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**

nLIGHT AFX Collimator | Product Specifications

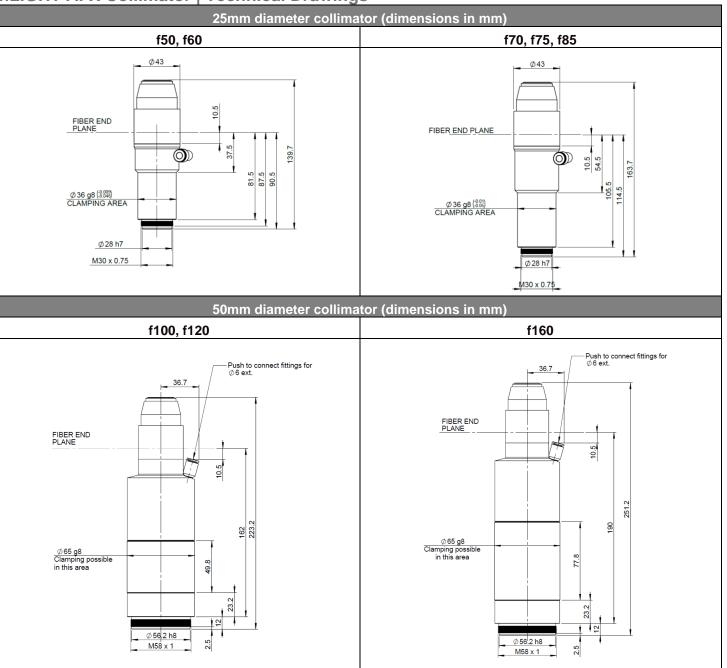
Optical					
Parameter	Unit	Typical			
Maximum power	kW	21 (within max NA)			
Wavelength range	nm	1030-1090			
Lens diameter	mm	25 or 50			
Lens material	-	High-Quality Fused Silica			
Typical power loss	%	< 1			
EFL tolerance	%	±0.5			
Pointing error	mrad	< 3			
Focal shift	%RR/kW	±10			
Cooling & Environment					
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			

¹ Higher power upon request

Mechanical Specifications					
QBH fiber interface ²	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	

 $^{^{2}\,}$ QD fiber connector available upon request

nLIGHT AFX Collimator | Technical Drawings



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







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