

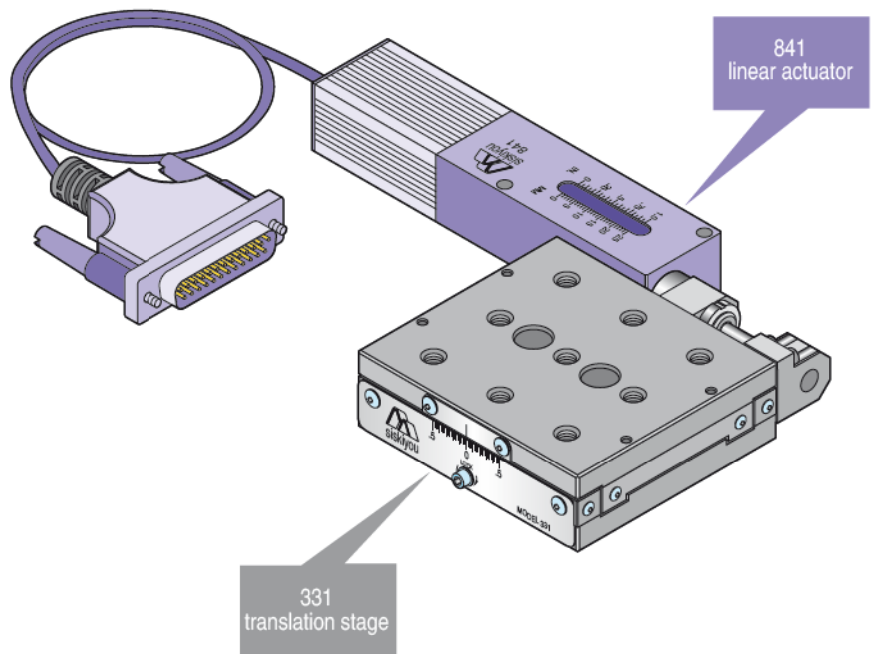
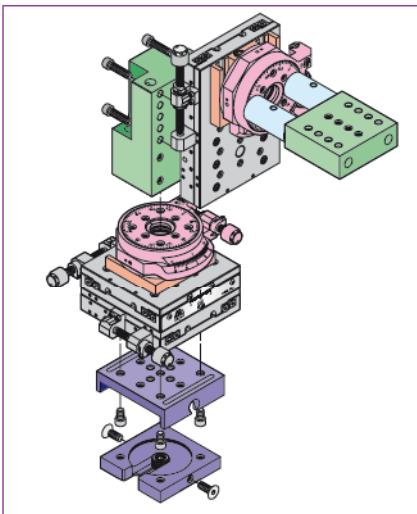
Introduction to Siskiyou linear and rotary translation products

Siskiyou translation stages are designed with multiple applications in mind. The three different types of stages – dovetail slide, ball bearing, and crossed roller – all have characteristics which dictate their applications. A primary feature of all of them is the adherence to the Modular by Design™ concept. Mounting dimensions use common increments, so multi-axis systems with various travel ranges can be constructed. Since many stages can be actuated by several different methods, one has a choice of precision within the same assembly. Examples of the different methods of actuation are manual adjustment screws from coarse to ultrafine resolution and open or closed loop motorized drives. Because of this variability, a multi-axis device can be assembled using the positioning mechanism best suited to each axis. This allows for more cost-conscious approach when compared to preassembled devices that use the same precision throughout. By observing many different applications, Siskiyou has developed products that can fill many needs with few limitations.

Dovetail slides are typically used for moderate loads of up to 20 pounds in some models. Manual actuation provides positioning accuracy of 10 µm or greater. Our dovetail slides use precision rolled lead screws for smooth positioning characteristics and long service life.

The 331, as well as the MX160 in the Life Science section, uses the classic ball-on-hardened-rail design for smooth positioning of light loads of 15 pounds or less. Our ball bearing stages use ball separators in both bearing sets to ensure the bearings won't stack-up and jam the stage motion. Siskiyou ball bearing stages are unique in the addition of 20 percent more bearings than competitors' stages. This delivers better performance under load and better linearity of travel.

A typical motorized stage assembly constructed with separately purchased stage and motorized actuator.

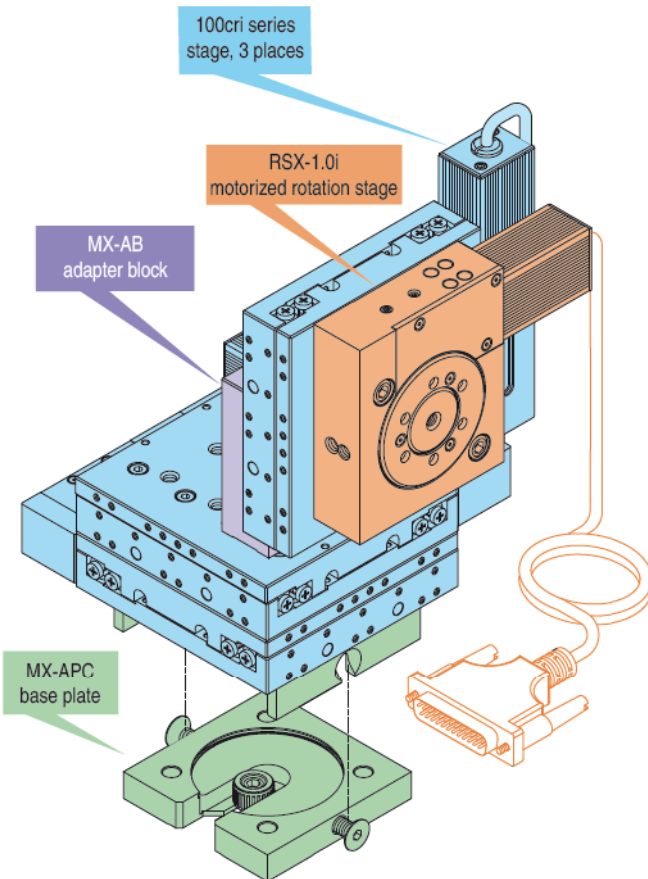


Our CR series of crossed roller stages is ideal for heavy loads of up to 70 pounds and high duty cycle applications. As with our ball bearing stages, the crossed roller stages have additional bearings making them unique in the industry. Depending on the positioning accuracy requirements of your application, 100cr and 200cr series stages can be positioned with TPI adjustment screws, standard micrometers, differential micrometers, 420 actuators, 840 actuators, or any drive with the industry standard 0.375-inch nose mount. The 100cr and 200cr series stages are also available in fully integrated motorized versions.

DT-300, 331, and 100cr/200cr stages have common mounting hole patterns on the top and bottom plates. This common hole pattern is the cornerstone of our Modular by Design™ approach, and enables the user to mount different stages to each other for a variety of positioning requirements in one package.

Angular or tilted linear translation can be achieved by mounting our stages to either an MX3T, MX5T, or MXT tilt platform. The MX3T and MX5T are solid aluminum platforms that may be adjusted to several pre-set angles. The MXT uses a precision lead screw to position the mounting platform from plane parallel to 45°.

Many of the devices in this catalog may be modified for vacuum compatibility or configured with mounting holes or features to fit your specific application. To request a quote or talk to an engineer about your application, call us at 1-877-313-6418, or email tech@siskiyou.com.



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Rotary Manual

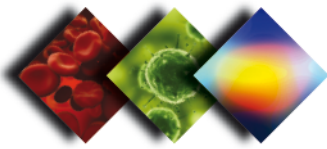
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Rotary Stages



Siskiyou's complete line of rotation stages are ideal solutions for rotating optics and other mechanical devices. From the smallest RS-100 manual stage to the new RSX-2.0i motorized stage, our rotation stages are compatible with most opto-mechanical applications. The manual versions found in the following pages are useful for low-resolution applications. Our motorized versions have 6 arc-second repeatability and 10 arc-second resolution. Manual versions can be supplied in UV or vacuum compatible versions to 1×10^{-13} Torr, and motorized versions can be supplied in UV or vacuum compatible versions to 1×10^{-7} Torr.



The RSF-1 has 360° of coarse rotation with 2° of resolution and $\pm 10^\circ$ of fine control. It comes with a 40TPI adjustment screw for resolution down to 5 arc-seconds. Finer resolution can be attained by using 80TPI or 100TPI adjustment screws.

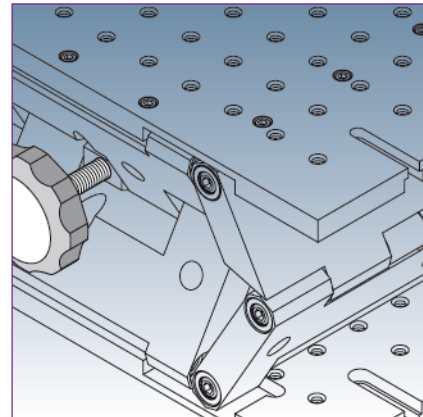
Our RS series of manual rotation stages has been on the market for over 25 years. This time-tested economical design is ideal for low-resolution, manually driven applications. We use a full contact bearing race of our own design to ensure maximum smoothness and load in these aluminum stages.



The RSA-2.0i, RSA-1.0i and RSA-0.5i motorized rotation stages use spring-loaded worm drives as well as anti-backlash gearheads to keep backlash and unidirectional repeatability of 6 to 10 arc-seconds. They are compatible with all of our MC1000e series and MC2010 controllers. We use quiet running DC servo motors with shielded cable to ensure noise-free operation. Stepper motor versions are available upon request.

Lab Jacks

Lab jacks are useful tools for many laboratory or commercial applications. Generally used for positioning optical elements at the correct axis height, they are also used to position larger and heavier assemblies in similar applications. UV and vacuum compatible versions to 1×10^{-13} Torr are available upon request.

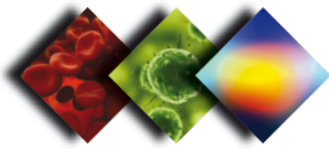


The RLJ-10 is a simple but effective "screw" design lab jack. The simple design has been improved by using tight-tolerance guide rods to minimize rotation of the upper platform during linear vertical translation. The upper platform has a built-in 360° rotation and is useful for positioning cube beamsplitters.

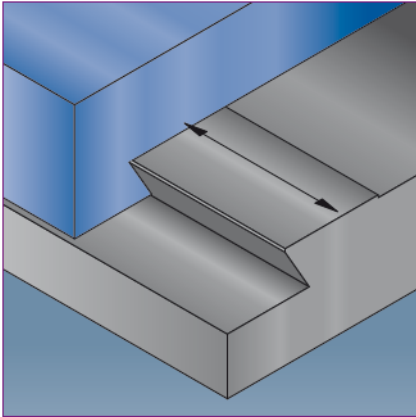


Our 540 and 560 manual lab jacks are built for high load applications and use solid aluminum construction to ensure long life under loads up to 80 pounds. The unique "captured" pivot pin design and tight-tolerance machining guarantee minimal wobble and the best parallelism in the industry. The 540 is also available in a motorized DC servo motor driven model (page 81) and can be supplied with a stepper motor upon request.





Translation Stage Bearing Types

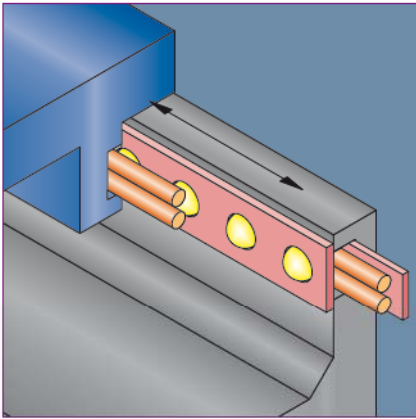


Introduction to dovetail slides, ball and rail, and crossed roller bearings

The performance of a linear translation stage is determined primarily by the type of bearings that are used. There are three major designs available from Siskiyou: dovetail slides, ball & rail bearings, and crossed roller.

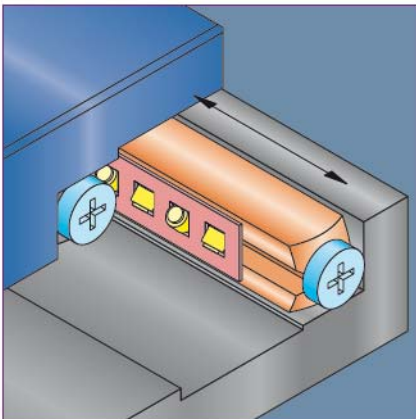
Dovetail Slides

Dovetail slides are the simplest type of linear translation stage. They consist of two flat surfaces sliding against each other (models DT-300 and DT-100). Dovetail slides can provide long travel and have relatively high stiffness and load capacity. They are more resistant to shock than other types of bearings and reasonably immune to contamination, but their friction varies with translation speed. This makes precision control difficult and limits the resolution of the stage. Dovetail stages are typically manually driven devices and work well in vacuum or nonmagnetic applications.



Ball and Rail Bearings

Ball & rail bearing stages reduce friction by replacing sliding motion with rolling motion. The ball bearings are captured in guideways by means of four hardened steel rods. The guideways are externally loaded against the balls to eliminate unwanted runout in the bearing (models 331 and 831). Even with this preload, the friction is very low which results in extremely smooth travel with the capability to make controlled submicron incremental movements. Ball & rail bearing systems are relatively sensitive to contamination because each ball contacts the rail guideway at only a single point, allowing a contaminant to potentially put a "bump" in the smooth motion. This "point contact" can also be susceptible to damage from overload, shock and wear. Be sure to check the individual specifications of our stages to match your application. Ball & rail bearing stages are available in both motorized and manual versions. The motorized versions can be ordered for use in vacuum applications down to 1×10^{-7} Torr, and the manual versions can be ordered down to 1×10^{-13} Torr.

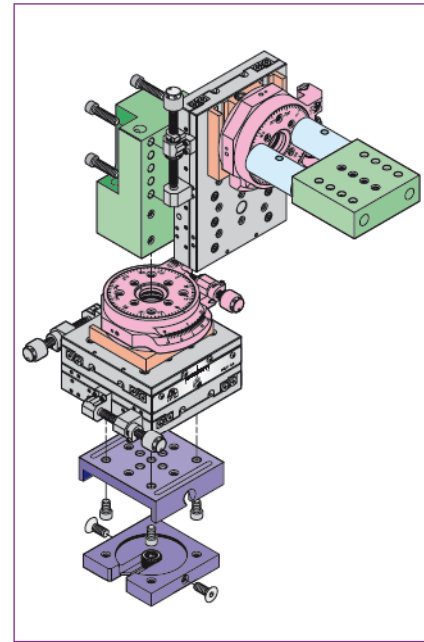


Crossed Roller Bearings

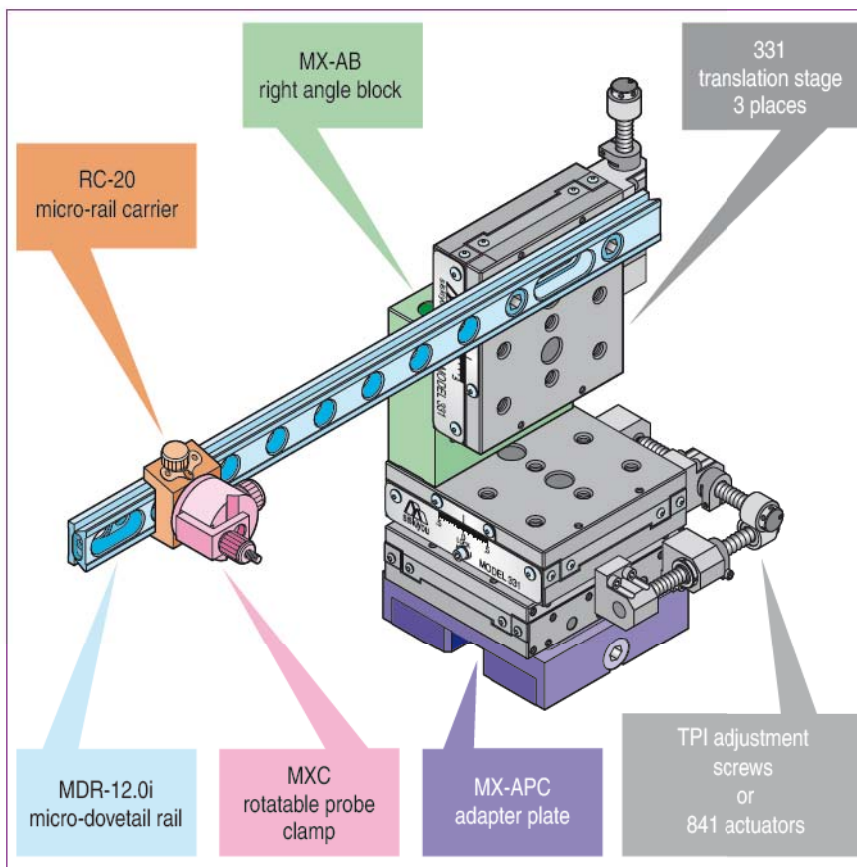
Crossed roller bearing stages offer all the advantages of ball & rail bearings with higher load capacity and higher stiffness. The increased load and stiffness is a direct result of replacing the point contact of the ball with a line contact of the roller. Crossed roller bearings are externally loaded in the same manner as ball & rail bearings but require more attention to detail during the assembly process. This lengthened assembly process, plus the added manufacturing time of the ground rollers and guideways, is the reason for the higher cost of these precision stages. Crossed roller stages should be used for applications requiring high load, high stiffness, and precision bidirectional straightness such as fiber alignment, semiconductor probing, and cellular research. These stages are available in both motorized and manual versions. The motorized versions can be ordered for use in vacuum applications down to 1×10^{-7} Torr, and the manual versions can be ordered down to 1×10^{-13} Torr.

Building XYZ Configuration

The stages in this section come in either single axis (X, Z) or multiple axis (XY, XYZ) configurations. In all cases the XY versions are factory set with the adjustment knobs or motors in a right hand or left hand configuration. The three axis (XYZ) models all use a universal mounting block for attaching the Z-axis. This mounting style enables the user to reconfigure the Z-axis in a wide variety of ways to fit their specific space requirements. All of the stages in our line are available in vacuum compatible, nonmagnetic, and high-speed or low-speed motorized models.



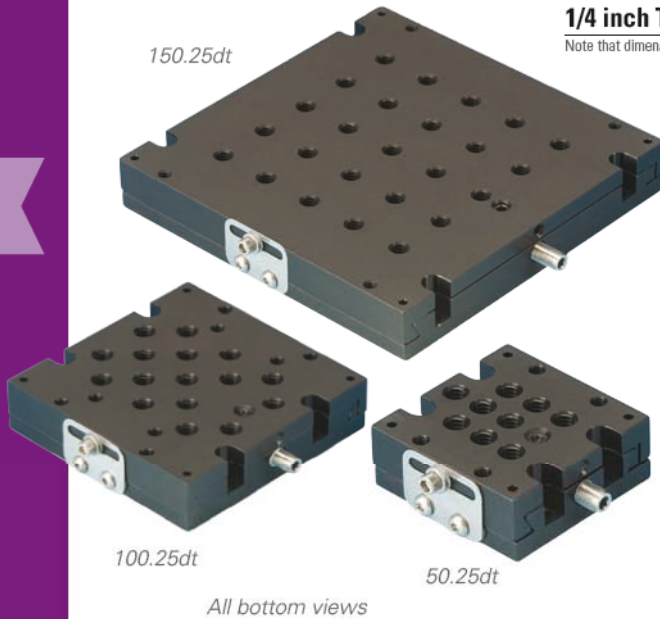
The custom configuration above was assembled from standard components to position imaging equipment for a customer's inspection station.



The manual 3-axis manipulator depicted in this drawing was used by a researcher for in vivo probing of spinal tissue. This type of setup could also be used for probing semiconductor and MEMS devices.

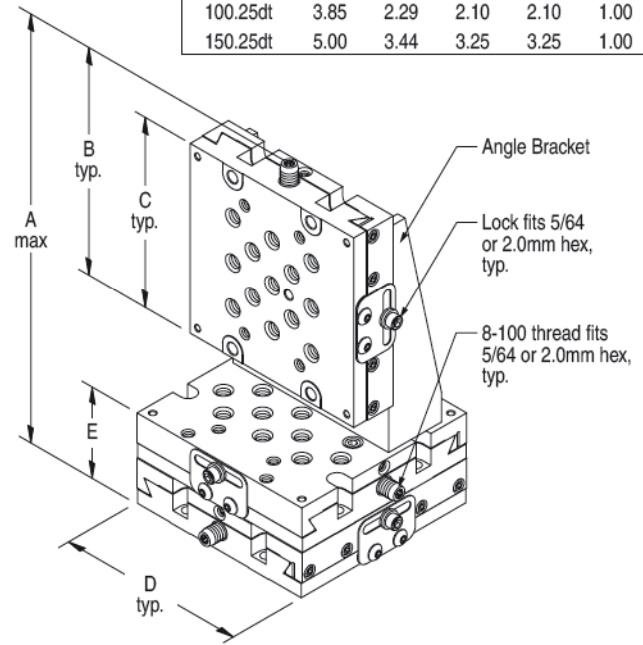
1/4 inch Travel / .25dt Series

Note that dimensions in parentheses (mm) reflect metric assembly features

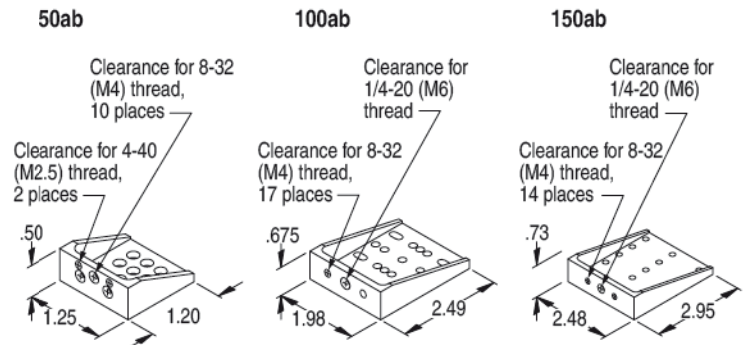


Typical Assembly

Model	A	B	C	D	E
50.25dt	2.82	1.49	1.30	1.30	1.00
100.25dt	3.85	2.29	2.10	2.10	1.00
150.25dt	5.00	3.44	3.25	3.25	1.00



Angle Bracket



Product Features

- Low profile design
- 100TPI adjustment
- Non-influencing lock
- UV and vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	5 lbs
Maximum vertical axis load	2 lbs
Travel	0.25 inch (6 mm)
Minimum controllable motion	5 μ m, typical

Related Products

RTC-0.5 rotation clamp	132
RTC rotation clamp adapters	132

Order Information

1.3"x1.3" dovetail stage, 0.25 travel	50.25dt
2.1"x2.1" dovetail stage, 0.25 travel	100.25dt
3.25"x3.25" dovetail stage, 0.25 travel	150.25dt
angle bracket for 50.xx size	50ab
angle bracket for 100.xx size	100ab
angle bracket for 150.xx size	150ab

Metric Option — for metric assembly features on this product, add '-M' after model number.

The 50.25dt, 100.25dt and 150.25dt are the thinnest line of dovetail stages on the market. Their design is simple but effective for set-it-and-forget-it applications. The 100TPI thread ensures the smallest minimum controllable motion in a dovetail stage and the non-influencing foil lock virtually guarantees that the first adjustment is the last one. The foil lock can be mounted to matching holes on the opposite side of the stage for maximum access flexibility.

To maximize the available footprint area for the device being mounted, Siskiyou offers this series in three sizes. With each size there are orthogonal mounting holes to create low profile XY assemblies. There are also specific angle brackets for each model so you can create XZ, YZ or XYZ stage configurations.

