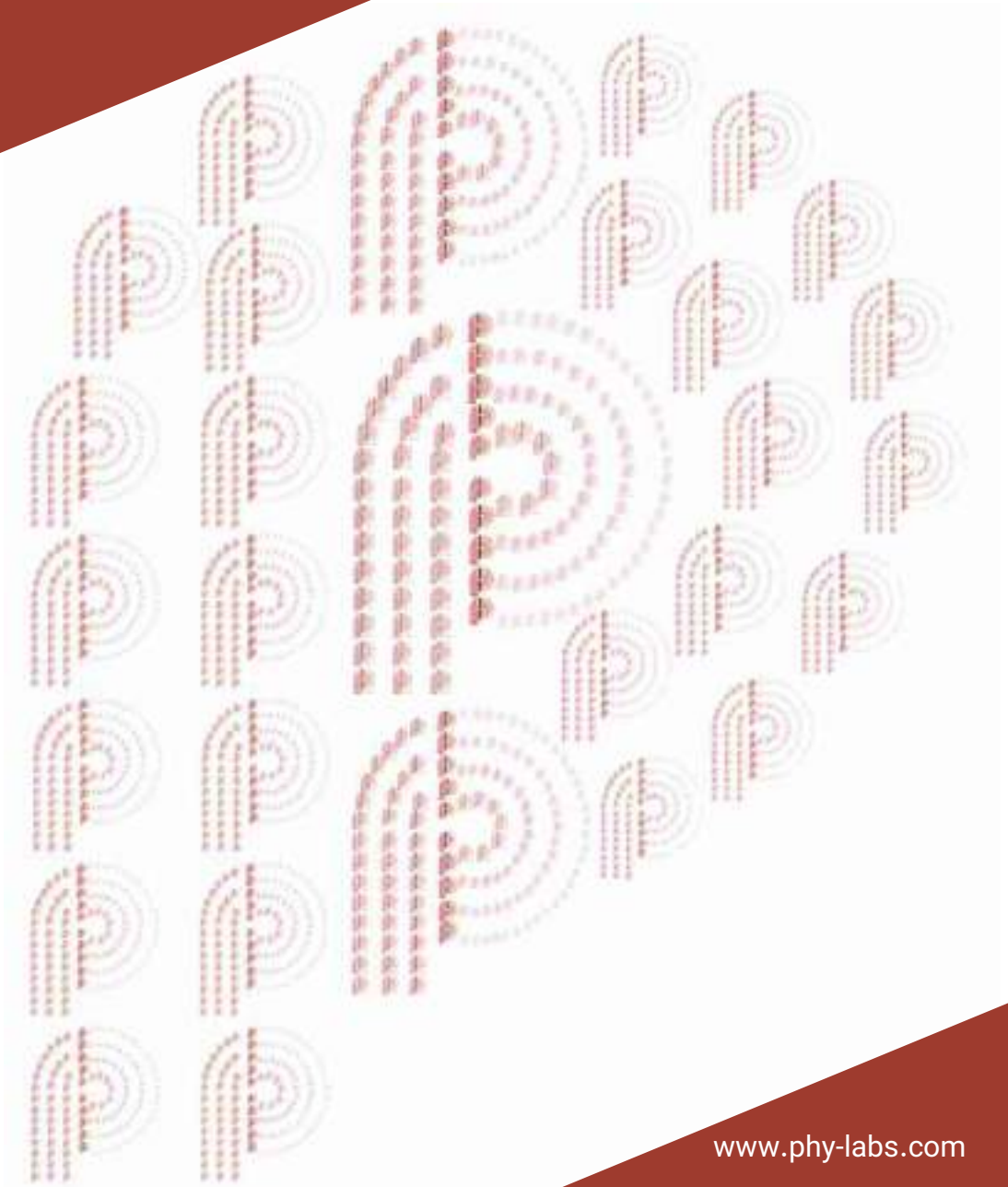


Optomechanics

Catalogue



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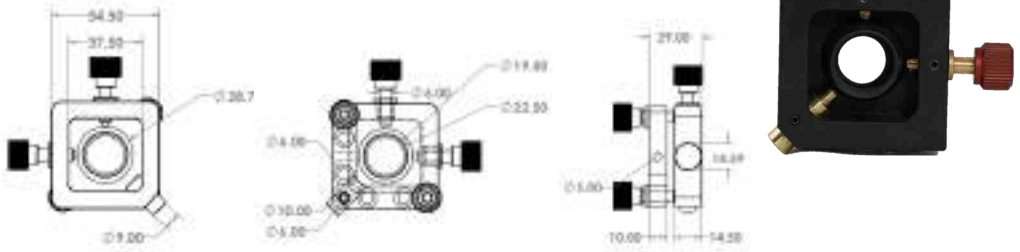
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5-axis 1 inch optical holder with 5 mrad accuracy



