

1.1.2.7 High Power Thermal Sensors

1.1.2.7.3 High Power Water Cooled Thermal Sensors

15W to 1500W

Features

- High powers
- Water cooled
- Up to 1500W
- Ø50mm aperture

L1500W-BB-50



L1500W-LP2-50



| Model | L1500W-BB-50 | L1500W-LP2-50 |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Use | General purpose and CO₂ laser | High power densities and long pulses |
| Absorber Type | Broadband | LP2 |
| Spectral Range μm | 0.19 - 20 | 0.35 - 2.2 |
| Absorption | ~88% | >94% from 0.35 to 1.1 μm |
| Aperture mm | Ø50mm | Ø50mm |
| Power Mode | | |
| Power Range | 15W - 1500W | 15W - 1500W |
| Power Scales | 1500W / 300W | 1500W / 300W |
| Power Noise Level | 700mW | 700mW |
| Maximum Average Power Density kW/cm ² | 7 at 1000W 4 at 1500W | 10 at 1000W 5.5 at 1500W |
| Response Time with Meter (0-95%) typ. s | 2.7 | 2.7 |
| Calibration Uncertainty $\pm\%$ | 1.9 | 1.9 |
| Power Accuracy $\pm\%$ | 4 ^(a) | 4 ^(a) |
| Linearity with Power $\pm\%$ | 2 | 2 |
| Energy Mode | | |
| Energy Range | 500mJ - 200J | 500mJ - 200J |
| Energy Scales | 200J / 20J | 200J / 20J |
| Minimum Energy mJ | 500mJ | 500mJ |
| Maximum Energy Density J/cm ² | | |
| <100ns | 0.3 | 0.1 |
| 1 μs | 0.4 | 0.9 |
| 0.5ms | 5 | 50 |
| 2ms | 10 | 130 |
| 10ms | 30 | 400 |
| Cooling | water | water |
| Minimum and Recommended water flow at full power ^(b) | 3.5 liter/min 6 liter/min | 3.5 liter/min 6 liter/min |
| Fiber Adapters | Consult Ophir representative. Fiber adapter QBH mount compatible (see page 113) | Consult Ophir representative. Fiber adapter QBH mount compatible (see page 113) |
| Accessories for High Power Sensors | See pages 113-116 | See pages 113-116 |
| Weight kg | 1.2 | 1.2 |
| Compliance | CE, UKCA, China RoHS | CE, UKCA, China RoHS |
| Version | V2 | |
| Part number | 7Z02752 | 7Z02772 |

Notes: (a)

Calibrated for ~0.8 μm , 1.064 μm and 10.6 μm For spectral range 0.35 to 1.1 μm

Notes: (b)

Water temperature range 18-30°C. Water temperature rate of change <1°C/min. Pressure drop across sensor 0.03MPa. The recommended flow rate can be lowered proportionately at lower than full power but should not be below the minimum.

When used at full power with substantially below the recommended flow rate, the damage threshold may be as much as 20% lower. The response time will be optimum with the recommended flow rate.

L1500W-BB-50 / L1500W-LP2-50

