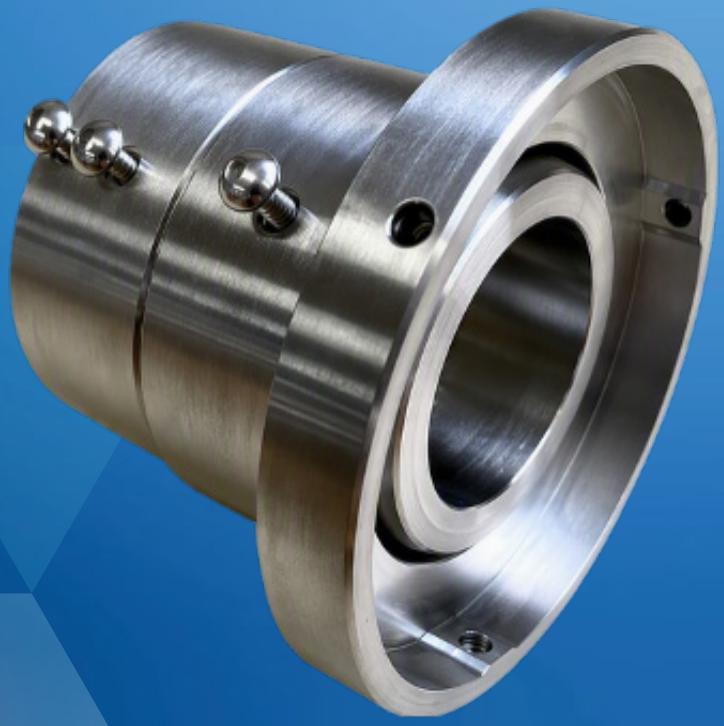
OceanOptics



ADP-84UV-CF25 User Manual

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Product Overview

The ADP-84UV-CF25 is an adjustable flange adapter for optical monitoring through a plasma chamber viewport. It provides a stable mechanical interface between a CF25 viewport and an 84-UV collimating lens, enabling the viewing direction to be adjusted without changing the chamber viewport.

Safety and Handling

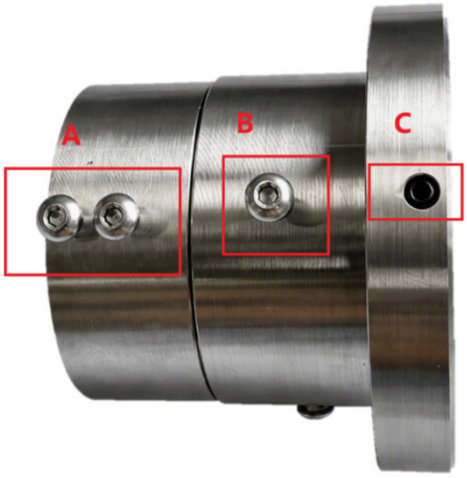
- Install or adjust the adapter only when the chamber is in a safe state and all applicable site procedures have been followed.
- Do not look directly into plasma emission, UV radiation, or a connected optical source. Use appropriate eye and skin protection.
- Allow the viewport, adapter, and nearby hardware to cool before handling.
- Support the optical assembly during installation and tighten all screws evenly. Do not overtighten.
- Inspect the viewport and mounting surfaces before use. Do not use damaged or contaminated components.
- The adapter is an external optical mounting component and is not intended to replace the chamber viewport or vacuum seal.

Components

- **Part A — Lens Clamp:** Secures the 84-UV collimating lens with six M3 screws.
- **Part B — Angle Adjustment:** Allows the optical axis to be adjusted from 0° to 15° and locked with three M3 screws.
- **Part C — Viewport Mount**: Attaches the adapter to a compatible CF25 viewport using three M3 screws.

Installation Instructions

Before installation: Confirm that the viewport is CF25-compatible, verify that the 84-UV lens is clean and undamaged, and prepare a suitable screwdriver for the M3 screws. Perform the work on a clean, stable surface.



1. The adapter consists of three parts: A, B, and C. Part A is secured by six M3 screws. Using a screwdriver, loosen all six screws, fully insert the lens end of the 84-UV collimating lens into Part A, and then tighten the screws evenly.
2. Using a screwdriver, loosen the three M3 screws on Part B until the adapter can rotate freely. Adjust the adapter to the required angle.

3. Using a screwdriver, loosen the three M3 screws on Part C. Fit Part C securely onto the viewport, adjust the adapter as needed, and then tighten the screws evenly. The ADP-84UV-CF25 is designed for use with a CF25 viewport. For adapters compatible with other viewport sizes, contact Ocean Optics.
4. After securing the adapter to the viewport, manually adjust the angle within the 0–15° range. If the 84-UV collimating lens is connected to a spectrometer, monitor the signal intensity while adjusting the angle. When the signal reaches its maximum intensity, hold the adapter in position and tighten the three M3 screws on Part B to lock the angle. Recheck that all screws are secure and that the adapter remains stable.

Optical Considerations

At larger viewing angles, the viewport geometry may partially block the optical aperture. At the maximum adjustment angle, optical throughput may be reduced by approximately 25%, depending on the viewport geometry and installation conditions. For best results, begin at a small angle and adjust gradually while monitoring the measured signal.

Typical Applications

- Plasma process monitoring
- Optical emission spectroscopy (OES)
- Semiconductor process development
- Plasma etch and deposition systems
- Endpoint detection
- UV emission characterization

Specifications

Item	Specification
Adapter part number	ADP-84UV-CF25
Adapter material	304 stainless steel
Viewport compatibility	CF25 flange
Compatible optic	84-UV collimating lens
Viewing-angle adjustment	0° to 15°
84-UV wavelength range	200–2000 nm
84-UV lens material	f/4 fused silica
84-UV connector	SMA 905, 6.35 mm ferrule
84-UV connector thread	¼–36 external thread
84-UV diameter	25.4 mm
84-UV focal length	100 mm
84-UV operating temperature	70 °C
Custom options	Alternative CF flange sizes are available

Cleaning and Maintenance

- Keep the lens, viewport, and mounting surfaces free from dust, oil, and debris.
- Use optical cleaning materials and methods suitable for the lens and viewport. Do not use abrasive materials.
- Periodically inspect the adapter for loose screws, mechanical damage, or reduced stability.
- If the adapter has been exposed to process residue, follow the facility's approved contamination-control and cleaning procedures.

Questions?

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