

# UP19K-V



18 mm Ø, 1 mW - 40 W, Volume Absorbers



## Key Features

- 1 **Modular Concept**  
Increase the power capability of your detector : 2 different cooling modules
- 2 **High Peak Power Volume Absorbers**
  - . Fast Rise Time (1.8 sec for VM)
  - . High Damage Threshold (100 GW/cm<sup>2</sup>)
- 3 **Compact Design**  
Only 21 mm thick (15S model)
- 4 **Energy Mode**  
Measure single shot energy up to 40 J (VR)
- 5 **New High Durability Absorber - VR**  
Average power density of 700 W/cm<sup>2</sup> prevents degradation caused by repetitive pulses
- 6 **Smart Interface**  
Containing all the calibration data

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Monitors

Energy Detectors

Power Detectors

OEM Detectors

Calorimeters

Diffractive Optics

Beam Diagnostics



**NEW**



## Accessories

### » Fiber Optic Adapters (FC, SMA, SC)

Variety of fiber adapter options to give you the most flexibility in using our power detectors with your fiber coupled lasers.



### » Replacement Volume Absorbers

By following a simple procedure that takes only a few minutes, you can change your absorber glass. (VM only).







### » Extension Cables (4, 15, 20 and 25 m)

For some OEM, manufacturing and laboratory applications.

### » Pelican Carrying Case

We offer a robust hard shell polymer carrying case.

## SPECIFICATIONS

Models	UP19K-15S-VM	UP19K-30H-VM	UP19K-15S-VR	UP19K-30H-VR
				
Max Average Power (continuous)	15 W	30 W	15 W	30 W
Max Average Power (1 minute)	23 W	40 W	20 W	35 W

MEASUREMENT CAPABILITY	15S-VM	30H-VM	15S-VR	30H-VR
Spectral Range	0.19 – 2.5 $\mu\text{m}$	0.19 – 2.5 $\mu\text{m}$	0.19 – 2.5 $\mu\text{m}$	0.19 – 2.5 $\mu\text{m}$
Noise Equivalent Power <sup>a</sup>	1 mW	1 mW	2 mW	2 mW
Rise Time (nominal) <sup>b</sup>	1.8 sec	1.8 sec	2.5 sec	2.5 sec
Sensitivity (typ into 100 k $\Omega$ load) <sup>c</sup>	0.75 mV/W	0.75 mV/W	0.34 mV/W	0.34 mV/W
Calibration Uncertainty <sup>d</sup>	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$	$\pm 2.5\%$
Repeatability	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
Energy Mode				
Sensitivity	0.28 mV/J	0.28 mV/J	0.1 mV/J	0.1 mV/J
Maximum Measurable Energy <sup>e</sup>	28 J	28 J	40 J	40 J
Noise Equivalent Energy <sup>a</sup>	0.03 J	0.03 J	0.02 J	0.02 J
Minimum Repetition Period	8 sec	8 sec	4.5 sec	4.5 sec
Maximum Pulse Width	300 ms	300 ms	90 ms	90 ms
Accuracy with energy calibration option	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$

## DAMAGE THRESHOLDS

Maximum Average Power Density <sup>f</sup>	110 W/cm <sup>2</sup>	110 W/cm <sup>2</sup>	700 W/cm <sup>2</sup>	700 W/cm <sup>2</sup>
Pulsed Laser Damage Thresholds	Max Energy Density	Peak Power Density	Max Energy Density	Peak Power Density
1064 nm, 360 $\mu\text{s}$ , 5 Hz	11 J/cm <sup>2</sup>	30 kW/cm <sup>2</sup>	40 J/cm <sup>2</sup>	111 kW/cm <sup>2</sup>
1064 nm, 7 ns, 10 Hz	4 J/cm <sup>2</sup>	571 MW/cm <sup>2</sup>	6 J/cm <sup>2</sup>	860 MW/cm <sup>2</sup>
532 nm, 7 ns, 10 Hz	3 J/cm <sup>2</sup>	428 MW/cm <sup>2</sup>	4 J/cm <sup>2</sup>	570 MW/cm <sup>2</sup>
266 nm, 7 ns, 10 Hz	1 J/cm <sup>2</sup>	143 MW/cm <sup>2</sup>	1 J/cm <sup>2</sup>	143 MW/cm <sup>2</sup>
Max Peak Power Density	100 GW/cm <sup>2</sup>	100 GW/cm <sup>2</sup>	100 GW/cm <sup>2</sup>	100 GW/cm <sup>2</sup>

## PHYSICAL CHARACTERISTICS

Effective Aperture Diameter	18 mm $\emptyset$	18 mm $\emptyset$	18 mm $\emptyset$	18 mm $\emptyset$
Absorber (High Damage Threshold)	VM	VM	VR	VR
Dimensions	50H x 50W x 20.6D mm	50H x 50W x 56.3D mm	50H x 50W x 20.6D mm	50H x 50W x 56.3D mm
Weight (head only)	0.16 kg	0.21 kg	0.16 kg	0.21 kg

## ORDERING INFORMATION

Full Product Name	UP19K-15S-VM	UP19K-30H-VM	UP19K-15S-VR	UP19K-30H-VR
Product Number (including stand)	200301	200302	201149	201150

a. Nominal value, actual value depends on electrical noise in the measurement system.

b. With Gentec-EO SOLO, UNO, P-LINK and S-LINK-2 monitors.

c. Maximum output voltage = sensitivity x maximum power.

d. Including linearity with power.

e. For 360  $\mu\text{s}$  pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).

f. At 1064 nm, 10 W CW.

## America

Canada  
United States  
South America

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### Calibration Centers

Quebec City, Canada  
Olching (Munich), Germany