Beam Delivery Components

QBH FIBER OPTIC CABLE

510 nm to 550 nm High-Power Beam Delivery

The QBH fiber optic cable is the no.1 fiber interface for industrial high-power lasers. It's a well proven standard compatible with most available tools world-wide. The QBH fiber connector is water-cooled to optimize the performance, including its superior power loss capability. The built-in mode stripper generates a well-defined beam without any cladding power. With the reinforced and extremely durable fiber hose it is well-suited for dynamic robot applications.

FEATURES

- High OH optical fiber
- Mode-stripper
- AR-coated end cap
- Superior power loss handling
- Round or square fiber core
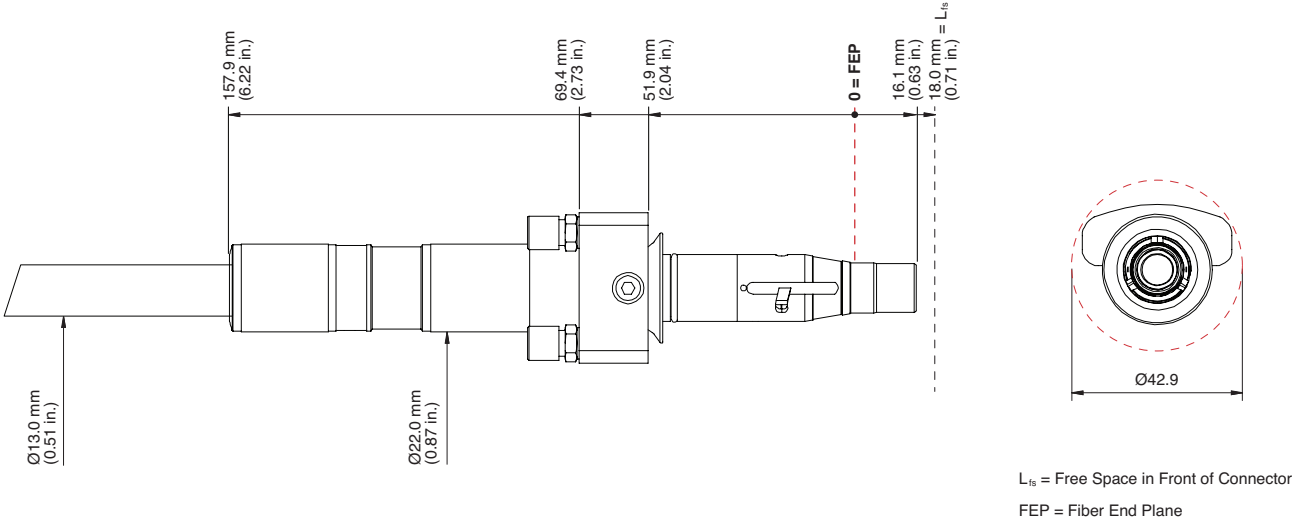- Plug-and-play within 10 µm

APPLICATIONS

- Welding
- Cutting
- 3D Additive Manufacturing

C⬡HERENT

Specifications	QBH
Maximum Power CW (kW)	To be validated for each laser source
Wavelength (nm)	510 to 550
Numerical Aperture NA$_{fiberacc}$	0.2
Fiber Core Dimensions (µm)	50 to 1000
Fiber Concentricity (µm)	≤10
Z-position Tolerance (µm)	±50

Pointing/Angular Deviation (mrad)
    Core Diameter >200 µm
    Core Diameter ≤200 µm
	
	≤10
	≤20

Power Loss Capability (kW)	To be validated for each laser source and cable length
Transmission Losses (%)	To be validated for each laser source and cable length
Fiber Cable Properties	
Cable Lengths (m)	≤10
Maximum Torsion (°/m)	90
Cooling	
Cooling Method	Water
Flow Rate (l/min)	2.0
Maximum Input Pressure (bar)	8
Pressure Drop (bar at 2.0 l/min)	0.9
Safety Interlock	
Interlock Circuit Resistance	3.3 kOhm ±5% +2 Ohm/m cable length
Dimensions & Weight	
Dimensions	See page 3

Weight (kg)
    Fiber Connector
    Per Meter Fiber Cable
	
	0.3
	0.2

Environmental Conditions	
Humidity (% RH)	<80
Operating Temperature (°C)	5 to 50 (non-condensing)
Storage Temperature (°C)	-20 to 70
Compliance Information	
RoHS	Directives 2011/65/EU and 2015/863/EU
REACH	Directive EC no 1907/2006

COHERENT

Mechanical Specifications

Connector Dimensions

QBH

157.9 mm (6.22 in.)
69.4 mm (2.73 in.)
51.9 mm (2.04 in.)
0 = FEP
16.1 mm (0.63 in.)
18.0 mm (0.71 in.) = L_{fs}

Ø13.0 mm (0.51 in.)
Ø22.0 mm (0.87 in.)

Ø42.9

L_{fs} = Free Space in Front of Connector

FEP = Fiber End Plane

Length Definitions

Two Connectors

a

a = Fiber Cable Length

sales@coherent.com
www.coherent.com