



## Fiber-Coupled Diode Lasers

cw, passively cooled with tap water



JOLD-100-CPXF-2P W

Design 215533224 | 215533124

### Features:

- High optical output power up to 100 W cw
- Fiber core diameter: 400  $\mu\text{m}$  | 600  $\mu\text{m}$  (NA 0.22)
- Integrated pilot laser and power monitor
- Long lifetime > 20,000 h, high reliability

### Applications:

- Pumping of solid-state lasers and fiber lasers
- Material processing
- Medical applications

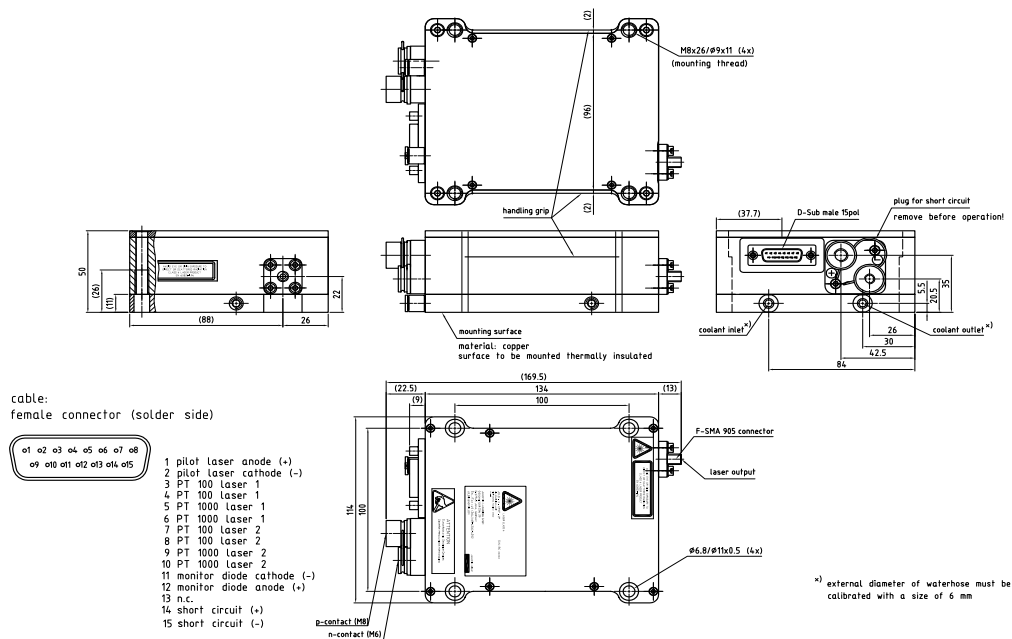
# Fiber-Coupled Diode Lasers

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## Specifications (Start of Life)

| Product                                 | JOLD-100-CPXF-2P W, Design 215533224                                                                                                           |                      |                      |                      | JOLD-100-CPXF-2P W, Design 215533124 |     |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|----------------------|--------------------------------------|-----|
| Operation Mode                          | cw / pulsed                                                                                                                                    |                      |                      |                      |                                      |     |
| Maximum Optical Output Power            | 100                                                                                                                                            | 100                  | 100                  | 100                  | 100                                  | W   |
| Center Wavelength at 25 °C              | 880                                                                                                                                            | 915                  | 938                  | 976                  | 808                                  | nm  |
| Center Wavelength Variation at 25 °C    | 3                                                                                                                                              | 5                    | 5                    | 3                    | 3                                    | nm  |
| Typical Spectral Bandwidth (FWHM)       | 5                                                                                                                                              | 5                    | 5                    | 5                    | 5                                    | nm  |
| Maximum Spectral Bandwidth (FWHM)       | 6                                                                                                                                              | 6                    | 6                    | 6                    | 6                                    | nm  |
| Typical Operation Current               | 75                                                                                                                                             | 70                   | 72                   | 72                   | 85                                   | A   |
| Maximum Operation Current               | 85                                                                                                                                             | 80                   | 80                   | 80                   | 95                                   | A   |
| Typical Threshold Current               | 9                                                                                                                                              | 6                    | 6                    | 6                    | 19                                   | A   |
| Maximum Threshold Current               | 12                                                                                                                                             | 9                    | 9                    | 9                    | 22                                   | A   |
| Typical Slope                           | 1.6                                                                                                                                            | 1.6                  | 1.6                  | 1.6                  | 1.6                                  | W/A |
| Minimum Slope                           | 1.3                                                                                                                                            | 1.3                  | 1.3                  | 1.3                  | 1.3                                  | W/A |
| Maximum Operating Voltage               | 4.5                                                                                                                                            | 4.5                  | 4.5                  | 4.5                  | 4.5                                  | V   |
| Fiber Core Diameter, Numerical Aperture | 400 µm,<br>NA 0.22 *                                                                                                                           | 400 µm,<br>NA 0.22 * | 400 µm,<br>NA 0.22 * | 400 µm,<br>NA 0.22 * | 600 µm,<br>NA 0.22                   |     |
| Fiber Connector                         | F-SMA 905, potential free; <b>metal armored patchcord only!</b> ; * free standing fiber towards the module                                     |                      |                      |                      |                                      |     |
| Power Monitor                           | Infineon, SFH 229                                                                                                                              |                      |                      |                      |                                      |     |
| Pilot Laser                             | 0.5 ... 3 mW, 650 nm ± 15 nm, 3 ... 5 V, 40 ± 15 mA, power not adjustable<br>(only for teaching and targeting purposes before laser operation) |                      |                      |                      |                                      |     |
| Anode, Cathode Connectors               | M8, M6 (e.g. socket cap screws ISO 4762)                                                                                                       |                      |                      |                      |                                      |     |
| Signal Connector                        | D-Sub, male, 15 pin                                                                                                                            |                      |                      |                      |                                      |     |
| Operation Conditions                    | Non-condensing atmosphere                                                                                                                      |                      |                      |                      |                                      |     |
| Expected Lifetime                       | > 20,000 h (constant current), partly under qualification                                                                                      |                      |                      |                      |                                      |     |
| <b>Cooling:</b>                         |                                                                                                                                                |                      |                      |                      |                                      |     |
| Flow Rate                               | > 3 l/min                                                                                                                                      |                      |                      |                      |                                      |     |
| Water Temperature                       | 8 ... 20 °C                                                                                                                                    |                      |                      |                      |                                      |     |
| Water Pressure                          | 400 kPa maximum inlet and outlet pressure, < 80 kPa pressure drop                                                                              |                      |                      |                      |                                      |     |
| Water Connectors                        | Ø 6 mm (OD) push-in fittings                                                                                                                   |                      |                      |                      |                                      |     |
| Water Quality                           | Industrial water, unfiltered up to a particle size of 0.5 mm                                                                                   |                      |                      |                      |                                      |     |
| Diode Laser Operating Temperature       | 15 ... 35°C, measured with internal temperature sensor                                                                                         |                      |                      |                      |                                      |     |
| Integrated Temperature Sensor           | PT 100 and PT 1000, separately for each diode laser                                                                                            |                      |                      |                      |                                      |     |
| Note                                    | Specify exact wavelength needed with your order                                                                                                |                      |                      |                      |                                      |     |
|                                         | <b>See General User Information!</b>                                                                                                           |                      |                      |                      |                                      |     |

Options on request: 88x nm; for additional designs or specifications please visit our website: [www.jenoptik.com](http://www.jenoptik.com)



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