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THORLABS

PF175 - August 5, 2020

Item # PF175 was discontinued on August 5, 2020. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

BASE ADAPTERS AND CLAMPING FORKS

- ▶ Base Adapters and Clamping Forks for Our Post Holders and Posts
- ▶ Flexible Positioning on an Optical Table or Breadboard
- ▶ Slots with Lengths from 0.38" to 2.11" (9.5 mm to 53.5 mm)



OVERVIEW

Features

- 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
- Polaris® Non-Bridging Clamping Arms with Flexure Clamping Mechanism
- Base Adapters Convert Posts and Post Holders to Pedestal-Style Mounts

Thorlabs offers clamping forks to secure our pedestal-style $\text{\O}1/2$ " post holders, $\text{\O}1$ " post holders, $\text{\O}1$ " pedestal posts, $\text{\O}12$ mm pedestal posts, or Mini-Series post holders to breadboards and optical tables. With slots ranging from 0.38" to 2.11" (9.5 mm to 53.5 mm) in length, each fork can swivel around the pedestal-style post holder or post to access the most convenient mounting holes on the optical table or breadboard. Thorlabs also manufactures Polaris® Non-Bridging Clamping Arms for $\text{\O}1$ " or $\text{\O}25$ mm posts, which provide high holding force with minimal torque.

Our base adapters thread onto the bottom of our standard $\text{\O}1/2$ " post holders, $\text{\O}1$ " post extensions, or $\text{\O}1.5$ " posts to convert them into pedestal-style posts. The clamping forks can then be used to hold the posts or post holders in place by clamping over the base adapter.

Please note that significant overtightening of clamping forks can deform the surface of an optical table, which can cause misalignment of components. This effect is minimized with the use of Polaris Clamping Arms; see below for details.

An alternative method for securing $\text{\O}1$ " and $\text{\O}1.5$ " pedestal posts is a pair of CL8 table clamps. These compact pieces are part of our larger selection of table clamps and allow users to secure posts to breadboards and tables with limited space.



Click to Enlarge
 Our $\text{\O}1$ " and $\text{\O}1.5$ " posts can be secured to an optical table using post base adapters and clamping forks.

INSIGHTS

Insights into Best Lab Practices

Scroll down to read about a few things we consider when setting up lab equipment.

- Clamping Forks: Tip for Maximizing the Holding Force
- Optical Tables: Clamping Forks and Distortion of the Table's Surface

Click here for more insights into lab practices we follow.



Clamping Forks: Tip for Maximizing the Holding Force

Clamped objects can be fairly easy to move when the torqued screw in the clamp's slot is positioned too far from the object. Correct positioning of the screw protects clamped objects from being knocked out of position.

To maximize the clamping force, position the screw as close as possible to the object.**

This works since clamps like CL5A and CL2 (Figures 1 and 2, respectively) divide the torqued screw's applied force (F_{Total}) between two points.

Clamping force F_2 is applied to the object. The value of F_2 is a percentage of F_{Total} and depends on L_1 and L_2 , as described below. The remainder (F_1) of the total force is applied through the opposite end of the clamp.

The following equations can be used to calculate the two applied forces.

$$\begin{aligned} \text{Force Applied to Object:} & \quad F_2 = \frac{L_1}{L_1 + L_2} F_{Total} \\ \text{Force Applied to Other Contact Point:} & \quad F_1 = \frac{L_2}{L_1 + L_2} F_{Total} \end{aligned}$$

These equations show that the clamping force on the object increases as the distance between the object and screw decreases. The force supplied by the torqued screw is evenly divided between F_1 and F_2 when L_1 and L_2 are equal.

**Note that maximizing the clamping force also requires both the top surface of the clamp and the area it contacts on the object to be parallel with the mounting surface, as depicted in Figures 1 and 2.

