

1.1.2.8 Calorimetric Power Meters

1.1.2.8.1 High Power Water Cooled Calorimetric Sensor

200W to 6000W

Features

- Very large aperture 200mm x 200mm
- Water cooled
- Up to 6000W
- Smart sensor or RS232 interface

6K-W-BB-200 x 200



Model	6K-W-BB-200x200
Use	Largest size beams to 6kW
Measurement Method	Calorimetric, measure water temperature rise and flow rate
Absorber Type	Broadband
Spectral Range μm ^(a)	0.19 - 20
Aperture mm	198 x198mm
Power Mode	
Power Range	200W – 6000W
Power Scales	6kW / 1kW
Power Noise Level	5W
Maximum Average Power Density kW/cm^2	1.5 at 1000W 0.4 at 6000W
Response Time with Meter (0-95%) typ. s	50
Calibration Uncertainty $\pm\%$	1.9
Power Accuracy $\pm\%$	4 ^{(a) (b)}
Linearity with Power $\pm\%$	2 ^(b)
Maximum Energy Density J/cm^2	
<100ns	0.3
1 μs	0.4
0.5ms	5
2ms	10
10ms	30
1s	4000
Cooling	Water
Recommended Flow Rates	6 liter/min ^(b)
Outputs	1. 5 meter cable terminated in DB15 Smart Connector measuring power only. 2. RS232 with supplied WaterFlowMeter PC Application measuring power, water temp. and water flow rate. In RS232 mode, the sensor is powered by the supplied 12V wall cube.
Fiber Adapters	N.A.
Dimensions	See drawing
Weight kg	3.6
Compliance	CE, UKCA, China RoHS
Version	
Part number	7Z02764
Notes: (a)	Calibrated for $\sim 0.8\mu\text{m}$ and $1.08\mu\text{m}$ at flow rate of 6 liters/min. Calibration for $10.6\mu\text{m}$ available
Notes: (b)	Min flow rate at maximum power 6 liter/min. Flow rate may be proportionately less at lower power. Flow rate dependence of reading is $\pm 2\%$ for flow rates between 4 and 8 liters/min. Water temperature range 15-25°C. Water temperature rate of change $<1^\circ\text{C}/\text{min}$, at max power, proportionately less at lower power. Pressure drop across sensor 0.05MPa. Water should be filtered with a $<50\mu\text{m}$ filter.

6K-W-BB-200 x 200

