

HP100

Up to 125 x 125 mm, 100 W - 15 kW




New product



KEY FEATURES

- > **HIGH POWER HANDLING**
Handles up to 15 kW of continuous power with our standard models. Custom models available for higher powers (See SUPER HP)
- > **LARGE APERTURE**
Our standard HP models have very large effective apertures to accommodate large laser beams. Larger apertures with various shapes are available upon request (See SUPER HP)
- > **AVAILABLE WITH YAG AND CO₂ CALIBRATIONS**
All HP Models can be calibrated at YAG and CO₂ wavelengths with a calibration uncertainty of $\pm 5\%$
- > **DIRECT USB CONNECTION TO A PC**
Each head comes with both a DB15 connector (for use with a Gentec-EO display device) and a USB output for direct connection to a PC
- > **TRACK WATER PARAMETERS**
Water flow and temperature are monitored in real time and displayed continuously

OUTPUT OPTIONS

- > **SMART DB15 CONNECTOR**
Contains all the calibration data
- > **USB PORT**
 - Connects directly to a PC
 - Included in all HP models
- > **BLU WIRELESS METER** 
Connects via Bluetooth to a PC

COMPATIBLE DISPLAYS & PC INTERFACES



MIRO ALTITUDE



MAESTRO



TUNER



UNO

ACCESSORIES



Stand with steel post



Extension cables
(4, 15, 20 or 25 m)*



5 m USB cable
(Included)



Water filter
(Metric: 202984, Imperial: 202990)



Pelican carrying case

*A USB power adaptor will be necessary if the HP is used with a DB15 extension cable.



	HP100A-4KW-HE	HP100A-4KW-HE-TUBE	HP100A-12KW-HD	HP100A-12KW-HD-TUBE	HP125A-15KW-HD	HP125A-15KW-HD-TUBE
MAX AVERAGE POWER	4000 W	4000 W	12 000 W	12 000 W	15 000 W	15 000 W
EFFECTIVE APERTURE	100 mm ϕ	70 mm ϕ	100 mm ϕ	70 mm ϕ	125 x 125 mm	70 mm ϕ
COOLING METHOD	Water-cooled	Water-cooled	Water-cooled	Water-cooled	Water-cooled	Water-cooled

MEASUREMENT CAPABILITY

Spectral range	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm	0.19 - 20 μm
Calibrated spectral range ^a	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm	0.248 - 2.1 μm
Noise equivalent power ^b	± 3 W	± 3 W	± 10 W	± 10 W	± 15 W	± 15 W
Minimum average power ^c	100 W	100 W	300 W	300 W	500 W	500 W
Rise time (nominal)	7 s	7 s	9 s	9 s	15 s	15 s
Back reflections	10-15%	< 4%	10 - 15%	< 4%	10 - 15%	2 - 4%
Calibration uncertainty ^d	± 5	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$
Repeatability	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$
Linearity with power	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 1.5\%$	$\pm 2\%$	$\pm 2\%$
Linearity vs beam diameter	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$
Linearity vs beam position ^e	$\pm 1.7\%$	$\pm 1.7\%$	$\pm 1.7\%$	$\pm 1.7\%$	$\pm 1.0\%$	$\pm 1.0\%$

DAMAGE THRESHOLDS

Maximum average power density ^f						
500 W	10 kW/cm ²	10 kW/cm ²	16 kW/cm ²	16 kW/cm ²	16 kW/cm ²	16 kW/cm ²
4 kW	4 kW/cm ²	4 kW/cm ²	---	---	---	---
5 kW	---	---	6.5 kW/cm ²	6.5 kW/cm ²	6.5 kW/cm ²	6.5 kW/cm ²
10 kW	---	---	3.5 kW/cm ²	3.5 kW/cm ²	3.5 kW/cm ²	3.5 kW/cm ²
15 kW	---	---	---	---	1.5 kW/cm ²	1.5 kW/cm ²

PHYSICAL CHARACTERISTICS

Effective aperture	100 mm ϕ	70 mm ϕ	100 mm ϕ	70 mm ϕ	125 x 125 mm	70 mm
Absorber (high damage threshold)	HE	HE	HD	HD	HD	HD
Cooling water						
Required cooling flow ^g	(4 - 6) LPM < ± 1 LPM/min	(4 - 6) LPM < ± 1 LPM/min	(6 - 10) LPM < ± 1 LPM/min	(6 - 10) LPM < ± 1 LPM/min	(8 - 10) LPM < ± 1 LPM/min	(8 - 10) LPM < ± 1 LPM/min
Temperature range	15 - 25 $^{\circ}\text{C}$	15 - 25 $^{\circ}\text{C}$	15 - 25 $^{\circ}\text{C}$	15 - 25 $^{\circ}\text{C}$	15 - 25 $^{\circ}\text{C}$	15 - 25 $^{\circ}\text{C}$
Rate of temperature change	< $\pm 3^{\circ}\text{C}/\text{min}$	< $\pm 3^{\circ}\text{C}/\text{min}$	< $\pm 3^{\circ}\text{C}/\text{min}$	< $\pm 3^{\circ}\text{C}/\text{min}$	< $\pm 3^{\circ}\text{C}/\text{min}$	< $\pm 3^{\circ}\text{C}/\text{min}$
Maximum water pressure (input)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)	413 kPa (60 psi)
Dimensions	127H x 127W x 74D mm	127H x 127W x 234D mm	127H x 127W x 70D mm	127H x 127W x 230D mm	153H x 153W x 70D mm	153H x 153W x 272D mm
Weight (head only)	1.8 kg	6.0 kg	3.3 kg	7.5 kg	5 kg	10 kg

ORDERING INFORMATION

Available output options	DB15 & USB or Bluetooth & USB	DB15 & USB or Bluetooth & USB	DB15 & USB or Bluetooth & USB	DB15 & USB or Bluetooth & USB	DB15 & USB or Bluetooth & USB	DB15 & USB or Bluetooth & USB
Compatible stand	STAND-S-443-C	2x STAND-S-443-C	STAND-S-443-C	2x STAND-S-443-C	2x STAND-S-443-C	3x STAND-S-443-C
Product page						

- a. Calibrations at 2.1 to 2.5 μm and 10.6 μm are available on special request.
- b. Nominal value, actual value depends on electrical noise in the measurement system.
- c. For lower powers, call your Gentec-EO representative.
- d. At 1064 nm and 1070 nm
- e. For a beam size of 20% of the aperture area, moved across 80% of the aperture area.
- f. At 1064 nm, 1.07-1.08 μm and 10.6 μm .
- g. >1 min. Contact Gentec-EO for deionized water cooling module option.