If the tangent at the interface between the clamp and object is not parallel to the mounting surface, the force applied to the object will be divided between pressing it into and pushing it across the mounting surface. The force directed along the mounting surface may, or may not, be sufficient to translate the object.

To accommodate different object heights, clamps like the CL2 have one threaded, variable-length leg, which is shown on the left in Figure 2. The number of threads between the clamp and mounting surface should be adjusted to compensate for the height of the object and to keep the clamp's top surface level with the table.

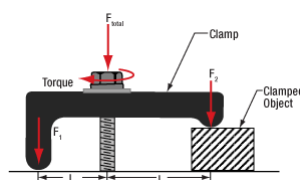
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Optical Tables: Clamping Forks and Distortion of the Table's Surface

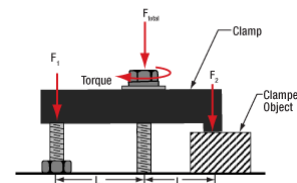
Clamping forks are more rigid than the mounting surface of composite optical tables. It might be expected that the spine of the clamping fork would bend with the force exerted by the screw as the torque is increased. Instead, the screw will pull the skin of the table up and out of flat before the clamping fork deforms. Due to this, clamping forks should be used with care when securing components to optical tables. Clamping arms, which are discussed in the following, are alternatives to clamping forks that are less likely to deform the table's mounting surface.

Optical Table Construction

Optical tables and breadboards with composite construction (Figure 3) are designed to be rigid while providing vibration damping. The 5 mm thick, stainless steel



Click to Enlarge
Figure 1: Less than half the total applied force (F_{Total}) holds the object, since $L_1 < L_2$. The clamp illustrated above is the CL5A.



Click to Enlarge
Figure 2: More than half the total applied force (F_{Total}) holds the object, since $L_1 > L_2$. The height of the left leg of this CL2 clamp is variable to compensate for the object's height. This allows the clamp's top surface and the mounting surface to be made parallel.**

top skin is manufactured to be flat, but a localized force can deform it. When the top skin is deformed, optical components will not sit flat, and optical system alignment and performance can be negatively affected.

Clamping Forks

Standard clamping forks are installed with one edge placed on the table's surface and the opposite edge on the object (Figure 4). Between these two edges, there is clearance between the bottom of the clamp and the surface of the table. This bridge makes it possible to use a single screw to both secure the clamp to the table and exert a holding force on the object.

When the clamp is secured by torquing the screw, the screw pulls up on the top skin of the table (Figure 5).

As the torque on the screw increases, the top skin of the table rises. Not only does pulling up on the table surface risk permanently damaging the table, this can also disturb the alignment of the optical component the clamp is being used to secure. By lifting the table's skin, the mounting surface under the clamped object tilts.

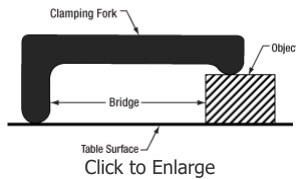


Figure 4: A standard clamping fork, such as the CL5A, contacts the table along only one edge. The opposite edge is in contact with the object to be secured. A bridge forms between the two. The screw that applies the clamping force is not shown.

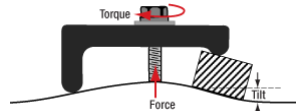


Figure 5: Torquing the screw creates a force that pulls up on the table's top skin. The lifted skin tilts the mounting surface and can induce angular deviation of the object. This effect is exaggerated in the above image for illustrative purposes.



Figure 6: The POLARIS-CA1/M clamping arm has a slot that accepts a mounting screw, a separate screw that applies a clamping force to an installed post, and identical top and bottom surfaces. Since a nearly continuous track around the surface of the clamping arm is in contact with the mounting surface, clamping arms cause negligible bridging effects.

Clamping Arms

Clamping arms, such as the POLARIS-CA1/M, shown in Figure 6, are designed to secure a post while minimally deforming the mounting surface.