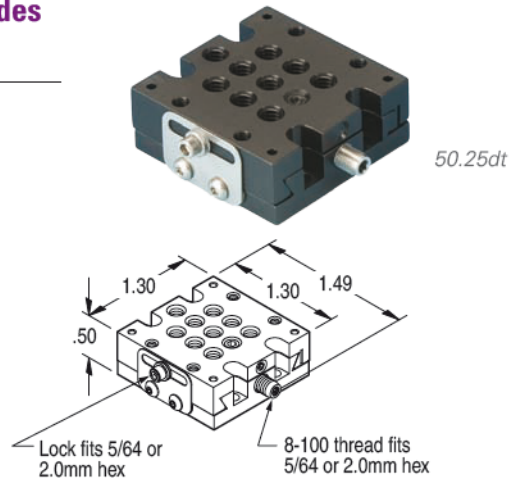
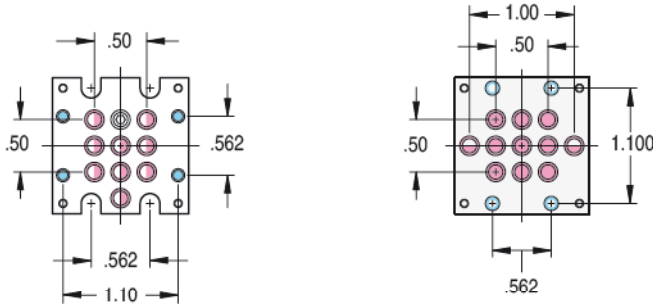
Translation Stages

Linear Manual

Dovetail Slides

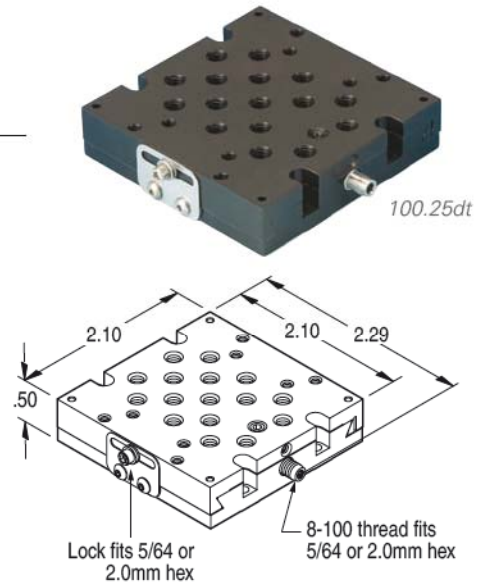
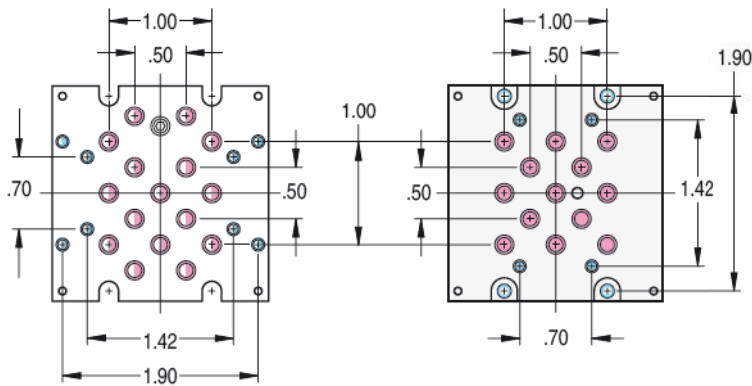
1.3 inch Table / 50.25dt

□ Top Plate ■ Bottom Plate Mounting Holes: 4-40 (M2.5), ∇ 0.12 ● Clearance ○ / 8-32 (M4), ∇ 0.26 ● 0.15 ● 0.13 ●
 Note that dimensions in parentheses (mm) reflect metric assembly features.



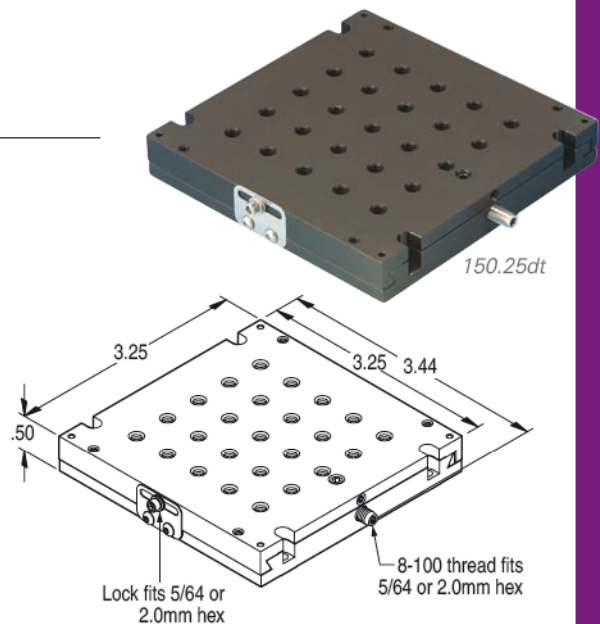
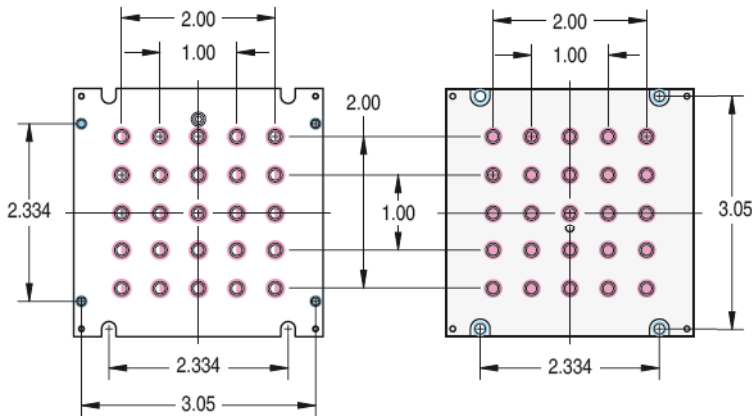
2.1 inch Table / 100.25dt

□ Top Plate ■ Bottom Plate Mounting Holes: 4-40 (M2.5), ∇ 0.31 ● 0.14 ● Clearance ○ / 8-32 (M4), ∇ 0.26 ● 0.15 ●
 Note that dimensions in parentheses (mm) reflect metric assembly features.



3.25 inch Table / 150.25dt

□ Top Plate ■ Bottom Plate Mounting Holes: 4-40 (M2.5), ∇ 0.14 ● Clearance ○ / 8-32 (M4), ∇ 0.26 ● 0.15 ●
 Note that dimensions in parentheses (mm) reflect metric assembly features.



12mm XYZ Travel, Miniature / DT Series

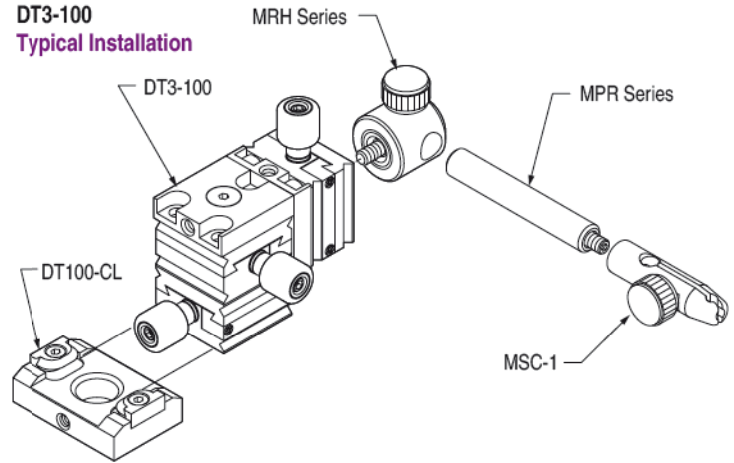
Note that dimensions in parentheses (mm) reflect metric assembly features



DT-100 Series

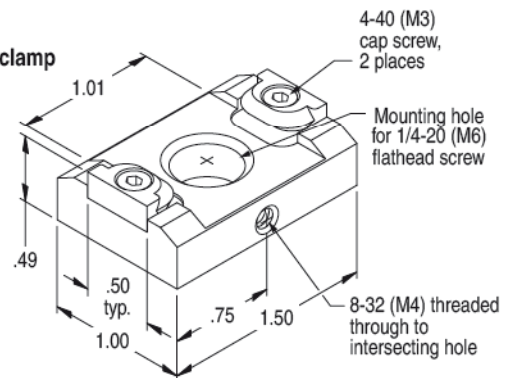


DT100-CL



DT3-100
Typical Installation

DT100-CL
Dovetail mounting clamp



Product Features

- Fine 80 pitch adjustment
- Compact design
- Vacuum compatible versions available upon request

Performance Specifications

Maximum load	0.5 lbs
Travel	12 mm
Minimum controllable motion	5 μ m

Related Products

RS-100 rotary stage	71
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Order Information

dovetail single-axis stage	DT-100
dovetail 2-axis stage	DT2-100
dovetail 3-axis stage	DT3-100
dovetail stage angle bracket	DT100-AB
dovetail mounting clamp	DT100-CL

Metric Option — for metric assembly features on this product, add '-M' after model number.

Dovetail XYZ Stages

The DT-100 is a miniature dovetail stage that is ideal for positioning applications that require micron-scale resolution. They use precision rolled 80TPI leadscrews for smooth positioning along the entire length of travel.

The DT100's factory pre-set ensures exceptional straightness of travel for a dovetail stage. There are V-grooves into the sides of the bases, designed to slide into Delrin® clamps on the DT100-CL. Tightening the hex screws on these clamps holds the stage securely, without damaging or distorting the stage. The DT100-CL makes it easy to mount these stages almost anywhere.

They are available in X, XY, and XYZ configurations. The XYZ version is supplied with the DT100-AB angle bracket, which can be purchased separately to create XZ and YZ configurations.

Translation Stages

Linear Manual

Dovetail Slides

Dovetail Slide, Miniature / DT Series

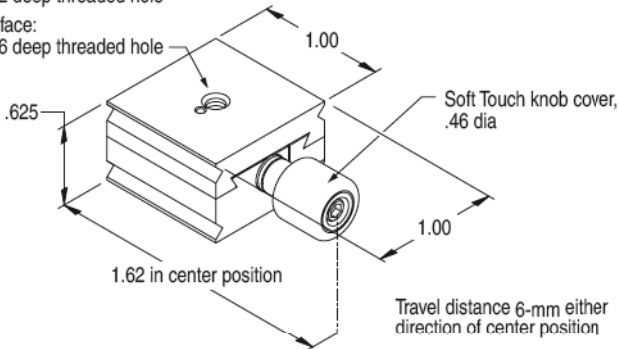
Note that dimensions in parentheses (mm) reflect metric assembly features

On top surface:

8-32 (M4) x .22 deep threaded hole

On bottom surface:

8-32 (M4) x .16 deep threaded hole



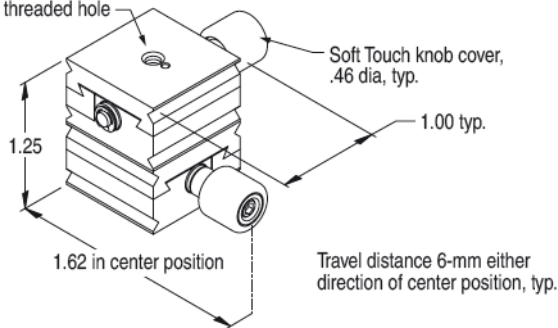
DT-100

On top surface:

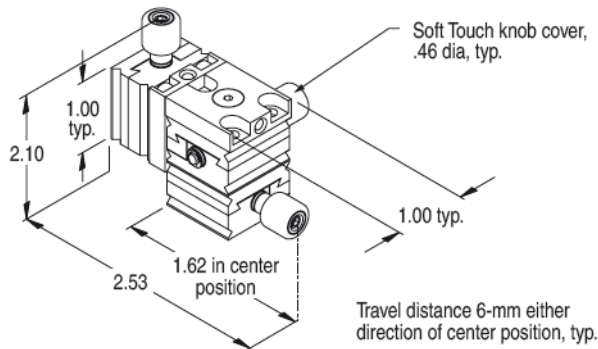
8-32 (M4) x .22 deep threaded hole

On bottom surface:

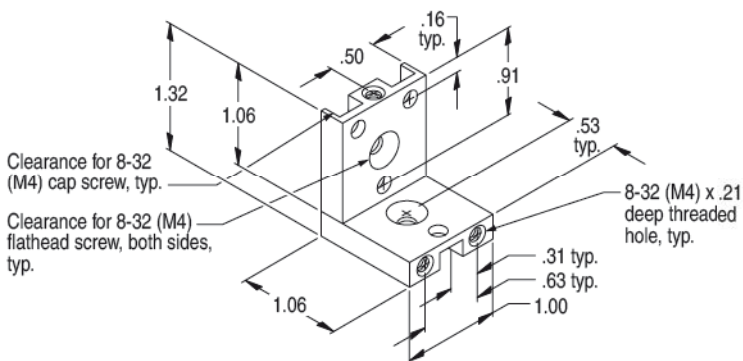
8-32 (M4) x .16 deep threaded hole



DT2-100



DT3-100



DT100-AB



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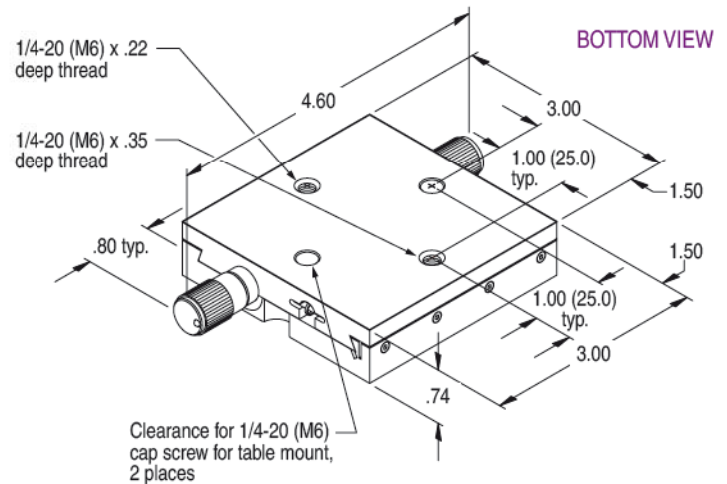
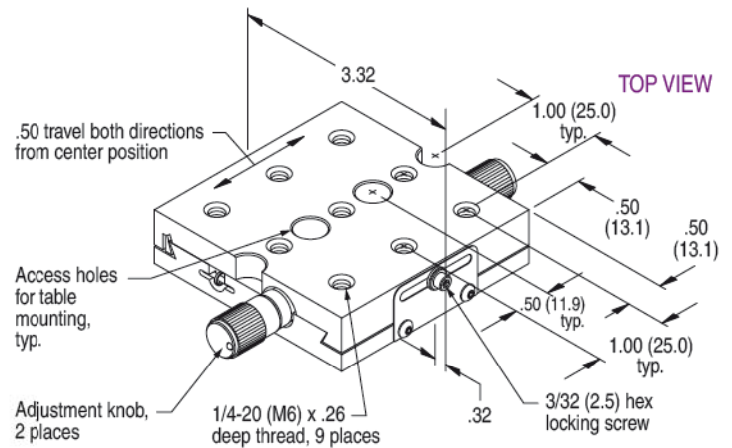
Contact us

1 inch Travel / DT-300

Note that dimensions in parentheses (mm) reflect metric assembly features



DT-300



Product Features

- Rapid positioning
- Stable dovetail design
- Lockable
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	20 lbs
Maximum vertical axis load	5 lbs
Travel	1.0 inch (25 mm)
Minimum controllable motion	10 μ m

Related Products

AB-U aluminum base	118
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Order Information

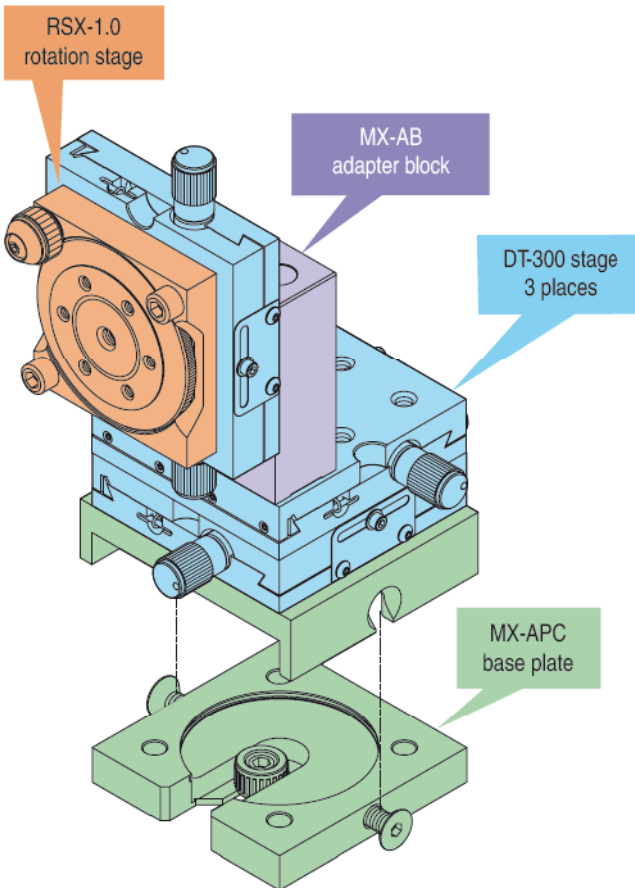
dovetail stage, 1.0 inch travel DT-300

Metric Option — for metric assembly features on this product, add '-M' after model number.

Dovetail Translation Stage

The DT-300 dovetail translation stage offers rapid 1.0 inch (25 mm) linear positioning for a variety of components. Adjustment of the 20 pitch lead screw can be made from either side of the DT-300. The drive mechanism is spring-loaded to minimize backlash. Smooth travel is obtained with a rugged dovetail slide track.

The side located, non-influencing foil lock of the DT-300 locks the slide securely in place without moving the stage from its position. DT-300s can be stacked for coarse XY positioning, or mounted with our MX-AB for Z-axis applications.



Dovetail slides have the greatest bearing area of any stage design. Siskiyou offers these slides in both free-adjust and spring loaded configurations.

With the MX-AB adaptor block, DT-300 stages can be mounted in a wide variety of configurations. Other dovetail slides are available in pre-assembled multi-axis configurations.

Unique to Siskiyou, our differential dovetail screw provides coarse / fine adjustment over a long travel range. It's available in pre-assembled multi-axis configurations.

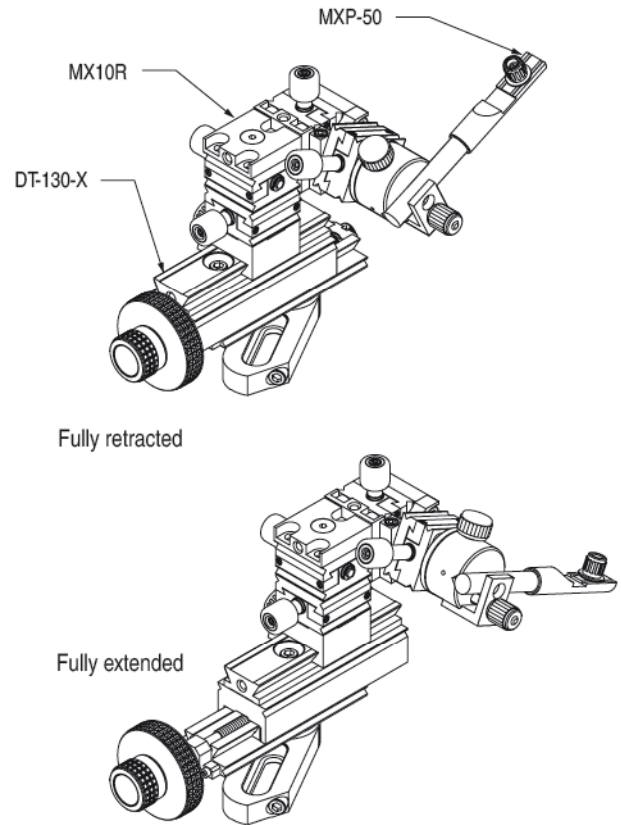
Translation Stages

Linear Manual

Dovetail Slides

1-1/2 inch XYZ Fast Travel / DT-130 Series

Note that dimensions in parentheses (mm) reflect metric assembly features



Product Features

- Integrated 3mm fine adjustment and 42mm coarse fast adjustment
- Unique sliding XY assembly clamp
- Submicron fine resolution

Performance Specifications

Maximum load	1 lb
Travel range	
fine	3 mm
coarse / fast	42 mm
Minimum controllable motion	
fine	5 μ m
coarse / fast	100 μ m

Related Products

RC dovetail carriers	129
MXC probe clamps	175

Order Information

3-axis fast travel stage, right hand	DT-130-XYZR
3-axis fast travel stage, left hand	DT-130-XYZL
2-axis fast travel stage	DT-130-XY
single-axis fast travel stage	DT-130-X
dovetail stage angle bracket	DT-130-AB

Metric Option — for metric assembly features on this product, add '-M' after model number.

Modular Fast Travel Stages

The DT-130 series of dovetail stages integrates a coarse fast travel stage and a fine adjustable stage in one simple device. The coarse fast action is controlled by a 0.74-inch diameter knob that is attached to a multi-lead adjustment screw that drives the stage across 42 millimeters of travel in only three revolutions. The fine adjustment is controlled by a large 1.5-inch diameter knob that is attached to a 100TPI adjustment screw which moves the stage across 3 millimeters of travel. This large knob improves leverage and control of any fine adjustments so that movement approaching submicron accuracies can be achieved.

Three models of the DT-130 series are available: single-axis DT-130-X, 2-axis DT-130-XY and 3-axis DT-130-XYZ. The XY and XYZ versions employ a unique sliding clamp that attaches to the V-groove on the top or bottom of the stage. This simple clamp allows the user to select the location of the orthogonal stage anywhere along the 3.0 inch length of the stage. This clamp is also available as a two-piece angle bracket for creating customized subassemblies.

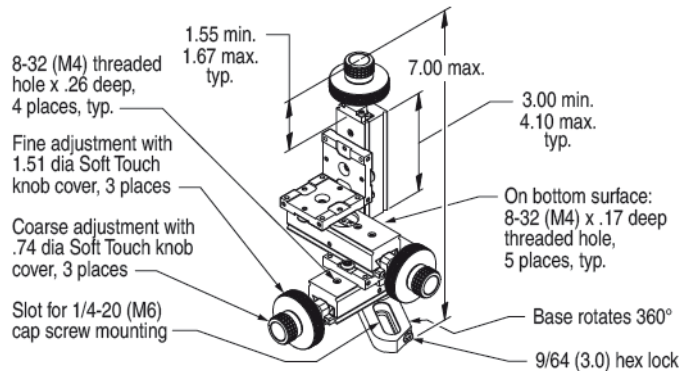
Translation Stages

Linear Manual

Dovetail Slides

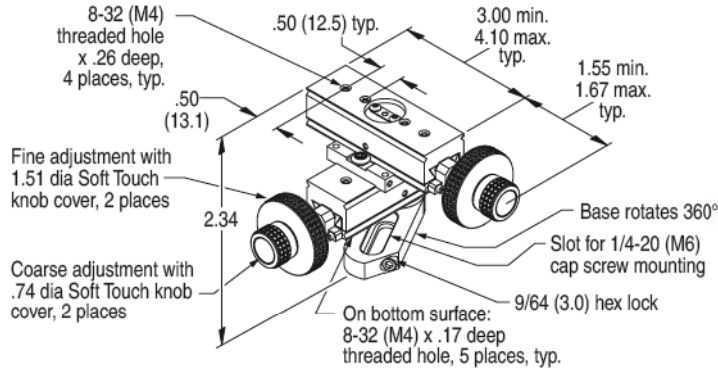
3-Axis / DT-130-XYZR

Note that dimensions in parentheses (mm) reflect metric assembly features



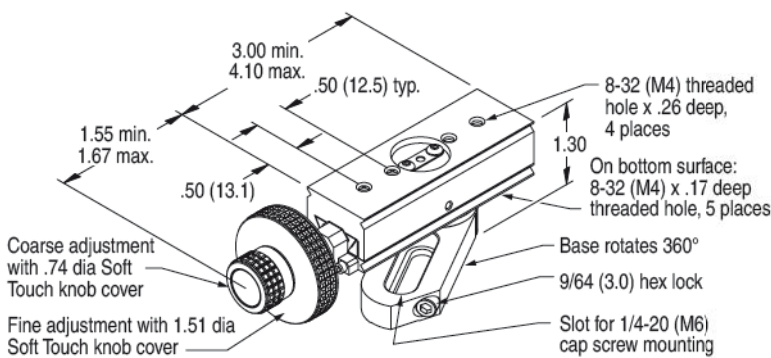
2-Axis / DT-130-XY

Note that dimensions in parentheses (mm) reflect metric assembly features



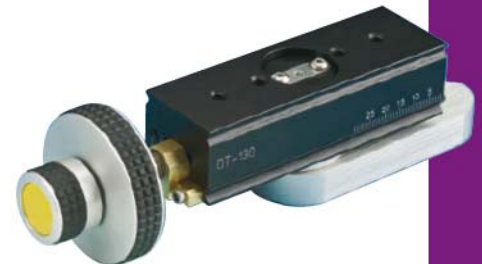
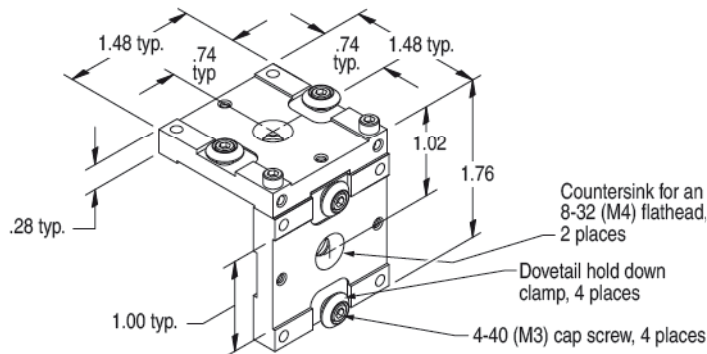
Single-Axis / DT-130-X

Note that dimensions in parentheses (mm) reflect metric assembly features



90° Angle Bracket / DT-130-AB

Note that dimensions in parentheses (mm) reflect metric assembly features



Translation Stages

Linear Manual

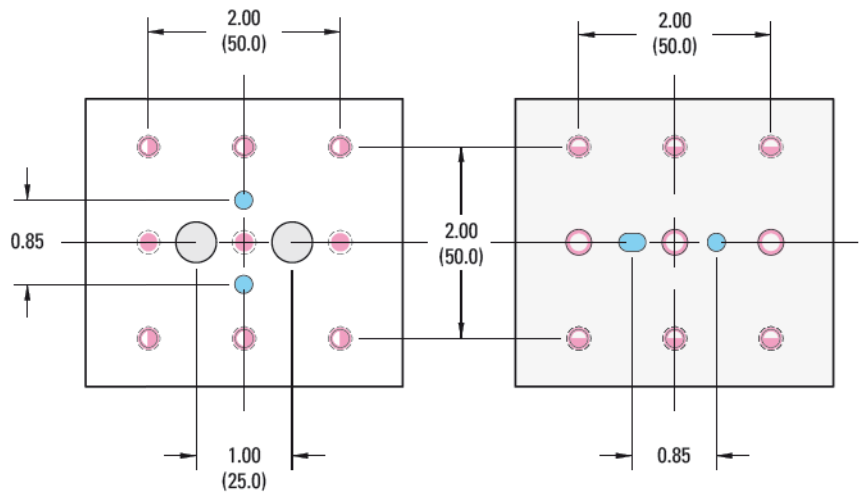
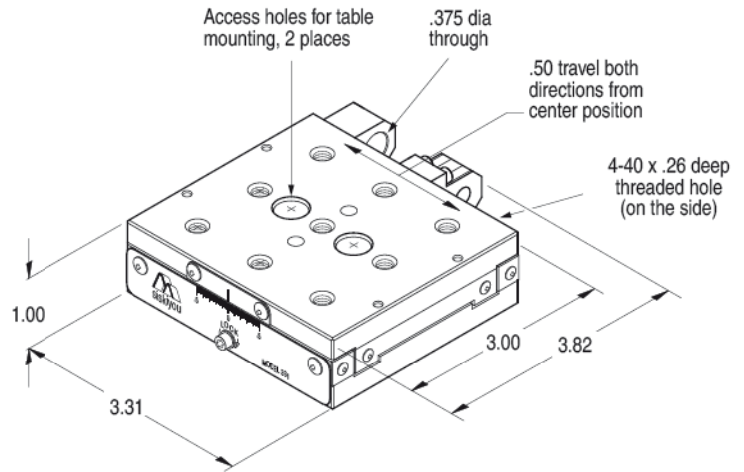
Ball Bearing Stages

1 inch Travel / 331

□ Top Plate ■ Bottom Plate Mounting Holes: 1/4-20 (M6), ▽ 0.51 ● 0.26 ○ 0.22 ○ Clearance ○ / 0.1875 Dowel Pin, ▽ 0.21 ●
 Note that dimensions in parentheses (mm) reflect metric assembly features.



