

Stages / Manual Units

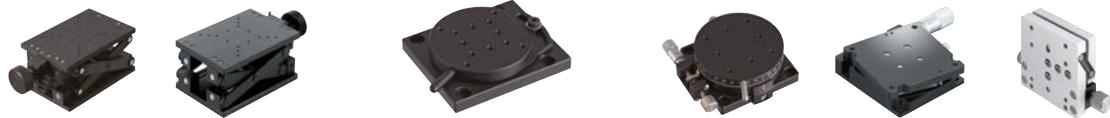
Stage POSITIONING STAGES					
[Simplified Adjustments] X-Axis, Feed Screw, Compact	[Simplified Adjustments] X-Axis, Feed Screw, Stroke Selectable	[Simplified Adjustments] X-Axis, Push Screw	[Simplified Adjustments] X-Axis, Feed Screw	[Simplified Adjustments] X-Axis, Feed Screw, Side Clamp Unit / Key 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



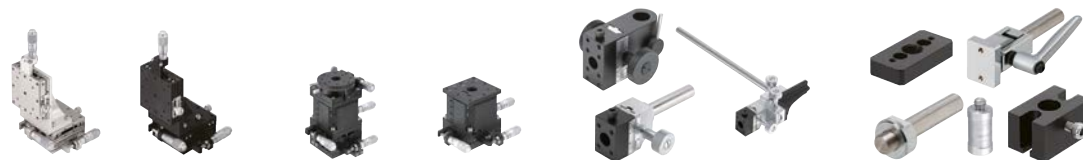
[High Precision] Rotary Stages / Micrometer Heads / Cross Roller / High Load Capacity 1981~1983 Rotary Table 1984 [Standard] Goniometer Stages - Dovetail Slide 1985



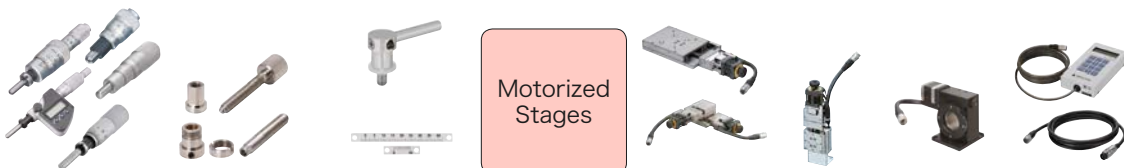
[High Precision] Goniometer Stages - Dovetail Slide / Symmetrical / Cross Roller 1986~1988 [High Precision] X, Y, Z-Axis Stages - Selectable 1989 [High Precision] XY-Rotary 1991 [High Precision] XY-Axis Dovetail Slide, Feed Screw 1991 [High Precision] XY-Axis Dovetail Slide, Rack & Pinion / Feed Screw 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 2009~2012 Product Name Page [Motorized] Linear Ball Slide - X/XY/Z 2009~2012 [Motorized] Rotary Stages / Peripherals for Motorized Stages 2013, 2014

Manual Units



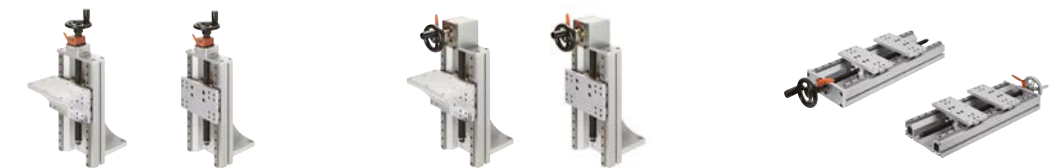
Product Name Page Fixture Slides, Linear Guide Type 2015 Fixture Slides, Guide Rail Type 2016



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
							Reinforced Clamp	XSLC P.1900	XYSLC P.1936	ZSLC P.1960	
							Low Profile	XLSL P.1901	-	ZLSL P.1959	
							[New Product] Long Stroke	-	-	-	
	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	XDTS P.1903	XYDTS P.1938	ZDTS P.1953	
		±15, ±20, ±35					Low Profile	XDTS P.1903	XYDTS P.1938	ZDTS 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 XSGB XSCG XSCGB P.1921	XYSG XYSGB XYSCG XYSCGB P.1946	ZSG ZSGB 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 Clamp	XSGNT P.1923	XYSGNT P.1950	-
		±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	Linear Ball	Heavy Load Compact Carriage XSGL (P.1923) Low Profile XYSSG (P.1948)
	Square XSG (P.1911) Rectangular XSB (P.1906)	

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	XKRC P.1978
		±10°	□40 □60	Med. Precision (Standard)	Simplified Angle Adjusting (With Micrometer Head)	RTSS P.1980
		Coarse Feed: 360 Fine Feed: ±5°	Ø40 Ø60 Ø80	Med. Precision (Standard)	Coarse/Fine Feeds Standard	RTRS/RTRM P.1979
		Coarse Feed: 360	Ø25	High Precision (Eccentricity 0.05mm)	Small Diameter	RPGE P.1981
		Coarse Feed: 360 Fine Feed: ±5°	Ø38 Ø60 Ø65 Ø100		Coarse / Fine Feeds Standard	RPG P.1982
49.0~58.8		Coarse Feed: 360 Fine Feed: ±5°	Ø60 Ø65 Ø100	High Precision (Eccentricity 0.05mm)	Stainless Steel / Through Hole	RPGS/RPGT P.1983
68.6		Coarse Feed: 360	Ø25 Ø40 Ø60		Coarse/Fine Feeds Standard	REG P.1981
980~1960		Coarse Feed: 360	Ø48 Ø98 Ø198	Low Precision (Simplified)	High Load Capacity	KUS P.1984

Horizontal Surface Z-Axis

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

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

Goniometer

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



(New Product) Med. Precision (Standard):
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

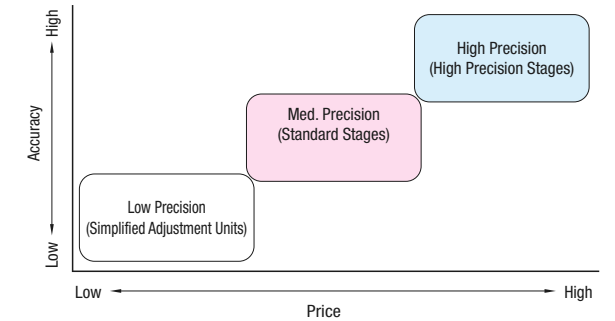
Low precision (Simplified Adjustment Units) and Med. precision (Standard Stages) are MISUMI original products which achieved more "economical prices" than the existing products by revising "Conditions of Guaranteed Accuracies".

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

Difference
20µm
-
-
±1mm
-



Example Standard Stages Examples

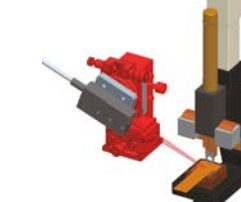
Positioning of Labeling Defects Detection Sensor



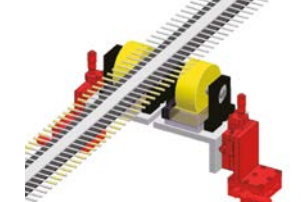
Positioning of Leak Inspection Instrument of Plastic Bottles



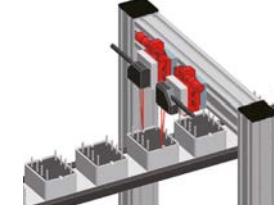
Positioning of Temperature Sensor for Camera Module Thermocompression



Positioning for Adhesive Application to Cotton Swabs



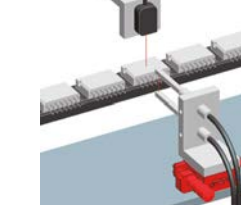
Positioning of Swage Detection Sensor for Converter



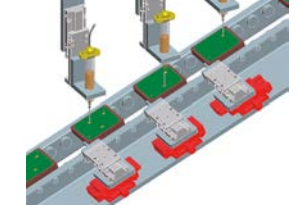
Positioning of Shrink Package Inspection Device



Sensor Positioning for Detecting Defects of Connector Terminal Press Fitting



Positioning of Cylinder Stopper for Adhesive Application Device

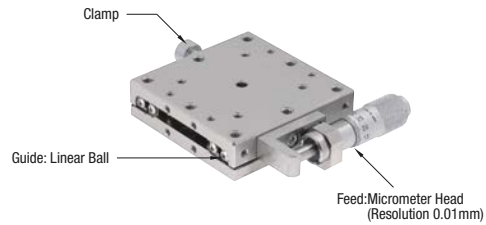


Manual Stages - Overview

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

About Feed Mechanisms

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

About Clamp Mechanism

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

Notes on Clamps

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

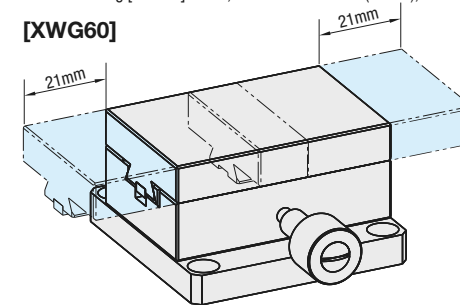
- Selecting the Reinforced Clamp Type Stages (Slit Type Clamp)
- Changing the clamp type when available as "Alterations" (Opposed Clamp, Disc Clamp)

High Precision Stages and Standard Accuracy Stages (Common)

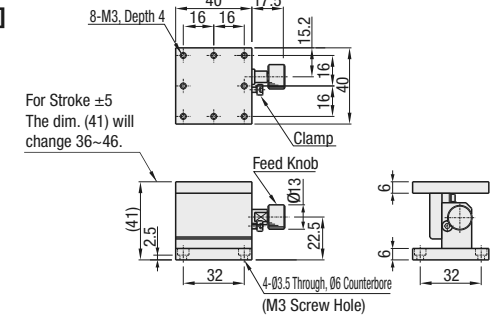
About Stroke (move distance) descriptions.

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]



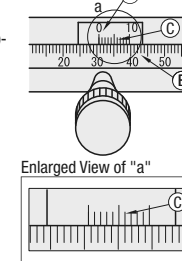
For Stroke ±5
The dim. (41) will change 36~46.

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.

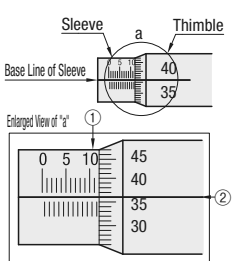
<How to Read Vernier Scale>

- 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.

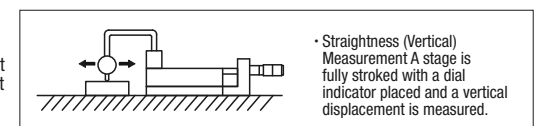
Allowable Moment Load

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

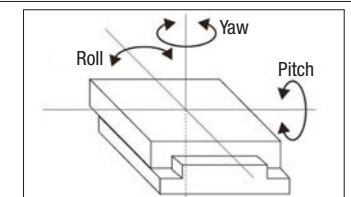
Straightness is a value represented by a maximum difference between an ideal straight line of travel and the actual travel of a top plate over the entire stroke range of the stage. It is the max. deviation in horizontal or vertical direction in relation to the ideal straight axis.



Definition of Pitching / Yawing / Rolling

These indicate the amounts of top plate inclinations during linear motion. To direction of traveling

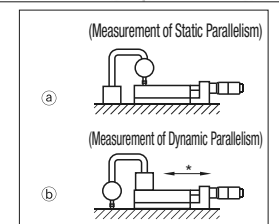
- Leaning forward and back : Pitching
- Rotation in a horizontal plane : Yawing
- Leaning right and left : Rolling



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

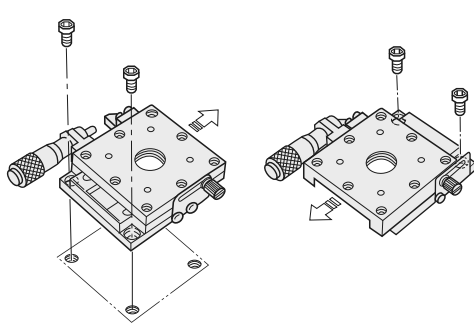
Stage Operating Environment

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

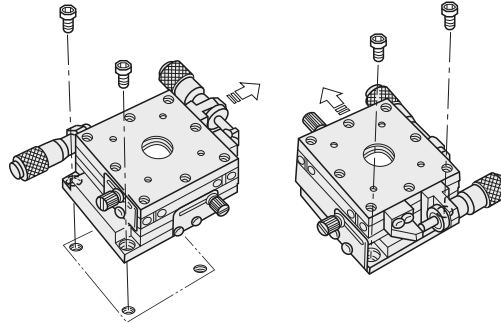
Stage Installation Method

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

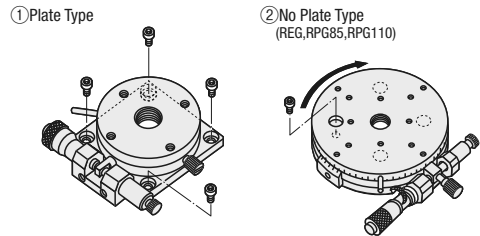
X-Axis Stages



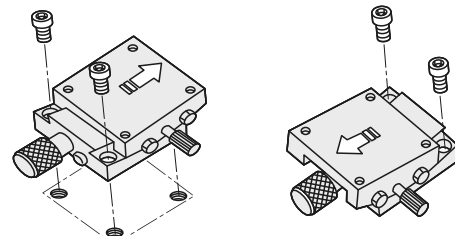
XY-Axis Stages



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

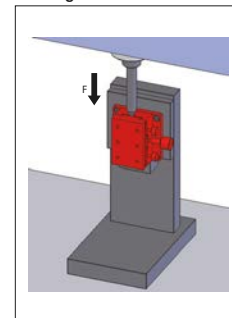
<Max. Holding Force (Ref.)>

Type	Size	Max. Holding Force (Ref.)
① XDTs	50	30N
	60	60N
	90	70N
② XDTSC	50	10N
	60	20N
	90	40N
③ 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>

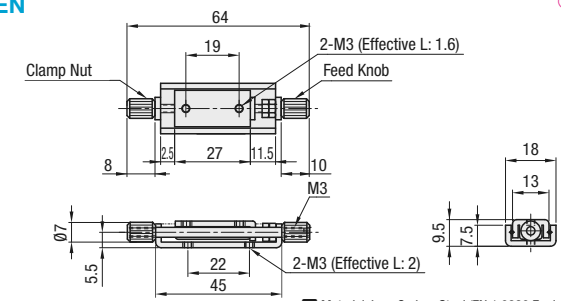


Max. Holding Force (Ref.) will vary depending on the tightening torque variations. Ensure adequate safety margins for design.

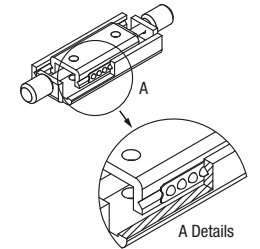
Features: Eliminates frustrations when positions are lost at the final one turn of screws in slotted holes. The low profile of 9.5mm is effective in narrow spaces.

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

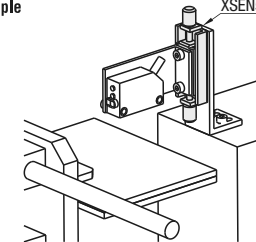
Travel per Rotation: 0.5mm



Ordering Example Part Number: XSEN5

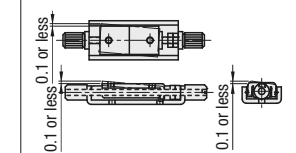


Example



Fine Adjustments of Product Counter Sensors.

Accuracy Standards

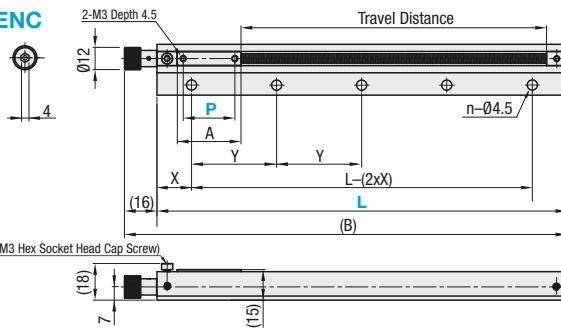


There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies.

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	10	-	-	2	86	42	L-A-25		
	80	12	-	-	2	96	44	L-A-25		
	150	19	-	-	2	166	110	L-A-30		
	150Y (*)	25.4	15	40	4	120				
	200	-	22	-	2	216	156	L-A-30		
	200Y (*)	-	20	40	5	160				

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

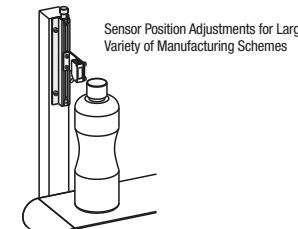
Travel per Rotation: 0.8mm



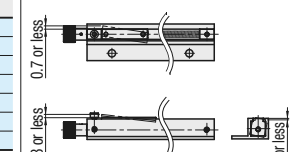
Ordering Example Part Number: XSENC150 - P 25.4



Example



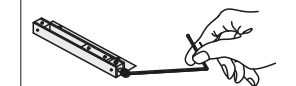
Accuracy Standards



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

One Point

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



[Simplified Adjustments] X-Axis, Push Screw

Screw Length Standard/Selectable

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

Standard

XY-Axis P.1929

Screw Length Selectable

(CL Alteration)

Travel per Rotation: 0.5mm

RoHS

Accuracy Standards

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

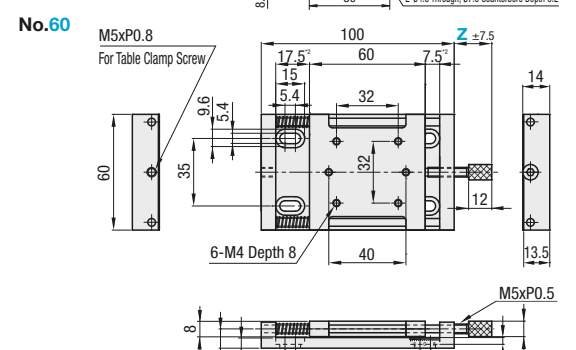
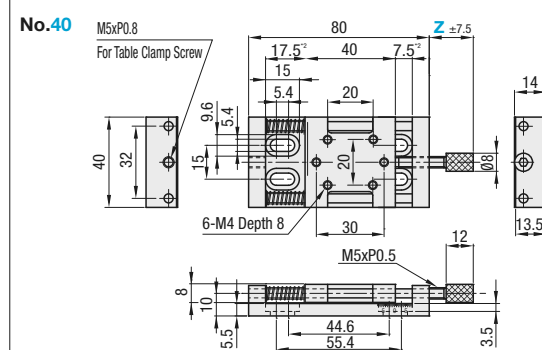
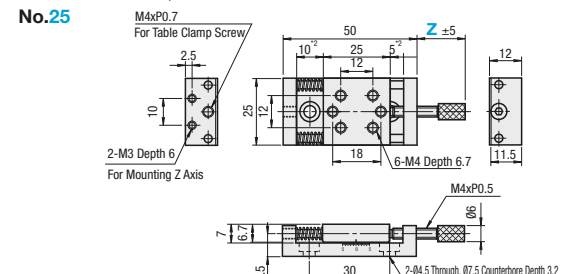
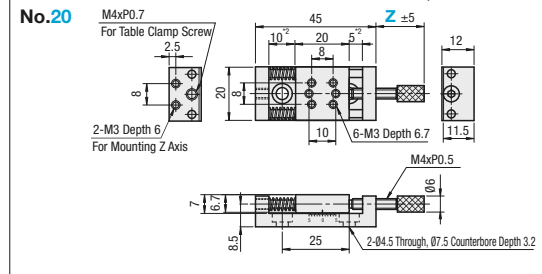
How to Mount

- 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 XKNGZ*3	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.

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

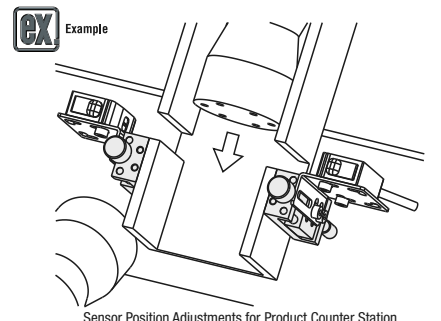
Part Number Type	No.	Z Available for XKNGZ only		ZXKNG Fixed	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)		Weight (kg)	Unit Price	
		20	38				Horizontal	Vertical		XKNG	XKNGZ
(Standard) XKNG (Screw Length Selectable) XKNGZ*3	20	20	38	18	20x20	±5	9.8	2	0.04		
	25	28	38	18	25x25	±5	9.8	2	0.06		
	40	40	60	27	40x40	±7.5	14.7	8	0.10		
	60	40	60	27	60x60	±7.5	14.7	8	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 - CL
XKNGZ60 - Z60 - CL

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



[Simplified Adjustments] X-Axis, Feed Screw

Standard/Large Handle, M6 Mounting Holes

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

RoHS

Travel per Rotation 0.7mm

Accuracy Standards

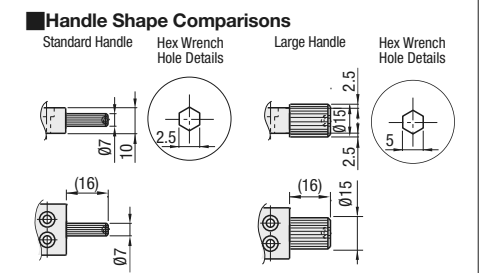
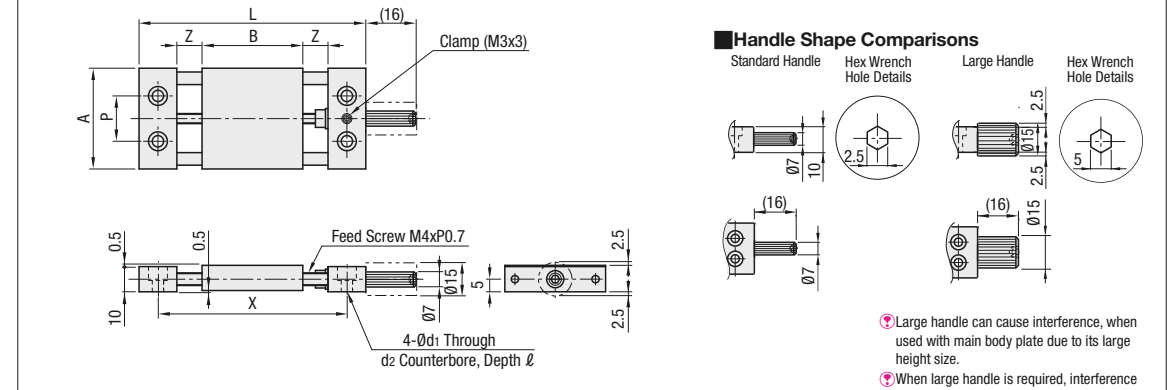
Not recommended for precise positioning due to its clearance shown on the left.

One Point

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

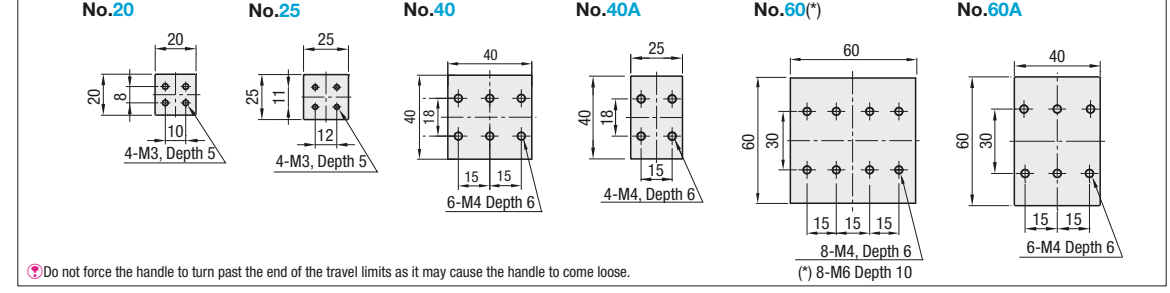
XY-Axis P.1930
Z-Axis P.1952

Type	Main Body	Shaft	Knob	Feed Screw	Accessory	
	M Material S Surface Treatment	M Material	M Material	M Material		
Standard	XKNEJ XKJL	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, 40A, 60, 60A: SCB4-10, 4 pcs.
M6 Mounting Holes	XKJM XKJML					



Large handle can cause interference, when used with main body plate due to its large height size.
When large handle is required, interference can be avoided by choosing Alteration Code MMR.

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



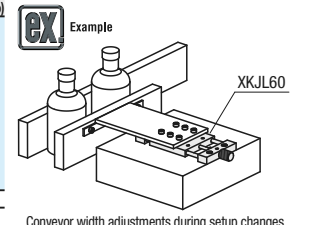
Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.
(* 8-M6 Depth 10)

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 XKJM	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	±7	25	71	8	25	11	56	3.5	6	3.2	19.6	9.8	0.05		
	40	40x40	±9	40	90	10	40	18	75	4.5	7.5	4.2	39.2	19.6	0.10		
	40A	40x25	±17	40	90	17.5	25	18	75	4.5	7.5	4.2	39.2	19.6	0.10		
	60	60x60	±13	60	120	15	60	30	105	4.5	7.5	4.2	39.2	19.6	0.18		
	60A	60x40	±23	60	120	25	40	30	105	4.5	7.5	4.2	39.2	19.6	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.	
Code	MMR	CLC	CLC




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

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

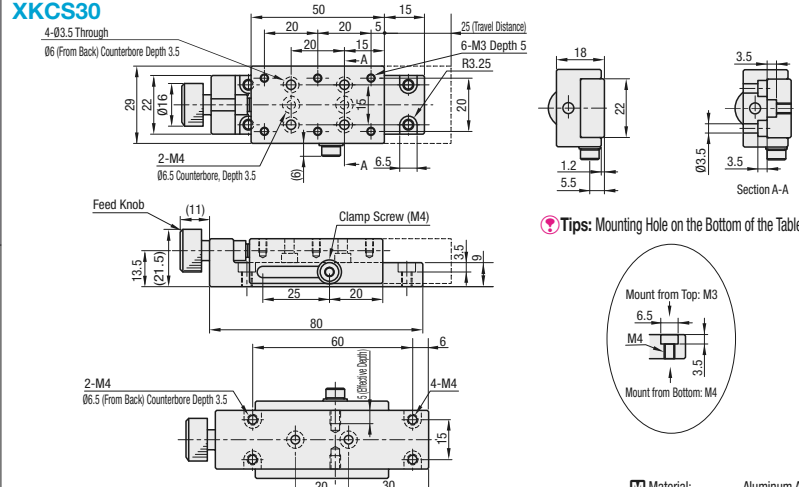
P.1897, P.1899, P.1900

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

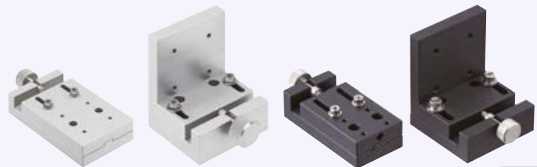
Material: Aluminum Alloy
Surface Treatment: Black Anodize

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

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

Ordering Example
Part Number: **XKCS30**

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



RoHS

Accuracy Standards

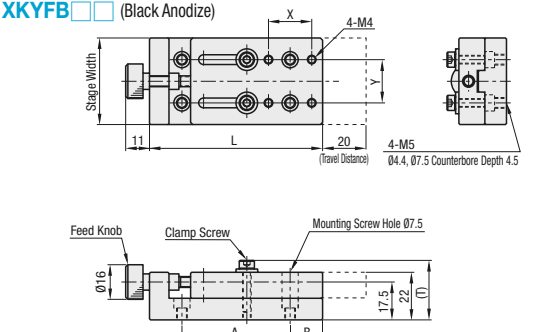
There are some mechanical clearances as shown below, and not recommended for positioning applications requiring accuracies.

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

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

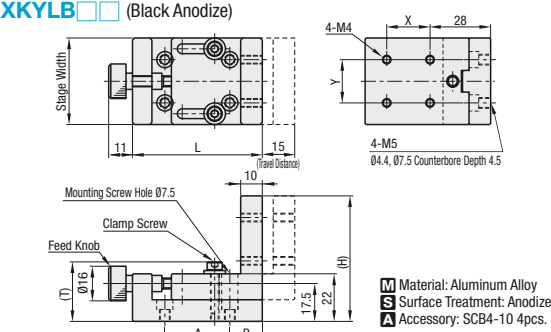
Flat Type

XKYF (Clear Anodize)
XKYFB (Black Anodize)



L-Shaped Type

XKYL (Clear Anodize)
XKYL B (Black Anodize)




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
						Clear Anodize	Black Anodize	Clear Anodize	Black Anodize									
XKYF	XKYFB	40	40	20	0.8	50	15	-	80	(27.5)	20	20	M4	19.6	0.18			
		60	60	60		25	-	100	(29)	30	30	M5	39.2	0.34				
XKYL	XKYL B	40	40	15	0.8	30	15	58	60	(27.5)	20	20	M4	9.8	0.18			
		60	60	60		25	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

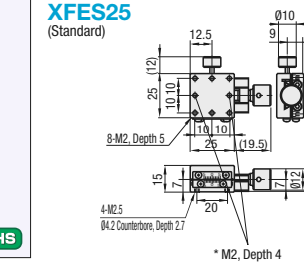
Features: Stages with 0.5mm fine lead.

X-Axis

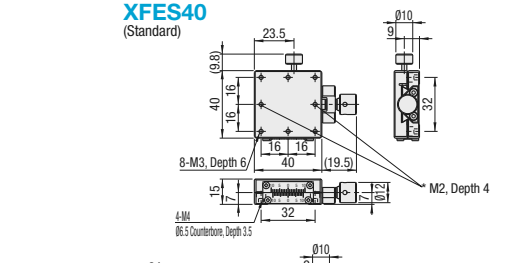


RoHS

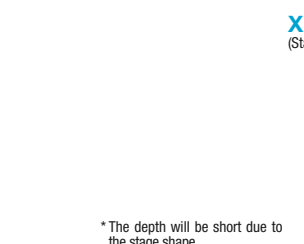
XFES25 (Standard)



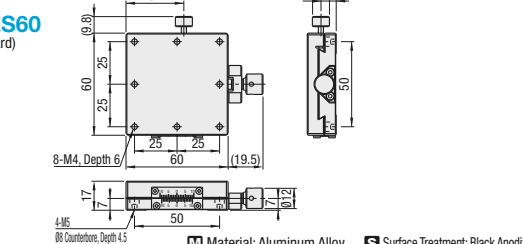
XFES40 (Standard)



XFES60 (Standard)



XFES60 (Standard)



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			
XFES	25	No Symbol (Standard)	25x25	±5	0.5	29.4	9.8	50µm	0.04	
	40	R (Right/Left Reversed)	40x40	±7		39.2	19.6		0.08	
	60	R (Right/Left Reversed)	60x60	±8					0.18	

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.

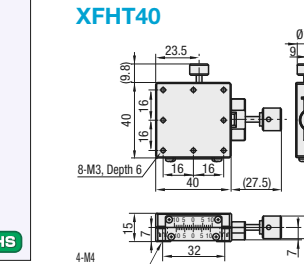
Ordering Example
Part Number: **XFES40**

X-Axis

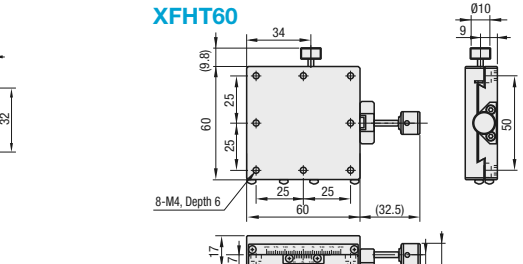


RoHS

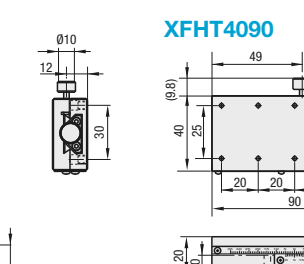
XFHT40



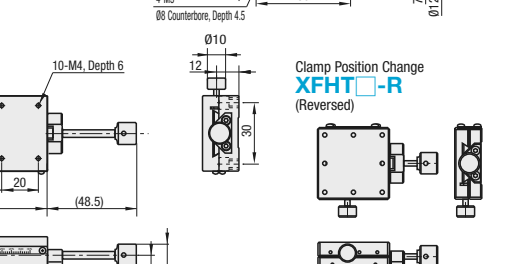
XFHT60



XFHT4060



XFHT4090



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			
XFHT	40	No Symbol (Standard)	40x40	±10	4.5	19.6	9.8	50µm	0.06	
	60	R (Right/Left Reversed)	60x60	±20		29.4	14.7		0.16	
	4060	R (Right/Left Reversed)	40x60	±20					0.17	
	4090	R (Right/Left Reversed)	40x90	±35					0.18	

Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example
Part Number: **XFHT40**

[High Precision] Dovetail Slide, Feed Screw

Hex Wrench Drive

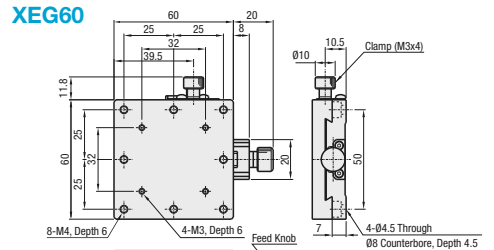
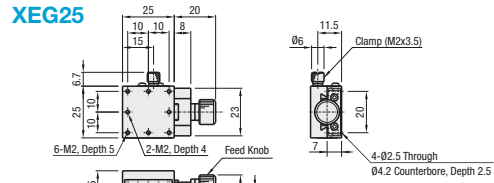
■Features: Low profile (height 15mm ~) dovetail slide stages with feed screws.

■X-Axis
(Lead 0.5mm)

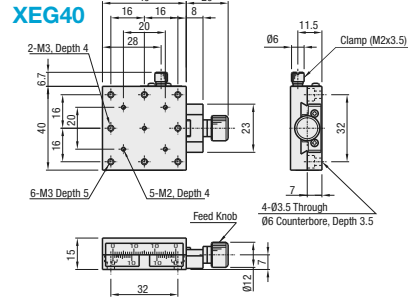


XY-Axis P.1933
Z-Axis P.1962

RoHS



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



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		
XEG	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	SCB4-6					

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 XEG25 - R

Alteration: Clamp Position Change (Right/Left Reversed)

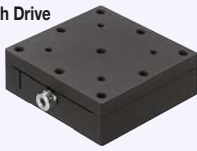
Spec. R

Code R

See the CAD data for details.

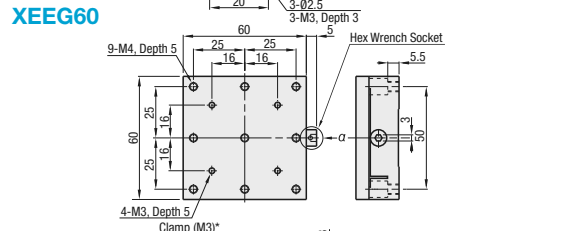
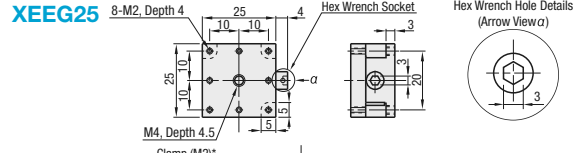
■Features: No knob is required since a hex wrench is used to feed the stage, making for a space saving form factor. Unintended position changes can be prevented since the stage cannot be operated without a hex wrench.

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

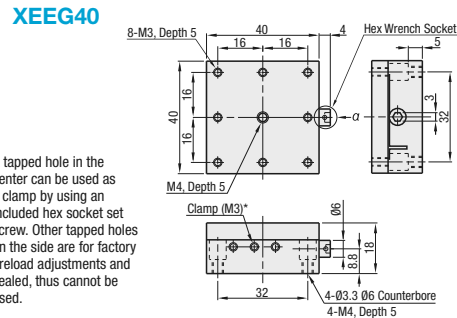


XY-Axis P.1933
Z-Axis P.1962

RoHS



Material: (Main Body) Low Cadmium Brass
(Hex wrench operating section) Aluminum
Surface Treatment: Black Fluororesin Treatment



*A tapped hole in the center can be used as a clamp by using an included hex socket set screw. Other tapped holes 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		
XEEG	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	SCB4-6					

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

Alterations: Part Number XEEG60 - R

Alteration: Clamp Position Change (Right/Left Reversed)

Spec. R

Code R

See the CAD data for details.

[High Precision] Dovetail Slide, Feed Screw

Extended Knob / Reinforced Clamp

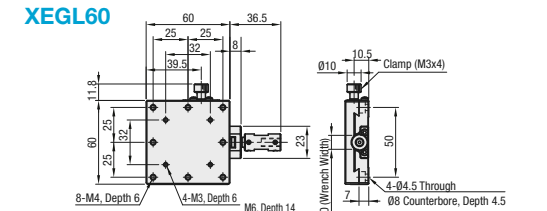
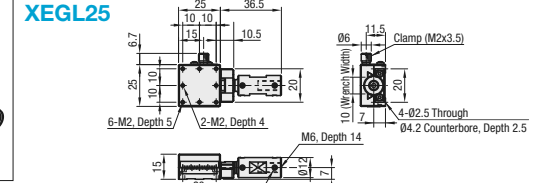
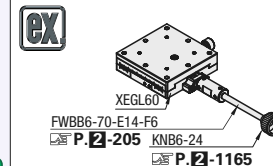
■Features: Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine. Use adhesive to prevent the knob extension from pulling off.

■X-Axis, Extended Knob
(Lead 0.5mm)

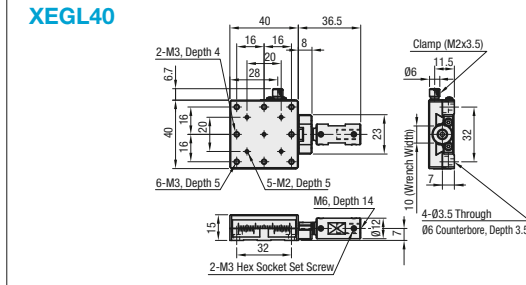


XY-Axis P.1934
Z-Axis P.1963

RoHS



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



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		
XEGL	25	25x25	±5	0.5	29.4	9.8	30	30	2.0	1.5	1.3	40μm	0.1	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	0.5	SCB4-6					

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 XEGL60 - R

Alteration: Clamp Position Change (Right/Left Reversed)

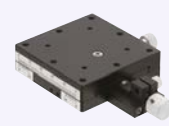
Spec. R

Code R

See the CAD data for details.

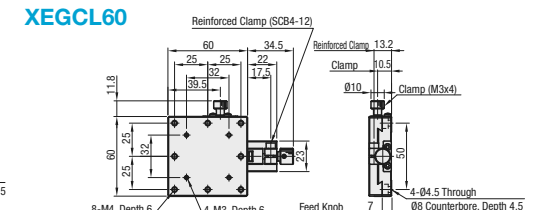
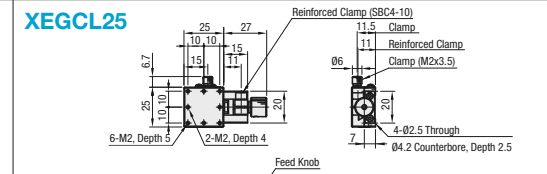
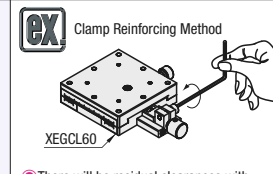
■Features: The feed knob shaft is clamped directly for improved position holding performance of the stage.

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

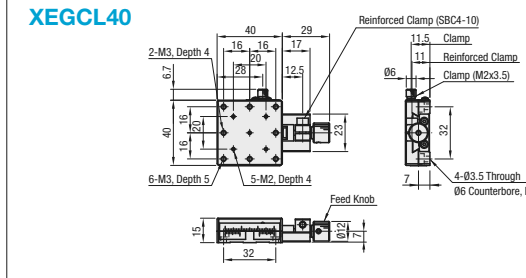


XY-Axis P.1934
Z-Axis P.1963

RoHS



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



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		
XEGL	25	25x25	±5	0.5	29.4	9.8	30	30	2.0	1.5	1.3	40μm	0.08	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	0.50	SCB4-6					

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 XEGL60 - R

Alteration: Clamp Position Change (Right/Left Reversed)

Spec. R

Code R

See the CAD data for details.

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

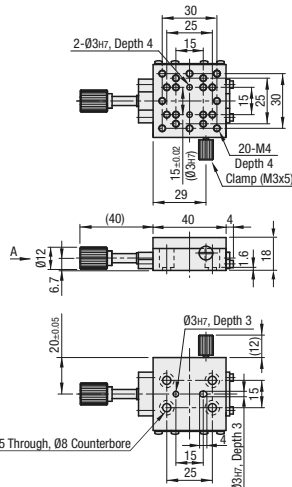
[High Precision] Dovetail Slide, Feed Screw

Square / Extended Knob (Lead 4.2mm)

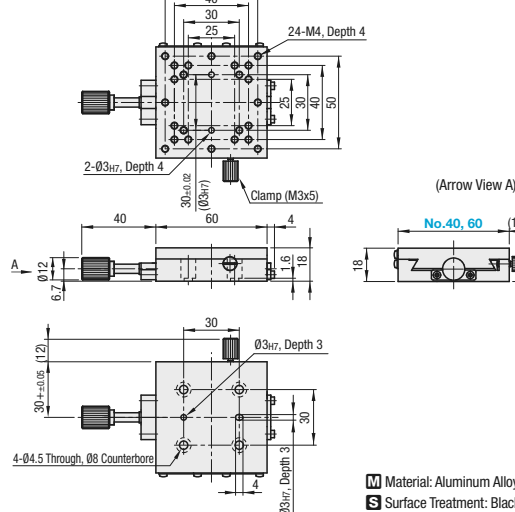
Features: Low profile Dovetail Slide Stages with smooth 4.2mm lead feeding. Easy XY integration with dowel holes. See **P.1900** for Rectangular type.

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

XSC40



XSC60



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

RoHS

Standard Stages Similar Products: XFHT (P.1896)

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

Resolution (Vernier Scale Indication): 0.1mm/division

Ordering Example **Part Number XSC40**

Alterations **Part Number XSC40** - (R)

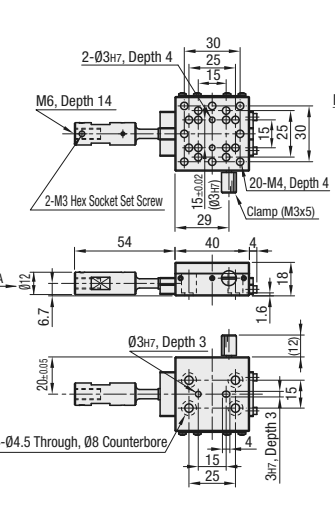
Alteration	Knob Position Change (Left/Right Reversed)
Spec.	
Code	R

See the CAD data for details.

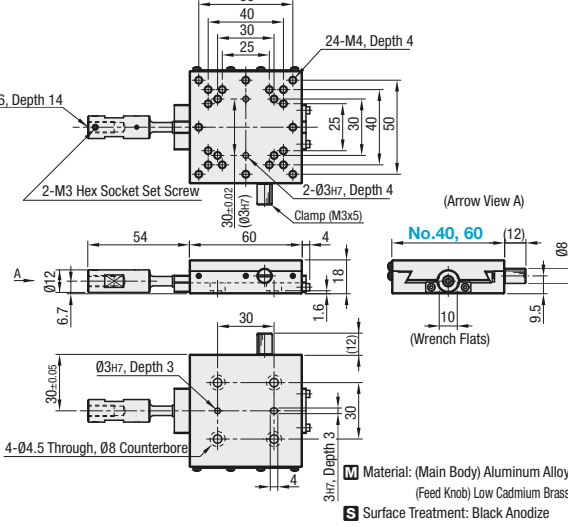
Features: Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine.

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

XSCL40



XSCL60

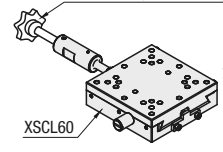


XY-Axis **P.1932**
Z-Axis **P.1959**

RoHS

EX (Extended Knob)

NKSM6-30 (P.2-1171)



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

Resolution (Vernier Scale Indication): 0.1mm/division

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

Ordering Example **Part Number XSCL60**

Alterations **Part Number XSCL60** - (R)

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

See the CAD data for details.

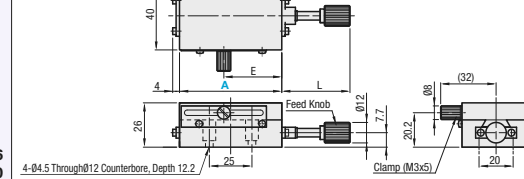
[High Precision] Dovetail Slide, Feed Screw

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

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

X-Axis, Rectangular
(Lead 4.2mm)

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.) Type M-L	Unit Price
						Horizontal	Vertical	Straightness	Parallelism			
XSL	60	40x60	±21	40	34	39.2	19.6	30µm	30µm	0.20	SCB4-8	
	90	40x90	±35	60	49					0.29		

Resolution (Vernier Scale Indication): 0.1mm/division

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

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

Ordering Example **Part Number XSL60**

Alterations **Part Number XSL60** - (R)

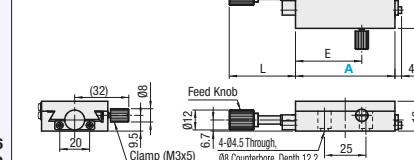
Alteration	Clamp Position Change (Right/Left Reversed)
Spec.	
Code	R

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.) Type M-L	Unit Price
						Horizontal	Vertical	Straightness	Parallelism			
XSLC	60	40x60	±21	40	40	29.4	14.7	30µm	30µm	0.14	SCB4-5	
	90	40x90	±35	60	55					0.19		

Resolution (Vernier Scale Indication): 0.1mm/division

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

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

Ordering Example **Part Number XSLC90**

Alterations **Part Number XSLC90** - (R)

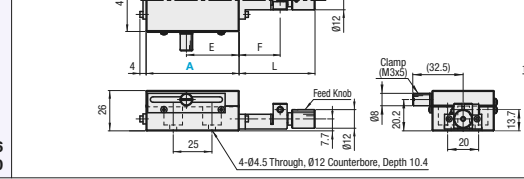
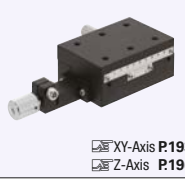
Alteration	Knob Position Change (Left/Right Reversed)
Spec.	
Code	R

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.) Type M-L	Unit Price
							Horizontal	Vertical	Straightness	Parallelism			
XSLCL	60	40x60	±21	49	34	26.5	39.2	19.6	30µm	30µm	0.18	SCB4-8	
	90	40x90	±35	63	49	40.5					0.26		

Resolution (Vernier Scale Indication): 0.1mm/division

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

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

Ordering Example **Part Number XSLCL60**

Alterations **Part Number XSLCL60** - (R)

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)

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.

