HP

Up to 100 mm Ø, 100 W – 12 000 W

KEY FEATURES

1. **HIGH POWER HANDLING**
   Handles up to 12 kW of continuous power with our standard models. Custom models available for higher powers (See SUPER HP)

2. **STABLE READING**
   Less sensitive to variations in water cooling temperature than any other high power water-cooled meter on the market

3. **LARGE APERTURE**
   Our standard HP models (4KW and 12KW) have a very large effective aperture of 100 mm Ø to accomodate large laser beams. Larger apertures with various shapes are available upon request (See SUPER HP)

4. **SPECIAL MODEL FOR SMALL BEAMS**
   10 kW model with reflective cone available. Perfect for small beams (with Avg Power Densities up to 10 kW/cm² @ 10 kW)

5. **DIRECT USB CONNECTION TO A PC**
   Each head comes with both a DB-15 connector (for use with a Gentec-EO monitor) and a USB2.0 output for direct connection to a PC

AVAILABLE MODELS

HP100A-4KW-HE
(4000W-Water-Cooled)

HP100A-12KW-HD
(12000W-Water-Cooled)

HP60A-10KW-GD
(10000W-High Avg Power)

ACCESSORIES

Stand with Steel Post
(Model Number: 201102)

Extension Cables
(4, 15, 20 or 25 m)

5 m USB Cable
(Included)

Pelican Carrying Case

SEE ALSO

HP

SPECIFICATIONS

NIST* Traceable

*Also traceable to NRC-CNRC

	HP100A-4KW-HE	HP100A-12KW-HD	HP60A-10KW-GD
MAX AVERAGE POWER (CONTINUOUS / 2 MINUTES)	4 000 W / 4 500 W	12 000 W / 12 000 W	10 000 W / 10 000 W High Average Power up to 10 kW/cm²
EFFECTIVE APERTURE	100 mm Ø	100 mm Ø	60 mm Ø with cone reflector
COOLING METHOD	Water-Cooled	Water-Cooled	Water-Cooled
MEASUREMENT CAPABILITY			
Spectral Range	0.19 – 20 µm	0.19 – 20 µm	0.8 – 12 µm
Noise Equivalent Power [a]	±3 W	±10 W	±10 W
Minimum Average Power [b]	100 W	300 W	300 W
Rise Time (nominal)	7 sec	9 sec	11 sec
Sensitivity (typ into 100 kΩ load)	0.4 mV/W	0.15 mV/W	0.2 mV/W
Calibration Uncertainty	±5 % @ 1064 nm	±5 % @ 1064 nm	±5 % @ 1064 nm
Repeatability	±2 %	±2 %	±2 %
Linearity with Power	±1.5 %	±1.5 %	±2 %
Linearity vs Beam Diameter	±1 %	±1 %	< 35 mm Ø: ±0.5 % > 35 mm Ø: ±1.5 %
Linearity vs Beam Position	±1.5 %	±1.5 % [c] / ±3 % [d]	±3 %
DAMAGE THRESHOLDS			
Maximum Average Power Density [e]			
500 W	10 kW/cm²	16 kW/cm²	---
4 kW	4 kW/cm²	---	---
5 kW	---	6.5 kW/cm²	---
10 kW	---	3.5 kW/cm²	< 35 mm Ø: 10 kW/cm² > 35 mm Ø: 3.5 kW/cm²
PHYSICAL CHARACTERISTICS			
Effective Aperture	100 mm Ø	100 mm Ø	60 mm Ø (Optimized for 35 mm Ø)
Absorber (High Damage Threshold)	HE	HD	GD (cone reflector)
Required Cooling Flow	(4 - 6) LPM < ±1 LPM/min [f]	(6 - 10) LPM < ±1 LPM/min [f]	(6 - 10) LPM < ±1 LPM/min [f]
Temperature of Cooling Water	(15 - 25) °C < ±3°C/min [f]	(15 - 25) °C < ±3°C/min [f]	(15 - 25) °C < ±3°C/min [f]
Output Connectors	DB-15 cable & USB port	DB-15 cable & USB port	DB-15 cable & USB port
PCB Electrical Supply	Through USB or Gentec-EO monitors	Through USB or Gentec-EO monitors	Through USB or Gentec-EO monitors
Maximum Output Signal	2 V	2 V	2 V
Dimensions	127H x 127W x 74D mm	127H x 127W x 70D mm	127H x 127W x 90D mm
Weight (head only)	1.8 kg	3.3 kg	5 kg

ORDERING INFORMATION			
Product Name	HP100A-4KW-HE	HP100A-12KW-HD	HP60A-10KW-GD
Product Number (Including stand)	202208	201329	201306

a. Nominal value, actual value depends on electrical noise in the measurement system.
b. For lower powers, call your Gentec-EO representative.
c. For a beam size of 10% of the aperture area, moved across 40% of the aperture area.
d. For a beam size of 20% of the aperture area, moved across 80% of the aperture area.
e. At 1064 nm, 1.07-1.08 µm and 10.6 µm.
f. > 1 min. Contact Gentec-EO for clean deionized water cooling module optio

Specifications are subject to change without notice