

DATASHEET**Diode Lasers****FIBER-COUPLED TAILORED MINI-BARS**

Through the optimization of semiconductor chip structures and optical parameters, Coherent T-Bar architecture delivers high beam quality and high power using standard micro-optics, all assembled with automated processes. The tailored bar-based products are available at 6xx nm, 793 nm and 9xx nm, with power levels from 40 W up to 2 kW.

**OPTIONAL ACCESSORIES**

- Integrated pointer laser and power meter
- Integrated NTC temperature sensor
- Fiber plug control>
- Wavelength stabilization

FEATURES

- Conduction-cooled diode laser bars inside
- Single wavelength
- High coupling efficiency
- Scalable output power
- Industrial water cooling

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Parameter	MDL790FCTBAR450IS45.6QBH200
Package	Fiber-Coupled Tailored Mini-Bars
OPTICAL PARAMETERS ¹	
Center Wavelength Range ³ (nm)	790
Center Wavelength Tolerance ³ (nm)	±3
Output Power ² (W)	450
Operating Condition	CW
Spectral Width (FWHM) (nm)	≤5
Slope Efficiency (W/A)	≥29
FIBER PARAMETERS	
Fiber Connector	QBH
Fiber Core Diameter (μm)	200
Numerical Aperture (NA)	0.22
ELECTRICAL PARAMETERS ¹	
Power Conversion Efficiency (%)	≥35
Threshold Current (I _{TH}) (A)	≤4
Operating Current (I _{OP}) (A)	≤23
Operating Voltage (V _{OP}) (V)	≤70
THERMAL PARAMETERS	
Operating Temperature Range ^{2,3,4} (°C)	+20 to +25
Coolant Flow Rate ⁵ (l/h)	≥600
Purity	Tap Water
MECHANICAL PARAMETERS	
Size (mm ³) [W x D x H]	See Drawing
Weight (Without Water Manifold) (kg)	~10
Part Number	2316470

Notes:

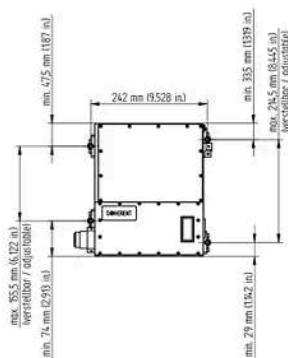
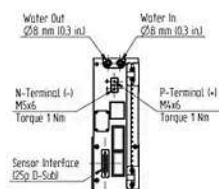
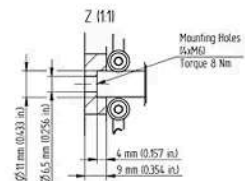
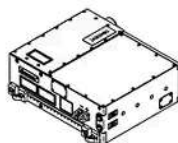
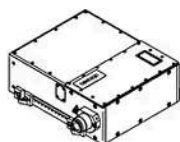
- 1. Data at 25°C cooling water temperature.
- 2. Reduced lifetime if used above nominal operating conditions.
- 3. Others available upon request.
- 4. A non-condensing environment is required for storage and operation below the ambient dew point.
- 5. It is essential for the module to work correctly that the cooling water temperature and flow rate are monitored as an interlock for interrupting the laser current immediately if a value exceeds or falls below the given parameter.



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