(A) Mounting Hole Enlarged View
① Mount from Front
② Mount from Back

Material: Aluminum Alloy
Surface Treatment: Black Anodize

⚠ The scale in the above figure is for L120, and not for L90,150.
⚠ The external dimensions will be the same if L is the same, even if the move distance per knob rotation is different.

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

⚠ Resolution (Vernier Scale Indication): 0.1mm/division
⚠ Knob Cover HDVR15 (Sold Separately): Ø15 knobs can be increased in diameter by installing the cover. **P2004**
⚠ Adjustable Plate XPL40: Use this plate when connecting stages with non-matching mounting holes. **P1915**

Ordering Example Part Number **XLSL90-5**

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

X-Axis, Compact Carriage (Lead 4.2mm) **XSSL**

Upper Mounting Hole Dimensions
A40 8-M4, Depth 5
A50 8-M2, Depth 5
A100 12-M2, Depth 5

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number Type	A	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	L	E	Load Capacity (N)		Travel Accuracy (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			40	29								0.12
	100	24.8x100			60	54								0.22

⚠ Resolution (Vernier Scale Indication): 0.1mm/division
⚠ Extension Cover HDXT12 (Sold Separately): Ø12 feed screw knob can be extended. **P2004**
⚠ Adjustable Plate XPL: Use this plate when connecting stages with non-matching mounting holes. **P1915**

Ordering Example Part Number **XSSL50**

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

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

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

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

Material: Aluminum Alloy
Surface Treatment: Black Anodize

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 HDXT12 (Sold Separately): Ø12 feed screw knob can be extended. **P2004**
⚠ Adjustable Plate XPL: 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** **RoHS**

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

XY-Axis P1937
⚠ Part numbers (in yellow): Not RoHS Compliant ⚠ Travel per Rotation: approx. 19mm

XKRG **XKRKG**

Stage Top Mounting Hole Dimensions

No.40 6-M4, Depth 5
No.60 6-M4, Depth 5
No.90 10-M4, Depth 5

Material: Aluminum Alloy
Surface Treatment: Black Anodize
Accessory: (XKRG) Hex Socket Low Head Cap Screw (CBS4-6) 4pcs. (XKRKG) Hex Socket Head Cap Screw (SCB4-6) 4pcs. * 2pcs for No.40

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

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

Ordering Example Part Number **XKRG60**

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


Rectangular, Low Profile

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

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				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)

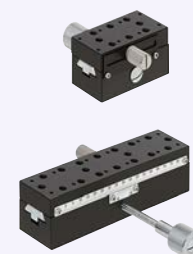
Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Travel Accuracy Straightness	Weight (kg)	Unit Price
					Horizontal	Vertical			
XWG	40	24.8x42	±12	18	29.4	14.7	30µm	0.17	
	60	40x60	±21		39.2	19.6		0.29	
	90	40x90	±35			70		0.40	
	140	40x140	±60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

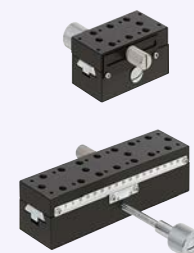
Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)		Max. Holding Force (N) (Ref.)	Travel Accuracy Straightness	Weight (kg)	Unit Price	
					Horizontal	Vertical					
XSP	50	50x24.8	±16	18	29.4	14.7	10	30µm	0.13		
	100	100x24.8	±40		63	46			39.2	19.6	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
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		
	100	100x24.8	±40		63	46			39.2	19.6	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
Adjustable Plate XPLT: Use this plate when connecting stages with non-matching mounting holes. P.1915

Material: Aluminum Alloy
Surface Treatment: Black Anodize

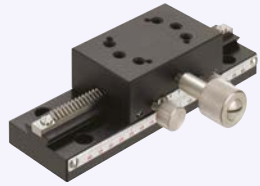
[Standard] X-Axis Dovetail Slide, Rack & Pinion Long

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

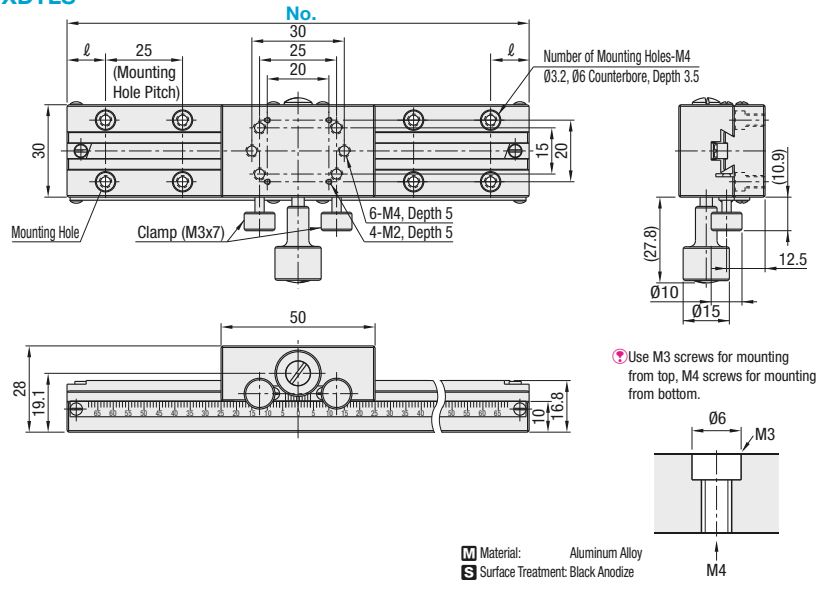
P.1908, 1956

Features: Economically priced long stroke Rack & Pinion stages.

X-Axis, Long



XDTLS



Material: Aluminum Alloy
Surface Treatment: Black Anodize

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

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

Resolution (Vernier Scale Indication): 0.1 mm/division

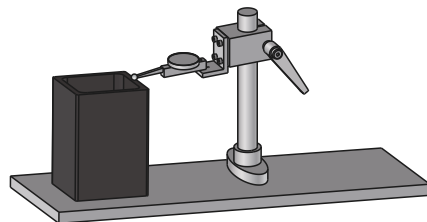
For orders larger than indicated quantity, please request a quotation.

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

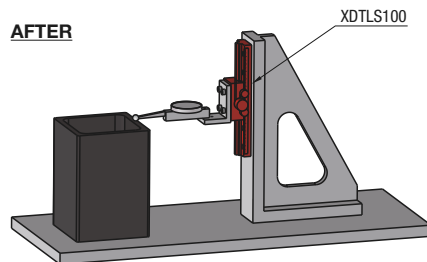
Ordering Example Part Number XDTLS100

Example Parallelism Inspection Unit

BEFORE



AFTER



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

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

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

X-Axis, Long

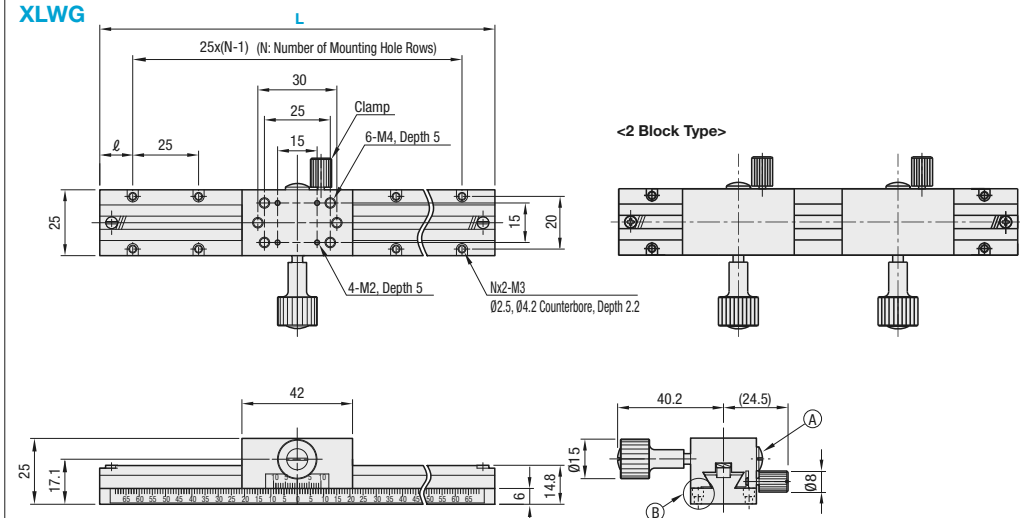


Z-Axis P.1956

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

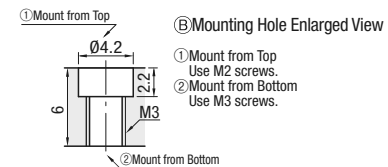
RoHS

XLWG



The scale in the above figure is for L150, and not for L50, L70, L100 or L200.

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



Material: Aluminum Alloy
Surface Treatment: Black Anodize

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

Part Number Type	No.	L	Number of Blocks	Travel Distance (mm)	Travel per Rotation (mm)	N: Number of Mounting Hole Rows	Number of Mounting Holes (M4)	Load Capacity (N)		Travel Accuracy (μm)		Weight (kg)	Unit Price
								Horizontal	Vertical	Straightness	Parallelism		
XLWG	50	50	1	±15	18	2	4	29.4	14.7	30	30	0.10	
	70	70	1	±25		3	6						
	100	100	1	±40		4	8						
	150	150	1	±65		6	12						
	200		1										
	200-2		2										
200-2	200	2	±90	8	16	12.5	50	50	0.21	0.28			

Resolution (Vernier Scale Indication): 0.1 mm/division

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

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

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

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

Ordering Example Part Number XLWG100

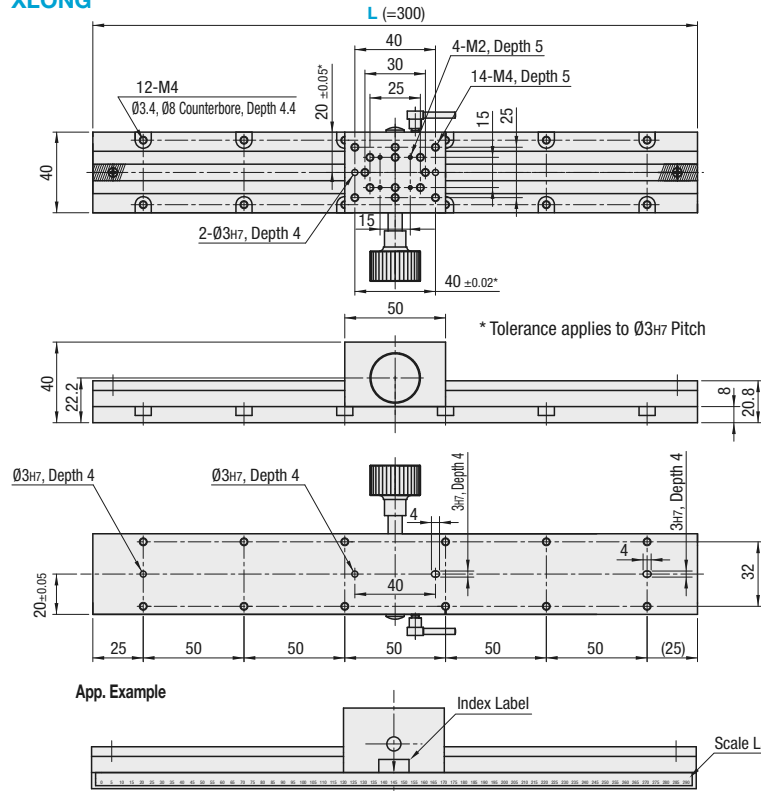
[High Precision] X-Axis Dovetail Slide, Rack & Pinion Long Stroke (300mm)

Features: Compatible with M size board (330mmx250mm). Suitable for sensor adjustments and tooling changes.

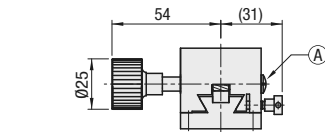
X-Axis, Long Stroke (300mm)



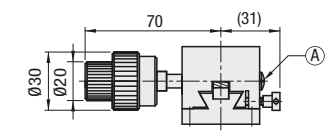
XLONG



Standard Knob



Coarse/Fine Feed Knob



- Use M3 screws for mounting from top, M4 screws for mounting from bottom.
- 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.
- Dowel holes on top and bottom plates can be used to secure locating repeatability.
- Do not remove blocks from bottom plate, as blocks are preloaded and ground fit for precision, and shipped after inspection.

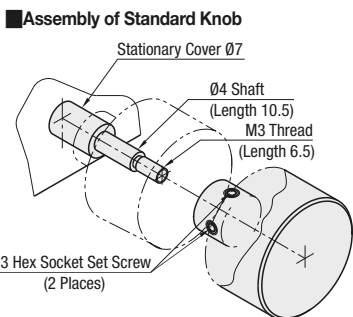
M Material: Aluminum Alloy
S Surface Treatment: Black Anodize
A Accessory: Scaled Label (PET Film) Index Label (PET Film)

Part Number Type	L-No.	Block Knob	Qty.	Travel Distance (mm)	Travel per Rotation (mm) Coarse	Travel per Rotation (mm) Fine	Load Capacity (N) Horizontal	Load Capacity (N) Vertical	Travel Accuracy Straightness	Weight (kg)	Unit Price
XLONG	300	Standard Knob	1	±140	18	-	49	24.5	150µm	0.63	
	300-2		2							0.81	
	300-3	3	0.99								
	300-SB	Coarse/Fine Feeds Knob	1	±140	18	2.3	49	24.5	150µm	0.70	
300-2SB	2		0.95								
300-3SB	3		1.20								

Resolution: 1mm/division

Ordering Example
Part Number
XLONG300
XLONG300-2SB

Assembly of Standard Knob



XLONG300 Standard Knob Type has an M3 set screw for the knob.

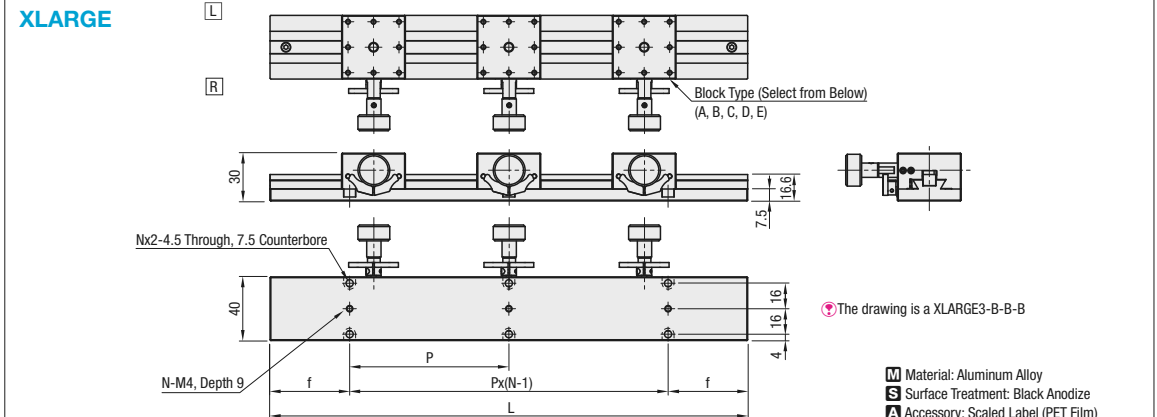
[High Precision] X-Axis Dovetail Slide, Rack & Pinion Long Stroke (100, 200, 300, 400mm) Block Combination

Features: Useable for tooling changes. Numbers, type and direction of blocks and rail length are selectable.

X-Axis, Long Stroke (100, 200, 300, 400mm) Block Combination



XLARGE



Moved distance can be read with the mark on the carriage and the scale on the base. Resolution is 1mm.

The drawing is a XLARGE3-B-B-B

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize
A Accessory: Scaled Label (PET Film) Index Label (PET Film)

Block Type	Direction	Standard Knob (Left) A	Standard Knob (Right) B	Coarse/Fine Feed Knob (Left) C	Coarse/Fine Feed Knob (Right) D	Connecting Block E
Shape	L					
	R					

Dimension of * marked part will vary ±0.3mm due to its structure.

Part Number Type	No.	L	Block ①	Block ②	Block ③	Travel Distance *1 (mm)	Horizontal Load Capacity (N)	f	P	N	Weight *3 (kg)	Accessory Type M-L	Quantity	Unit Price				
XLARGE	1	100	A	A	A	60	29.4	12.5	75*2	2	0.15	CBM4-8	4					
	2	200	B	B	B	160							2	0.29	4			
	3	300	C	C	C	260							50	100	3	0.43	6	
	4	400	D	D	D	360							50	100	4	0.57	8	

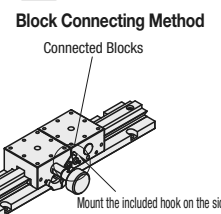
- When L (Rail Length) = 100, only one block can be selected.
- When L (Rail Length) = 200, two blocks can be selected.
- Joint Block has a stopper to prevent falling off.
- Travel distance of *1 is the value obtained with one block. Addition of every one block shortens the travel distance by 40mm.
- *2 M4 (backside) is P=100
- *3 Weight of the rail itself. Unit weight should be calculated by adding the weight of the selected number of blocks.

Block Type	Weight (kg)	Unit Price (1-3 pcs)
A Standard Knob (Left)	0.12	
B Standard Knob (Right)	0.12	
C Coarse/Fine Feed Knob (Left)	0.17	
D Coarse/Fine Feed Knob (Right)	0.17	
E Connecting Block	0.08	

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

Ordering Example
Part Number - Block ① - Block ② - Block ③
XLARGE2 - A - A - C
XLARGE3 - E - B - C
XLARGE4 - E - B - C

Block Connecting Method

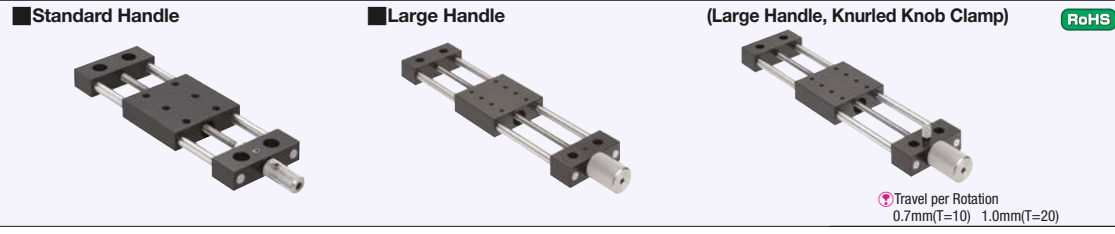


Mount the included hook on the side.

[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.



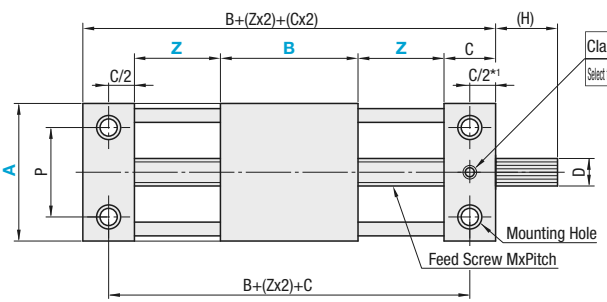
Travel per Rotation
0.7mm(T=10) 1.0mm(T=20)

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

Type	T	D	(H)	C	MxPitch	M1	d1	d2	ℓ	R	g	t
XKNEF	10	7	16	15	M4xP0.7	3	4.5	7.5	4.2	2.5	-	5
XKFL	20	10	30	25	M6xP1.0	4	5.5	9	5.2	4	-	10
XKFM	10	15	16	15	M4xP0.7	3	4.5	7.5	4.2	5	2.5	5
XKFML	20	24	30	25	M6xP1.0	4	5.5	9	5.2	8	2	10

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

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



Handle Shape Comparisons

Standard Handle Large Handle

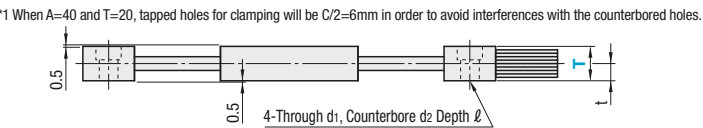
Hex Wrench Hole Details

T	A	P	Z
10	40	18	30
10	60	14	30
20	60	30	30
20	80	30	30

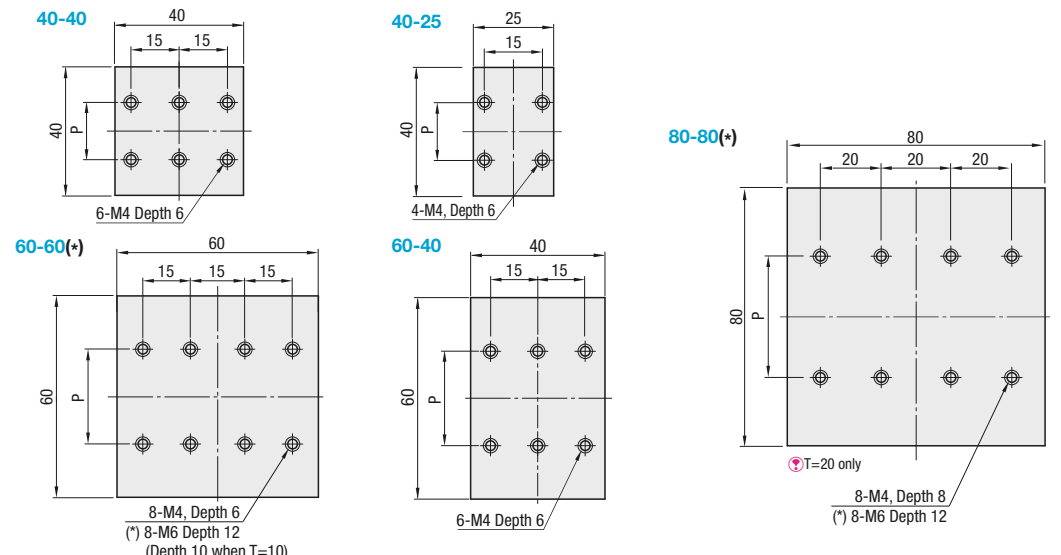
Selection table on the next page

Clamp Selection

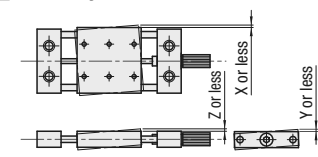
S (Standard Set Screw) K (Knurled Knob)



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

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		Z							
10	40-40	10	15	25	30	40	50	60	70	10	15	25	30	40	50	60	70
	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

XKFL10-40-40-Z60-S

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.

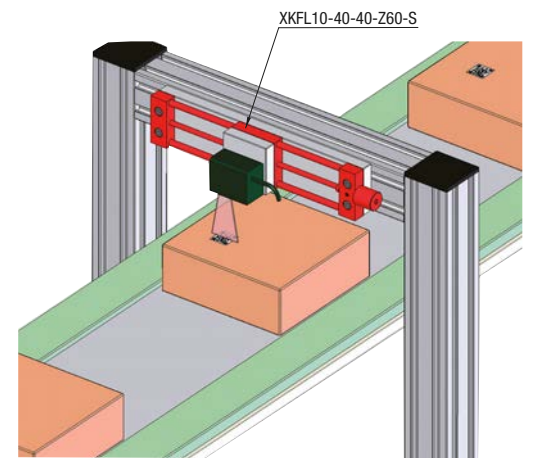
T	A	P2
10	40	18
	60	30
	40	14
20	60	30
	80	30

A-B	Z	P1
40-40	10 25 50	110
	40 60	110
40-25	10 25 35	95
	40 60	95
60-60	15 30 75	145
	50 70	145
60-40	15 30 55	125
	50 70	125
80-80	15 30 95	165
	50 70	165

4-Ø4.5 Through
Ø7.5 Counterbore Depth 3

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

Code MMR

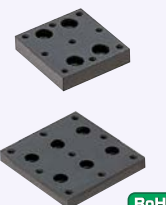


Adjustable Plates for XY-Axis Stages

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

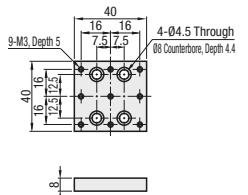
■Features: Offers a square mounting surface by attaching on top of a rectangular stage.

■Adjustable Plate

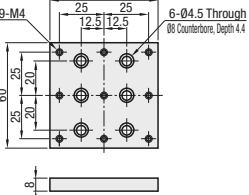


RoHS

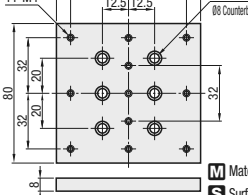
XPLT40



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.

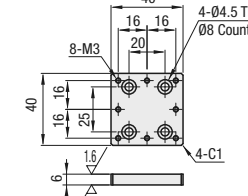
■Features: XY mounting plates that can be used for combinations of rapid feed stage (bottom) and fine feed stage (top). Convenient when feeding the X in rapid, Y in fine modes.

■Adjustable Plates for XY-Axis Stages

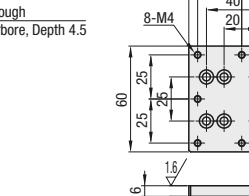


RoHS

XPLTE40



XPLTE60



M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

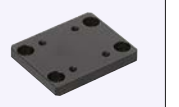
▶Please see Plate/Stage Compatibility Chart on P.1916 for compatible stages.

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

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

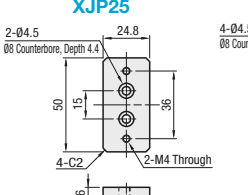
■Features: Joint plates for combining two stages. Reversed knob types and different feed systems can be combined.

■XY-Axis Joint Plates

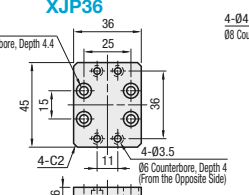


RoHS

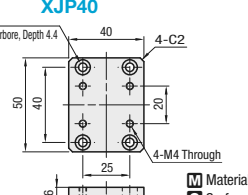
XJP25



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.

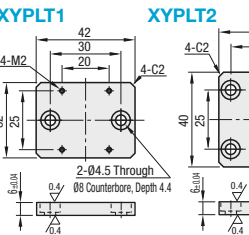
■Features: Plates for assembling Long Stroke Stages. Utilize in 2-axis configurations.

■Adjustable Plates for XY-Axis Stages

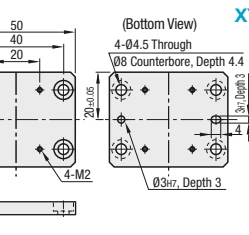


RoHS

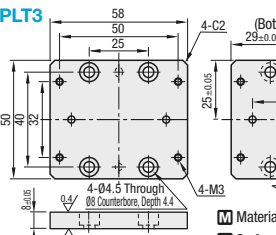
XYPLT1



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.

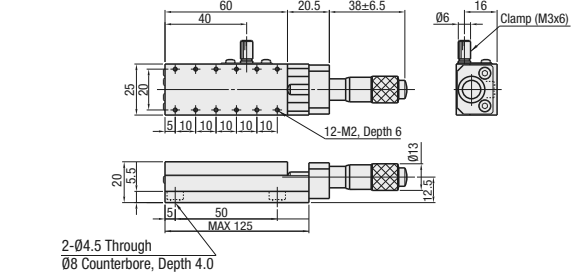
■Features: High precision long stroke stages with Cross Roller Guides. The XLP60 has two knobs enabling Coarse Feed (3mm/rev.) and Fine Feed (0.5mm/rev.).

■X-Axis, Long Stroke

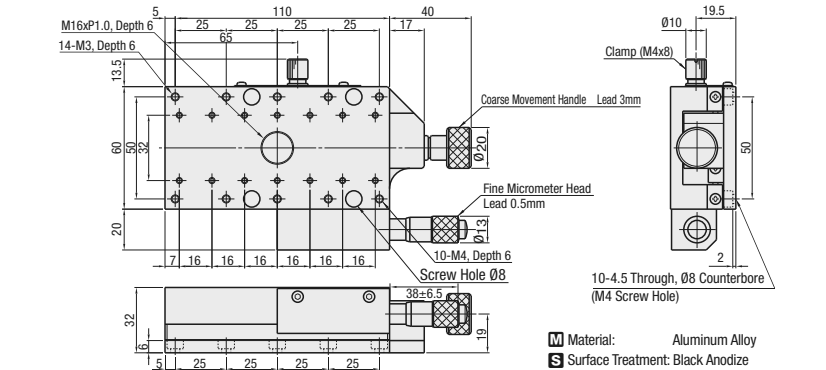


RoHS

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	Travel Distance	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.

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

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

Ordering Example


Part Number: XLP25

Alterations

Part Number: XLP25 - (R)

Code: 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			
		XSSL	XSSLC	XSL	XSLC
XPLT	40	XWG40(P.1904), XYWG40(P.1939), ZWG40(P.1954), XLWG(P.1908)			
	60	ZLWG(P.1956), XLSL(P.1901), ZLSL(P.1959), XSSL(P.1901)			
	80	XSSL(P.1902), XSP(P.1904), REG40, 60(P.1981)			

Compatible Stages

Bottom	Top	XSSL	XSSLC	XSL	XSLC	XSP
XSSL, XSSLC	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)	XPLTE40			
XSL*1	XSG_40(P.1921-), XCRS40(P.1917)	XPLTE60			
XDTS*1	XEG60(P.1897), XEEG60(P.1897)	XPLTE60			
XFHT*1	XSG_60(P.1921-), XCRS60(P.1917)	XPLTE60			

▶No.140 is not available for *1 marked types.

▶Types with *2 are available for XFHT only.

[Standard] X-Axis Cross Roller

[High Precision] X-Axis Cross Roller Micrometer Head

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

P.1918

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

X-Axis

XCRS

• Mounting Hole Dimensions of the Top Table

Clamp (M3x5)
(M2x3.5 for A=25)
4-φ Through φ Counterbore Depth 1

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

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

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	(J)	D	G	T	P	Q	X	d1	d2	l
XCRS	25	29	±3.2	7	11.8	(6.8)	9.5	9.3	15	6	6.8	20	2.4	4.2	2.5
	40	26	±6.5	8	19	(10.8)	13	13	20	10	14.5	32	3.4	6	3.3
	50	23		8	19	(10.8)	13	13	20	10	14.5	40	3.4	6	3.5
	60	21	8	19	(10.8)	13	13	20	10	14.5	50	4.5	8	4.4	
	80	22	8	19	(10.8)	13	13	20	10	14.5	70	4.5	8	4.4	
	90	34.8	±12.5	8	19	(10.8)	13	13	20	10	14.5	80	4.5	8	5.3
100	20.8	8		19	(10.8)	13	13	20	10	14.5	90	4.5	8	5.3	
120	88	±25	13.5	26	(10.8)	19.1	11	20	10	14.5	100	4.5	8	5.3	

• Performance

A	Stage Surface (mm)	Load Capacity (N)		Max. Holding Force (N) (Ref.)	Travel Accuracy		Allowable Moment (N-cm)			Moment Rigidity (N-cm)			Parallelism	Weight (kg)	Unit Price
		Horizontal	Vertical		Straightness	Motion Parallelism	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
25	25x25	9.8	4.9	60	30µm	30µm	1.1	0.8	0.4	3.03	2.85	1.80	50µm	0.04	
40	40x40	19.6	9.8				2.7	2.2	2.0	0.38	0.42	0.28			
50	50x50	29.4	14.7				3.5	3.0	3.3	0.20	0.22	0.12			
60	60x60	49	19.6				5.2	4.3	5.5	0.12	0.11	0.07			
80	80x80	98	49				19.2	15.1	17.3	0.05	0.05	0.04			
90	90x90	117.6					25.0	20.0	22.0	0.05	0.05	0.04			
100	100x100	147	70	36.0	30.0	33.0	0.06	0.07	0.05						
120	120x120	196		57.2	44.7	66.7	0.03	0.02	0.01						

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

Ordering Example: Model (Type, A) XCRS60

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

Alterations: Micrometer Head Position

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

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

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

X-Axis RoHS XPG

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

4-φ Through φ Counterbore, Depth l

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

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

See the CAD data for details.

• Mounting Hole Dimensions of the Top Table

Material: Aluminum Alloy
Surface Treatment: Black Anodize

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

Part Number	Top View						Front View						Side View					
	A	(B)	Travel Distance (mm)	E	F	J	K	D	G	T	T1	P	Q	X	d1	d2	l	
XPG	25	25	±3.2	4.5	6.5	6.8	15.0	9.3	8.5	15	4.5	6	10.5	20	2.5	4.2	2.0	
	40	26	±6.5	12.0	18.5	11.3	28.0	13.0	12.8	20	6.5	10	14.5	32	3.5	6.0	3.5	
	60	19.8	±12.5	12.0	18.5	11.3	42.5	13.0	12.8	20	6.5	10	14.5	50	4.5	8.0	4.0	
	80	43.5		17.0	22.0	11.3	55.0	18.0	11.0	20	5.7	10	14.5	70	4.5	8.0	4.5	
	100	28.5	17.0	22.0	11.3	67.5	18.0	11.0	20	5.7	10	14.5	90	4.5	8.0	4.5		
120	67.5	±25	13.0	20.0	11.5	67.5	21.0	18.0	30	9.5	10	18.0	100	4.5	8.0	4.5		

• Performance

A	Stage Surface (mm)	Load Capacity (N)		Travel Accuracy		Moment Load Capacity (N-m)			Moment Rigidity (N-cm)			Parallelism	Weight (kg)	Accessory (4 pcs.)	Unit Price	
		Horizontal	Vertical	Straightness	Motion Parallelism	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling					
25	25x25	9.8	4.9	3µm	10µm	25"	15"	1.1	0.8	0.4	3.03	2.85	1.80	30µm	SCB2-6	0.04
40	40x40	19.6	9.8					2.7	2.2	2.0	0.38	0.42	0.28			
60	60x60	49.0	19.6					5.2	4.3	5.5	0.12	0.11	0.07			
80	80x80	98.0	49.0					19.2	15.1	17.3	0.05	0.05	0.04			
100	100x100	147.0						36.0	30.0	33.0	0.06	0.07	0.05			
120	120x120	196.0	57.2					44.7	66.7	0.03	0.02	0.01				

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

Ordering Example: Part Number XPG60

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

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

* Not applicable to XPG100 and 120.

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.
Combination with alteration H is not available.

CZ: Attach Micrometer on the upper table (Standard Type has them attached to the bottom plate).
Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.
When other micrometer head mounting positions are desired, select from the "Specification Selectable Type" on P.1989.
Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
Extension Cover HDEX113 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

App. Example List

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

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

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

↔ : Stage Top Travel Direction ↻ : Handle Rotation

- Easy linear adjustment: XKNG60 (P.1893)
- Provides strong clamp after linear positioning: XKYF40 (P.1895)
- Position adjustment in angle rotation direction: XKRC60 (P.1978)
- Fine feed mechanism in vertical direction: XKDSP60 (P.1964)
- Fast and long feed mechanism in vertical direction: ZKB20 (P.1970)
- Position adjustment by open/close mechanism: XANON150 (P.1928)
- Large and fast feed mechanism: XKRKG60 (P.1902)
- Provides linear adjustment to heavy workpieces: XKST150 (P.1927)

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

- Positioning of Leak Inspection Instrument of Plastic Bottles: XDTS (P.1903)
- Positioning for Adhesive Application to Cotton Swabs: XCRS (P.1917)
- Positioning of Temperature Sensor for Camera Module Thermocompression: RTRM (P.1979), ZDTS (P.1953)
- Positioning of Swage Detection Sensor for Converter: XCRS (P.1917)
- Positioning of Cylinder Stopper for Adhesive Application Device: XDTLS (P.1907)
- Sensor Positioning for Detecting Defects of Connector Terminal Press Fitting: XCRS (P.1917)
- Positioning of Labeling Defects Detection Sensor: ZXRS (P.1967)
- Positioning of Shrink Package Inspection Device: XDTLS (P.1907)

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

P.1921

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

X-Axis

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

XLBS

XLBS40 Table Dimensions
4-M3, Depth 4

XLBS60 Table Dimensions
4-M4, Depth 4

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 ₁	d ₂	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
(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 H₈. (A=25, 40, 60, 80)

Type	Main Body		Ball		Spring	Micrometer Head Bracket		Tip Holder
	M Material	S Surface Treatment	M Material	H Hardness	M Material	M Material	S Surface Treatment	M Material
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		LTBC Plating						
XSKG								
XSGB								
XSCGB								

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

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.)				
	Type	A	(B) Micrometer	Feed Screw	Travel Distance (mm)	E	F	J	K	D	G	T	T ₁	P	Q	X	d ₁	d ₂	l	Type M-L
XSG	25*	25	11		±3.2	7	9	6.8	15	9.3	7	12	3.7	6	8.5	20	2.5	4.2	2.5	SCB2-4
XSCG	40*	23.5	20		±6.5	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		±12.5 ^(*)	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

(*) Stroke of XSCG80/100, XSBG80/100, XSCGB80 is ±5.5mm. (**) Ends of feed screw knob are at 5mm inside of the carriage edges for XSCG and XSBG. (***) 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						5.0	5.0	5.0	0.42	0.35	0.21		0.23	0.23	-	-	-	-
XSBG	50	50x50	147		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	49					10.0	10.0	9.0	0.08	0.08	0.05		0.40	0.40	-	-	-	-
XSCGB (* only)	70	70x70	225.4						13.8	13.8	12.9	0.06	0.05	0.03		0.58	0.58	-	-	-	-
XSGB (* only)	80*	80x80	264.6						18.2	18.2	17.7	0.04	0.04	0.02		0.90	0.84	-	-	-	-
XSCGB (* only)	100	100x100	343		3µm	8µm			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.)	
	Type	A	(B) XSDG	XSKG	Travel Distance (mm)	E	F	K	G	T	T ₁	Q	X	d ₁	d ₂	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
XSKG	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	Coarse Feed ±6.5	16	18.5	36	11.6	16	5	10.5	50	4.5	8	4		SCB4-6
XSKG	70	112	50.5	Fine Feed 0.2	16	18.5	46.5	12.5	18	6	11.5	60	4.5	8	4.5		SCB4-6
XSDG	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						5.0	5.0	5.0	0.42	0.35	0.21	15µm	0.43	0.30	-	-	-	-
XSKG	50	50x50	147		1µm	7µm	25°	15°	6.8	6.8	6.0	0.15	0.14	0.09		0.48	0.35	-	-	-	-
XSDG	60	60x60	196	49					10.0	10.0	9.0	0.08	0.08	0.05		0.60	0.47	-	-	-	-
XSKG	70	70x70	225.4						13.8	13.8	12.9	0.06	0.05	0.03		0.78	0.65	-	-	-	-
XSDG	80	80x80	264.6						18.2	18.2	17.7	0.04	0.04	0.02		1.10	0.97	-	-	-	-
XSKG	100	100x100	343		3µm	8µm			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
 XSCG40 - A

Alterations	Position of Micrometer Head and Feed Screw			Reinforced Clamp		No Micrometer Head
	Side Mount, Right/Left Reversed	Side Mount, Top/Bottom Reversed * 5	Center	Disc Clamp	Opposed Clamp	
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.

See the CAD data for details.

[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.

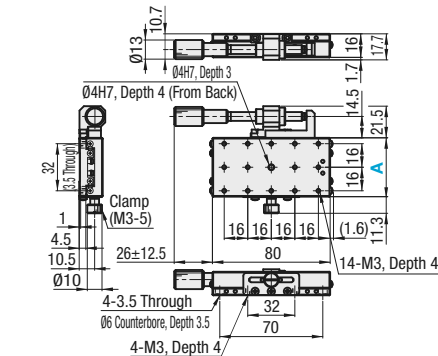
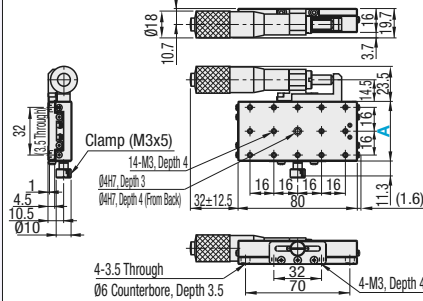
■ X-Axis, High Load Capacity, Compact Carriage

■ Micrometer Head

■ Feed Screw

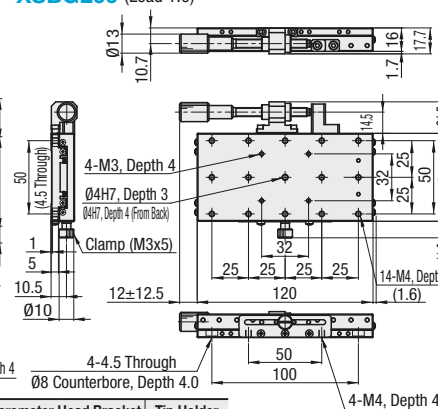
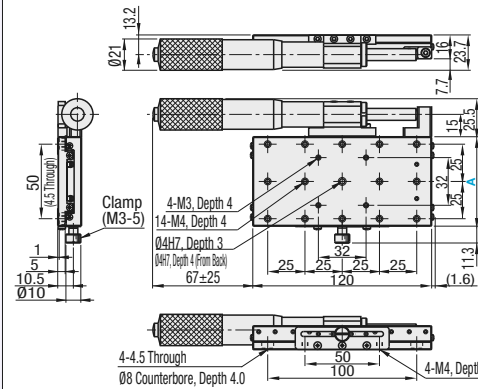
XSGL40

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.

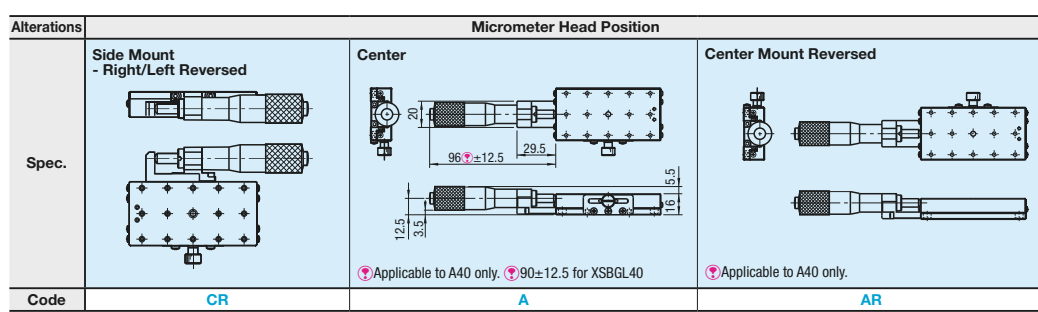
⚠ For Micrometer Head and Feed Screw materials, see P.2005 and P.2006.

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

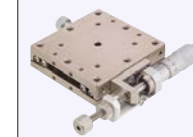
Ordering Example
Part Number
XSGL40
XSBGL60

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

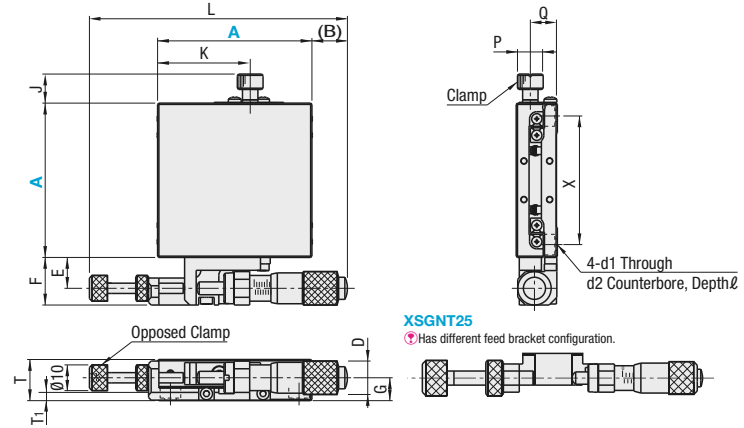


■ Features: Side mounted micrometer shaft is opposed by a knobbed screw to improve vibration resistance and secures greater locking power.