The clamping arm in Figure 6 differs from clamping forks in two significant ways. One is the surface area that makes contact with the optical table, which is highlighted in red, and the other is the method used to secure the post.

The area in contact with the optical table makes a nearly continuous loop around the base of the clamp. The contact area is flat and flush with the table when the clamp is installed. The only break in the loop is a narrow slot in the vise used to grip the post.

This design uses two screws, instead of the clamping fork's single screw. One screw (not shown) secures the clamp to the table, and the other (indicated) is tightened to grip the post. Since one screw is not required to perform both tasks, it is not necessary for this clamping arm to form a bridge between the clamped object and the optical table.

Although the contact area is a loop, and not a solid surface, this clamp causes negligible distortion of the mounting surface. This is due to the open area inside the contact surface being narrow and surrounded by the sides of the clamp, which resist the force pulling up on the table.

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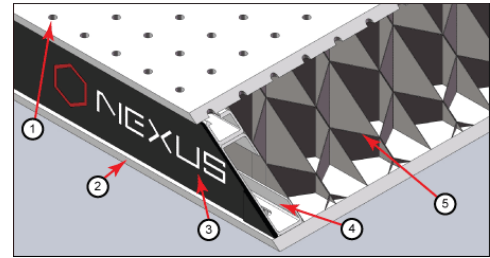
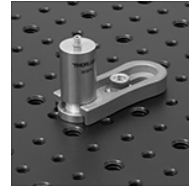


Figure 3: The construction of a Nexus table / breadboard includes a (1) top skin, (2) bottom skin, (3) side finishing trim, (4) side panels, and (5) honeycomb core. The stainless steel top and bottom skins are 5 mm thick.

Mini-Series Clamping Forks

- ▶ Secure Any of Our Ø12 mm Pedestal Posts or Pedestal-Base Post Holders to Breadboards or Optical Tables
- ▶ MSC1 Has a 0.63" (15.9 mm) Long Counterbored Slot for a 4-40 (M3) Cap Screw
- ▶ MSC3 Has a 0.59" (14.9 mm) Long Counterbored Slot for an 8-32 (M4) Cap Screw
- ▶ MSC2 Has a 0.63" (15.9 mm) Long Slot for a 1/4"-20 (M6) Cap Screw
- ▶ Swivel Fork 360° to Select the Most Convenient Mounting Hole



Click to Enlarge
An MSC3 Clamping Fork secures the MSP1 Ø12 mm pedestal post to a Mini-Series breadboard with 8-32 tapped holes.



Click to Enlarge
An MSC2 Clamping Fork secures a Ø12 mm pedestal post to a breadboard with 1/4"-20 tapped holes.

Our clamping forks are designed to provide exceptional clamping force when used with our Ø12 mm pedestal posts or our pedestal-base post holders. These clamping forks provide flexibility for building setups that combine Mini-Series components and our larger range of optomechanics offerings. The MSC1 and MSC2 are made from anodized aluminum, while the MSC3 is made from precipitation hardened 17-4PH stainless steel to provide a more uniform clamping force.

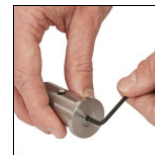
Designed to be used with the Mini-Series breadboards, the MSC1 and MSC3 are compatible with a 4-40 (M3) and 8-32 (M4) cap screw, respectively. The MSC2 slot accepts 1/4"-20 (M6) cap screws, thus enabling the inclusion of Mini-Series posts and components into setups on standard breadboards and optical tables in addition to mini-series breadboards.

Each clamping fork features landing pads on the bottom surface to maximize stability when using a washer and cap screw to lock down a post with the fork. Please note that significant overtightening of clamping forks can deform the surface of an optical table, which can cause misalignment of components.