Item #	Optic Cell Threading	Optic Size	Max Optic Thickness	Pitch/Yaw Adjust	X/Y Adjust	Z Adjusta	Clear Aperture	Included Retaining Ring	Mounting Counterbores
K5X05	SM05 (0.535"-40)	1/2"	0.33" (8.4 mm)	±4° (8 mrad/rev)	±1.0 mm (254 µm/rev)	±4.6 mm (254 µm/rev)	0.44" (11.0 mm)	SM05RR ^b	Two #8 (M4)s
K5X1	SM1 (1.035"-40)	1"	0.38" (9.5 mm)			±3.2 mm (318 µm/rev)	0.90" (22.9 mm)	SM1RR ^c	
K5X2	SM2 (2.035"-40)	2"	0.42" (10.7 mm)	±3° (4.6 mrad/rev)	±2.0 mm (254 µm/rev)	±3.8 mm (318 µm/rev)	1.90" (48.3 mm)	SM2RR ^d	Six #8 (M4)s

Price: www.phy-labs.com

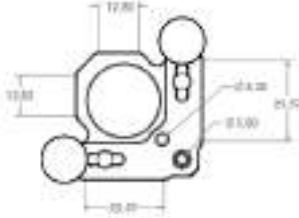
2-axis 1 inch kinematic Platform Mounts optical holder with 5 mrad accuracy



Item #	KS05(/M)
Optic Diameter	51.8 mm
Minimum Optic	5.0 mm
Optical Axis Height	40 mm
Angular Adjustment	±5°
Number of Adjusters	3
Type of Adjustersa	Hex Socket
Adjuster Thread	M6 – 0.5
Clear Aperture	51.8 mm
Mounting	M4 & M6 Tapped Holes

Price: www.phy-labs.com

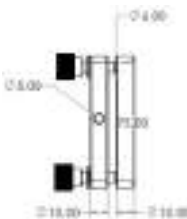
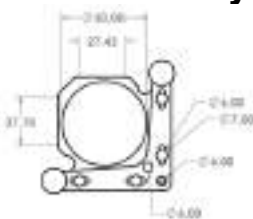
2-axis 1 inch rotational optical holder with 5 mrad accuracy



Item #	KS05(/M)
Optic Diameter	51.8 mm
Minimum Optic	5.0 mm
Optical Axis Height	40 mm
Angular Adjustment	$\pm 5^\circ$
Number of Adjusters	3
Type of Adjustersa	Hex Socket
Adjuster Thread	M6 – 0.5
Clear Aperture	51.8 mm
Mounting	M4 & M6 Tapped Holes

Price: www.phy-labs.com

2-axis 2 inch rotational optical holder with 5 mrad accuracy



Item #	KS05(/M)
Optic Diameter	51.8 mm
Minimum Optic	5.0 mm
Optical Axis Height	40 mm
Angular Adjustment	$\pm 5^\circ$
Number of Adjusters	3
Type of Adjustersa	Hex Socket
Adjuster Thread	M6 – 0.5
Clear Aperture	51.8 mm
Mounting	M4 & M6 Tapped Holes

Price: www.phy-labs.com

Kinematic Mounts

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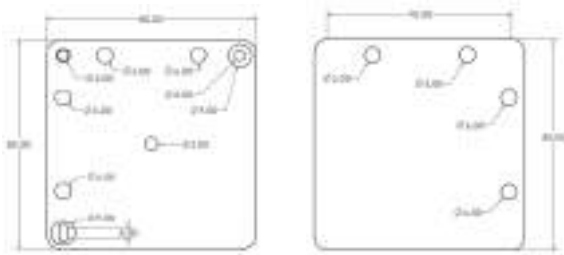
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2-axis kinematic Platform Mounts optical holder, dimensions 80 80 and 55 55 mm²



Item #	KS05(/M)
Optical Axis Height	40 mm
Angular Adjustment	±5°
Number of Adjusters	3
Type of Adjustersa	Hex Socket
Adjuster Thread	M6 – 0.5
Clear Aperture	51.8 mm
Mounting	M4 & M6 Tapped Holes
Resolution	5mIrad/rev