■ X-Axis, Opposed Clamp with Knob



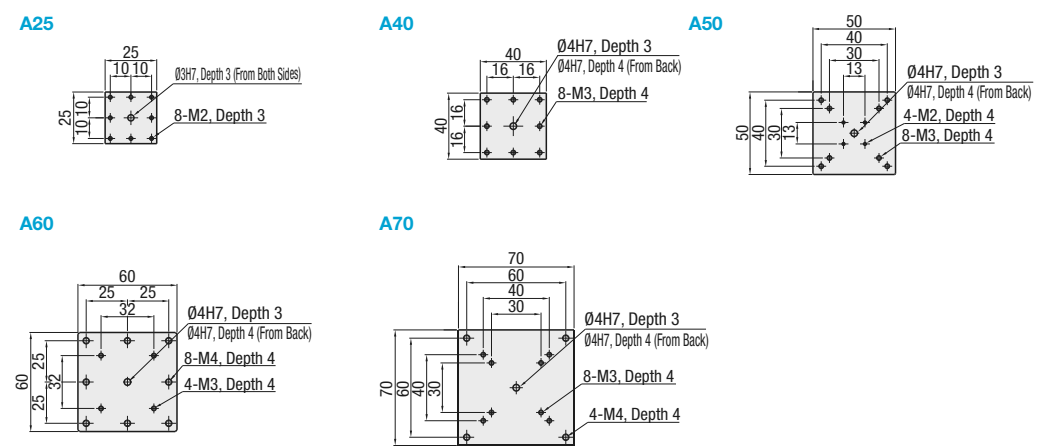
XY-Axis P.1950 RoHS



- * 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 ₁	P	Q	X	d ₁		d ₂
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			

Performance

Part Number	Type	Stage Surface	Travel Distance (mm)	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

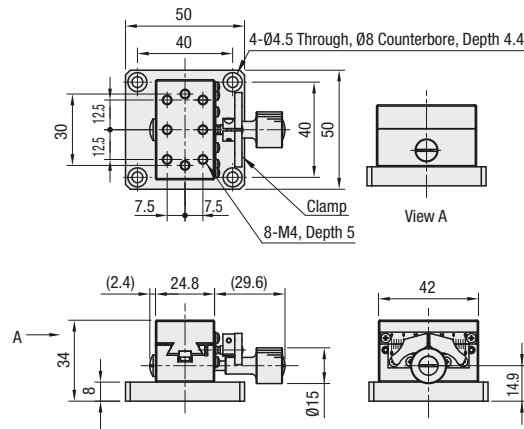
Features: XWGSR stages are made of steel, with higher horizontal load capacities and impact resistance compared to the XWG Series (P1904).

X-Axis, High Load Capacity

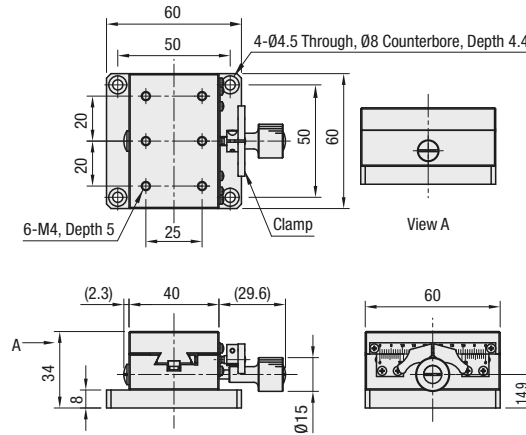


RoHS

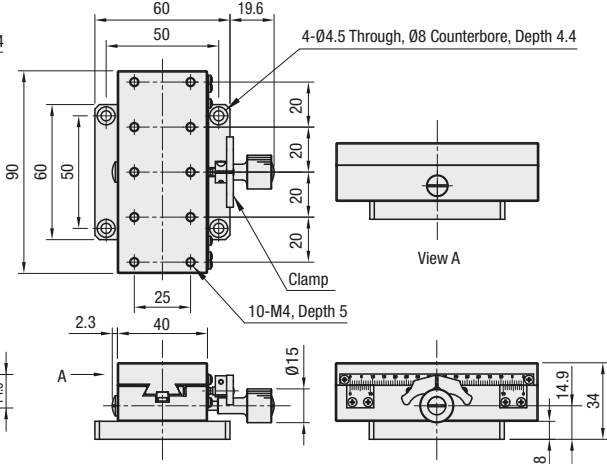
XWGSR40



XWGSR60



XWGSR90



M Material: EN 1.1191 Equiv.
S 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.) Type M-L	Unit Price
					Pitching	Yawing	Rolling	Straightness	Motion Parallelism				
XWGSR	40	24.8x40	±12	18	98	5.0	3.3	2.6	30	40	50µm	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. P2004

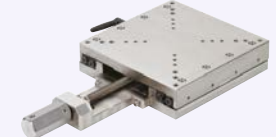
Ordering Example **Part Number**
XWGSR40

[High Precision] X-Axis Cross Roller

Steel, High Load Capacity

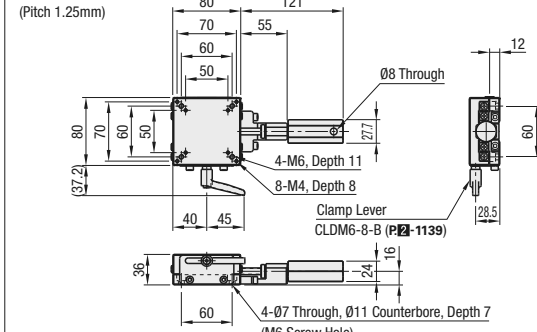
Features: The stage can position 40 ~ 120kgf loads accurately.

X-Axis, High Load Capacity

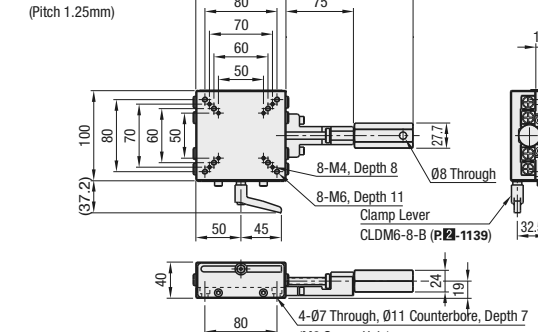


RoHS

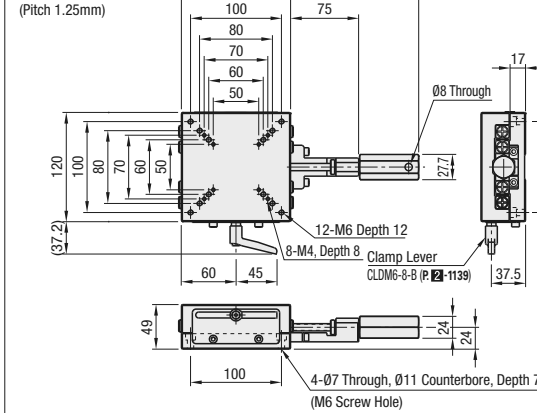
XTOUGH80



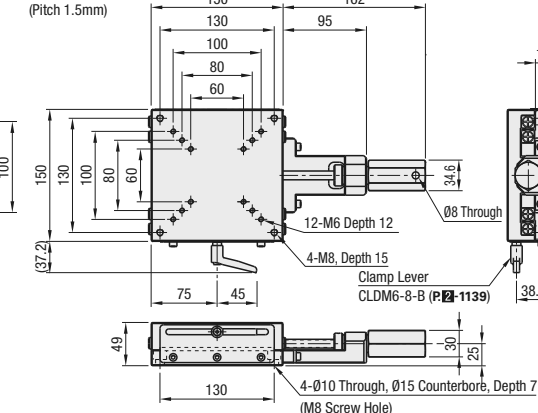
XTOUGH100



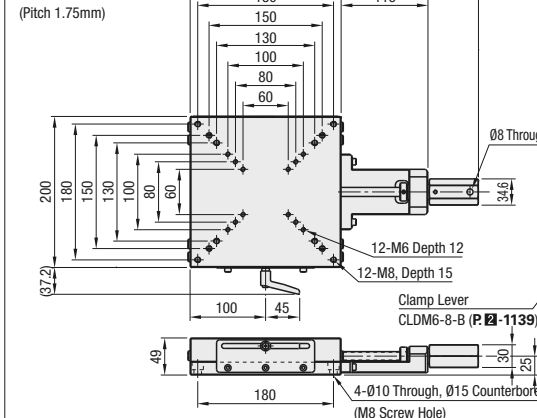
XTOUGH120



XTOUGH150



XTOUGH200



M Material: (Main Body) EN 1.1206 Equiv. (Feed Screw) EN 1.4301 Equiv.
S 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.) Type-M-L	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

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

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

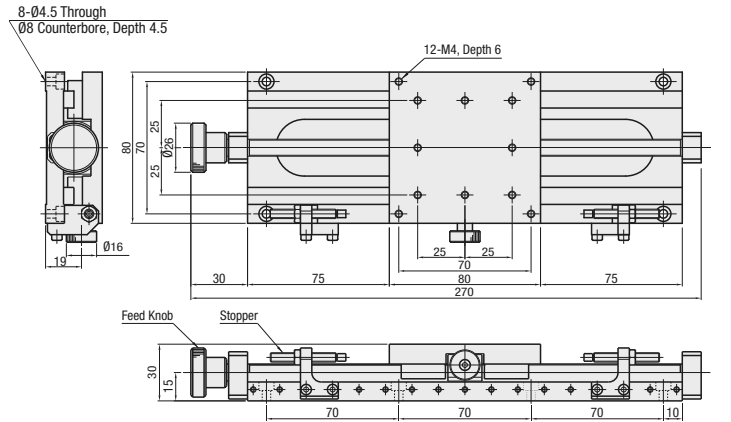
■Features: 128mm stroke stages. Well suited for positioning and set-up changes of large and heavy objects.

■X-Axis, Linear Guide



RoHS

XLSG80



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

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

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

Ordering Example Part Number XLSG80

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

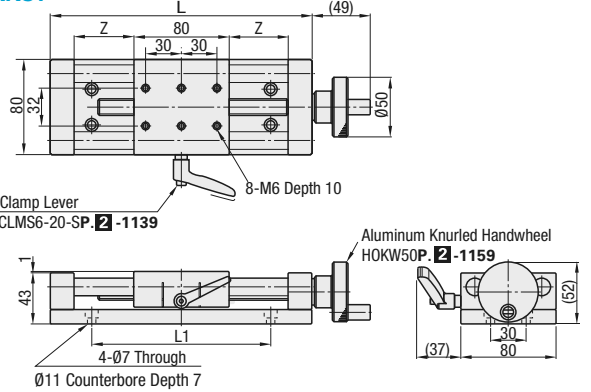
■Standard



Travel per Rotation: 2.0mm

RoHS

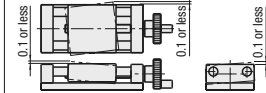
XKST



Clamp Lever CLMS6-20-SP, 2-1139

Aluminum Knurled Handwheel HOKWSOP, 2-1159

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



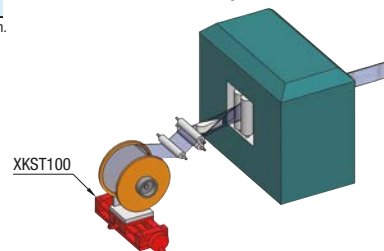
Type	Main Body		Shaft (Ø15)	Feed Screw (M14)	Accessory
	Material	Surface Treatment			
XKST	Aluminum Alloy	Clear Anodize	EN 1.4125 Equiv.	56HRC~	EN 1.4305 Equiv. - Mounting Screw (SCB6-15 x 4 pcs.) - Scale Label

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

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

Ordering Example Part Number XKST50

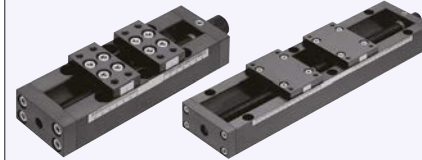
ex Example Sheet Position Adjustment



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

■Open/Close Width Adjusting Units

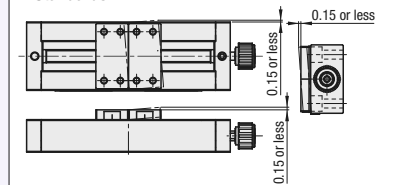
RoHS



See the table below for Travel per Rotation.

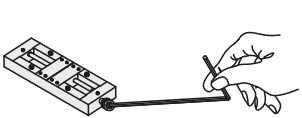
■Accuracy Standards

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

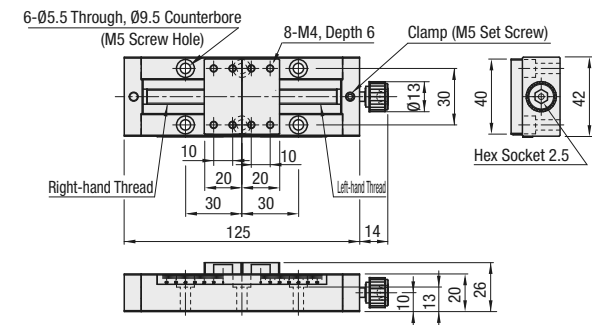


■One Point

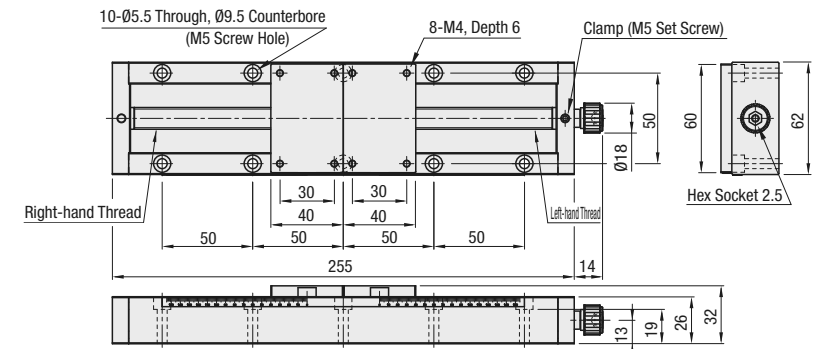
Long stroke moves can be made easily with use of a ball-point hex wrench.



XANON60



XANON150



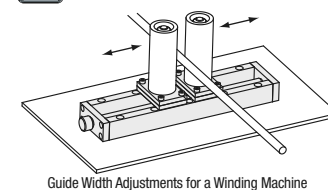
Material: EN 1.1191 Equiv. Surface Treatment: Black Oxide Accessory: Hex Socket Head Cap Screw (P 2-174, SCB5-20), 4 pcs.

Part Number Type	Stage Surface No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Weight (kg)	Unit Price
	150	60x40	150 (75 per Side)	3.5 (1.75 per Side)	196 (98 per Side)	2.16	

Minimum Graduation: 1mm

Ordering Example Part Number XANON150

ex Example



Guide Width Adjustments for a Winding Machine

Alterations Part Number - (R) XANON60 - R

Alteration Position of Handle (Right and Left Side Reversed)

Spec. Code R


[Simplified Adjustments] XY-Axis, Push Screw

[Simplified Adjustments] XY-Axis, Feed Screw Standard/Large Handles

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

■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.

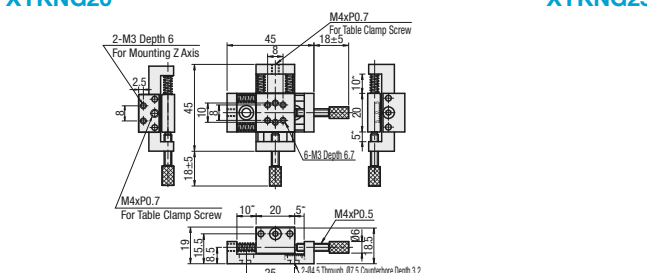
⚠ Travel per Rotation 0.7mm

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

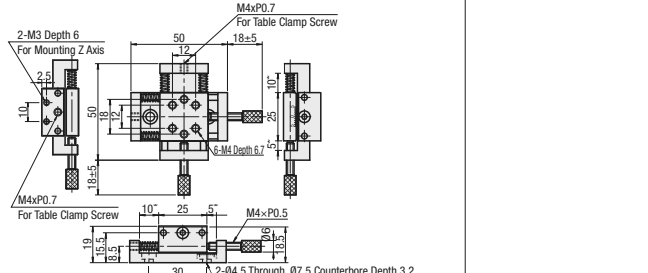
Type	Main Body		Shaft	Knob	Feed Screw	Accessory
	Standard Handle	Large Handle	Material	Material	Material	
XYKNEJ / XYKJL	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	No. 20: CBSST3-12, 4 pcs. No. 25: SCB3-10, 4 pcs. No. 40, 60: SCB4-10, 4 pcs.

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

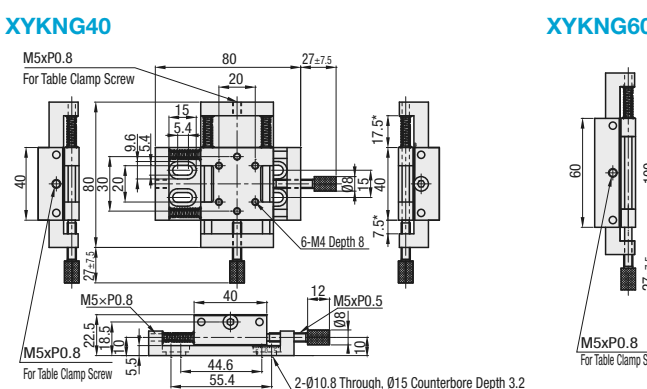
XYKNG20



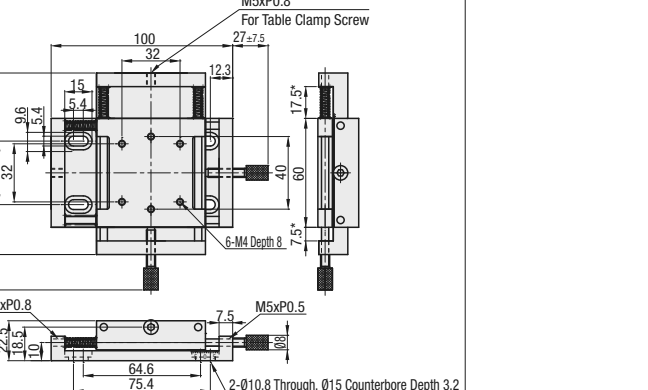
XYKNG25



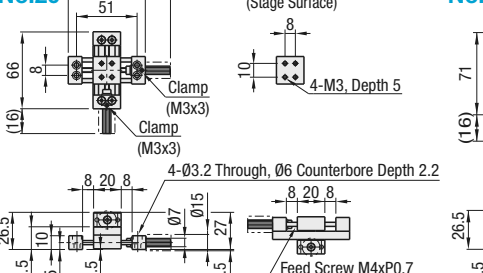
XYKNG40



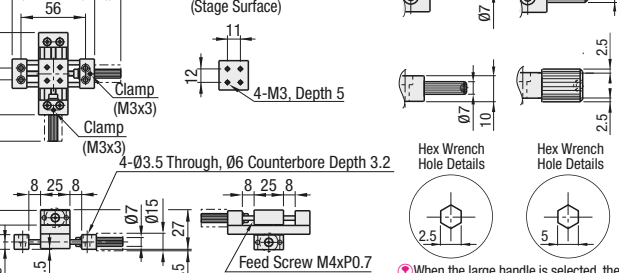
XYKNG60



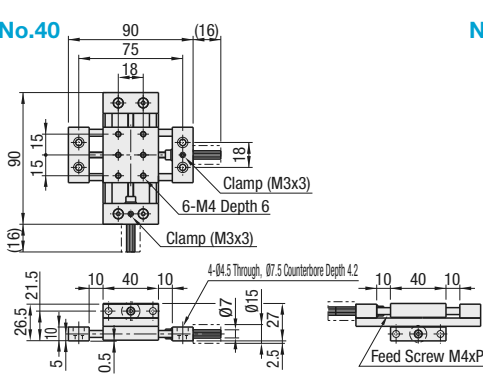
No.20



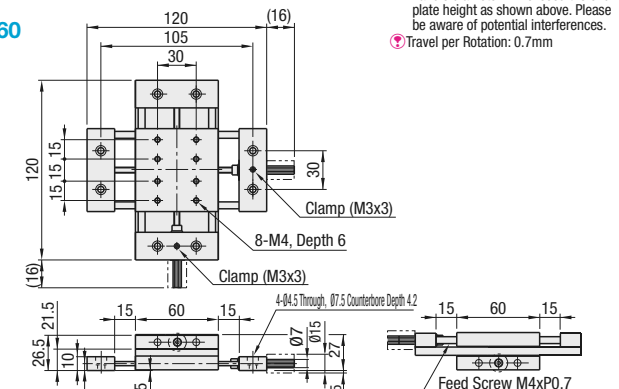
No.25



No.40



No.60



Part Number	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (kg)	Unit Price
XYKNG 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

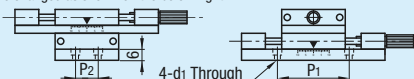
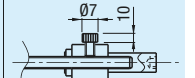
Alteration	Opposite Clamp Bolt
Spec.	Opposing clamp screws for table immobilizing (No. 20, 25: M4, Pitch 0.7, L=30mm; No. 40, 60: M5, Pitch 0.8, L=44mm) are included. Mounted as shown in the photo.
Code	CL

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) XYKNEJ (Large Handle Selection) XYKJL	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. 
Code	MMR	CLC

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

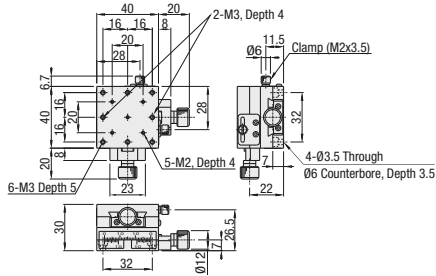
Features: Economical and low profile (height 30mm ~) dovetail slide XY-Axis stages with feed screws. Good replacement for conventional fine adjustment mechanisms such as adjustment bolts, etc.

XY-Axis
(Lead 0.5mm)

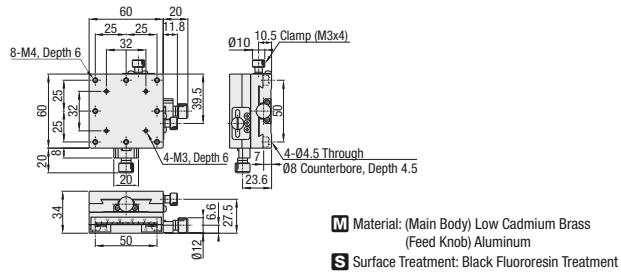
X-Axis: P.1897
Z-Axis: P.1962

RoHS

XYEG40



XYEG60



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

Standard Stages Similar Products: XYFES (P.1931)

Part Number Type	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (µm)	Moment Load Capacity (N·m)			XY Orthogonality	Weight (kg)	Accessory Type M-L	Quantity	Unit Price
						Pitching	Yawing	Rolling					
XYEG	25	25x25	±5	28.4	30µm	1.3	1.5	1.3	70µm	0.12	SCB2-8	4	
	40	40x40	±7	27.4		3.0	3.0	3.0					
	60	60x60	±9	33.3		4.0	4.0	4.0					

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

Ordering Example: Part Number XYEG25

Alterations: Part Number - (R) XYEG25 - R

Alteration: Clamp Position (Left/Right Reversed)

Spec. Code: R

See the CAD data for details.

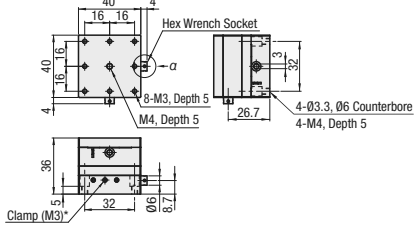
Features: No knob is required since a hex wrench is used to feed the stage, making for a space saving form factor. Unintended position changes can be prevented since the stage cannot be operated without a hex wrench.

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

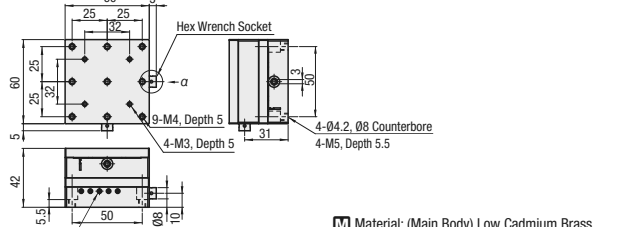
X-Axis: P.1897
Z-Axis: P.1962

RoHS

XYEEG40



XYEEG60



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

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

Part Number Type	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (µm)	Moment Load Capacity (N·m)			XY Orthogonality	Weight (kg)	Accessory Type M-L	Quantity	Unit Price
						Pitching	Yawing	Rolling					
XYEEG	25	25x25	±3	28.4	30µm	1.3	1.5	1.3	70µm	0.12	SCB2-8	3	
	40	40x40	±5	27.4		3.0	3.0	3.0					
	60	60x60	±7	33.3		4.0	4.0	4.0					

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

Ordering Example: Part Number XYEEG25

Alterations: Part Number - (R) XYEEG25 - R

Alteration: Clamp Position (Left/Right Reversed)

Spec. Code: R

See the CAD data for details.

[High Precision] X-Axis Dovetail Slide, Feed Screw Extended Knob / Reinforced Clamp

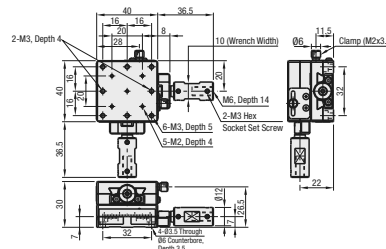
Features: Effective when feed knobs are difficult to turn due to the carriage mounted objects interfere, or when the knobs are hard to reach since the stage is deeply embedded inside a machine. Use adhesive to prevent the knob extension from pulling off.

XY-Axis, Extended Knob
(Lead 0.5mm)

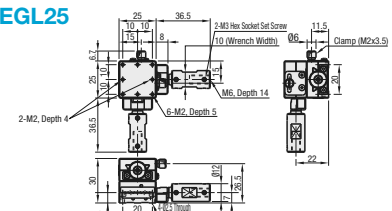
X-Axis: P.1898
Z-Axis: P.1963

RoHS

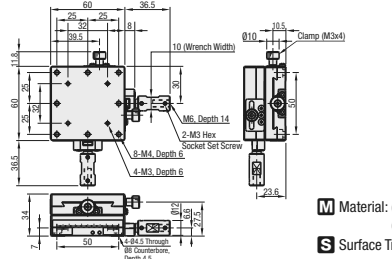
XYEGL40



XYEGL25



XYEGL60



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

Part Number Type	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (µm)	Moment Load Capacity (N·m)			XY Orthogonality	Weight (kg)	Unit Price
						Pitching	Yawing	Rolling			
XYEGL	25	25x25	±5	28.4	30	1.3	1.5	1.3	70	0.20	
	40	40x40	±7	27.4		3.0	3.0	3.0			
	60	60x60	±9	33.3		4.0	4.0	4.0			

Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. P.2004
Travel accuracy values shown are for single axis configuration.
Tips: Knob Extension Method
Use the M6-Depth 14 tapped hole on the knob. Knob length and diameter can be increased for large objects and plates placed on the carriage.
(Ex. 1) Seven Lobed knob (P.2117) NKSM6-30 can be mounted to further lengthen the knob by 36mm.

Ordering Example: Part Number XYEGL60

Alterations: Part Number - (R) XYEGL60 - R

Alteration: Clamp Position (Left/Right Reversed)

Spec. Code: R

See the CAD data for details.

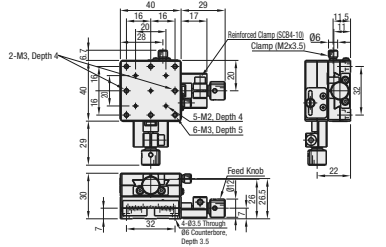
Features: The feed knob shaft is clamped directly for improved position holding performance of the XY Dovetail Slide Stage.

XY-Axis, Reinforced Clamp
(Lead 0.5mm)

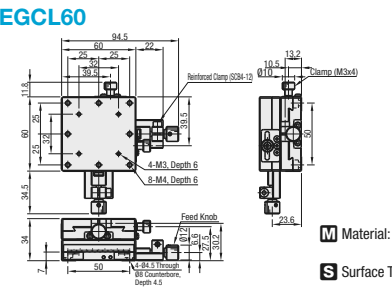
X-Axis: P.1898
Z-Axis: P.1963

RoHS

XYEGCL40



XYEGCL25



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

Part Number Type	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Load Capacity (N)	Travel Accuracy Straightness (µm)	Moment Load Capacity (N·m)			XY Orthogonality	Weight (kg)	Unit Price
						Pitching	Yawing	Rolling			
XYEGCL	25	25x25	±5	28.4	30	1.3	1.5	1.3	70µm	0.20	
	40	40x40	±7	27.4		3.0	3.0	3.0			
	60	60x60	±9	33.3		4.0	4.0	4.0			

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

Ordering Example: Part Number XYEGCL60

Alterations: Part Number - (R) XYEGCL60 - R

Alteration: Clamp Position (Left/Right Reversed)

Spec. Code: R

See the CAD data for details.

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

Symmetrical Stack, Space Saving

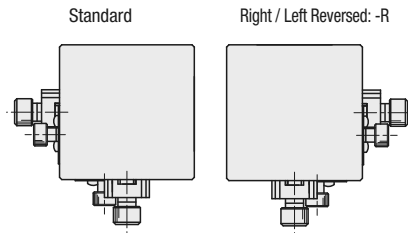
■ **Features:** Since two side faces out of four are freely configurable, this type of stage product can be symmetrically aligned with its reserved type for combination use or can be configured for space-saving.

■ Symmetrical Stack, Space Saving



Dovetail Slide
DSXYEG

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



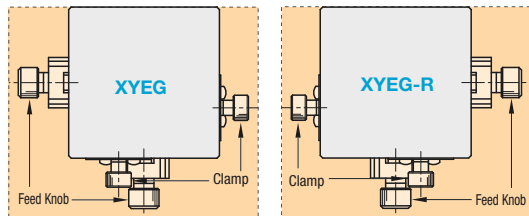
Ⓜ When symmetrical use as shown on the above figure is desired, select one □□ Type and one □□-R Type, respectively. (Those types are not sold as a set.)

RoHS

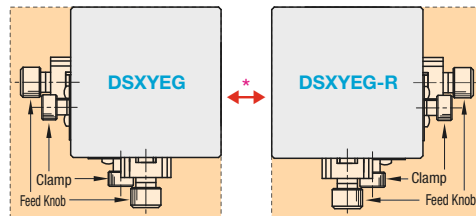
Ⓜ (Note) For dimension details, see the CAD data or the catalog's X-Axis stage dimension details on P.1933.

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Stage Configuration (XEG: P.1897)		Reference Part Number (Page)	Unit Price
					Top	Bottom		
DSXYEG	25	25x25	±5	28.4	XEG25-R	XEG25	XYEG (Asymmetrical) (P.1933)	
	25-R				XEG25			
	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

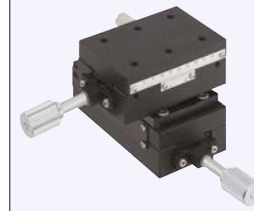
Ⓜ For symmetrical use, select one standard stage and one reversed (-R Type) stage, respectively, as indicated above.

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

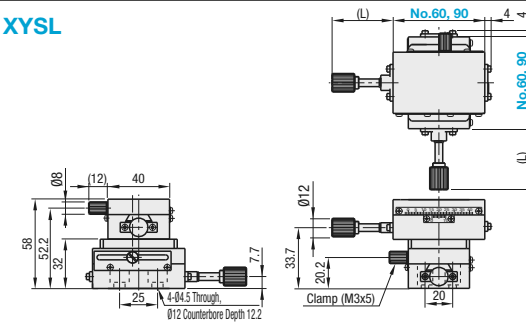
Rectangular / Reinforced Clamp / Low Profile (Lead 4.2mm)

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

■ XY-Axis, Rectangular (Lead 4.2mm)



XYSL



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

RoHS

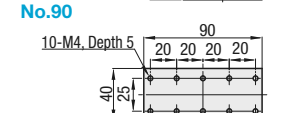
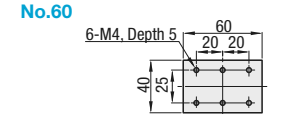
Part Number	Stage Surface	Travel Distance	(L)	E	Travel per Rotation	Load Capacity	Travel Accuracy (μm)	Weight	Accessory (4 pcs.)	Unit Price
Type	No.	(mm)	(mm)	(mm)	(mm)	(N)	Straightness Parallelism	(kg)	Type M-L	
XYSL	60	40x60	±21	40	34	4.2	30 30	0.45	SCB4-8	
	90	40x90	±35	60	49			0.63		

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

Ordering Example
Part Number
XYSL60

Alterations
Part Number - (R)
XYSL90 - R

• Stage Top Mounting Hole Dimensions



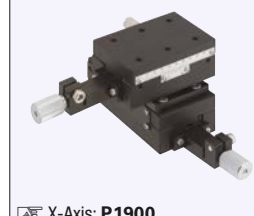
Material: Aluminum Alloy
Surface Treatment: Black Anodize

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

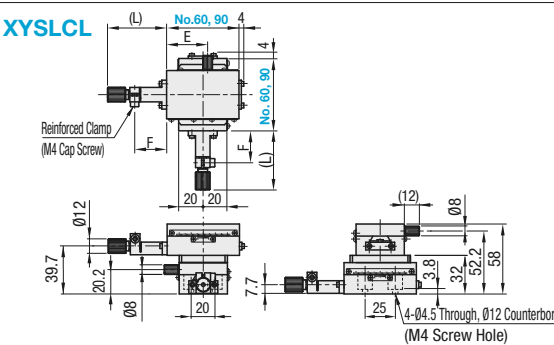
Ⓜ See the CAD data for details.

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

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



XYSLCL



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

RoHS

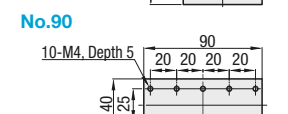
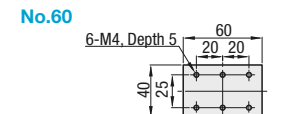
Part Number	Stage Surface	Travel Distance	(L)	E	F	Travel per Rotation	Load Capacity	Travel Accuracy (μm)	Weight	Accessory (4 pcs.)	Unit Price
Type	No.	(mm)	(mm)	(mm)	(mm)	(mm)	(N)	Straightness Parallelism	(kg)	Type M-L	
XYSLCL	60	40x60	±21	49	34	26	37.4	30 30	0.37	SCB4-8	
	90	40x90	±35	63	49	40.5	36.7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

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

Ordering Example
Part Number
XYSLCL90

Alterations
Part Number - (R)
XYSLCL60 - R

• Stage Top Mounting Hole Dimensions



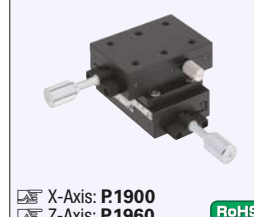
Material: Aluminum Alloy
Surface Treatment: Black Anodize

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

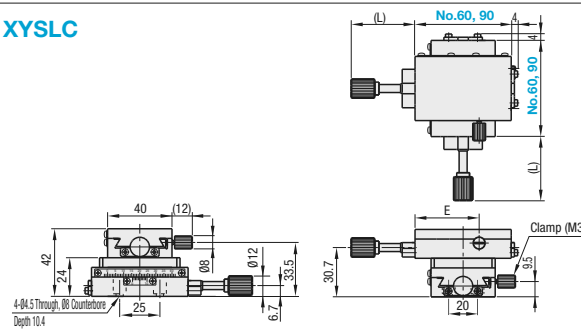
Ⓜ The reinforced clamp and the clamp screw are tightened in the same direction.
Ⓜ See the CAD data for details.

■ 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)



XYSLC



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

RoHS

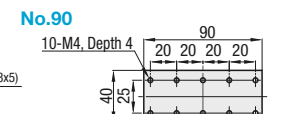
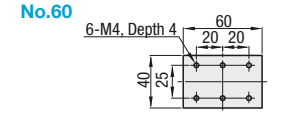
Part Number	Stage Surface	Travel Distance	(L)	E	Travel per Rotation	Load Capacity	Travel Accuracy (μm)	Weight	Accessory (4 pcs.)	Unit Price
Type	No.	(mm)	(mm)	(mm)	(mm)	(N)	Straightness Parallelism	(kg)	Type M-L	
XYSLC	60	40x60	±21	40	40	4.2	24.5 30	0.33	SCB4-5	
	90	40x90	±35	60	55			0.43		

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

Ordering Example
Part Number
XYSLC60

Alterations
Part Number - (R)
XYSLC90 - R

• Stage Top Mounting Hole Dimensions



Material: Aluminum Alloy
Surface Treatment: Black Anodize

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

P.1937, P.1938

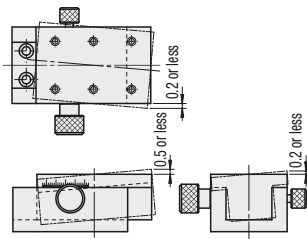
Features: Rack & Pinion mechanism enables rapid and large distance adjustments.

XY-Axis



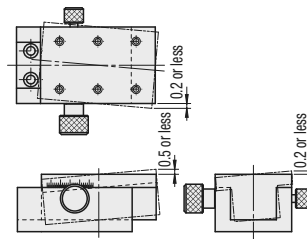
X-Axis P.1902
Travel per Rotation: approx. 19mm

Accuracy Standards



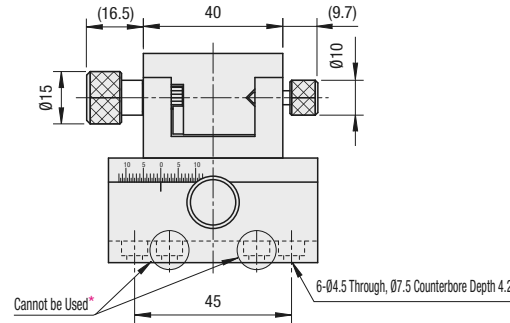
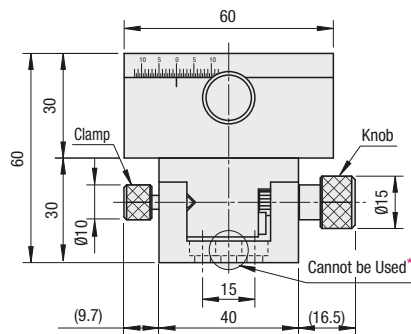
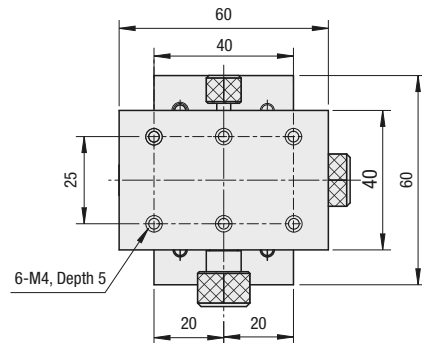
There are some mechanical clearances as shown above, and not recommended for positioning applications requiring accuracies. Values are for single-axis configuration.

Accuracy Standards



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

XYKRG60



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

M 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
XYKRG	60	40x60	±14	34.3	0.42	

Travel per Rotation: Approx. 19mm

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

Ordering Example Part Number XYKRG60

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

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

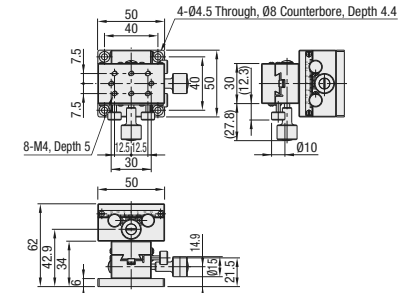
XY-Axis



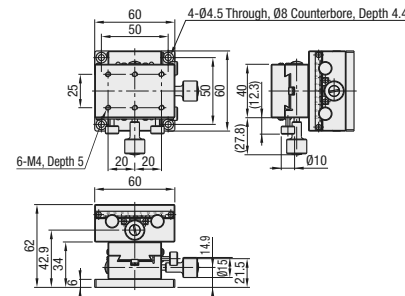
X-Axis P.1903
Z-Axis P.1953

RoHS

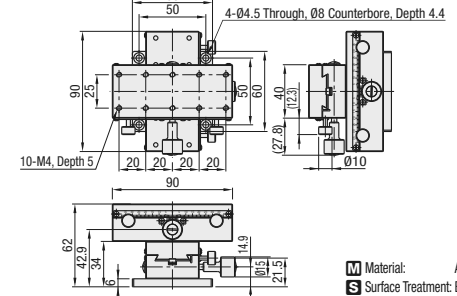
XYDTS50



XYDTS60



XYDTS90



M 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		34.3		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

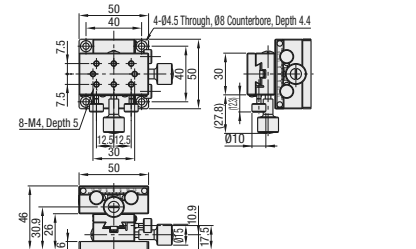
XY-Axis, Low Profile



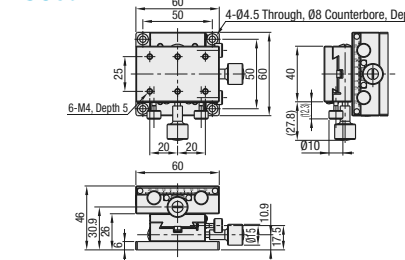
X-Axis P.1903
Z-Axis P.1953

RoHS

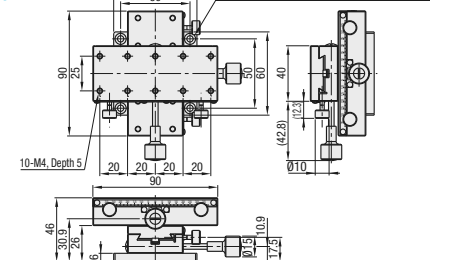
XYDTS50



XYDTS60



XYDTS90



M 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

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	Travel Distance	Travel per Rotation	Load Capacity	Travel Accuracy	Weight	Unit Price
Type	No.	(mm)	(mm)	(N)	Straightness	(kg)	
XYWG	40	24.8x42	±12	24.5	30µm	0.29	
	60	40x60	±21	18		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

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	Travel per Rotation	Load Capacity	Travel Accuracy	Orthogonality	Weight	Unit Price
Type	No.	(mm)	(mm)	(N)	Straightness (µm)	(µm)	(kg)	
XYWGCL	40	24.8x42	±12	24.5	30	100	0.35	Ordering Example Part Number XYWGCL40
	60	40x60	±21	34.3	30	100	0.59	
	90	40x90	±35	34.3	30	100	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

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	Travel per Rotation	Load Capacity	Travel Accuracy	Weight	Accessory (4 pcs.)	Unit Price
Type	No.	(mm)	(mm)	(N)	Straightness	(kg)	Type M-L	
XYFG	25	25x25	±5	17	28.4	0.18	SCB2-12	Ordering Example Part Number XYFG40
	40	40x40	±10	20	27.4	0.37	SCB4-6	
	60	60x60	±20	18	29.4	1.19	SCB4-6	

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

Alterations Part Number - (M) XYFG40 - M

See the CAD data for details.

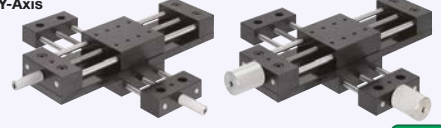
Alteration	No Bottom Plate
Spec.	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>XYFG40</p> <p>4-Ø4.3 Through (From Back), Ø8 Counterbore, Depth 10 (M3 Screw Hole)</p> </div> <div style="text-align: center;"> <p>XYFG60</p> <p>2-Ø4.5 Through (From Back), Ø8 Counterbore, Depth 6 (M4 Screw Hole)</p> </div> </div> <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

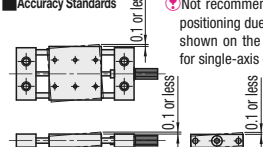
■ **Features:** 3.0mm lead feed screw stages are combined into XY arrangement. Convenient when rapid feeding characteristic is desired.

■ **XY-Axis**



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

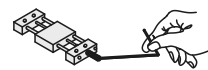
■ **Accuracy Standards**



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

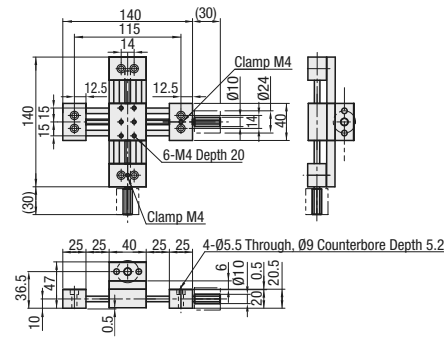
⚠ **One Point**

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

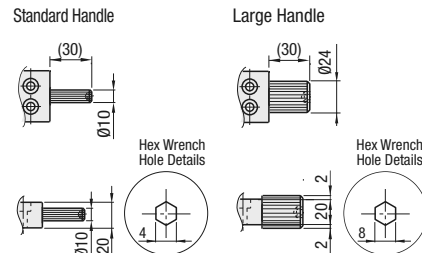


Type		Main Body		Shaft	Knob	Feed Screw	Accessory
Standard Handle	Large Handle	Material	Surface Treatment	Material	Material	Material	
XYKS	XYKSL	Aluminum Alloy	Black Anodize	EN 1.4301 Equiv.	EN 1.4305 Equiv.	EN 1.4301 Equiv.	SCB5-20, 4pcs.

No.40

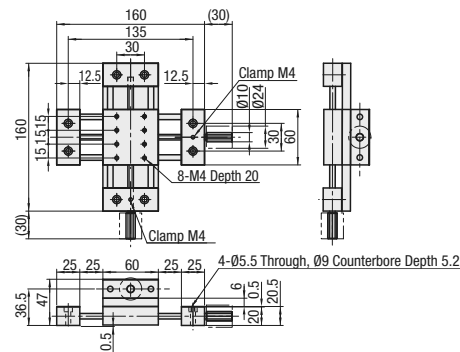


■ Handle Shape Comparisons

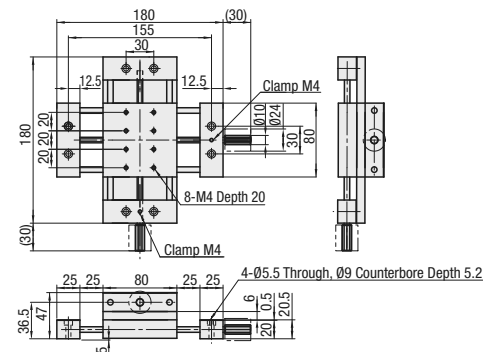


⚠ When the large handle is selected, the handle diameter will exceed the end plate height. Please be aware of potential interferences.

