doric

Beam Modifiers

User Manual

Version 1.0.1

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Device Overview

1.1 Connectorized U-bracket

Figure 1.1: *Connectorized U-Bracket*

The *Connectorized U-bracket* is a device which allows attenuation or spectral filtration of light from an optical fiber. The *Connectorized U-bracket* is provided with a blocking insert and an empty insert. The device contains the following elements:

- The **Light Apertures** (Fig. 1.1) are used to accept light from a fiber and inject light into another fiber. They accept/inject up to a **NA** of 0.5, and use standard FC connectors.
- The **U-bracket insert** is used to hold attenuating or spectral filters. The insert can be made to fit most commercially available filter type, allowing the use of off-the-shelf or custom filters.
- The **Base** is used to secure the device in place.

1.2 Numerical Aperture Converter

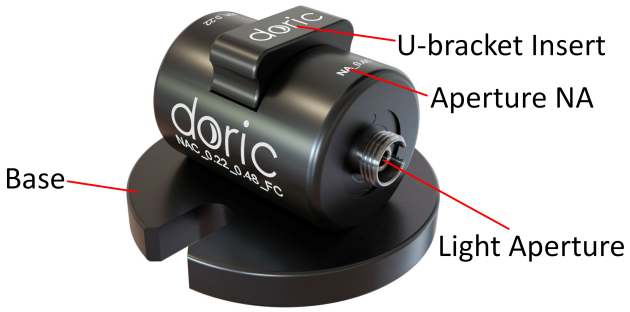

Figure 1.2: *Numerical Aperture Converter*

The *Numerical Aperture Converter* is a device which allows the **NA** and **Beam Diameter** of the light from an optical fiber to be changed. For example, doubling the **NA** divides the **Beam Diameter** by two (Fig. 1.3).

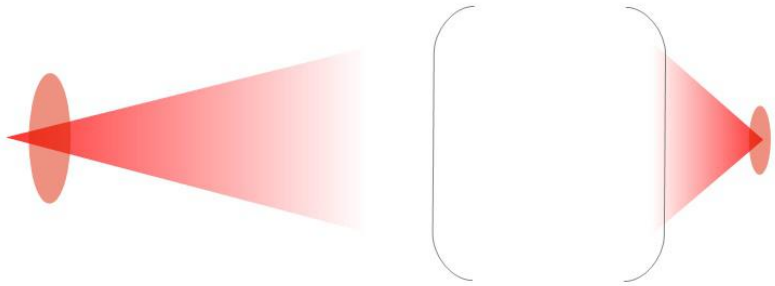

Figure 1.3: *NA 2X magnification = Beam diameter 0.5X magnification*

This allows low-**NA** light sources, such as lasers, to be used for high-**NA** applications.

- The **Light Apertures** (Fig. 1.2) are used to accept light from a fiber and inject light into another fiber. Each aperture is marked to indicate the **NA** of the patch cord that should be connected to it.
- The **U-bracket insert** prevents dust from entering the device, and can be used to block passage of the beam.
- The **Base** is used to secure the device in place.

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Operations Guide

2.1 Installation

- Use 1/4-20 (or M6) screws to secure the base onto an optical table.

2.2 Insert Use

- To block light transmission, place the blocking insert.
- For maximal light transmission, use the empty insert.

1. Clean the optical fiber connector before insertion. Use isopropanol and a lint-free wipe.
2. With an FC connector, the connector key must be oriented to enter within the receptacle slot to ensure proper connection (Fig. 2.1).

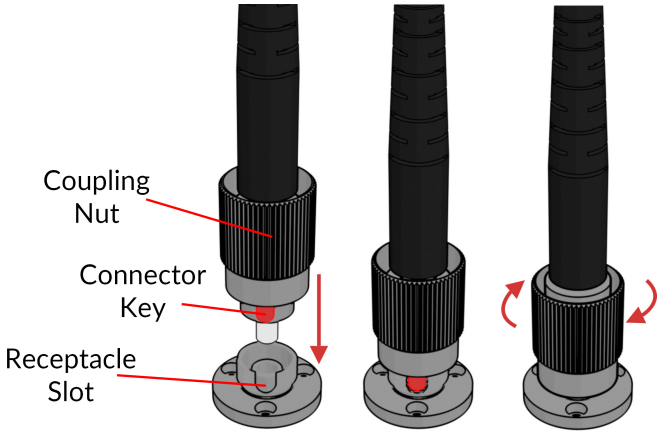

Figure 2.1: *FC connector, Fiber Installation*

> ⚠ To reduce the risk of eye injury, **it is sound practice to NOT CONNECT/DISCONNECT OPTICAL FIBERS when the light source is turned on**.

2.3 Cleanliness

- Place a **U-bracket Insert** into the bracket at all times. When the **Light Apertures** are unused, place a *FC Receptacle Cap* onto them. This prevents dust and debris from entering the device.

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Specifications

Table 3.1: *Connectorized U-bracket Specifications*

SPECIFICATIONS	VALUE	NOTES
Connector type	FC	-
Input/Output NA	0.22 to 0.5	Multimode fiber
Input/Output Fiber Core Diameter	50 to 600 μm	Multimode fiber
Dimensions	43 x 26 x 26 mm^3	without base, with connectors
	51 x 51 x 7 mm^3	base
Mass	79 g	with bracket, without filter

Table 3.2: *Numerical Aperture Converter Specifications*

SPECIFICATIONS	VALUE	NOTES
Connector type	FC	-
Optical specifications	See testsheet	-
Dimensions	43 x 26 x 26 mm^3	without base, with connectors
	51 x 51 x 7 mm^3	base
Mass	79 g	with bracket, without filter

Table 3.3: *Recommended Environmental Specifications*

DESCRIPTION	OPERATION	STORAGE
Use	Indoor	Indoor
Temperature	0-40 ° C	0-40 ° C
Humidity	40-60% RH, non condensing	40-60% RH, non condensing

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Support

4.1 Maintenance

The product does not require any maintenance. Do not open the enclosure. Contact Doric Lenses for return instructions if the unit does not work properly and needs to be repaired.

4.2 Warranty

This product is under warranty for a period of 12 months. Contact Doric Lenses for return instructions. This warranty will not be applicable if the unit is damaged or needs to be repaired as a result of improper use or operation outside the conditions stated in this manual. For more information, see our Website.

4.3 Contact us

For any questions or comments, do not hesitate to contact us by:

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