40x90	±35			70		0.40	
	140	40x140	±60			140		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. P.2004

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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

**X-Axis, Compact Carriage**



XY-Axis P.1939  
Z-Axis P.1954

RoHS

**X-axis Stages**

Standard Type: XDTSC (P.1903)

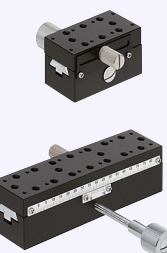
Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Max. Holding Force (N) (Ref.)	Travel Accuracy Straightness	Weight (kg)	Unit Price
					Horizontal	Vertical				
XSP	50	50x24.8	±16	18	29.4	14.7	10	30µm	0.13	
	60	60x24.8	±20		39.2	19.6	20		0.24	
	90	90x24.8	±35			40	0.35			

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

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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

**X-Axis, Compact Carriage**



XY-Axis P.1939  
Z-Axis P.1954

RoHS

**X-axis Stages**

Standard Type: XDTSC (P.1903)

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				
XSP	50	50x24.8	±16	18	29.4	14.7	10	30µm	0.13	
	60	60x24.8	±20		39.2	19.6	20		0.24	
	90	90x24.8	±35			40	0.35			

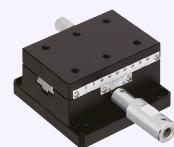
Resolution (Vernier Scale Indication): 0.1mm/division  
Knob Cover HDCVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. P.2004  
Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P.1915

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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

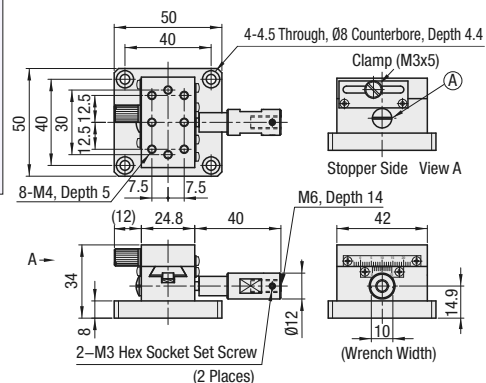
Features: Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine. Other types of knobs are also installable.

## X-Axis, Knob Extension

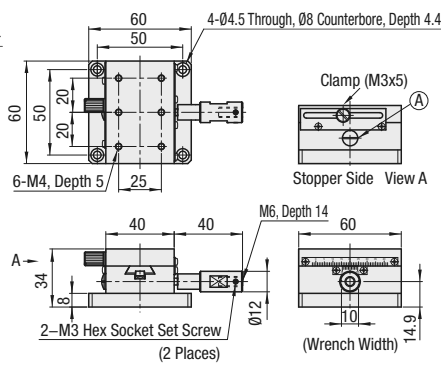


RoHS

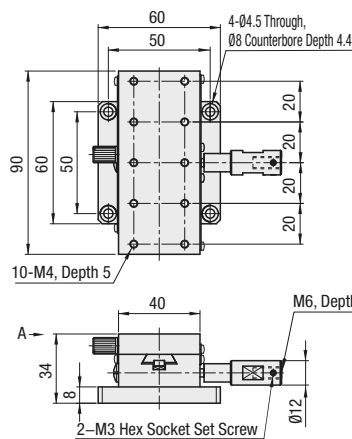
### XWGL40



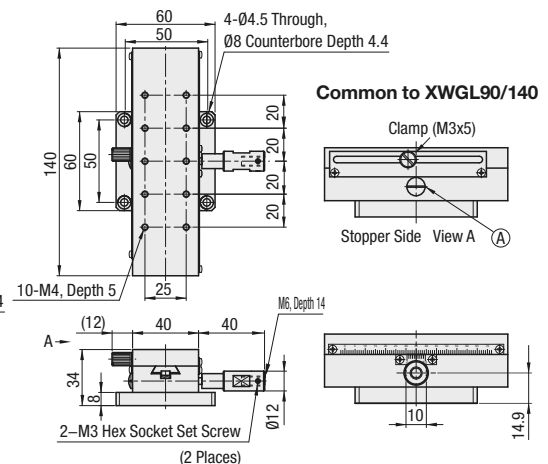
### XWGL60



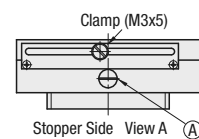
### XWGL90



### XWGL140



Common to XWGL90/140



\* 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

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

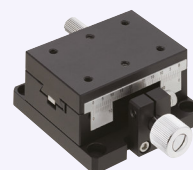
Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example Part Number XWGL40

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

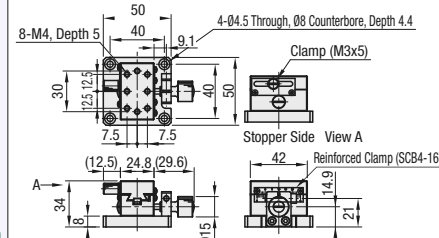
Features: Feed knob shaft is directly clamped for improved position holding performance compared to the rectangular type XWG (P.1904)

## X-Axis, Reinforced Clamp

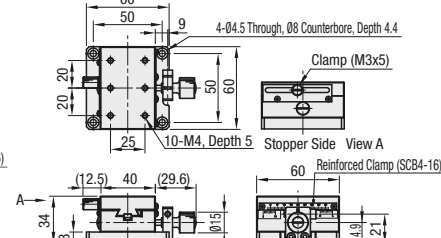


RoHS

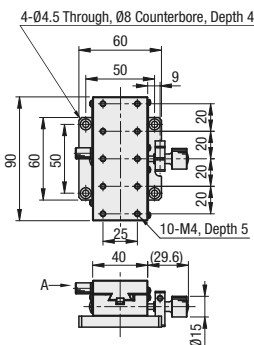
### XWGCL40



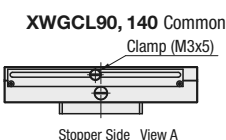
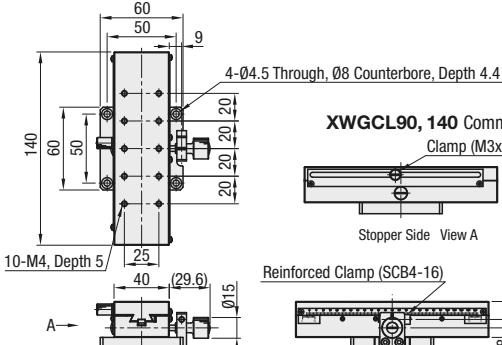
### XWGCL60



### XWGCL90



### XWGCL140

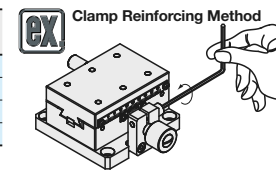


M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize

Part Number	Type	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy		Weight (kg)	Unit Price
					Horizontal	Vertical	Straightness	Parallelism		
XWGCL		40	24.8x42	±12	18	29.4	14.7	20µm	30µm	0.17
		60	40x60	±21		39.2	19.6	30µm		0.29
		90	40x90	±35		0.40				
		140	40x140	±60		0.56				

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

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.

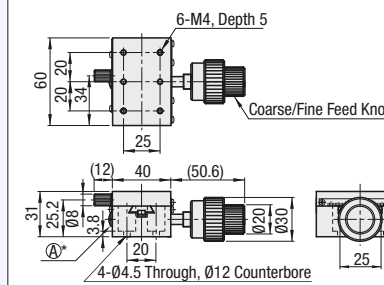
Features: Suitable for use when both fast feeding and ease of fine adjustments are required. Please note that the coarse/fine feed knob protrudes from the bottom surface.

## X-Axis, Coarse/Fine Feeds

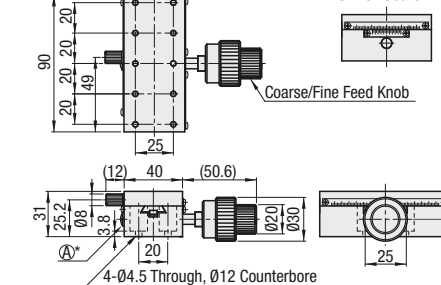


RoHS

### XSB60



### XSB90



\* 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

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
					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									

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. P.1915

Ordering Example Part Number XSB60

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





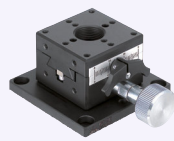




# [High Precision] X-Axis Dovetail Slide, Rack & Pinion Square, Coarse/Fine Feeds

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

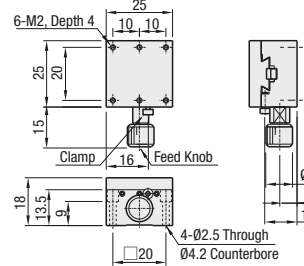
## ■ X-Axis, Square



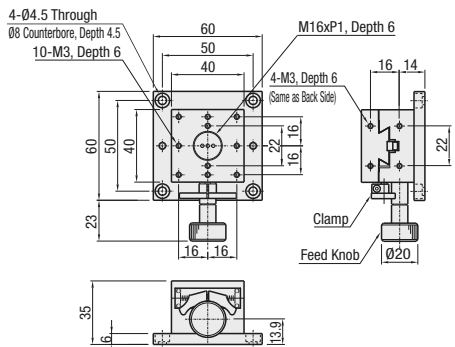
XY-Axis P1940  
Z-Axis P1957

RoHS

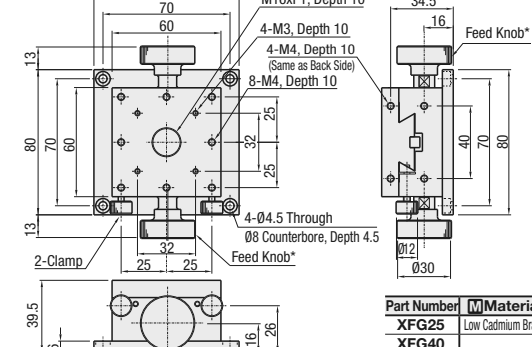
## XFG25



## XFG40



## XFG60\*



Part Number	Material	Surface Treatment
XFG25	Low Cadmium Brass	Black Fluororesin Treatment
XFG40	Aluminum Alloy	Black Anodize
XFG60	Aluminum Alloy	Black Anodize

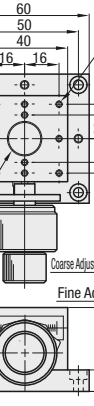
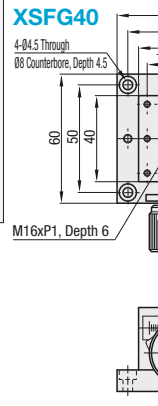
\* The feed knob for XFG60 can be operated from either side.

■ **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



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)			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	-	29.4	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

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

Ordering Example  
Part Number  
XFG40  
XSFG60

Alteration	Part Number	Material
No Bottom Plate	XSG40 - M	XSG40 - M
	XSG60 - M	XSG60 - M

See the CAD data for details.

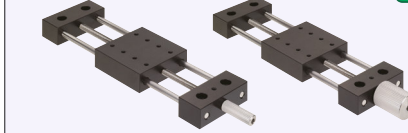
Alteration	Spec.	Code
No Bottom Plate	XFG40, XSFG40 4-Ø3.5 Through (From Back), Ø6 Counterbore, Depth 10 (M3 Screw Hole) XFG60, XSFG60 2-Ø4.5 Through (From Back), Ø8 Counterbore, Depth 6 (M4 Screw Hole)	M

Not applicable to XFG25.  
The feed knobs will interfere with the mating bases.

# [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

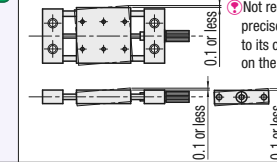


XY-Axis P1941

Travel per Rotation: 3.0mm

RoHS

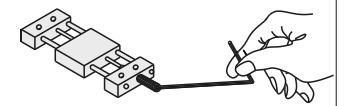
## ■ Accuracy Standards



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
	Standard Handle	Large Handle	Material	Surface Treatment	Material	Material	Material	
M4 Mounting Hole	XKS	XKSL	Aluminum Alloy	Black Anodize	EN 1.4301	EN 1.4305	EN 1.4301	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)

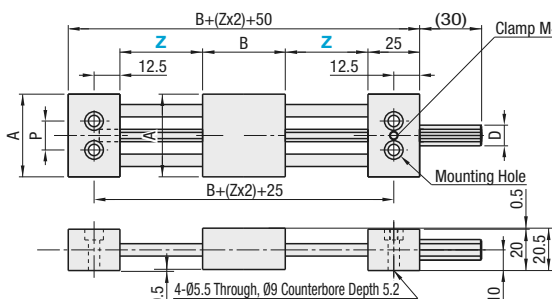
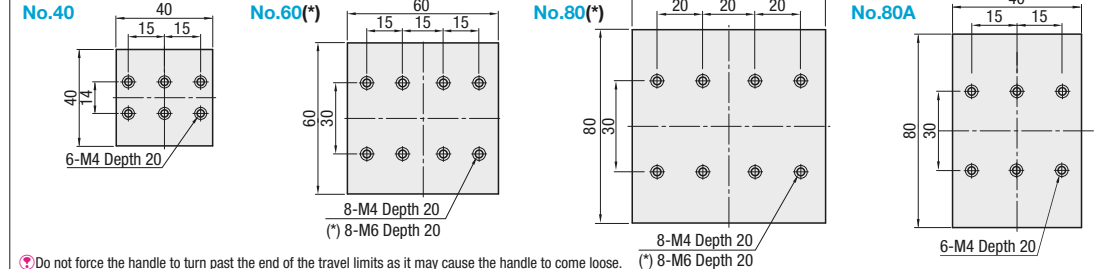


Table surfaces and bottoms are 0.5mm higher than the end mounts.

## ■ Stage Top Mounting Hole Dimensions



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 Travel Distance (Zx2)	Stage A-B (mm)	D	P	Load Capacity (N)	Unit Price			
							XKS	XKSM	XKSL	XKSML
XKS XKSL	40	25	40x40	10 (Standard Handle) 24 (Large Handle)	14	68.6				
		40	58.8							
		50	68.6							
	60	25	60x60			58.8				
		40	63.7							
		50	53.9							
XKSM XKSML	80A	25	80x80	30	68.6					
		40	58.6							
		50	68.6							
	80	25	60x60		58.8					
		40	58.8							
		50	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

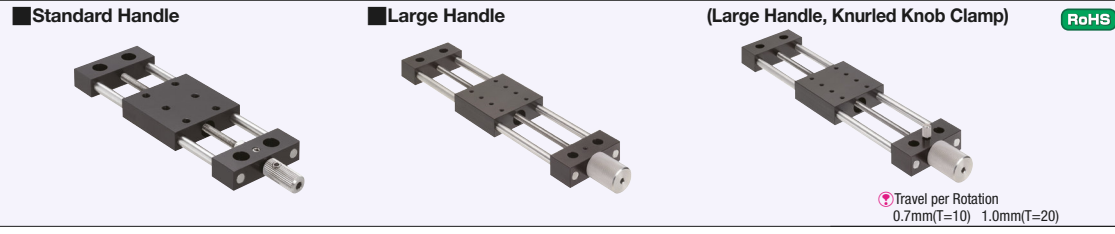
Alterations  
Part Number  
XKSM80  
Z Selection  
Z50  
Material  
MMR

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.

# [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.

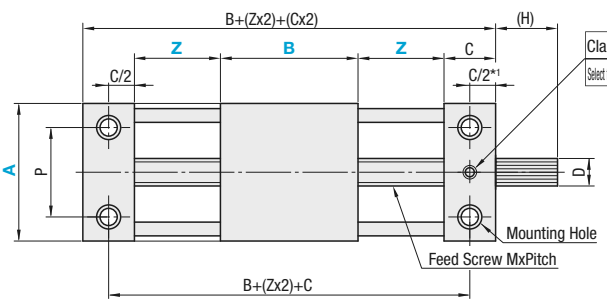


Travel per Rotation  
0.7mm(T=10) 1.0mm(T=20)

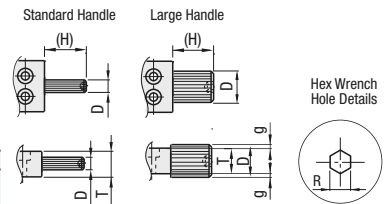
Type	Main Body		Shaft	Knob	Feed Screw	Accessory		
	Material	Surface Treatment						
M4 Mounting Hole	XKNEF	XKFL	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	T=10 SCB4-10, 4 pcs. T=20 SCB5-20, 4 pcs.
M6 Mounting Holes	XKFM	XKFML	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	T=10 SCB4-10, 4 pcs. T=20 SCB5-20, 4 pcs.

- 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.

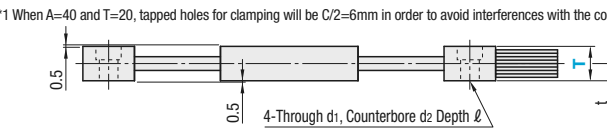
XKNEF (Standard Handle, M4 Mounting Holes) XKFL (Large Handle, M4 Mounting Holes)  
XKFM (Standard Handle, M6 Mounting Holes) XKFML (Large Handle, M6 Mounting Holes)



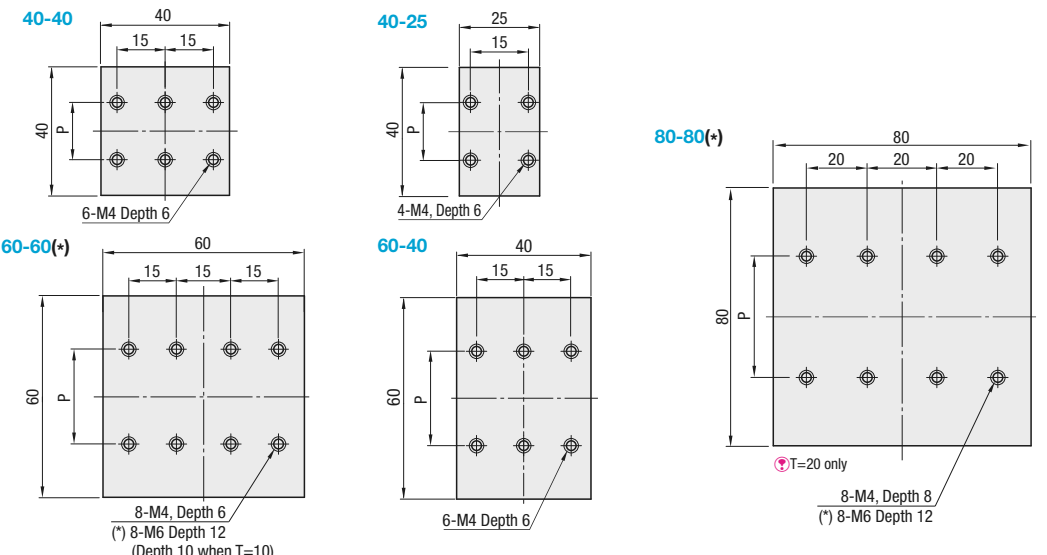
### Handle Shape Comparisons



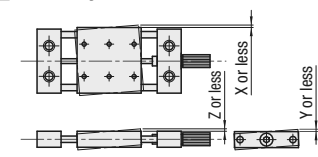
Clamp Selection  
S (Standard Set Screw) K (Knurled Knob)



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



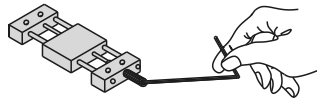
### Accuracy Standards



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

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

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



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

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

Ordering Example: 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											
		Z		Z		Z		Z									
		10	15	25	30	40	50	60	70	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

Example: 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.

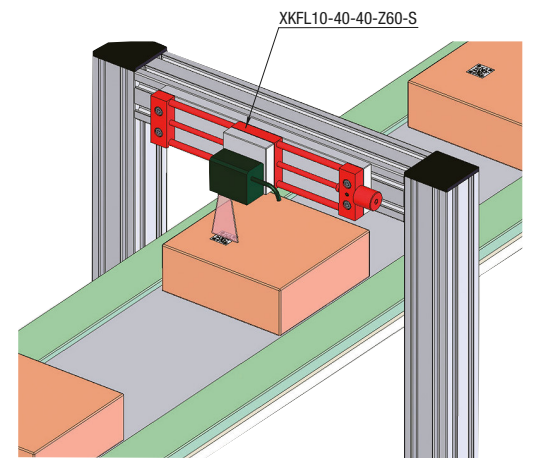
Spec.:

T	A	P2
10	40	18
	60	30
	40	14
20	60	30
	80	30

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

Material: Aluminum Alloy  
 Surface Treatment: Black Anodize  
 Accessory: CBSST4-8 x 4 pcs.

Code: MMR



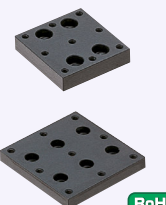


# Adjustable Plates for XY-Axis Stages

# [High Precision] X-Axis Cross Roller / Linear Guide Long Stroke

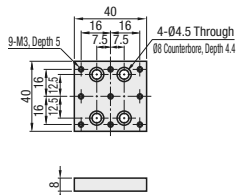
■Features: Offers a square mounting surface by attaching on top of a rectangular stage.

■Adjustable Plate

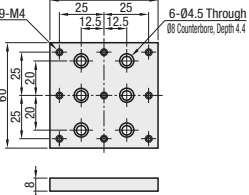


RoHS

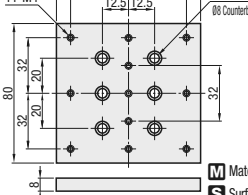
**XPLT40**



**XPLT60**



**XPLT80**



M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize

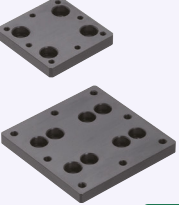
✦Please see Plate/Stage Compatibility Chart on P.1916 for compatible stages.

Part Number	Unit Price
Type	No. 1 - 10 pcs.
XPLT	40
	60
	80

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

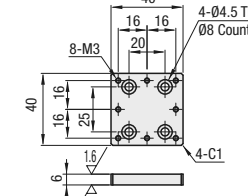
■Features: XY mounting plates that can be used for combinations of rapid feed stage (bottom) and fine feed stage (top). Convenient when feeding the X in rapid, Y in fine modes.

■Adjustable Plates for XY-Axis Stages

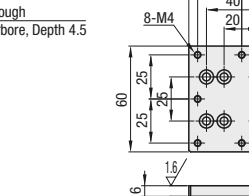


RoHS

**XPLTE40**



**XPLTE60**



M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize


✦Please see Plate/Stage Compatibility Chart on P.1916 for compatible stages.

Part Number	Unit Price
Type	No. 1 - 10 pcs.
XPLTE	40
	60

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

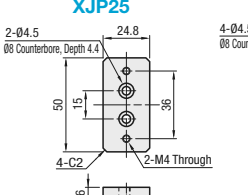
■Features: Joint plates for combining two stages. Reversed knob types and different feed systems can be combined.

■XY-Axis Joint Plates

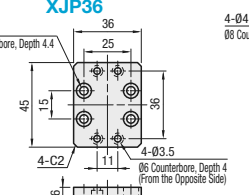


RoHS

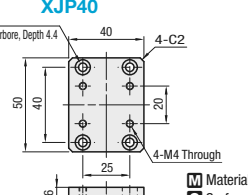
**XJP25**



**XJP36**



**XJP40**



M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize


✦Please see Plate/Stage Compatibility Chart on P.1916 for compatible stages.

Part Number	Accessory	Unit Price
Type	No. Type M-L	1 - 10 pcs.
XJP	25 SCB4-6 (4 pcs.)	
	36 SCB4-6 (4 pcs.) SCB3-6 (4 pcs.)	
	40 SCB4-6 (8 pcs.)	

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

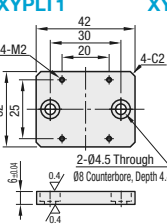
■Features: Plates for assembling Long Stroke Stages. Utilize in 2-axis configurations.

■Adjustable Plates for XY-Axis Stages

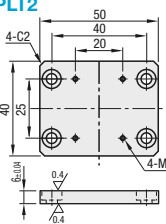


RoHS

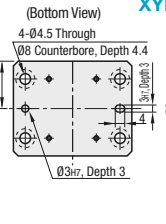
**XYPLT1**



**XYPLT2**



**XYPLT3**



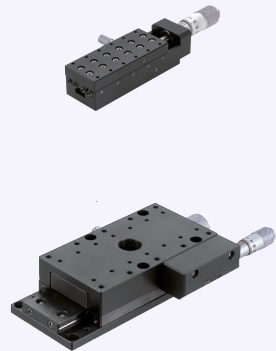
M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize

Part Number	Applicable Stage	Unit Price	Volume Discount Rate
Type	No. Stage (Bottom) Stage (Top)	1 - 2 pcs.	3 - 10 pcs.
XYPLT	1 XLWG, XLSL XLWG, XLSL		
	2 XLONG(P.1909) XLWG, XLSL		
	3 XLONG(P.1909) XLONG(P.1909)		

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

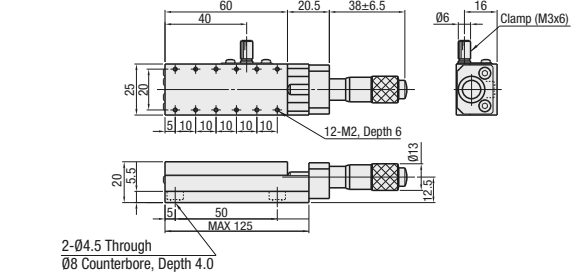
■Features: High precision long stroke stages with Cross Roller Guides. The XLP60 has two knobs enabling Coarse Feed (3mm/rev.) and Fine Feed (0.5mm/rev.).

■X-Axis, Long Stroke

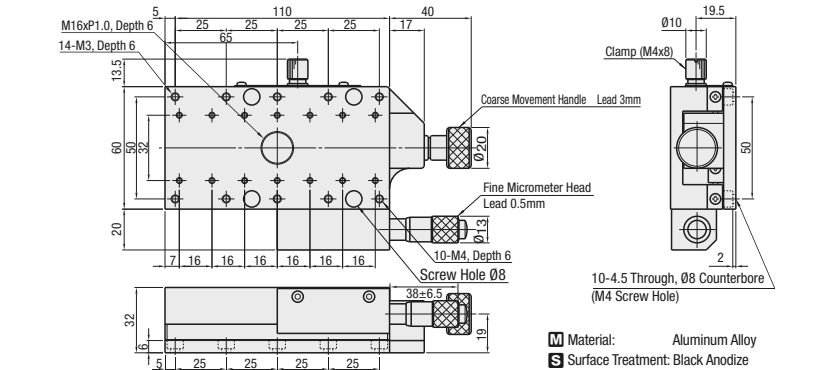


RoHS

**XLP25**



**XLP60**



M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize  
A Accessory: SBCB4-6 XLP25 (2 pcs.) XLP60 (10 pcs.)

Part Number	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)			Moment Rigidity (N/cm)			Parallelism	Weight (kg)	Unit Price
				Horizontal	Straightness	Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing			
XLP25	25	25x60	±6.5mm	19.6	3μm	10μm	25"	15"	3.8	3.2	1.5	0.19	0.19	1.38	30μm	0.1
	60	60x110	* Coarse Feed ±20mm Fine Feed ±6.5 mm	78.4					8.1	7.0	5.3	0.02	0.03	0.07		

✦Resolution (Micrometer Head): 10μm/division. \* XLP60 max. stroke is 53mm.


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

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

Ordering Example	Part Number
XLP25	XLP25

Alterations	Part Number
XLP25 - R	XLP25 - R

Alteration: Clamp Position Change (Right/Left Reversed)

Spec.	Code
	R

✦See the CAD data for details.

## Plate/Stage Compatibility Chart

Part Number	Top Face Size (mm)	Applicable Stage			
		XWG	XSL	XSLC	XSP
XPLT	40	XWG40(P.1904), XWG60(P.1939), ZWG40(P.1954), XLWG(P.1908), ZLWG(P.1956), XLSL(P.1901), ZLSL(P.1959), XSSL(P.1901), XSSL(P.1902), XSP(P.1904), REG40, 60(P.1981)			
	60	XWG60, 90, 140(P.1904), XWG60, 90, 140(P.1939), ZWG60, 90, 140(P.1954), XSL(P.1900), XSLC(P.1900), XSB(P.1906), REG60(P.1981)			
	80				

## Compatible Stages

Bottom	Top	XSSL	XSSL	XSL	XSLC	XSP
		XSSL	XSSL	XSL	XSLC	XSP
XSSL, XSSL		XJP36	-	-	XJP25	
XSL, XSLC(P.1900), XSB(P.1906)		-	XJP40	-	-	
XSP(P.1904)		XJP36	-	XJP25	-	
XWG40(P.1904)		XJP36	-	XJP25	-	
XWG60,90(P.1904)		-	XJP40	-	-	

Applicable Stage (Compatible) Lower Stage	Applicable Stage (Compatible) Upper Stage	Applicable Plate			
			Type	No.	Part Number
XWG	XFG40-M(P.1911), XEG40(P.1897), XEEG40(P.1897), XSG40(P.1921-), XCRS40(P.1917), XPG40(P.1918-), XFES40(P.1896), XLBS40(P.1920)	XPLTE40		60	
				90	
				140	
				4060*2	
XSL	XEEG60(P.1897), XEEG60(P.1897), XSG60(P.1921-), XCRS60(P.1917), XPG60(P.1918-), XFES60(P.1896), XLBS60(P.1920)	XPLTE60		4060*2	
				4090*2	

✦No.140 is not available for \*1 marked types.  
✦Types with \*2 are available for XFHT only.





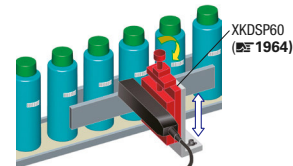
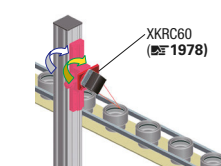
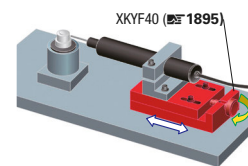
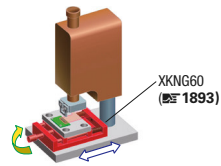
# App. Example List

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

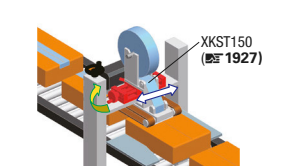
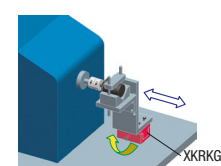
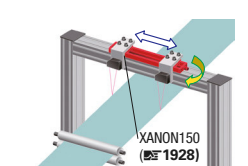
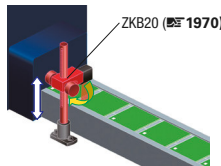
**Simplified Adjustment App. Examples:** Simplified Adjustment is suitable for the positioning operation that does not require high accuracy. This Simplified Adjustment type includes a product having capability of tightly clamping workpieces once positioning is completed and a product equipped with a 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

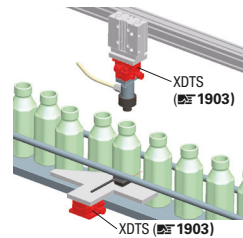


- Fast and long feed mechanism in vertical direction
- Position adjustment by open/close mechanism
- Large and fast feed mechanism
- Provides linear adjustment to heavy workpieces

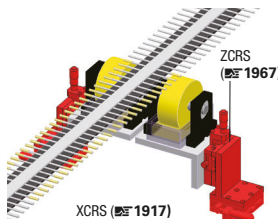


**Standard Stages Examples :** Suitable for applications requiring approx. 30~50µm motion positioning accuracy and repeatability.

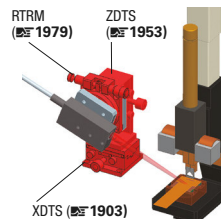
Positioning of Leak Inspection Instrument of Plastic Bottles



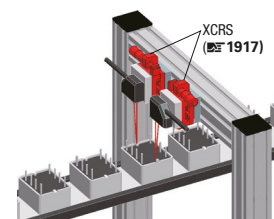
Positioning for Adhesive Application to Cotton Swabs



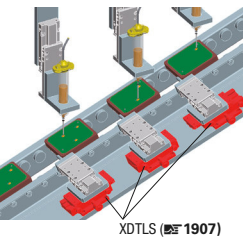
Positioning of Temperature Sensor for Camera Module Thermocompression



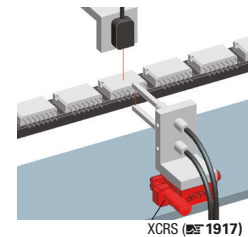
Positioning of Swage Detection Sensor for Converter



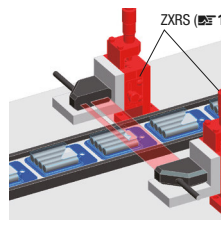
Positioning of Cylinder Stopper for Adhesive Application Device



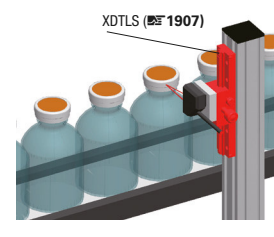
Sensor Positioning for Detecting Defects of Connector Terminal Press Fitting



Positioning of Labeling Defects Detection Sensor



Positioning of Shrink Package Inspection Device



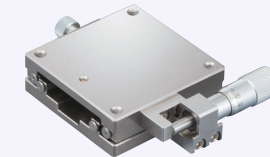
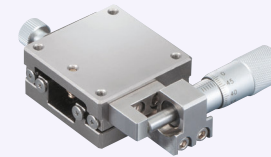
# [Standard] X-Axis, Linear Ball Slide Micrometer Head

P.1921

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

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

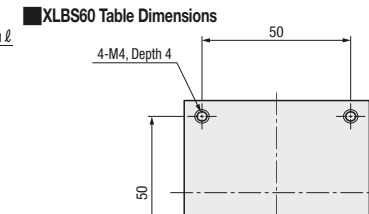
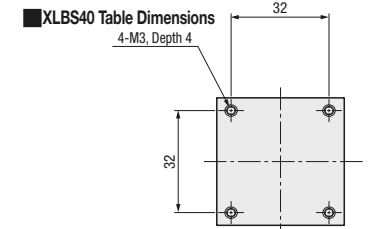
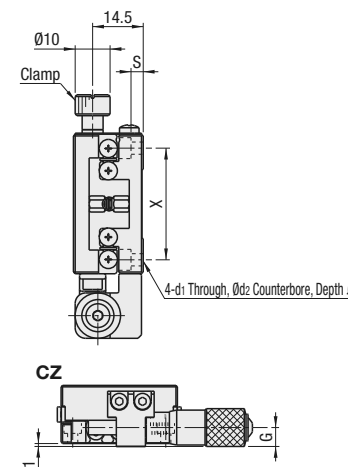
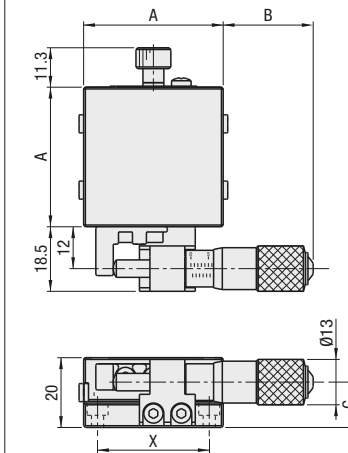
X-Axis



XY-Axis P.1942  
Z-Axis P.1965

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	G		X	S	d <sub>1</sub>	d <sub>2</sub>	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

XY-Axis: P1946  
Z-Axis: P1966

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

### Micrometer Heads

**XSG**  
(25≤A<100)  
**XSGB** (LTBC Plating)  
(A=25,40,60,80)

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

4-d1 Through  
d2 Counterbore, Depth l

### Feed Screws

**XSCG**  
(Lead 0.5)  
(25≤A<100)  
**XSBG** (Lead 1.0)  
(40≤A<100)  
**XSCGB** (LTBC Plating, Lead 0.5)  
(A=25,40,60,80)

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

4-d1 Through  
d2 Counterbore, Depth l

\*A=25 will be Ø7.

### Digital Micrometer Heads

**XSDG\***  
(40≤A<100)

Clamp (M3x5)

4-d1 Through  
d2 Counterbore, Depth l

\*Ratchet function is not available.

### Coarse/Fine Micrometer Heads

**XSKG**  
(40≤A<80)

Clamp (M3x5)

4-d1 Through  
d2 Counterbore, Depth l

### Shapes of Feed Brackets

A25, A80, A100

### Mounting Hole Dimensions of the Top Table

\*Tolerance for the centrally located bores for low temp. black chromed XSGB and XSCGB is H<sub>8</sub>. (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									
XSGB	LTBC Plating								
XSCGB									

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

See the CAD data for details.

### Micrometer Head (XSG, XSGB) / 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.)	
	A	(B) Micrometer Feed Screw	E	F	J	K	D	G	T	T <sub>1</sub>	P	Q	X	d <sub>1</sub>	d <sub>2</sub>	l	Type M-L	
XSG	25*	25	11	7	9	6.8	15	9.3	7	12	3.7	6	8.5	20	2.5	4.2	2.5	SCB2-4
XSCG	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
XSBG	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
XSGB (* only)	60*	13.5	10	12	18.5	11.3	36	13	8.9	16	5	10	10.5	50	4.5	8	4	SCB4-6
XSCGB (* only)	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
XSGB (* only)	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
XSCGB (* only)	100	28.5	-5*	17	22*	11.3	67.5	18	10.8	20	6.5	10	14.5	90	4.5	8	5.3	SCB4-6

(\*1) Stroke of XSCG80/100, XSBG80/100, XSCGB80 is ±5.5mm. (\*2) Ends of feed screw knob are at 5mm inside of the carriage edges for XSCG and XSBG. (\*3) When dimension A of Feed Screw Type XSCG, XSBG, XSCGB is 80 or 100, F will be 20.

### Performance

Part Number	Type	Stage Surface	Load Capacity (N)		Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (N/cm)			Parallelism	Weight (kg)		Unit Price				
			Horizontal	Vertical	Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing		Rolling	Micrometer	Feed Screw	XSG	XSCG	XSBG	XSCGB
XSG	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	-	-	-	-
XSCG	40*	40x40	98	24	1µm	7µm	25"	15"	5.0	5.0	5.0	0.42	0.35	0.21	15µm	0.23	0.23	-	-	-	-
XSBG	50	50x50	147	49	1µm	7µm	25"	15"	6.8	6.8	6.0	0.15	0.14	0.09	15µm	0.28	0.28	-	-	-	-
XSGB (* only)	60*	60x60	196	65	1µm	7µm	25"	15"	10.0	10.0	9.0	0.08	0.08	0.05	15µm	0.40	0.40	-	-	-	-
XSCGB (* only)	70	70x70	225.4	74	1µm	7µm	25"	15"	13.8	13.8	12.9	0.06	0.05	0.03	15µm	0.58	0.58	-	-	-	-
XSGB (* only)	80*	80x80	264.6	83	1µm	7µm	25"	15"	18.2	18.2	17.7	0.04	0.04	0.02	20µm	0.90	0.84	-	-	-	-
XSCGB (* only)	100	100x100	343	107	3µm	8µm	25"	15"	31.8	31.8	30.7	0.02	0.02	0.01	20µm	1.33	1.27	-	-	-	-

XSG, XSGB 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.)
	A	(B) XSDG XSKG	E	F	K	G	T	T <sub>1</sub>	Q	X	d <sub>1</sub>	d <sub>2</sub>	l	Type M-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		
XSDG	50	116.5	55	16	18.5	31	11.6	16	4.5	10.5	40	3.5	6	3.5	SCB3-6		
XSDG	60	111.5	50	16	18.5	36	11.6	16	5	10.5	50	4.5	8	4	SCB4-6		
XSKG	70	112	50.5	16	18.5	46.5	12.5	18	6	11.5	60	4.5	8	4.5	SCB4-6		
XSKG	80	104	49.5	17	25	55	11	20	6.5	14.5	70	4.5	8	5.3	SCB4-6		
XSKG	100	89	±12.5	-	-	67.5	-	20	6.5	14.5	90	4.5	8	5.3	SCB4-6		

### Performance

Part Number	Type	Stage Surface	Load Capacity (N)		Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (N/cm)			Parallelism	Weight (kg)		Unit Price				
			Horizontal	Vertical	Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing		Rolling	XSDG	XSKG	XSDG	XSKG		
XSDG	40	40x40	98	24	1µm	7µm	25"	15"	5.0	5.0	5.0	0.42	0.35	0.21	15µm	0.43	0.30	-	-	-	-
XSDG	50	50x50	147	49	1µm	7µm	25"	15"	6.8	6.8	6.0	0.15	0.14	0.09	15µm	0.48	0.35	-	-	-	-
XSDG	60	60x60	196	65	1µm	7µm	25"	15"	10.0	10.0	9.0	0.08	0.08	0.05	15µm	0.60	0.47	-	-	-	-
XSKG	70	70x70	225.4	74	1µm	7µm	25"	15"	13.8	13.8	12.9	0.06	0.05	0.03	15µm	0.78	0.65	-	-	-	-
XSKG	80	80x80	264.6	83	1µm	7µm	25"	15"	18.2	18.2	17.7	0.04	0.04	0.02	20µm	1.10	0.97	-	-	-	-
XSKG	100	100x100	343	107	3µm	8µm	25"	15"	31.8	31.8	30.7	0.02	0.02	0.01	20µm	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: XSG80

Alterations: Part Number - (CR, CZ, A... etc.)  
 XSG60 - MN  
 XSG80 - CR-P  
 XSG40 - 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	
Spec.						
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.