No.60



No.80

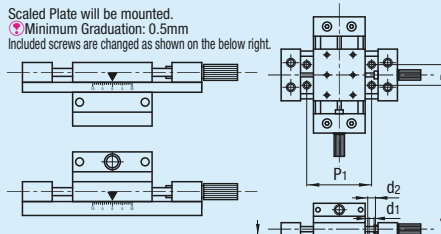
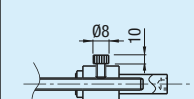


⚠ Do not force the handle to turn past the end of the travel limits as it may cause the handle to come loose.

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

ⓧ Travel per Rotation: 3.0mm

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

Alterations	Mounting of a Scaled Plate on the Stage	Change of Clamp (Knurled Knob)																								
Spec.	<p>Scaled Plate will be mounted.</p> <p>⚠ Minimum Graduation: 0.5mm</p> <p>Included screws are changed as shown on the below right.</p>  <p>⚠ MMR alteration will change the mounting hole pitch since a plate is attached to the stage.</p> <table border="1"> <thead> <tr> <th>No.</th> <th>P1</th> <th>P2</th> <th>d1</th> <th>d2</th> <th>ℓ</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>65</td> <td>14</td> <td>4.5</td> <td>7.5</td> <td>3</td> </tr> <tr> <td>60</td> <td>85</td> <td>30</td> <td>4.5</td> <td>7.5</td> <td>3</td> </tr> <tr> <td>80</td> <td>105</td> <td>30</td> <td>4.5</td> <td>7.5</td> <td>3</td> </tr> </tbody> </table> <p>Accessory (4 pcs.) No.40: CBSST4-8 No.60: CBSST4-8 No.80: CBSST4-8</p>	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	<p>Changes Clamp Screw to Knurled Knob.</p> <p>Changes are for both X and Y axes.</p> 
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																					
Code	MMR	CLC																								

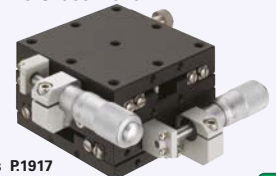
[Standard] XY-Axis Cross Roller / XY-Axis Linear Ball Slide

ⓧ P.1943, ⓧ P.1946

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

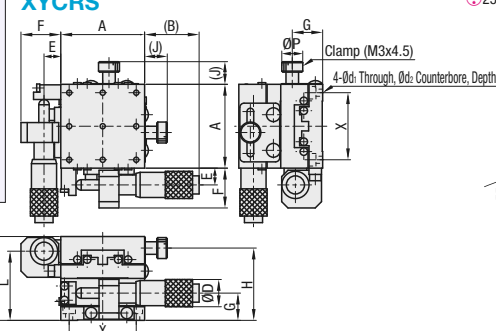
■ **Features:** Economical stages with a micrometer head capable of 0.01mm resolution adjustments.

■ **XY-Axis Cross Roller**



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

XYCRS



⚠ 25 Type has different feed bracket configuration.

⚠ A120 micrometer tip shape is different

Material: Aluminum Alloy
Surface Treatment: Black Anodize

⚠ High Precision Stage Existing Product: XYPG (P.1943)

⚠ For Mounting Hole Dimensions of the Top Table, see P.1917.

Part Number	Top View						Front View						Side View					
	A	B	Travel Distance (mm)	E	F	J	D	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	4.2	2.5	
	40	26		8	19	(10.8)	13	13	34.5	33	40	10	14.5	32	3.4	6	3.3	
	50	23		8	19	(10.8)	13	13	34.5	33	40	10	14.5	40	3.4	6	3.5	
	60	21	±6.5	8	19	(10.8)	13	13	34.5	33	40	10	14.5	50	4.5	8	4.4	
	80	22		8	19	(10.8)	13	13	34.5	33	40	10	14.5	70	4.5	8	4.4	
	90	34.8		8	19	(10.8)	13	13	34.5	33	40	10	14.5	80	4.5	8	5.3	
	100	20.8	±12.5	8	19	(10.8)	13	13	34.5	33	40	10	14.5	90	4.5	8	5.3	
	120	88	±25	13.5	26	(10.8)	19.1	11	34.5	31	40	10	14.5	100	4.5	8	5.3	


• Performance

A	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy		Moment Load Capacity (N-m)			Moment Rigidity (°/N-cm)			Parallelism	Weight (kg)	Unit Price
			Straightness	Motion Parallelism	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
25	25x25	9.8	30µm	60µm	0.4	0.8	0.4	4.83	5.70	4.83	100µm	0.09	
40	40x40	17.6			2.0	2.2	2.0	0.66	0.84	0.66		0.28	
50	50x50	28			3.4	3	3.4	0.35	0.4	0.35		0.36	
60	60x60	44.1			5.2	4.3	5.2	0.19	0.22	0.19		0.48	
80	80x80	93.1			17.3	15.1	17.3	0.09	0.10	0.09		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

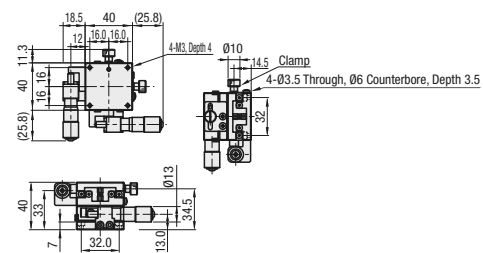
Points on Similar Product Comparison | Travel Accuracy (Straightness) 10µm

■ **XY-Axis, Linear Ball Slide**



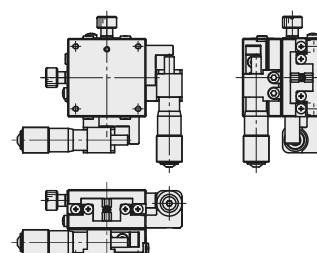
ⓧ X-Axis P.1920 ⓧ Z-Axis P.1965 **RoHS**

XYLBS40
(Standard)

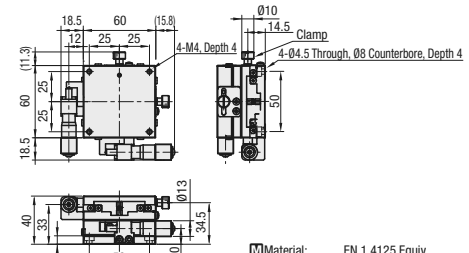


⚠ High Precision Stage Existing Product: XYSG (P.1946)

XYLBS-CR
(Reversed)



XYLBS60
(Standard)



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

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	Rolling				
XYLBS	40	No Symbol	Standard	40x40		95.6	10	10µm	30°	25°	0.59	0.7	0.59	60	0.48	M3-8, 4 pcs.	
	60	CR	Right/Left Reversed	60x60	±6.5	191.6	10	10µm	35°	30°	0.15	0.16	0.15	60	0.88	M4-8, 4 pcs.	

Ordering Example **Part Number**
XYLBS40


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

[Standard] XY-Axis Cross Roller Low Profile

P.1945

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

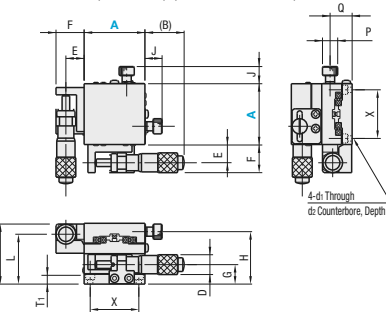
■ **XY-Axis**



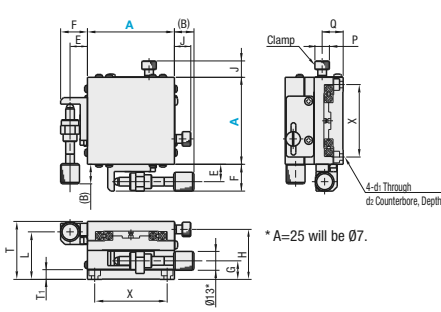
X-Axis: **P.1918**
Z-Axis: **P.1968**

RoHS

■ **Micrometer Head**
XYPG (25≤A≤120)
XYPGN (A=40, 60) (with Dowel Holes)



■ **Feed Screw (Pitch 0.5)**
XYPCG (25≤A≤80)



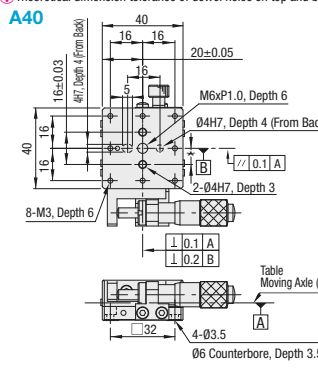
*A=25 will be Ø7.

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

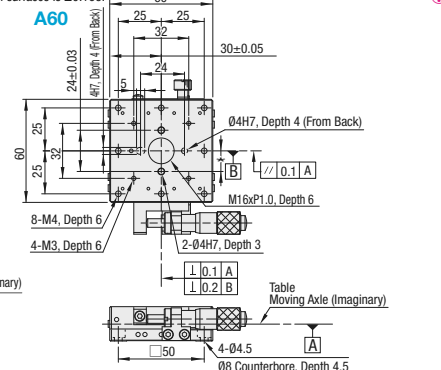
● **Mounting Hole Dimensions on the Top/Bottom of the Table of XY-Axis Stages with Dowel Holes**

- ⊕ 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.

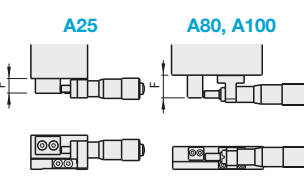
A40




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	Top View		Front View													Side View				
	Type	A	Standard Micrometer (B) Travel Distance (mm)	Feed Screw (B) Travel Distance (mm)	E	F	J	D	G	H	T ₁	L	T	P	Q	X	d ₁	d ₂	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	-	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**

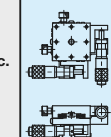
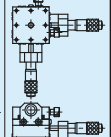
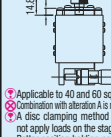
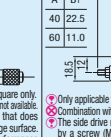
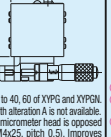
A	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)		Moment Rigidity (1/N·cm)		Parallelism	Weight (kg)	Accessory (4 pcs.)	Unit Price					
			Straightness	Parallelism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching				Yawing	Rolling	XYPG	XYPCG	XYPGN	
25	25x25	9.8	3µm	20µm	25"	15"	0.4	0.8	0.4	4.83	5.70	4.83	60µm	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.	<p>Side Mount - Right / Left Reversed</p> 	<p>Center</p> 	<p>Disc Clamp</p> 
		<p>Opposed Clamp</p> 	<p>No Micrometer Head</p> 
Code	CR	A	H
			P
			MN

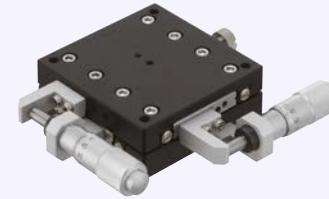
⊕ Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.

- ⊕ For micrometer head or feed screw mounted in positions other than shown below, see "Specification Selectable Type" (**P.1989**).
- ⊕ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. **P.2004**
- ⊕ Extension Cover HDEXT113 (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

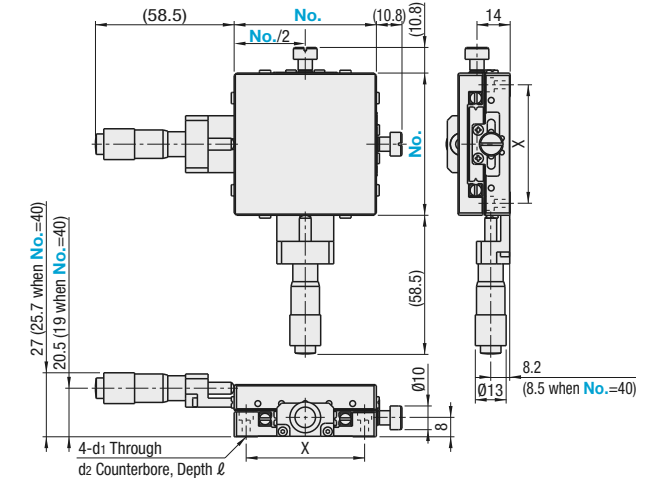
■ **Features:** Economical stages with a micrometer head capable of 0.01mm resolution adjustments. Micrometer head position is selectable from 3 types.

■ **XY-Axis, Low Profile**

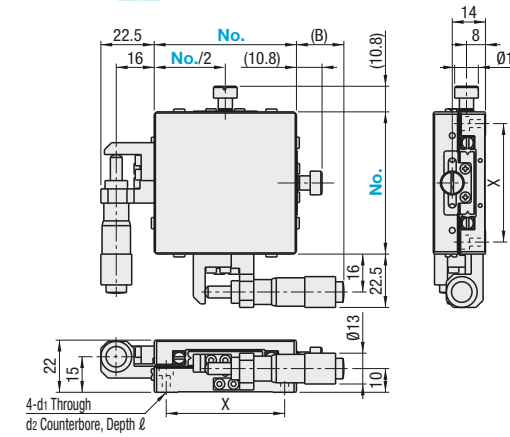


RoHS

XYCRSC□□-A (Micrometer Head Center Drive)



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

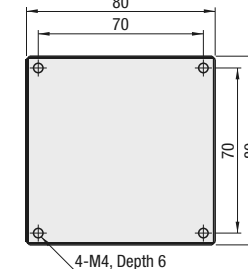
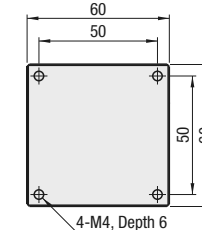
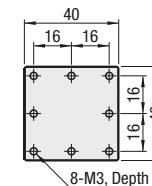


● Mounting Hole Dimensions of the Top Table

No.40

No.60

No.80



Material: Aluminum Alloy
Surface Treatment: Black Anodize

■ **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 ₁	d ₂	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			0.7

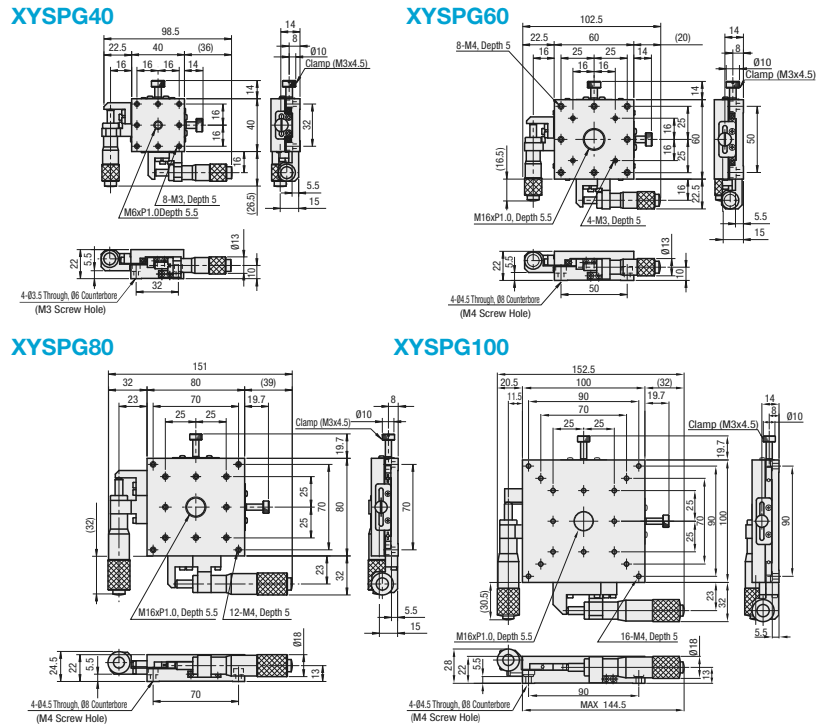
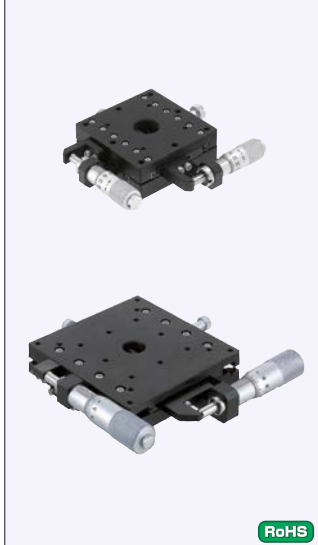
Ordering Example: Part Number **XYCRSC60-A**
XYCRSC80-C

[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

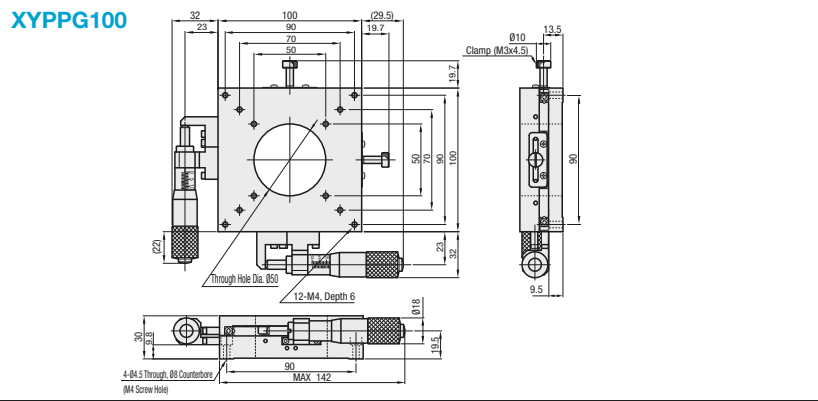


M Material: Aluminum Alloy
S Surface Treatment: Black Anodize
A Accessory: SCB3-10 (4 pcs.)

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



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

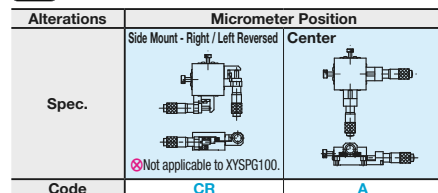
⊕ Standard Stages Similar Products (available for limited sizes only): XYCRSC (P.1944)

Part Number	Type	No.	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	
						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	50μm	0.2	0.4	
	60	60x60	±12.5	29.4		2.3	1.9	2.3	0.19	0.13	0.15	0.13	0.13	0.11				0.7
	80	80x80	±12.5	39.2		5.1	4.2	5.1	0.08	0.10	0.08	0.10	0.08	1.1				
XYPPG	100	100x100	±12.5	63.7	3μm	20μm	25°	15°	4.6	3.9	4.6	0.07	0.08	0.10	50μm	1.0		

⊕ Micrometer Head Resolution: 10μm/division

Ordering Example: Part Number XYSPG80

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



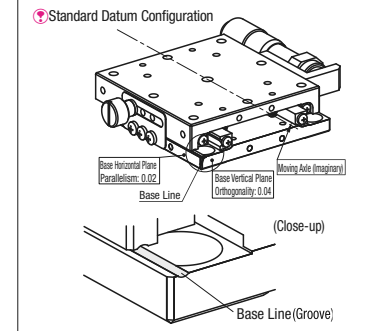
- ⊕ Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details.
- ⊕ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob can be increased in diameter by installing the cover. P2004
- ⊕ Extension Cover HDEXT13 (Sold Separately):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

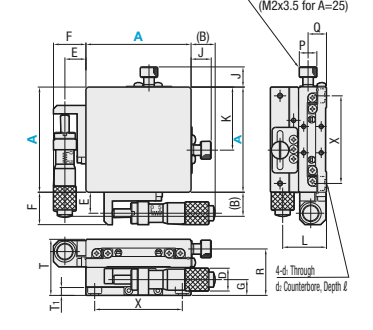
■ XY-Axis



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

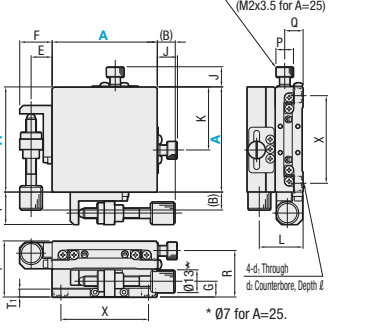
■ Micrometer Head

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



■ Feed Screw (Pitch 0.5)

XYSCG (25≤A≤100)
XYSCGB (LTBC Plating) (25≤A≤80)



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

⊕ For Micrometer Head and Feed Screw materials, see P2005. ⊕ For top surface mounting dimensions, see Linear Ball Slide X-Axis Stages on P.1921. ⊕ See the CAD data for details.

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

Part Number	Type	Top View										Side View				Accessory (4 pcs.)						
		A	(B)		Travel Distance (mm)		E	F	J	K	D	G	R	T	T ₁		P	Q	L	X	d ₁	d ₂
XYSG XYSCG XYSGB XYSCGB	25*	25	11	±3.2	7	9	6.8	15	9.3	7	20.5	24	3.7	6	8.5	19	20	2.5	4.2	2.5	SCB2-4	
	40*	23.5	20	±6.5	12	18.5		26		8.9	26.5	32	4.5	10	10.5	24.9	32	3.5	6	3.5	SCB3-6	
	50*	18.5	15					31	13									40	6	4	4	SCB4-6
	60*	14	10.3					36										50	8	4.5	4.5	SCB4-6
	70*	14.5	10.8					46.5		10	29.5	36	6	6	11.5	28	60	70	4.5	8	5.3	SCB4-6
	80*	43.5	10	±12.5*	17	22*		55	18	10.8	34.5	40	6.5	10	14.5	30.8	90	90	8	5.3	5.3	SCB4-6
100*	28.5	-5*	±12.5**				67.5												8	5.3	5.3	SCB4-6

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

• Performance

Part Number	Type	A	Stage Surface (mm)	Horizontal Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity (N/cm)			Parallelism	Weight (kg)	Unit Price			
					Straightness	Motion Parallelism	Pitching	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			XYSG	XYSCG	XYSGB	XYSCGB
XYSG XYSCG XYSGB XYSCGB	25*	25x25	38.2	3μm	10μm	30°	25°	2.0	2.0	2.0	3.00	2.20	3.00	30μm	0.14				
	40*	40x40	95.1	1μm**	12μm			5.0	5.0	5.0	0.63	0.70	0.63	40μm	0.46				
	50*	50x50	144.1					6.0	6.8	6.0	0.24	0.28	0.24	50μm	0.56				
	60*	60x60	192.1			25°	15°	9.0	10.0	9.0	0.13	0.16	0.13	60μm	0.80				
	70*	70x70	219.5					12.9	13.8	12.9	0.09	0.10	0.09	70μm	1.16				
	80*	80x80	255.8	3μm	15μm			17.7	18.2	17.7	0.06	0.08	0.06	80μm	1.80				
100*	100x100	329.6					30.7	31.8	30.7	0.03	0.04	0.03	100μm	2.66					

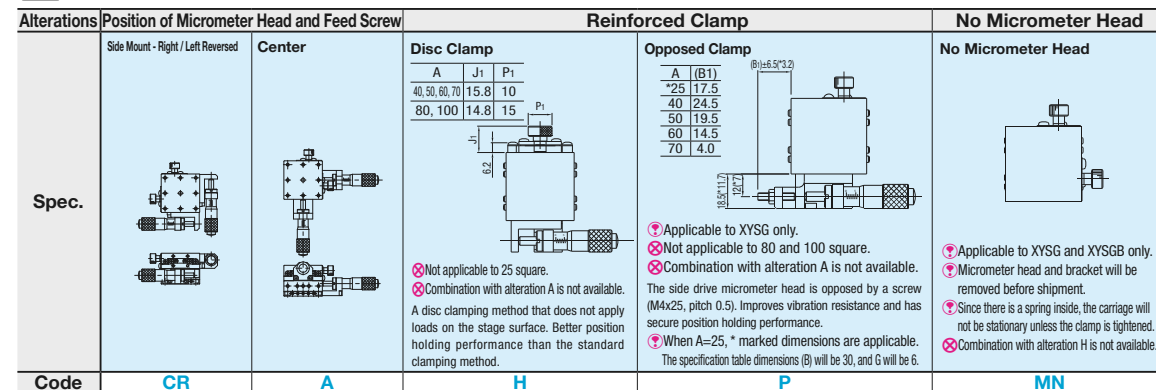
⊕ XYSG, XYSGB Micrometer Head Resolution: 10μm/division *4. XYSGB, XYSCGB40 and 60 straightness is 3μm.

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

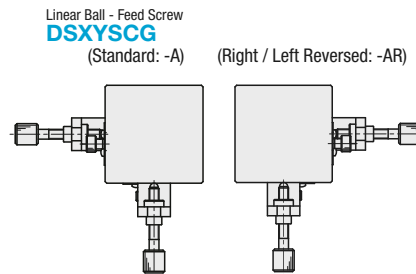
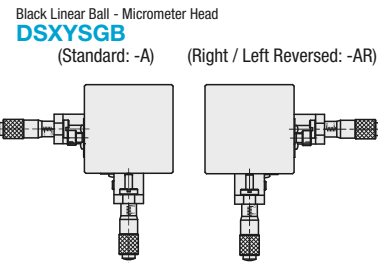
■ **Features:** Since two side faces out of four are freely configurable, this type of stage product can be symmetrically aligned with its reserved type for combination use or can be configured for space-saving.

■ 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

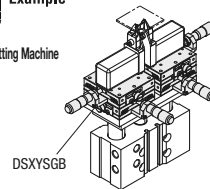
Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Stage Configuration		Reference Part Number (Page)	Unit Price													
Type	No.				Top	Bottom		DSXYSG	DSXYSCG												
Black Linear Ball Micrometer Head DSXYSG Linear Ball Feed Screw DSXYSCG	25-A	25x25	±3.2	38.2	X□□□-AR	X□□□-A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

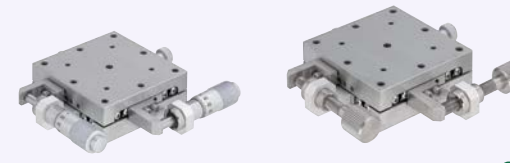


DSXYSG

[High Precision] XY-Axis Linear Ball Slide Low Profile

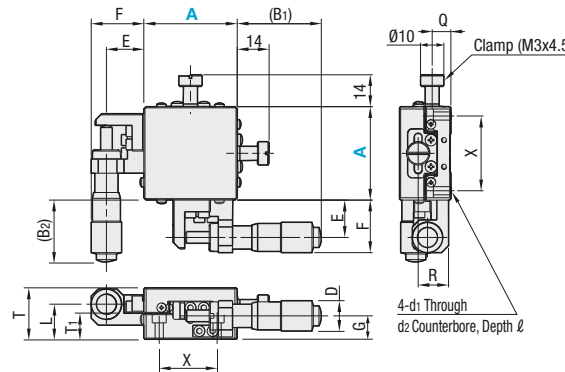
■ **Features:** Extra low profile achieved by XY-Axis unitized construction in comparison to XYSG (P.1946). 26mm height or less and no need for orthogonal aligning.

■ XY-Axis, Low Profile

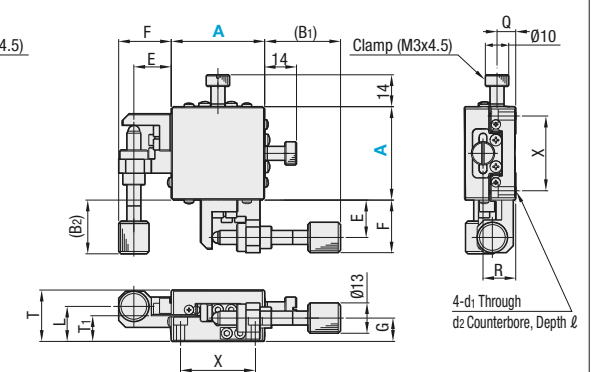


RoHS

■ Micrometer Head XYSSG (A=40,60,80,100)



■ Feed Screw (Lead 0.5) XYSSCG (A=40,60,80,100)



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), 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 ₁	Q	R	X		d ₁	d ₂	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					40μm	1.32		
	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								

Ⓢ 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

Ⓢ 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.

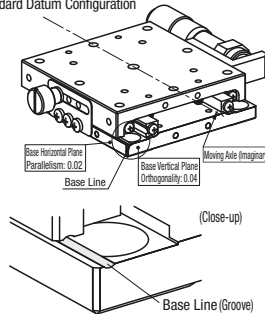
■ XY-Axis Coarse / Fine Micrometer Head



X-Axis: P.1921

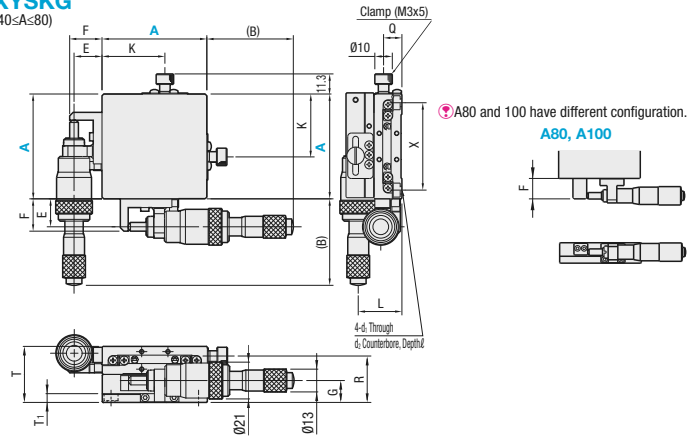


Standard Datum Configuration



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	Material	Material	Material	Material
XYSKG	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB
	EN 1.4125 Equiv.	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.
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 ₁	Q	L		X	d ₁	d ₂	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	Type	Stage Surface (mm)	Travel Distance (mm)	Horizontal Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)			Moment Rigidity (%/N·cm)			Parallelism (μm)	Weight (kg)	Unit Price
					Straightness	Parallellism	Pitching	Yawing	Pitching	Yawing	Rolling	Pitching	Yawing	Rolling			
XYSKG	40	40x40	Coarse ±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	Fine Feed 0.2 mm	219.5	3μm	15μm			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	18.2	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>J₁</th> <th>P₁</th> </tr> </thead> <tbody> <tr> <td>40, 50, 60, 70</td> <td>15.8</td> <td>10</td> </tr> <tr> <td>80</td> <td>14.8</td> <td>15</td> </tr> </tbody> </table> <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 ₁	P ₁	40, 50, 60, 70	15.8	10	80	14.8
A	J ₁	P ₁									
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.

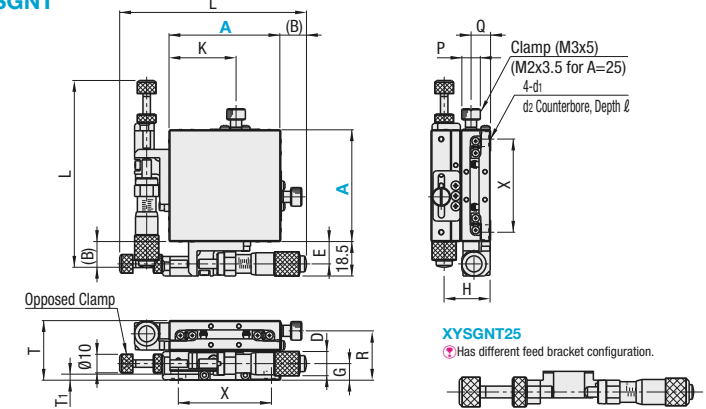
■ XY-Axis, Opposed Clamp with Knob



X-Axis: P.1924



XYSGNT



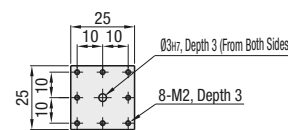
Type	Main Body	Ball	Spring	Micrometer Head Bracket	Tip Holder
	Material	Material	Material	Material	Material
XYSGNT	EN 1.4125 Equiv.	Electroless Nickel Plating	EN 1.4125 Equiv.	58HRC~	SUS304WPB
	EN 1.4125 Equiv.	EN 1.4125 Equiv.	58HRC~	SUS304WPB	EN AW-5052 Equiv.
				Clear Anodize	EN 1.4305 Equiv.*

* Bracket material will be different for 25 square only.

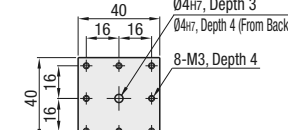
For micrometer head and opposed clamp materials, see Adjust Screws ANKSS on P.1712.

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

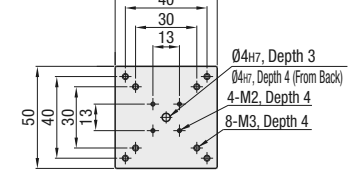
A25



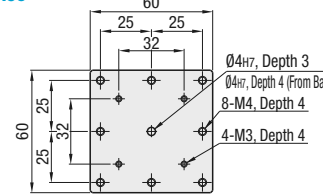
A40



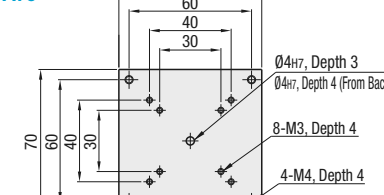
A50



A60



A70



Part Number	Top View				Front View				Side View				Accessory (4 pcs.)							
	Type	A	(B)	E	K	L	D	G	T	T ₁	R	H		P	Q	X	d ₁	d ₂	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	2.5	SCB2-4	
	40	23.8		26																
	50	18.8	12	31	100.3	13	8.9	32	4.5	26.5	24.9	10	10.5	40	3.5	6	3.5	3.5	SCB3-6	
	60	13.8		36					5					50						
	70	14.3		46.5			10	36	6	29.5	28		11.5	60	4.5	8	4.5	4.5	SCB4-6	

•Performance

Part Number	Type	Stage Surface (mm)	Travel Distance (mm)	Horizontal Load Capacity (N)	Travel Accuracy				Moment Load Capacity (N·m)			Moment Rigidity (%/N·cm)			Parallelism (μm)	Orthogonality (μm)	Weight (kg)	Unit Price
					Straightness	Parallellism	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		219.5				12.9	13.8	12.9	0.09	0.10	0.09	1.16				

Micrometer Head Resolution: 10μm/division

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

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

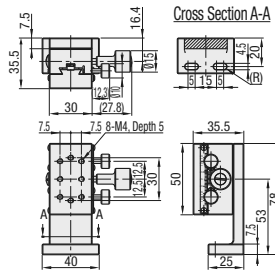


X-Axis P.1903
XY-Axis P.1938

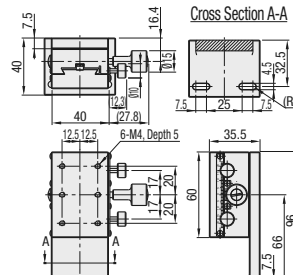
RoHS

Material: Aluminum Alloy
Surface Treatment: Black Anodize

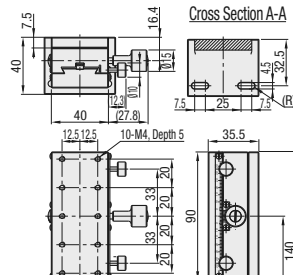
ZDTS50



ZDTS60



ZDTS90



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

Part Number	Type	A	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	14.7	50µm	0.26	
	60		40x60	±21		19.6		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

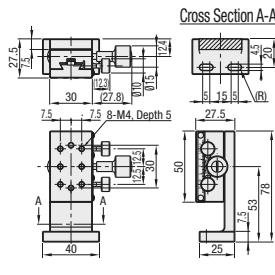


X-Axis P.1903
XY-Axis P.1938

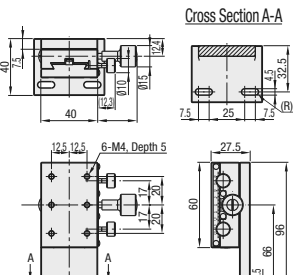
RoHS

Material: Aluminum Alloy
Surface Treatment: Black Anodize

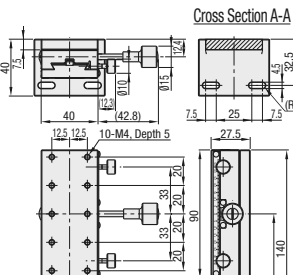
ZDTS50



ZDTS60



ZDTS90



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

Part Number	Type	A	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	9.8	50µm	0.23	
	60		60x40	±20		14.7		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
XY-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)

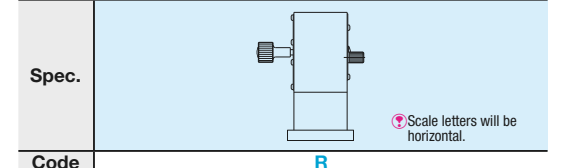
Part Number	Type	No.	Stage Surface (mm)	Travel Distance (mm)	Travel per Rotation (mm)	Travel Accuracy (µm)		Load Capacity (N)	Weight (kg)	Unit Price	
						Straightness					
ZWG	40		24.8x42	±12	18	20		14.7	0.17		
	60		40x60	±21							
	90		40x90	±35		30			19.6		0.45
	140		40x140	±60							

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

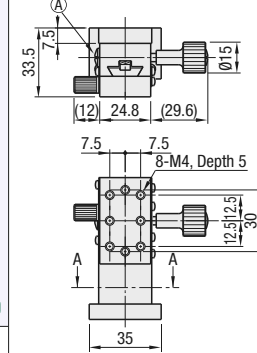
Alterations Part Number ZWG60 - (R) - R

Alteration Feed Knob Position Change (Left/Right Reversed)

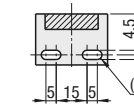


Code R

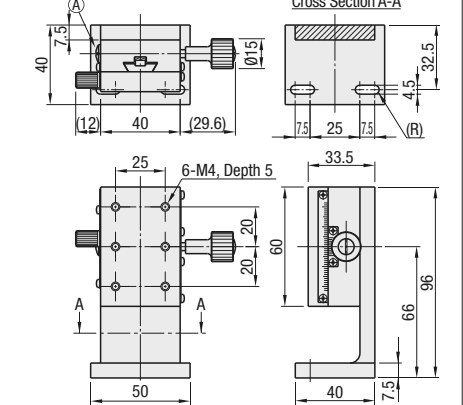
ZWG40



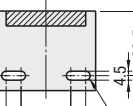
Cross Section A-A



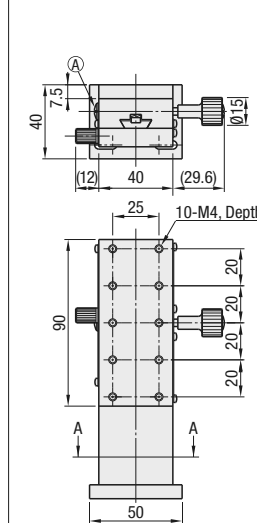
ZWG60



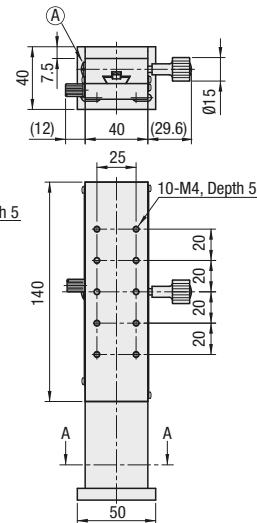
Cross Section A-A



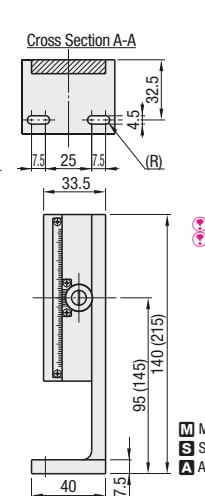
ZWG90



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

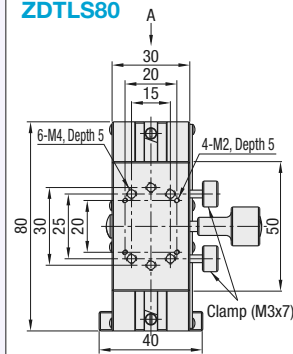
Points on Similar Product Comparison | Travel Accuracy (Straightness) 50-60µm

P.1956

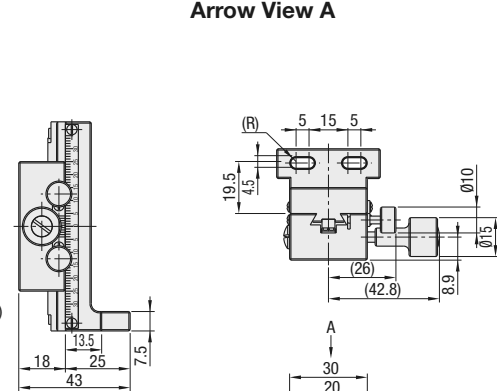
Features: Economically priced long stroke Rack & Pinion stages.

Z-Axis, Long

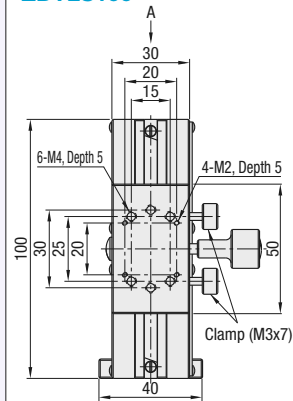
ZDTLS80



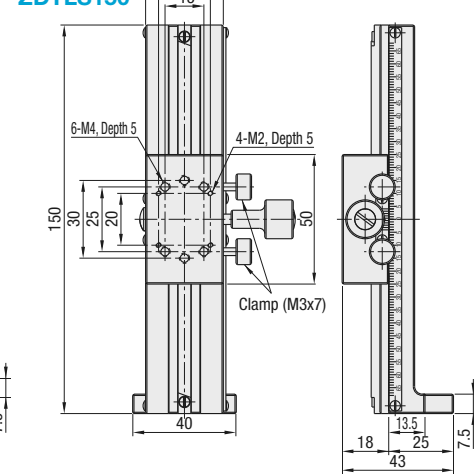
Arrow View A



ZDTLS100



ZDTLS150



M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

X-Axis P.1907 RoHS

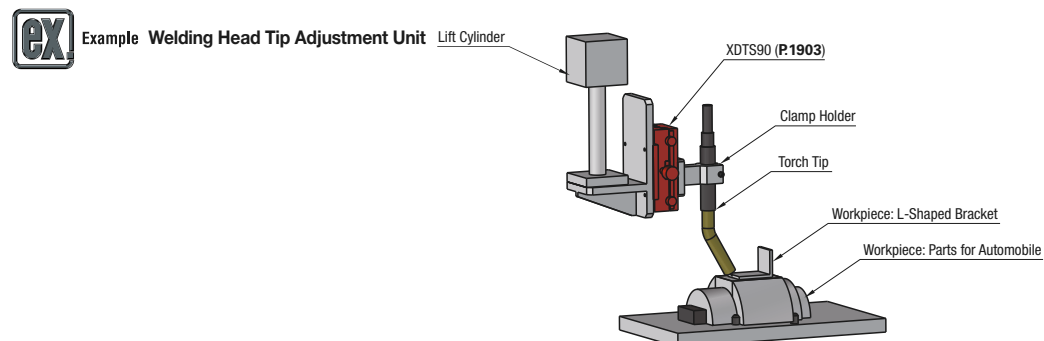
Z-Axis Stages

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

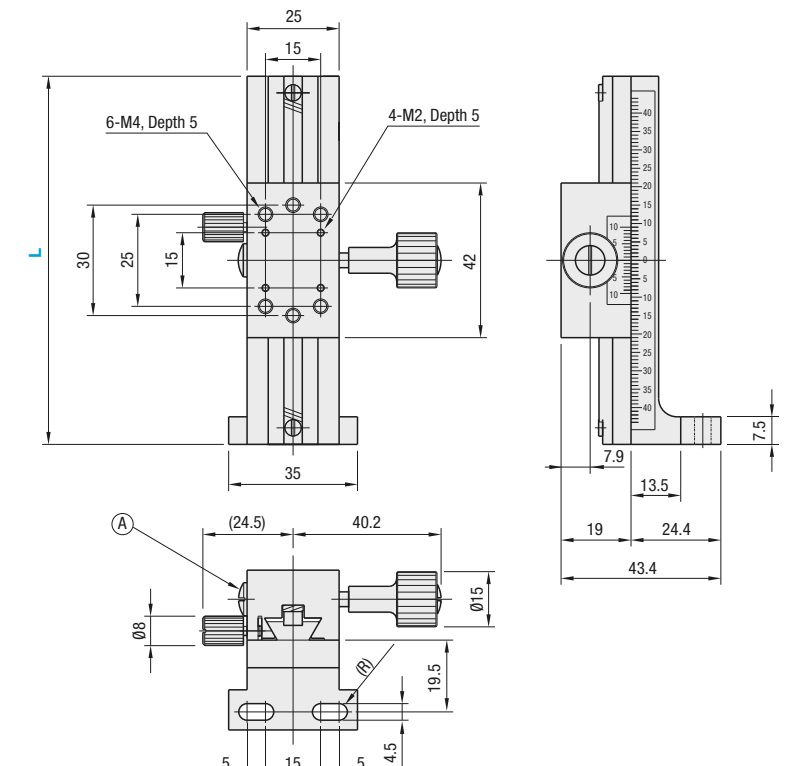


Assuring Repeatability: Adjustment by a stage not by a clamp holder secures repeatability preventing misalignment of the torch.

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

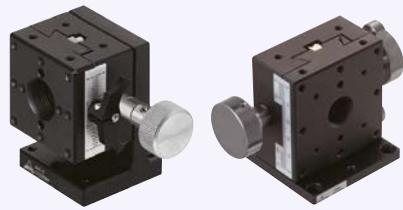
ZLWG150-2 has two blocks. Please note that the stroke distances will be shorter than the one block versions.

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.