Part Number	Description	Price	Availability
MSC1	Clamping Fork for 4-40 (M3) Cap Screw	\$14.76	Today
MSC3	Clamping Fork for 8-32 (M4) Cap Screw	\$13.79	Today
MSC2	Clamping Fork for 1/4"-20 (M6) Cap Screw	\$16.72	5-8 Days

Base Adapters and Clamping Forks for Ø1/2" Post Holders and Ø1" Posts

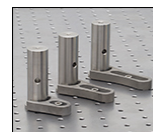
- ▶ BE1(/M) and BE1R(/M) Adapters Convert Standard Ø1/2" Post Holders and Ø1" Post Extensions into Pedestal-Style Mounts
- ▶ Clamping Fork or CL8 Table Clamp Secures Pedestal-Style Mount to a Breadboard or Optical Table
- ▶ Three Sizes Provide Clamping with 1/4"-20 (M6) Cap Screws
 - ▶ 0.38" (9.5 mm) Long Counterbored Slot (CF038-P5)
 - ▶ 1.24" (31.5 mm) Long Counterbored Slot (CF125)
 - ▶ 1.75" (44.4 mm) Long Counterbored Slot (CF175)
- ▶ Swivel Fork 360° to Select Most Convenient Mounting Hole
- ▶ BE1(/M) Adapter and All Clamping Forks Available in Packs of Five (CF038-P5 Not Sold Individually)



Click to Enlarge
These base adapters feature a 1/8" (3 mm) hex socket on the bottom for tightening.



Click to Enlarge
The BE1R has a magnet in the base for stability in temporary setups.



Click to Enlarge
Several Slot Lengths Available



Click to Enlarge
[APPLIST]
[APPLIST]

Pedestal Base Adapters

The BE1(/M) and BE1R(/M) pedestal base adapters feature 1/4"-20 (M6)-threaded studs that fit into the bottom of our standard Ø1/2" post holders or Ø1" post extensions (see photos to the right), converting them into pedestal-style mounts for added stability. The BE1R(/M) adapter has a magnet in the base that is sufficiently strong to securely hold the base in place without clamping to an optical table (see photo at the top right). Made from solid 303 stainless steel with a 1.25" (31.8 mm) outer diameter, these adapters allow Ø1/2" post holders and Ø1" pillar posts to be used with the CF series of clamping forks, and can be tightened onto the post or postholder using a 1/8" (3 mm) hex or ball driver.

The BE1(/M) base adapter is available in a pack of five for ease of ordering.

Clamping Forks

The CF038-P5, CF125, and CF175 clamping forks are designed to provide exceptional clamping force when used with our Ø1/2" post holders and Ø1" post extensions that have been adapted using the BE1(/M) to pedestal-style mounts. These clamping forks can also be used with our pedestal-style Ø1/2" post holders or Ø1" pedestal posts without any need for the BE1(/M).

Made from solid 303 stainless steel, the CF038-P5, CF125, and CF175 clamping forks create three points of contact with the table for high stability. For flexibility in the positioning of post assemblies, three sizes are available: the CF038-P5 fork offers a 0.38" (9.5 mm) long counterbored slot, the CF125 fork offers a 1.24" (31.5 mm) long counterbored slot, and the CF175 fork has a 1.75" (44.4 mm) long counterbored slot. All three counterbored slots are designed for 1/4"-20 (M6)-threaded cap screws. Please note that significant over tightening of clamping forks can deform the surface of an optical table, which can cause misalignment of components and decrease stability.

These clamping forks are available with a 1/4"-20 (M6)-threaded captive screw. For more information, please see below. Clamping forks are also available in packs of five for ease of ordering (note: the CF038-P5 clamping fork is only available in packs of five).