Price: www.phy-labs.com

Adjustable beam splitter holder



Item #	KS05(/M)
Optical Axis Height	40 mm
Angular Adjustment	±5°
Number of Adjusters	3
Type of Adjustersa	Hex Socket
Adjuster Thread	M6 – 0.5
Clear Aperture	51.8 mm
Mounting	M4 & M6 Tapped Holes

Price: www.phy-labs.com

45 degree rod holder

Phylabs provides an array of robust construction accessories that are essential for assembling complex 3D structures. Here's an overview of the available options and their features:

Angle Clamp Options:

Fixed 45° Clamps: Available in left- or right-handed versions for precise angle positioning.



Item #	RA45(/M)
Clamp Angle	45°, Right Handed

Price: www.phy-labs.com

90 degree rod holder

- Compatible with Our 1/2" Posts
- Essential Building Blocks for Complex, Rigid Structures
- Double-Bored Through Holes for Stable Mounting



Item #	RA90(/M)
Clamp Angle	90°, Right Handed

Price: www.phy-labs.com

post holder with 12 diameter hard chrome rod and M4 thread



Length	30 mm – 50mm – 75 mm – 100 mm
--------	-------------------------------

Price: www.phy-labs.com

Optical Posts

- Precision Ground Stainless Steel or Aluminum Posts
- 8-32 (M4) and 1/4"-20 (M6) Threaded or #8 (M4) Counterbored
- 1/2" and 12 mm Outer Diameter Posts Available
- Vacuum-Compatible and Low-Reflectivity Posts Available



Length	30 mm – 50mm – 75 mm – 100 mm
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Price: www.phy-labs.com

Posts and Accessories

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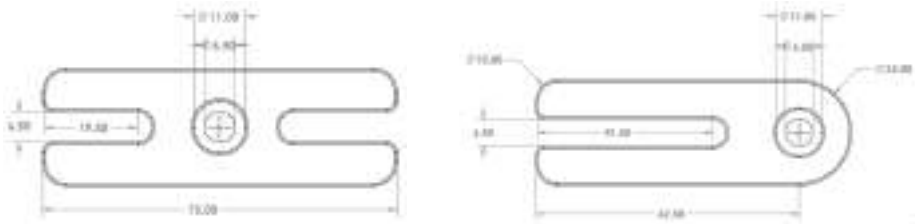
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75 mm long H post holder base

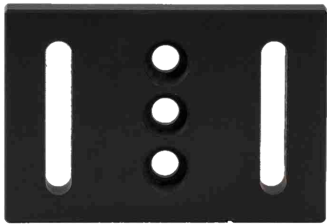
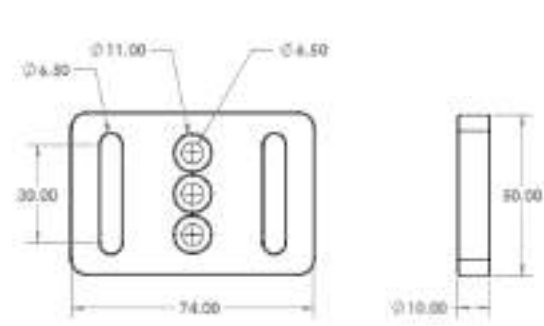
Phylabs' range of mounting bases provides robust and versatile solutions for various optical setups. These bases enhance the stability and precision of optical components, whether in standard laboratory environments or specialized settings like vacuum chambers. Their universal design and multiple configurations make them a vital accessory for any optical laboratory.



Item #	Slots	Slot Type	Slot Length	Mounting Holes	Dimensions (W x L x H)	Material
BA1V(/M)	2	Straight	0.81" (20.1 mm)	1	1" x 3" x 3/8"(25 mm x 75 mm x 10 mm)	6061-T6 Aluminum
	1	Straight	1.77" (45.0 mm)	1	1" x 3" x 3/8"(25 mm x 75 mm x 10 mm)	6061-T6 Aluminum

Price: www.phy-labs.com

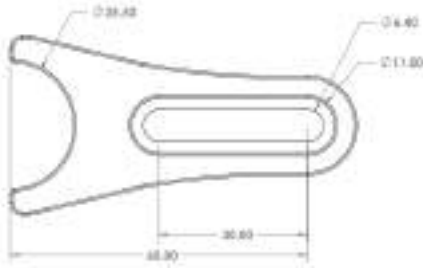
Spacers, Black Anodized, Through Holes and Parallel Clearance Slots



