1.1.2.7 High Power Thermal Sensors

1.1.2.7.3 High Power Water Cooled Thermal Sensors

100W to 30kW

Features

- High powers
- Water cooled
- Up to 30kW
- Ø74mm aperture

30K-W-BB-74

Model	30K-W-BB-74
Use	**High power up to 30kW**
Measurement Type	Beam deflector + broadband absorber
Spectral Range µm	0.8 - 2
Aperture mm	Ø74mm
Power Range for Calibrated Reading	100W – 30kW
Power Noise Level	1W
Backscattered Power	~4.3% without Scatter Shield, ~1.3% with Scatter Shield [b, c]
Maximum Average Power Density kW/cm²	10kW/cm² anywhere in the beam
Beam Centering Requirements IMPROPERLY CENTERED BEAM CAN CAUSE DAMAGE TO SENSOR	For circular beam centered within ¼ of beam diameter. Maximum tilt angle ±5 degrees. For rectangular beam please consult Ophir representative
Response Time 0-95% typ	7s
Calibration Uncertainty ±%	1.9
Power Accuracy ±%	5 [a]
Linearity with Power ±%	2
Variation with Beam Size ±%	1 from 20 to 40 mm 1.5 from 15 to 20 mm and 40 to 45 mm
Cooling Requirements	25 liter/min at full power, proportionally less at lower power. Min flow rate 6 liter/min. Water temperature range 15-30°C. Water temperature rate of change <1°C/min [d]
Water Pressure Drop across Beam Absorber	Pressure drop across sensor ~0.2MPa. Pressure drop across 8 meters of ½" tubing with 9.5mm ID is ~0.3MPa
Water Connections	Quick connector for ½" OD nylon tubing [c]
Outputs	10 meter cable terminated in DB15 smart connector
Optional Accessories [c]	30K-W Scatter Shield (P/N 7Z08293) 30K-W Rubber Feet Assembly (P/N 7Z08217)
Dimensions	See drawing on next page
Weight kg	19
Compliance	CE, UKCA, China RoHS
Version	V4
Part number	**7Z07136**

Note: (a) Calibrated at 1.07µm. For other wavelengths in the ranges of 0.8 - 0.95µm & 1.1 – 2µm add up to ± 2% to the calibration error

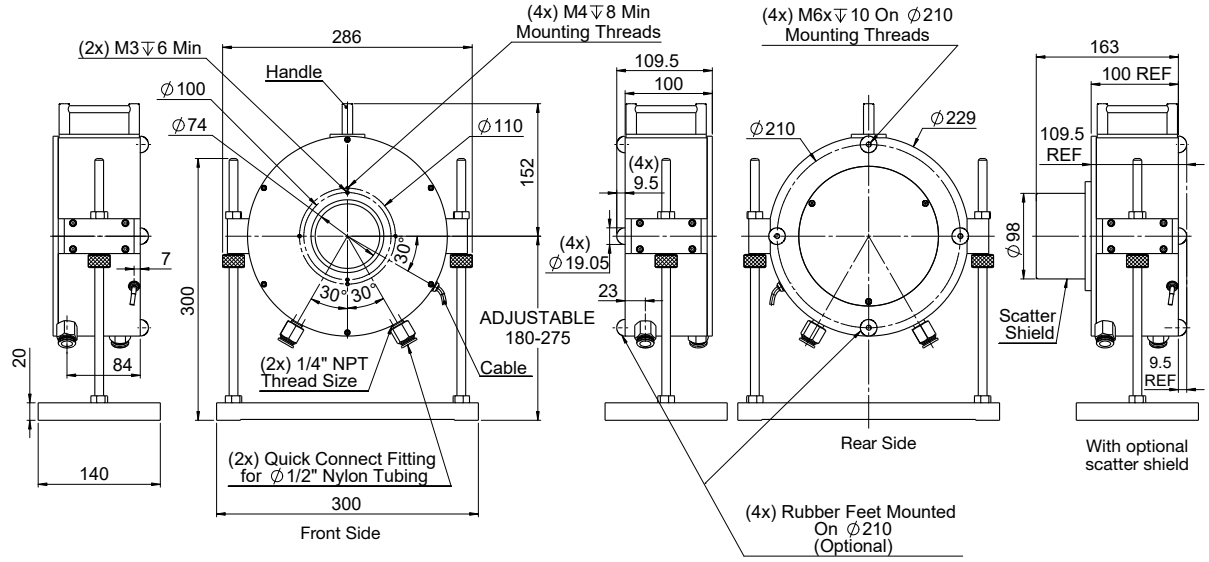
Note: (b) When scatter shield is installed, use the 107S laser setting to compensate for the slightly higher reading. When not installed, use the 107 setting

Note: (c) For further information and options see **Accessories for High Power Sensors** on pages 99-102

Note: (d) For solutions for prolonged usage with untreated water (tap water, non DI water), please contact Ophir

* For drawings please see page 89

30K-W-BB-74


(2x) M3↧6 Min
286
(4x) M4↧8 Min
Mounting Threads
Handle
∅100
∅74
∅110
152
7
300
30°
30°
30°
ADJUSTABLE
180-275
20
84
(2x) 1/4" NPT
Thread Size
Cable
140
(2x) Quick Connect Fitting
for ∅1/2" Nylon Tubing
300
Front Side
109.5
100
(4x)
9.5
(4x)
∅19.05
23
(4x) M6x↧10 On ∅210
Mounting Threads
∅210
∅229
Rear Side
(4x) Rubber Feet Mounted
On ∅210
(Optional)
163
100 REF
109.5
REF
∅98
Scatter
Shield
9.5
REF
With optional
scatter shield