Model 331, shown with TPI adjustment screw, not included



Product Features

- Integrated scale / lock
- Right and left hand drive adjustable
- Compatible with standard micrometers
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	15 lbs, centered
Maximum vertical axis load	3 lbs, centered
Travel	1.0-inch (25mm)
Minimum controllable motion	
20TPI	20 μm
40TPI	10 μm
80TPI	submicron
100TPI	submicron
127TPI	submicron

Related Products

MX-AB adapter block	120
TPI adjustment screws	beginning 84
841 actuator	93
400 series actuators	90
motorized version	63

Order Information

ball bearing stage, 1.0 inch travel	331
-------------------------------------	-----

Metric Option — for metric assembly features on this product, add '-M' after model number.

Ball Bearing Translation Stage

The 331 precision ball bearing translation stage offers exceptionally smooth linear travel. The time-tested design has been improved with the addition of more bearing area than similar stages. The increased bearing surface reduces non-linear motion when changing directions, and maximizes linearity towards the end of travel.

The 331 has a side located non-influencing lock that is integrated with a graduated scale for position readout of 0.04 inches (1 mm). The actuator mounting block and stop block are designed to enable either right or left hand mounting of the drive device. The actuator mounting block is compatible with our TPI series adjustment screws, 400 and 800 series actuators, as well as standard micrometers.

The spring-loaded 331 stage is stackable for XY positioning requirements and is compatible with our MX-AB for Z-axis applications.

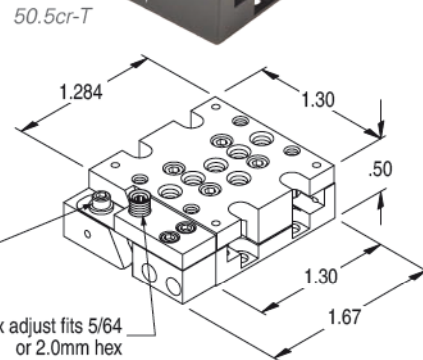
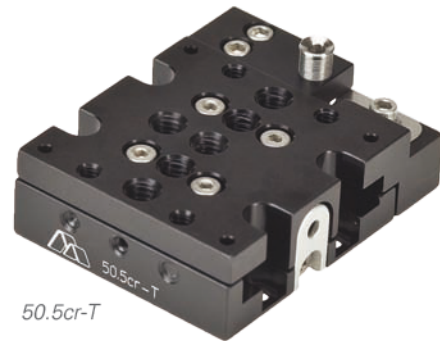
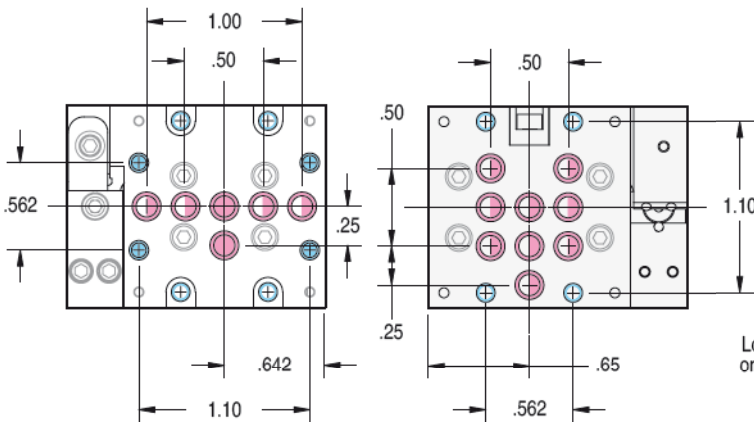
Translation Stages

Linear Manual, Top Adjust

Crossed Roller Stages

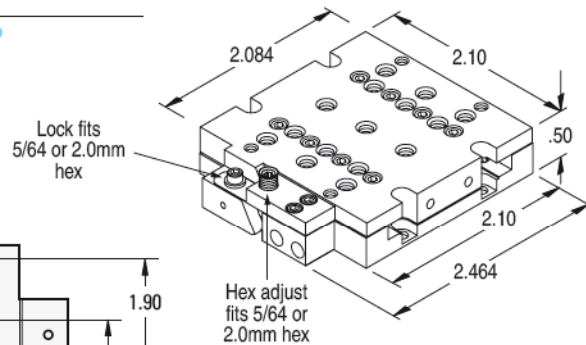
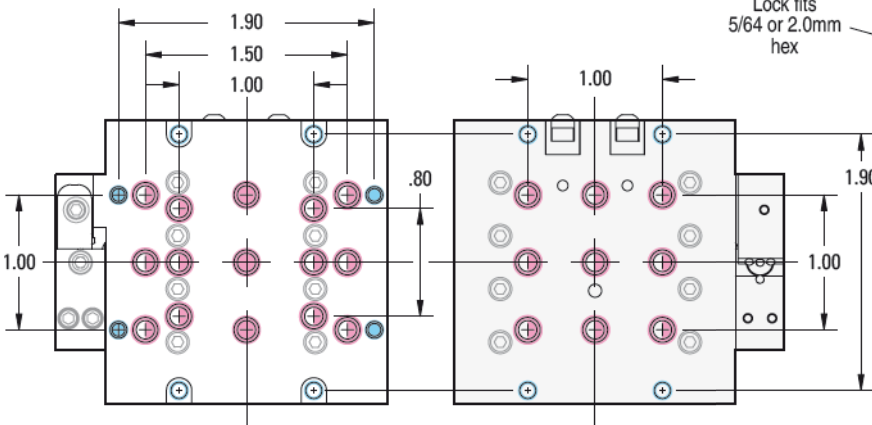
2mm Travel / 50.5cr-T

□ Top Plate ■ Bottom Plate Mounting Holes: 8-32 (M4), ∇ 0.25 ● 0.15 ○ / 4-40 (M2.5), ∇ 0.15 ● Clearance ○
 Note that dimensions in parentheses (mm) reflect metric assembly features.



2mm Travel / 100.5cr-T

□ Top Plate ■ Bottom Plate Mounting Holes: 8-32 (M4), ∇ 0.25 ● 0.15 ○ / 4-40 (M2.5), ∇ 0.15 ● Clearance ○
 Note that dimensions in parentheses (mm) reflect metric assembly features.



The 50.5cr-T and 100.5cr-T bring top adjust capability to the thinnest line of crossed roller translation stages available. With a 100 pitch screw bearing upon a 60° angle block (pat. pending), the effective thread pitch is 170, giving you the most precise adjustment available from a non-differential adjuster. Perfect for tight spaces, many components can be mounted to the top adjust stages to help you get many degrees-of-freedom in a small volume. Both sizes can be stacked to create XY versions. XYZ is available by adding an angle bracket and using an end drive cr-series stage; all three axes are then top adjustable. Each axis has a non-influencing foil lock which virtually guarantees that the first adjustment is the last one. The foil locks are accessible from the top. The same wrench drives the stage and actuates the foil locks. Angle brackets are purchased separately. See page 38 for Model numbers and dimensions.

Product Features

- Low profile design
- Non-influencing lock
- High load crossed roller bearings
- Vacuum compatible versions available

Performance Specifications

Maximum horizontal axis load	
50.5cr-T series	3 lbs
100.5cr-T series	7 lbs
Travel range	
50.5cr-T series	0.078 inch (2 mm)
100.5cr-T series	0.078 inch (2 mm)
Resolution	
100TPI adjustment screw	submicron, 150µm/revolution

Related Products

50ab and 100ab, angle brackets	38
--------------------------------	----

Order Information

1.3" top adjust stage, 2mm travel	50.5cr-T
2.1" top adjust stage, 2mm travel	100.5cr-T

Metric Option — for metric assembly features on this product, add '-M' after model number.



Translation Stages

Linear Manual

Crossed Roller Stages

1/2 and 1 Inch XYZ Travel / .5cr Series

Note that dimensions in parentheses (mm) reflect metric assembly features

.5cr Series



Product Features

- Low profile design
- Non-influencing lock
- High load crossed roller bearings
- Vacuum compatible versions available

Performance Specifications

Travel Range:	
50.5cr series	0.5 inch (12mm)
100.5cr series	1.0 inch (25.4mm)
150.5cr series	1.0 inch (25.4mm)
Maximum Horizontal axis Load	
50.5cr series	5 lb
100.5cr series	10 lb
150.5cr series	15 lb
Maximum Vertical axis Load	
50.5cr series	2 lb
100.5cr series	4 lb
150.5cr series	6 lb
Resolution	
with 80TPI adjustment screw	5µm
with 100TPI adjustment screw	submicron

Related Products

SDM and SM series micrometers	84
80 and 100 TPI actuator screws	88
420 series motorized actuators	90
angle brackets	38
ABP mounting plates	61

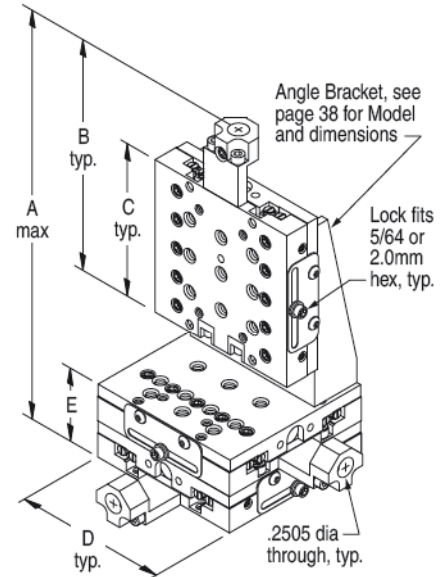
Order Information

0.5 inch travel stage / 1.3" □	
single-axis	50.5cr-X
2-axis	50.5cr-XY
3-axis, rh	50.5cr-XYZR
3-axis, lh	50.5cr-XYZL
1.0 inch travel stage / 2.1" □	
single-axis	100.5cr-X
2-axis	100.5cr-XY
3-axis, rh	100.5cr-XYZR
3-axis, lh	100.5cr-XYZL
1.0 inch travel stage / 3.25" □	
single-axis	150.5cr-X
2-axis	150.5cr-XY
3-axis, rh	150.5cr-XYZR
3-axis, lh	150.5cr-XYZL

Metric Option — for metric assembly features on this product, add '-M' after model number.

Crossed Roller XYZ Stages

The 50.5cr, 100.5cr and 150.5cr represent the thinnest line of crossed roller stages on the market today. Their slim design is ideal for applications in which space or height is critical. All three sizes are available in X-, XY- or XYZ-axis versions. Each axis has a non-influencing foil lock which virtually guarantees that the first adjustment is the last one. The foil lock has matching mounting holes on the opposite edge for maximum access flexibility. Depending on the sensitivity of the setup, either 8-80TPI or 8-100TPI adjustment screws can be used with these stages. Angle brackets are included in assemblies, and may also be purchased separately. See page 38 for Model numbers and dimensions.



Model	A	B	C	D	E
50.5cr-XYZ	3.37	1.85	1.30	1.30	1.00
100.5cr-XYZ	4.95	2.90	2.10	2.10	1.00
150.5cr-XYZ	6.10	4.05	3.25	3.25	1.00

Micrometers / Adjustment Screws / Motorized Actuators

See pages 82-93 for detailed information on these actuator options. Note that actuators do not have metric options.

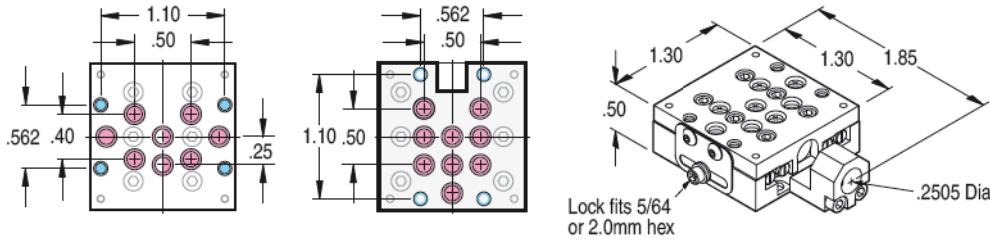
Diff. Micrometers	Micrometers	Knob Drives	Hex Drives	Motorized Drives
1/4" Travel SDM-0.25	1/2" Travel SM-0.5	1/2" Travel 8-80TPI-0.5 8-100TPI-0.5	1/4" Travel 8-80TPI-0.2H 8-100TPI-0.2H	1/2" Travel, 512 1" Travel, 525
1/2" Travel SDM-0.5	1" Travel SM-1.0	1" Travel 8-80TPI-1.0 8-100TPI-1.0	1/2" Travel 8-80TPI-0.5H 8-100TPI-0.5H	Controllers 4 Axis, MC500 1 Axis, MC501

Linear Manual

Crossed Roller Stages

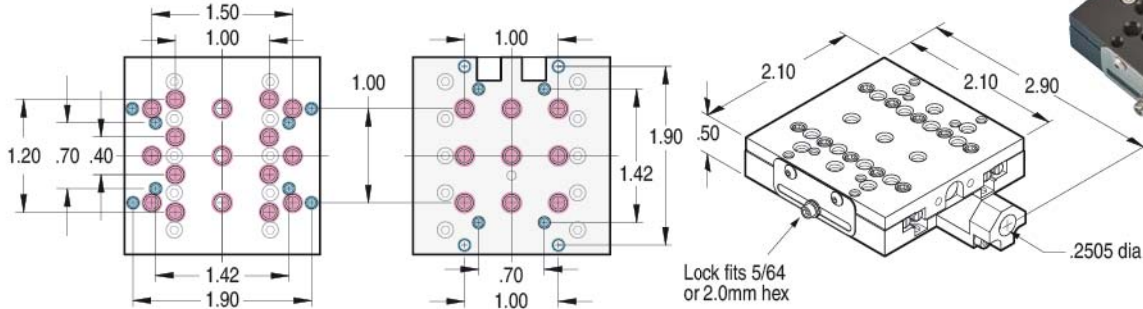
1/2" Linear Travel, 1.30" Stage / 50.5cr-X

□ Top Plate ■ Bottom Plate Mounting Holes: 4-40 (M2.5), ∇ 0.15 ● Clearance ○ / 8-32 (M4), ∇ 0.15 ● 0.25 ●
 Note that dimensions in parentheses (mm) reflect metric assembly features



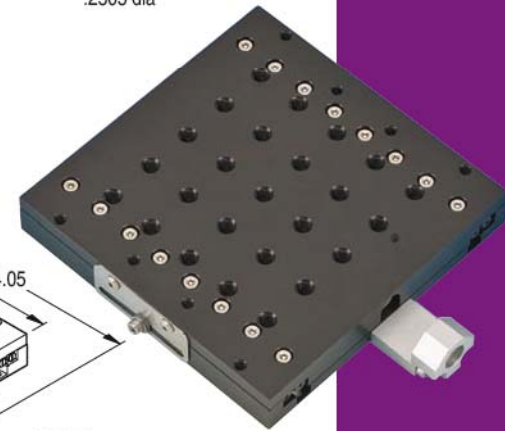
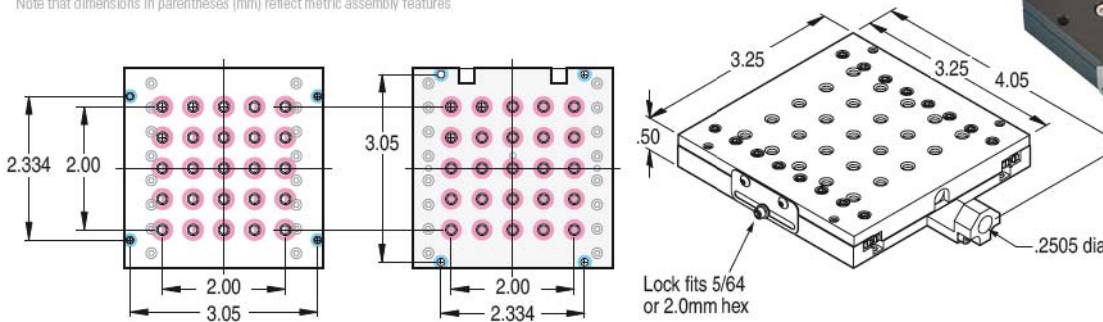
1" Linear Travel, 2.10" Stage / 100.5cr-X

□ Top Plate ■ Bottom Plate Mounting Holes: 4-40 (M2.5), ∇ 0.15 ● Clearance ○ / 8-32 (M4), ∇ 0.15 ● and 0.25 ●
 Note that dimensions in parentheses (mm) reflect metric assembly features



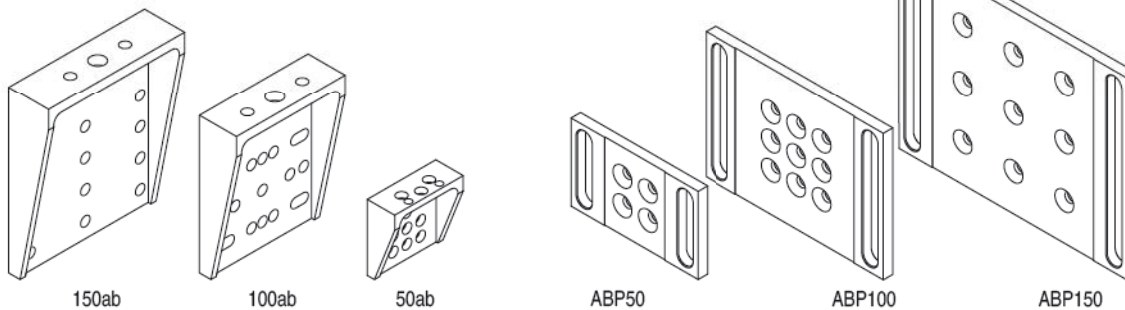
1" Linear Travel, 3.25" Stage / 150.5cr-X

□ Top Plate ■ Bottom Plate Mounting Holes: 4-40 (M2.5), ∇ 0.15 ● Clearance ○ / 8-32 (M4), ∇ 0.15 ● and 0.25 ●
 Note that dimensions in parentheses (mm) reflect metric assembly features



Mounting Plates and Angle Brackets

Bottom View shown. See pages 38 and 61 for detailed information on mounting plates and angle bracket options.



Translation Stages

Linear Manual

Crossed Roller Stages

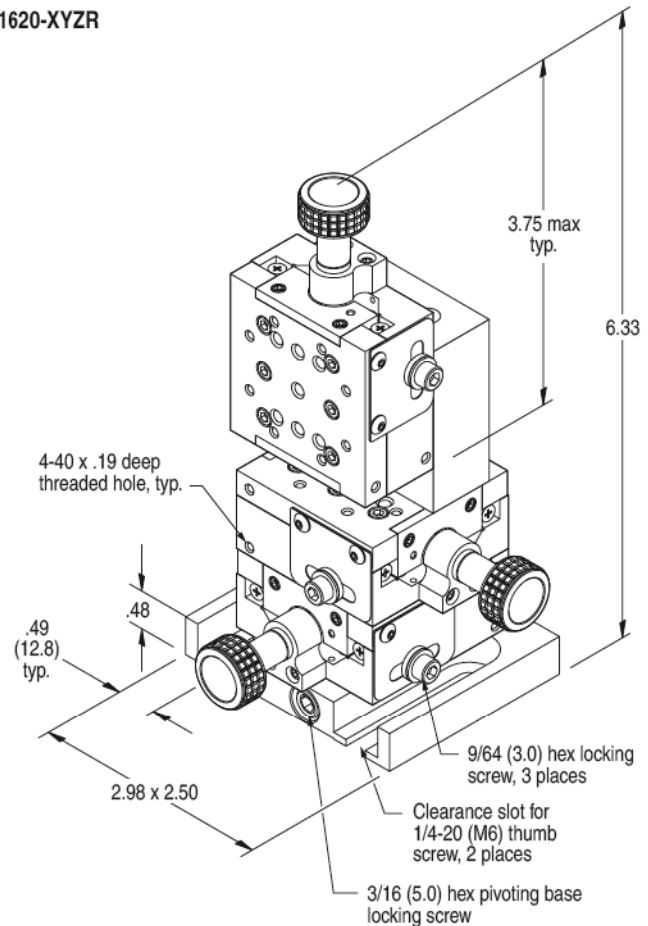
20mm XYZ Travel / 1600 Series

Note that dimensions in parentheses (mm) reflect metric assembly features



1620-XYZR

1620-XYZR



Product Features

- Color coded axis knobs
- Non-influencing lock
- Rotatable mounting base
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	10 lbs
Maximum vertical axis load	4 lbs
Travel	20 mm
Minimum controllable motion	
1620 series	10 μ m
1640 series	5 μ m
1680 series	submicron

Related Products

motorized version	66
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Order Information

crossed roller single-axis stage, 20TPI	1620-X
crossed roller 2-axis stage, 20TPI	1620-XY
crossed roller vertical stage, 20TPI	1620-Z
crossed roller 3-axis stage, 20TPI, rh	1620-XYZR
crossed roller 3-axis stage, 20TPI, lh	1620-XYZL

Thread Option for 40- or 80-pitch adjustment screws, change the Model Number to indicate the appropriate TPI adjustment screw 1640-....
or 1680-....

Metric Option — for metric assembly features on this product, add '-M' after model number.

Crossed Roller XYZ Stages

1600 series crossed roller translation stages are ideal for a wide range of submicron or micron-scale motion applications. Our 1600 series stages use precision rolled 20TPI, 40TPI, and 80TPI lead screws for smooth positioning along their entire travel. These lead screws are spring-loaded against a solid stop to ensure drift-free operation.

1600 series stages come standard with our ABP-R mounting plate. The design of this mounting plate enables coarse positioning between platform mounting holes as well as 360° of coarse rotational positioning. If rotation with a solid submicron level stop is required, the MX-RS rotation stage is designed to mount directly into the ABP-R and has mounting holes for all 1600 series stages.

A non-influencing foil lock is integrated into all 1600 series stages. Z-axis and XYZ-axis models have a Z-axis mounting block that allows the user to reconfigure the stage to fit the application. Color coded knob caps are used to identify axis location in low light conditions.