Part Number	Description	Price	Availability
BE1/M	Ø31.8 mm Studded Pedestal Base Adapter, M6 Thread	\$10.06	5-8 Days
BE1/M-P5	Customer Inspired! Ø31.8 mm Studded Pedestal Base Adapter, M6 Thread, 5 Pack	\$50.30	5-8 Days
BE1R/M	Customer Inspired! Ø31.8 mm Magnetic Studded Pedestal Base Adapter, M6 Thread	\$17.75	Today
CF038-P5	Customer Inspired! Clamping Fork, 0.38" Counterbored Slot, Universal, 5 Pack	\$41.40	Today
CF125	Clamping Fork, 1.24" Counterbored Slot, Universal	\$9.22	Today
CF125-P5	Clamping Fork, 1.24" Counterbored Slot, Universal, 5 Pack	\$43.72	Today
CF175	Clamping Fork, 1.75" Counterbored Slot, Universal	\$10.93	Today
CF175-P5	Clamping Fork, 1.75" Counterbored Slot, Universal, 5 Pack	\$51.89	Today
BE1	Ø1.25" Studded Pedestal Base Adapter, 1/4"-20 Thread	\$10.06	Today
BE1-P5	Customer Inspired! Ø1.25" Studded Pedestal Base Adapter, 1/4"-20 Thread, 5 Pack	\$50.30	Today
BE1R	Customer Inspired! Ø1.25" Magnetic Studded Pedestal Base Adapter, 1/4"-20 Thread	\$17.75	Today

Clamping Forks with Captive Screws for Ø1/2" Post Holders and Ø1" Posts

- ▶ Same Design as CF038, CF125 or CF175 with Added 1/4"-20 (M6) Captive Screw
- ▶ Secures Pedestal-Style Mount to a Breadboard or Optical Table
- ▶ Three Sizes Provide Clamping with 1/4"-20 (M6) Cap Screws
 - ▶ 0.38" (9.5 mm) Long Counterbored Slot [CF038C(/M)-P5]
 - ▶ 1.24" (31.5 mm) Long Counterbored Slot [CF125C(/M)]
 - ▶ 1.75" (44.4 mm) Long Counterbored Slot [CF175C]
 - ▶ 1.76" (44.8 mm) Long Counterbored Slot [CF175C/M]
- ▶ Position Fork Over 360° to Select Most Convenient Mounting Hole
- ▶ Clamping Forks Available in Packs of Five [CF038C(/M)-P5 Not Sold Individually]



Click for Details
Bottom view of the captive screw held in the slot by a retainer.

Our Clamping Forks offer the convenience of 1/4"-20 (M6) captive screws, while still providing the same exceptional clamping force for our pedestal-style posts and post holders as our standard forks, sold above. The screws can be tightened into the breadboard using a 3/16" (5 mm) hex key or balldriver. Please note that significant over tightening of clamping forks can deform the surface of an optical table, which can cause misalignment of components.

Fabricated from solid 303 stainless steel, all of these clamping forks create three points of contact with the table for high stability. For flexibility in the positioning of post assemblies, Thorlabs offers three sizes: the CF038C(/M)-P5 fork has a 0.38" (9.5 mm) long counterbored slot, the CF125C(/M) fork has a 1.24" (31.5 mm) long counterbored slot, the CF175C fork has a 1.75" (44.4 mm) long counterbored slot, and the CF175C/M fork has a 1.76" (44.8 mm) long counterbored slot. When used with the BE1(/M) base adapter (sold above), these clamping forks can position our standard Ø1/2" post holders or Ø1" post extensions. Alternatively, the clamping fork is directly compatible with our pedestal-style Ø1/2" post holders or Ø1" pedestal posts.

These clamping forks are also available in packs of five for ease of ordering (note: the CF038C(/M)-P5 clamping fork is only available in packs of five).