NG: Standard, CR, A STOP!!

OK: CZ, Standard, CR, A

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.



# [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.

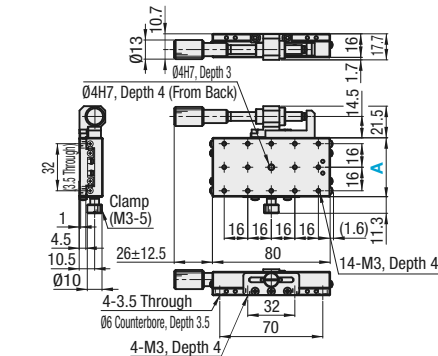
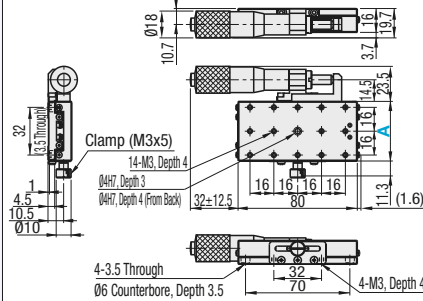
■ X-Axis, High Load Capacity, Compact Carriage

■ Micrometer Head

■ Feed Screw

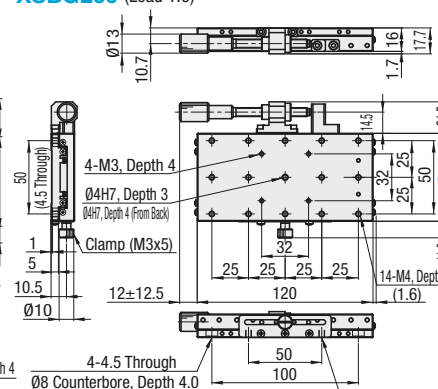
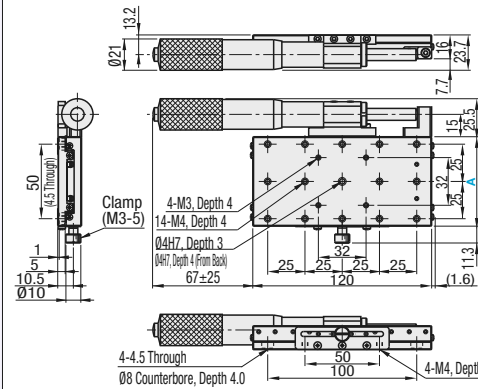
**XSGL40**

**XSBGL40** (Lead 1.0)



**XSGL60**

**XSBGL60** (Lead 1.0)



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

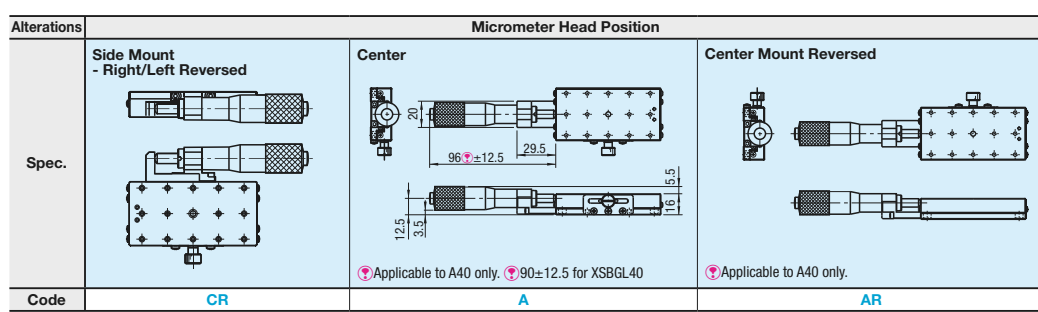
⚠ For Micrometer Head and Feed Screw materials, see P.2005 and P.2006.

Part Number	Type	Stage Surface Distance (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Weight (kg)	Accessory (4 pcs.)	Unit Price		
					Horizontal	Vertical	Straightness	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			Pitching	Yawing	Rolling
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	
XSBGL	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 (XSBGL) stroke is ±12.5.
- ⚠ Knob Cover HDCVR13 (Sold Separately): Ø13 feed screw can be increased in diameter by installing the cover. P.2004
- ⚠ Extension Cover HDEXT13 (Sold Separately): Ø13 feed screw knob can be extended. P.2004
- ⚠ Cautions for Z-Axis Mounting P.1891

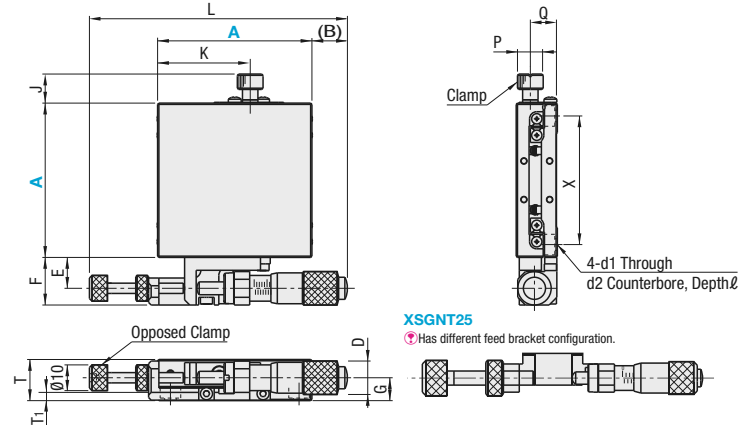
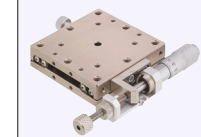
Ordering Example  
Part Number  
**XSGL40**  
**XSBGL60**

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



■ 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

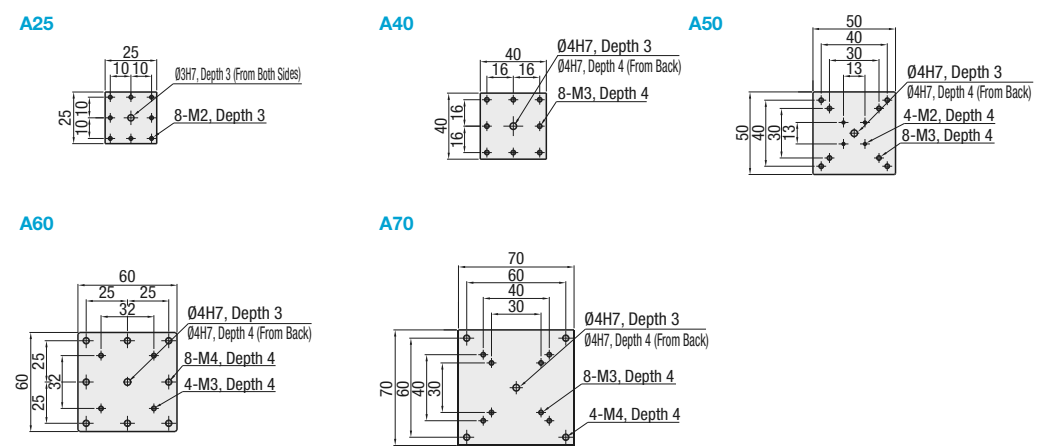


XY-Axis P.1950 RoHS

- \* Bracket material will be different when A=25.
- ⚠ For micrometer head and opposed clamp materials, see Adjust Screws ANKSS on P.1713.
- ⚠ 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
	Material	Surface Treatment	Material	Hardness	Material
XSGNT	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB
					EN AW-5052 Equiv.
					EN 1.4305 Equiv.*
					Clear Anodize
					EN 1.4305 Equiv.

### Mounting Hole Dimensions of the Top Table



Part Number	Top View						Front View				Side View						Accessory (4 pcs.)	
	Type	A	(B)	E	F	J	K	L	D	G	T	T <sub>1</sub>	P	Q	X	d <sub>1</sub>		d <sub>2</sub>
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				26								32	3.5	6	3.5	SCB3-6
	50	18.8	12	18.5	11.3	31	100.3	13	8.9	16	4.5	10	10.5	40				
	60	13.8				36					5			50	4.5	8	4	SCB4-6
	70	14.3				46.5					10	18	6	11.5	60		4.5	

Part Number	Type	Stage Surface	Travel Distance	Load Capacity (N)			Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Parallelism	Weight (kg)	Unit Price
				Horizontal	Vertical	Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
XSGNT	25	25x25	±3.2	39.2	9.8	3µm	10µm	30"	25"	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		147						6.8	6.8	6.0	0.15	0.14	0.09		0.28	
	60	60x60	±6.5	196	49	1µm	7µm	25"	15"	10.0	10.0	9.0	0.08	0.08	0.05	15µm	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. P.2004
- ⚠ Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

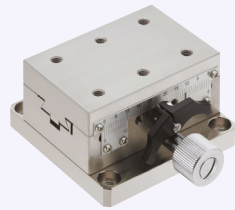
Ordering Example  
Part Number  
**XSGNT60**

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

## Rectangular, Steel, High Load Capacity

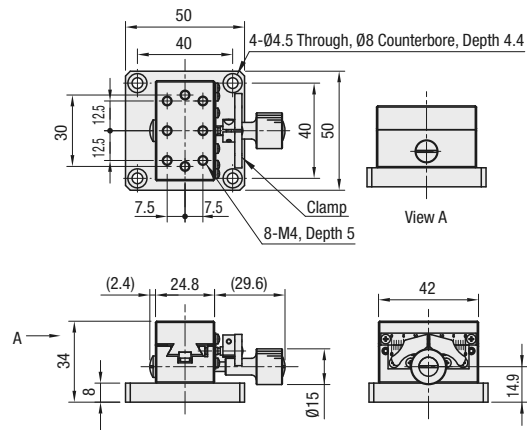
■ Features: XWGSR stages are made of steel, with higher horizontal load capacities and impact resistance compared to the XWG Series (P.1904).

### ■ X-Axis, High Load Capacity

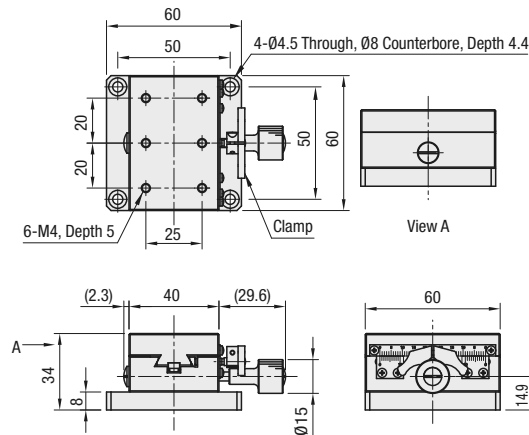


RoHS

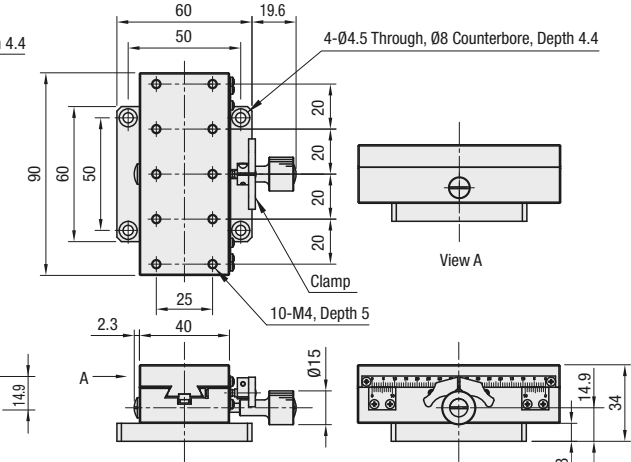
### XWGSR40



### XWGSR60



### XWGSR90



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

Part Number	Stage Surface	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.)	Unit Price
					Pitching	Yawing	Rolling	Straightness	Motion Parallelism				
XWGSR	40	24.8x40	±12	18	98	5.0	3.3	2.6	30	40	50µm	SCB4-10	
	60	40x60	±21		196	15.0	7.8	10.4					
	90	40x90	±35		294	27.5	16.5	28.6					

⊕ 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

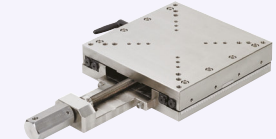
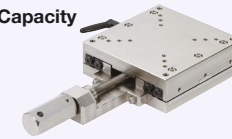
Ordering Example **Part Number**  
**XWGSR40**

# [High Precision] X-Axis Cross Roller

## Steel, High Load Capacity

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

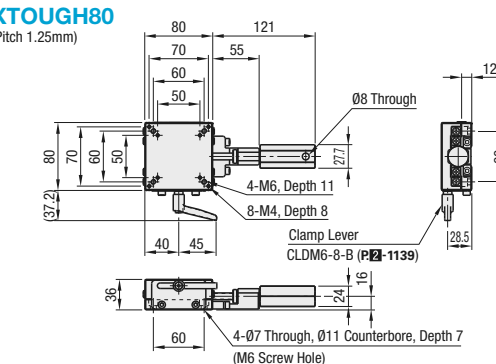
### ■ X-Axis, High Load Capacity



RoHS

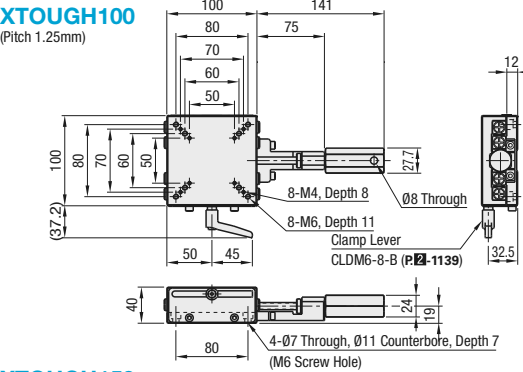
### XTOUGH80

(Pitch 1.25mm)



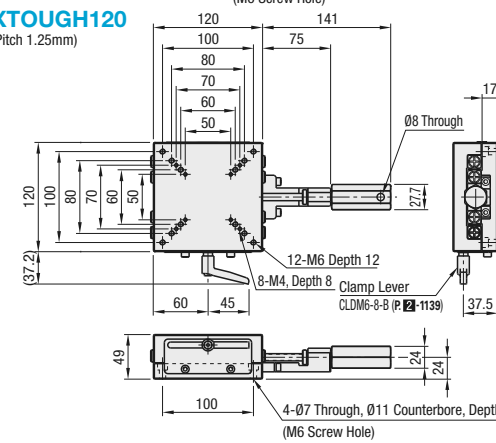
### XTOUGH100

(Pitch 1.25mm)



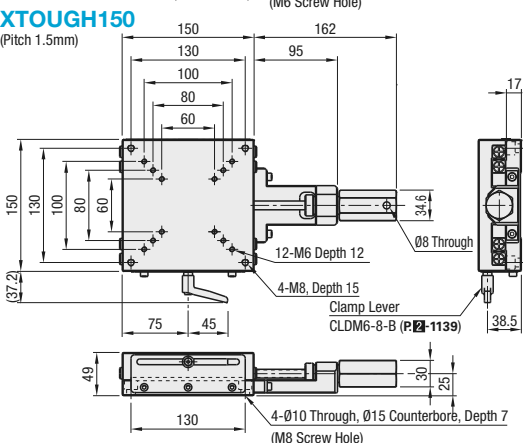
### XTOUGH120

(Pitch 1.25mm)



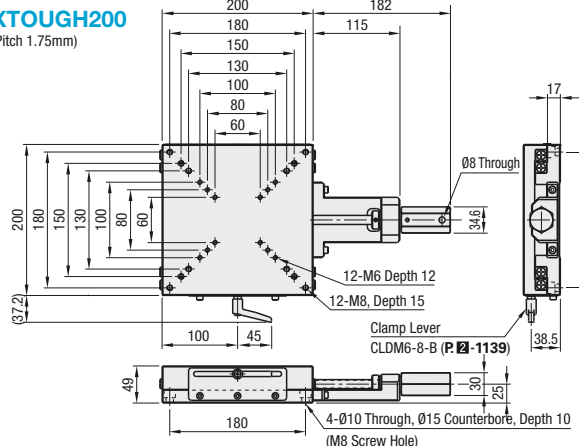
### XTOUGH150

(Pitch 1.5mm)



### XTOUGH200

(Pitch 1.75mm)



■ 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	Stage Surface	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.)	Unit Price	
					Straightness	Motion Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing					
XTOUGH	80	80x80	±20	1.25	6µm	15µm	50°	30°	392	30.1	25.1	23.0	0.228	0.139	0.059	50µm	SCB6-16	
	100	100x100	±25						588	70.3	58.6	56.0	0.033	0.015	0.021			
	120	120x120	±30						784	142.9	119.1	120.0	0.024	0.014	0.015			
	150	150x150	±40						980	252.9	210.7	219.9	0.009	0.008	0.003			
	200	200x200	±50						1176	527.9	439.9	479.8	0.004	0.002	0.003			

Ordering Example **Part Number**  
**XTOUGH150**





# [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.

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

**XY-Axis** CL Alteration RoHS

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.

⚠ Travel per Rotation: 0.5mm

**XY-Axis** 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.

⚠ Travel per Rotation 0.7mm

Type	Main Body		Shaft	Spring	Push Screw		Accessory
	Material	Surface Treatment	Material	Material	Material	Surface Treatment	
<b>XYKNG</b>	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.

Type	Main Body		Shaft	Knob	Feed Screw	Accessory
	Standard Handle	Large Handle	Material	Material	Material	
<b>XYKNEJ</b>		<b>XYKJL</b>	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	No. 20: CBSST3-12, 4 pcs. No. 25: SCB3-10, 4 pcs. No. 40, 60: SCB4-10, 4 pcs.

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

**XYKNG20**

**XYKNG25**

**XYKNG40**

**XYKNG60**

**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
<b>XYKNG</b> 20	20x20	±5	9.8	0.04	
25	25x25	±5	9.8	0.06	
40	40x40	±7.5	14.7	0.20	
60	60x60	±7.5	14.7	0.36	

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

Ordering Example Part Number  
**XYKNG20**

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

Type	Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price		
	Standard Handle	Large Handle					XYKNEJ	XYKJL	XYKJL
(Standard Handle) <b>XYKNEJ</b> (Large Handle Selection) <b>XYKJL</b>	20	(Large Handle Top & Bottom)	20x20	±7	18.6	0.10			
	25	(Large Handle Top only)	25x25						
	40	(Large Handle Bottom only)	40x40	±9	36.2	0.27			
	60	(Large Handle Bottom only)	60x60						

⚠ Travel per Rotation: 0.7mm

Ordering Example Part Number  
**XYKNEJ40**  
**XYKJL60L**

Alterations Part Number - (MMR) - (CLC)  
**XYKNEJ20** - MMR  
**XYKJL40A** - CLC  
**XYKJL60** - 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.  ⚠ MMR alteration will change the mounting hole pitch since a plate is attached to the stage.	Changes Clamp Screw to Knurled Knob. Changes are for both X and Y axes.  Accessory (4 pcs.) No.20:SCB2-5 No.25:SCB3-6 No.40:CBSST4-8 No.60:CBSST4-8
Code	MMR	CLC

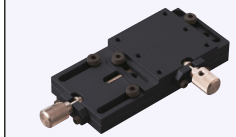
## [Simplified Adjustments] XY-Axis, Feed Screw, Key Guide Units

## [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

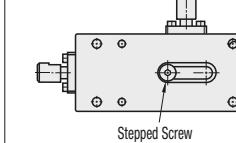


■ X-Axis P.1895

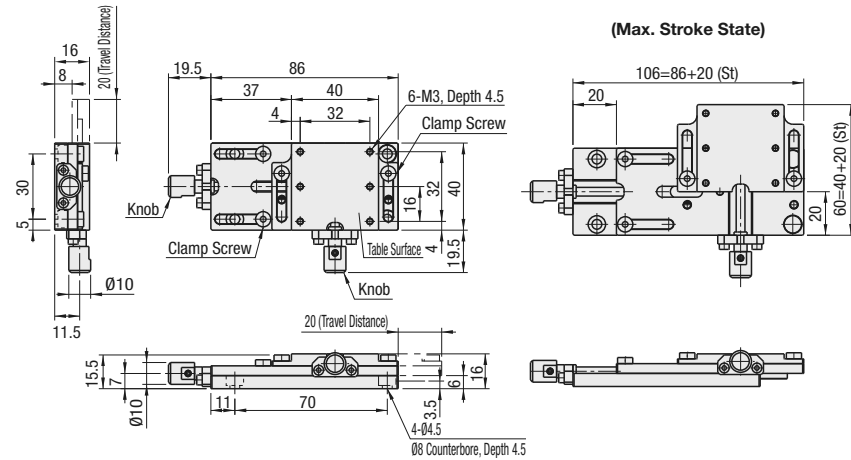
RoHS

⚠ **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	
Material	Surface Treatment	Material	Surface Treatment	Material	Surface Treatment
Aluminum Alloy	Black Anodize	Steel	Electroless Nickel Plating	Steel	Black Oxide

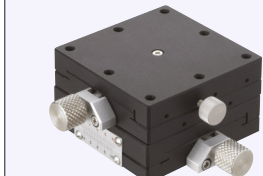
Part Number	Table Surface Size (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Clamp Screw	Load Capacity (N)	Weight (kg)	Unit Price	
Type	No.	Top Surface	Bottom Surface					
XYKYF	40	40x40	20	20	0.7	M4	19.6	0.15

Ordering Example  
Part Number  
XYKYF40

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

■ P.1933

### ■ XY-Axis

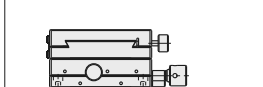
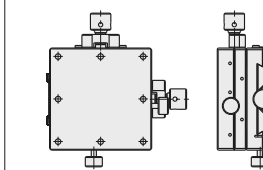


■ X-Axis P.1896

RoHS

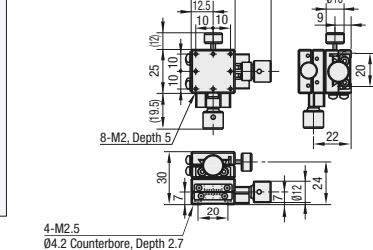
■ Z-Axis P.1961

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

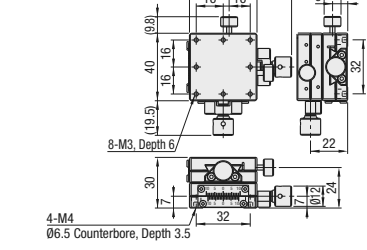


⚠ See the CAD data for details.

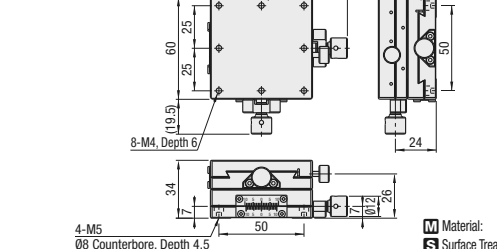
### XYFES25 (Standard)



### XYFES40 (Standard)



### XYFES60 (Standard)



Material: Aluminum Alloy  
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. P.2004

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

Ordering Example  
Part Number  
XYFES40

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



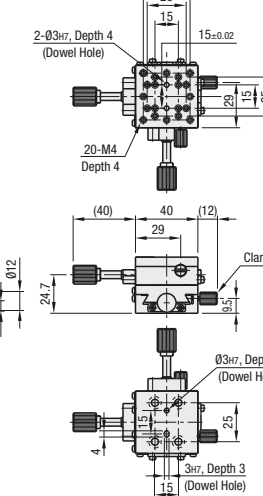
■ X-Axis P.1899

RoHS

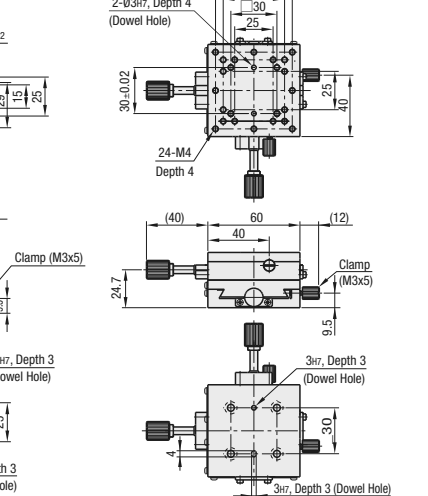
■ Z-Axis P.1959

Ordering Example  
Part Number  
XYSC60

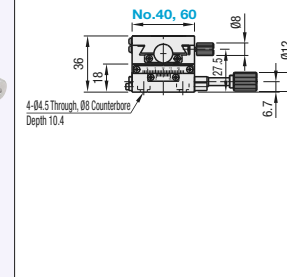
### XYSC40



### XYSC60



#### Common to XYSC40 and 60



⚠ 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.				Straightness		Type M-L	
XYSC	40	40x40	±11	4.2	14.7	20	30	0.20
	60	60x60	±21	4.2	24.5	30	30	0.38

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

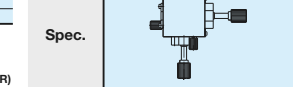
⚠ Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. P.2004

Ordering Example  
Part Number  
XYSC60

Alterations  
Model  
XYSC40 - (R)  
XYSC60 - R

Material: Aluminum Alloy Surface Treatment: Black Anodize

Spec. Knob Position Change (Left/Right Reversed)

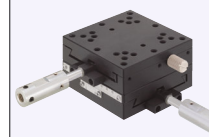


Code R

⚠ 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)



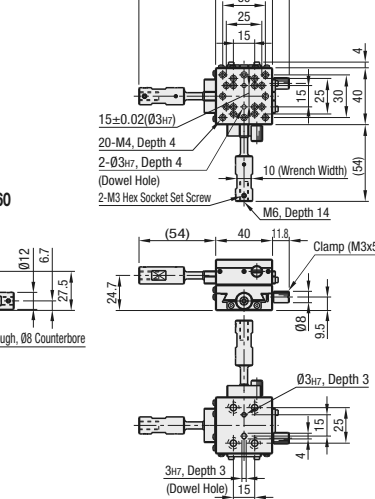
■ X-Axis P.1899

RoHS

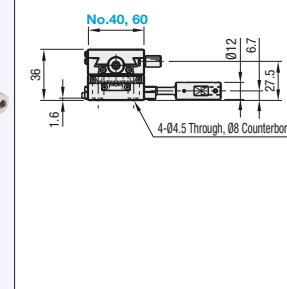
■ Z-Axis P.1960

Ordering Example  
Part Number  
XYSCL40

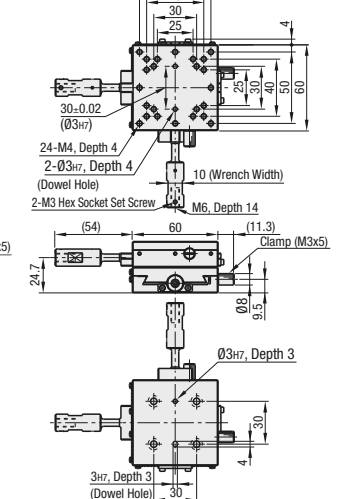
### XYSCL40



#### Common to XYSCL40 and 60



### XYSCL60



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

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

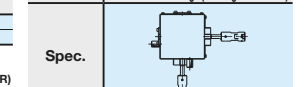
Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy (µm)	Weight (kg)	Accessory (4 pcs.)	Unit Price
Type	No.				Straightness		Type M-L	
XYSCL	40	40x40	±11	4.2	18.6	30	30	0.21
	60	60x60	±21	4.2	17.7	30	30	0.39

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

Ordering Example  
Part Number  
XYSCL40

Alterations  
Model  
XYSCL60 - (R)  
XYSCL40 - R

Spec. Knob Position Change (Left/Right Reversed)



Code R

⚠ See the CAD data for details.



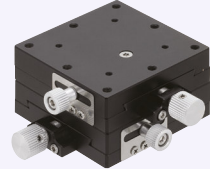


# [High Precision] XY-Axis Dovetail Slide, Feed Screw

## 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.

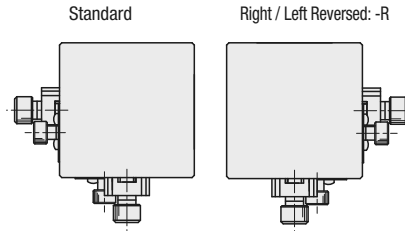
### ■ Symmetrical Stack, Space Saving



RoHS

### 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.

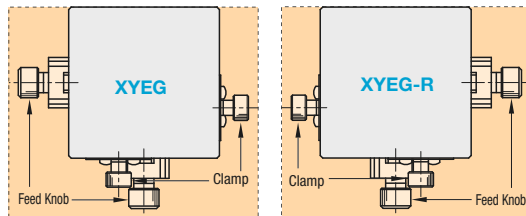


Ⓢ When symmetrical use as shown on the above figure is desired, select one □□ Type and one □□-R Type, respectively. (Those types are not sold as a set.)

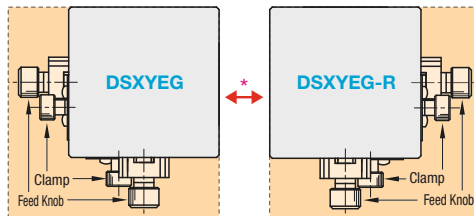
Ⓢ (Note) For dimension details, see the CAD data or the catalog's X-Axis stage dimension details on P.1933.

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			
	40	40x40	±7	27.4	XEG40-R	XEG40		
	40-R				XEG40			
	60	60x60	±9	33.3	XEG60-R	XEG60		
60-R	XEG60							

### ■ XYEG



### ■ DSXYEG



\* Realization of Space Saving

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

□□□□: Accessible Space

Ordering Example  
Part Number  
DSXYEG60  
DSXYEG60-R

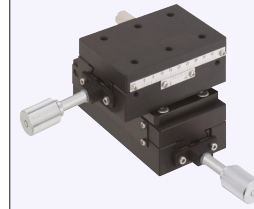
Ⓢ For symmetrical use, select one standard stage and one reversed (-R Type) stage, respectively, as indicated above.

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

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

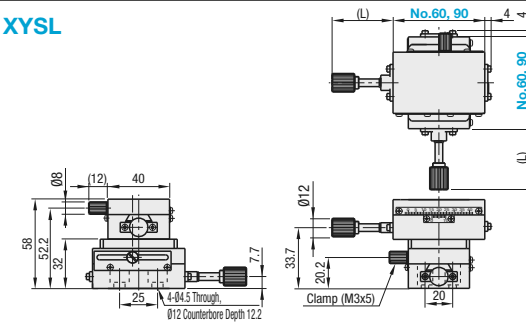
■ **Features:** Smooth feeding 4.2mm lead Dovetail Slide Feed Screw Stages.

### ■ XY-Axis, Rectangular (Lead 4.2mm)

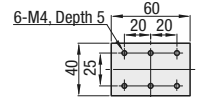


X-Axis: P.1900  
Z-Axis: P.1960  
RoHS

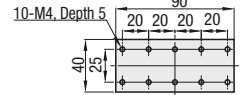
### XYSL



### • 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
XYSL	No. 60	40x60	±21	40	34	4.2	34.3	30	30	0.45
	No. 90	40x90	±35	60	49			0.63	SCB4-8	

Ⓢ 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  
XYSL60

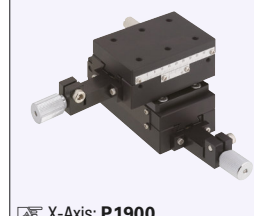
Alterations  
Part Number - (R)  
XYSL90 - R

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

Ⓢ See the CAD data for details.

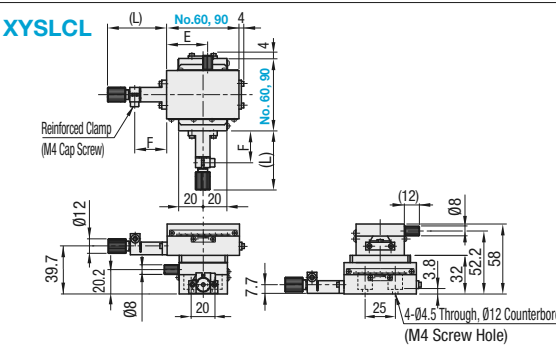
■ The feed knob is directly retained with a split clamp, resulting in less position drift.

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

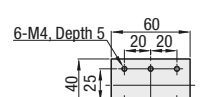


X-Axis: P.1900  
Z-Axis: P.1960  
RoHS

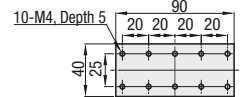
### XYSLCL



### • 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
XYSLCL	No. 60	40x60	±21	49	34	26	37.4	30	30	0.37	
	No. 90	40x90	±35	63	49	40.5	36.7	30	30	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.

Ordering Example  
Part Number  
XYSLCL90

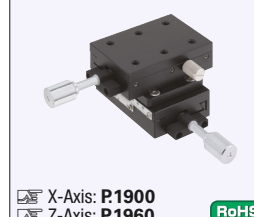
Alterations  
Part Number - (R)  
XYSLCL60 - R

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

Ⓢ The reinforced clamp and the clamp screw are tightened in the same direction.  
Ⓢ See the CAD data for details.

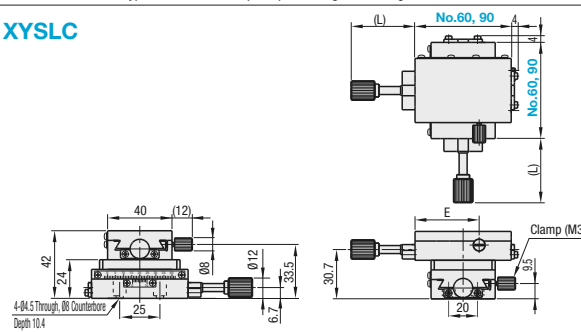
■ Travel distance per knob rotation is approx. 1/4 of the Rack & Pinion Type. Suitable for fine pitch positioning over a long stroke.

### ■ XY-Axis, Low Profile (Lead 4.2mm)

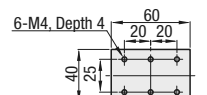


X-Axis: P.1900  
Z-Axis: P.1960  
RoHS

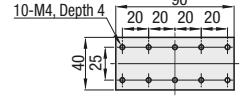
### XYSLC



### • Stage Top Mounting Hole Dimensions No.60



### No.90



□ Material: Aluminum Alloy  
Ⓢ Surface Treatment: Black Anodize

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

Ⓢ 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  
XYSLC60

Alterations  
Part Number - (R)  
XYSLC90 - R

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

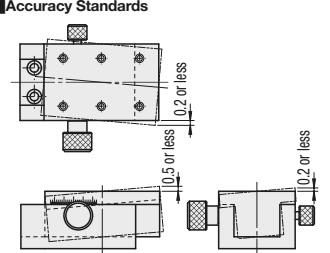
**XY-Axis**



X-Axis P.1902  
Z-Axis P.1953

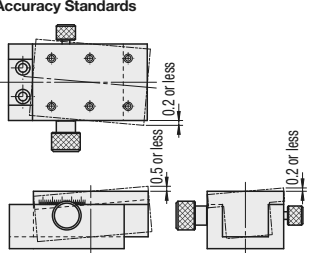
Travel per Rotation: approx. 19mm

**Accuracy Standards**



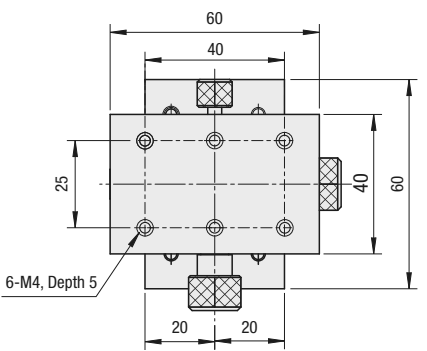
There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies. Values are for single-axis configuration.

**Accuracy Standards**

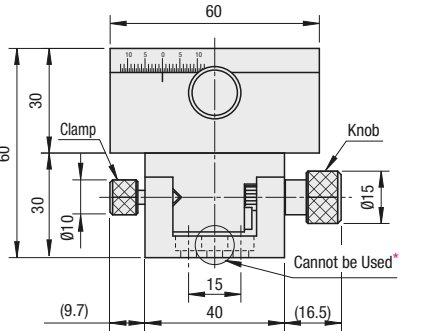


There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies. Values are for single-axis configuration.

**XYKR60**

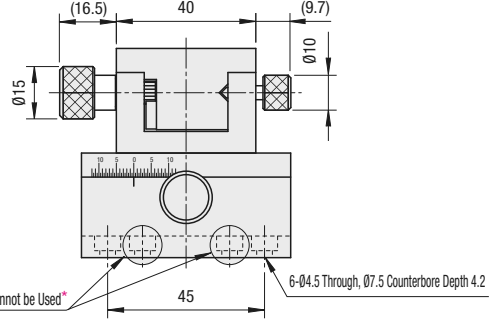


6-M4, Depth 5



Clamp, Knob, Cannot be Used\*

**XYDTS60**



6-M4, Depth 5, 6-04.5 Through, 07.5 Counterbore Depth 4.2, Cannot be Used\*

**Material:** Aluminum Alloy  
**S Surface Treatment:** Black Anodize  
**A 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
XYKR60	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 XYKR60

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.

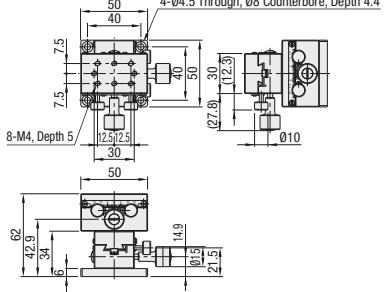
**XY-Axis**



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

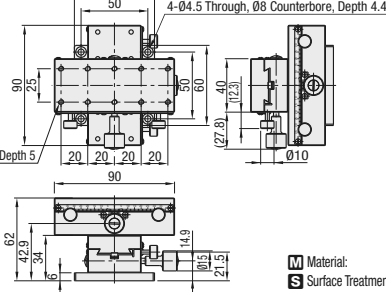
RoHS

**XYDTS50**



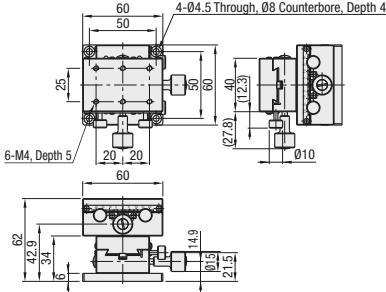
4-04.5 Through, 08 Counterbore, Depth 4.4, 8-M4, Depth 5, 010

**XYDTS90**



4-04.5 Through, 08 Counterbore, Depth 4.4, 10-M4, Depth 5, 010

**XYDTS60**



4-04.5 Through, 08 Counterbore, Depth 4.4, 6-M4, Depth 5, 010

**Material:** Aluminum Alloy  
**S Surface Treatment:** Black Anodize

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

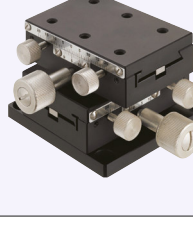
Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
XYDTS	50	30x50	±16	16.7	24.5	50µm	0.39	
	60	40x60	±21				0.52	
	90	40x90	±35				0.72	

Resolution (Vernier Scale Indication): 0.1mm/division. Knob Cover HDCR15 (Sold Separately). 015 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**

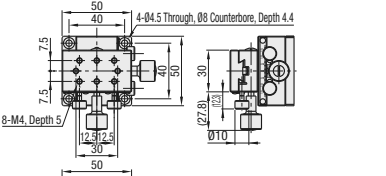
**XY-Axis, Low Profile**



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

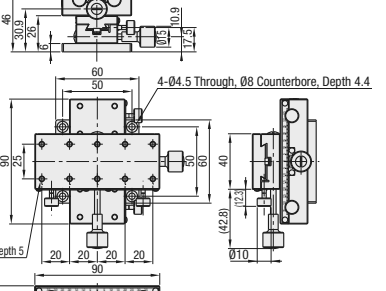
RoHS

**XYDTS50**



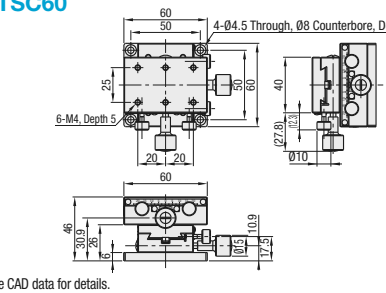
4-04.5 Through, 08 Counterbore, Depth 4.4, 8-M4, Depth 5, 010

**XYDTS90**



4-04.5 Through, 08 Counterbore, Depth 4.4, 10-M4, Depth 5, 010

**XYDTS60**



4-04.5 Through, 08 Counterbore, Depth 4.4, 6-M4, Depth 5, 010

**Material:** Aluminum Alloy  
**S 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 HDCR15 (Sold Separately). Dovetail Stage 015 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

**XYWG40**  
4-Ø4.5 Through, Ø8 Counterbore, Depth 4.4  
Clamp (M3x5)  
8-M4, Depth 5  
Stopper Side View A

**XYWG60**  
4-Ø4.5 Through, Ø8 Counterbore, Depth 4.4  
Clamp (M3x5)  
6-M4, Depth 5  
Stopper Side View A

**XYWG90**  
4-Ø4.5 Through, Ø8 Counterbore, Depth 4.4  
10-M4, Depth 5

**XYWG140**  
4-Ø4.5 Through, Ø8 Counterbore, Depth 4.4  
10-M4, Depth 5

**Common to XYWG90,140**  
Clamp (M3x5)  
Stopper Side View A

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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 (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (µm)	Weight (kg)	Unit Price
XYWG	40	24.8x42	±12	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): 0.1 mm/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

**XYWGCL40**  
Clamp (M3x5)  
Feed Knob  
8-M4, Depth 5  
Ø8 Counterbore, Depth 4.5

**XYWGCL60**  
Clamp (M3x5)  
Feed Knob  
6-M4, Depth 5  
Ø8 Counterbore, Depth 4.5

**XYWGCL90**  
Clamp (M3x5)  
Feed Knob  
10-M4, Depth 5  
Ø8 Counterbore, Depth 4.4

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

Resolution (Vernier Scale Indication): 0.1 mm/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.

