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# UP55-VR

55 mm Ø, 15 mW - 200 W, Volume Absorber



## KEY FEATURES

1. **MODULAR CONCEPT**  
Increase the power capability of your detector:  
4 different cooling modules
2. **HIGH PEAK POWER VOLUME ABSORBER**
  - Perfect for high density beams
  - Average power density of 700 W/cm<sup>2</sup> prevents degradation caused by repetitive pulses
3. **LARGE APERTURE**  
55 mm Ø aperture accommodates the largest beams
4. **HIGH AVERAGE POWER**  
Up to 200 W of continuous power with the water-cooled unit
5. **ENERGY MODE**  
Measure single shot energy up to 200 J
6. **SMART INTERFACE**  
Containing all the calibration data

## AVAILABLE MODELS



UP55N-50S-VR  
(50W-Standalone)



UP55N-100H-VR  
(100W-Heatsink)



UP55N-150F-VR  
(150W-Fan-Cooled)



UP55M-200W-VR  
(200W-Water-Cooled)

## ACCESSORIES



Stand with Steel Post  
(Model Number: 200234)



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



Fiber Adaptors and Connectors  
(FC, SC or SMA)



3-Port Fiber Cylinder with  
Adaptors and Plug



12V Power Supply  
(Model Number: 200130)



Pelican Carrying Case

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# UP55-VR

## SPECIFICATIONS



\*Also traceable to NRC-CNRC

	UP55N-50S-VR	UP55N-100H-VR	UP55N-150F-VR	UP55M-200W-VR
<b>MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)</b>	50 W / 50 W	100 W / 100 W	150 W / 150 W	200 W <sup>g</sup> / 200 W <sup>g</sup>
<b>EFFECTIVE APERTURE</b>	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
<b>COOLING METHOD</b>	Convection	Heatsink	Fan-Cooled	Water-Cooled
<b>MEASUREMENT CAPABILITY</b>				
Spectral Range <sup>*a</sup>	0.3 – 2.5 µm	0.3 – 2.5 µm	0.3 – 2.5 µm	0.3 – 2.5 µm
Noise Equivalent Power <sup>b</sup>	15 mW	15 mW	15 mW	15 mW
Rise Time (nominal) <sup>c</sup>	4 sec	4 sec	4 sec	4 sec
Sensitivity (typ into 100 kΩ load) <sup>d</sup>	0.04 mV/W	0.04 mV/W	0.04 mV/W	0.04 mV/W
Calibration Uncertainty <sup>e</sup>	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode				
Sensitivity	0.010 mV/J	0.010 mV/J	0.010 mV/J	0.010 mV/J
Maximum Measurable Energy <sup>f</sup>	500 J	500 J	500 J	500 J
Noise Equivalent Energy <sup>b</sup>	0.25 J	0.25 J	0.25 J	0.25 J
Minimum Repetition Period	11.1 sec	11.1 sec	11.1 sec	11.1 sec
Maximum Pulse Width	433 ms	433 ms	433 ms	433 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %
<b>DAMAGE THRESHOLDS</b>				
Maximum Average Power Density <sup>h</sup>	700 W/cm <sup>2</sup>	700 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	
1064 nm, 360 µs, 5 Hz	40 J/cm <sup>2</sup>		111 kW/cm <sup>2</sup>	
1064 nm, 7 ns, 10 Hz	6 J/cm <sup>2</sup>		860 MW/cm <sup>2</sup>	
532 nm, 7 ns, 10 Hz	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>	
<b>PHYSICAL CHARACTERISTICS</b>				
Effective Aperture	55 mm Ø	55 mm Ø	55 mm Ø	55 mm Ø
Absorber (Volume Absorber)	VR	VR	VR	VR
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 44D mm
Weight (head only)	0.62 kg	0.93 kg	1.41 kg	0.84 kg
<b>ORDERING INFORMATION</b>				
Product Name	UP55N-50S-VR	UP55N-100H-VR	UP55N-150F-VR	UP55M-200W-VR
Product Number (Including stand)	201296	201934	201856	201292
INTEGRA Product Name	UP55N-50S-VR-INT	UP55N-100H-VR-INT		

\* For the calibrated spectral range, see the user manual.

- a. Adjustment multipliers for wavelengths under 300 nm are not traceable.  
 b. Nominal value, actual value depends on electrical noise in the measurement system.  
 c. With Gentec-EO MAESTRO, UNO, P-LINK, TUNER and S-LINK monitors.  
 d. Maximum output voltage = sensitivity x maximum power.  
 e. Including linearity with power.  
 f. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).

- g. Minimum cooling flow 1 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube.  
 Contact Gentec-EO for clean deionized water cooling module option.  
 h. At 1064 nm, 10 W CW.

Specifications are subject to change without notice