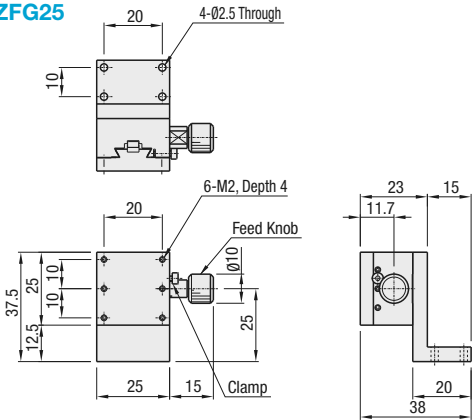
■ Z Axis, Square



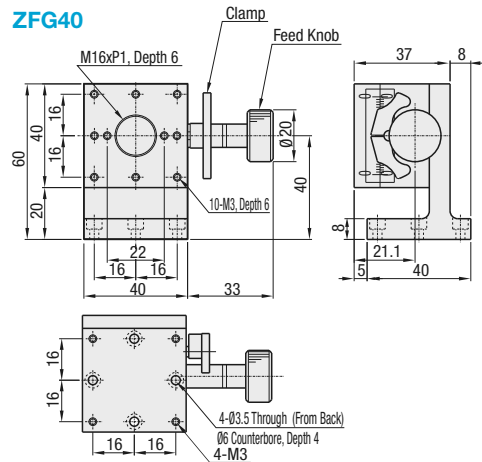
☒ X-Axis P.1911
☒ XY-Axis P.1940



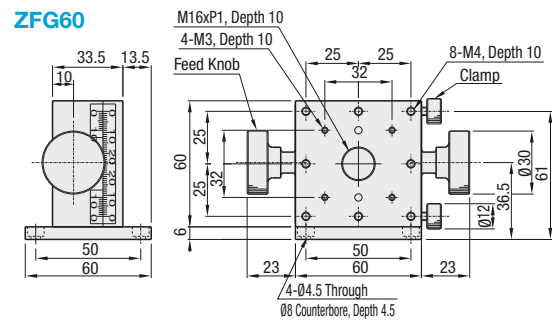
ZFG25



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	Aluminum Alloy		Black Anodize	

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
ZFG	25	25x25	±5	17	6.9	30μm	0.11	SCB2-8	
	40	40x40	±10	20	14.7	20μm	0.23	SCB3-8	
	60	60x60	+20	18	19.6	30μm	0.60	SCB4-6	

☑ Resolution (Vernier Scale Indication): 0.1 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

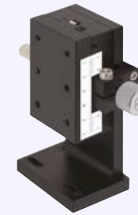
Lever Clamp Models:
XFG40 (P.1911)
XYFG40 (P.1940)
ZFG40 (P.1957)
XZFG40 (P.1992)
XYZFG40 (P.1995)
XWGSR40 (P.1925)
XWGSR60 (P.1925)
XWGSR90 (P.1925)



[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.

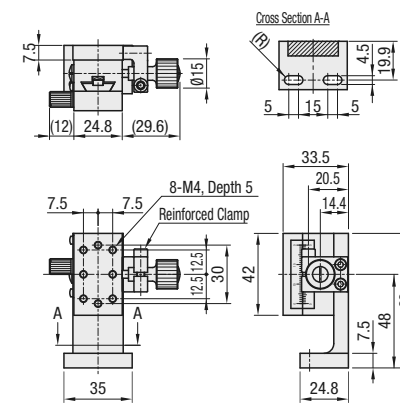
■ Z Axis, Reinforced Clamp



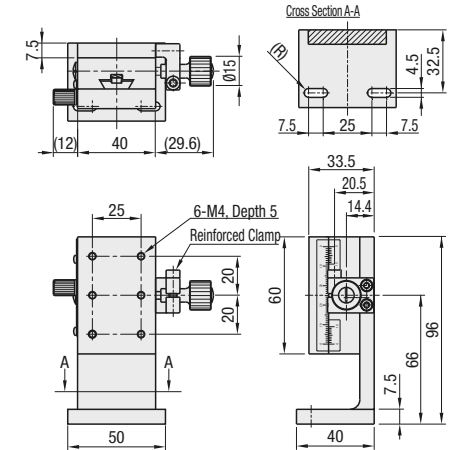
☒ X-Axis P.1906
☒ XY-Axis P.1940



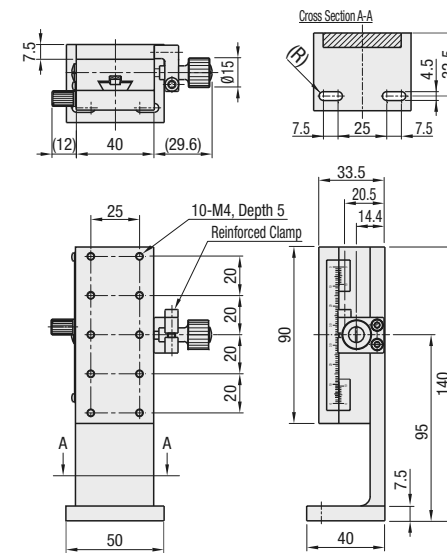
ZWGCL40



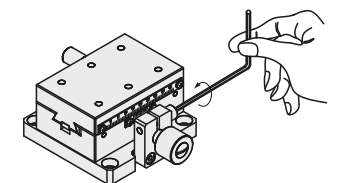
ZWGCL60



ZWGCL90



☒ Example Clamp Reinforcing Method



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

☒ Material: Aluminum Alloy ☒ Surface Treatment: Black Anodize

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

☑ Resolution (Vernier Scale Indication): 0.1 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



[High Precision] Dovetail Slide, Feed Screw

Long (Selectable lead type), Square

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.

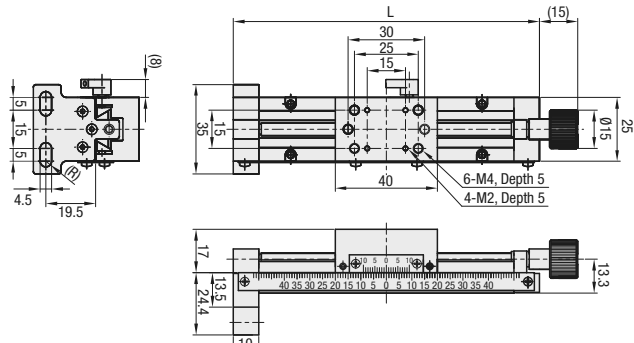
Z-Axis Long

(Selectable lead type)



X-Axis P.1901 RoHS

ZLSL



The scale in the above figure is for L120, and not for L90, 150.
The external dimensions will be the same if L is the same, even if the move distance per knob rotation is different.

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	Travel per Rotation	H	(L)	E	Load Capacity	Travel Accuracy (µm)	Weight	Accessory (2 pcs.)	Unit Price
TYPE	No.	(mm)	(mm)				(N)	Straightness	(kg)	Type M-L	
ZLSL	90	60x40	2	140	40	26	19.6	30	0.18	CBST4-12	
			5								
	120	90x40	2	41	60	41	19.6	30	0.2	CBST4-12	
			5								
	150	120x40	2	41	60	41	19.6	30	0.22	CBST4-12	
			5								

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

Ordering Example Part Number ZLSL90-5

Features: Low profile (18mm height/axis) Dovetail Slide Stages with smooth 4.2mm lead feeding.

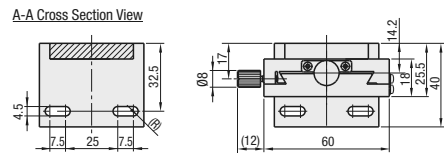
Z Axis, Square

(Lead 4.2mm)

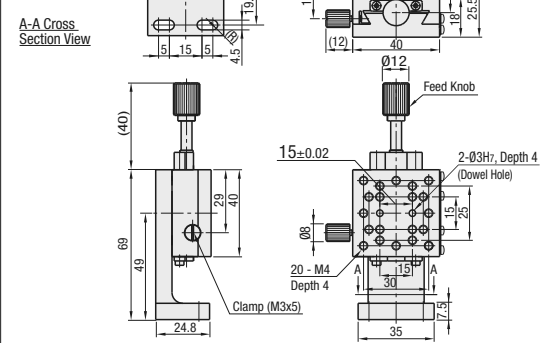


X-Axis P.1899 RoHS
XY-Axis P.1932

ZSC60



ZSC40



Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	Travel per Rotation	H	(L)	E	Load Capacity	Travel Accuracy (µm)	Weight	Accessory (2 pcs.)	Unit Price
TYPE	No.	(mm)	(mm)				(N)	Straightness	(kg)	Type M-L	
ZSC	40	40x40	±11	140	40	35	14.7	30	0.16	CBST4-12	
			±21								
60	60x60	±11	41	60	40	40	14.7	30	0.31	CBST4-12	
		±21									

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

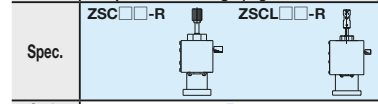
Ordering Example Part Number ZSC40

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.

Alterations Part Number ZSC40-R

Alteration Clamp Position Change (Right/Left Reversed)



See the CAD data for details.

[High Precision] Dovetail Slide, Feed Screw

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

Features: Dovetail Slide Stages with smooth 4.2mm lead feed screw. Left/Right Reversed configuration is also available.

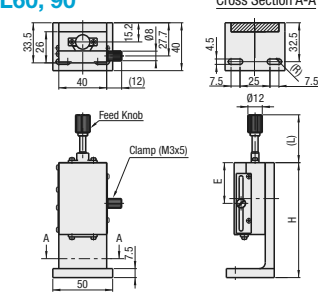
Z-Axis, Rectangular

(Lead 4.2mm)

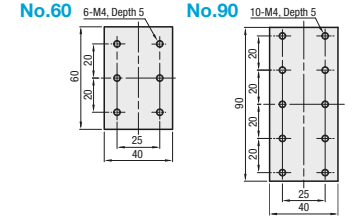


X-Axis P.1900 RoHS
XY-Axis P.1936

ZSL60, 90



Upper Mounting Hole Dimensions

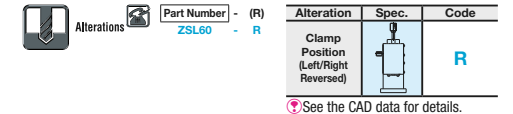


Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	Travel per Rotation	H	(L)	E	Load Capacity	Travel Accuracy (µm)	Weight	Accessory (2 pcs.)	Unit Price
TYPE	No.	(mm)	(mm)				(N)	Straightness	(kg)	Type M-L	
ZSL	60	60x40	±21	140	40	26	19.6	30	0.33	CBST4-12	
			±35								
90	90x40	±21	41	60	41	41	19.6	30	0.45	CBST4-12	
		±35									

Resolution (Vernier Scale Indication): 0.1mm/division
Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw 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 ZSL60



See the CAD data for details.

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

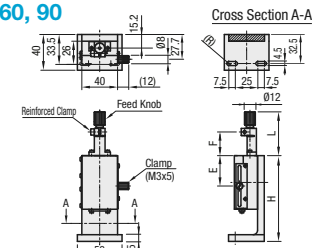
Z-Axis, Reinforced Clamp

(Lead 4.2mm)

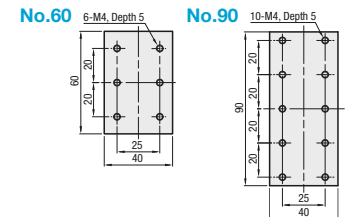


X-Axis P.1900 RoHS
XY-Axis P.1936

ZSLCL60, 90



Upper Mounting Hole Dimensions

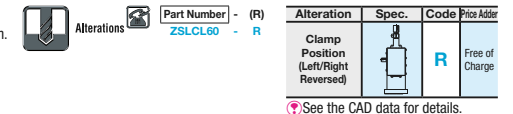


Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	Travel per Rotation	H	(L)	E	F	Load Capacity	Travel Accuracy (µm)	Weight	Accessory (2 pcs.)	Unit Price
TYPE	No.	(mm)	(mm)					(N)	Straightness	(kg)	Type M-L	
ZSLCL	60	60x40	±21	140	49	34	26.5	19.6	30	0.32	CBST4-12	
			±35									
90	90x40	±21	41	63	49	40.5	40.5	19.6	30	0.40	CBST4-12	
		±35										

Resolution (Vernier Scale Indication): 0.1mm/division
Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw knob can be extended. P.2004
Adjustable Plate XPLT: 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 ZSLCL60



See the CAD data for details.

Features: Z-Axis, Low Profile Type XSLC. Are suitable for use in limited spaces.

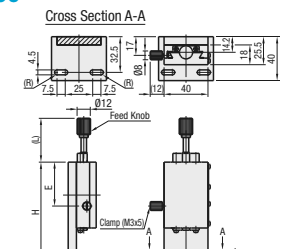
Z-Axis, Low Profile

(Lead 4.2mm)

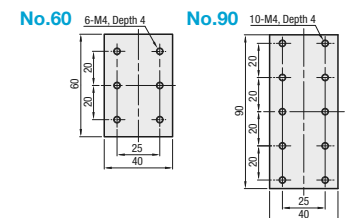


X-Axis P.1900 RoHS
XY-Axis P.1936

ZSLC60, 90



Upper Mounting Hole Dimensions

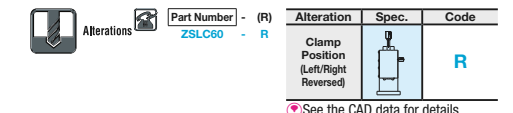


Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number	Stage Surface	Travel Distance	Travel per Rotation	H	(L)	E	Load Capacity	Travel Accuracy (µm)	Weight	Accessory (2 pcs.)	Unit Price
TYPE	No.	(mm)	(mm)				(N)	Straightness	(kg)	Type M-L	
ZSLC	60	60x40	±21	140	40	35	14.7	30	0.27	CBST4-12	
			±35								
90	90x40	±21	41	60	40	40	14.7	30	0.35	CBST4-12	
		±35									

Resolution (Vernier Scale Indication): 0.1mm/division
Extension Cover HDEXT12 (Sold Separately): Ø12 feed screw 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 ZSLC90



See the CAD data for details.

[Standard] Z-Axis Dovetail Slide, Feed Screw

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


Standard, Hex Wrench Drive

Points on Similar Product Comparison | Travel Accuracy Straightness 50µm

P.1962

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

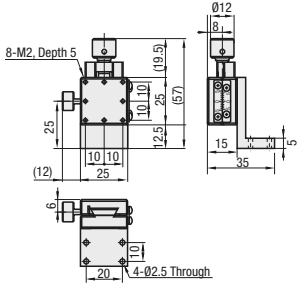
Z-Axis



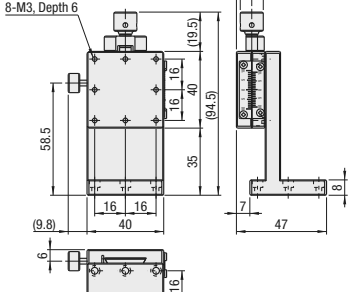
X-Axis P.1896
XY-Axis P.1931

RoHS

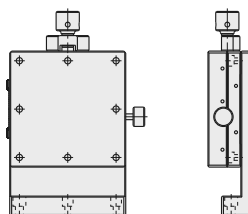
ZFES25
(Standard)



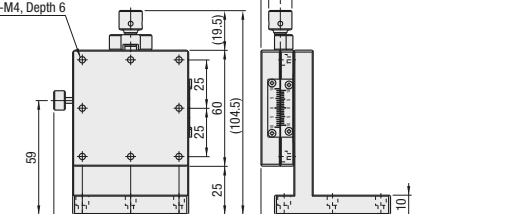
ZFES40
(Standard)



Clamp Position Change
ZFES R
(Reversed)



ZFES60
(Standard)



Material: Aluminum Alloy
Surface Treatment: Black Anodize

See the CAD data for details.

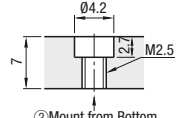
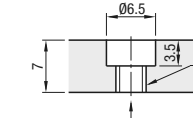
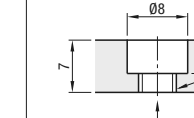
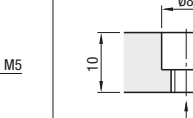
Z-Axis Stages High Precision Stage Existing Product: ZEG (P.1962)

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

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
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.

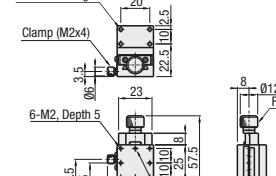
Z-Axis
(Lead 0.5mm)



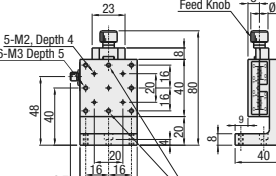
X-Axis P.1897
XY-Axis P.1933

RoHS

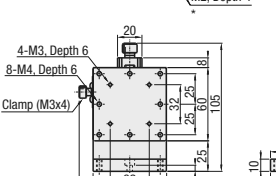
ZEG25



ZEG40



ZEG60



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

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

Standard Stages Similar Products: ZFES (P.1961)

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

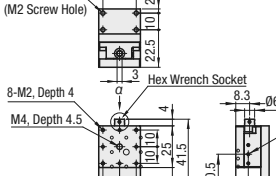
Z-Axis, Hex Wrench Drive
(Lead 0.5mm)



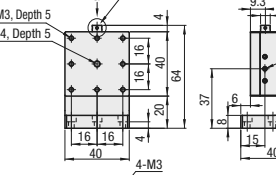
X-Axis P.1897
XY-Axis P.1933

RoHS

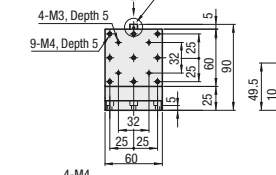
ZEEG25



ZEEG40



ZEEG60



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

* 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.

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)



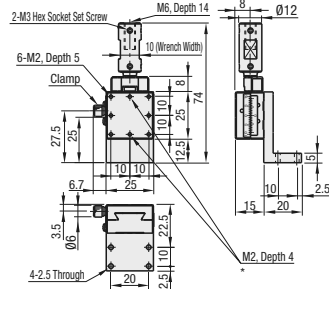
RoHS

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

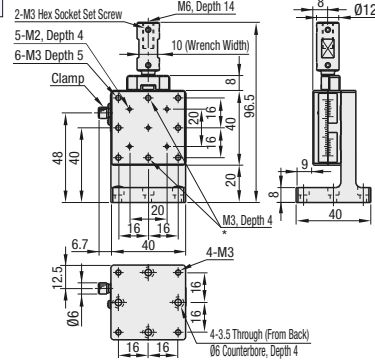
Tips: Knob Extension Method

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.

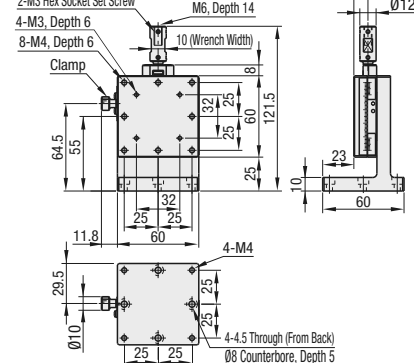
ZEGL25



ZEGL40



ZEGL60



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.

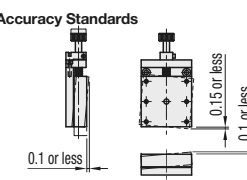
Z-Axis, For Set-Up Changes

RoHS

Accuracy Standards

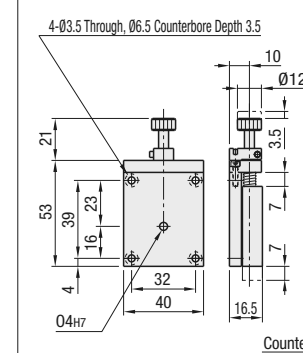


Travel per Rotation: 1.5mm

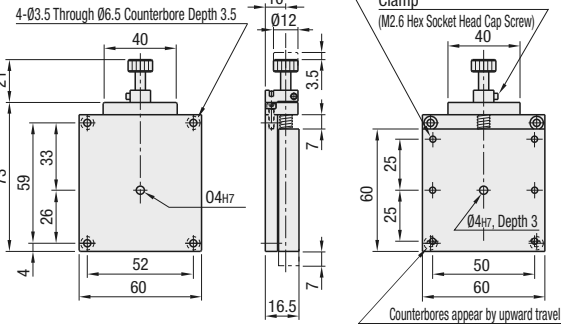


Not recommended for precise positioning due to its clearance shown on the left.

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
								XKDSP60
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.

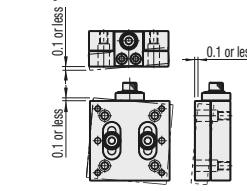
Z-Axis, For First Time Installment

RoHS

Accuracy Standards

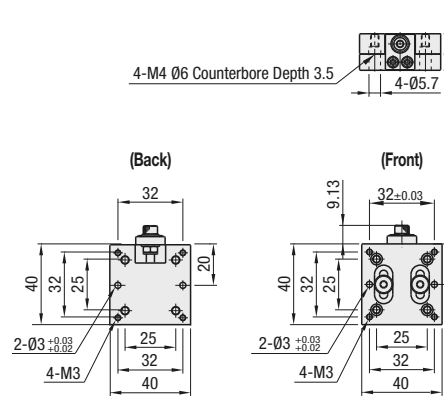


Photo: Front Side
Travel per Rotation 0.7mm

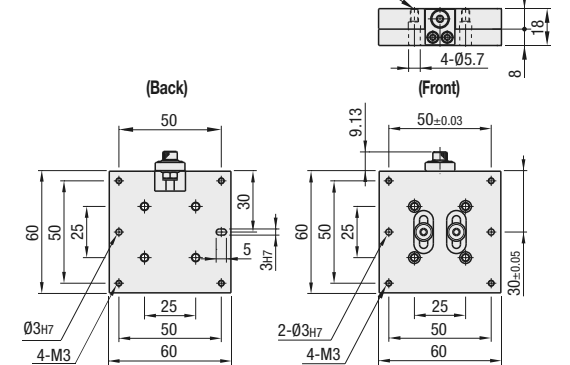


Not recommended for precise positioning due to its clearance shown on the left.
Values are obtained before shipping.

XKEMA40



XKEMA60



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

Material: EN AW-5052 Equiv.
S Surface Treatment: Black Anodize
A Accessory: Dowel Pin MS3-10, 2pcs.
Hex Socket Head Cap Screw CB3-10, 4 pcs.

Part Number Type	No.	Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Weight (g)	Unit Price	Ordering Example	Part Number
								XKEMA40
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.

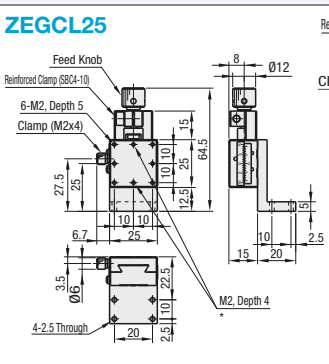
Z Axis, Reinforced Clamp
(Lead 0.5mm)



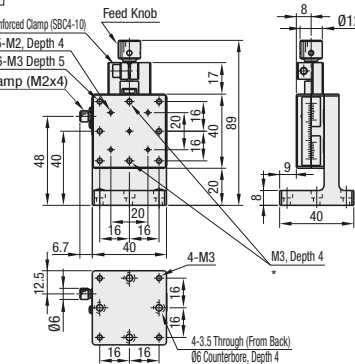
RoHS

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

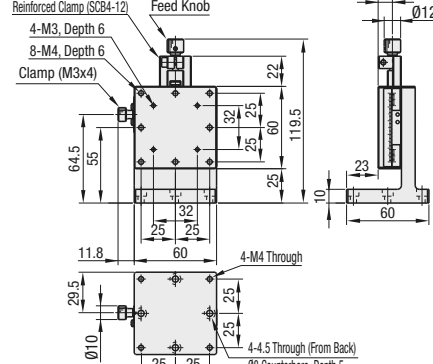
ZEGCL25



ZEGCL40



ZEGCL60



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

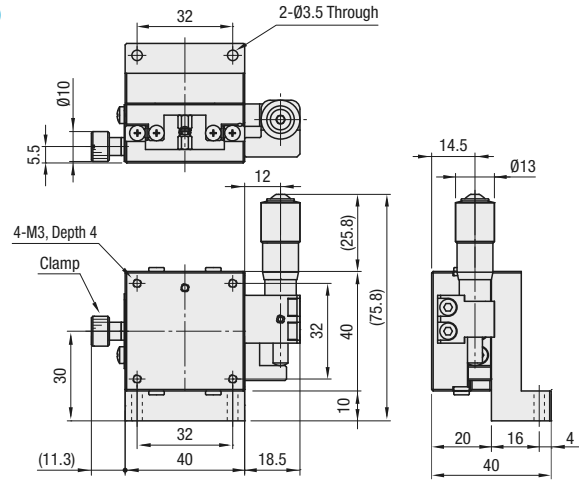
Points on Similar Product Comparison | Travel Accuracy Straightness 10µm

P.1966

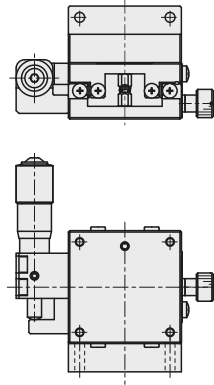
Features: Incorporated Linear Ball Slide Guide mechanism achieves high load capacity.



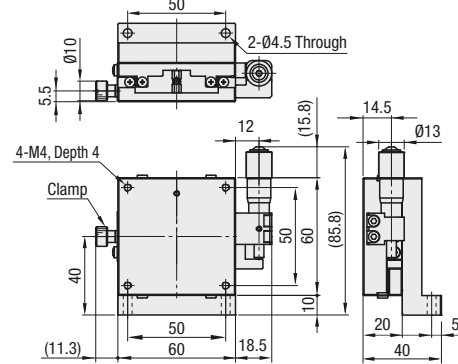
ZLBS40
(Standard)



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.					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		

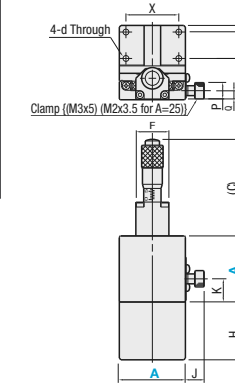
Ordering Example Part Number **ZLBS40**

[High Precision] Z-Axis Linear Ball Micrometer Head / Feed Screw

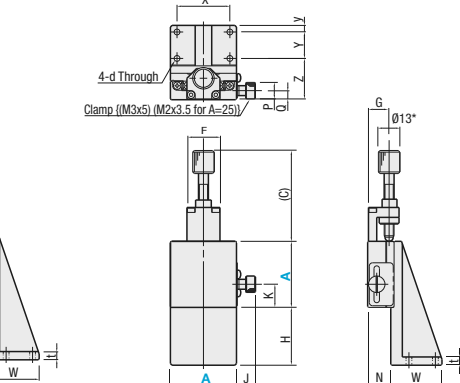
Features: High Precision/rigidity Linear Ball Slide Z-Axis Stages. Further cost savings is possible by selecting the Feed Screw Type. LTBC plated Types are also available. Suitable for applications where light reflections are to be avoided.



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)

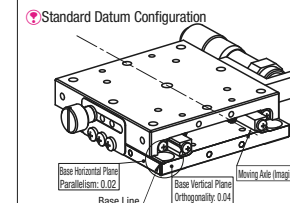


*A=25 will be Ø7

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.

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.

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				

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

Ordering Example Part Number **ZSG60**
ZSGB60

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

Mounting dimensions of micrometer head, feed screw and clamp are different from those of standard products. See the CAD data for details. For micrometer head or feed screw mounted in positions other than shown below, see "Specification Selectable Type" (P.1989).

Alterations	Position of Micrometer Head and Feed Screw			Reinforced Clamp	
	Side Up	Side Up and Right/Left Reversed	Side Down	Disc Clamp	Opposed Clamp
Spec.					
Code	C	CR	CU	H	P

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

[Standard] Z-Axis Cross Roller

[High Precision] Z-Axis Cross Roller

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

P.1994

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

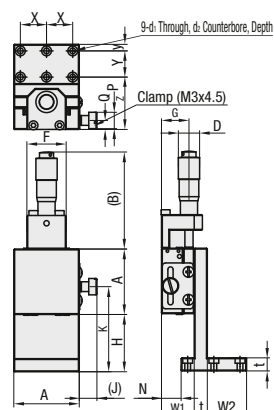
Z-Axis



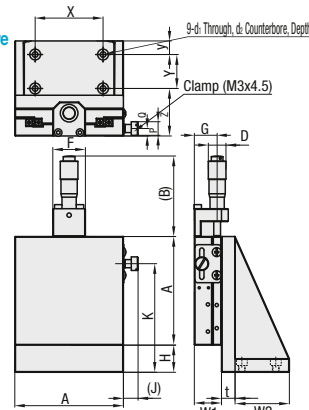
X-Axis P.1917
XY-Axis P.1942

RoHS

ZCRS
60 or less

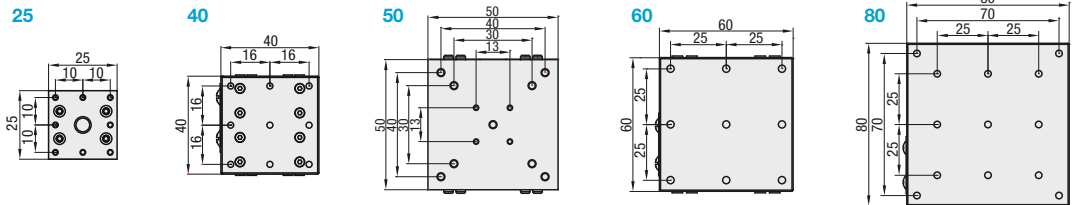


80 or more



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 ₁	W ₂	t	P	Q	X	Y	y	d ₁	d ₂
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
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
50	59	30		24	64	(10.8)	13	16.8	10	20	40	10	10	5.5	25	25	5	4.1	8	4.4
60	59	25	24	64	(10.8)	13	16.8	-	20	40	10	10	5.5	50	25	10	4.1	8	4.4	
80	59	20	24	80	(10.8)	13	16.8	-	20	40	10	10	5.5	60	25	10	4.1	8	5.3	
90	80	20	±12.5	24	84	(10.8)	13	16.8	-	20	40	10	10	5.5	70	25	10	4.1	8	5.3
100	80	20	24	85.5	(10.8)	13	16.8	-	20	40	10	10	5.5	80	25	10	4.1	8	5.3	
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	
40	40x40	9.8		2.7	2.2	2.0	0.38	0.42	0.28	0.24	
50	50x50	14.7		3.5	3.0	3.3	0.2	0.22	0.12	0.34	
60	60x60	19.6		5.2	4.3	5.5	0.12	0.11	0.07	0.46	
80	80x80	49		19.2	15.1	17.3	0.05	0.05	0.04	0.76	
90	90x90			25.0	20.0	22.0	0.05	0.05	0.04	1.03	
100	100x100			36.0	30.0	33.0	0.06	0.07	0.05	1.2	
120	120x120			57.2	44.7	66.7	0.03	0.02	0.01	1.79	

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

Ordering Example: Model (Type, A) ZCRS40

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

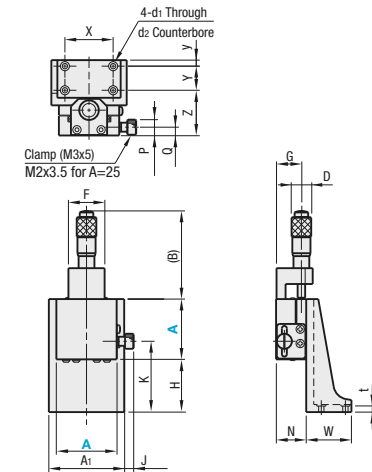
Z-Axis



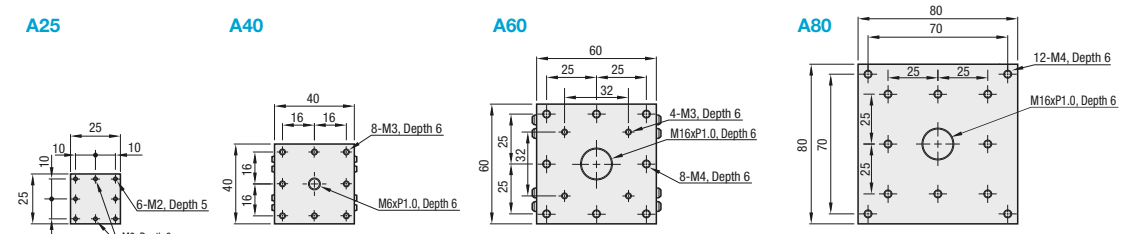
X-Axis P.1918
XY-Axis P.1943

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 ₁	H	(B)	Travel Distance (mm)	F	K	J	D	G	N	W	t	P		Q	X	Y	y	Z	d ₁	d ₂
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
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
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
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	25"	30"	1.1	0.8	0.4	3.03	2.85	1.80	0.06
40	40x40	9.8				2.7	2.2	2.0	0.38	0.42	0.28	0.20
60	60x60	19.6				5.2	4.3	5.5	0.12	0.11	0.07	0.45
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)

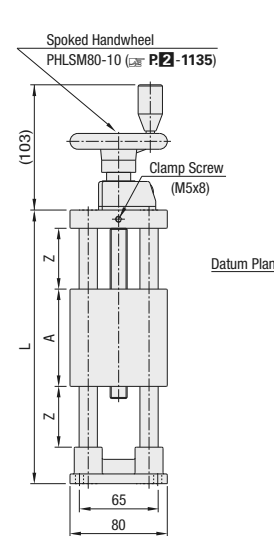
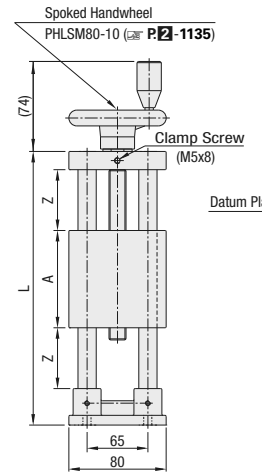
ZKSTP (w/ Compact Position Indicator)



■ **Z-Axis, W/ Compact Position Indicator**



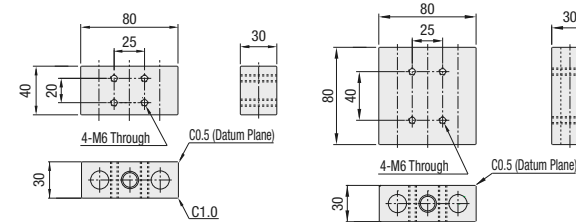
■ **X-Axis P.1927**
 ⚙️ Travel per Rotation: 2.0mm



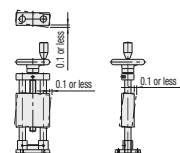
■ **Stage Top Mounting Hole Dimensions**

40-25, 40-50

80-25, 80-50



■ **Accuracy Standards**



⚠️ Not recommended for precise positioning due to its clearance shown on the left.
 ⚠️ Sizes of chamfering on the moving surface are different. The surface with smaller chamfering is the datum plane for workpieces.

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.

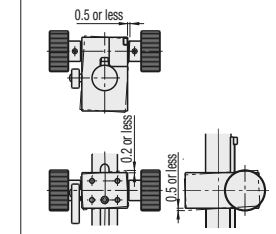
■ **Z-Axis** RoHS



⚙️ 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.

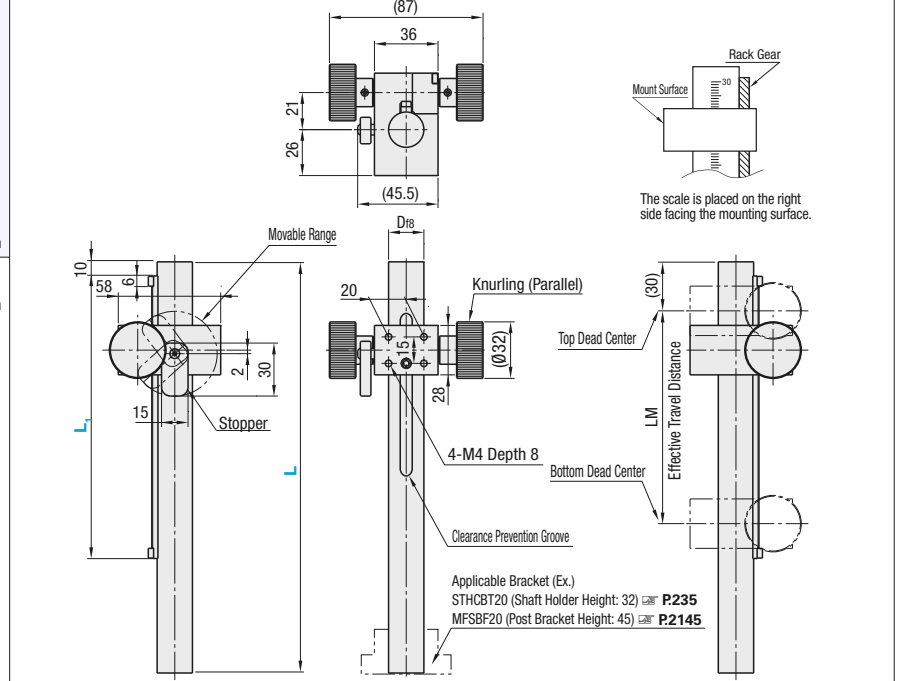
■ **Accuracy Standards**



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.

ZKB

⚠️ Scale graduation is expressed in centimeters.
 ⚠️ Use the scale as a reference only.
 ⚠️ Scale characters are printed by laser markings. The characters may fade if wiped using volatile solvents.



Part Number	Type	D _{R8}	L	L ₁	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** ZKB20 - L 300 - L₁ 210

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

Alterations	Change of Rack Gear Mounting Position	Change of Scale Placement Position
Spec.	<p>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</p>	<p>Moves the scale position from the right side to the left side facing the mounting surface. Ordering Code: L</p>
Code	U	L

ex 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

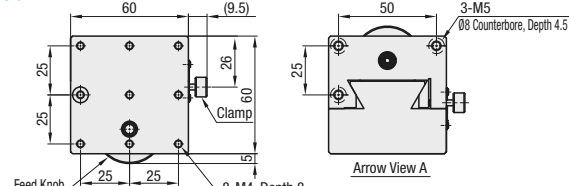
Features: Horizontal Surface Z-Axis Type with feed screw. This is superior to Rack & Pinion Type in load capacity. Space-saving is achieved by limiting the position of clamp/scale to the right side face.

Horizontal Surface Z-Axis, Feed Screw

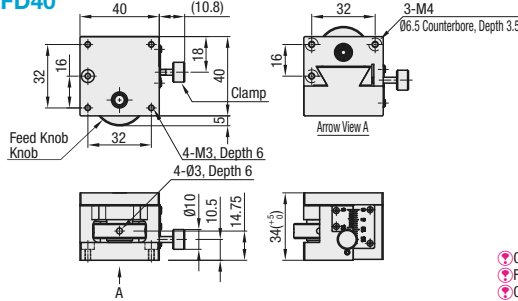


RoHS

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.

M Material: Aluminum Alloy
S Surface Treatment: Black Anodize

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

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

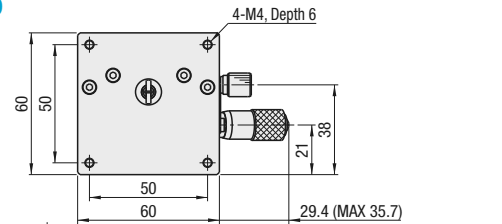
Features: Z-Axis Stages with the stage top rising/lowering horizontally. Best suited for setup changes and simple focus adjustments.

Horizontal Z-Axis, Linear Ball Slide



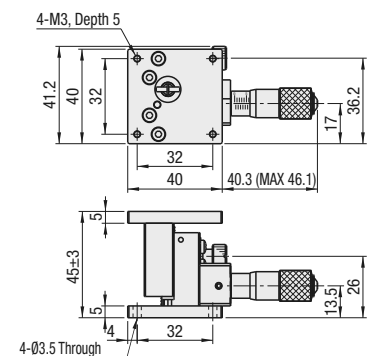
RoHS

ZLLB60



Accessory: Stainless Steel Hex Socket Low Head Cap Screws ZLLB40 (M3-10, 4 pcs.), ZLLB60 (M4-12, 4 pcs.)

ZLLB40



M Material: Steel
S Surface Treatment: Electroless Nickel Plating

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

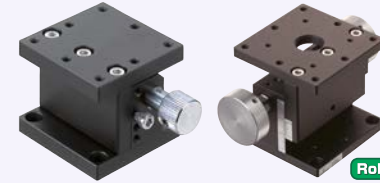
TYPE	Part Number		Stage Surface (mm)	Travel Distance (mm)	Load Capacity (N)	Resolution (μm/division)	Parallelism (μm)	Weight (kg)	Unit Price
	No.								
ZLLB	40		40x40	±3.0	29.4	5	80	0.3	
	60		60x60	±5.0	49.0	10		0.7	

Ordering Example Part Number ZLLB40

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

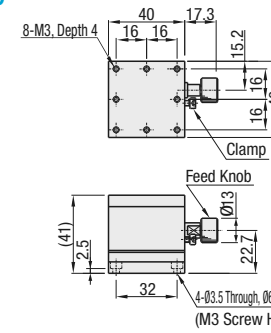
Features: Rack & Pinion Stages with horizontal surface moving vertically.

Horizontal Surface Z-Axis Stages, Rack & Pinion

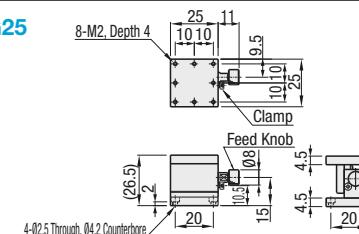


RoHS

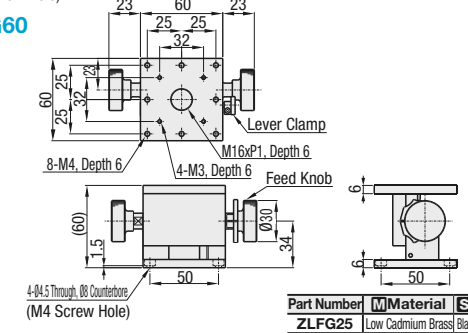
ZLFG40



ZLFG25



ZLFG60



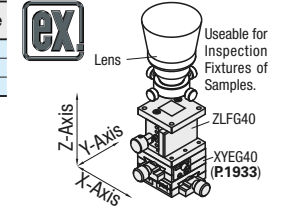
Part Number	Material	Surface Treatment
ZLFG25	Low Cadmium Brass	Black Fluororesin Treatment
ZLFG40	Aluminum Alloy	Black Anodize
ZLFG60	Aluminum Alloy	Black Anodize

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

Part Number	Type	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			
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



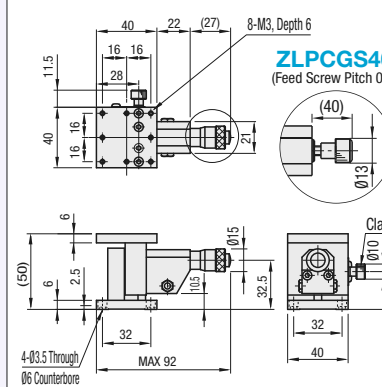
Features: Suitable for highly accurate fine adjustment of horizontal surface of Z-axis. ZLPGS has higher load capacity compared to the same size ZLPG (P.1973).

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

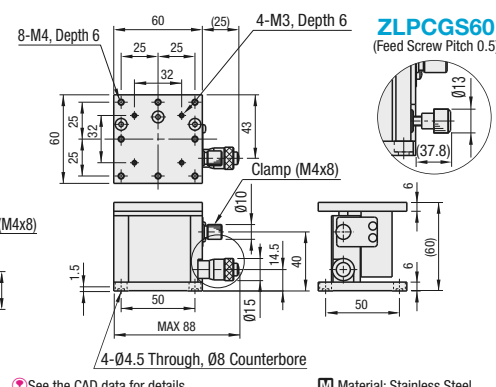


RoHS

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	Type	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
						Pitching	Yawing	Rolling	Pitching	Yawing	Rolling				
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		3.3	2.4	3.1	0.42	0.18	0.12		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		3.3	2.4	3.1	0.42	0.18	0.12		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)

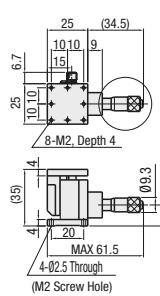


ZLPCG (Feed Screw Pitch 0.5)

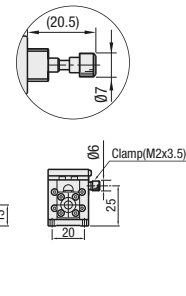


RoHS

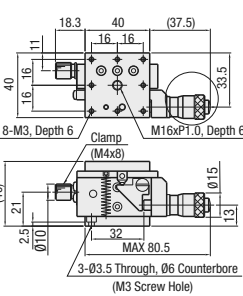
ZLPG25 (Micrometer Head)



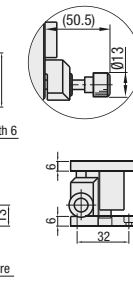
ZLPCG25 (Feed Screw)



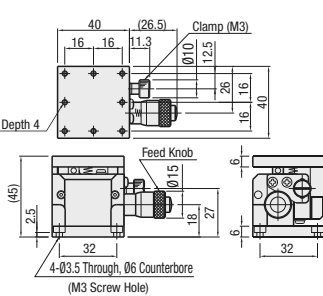
ZLPG40 (Micrometer Head)



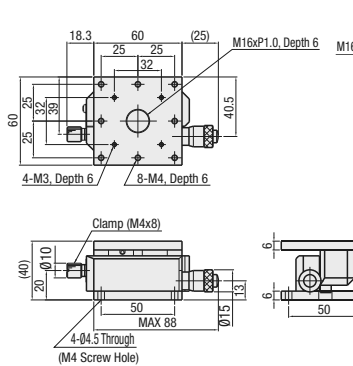
ZLPCG40 (Feed Screw)



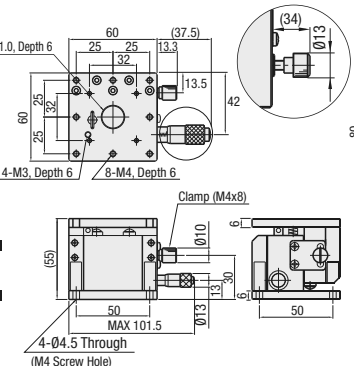
ZLPG40H (Micrometer Head)



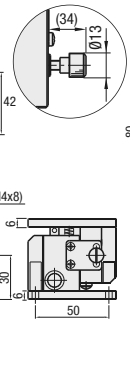
ZLPG60L (Micrometer Head)



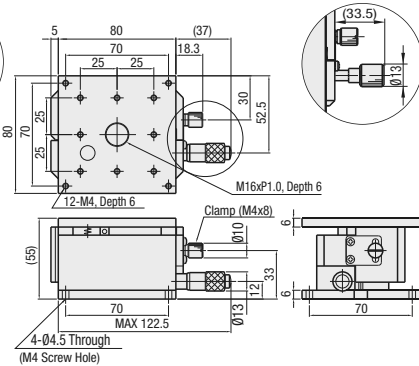
ZLPG60 (Micrometer Head)



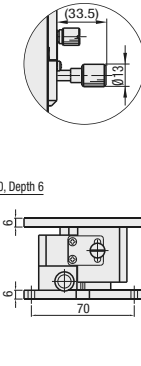
ZLPCG60 (Feed Screw)



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 (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	ZLPCG
ZLPG ZLPCG (* only)	25*	25x25	±2	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.