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

**XYFG25**  
6-M2, Depth 4  
Clamp  
Feed Knob

**XYFG40**  
10-M3, Depth 6  
M16xP1, Depth 6  
Feed Knob  
Lever Clamp

**XYFG60**  
M16xP1, Depth 6  
4-M3, Depth 8  
8-M4, Depth 8  
Feed Knob  
Clamp

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 Straightness (µm)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
XYFG	25	25x25	±5	17	28.4	20µm	0.18	SCB2-12	
	40	40x40	±10	20	27.4	30µm	0.37	SCB4-6	
	60	60x60	±20	18	29.4	30µm	1.19	SCB4-6	

Resolution (Vernier Scale Indication): 0.1 mm/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.	<p><b>XYFG40</b> 4-Ø4.3 Through (From Back), Ø8 Counterbore, Depth 10 (M3 Screw Hole)</p> <p><b>XYFG60</b> 2-Ø4.5 Through (From Back), Ø8 Counterbore, Depth 6 (M4 Screw Hole)</p> <p>Not applicable to XYFG25. The feed knobs will interfere with the mating bases.</p>
Code	M

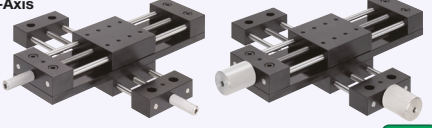


# [Simplified Adjustments] XY-Axis, Feed Screw, Large Lead (3.0mm)

Standard/Large Handle Selectable

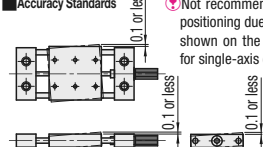
Features: 3.0mm lead feed screw stages are combined into XY arrangement. Convenient when rapid feeding characteristic is desired.

**XY-Axis**



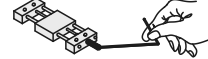
RoHS

**Accuracy Standards**



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

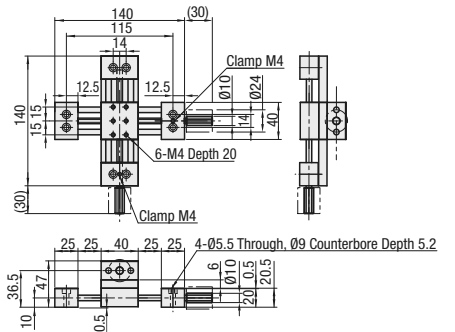
**One Point**



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

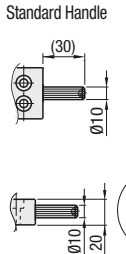
Type	Main Body	Shaft	Knob	Feed Screw	Accessory
Standard Handle	Material	Material	Material	Material	
XYKS	Aluminum Alloy	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	SCB5-20, 4 pcs.
XYKSL	Black Anodize				

**No.40**

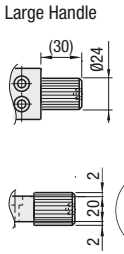


**Handle Shape Comparisons**

Standard Handle

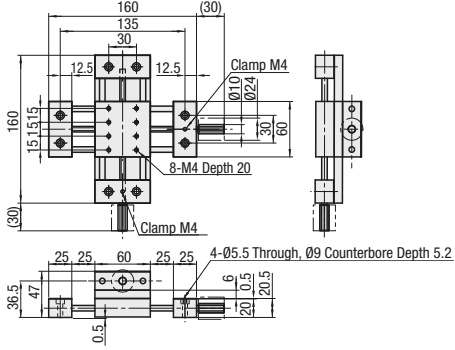


Large Handle

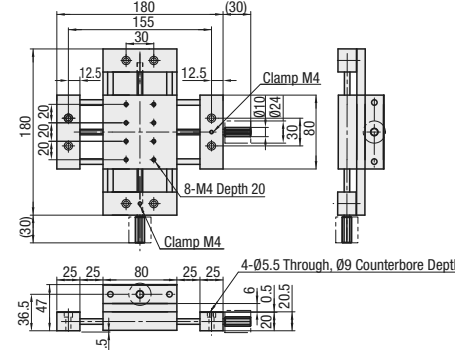


When the large handle is selected, the handle diameter will exceed the end plate height. Please be aware of potential interferences.

**No.60**



**No.80**



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
40	40x40	±25	62.7	0.66	
60	60x60	±25	62.7	1.17	
80	80x80	±25	56.8	1.64	

Travel per Rotation: 3.0mm

Alterations: MMR, CLC

**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.

No.	P1	P2	d1	d2	ℓ
40	65	14	4.5	7.5	3
60	85	30	4.5	7.5	3
80	105	30	4.5	7.5	3

Accessory (4 pcs.)  
No.40: CBSST4-8 No.60: CBSST4-8 No.80: CBSST4-8

**Change of Clamp (Knurled Knob)**

Changes Clamp Screw to Knurled Knob. Changes are for both X and Y axes.

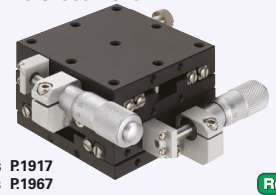
# [Standard] XY-Axis Cross Roller / XY-Axis Linear Ball Slide

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

P.1943, P.1946

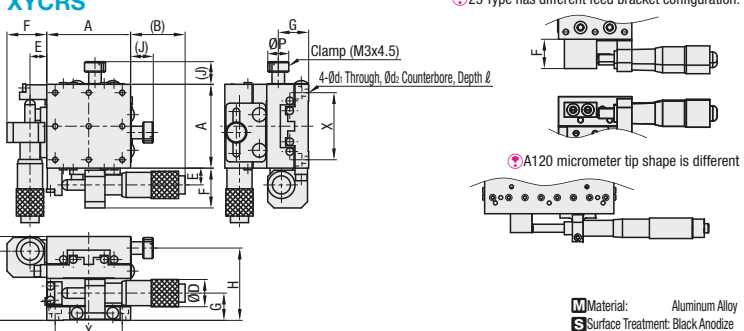
Features: Economical stages with a micrometer head capable of 0.01mm resolution adjustments.

**XY-Axis Cross Roller**



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

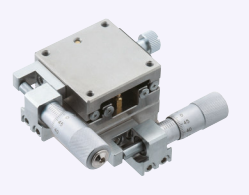
**Performance**

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	6.66	8.84	6.66		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	0.77		
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

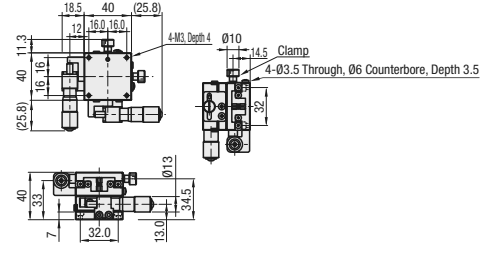
Points on Similar Product Comparison | Travel Accuracy (Straightness) 10µm

**XY-Axis, Linear Ball Slide**

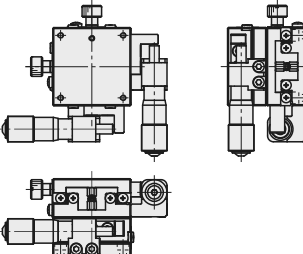


RoHS

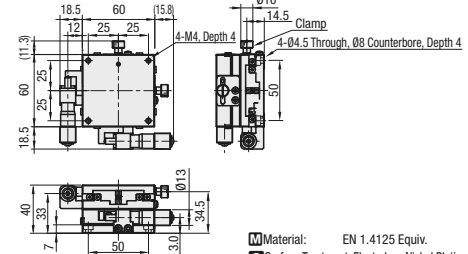
**XYLBS40 (Standard)**



**XYLBS-CR (Reversed)**



**XYLBS60 (Standard)**



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

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

Type	Part Number	No.	Micrometer Head Pos.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Minimum Graduation (µm)	Travel Accuracy		Moment Rigidity (°/N-cm)			Parallelism (µm)	Weight (kg)	Included Screw (Stainless Steel Hex Socket Low Head Cap Screw)	Unit Price
								Straightness	Pitching	Yawing	Pitching	Yawing				
XYLBS	40	No Symbol (Standard)		40x40	±6.5	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			35°	30°	0.15	0.16	0.15		0.88	M4-8, 4 pcs.

Ordering Example: Part Number XYLBS40

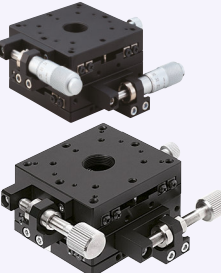
# [High Precision] XY-Axis Cross Roller / Cross Roller with Dowel Holes Micrometer Head / Feed Screw

# [Standard] XY-Axis Cross Roller Low Profile

P.1945

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

### XY-Axis

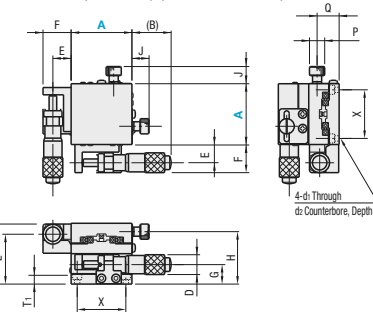


X-Axis: **P.1918**  
Z-Axis: **P.1968**

RoHS

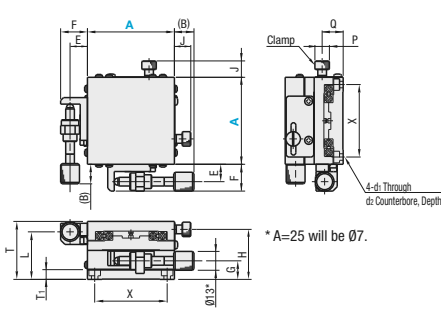
### Micrometer Head

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



### Feed Screw (Pitch 0.5)

XYPCG (25≤A≤80)



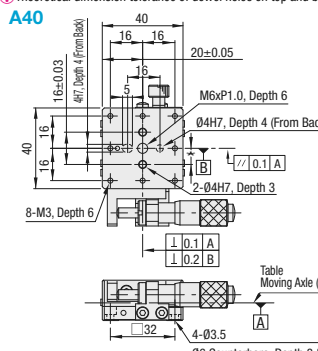
\*A=25 will be Ø7.

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

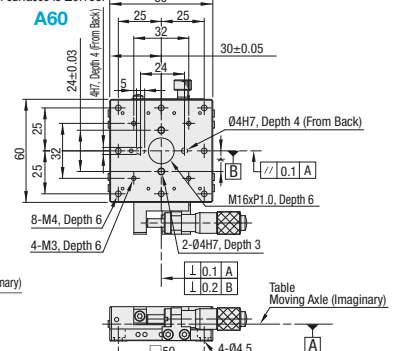
Mounting Hole Dimensions on the Top/Bottom of the Table of XY-Axis Stages with Dowel Holes

- 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.

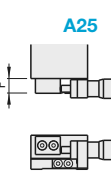
#### A40



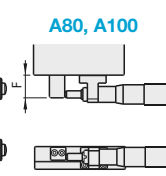
#### A60



#### A25



#### A80, A100



See the CAD data for details.

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

Standard Stages Similar Products: XYCRS (P.1942)

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

Part Number	Type	A	Top View		Front View													Side View		
			Standard Micrometer (B) Travel Distance (mm)	Feed Screw (B) Travel Distance (mm)	E	F	J	D	G	H	T <sub>1</sub>	L	T	P	Q	X	d <sub>1</sub>	d <sub>2</sub>	ℓ	
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
XYPCG	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
	*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 (XYPCG). \*When A=80 for the Feed Screw Type (XYPCG), F=20.

### Performance

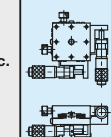
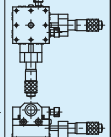
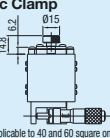
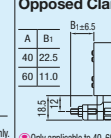
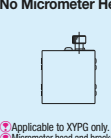
A	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)		Moment Rigidity (1/N·cm)		Parallelism	Weight (kg)	Accessory (4 pcs.)	Unit Price			
			Straightness	Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching				Yawing	Rolling	XYPG	XYPCG
25	25x25	9.8	3µm	20µm	25"	15"	0.4	0.8	0.4	4.83	5.70	4.83	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

Ordering Example: Part Number XYPG80

Alterations: Part Number (CR, A--etc) XYPG60 - A

Express service is not available.

Alterations	Position of Micrometer Head and Feed Screw	Reinforced Clamp	No Micrometer Head
Spec.	<div style="display: flex;"> <div style="width: 50%;"> <p>Side Mount - Right / Left Reversed</p>  </div> <div style="width: 50%;"> <p>Center</p>  </div> </div>	<p>Disc Clamp</p>  <p>Opposed Clamp</p> 	<p>No Micrometer Head</p> 
Code	CR A	H P	MN

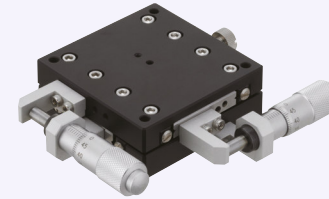
Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.

- For micrometer head or feed screw mounted in positions other than shown below, see "Specification Selectable Type" (P.1989).
- Knob Cover HDCV13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
- Extension Cover HDEX113 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

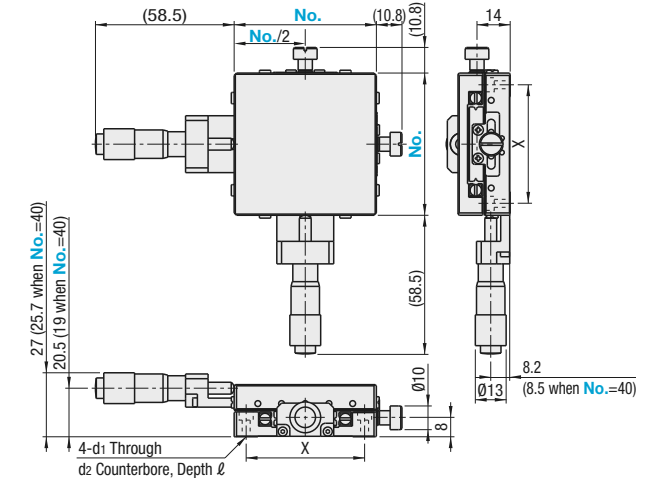
### Points on Similar Product Comparison | Travel Accuracy (Straightness) 30µm

Features: Economical stages with a micrometer head capable of 0.01mm resolution adjustments. Micrometer head position is selectable from 3 types.

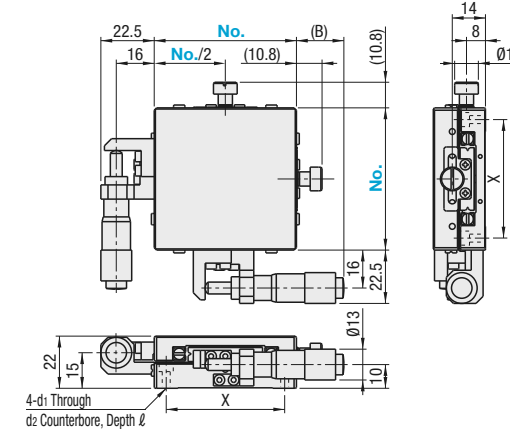
### XY-Axis, Low Profile



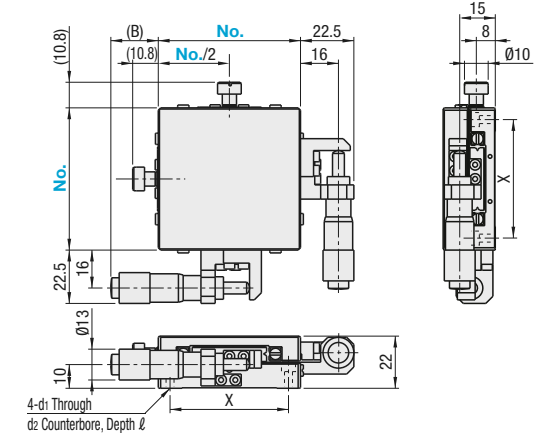
### XYCRSC□□-A (Micrometer Head Center Drive)



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



### XYCRSC□□-CR (Micrometer Head Side Drive - Reversed)

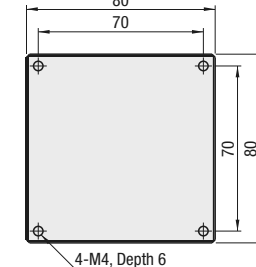
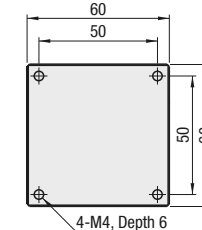
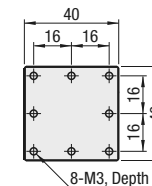


Mounting Hole Dimensions of the Top Table

No.40

No.60

No.80



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

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

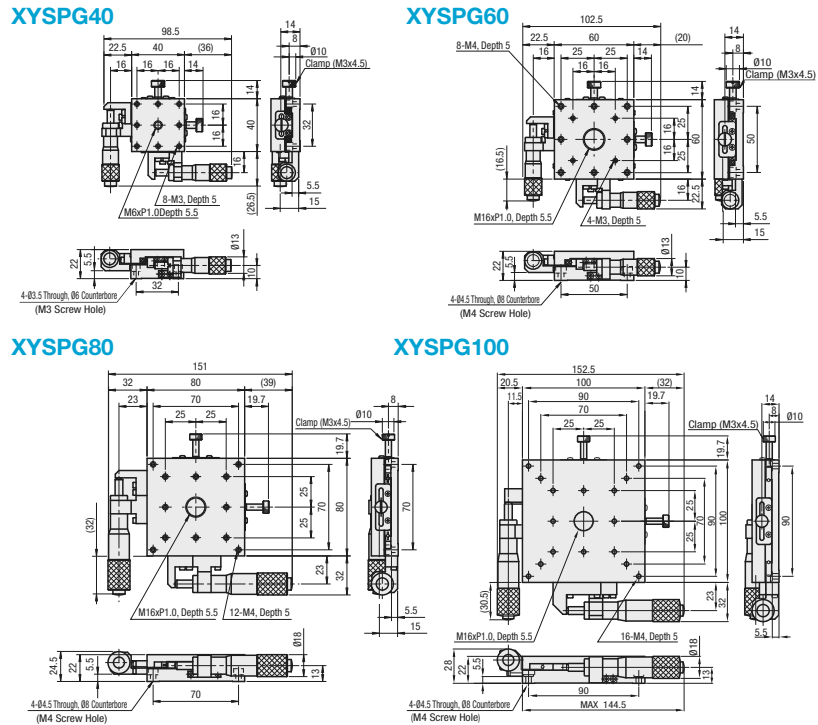
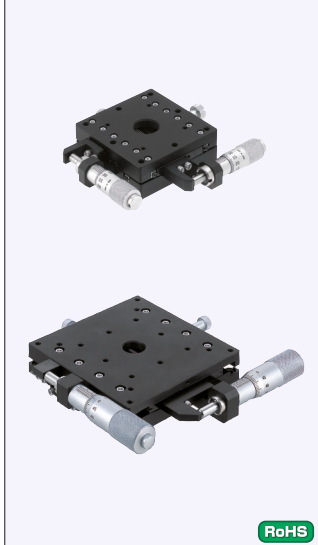
Ordering Example: Part Number XYCRSC60-A XYCRSC80-C

# [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

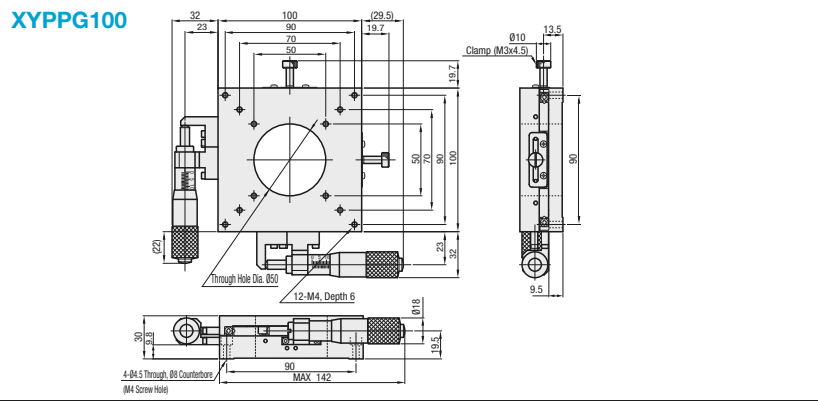
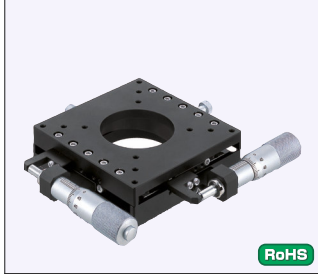


**Material:** Aluminum Alloy  
**Surface Treatment:** Black Anodize  
**Accessory:** SCB3-10 (4 pcs.)

XYSPG	40	60	80	100
Material	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy
Surface Treatment	Black Anodize	Black Anodize	Black Anodize	Black Anodize
Accessory	SCB3-10 (4 pcs.)	SCB4-10 (4 pcs.)	SCB4-10 (4 pcs.)	SCB4-14 (4 pcs.)

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

### XY-Axis, Through Hole



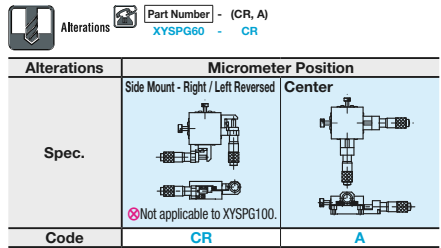
**Material:** Aluminum Alloy  
**Surface Treatment:** Black Anodize  
**Accessory:** SCB4-14 (4 pcs.)

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

Part Number	Type	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (1/N·cm)			Parallelism	Weight (kg)	Unit Price
					Straightness	Motion Parallelism	Pitching	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	0.2	
	60	60x60	±6.5	29.4	3µm	20µm	40°	20°	2.3	1.9	2.3	0.19	0.13	0.15	0.4	
	80	80x80	±12.5	39.2	3µm	20µm	25°	15°	5.1	4.2	5.1	0.13	0.13	0.11	0.7	
XYPPG	100	100x100	±12.5	63.7	3µm	20µm	25°	15°	5.1	4.2	5.1	0.08	0.10	0.08	1.1	
	100	100x100	±12.5	63.7	3µm	20µm	25°	15°	4.6	3.9	4.6	0.07	0.08	0.10	1.0	

Micrometer Head Resolution: 10µm/division

Ordering Example: Part Number XYSPG80



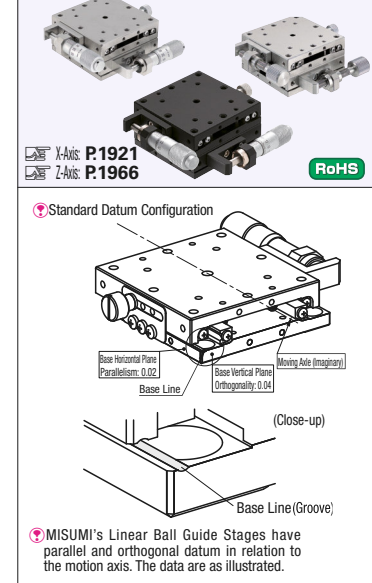
Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.  
 Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob can be increased in diameter by installing the cover. P2004  
 Extension Cover HDEXT13 (Sold Separately):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



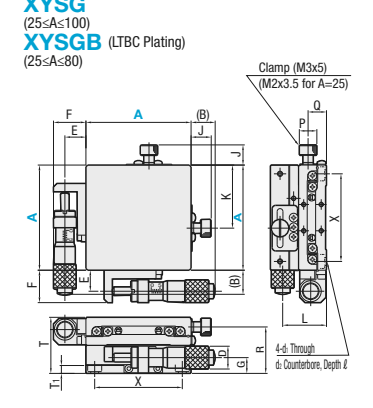
**XYSG** (25≤A≤100)  
**XYSGB** (LTBC Plating) (25≤A≤80)

X-Axis: P.1921  
 Z-Axis: P.1966

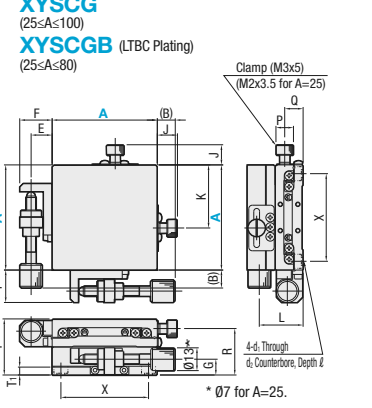
Standard Datum Configuration

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

### Micrometer Head



### Feed Screw (Pitch 0.5)



Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
XYSG (Micrometer)	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	EN AW-5052 Equiv.	EN 1.4305 Equiv.
XYSCG (Feed Screw)	EN 1.4125 Equiv.	Electroless Nickel Plating	58HRC-	EN AW-5052 Equiv.	EN 1.4305 Equiv.
XYSGB (Micrometer, LTBC Plating)	EN 1.4125 Equiv.	Electroless Nickel Plating	58HRC-	EN AW-5052 Equiv.	EN 1.4305 Equiv.
XYSCGB (Feed Screw, LTBC Plating)	EN 1.4125 Equiv.	Electroless Nickel Plating	58HRC-	EN AW-5052 Equiv.	EN 1.4305 Equiv.

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

Part Number	Top View										Side View						Accessory (4 pcs.)				
	Type	A	Micrometer	Feed Screw	Travel Distance (mm)	E	F	J	K	D	G	R	T	T <sub>1</sub>	P	Q		L	X	d <sub>1</sub>	d <sub>2</sub>
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
XYSCG	40*	23.5	20	±6.5	12	18.5		26		8.9	26.5	32	4.5	10	10.5	24.9	32	3.5	6	3.5	SCB3-6
XYSGB	60*	14	10.3	±12.5*	17	22*	11.3	31	13	10	29.5	36	6	10	11.5	28	60	4.5	8	4.5	SCB4-6
XYSCGB	70*	14.5	10.8	±12.5*	17	22*	11.3	36	18	10.8	34.5	40	6.5	10	14.5	30.8	70	4.5	8	5.3	SCB4-6
XYSCGB	80*	43.5	10	±12.5*	17	22*	11.3	55	18	10.8	34.5	40	6.5	10	14.5	30.8	90	4.5	8	5.3	SCB4-6
XYSCGB	100	28.5	-5*	±12.5*	17	22*	11.3	67.5	18	10.8	34.5	40	6.5	10	14.5	30.8	90	4.5	8	5.3	SCB4-6

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

### Performance

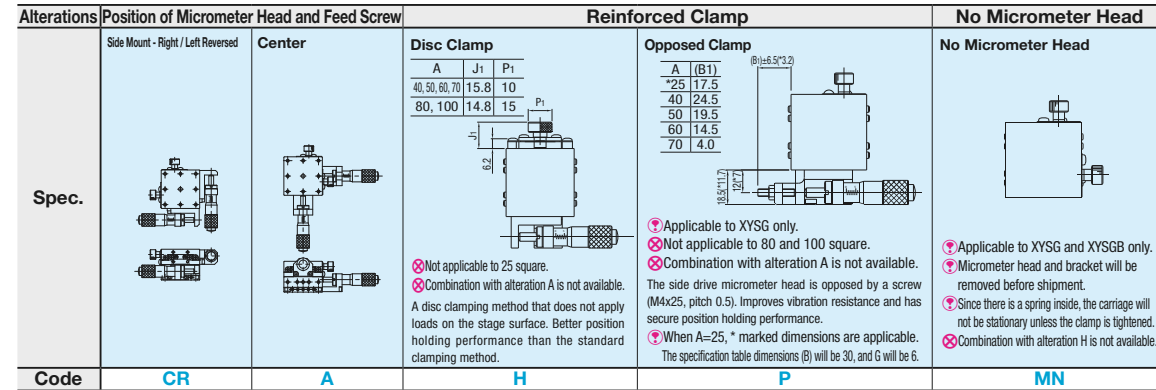
Part Number	Type	Stage Surface (mm)	Horizontal Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (1/N·cm)			Parallelism	Weight (kg)	Unit Price			
				Straightness	Motion Parallelism	Pitching	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			XYSG	XYSCG	XYSGB	XYSCGB
XYSG	25*	25x25	38.2	3µm	10µm	30°	25°	2.0	2.0	2.0	3.00	2.20	3.00	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	1µm*	12µm	25°	15°	6.0	6.8	6.0	0.24	0.28	0.24	0.56				
XYSCG	60*	60x60	192.1	3µm	15µm	25°	15°	9.0	10.0	9.0	0.13	0.16	0.13	0.80				
	70	70x70	219.5	3µm	15µm	25°	15°	12.9	13.8	12.9	0.09	0.10	0.09	1.16				
	80*	80x80	255.8	3µm	15µm	25°	15°	17.7	18.2	17.7	0.06	0.08	0.06	1.80				
XYSCGB	100	100x100	329.6	3µm	15µm	25°	15°	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 XYSCG60

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

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



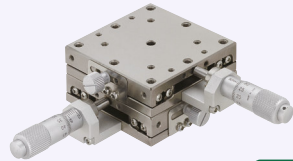
For 25 Square Opposed Clamp, the bracket material is EN 1.4305 Equiv. Standard Stages Similar Products: XYLBS (P.1942)  
 When Position Change Alteration is selected, mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.  
 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

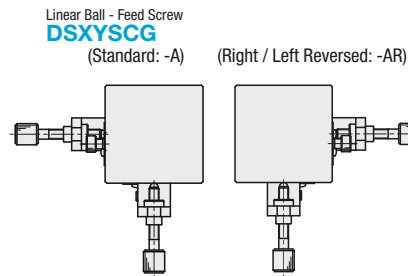
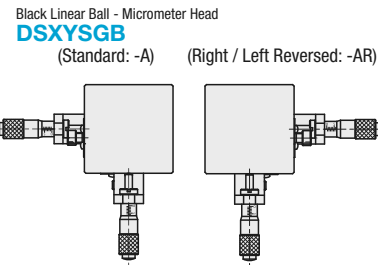
■ **Features:** Since two side faces out of four are freely configurable, this type of stage product can be symmetrically aligned with its reserved type for combination use or can be configured for space-saving.

## ■ 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

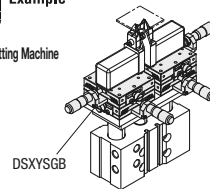
Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Stage Configuration		Reference Part Number (Page)	Unit Price	
Type	No.				Top	Bottom		DSXYSG	DSXYSCG
Black Linear Ball Micrometer Head <b>DSXYSG</b> Linear Ball Feed Screw <b>DSXYSCG</b>	25-A	25x25	±3.2	38.2	X□□□-AR	X□□□-A	XYSG□-A (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	±6.5	144.2	X□□□-AR	X□□□-A			
	50-AR				X□□□-A	X□□□-AR			
	60-A	60x60	±6.5	192.1	X□□□-AR	X□□□-A			
	60-AR				X□□□-A	X□□□-AR			
	70-A	70x70	±6.5	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	±12.5(*)	329.6	X□□□-AR	X□□□-A				
100-AR				X□□□-A	X□□□-AR				

\* Stroke is ±6.5mm for Feed Screw Type.

Ordering Example  
Part Number  
**DSXYSG80-A**  
**DSXYSG80-AR**

Example  
**ex**

Lead Wire Cutting Machine

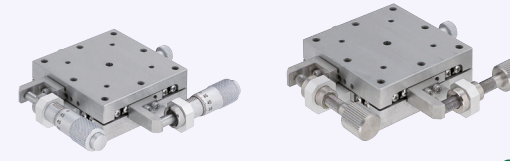


Ⓢ For symmetrical use, select one standard stage (-A Type) and one reversed (-AR Type) stage, respectively, as indicated above.

# [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



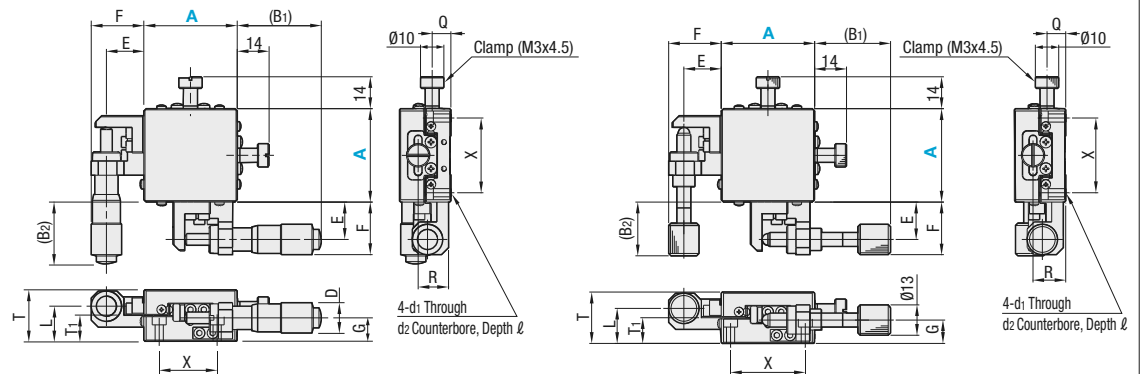
RoHS

Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
Material: EN T.4125 Equiv. Electroless Nickel Plating	Material: EN T.4125 Equiv. 58HRC~	Material: SUS304WPB	Material: EN AW-3052 Equiv. Clear Anodize	Material: EN T.4305 Equiv.

- Ⓢ For materials of Micrometer Head and Feed Screw components, see P.2005, P.2006
- Ⓢ 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 (B1) (B2)	Feed Screw (B1) (B2)	Travel Distance (mm)	E	F	D	G	T	L	T <sub>1</sub>	Q	R	X		d <sub>1</sub>	d <sub>2</sub>	ℓ	Type M-L
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 (1/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					
	80	80x80	255.8					16.4	15.9	16.4	0.09	0.06	0.08					
	100	100x100	329.3					27.6	28.6	27.6	0.06	0.03	0.06					40μm

Ⓢ 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
	Side Mount - Right/Left Reversed	Center	No Micrometer Head
Spec.			
Code	CR	A	MN

- Ⓢ Applicable to XYSSG only.
- Ⓢ Micrometer head and bracket will be removed before shipment.
- Ⓢ Since there is an internal spring, the carriage will not be stationary unless the clamp is tightened.

Ⓢ 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. Ⓢ P.2004

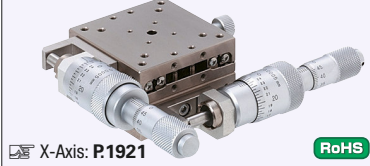
Ⓢ Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. Ⓢ P.2004

# [High Precision] XY-Axis Linear Ball Slide

## Coarse / Fine Micrometer Head

■Features: Highly accurate and rigid stages. Even an XY stack is only 40mm high or less, and orthogonality alignment is not needed. Coarse/Fine Feed type suitable for any application.

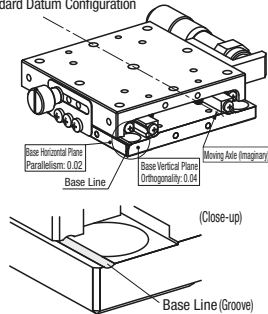
### XY-Axis Coarse / Fine Micrometer Head



X-Axis: P.1921

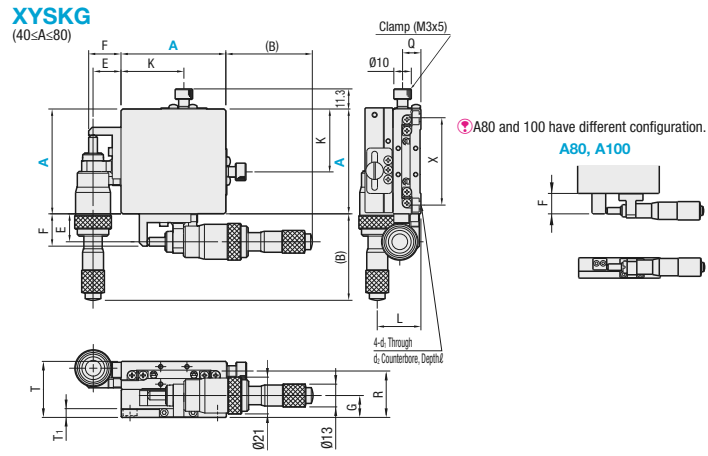


Standard Datum Configuration



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

### XYSKG (40≤A≤80)



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

For Micrometer Head and Feed Screw materials, see P.2005.  
For top surface mounting dimensions, see Linear Ball Slide X-Axis Stages on P.1921. See the CAD data for details.

