

# FQCW266-600

Diode Pumped Continuous Wave Solid State Laser

- 266 nm
- Continuous Wave
- Single Frequency
- Low Power Noise
- Up to 600 mW
- $M^2 < 1.35$ , TEM<sub>00</sub>
- Patented Design (\*)



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|                              |                                                                            |                                                                                             |
|------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Optical Data</b>          | Wavelength                                                                 | 266 ± 0.2 nm                                                                                |
|                              | Nominal Output Power                                                       | 600 mW ± 5 %                                                                                |
|                              | Output Power Adjustability                                                 | 60 mW to 600 mW                                                                             |
|                              | Line Width                                                                 | < 300 kHz                                                                                   |
|                              | Beam Propagation Factor M <sup>2</sup> (average)                           | < 1.3, TEM <sub>00</sub>                                                                    |
|                              | Beam Propagation Factor M <sup>2</sup> <sub>x</sub> (horizontal)           | < 1.2, TEM <sub>00</sub>                                                                    |
|                              | Beam Propagation Factor M <sup>2</sup> <sub>y</sub> (vertical)             | < 1.35, TEM <sub>00</sub>                                                                   |
|                              | Polarisation Orientation and Purity                                        | Vertical, > 500:1                                                                           |
|                              | Beam Diameter                                                              | 1.1 ± 0.3 mm                                                                                |
|                              | Beam Divergence                                                            | < 0.45 mrad                                                                                 |
|                              | Static Alignment Tolerance <sup>(1)</sup>                                  | Lateral ± 0.25 mm   Angular ± 2.5 mrad                                                      |
|                              | Spot-to-Spot Beam Pointing Variation                                       | ± 200 µrad                                                                                  |
|                              | Power Stability (0.5 Hz over 8 h)                                          | < 0.2 % rms                                                                                 |
|                              | Power Noise (1 Hz – 100 kHz)                                               | < 1 % rms                                                                                   |
|                              | Power Noise (100 kHz – 250 MHz)                                            | < 0.2 % rms                                                                                 |
| <b>Lifetime</b>              | Typical UV Crystal Spot Lifetime                                           | 2,000 hours                                                                                 |
|                              | Typical Lifetime (before First Service)                                    | 16,000 hours                                                                                |
| <b>Electrical Data</b>       | Power Consumption Mean (Max)                                               | < 200 W (450 W)                                                                             |
|                              | Line Voltage                                                               | 90 to 250 V AC (50 to 60 Hz)                                                                |
|                              | Communication Interfaces                                                   | USB   RS232   Ethernet                                                                      |
|                              | Safety Features                                                            | Key Switch   Interlock   Electrical Shutter                                                 |
| <b>Miscellaneous</b>         | Warm-up Time Typical (Max) <sup>(2)</sup>                                  | < 45 min                                                                                    |
|                              | Operating Temperature (Laser Head)                                         | 20 °C to 25 °C non-condensing                                                               |
|                              | Cooling via Bearing Surface,<br>Required Thermal Resistance <sup>(3)</sup> | 1/40 K/W @ 25 °C   1/20 K/W @ 20 °C<br>Cooling Surface                                      |
|                              | Laser Head Dimensions                                                      | < 120 x 311 x 715 mm <sup>3</sup> (H x W x L)                                               |
|                              | Control Unit Dimensions                                                    | < 184 x 483 x 411 mm <sup>3</sup> (H x W x L)                                               |
|                              | Laser Head Weight                                                          | < 36 kg                                                                                     |
|                              | Control Unit Weight                                                        | < 12 kg                                                                                     |
| <b>Technical Requirement</b> | Purge Supply for Laser Exit Window                                         | Flow 0.2 - 0.5 l/min<br>CDA, SH < 10 PPM or<br>N2 (Purity Grade 5.0 “Scientific” or Better) |

## Notes:

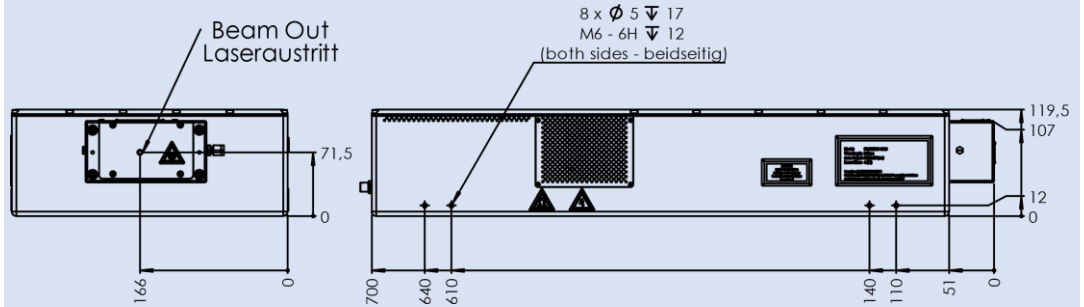
1. Position and angle of static alignment tolerances are specified with regard to laser beam exit.
2. Warm-up in the temperature range 20 °C to 25 °C, temperature change < 1 K/h.
3. Different cooling options (e.g. air flow, water cooling) available upon request.

(\*) Protected by patents:

DE10339210B4, EP1344105B1, US7027209B2, DE102010064382B4, US9429814B2, DE102012212428B4, US9024247.

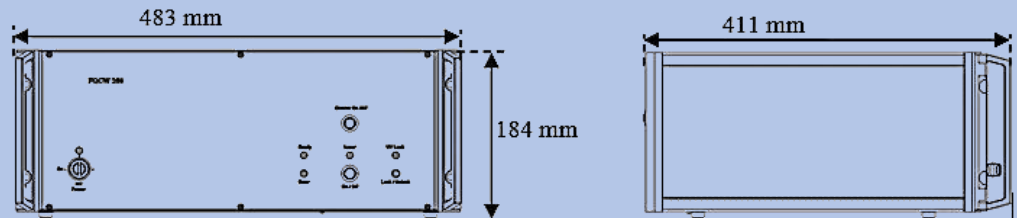
## Dimensions

### Laser Head



All dimensions in mm.

### Control Unit



## Laser Safety Labels

FQCW266 laser sources are class 4 / IV lasers according to IEC 60825-1