Translation Stages

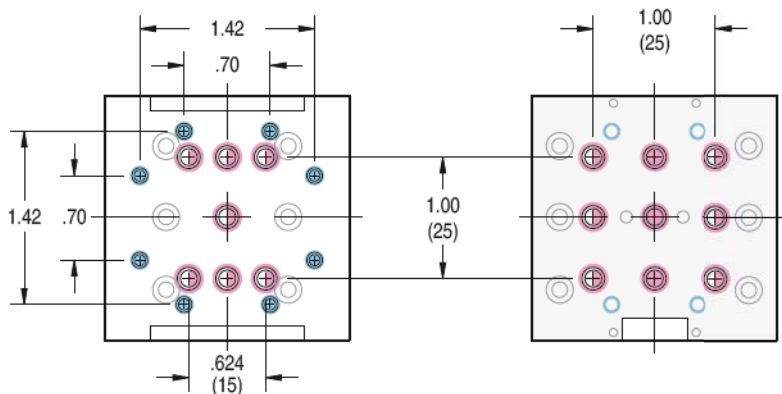
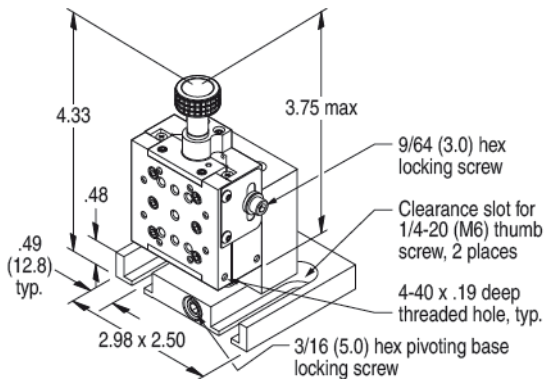
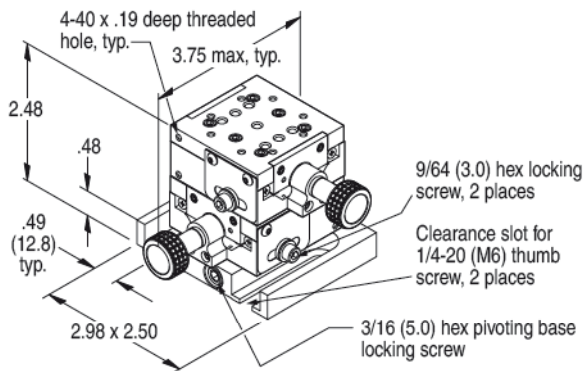
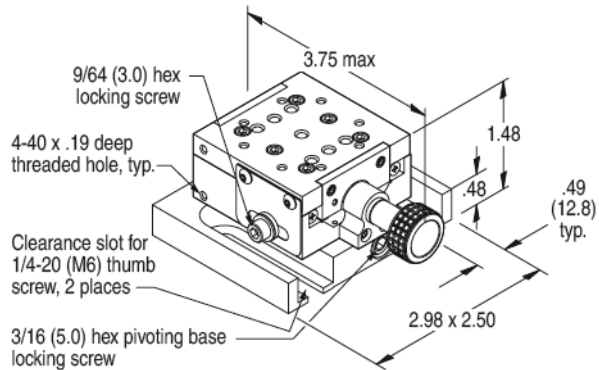
Linear Manual

Crossed Roller Stages

20mm XYZ Travel / 1600 Series

□ Top Plate ■ Bottom Plate Mounting Holes: 8-32 (M4), 0.22 (5.7) / 0.19 (4.8) / 4-40 (M2.5), 0.19 (4.8) Clearance

Note that dimensions in parentheses (mm) reflect metric assembly features.



1620-X



1620-XY



1620-Z



1620 Mounting Plate Detail



Distributor

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Translation Stages

Linear Manual

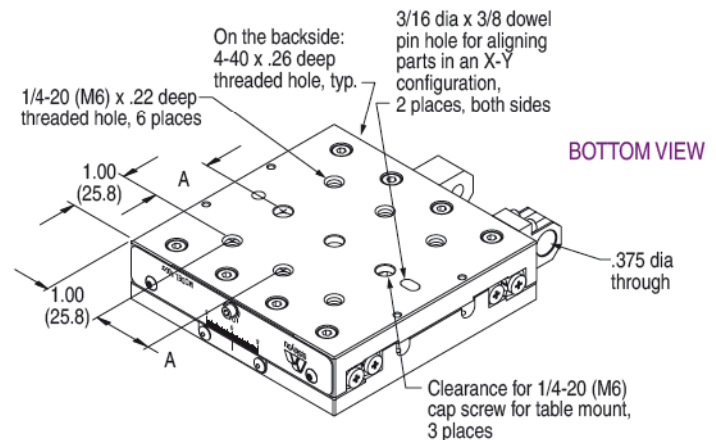
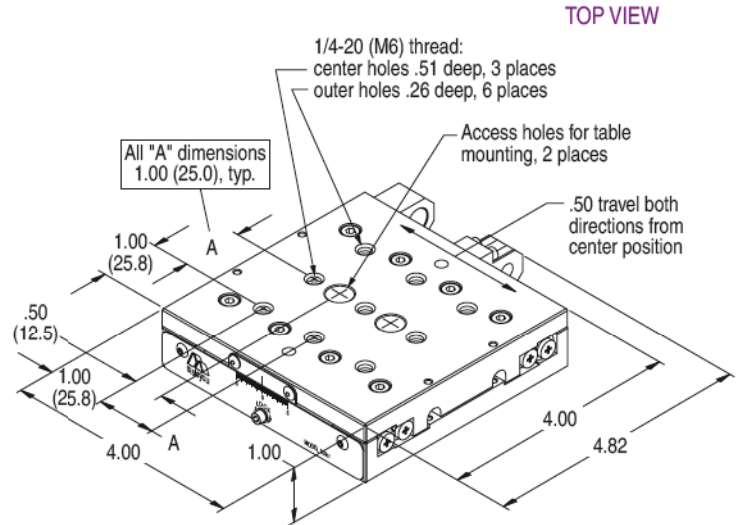
Crossed Roller Stages

1 inch Travel / 100cr

Note that dimensions in parentheses (mm) reflect metric assembly features



Model 100cr



Product Features

- Integrated scale / lock
- Right and left hand drive adjustable
- Compatible with standard micrometers
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	70 lbs, centered
Maximum vertical axis load	10 lbs, centered
Travel	1.0 inch (25 mm)
Minimum controllable motion	
20TPI	20 μ m
40TPI	10 μ m
80TPI	submicron
100TPI	submicron
127TPI	submicron

Related Products

MX-AB adapter block	120
TPI adjustment screws	beginning 84
841 actuator	93
400 series actuators	90
motorized version	64

Order Information

crossed roller stage, 1.0 inch travel **100cr**

Metric Option — for metric assembly features on this product, add '-M' after model number.

Crossed Roller Translation Stage

The 100cr precision crossed roller bearing translation stage offers exceptionally smooth linear travel. The time-tested design has been improved with the addition of more bearing area than similar stages. The increased bearing surface reduces non-linear motion when changing directions, and maximizes linearity towards the end of travel.

The 100cr has a side located non-influencing lock that is integrated with a graduated scale for position readout of 0.04 inches (1 mm). The actuator mounting block and stop block are designed to enable either right or left hand mounting of the drive device. The actuator mounting block is compatible with our TPI series adjustment screws, 400 and 800 series actuators, as well as standard micrometers.

The spring-loaded 100cr stage is stackable for XY positioning requirements, and has pin pockets to optimize orthogonality. It is compatible with our MX-AB for Z-axis applications.

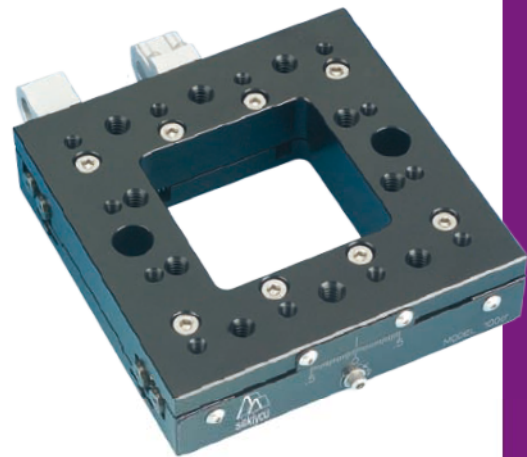
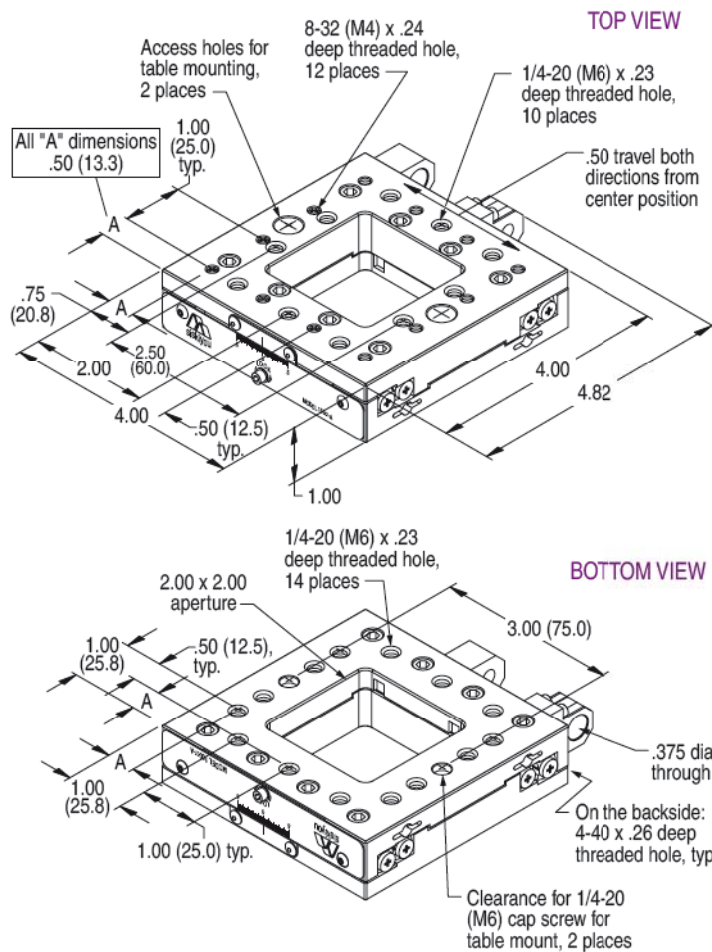
Translation Stages

Linear Manual

Crossed Roller Stages

1 inch Travel with Aperture / 100cr-A

Note that dimensions in parentheses (mm) reflect metric assembly features



Model 100cr-A

Product Features

- Integrated scale / lock
- Right and left hand drive adjustable
- Compatible with standard micrometers
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	70 lbs, centered
Maximum vertical axis load	10 lbs, centered
Travel	1.0 inch (25 mm)
Minimum controllable motion	
20TPI	20 μ m
40TPI	10 μ m
80TPI	submicron
100TPI	submicron
127TPI	submicron

Related Products

MX-AB adapter block	120
TPI adjustment screws	beginning 84
841 actuator	93
400 series actuators	90
motorized version	64

Order Information

crossed roller stage with aperture, 1.0 inch travel	100cr-A
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Metric Option — for metric assembly features on this product, add '-M' after model number.

Crossed Roller Translation Stage

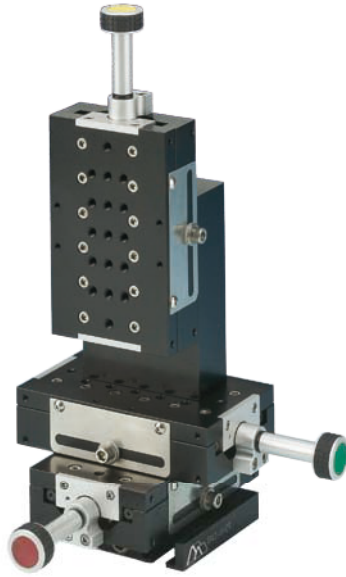
The 100cr-A precision crossed roller bearing translation stage offers exceptionally smooth linear travel. The time-tested design has been improved with the addition of more bearing area than similar stages. The increased bearing surface reduces non-linear motion when changing directions, and maximizes linearity towards the end of travel. This aperture version of our 100cr stage is ideal for laser and microscopy applications where a light path through the stage is necessary.

The 100cr-A has a side located non-influencing lock that is integrated with a graduated scale for position readout of 0.04 inches (1 mm). The actuator mounting block and stop block are designed to enable either right or left hand mounting of the drive device. The actuator mounting block is compatible with our TPI series adjustment screws, 400 and 800 series actuators, as well as standard micrometers.

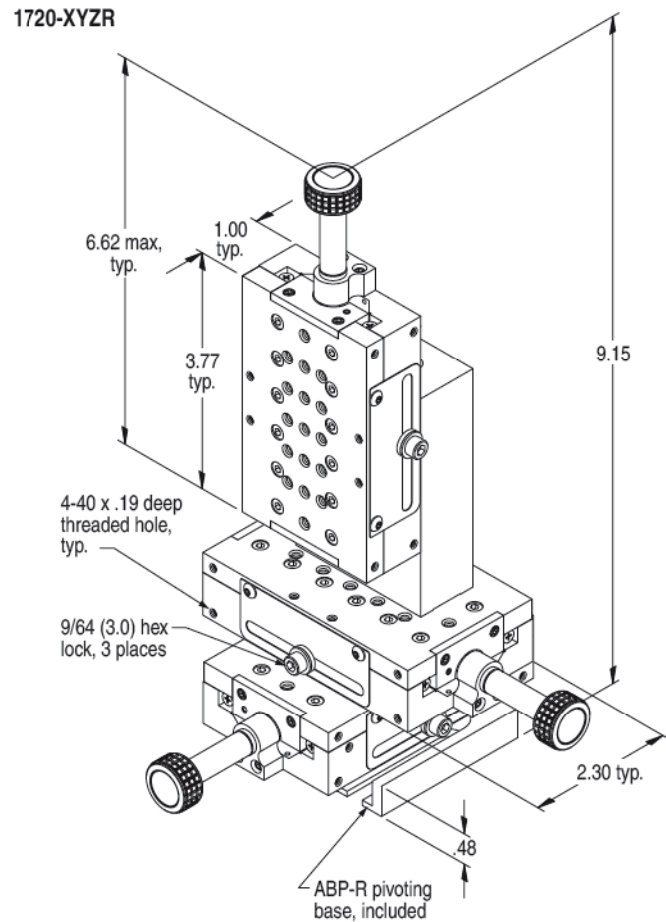
The spring-loaded 100cr-A stage is stackable for XY positioning requirements and is compatible with our MX-AB for Z-axis applications.

50mm XYZ Travel / 1700 Series

Note that dimensions in parentheses (mm) reflect metric assembly features



1720-XYZR



Product Features

- Color coded axis knobs
- Non-influencing lock
- Rotatable mounting base
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	10 lbs
Maximum vertical axis load	4 lbs
Travel	50 mm
Minimum controllable motion	
1720 series	10 μ m
1740 series	5 μ m
1780 series	submicron

Related Products

motorized version	68
MX-RS rotation base	122

Order Information

crossed roller single-axis stage, 20TPI	1720-X
crossed roller 2-axis stage, 20TPI	1720-XY
crossed roller vertical stage, 20TPI	1720-Z
crossed roller 3-axis stage, 20TPI, rh	1720-XYZR
crossed roller 3-axis stage, 20TPI, lh	1720-XYZL

Thread Option for 40- or 80-pitch adjustment screws, change the Model Number to indicate the appropriate TPI adjustment screw 1740-.... or 1780-....

Metric Option — for metric assembly features on this product, add '-M' after model number.

Crossed Roller XYZ Stages

1700 series crossed roller translation stages are ideal for a wide range of submicron or micron-scale motion applications. Our 1700 series stages use precision rolled 20TPI, 40TPI, and 80TPI lead screws for smooth positioning along their entire travel. These lead screws are spring-loaded against a solid stop to ensure drift-free operation.

1700 series stages come standard with our ABP-R mounting plate. The design of this mounting plate enables coarse positioning between platform mounting holes as well as 360° of coarse rotational positioning. If rotation with a solid submicron level stop is required, the MX-RS rotation stage is designed to mount directly into the ABP-R and has mounting holes for all 1700 series stages.

A non-influencing foil lock is integrated into all 1700 series stages. Z-axis and XYZ-axis models have a Z-axis mounting block that allows the user to reconfigure the stage to fit the application. Color coded knob caps are used to identify axis location in low light conditions.

Translation Stages

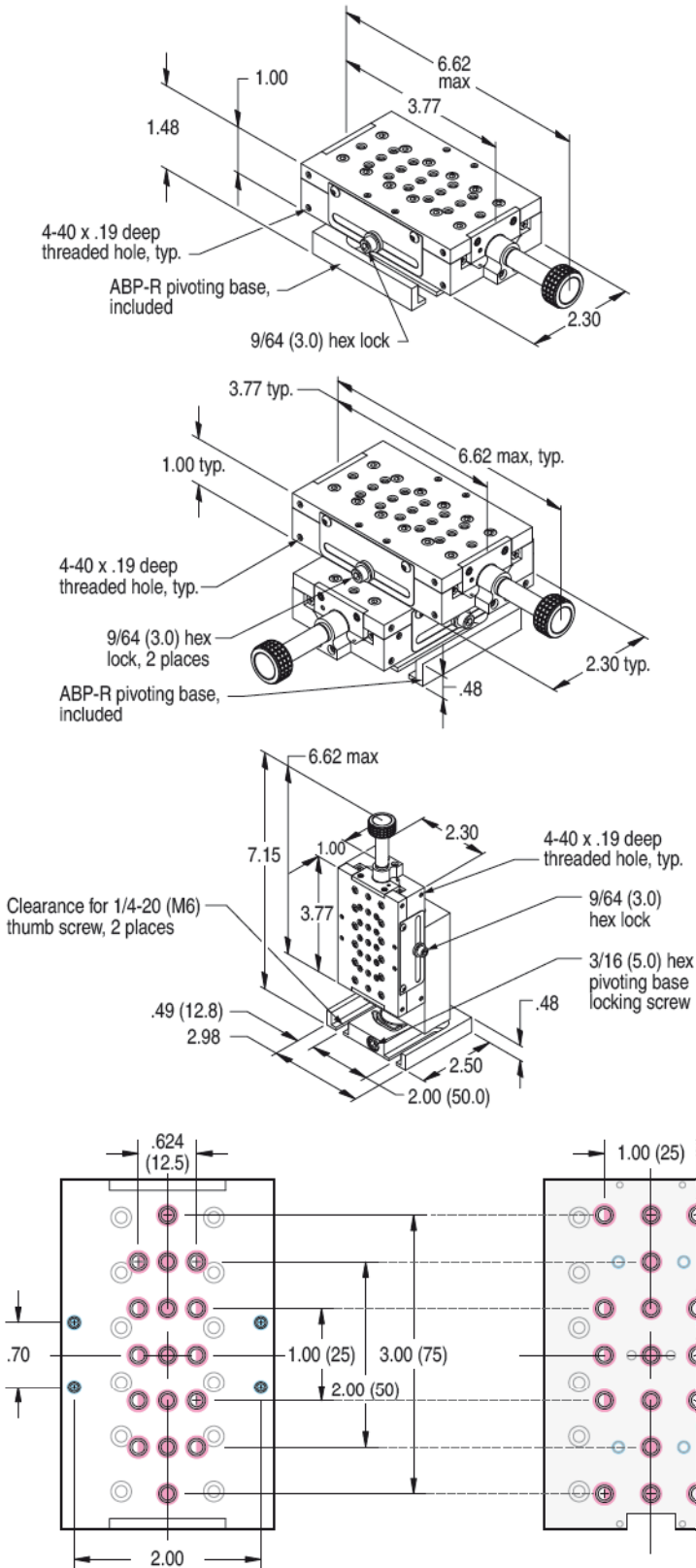
Linear Manual

Crossed Roller Stages

50mm XYZ Travel / 1700 Series

□ Top Plate ■ Bottom Plate Mounting Holes: 8-32 (M4), 0.21 (0.19) / 4-40 (M2.5), 0.19 (0.19), Clearance (0)

Note that dimensions in parentheses (mm) reflect metric assembly features.



1720-X



1720-XY



1720-Z



1720 Mounting Plate Detail



Translation Stages

Linear Manual

Crossed Roller Stages

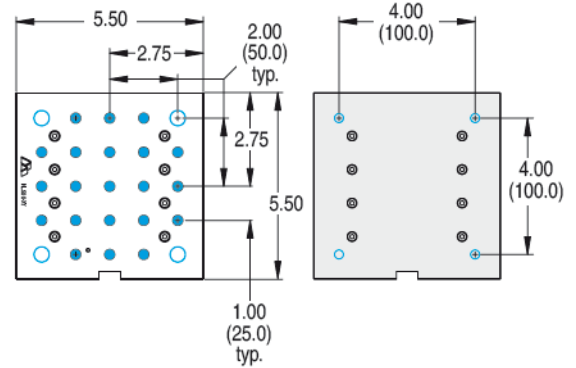
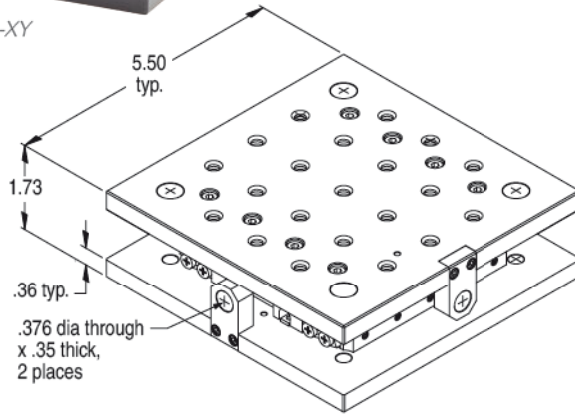


1/2 inch Travel / HL.500-XY

□ Top Plate ■ Bottom Plate Mounting Holes: 1/4-20 (M6), 0.29 Clearance
 Note that dimensions in parentheses (mm) reflect metric assembly features.

New

HL.500-XY



Manual XY Linear Stage

The HL.500-XY stage has crossed roller bearings for the ultimate in stability, linearity and reduced stiction under heavy loads. We use 20% more bearings for improved bidirectional linearity over the entire travel range, with notable performance improvement at the end of travel. A variety of manual and motorized actuators are available: manual actuators in 20TPI / 40TPI / 80TPI / 100TPI / 127TPI / 170TPI, differential micrometers, as well as open-loop and closed loop drives. The HL.500-XY has individual non-influencing locks on each axis that will hold the stage in place even under a 3g jolt. The HL.500-XY is compatible with our MX-AB and MX-AB2 vertical mounting blocks; when combined with our 100cr or 200cr stages a high load XYZ stage system can be assembled.

Product Features

- Low profile design
- Integrated XY axes
- Non-influencing lock
- High load crossed roller bearings
- Vacuum compatible versions available

Performance Specifications

Travel range	0.5 inch (12.5mm)
Maximum horizontal axis load	150 lbs, centered
Maximum vertical axis load	20 lbs, centered
Minimum controllable motion	
20TPI	20 μm
40TPI	10 μm
80TPI	submicron
100TPI	submicron
127TPI	submicron

Related Products

FAM-0.5 micrometers	84
420.5 actuator	90
841 acuator	93
EAS & TPI adjustment screws	86

Order Information

0.5 inch travel XY stage / 5.5" □ HL.500-XY

Metric Option — for metric assembly features on this product, add '-M' after model number.

Micrometers / Adjustment Screws / Motorized Actuators

See pages 82-93 for detailed information on these actuator options.

Differential Micrometers	Micrometers	Knob Drives	Hex Drives	Motorized Drives
1" Travel FDM-1	1/2" Travel FAM-0.5	1/2" Travel 20, 40, 80, 100, 127 and 170 TPI	1/2" Travel 20, 40, 80, 100, 127 and 170 TPI + 100 TPI Differential	1/2" Travel, 420.5 1" Travel, 841
				Controllers 4 Axis, MC500 MC1000e Series 1 Axis, MC501 MC1000e-1

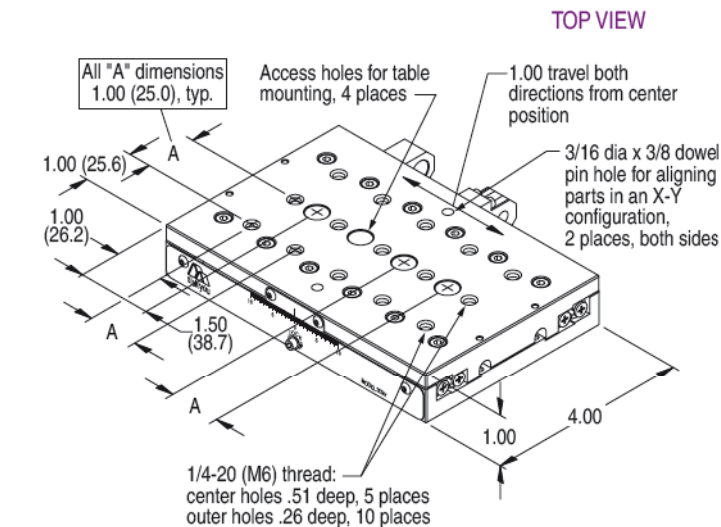
Translation Stages

Linear Manual

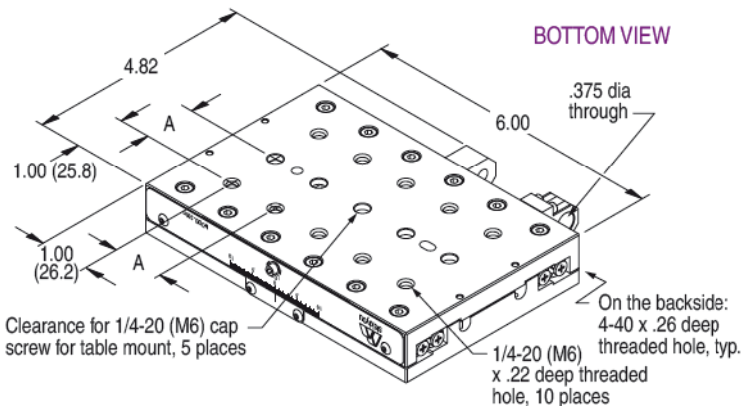
Crossed Roller Stages

2 inch Travel / 200cr

Note that dimensions in parentheses (mm) reflect metric assembly features



Model 200cr



Crossed Roller Translation Stage

The 200cr precision crossed roller bearing translation stage offers exceptionally smooth linear travel. The time-tested design has been improved with the addition of more bearing area than similar stages. The increased bearing surface reduces non-linear motion when changing directions, and maximizes linearity towards the end of travel.