Part Number	Top View				Front View				Side View				Accessory (4 pcs.)				
	Type	A	(B)	E	F	K	G	R	T	T <sub>1</sub>	Q	L		X	d <sub>1</sub>	d <sub>2</sub>	l
XYSKG	40	60			26								32	3.5	6	3.5	SCB3-6
	50	55	16	18.5	31	11.6	26.5	32	4.5	10.5	27.6	40					
	60	50			36				5			50					
	70	50.5			46.5	12.5	29.5	36	6	11.5	30.5	60	4.5	8	4.5	4	SCB4-6
	80	49.5	17	25	55	11	34.5	40	6.5	14.5	31	70			5.3		

### Performance

Part Number	Stage Surface (mm)	Travel Distance (mm)	Horizontal Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)			Moment Rigidity (%/N·cm)			Parallelism	Weight (kg)	Unit Price
				Straightness	Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
XYSKG	40	40x40	±6.5mm	95.1	1μm	12μm	25"	15"	5.0	5.0	5.0	0.63	0.70	0.63	30μm	0.44
	50	50x50							6.0	6.8	6.0	0.24	0.28	0.24		
	60	60x60	0.2 mm	219.5	3μm	15μm	17.7	18.2	17.7	9.0	10.0	9.0	0.13	0.16	0.13	0.78
	70	70x70								12.9	13.8	12.9	0.09	0.10	0.09	1.14
80	80x80		255.8						17.7	0.06	0.08	0.06	40μm	1.78		

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

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

Ordering Example Part Number XYSKG40

Alterations Part Number - (CR, A, H) XYSKG40 - A

Alterations	Position of Micrometer Head and Feed Screw		Reinforced Clamp								
	Side Mount - Right / Left Reversed	Center	Disc Clamp								
Spec.											
			<table border="1"> <thead> <tr> <th>A</th> <th>J<sub>1</sub></th> <th>P<sub>1</sub></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> <p>Combination with alteration A is not available. A disc clamping method that does not apply loads on the stage surface. Better position holding performance than the standard clamping method.</p>	A	J <sub>1</sub>	P <sub>1</sub>	40, 50, 60, 70	15.8	10	80	14.8
A	J <sub>1</sub>	P <sub>1</sub>									
40, 50, 60, 70	15.8	10									
80	14.8	15									
Code	CR	A	H								

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

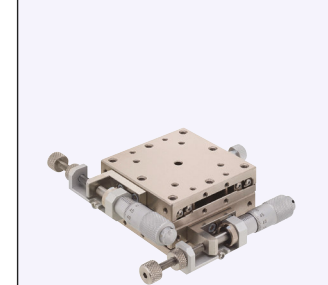
Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

# [High Precision] XY-Axis Linear Ball Slide

## Opposed Clamp with Knob

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

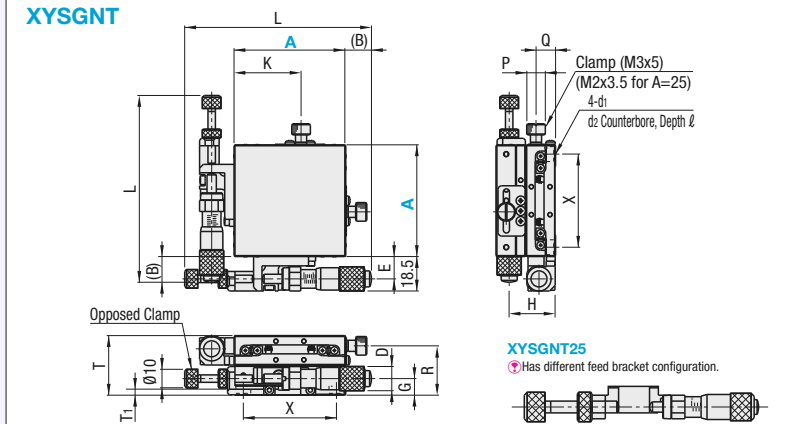
### XY-Axis, Opposed Clamp with Knob



X-Axis: P.1924



### XYSGNT



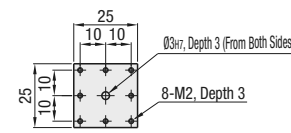
Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
	Material	Surface Treatment	Material	Hardness	Material
XYSGNT	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB
			EN AW-5052 Equiv.		Clear Anodize
			EN 1.4305 Equiv.*		EN 1.4305 Equiv.*

\* Bracket material will be different for 25 square only.

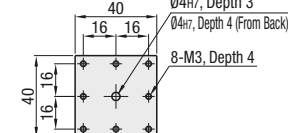
For micrometer head and opposed clamp materials, see Adjust Screws ANKSS on P.1712.

Opposed clamp shaft has a hex socket (2.5 hex, depth 2.5) on the end.

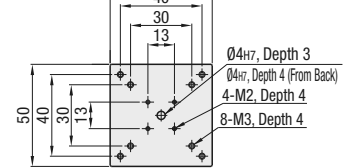
### A25



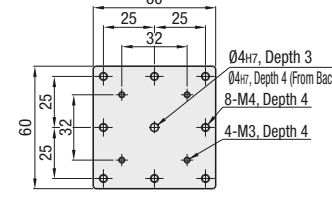
### A40



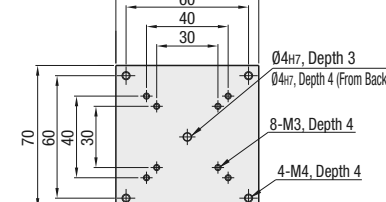
### A50



### A60



### A70



Part Number	Top View				Front View				Side View				Accessory (4 pcs.)							
	Type	A	(B)	E	K	L	D	G	T	T <sub>1</sub>	R	H		P	Q	X	d <sub>1</sub>	d <sub>2</sub>	l	Type M-L
XYSGNT	25	30			7	15	84.5	9.3	6.7	24	3.7	20.5	19	6	8.5	20	2.5	4.2	2.5	SCB2-4
	40	23.8				26										32	3.5	6	3.5	SCB3-6
	50	18.8	12			31	100.3	13	8.9	32	4.5	26.5	24.9	10	10.5	40				
	60	13.8				36					5					50	4.5	8	4	SCB4-6
	70	14.3			46.5				10	36	6	29.5	28		11.5	60			4.5	

### Performance

Part Number	Stage Surface (mm)	Travel Distance (mm)	Horizontal Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)			Moment Rigidity (%/N·cm)			Parallelism	Orthogonality	Weight (kg)	Unit Price
				Straightness	Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling				
XYSGNT	25	25x25	±3.2	38.2	3μm	10μm	30"	25"	2.0	2.0	3.5	3.0	2.2	2.2	30μm	10μm	0.14
	40	40x40							5.0	5.0	5.0	0.63	0.70	0.63			
	50	50x50	±6.5	144.1	1μm	12μm	25"	15"	6.0	6.8	6.0	0.24	0.28	0.24	0.56		
	60	60x60							9.0	10.0	9.0	0.13	0.16	0.13	0.8		
	70	70x70						12.9	13.8	12.9	0.09	0.10	0.90	1.16			

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. 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 XYSGNT60





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

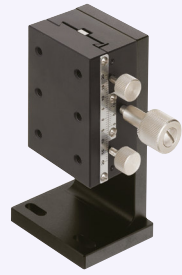
## Rectangular / Low Profile

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

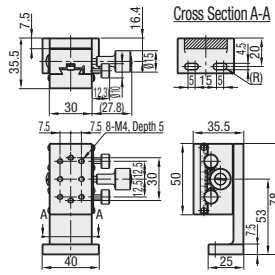


X-Axis P.1903  
Y-Axis P.1938

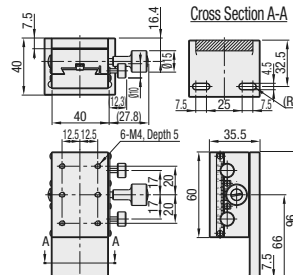
RoHS

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

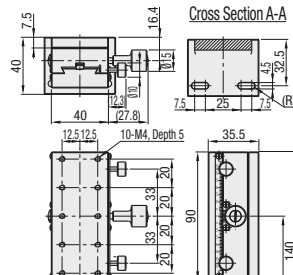
#### ZDTS50



#### ZDTS60



#### ZDTS90



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

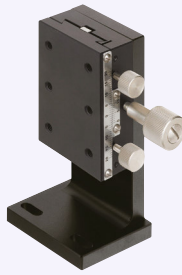
Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Unit Price
ZDTS	50	30x50	±16	16.7	50µm	0.26	
	60	40x60	±21			0.38	
	90	40x90	±35			0.51	

Resolution (Vernier Scale Indication): 0.1 mm/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

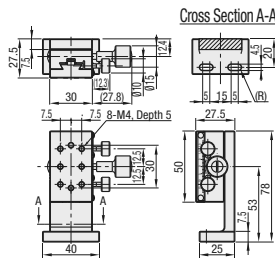


X-Axis P.1903  
Y-Axis P.1938

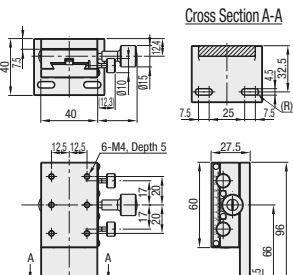
RoHS

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

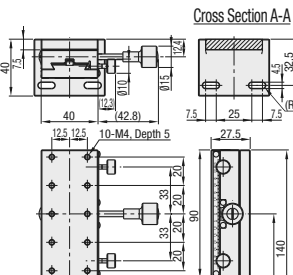
#### ZDTS50



#### ZDTS60



#### ZDTS90



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 Straightness	Weight (kg)	Unit Price
ZDTS	50	50x30	±15	16.7	50µm	0.23	
	60	60x40	±20			0.33	
	90	90x40	±35			0.43	

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

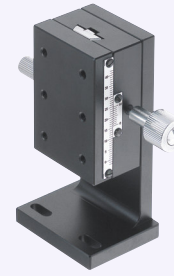
Ordering Example Part Number ZDTS60

# [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  
Y-Axis P.1939

RoHS

Example



XWG60 (P.1904) and ZWG60 Combination



XYWG60 (P.1939) and ZWG90 Combination



XYWG60 (P.1939) and ZWG90 Combination

Standard Stages Similar Products: ZDTS (P.1953)

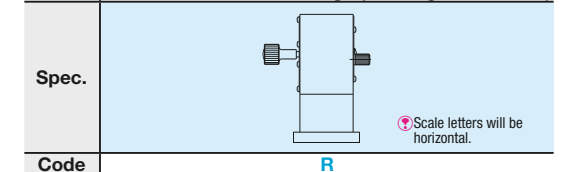
Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Travel Accuracy (µm) Straightness	Load Capacity (N)	Weight (kg)	Unit Price
ZWG	40	24.8x42	±12	30	19.6	0.17	
	60	40x60	±21				
	90	40x90	±35				
	140	40x140	±60				

Resolution (Vernier Scale Indication): 0.1 mm/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

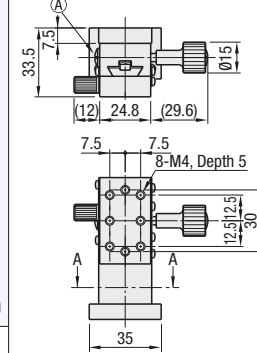
Alterations Part Number - (R) ZWG60 - R

Alteration Feed Knob Position Change (Left/Right Reversed)

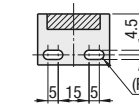


Code R

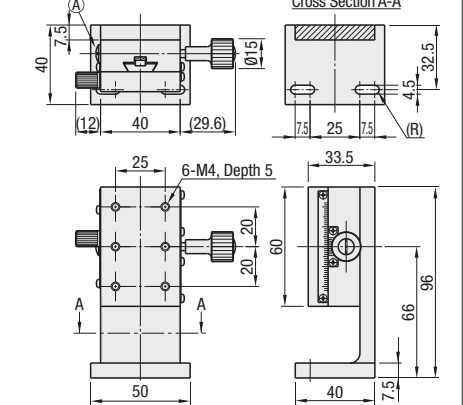
#### ZWG40



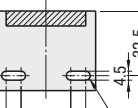
#### Cross Section A-A



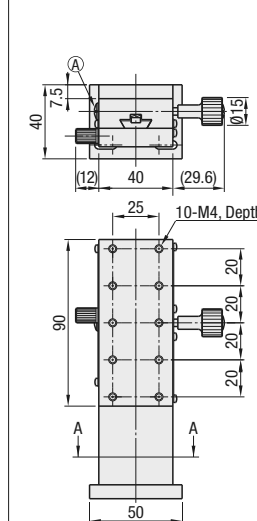
#### ZWG60



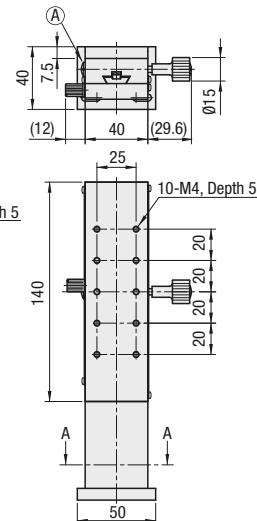
#### Cross Section A-A



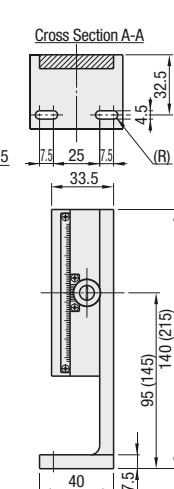
#### ZWG90



#### 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.

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

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

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

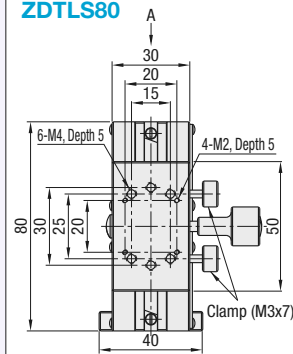
Points on Similar Product Comparison | Travel Accuracy (Straightness) 50-60µm

P.1956

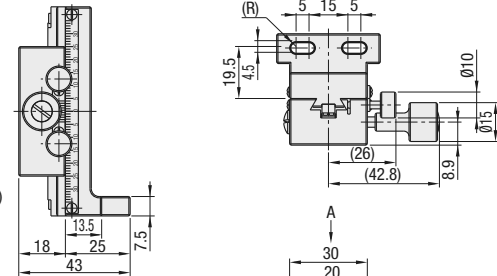
Features: Economically priced long stroke Rack & Pinion stages.

## Z-Axis, Long

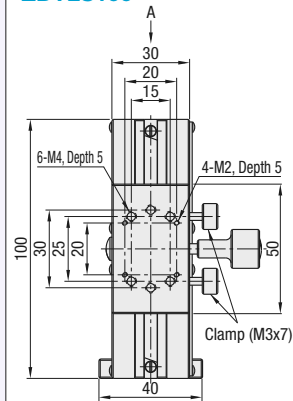
### ZDTLS80



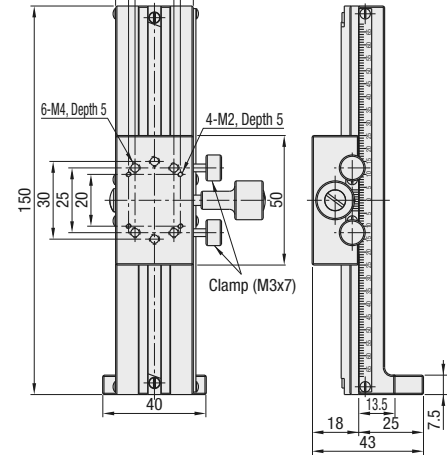
### Arrow View A



### ZDTLS100



### ZDTLS150



M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize

X-Axis P.1907 RoHS

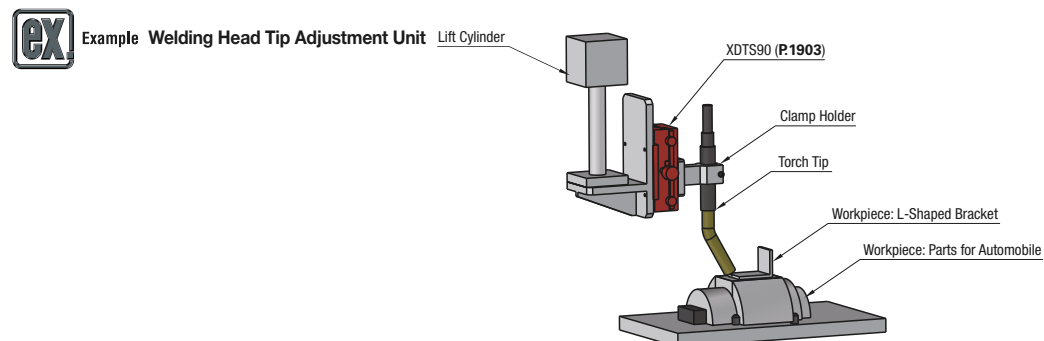
## Z-Axis Stages

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	0.19
	150								±65	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

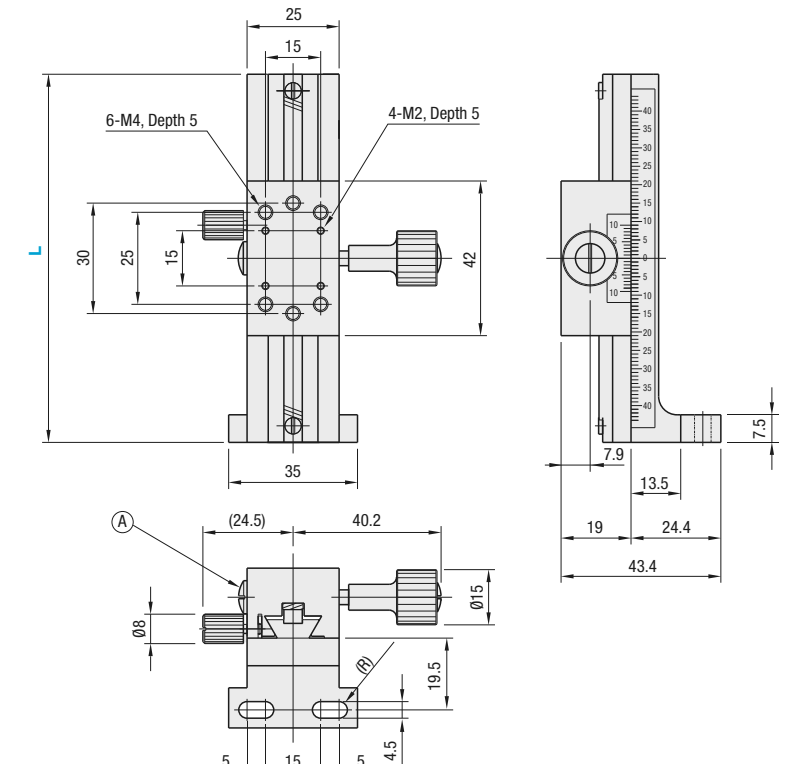
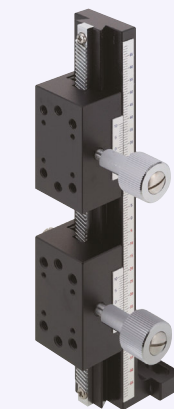
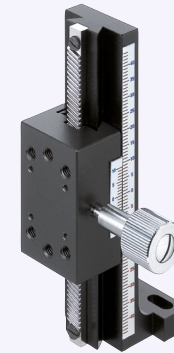


Assuring Repeatability: Adjustment by a stage not by a clamp holder secures repeatability preventing misalignment of the torch.

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)



The scale shown is for L100. Scales will be different for L50, L70, L150, and L150-2.  
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.  
See the CAD data for details.

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

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					
	100	100	1	±40					
	150	150	1	±65					
	150-2	150	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

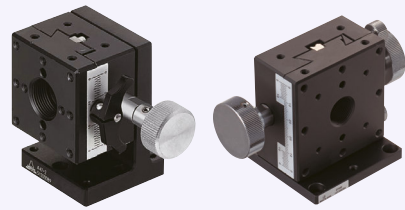
ZLWG150-2 has two blocks. Please note that the stroke distances will be shorter than the one block versions.

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.

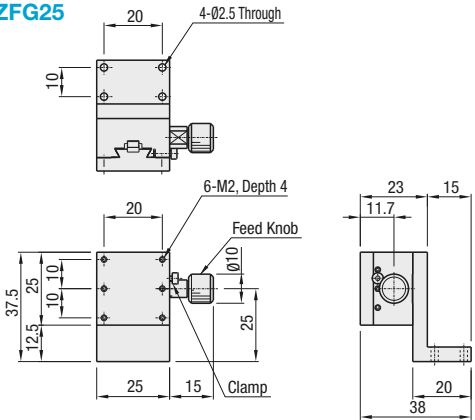
## ■ Z Axis, Square



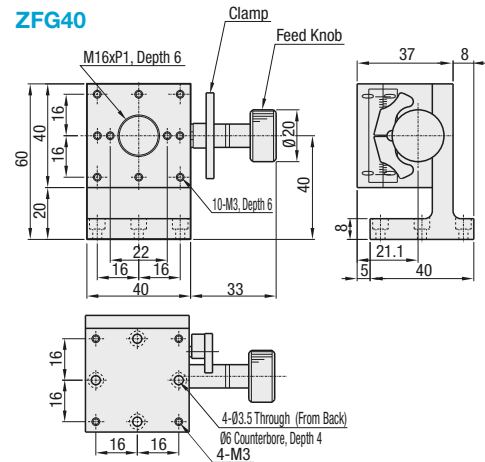
■ X-Axis P.1911  
■ Y-Axis P.1940



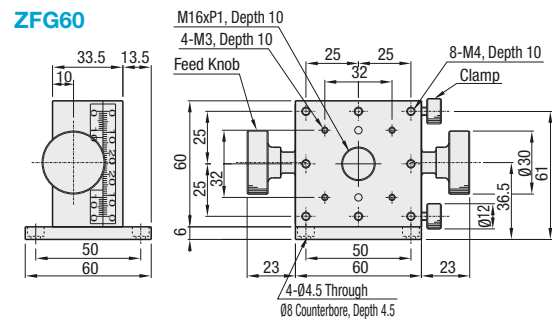
### ZFG25



### 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 Type	Stage Surface No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (µm)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
	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	

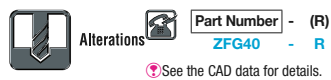
❖ Resolution (Vernier Scale Indication): 0.1 mm/division

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



### ❖ Tips: Lever Clamp 3D View

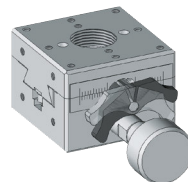
Some models are equipped with "Lever Clamps" as shown below. The standard clamp knobs are small in diameter and may require significant forces for sufficient clamping. The wing-shaped lever clamp can be operated with an index finger and the thumb with little effort. Please note that the actual clamping 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

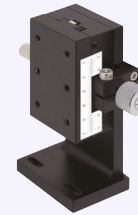
Lever Clamp Models:  
XFG40 (P.1911)  
XYFG40 (P.1940)  
ZFG40 (P.1957)  
XZFG40 (P.1992)  
XYZFG40 (P.1995)  
XWGSR40 (P.1925)  
XWGSR60 (P.1925)  
XWGSR90 (P.1925)



# [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.

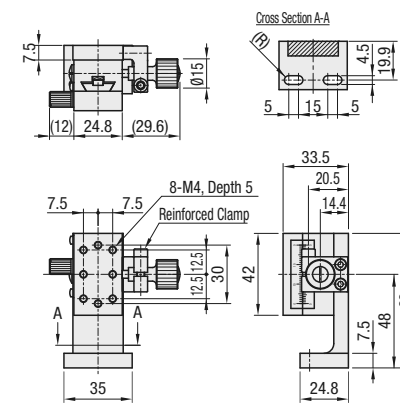
## ■ Z Axis, Reinforced Clamp



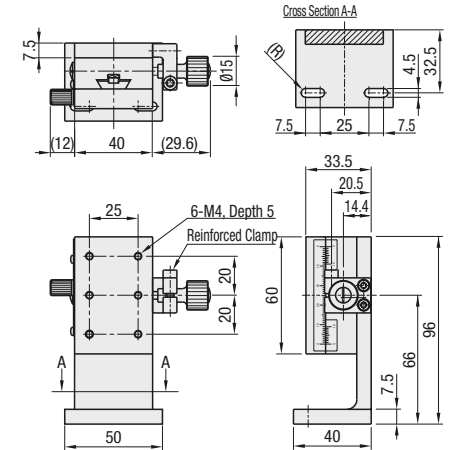
■ X-Axis P.1906  
■ Y-Axis P.1940



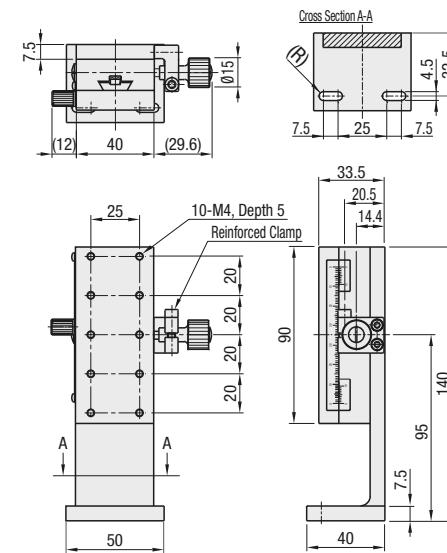
### ZWGCL40



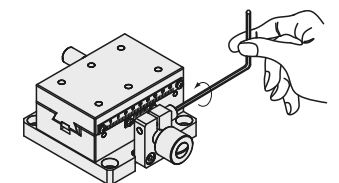
### ZWGCL60



### ZWGCL90



### EX 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 Type	Stage Surface A	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy Straightness (µm)	Weight (kg)	Accessory (2 pcs.)	Unit Price
	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): 0.1 mm/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

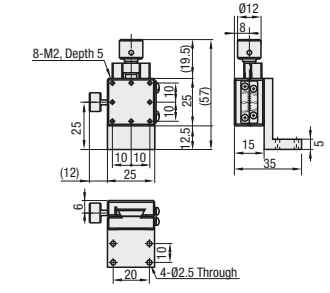
P.1962

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

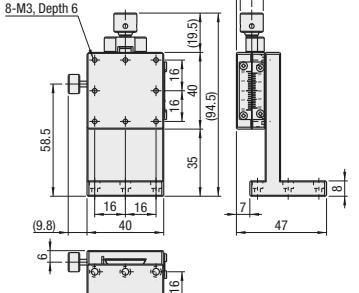
**Z-Axis**



**ZFES25**  
(Standard)



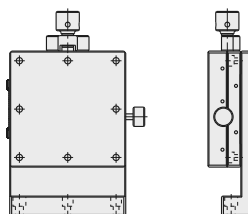
**ZFES40**  
(Standard)



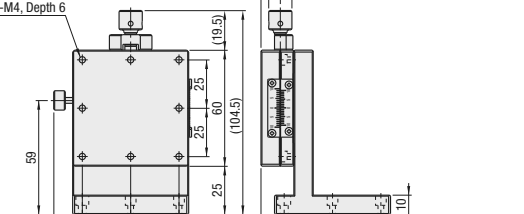
X-Axis P.1896  
XY-Axis P.1931

RoHS

Clamp Position Change  
**ZFES R**  
(Reversed)



**ZFES60**  
(Standard)



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

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

See the CAD data for details.

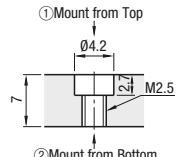
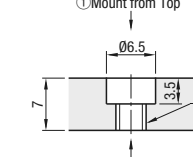
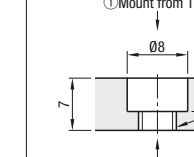
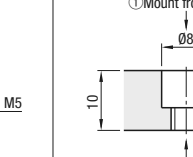
**Z-Axis Stages** High Precision Stage Existing Product: ZEG (P.1962)

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	No Symbol (Standard) R (Right/Left Reversed)	25		25x25	±5	0.5	9.8	50µm	0.06	
		40		40x40	±7				0.18	
		60		60x60	±8				0.40	

Resolution (Vernier Scale Indication): 0.1mm/division  
Extension Cover HDXT12-□ (sold separately): Ø12 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
	 ① Mount from Top ② Mount from Bottom	 ① Mount from Top ② Mount from Bottom	 ① Mount from Top ② Mount from Bottom	 ① Mount from Top ② Mount from Bottom
Mounting Screw Dia.	① M2 ② M2.5	① M3 ② M4	① M4 ② M5	① M4 ② M5

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

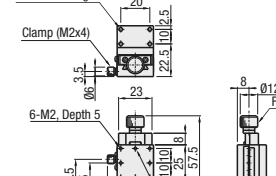
**Z-Axis**  
(Lead 0.5mm)



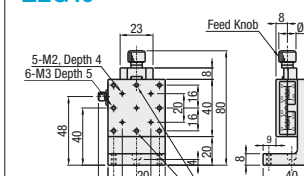
X-Axis P.1897  
XY-Axis P.1933

RoHS

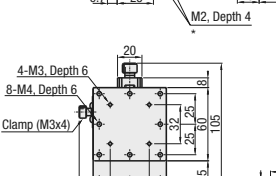
**ZEG25**



**ZEG40**



**ZEG60**



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

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				0.75	SCB4-10	

Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example Part Number **ZEG25**


Alterations Part Number - (R) **ZEG25 - R**

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

See the CAD data for details.

Features: Hex wrench feed drives prevent inadvertent position changes.

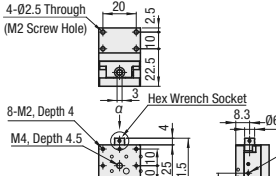
**Z-Axis, Hex Wrench Drive**  
(Lead 0.5mm)



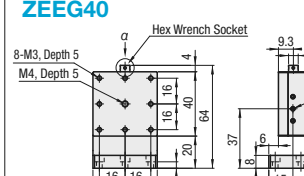
X-Axis P.1897  
XY-Axis P.1933

RoHS

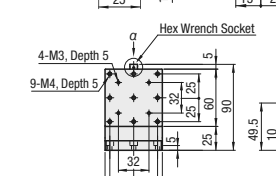
**ZEEG25**



**ZEEG40**



**ZEEG60**



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

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

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				0.67	SCB4-10	

Ordering Example Part Number **ZEEG60**

# [High Precision] Z-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.

**Z-Axis, Extended Knob**  
(Lead 0.5mm)



**ZEGL40**

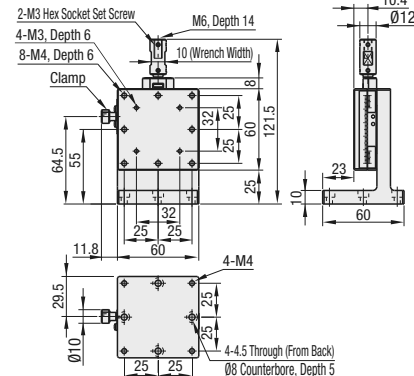
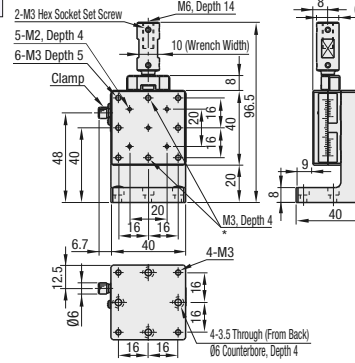
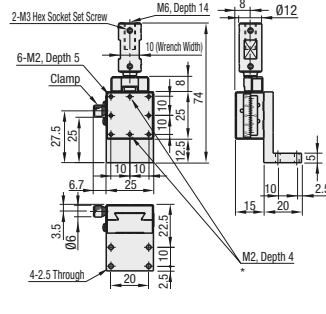
**Tips: Knob Extension Method**

Knob length and diameter can be increased by utilizing the M6, Depth 14 tapped hole.  
(Ex.) Seven Lobed Knob (P-1171) NKSM6-30 can be mounted to extend the knob by 36mm.  
Use adhesive to prevent the knob extension from pulling off.

**ZEGL60**

X-Axis P.1898  
XY-Axis P.1934

**ZEGL25**



**Material:** (Main Body) Low Cadmium Brass **S** Surface Treatment: Black Fluororesin Treatment  
(Feed Knob) Low Cadmium Brass

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

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)			Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
							Pitching	Yawing	Rolling			
ZEGL	25	25x25	±5	0.5	9.8	30	2.0	1.5	1.5	0.12	SCB2-8	
	40	40x40	±7		9.8		4.0	3.0	3.0	0.27	SCB3-8	
	60	60x60	±9		19.6		5.0	4.0	4.0	0.71	SCB4-10	

Resolution (Vernier Scale Indication): 0.1mm/division

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

XY-Axis Mounting Plate XPLTE: Use this plate when connecting stages with non-matching mounting holes. P.1915

Ordering Example Part Number **ZEGL60**



Alterations

Part Number - (R)  
**ZEGL60 - R**

Alteration Clamp Position Change (Right / Left Reversed)

Spec.	Code
	R

# [Simplified Adjustments] Z-Axis, Feed Screw

## For Set-Up Changes, For First Time Installment

**Features:** Z-axis unit that can support a load. Suitable for camera and dispenser setup changes, with little backlash and a scale.

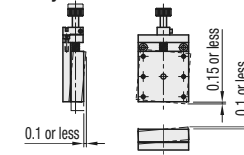
**Z-Axis, For Set-Up Changes**

**RoHS**

**Accuracy Standards**

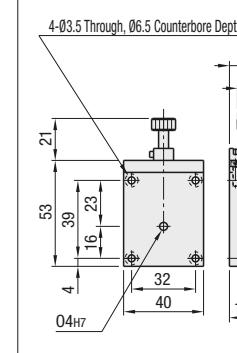


Travel per Rotation: 1.5mm

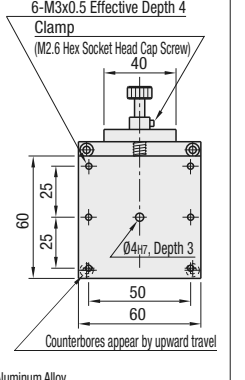
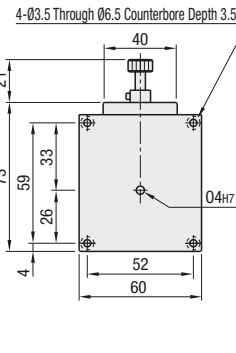


Not recommended for precise positioning due to its clearance shown on the left.

**XKDSP40**



**XKDSP60**



Counterbores appear by upward travel

**Material:** Aluminum Alloy  
**S** Surface Treatment: Black Anodize  
**A** Accessory: Hex Socket Head Cap Screw CB3-10, 4 pcs.

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price	Ordering Example	Part Number
								<b>XKDSP60</b>
XKDSP	40	40x40	±6	19.6	0.10			
	60	60x60	±6	39.2	0.19			

Travel per Rotation: 1.5mm Minimum Graduation: 0.5mm

The allowable loads are for using in Z-Axis configuration (in the orientation shown in the photo).

**Features:** Z-axis unit that can support a load. The nylon coated nut used has little backlash. Suitable for infrequently adjusted axis such as on cameras, etc.

**Z-Axis, For First Time Installment**

**RoHS**

**Accuracy Standards**

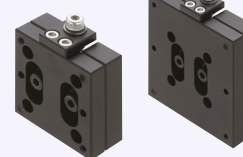
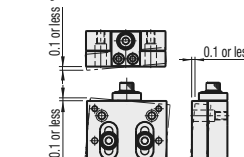
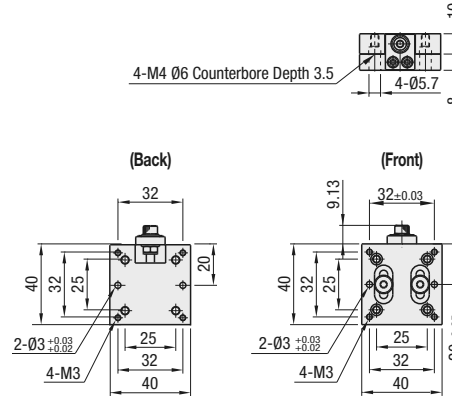


Photo: Front Side  
Travel per Rotation 0.7mm

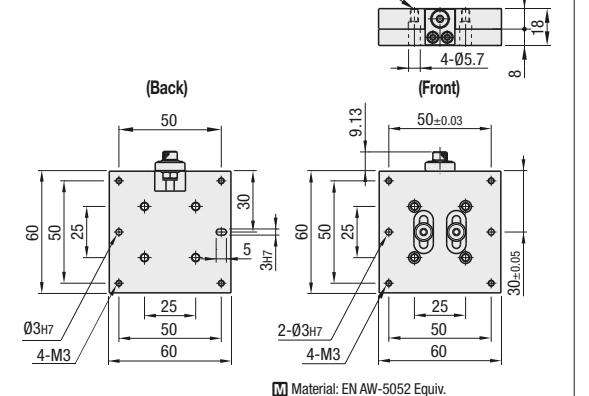


Not recommended for precise positioning due to its clearance shown on the left.  
Values are obtained before shipping.

**XKEMA40**



**XKEMA60**



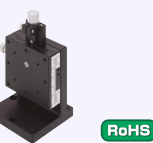
Can be tightened from the front with Hex Socket Head Cap Screw M3 and from back with M4.

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (g)	Unit Price	Ordering Example	Part Number
								<b>XKEMA40</b>
XKEMA	40	40x40	±3	49	70			
	60	60x60	±5	98	160			

The allowable loads are for using in Z-Axis configuration (in the orientation shown in the photo).

**Features:** Z-Axis stage feed knob shaft is directly clamped with a split clamp for improved position holding performance.

**Z Axis, Reinforced Clamp**  
(Lead 0.5mm)

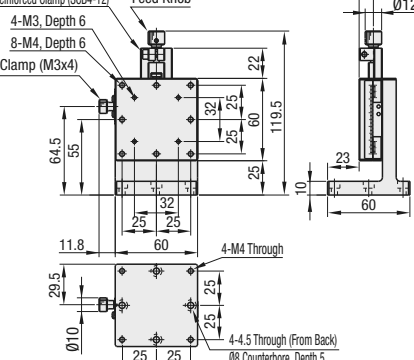
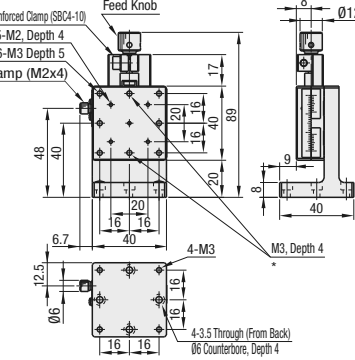
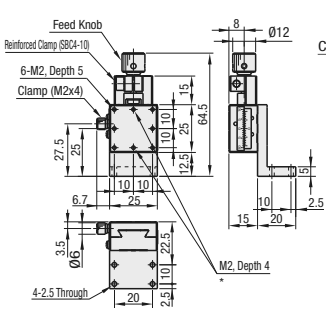


**ZEGCL40**

**ZEGCL60**

X-Axis P.1898  
XY-Axis P.1934

**ZEGCL25**



**Material:** (Main Body) Low Cadmium Brass **S** Surface Treatment: Black Fluororesin Treatment  
(Feed Knob) Aluminum

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

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)			Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
							Pitching	Yawing	Rolling			
ZEGCL	25	25x25	±5	0.5	9.8	30	2.0	1.5	1.5	0.10	SCB2-8	
	40	40x40	±7		9.8		4.0	3.0	3.0	0.27	SCB3-8	
	60	60x60	±9		19.6		5.0	4.0	4.0	0.71	SCB4-10	

Resolution (Vernier Scale Indication): 0.1mm/division

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

XY-Axis Mounting Plate XPLTE: Use this plate when connecting stages with non-matching mounting holes. P.1915

There will be residual clearances with carriage retaining only with a Reinforced Clamp. Use a Clamp Screw in combination.

Ordering Example Part Number **ZEGCL40**



Alterations

Part Number - (R)  
**ZEGCL60 - R**

Alteration Clamp Position Change (Right / Left Reversed)

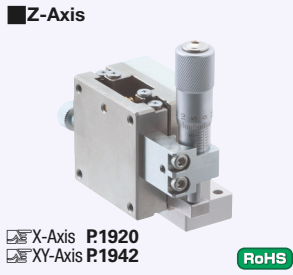
Spec.	Code
	R



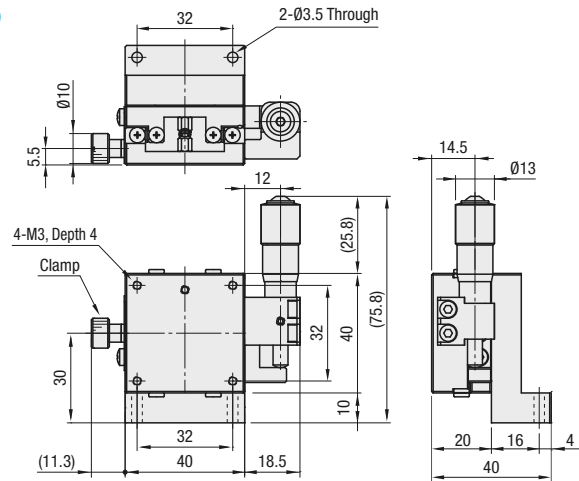
# [Standard] Linear Ball Slide Micrometer Head

Points on Similar Product Comparison | Travel Accuracy Straightness 10µm

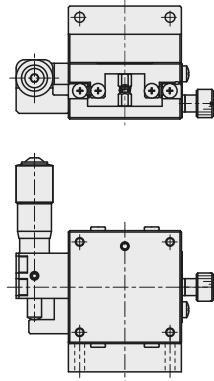
Features: Incorporated Linear Ball Slide Guide mechanism achieves high load capacity.



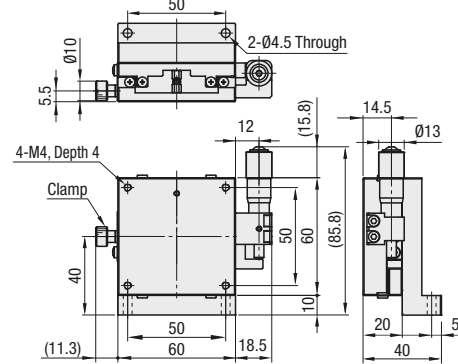
**ZLBS40**  
(Standard)



**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

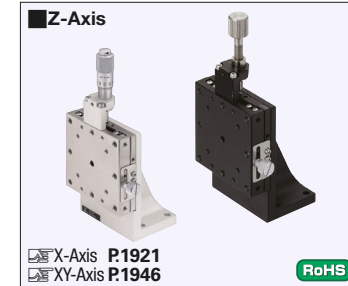
High Precision Stage Existing Product: ZSG (P.1966)

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.					Micrometer Head Position	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			

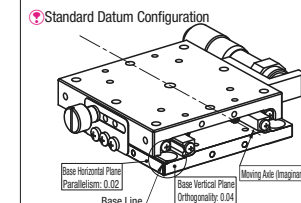
Ordering Example  
Part Number  
**ZLBS40**

# [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.

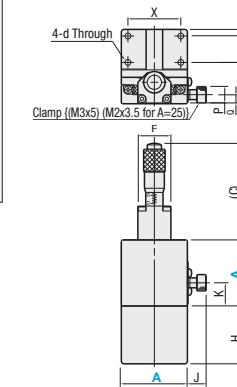


Z-Axis of A25 has different bracket configuration.  
For top surface mounting dimensions and feed bracket shapes, see Linear Ball Slide X-Axis Stages on P.1921  
See the CAD data for details.

