

VFA275/M - June 13, 2023

Item # VFA275/M was discontinued on June 13, 2023. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

MOUNTING ADAPTER FOR CF VACUUM FLANGES

- ▶ Mount Optomechanics to a Ø1.33" or Ø2.75" CF Vacuum Flange
- ▶ Interface with 30 mm or 60 mm Cage Systems
- ▶ Array of 8-32 (M4) or 1/4"-20 (M6) Tapped Mounting Holes

Application Idea

An SM2L20 Lens Tube and KCB2C Right-Angle Mirror Mount Attached to a CF Flange Using the VFA275 Mounting Adapter



VFA133
 Adapter for Ø1.33"
 Vacuum Flange, 30 mm
 Cage System Compatible

VFA275
 Adapter for Ø2.75"
 Vacuum Flange, 60 mm
 Cage System Compatible

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OVERVIEW

Features

- Mount Optomechanical Components to a Ø1.33" or Ø2.75" CF Vacuum Flange
- Four Smooth Bores for 30 mm or 60 mm Cage System Rods
- Array of 8-32 (M4) or 1/4"-20 (M6) Tapped Holes on the Adapter Face
- Three 1/4"-20 (M6) Tapped Holes on the Edge
- Allows 360° of Continuous Rotational Adjustment

These Mounting Adapters provide a way to mount optomechanical components to a standard Ø1.33" or Ø2.75" vacuum flange. Four smooth bores for Ø6.0 mm cage rods provide compatibility with Thorlabs' 30 mm or 60 mm cage systems. In addition, both mounting adapters have three 1/4"-20 (M6) tapped holes on their perimeters at 90° increments. The VFA133(M) includes an array of twelve 8-32 (M4) tapped holes on its face, and the VFA275(M) has thirteen 1/4"-20 (M6) tapped holes. The taps on each adapter are separated by 15° or 30°. Both adapters are secured to a CF flange by means of a flexure lock mechanism that is actuated with a 3/16" (5 mm) balldriver. The VFA275(M) is compatible with our Ø2.75" CF flange viewports.

The animation above demonstrates how to install the VFA275(M) adapter. The adapter features six relief cuts around the inner diameter which, when aligned with the bolts on a Ø2.75" CF flange, allow the adapter to slide past the flange hardware and mount onto the vacuum system. If the system uses a zero-length reducer flange or is otherwise space-constrained, the VFA275(M) also features a clearance channel which fits around the washers allowing the adapter to rotate without clearing the flange hardware. The adapter can be installed or removed while the vacuum system is in use without disturbing the flange. This is ideal for vacuum systems that require a bake-out process, as the adapter can be removed before heating and easily replaced once the system has returned to ambient temperature.

Due to the smaller diameter of the VFA133(M), this adapter cannot slide over a Ø1.33" flange that uses standard-sized washers. These washers must be replaced with custom-sized Ø0.260" washers; ten are included with the



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The VFA275 mounting adapter supports a knife edge prism used to split a beam coming from inside the vacuum chamber or combine two beams going into the chamber.

Mounting Adapter Specifications				
Item #	VFA133	VFA133/M	VFA275	VFA275/M
Flange Compatibility	Ø1.33" (CF 16)		Ø2.75" (CF 35) ^a	
Face Mounting Taps	12 x 8-32	12 x M4	13 x 1/4"-20	13 x M6
Edge Mounting Taps	3 x 1/4"-20	3 x M6	3 x 1/4"-20	3 x M6
Outer Diameter	2.44"	61.0 mm	4.00"	101.6 mm
Cage System Compatibility	30 mm		60 mm	
Cage Rod Locking Hex	5/64" (2.0 mm)		0.05"	1.3 mm

a. The outer diameter of this flange can vary from 2.72" to 2.75", depending on the manufacturer. The VFA275(M) has been designed to accommodate all flanges within this size range.

VFA133(M). The vacuum flange will have to be disassembled to replace the washers. After the washers are replaced, the adapter can be installed on the vacuum flange in the same way as the VFA275(M) and can be subsequently installed and removed without disturbing the vacuum.

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Part Number	Description	Price	Availability
VFA133/M	Customer Inspired! Mounting Adapter for Ø1.33" CF Vacuum Flange, M4 and M6 Taps	\$91.34	Today
VFA275/M	Customer Inspired! Mounting Adapter for Ø2.75" CF Vacuum Flange, M6 Taps	\$105.98	Lead Time
VFA133	Customer Inspired! Mounting Adapter for Ø1.33" CF Vacuum Flange, 8-32 and 1/4"-20 Taps	\$91.34	Today
VFA275	Customer Inspired! Mounting Adapter for Ø2.75" CF Vacuum Flange, 1/4"-20 Taps	\$105.98	Today