

# AFX Performance Collimators

Diffraction-limited optics for single mode and ring beam lasers



## Features

- Near-diffraction-limited to preserve single-mode beam caustic
- Scanner-optimized configurations for AFX ring beam profiles
- Actively cooled for scanning accuracy and minimal focus shift
- Optical filter accessories to accommodate process monitoring
- Broad range of focal lengths available:
  - 25 mm optics: **F50 – 85mm**
  - 50 mm optics: **F100 – 160mm**

***n* LIGHT**

nLIGHT AFX Collimator | Product Specifications

Optical		
Parameter	Unit	Typical
Maximum power	kW	2 <sup>1</sup> (within max NA)
Wavelength range	nm	1030-1090
Lens diameter	mm	25 or 50
Lens material	-	High-Quality Fused Silica
Typical power loss	%	< 1
EFL tolerance	%	±0.5
Pointing error	mrad	< 3
Focal shift	%RR/kW	±10
Cooling & Environment		
Parameter	Unit	Typical
Operating temperature	°C	5÷40
Relative humidity	%	< 90 non-condensing
Storage temperature	°C	-20÷+70
Thermo-switch	°C	70±5 (reset <30)
Minimum water flow	l/min	0.5
Typical water flow	l/min	1
Maximum pressure	bar	3
Water temperature	°C	20÷-35 (above dew point)
Water quality	-	Filtered clean water (< 100 µm) with or without glycol
Water pipe ID/OD	mm	4/6

<sup>1</sup> Higher power upon request

Mechanical Specifications				
<b>QBH fiber interface<sup>2</sup></b>	f50, f60	f70, f75, f85	f100, f120	f160
Length (including thread)	139.7 mm	163.7 mm	223.2 mm	251.2 mm
Clamping diameter	ø 36mm g8	ø 36mm g8	ø 65mm g8	ø 65mm g8
Weight	0.82 kg	0.96 kg	1.95 kg	2.27 kg
Max diameter	43 mm	43 mm	65 mm	65 mm

<sup>2</sup> QD fiber connector available upon request

# nLIGHT AFX Collimator | Technical Drawings

25mm diameter collimator (dimensions in mm)	
f50, f60	f70, f75, f85
50mm diameter collimator (dimensions in mm)	
f100, f120	f160

Collimators are configured for clear aperture compatibility with commercial scanning systems.



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