

## CPTR20/M - December 23, 2020

Item # CPTR20/M was discontinued on December 23, 2020. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

### 30 mm CAGE TO Ø1/2" POST ADAPTERS

- Integrate Ø1/2" Post-Mounted Components into a 30 mm Cage System
- Available with 10 or 20 mm Spacing Between Post and Cage Plate
- 30 mm Cage Plate Front Face with SM1-Threaded Port

#### Application Idea

CPTR20 Adapter Used to Integrate a DLM1 Rotation Mount on a Ø1/2" Post into a 30 mm Cage System



[Hide Overview](#)

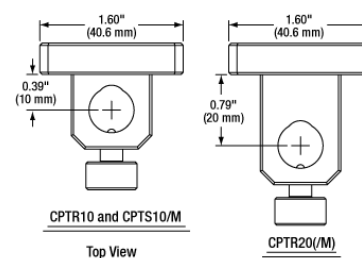
## OVERVIEW

### Features

- Mounts Ø1/2" Post and Components in a 30 mm Cage System
- Double-Bored Hole and Locking Thumbscrew Securely Locks Post in Position
- CP33 Cage-Plate-Style Front Face with SM1-Threaded Through-Hole

Thorlabs' 30 mm cage to Ø1/2" post adapters allow the integration of our post-mounted components into our 30 mm cage system. The front face of this clamp is similar to the CP33(/M) cage plate and accommodates our Ø6 mm ER cage rods, which are secured using the side-located locking setscrews and are 30 mm apart. The center-located SM1 (1.035"-40) threaded bore, which is compatible with our popular Ø1" lens tubes, directly accepts a Ø1" optic up to 0.19" (4.8 mm) thick. Two SM1RR retaining rings are included. For additional information on our cage system, please refer to the *Cage Overview* tab.

The tail stock of this adapter has a double-bored through-hole and a spring-loaded thumbscrew that provides three-point contact for Ø1/2" posts for secure placement. Two versions are available, providing either 10 mm (CPTR10 and CPTS10/M) or 20 mm [CPTR20(/M)] separation between the post center and the back of the cage plate.



[Click to Enlarge](#)

[Hide Cage Overview](#)

## CAGE OVERVIEW

### Cage System Overview

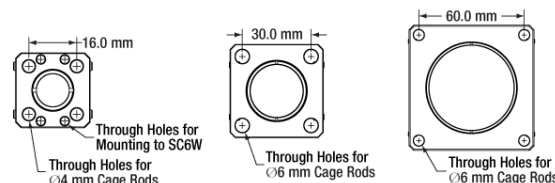
The Cage Assembly System provides a convenient way to construct large optomechanical systems with an established line of precision-machined building blocks designed for high flexibility and accurate alignment.

### 16 mm, 30 mm, and 60 mm Cage System Standards

Thorlabs offers three standards defined by the center-to-center spacing of the cage assembly rods (see image below). The 16 mm cage, 30 mm cage, and 60 mm cage standards are designed to accommodate Ø1/2", Ø1", and Ø2" optics, respectively. Specialized cage plates that allow smaller optics to be directly inserted into our larger cage systems are also available.

### Standard Threads

The flexibility of our Cage Assembly System stems from well-defined mounting and thread standards designed to directly interface with a wide range of specialized products. The three most prevalent thread standards are our SM05 Series (0.535"-40 thread), SM1 Series (1.035"-40 thread), and SM2 Series (2.035"-40 thread), all of which were defined to house the industry's most common optic sizes. Essential building blocks, such as our popular lens tubes, directly interface to these standards.



An example of the standard cage plate measurements determining cage system compatibility.

| Standard Cage System Measurements |               |               |                |
|-----------------------------------|---------------|---------------|----------------|
| Cage System                       | 16 mm         | 30 mm         | 60 mm          |
| Thread Series                     | SM05          | SM1           | SM2            |
| Rod to Rod Spacing                | 16 mm (0.63") | 30 mm (1.18") | 60 mm (2.36")  |
| Total Length                      | 25 mm (0.98") | 41 mm (1.60") | 71.1 mm (2.8") |

| Cage Components                         |       |   |
|---|-------|---|
| Cage Rods                               | 16 mm | These rods are used to connect cage plates, optic mounts, and other components in the cage system. The SR Series Cage Rods are compatible with our 16 mm cage systems, while the 30 mm and 60 mm cage systems use ER Series Cage Rods.  |
|   | 30 mm |   |
|   | 60 mm |   |
| Cage Plates                             | 16 mm | These serve as the basic building blocks for a cage system. They may have SM-threaded central bores, smooth bores sized for industry standard optics or to accommodate the outer profile of our SM Series Lens Tubes, or specialized bores for other components such as our FiberPorts.   |
|   | 30 mm |   |
|   | 60 mm |   |
| Optic Mounts                            | 16 mm | Thorlabs offers fixed, kinematic, rotation, and translation mounts specifically designed for our Cage Systems.  |
|   | 30 mm |   |
|   | 60 mm |   |
| Cage Cubes                              | 16 mm | These cubes are useful for housing larger optical components, such as prisms or mirrors, or optics that need to sit at an angle to the beam path, such as beamsplitters. Our cage cubes are available empty or with pre-mounted optics.   |
|   | 30 mm |   |
|   | 60 mm |   |
| Post and Breadboard Mounts and Adapters |       | Mounting options for cage systems can be found on our Cage System Construction pages. Cage Systems can be mounted either parallel or perpendicular to the table surface.  |
| Size Adapters                           |       | Cage System Size Adapters can be used to integrate components from different cage system and threading standards.   |
| Specialized Components                  |       | Thorlabs also produces specialized cage components, such as Filter Wheels, a HeNe Laser Mount, and a FiberPort Cage Plate Adapter, allowing a wide range of our products to be integrated into cage-mounted optical systems. Explore our Cage Systems Visual Navigation Guide to see the full range of Thorlabs' cage components. |

[Hide 30 mm Cage to Ø1/2" Post Adapters](#)

### 30 mm Cage to Ø1/2" Post Adapters

| Part Number | Description | Price | Availability |
|-------------|-------------|-------|--------------|
|-------------|-------------|-------|--------------|

|                 |   |                |              |
|-----------------|---|----------------|--------------|
| <b>CPTS10/M</b> | <b>Cage Plate to Ø1/2" Post Adapter, 10 mm Post Offset, Metric Thumbscrew</b>   | <b>\$38.80</b> | <b>Today</b> |
| <b>CPTR20/M</b> | <b>Cage Plate to Ø1/2" Post Adapter, 20 mm Post Offset, Metric Thumbscrew</b>   | <b>\$38.80</b> | <b>Today</b> |
| <b>CPTR10</b>   | <b>Cage Plate to Ø1/2" Post Adapter, 10 mm Post Offset, Imperial Thumbscrew</b> | <b>\$38.80</b> | <b>Today</b> |
| <b>CPTR20</b>   | <b>Cage Plate to Ø1/2" Post Adapter, 20 mm Post Offset, Imperial Thumbscrew</b> | <b>\$38.80</b> | <b>Today</b> |