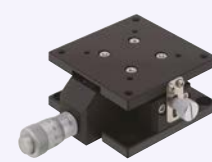


[High Precision] Z-Axis, Linear Guide Low Profile Micrometer Head / Feed Screw

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)

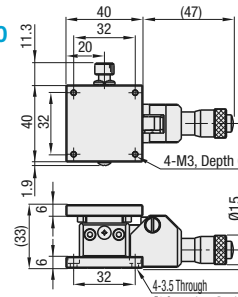


ZLTCG (Feed Screw Pitch 0.5)

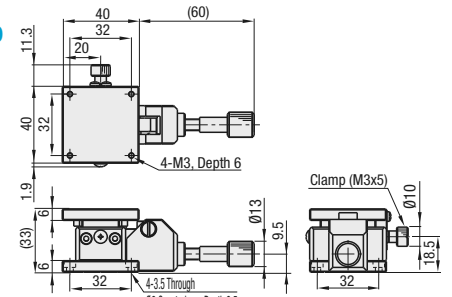


RoHS

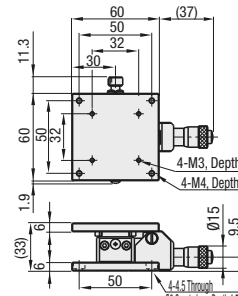
ZLTG40



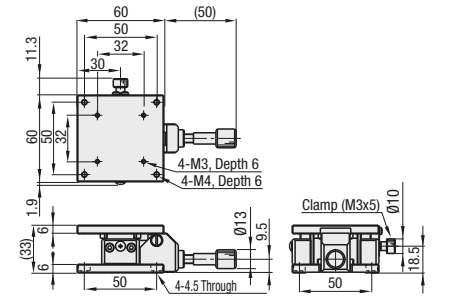
ZLTCG40



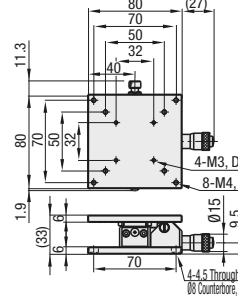
ZLTG60



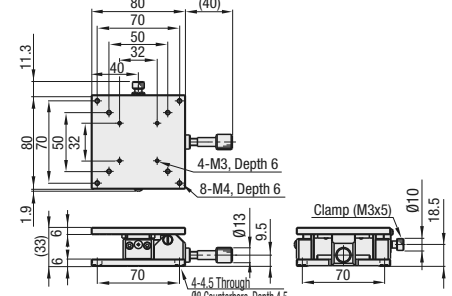
ZLTCG60



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 (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							
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

P.1977

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

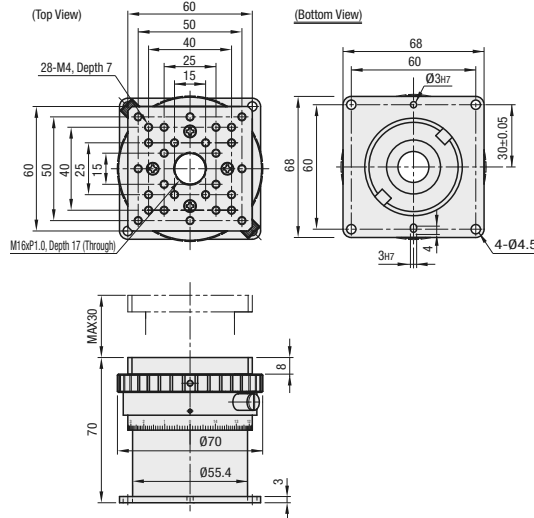
Helicoid Screw, Horizontal Surface Z-Axis Stages



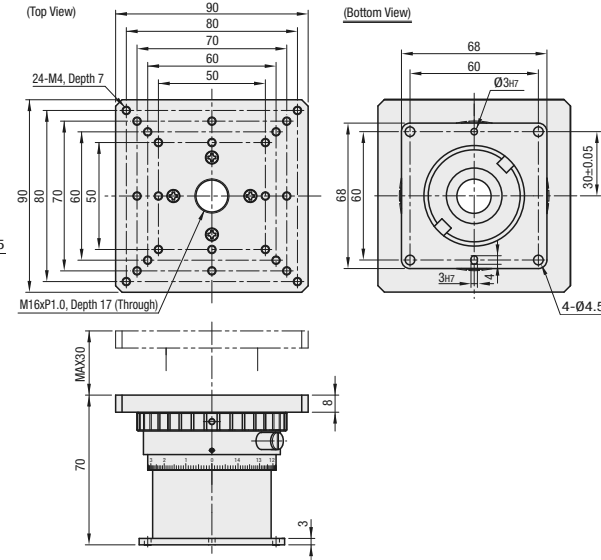
RoHS

With Mount Plates (60, 90 Square)

ZHRD30-60

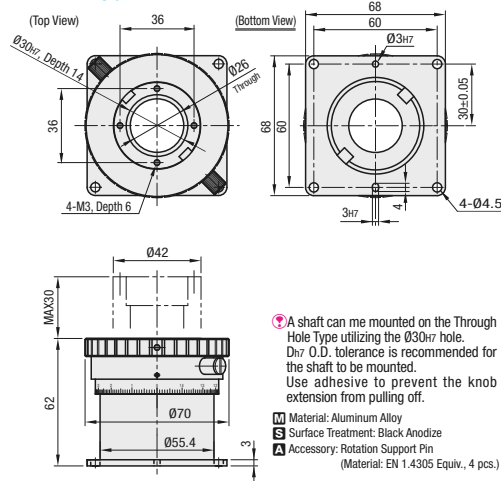


ZHRD30-90



Through Hole Type

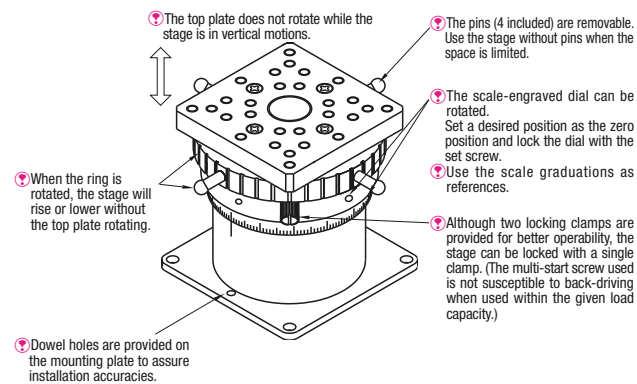
ZHRD30-T



A shaft can be mounted on the Through Hole Type utilizing the $\varnothing 30_{H7}$ hole. Only O.D. tolerance is recommended for the shaft to be mounted. Use adhesive to prevent the knob extension from pulling off.

Material: Aluminum Alloy
Surface Treatment: Black Anodize
Accessory: Rotation Support Pin (Material: EN 1.4305 Equiv., 4 pcs.)

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



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	50 μm	0.50	SCB4-8	
	30-90	90x90					0.59		
	30-T	-					0.42		

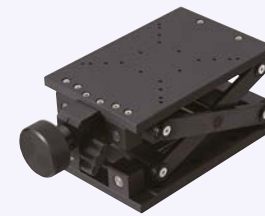
*When elevating the plate with moment load applied to its top face, some play might occur.
*The travel distance per knob rotation varies to some extent depending on the current table position.

Ordering Example Part Number ZHRD30-60

Points on Similar Product Comparison | Parallelism: 400 μm

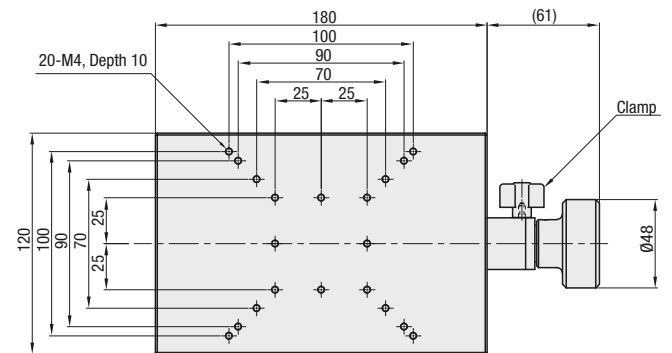
Features: Suitable for Z-axis applications requiring long stroke adjustments. Differ from the existing products in accuracy range. Existing Products: ZLJG (P.1977)

Horizontal Surface Z-Axis_Lab Jack

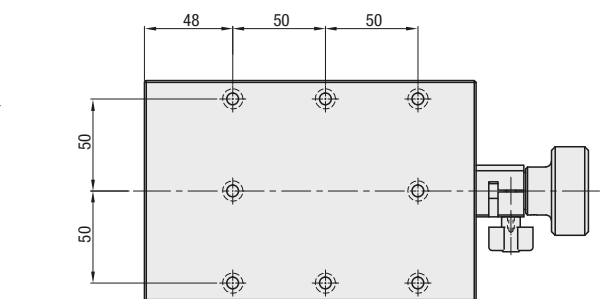
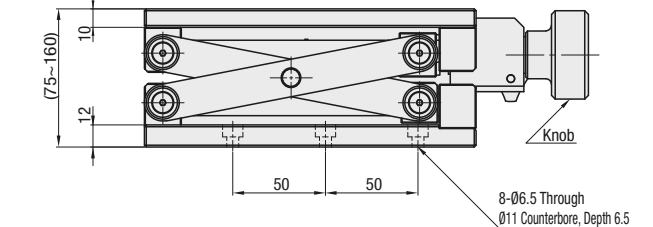
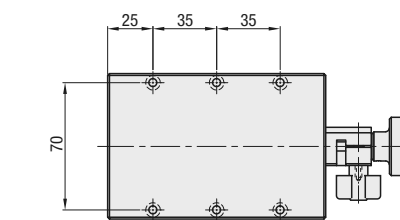
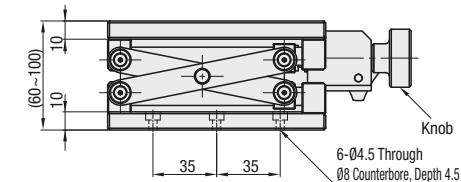
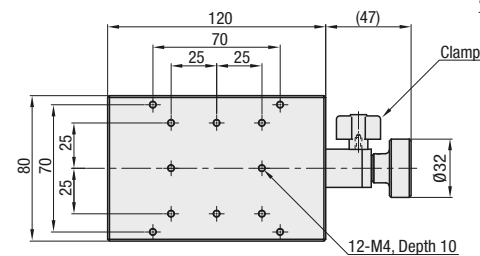


RoHS

ZLJS120



ZLJS80



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

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number 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.

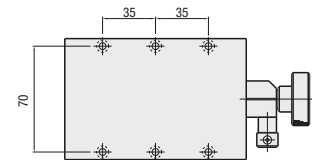
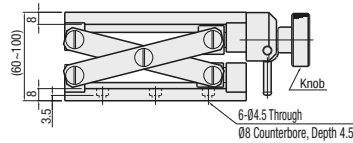
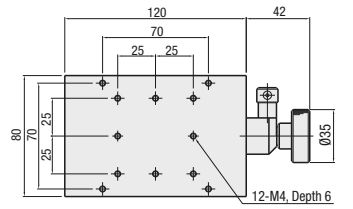
■ Lab Jack (Horizontal Surface Z-Axis)



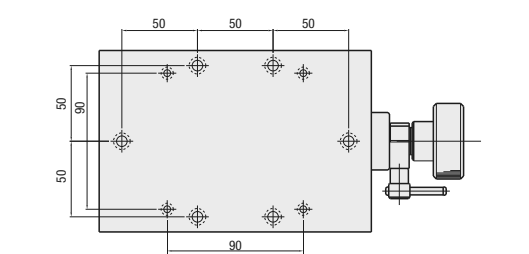
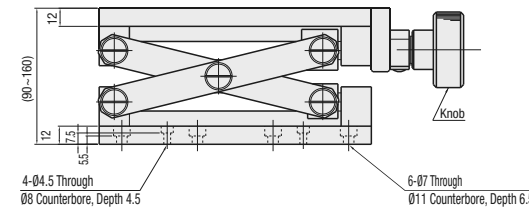
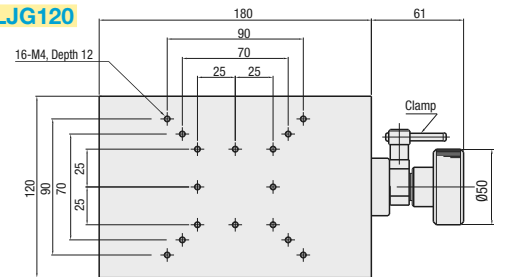
Part numbers (in): Not RoHS Compliant

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.

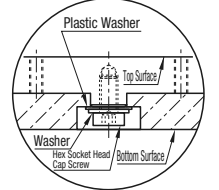
■ Rotary Stages, Simplified Angle Adjusting Units



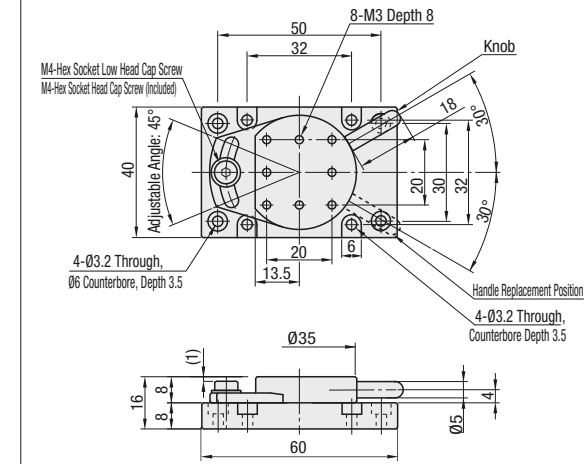
RoHS

■ Friction Effect

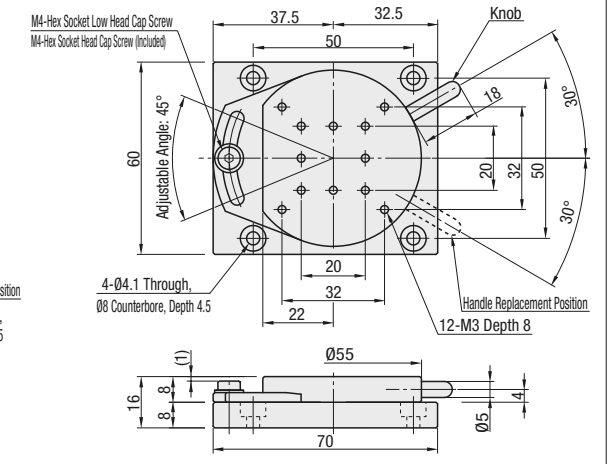
A plastic washer inserted at the top-and-bottom-plate connecting portion causes appropriate friction, preventing angle misalignment by overtightening of the clamp screw.



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**

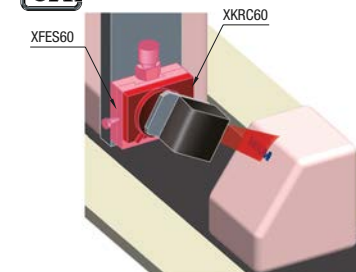
[Combination Examples of Adjustment Units]

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	

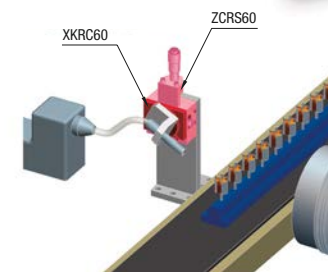
Example ■ Position Adjustment of Inspection Camera at Painting



Example

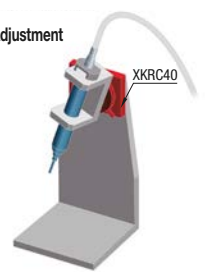


■ Position Adjustment of Print Inspection Instrument



■ 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° Fine Feed ±5°	9.8	0.10		
RTRS (No Scale)	60	L (Reversed)	Ø60		29.4	0.27		
	80		Ø80		39.2	0.46		

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

Ordering Example

Part Number: **RTRM40-R**
RTRS60-L

Features: Best suited for fine angle adjustments.

Rotary Stages (Square)

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

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
RTSS	40	40x40	±10	9.8	≈1'51"	50	0.14	
		60x60						

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

TLSC (Listed on the website)

[High Precision] Rotary Cross Roller Bearing

Stainless Steel / Through Hole

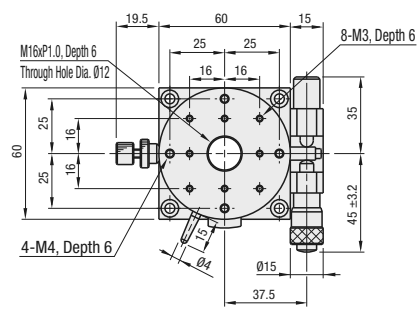
■ Features: Stainless steel material used has improved rigidity over aluminum alloy rotary stages.

■ Stainless Steel

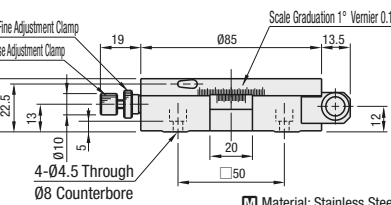
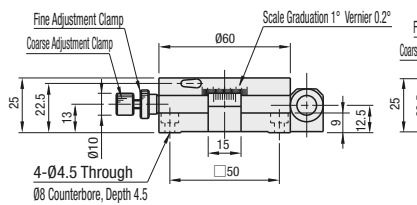
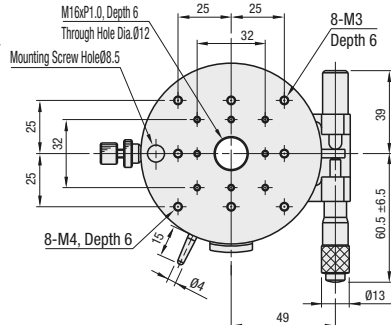


RoHS

RPGS60



RPGS85



Material: Stainless Steel

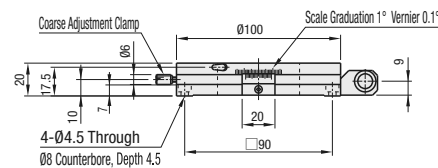
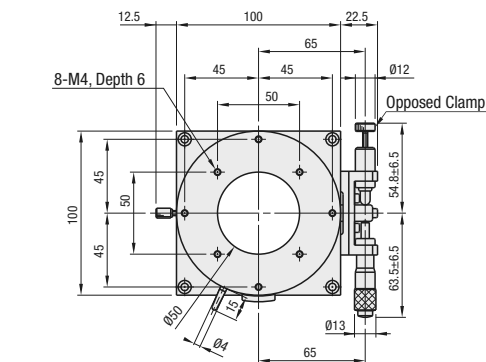
■ Features: There is a through hole in the center of the stage allowing passages of laser, wiring and etc.

■ 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**

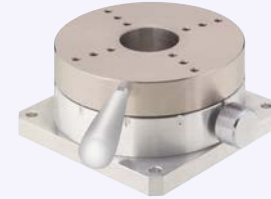
⚠ Mounting dimensions of micrometer head and clamp are different from those of standard products. See the CAD data for details.

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

[Manual Units] Rotary Tables

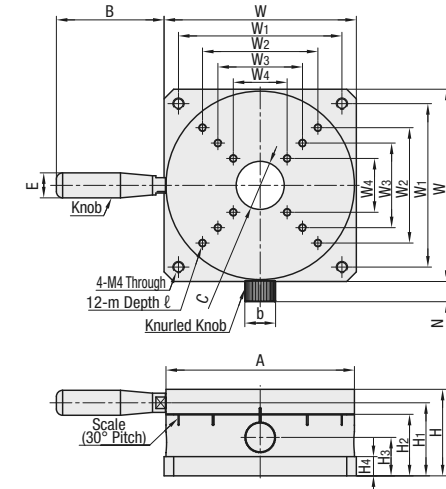
■ Features: Units best suited for simplified positioning. With a built-in plunger, positions are indexed by 30°.

■ 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)

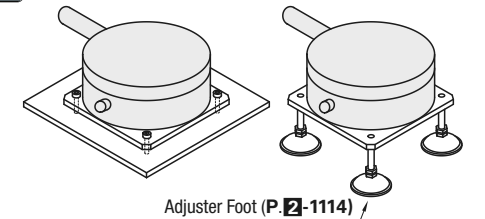
Part Number Type	No.	Stage Surface (mm)							Base (mm)							Knob (mm)		Knurled Knob (mm)		
		A	W	W1	W2	W3	W4	M	C	m	ℓ	H	H1	H2	H3	H4	B	E	N	b
KUS	50	Ø48	50	40	27	18	9	M5	-	M4	6	34	28	22	13	5	44	Ø10	11.5	Ø12
	100	Ø98	100	85	60	44	28	M6	Ø25	M4	8	45	38	32	20	10	56	Ø13	10.5	Ø16
	200	Ø198	200	175	124	94	64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



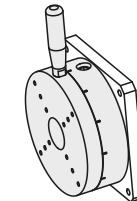
■ Rotary Table Mounting Orientation

Care must be taken for installations shown on the right.

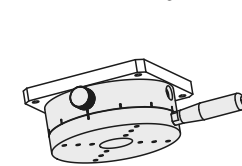
No.	Inverted Mounting	Vertical Side Mounting
50	○	○
100	△	○
200	△	△

○ 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

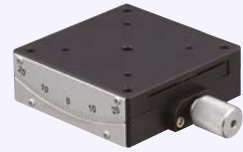
[High Precision] Goniometer Stages - Dovetail Slide, 1-Axis / 2-Axis

P.1986

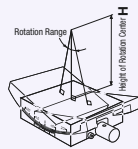
Points on Similar Product Comparison | Height Tolerance of Rotation Center: ±1.0

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

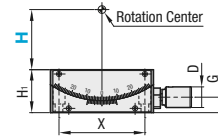
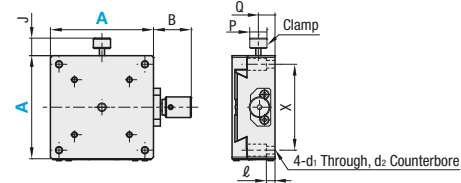


The height of Rotation Center is as shown below.



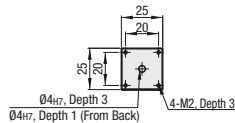
RoHS

GFSG

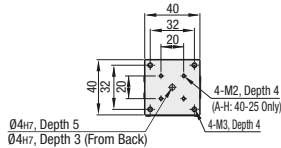


M Material (Main Body): Aluminum Alloy, Material (Shaft): Low Cadmium Brass
S Surface Treatment (Main Body): Black Anodize

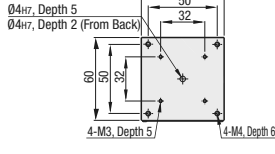
Table Mounting Hole Dimensions A25



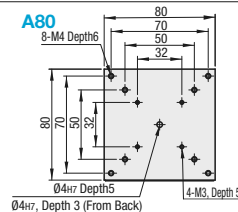
A40



A60



A80



1-Axis

Part Number Type	Top View			Front View			Side View					
	A-H	B	J	H ₁	D	G	P	Q	X	ℓ	d ₁	d ₂
GFSG	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 Type	Stage Surface (mm)	Height of Rotation Center H (mm)	Travel Distance	Travel per Rotation Travel Distance	Load Capacity (N)	Weight (kg)	Unit Price
GFSG	25x25	20±1.0	±15°	≈2.0°	19.6	0.04	
		35±1.0	±10°	≈1.3°			
	40x40	25±1.0	±20°	≈2.8°	29.4	0.11	
		40±1.0	±15°	≈1.9°			
		60±1.0	±10°	≈1.3°			
		35±1.0	±25°	≈1.9°			
	60x60	60±1.0	±20°	≈1.3°	58.8	0.26	
		80±1.0	±15°	≈1.0°			
		100±1.0	±18°	≈1.3°			
		130±1.0	±15°	≈1.3°			
80x80	80x80	100±1.0	±15°	≈1.3°	49	0.54	

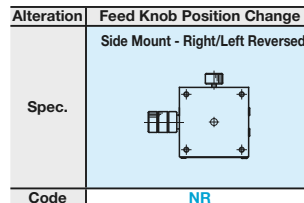
Resolution (Vernier Scale Indication): 0.1°/division
Please note that, when the stage is moved in a travel distance higher than the predetermined value, the top plate may come off.

2-Axis: Combination Table

Stage Surface (mm)	Height of Rotation Center H (mm)	Combination of Part Numbers
25x25	20±1.0	GFSG25-20 GFSG25-35
40x40	25±1.0	GFSG40-25 GFSG40-40
	40±1.0	GFSG40-40 GFSG40-60
60x60	35±1.0	GFSG60-35 GFSG60-60
	60±1.0	GFSG60-60 GFSG60-80
80x80	100±1.0	GFSG80-100 GFSG80-130

Ordering Example: Part Number GFSG40-25

Alterations: Part Number - (NR) GFSG40-25 - 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

Material: Low Cadmium Brass
Surface Treatment: Black Fluorescent Treatment

2-Axis

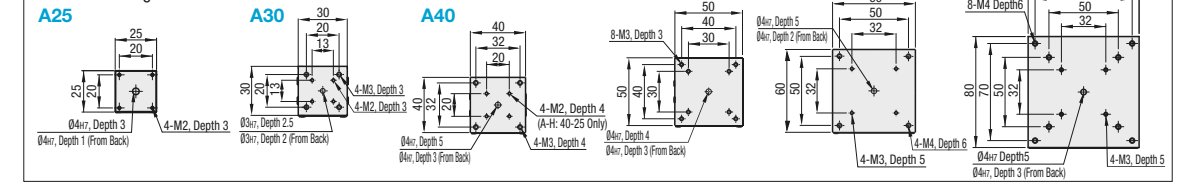
The height of Rotation Center is as shown below.

RoHS

GFWG

Material: Low Cadmium Brass
Surface Treatment: Black Fluorescent Treatment

Table Mounting Hole Dimensions



1-Axis

Part Number Type	Top View			Front View			Side View					Accessory (4 pcs.) Type M-L	
	A-H	B	J	H ₁	D	G	P	Q	X	ℓ	d ₁		d ₂
GFG	25-20	19	9	15	10	5.5	10	6.2	20	3	2.5	4.2	SCB2-6
	25-35	19	9	15	10	6	10	7.7	20	3	2.5	4.2	
	30-30	19.5	8.7	14	10	6.5	6	6.3	13	5	2.3	3.8	SCB2-8
	30-44	19.5	8.7	13	10	6.5	6	6.3	13	5	2.3	3.8	
	40-25	17.5	8	15	9	4.8	10	5.8	32	2	3.5	6	SCB3-6
	40-40	18	8	20	12	8.5	10	9.7	32	5	3.5	6	
	40-60	18	8	20	12	8.5	10	9.7	32	5	3.5	6	SCB3-8
	50-50	18	7.7	18	12	7	10	7	40	3	3.5	6	
	50-68	18	7.7	18	12	8	10	8	40	3	3.5	6	SCB3-6
	50-86	18	7.7	18	12	8	10	8	40	3	3.5	6	
	60-35	18	8.6	25	12	9	12	10	50	3	4.5	8	SCB4-8
	60-60	18	8.6	20	12	7	12	8.5	50	3	4.5	8	
	60-80	18	8.6	20	12	7	12	8.5	50	3	4.5	8	SCB4-12
	80-100	25	14	30	15	11	15	14	70	7	4.5	8	
	80-130	25	14	30	15	11	15	13	70	7	4.5	8	

Performance

Part Number Type	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		
		35	±10°	≈1.3°							
	30x30	30	±10°	≈2.06°	9.8	0.5	0.5	0.5	0.10		
		44	±10°	≈1.5°							
		40-25	25	±20°							≈2.2°
		40-40	40	±15°							≈1.89°
	40x40	60	±15°	≈1.33°	29.4	0.8	1.0	1.0	0.24		
		50-50	50	±10°							≈1.55°
		50-68	68	±10°							≈1.2°
		50-86	86	±8°							≈0.97°
	50x50	35	±25°	≈2.0°	58.8	1.5	2.0	2.0	0.58		
		60-35	60	±20°							≈1.3°
		60-60	80	±15°							≈1.0°
		60-80	80	±15°							≈1.0°
	60x60	100	±18°	≈1.0°	49.0	2.0	3.0	3.0	0.64		
80-100		130	±15°	≈1.0°							

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 Type	Top View			Front View			Side View					Accessory (4 pcs.) Type M-L				
	A-H	B	J	H ₁	H ₂	D	G ₁	Q ₂	P	Q ₁	G ₂		X	ℓ	d ₁	d ₂
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	
	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	
	50-50	18	7.7	18	36	12	8	25	10	8	25	40	3	3.5	6	SCB3-6
	50-68	18	7.7	18	36	12	8	26	10	8	26	40	3	3.5	6	
	60-35	18	8.6	20	45	12	7	30	12	8.5	29	50	3	4.5	8	SCB4-8
	60-60	18	8.6	20	40	12	7	28.5	12	8.5	27	50	3	4.5	8	
	80-100	25	14	30	60	15	11	44	15	13	41	70	7	4.5	8	SCB4-12

* GFWG40-25 knob length (B): Top 17.5, Bottom 18mm

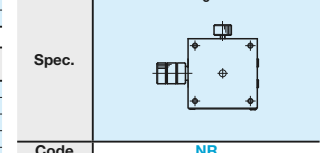
Part Number Type	Stage Surface (mm)	Height of Rotation Center H (mm)	Travel Distance	Travel per Rotation	Moment Load Capacity (N-m) Pitching	Moment Load Capacity (N-m) Yawing	Moment Load Capacity (N-m) Rolling	Load Capacity (N)	Weight (kg)	Unit Price
GFWG	25x25	20	(Top)±15°/(Bottom)±10°	(Top)±2.0°/(Bottom)±2.0°	0.3	0.3	0.3	19.6	0.14	
		35	(Top)±10°/(Bottom)±10°	(Top)±2.06°/(Bottom)±1.5°						
	30x30	30	(Top)±20°/(Bottom)±15°	(Top)±2.2°/(Bottom)±1.89°	0.8	1.0	0.8	27.4	0.42	
		40	(Top)±15°/(Bottom)±10°	(Top)±1.89°/(Bottom)±1.33°						
	40x40	40	(Top)±10°/(Bottom)±10°	(Top)±1.55°/(Bottom)±1.2°	1.0	1.2	1.0	24.5	0.72	
		68	(Top)±10°/(Bottom)±8°	(Top)±1.2°/(Bottom)±0.97°						
	50x50	50	(Top)±25°/(Bottom)±20°	(Top)±2.0°/(Bottom)±1.3°	1.5	2.0	1.5	51.9	1.30	
		60	(Top)±20°/(Bottom)±15°	(Top)±1.3°/(Bottom)±1.0°						
	60x60	60	(Top)±18°/(Bottom)±15°	(Top)±1.0°/(Bottom)±1.0°	2.0	3.0	2.0	42.1	1.28	
		100	(Top)±18°/(Bottom)±15°	(Top)±1.0°/(Bottom)±1.0°						

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



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.

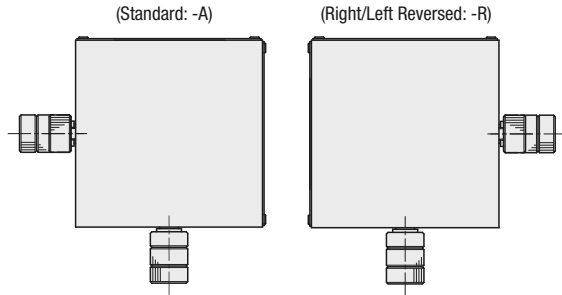
■ Symmetrical Stack, Space Saving



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.



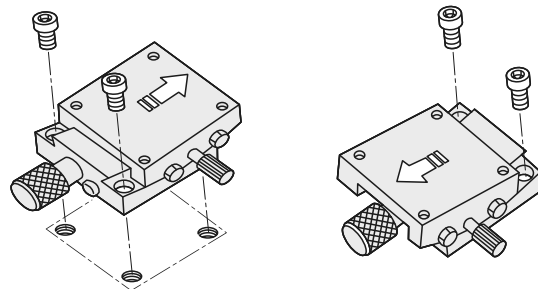
⚠ When symmetrical use as shown on the above figure is desired, select one □□-□□ Type and one □□-□□-R Type, respectively. (Those types are not sold as a set.)

⚠ (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				GFG60-60	GFG60-80-NR		
	80-100				GFG80-100-NR	GFG80-130		
	80-100-R	80x80	±18/±15	42.1	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

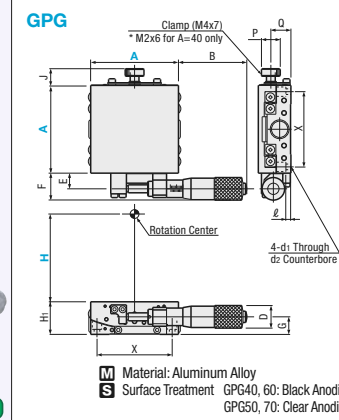
[High Precision] Goniometer Stages - Cross Roller, 1-Axis / 2-Axis

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

■ 1-Axis



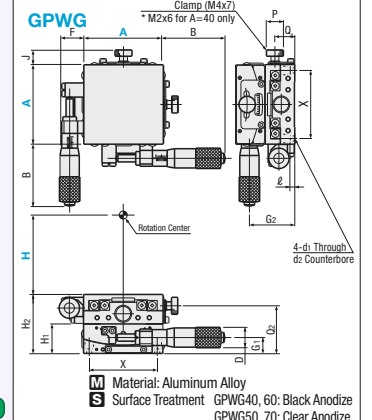
RoHS



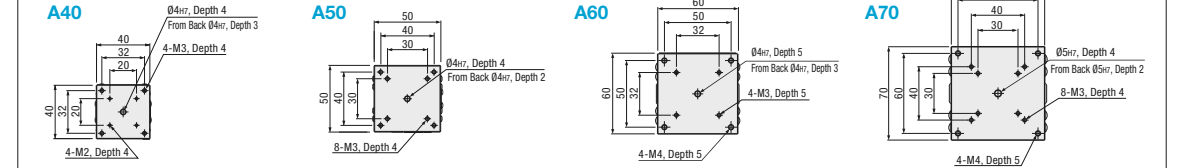
■ 2-Axis



RoHS



• Table Mounting Hole Dimensions



Part Number Type	Top View				Front View		Side View								
	A-H	B	J	E	F	H ₁	D	G	P	Q	X	ℓ	d ₁	d ₂	
GPG	40-40	38	5.5	7.5	14	20	13	11	3.8	14	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														

Part Number Type	Top View				Front View		Side View										
	A-H	B	J	F	H ₁	H ₂	D	G ₁	Q ₂	P	Q ₁	G ₂	X	ℓ	d ₁	d ₂	
GPWG	40-40	38	5.5	14	20	40	13	11	3.8	14	3.1	32	3	3.5	6		
	40-60	31	13	18	18	36	13	9.3	27	15	10	27.3	40	3	3.5	6	
	50-50																
	50-68																
	60-50	31	13.5	14	25	50	13	12.9	40.5	15.9	15	16.4	35.5	50	5	4.5	8
	60-75																
	60-100																
	70-70	52	13.3	21.5	26	52	18	14	42	43.5	15	17.5	40	60	4	4.5	8
	70-96																

• Performance

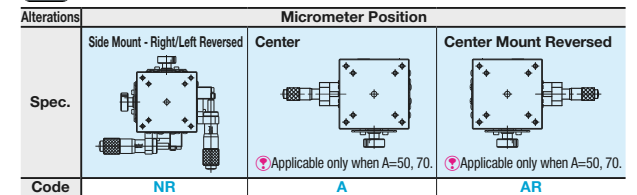
Part Number Type	A-H	Stage Surface (mm)	Height of Rotation Center H (mm)	Rotation Center Runout	Travel Distance	Resolution (°/division) (Micrometer)	Load Capacity (N)	Moment Load Capacity (N·m)			Moment Rigidity (°/N·cm)			Weight (kg)	Accessory (4 pcs.) TypeM-L	Unit Price
								Pitch	Yaw	Roll	Pitch	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		±4°	≈30										
	40-80		80±0.2		≈23											
	50-50	50±0.2	±3°		≈53	1.5		1.2	2.5	0.60	0.26	0.37	0.23	SCB3-6		
	50-68	68±0.2	≈40													
	50-86	86±0.2	≈33													
	60-50	50±0.2	±4°		≈33	1.5		2.0	2.6	0.27	0.09	0.10	0.31	SCB4-10		
	60-75	75±0.2	≈24													
	60-100	100±0.2	≈18													
	60-125	125±0.2	±3°		≈15	49.0		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	±3°	≈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		50±0.4	(Top)±3°/(Bottom)±3°	(Top)≈53/(Bottom)≈40										
	50-68	50x50	68±0.4	(Top)±3°/(Bottom)±3°	(Top)≈40/(Bottom)≈33	27.4	1.5	1.2	1.5	0.97	0.52	0.97	0.46	SCB3-6	
	60-50		50±0.4	(Top)±4°/(Bottom)±4°	(Top)≈33/(Bottom)≈24										
	60-75		75±0.4	(Top)±4°/(Bottom)±3°	(Top)≈24/(Bottom)≈18										
	60-100	60x60	100±0.4	(Top)±3°/(Bottom)±2.5°	(Top)≈18/(Bottom)≈15	46.0	1.5	2.0	1.5	0.37	0.18	0.37	0.62	SCB4-10	
	70-70		70±0.4	(Top)±3°/(Bottom)±3°	(Top)≈25/(Bottom)≈19										
	70-96		96±0.4	(Top)±3°/(Bottom)±3°	(Top)≈19/(Bottom)≈15										

⚠ 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			
Type	Axis	Guide	Stage Used
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) P (Opposed) Applicable only when C and CR, and the feed type is N or F.		G (Standard) 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)		G (Standard) 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)		G (Standard) 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/±3.2)		S (Standard)		G (Standard)	
		50			N (Standard ±12.5) M (Coarse Fine Feed ±6.5)		B (Feed Screw 0.5/±3.2)		S (Standard)		G (Standard)	
		60			N (Standard ±12.5) M (Coarse Fine Feed ±6.5)		B (Feed Screw 0.5/±3.2)		S (Standard)		G (Standard)	
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) P (Opposed) Applicable only when C and CR, and the feed type is N or F.		G (Standard) 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)		G (Standard) 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)		G (Standard) 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) P (Opposed) Applicable only when C and CR, and the feed type is N or F.		G (Standard) 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)		G (Standard) 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)		G (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

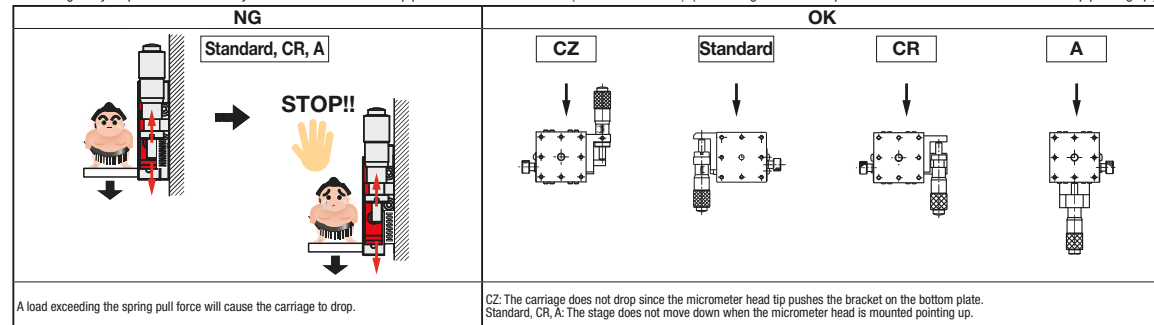
- Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. P.2004
- Extension Cover HDEXT13 (Sold Separately): Feed knob of Ø13 micrometer head and feed screw can be extended. P.2004

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).

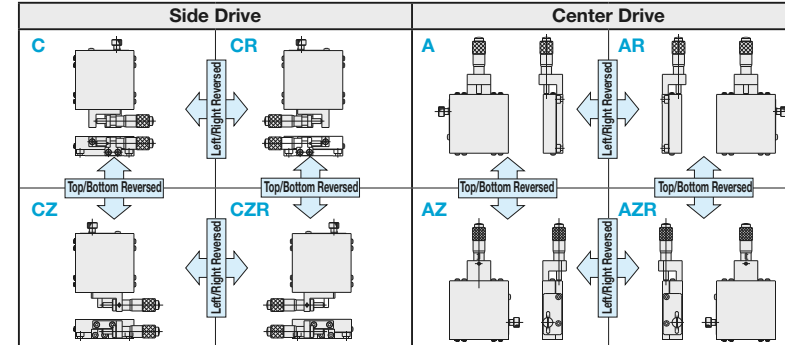
Notes on Vertical Uses of X-Axis Stage

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

N (Standard Micrometer Head)

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

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

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

F (Hex Socket Screw Pitch 0.5)

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

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

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

J (Feed Screw Pitch 1.0)

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

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

M (Coarse/Fine Micrometer Head)

Table Size 40~80

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

D (Digital Micrometer Head)

Table Size 80

(Stroke: 0~25mm, Digital Readout 0.001mm)

⊙ Ratchet function is not available.

③ Clamp Type

S (Standard)

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

H (Disc Clamp)

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

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

P (Opposed Clamp)

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

④ Grease

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

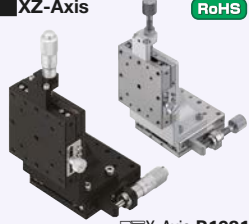
[Grease Change Locations]

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

[High Precision] 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.

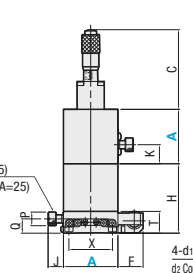
XZ-Axis RoHS



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

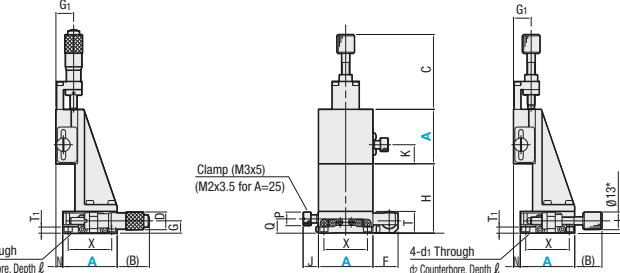
Micrometer Head

XZSG
XZSGB (Black)



Feed Screw (Pitch 0.5)

XZSCG



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

4-d1 Through ϕ Counterbore, Depth ℓ

*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 RoHS **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.			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 ₁	N	(B) Feed Screw	Travel Distance (mm)	D	G	G ₁		X	d ₁	d ₂	ℓ	Type M-L	
XZSG XZSCG XZSGB (*only)	25*	24.5	37.0	23	10	8.5	6	6.8	11.7	12	3.7	7	25	11	± 3.2	9.3	7	10	20	2.5	4.2	2.5	SCB2-4		
	40*	51			14						5	24	20.3						32				SCB3-6		
	50	46	58.5	55	19	10.5		10	11.3	18.5	16	4.5	20	18.7	15.3	± 6.5	13	8.9	13	40	3.5	6	3.5	SCB3-6	
	60*	41			24							5	21	14	10.3				50				4.0	SCB4-6	
70	43			23.5	11.5						18	6	12	14.5	10.8				9.95	14	60	4.5	8	4.5	SCB4-6
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		

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

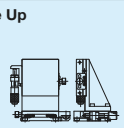
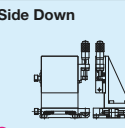
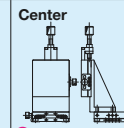
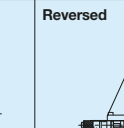
Performance

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	Yawing		Rolling	XZSG	XZSCG	XZSGB			
XZSG XZSCG XZSGB (*only)	25*	25x25	9.8	3 μ 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 μ m ³	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 μ m			18.2	17.7	17.7	0.08	0.06	0.06	2.10				

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

Ordering Example Part Number **XZSG80**

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

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


*Not applicable to XZSGB. *Not applicable to XZSGB.