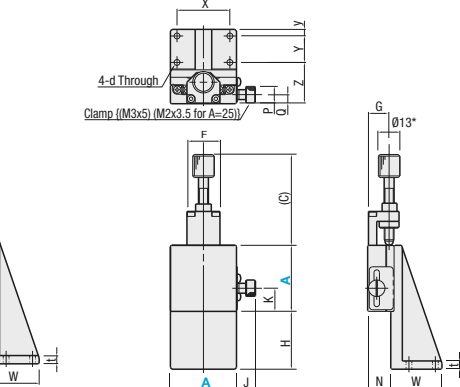


MISUMI's Linear Ball Guide Stages have parallel and orthogonal datum in relation to the motion axis. The data are as illustrated.

**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		
	Material	Surface Treatment	Material	Hardness	Material	Surface Treatment	
ZSG	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.	Clear Anodize
ZSCG		LTBC Plating					Black Anodize
ZSGB							EN 1.4305 Equiv.
ZSCGB							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)		F	K	J	D	G	N	W	t	P	Q	X	Y	y		Z	d
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
ZSCG	40*	35				20	14	11.3	13	13	14	31	5	10	5.5	32	16	4	25	3.5	SCB3-10
ZSGB (* only)	50	30	58.5	55	±6.5	20	19	11.3	13	13	14	57	5	10	5.5	40	40	6	25	3.5	SCB3-10
ZSCGB (* only)	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
	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				
ZSCG	40*	40x40	49	1µm	*2	15"	5.0	5.0	5.0	0.42	0.35	0.21	0.32				
ZSGB (* only)	50	50x50					6.8	6.8	6.0	0.15	0.14	0.09	0.44				
ZSCGB (* only)	60*	60x60					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				
	80*	80x80					18.2	18.2	17.7	0.04	0.04	0.02	1.20				

\*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	
	Side Up	Side Up and Right/Left Reversed	Side Down	Disc Clamp	Opposed Clamp
Spec.					
Code	<b>C</b>	<b>CR</b>	<b>CU</b>	<b>H</b>	<b>P</b>

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.

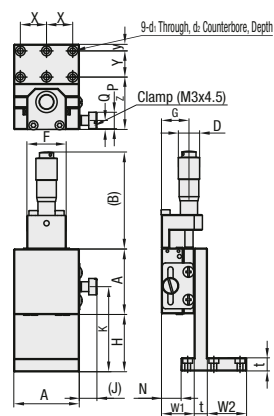
### Z-Axis



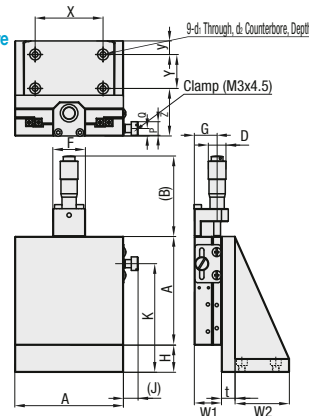
X-Axis P.1917  
XY-Axis P.1942

RoHS

ZCRS  
60 or less

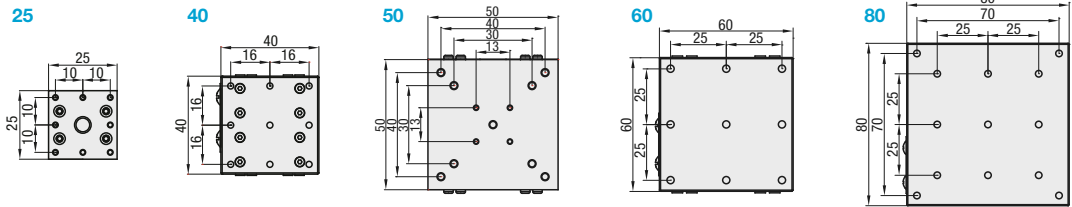


80 or more



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

### Mounting Hole Dimensions of the Top Table



M Material: Aluminum Alloy  
S Surface Treatment: Black Anodize

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

Part Number	Front View					Side View					Top View									
	A	(B)	H	Travel Distance (mm)	F	K	(J)	D	G	N	W <sub>1</sub>	W <sub>2</sub>	t	P	Q	X	Y	y	d <sub>1</sub>	d <sub>2</sub>
ZCRS 25	41	35	±3.2	13	42.5	(6.8)	9.5	12.5	7	15	24	8	6	4.5	17	16	4	3.5	6	2.5
ZCRS 40	59	35	±6.5	24	52	(10.8)	13	16.8	12	20	24	8	10	5.5	16	16	4	3.5	6	3.3
ZCRS 50	59	30		24	64	(10.8)	13	16.8	10	20	30	10	10	5.5	20	20	5	4.1	8	3.5
ZCRS 60	59	25	24	64	(10.8)	13	16.8	10	20	40	10	10	5.5	25	25	5	4.1	8	4.4	
ZCRS 80	59	20	24	80	(10.8)	13	16.8	-	20	40	10	10	5.5	50	25	10	4.1	8	4.4	
ZCRS 90	80	20	24	84	(10.8)	13	16.8	-	20	40	10	10	5.5	60	25	10	4.1	8	5.3	
ZCRS 100	80	20	24	85.5	(10.8)	13	16.8	-	20	40	10	10	5.5	70	25	10	4.1	8	5.3	
ZCRS 120	164.5	20	±25	24	74	(10.8)	19.1	12.7	-	20	50	10	10	5.5	80	35	10	4.1	8	5.3

### Performance

Part Number	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy Straightness	Moment Load Capacity (N·m)			Moment Rigidity (1/N·cm)			Weight (kg)	Unit Price
				Pitching	Yawing	Rolling	Pitching	Yawing	Rolling		
ZCRS 25	25x25	4.9	30µm	1.1	0.8	0.4	3.03	2.85	1.8	0.06	
ZCRS 40	40x40	9.8		2.7	2.2	2.0	0.38	0.42	0.28	0.24	
ZCRS 50	50x50	14.7		3.5	3.0	3.3	0.2	0.22	0.12	0.34	
ZCRS 60	60x60	19.6		5.2	4.3	5.5	0.12	0.11	0.07	0.46	
ZCRS 80	80x80	49		19.2	15.1	17.3	0.05	0.05	0.04	0.76	
ZCRS 90	90x90			25.0	20.0	22.0	0.05	0.05	0.04	1.03	
ZCRS 100	100x100			36.0	30.0	33.0	0.06	0.07	0.05	1.2	
ZCRS 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.

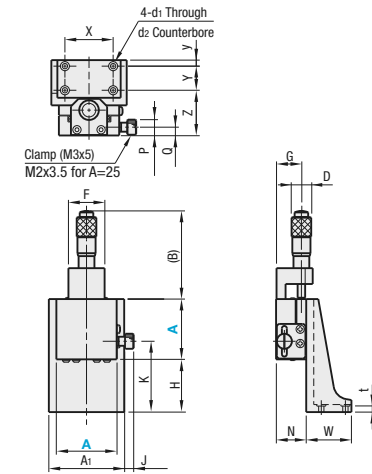
### Z-Axis



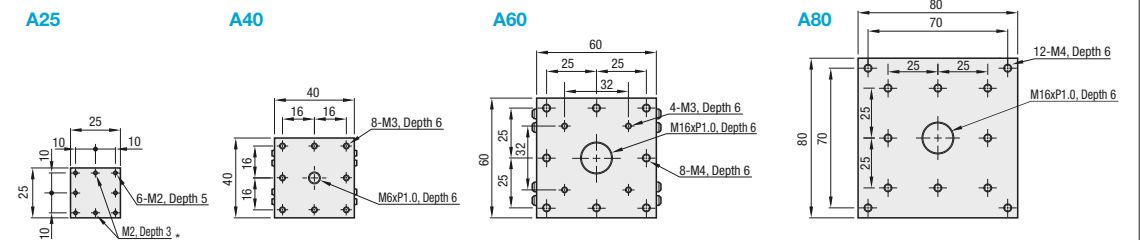
X-Axis P.1918  
XY-Axis P.1943

RoHS

ZPG



### 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	A <sub>1</sub>	H	(B)	Travel Distance (mm)	F	K	J	D	G	N	W	t	P		Q	X	Y	Y	Z	d <sub>1</sub>	d <sub>2</sub>
ZPG 25	25	25	12.5	37.0	±3.2	11	22.5	6.8	9.3	12.5	15	20	5	6	4.5	20	10	2.5	22.5	2.5	-	-	SCB2-8
ZPG 40	40	50	35.0	58.5	±6.5	24	47.0	6.3	13.0	16.8	20	30	4	10	5.5	32	16	4.0	30.0	3.5	6	-	SCB3-8
ZPG 60	60	70	20.0	58.5	±6.5	24	37.5	6.3	13.0	16.8	20	45	7	10	5.5	50	25	5.0	35.0	4.5	8	-	SCB4-12
ZPG 80	80	80	20.0	96.0	±12.5	24	45.0	11.5	18.0	16.5	20	45	7	10	5.5	50	25	5.0	35.0	4.5	8	-	SCB4-12

### Performance

Part Number	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy		Moment Load Capacity (N·m)			Moment Rigidity (1/N·cm)			Weight (kg)	Unit Price
			Straightness	Pitching Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling		
ZPG 25	25x25	4.9	3µm	30"	30"	1.1	0.8	0.4	3.03	2.85	1.80	0.06
ZPG 40	40x40	9.8				2.7	2.2	2.0	0.38	0.42	0.28	0.20
ZPG 60	60x60	19.6				5.2	4.3	5.5	0.12	0.11	0.07	0.45
ZPG 80	80x80	49.0				19.2	15.1	17.3	0.05	0.05	0.04	0.80

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	
	Side Up	Side Down
Spec.	A H	A H
	25 12.5	25 12.5
	40 35	40 20
	60 20	60 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. P.2004  
Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. P.2004

# [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)

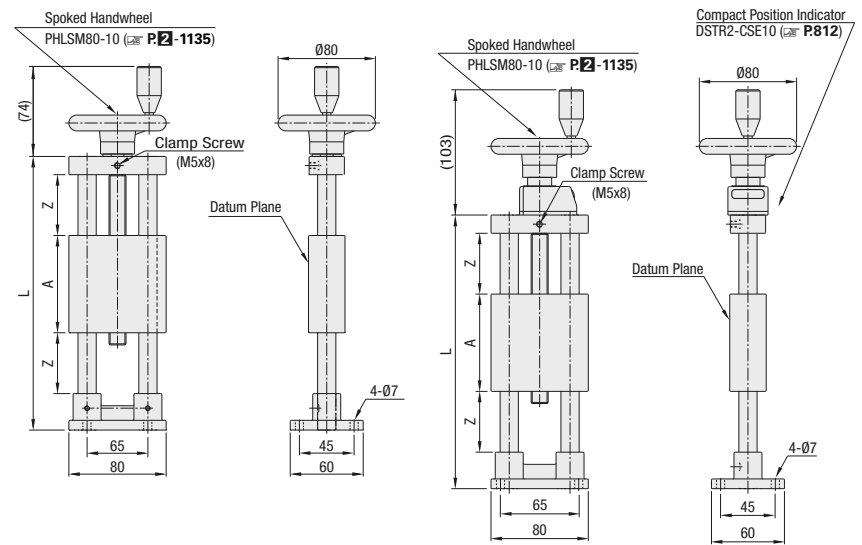
ZKSTP (w/ Compact Position Indicator)



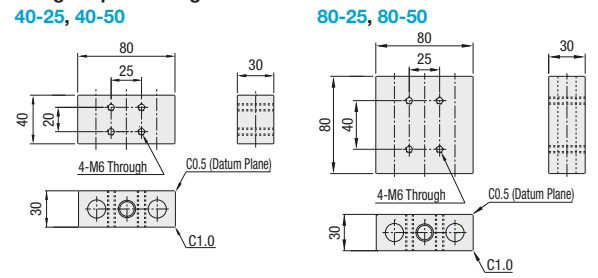
■ Z-Axis, W/ Compact Position Indicator



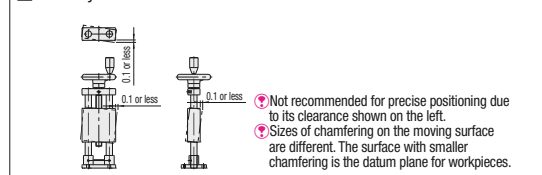
☞ X-Axis P.1927  
☞ Travel per Rotation: 2.0mm



•Stage Top Mounting Hole Dimensions



■ Accuracy Standards



Type	Main Body	Shaft (Ø15)	Feed Screw (M4)	Stand Bracket	Accessory
ZKST	Material: Aluminum Alloy, Surface Treatment: Clear Anodize	Material: EN 1.4125 Equiv., Hardness: 56HRC~	Material: EN 1.4305 Equiv.	Material: EN JIS-S 51300 Equiv., Surface Treatment: Clear Anodize	Mounting Screw (SC26-18 x 4 pcs.)
ZKSTP	Material: Aluminum Alloy, Surface Treatment: Clear Anodize	Material: EN 1.4125 Equiv., Hardness: 56HRC~	Material: EN 1.4305 Equiv.	Material: EN JIS-S 51300 Equiv., Surface Treatment: Clear Anodize	Mounting Screw (SC26-18 x 4 pcs.)

Part Number	Type	A-Z	L	Stage Surface (mm)	Travel Distance (mm) (Zx2)	Travel per Rotation (mm)	Load Capacity (N)	Weight (kg)		Unit Price	
								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

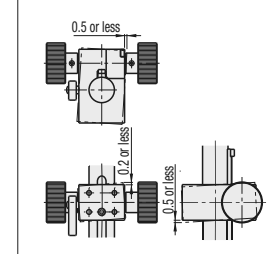
Type	Post	Block	Knob	Rack Gear	Pinion Gear
ZKB	Material: EN 1.4301 Equiv., Surface Treatment: Clear Anodize	Material: Aluminum Alloy, Surface Treatment: Clear Anodize	Material: Aluminum Alloy	Material: EN 1.1191 Equiv.	Material: EN 1.1191 Equiv.



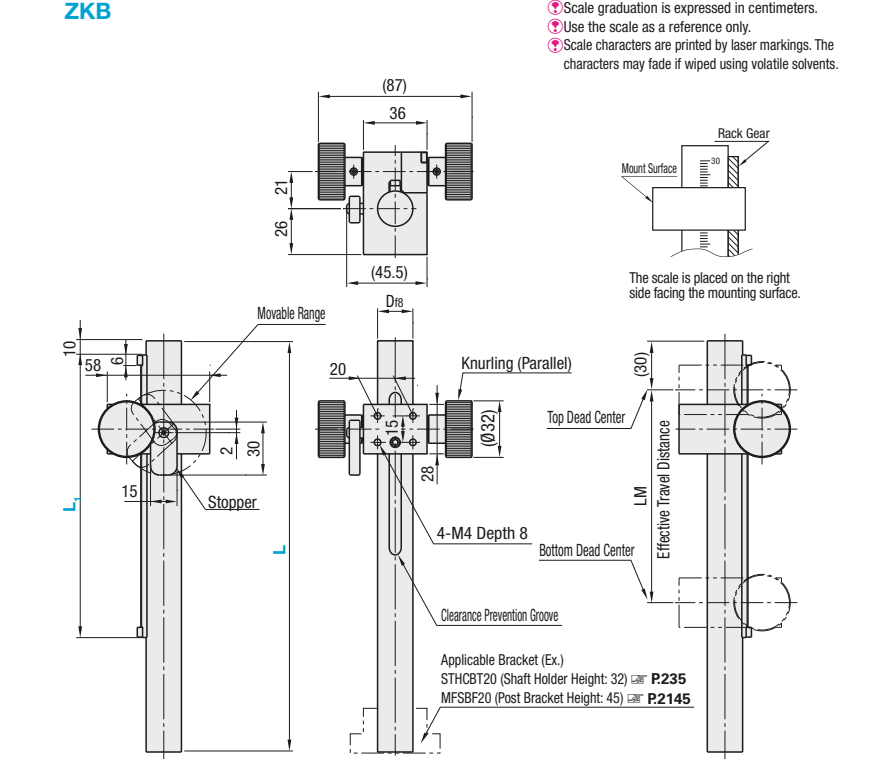
☞ Travel per Rotation: approx. 19mm

☞ Bracket is sold separately. Product matching the mounting configuration can be selected by referring to the details in the drawings.

■ Accuracy Standards



ZKB



Part Number	Type	D18	L	L1	Travel Distance (LM) (mm)	Load Capacity (N)	Weight (kg)	Unit Price

☞ Travel per Rotation: Approx. 19mm

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

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

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	 Rack Gear Mount Surface 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





# [Standard] Horizontal Surface Z-Axis, Feed Screw / Linear Ball Slide

Points on Similar Product Comparison | Parallelism: 100μm

P.1972

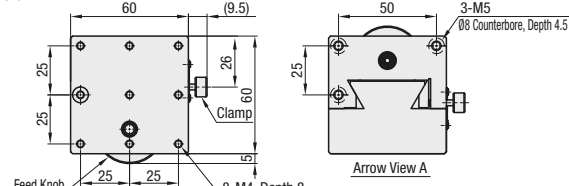
Features: Horizontal Surface Z-Axis Type with feed screw. This is superior to Rack & Pinion Type in load capacity. Space-saving is achieved by limiting the position of clamp/scale to the right side face.

## Horizontal Surface Z-Axis, Feed Screw

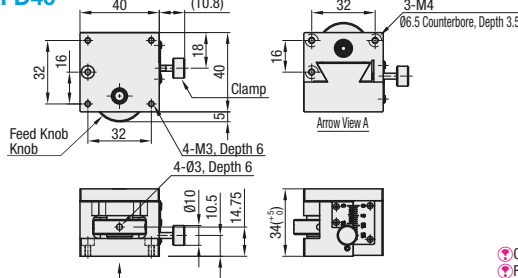


RoHS

### ZLFD60



### ZLFD40



- Clamp and scale are provided on the right side face in the front.
  - Fix the bottom plate at 3 points.
  - Counterclockwise rotation of the knob elevates the stage surface.
- Material: Aluminum Alloy  
Surface Treatment: Black Anodize

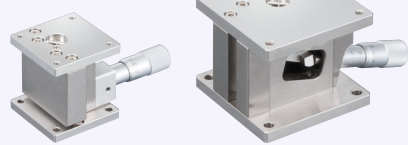
Z-Axis Stages High Precision Stage Existing Product: ZLFG (P.1972), ZLPG (P.1973)

Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Parallelism (μm)	Load Capacity (N)	Weight (kg)	Unit Price
ZLFD							
40	40x40	+5	0.5	100	29.4	0.15	
60	60x60	+7	0.5	100	98.1	0.37	

Ordering Example Part Number ZLFD40

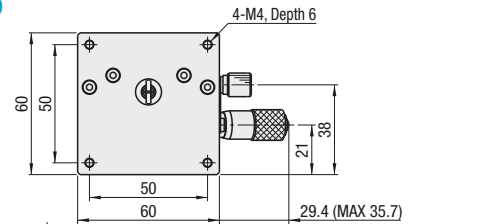
Features: Z-Axis Stages with the stage top rising/lowering horizontally. Best suited for setup changes and simple focus adjustments.

## Horizontal Z-Axis, Linear Ball Slide

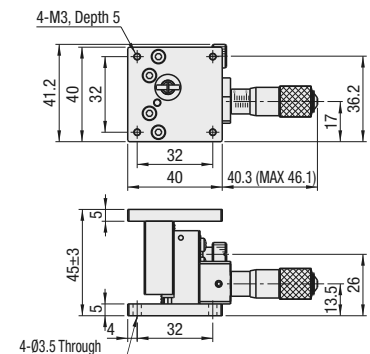


RoHS

### ZLLB60



### ZLLB40



- Accessory: Stainless Steel Hex Socket Low Head Cap Screws ZLLB40 (M3-10, 4 pcs.), ZLLB60 (M4-12, 4 pcs.)
- Material: Steel
- Surface Treatment: Electroless Nickel Plating

Z-Axis Stages High Precision Stage Existing Product: ZLPGS (P.1972), ZLPG (P.1973)

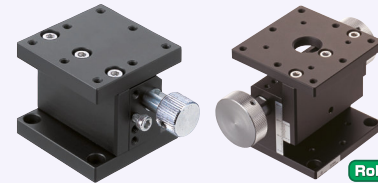
Part Number	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Resolution (μm/division)	Parallelism (μm)	Weight (kg)	Unit Price
ZLLB							
40	40x40	±3.0	29.4	= 5	80	0.3	
60	60x60	±5.0	49.0	= 10		0.7	

Ordering Example Part Number ZLLB40

# [High Precision] Dovetail Slide, Rack & Pinion / Cross Roller

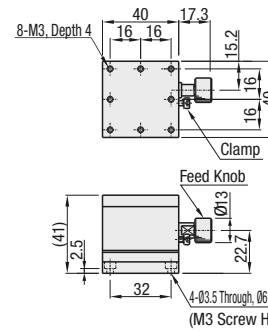
Features: Rack & Pinion Stages with horizontal surface moving vertically.

## Horizontal Surface Z-Axis Stages, Rack & Pinion

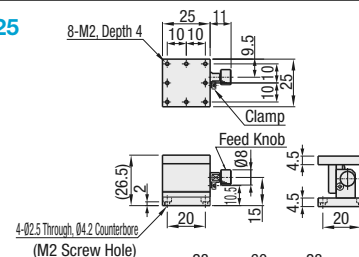


RoHS

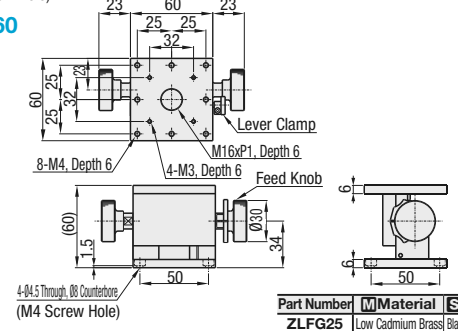
### ZLFG40



### ZLFG25



### ZLFG60



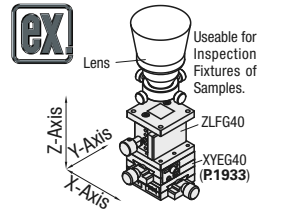
Part Number	Material	Surface Treatment
ZLFG25	Low Cadmium Brass	Black Fluororesin Treatment
ZLFG40	Aluminum Alloy	Black Anodize
ZLFG60	Aluminum Alloy	Black Anodize

Vernier scale will be on the opposite side of clamp mounting side.

Part Number	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (μm)	Moment Load Capacity (N-m)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price	
ZLFG										
25	25x25	±2.5	≈8	6.9	30μm	0.6	1.0	1.5	0.08	SCB2-8
40	40x40	±5	≈13	9.8		0.6	1.0	1.5	0.12	SCB3-6
60	60x60	±10	≈17	14.7		4.0	4.0	2.5	0.47	SCB4-6

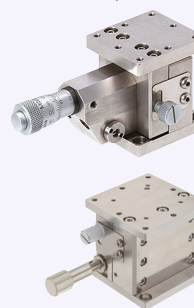
Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example Part Number ZLFG60



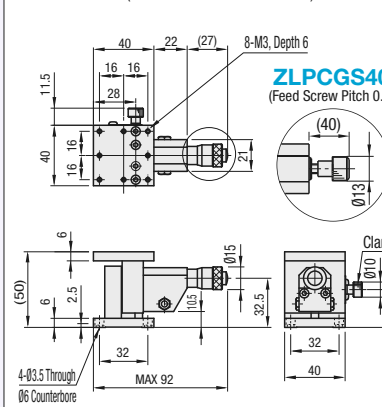
Features: Suitable for highly accurate fine adjustment of horizontal surface of Z-axis. ZLPGS has higher load capacity compared to the same size ZLPG (P.1973).

## Horizontal Surface Z-Axis, Cross Roller (Stainless Steel)

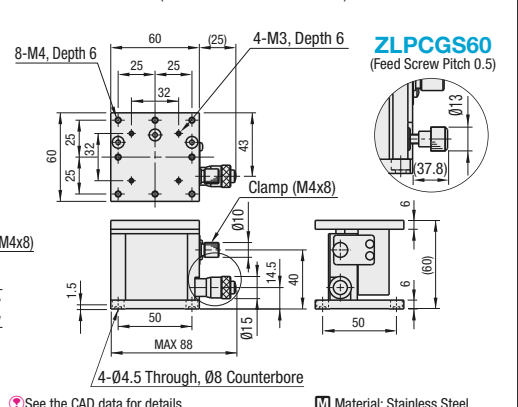


RoHS

### ZLPGS40 (Micrometer Head Lead 0.5)



### ZLPGS60 (Micrometer Head Lead 0.5)



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

Part Number	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy Straightness (μm)	Moment Load Capacity (N-m)	Moment Rigidity ("/N-cm)	Parallelism (μm)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price				
ZLPGS														
40	40x40	±3	29.4	3μm	1.8	1.1	1.2	0.81	0.22	0.30	100	0.49	SCB3-6	
60	60x60	±3	58.8	3μm	3.3	2.4	3.1	0.42	0.18	0.12	100	0.99	SCB4-6	
ZLPCGS														
40	40x40	±3	29.4	3μm	1.8	1.1	1.2	0.81	0.22	0.30	100	0.47	SCB3-6	
60	60x60	±3	29.4	3μm	3.3	2.4	3.1	0.42	0.18	0.12	100	0.97	SCB4-6	

- Micrometer Head Resolution: 10μm/division
- Knob Cover HD0VR15 (Sold Separately): Ø15 micrometer head knobs can be increased in diameter by installing the cover. P.2004
- 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 ZLPGS40

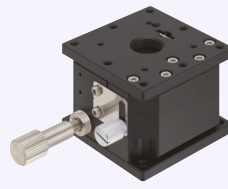
# [High Precision] Z-Axis Cross Roller Micrometer Head / Feed Screw

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)

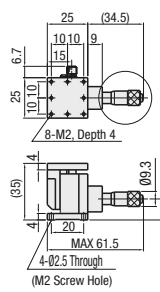


## ZLPCG (Feed Screw Pitch 0.5)

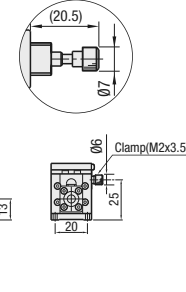


RoHS

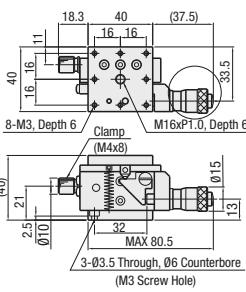
### ZLPG25 (Micrometer Head)



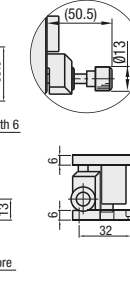
### ZLPCG25 (Feed Screw)



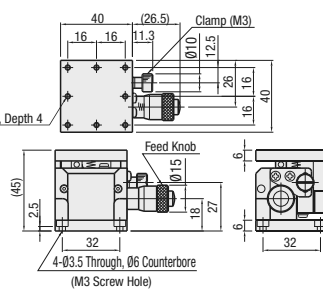
### ZLPG40 (Micrometer Head)



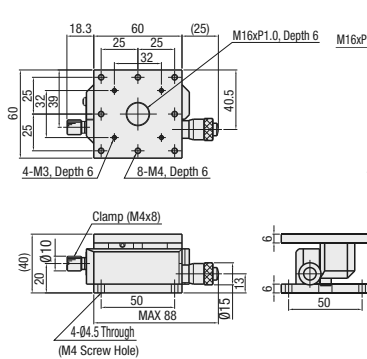
### ZLPCG40 (Feed Screw)



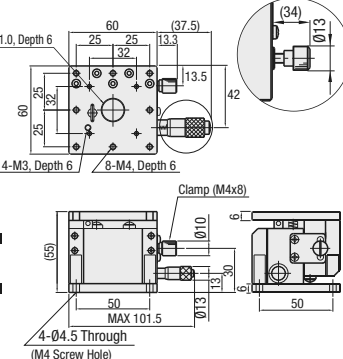
### ZLPG40H (Micrometer Head)



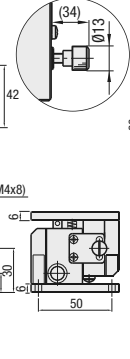
### ZLPG60L (Micrometer Head)



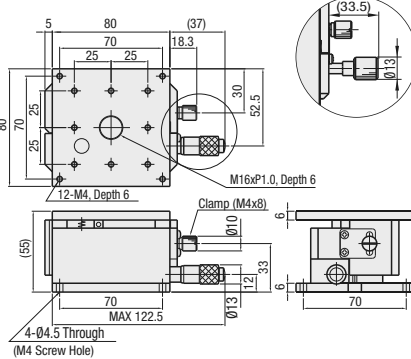
### ZLPG60 (Micrometer Head)



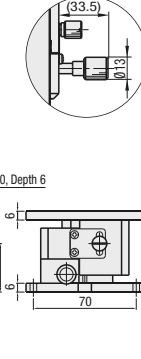
### ZLPCG60 (Feed Screw)



### 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 Type	Stage Surface No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy Straightness	Moment Load Capacity (N · m)			Moment Rigidity (1/N · cm)			Parallelism (μm)	Weight (kg)	Accessory		Unit Price	
						Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			Type	M-L	Quantity	ZLPG
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	3.6		2.2	2.4	1.03	0.52	0.6	0.20		SCB3-6	4			
	60L	60x60	±3	2.3		1.5	4.2	1.01	0.72	0.21	0.30		SCB4-10				
	60*	60x60	±5	39.2*		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

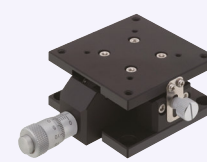
Though having a repeatability, the lift may misalign with the scale graduation depending on the stroke, due to the principle of leverage used for the structure. Use the micrometer head scale for reference only.



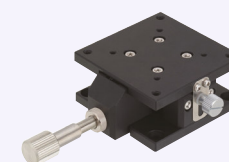
# [High Precision] Z-Axis, Linear Guide Low Profile Micrometer Head / Feed Screw

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)

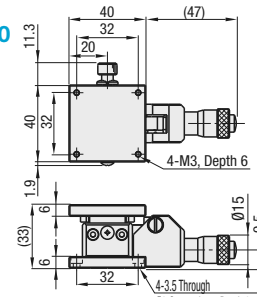


## ZLTCG (Feed Screw Pitch 0.5)

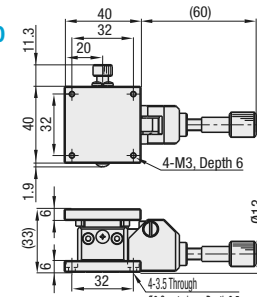


RoHS

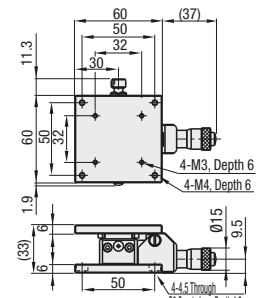
### ZLTG40



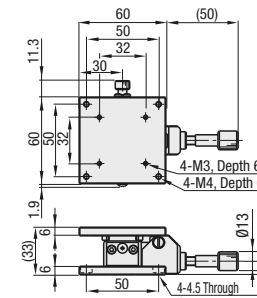
### ZLTCG40



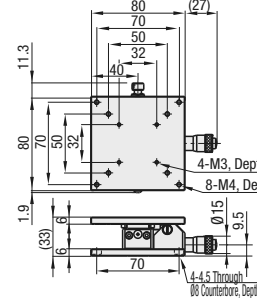
### ZLTG60



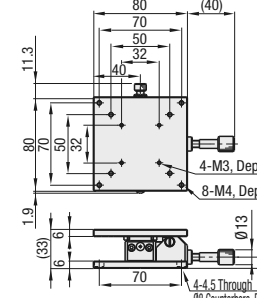
### ZLTCG60



### ZLTG80



### ZLTCG80



See the CAD data for details.

For Feed Screw and Micrometer Head materials, see P2005, 2006. Surface Treatment: Black Anodize

Part Number Type	Stage Surface A	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Travel Accuracy Straightness (μm)	Moment Load Capacity (N · m)			Moment Rigidity (1/N · cm)			Parallelism (μm)	Weight (kg)	Accessory (4 pcs.)		Unit Price
						Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			Type	M-L	
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	29.4			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	29.4			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.



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

## High Load Capacity

# [Standard] Lab Jack Horizontal Surface Z-Axis Stages

## High Load Capacity

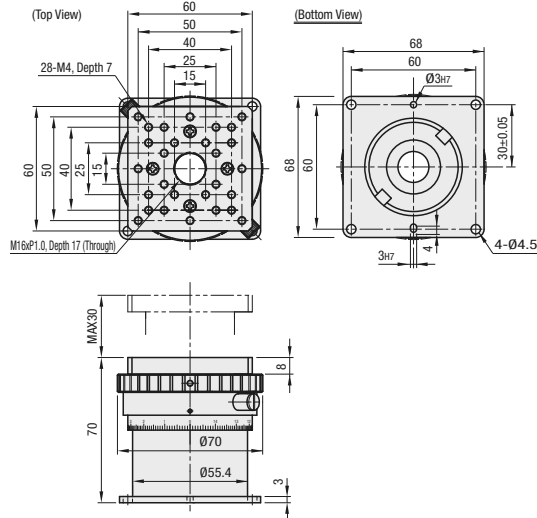
■ **Features:** Longer strokes than the Cross Roller Horizontal Surface Z-Axis Stages and equivalent load capacities to the Lab Jacks. The multi-start screws used prevent plays.

### ■ Helicoid Screw, Horizontal Surface Z-Axis Stages

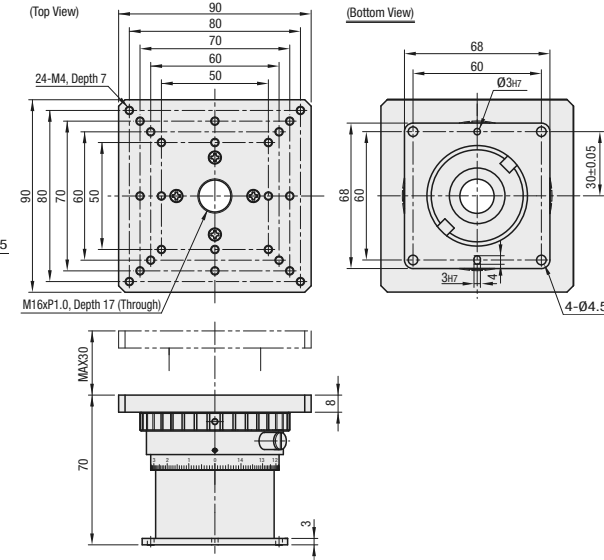


### ■ With Mount Plates (60, 90 Square)

#### ZHRD30-60

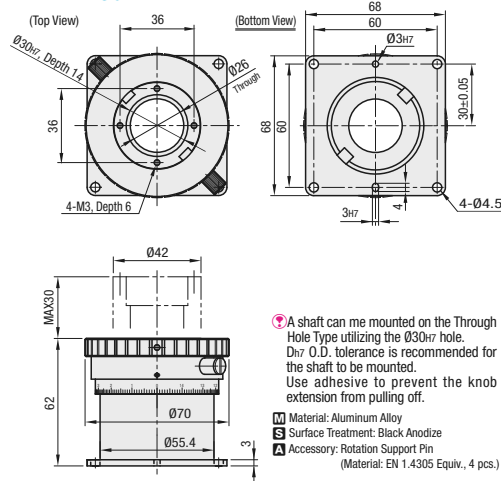


#### ZHRD30-90



### ■ Through Hole Type

#### ZHRD30-T



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

- ① The top plate does not rotate while the stage is in vertical motions.
- ② The pins (4 included) are removable. Use the stage without pins when the space is limited.
- ③ The scale-engraved dial can be rotated. Set a desired position as the zero position and lock the dial with the set screw.
- ④ Use the scale graduations as references.
- ⑤ Although two locking clamps are provided for better operability, the stage can be locked with a single clamp. (The multi-start screw used is not susceptible to back-driving when used within the given load capacity.)
- ⑥ When the ring is rotated, the stage will rise or lower without the top plate rotating.
- ⑦ Dowel holes are provided on the mounting plate to assure installation accuracies.

- ① A shaft can be mounted on the Through Hole Type utilizing the Ø30<sub>H7</sub> hole. Only O.D. tolerance is recommended for the shaft to be mounted. Use adhesive to prevent the knob extension from pulling off.
- ② Material: Aluminum Alloy
- ③ Surface Treatment: Black Anodize
- ④ Accessory: Rotation Support Pin (Material: EN 1.4305 Equiv., 4 pcs.)

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Parallelism (µm)	Weight (kg)	Accessory (4 pcs.)	Unit Price
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.

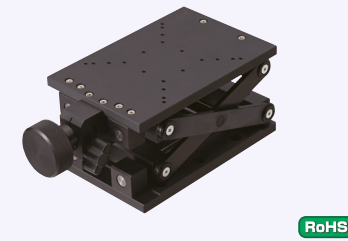
Ordering Example  
 Part Number  
**ZHRD30-60**

### Points on Similar Product Comparison | Parallelism: 400µm

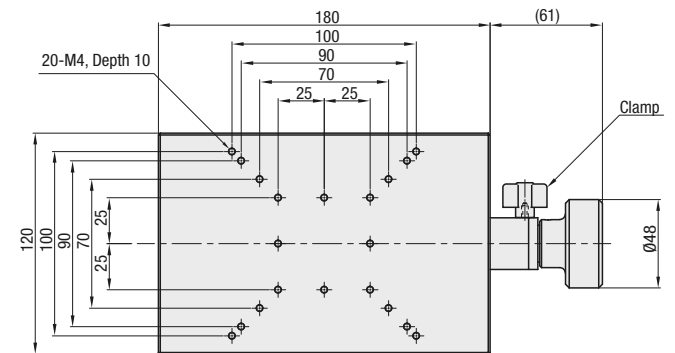
☞ P.1977

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

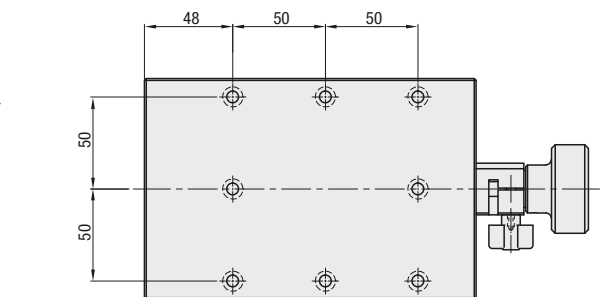
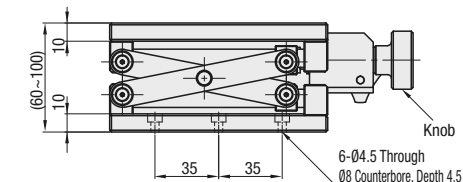
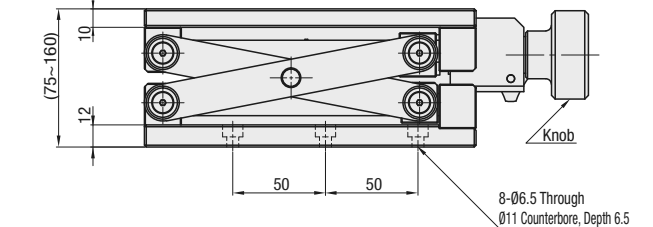
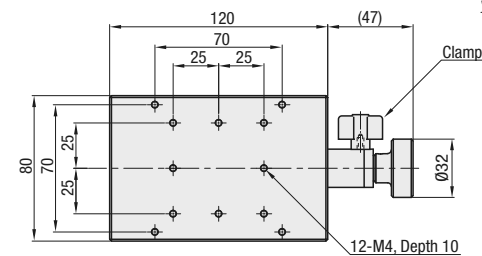
### ■ Horizontal Surface Z-Axis\_Lab Jack



#### ZLJS120



#### ZLJS80



- ① Knob operated elevating table with relatively high load capacity. A split clamp on the operating shaft securely holds the load in position.
- ② Counterclockwise rotation of the knob elevates the stage surface.
- ③ There is some play in the horizontal direction.