- Quick, Stable Adjustment of Fixed-Height Optical Systems
- Thicknesses Available from 0.010" (0.25 mm) to 2" (50 mm)
- Spacers Equipped with Various Hole Patterns

Price: www.phy-labs.com

Clamping Forks for 1/2" Post Holders and 1" Pedestal Posts



- Clamping Forks Secure Pedestal-Style Mounts to the Optical Table or Breadboard
- Rigid One-Piece Construction with Relief Cuts to Maximize Clamping Stability
- Versions of Clamping Forks Available with Captive Screws
- Non-Bridging Clamping Arms with Flexure Clamping Mechanism
- Base Adapters Convert Posts and Post Holders to Pedestal-Style Mounts
- Pin-Aligned Clamping Post Bases Available to Simplify Beam Alignment Over the Threaded Holes in an Optical Table

Price: www.phy-labs.com

Heavy-Duty Switchable Magnetic Base, M6 Mounting Stud

- Holding Force: 175 lbs (778 N)
- 1/4"-20 (M6) Mounting Stud
- Typically Used with our Standard 1/2" Posts, 1" Posts, or 1/2" Post Holders



The MB175 heavy duty magnetic base has a switchable magnet, i.e. a magnet that can be turned on and off, for quick positioning of optical components. This base does not require additional hardware to secure it to the breadboard; however, it is only compatible with magnetic optical tables. The two bottom mounting surfaces have been precision ground for optical bench applications.

Price: www.phy-labs.com

Posts and Accessories

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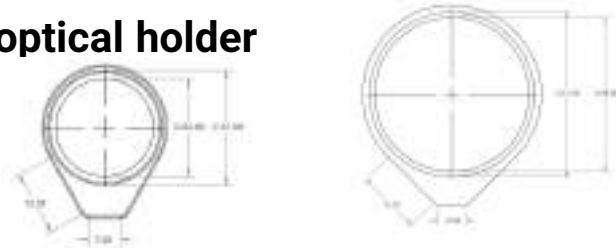
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Simple circular 1/2, 1 and 2 inch optical holder



Item #	MLH5(/M)
Optic Diameter	25 mm
Max Optic Thicknessa	5.0 mm
Clear Apertureb	(23 mm)
Optical Height	10 mm
Included Retaining Ring	SM25RR
Suggested Spanner Wrench	SPW205 or SPW801
Suggested Spanner Bit	-

Price: www.phy-labs.com

Fixed Mirror Mounts

- Fixed Mounts In Sizes from 7 mm to 3"
- Post Mountable via an 4-40 (M3) or 8-32 (M4) Tapped Hole
- Available with 30 mm or 60 mm Cage System Compatibility



The FMP Optical Mounts offer a simple way to mount mirrors or other optical components. The mounts feature a double-bored mounting area that provides two lines of stable contact. The rear of the optic rests against a small shoulder, which maintains a clear aperture that is nearly as large as the optic itself. The optic is held in place by an locking setscrew, which can be fastened using a 5/64" (2.0 mm) balldriver or hex key. See Table G2.1 for the minimum optic thickness that each mount accepts. The mounts are directly compatible with our 1/2" Posts via the 8-32 (M4) tapped hole on the bottom.

Price: www.phy-labs.com

C-Mount to M12 Lens Adapter

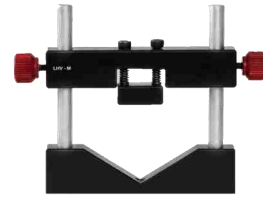
- M12 Lens to C-Mount Lens Adapter with or without O-Ring
- Lock Nut to Secure M12 Lenses to Most Holders
- Durable Holder for Camera Boards



Price: www.phy-labs.com

Adjustable-Height V-Clamp for Optics

- Mounts Optics Ranging from 1/2" (13 mm) to 3.5" (89 mm)
- Optic Groove 0.25" (6.4 mm) Wide
- V-Clamp Design Firmly Secures Optic
- Simple One-Handed Operation



Price: www.phy-labs.com

Manual Rotation Stages

- Continuous 360° Rotation
- Laser-Engraved Graduation Marks
- 1", 1.4", 2", or 4.3" Mounting Platform
- 1/4" (M6) or #4 (M3) Counterbores for Breadboard Mounting
- Lockable via Side-Located Setscrew