Part Number	Description	Price	Availability
CF038C/M-P5	Clamping Fork, 9.5 mm Counterbored Slot, M6 x 1.0 Captive Screw, 5 Pack	\$51.14	Today
CF125C/M	Customer Inspired! Clamping Fork, 31.5 mm Counterbored Slot, M6 x 1.0 Captive Screw	\$11.69	Today
CF125C/M-P5	Clamping Fork, 31.5 mm Counterbored Slot, M6 x 1.0 Captive Screw, 5 Pack	\$55.65	Today
CF175C/M	Customer Inspired! Clamping Fork, 44.8 mm Counterbored Slot, M6 x 1.0 Captive Screw	\$12.77	Today
CF175C/M-P5	Clamping Fork, 44.8 mm Counterbored Slot, M6 x 1.0 Captive Screw, 5 Pack	\$61.08	Today
CF038C-P5	Clamping Fork, 0.38" Counterbored Slot, 1/4"-20 Captive Screw, 5 Pack	\$51.14	Today
CF125C	Customer Inspired! Clamping Fork, 1.24" Counterbored Slot, 1/4"-20 Captive Screw	\$11.69	Today
CF125C-P5	Clamping Fork, 1.24" Counterbored Slot, 1/4"-20 Captive Screw, 5 Pack	\$55.65	Today
CF175C	Customer Inspired! Clamping Fork, 1.75" Counterbored Slot, 1/4"-20 Captive Screw	\$12.77	Today
CF175C-P5	Clamping Fork, 1.75" Counterbored Slot, 1/4"-20 Captive Screw, 5 Pack	\$61.08	Today

Base Adapters and Clamping Fork for Ø1" Post Holders and Ø1.5" Posts

- ▶ PB4(/M) Adapter Converts Ø1.5" Posts to Pedestal-Style Mounts
- ▶ Clamping Fork Secures Pedestal-Style Mount to a Breadboard or Optical Table
- ▶ One Fork Size: 2.11" (53.6 mm) Long Counterbored Slot
- ▶ Swivel Fork 360° to Select Most Convenient Mounting Hole

Pedestal Base Adapter

The PB4(/M) pedestal base adapter features a 1/4"-20 (M6)-threaded stud, which fits into the bottom of our Ø1.5" posts to convert them into pedestal-style mounts. Made from solid 303 stainless steel with a 1.85" (47.0 mm) outer diameter, this adapter allows these posts to be used with our PF175 clamping fork.

Clamping Fork

The PF175 clamping fork is designed to provide exceptional clamping force when used with our Ø1.5" posts that have been adapted using the PB4(/M) to pedestal-style mounts. This clamping fork can also be used with our Ø1" post holders or BLP01 adjustable-height post without any need for the PB4(/M).

Made from anodized aluminum, the PF175 clamping fork creates three points of contact with the table for high stability. The 2.11" (54 mm) long counterbored slot for 1/4"-20 (M6) cap screws allows the most convenient mounting hole to be selected and creates flexibility in the positioning of post assemblies. Please note that significant over tightening of clamping forks can deform the surface of an optical table, which can cause misalignment of components and decrease stability.



A Ø1.5" post is converted to a pedestal-style post with a PB4 base adapter.



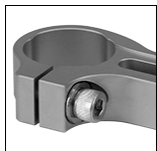
Click to Enlarge
The PF175 fork is used to secure a Ø1.5" post to an optical table with a PB4 base.

Part Number	Description	Price	Availability
PB4/M	Studded Pedestal Base Adapter, M6 x 1.0 Thread	\$13.74	Today
PF175	Clamping Fork for Ø1.5" Pedestal Post or Post Pedestal Base Adapter, Universal	\$19.37	Lead Time
PB4	Studded Pedestal Base Adapter, 1/4"-20 Thread	\$13.74	Today

Polaris® Non-Bridging Clamping Arms



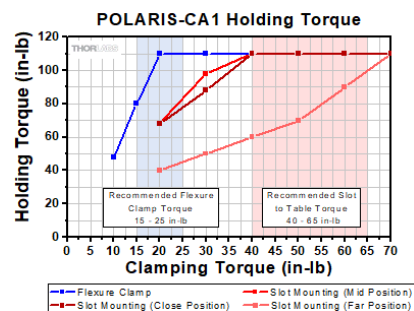
Click to Enlarge
The arm can be mounted with either flat surface in contact with the table, allowing for compact setups.