The 200cr has a side located non-influencing lock that is integrated with a graduated scale for position readout of 0.04 inches (1 mm). The actuator mounting block and stop block are designed to enable either right or left hand mounting of the drive device. The actuator mounting block is compatible with our TPI series adjustment screws, 400 and 800 series actuators, as well as standard micrometers.

The spring-loaded 200cr stage is stackable for XY positioning requirements and is compatible with our MX-AB2 for Z-axis applications.

Product Features

- Integrated scale / lock
- Right and left hand drive adjustable
- Compatible with standard micrometers
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	70 lbs, centered
Maximum vertical axis load	10 lbs, centered
Travel	2.0 inch (50 mm)
Minimum controllable motion	
20TPI	20 μ m
40TPI	10 μ m
80TPI	submicron
100TPI	submicron
127TPI	submicron

Related Products

TPI adjustment screws	beginning 84
842 actuator	93
422 actuator	90
motorized version	64

Order Information

crossed roller stage, 2.0 inch travel 200cr

Metric Option — for metric assembly features on this product, add '-M' after model number.

Translation Stages

Linear Manual

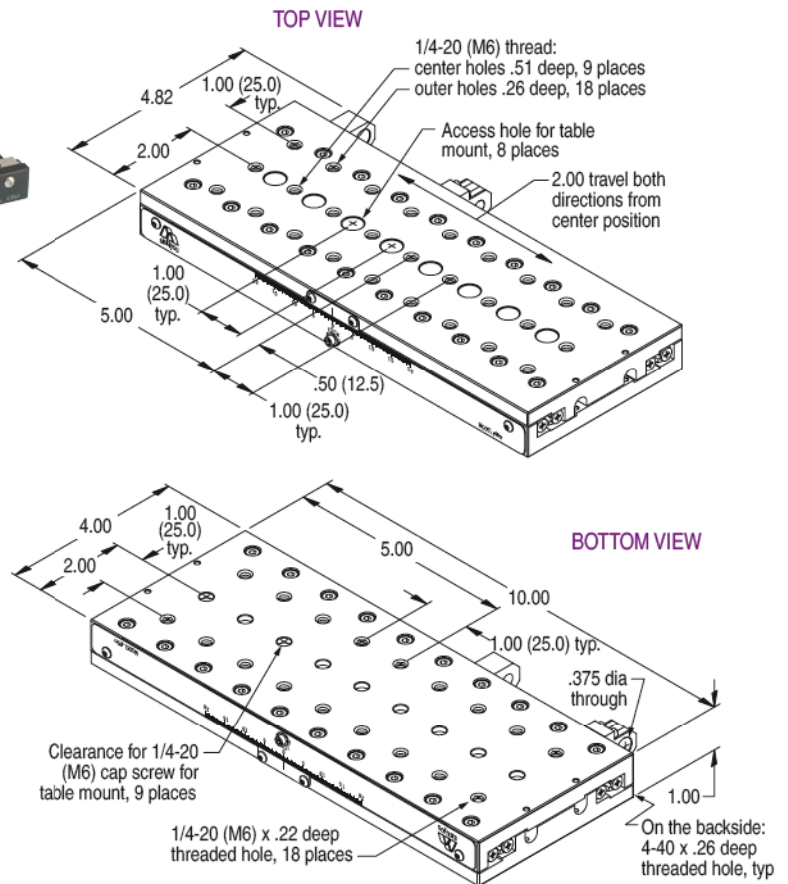
Crossed Roller Stages

4 inch Travel / 400cr

Note that dimensions in parentheses (mm) reflect metric assembly features



Model 400cr
shown with long travel adjustment screw,
not included



Product Features

- Integrated scale / lock
- Right and left hand drive adjustable
- Compatible with Lt series long travel adjustment screws
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	90 lbs, centered
Maximum vertical axis load	20 lbs, centered
Travel	4.0 inch (100 mm)
Minimum controllable motion	
20TPI	20 μ m
40TPI	10 μ m
80TPI	submicron
100TPI	submicron

Related Products

long travel adjustment screws	59
842 actuator	93
422 actuator	90

Order Information

crossed roller stage, 4.0 inch travel **400cr**

Metric Option — for metric assembly features on this product, add '-M' after model number.

Crossed Roller Translation Stage

The 400cr precision crossed roller bearing translation stage offers exceptionally smooth linear travel. The time-tested design has been improved with the addition of more bearing area than similar stages. The increased bearing surface reduces non-linear motion when changing directions, and maximizes linearity towards the end of travel.

The 400cr has a side located non-influencing lock that is integrated with a graduated scale for position readout of 0.04 inches (1 mm). The actuator mounting block and stop block are designed to enable either right or left hand mounting of the drive device. The actuator mounting block is compatible with our TPI series adjustment screws, 400 and 800 series actuators, as well as standard micrometers.

The spring-loaded 400cr stage is stackable for XY positioning requirements and is compatible with our MX-AB2 for XZ, YZ or XYZ applications.

Translation Stages

Long Travel Adjustment Screws

Coarse Long Travel with 1.0-inch TPI Adjustment / Lt Series

Figure 1

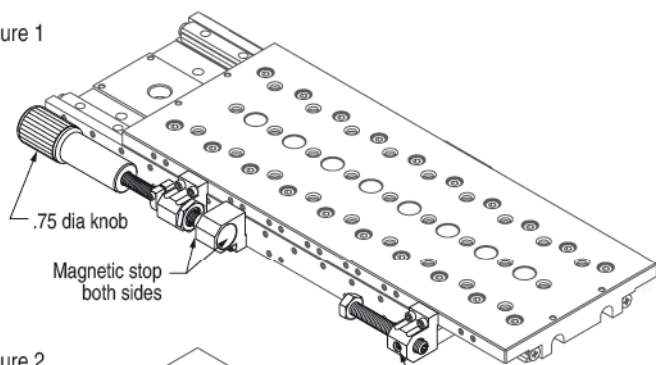
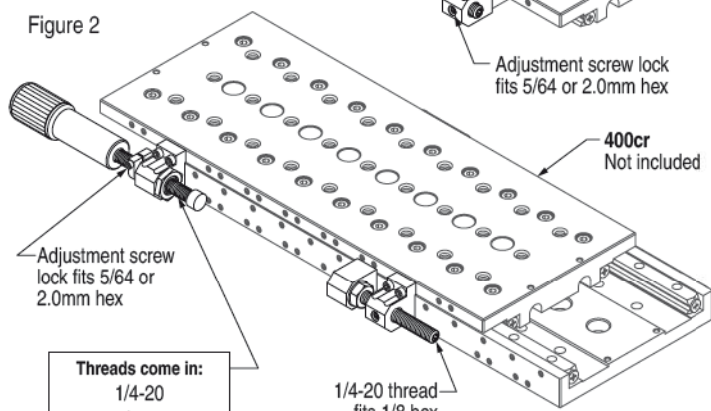


Figure 2



Threads come in:
1/4-20
1/4-40
1/4-80
or 1/4-100

Long Travel Adjustment Screw



Shown with 400cr Stage, not included

Long Travel Adjustment Screws

Our **Lt** series of long travel adjustment screws incorporate a magnet stop-block (pat.pend.). As shown in Figure 1 above, where the stage is located against the magnetically coupled adjustment screw, the stage can be adjusted just like on a standard spring-loaded stage. To move the stage out of the experiment, slide the stage to the opposite end of travel (Figure 2) to its new magnetic stop location. Some force will be needed to overcome the magnetic coupling on either end of travel. This unique feature is ideal for use on long travel stages in applications where you need to move a device into an area in the experiment and then remove it to a new location. When the stage is in place the magnet is coupled with the screw and allows the continued use of the adjustment screw for linear adjustment as needed. The opposing stop-block has a 1/4-20 set screw for adjusting the stage location when it is "out" of the experimental area. This simple design is ideal for moving sample chambers under a microscope (see page 186 for a complete system) or moving optical elements into a laser light path. The **Lt** series adjustment screws are compatible with our 200cr and 400cr stages.

Product Features

- Magnet "stop-block" for rapid/extreme travel adjustments
- 20, 40, 80 & 100 thread per inch models
- Large adjustment knob for improved resolution

Performance Specifications

Maximum load	100 lbs
Minimum controllable motion	
20TPI	20 μ m
40TPI	10 μ m
80TPI	submicron
100TPI	submicron

Related Products

200cr translation stage	57
400cr translation stage	58
XYZ chamber shuttle	186

Order Information

long travel adjustment screw, 20TPI	20TPI-1.0Lt
long travel adjustment screw, 40TPI	40TPI-1.0Lt
long travel adjustment screw, 80TPI	80TPI-1.0Lt
long travel adjustment screw, 100TPI	100TPI-1.0Lt

Device Slider

Accurate Reinsertion / MXS-400

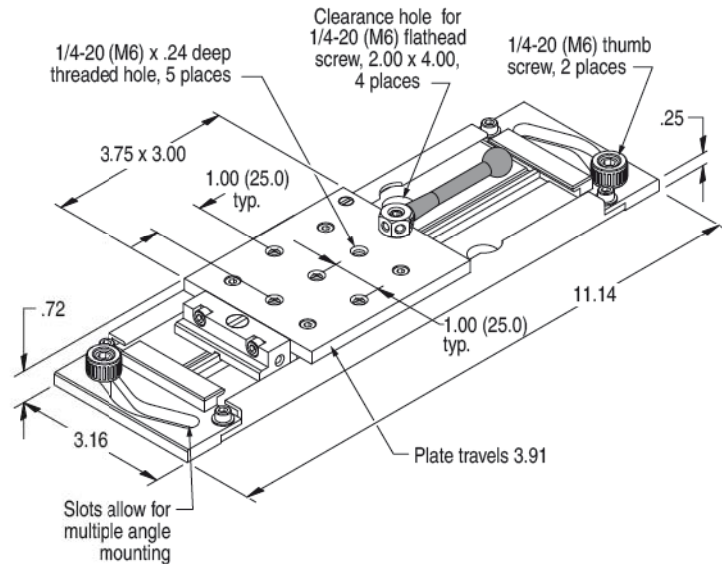
Note that dimensions in parentheses (mm) reflect metric assembly features



MXS-400



Partially retracted



Product Features

- Long travel sliding stage
- Submicron repeatable stop
- Heavy load capacity

Performance Specifications

Maximum load	100 lbs
Travel range	4.00 inch (102 mm)
Repeatability, both ends of travel	10 μ m

Related Products

stages	beginning 32
platforms	beginning 94
manipulators	beginning 147

Order Information

long travel sliding stage, 4.0" travel MXS-400

Metric Option — for metric assembly features on this product, add '-M' after model number.

Device Slider

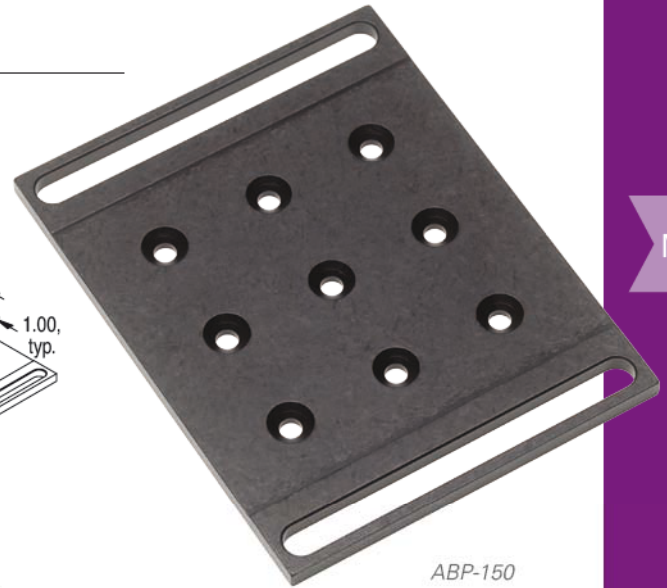
The MXS-400 is ideal for applications in which a device needs to be removed from a location and reinserted with high accuracy. The 4.0 inches of full travel ensure that even large devices, up to 100 pounds of load, may be moved for temporary access. The cam-locking lever engages a precise location stop at one end of travel and will also hold the stage in position anywhere along the entire travel.

The sliding stage platform has five 1/4-20 (M6) tapped holes for mounting a wide array of devices. The boomerang shaped mounting slots on either end allow for multiple angle mounting to any isolation table or platform. There are also four counterbored locations inside the slider rail for orthogonal mounting with 1/4-20 (M6) flathead screws which are included.

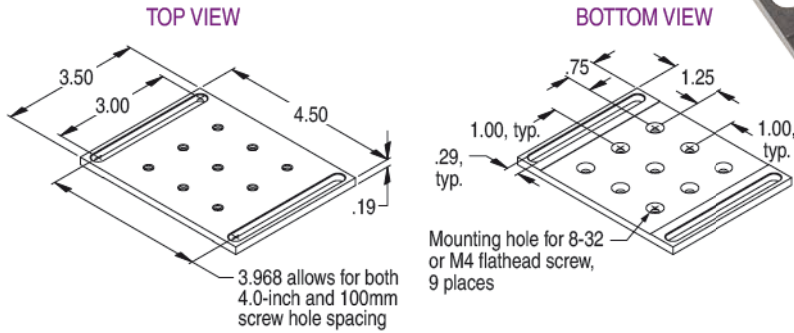
Translation Stages

Accessories

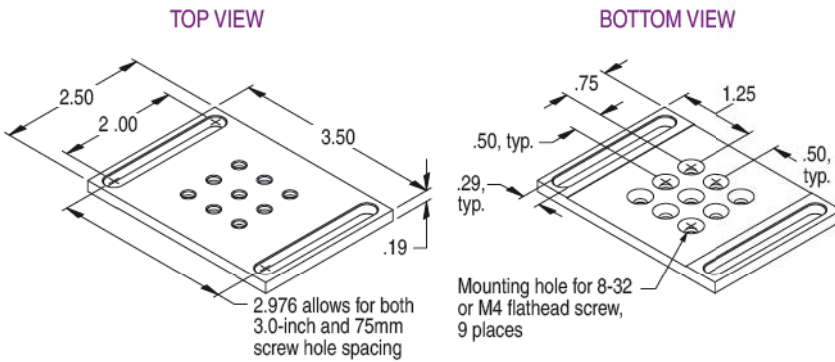
Mounting Plate / ABP-150, ABP-100 and ABP-50



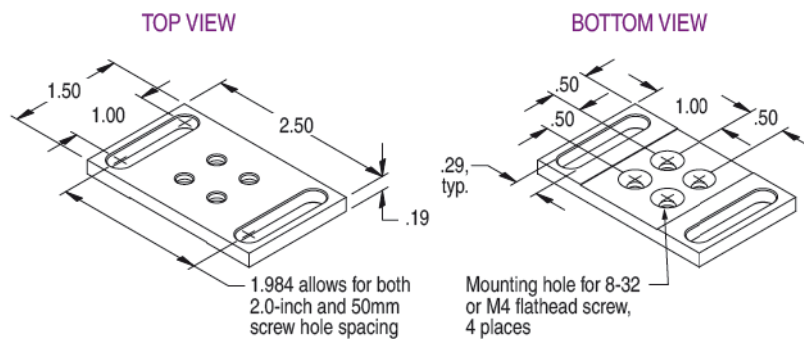
ABP-150



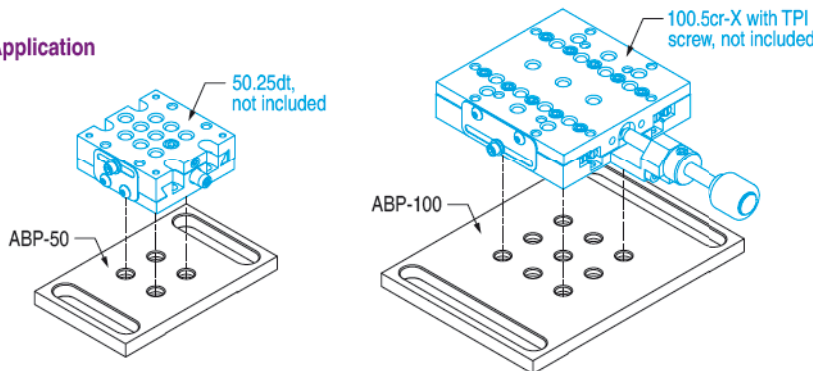
ABP-100



ABP-50



Application



Product Features

- Solid aluminum construction
- Flathead screws included for stage attachment
- Vacuum compatible versions available upon request

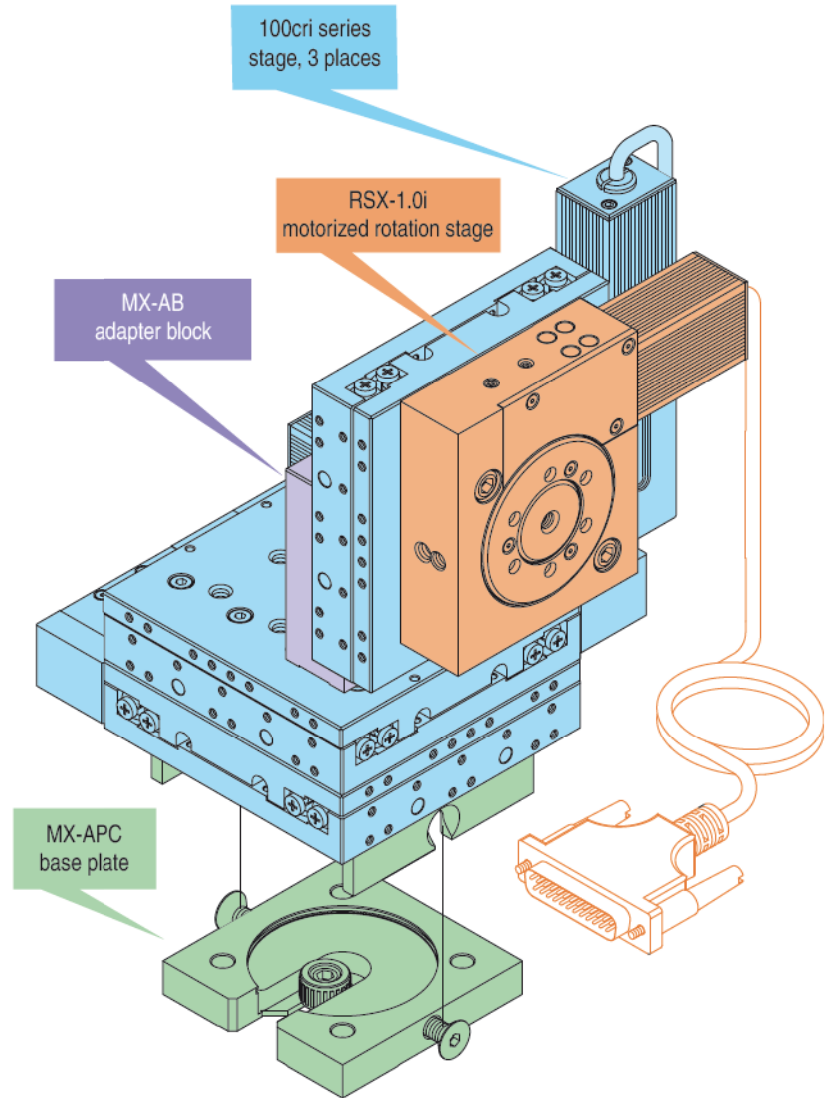
Related Products

dovetail slide stages, .25dt series	38
crossed roller stages, .5cr series	48
top adjust stages, .5cr-T series (mounted with travel axis perpendicular to base slots)	47

Order Information

mounting plate, 3.50 x 4.50	ABP-150
mounting plate, 2.50 x 3.50	ABP-100
mounting plate, 1.50 x 2.50	ABP-50

Siskiyou linear and rotary motorized stages (Section Contents on page 33), with integral closed loop actuators, provide super-accurate staging at a great price. The stages are driven by encoder feedback, minimizing backlash and providing computer-controlled accuracy to 0.1 microns, while our pushbutton, joystick and rotary knob controllers yield 0.2 to 1.0 micron sensitivity. Our MC2010 controller has pre-programmed subroutines that enable the user to specify linear, serpentine, raster and circular scans, as well as define a position sequence. 20 percent more bearing elements than specified in conventional bearing sets provide greater straightness and flatness of travel, to keep sensitive loads on-axis. Optional digital readout boxes let you see where you are — without a computer interface.



Distributor



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Translation Stages

Linear Motorized

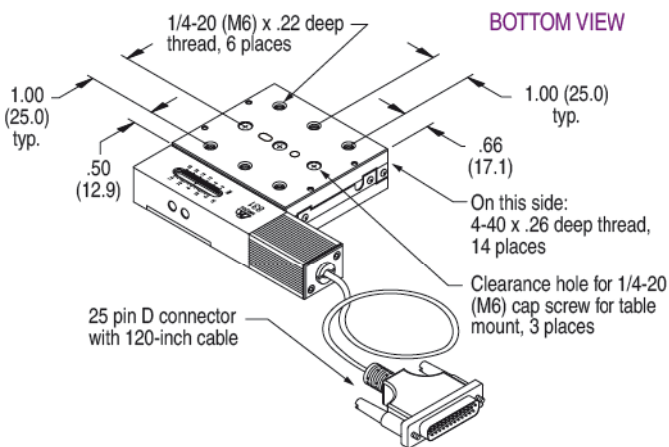
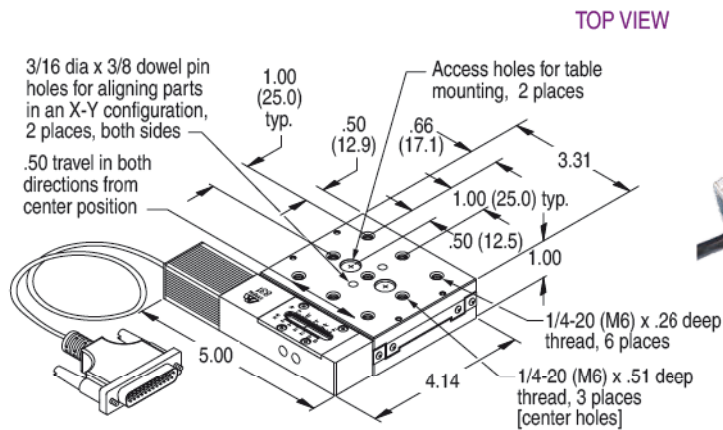
Ball Bearing Stages

CE Certified



1 inch Travel / 831

Note that dimensions in parentheses (mm) reflect metric assembly features



Model 831

CE

Motorized Translation Stage

The 831 motorized precision ball bearing translation stage offers exceptionally smooth linear travel. The time-tested design has been improved with the addition of more bearing area than similar stages. The increased bearing surface reduces non-linear motion when changing directions, and maximizes linearity towards the end of travel.

831 stages are an integration of our 331 translation stage and our 841 actuators. By combining the actuator and the stage we have created a smaller package. Our **e** series and MC2010 controllers drive the stage through a closed loop interface between the controller and the motor encoder. The closed loop connection ensures 0.2 μm and 0.1 μm resolution, respectively. The encoder coupling also enables the use of the DR1000 digital readout for repeated or relative positioning requirements.

There is a quick reference scale on both the top and bottom of the drive housing. They are available in either right or left hand versions. 831s are stackable for XY positioning requirements and are compatible with our MX-AB for Z-axis applications. High-speed versions available upon request.

Product Features

- 1.7 mm/second rapid positioning
- Limit switch soft stops
- Visual quick reference scale
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	15 lbs
Maximum vertical axis load	3 lbs
Travel	1.0 inch (25 mm)
Backlash	$\leq 5 \mu\text{m}$
Point-to-point accuracy	$\pm 2 \mu\text{m}$

Related Products

model e motion controllers	beginning 22
MC2010 computer interface	27
DR1000 digital readout	31
MX-AB adapter block	120
manual version	46

Order Information

ball bearing stage, closed loop, 1.0 inch travel, rh	831R
ball bearing stage, closed loop, 1.0 inch travel, lh	831L

Metric Option — for metric assembly features on this product, add '-M' after model number.