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

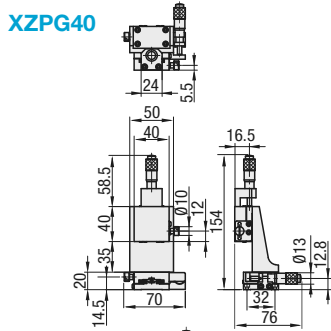
Features: Cross Roller XZ-Axis Stages made of lightweight aluminum alloy.

XZ-Axis RoHS

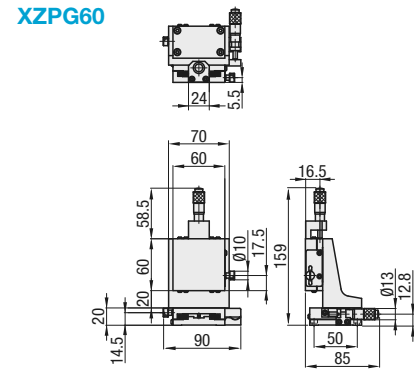


X-Axis **P.1918**
Z-Axis **P.1968**

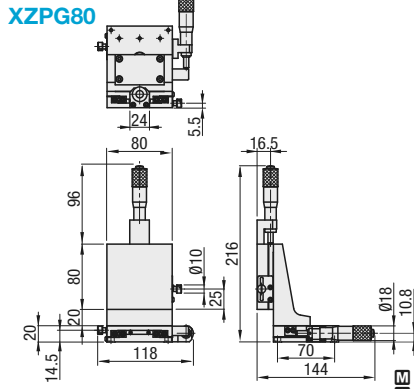
XZPG40



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	± 6.5	± 6.5	9.8	0.34	
	60	XPG60	ZPG60	60x60	± 6.5	± 6.5	19.6	0.70	
	80	XPG80	ZPG80	80x80	± 12.5	± 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. RoHS **P.2004**
Extension Cover HDEXT13 (Sold Separately): Feed knob of $\phi 13$ micrometer head and feed screw can be extended. RoHS **P.2004**

Ordering Example Part Number **XZPG60**

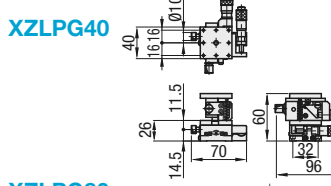
Features: Cross Roller XZ-Axis Stages made of lightweight aluminum alloy. The horizontal surfaces move vertically.

X + Horizontal Surface Z-Axis

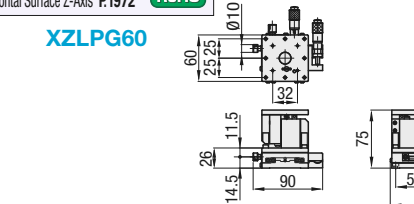


X-Axis **P.1916**
Horizontal Surface Z-Axis **P.1972** RoHS

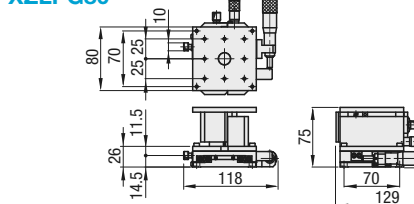
XZLPG40



XZLPG60



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	± 6.5	± 3.0	9.8	0.35	
	60	XPG60	ZLPG60	60x60	± 6.5	± 5.0	19.6	0.63	
	80	XPG80	ZLPG80	80x80	± 12.5	± 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. RoHS **P.2004**
Extension Cover HDEXT13 (Sold Separately): Feed knob of $\phi 13$ micrometer head and feed screw can be extended. RoHS **P.2004**

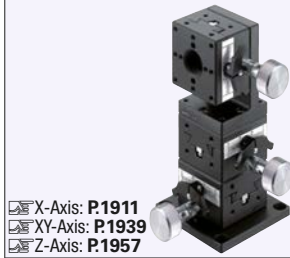
Ordering Example Part Number **XZLPG80**

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

[High Precision] Dovetail Slide, Feed Screw

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

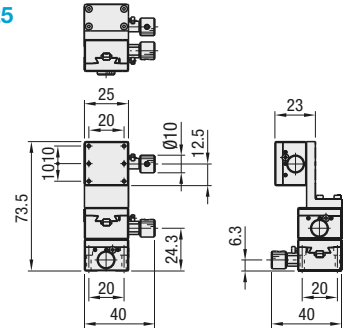
■ XYZ-Axis, Rack & Pinion



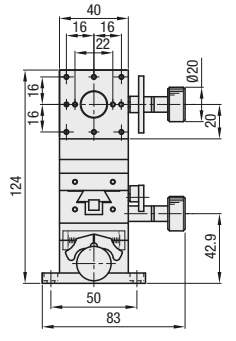
☒ X-Axis: P.1911
☒ XY-Axis: P.1939
☒ Z-Axis: P.1957

RoHS

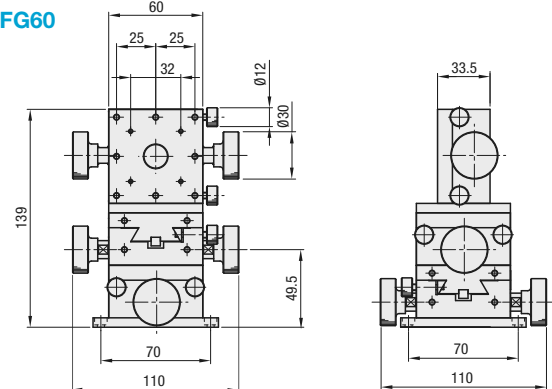
XYZFG25



XYZFG40



XYZFG60



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	

☒ Ordering Example Part Number XYZFG25

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

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

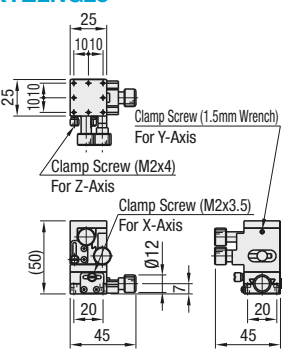
■ XY + Horizontal Surface Z-Axis



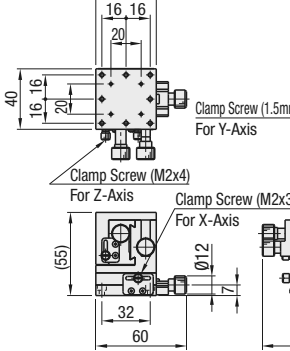
☒ X-Axis: P.1897
☒ XZ-Axis: P.1992

RoHS

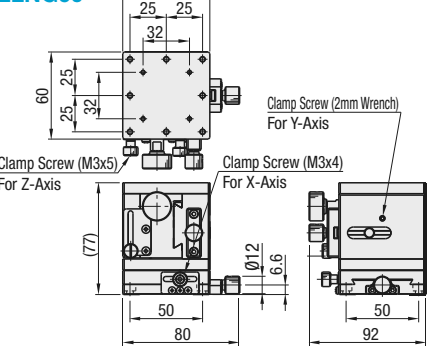
XYZLNG25



XYZLNG40



XYZLNG60



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

☒ Ordering Example Part Number XYZLNG25

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

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

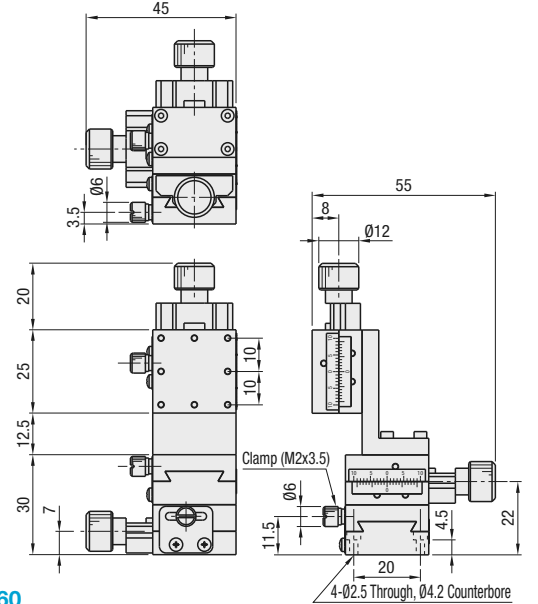
■ XYZ-Axis Feed Screw (Lead 0.5mm)



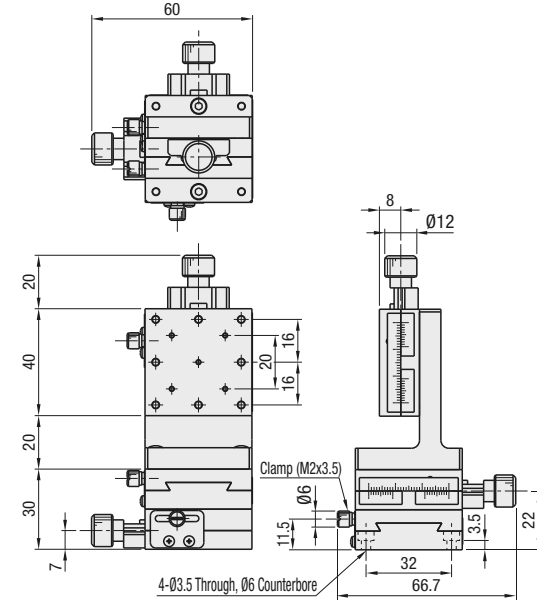
☒ X-Axis: P.1897
☒ XY-Axis: P.1933
☒ Z-Axis: P.1962

RoHS

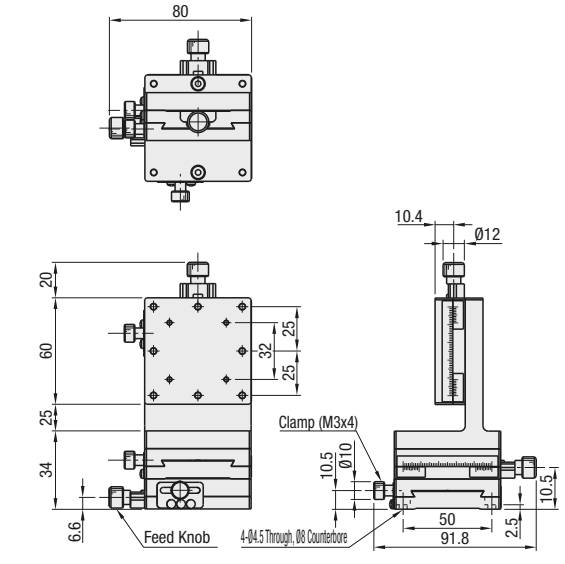
XYZEG25



XYZEG40



XYZEG60



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

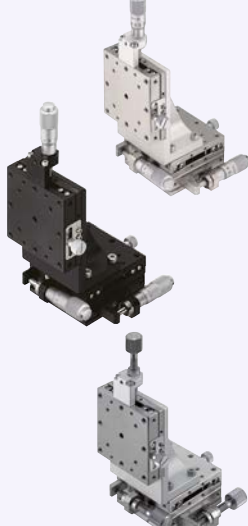
☒ For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage. ☒ XYEG P.1933, ☒ ZEG P.1962
☒ Extension Cover HDEXT12 (Sold Separately): 012 knob can be extended. ☒ P2004

☒ Ordering Example Part Number XYZEG25

[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

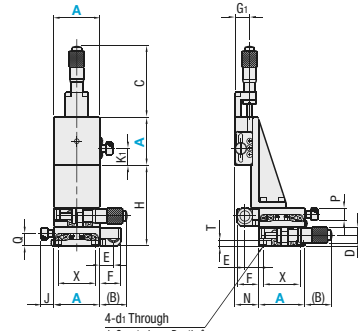


For top surface mounting dimensions, see Linear Ball Slide X-Axis Stages on P.1921.

Micrometer Head

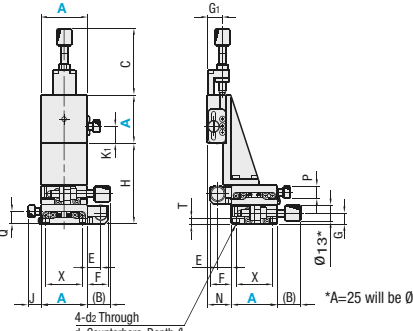
XYZSG
(25≤A≤80)

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	Material	Surface Treatment	Material	Hardness	Material	Material	Material	Surface Treatment	Material	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 Micrometer Head and Feed Screw materials, see P.2005 and P.2006.

Micrometer Head (XYZSG, XYZSGB) / Feed Screw (XYZSCG) Standard Stages with Similar Specifications: Combination of XLBS (P.1942) and ZLBS (P.1965)

Part Number	Front View														Side View										Accessory (4 pcs.)
	Type	A	H	(C)		K1	Q	J	(B)		Travel Distance (mm)	E	F	N	T	D	G	P	G1	X	d1	d2	ℓ	Type M-L	
				Micrometer	Feed Screw				Micrometer	Feed Screw															
XYZSG XYZSCG XYZSGB (*only)	25*	36.5	37	23	10	8.5	6.8	25	11	±3.2	7	11.7	7	3.7	9.3	7	6	10	20	2.5	4.2	2.5	SCB2-4		
	40*	67	58.5	55	14	10.5	11.3	23.5	20.3	±6.5	12	18.5	5	4.5	13	8.9	10	13	32	3.5	6	3.5	SCB3-6		
	50	62	58.5	55	19	10.5	11.3	18.5	15.3	±6.5	12	18.5	20	4.5	13	8.9	10	13	40	3.5	6	3.5	SCB3-6		
	60*	57	58.5	55	24	10.5	11.3	13.5	10.3	±6.5	12	18.5	21	5	13	8.9	10	13	50	4.5	8	4	SCB4-6		
	70	61	58.5	55	23.5	11.5	11.3	14	10.8	±6.5	12	18.5	12	6	13	10	14	60	4.5	8	4.5	SCB4-6			
80*	60	96	55	25	14.5	11.3	43.5	10	±12.5 ^{*1}	17	26 ^{*2}	20	6.5	18	10.8	10	16.5	70	4.5	8	5.3	SCB4-6			

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

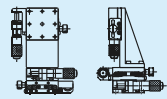
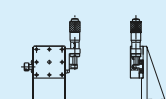
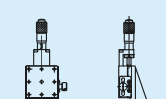

Performance

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	49	3µm	30"	25"	2.0	2.0	2.0	4.10	3.30	4.90	0.37			
	40*	40x40					5.0	5.0	5.0	0.98	0.91	1.05	0.78			
	50	50x50					6.0	6.0	6.0	0.38	0.37	0.39	1.00			
	60*	60x60					9.0	9.0	9.0	0.21	0.21	0.21	1.38			
	70	70x70					12.9	12.9	12.9	0.14	0.13	0.15	2.00			
	80*	80x80					17.7	17.7	17.7	0.10	0.10	0.10	3.00			

XYZSG and XYZSGB: Micrometer Head Resolution: 10µm/division
 Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. 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**
XYZSG40

Alterations **Part Number** - (C, CU, A, R)
XYZSG40 - C

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

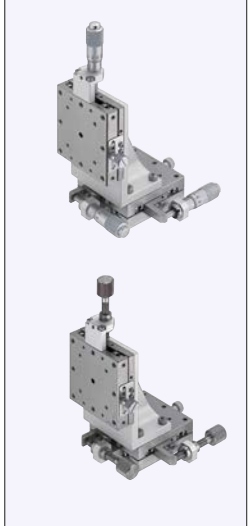
The micrometer heads may interfere depending on each axis stroke position. Please check and verify the usable stroke ranges with the CAD data.
 *Not applicable to XYZSGB.

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.

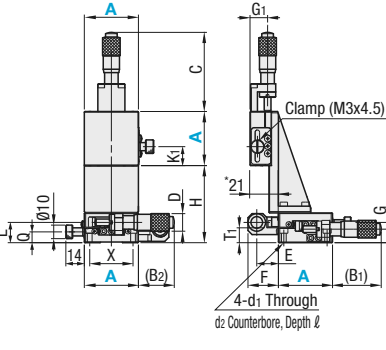
XYZ-Axis RoHS



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

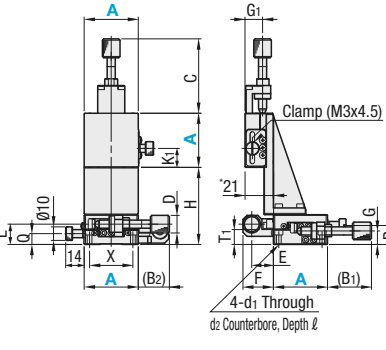
Micrometer Head

XYZSSG



Feed Screw (Pitch 0.5)

XYZSSCG



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

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

Micrometer Head (XYZSSG), Feed Screw (XYZSSCG)

Part Number	Front View														Side View										Accessory (4 pcs.)
	Type	A	H	K1	C		Travel Distance (mm)	D	L	Q	X	R	G	G1	T1	E	F	(B1)		d1	d2	ℓ	Type M-L		
					Micrometer	Feed Screw												Micrometer	Feed Screw					Micrometer	
XYZSSG XYZSSCG	40	57	14	58.5	55	26.5	23	±6.5	13	15	8	32	14	10	13	10.5	16	22.5	36	32.5	3.5	6	3.5	SCB3-10	
	60	47	24	58.5	55	16.5	13	±6.5	13	15	8	50	14	10	13	10.5	16	22.5	20.3	16.8	4.5	8	4.5	SCB4-10	
	80	46	25	96	55	32	-7 ^{*1}	±12.5 ^{*2}	18 ^{*2}	17	9.5	70	16.5	15	16.5	12.5	23	32 ^{*2}	39	0	4.5	8	6.5	SCB4-10	

*1 The end of feed screw (XYZSSCG) is at 7mm inside of the stage end face. *2 When feed screw XYZSSCG A=80, stroke=±6.5, D=13, F=30.

Performance

Part Number	Stage Surface (mm)	Load Capacity (N)	Travel Accuracy			Moment Load Capacity (N·m)			Moment Rigidity ("/N·cm)			Weight (kg)	Unit Price	
			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	

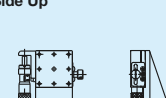
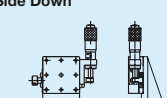


XYZSSG: Micrometer Head Resolution: 10µm/division

Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob diameter can be increased by installing the cover. 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**
XYZSSG40

Alterations **Part Number** - (C, CU, A, R)
XYZSSG40 - C

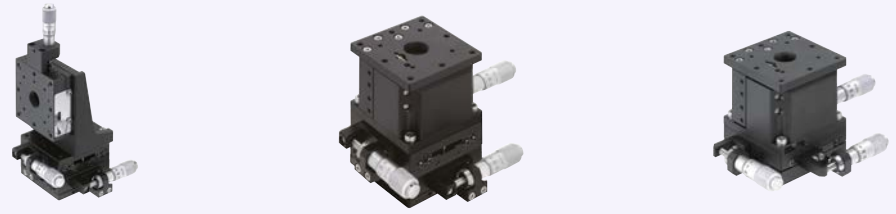
Alterations	Position of Micrometer Head and Feed Screw			
	Side Up	Side Down	Center	Reversed
Spec.				
Code	C	CU	A	R

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

[High Precision] 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



① XYRPG

③ XYRSPG

② XYZLRPG

④ XYZLRSPG



☞ 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	±6.5	±6.5	±3.0	9.8	0.48	
	60	XYPG60 (P.1943)	ZLPG60 (P.1973)	60x60	115	92	95			±5.0	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	±6.5	±6.5	±3.0	7.8	0.40	
	60	XSPG60 (P.1945)	ZLPG60 (P.1973)	60x60	119	97	77			±5.0	23.5	1.00	
	80	XSPG80 (P.1945)	ZLPG80 (P.1973)	80x80	151	102	77	±12.5	±12.5		29.4	1.70	

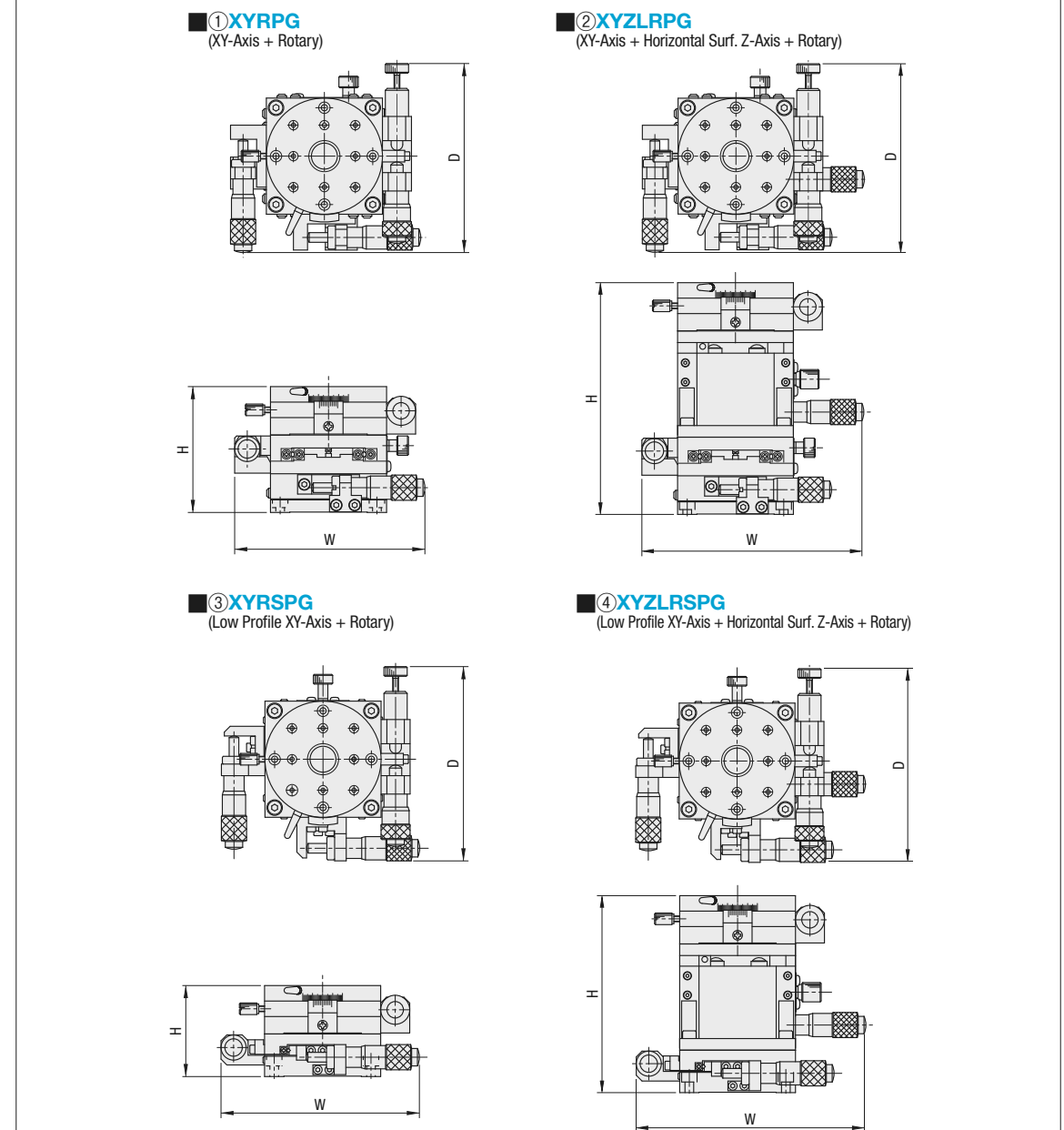
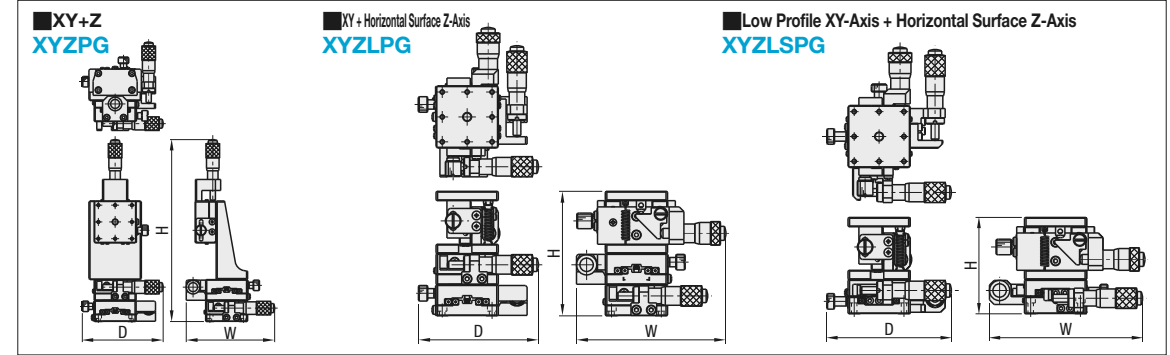
- ☞ For detailed dimensions, material and characteristics, see the CAD data and the catalog page for each stage.
- ☞ For included screw sizes, see the pages for the bottom stages.
- ☞ Knob Cover HDCVR13 (Sold Separately): Ø13 micrometer knob can be increased in diameter by installing the cover. ☞ P.2004
- ☞ 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
① XYRPG (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	-	29.4	0.78	
	85	XYPG80 (P.1943)	RPG80 (P.1982)	-	085	150	137	65	±12.5	±12.5	-	39.2	1.48	
② XYZLRPG (XY-Axis + Horizontal Surf. Z-Axis + Rotary)	38	XYPG40 (P.1943)	ZLPG40 (P.1973)	RPG38 (P.1981)	038	96	84	100	±6.5	±6.5	±3.0	8.9	0.57	
	60	XYPG60 (P.1943)	ZLPG60 (P.1973)	RPG60 (P.1981)	060	115	98	120			Coarse 360°	29.4	1.40	
	85	XYPG80 (P.1943)	ZLPG80 (P.1973)	RPG85 (P.1981)	085	150	137	120	±12.5	±12.5	±5.0	24.7	2.48	
③ XYRSPG (Low Profile XY-Axis + Rotary)	38	XSPG40 (P.1945)	RPG38 (P.1982)	-	038	99	84	42	±6.5	±6.5	-	8.8	0.29	
	60	XSPG60 (P.1945)	RPG60 (P.1982)	-	060	103	101	47			Coarse 360°	26.4	0.68	
	85	XSPG80 (P.1945)	RPG80 (P.1982)	-	085	151	132	47	±12.5	±12.5	-	34.3	1.18	
④ XYZLRSPG (Low Profile XY-Axis + Horizontal Surf. Z-Axis + Rotary)	38	XSPG40 (P.1945)	ZLPG40 (P.1973)	RPG38 (P.1981)	038	100	84	82	±6.5	±6.5	±3.0	6.8	0.49	
	60	XSPG60 (P.1945)	ZLPG60 (P.1973)	RPG60 (P.1981)	060	119	101	102			Coarse 360°	20.6	1.28	
	85	XSPG80 (P.1945)	ZLPG80 (P.1973)	RPG85 (P.1981)	085	151	132	102	±12.5	±12.5	±5.0	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. STLC48 can be mounted directly on Ø16 posts. STLX35 and STLXYZ35 can be used with Ø12 Post Clamps.

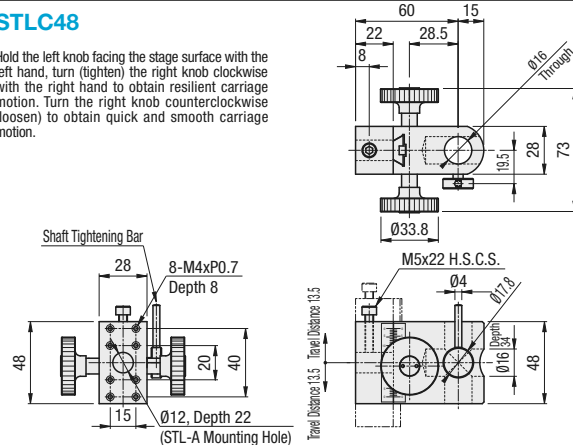
■ 1-Axis Slide with Crossed Mounting Bores



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

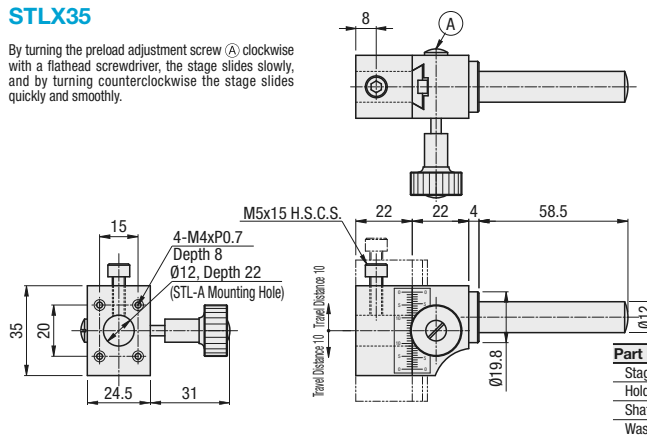
■ 1-Axis Slide with a Shaft



RoHS

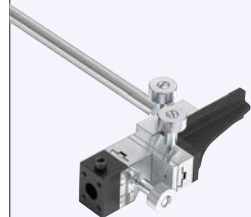
STLX35

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

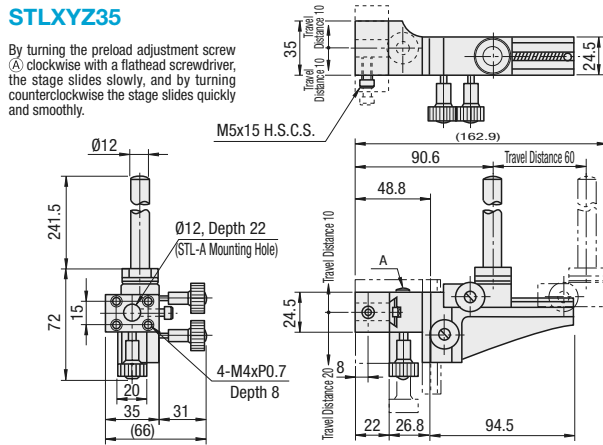
■ 3-Axis Slide with a Shaft



RoHS

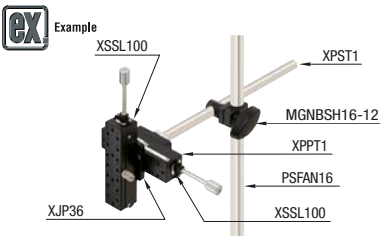
STLXYZ35

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



Part Name	Material	Surface Treatment
Stage	Aluminum Alloy	Black Anodize
Holder	Brass	Nickel Chrome Plating
Shaft	EN 1.4305 Equiv.	-
Washer	Brass	Nickel Chrome Plating

⚠ Each of the above stages is not provided with any clamping mechanism but, based on its own weight, can prevent itself from being slid as long as the applied load falls within the allowable load range.
 * When a stage with a clamp is needed, combine a Dovetail Stage (P1900, 1901), Base Plate and Shaft for stages (P2002).



Part Number	Material	Surface Treatment
STLC48	Aluminum Alloy	Black Anodize
STLXYZ35	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	-	-	18	29.4	0.35
STLX	35	20	-	-	18	19.6	0.26
STLXYZ	35	20	30	60	18	19.6	0.96

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

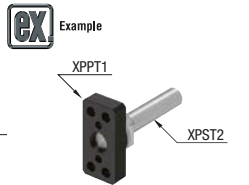
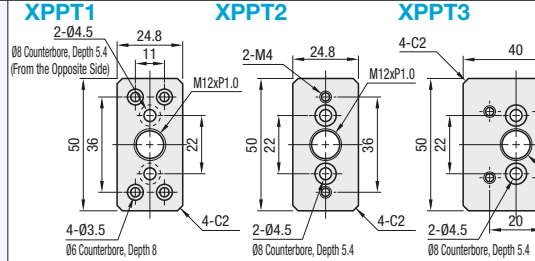
■ **Features:** Accessories can be combined with dovetail stages to form a variety of Post Mounted Stages.

■ Base for Stages



• Base Plates to connect the Dovetail Stages (P1906, 1904, 1900, 1901) and XPST1, 2, 3 (below).
 • For applicable stages, see the table below.

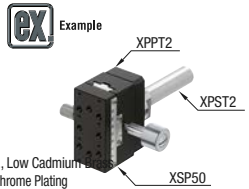
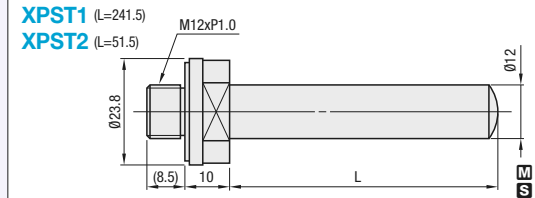
RoHS



■ Shaft for Stages (Ø12)



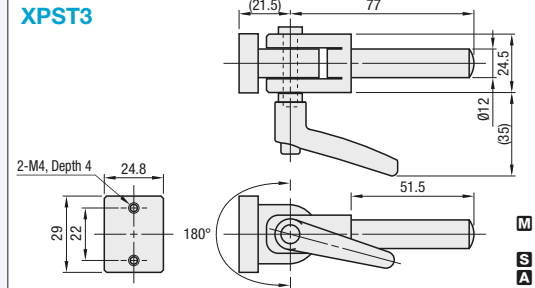
RoHS



■ Shaft for Stages (with Lever)



RoHS



• Tilt angle can be adjusted easily. (180° Max.)

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

Part Number	Material	Surface Treatment
XPPT1	Aluminum Alloy	Black Anodize
XPST1	EN 1.4305 Equiv.	-
XPST3	EN 1.4305 Equiv.	-

Part Number	Applicable Stage	Accessory: Type M-L (Qty.)	Unit Price
Type	No.		1 ~ 10 pc(s).
XPPT	1	XSSL, XSSLc	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

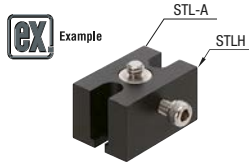
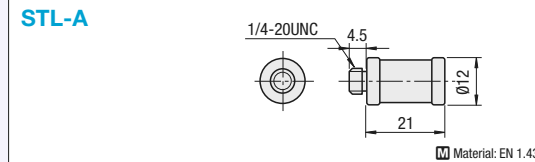
⚠ Not compatible with XSC.

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

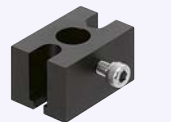
■ CCD Camera Adapters



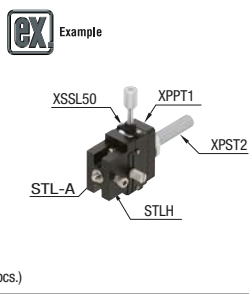
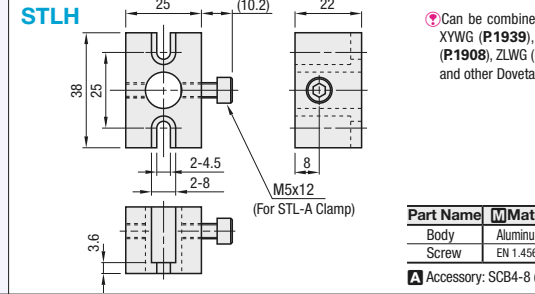
RoHS



■ CCD Camera Holder



RoHS



⚠ 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.

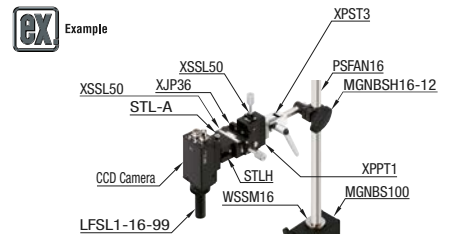
Part Name	Material	Surface Treatment
Body	Aluminum Alloy	Black Anodize
Screw	EN 1.4567 Equiv.	-

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

Part Number	Material	Surface Treatment
STL-A	Aluminum Alloy	Black Anodize
STLH	Brass	Nickel Chrome Plating

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

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

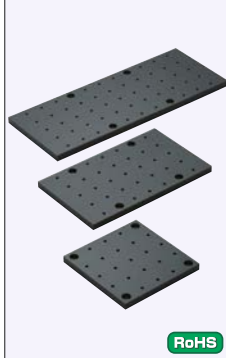


Accessories for Stages

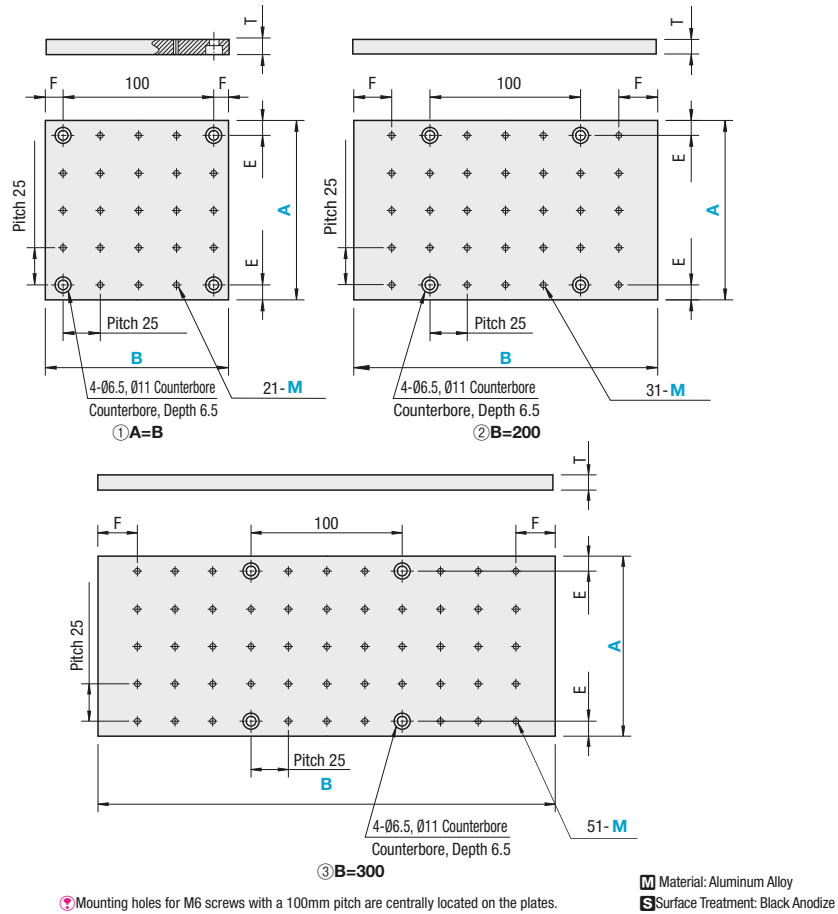
Tooling Plates, Knob Covers, Extension Covers

■ **Features:** Stages and holders are unitized to be fixed to an isolator. Tapped holes are selectable from M4 and M6. (Hole Pitch: 25mm)

■ Tooling Plates



BBA



Part Number Type	M	A	B	Drawing	Tapped Holes	T	E	F	Unit Price 1 ~ 10 pc(s).
BBA	4	120	120	①	21	10	10	10	
		150	150			10	25	25	
		200	200			10	25	25	
	6	120	200	②	31	10	10	25	
		150				10	25	25	
		200				10	25	25	
			300	③	51	10	10	25	
						150	10	25	25
						200	10	25	25

Ordering Example: Part Number Type M - A - B
BBA 4 - 120 - 200

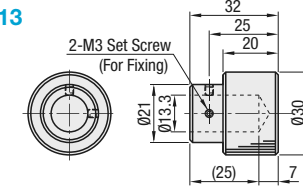
⚠ For orders larger than indicated quantity, please request a quotation.

■ **Features:** Ø13 micrometer head or feed screw can be increased in diameter by installing the cover.

■ Knob Covers



HDCVR13



* Sold by set of 3.

Material: ABS Resin (Black)

⚠ Three pieces of Knob Covers (HDCVR13) are included in one order.

Part Number Type	No.	Unit Price 1 ~ 10 pc(s).
HDCVR	13	

Ordering Example: Part Number HDCVR13

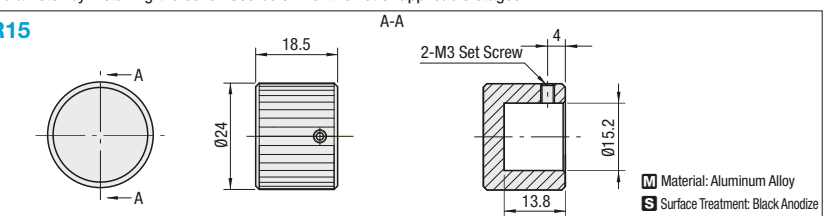
⚠ For orders larger than indicated quantity, please request a quotation.

■ **Features:** Ø15 knobs can be increased in diameter by installing the cover. See below for the list of applicable stages.

■ Knob Covers



HDCVR15



* Sold by set of 3.

Material: Aluminum Alloy
Surface Treatment: Black Anodize

Part Number Type	No.	Applicable Stage	Unit Price 1 ~ 10 pc(s).
HDCVR	15	XWG (P.1904), XYWG (P.1939), ZWG (P.1954), XLWG (P.1908), ZLWG (P.1956), XSP (P.1904), XDTS (P.1903), XYDTS (P.1938), ZDTS (P.1953), XDtls (P.1907), ZDtls (P.1955) (Knob Dia. Ø15)	

⚠ Three Knob Covers (HDCVR15) come in a package per order.

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

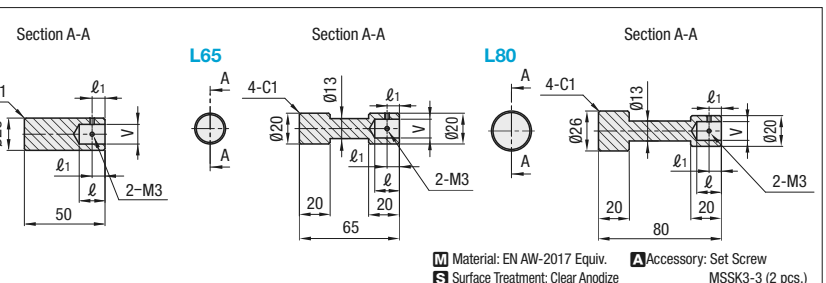
Ordering Example: Part Number HDCVR15

■ **Features:** Feed knob of Ø12 and Ø13 micrometer head and feed screw can be extended.

■ Extension Covers



HDEXT L50



Material: EN AW-2017 Equiv.
Surface Treatment: Clear Anodize
Accessory: Set Screw MSSK3-3 (2 pcs.)

Part Number Type	No.	L	Applicable Knobs	Knob O.D.	v	ℓ	ℓ1	Unit Price 1 ~ 10 pc(s).
HDEXT	12	50	Ø12	Ø20	12.3	16	8	
		65		Ø26				
		80						
	13	50	Ø13	Ø20	13.3	14	7	
65		Ø26						
80								

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

Ordering Example: Part Number HDEXT12-65

Stage Maintenance Parts

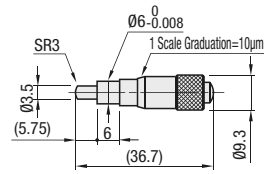
Micrometer Head

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

Micrometer Head

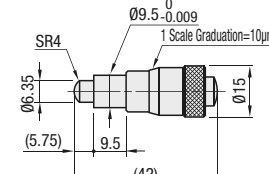
MCLN1

(Stroke ±3.25mm)



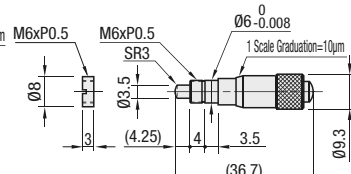
MCLN2

(Stroke ±3.25mm)



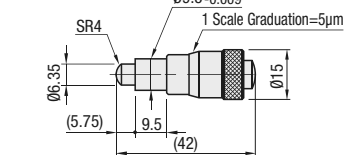
MCLN3 (w/ Nut)

(Stroke ±3.25mm)



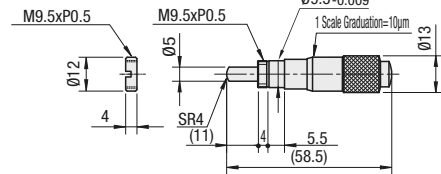
MCLN4

(Stroke ±3.25mm)



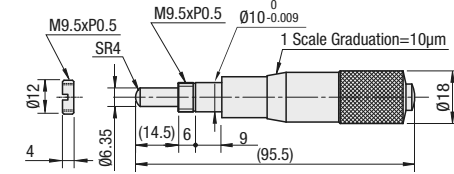
MCLN6 (w/ Nut)

(Stroke ±6.5mm)

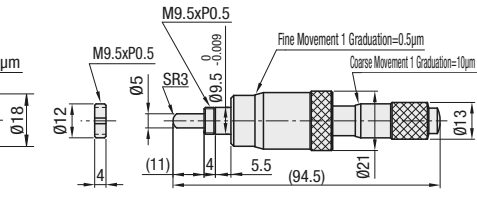


MCLN12 (w/ Nut)

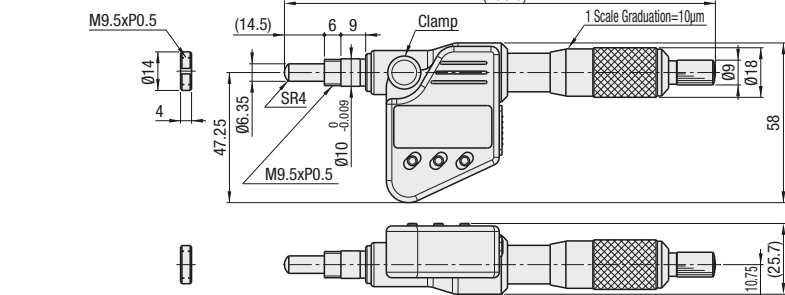
(Stroke ±12.5mm)



MCLN83 (w/ Nut)



MCLN84 (w/ Nut)



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

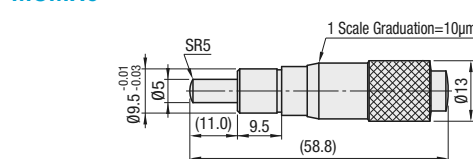
Material: Spindle: JIS-SKS (TS for cold work), Handle: Free Cutting Steel, Nut/Thread: Low Cadmium Brass

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.