Click to Enlarge
Side-Located 1/4"-20 (M6) Screw Actuates Clamping Bore

- ▶ 3-Point Contact Bore with Flexure Clamping Mechanism
 - ▶ Versions for Ø1" or Ø25 mm Posts for Polaris Mounts and Ø1" Monolithic Polaris Mount (See Table Below)
 - ▶ 0.60" Bore Depth Supports Height Adjustments Up to 0.25"
 - ▶ Allows Posts to be Rotated 360°
- ▶ 0.75" (19.1 mm) or 1.30" (33.0 mm) Slot for 1/4"-20 (M6) Cap Screw
- ▶ Heat-Treated, Stress-Relieved Stainless Steel Provides Large Clamping Force
- ▶ Design Supports Left- and Right-Handed Orientations (See Lower Left Image)
- ▶ High Stability Ideal for Use with Our Kinematic Polaris Mirror Mounts
- ▶ Vacuum Compatible to 10⁻⁹ Torr at 25 °C with Proper Bake Out
- ▶ ±0.001" (±0.02 mm) Surface Flatness

The Polaris® Clamping Arms are the ideal solution for stably mounting our Ø1" or Ø25 mm Posts for Polaris Mounts or Ø1" Monolithic Polaris Mount. Each clamping arm, which is machined from heat-treated, stress-relieved stainless steel bar stock, provides extremely high holding forces with minimal torquing of the mounting screws (see the graph to the right).



Click to Enlarge
Click for POLARIS-CA1/M Holding Torque Results*
The Polaris clamping fork design has undergone extensive testing to ensure high-quality performance. See the full presentation for more details.

*It is important to note that the 1/4"-20 and M6 x 1.0 clamping torque values have been adjusted to provide the same clamping post and table forces. Also note that the maximum recommended tightening torque for an 18-8 stainless steel screw is 75.2 in-lbs for a 1/4"-20 screw and 8.8 N-m for an M6 x 1.0 screw. Higher mounting torques can cause the screw to fail.

The flat, non-bridging top and bottom surfaces of each clamping arm allow it to be used with either side in contact with an optical table or other mounting surface. This feature allows the clamp to be positioned in left- or right-handed orientations and optical components to be placed in near contact to one another while minimizing the footprint (see the image to the left). On each side of the arm, a relief cut around the slot protects the ±0.001" (±0.02 mm) flat surface from any marring due to the screw and washer, allowing for more stable mounting.

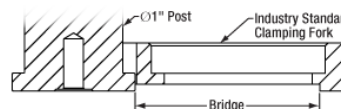
The clamping arms are offered with slot lengths of 0.75" (19.1 mm) or 1.30" (33.0 mm), providing flexibility when used in applications such as tight laser cavity setups. Four of our clamping arms are designed to hold Ø1" posts, while the remaining two are designed to hold Ø25 mm posts; see the table below for details. Note the arms with a Ø1" (25.4 mm) bore are not compatible with Ø25 mm posts; the bore diameter is too large and will not contact the post when clamping.

The flexure clamp, shown in the photo to the left, is actuated using a side-located 1/4"-20 (M6 x 1.0) cap screw and allows a post to be rotated 360° about its center. As the flexure clamp and mounting slot are secured with separate screws, the position of the fork and the rotational alignment of the post can be adjusted independently. While best performance is achieved with full post engagement, the 0.60" (15.2 mm) thick mounting bore supports up to 0.25" of post height adjustment.