Translation Stages

Linear Motorized

Crossed Roller Stages

CE Certified

CE



Product Features

- 1.7 mm/second rapid positioning
- Limit switch soft stops
- Visual quick reference scale
- Vacuum compatible versions available

Performance Specifications

Maximum horizontal axis load	30 lbs
Maximum vertical axis load	10 lbs
Travel	
100cri	1.0 inch (25 mm)
200cri	2.0 inch (50 mm)
Backlash	≤ 5 μm
Point-to-point accuracy	± 2 μm

Related Products

model e motion controllers	beginning 22
MC2010 computer interface	27
DR1000 digital readout	31
manual version	beginning 52

Order Information

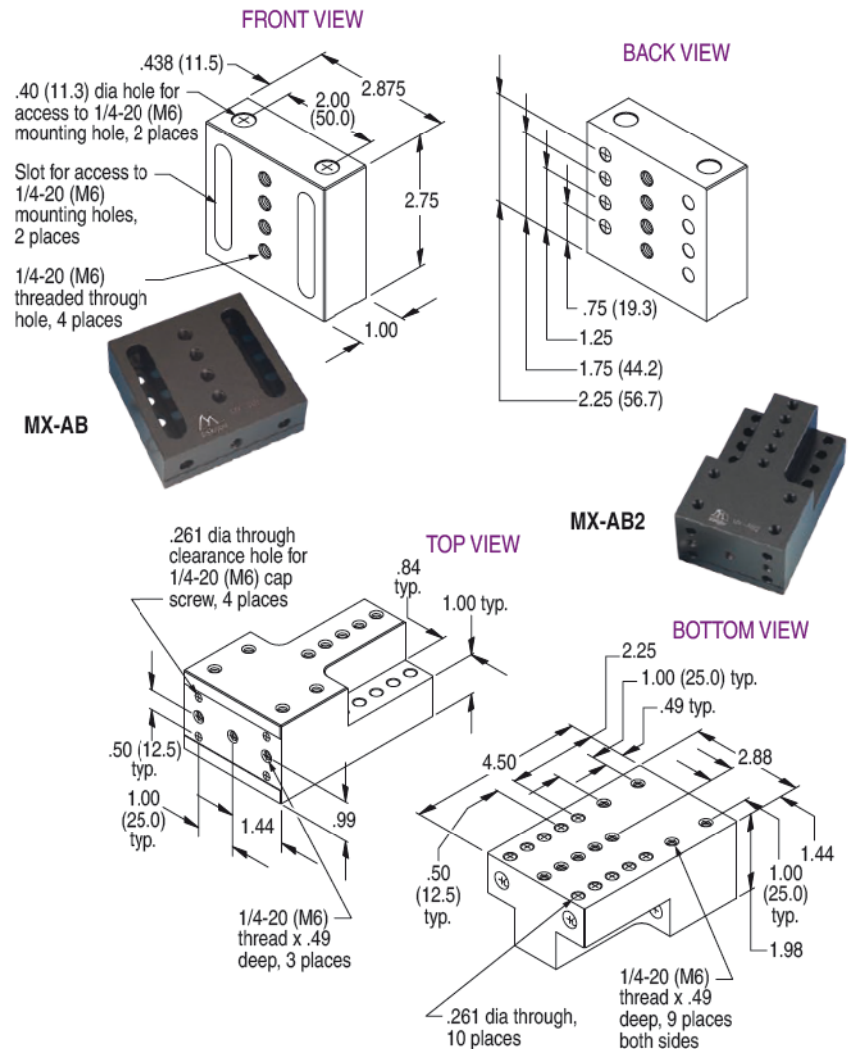
crossed roller stage, closed loop, 1.0 inch travel, rh	100cri-R
crossed roller stage, closed loop, 1.0 inch travel, lh	100cri-L
crossed roller stage, closed loop, 1.0" travel with 2.0" aperture, rh drive	100cri-AR
crossed roller stage, closed loop, 1.0" travel with 2.0" aperture, lh drive	100cri-AL
crossed roller stage, closed loop, 2.0 inch travel, rh	200cri-R
crossed roller stage, closed loop, 2.0 inch travel, lh	200cri-L
adapter, block	MX-AB
adapter, mounting base	MX-AB2

Metric Option — for metric assembly features on this product, add '-M' after model number.

The 100cri and 100cri-A motorized crossed roller bearing translation stages offer exceptionally smooth linear travel. The time-tested design has been improved with the addition of more bearing area than similar stages. The increased bearing surface reduces non-linear motion when changing directions. 100cri and 100cri-A are the integration of 100cr and 100cr-A translation stages with our 841 actuators. By combining actuator and stage we have effectively created a smaller package. Our **e** series and MC2010 controllers drive these stages through a closed loop interface between the controller and motor encoder. The closed loop connection ensures 0.2 μm and 0.1 μm resolution, respectively. The encoder coupling also enables the use of the DR1000 digital readout for repeated or relative positioning requirements. The aperture stage version, 100cri-A is ideal for laser and microscopy applications where a light path through the stage is necessary. There is a quick reference scale on both the top and bottom of the drive housing. They are available in either right or left hand versions. Multiple 100cri units are stackable for XY positioning requirements and are compatible with our MX-AB for Z axis applications. High-speed versions available upon request.

Adapter Block and Mounting Base / MX-AB and MX-AB2

Note that dimensions in parentheses (mm) reflect metric assembly features.



Translation Stages

Linear Motorized

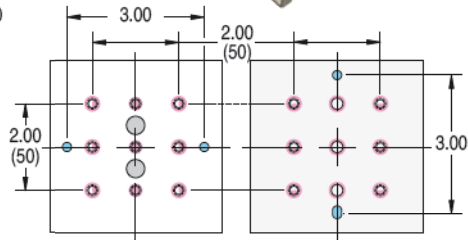
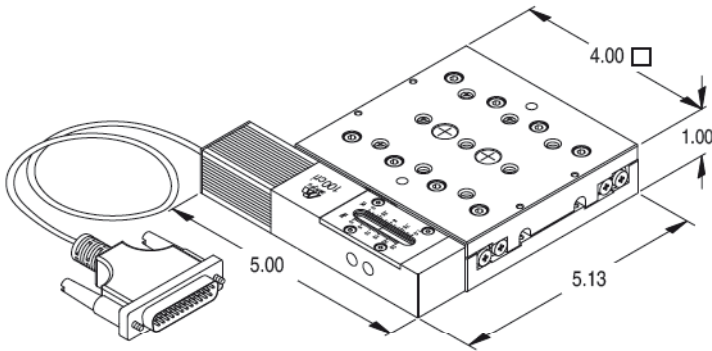
Crossed Roller Stages

CE Certified



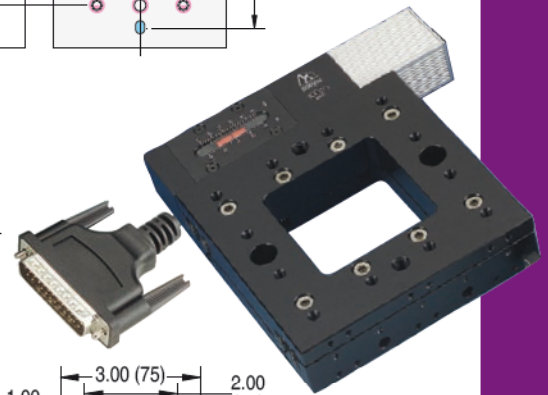
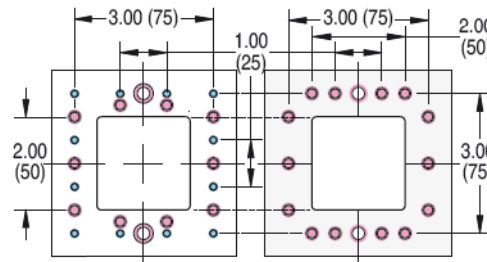
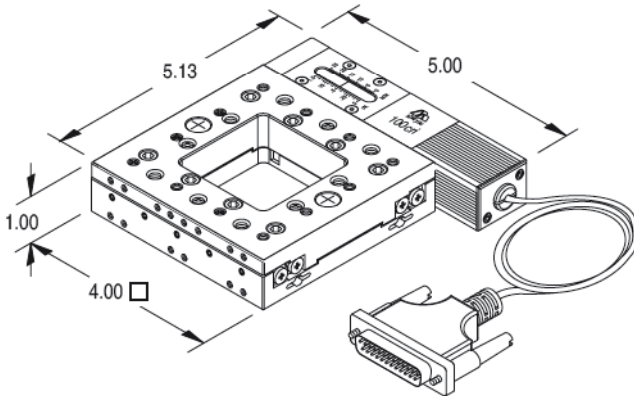
4" □ Table, 1" Travel / 100cri-R and L

□ Top Plate ■ Bottom Plate Mounting Holes: 3/16 dia x 3/8 dowel pin holes ● / 1/4-20 (M6), ▽ 0.51 ●, 0.26 ●, 0.22 ● and Clearance ○
 Note that dimensions in parentheses (mm) reflect metric assembly features.



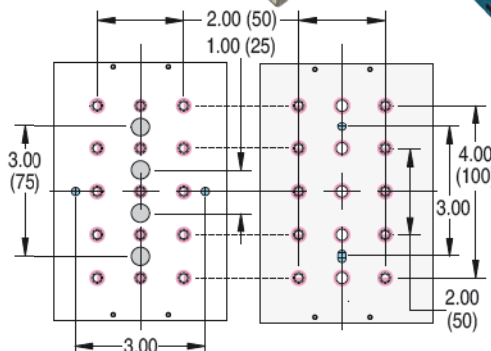
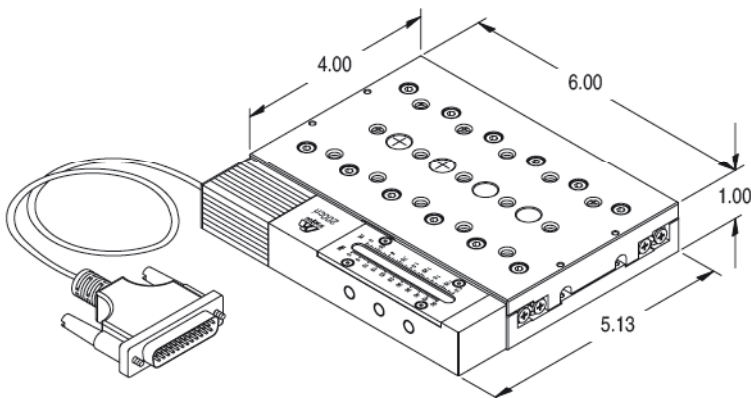
4" □ Table / 2" □ Aperture, 1" Travel / 100cri-AR and AL

□ Top Plate ■ Bottom Plate Mounting Holes: 8-32 (M4), ▽ 0.24 ● / 1/4-20 (M6), ▽ 0.23 ● and Clearance ○
 Note that dimensions in parentheses (mm) reflect metric assembly features.



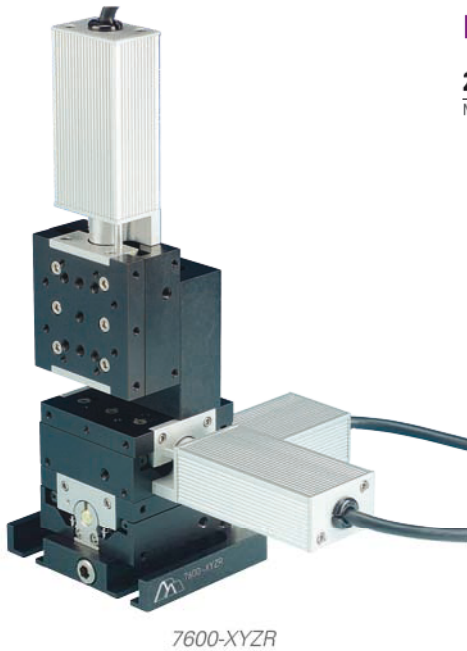
4" x 6" Table, 2" Travel / 200cri-R and L

□ Top Plate ■ Bottom Plate Mounting Holes: 3/16 dia x 3/8 dowel pin holes ● / 1/4-20 (M6), ▽ 0.51 ●, 0.26 ●, 0.22 ● and Clearance ○
 Note that dimensions in parentheses (mm) reflect metric assembly features.

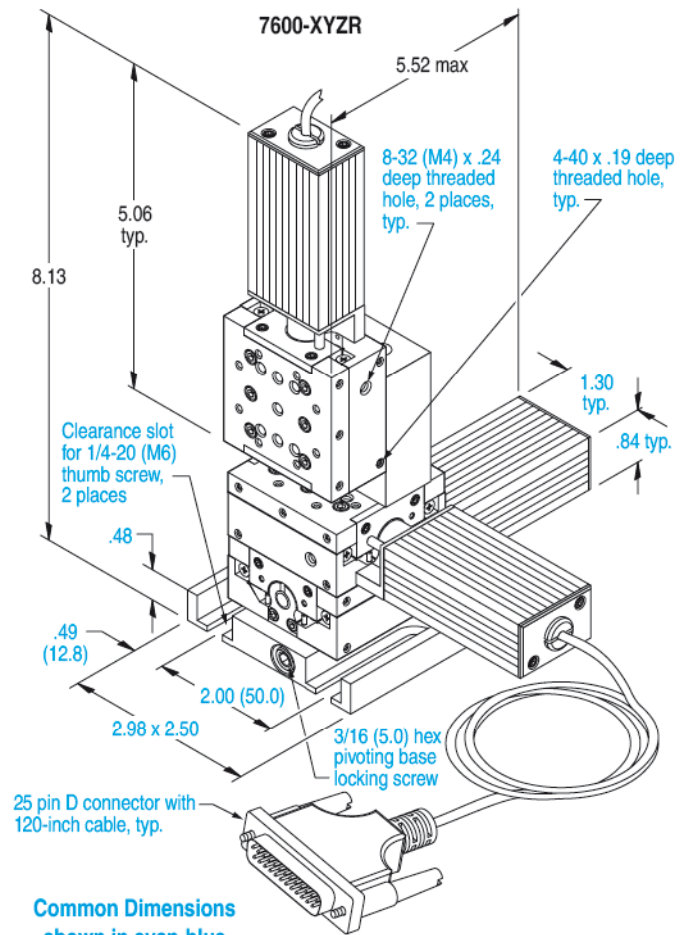


20mm XYZ Travel / 7600 Series

Note that dimensions in parentheses (mm) reflect metric assembly features



7600-XYZR



Product Features

- 1.7 mm/second rapid positioning
- Quiet running DC servo motors
- Rotatable mounting base
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	10 lbs
Maximum vertical axis load	4 lbs
Travel	20 mm
Backlash	≤ 5 μm
Point to point accuracy	± 2 μm

Related Products

model e motion controllers	beginning 22
MC2010 computer interface	27
DR1000 digital readout	31
manual version	50
MX-RS rotation base	122

Order Information

crossed roller single-axis stage, closed loop	7600-X
crossed roller 2-axis stage, closed loop	7600-XY
crossed roller vertical stage, closed loop	7600-Z
crossed roller 3-axis stage, closed loop, rh	7600-XYZR
crossed roller 3-axis stage, closed loop, lh	7600-XYZL

Metric Option — for metric assembly features on this product, add '-M' after model number.

Motorized XYZ Stages

The 7600 motorized crossed roller bearing translation stage offers exceptionally smooth linear travel. 7600 stages are an integrated version of our 1600 series crossed roller translation stage. They use a precision preloaded lead screw to ensure drift-free operation. High-speed versions available upon request.

Our **e** series and MC2010 controllers drive the stage through a closed loop interface between the controller and the motor encoder. The closed loop connection ensures 0.2 μm and 0.1 μm resolution, respectively. The encoder coupling also enables the use of the DR1000 digital readout for repeated or relative positioning requirements.

7600 series stages come standard with our ABP-R mounting plate. The design of this mounting plate enables coarse positioning between platform mounting holes as well as 360° of coarse rotational positioning. If rotation with a solid submicron level stop is required, the MX-RS rotation stage is designed to mount directly into the ABP-R and has mounting holes for all 1600 series stages.

Translation Stages

Linear Motorized

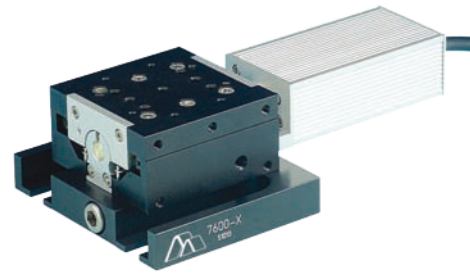
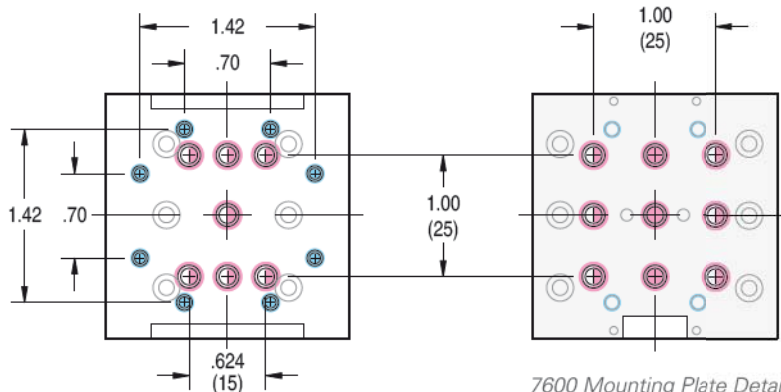
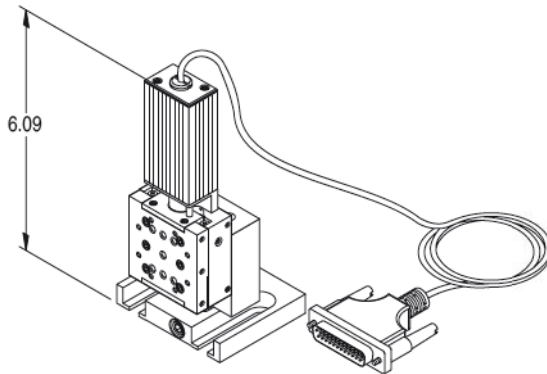
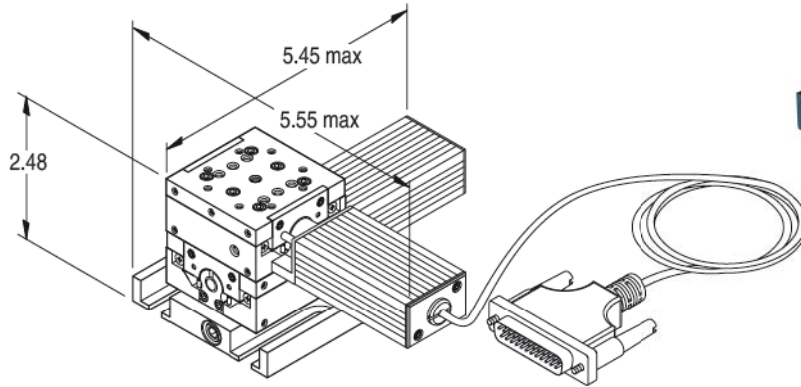
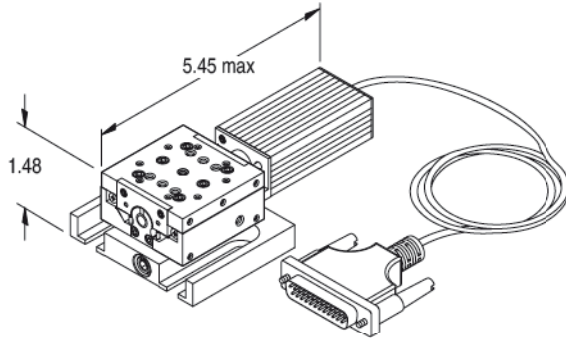
Crossed Roller Stages

CE Certified



20mm XYZ Travel / 7600 Series

□ Top Plate ■ Bottom Plate Mounting Holes: 8-32 (M4), ∇ 0.22 ● 0.19 ○ 4-40 (M2.5), ∇ 0.19 ● Clearance ○
 Note that dimensions in parentheses (mm) reflect metric assembly features.



7600-X



7600-XY



7600-Z



Translation Stages

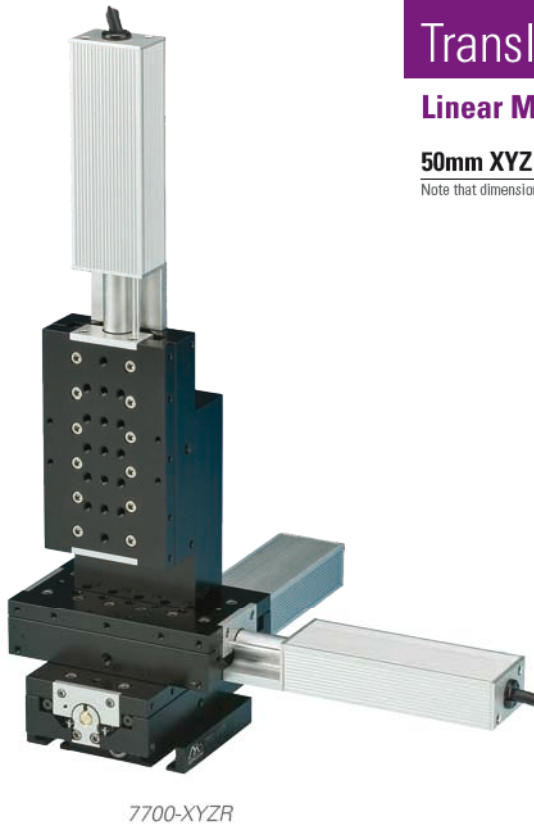
Linear Motorized

Crossed Roller Stages

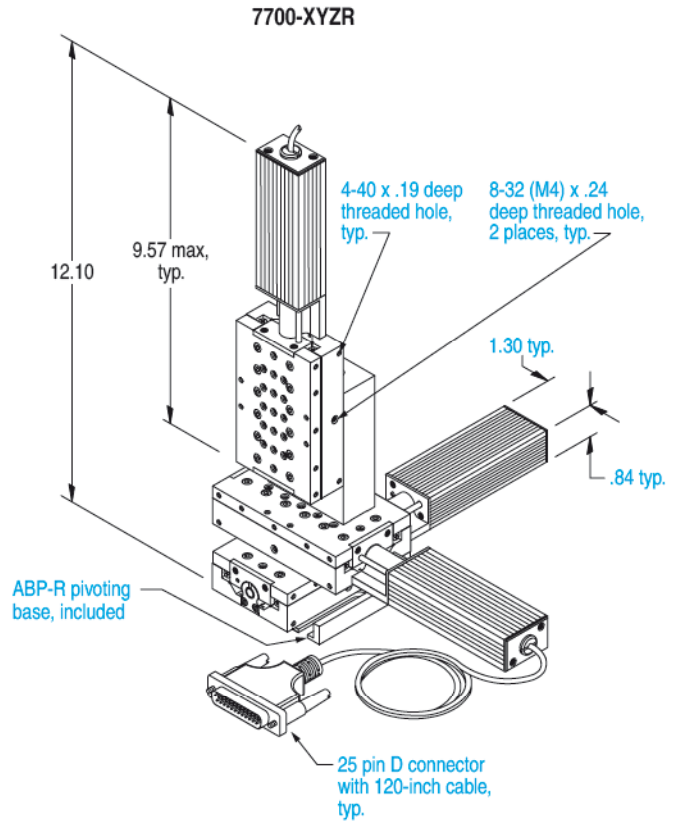
CE Certified

50mm XYZ Travel / 7700 Series

Note that dimensions in parentheses (mm) reflect metric assembly features



7700-XYZR



Common Dimensions shown in cyan-blue

Product Features

- 1.7 mm/second rapid positioning
- Quiet running DC servo motors
- Rotatable mounting base
- Vacuum compatible versions available upon request

Performance Specifications

Maximum horizontal axis load	10 lbs
Maximum vertical axis load	4 lbs
Travel	50 mm
Backlash	5 μ m
Point to point accuracy	\pm 2 μ m

Related Products

model e motion controllers	beginning 22
MC2010 computer interface	27
DR1000 digital readout	31
manual version	54
MX-RS rotation base	122

Order Information

crossed roller single-axis stage, closed loop	7700-X
crossed roller 2-axis stage, closed loop	7700-XY
crossed roller vertical stage, closed loop	7700-Z
crossed roller 3-axis stage, closed loop, rh	7700-XYZR
crossed roller 3-axis stage, closed loop, lh	7700-XYZL

Metric Option — for metric assembly features on this product, add ‘-M’ after model number.

Motorized XYZ Stages

The 7700 motorized crossed roller bearing translation stage offers exceptionally smooth linear travel. 7700 stages are an integrated version of our 1700 series crossed roller translation stage. They use a precision preloaded lead screw to ensure drift-free operation. High-speed versions available upon request.

Our **e** series and MC2010 controllers drive the stage through a closed loop interface between the controller and the motor encoder. The closed loop connection ensures 0.2 μ m and 0.1 μ m resolution, respectively. The encoder coupling also enables the use of the DR1000 digital readout for repeated or relative positioning requirements.

7700 series stages come standard with our ABP-R mounting plate. The design of this mounting plate enables coarse positioning between platform mounting holes as well as 360° of coarse rotational positioning. If rotation with a solid submicron level stop is required, the MX-RS rotation stage is designed to mount directly into the ABP-R and has mounting holes for all 1700 series stages.