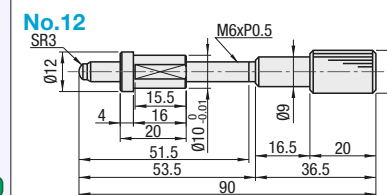
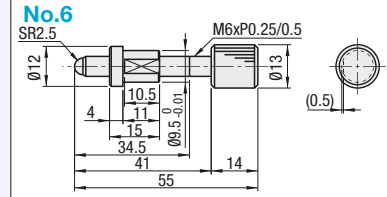
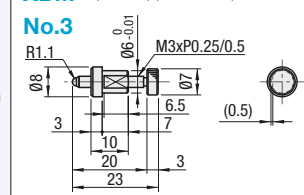
Feed Screw



RoHS

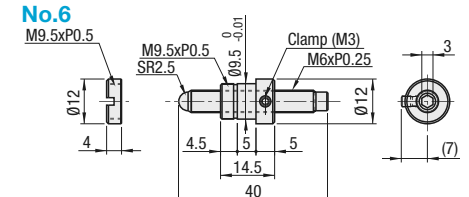
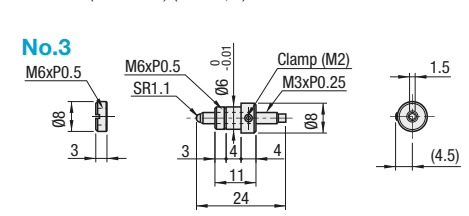
Knob Type

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 No.		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	(0.25) 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	(0.25) XBRF	3	±3.2	25 Square	5	XBRF	3		XBRF	3	
		6	±6.5	40 ~ 80 square	15		6		XBRF	6	

Ordering Example Part Number XBMF3

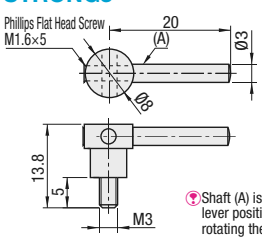
Features: Clamp Screws with Levers. More torque can be applied for clamping compared to the standard clamp screws. Dovetail slide stage clamps can be reinforced.

Clamp Screws with Levers for Dovetail Stages

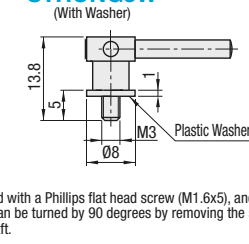


RoHS

STRONG3

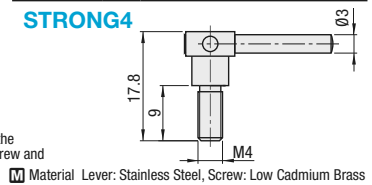


STRONG3W (With Washer)



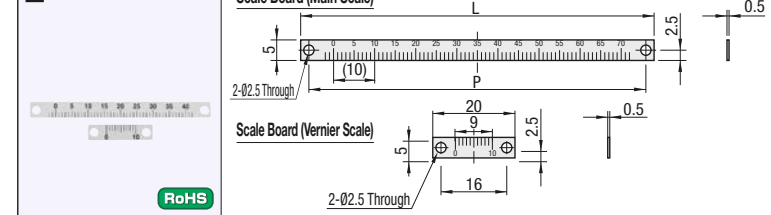
Shaft (A) is fixed with a Phillips flat head screw (M1.6x5), and the lever position can be turned by 90 degrees by removing the screw and rotating the shaft.

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



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

Vernier Scale



RoHS

Type	No.	L	P	Applicable Stage
VNIR	40	36	32	XWG, XYWG, XSL, XSLC, XSC, XSSL, XSSL (P1904), XSL (P1900), XSL (P1901), XSP (P1904), XSB (P1906)
	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 Unit Price			Part Number Unit Price		
Type	No.	1 - 4 pc(s).	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

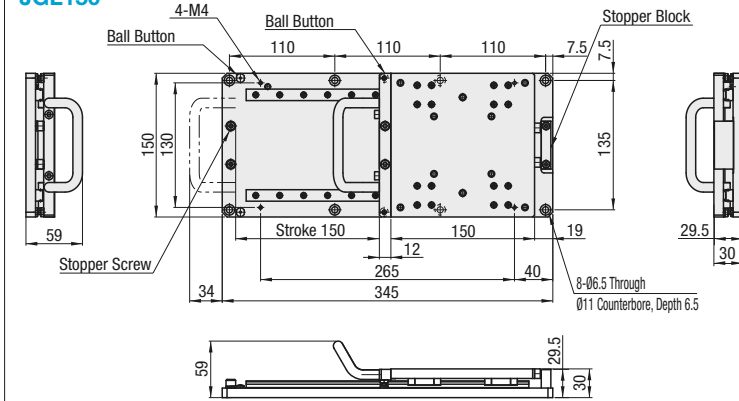
⚠ Tips

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.

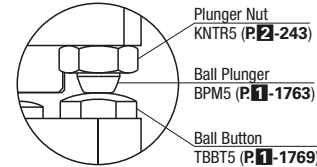
For how to adjust the stroke, see the Stroke Adjustment Method Table.

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

JGL150

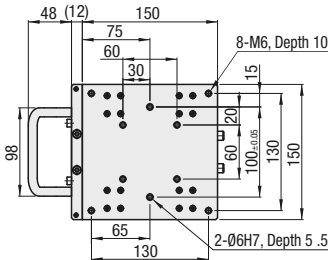


Clamp Enlarged View (View from Front)



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

Table Dimensions (Common)



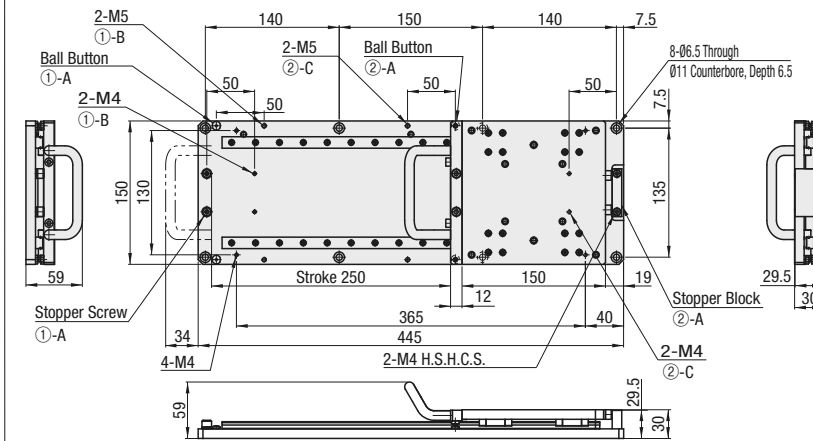
Main Body	Material	Surface Treatment
Table	Aluminum Alloy	Clear Anodize
Base Plate	Aluminum Alloy	Clear Anodize
Knob	Aluminum Alloy	Clear Anodize
Handle Bracket	Aluminum Alloy	Clear Anodize
Linear Guide	Carbon Steel	-
Stopper Block	EN 1.1191 Equiv.	Electroless Nickel Plating

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	C	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.

JGL250



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

Stroke Adjustment Method

Stroke after adjustment	Mounting Positions of Stopper Parts		
	① Pulling Side	② Pushing Side	
JGR150 (before shipping)	A	A	A
100	200	B	A
100	200	A	C
50	150	B	C

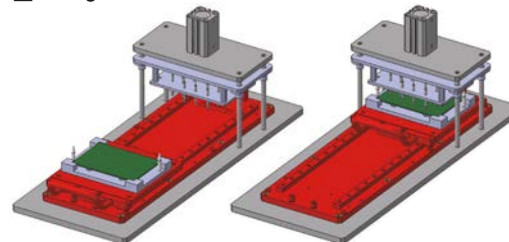
⚠ By recombining the stopper part mounting hole positions on the above two sides, the stroke can be changed.

Part Number	Stroke (mm)	Table Size (mm)	Base Length (mm)	(Ref. Value) Required Thrust (N)	(Ref. Value) Plunger Holding Force (N)	Load Capacity (kN)	Weight (kg)	Unit Price
JGL	150	150x150	345	2	23	4.5	2.8	
	250	150x150	445	2	23	4.5	3.4	

- ⚠ Upon delivery, the stroke is set to 250 for JGL250.
- ⚠ Required Thrust: Force required to move the table by using the knob
- ⚠ Load Capacity: Max. allowable value of load applied vertically to the table surface
- ⚠ Values on the (Ref. Value) columns in the above table are measured when no load is applied.



■ Testing Electronic Board



Ordering Example
Part Number
JGL250

Fixture Slides

Guide Rail Type

■ **Features:** Have the sliding mechanism achieving high load capacity by leveraging guide rails. Are excellent in durability and suitable for machining, pressing or other load-intensive applications.

■ X-Axis



RoHS

⚠ Tips

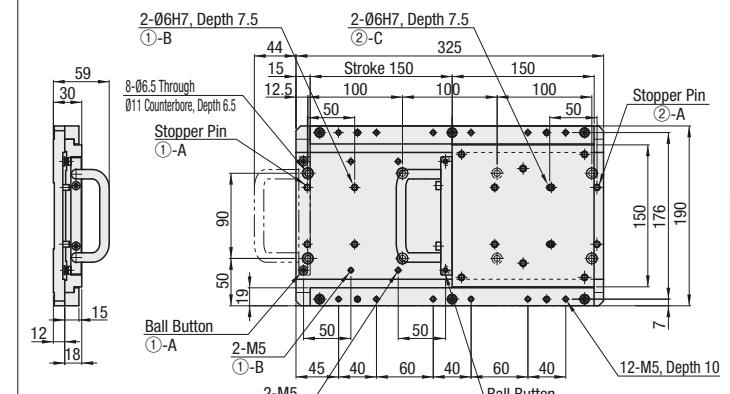
By repositioning the ball buttons and stroke end stopper pins, the stroke can be shortened.
Shortening the stroke can prevent the handle from protruding from the base plate O.D.

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

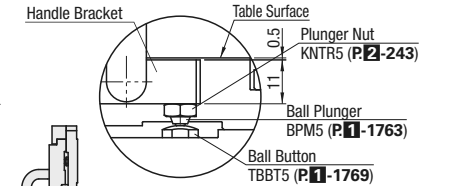
⚠ Antirust oil is applied to the sliding surface before delivery.

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

JGR150

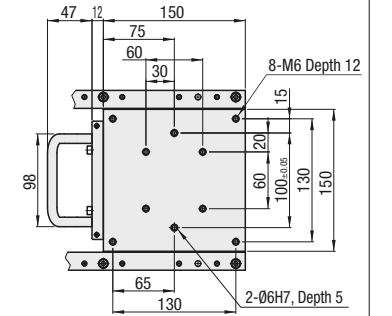


Clamp Enlarged View (View from Front)



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

Table Dimensions (Common)



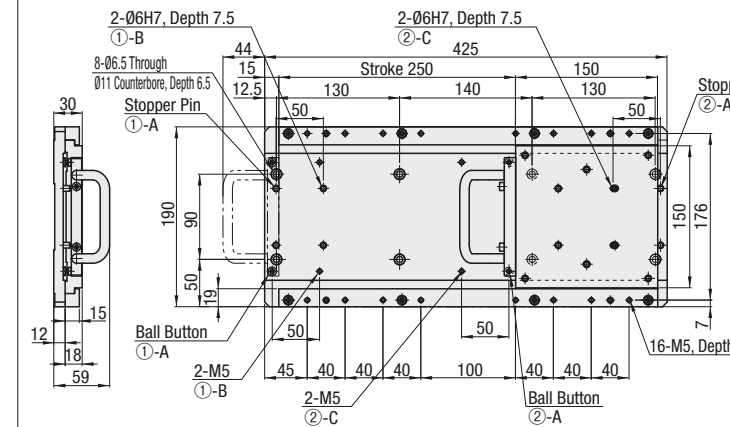
Main Body	Material	Surface Treatment
Table	EN 1.1191	Electroless Nickel Plating
Plate	Equiv. Thermal	Electroless Nickel Plating
Guide Rail	Refined	Electroless Nickel Plating
Handle Bracket	EN 1.1191 Equiv.	Clear Anodize
Knob	Aluminum Alloy	Clear Anodize

Stroke Adjustment Method

Stroke after adjustment	Mounting Positions of Stopper Parts		
	① Pulling Side	② Pushing Side	
JGR150 (before shipping)	A	A	A
100	200	B	A
100	200	A	C
50	150	B	C

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

JGR250



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

Stroke Adjustment Method

Stroke after adjustment	Mounting Positions of Stopper Parts		
	① Pulling Side	② Pushing Side	
JGR150 (before shipping)	A	A	A
100	200	B	A
100	200	A	C
50	150	B	C

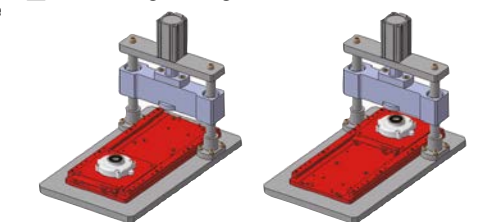
⚠ By recombining the stopper part mounting hole positions on the above two sides, the stroke can be changed.

Part Number	Stroke (mm)	Table Size (mm)	Base Length (mm)	(Ref. Value) Required Thrust (N)	(Ref. Value) Plunger Holding Force (N)	Load Capacity (kN)	Weight (kg)	Unit Price
JGR	150	150x150	325	10	30	37.2	9.2	
	250	150x150	425	10	30	37.2	11.1	

- ⚠ Upon delivery, the stroke is set to 150 for JGR150, and to 250 for JGR250.
- ⚠ Required Thrust: Force required to move the table by using the knob (on the sliders having antirust oil applied)
- ⚠ Load Capacity: Max. allowable value of load applied vertically to the table surface
- ⚠ Values on the (Ref. Value) columns in the above table are measured when no load is applied.



■ Press-Fitting Bearing



Ordering Example
Part Number
JGR150

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

Plastic Handle Plastic Handle

Handwheel Type C

Left Mounted Damper 60 4-M6, Depth 10 Damper

Five Spoked Handwheel Knob Fixing Plate Bracket Bearing Housing Linear Guide Nut Bracket 2-Ø5H7 Lead Screw Deep Groove Ball Bearing Side Plate Lead Screw Nut

Stainless Steel Cover (Top & Bottom Surfaces) Rotation Stopper Set

Effective Stroke St/2 (Note 1: Stroke Limit St/2+5) 100 Effective Stroke St/2 (Note 1: Stroke Limit St/2+5)

4-M6, Depth 18 49 7.5 43 10 6.6 Q-Ø6.6 Q-Ø11 2-M4, Depth 8 (Back side also) 10 10 51 67.5

Mounting Hole Pitch S

* The drawing shows right side mount.

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

⊕ Use M6 nuts.

RoHS

Arrow View A-A

Base Cross Section

Enlarged View of Nut Slot

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	-	-

Part Number	Type	No.	Handwheel Type	Base Length L (mm)	Effective Stroke St(mm)	Lead Screw		Allowable Load (N)			Allowable Moment (N·m)			Base Mounting Hole Q (Number of Holes)			Mass (kg)																
						Thread Dia.	Lead	Horizontal	Vertical	Ma	Mb	Mc	S	A	B	C	A	B	C														
KUEHS	20	A	Plastic Handle	320	203	20	4	490	98	14	14	27	150	6	6.2	6.2	6.2	3.8	3.8	4.1													
				370	253																175	6	6.7	6.7	6.7	4.3	4.3	4.6					
				420	303																								150	6	5.3	5.3	5.6
				470	353																												
B	Plastic Offset Handwheel - Folding Type	320	203	200	6	7.2	7.2	7.2	6.3	6.3	6.6																						
		370	253									150	6	6.3	6.3	6.6																	
C	Five Spoked Handwheel	420	303	150	8	7.7	7.7	7.7	6.8	6.8	7.1																						
		470	353																														

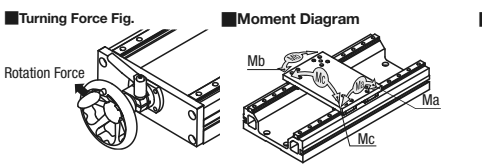
Ordering Example: Part Number - Handwheel Type - Handwheel Position - L
 KUEHS20 - A - L - 320

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

Plastic Handle Plastic Handle

Handwheel Type C

Five Spoked Handwheel

Side Plate Lead Screw Nut Nut Bracket 2-Ø5H7 Linear Guide Lead Screw

Clamp Plate Position Indicator 2-M4 Depth 8 (Back side also) Effective Stroke St (Note 1: Stroke Limit St+5)

Home Pos. (±0)

4-M6, Depth 18 49 7.5 10 6.6 Q-Ø6.6 Q-Ø11 10 10 52 67.5

Mounting Hole Pitch S

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

⊕ Use M6 nuts.

RoHS

Arrow View A-A

Base Cross Section

Enlarged View of Nut Slot

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

Part Number	Type	No.	Handwheel Type	Base Length L (mm)	Effective Stroke St(mm)	Lead Screw		Allowable Load (N)			Allowable Moment (N·m)			Base Mounting Hole Q (Number of Holes)			Mass (kg)																					
						Thread Dia.	Lead	Horizontal	Vertical	Ma	Mb	Mc	S	A	B	C	A	B	C																			
KUDP	20	A	Plastic Handle	170	53	20	4	490	98	14	14	27	150	4	3.8	3.8	4.1	3.8	4.1																			
				220	103															150	6	5.3	5.3	5.6														
				320	203																				175	6	5.8	5.8	6.1									
				370	253																									200	6	6.3	6.3	6.6				
				420	303																														150	8	6.8	7.1
				470	353																																	
B	Plastic Offset Handwheel - Folding Type	320	203	150	6	5.3	5.3	5.6																														
		370	253																																			
C	Five Spoked Handwheel	420	303	150	6	6.3	6.3	6.6																														
		470	353																																			

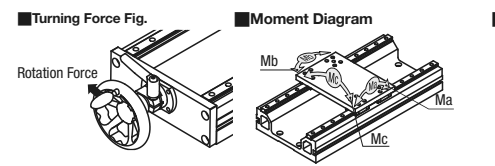
Ordering Example: Part Number - Handwheel Type - L
 KUDP20 - A - 320

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

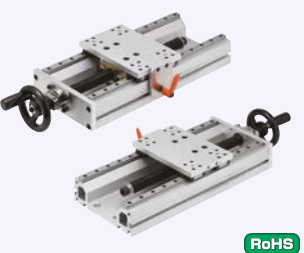
*Parallelism is the degree of running parallelism for dimension B against dimension A. (See the diagram below.)
 *Backlash is not a guaranteed value but reference value.

Manual Units

Table Fixed Type

■ **Features:** Direct table clamping avoids position drifts caused by leadscrew backlash.

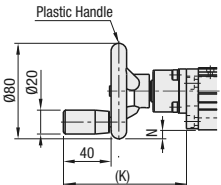
■ **X-Axis**



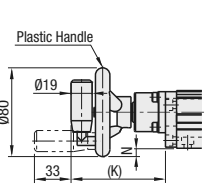
RoHS

KUEC

Handwheel Type A



Handwheel Type B



■ **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	-

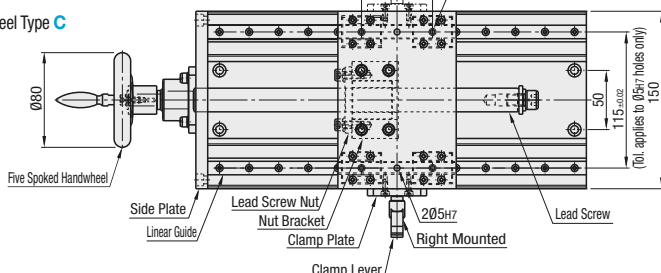
Parts	Nut Bracket	Side Plate	Clamp Plate
Material	EN AW-5052 Equiv.	EN AW-6063 Equiv.	EN AW-6063 Equiv.
Surface Treatment	Clear Anodize	Clear Anodize	Clear Anodize

■ **Components**

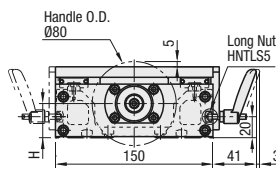
Parts	Base	Table	Lead Screw	Lead Screw Nut
Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN 1.1191 Equiv.	Brass
Surface Treatment	Clear Anodize	Clear Anodize	Black Oxide	-

Parts	Nut Bracket	Side Plate	Bevel 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	-	-

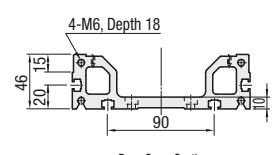
Handwheel Type C



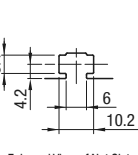
Arrow View A-A



Base Cross Section



Enlarged View of Nut Slot



Use M6 nuts.

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 Screw Thread Dia.	Lead	Allowable Load (N)		Moment Load Capacity (N·m)			Base Mounting Hole		Mass (kg)			
								Horizontal	Vertical	Ma	Mb	Mc	S	Q (Number of Holes)	Handwheel Type		A	B
KUEC	14	A	Plastic Handle	170	53	14	3	490	98	14	14	27	150	4	2.9	2.9	3.2	
				220	103								200	4	3.4	3.4	3.7	
				320	203								150	6	4.4	4.4	4.7	
				370	253								175	6	4.9	4.9	5.2	
				420	303								200	6	5.4	5.4	5.7	
				470	353								150	8	5.9	5.9	6.2	
	20	B	Plastic Offset Handwheel	170	53	20	4	490	98	14	14	27	150	4	3.5	3.5	3.8	
				220	103								200	4	4	4	4.3	
				320	203								150	6	5	5	5.3	
				370	253								175	6	5.5	5.5	5.8	
				420	303								200	6	6	6	6.3	
				470	353								150	8	6.5	6.5	6.8	

Ordering Example: Part Number - Handwheel Type - Clamp Position - L
 KUEC14 - A - W - 320

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

■ **Clamping Force 100N**
 * Clamping Force is not a guaranteed value but a reference value.

■ **Clamping Force Testing Method**

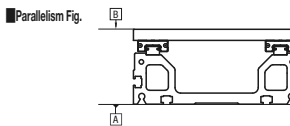


* The clamping force shown is a force to move the table when tightened at 30N.

■ **Accuracy**

Type	Parallelism (mm)	Backlash (mm)
KUEC	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 unclamped state. (Reference Value)



■ **Required Torque, Required Turning Force**

Part Number	Type	No.	Required Torque (N·m)		Required Turning Force (N)	
			Horizontal	Vertical	Horizontal	Vertical
KUEC	14	A	0.039	0.206	1.503	7.918
			0.059	0.426	2.261	16.402

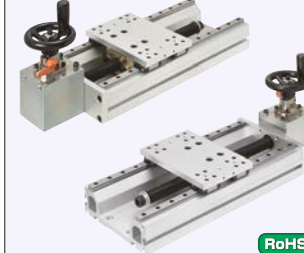
* Torque and turning force required at max. load capacity.
 * Turning force is the force that rotates the handwheel.
 * Vertical values are those when elevating the table.

Manual Units

Handwheel Orientation Configurable

■ **Features:** Handwheel orientation is selectable. Best suited for use in limited spaces.

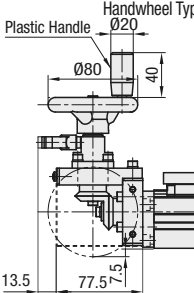
■ **X-Axis**



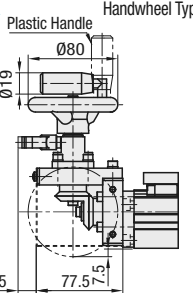
RoHS

KUEF

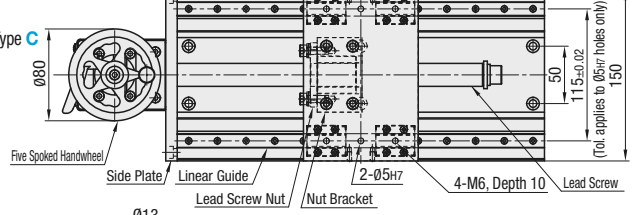
Handwheel Type A



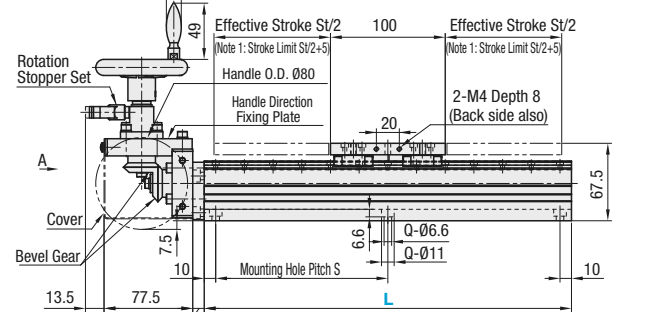
Handwheel Type B



Handwheel Type C



Rotation Stopper Set



Use M6 nuts.

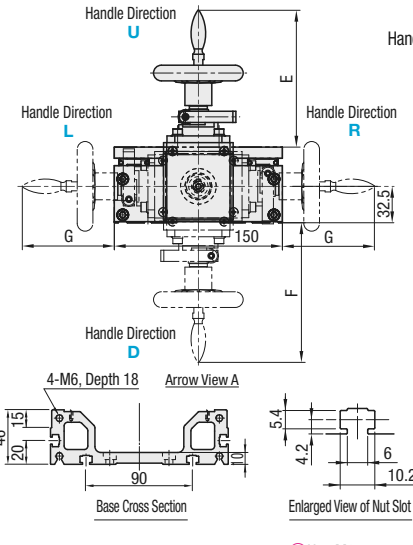
Note 1) Stroke limit is where stroke reaches the mechanical limit.

■ **Components**

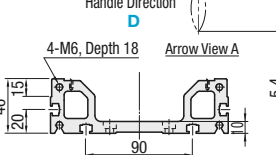
Parts	Base	Table	Lead Screw	Lead Screw Nut
Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN 1.1191 Equiv.	Brass
Surface Treatment	Clear Anodize	Clear Anodize	Black Oxide	-

Parts	Nut Bracket	Side Plate	Bevel 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	-	-

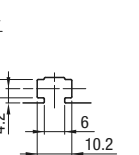
Handle Direction U, L, R, D



Base Cross Section



Enlarged View of Nut Slot



Use M6 nuts.

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

Part Number	Type	No.	Handwheel Type	Handwheel Orientation Configurable	Base Length L (mm)	Effective Stroke St (mm)	Lead Screw Thread Dia.	Lead	Allowable Load (N)		Allowable Moment (N·m)			Handwheel Type						Base Mounting Hole S	Q (Number of Holes)	Mass (kg)							
									Horizontal	Vertical	Ma	Mb	Mc	A		B		C				A	B	C					
KUEF	20	A	Plastic Handle	U	170	53	20	4	490	98	14	14	27	107	109.5	67	122	124.5	82	122	124.5	82	150	4	4.7	4.7	5		
					220	103																			200	4	5.2	5.2	5.5
					320	203																			150	6	6.2	6.2	6.5
					370	253																			175	6	6.7	6.7	7
					420	303																			200	6	7.2	7.2	7.5
					470	353																			150	8	7.7	7.7	7.7

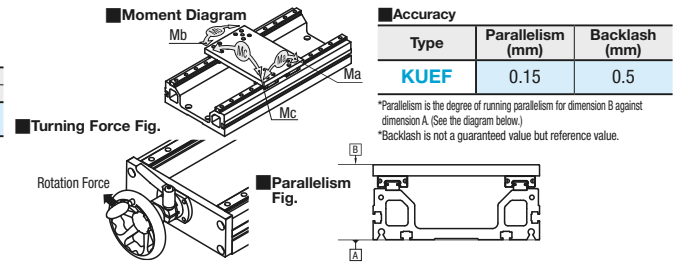
Ordering Example: Part Number - Handwheel Type - Handwheel Orientation - L
 KUEF20 - A - L - 320

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

■ **Required Torque, Required Turning Force**

Part Number	Type	No.	Required Torque (N·m)		Required Turning Force (N)	
			Horizontal	Vertical	Horizontal	Vertical
KUEF	20	A	0.059	0.420	2.261	16.164

* 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.



Manual Units

Elevator Type

■ **Features:** Units suited for up-and-down movements. Simple vertical positioning is possible.

■ **Z-Axis, Elevator Type** RoHS

(w/ Elevator Table) (w/o Elevator Table)

KUL

■ **Components**

Parts	Base	Table	Elevator Table	Angle Plate
M Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN AC-S1300 Equiv.	EN AC-S1300 Equiv.
S Surface Treatment	Clear Anodize	Clear Anodize	Clear Anodize	Clear Anodize

Parts	Lead Screw	Lead Screw Nut	Nut Bracket	Side Plate
M Material	EN 1.1191 Equiv.	Brass	EN AW-5052 Equiv.	EN AW-6063 Equiv.
S Surface Treatment	Black Oxide	-	Clear Anodize	Clear Anodize

Handwheel Type **A**

Handwheel Type **B**

Handwheel Type **C**

Part Number	Type	No.	Handwheel Type	Elevator Table Selection	Base Height H (mm)	Effective Stroke St(mm)	Lead Screw Thread Dia.	Lead	Allowable Load (N) When Load Applied to Point A	Allowable Load (N) When Load Applied to Point B	Allowable Moment (N·m) Ma	Allowable Moment (N·m) Mb	Allowable Moment (N·m) Mc	W	P	IH	Mass (kg)		
																	A	B	C
KUL	20	A	B	Not Specified (w)	170	62	20	4	294	270	43	43	81	120	75	220	6.1	6.1	6.4
					220	112											7.2	7.2	7.5
					320	212											7.9	7.9	8.2
					370	262											8.5	8.5	8.8
					420	312											10.3	10.3	10.6
					470	362											10.8	10.8	11.1
KUL	20	A	B	N (w/o)	170	62	20	4	294	270	43	43	81	120	75	220	6.1	6.1	6.4
					220	112											7.2	7.2	7.5
					320	212											7.9	7.9	8.2
					370	262											8.5	8.5	8.8
					420	312											10.3	10.3	10.6
					470	362											10.8	10.8	11.1

Ordering Example: Part Number - Handwheel Type - Elevator Table - H
KUL20 - A - 320 (w/ Elevator Table)
KUL20 - A - N - 320 (w/o Elevator Table)

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

■ **Required Torque, Required Turning Force**

Part Number	Required Torque (N·m)	Required Turning Force (N)
KUL	0.861	33.112

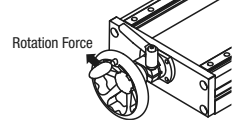
*Torque and turning force required at max. load capacity.
 *Turning force is the force that rotates the handwheel.

■ **Accuracy**

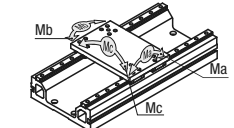
Type	Parallelism (mm)	Backlash (mm)
KUL	0.15	0.3

*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.

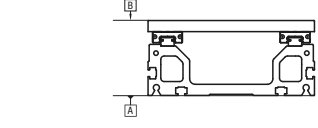
■ **Turning Force Fig.**



■ **Moment Diagram**



■ **Parallelism Fig.**



Manual Units

Elevator Type with Position Indicator

■ **Features:** Units suited for up-and-down movements. Simple vertical positioning is possible.

■ **Z-Axis, Elevator Type** RoHS

(w/ Elevator Table) (w/o Elevator Table)

KULDP

■ **Components**

Parts	Base	Table	Elevator Table	Angle Plate
M Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN AC-S1300 Equiv.	EN AC-S1300 Equiv.
S Surface Treatment	Clear Anodize	Clear Anodize	Clear Anodize	Clear Anodize

Parts	Lead Screw	Lead Screw Nut	Nut Bracket	Side Plate
M Material	EN 1.1191 Equiv.	Brass	EN AW-5052 Equiv.	EN AW-6063 Equiv.
S Surface Treatment	Black Oxide	-	Clear Anodize	Clear Anodize

Handwheel Type **A**

Handwheel Type **B**

Handwheel Type **C**

Part Number	Type	No.	Handwheel Type	Elevator Table Selection	Base Height H (mm)	Effective Stroke St(mm)	Lead Screw Thread Dia.	Lead	Allowable Load (N) When Load Applied to Point A	Allowable Load (N) When Load Applied to Point B	Allowable Moment (N·m) Ma	Allowable Moment (N·m) Mb	Allowable Moment (N·m) Mc	W	P	IH	Mass (kg)		
																	A	B	C
KULDP	20	A	B	Not Specified (w)	170	62	20	4	294	270	43	43	81	120	75	220	6.3	6.3	6.6
					220	112											7.2	7.2	7.5
					320	212											8.3	8.3	8.6
					370	262											8.9	8.9	9.2
					420	312											10.6	10.6	10.9
					470	362											11.1	11.1	11.4
KULDP	20	A	B	N (w/o)	170	62	20	4	294	270	43	43	81	120	75	220	6.3	6.3	6.6
					220	112											7.2	7.2	7.5
					320	212											8.3	8.3	8.6
					370	262											8.9	8.9	9.2
					420	312											10.6	10.6	10.9
					470	362											11.1	11.1	11.4

⚠ The rotational speed at start-up of position indicator should not exceed 1/3 of maximum rotational speed (RPM).
 ⚠ The maximum rotational speed is 75 (RPM).

Ordering Example: Part Number - Handwheel Type - Elevator Table - H
KULDP20 - A - 320 (w/ Elevator Table)
KULDP20 - A - N - 320 (w/o Elevator Table)

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

■ **Required Torque, Required Turning Force**

Part Number	Required Torque (N·m)	Required Turning Force (N)
KULDP	0.861	33.112

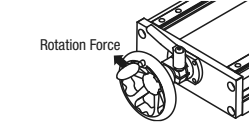
*Torque and turning force required at max. load capacity.
 *Turning force is the force that rotates the handwheel.

■ **Accuracy**

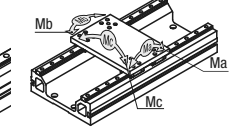
Type	Parallelism (mm)	Backlash (mm)
KULDP	0.15	0.3

*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.

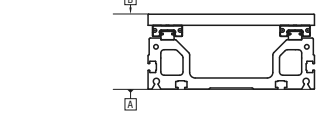
■ **Turning Force Fig.**



■ **Moment Diagram**



■ **Parallelism Fig.**



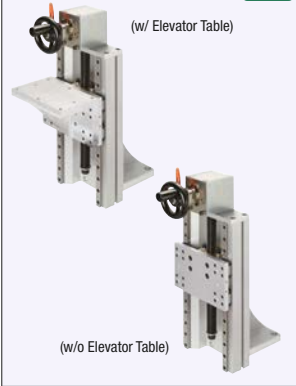
Manual Units

Elevator Type, Handwheel Orientation Configurable

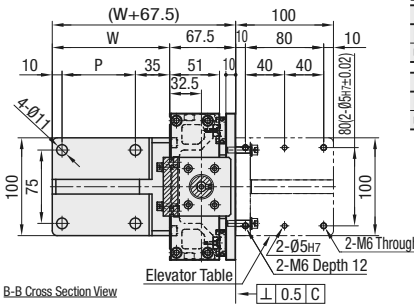
Features: Units suited for up-and-down movements. Simple vertical positioning is possible.

Elevator Type

RoHS

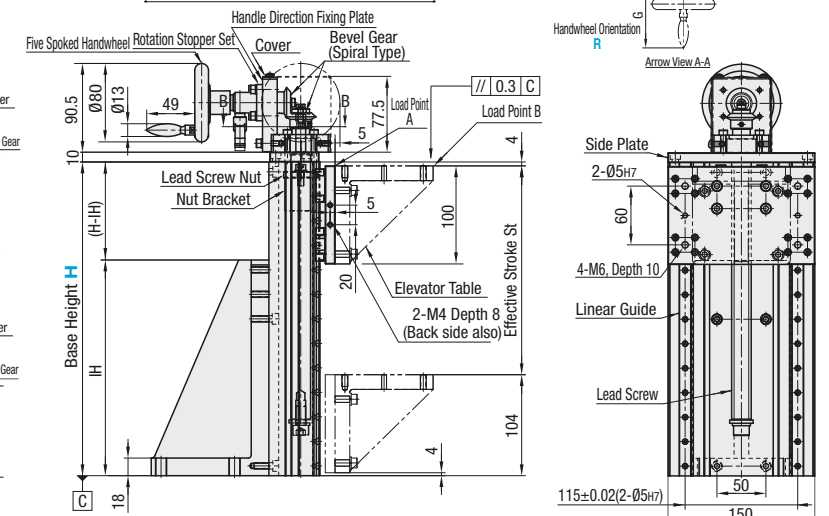
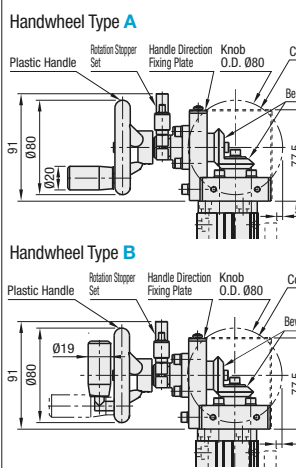
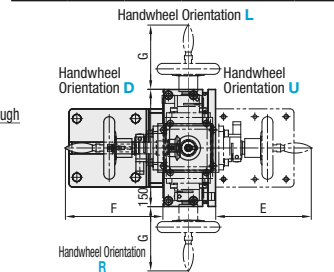


KULF



Components

Parts	Base	Table	Elevator Table	Angle Plate	Lead Screw
M Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN AW-6063 Equiv.	EN AW-6063 Equiv.	EN 1.1191 Equiv.
S Surface Treatment	Clear Anodize	Clear Anodize	Clear Anodize	Clear Anodize	Black Oil



Part Number	Handwheel Type	Handwheel Orientation Configurable	Elevator Table Selection	Base Length L (mm)	Effective Stroke St (mm)	Lead Screw Thread Dia.	Lead	Allowable Load (N) When Load Applied to Point A	Allowable Moment (N·m) When Load Applied to Point B	Handwheel Type									Mass (kg)											
										A			B			C			W	P	IH	Handwheel Type								
Type	No.							Ma	Mb	Mc	E	F	G	E	F	G	E	F	G	A	B	C								
KULF	20	N (w/o)	Not Specified (w)	170	62	20	4	294	270	43	43	81	107	109.5	67	122	124.5	82	122	124.5	82	120	75	170	7.3	7.3	7.6			
				220	112																							8.1	8.1	8.4
				320	212																							9.2	9.2	9.5
				370	262																							9.7	9.7	10
				420	312																							11.5	11.5	11.8
				470	362																							12.0	12.0	12.3

Ordering Example: Part Number - Handwheel Type - Handwheel Orientation - Elevator Table - L
 KULF20 - A - L - 320 (w/ Elevator Table)
 KULF20 - A - U - N - 320 (w/o Elevator Table)

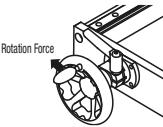
Part Number	Handwheel Type	Unit Price					
Type	No.	H=170	H=220	H=320	H=370	H=420	H=470
KULF	20						

Required Torque, Required Turning Force

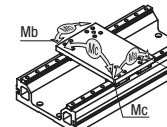
Part Number	Required Torque (N·m)	Required Turning Force (N)
KULF 20	1.085	41.740

*Torque and turning force required at max. load capacity.
 *Turning force is the force that rotates the handwheel.

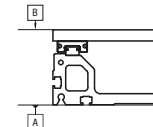
Turning Force Fig.



Moment Diagram



Parallelism Fig.



Accuracy

Type	Parallelism (mm)	Backlash (mm)
KULF	0.15	0.5

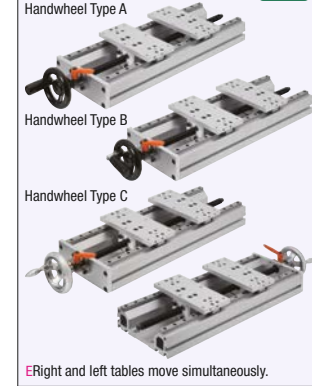
*Parallelism is the degree of running parallelism for dimension B against dimension A. (See the diagram below.)
 *Backlash is not a guaranteed value but reference value.

Manual Units - Symmetrical Action Dual Carriages

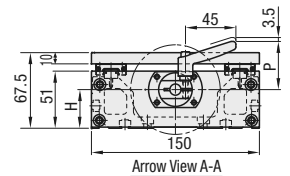
Features: Units best suited for simple manual positioning and capable of moving right and left tables simultaneously.

Symmetrical Action Dual Carriages

RoHS



KUED

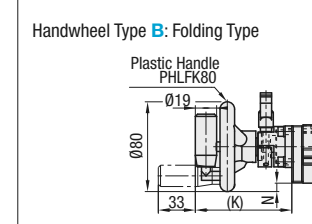
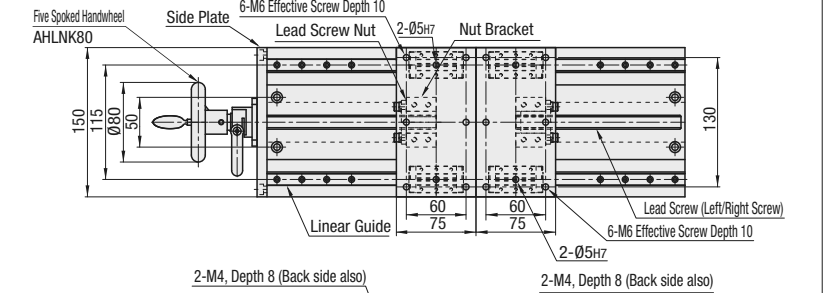
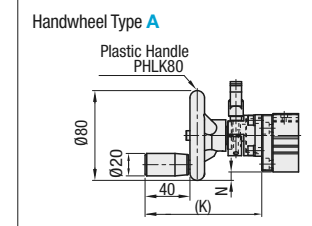
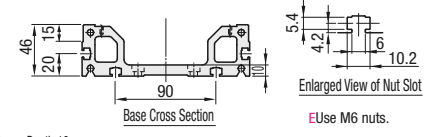


Components

Parts	Base	Table	Lead Screw	Lead Screw Nut	Nut Bracket	Side Plate
M Material	EN AW-6063-T5 Equiv.	EN AW-6063 Equiv.	EN 1.1191 Equiv.	Brass	EN AW-5052 Equiv.	EN AW-6063 Equiv.
S Surface Treatment	Clear Anodize	Clear Anodize	-	-	Clear Anodize	Clear Anodize

QStroke

Type	Effective Stroke St (mm)			
	L=320	L=370	L=420	L=470
KUED	65	90	115	145



Part Number	Handwheel Type	Base Length L (mm)	Effective Stroke St (mm)	Lead Screw Thread Dia.	Lead	Allowable Load (N)		Allowable Moment (N·m)			Base Mounting Hole			Mass (kg)							
						Horizontal	Vertical	Ma	Mb	Mc	S	Ø	Number of Holes	A	B	C					
KUED	14	A Plastic Handle	320	65	14	3	122.5	24.5	0.5	0.5	6	150	6	4.9	4.6	4.6					
			370	90													5.4	5.1	5.1		
			420	115													5.9	5.6	5.6		
			470	145													6.4	6.1	6.1		
			20	B Plastic Offset Handwheel													320	65	5.5	5.2	5.2
																	370	90	6	5.7	5.7
420	115	6.5			6.2	6.2															
20	C Folding Type Five Spoked Handwheel	320	65	6.2	6.2	6.7															
		470	145	6.7	6.7	6.7															

Ordering Example: Part Number - Handwheel Type - L
 KUED14 - A - 320

Part Number	Handwheel Type	Mass (kg)						
Type	No.	L=320	L=370	L=420	L=470			
KUED	14	A	4.9	5.4	5.9	6.4		
		B	4.6	5.1	5.6	6.1		
		C	4.6	5.1	5.6	6.1		
		20	A	5.5	6	6.5	7	
				B	5.2	5.7	6.2	6.7
				C	5.2	5.7	6.2	6.7

QAllowable Load, Allowable Moment

Part Number	Allowable Load (N)	Allowable Moment (N·m)
KUED 14	122.5	24.5
KUED 20	245	49

*The above allowable load/moment is a value measured per table.

QRequired Torque, Required Turning Force

Part Number	Required Torque (N·m)	Required Turning Force (N)
KUED 14	0.039	1.503
KUED 20	0.059	2.261

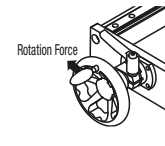
*The above torque / turning force is a value required when the allowable load is applied to the two tables.
 *Turning force is the force that rotates the handwheel. (See the diagram on the right.)
 *Vertical values are those when elevating the table.

QAccuracy

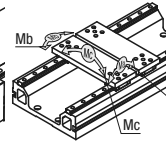
Type	Parallelism (mm)	Backlash (mm)
KUED	0.15	0.3

*Parallelism is the degree of running parallelism for dimension B against dimension A. (See the diagram on the right.)
 *Backlash is not a guaranteed value but reference value.

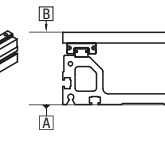
Turning Force Fig.



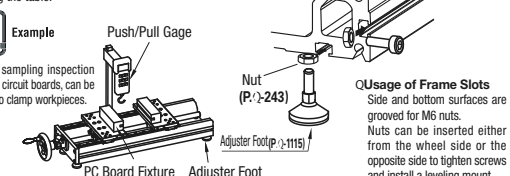
Moment Diagram



Parallelism Fig.



EX Example



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.