Price: www.phy-labs.com

Continuous Rotation Mount 1 and 2 inch optical holder

- Mount Two 1" Optics up to 0.25" (6.4 mm) Thick
- Each Optic Carriage Rotates Independently
- SM1-Threaded Optic Bore in Each Rotating Optic Carriage
- Two SM1RR Retaining Rings Included
- Post Mountable via 8-32 (M4) Tap
- Rotating Optic Carriages are Interchangeable for Quick Swapping



Price: www.phy-labs.com

Universal optical holder 10 mm to 75 mm



Type of Optics:	Cylindrical Tube
Size of Compatible Optics (mm):	20.0 - 55.0
Construction:	Black Anodized Aluminum
Compatible Post:	M6 x 1.0
Twin Ring Mount Adjustment Screw Pitch (mm):	0.5

Price: www.phy-labs.com



Spatial filter with 10 objective and 25 micron pinhole



The Phylabs spatial filter is ideal for producing a "clean" Gaussian beam. The input side consists of a Z-translator that will hold a diffraction-limited aspheric lens to focus the laser through a pinhole. For easy adjustment, the pinhole should be mounted in the XY translator. Threaded holes on the output side are provided for mounting and centering a 1" collimating optic.

Price: www.phy-labs.com

Laser tube holder from 10 to 50 mm in diameter



Type of Optics:	Cylindrical Tube
Size of Compatible Optics (mm):	15.0 - 55.0
Construction:	Black Anodized Aluminum
Compatible Post:	M6 x 1.0
Twin Ring Mount Adjustment Screw Pitch (mm):	0.5

Price: www.phy-labs.com

Objective holder for : RMS - M25-M26



Item #	RMS - M25 - M26
Mounting	M4
Object support	RMS & M25 & M26

Price: www.phy-labs.com



Manual translation stage with 25 mm travel course



The Phylabs XR50 Series offers precise 50 mm linear travel with minimal angular deviation (<150 μ rad). Built with crossed-roller bearings and cast aluminum plates, it ensures high precision, stability, and durability. A quick-connect dovetail system enables seamless multi-axis configurations and compatibility with XR25 and XRR1 stages.

Item #	XR50
Travel	25 mm
Angular Deviation	<150 μ rad
Platform Size	(75 mm x 110.0 mm)
Mounting Holes	25 (M6 x 1.0) Taps
Horizontal Load Capacity (Max)	81.9 kg
Vertical Load Capacity (Max) ^b	4.0 kg
Bearing Type	Linear Guide Rail
Resolution	500 μ m Per Revolution

Price: www.phy-labs.com

Manual vertical translation stage with 25 mm travel course



Item #	MVS1/Ma
Travel Range	25.0 mm
min Height Range	-
Max height Range	-
Micrometer Graduations, per Division	10 μ m
Adjustment per Micrometer Revolution	0.5 mm
Load Capacity (Within Plate Area)	2 kg (4.4 lbs)
Backlash	<1 μ m
Linearity ^b	100%
Straightness	$\pm$ 5.0 μ m
Parallelism of Top and Bottom Plates	140 μ m Over Area of Plates
Weight	0.65 kg (1.43 lbs)
Construction	Black-Anodized Aluminum

Price: www.phy-labs.com

Kinematic Positioners

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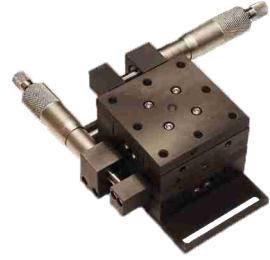
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XY-Manual translation stage micrometer with 25 mm travel course



Item #	XR50
Travel	25 mm
Angular Deviation	<150 μ rad
Platform Size	(75 mm x 110.0 mm)
Mounting Holes	25 (M6 x 1.0) Taps
Horizontal Load Capacity (Max)	81.9 kg
Vertical Load Capacity (Max) ^b	4.0 kg
Bearing Type	Linear Guide Rail
Resolution	500 μ m Per Revolution

Price: www.phy-labs.com

XYZ-Manual translation stage micrometer with 25 mm travel course



Item #	XR50
Travel	25 mm
Angular Deviation	<150 μ rad
Platform Size	(75 mm x 110.0 mm)
Mounting Holes	25 (M6 x 1.0) Taps
Horizontal Load Capacity (Max)	81.9 kg
Vertical Load Capacity (Max) ^b	4.0 kg
Bearing Type	Linear Guide Rail
Resolution	500 μ m Per Revolution

Price: www.phy-labs.com

Motorized translation stage with 0.01 mm accuracy of customized course with exclusive software

The Phylabs MTS50-Z8 Motorized Translation Stage, with its compact design, precise control, and versatile mounting options, is an excellent choice for a wide range of precision optical applications in both scientific and industrial settings.



