1.1.2.8 Calorimetric Power Meters

1.1.2.8.2 Ultra-High Power Water Cooled Calorimetric Sensors

2kW to 70kW

Features

- Ultra-high powers
- Calorimetric
- Up to 70kW
- Ø130mm aperture

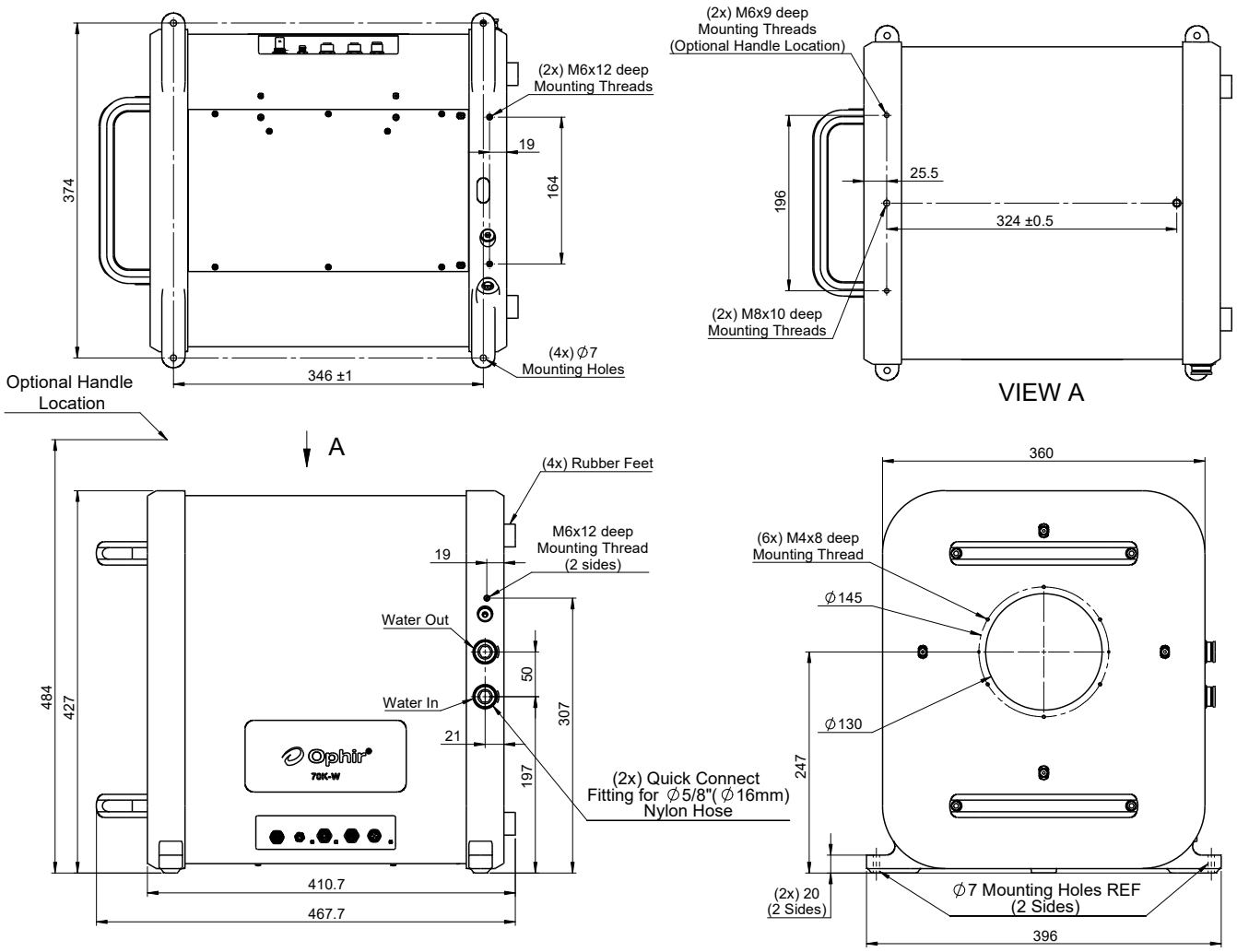
70K-W

Model	70K-W
Use	**High power up to 70kW**
Interfaces	24v power: M12 male RS232: M12 female Ethernet (48V PoE capable [a]): M12 female Interlock: M8 male Analog output: BNC
Measurement Type	Calorimetric
Spectral Range µm	0.8-10.6
Aperture mm Reflector Usable Clear Aperture mm	Ø130 Ø150
Power Range for Calibrated Reading	2kW – 70kW
Typical Power Noise Level	20W
Backscattered Power	<0.5%
Maximum CW/QCW Power Density at Max Power kW/cm²	2 kW/cm² for Flat top beam 4 kW/cm² for Gaussian beam (Equivalent to 65 mm diameter beam at 70 kW)
Beam Divergence and Centering Requirements [b]	Collimated beams: Max decenter 5mm, max tilt 5° Diverging beams: Up to 0.22NA
Response Time 0-99% (typical)	45s at flow rate of 35 L/min
Power Accuracy ±%	Calibration uncertainty 1.9 Accuracy 3 [c]
Linearity with Power ±%	2
Photodiode Spectral Range µm	0.8-1.6
Photodiode Monitor Responsivity	70mV at 70kW, 1070nm (typical, uncalibrated)
Cooling Requirements	35 liter/min at max power proportionally lower down to 10 L/min. Absolute minimum flowrate 7.5 LPM with additional measurement error >5%
Cooling Water	Tap water, DI water
Water Pressure Drop Across Sensor Beam Absorber	0.3 MPa (3 Bar) at 35 LPM
Water Connections	16mm, 5/8”
Dimensions	467 x 396 x 427 LxWxD mm
Weight kg	42kg dry
Compliance	CE, China RoHS, UKCA
Version	
Part number	**7Z07141**

Note: (a) Compliant with IEEE803.2af
Note: (b) Divergent sources (fibers) must be positioned correctly such that the beam does not exceed the usable reflector diameter. Consult Ophir for more information
Note: (c) Calibrated at 1070nm

* For drawings please see page 90B

70K-W


(2x) M6x12 deep
Mounting Threads
19
164
374
346 ±1
(4x) ∅7
Mounting Holes
(2x) M6x9 deep
Mounting Threads
(Optional Handle Location)
25.5
196
324 ±0.5
(2x) M8x10 deep
Mounting Threads
VIEW A
Optional Handle
Location
A
(4x) Rubber Feet
M6x12 deep
Mounting Thread
(2 sides)
19
Water Out
Water In
21
50
307
197
484
427
Ophir
70K-W
410.7
467.7
(2x) Quick Connect
Fitting for ∅5/8"(∅16mm)
Nylon Hose
360
(6x) M4x8 deep
Mounting Thread
∅145
∅130
247
(2x) 20
(2 Sides)
∅7 Mounting Holes REF
(2 Sides)
396