The Polaris clamping fork design has undergone extensive testing to ensure high-quality performance; see the graph to the upper right. For optimal performance, we recommend tightening the flexure clamping screw of an imperial clamping arm with 15 to 25 in-lb of torque and the flexure clamping screw of a metric clamping arm with 1.75 to 3 N·m of torque. When mounting to a table or platform, we recommend using 40 to 65 in-lb of torque for an imperial clamping arm and 4.75 to 7 N·m of torque for a metric clamping arm. Please note that the values for imperial and metric clamps are not a direct conversion due to an efficiency difference between 1/4"-20 and M6 x 1.0 screws. The efficiency of M6 x 1.0 screws is about 5% less than that of 1/4"-20 screws due to differences in diameter and pitch. For best results, use the maximum recommended torques from each range. These torque values can be dialed in using a torque driver.

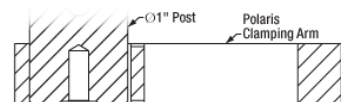
Non-Bridging Design: Industry Standard Clamping Fork vs. Polaris Clamping Arm

Industry standard clamping forks are designed with a bridge, as shown in Figure 1, for clamping to pedestal-style posts or post holders. This design will slightly damage the laser platform during each use by pulling up the part of the platform located under the bridge. The Polaris clamping arm, as shown in Figure 2, is designed with a flat top and bottom to eliminate this problem.



Click to Enlarge

Figure 1: A Bridge is Created When an Industry Standard Clamping Fork is Used with a Pedestal Post



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Figure 2: The Polaris Clamping Arm Eliminates the Bridge Created by an Industry Standard Clamping Fork

Item #	Compatible Post Size	Clamping Screw	Slot Length	Footprint
POLARIS-SCA1	Ø1" (25.4 mm)	1/4"-20 (3/16" Hex)	0.75" (19.1 mm)	2.78" x 1.60" (70.5 mm x 40.6 mm)
POLARIS-CA1			1.30" (33.0 mm)	3.33" x 1.60" (84.5 mm x 40.6 mm)
POLARIS-SCA1/M		M6 x 1.0 (5 mm Hex)	0.75" (19.1 mm)	2.78" x 1.60" (70.5 mm x 40.6 mm)
POLARIS-CA1/M			1.30" (33.0 mm)	3.33" x 1.60" (84.5 mm x 40.6 mm)
POLARIS-SCA25/M	Ø25.0 mm		0.75"	2.78" x 1.60"

	(Ø0.98")	(19.1 mm)	(70.5 mm x 40.6 mm)
POLARIS-CA25/M		1.30" (33.0 mm)	3.33" x 1.60" (84.5 mm x 40.6 mm)

Part Number	Description	Price	Availability
POLARIS-SCA1/M	NEW! Flexure Clamping Arm for Ø1" Posts, Non-Bridging, Stainless Steel, 19.1 mm Counterbored Slot, M6 Clamping Screw	\$77.50	Today
POLARIS-SCA25/M	NEW! Flexure Clamping Arm for Ø25 mm Posts, Non-Bridging, Stainless Steel, 19.1 mm Counterbored Slot, M6 Clamping Screw	\$77.50	5-8 Days
POLARIS-CA1/M	Flexure Clamping Arm for Ø1" Posts, Non-Bridging, Stainless Steel, 33.0 mm Counterbored Slot, M6 Clamping Screw	\$82.48	Today
POLARIS-CA25/M	Flexure Clamping Arm for Ø25 mm Posts, Non-Bridging, Stainless Steel, 33.0 mm Counterbored Slot, M6 Clamping Screw	\$82.48	Today
POLARIS-SCA1	NEW! Flexure Clamping Arm for Ø1" Posts, Non-Bridging, Stainless Steel, 0.75" Counterbored Slot, 1/4"-20 Clamping Screw	\$77.50	Today
POLARIS-CA1	Flexure Clamping Arm for Ø1" Posts, Non-Bridging, Stainless Steel, 1.30" Counterbored Slot, 1/4"-20 Clamping Screw	\$82.48	Today

Visit the *Base Adapters and Clamping Forks* page for pricing and availability information:

https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=887