Translation Stages

Linear Motorized

Crossed Roller Stages

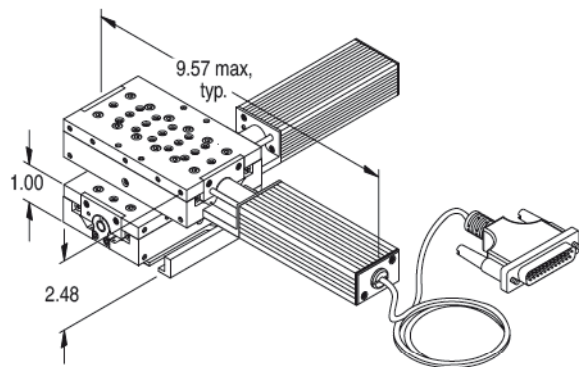
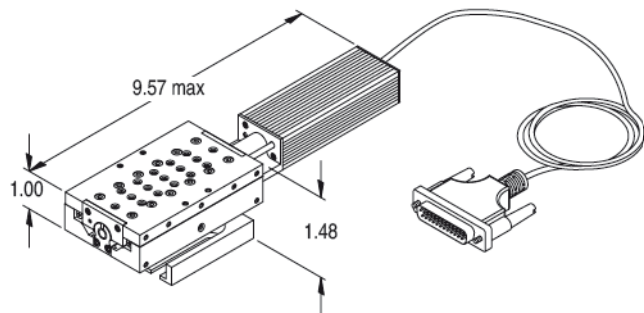
CE Certified



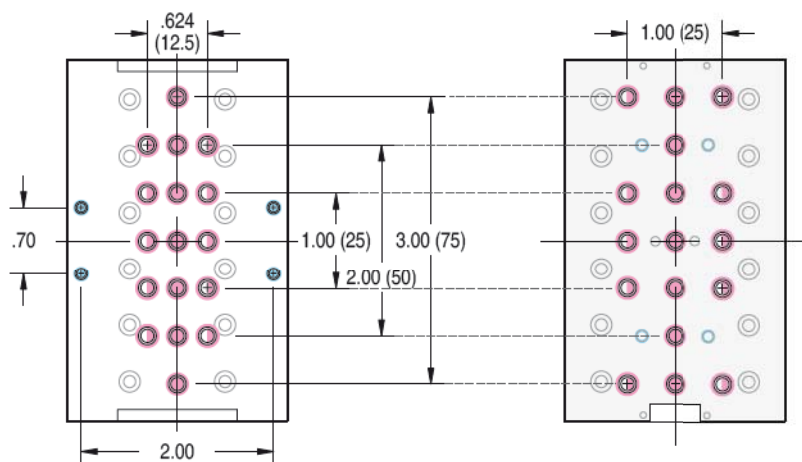
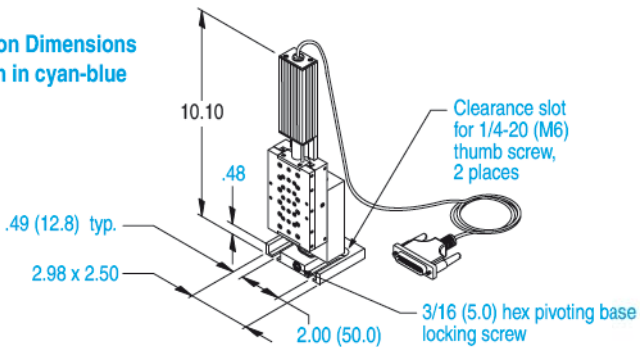
50mm XYZ Travel / 7700 Series

□ Top Plate ■ Bottom Plate Mounting Holes: 8-32 (M4), 0.21 (0.19) / 4-40 (M2.5), 0.19 (0.19), Clearance (0.19)

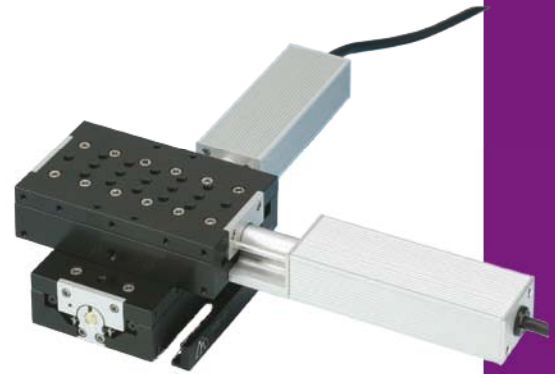
Note that dimensions in parentheses (mm) reflect metric assembly features.



Common Dimensions shown in cyan-blue



7700-X



7700-XY



7700-Z

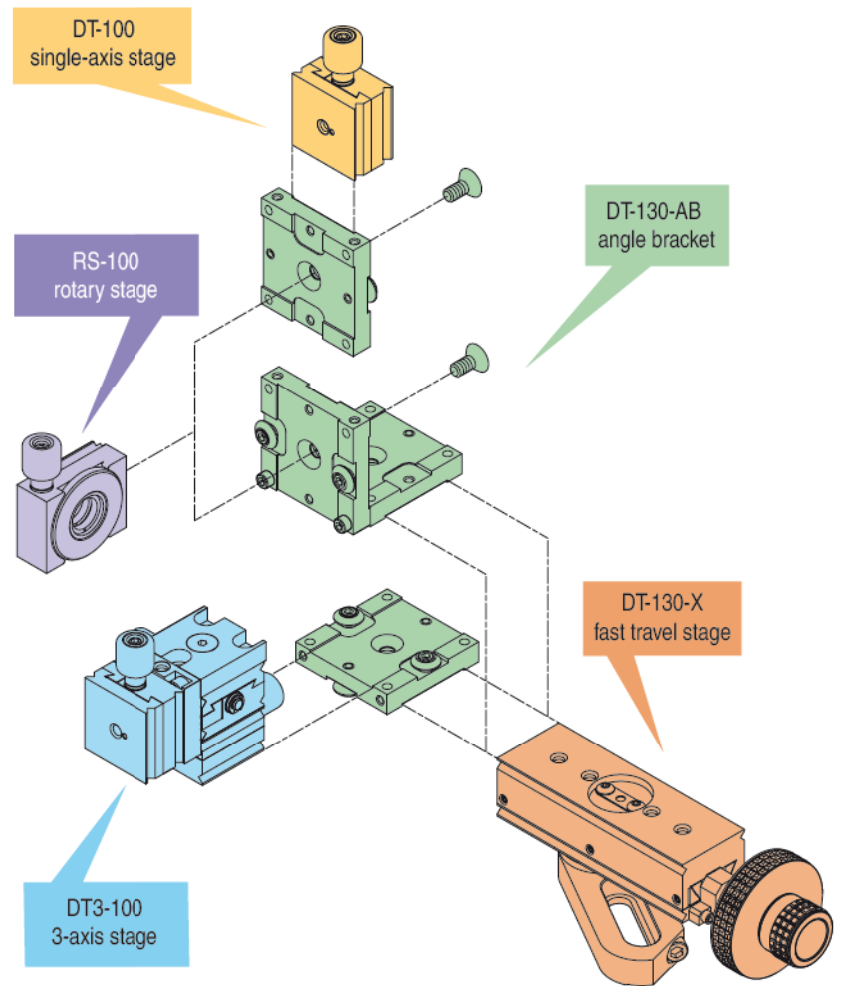
7700 Mounting Plate Detail

CE

Translation Stages

Applications

Various multi-axis configurations of our DT-100, DT-130 and RS-100 stages can be assembled with our DT-130-AB angle brackets.



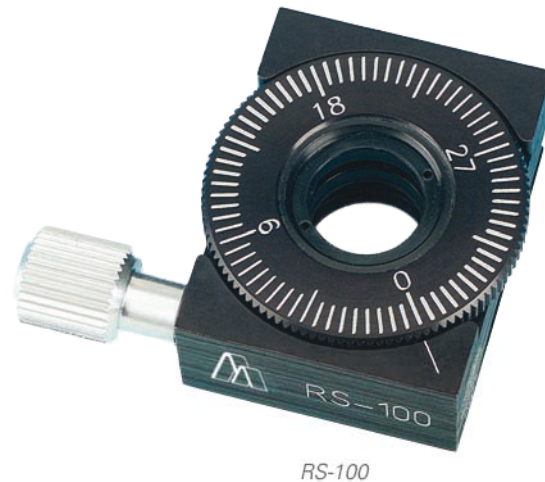
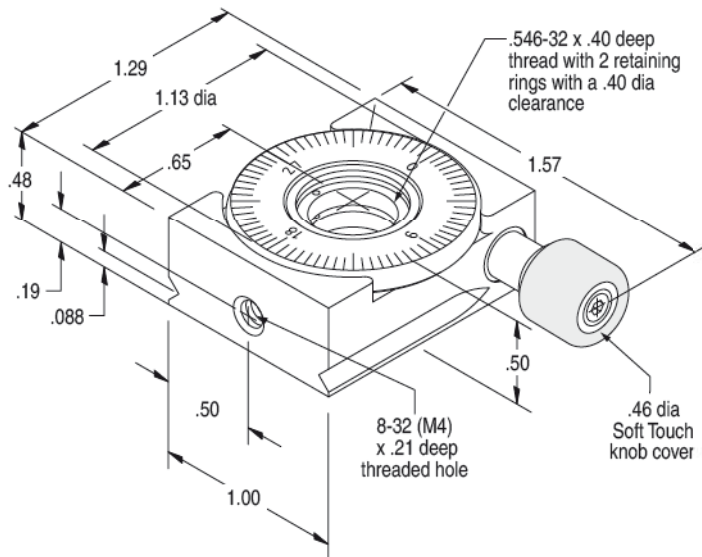
Translation Stages

Rotary Manual

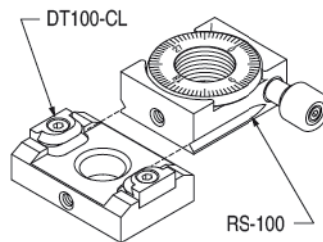
Ball Bearing

0.5-inch / RS-100

Note that dimensions in parentheses (mm) reflect metric assembly features



Application



Manual Rotary Stage

The RS100's compact design and right angle drive are ideal for close coupled optic stacking.

0.5-inch polarizers, wave plates, and other small optics can be coarsely positioned using the external knurled dial through a full 360°. Final tuning is accomplished with the worm driven adjustment knob that is located conveniently on the side.

The RS100 rotation stage uses our unique integrated bearing design. This ball bearing design is a robust alternative to more expensive bearing packages. Our worm drive system, coupled with the bearing system, ensures smooth positioning throughout the 360° of rotation. The face of the dial is marked in 5° increments for easy referencing.

There are machined V-grooves on the sides of the RS-100 for mounting the DT100-CL. This mounting option enables either horizontal table mounting or vertical mounting with the option to remove the stage from the beam path to vary the experiment.

Product Features

- Coarse manual adjustment
- Fine adjustment through 360°
- Post or table mounting
- Vacuum compatible versions available upon request

Performance Specifications

Maximum load	
when axis of rotation is vertical	1 lb
when axis of rotation is horizontal	0.5 lb
Travel	360° continuous
Minimum controllable motion	30 arc min.

Related Products

motorized version	75
DT-100 series dovetail stage	40
DT100-CL dovetail clamp	40

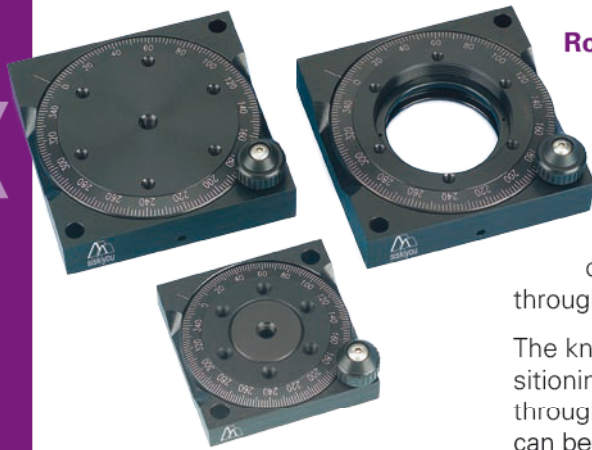
Order Information

rotary stage, 0.5 inch, manual RS-100

Metric Option — for metric assembly features on this product, add '-M' after model number.

1.0-inch & 2.0-inch / RSX and RSA

Note that dimensions in parentheses (mm) reflect metric assembly features



Rotary Stages

Rotary Stages

RS series rotation stages provide smooth, continuous angular positioning for a variety of components. Both sizes of RS series rotation stages use our unique integrated bearing design. This ball bearing design is a robust but cost-effective alternative to more expensive bearing packages. Our knurled drive system coupled with the bearing system ensures smooth positioning throughout the full 360° of continuous rotation.

The knurled edge of the rotating platform gives convenient coarse positioning control. A fine adjustment knob controls angular positioning through a 360° scale graduated in 2° increments. The rotating platform can be securely locked in position by a non-influencing lock that is integrated into the fine adjustment knob.

RS series rotation stages are available in two styles: aperture (RSA-1.0 and RSA-2.0) for polarization applications and solid platform (RSX-1.0 and RSX-2.0) for mounting prisms, mirrors, and stages. Aperture versions come with two Delrin® retaining rings to securely hold optics without damage. The solid platform versions have a 1/4-20 tapped hole at the center of rotation and all models have six 8-32 tapped holes for added mounting flexibility. For vertical mounting there are 8-32 (RSA-1.0 and RSX-1.0) and 1/4-20 (RSA-2.0 and RSX-2.0) tapped holes on the edge of the stage. Horizontal or table top mounting is accomplished through two 1/4-20 clearance holes at opposite corners of both sizes.

Product Features

- Coarse manual adjustment
- Fine adjustment through 360°
- Non-influencing lock
- Vacuum compatible versions available upon request

Performance Specifications

Travel	360° continuous
Maximum load	
when axis of rotation is vertical	
RSX-1.0	10 lbs
RSA-1.0	10 lbs
RSX-2.0	15 lbs
RSA-2.0	15 lbs
when axis of rotation is horizontal	
RSX-1.0	5 lbs
RSA-1.0	5 lbs
RSX-2.0	7 lbs
RSA-2.0	7 lbs
Minimum controllable motion	30 arc min.

Related Products

motorized version, 1-0 inch	76
motorized version, 2.0-inch	77

Order Information

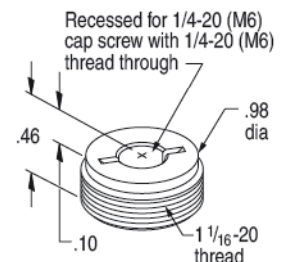
rotary platform stage, 1.0 inch	RSX-1.0
rotary aperture stage, 1.0 inch	RSA-1.0
rotary platform stage, 2.0 inch	RSX-2.0
rotary aperture stage, 2.0 inch	RSA-2.0
1 1/16-20 to 1/4-20 (M6) adapter	RS-1.0i

Metric Option — for metric assembly features on this product, add '-M' after model number.

Adapter for RSA-1.0

The RS-1.0i threaded adapter provides a change from a 1 1/16-20 internal thread to a 1/4-20 (M6) thread.

Also used on Model OG-1.0P series, polarizing gimbal mount, beginning on page 270.



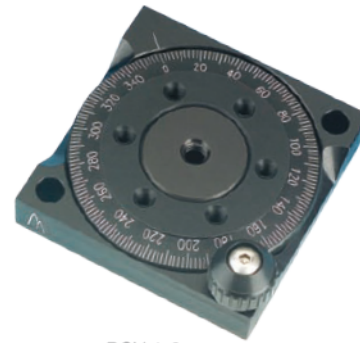
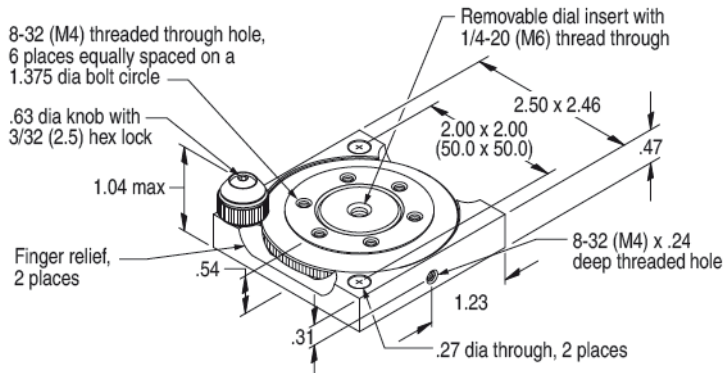
Translation Stages

Rotary Manual

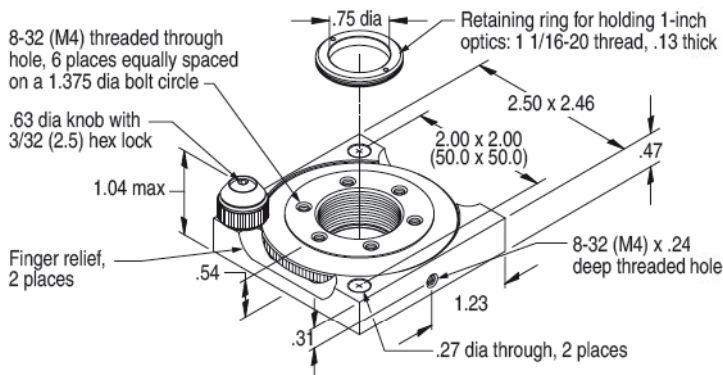
Ball Bearing

1.0-inch & 2.0-inch / RSX and RSA

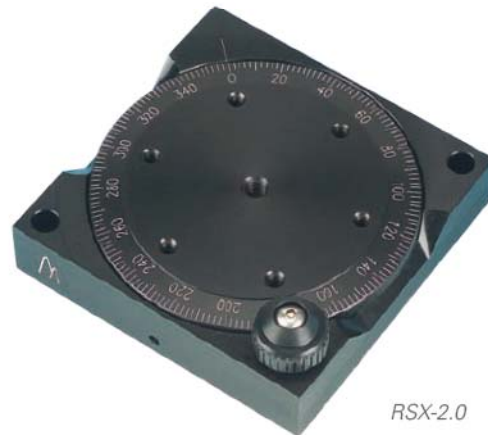
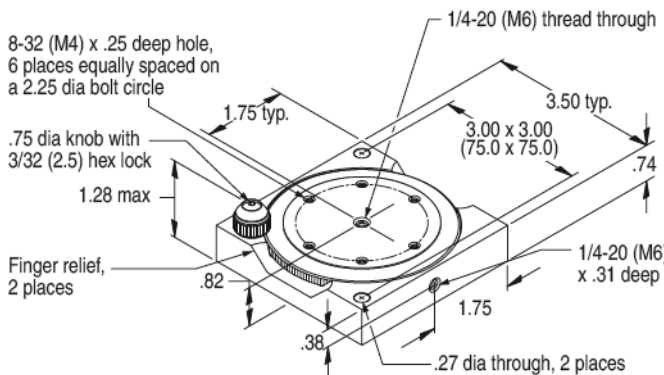
Note that dimensions in parentheses (mm) reflect metric assembly features



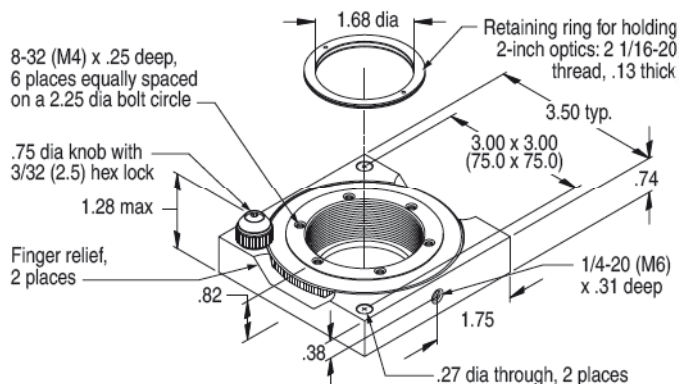
RSX-1.0



RSA-1.0



RSX-2.0

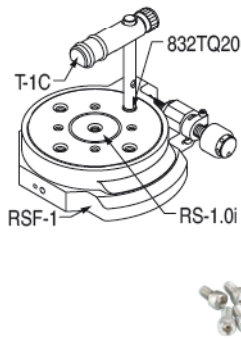
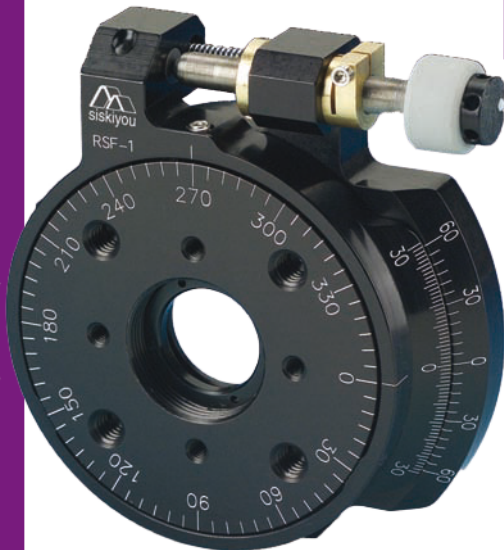


RSA-2.0

Translation Stages

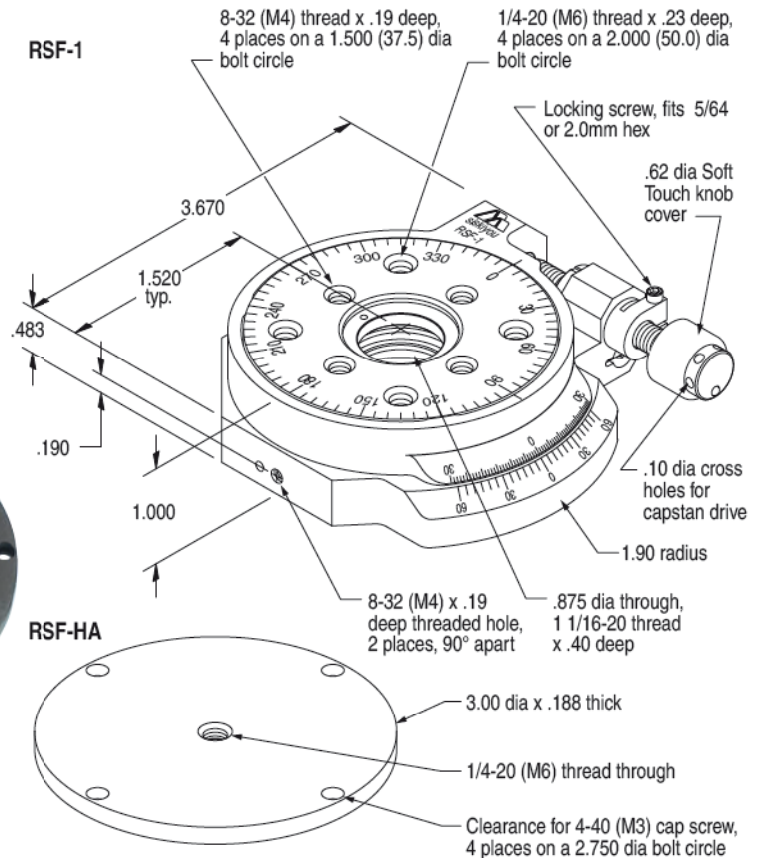
Rotary Manual

Ball Bearing



Polarizing Optics Positioner / RSF-1

Note that dimensions in parentheses (mm) reflect metric assembly features



Product Features

- 360° coarse manual adjustment
- ±10° fine adjustment
- Post or table mounting
- Vacuum compatible versions available upon request

Performance Specifications

Travel	
coarse	360° continuous
fine	± 10°
Maximum load	
when axis of rotation is vertical	10 lbs
when axis of rotation is horizontal	5 lbs
Minimum controllable motion	5 arc sec.

Related Products

T-1C prism table adapter	251
cube holders	304
RS-1.0i thread adapter	72
thread adapters	145

Order Information

rotation stage, 100TPI, manual adjustment	RSF-1
horizontal adapter plate with 4 screws (inset)	RSF-HA

Metric Option — for metric assembly features on this product, add '-M' after model number.

Rotation Stage

The RSF-1 is ideal for positioning 1.0 inch polarizing optics, or for rotating beamsplitters and prism cubes. This high precision ball bearing rotation stage combines 360° of coarse positioning with ±10° of manual adjustment using our 100TPI adjustment screw which enables 5 arc-minute resolution, 5 arc-second minimum controllable motion. For applications requiring hands-off adjustment the manual adjustment can be replaced with a 421 or 841 actuator for remote motorized positioning.

Mounting in the vertical (rotation along the optical axis) is achieved by attachment to one of the two 8-32 (M4) tapped holes on the perimeter. These attachment points put the adjustment screw in the vertical or horizontal plane. For horizontal applications (rotating beamsplitters and prism cubes perpendicular to the optical axis) the stage can also be mounted on our RSF-HA horizontal adapter.

The face of the RSF-1 includes four 8-32 (M4) and four 1/4-20 (M6) tapped holes for accommodating a wide variety of devices. The 1 1/16-20 I.D. thread (accommodates 1.0 inch optics) is supplied with two Delrin® retaining rings for securely holding delicate optics without damage.