Item #	MTS50-Z8
Travel Range	50, 100, 150, 200mm
Velocity (Max)	16 mm/s
Min Achievable Incremental Movement ^b	5 µm
Backlash ^d	<6 µm
Horizontal Load Capacity (Max)	25 lbs (12 kg)
Vertical Load Capacity (Max)	10 lbs (4.5 kg)
Included Actuator	Stepper motor
Travel sistem	Linear and ball screw
Required Controller	KDC101
Movement mechanism	

Price: www.phy-labs.com

Single-Axis Miniature Dovetail Translation Stage

- Single-Axis Dovetail Translation Stage
- Lockable Moving Platform



Item #	DT12 Stage Specifications
Travel Range	0.5" (12.7 mm)
Maximum Load	Horizontal: 2.5 lbs (1.2 kg) - Vertical: 0.55 lbs (0.25 kg)
Travel per Revolution	0.014" (0.35 mm)
Construction	Aluminum with Precision Steel Leadscrew
Dimensions (Including Actuator)	1.00" x 1.81" x 0.58" (25.4 mm x 45.9 mm x 14.8 mm)
Mounting Hole Threading	8-32 (M4)

Price: www.phy-labs.com

Kinematic Positioners

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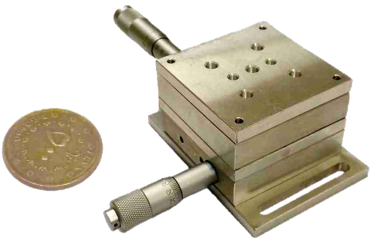
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XY-Axis Miniature Dovetail Translation Stage

- XY-Axis Dovetail Translation Stage
- Lockable Moving Platform

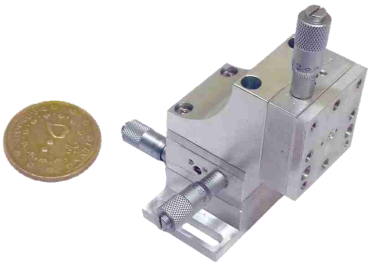


Item #	DT12 Stage Specifications
Travel Range	0.5" (12.7 mm)
Maximum Load	Horizontal: 2.5 lbs (1.2 kg) - Vertical: 0.55 lbs (0.25 kg)
Travel per Revolution	0.014" (0.35 mm)
Construction	Aluminum with Precision Steel Leadscrew
Dimensions (Including Actuator)	1.00" x 1.81" x 0.58" (25.4 mm x 45.9 mm x 14.8 mm)
Mounting Hole Threading	8-32 (M4)

Price: www.phy-labs.com

XYZ-Axis Miniature Dovetail Translation Stage

- XYZ-Axis Dovetail Translation Stage
- Lockable Moving Platform



Item #	DT12 Stage Specifications
Travel Range	0.5" (12.7 mm)
Maximum Load	Horizontal: 2.5 lbs (1.2 kg) - Vertical: 0.55 lbs (0.25 kg)
Travel per Revolution	0.014" (0.35 mm)
Construction	Aluminum with Precision Steel Leadscrew
Dimensions (Including Actuator)	1.00" x 1.81" x 0.58" (25.4 mm x 45.9 mm x 14.8 mm)
Mounting Hole Threading	8-32 (M4)

Price: www.phy-labs.com

1 inch pinhole kit, 10 pieces



Item #	Pinhole Diameter	Diameter Tolerance	Circularity ^a	Foil Thickness	Foil Material	Housing Material
P25HKb	25 μm	±2 μm	≥90%	50 μm	300 Series Stainless Steel	6061-T6 Aluminum
P30HKb	30 μm					
P40HKb	40 μm	±3 μm				
P50HKb	50 μm					
P75HKb	75 μm					
P100HKb	100 μm	±4 μm	≥95%			
P150HKb	150 μm	±6 μm				
P200HKb	200 μm					
P300HK	300 μm	±8 μm				
P400HK	400 μm	±10 μm				
P500HK	500 μm					
P600HK	600 μm					
P700HK	700 μm					
P800HK	800 μm					
P900HK	900 μm					
P1000HKc	1000 μm					
P2000HK	2000 μm					

