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# THORLABS

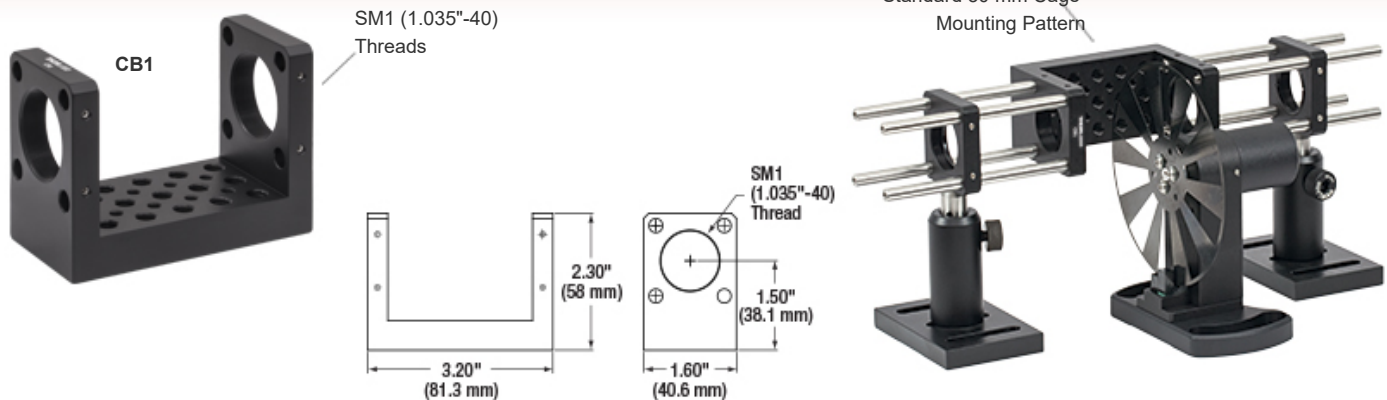
## CB1 - FEB 24, 2020

Item # CB1 was discontinued on FEB 24, 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 SYSTEM U-BENCH

- ▶ Ideal For Introducing Optomechanics Within A Rigid Cage Assembly
- ▶ Generous Array of 1/4"-20 (M6) and 8-32 (M4) Tapped Holes
- ▶ SM1 (1.035"-40) Threaded Holes at Interface Ends

Application Idea



#### OVERVIEW

##### Features

- Compatible With Standard 30 mm Cage System Spacing
- SM1 (1.035"-40) Tapped Holes at Both Interface Ends
- Solid One-Piece Construction Maintains System Alignment
- Provides the Extra Space Required for a Wide Range of Optical Components to be Used in Line With the Cage Structure

The CB1 Cage System U-Bench provides a gap within a standard 30 mm cage assembly or a similar lens tube setup. A generous supply of mounting holes provide the flexibility necessary to construct small optical assemblies within the U-Bench that might not otherwise fit within the standard cage rods. Solid one-piece construction finished with precision machining allows for rigid construction without compromising the alignment of the overall system. Each end is tapped with our standard SM1 (1.035"-40) thread making it compatible with a wide range of optical mounting components such as our popular Lens Tubes.

## CAGE OVERVIEW

## Cage System Overview

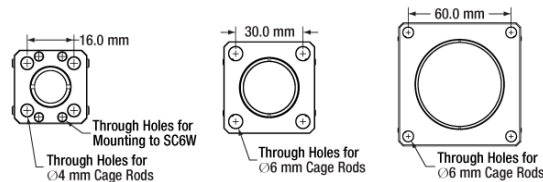
The Cage Assembly System provides a convenient way to construct large optomechanical systems with an established line of precision-machined building blocks designed for high flexibility and accurate alignment.

### 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  $\varnothing 1/2"$ ,  $\varnothing 1"$ , and  $\varnothing 2"$  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.

Part Number	Description	Price	Availability
CB1/M	30 mm Cage System U-Bench, Metric	\$81.70	Today
CB1	30 mm Cage System U-Bench	\$81.70	Today

Visit the *30 mm Cage System U-Bench* page for pricing and availability information:  
[https://www.thorlabs.com/newgrouppage9.cfm?objectgroup\\_id=1576](https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=1576)