

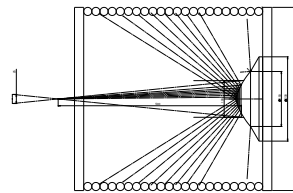
1.1.2.6 High Power Thermal Sensors

1.1.2.6.4 Very High Power Water Cooled Thermal Sensors

10kW to 100kW

Features

- Highest powers
- Water cooled
- Up to 100kW
- ϕ 200mm aperture



Laser Beam Path



Laser Beam Absorbing Chamber and Power Measuring Unit

Model	100K-W
Use	Measuring Highest powers to 100kW
Measurement Type	Water cooled beam absorber chamber with deflecting cone. Separate power measuring unit monitoring input and output cooling water flow and temperature
Spectral Range μm	0.8 – 1.1 μm ^(a)
Aperture mm	ϕ 200
Power Range for Calibrated Reading	10kW – 100kW
Power Noise Level	\pm 20W with stable water temperature
Backscattered Power	Less than 1%
Limitations on Beam	Designed for near Gaussian beam. Beam to be focused with 500 - 1000mm FL lens and meter placed so that the 1/e ² beam diameter on reflecting cone is ϕ 100mm in diameter (see sketch above)
Beam Centering Requirements	Beam to be centered on deflecting cone \pm 5mm and parallel \pm 2degrees
Response Time	40s at flow rate 50 liter/min and 60s at flow rate 20 liter/min
Power Accuracy +/-%	5 ^(a)
Cooling Requirements	Water flow rate, 50 liters/min at max power. Inlet temperature 15-20degC. Inlet water temperature rate of change <0.3degC/min at full power, proportionately less at lower power ^(b)
Water Pressure Drop across Beam Absorber	3 bar at 50 liter/min flow rate
Water Connections	Up to 4 meters in each direction of 1" OD 13/16" ID flexible nylon tubing
Outputs	1. Cable terminated in DB15 Ophir smart plug reading power 2. Cable terminated in DB9 plug with RS232 ASCII output reading power, flow rate and temperature on PC. Cable lengths 10 meters
Dimensions	See drawing below
Weight kg	Beam Absorber 50kg. Power measuring unit 10kg
Version	V1
Part number	1Z02690
Notes: (a)	Calibrated for 1.07 μm
Notes: (b)	It is recommended that user install a safety interlock flow switch on return water line (after beam dump) to shut down laser immediately if flow rate drops

