

Convergent Reflective Type Fiber Optic Units



Line Up

	Standard	Heat-resistant	Vacuum-resistant	Flexible
Flat head (flat view) 	Std.			
Flat head (top view) 	Std.			

Selection Guide

- The model starts with F is plastic, G is glass optical fibers. Glass fibers are for BF5 and BF4 series.
- Be sure to use the vacuum-resistant fiber mounting with the fiber optic coupler and the atmospheric side fiber (sold separately).
- The testing environments for sensing distance vary depending on the amplifiers.

Amplifier	Testing environment
BF5	Red LED, Standard (STD) mode, Non-glossy white paper

- The minimum detectable target came out with the maximum sensitivity of the BF4 series.
- For the detailed drawings and dimensions, follow the Autonics website.
- Be sure to use offered fiber cutter (FC-3) for FREE CUT models.
- Be sure to connect offered fiber optic adaptor for Adaptor models.
- The installation of the fiber optic unit may vary depending on the fiber optic amplifier. See the manual of the amplifier that you are using.

FL/GL Series

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Icon Overview

- Standard: Fiber optic units for general purpose
- Heat-resistant: Fiber optic units for the high-temperature environment (-60 to 250°C)
- Vacuum-resistant: Fiber optic units for the high-temperature (-60 to 350°C) and vacuum environment
- Flexible (R1, R2): Fiber optic units for withstanding repeated flexing

Convergent Reflective Type: Flat head (flat view)

Standard

Model	Bend radius	Ambient temperature	Sensing distance (Testing amplifier)	Min. target size	Dimensions (unit: mm)	FREE CUT / Adaptor
FLF-320-05	R15	-30 to 70 °C	8 mm (BF5)	Ø 0.1 mm		FREE CUT / Adaptor
FLF-320-10	R25	-40 to 60 °C	8 mm (BF5)	Ø 0.0125 mm		—
FLF-320-10A	R20	-30 to 70 °C	100 mm (BF5)	Ø 0.08 mm		FREE CUT / Adaptor

Heat-resistant

Model	Bend radius	Ambient temperature	Sensing distance (Testing amplifier)	Min. target size	Dimensions (unit: mm)	FREE CUT / Adaptor
FLF-320-10H	R25	-40 to 105 °C	130 mm (BF5)	Ø 0.08 mm		FREE CUT
GLF-320-12H2L	R25	-60 to 250 °C	120 mm (BF5)	Ø 0.6 mm		—

Convergent Reflective Type: Flat head (flat view)

■ Vacuum-resistant

Model	Bend radius	Ambient temperature	Sensing distance (Testing amplifier)	Min. target size	Dimensions (unit:mm)	FREE CUT / Adaptor
FLF-310-10V	R25	-30 to 105 °C	70 mm ⁰¹⁾ (BF5)	Ø 3.4 mm		FREE CUT
			60 mm ⁰²⁾ (BF5)	Ø 3.9 mm		
GLF-310-12V2	R25	-60 to 250 °C	80 mm ⁰¹⁾ (BF5)	Ø 1.8 mm		-
			60 mm ⁰²⁾ (BF5)	Ø 2 mm		
GLF-310-12V2L	R25	-60 to 250 °C	80 mm ⁰¹⁾ (BF5)	Ø 0.6 mm		-
			60 mm ⁰²⁾ (BF5)	Ø 2 mm		
GLF-310-12V3L	R25	-60 to 350 °C	80 mm ⁰¹⁾ (BF5)	Ø 0.6 mm		-
			60 mm ⁰²⁾ (BF5)	Ø 1.5 mm		

01) Equipped with the atmospheric-side fiber optic unit (FU-VA01)

02) Equipped with the atmospheric-side fiber optic unit (FU-VA02)

■ Flexible

Model	Bend radius	Ambient temperature	Sensing distance (Testing amplifier)	Min. target size	Dimensions (unit: mm)	FREE CUT / Adaptor
FLF-320-05R	R1	-30 to 70 °C	7 mm (BF5)	Ø 0.08 mm		FREE CUT / Adaptor

Convergent Reflective Type: Flat head (top view)

■ Standard

Model	Bend radius	Ambient temperature	Sensing distance (Testing amplifier)	Min. target size	Dimensions (unit: mm)	FREE CUT / Adaptor
FLFU-320-10WP ⁰¹⁾	R20	-30 to 70 °C	80 mm (BF5)	Ø 0.08 mm	<p>Technical drawing showing dimensions (unit: mm):</p> <ul style="list-style-type: none"> Tip diameter: 2.04 Tip length: 6 Distance from tip to center of flat head: 16.1 Distance between optical axes: 10 Distance from optical axis to center of flat head: 6 Total length: 2000 Flat head hole diameters: 2-Ø3.2 (FLAT HEAD) and 2-Ø2.2 Optical axis label 	FREE CUT

01) This model supports water resistance.

Sold Separately

■ **Fiber optic coupler (vacuum fiber optics component)**

Model	Ambient temperature	Dimensions (unit: mm)
FU-VC01	-60 to 200 °C	
FU-VC02	-60 to 300 °C	

■ **Atmospheric-side fiber optic units**

Model	Bend radius	Ambient temperature	Dimensions (unit: mm)	FREE CUT
FU-VA01	R30	-30 to 70 °C		FREE CUT
FU-VA02	R20	-30 to 70 °C		FREE CUT

Sold Separately

■ Protection tube for cable

Model	Dimensions (unit: mm)
FTH-305	
FTH-310	
FTH-405	
FTH-410	
FDH-605	
FDH-610	

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