- ④ Material: Aluminum Alloy
- ⑤ Surface Treatment: Black Anodize

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Parallelism (µm)	Load Capacity (N)	Weight (kg)	Unit Price
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**

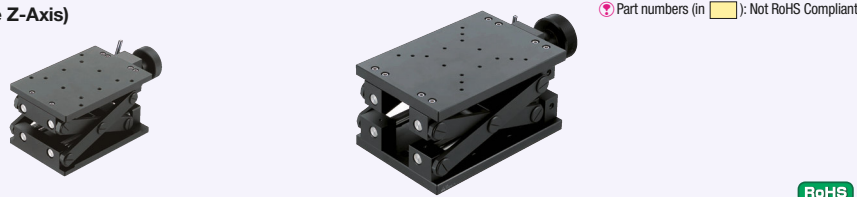


# [High Precision] Lab Jack Horizontal Surface Z-Axis Stages

## High Load Capacity

■ **Features:** Suitable for Z-axis applications requiring long stroke adjustments.

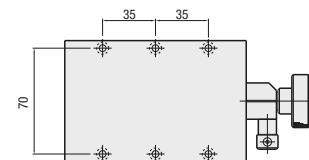
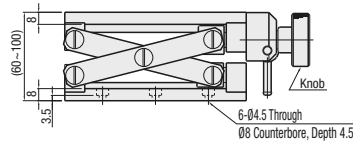
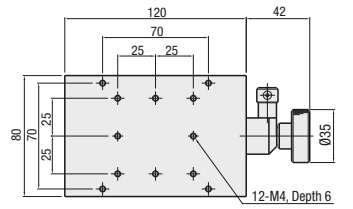
### ■ Lab Jack (Horizontal Surface Z-Axis)



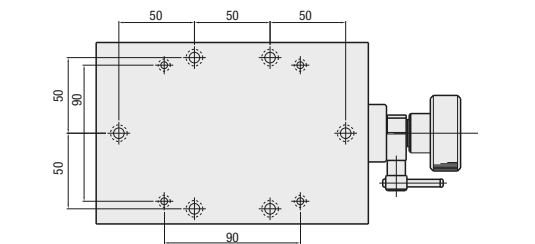
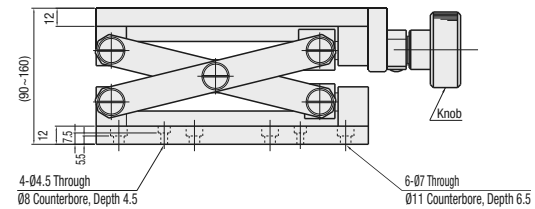
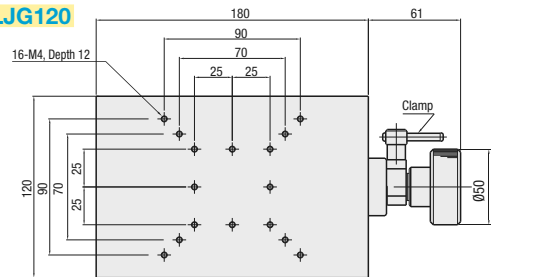
Part numbers (in     ): Not RoHS Compliant

RoHS

### ZLJG80



### ZLJG120



⊕ 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.

**M** Material: Aluminum Alloy

**S** Surface Treatment: Black Anodize

**A** Accessory: Hex Socket Head Cap Screw (Stainless Steel)

ZLJG80: SCB4-10 (6 pcs.)  
ZLJG120: SCB4-12, SCB6-12 (4 pcs. each)

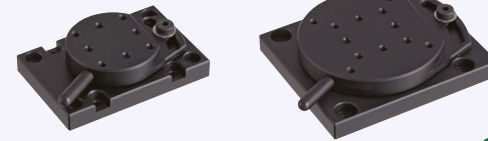
Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Parallelism (μm)	Weight (kg)	Unit Price
ZLJG	80	80x120	40	2	68.6	200μm	1.25	
	120	120x180	70	3	98.0		3.50	

Ordering Example Part Number **ZLJG80**

# [Simplified Adjustments] Angle Adjusting Units

■ **Features:** Tight clamping can be achieved by adjusting the rotation direction by the handle and holding the upper and lower surfaces by using screws. Friction effect prevents angle misalignment when clamped.

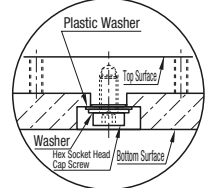
### ■ Rotary Stages, Simplified Angle Adjusting Units



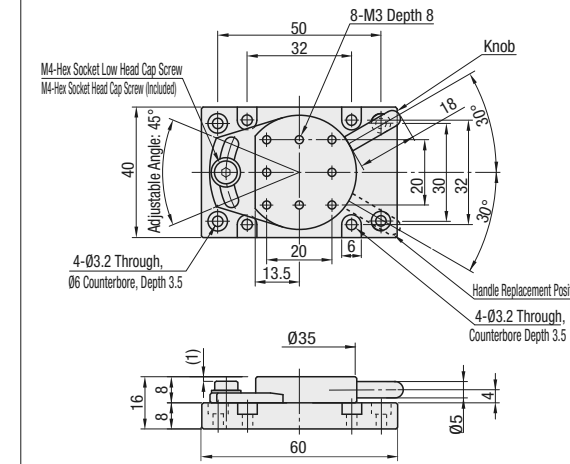
RoHS

### ■ Friction Effect

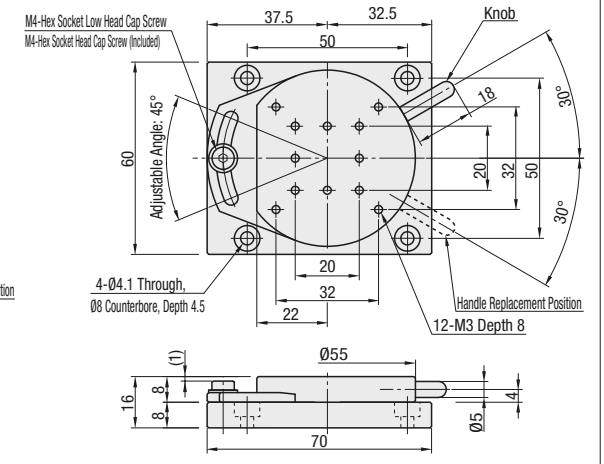
A plastic washer inserted at the top-and-bottom-plate connecting portion causes appropriate friction, preventing angle misalignment by overtightening of the clamp screw.



### XKRC40



### XKRC60



⊕ Top and bottom plates are ground fit, thus the accuracy of the mating plane may change the sliding resistance.

⊖ The adjustment handle is removable, and two handle mounting holes are provided.

⊕ A Hex Socket Head Cap Screw (M4) is included as a clamp bolt enabling clamping by a wrench.

**M** Material: Aluminum Alloy

**S** Surface Treatment: Black Anodize

**A** Accessory: Hex Socket Head Cap Screw RSCB4-10, 1 pc.

Part Number Type	Stage Surface No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N) Horizontal	Weight (kg)	Unit Price
XKRC	40	Ø35	±22.5°	9.8	0.07	
	60	Ø55		14.7	0.15	

Ordering Example Part Number **XKRC60**

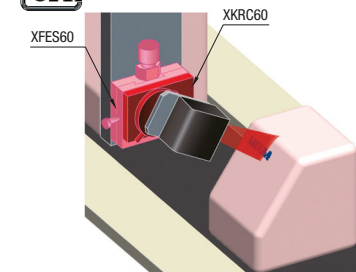
### [Combination Examples of Adjustment Units]

Simplified Adjustment Units	XKRC40	Page	XKRC60	Page
	XKCS30	1895	XKCS30	1895
XKDSP40	1964	XKDSP60	1964	
XKEMA40	1964	XKEMA60	1964	
High Precision Stages Standard Stages	XFES40	1896	XFES60	1896
	XCRS40	1917	XCRS60	1917
	XZLNG40	1992	XZLNG60	1992
	ZFES40	1961	ZFES60	1961
	ZCRS40	1967	ZCRS60	1967
	ZLFG40	1972	ZLFG60	1972
	ZLPG40	1973	ZLPG60	1973
ZLTG40	1974	ZLTG60	1974	

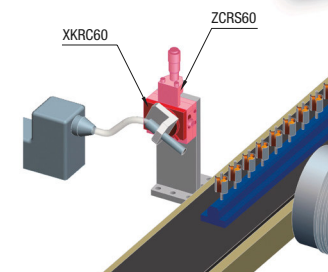
### Example ■ Position Adjustment of Inspection Camera at Painting



### Example

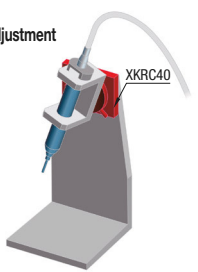


■ Position Adjustment of Print Inspection Instrument



■ Neutralization by Air for Electronic Components

### ■ Syringe Angle Adjustment



# [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**

**RTRM40-R** (Standard)

**RTRS** (No Scale)

**Arrow View A**

**RTR□□□-L** (Reversed)

**RTRM60-R** (Standard)

**RTRM80-R** (Standard)

Material: Aluminum Alloy, Surface Treatment: Black Anodize

See the CAD data for details.

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

Type	Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price	
	No.	Micrometer Head Position					RTRM	RTRS
RTRM (W/ Scale)	40	R (Standard)	Ø40	Coarse 360°	9.8	0.10		
RTRS (No Scale)	60	L (Reversed)	Ø60	Fine Feed ±5°	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**  
**RTRS60-L**

**Features:** Best suited for fine angle adjustments.

**Rotary Stages (Square)**

**RTSS40**

**RTSS60**

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

Material: Aluminum Alloy, Surface Treatment: Black Anodize

Part Number Type	Stage Surface (mm)	Travel Distance (°)	Load Capacity (N)	Resolution ("/Scale)	Parallelsim (µm)	Weight (kg)	Unit Price
							1 ~ 4 pc(s).
RTSS	40	±10	9.8	≈ '1'51"	50	0.14	
	60		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**

**TLSG**

Material: Aluminum Alloy, Surface Treatment: Clear Anodize

Part Number	Load Capacity (N)	Weight (kg)	Accessory: Hex Socket Head Cap Screw (Stainless Steel)	Unit Price
TLSG	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**

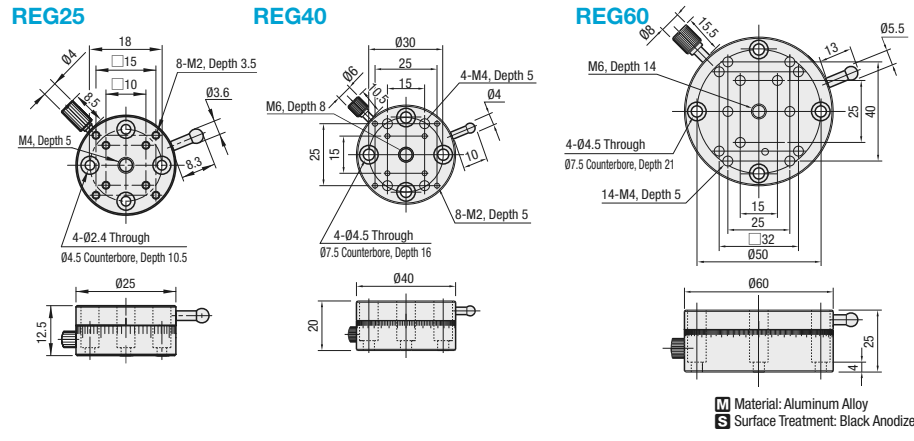
Material: Aluminum Alloy, Surface Treatment: Clear Anodize

# [High Precision] Rotary Stages

## Coarse Feed / Feed Screw

Features: Suitable for large angle positioning applications such as LED lighting and sensor positioning.

### Rotary Stages, Coarse Feed



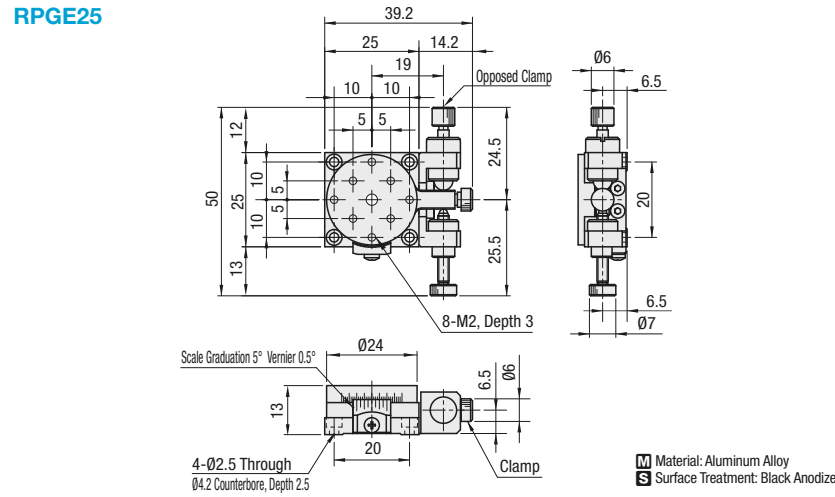
Part Number Type	Stage Surface (mm) No.	Travel Distance	Resolution	Load Capacity (N)		Eccentricity (mm)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price		
				Horizontal	Vertical						
REG	25	Ø25	Coarse 360°	5°	29.4	9.8	0.02	SCB2-5			
	40	Ø40								0.06	SCB4-8
	60	Ø60									

REG25 can not be combined with other stages.  
XWG (P.1904), XYWG (P.1939), ZWG (P.1954), XLWG (P.1908), ZLWG (P.1956 (REG60 requires XPLT60 on P.1915)).

Ordering Example: Part Number REG40

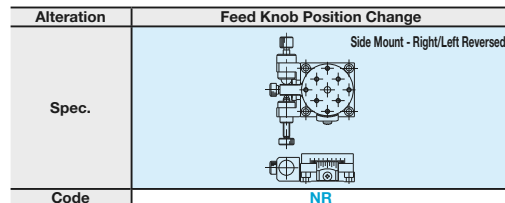
Features: Small Ø24 diameter rotary stage capable of fine screw feeds.

### Rotary Stages, Feed Screw



Part Number Type	Stage Surface (mm) No.	Travel Distance	Resolution Vernier	Load Capacity (N)		Eccentricity (mm)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
				Horizontal	Vertical				
RPGE	25	Ø24	0.5°	9.8		0.05	0.03	SCB2-6	

Ordering Example: Part Number RPGE25



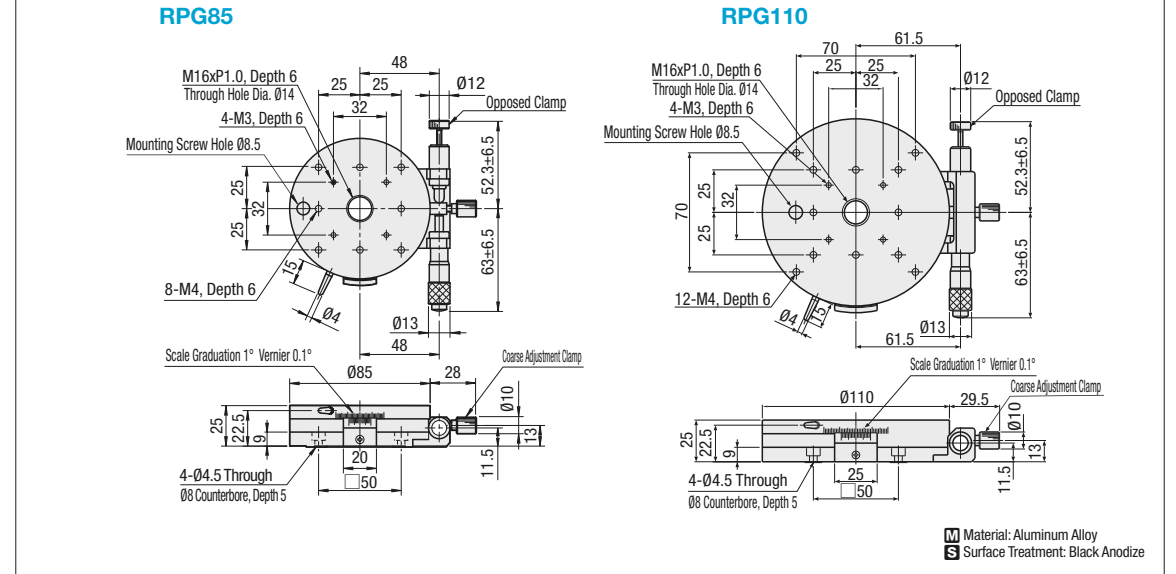
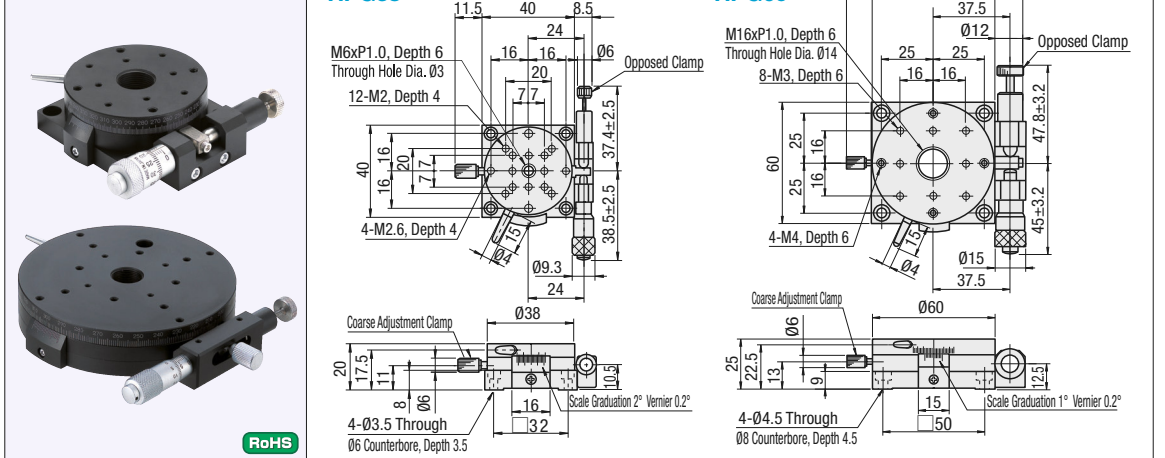
Alterations: Part Number - (NR) RPGE25 - NR

# [High Precision] Rotary Stages

## Micrometer Head

Features: Micrometer equipped rotary stages capable of fine feeds.

### Rotary Stages, Micrometer Head



Standard Stage Similar Products: RTRS (P.1979), RTRM (P.1979) (available for limited sizes only).

Part Number Type	Stage Surface (mm) No.	Travel Distance	Resolution		Load Capacity (N) Horizontal	Moment Load Capacity (N, m)	Moment Rigidity (N/cm)	Eccentricity (mm)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price							
			Vernier	Micrometer														
RPG	38	Ø38	Coarse 360° Fine Feed ±5°	0.2°	9.8	0.3	3.56	0.05	0.09	SCB3-8								
	60	Ø60										≈1'26"/Scale Graduation	≈55"/Scale Graduation	29.4	0.7	0.41	0.28	SCB4-10
	85	Ø85										≈43"/Scale Graduation	≈43"/Scale Graduation	39.2	1.2	0.22	0.48	SCB4-8
110	Ø110		≈34"/Scale Graduation	≈34"/Scale Graduation	49.0	1.5	0.17	0.75	SCB4-8									

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

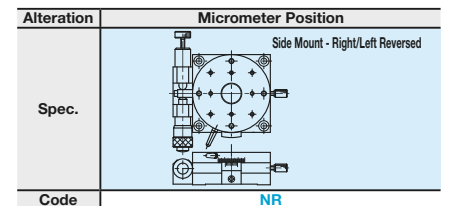
Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. P.2004

Coarse Clamps and Opposed Clamps are available for sale as special order items. Contact our customer service.

Ordering Example: Part Number RPG38

Alterations: Part Number - (NR) RPG60 - NR

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



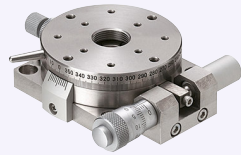


# [High Precision] Rotary Cross Roller Bearing

Stainless Steel / Through Hole

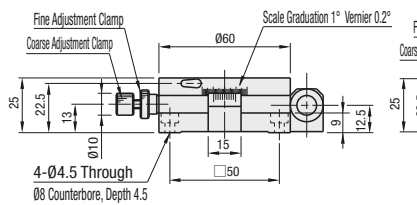
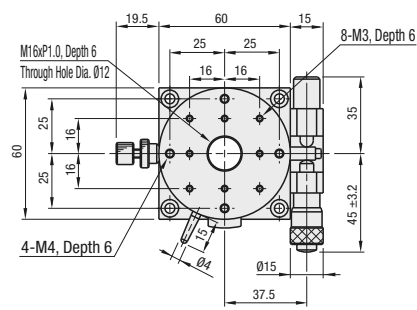
■ Features: Stainless steel material used has improved rigidity over aluminum alloy rotary stages.

## ■ Stainless Steel

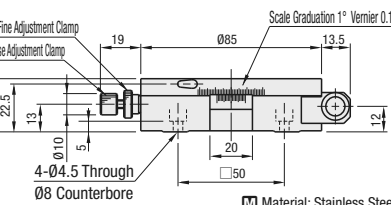
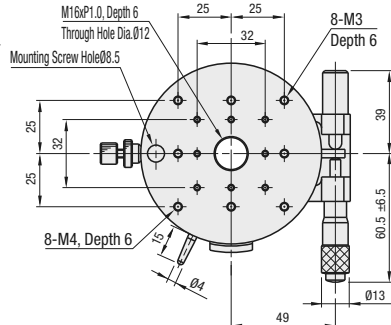


RoHS

### RPGS60



### RPGS85



Material: Stainless Steel

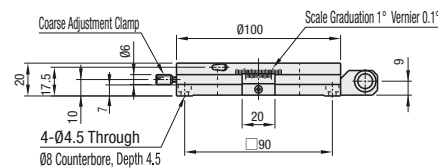
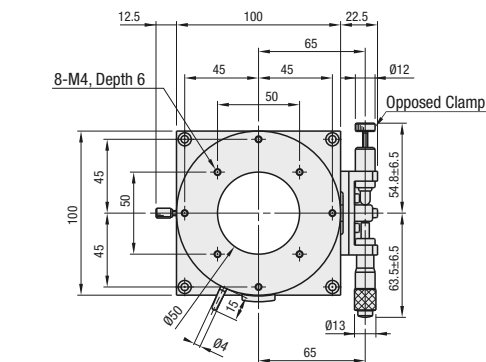
■ Features: There is a through hole in the center of the stage allowing passages of laser, wiring and etc.

## ■ Through Hole



RoHS

### RPGT100



Material: Aluminum Alloy  
Surface Treatment: Black Anodize

Part Number Type	No.	Stage Surface (mm)	Travel Distance	Resolution		Load Capacity (N) Horizontal	Eccentricity (mm)	Weight (kg)	Accessory (4 pcs.) Type	Unit Price (1 ~ 4 pcs.)
				Vernier	Micrometer					
RPGS	60	Ø60	Coarse 360° Fine ±5°	0.2°	≈55"/Scale Graduation	49.0	0.05	0.58	SCB4-8	
	85	Ø85		0.1°	≈42"/Scale Graduation	58.8				
RPGT	100	Ø100	Coarse 360° Fine ±5°	0.1°	≈32"/Scale Graduation	58.8	0.05	0.45	SCB4-6	

⊕ 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 **RPGS60**

Alterations Part Number - (NR) **RPGS60 - NR**

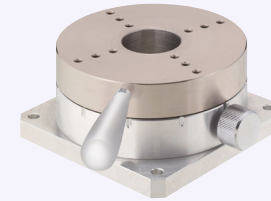
⊕ Mounting dimensions of micrometer head and clamp are different from those of standard products. See the CAD data for details.

Alteration	Micrometer Position
Spec.	Side Mount - Right/ Left Reversed
	⊕ Not applicable to RPGS85
Code	NR

# [Manual Units] Rotary Tables

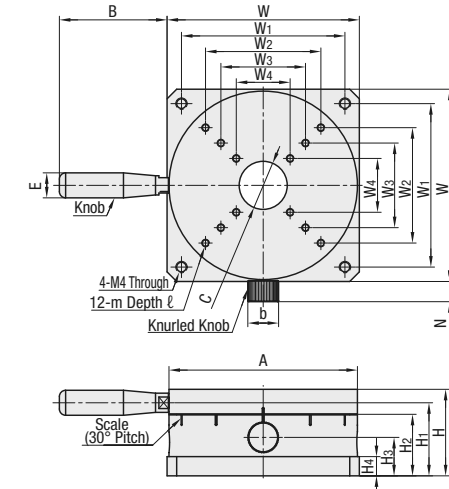
■ Features: Units best suited for simplified positioning. With a built-in plunger, positions are indexed by 30°.

## ■ Rotary Tables



RoHS

## KUS



⊕ Through Hole C is not applicable to KUS50.

Material: EN 1.1191 Equiv.  
Surface Treatment: Electroless Nickel Plating  
Knob : GRMSN (P.2-1150)  
Knurled Knob : NOBA (P.2-1160)

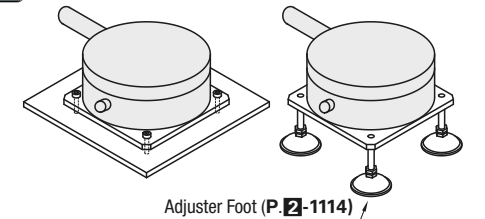
Part Number Type	No.	Stage Surface (mm)							Base (mm)							Knob (mm)		Knurled Knob (mm)		
		A	W	W1	W2	W3	W4	M	C	m	ℓ	H	H1	H2	H3	H4	B	E	N	b
KUS	50	Ø48	50	40	27	18	9	M5	-	M4	6	34	28	22	13	5	44	Ø10	11.5	Ø12
	100	Ø98	100	85	60	44	28	M6	Ø25	M4	8	45	38	32	20	10	56	Ø13	10.5	Ø16
	200	Ø198	200	175	124	94	64	M8	Ø70	M5	10	70	61	52.5	32	12	67	Ø16	14.5	Ø30

Part Number Type	No.	Stage Surface (mm)	Number of Indexed Positions	Indexing Angle	Load Capacity N(kgf)	Indexable Load (Reference Values) N(kgf)	Travel Accuracy			Weight (kg)	Unit Price 1 ~ 2 pcs.
							Eccentricity (mm)	Parallelism (mm)	Surface Runout (mm)		
KUS	50	Ø48	12	30°±1°	980(100)	98(10)	0.1	0.2	0.1	0.34	
	100	Ø98			1470(150)	196(20)				1.64	
	200	Ø198			1960(200)	294(30)				8.70	

⊕ Still usable when exceeding the indexable loads but plunger indexing will not work.

Ordering Example Part Number **KUS100**

EX Example



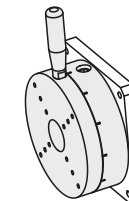
## ■ Rotary Table Mounting Orientation

Care must be taken for installations shown on the right.

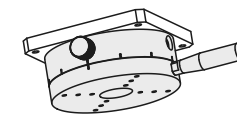
No.	Inverted Mounting	Vertical Side Mounting
50	○	○
100	△	○
200	△	△

○ Usable, though limitations apply for loads and moments.  
△ Performance may be seriously affected depending on application.  
⊕ Make sure to take precaution against load from falling if failure occurs in this application.

## • Vertical Side Mounting



## • Inverted Mounting



# [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.

RoHS

**GFG**

Rotation Center

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

Table Mounting Hole Dimensions

**A25**

Ø4hr, Depth 3  
Ø4hr, Depth 1 (From Back)

**A40**

Ø4hr, Depth 5  
Ø4hr, Depth 3 (From Back)

**A60**

Ø4hr, Depth 5  
Ø4hr, Depth 2 (From Back)

**A80**

Ø4hr, Depth 5  
Ø4hr, Depth 3 (From Back)

Part Number		Top View		Front View				Side View				
Type	A-H	B	J	H <sub>1</sub>	D	G	P	Q	X	ℓ	d <sub>1</sub>	d <sub>2</sub>
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 H (mm)	Travel Distance	Travel per Rotation Travel Distance	Load Capacity (N)	Weight (kg)	Unit Price
GFGS	25x25	20±1.0	±15°	≈2.0°	19.6	0.04	
	35x35	35±1.0	±10°	≈1.3°	29.4	0.08	
	40x40	40±1.0	±15°	≈1.9°			
	60x60	60±1.0	±10°	≈1.3°	58.8	0.22	
	80x80	80±1.0	±15°	≈1.0°			
	100x100	100±1.0	±18°	≈1.3°			
	130x130	130±1.0	±15°	≈1.3°			49

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
60x60	35±1.0	GFGS60-35 GFGS60-60
	60±1.0	GFGS60-60 GFGS60-80
80x80	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

Spec. Side Mount - Right/Left Reversed

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.

RoHS

**GFG**

Rotation Center

Material: Low Cadmium Brass  
 Surface Treatment: Black Fluorescent Treatment

**2-Axis**

The height of Rotation Center is as shown below.

RoHS

**GFWG**

Rotation Center

Material: Low Cadmium Brass  
 Surface Treatment: Black Fluorescent Treatment

Table Mounting Hole Dimensions

**A25**

Ø4hr, Depth 3  
Ø4hr, Depth 1 (From Back)

**A30**

Ø3hr, Depth 2.5  
Ø3hr, Depth 2 (From Back)

**A40**

Ø4hr, Depth 5  
Ø4hr, Depth 3 (From Back)

**A50**

Ø4hr, Depth 4  
Ø4hr, Depth 3 (From Back)

**A60**

Ø4hr, Depth 5  
Ø4hr, Depth 2 (From Back)

**A80**

Ø4hr, Depth 5  
Ø4hr, Depth 3 (From Back)

Part Number		Top View		Front View				Side View				Accessory (4 pcs.)		
Type	A-H	B	J	H <sub>1</sub>	D	G	P	Q	X	ℓ	d <sub>1</sub>	d <sub>2</sub>	Type	M-L
GFG	25-20	19	9	15	10	5.5	10	6.2	20	3	2.5	4.2	SCB2-6	
	25-35	19	9	15	10	6	10	7.7	20	3	2.5	4.2	SCB2-8	
	30-30	19.5	8.7	14	10	6.5	6	6.3	13	5	2.3	3.8	SCB3-6	
	30-44	19.5	8.7	13	10	6.5	6	6.3	13	5	2.3	3.8	SCB3-8	
	40-25	17.5	8	15	9	4.8	10	5.8	32	2	3.5	6	SCB3-6	
	40-40	18	8	20	12	8.5	10	9.7	32	5	3.5	6	SCB3-8	
	40-60	18	8	20	12	8.5	10	9.7	32	5	3.5	6	SCB3-6	
	50-50	18	7.7	18	12	7	10	7	40	3	3.5	6	SCB4-8	
	50-68	18	7.7	18	12	8	10	8	40	3	3.5	6	SCB4-8	
	50-86	18	7.7	18	12	8	10	8	40	3	3.5	6	SCB4-12	

Performance

Part Number	Stage Surface (mm)	Height of Rotation Center H (mm)	Travel Distance	Travel per Rotation	Load Capacity (N)	Moment Load Capacity (N-m) Pitching	Moment Load Capacity (N-m) Yawing	Moment Load Capacity (N-m) Rolling	Weight (kg)	Unit Price
GFG	25x25	20	±15°	≈2.0°	19.6	0.3	0.3	0.3	0.07	
	35x35	35	±10°	≈1.3°	29.4	0.8	1.0	1.0	0.24	
	40x40	40	±15°	≈1.9°						
	60x60	60	±10°	≈1.3°	58.8	1.5	2.0	2.0	0.58	
	80x80	80	±15°	≈1.0°						
	100x100	100	±18°	≈1.3°						
	130x130	130	±15°	≈1.3°						49.0

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 <sub>1</sub>	H <sub>2</sub>	D	G <sub>1</sub>	Q <sub>2</sub>	P	Q <sub>1</sub>	G <sub>2</sub>	X	ℓ	d <sub>1</sub>	d <sub>2</sub>	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	SCB3-6	
	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	SCB4-8	
	80-100	25	14	30	60	15	11	44	15	13	41	70	7	4.5	8	SCB4-12	

Resolution (Vernier Scale Indication): 0.1°/division

Ordering Example

Part Number: **GFG40-25**  
**GFWG60-60**

Alterations

Part Number - (NR)  
 GFG40-25 - NR

Alteration: Feed Knob Position Change

Spec. Side Mount - Right/Left Reversed

Code: NR

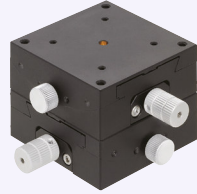
See the CAD data for details.

# [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.

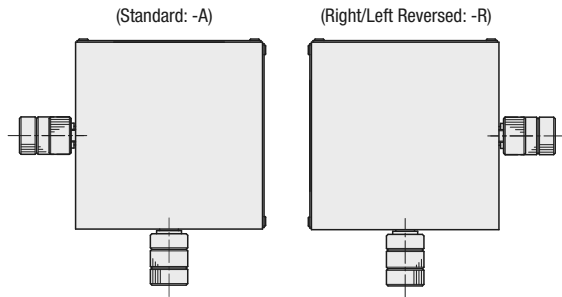
### ■ Symmetrical Stack, Space Saving



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.



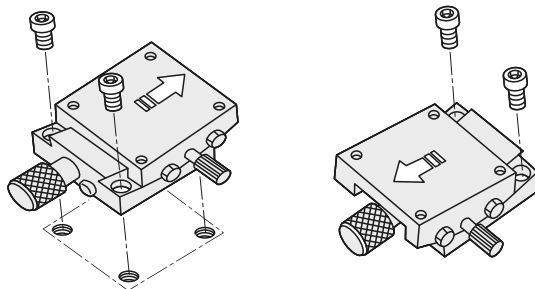
⚠ When symmetrical use as shown on the above figure is desired, select one □□-□□ Type and one □□-□□-R Type, respectively. (Those types are not sold as a set.)

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

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

Ordering Example  
**Part Number**  
 DSGFWG60-60  
 DSGFWG60-60-R

**How to Mount a Goniometer Stage:**  
 Move the top plate to access mounting holes as shown below.



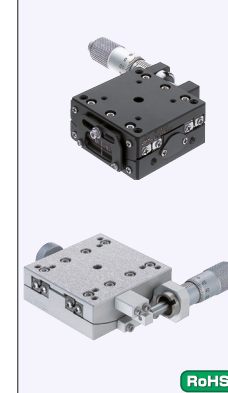
⚠ For symmetrical use, select one standard stage and one reversed (-R Type) stage, respectively, as indicated above.

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

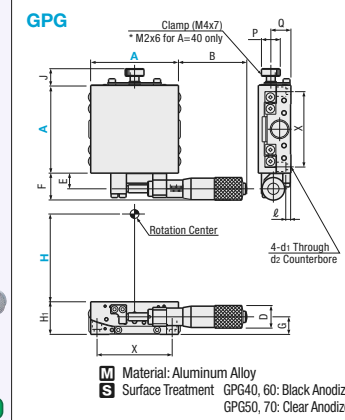
# [High Precision] Goniometer Stages - Cross Roller, 1-Axis / 2-Axis

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

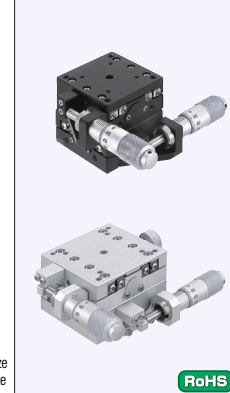
### ■ 1-Axis



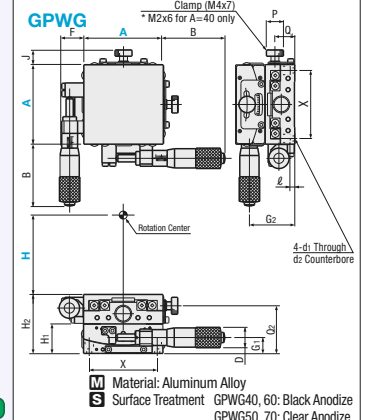
RoHS



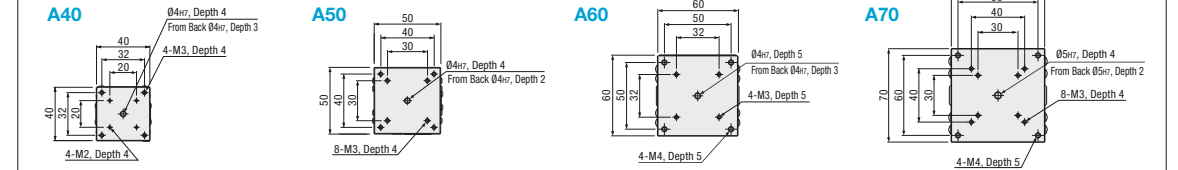
### ■ 2-Axis



RoHS



### • Table Mounting Hole Dimensions



Part Number Type	Top View				Front View				Side View						
	A-H	B	J	E	F	H <sub>1</sub>	D	G	P	Q	X	ℓ	d <sub>1</sub>	d <sub>2</sub>	
GPG	40-40	38	5.5	7.5	14	20	13	11	3.8	14	3.2	3	3.5	6	
	40-60	31	13	11.5	18	18	13	9.3	15	10	40	3	3.5	6	
	40-80														
	50-50														
	50-68	31	13.5	8	14	25	13	12.9	15	12.8	50	5	4.5	8	
	60-50														
	60-100														
	60-125	52	13.3	12.5	21.5	26	18	14	15	17.5	60	4	4.5	8	
	70-70														
	70-96														
	70-122														

### • Performance

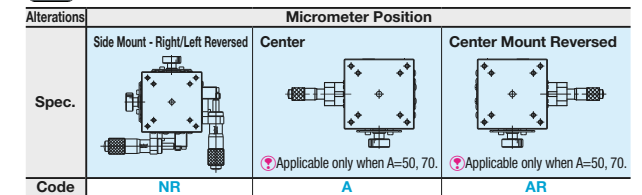
Part Number Type	A-H	Stage Surface (mm)	Height of Rotation Center H(mm)	Rotation Center Runout	Travel Distance	Resolution (°/division) (Micrometer)	Load Capacity (N)	Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Weight (kg)	Accessory (4 pcs.) TypeM-L	Unit Price
								Pitch	Yaw	Roll	Pitch	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			≈30										
	40-80		80±0.2			≈23										
	50-50	50±0.2	≈53			1.5		1.2	2.5	0.60	0.26	0.37	0.23	SCB3-6		
	50-68	68±0.2	≈40													
	50-86	86±0.2	≈33													
	60-50	50±0.2	≈33			1.5		2.0	2.6	0.27	0.09	0.10	0.31	SCB4-10		
	60-75	75±0.2	≈24													
	60-100	100±0.2	≈18													
	60-125	125±0.2	≈15			3.6		2.8	5.7	0.17	0.06	0.06	0.53	SCB4-8		
	70-70	70±0.2	≈25													
	70-96	96±0.2	≈19													
70-122	122±0.2	≈15														

Part Number Type	A-H	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
							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	50x50	50±0.4	(Top)±3°/(Bottom)±3°	(Top)≈53/(Bottom)≈40	27.4	1.5	1.2	1.5	0.97	0.52	0.97	0.46	SCB3-6	
	50-68		68±0.4	(Top)±4°/(Bottom)±4°	(Top)≈40/(Bottom)≈33										
	60-50	60x60	50±0.4	(Top)±4°/(Bottom)±4°	(Top)≈33/(Bottom)≈24	46.0	1.5	2.0	1.5	0.37	0.18	0.37	0.62	SCB4-10	
	60-75		75±0.4	(Top)±4°/(Bottom)±3°	(Top)≈24/(Bottom)≈18										
	60-100	70x70	100±0.4	(Top)±3°/(Bottom)±2.5°	(Top)≈18/(Bottom)≈15	44.1	3.6	2.8	3.6	0.23	0.12	0.23	1.06	SCB4-8	
	70-70		70±0.4	(Top)±3°/(Bottom)±3°	(Top)≈25/(Bottom)≈19										
70-96															

⚠ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004  
 ⚠ Extension Cover HDEXT13 (Sold Separately): Ø13 micrometer head knob can be extended. P.2004

Ordering Example  
**Part Number**  
 GPG40-40  
 GPWG70-96

Alterations  
**Part Number** - (NR, A, AR)  
 GPG40-40 - NR  
 GPWG50-50 - A



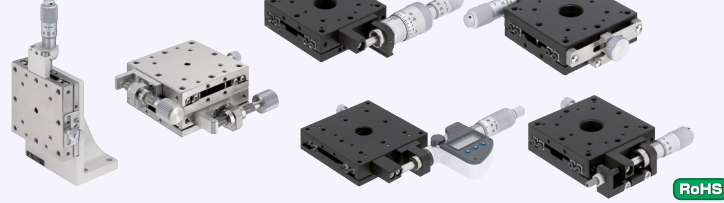
⚠ Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.



