

FIBER COUPLERS

FEATURES

Fiber coupling of Nd:YAG, Nd:YLF lasers or OPO's radiation

Wavelength range **260 – 1700 nm**
(by request down to 210 nm)

Four different sets of optics optimized for **UV, VIS or IR** wavelength

Attachable to laser output panel or stand-alone versions

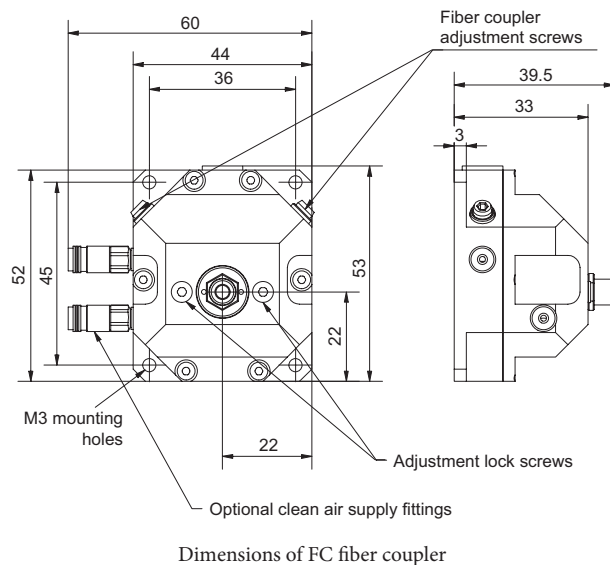
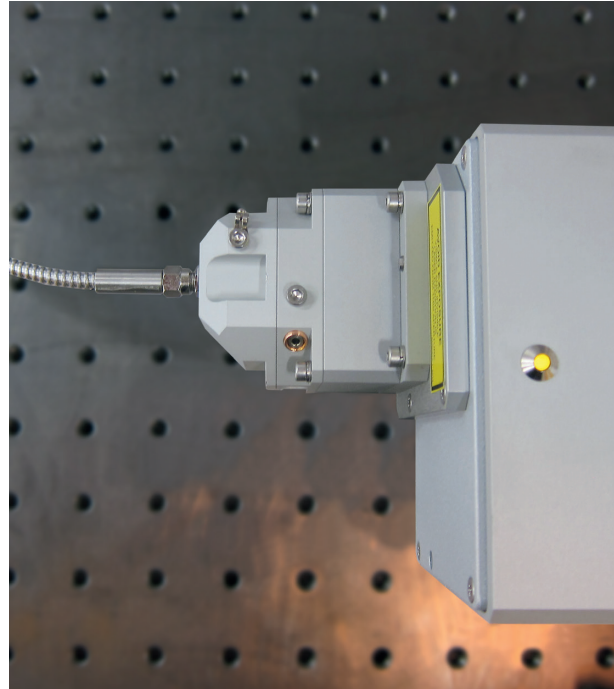
Up to **40 mJ** input pulse energy at fundamental laser wavelength

1 or 2 fiber coupled ports available for stand-alone version

Precise X-Y coupling alignment

Optional built-in motorized attenuator for stand-alone version

Optional air purging for improved lifetime of fiber coupler optics



Fiber coupling allows laser or OPO beam to be safely guided from laser output to desired location, which extends the array of its possible applications. Fiber coupling is not without disadvantages, such as the increase in the cost of the laser system, decrease in the pulse energy and beam focusability.

QLI is offering two types of fiber couplers. Compact attachable module is designed for up to 10 mJ input pulse energies, and can be conveniently mounted to the output panel of our lasers.

Stand-alone module, while larger in size, is designed for up to 40 mJ input pulse energy. In addition, stand-alone module can be configured with two output ports (one free-space and one fiber coupler or two fiber coupled) and optional built-in motorized attenuator.

Optional air-purging unit can be used to supply clean air for improved lifetime of fiber coupler optics in dusty environments.



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SPECIFICATIONS ¹⁾

Attachable fiber coupler

Model	-FC/UV	-FC/VIS	-FC/NIR	-FC/IR
Wavelength range	260 – 400 nm	400 – 700 nm	700 – 1100 nm	1100 – 1600 nm
Max input pulse energy	3 mJ	5 mJ	10 mJ	
Fiber length ²⁾	2 m			
Fiber numerical aperture	0.22			
Fiber core diameter ³⁾	200, 400, 600 μm	200, 400, 600, 900 or 1200 μm		
Connector port ⁴⁾	SMA / SMA			
Fiber core material	UV fused silica			
Transmission ⁵⁾	>60% (~70% typical)			
Dimensions (W × H × L)	52 × 44 × 60 mm ³			

Stand-alone fiber coupler

Model	-FCHE/VIS	-FCHE/NIR
Wavelength range	400 – 700 nm	700 – 1100 nm
Max input pulse energy	20 mJ	40 mJ
Fiber length ²⁾	2 m	
Fiber numerical aperture	0.22	
Fiber core diameter ³⁾	900, 1000 or 1200 µm	
Connector port ⁴⁾	SMA / SMA	
Fiber core material	UV fused silica	
Transmission ⁵⁾	>60% (~70% typical)	
Dimensions (W × H × L)	160 × 270 × 141 mm ³	

- ¹⁾ Due to continuous improvements all specifications are subject to change. The parameters marked typical are not specifications. They are indications of typical performance and will vary with each unit we manufacture.
- ²⁾ Up to 10 m long fiber cables are available, inquire for detailed specifications.
- ³⁾ Other core diameters by request.
- ⁴⁾ Exit beam is uncollimated. Inquire for optional beam collimator.
- ⁵⁾ Transmission for wavelengths below 330 nm depends on laser parameters, could be in 10-60% range. Please inquire for details. For wavelengths below 330 nm standard fiber length is 1 m.



Attachable FC/UV fiber coupler



Stand-alone FCHE/NIR fiber coupler module
with optional free space output