

1.1.2.7 High Power Thermal Sensors

1.1.2.7.2 High Power Water / Air / Conduction Cooled Thermal Sensors

1W to 2000W

Features

- Very large aperture
- Broadband or Pulsed absorber
- Up to 2000W
- Ø120mm aperture

L2000W-BB-120 / L2000W-PF-120



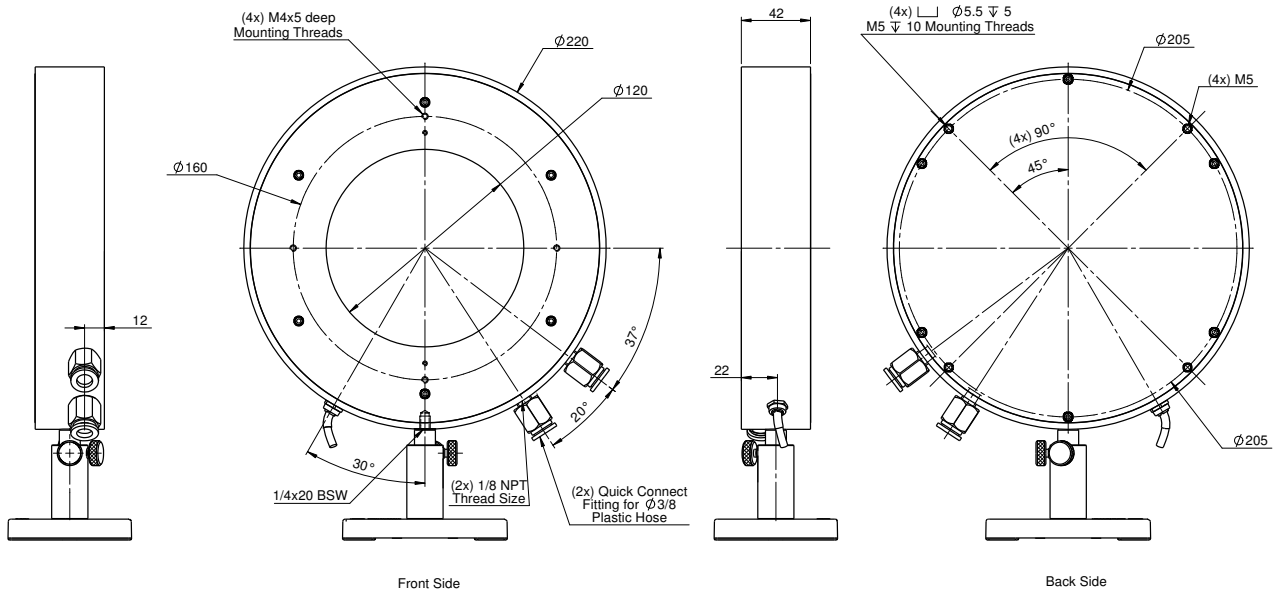
L100(500)A-PF-120



| Model | L2000W-BB-120 | L2000W-PF-120 | L100(500)A-PF-120 |
|---|---|--|--|
| Use | Very large beams | Very large beams, short pulses, high average power | High peak power, high energy measurements |
| Absorber Type | Broadband | PF volume absorber | PF volume absorber |
| Spectral Range μm | 0.19 – 20 | 0.3 – 2.2 | 0.15 – 20 |
| Aperture mm | Ø120mm | Ø120mm | Ø120mm |
| Power Mode | | | |
| Power Range | 1W – 2000W | 1W – 2000W | 1W – 500W |
| Maximum Intermittent Power | NA | NA | 500W for 2min, 100W continuous, 500W continuous if heat sunked on rear |
| Power Scales | 2000W / 200W | 2000W / 200W | 500W / 50W |
| Power Noise Level | 50mW | 50mW | 50mW |
| Maximum Average Power Density W/cm^2 | 700 at 1000W, 150 at 1500W, 60 at 2000W | 600 | 2000 |
| Response Time with Meter (0-95%) typ. s | 7 | 7 | 7 |
| Calibration Uncertainty $\pm\%$ | 1.9 | 1.9 | 1.9 |
| Power Accuracy $\pm\%$ | 3 ^(a) | 3 ^(a) | 4 ^(a) |
| Linearity with Power $\pm\%$ | 2 | 2 | 2 |
| Energy Mode | | | |
| Energy Range | 6J – 6000J | 6J – 6000J | 6J – 6000J |
| Energy Scales | 6kJ / 600J / 60J | 6kJ / 600J / 60J | 6kJ / 600J / 60J |
| Minimum Energy | 6J | 6J | 6J |
| Maximum Energy Density J/cm^2 | | Single 10 – 50Hz ^(c) | Single 10-50Hz ^(c) |
| <100ns | 0.3 | 3 ^(d) 1.5 | 3 ^(d) 1.5 |
| 1 μs | 0.4 | 3 ^(d) 1.5 | 3 ^(d) 1.5 |
| 0.5ms | 5 | 7 7 | 7 7 |
| 2ms | 10 | 15 15 | 15 15 |
| 10ms | 30 | 40 40 | 40 40 |
| 1s | 4000 | 3000 NA | 3000 NA |
| Cooling | water | water | convection or conduction |
| Minimum and Recommended Water Flow Rate at Full Power | 3.5 liter/min 6 liter/min ^(b) | 3.5 liter/min 6 liter/min ^(b) | NA |
| Fiber Adapters | Consult Ophir representative | Consult Ophir representative | Consult Ophir representative |
| Accessories for High Power Sensors | See pages 97-100 | See pages 97-100 | See pages 97-100 |
| Weight kg | 4.5 | 4.5 | 4.4 |
| Compliance | CE, UKCA, China RoHS | CE, UKCA, China RoHS | CE, UKCA, China RoHS |
| Version | | | |
| Part number | 7Z02751 | 7Z02792 | 7Z02765 |
| Notes: (a) | Calibrated for $\sim 0.8\mu\text{m}$, $1.064\mu\text{m}$ and $10.6\mu\text{m}$ | Calibrated for $1.07\mu\text{m}$. Max additional error at other wavelengths not specified above: $\pm 1\%$ | Calibrated for $0.25 - 2\mu\text{m}$ |
| Notes: (b) | Water temperature range $18-30^\circ\text{C}$. Water temperature rate of change $<1^\circ\text{C}/\text{min}$. Pressure drop across sensor 0.06MPa . | Water temperature range $18-30^\circ\text{C}$. Water temperature rate of change $<1^\circ\text{C}/\text{min}$. Pressure drop across sensor 0.06MPa . | |
| Notes: (c) | | For 10-50Hz derate as follows: 1064nm not derated 532nm not derated 355nm 70% of stated value 266nm 15% of stated value 193nm 10% of stated value | For 10-50Hz derate as follows: 1064nm not derated 532nm not derated 355nm 70% of stated value 266nm 15% of stated value 193nm 10% of stated value |
| Notes: (d) | | Damage threshold $1.5\text{J}/\text{cm}^2$ for wavelengths $<500\text{nm}$ | Damage threshold $1.5\text{J}/\text{cm}^2$ for wavelengths $<500\text{nm}$ |

* For drawings please see page 84

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