# [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



RoHS

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

Axis	Stage		① Feed Position	② Feeding Method			③ Clamp Type		④ Grease			
	Type	Size		Unit Price	Center/Side	Micrometer Head (Stroke: mm)	Price	Feed Screw (Pitch/Stroke: mm)	Price	Selection	Price	Selection
X-Axis	FSXR (Linear Ball)	25		(Center): A, AR (Side): 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)	G: R:
		40			N (Standard ±6.5) M (Coarse Fine Feed ±6.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
		50			N (Standard ±12.5) M (Coarse Fine Feed ±6.5) D (Digital Micrometer ±12.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
		60			N (Standard ±3.2)		F (Hex Socket 0.5/±3.2) B (Feed Screw 0.5/±3.2)		S (Standard)		R (Clean Env. Compatible)*	
		70			N (Standard ±6.5) M (Coarse Fine Feed ±6.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
X-Axis	FSXC (Cross Roller)	25		(Center): A, AR (Side): 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) M (Coarse Fine Feed ±6.5)		B (Feed Screw 0.5/±6.5)		S (Standard)		R (Clean Env. Compatible)*	
		80			N (Standard ±12.5) M (Coarse Fine Feed ±6.5)		B (Feed Screw 0.5/±6.5)		S (Standard)		R (Clean Env. Compatible)*	
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)	G: R:
		40			N (Standard ±6.5) M (Coarse Fine Feed ±6.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
		50			N (Standard ±12.5) M (Coarse Fine Feed ±6.5) D (Digital Micrometer ±12.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
		60			N (Standard ±3.2)		F (Hex Socket 0.5/±3.2) B (Feed Screw 0.5/±3.2)		S (Standard)		R (Clean Env. Compatible)*	
		70			N (Standard ±6.5) M (Coarse Fine Feed ±6.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
Z-Axis	FSZR (Linear Ball)	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)	G: R:
		40			N (Standard ±6.5) M (Coarse Fine Feed ±6.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
		60			N (Standard ±12.5) M (Coarse Fine Feed ±6.5)		F (Hex Socket 0.5/±6.5) B (Feed Screw 0.5/±6.5) J (Feed Screw 1.0/±6.5)		S (Standard) H (Disc)		R (Clean Env. Compatible)*	
		80			N (Standard ±3.2)		F (Hex Socket 0.5/±3.2) B (Feed Screw 0.5/±3.2)		S (Standard)		R (Clean Env. Compatible)*	

\*1. Only clamp position will be changed for Digital Micrometer A and AR. \*2. When feed type M (coarse/fine feeds) 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

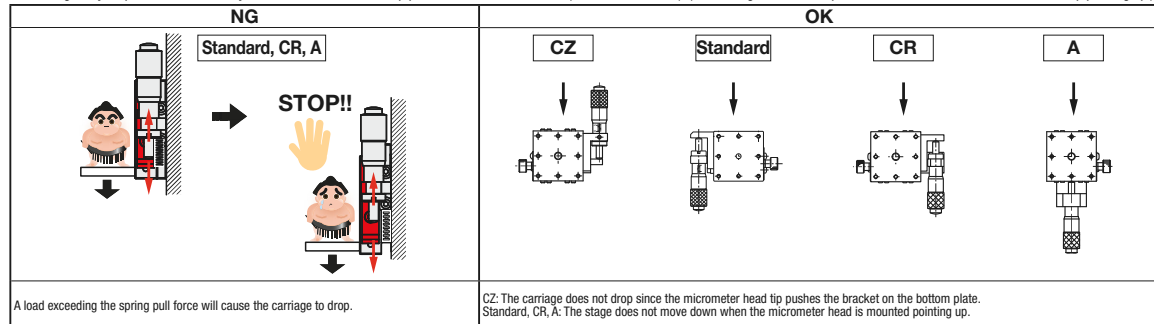
- Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
- Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

## 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).

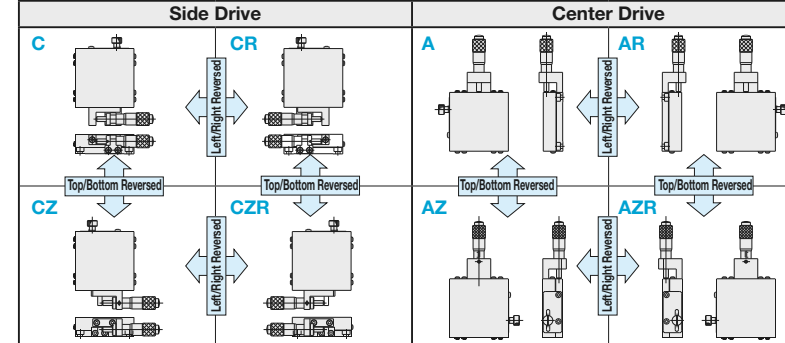
## Notes on Vertical Uses of X-Axis Stage

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.)



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

## ① Feed Position



## ② Feeding Method

<p><b>N (Standard Micrometer Head)</b></p> <p><b>Table Size 25 (Stroke ±3.2mm, Min. Reading 0.01mm)</b></p> <p><b>Table Size 40~70 (Stroke ±6.5mm, Min. Reading 0.01mm)</b></p> <p><b>Table Size 80 (Stroke ±12.5mm, Min. Reading 0.01mm)</b></p>	<p><b>F (Hex Socket Screw Pitch 0.5)</b></p> <p><b>Table Size 25 (M3xP0.5, Stroke ±3.2mm)</b></p> <p><b>Table Size 40~80 (M6xP0.5, Stroke ±6.5mm)</b></p> <p>* The screw shaft can be locked with a set screw on the bushing.</p>	<p><b>J (Feed Screw Pitch 1.0)</b></p> <p><b>Table Size 25 (B M3xP0.5, Stroke ±3.2mm)</b></p> <p><b>Table Size 40~80 (B M6xP0.5, Stroke ±6.5mm)</b> (J M6xP1.0, Stroke ±6.5mm)</p>
<p><b>M (Coarse/Fine Micrometer Head)</b></p> <p><b>Table Size 40~80</b> (Stroke: Coarse Feed: ±6.5mm, Fine Feed: 0.2mm Min. Reading: Coarse Feed: 10µm, Fine Feed: 0.5µm)</p>	<p><b>D (Digital Micrometer Head)</b></p> <p><b>Table Size 80</b> (Stroke: 0~25mm, Digital Readout 0.001mm)</p> <p>* Ratchet function is not available.</p>	

## ③ Clamp Type

Clamp Type	Guide Method	A	J <sub>1</sub>	P <sub>1</sub>
S (Standard)	Linear	40, 50, 60, 70	15.8	10
	Ball	80	14.8	15

**H (Disc Clamp)**  
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

Item	Condition	Unit	Measurement Method	G (Standard)		R
				Guide Mechanism Surface	Drive Component	(Clean Env. Compatible)
<b>Thickener</b>	-	-	-	Lithium Soap-based	Urea-based	Lithium Soap-based
<b>Base Oil</b>	-	-	-	Mineral Oil	Mineral Oil (Mixture)	Fine Synthetic Oil
<b>Base Oil Kinetic Viscosity</b>	40°C	mm <sup>2</sup> /s	JIS K2220 5.19	131	-	100
	100°C			12.2	-	-
<b>Miscible Consistency</b>	-	-	JIS K2220 7	283	275	315
<b>Dropping Point</b>	-	°C	JIS K2220 8	181°C	280°C	220°C
<b>Evaporation Amount</b>	-	wt%	-	0.24	0.26	0.7
<b>Oil Separation</b>	100°Cx24hr	wt%	JIS K2220 5.7	2.8	0.0	2.6
<b>Low Temperature Torque</b>	(Starting) -30°C	N·m	JIS K2220 514	-	-	0.22
	(Rotation)			-	-	0.06
<b>Operating Temperature</b>	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] XY-Axis, Rotary, Feed Screw / [High Precision] Dovetail Slide, Feed Screw

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

■ Features: Compact Sized and Integrated Type Stages rotatable and slidable based on XY-Axis.

■ XY-Axis + Rotary

**XYRSL60**

**XYRSL90**

Material: Aluminum Alloy  
Surface Treatment: Black Anodize

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Straightness (μm)	Weight (kg)	Unit Price
XYRSL	60	060	XY: ±21 360° Rotation	4.2	34.3	30	0.39	
	90	090	XY: ±35 360° Rotation					

Ordering Example Part Number **XYRSL60**

■ Features: XZ-Axis dovetail slide stages with 15mm thickness. Shipped orthogonally aligned to ease customer's assembly steps.

■ XZ-Axis Feed Screw (Lead 0.5mm)

**XZEG**

**XZEG**

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

Part Number Type	No.	Stage Configuration Bottom Top	Stage Surface (mm)	External Dimension (mm) W D H	Travel Distance (mm) X Z	Load Capacity (N)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
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				

Standard Stages with Similar Specifications: Combination of XFES (P1896) and ZFES (P1961)

Ordering Example Part Number **XZEG25**

■ Features: Rapid feeding XZ-Axis stages with 18mm travel per knob rotation. Shipped orthogonally aligned to ease customer's assembly steps.

■ XZ-Axis, Rack & Pinion

**XZFG**

**XZFG**

Part Number Type	No.	Stage Configuration Bottom Top	Stage Surface (mm)	External Dimension (mm) W D H	Travel Distance (mm) X Z	Load Capacity (N)	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
XZFG	25	XFG25 ZFG25	25x25	40 38 55.5	±5 ±5	6.9	0.20	SCB2-12	
	40	XFG40 ZFG40	40x40	83 60 95.0	±10 ±10	14.7	0.45	SCB4-6	
	60	XFG60 ZFG60	60x60	110 80 105.5	±20 ±20	19.6	1.25	SCB4-6	

Material: XZFG25 Low Cadmium Brass, XZFG40 Aluminum Alloy, XZFG60 Aluminum Alloy  
Surface Treatment: XZFG25 Black Fluoresin Treatment, XZFG40 SCB4-6, XZFG60 Black Anodize

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.

Ordering Example Part Number **XZFG25**

■ Features: Travel per knob rotation for X-Axis is 0.5mm, and for Z-Axis is 14/20mm. XZ stage with a fine feed X-Axis and a rapid feed vertical Z-axis.

**XZLNG40**

**XZLNG25**

**XZLNG40**

**XZLNG60**

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm) X Z	Travel per Rotation (mm) X Z	Load Capacity (N)	Travel Accuracy Straightness	Weight (kg)	Accessory (4 pcs.) Type M-L	Unit Price
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	X: 0.5 Z: 20					
	60	60x60	X: ±10 Z: ±26	X: 0.5 Z: 20					

Material: XZLNG25 Low Cadmium Brass, XZLNG40 Low Cadmium Brass, XZLNG60 Aluminum Alloy  
Surface Treatment: XZLNG25 Black Fluoresin Treatment, XZLNG40 SCB3-6, XZLNG60 Black Anodize

No graduated scale on XZLNG.

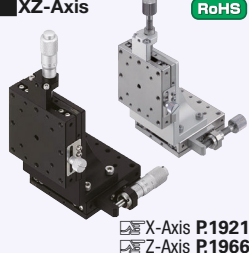
For orders larger than indicated quantity, please request a quotation.

Ordering Example Part Number **XZLNG60**

# [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.

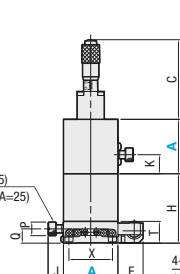
**XZ-Axis** RoHS



X-Axis P.1921  
Z-Axis P.1966

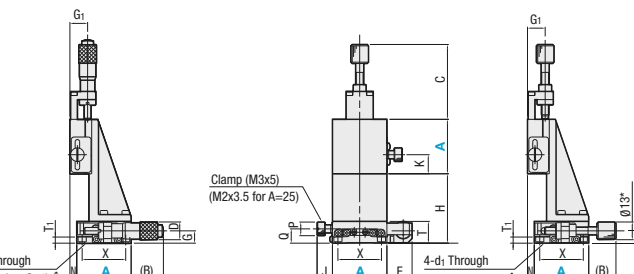
**Micrometer Head**

XZSG  
XZSGB (Black)



**Feed Screw (Pitch 0.5)**

XZSCG



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

4-d1 Through d2 Counterbore, Depth  $\ell$

\*A=25 will be  $\phi 7$ .

For top surface mounting dimensions and feed bracket shapes, see Linear Ball Slide X-Axis Stages on P.1921.  
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	Surface Treatment	Material	Hardness	Material	Material	Surface Treatment	Material	Surface Treatment
XZSG	EN 1.4125	Electroless Nickel Plating	EN 1.4125	S8HRC~	SUS304WPB	EN AW-5052	Clear Anodize	EN 1.4305	-
XZSGB	Equiv.	UBC Plating	Equiv.				Black Anodize	Equiv.	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		Feed Screw	K	Q	P	J	F	T	T <sub>1</sub>	N	(B)		Feed Screw	Travel Distance (mm)		D	G	G <sub>1</sub>	X	d <sub>1</sub>	d <sub>2</sub>	$\ell$
XZSG XZSCG XZSGB (*only)	25*	24.5	37.0	23	10	8.5	6	6.8	11.7	12	3.7	7	25	11	$\pm 3.2$	9.3	7	10	20	2.5	4.2	2.5				SCB2-4
	40*	51			14						4.5	5	24	20.3												SCB3-6
	50	46	58.5	55	19	10.5			18.5	16			20	18.7	15.3	$\pm 6.5$	13	8.9	13	40	3.5	6	3.5			SCB3-6
	60*	41			24						5	21	14	10.3												SCB4-6
70	43				23.5	11.5				18	6	12	14.5	10.8						9.95	14	60	4.5	8	4.0	
80*	40	96.0			25	14.5			26*1	20	6.5	20	43.5	10	$\pm 12.5^2$	18	10.8	16.5	70						5.3	

Performance

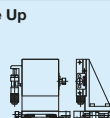
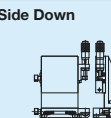
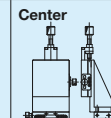
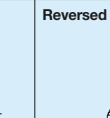
\*1 When feed screw A=80, F=20 \*2 Travel distance of Feed Screw Type XZSCG80 is  $\pm 6.5$ mm.

Part Number	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy		Moment Load Capacity (N·m)			Moment Rigidity ( $^{\circ}$ /N·cm)			Weight (kg)	Unit Price				
			Straightness	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing		Rolling	XZSG	XZSCG	XZSGB	
XZSG XZSCG XZSGB (*only)	25*	25x25	9.8	3 $\mu$ m	30"	25"	2.0	2.0	3.5	3.80	2.20	2.20	0.3			
	40*	40x40					5.0	5.0	5.0	0.84	0.56	0.56	0.55			
	50	50x50	49.0	1 $\mu$ m <sup>3</sup>	25"	15"	6.8	6.0	6.0	0.30	0.23	0.23	0.72			
	60*	60x60					10.0	9.0	9.0	0.16	0.13	0.13	0.98			
	70	70x70					13.8	12.9	12.9	0.12	0.08	0.08	1.42			
	80*	80x80		3 $\mu$ m			18.2	17.7	17.7	0.08	0.06	0.06	2.10			

XZSG, XZSGB Micrometer Head Resolution: 10 $\mu$ m/division \*3 XZSGB Straightness is 3 $\mu$ m.  
Knob Cover HDCVR13 (Sold Separately):  $\phi 13$  micrometer knob diameter can be increased by installing the cover. P.2004  
Extension Cover HDEXT13 (Sold Separately): Feed knob of  $\phi 13$  micrometer head and feed screw can be extended. P.2004

Ordering Example Part Number XZSG80

Alterations Part Number XZSG40 - (C, CU, A, R) C

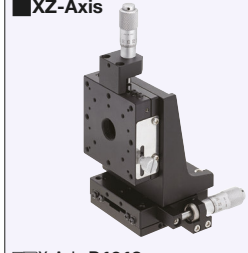
Alterations	Position of Micrometer Head and Feed Screw			
	Side Up	Side Down	Center	Reversed
Spec.				
Code	C	CU	A	R

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

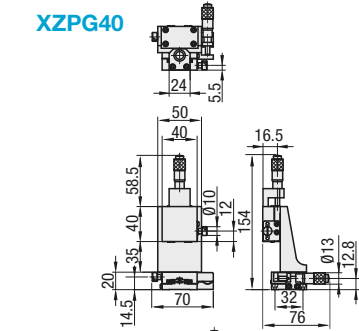
Features: Cross Roller XZ-Axis Stages made of lightweight aluminum alloy.

**XZ-Axis** RoHS

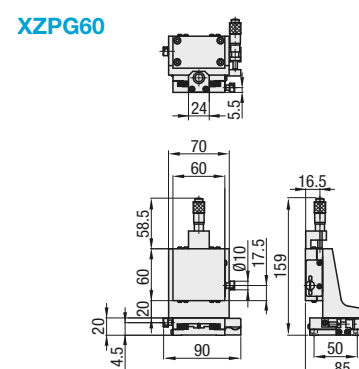


X-Axis P.1918  
Z-Axis P.1968

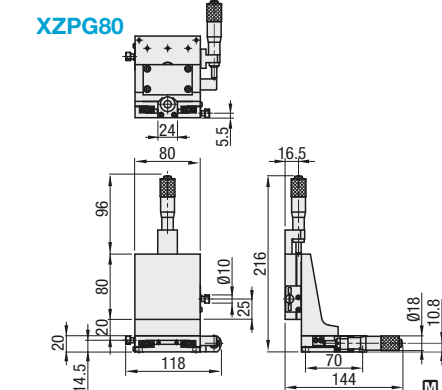
XZPG40



XZPG60



XZPG80



Material: Aluminum Alloy  
Surface Treatment: Black Anodize

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 (mm)	Travel Distance (mm)		Load Capacity (N)	Weight (kg)	Unit Price
		Bottom	Top		X	Z			
XZPG	40	XPG40	ZPG40	40x40	$\pm 6.5$	$\pm 6.5$	9.8	0.34	
	60	XPG60	ZPG60	60x60	$\pm 6.5$	$\pm 6.5$	19.6	0.70	
	80	XPG80	ZPG80	80x80	$\pm 12.5$	$\pm 12.5$	49.0	1.30	

For dimension details, see the CAD data and the catalog page for each stage.  
Knob Cover HDCVR13 (Sold Separately):  $\phi 13$  micrometer knob diameter can be increased by installing the cover. P.2004  
Extension Cover HDEXT13 (Sold Separately): Feed knob of  $\phi 13$  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

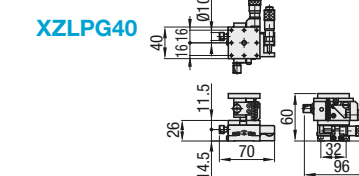
Features: Cross Roller XZ-Axis Stages made of lightweight aluminum alloy. The horizontal surfaces move vertically.

**X + Horizontal Surface Z-Axis**

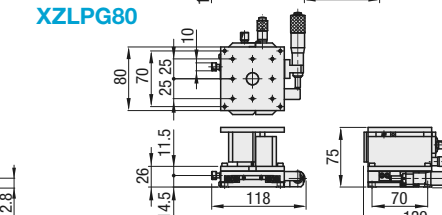


X-Axis P.1916  
Horizontal Surface Z-Axis P.1972 RoHS

XZLPG40



XZLPG80



Material: Aluminum Alloy  
Surface Treatment: Black Anodize

Part Number	No.	Stage Configuration		Stage Surface (mm)	Travel Distance (mm)		Load Capacity (N)	Weight (kg)	Unit Price
		Bottom	Top		X	Z			
XZLPG	40	XPG40	ZLPG40	40x40	$\pm 6.5$	$\pm 3.0$	9.8	0.35	
	60	XPG60	ZLPG60	60x60	$\pm 6.5$	$\pm 6.5$	19.6	0.63	
	80	XPG80	ZLPG80	80x80	$\pm 12.5$	$\pm 5.0$	29.4	1.47	

For dimension details, see the CAD data and the catalog page for each stage.  
Knob Cover HDCVR13 (Sold Separately):  $\phi 13$  micrometer knob diameter can be increased by installing the cover. P.2004  
Extension Cover HDEXT13 (Sold Separately): Feed knob of  $\phi 13$  micrometer head and feed screw can be extended. P.2004  
For orders larger than indicated quantity, please request a quotation.

Ordering Example Part Number XZLPG80

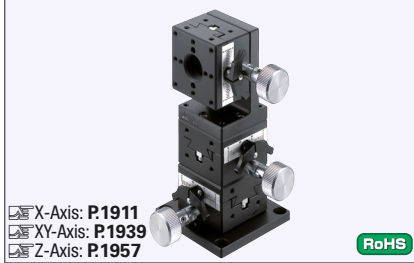


# [High Precision] Dovetail Slide, Rack & Pinion / XY: Feed Screw, Z: Rack & Pinion

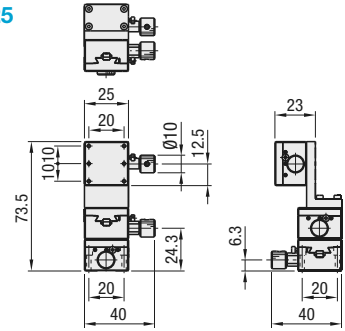
# [High Precision] Dovetail Slide, Feed Screw

■ Features: Dovetail Slide XYZ-Axis Stages with approx.18mm of travel per rotation.

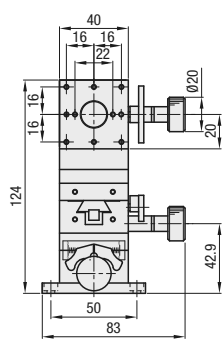
## ■ XYZ-Axis, Rack & Pinion



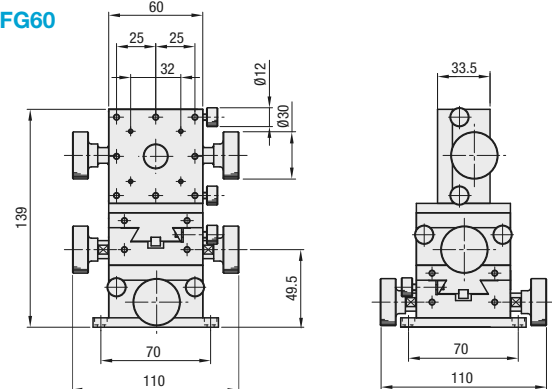
## XYZFG25



## XYZFG40



## XYZFG60

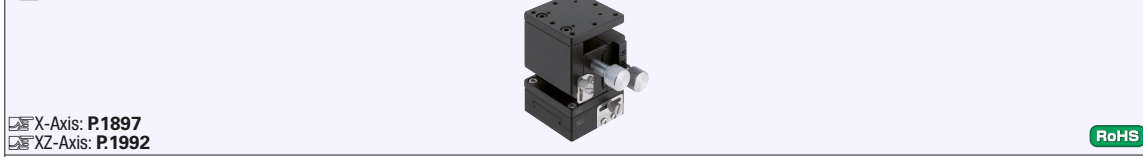


Part Number	Stage Configuration	Stage Surface (mm)	Travel Distance (mm)			Load Capacity (N)	Weight (kg)	Accessory (4 pcs.)	Unit Price
			X	Y	Z				
25	XYFG25	ZFG25 25x25	±5	±5	±5	6.9	0.29	SCB2-12	
40	XYFG40	ZFG40 40x40	±10	±10	±10	14.7	0.61	SCB4-6	
60	XYFG60	ZFG60 60x60	±20	±20	±20	19.6	1.79	SCB4-6	

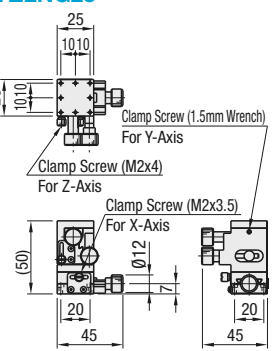
For dimension details, material and characteristics, see the CAD data and the catalog page for each stage.  
 XYFG P.1939, ZFG P.1957

■ Features: XYZ-Axes Stages with a vertically moving horizontal surface Z-axis.

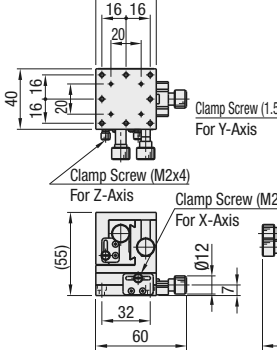
## ■ XY + Horizontal Surface Z-Axis



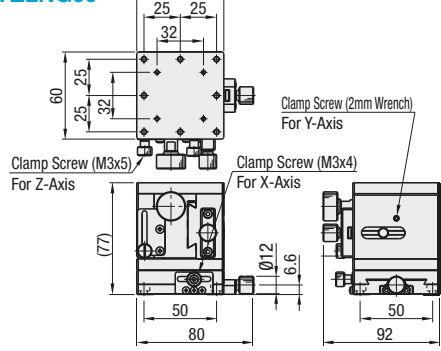
## XYZLNG25



## XYZLNG40



## XYZLNG60



Part Number	Stage Configuration	Stage Surface (mm)	Travel Distance (mm)			Load Capacity (N)	Weight (kg)	Accessory (4 pcs.)	Unit Price
			X	Y	Z				
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		

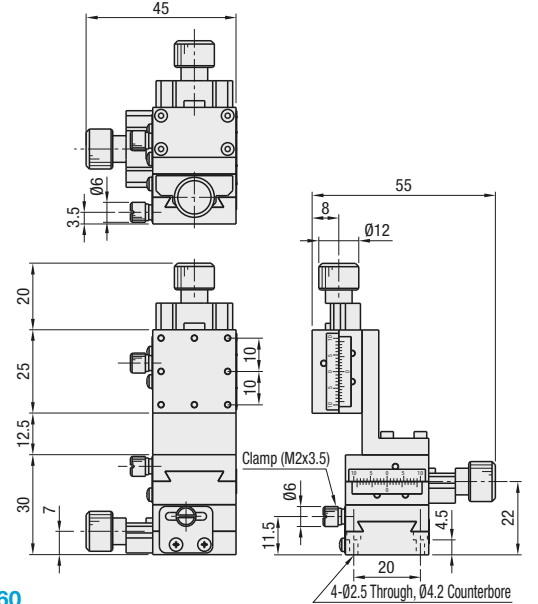
For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage. XEG P.1897, XZLNG P.1992

■ Features: XYZ-Axis low profile (height 15mm →) dovetail slide stages with feed screws.

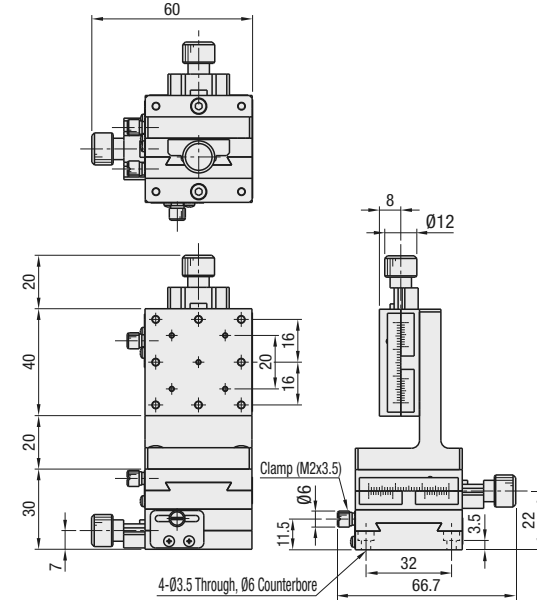
## ■ XYZ-Axis Feed Screw (Lead 0.5mm)



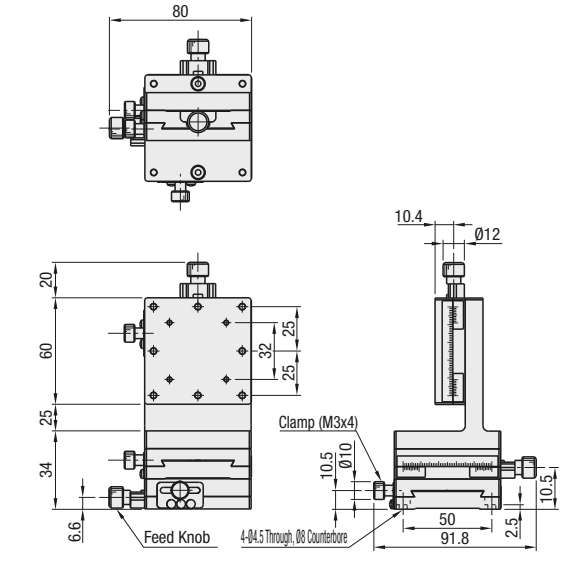
## XYZEG25



## XYZEG40



## XYZEG60



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

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
			X	Y	Z				
25	XYEG25	ZEG25 25x25	±5	±5	±5	0.24	SCB2-8		
40	XYEG40	ZEG40 40x40	±7	±7	±7	0.65	SCB3-6		
60	XYEG60	ZEG60 60x60	±9	±9	±9	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): 012 knob can be extended. P2004



# [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)

\*A=25 will be Ø7.

Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder						
Micrometer Head	Feed Screw	M Material	S Surface Treatment	M Material	H Hardness	M Material	S Surface Treatment	M Material	S Surface Treatment	M Material	S Surface 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	-

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.

Micrometer Head (XYZSG, XYZSGB) / Feed Screw (XYZSCG) Standard Stages with Similar Specifications: Combination of XLBS (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	
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	14	60	4.5	8	4.5	SCB4-6	
	80*	60	96	55	25	14.5	11.3	43.5	10	±12.5 <sup>*1</sup>	17	26 <sup>*2</sup>	20	6.5	18	10.8	10	16.5	70	4.5	8	5.3	SCB4-6

\*1 XYZSCG80 stroke is ±6.5mm. \*2 When feed screw XYZSCG A=80, F=23.5.

**Performance**

Part Number	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		XYZSG	XYZSCG	XYZSGB	
XYZSG XYZSCG XYZSGB (*only)	25*	25x25	9.8	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** - (C, CU, A, R)  
XYZSG40 - C

Alterations	Position of Micrometer Head and Feed Screw			
Spec.	Side Up	Side Down	Center	Reversed
Code	C	CU	A	R

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.

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**

\*When A=80, the bracket shape will be different. Therefore, the stage protrusion from the bracket will be 20.

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

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.

Micrometer Head (XYZSSG), Feed Screw (XYZSSCG) Standard Stages with Similar Specifications: Combination of XLBS (P1942) and ZLBS (P1965)

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
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 <sup>*1</sup>	±12.5 <sup>*2</sup>	18 <sup>*2</sup>	17	9.5	70	16.5	15	16.5	12.5	23	32 <sup>*2</sup>	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	
			Straightness	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling		XYZSSG	XYZSSCG
XYZSSG XYZSSCG	40	40x40	49	3µm	40"	20"	4.5	5.0	4.5	1.15	0.89	1.27	0.66	
	60	60x60					9.0	8.1	9.0	0.29	0.24	0.28	1.22	
	80	80x80					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** - (C, CU, A, R)  
XYZSSG40 - C

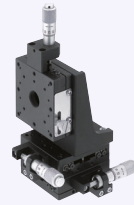
Alterations	Position of Micrometer Head and Feed Screw			
Spec.	Side Up	Side Down	Center	Reversed
Code	C	CU	A	R

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

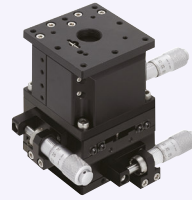
# [High Precision] Combination Stages

■ **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

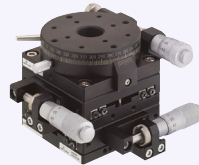


XYZLSPG



■ **Features:** Combination Stages of Cross Roller as the base and Rotary/Goniometer Stages.

## ■ Combination Stages



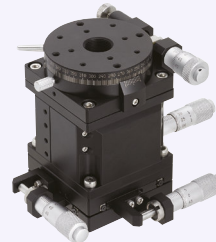
①XYRPG



③XYRSPG



②XYZLRPG



④XYZLRSPG



☞ XY-Axis and Rotary Stage integrated P.1991

Part Number	Stage Configuration			Stage Surface (mm)	External Dimension (mm)			Travel Distance (mm)			Load Capacity (N)	Weight (kg)	Unit Price
	Type	No.	Bottom		Top	W	D	H	X	Y			
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				±3.0	9.8	0.48
	60	XYPG60 (P.1943)	ZLPG60 (P.1973)	60x60	115	92	95	±6.5	±6.5		39.2	1.12	
	80	XYPG80 (P.1943)	ZLPG80 (P.1973)	80x80	150	135	95	±12.5	±12.5		29.4	2.00	
XYZLSPG	40	XSPG40 (P.1945)	ZLPG40 (P.1973)	40x40	100	81	62				±3.0	7.8	0.40
	60	XSPG60 (P.1945)	ZLPG60 (P.1973)	60x60	119	97	77	±6.5	±6.5		23.5	1.00	
	80	XSPG80 (P.1945)	ZLPG80 (P.1973)	80x80	151	102	77	±12.5	±12.5		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 (mm)	External Dimension (mm)			Travel Distance (mm)			Load Capacity (N)	Weight (kg)	Unit Price	
	Type	No.	Bottom		Middle	Top	W	D	H	X				Y
①XYRPG (XY-Axis + Rotary)	38	XYPG40 (P.1943)	RPG38 (P.1982)	-	038	85	84	60				9.8	0.37	
	60	XYPG60 (P.1943)	RPG60 (P.1982)	-	060	99	98	65	±6.5	±6.5	-	Coarse 360° Fine Feed ±5°	29.4	0.78
	85	XYPG80 (P.1943)	RPG80 (P.1982)	-	085	150	137	65	±12.5	±12.5	-		39.2	1.48
②XYZLRPG (XY-Axis + Horizontal Surf. Z-Axis + Rotary)	38	XYPG40 (P.1943)	ZLPG40 (P.1973)	RPG38 (P.1981)	038	96	84	100			±3.0	8.9	0.57	
	60	XYPG60 (P.1943)	ZLPG60 (P.1973)	RPG60 (P.1981)	060	115	98	120	±6.5	±6.5		Coarse 360° Fine Feed ±5°	29.4	1.40
	85	XYPG80 (P.1943)	ZLPG80 (P.1973)	RPG85 (P.1981)	085	150	137	120	±12.5	±12.5			24.7	2.48
③XYRSPG (Low Profile XY-Axis + Rotary)	38	XSPG40 (P.1945)	RPG38 (P.1982)	-	038	99	84	42				8.8	0.29	
	60	XSPG60 (P.1945)	RPG60 (P.1982)	-	060	103	101	47	±6.5	±6.5		Coarse 360° Fine Feed ±5°	26.4	0.68
	85	XSPG80 (P.1945)	RPG80 (P.1982)	-	085	151	132	47	±12.5	±12.5			34.3	1.18
④XYZLRSPG (Low Profile XY-Axis + Horizontal Surf. Z-Axis + Rotary)	38	XSPG40 (P.1945)	ZLPG40 (P.1973)	RPG38 (P.1981)	038	100	84	82			±3.0	6.8	0.49	
	60	XSPG60 (P.1945)	ZLPG60 (P.1973)	RPG60 (P.1981)	060	119	101	102	±6.5	±6.5		Coarse 360° Fine Feed ±5°	20.6	1.28
	85	XSPG80 (P.1945)	ZLPG80 (P.1973)	RPG85 (P.1981)	085	151	132	102	±12.5	±12.5			22.5	2.18

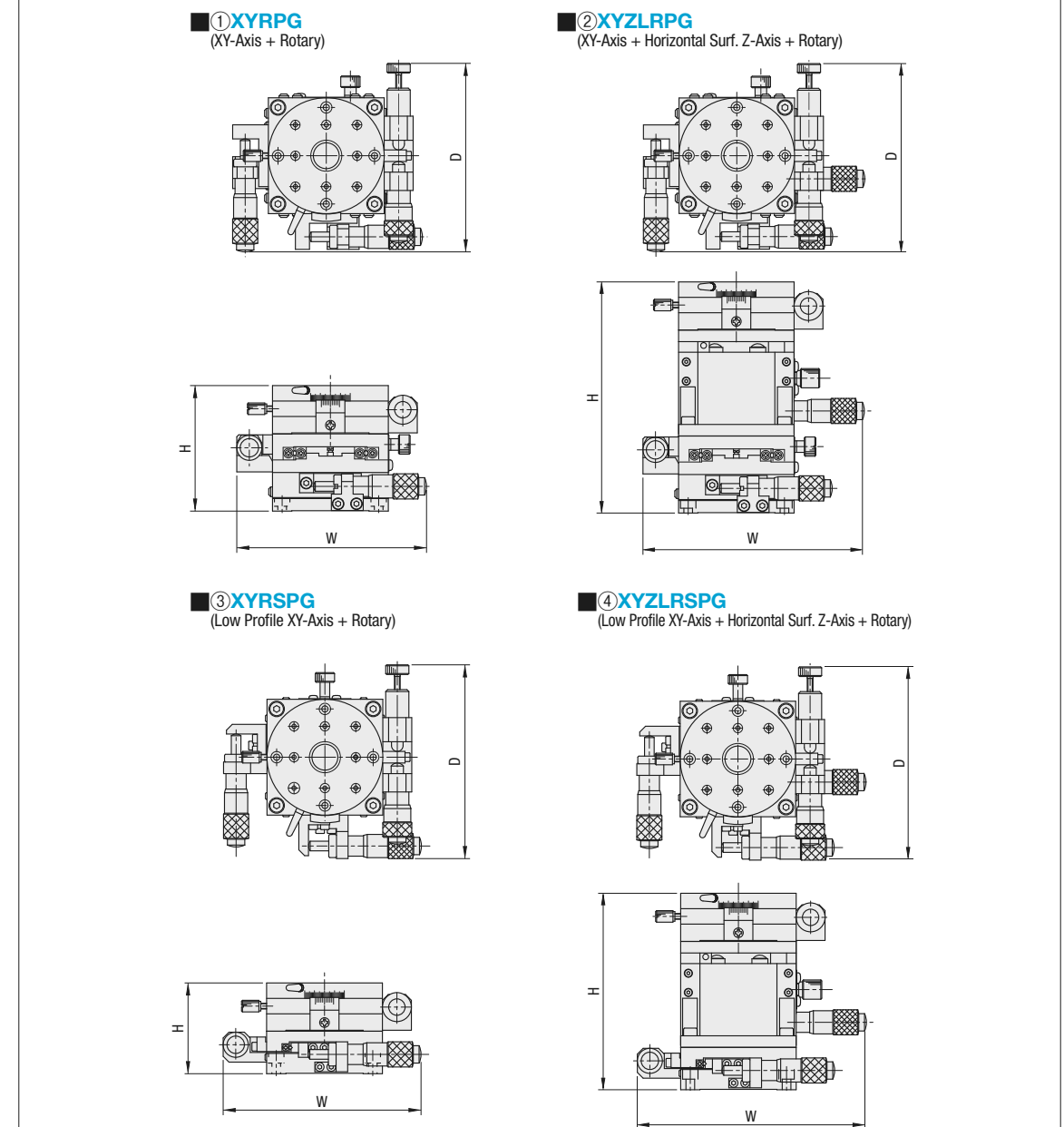
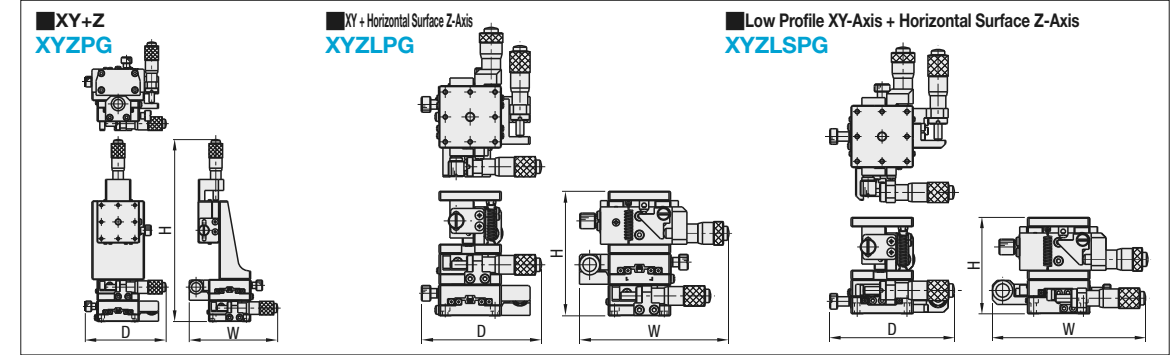
☞ For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage.