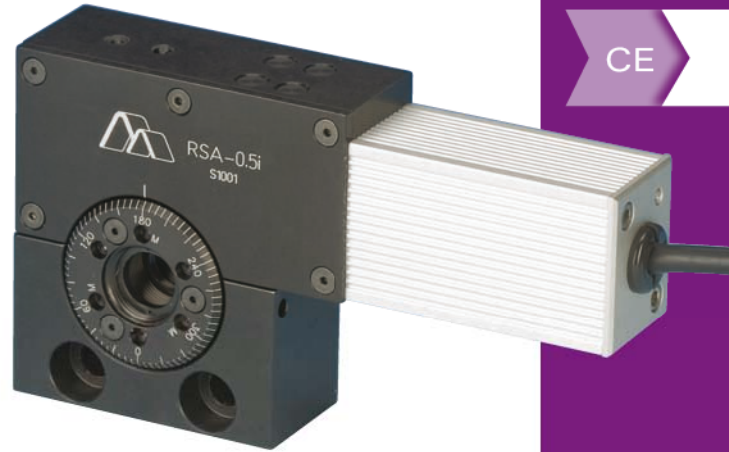
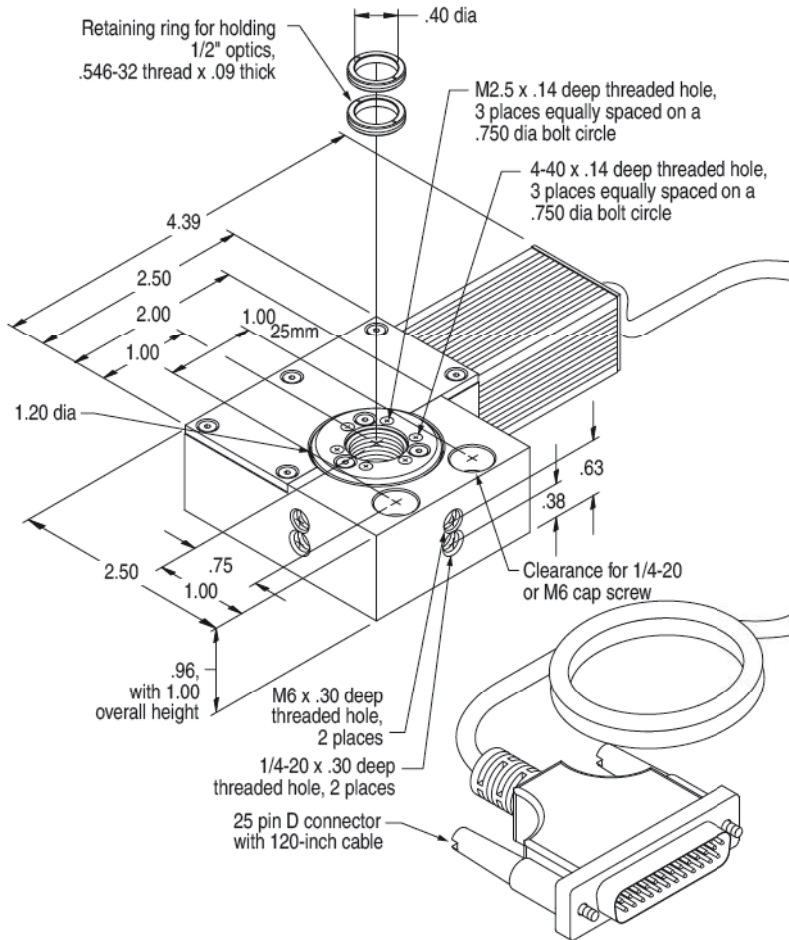
Translation Stages

Rotary Motorized

Ball Bearing

CE Certified

0.5-inch / RSA-0.5i



RSA-0.5i

CE

Motorized Rotary Stage

The compact size and high performance of our RSA-5.0i motorized rotation stage make it ideal for motorized rotation applications in the laboratory as well as OEM systems. By employing our standard encoded DC servo motor, the overall thickness of the base is minimized to 1.0-inch [25-mm].

Standard mounting features include both 1/4-20 and M6 tapped holes on two edges for post or AS spacer mounting with the axis of rotation horizontal. Additionally, universal counterbores to fit imperial or metric spreads are included for attachment directly to a isolation table or platform with the axis of rotation vertical. The 0.5-inch inner diameter of the rotating dial accepts common 0.5-inch and 12-mm optics and is supplied with two Delrin® retaining rings. The dial has six tapped holes (3 each 4-40 and M2.5) on the face to attach other optical or mechanical elements.

The RSA-0.5i's compact design and right angle drive are ideal for close coupled optic stacking.

Product Features

- Compact size
- Quiet running DC servo motor
- Universal mounting
- Vacuum compatible and UV versions available upon request

Performance Specifications

Maximum load	
when axis of rotation is vertical	2 lbs
when axis of rotation is horizontal	0.5 lbs
Travel	360° continuous
Unidirectional repeatability	6 arc seconds
Backlash	100 arc seconds
Minimum controllable motion	6 arc seconds
Runout / wobble	530 arc seconds
Encoder counts per revolution	2,137,184
Maximum speed	10 rpm

Related Products

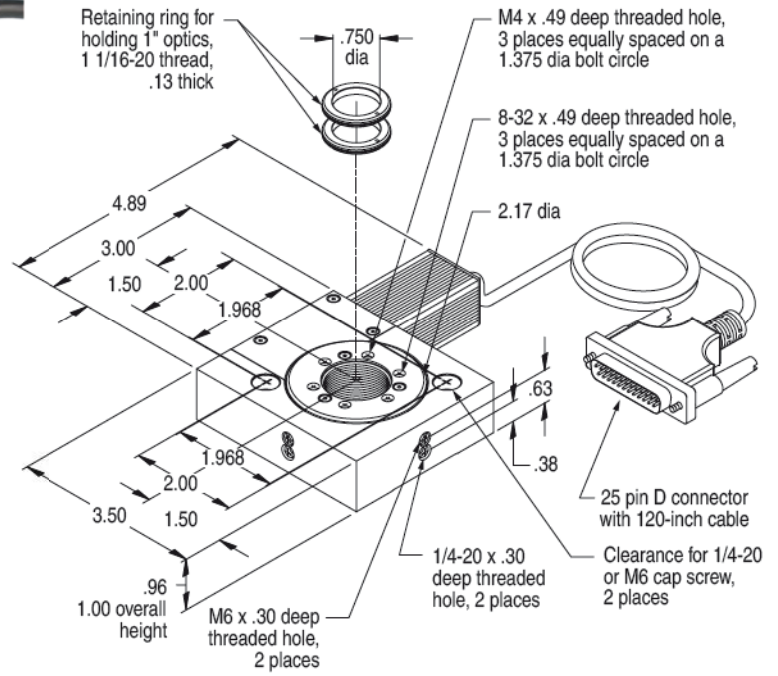
MC1000e series motion controllers	beginning 22
MC2010 computer interface	27
RTC-A1, -A2, -A3 & -A4 adapters	132
manual version	71

Order Information

rotary stage, 0.5 inch, motorized	RSA-0.5i
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RSA-1.0i



Product Features

- Quiet running DC servo motor
- Positive worm gear drive
- Flexible mounting features
- UV and Vacuum compatible versions available upon request

Performance Specifications

Maximum load		
when axis of rotation is vertical	8 lbs	
when axis of rotation is horizontal	2 lbs	
Travel	360° continuous	
Unidirectional repeatability	6 arc seconds	
Backlash	100 arc seconds	
Minimum controllable motion	6 arc seconds	
Runout / wobble	412 arc seconds	
Encoder counts per revolution	3,885,740	
Maximum speed	5 rpm	

Related Products

MC1000e series motion controllers	beginning 22
MC2010 computer interface manual version	27 72

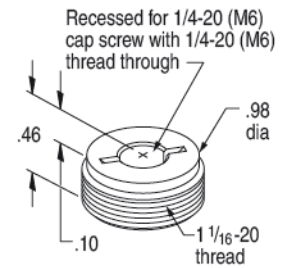
Order Information

motorized rotation stage, 1.0" aperture	RSA-1.0i
1 1/16-20 to 1/4-20 adapter	RS-1.0i
1 1/16-20 to M6 adapter	RS-1.0i-M

Adapter for RSA-1.0i

The RS-1.0i threaded adapter provides a change from a 1 1/16-20 internal thread to a 1/4-20 (M6) thread.

Also used on Model OG-1.0P series, polarizing gimbal mount, beginning on page 270.



Motorized Rotation Stage

The compact size and high performance of our RSA-1.0i motorized rotation stage make it ideal for motorized rotation applications in the laboratory as well as OEM systems. By employing our standard DC servo motor, the overall thickness of the base is minimized to 1.0-inch [25-mm]. Standard mounting features include both 1/4-20 and M6 tapped holes on two edges for post or AS spacer mounting with the axis of rotation horizontal. Additionally, universal slots (U.S. system and metric spread) are included for attachment directly to a isolation table or platform with the axis of rotation vertical. The 1.0-inch inner diameter of the rotating dial accepts common 1.0-inch and 25-mm optics and is supplied with two Delrin® retaining rings. The dial has six tapped holes (3 each 8-32 and M4) on the face to attach other optical or mechanical elements.

Translation Stages

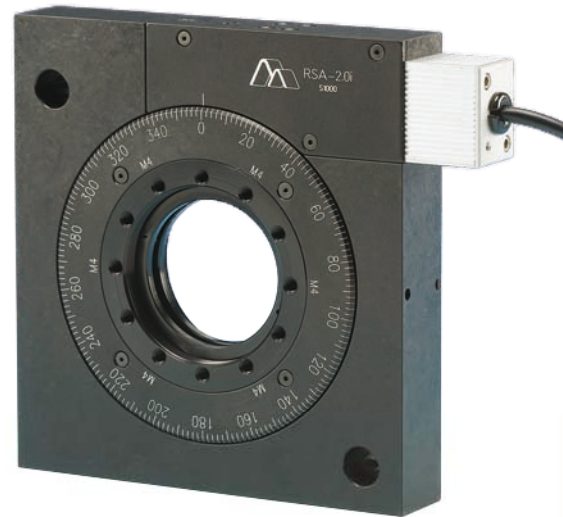
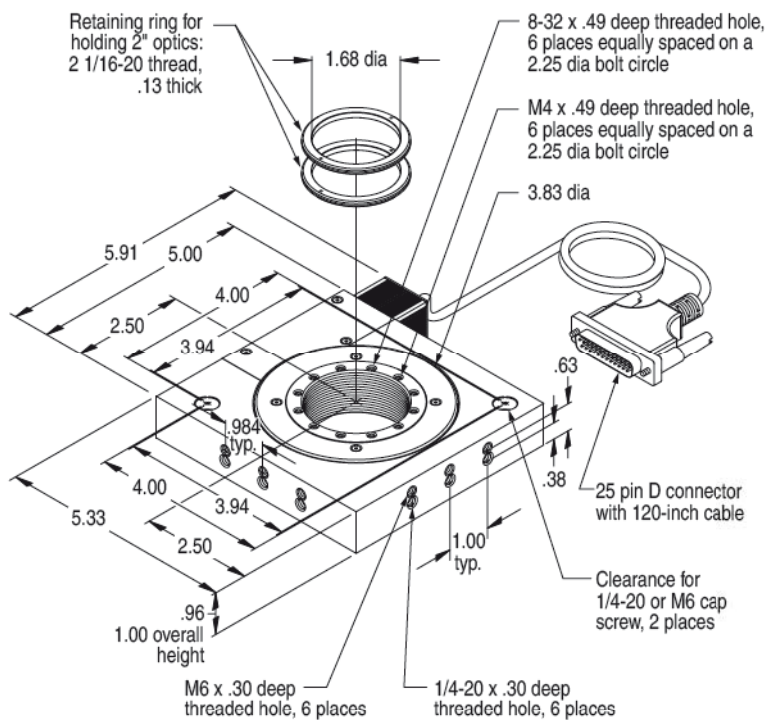
Rotary Motorized

Ball Bearing

CE Certified



2.0-inch / RSA-2.0i



RSA-2.0i

CE

Motorized Rotation Stage

The compact size and high performance of our RSA-2.0i motorized rotation stage make it ideal for motorized rotation applications in the laboratory as well as OEM systems. By employing our standard DC servo motor, the overall thickness of the base is minimized to 1.0-inch [25-mm].

Standard mounting features include both 1/4-20 and M6 tapped holes on two edges for post or AS spacer mounting with the axis of rotation horizontal. Additionally, universal slots (U.S. system and metric spread) are included for attachment directly to a isolation table or platform with the axis of rotation vertical. The 2.0-inch inner diameter of the rotating dial accepts common 2.0-inch and 50-mm optics and is supplied with two Delrin® retaining rings. The dial has twelve tapped holes (6 each 8-32 and M4) on the face to attach other optical or mechanical elements.

Product Features

- Quiet running DC servo motor
- Positive worm gear drive
- Flexible mounting features
- UV and Vacuum compatible versions available upon request

Performance Specifications

Maximum load	
when axis of rotation is vertical	12 lbs
when axis of rotation is horizontal	4 lbs
Travel	360° continuous
Unidirectional repeatability	10 arc seconds
Backlash	120 arc seconds
Minimum controllable motion	10 arc seconds
Runout / wobble	300 arc seconds
Encoder counts per revolution	6,994,345
Maximum speed	3 rpm

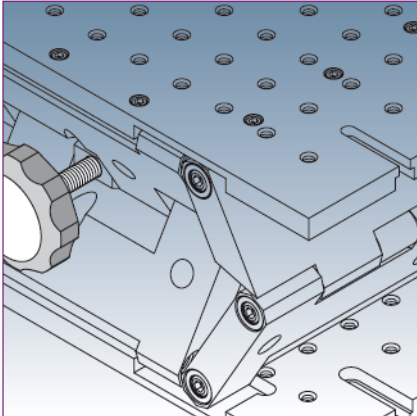
Related Products

MC1000e series motion controllers	beginning 22
MC2010 computer interface	27
manual version	72

Order Information

motorized rotation stage, 2.0" aperture	RSA-2.0i
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Lab Jacks Manual



Lab jacks are useful tools for many laboratory or commercial applications. Generally used for positioning optical elements at the correct axis height, they are also used to position larger and heavier assemblies in similar applications. UV and vacuum compatible versions to 1×10^{-13} Torr are available upon request.



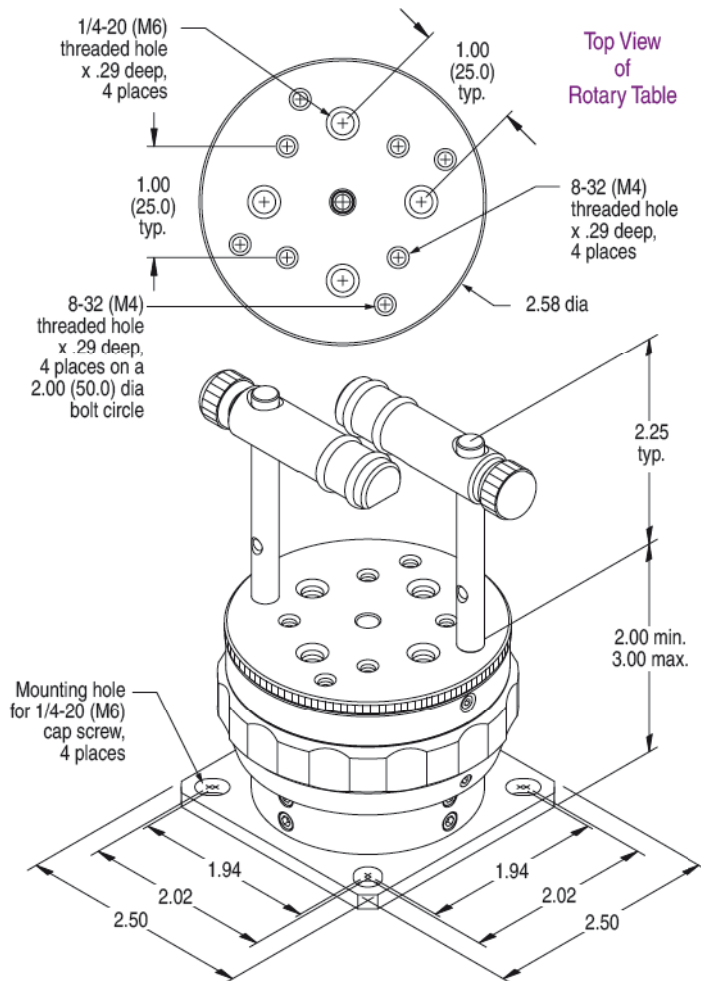
The RLJ-10 is a simple but effective "screw" design lab jack. The simple design has been improved by using tight-tolerance guide rods to minimize rotation of the upper platform during linear vertical translation. The upper platform has a built-in 360° rotation and is useful for positioning cube beamsplitters.



Our 540 and 560 manual lab jacks are built for high load applications and use solid aluminum construction to ensure long life under these loads. The unique "captured" pivot pin design and tight-tolerance machining guarantee minimal wobble and the best parallelism in the industry. The 540 is also available in a motorized DC servo motor driven model (page 81) and can be supplied with a stepper motor upon request.

Rotary, Compact / RLJ-1.0

Note that dimensions in parentheses (mm) reflect metric assembly features



RLJ-1.0

Rotary Lab Jack

The RLJ-1.0 is a compact vertical lab jack which includes a 360° rotating platform. Our unique vertical adjustment design virtually eliminates all backlash and provides a rock-solid, wobble-free platform at any height.

The notched adjustment ring provides non-rotating vertical travel over 1-inch (25-mm) with 0.01mm graduations. A recessed locking screw securely fixes the mount at the desired height to prevent inadvertent adjustments. The lockable, rotating platform has a knurled rim for coarse adjustment with graduations every 2° and is tapped with a wide array of 1/4-20 (M6) and 8-32 (M4) holes. Included with the RLJ-1.0 are two (2) T-1C prism table clamps. These clamps allow the user to mount prisms or beamsplitter cubes on the top of the rotating platform with ease and maximum clear aperture.

Product Features

- 360° rotating platform, lockable
- 2.0-inch (50-mm) minimum total height
- 1.0-inch (25-mm) travel range, lockable

Performance Specifications

Maximum static load	200 lbs
Maximum operational load	50 lbs
Rotational resolution	2°
Vertical resolution	10 μm
Parallelism over full travel	.001-inch (.5 milliradians)
Platform runout / wobble	.001-inch (.5 milliradians)

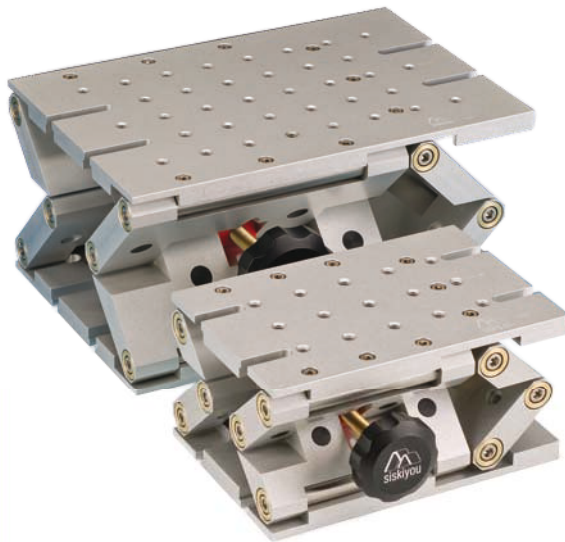
Related Products

MPR series rods & accessories	136
DT-100 series dovetail slides	40
50.5cr series crossed roller stages	48

Order Information

lab jack, rotational platform, 1.0-inch (25-mm) travel	RLJ-1.0
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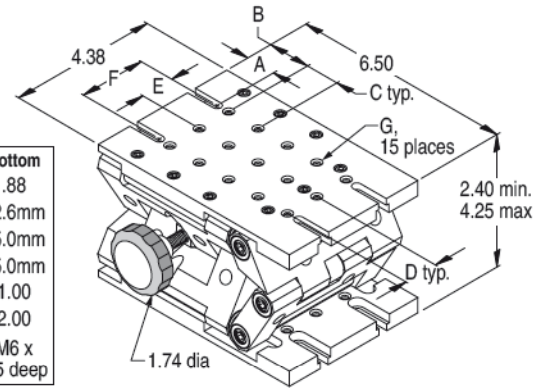
Metric Option — for metric assembly features on this product, add '-M' after model number.



Model 540 and 560

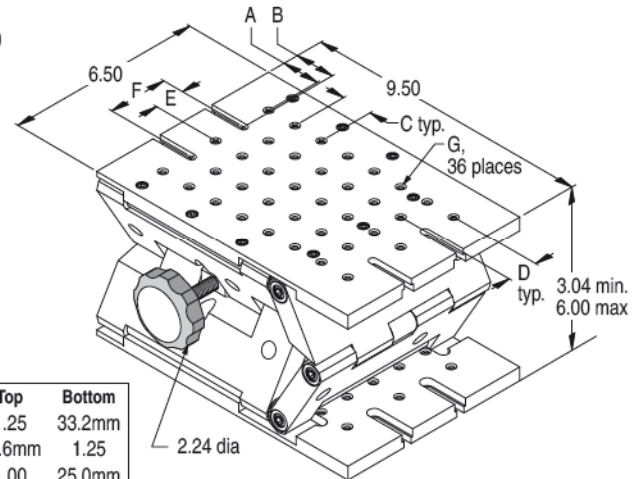
Model 540

Dimension	Top	Bottom
A	22.2mm	.88
B	1.25	32.6mm
C	1.00	25.0mm
D	1.00	25.0mm
E	25.0mm	1.00
F	50.0mm	2.00
G thread	1/4-20 x .45 deep	M6 x .45 deep



Model 560

Dimension	Top	Bottom
A	1.25	33.2mm
B	33.6mm	1.25
C	1.00	25.0mm
D	1.00	25.0mm
E	25.0mm	1.00
F	50.0mm	2.00
G thread	1/4-20 x .45 deep	M6 x .45 deep



Product Features

- Two convenient sizes
- U.S. system and metric compatible
- Heavy load capacity

Performance Specifications

Minimum stack height		
540	2.40-inch [60.96-mm]	
560	3.00-inch [76.20-mm]	
Travel range		
540	1.85-inch [46.99-mm]	
560	3.00-inch [76.20-mm]	
Parallelism over full travel		
540	.006-inch [1 milliradian]	
560	.009-inch [1 milliradian]	
Maximum load over full travel		
540	60 lbs	
560	80 lbs	

Order Information

lab jack, 1.8-inch travel, manual	540
lab jack, 3.0-inch travel, manual	560

Manual Lab Jack

The 540 and 560 lab jacks incorporate a unique scissor design with low backlash pivots that make the platform virtually wobble-free at any location along the vertical travel. The large adjustment knob is attached to a rolled brass leadscrew to ensure smooth stiction-free adjustment even under heavy loads.

Both models use a unique concept of a single design for both U.S. system and metric compatibility. In one orientation, the top plate has an array of 1/4-20 tapped holes spaced on one-inch centers for the U.S. system; the bottom plate has slots set at two-inch centers for mounting to a U.S. system isolation table. With the lab jack turned over, the top plate now has an array of M6 tapped holes spaced on 25-mm centers for metric compatibility; the bottom plate now has slots set at 50-mm centers for mounting to a metric isolation table.

Translation Stages

Lab Jacks Motorized

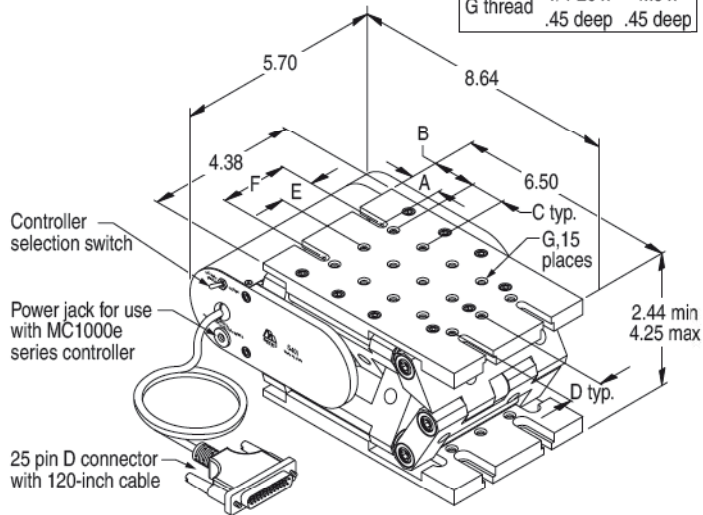
Linear

CE Certified

Linear / 540i

Model 540i

Dimension	Top	Bottom
A	22.2mm	.88
B	1.25	32.6mm
C	1.00	25.0mm
D	1.00	25.0mm
E	25.0mm	1.00
F	50.0mm	2.00
G thread	1/4-20 x	M6 x
	.45 deep	.45 deep



Model 540i



Fully raised



Motorized Lab Jack

The 540i motorized lab jack incorporates common parts from our 540 lab jack and a powerful DC servo motor to produce a high load scissor jack design that is compatible with all of our closed loop controllers. A fully enclosed Gilmer belt drive, which ensures non-slip performance throughout the travel range, replaces the leadscrew knob drive on the manual 540 lab jack. Travel limit switches are used as end-of-travel stops to guarantee that no damage will be done to the motor, gearhead or mechanical train of the jack. When used with our MC1000e series controllers, the 540i uses a stand-alone power supply to drive the jack's DC servo motor. Alternatively, the MC2010's internal power supply has sufficient power to drive the 540i. A selector switch for the different controller configurations is located on the side of the lab jack.

For low-resolution OEM applications the 540i is available with either DC servo or stepper motors and may be controlled by either a keypad or foot switch. Please call for a quote 1-877-313-6418.

Product Features

- DC servo motor drive or optional stepper motor drive
- Quiet, smooth motion
- 40-lbs load capacity

Performance Specifications

Minimum stack height	2.44-inch [61.98-mm]
Travel range	1.81-inch [45.97-mm]
Parallelism over full travel	.005-inch [127-µm]
Maximum load capacity over full travel	40 lbs

Related Products

Model e motion controllers	beginning 22
MC2010 computer interface	27

Order Information

lab jack, 1.8-inch travel, motorized	540i
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