1.1.2.7.4 Very High Power Water Cooled Thermal Sensors

10K-W-BB-45

40 - 45mm

100W to 11kW

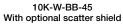
Features

- Very high powers
- Water cooled
- Up to 11kW

S

• Up to Ø45mm apertures







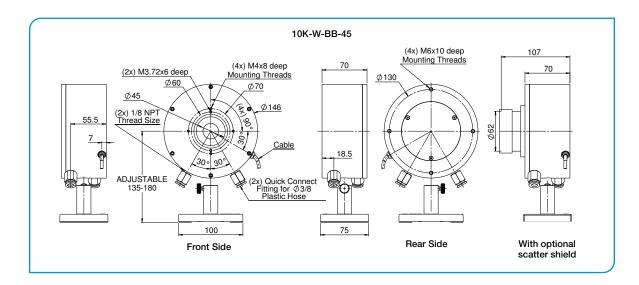
Sor	
ĕ	Model
Se	Use
	Absorber Type
	Spectral Range µm (a)
•••	Aperture mm
	Power Range
	Power Scales
N	Power Noise Level
	Backscattered Power (b, e)
\sim	Maximum Average Power Density
	Response Time with Meter (0-95%
T	Power Accuracy +/-%
	Linearity with Power +/-%
—	Cooling
	Minimum Water Flow Rate

Use	High power up	to 11kW						
Absorber Type	Beam deflector	Beam deflector + broadband absorber						
Spectral Range µm (a)	0.8 - 2, 10.6	0.8 - 2, 10.6						
Aperture mm	Ø45mm							
Power Range	100W – 11kW							
Power Scales	11kW / 6kW / 600W							
Power Noise Level	1W	1W						
Backscattered Power ^(b, e)	~3.5% without Scatter Shield, ~1% with Scatter Shield							
Maximum Average Power Density kW/cm ²	See note ^(c) and table ⁽¹⁾ below							
Response Time with Meter (0-95%) typ. s	2.7							
Power Accuracy +/-%	5 ^(a)	5 ^(a)						
Linearity with Power +/-%	2	2						
Cooling	water (d)	water ^(d)						
Minimum Water Flow Rate	8 liter/min at full power ^(d)							
Water Connectors (e)	Quick connecto	Quick connector for 3/8" OD nylon tubing						
Cable Length	5 meters							
Optional Scatter Shield Accessory (e)	10K-W / 15K-W	10K-W / 15K-W Scatter Shield (P/N 7Z08295)						
Weight kg	4.5							
Compliance	CE, China RoHS							
Version	V3							
Part number	7Z02756							
Notes: (a)		Calibrated at 1.07 μ m and 10.6 μ m. For other wavelengths in the range 0.8 – 2 μ m add up to ±2% to the calibration error.						
Notes: (b)		When scatter shield is installed, use the NIRS setting to compensate for slightly higher reading. When not installed, use the NIR setting.						
Notes: (c)	Maximum tilt angle :	For circular beam centered within ¼ of beam diameter. IMPROPERLY CENTERED BEAM CAN CAUSE DAMAGE TO SENSOR. Maximum tilt angle ±5 degrees. For rectangular beam please consult Ophir representative.						
Notes: (d)	be lowered proportio	Water temperature range 18-30°C. Water temperature rate of change <1°C/min. Pressure drop across sensor 0.1MPa. The recommended flow rate can be lowered proportionately at lower than full power but should not be below 3 liter/min. The response time will be optimum with the recommended flow rate. For prolonged usage with untreated water (tap water, non plwater), the industrial version is recommended. Contact Ophin for details.						
Notes: (e)	Heavy duty stand is	Heavy duty stand is available as optional extra. For further information and other options see Accessories for High Power Sensors on pages 77-81.						
Table: (1)	Beam diameter	Max power density	Max energy density	0	10			
	<15mm	10kW/cm ²	1ms pulse width 30J/cm ²	3ms pulse width 60J/cm ²	10ms pulse width 150J/cm ²			
	<15mm 15 - 20mm	7kW/cm ²	20J/cm ²	40J/cm ²	100J/cm ²			
	20 - 40mm	5kW/cm ²	15J/cm ²	30J/cm ²	70J/cm ²			

12J/cm²

25J/cm²

60J/cm²



4kW/cm²



70 JULY 1, 2020