☞ 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



☞ The shapes are different depending on the size. See details on CAD data.



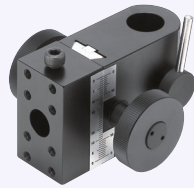
# [High Precision] Dovetail Slide, Post Mounted

# Accessories for Dovetail Slide Stages

## Base / Shaft / CCD Camera Adapter / Holder

■ **Features:** Stages mountable on posts. STLX48 can be mounted directly on Ø16 posts. STLX35 and STLXZ35 can be used with Ø12 Post Clamps.

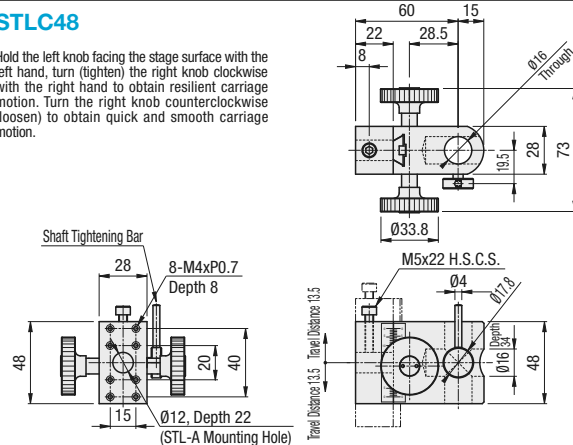
### ■ 1-Axis Slide with Crossed Mounting Bores



RoHS

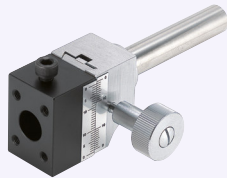
### STLC48

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	Aluminum Alloy	Black Anodize

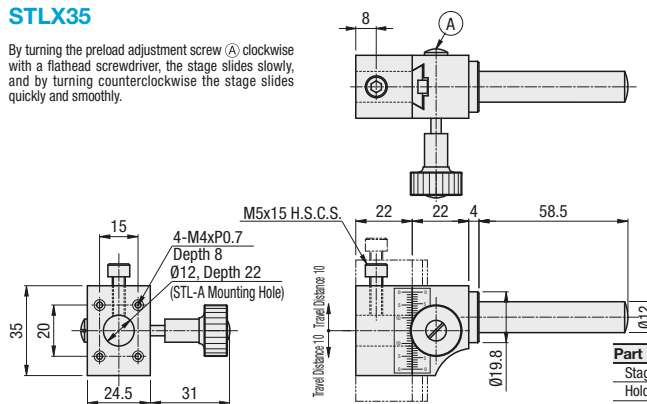
### ■ 1-Axis Slide with a Shaft



RoHS

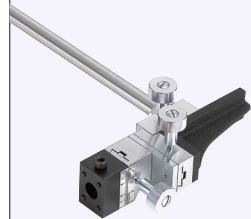
### STLX35

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

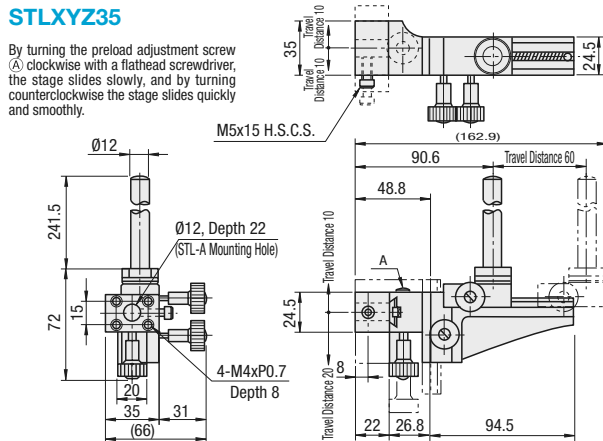
### ■ 3-Axis Slide with a Shaft



RoHS

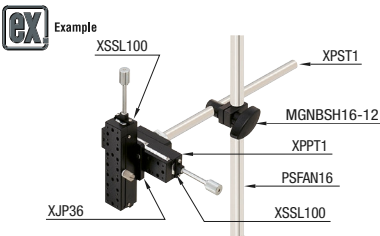
### STLXZ35

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 (P.1900, 1901), Base Plate and Shaft for stages (P.2002).



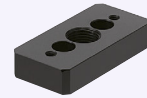
Part Number	Material	Surface Treatment
STLC48	Aluminum Alloy	Black Anodize
STLXZ35	Aluminum Alloy	Black Anodize

Part Number	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Weight (kg)	Unit Price	
Type	No.	X-Axis	Y-Axis	Z-Axis	1 ~ 10 pc(s).	
STLC	48	27	-	-	29.4	0.35
STLX	35	20	-	-	19.6	0.26
STLXZ	35	20	30	60	19.6	0.96

⚠ Economical Scaled Post Unit is available as Simplified Adjustment Units. See ZKB on P.1970

■ **Features:** Accessories can be combined with dovetail stages to form a variety of Post Mounted Stages.

### ■ Base for Stages

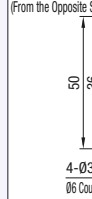


• Base Plates to connect the Dovetail Stages (P.1906, 1904, 1900, 1901) and XPST1, 2, 3 (below).  
 • For applicable stages, see the table below.

RoHS

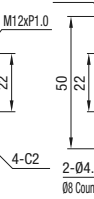
### XPPT1

2-Ø4.5  
 Ø6 Counterbore, Depth 5.4  
 (From the Opposite Side)



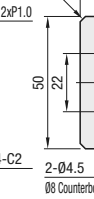
### XPPT2

2-M4  
 Ø6 Counterbore, Depth 5.4

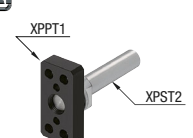


### XPPT3

4-C2  
 Ø6 Counterbore, Depth 5.4



Example



### ■ Shaft for Stages (Ø12)



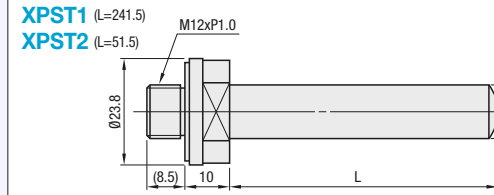
RoHS

### XPST1

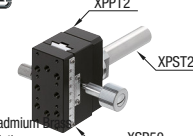
(L=241.5)

### XPST2

(L=51.5)

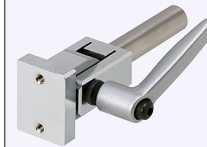


Example



Material: EN 1.4305 Equiv., Low Cadmium Brass  
 Surface Treatment: Nickel Chrome Plating

### ■ Shaft for Stages (with Lever)

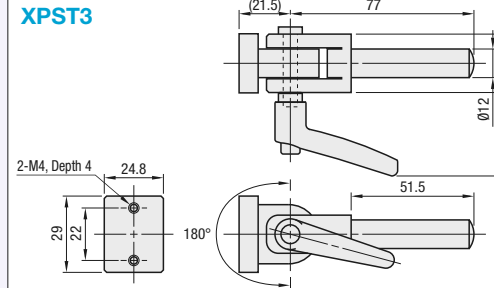


RoHS

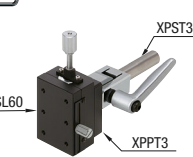
### XPST3

2-M4, Depth 4

180°



Example



Material: EN 1.4305 Equiv., Low Cadmium Brass  
 Surface Treatment: Nickel Chrome Plating  
 Accessory: SCB4-8 (2 pcs.)

### 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, XSSL	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
Type	1 ~ 10 pc(s).
XPST	1
	2
	3

⚠ Not compatible with XSC.

■ **Features:** Common to all camera manufacturers.

### ■ CCD Camera Adapters



RoHS

### STL-A

1/4-20UNC

4.5

Ø12

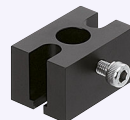
21

Material: EN 1.4305 Equiv.

Example



### ■ CCD Camera Holder



RoHS

### STLH

25

(10.2)

22

38

25

2-4.5

2-8

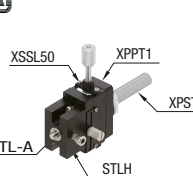
M5x12

(For STL-A Clamp)

3.6

Can be combined with XWG (P.1904), XYWG (P.1939), ZWG (P.1954), XLWG (P.1908), ZLWG (P.1956), REG (P.1981) and other Dovetail Slide Stages.

Example



Part Name	Material	Surface Treatment
Body	Aluminum Alloy	Black Anodize
Screw	EN 1.4567 Equiv.	-

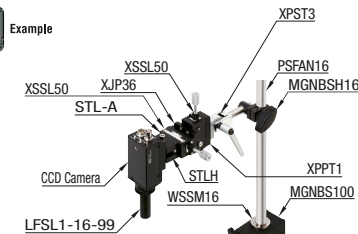
Accessory: SCB4-8 (2 pcs.), Flat Washers (2 pcs.)

### Ordering Example

Part Number	Unit Price	Volume Discount Rate
STL-A	1 pc.	2, 3 pcs. 4 ~ 10 pcs.
STL-A		

Part Number	Unit Price
STLH	1 ~ 10 pc(s).
STLH	

Example





# Stage Maintenance Parts

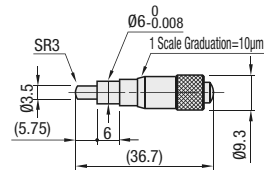
## Micrometer Head

■ Features: Micrometer head which enables fine adjustment can be ordered separately. Economical MISUMI original products are also available.

### ■ Micrometer Head

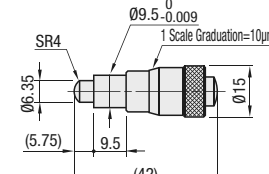
#### MCLN1

(Stroke ±3.25mm)



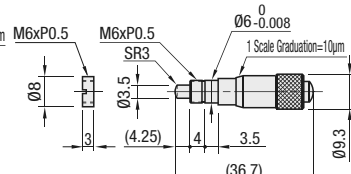
#### MCLN2

(Stroke ±3.25mm)



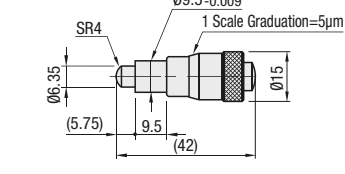
#### MCLN3 (w/ Nut)

(Stroke ±3.25mm)



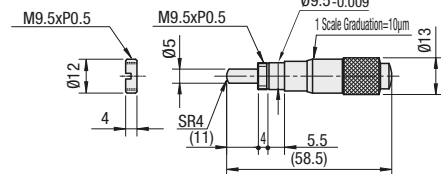
#### MCLN4

(Stroke ±3.25mm)



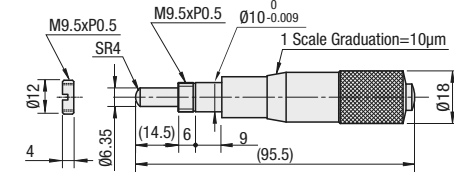
#### MCLN6 (w/ Nut)

(Stroke ±6.5mm)

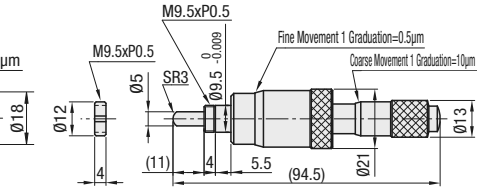


#### MCLN12 (w/ Nut)

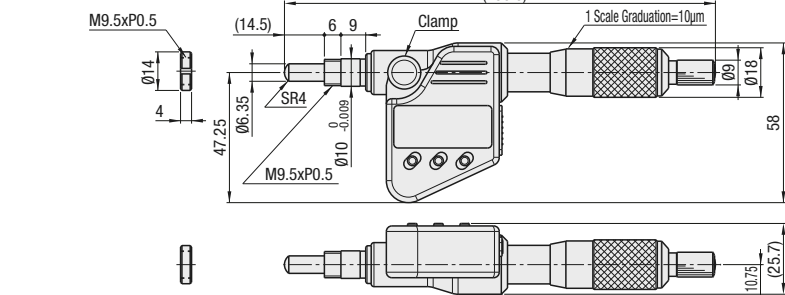
(Stroke ±12.5mm)



#### MCLN83 (w/ Nut)



#### MCLN84 (w/ Nut)



⚠ The drawing shows the micrometer in stroke center state.  
⚠ Micrometer has a bolt/nut system, so the total length doesn't change.

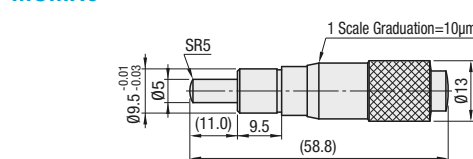
■ Material: Spindle: JIS-SKS (TS for cold work), Handle: Free Cutting Steel, Nut/Thread: Low Cadmium Brass

▲ Accessory: Dedicated Wrench (w/ Nut Type only)

RoHS

### ■ Standard Micrometer Head (MISUMI Original)

#### MCMH6



Type	Spindle	Main Body
	Material	Material Surface Treatment
MCMH	EN 1.4005 Equiv.	EN 1.0762 Equiv. 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					
	3					
	4					
	6					
MCLN	12	±12.5	0.01	0.5	0.09	
	83					
	84					
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.

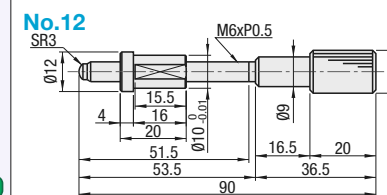
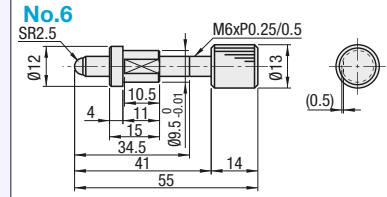
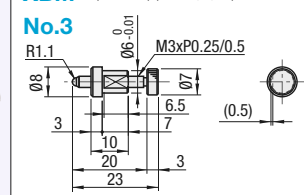
### ■ Feed Screw



RoHS

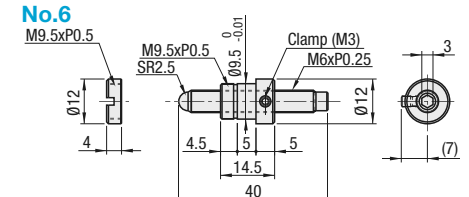
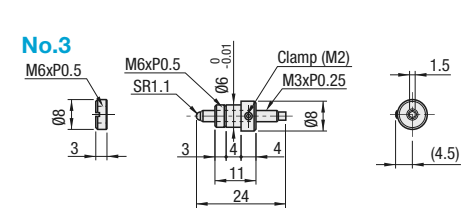
### ■ Knob Type

XBMF (Lead 0.25) (No. =3, 6)  
XBM (Lead 0.5) (No. =3, 6, 12)



### ■ Hex Socket Type

XBRF (Lead 0.25) (No. =3, 6)



⚠ Hex 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		Stroke	Linear Ball Slide Type / Cross Roller Type Applicable Stage Surface Size	Weight (g)	Part Number Unit Price		Part Number Unit Price		Volume Discount Rate	
	Type	No.				1 ~ 10 pc(s).	Type	No.	1 ~ 2 pc(s).		3 ~ 10 pcs.
With Knob	XBMF (only)	3*	±3.2	25 Square	5	XBM	3		XBMF	3	
		6*	±6.5	40 ~ 80 square	30		6		XBMF	6	
		12	±12.5	100/120 Square	50		12		XBRF	3	
Hex Socket Head Cap Screw	XBRF	3	±3.2	25 Square	5		3		XBRF	3	
		6	±6.5	40 ~ 80 square	15		6		XBRF	6	

Ordering Example  
Part Number  
XBMF3

⚠ A dedicated wrench is included with XBRF.

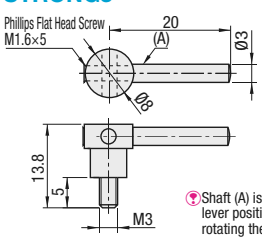
■ Features: Clamp Screws with Levers. More torque can be applied for clamping compared to the standard clamp screws. Dovetail slide stage clamps can be reinforced.

### ■ Clamp Screws with Levers for Dovetail Stages

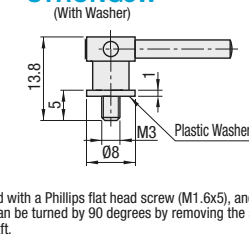


RoHS

#### STRONG3



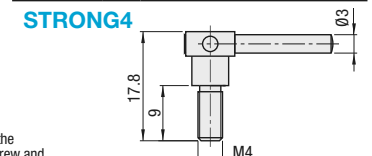
#### STRONG3W (With Washer)



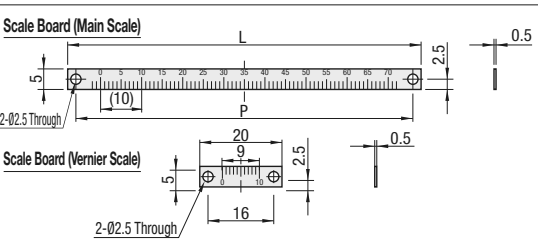
⚠ Shaft (A) is fixed with a Phillips flat head screw (M1.6x5), and the lever position can be turned by 90 degrees by removing the screw and rotating the shaft.

■ Material: Lever: Stainless Steel, Screw: Low Cadmium Brass

Type	No.	Applicable Stage
STRONG	3	XLWG (P1908), XSLC (P1900), XSC (P1899), XSSL (P1902)
	3W	XWG (P1904), XSL (P1900), XSLC (P1901), XSP (P1904), XSB (P1906)
	4	XLONG (P1909)



### ■ Vernier Scale



RoHS

Type	No.	L	P	Applicable Stage
VNIR	40	36	32	XWG, XYWG, XSL, XSLC, XSC, XSSL, XSSL (C)
	60	56	52	
	90	86	82	
	140	136	132	

⚠ Resolution: 0.1mm  
⚠ See 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	Volume Discount Rate	Part Number Unit Price		
				Type	No.	1 ~ 10 pc(s).
STRONG	3			VNIR	40	
	3W				60	
	4				90	
					140	

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











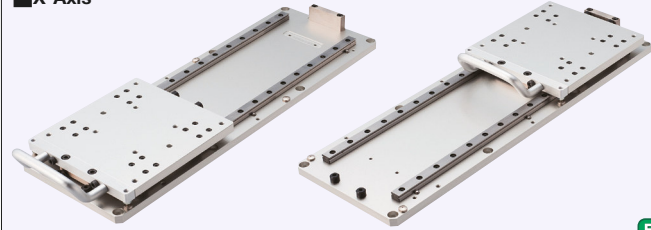


# Fixture Slides

## 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

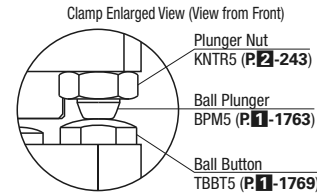
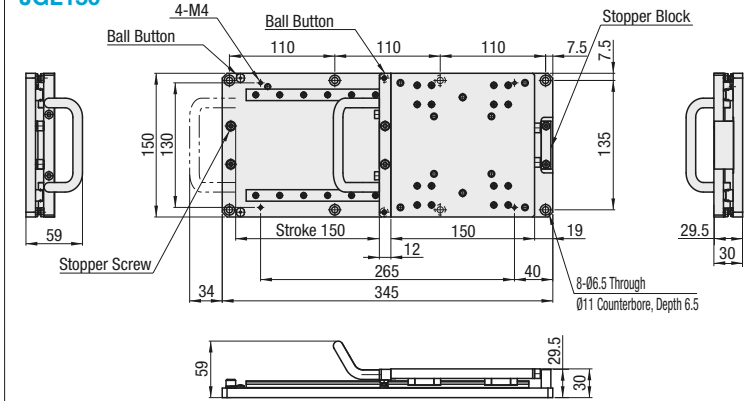
### ⚠ Tips

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.

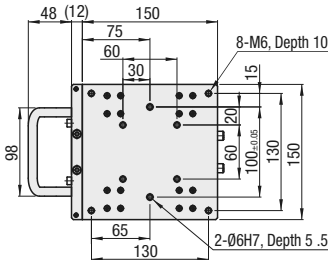
When plunger locking in the front side is not needed, remove the ball buttons.

### JGL150

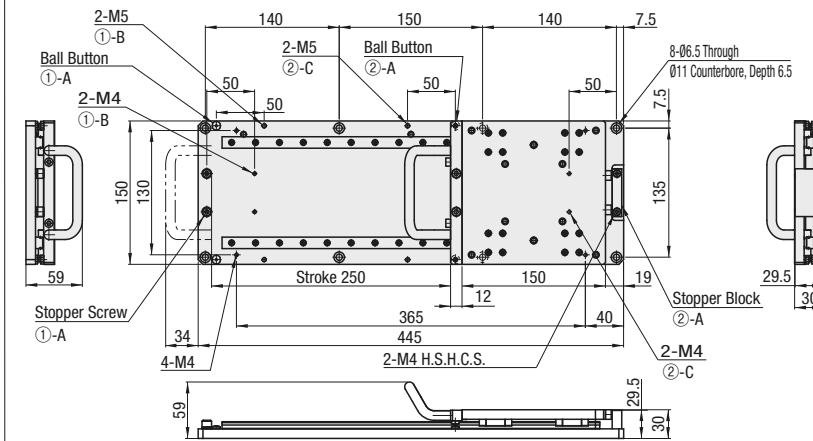


By fitting the plunger tip ball in the depressed part of the ball button, the table is fixed.

### 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	-
Stopper Block	EN 1.1191 Equiv.	Electroless Nickel Plating

### Stroke Adjustment Method

Stroke after adjustment	Mounting Positions of Stopper Parts		
	① Pulling Side	② Pushing Side	
250 (before shipping)	A	A	A
200	B	A	A
200	A	B	C
150	B	C	C

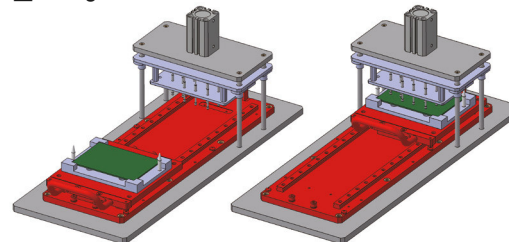
⚠ Only on JGL250, by recombining the stopper part mounting hole positions on the above two sides, the stroke can be changed.

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
JGL	150	150x150	345	2	23	4.5	2.8	
	250	150, 200, 250	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



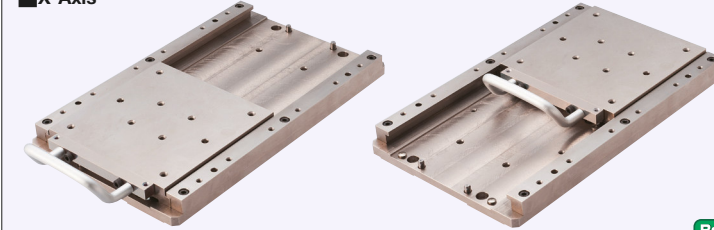
Ordering Example  
Part Number  
JGL250

# 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

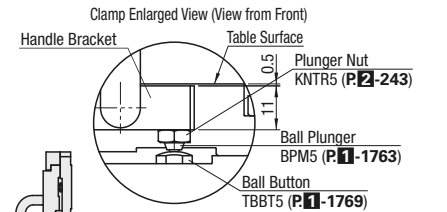
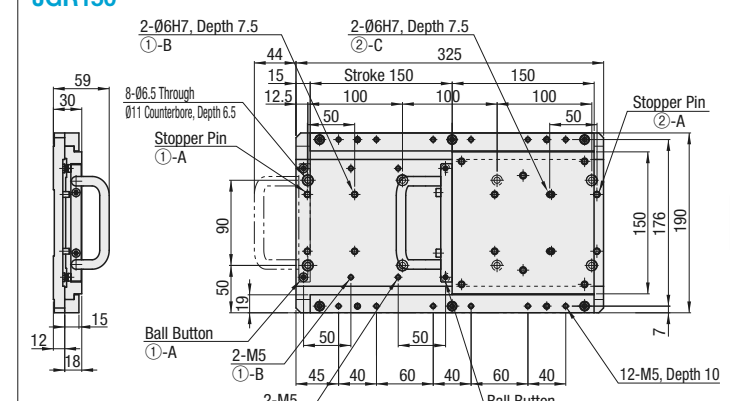
By repositioning the ball buttons and stroke end stopper pins, the stroke can be shortened. Shortening the stroke can prevent the handle from protruding from the base plate O.D.

For how to adjust the stroke, see the Stroke Adjustment Method Table.

⚠ Antirust oil is applied to the sliding surface before delivery.

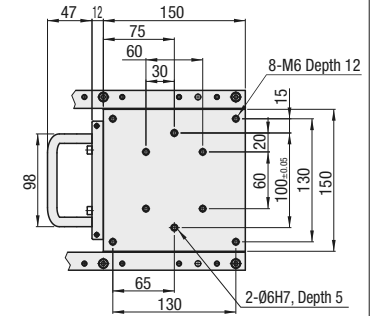
⚠ For the customer's convenience, in addition to the undersized and removable stopper pins installed onto the stopper part (4 places lengthwise), the oversized stopper pins are included with the product. Replace the undersized stopper pins with the oversized ones, if needed.

### JGR150

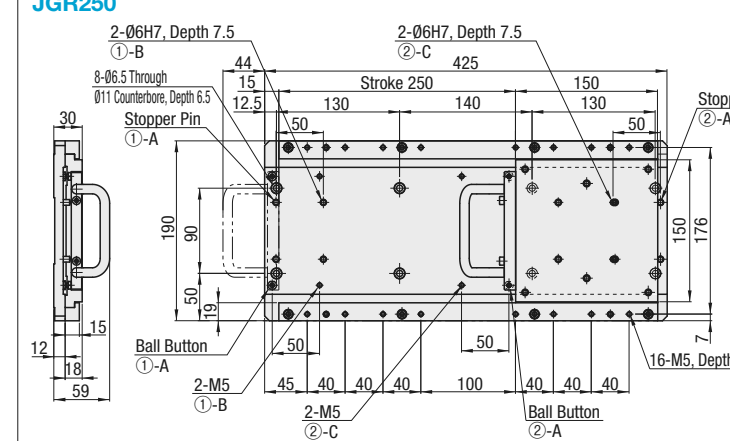


By fitting the plunger tip ball in the depressed part of the ball button, the table is fixed.

### Table Dimensions (Common)



### JGR250



Main Body	Material	Surface Treatment
Table	EN 1.1191	-
Plate	Equiv. Thermal	Electroless Nickel Plating
Guide Rail	Refined	-
Handle Bracket	EN 1.1191 Equiv.	-
Knob	Aluminum Alloy	Clear Anodize

### Stroke Adjustment Method

Stroke after adjustment	Mounting Positions of Stopper Parts		
	① Pulling Side	② Pushing Side	
150 (before shipping)	A	A	A
100	B	A	A
100	A	B	C
50	B	C	C

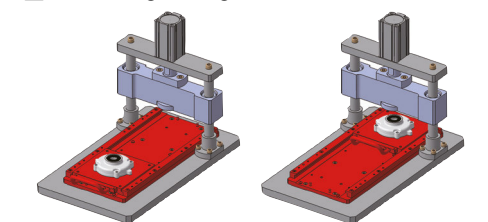
⚠ By recombining the stopper part mounting hole positions on the above two sides, the stroke can be changed.

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
JGR	150	50, 100, 150	150x150	10	30	37.2	9.2	
	250	150, 200, 250	150x150	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.



### ■ Press-Fitting Bearing



Ordering Example  
Part Number  
JGR150

# Manual Units - Overview

# Manual Units Standard

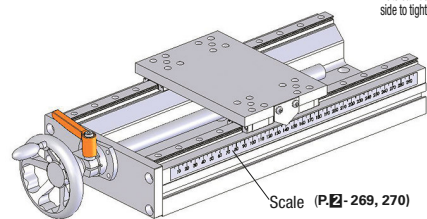
## Product List

Type		Manual	Motorized (with Motor)
Standard		Features: Units best suited for simplified positioning. Shipping cost is small. <b>P2018</b>	Type: <b>KUK / KUG</b> Listed on our website
Rapid Feed		Features: Built-in speed multiplier enables feed rate of 2.5 times of the standard units. <b>P2019</b>	-
With Position Indicator	Standard	Features: Position Indicator allows easy position adjustments. <b>P2020</b>	-
	Elevator Type	Features: Units suited for up-and-down movements. <b>P2023</b>	-
Table Fixed Type		Features: Direct table clamping avoids position drifts. <b>P2021</b>	-
Handwheel Orientation Configurable	Standard	Features: Handwheel orientation is selectable. Best suited for use in limited spaces. <b>P2022</b>	-
	Elevator Type	Features: Units suited for up-and-down movements. <b>P2025</b>	-
Symmetrical Action Dual Carriages		Features: Right and left tables move simultaneously. Usable as an inspection component. <b>P2026</b>	-

Description of Rotary Tables KUS si moved to P.1983.

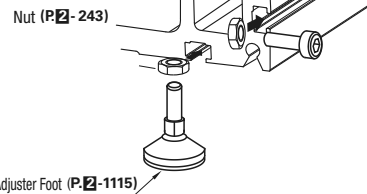
## Example App. Example of Manual Units

**Horizontal**  
Scales can be installed on the frame side surfaces.

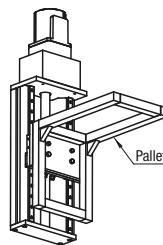


\* Application Example of KUE14-C-320

**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.



Features: Units best suited for simple manual positioning.

**Standard**

**Handwheel Type A**  
Plastic Handle

**Handwheel Type B**  
Folding Type

**Handwheel Type C**  
Five Spoked Handwheel

Enlarged View of Nut Slot

Use M6 nuts.

**KUE (Standard)**

**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

4-M6, Depth 18

4-M6, Depth 10

2-M4, Depth 8 (Back side also)

Effective Stroke S/2 (Note 1: Stroke Limit S/2+5)

Effective Stroke S/2 (Note 1: Stroke Limit S/2+5)

Rotation Stopper Set

Mounting Hole Pitch S

Note 1) Stroke limit is where stroke reaches the mechanical limit.

Part Number	Type	No.	Handwheel Type	Base Length L (mm)	Effective Stroke St (mm)	Lead Thread Dia.	Lead	Allowable Load (N)			N	H	P	Base Mounting Hole (K)			Mass (kg)						
								Horizontal	Vertical	Ma				Mb	Mc	S	Q (Number of Holes)	A	B	C	A	B	C
KUE	14	A	Plastic Handle	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
				200	4											3.4	3.4				3.7		
				320	203											4.4	4.4				4.7		
				370	253											4.9	4.9				5.2		
				420	303											5.4	5.4				5.7		
				470	353											5.9	5.9				6.2		
	20	C	Five Spoked Handwheel	170	53	20	4	1470	294	43	43	81	7.5	32.5	45.5	150	4	103	85	118	4	4	4.3
				220	103											5	5				5.3		
				320	203											5.5	5.5				5.8		
				370	253											6	6				6.3		
				420	303																		
				470	353																		

Ordering Example: Part Number - Handwheel Type - L  
KUE14 - A - 320

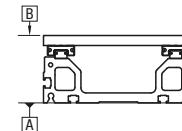
Part Number	Type	No.	Handwheel Type	Unit Price 1 ~ 2 pc(s).					
				L=170	L=220	L=320	L=370	L=420	L=470
KUE	14	A	A						
			B						
			C						
	20	C	A						
			B						
			C						

**Accuracy**

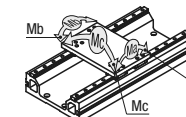
Type	Parallelism (mm)	Backlash (mm)
KUE	0.15	0.3

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.**



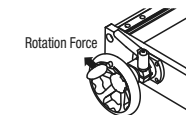
**Moment Diagram**



**Required Torque, Required Turning Force**

Part Number	Type	No.	Required Torque (N·m)		Required Turning Force (N)	
			Horizontal	Vertical	Horizontal	Vertical
KUE	14		0.04	0.2	1.5	7.7
	20		0.06	0.4	2.3	16.2

**Turning Force Fig.**



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.

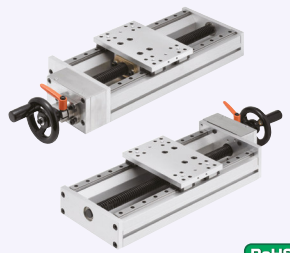


# Manual Units

## Rapid Feed

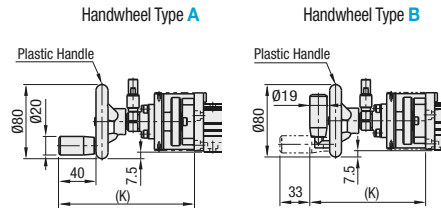
■ **Features:** Built-in speed multiplier enables feed rate of 2.5 times of the standard units.

■ **X-Axis**

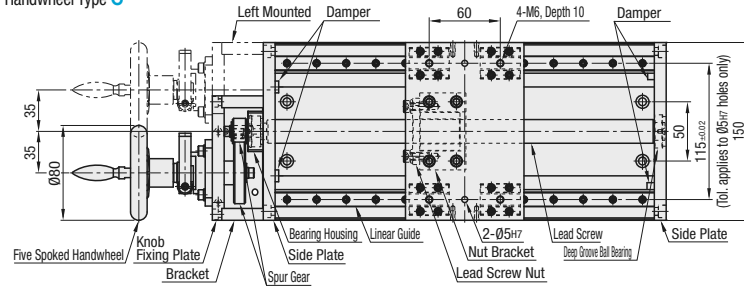


**KUEHS**

Handwheel Type A      Handwheel Type B



Handwheel Type C

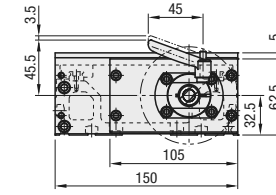


■ **Components**

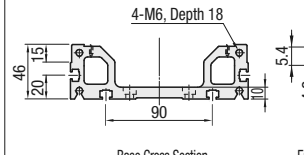
Parts	Base	Table	Lead Screw	Lead Screw Nut
Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN 1.1191 Equiv.	Brass
Surface Treatment	Clear Anodize	Clear Anodize	Black Oxide	-

Parts	Nut Bracket	Side Plate	Spur Gear	Cover
Material	EN AW-5052 Equiv.	EN AW-6063 Equiv.	EN 1.1191 Equiv.	EN 1.4301 Equiv.
Surface Treatment	Clear Anodize	Clear Anodize	-	-

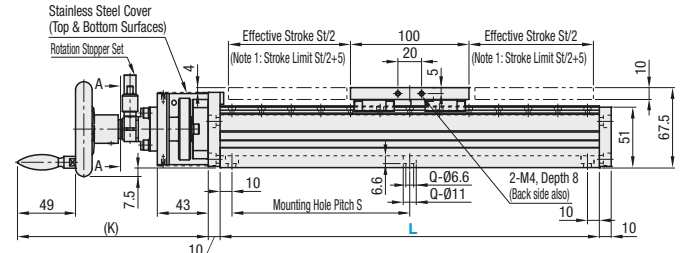
Arrow View A-A



Base Cross Section



Enlarged View of Nut Slot



\* The drawing shows right side mount.  
Note 1) Stroke limit is where stroke reaches the mechanical limit.

⊕ Use M6 nuts.

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		
KUEHS	20	A	Plastic Handle	320	203	20	4	490	98	14	14	27	150	6	6.2	6.2	6.2	
				370	253													
				420	303													
				470	353													

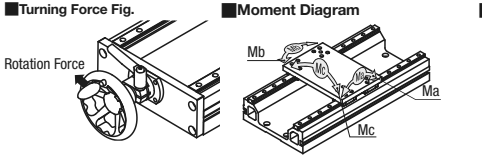
Ordering Example: Part Number - Handwheel Type - Handwheel Position - L  
**KUEHS20 - A - L - 320**

Part Number	Knob Type	Unit Price 1 ~ 2 pc(s).			
Type	No.	L=320	L=370	L=420	L=470
KUEHS	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.



■ **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.

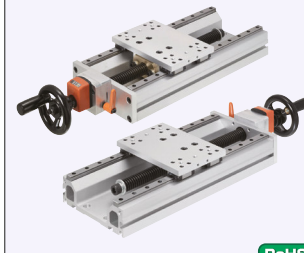


# Manual Units

## With Position Indicator

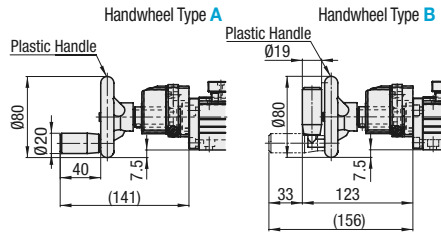
■ **Features:** Position Indicator allows easy position adjustments.

■ **X-Axis**

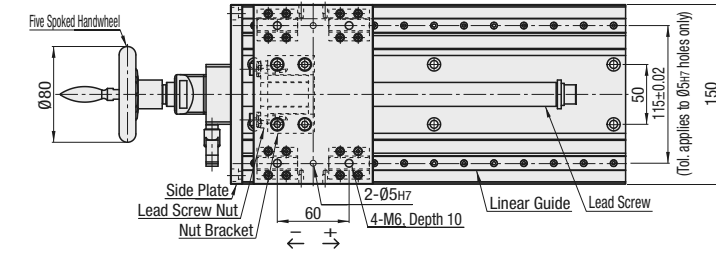


**KUDP**

Handwheel Type A      Handwheel Type B



Handwheel Type C

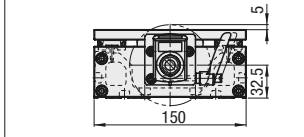


■ **Components**

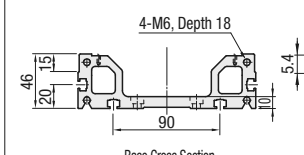
Parts	Base	Table	Lead Screw
Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN 1.1191 Equiv.
Surface Treatment	Clear Anodize	Clear Anodize	Black Oxide

Parts	Lead Screw Nut	Nut Bracket	Side Plate
Material	Brass	EN AW-5052 Equiv.	EN AW-6063 Equiv.
Surface Treatment	-	Clear Anodize	Clear Anodize

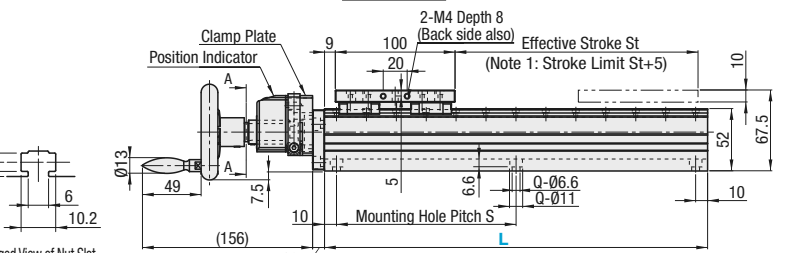
Arrow View A-A



Base Cross Section



Enlarged View of Nut Slot



\* The drawing shows right side mount.  
Note 1) Stroke limit is where stroke reaches the mechanical limit.

⊕ Use M6 nuts.

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		
KUDP	20	A	Plastic Handle	170	53	20	4	490	98	14	14	27	150	4	3.8	3.8	4.1	
				220	103													
				320	203													
				370	253													
				420	303													
				470	353													

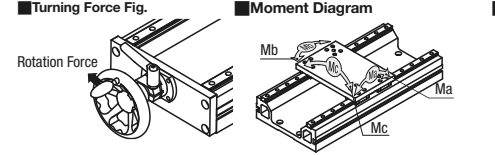
Ordering Example: Part Number - Handwheel Type - L  
**KUDP20 - A - 320**

Part Number	Handwheel Type	Unit Price 1 ~ 2 pc(s).					
Type	No.	L=170	L=220	L=320	L=370	L=420	L=470
KUDP	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.



■ **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.