Price: www.phy-labs.com

1 inch slit kit of 10 pieces



Item #	Slit Width	Tolerance	Slit Length	Foil Thickness	Foil Diameter	Foil Material	Housing Material
S20LK	25 μm	±2 μm	10 mm	50 μm	13 mm	300 Series Stainless Steel	6061-T6 Aluminum
S30LK	30 μm						
S40LK	40 μm	±3 μm					
S50LK	50 μm						
S100LK	100 μm						
S150LK	150 μm	±4 μm					
S200LK	200 μm						
S500LK	500 μm	±10 μm					

Price: www.phy-labs.com

Irises

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filter holder and 100 mm display sheet



Item #	Feature	Compatible Filter Thickness
PC2(/M)	Compact	0.03" - 0.09" (0.8 - 2.3 mm)
SFH3	Stackable	0.04" - 0.19" (1 - 5 mm)
LCP05A(/M)	Cage Compatible	≤0.16" (4 mm)
SFH2	Quick-Release	≤0.16" (4 mm)
FFM1	Cage Cube Compatible	≤0.12" (3.0 mm)
LFFM1		≤0.16" (4.0 mm)
FP01	Thich Plate	≤0.58" (14.7 mm)
FP02		
SM1FH	SM Threaded	≤0.18" (4.6 mm)
SM2FH		

Price: www.phy-labs.com

C-mount extension kit 10-piece



Item #	CML10
L	10.0 mm (0.39")
Thread Depth	9.2 mm (0.36")

Price: www.phy-labs.com

Laboratory jack with variable high load 75 to 125 mm

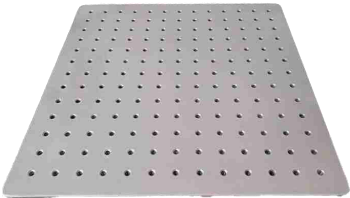


Item #	L200(/M)
Vertical Travel	25 mm
Min Height	75 mm
Max Height	125 mm
Mounting Surface	100mm x 180 mm
Max Load Capacity	25 kg

Price: www.phy-labs.com

10 mm thick aluminum optical board with hard anodized coating

Phylabs' ultralight™ Honeycomb Breadboards are meticulously engineered for optical setups requiring both portability and rigidity. The all-aluminum plates and honeycomb core ensure uniform thermal expansion, reducing potential thermal instabilities that could affect precision measurements. These breadboards are ideal for applications where nonmagnetic properties are crucial.



Specification	Metric Boards
Breadboard Thickness	10 mm
Material	60 - 61 T6
Finish	Matte Black Anodized or no anodized
Flatness	±0.15 mm over 0.09 m2
Hole Size and Spacing	M6 Tapped Holes on 25 mm Centers
Distance from Edge to First Hole	12.5 mm on All Sides
Number of Counterbored Holes	Four M6 Located at Corners - Inset 25 mm

Item #	Material	Size (mm)	Thickness (mm)
Br-AI-3030	Aluminum	300*300	10
Br-AI-6060	Aluminum	600*600	10
Br-AI-5075	Aluminum	500*750	10
Br-AI-70100	Aluminum	700*1000	10
Br-AI70100-15	Aluminum	700*1000	15

Price: www.phy-labs.com

Dovetail Optical Rails



- Dovetail Design Accommodates Our Snap-On Rail Carriers
- Compact Profile: 0.38" x 0.75" (9.5 mm x 19.1 mm)
- Laser-Engraved Scale for Precise Construction
- Ends 8-32 (M4) Tapped

Length

25 mm – 50 mm – 100 mm

Price: www.phy-labs.com

Optical bread board

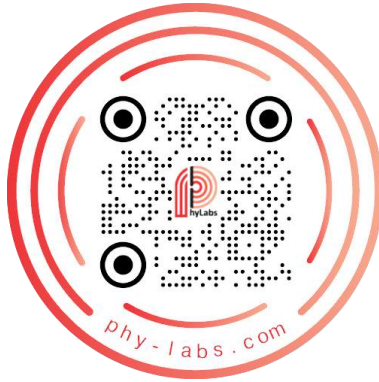
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