Scientech, Inc: (303) 444-1361, (800) 525-0522 Request Literature

Ultra Calorimeters

The accuracy and quality standard in Scientech's laser power and energy measurement systems follows through with the revolutionary UltraTM Series. Designed to handle higher powers while embracing air cooling and light weight in a compact size, the unique Ultra calorimeters possess a potent new heat sensing element. This energetic element empowers an Ultra calorimeter with greater rates of heat flow which yields higher power measurements up to 150 watts with only air cooling.

The Ultra calorimeters are available in surface absorbing, high damage threshold, and ultra-violet volume absorbing models. The surface absorbing Model UC150 has a flat spectral response from 250 nm to 35 µm. The high damage threshold Models UC150HD and UC150HD40 can handle power densities of 1500 W/cm^2. The UV volume absorbing Model UC150UV measures the average power levels of high power pulsed lasers operating in the spectral region from 190 nm to 360 nm. The robust UC150UV can handle energy densities up to 15 J/cm^2. The Ultra calorimeters team up with the multifaceted Vector Synenergy Model S310 indicators to provide accurate high power measurement.

As one of the lowest priced, higher power laser measurement systems available, this vigorous high power series transcends all other approaches and empowers the users who need an advanced, dependable, accurate high power measurement system.

Features:

- Forced air cooling
- Compact size
- High damage threshold models
- N.I.S.T. traceable calibration

ULTRA™ CALORIMETER SPECIFICATIONS

Model No.	UC150	UC150UV	UC150HD	UC150HD40
Type Absorber	Surface	Volume	Surface	Surface
Aperture Size	25.4 mm dia.	40 mm x 40 mm	25.4 mm dia.	40 mm x 40 mm
Spectral Response	.25 - 35 µm	.19 - .36 µm	.19 - 12 µm	.19 - 12 µm
Average Power (max.)	150 W	150 W	150 W	150 W
Resolution (min.)	0.1 W	0.1 W	0.1 W	0.1 W
Power Density (max.)	200 W/cm^2	See Note 17	1.5 kW/cm^2	1.5 kW/cm^2
Peak Power Density (max.)	1 MW/cm^2	See Note 21	100 MW/cm^2	100 MW/cm^2
Energy Density (max.)	See Note 5	See Note 12	See Note 6	See Note 6
Precision	<1%	<1%	<1%	<1%
Accuracy	5%	5%	5%	5%
Response Time	Sensor Dependent	Sensor Dependent	Sensor Dependent	Sensor Dependent
Dimensions (H x W x D)(cm.)	12.5 x 8.6 x 10.2	12.5 x 8.6 x 10.2	12.5 x 8.6 x 10.2	12.5 x 8.6 x 10.2
Weight (kgs.)	1.2	1.2	1.2	1.2
Indicator Compatibility	S310, S310D	S310, S310D	S310, S310D	S310, S310D

Note 5 **Surface Absorbing -**
Models AC2500, AC5000, 36-0401, 36-0801, UC150
Max. J/cm^2 = 1000 x (pulse width)$^{1/2}$ to a maximum of 200 J/cm^2

Note 6 **HD Models**
Max. J/cm^2 = 4500 x (pulse width)$^{1/2}$ to a maximum of 14 J/cm^2

Note 12 **AC25UV, AC50UV, UC150UV, 38-4UV5, 38-8UV5**
For repetitive pulses: 1.1 J/cm^2 @ 355 nm,
For single pulse: 40 J/cm^2 @ 355 nm

Note 17 **AC25UV, AC50UV, UC150UV, 38-4UV5,38-8UV5**
50 W/cm^2 @ 355 nm

Note 21 **AC25UV, AC50UV, UC150UV, 38-4UV5, 38-8UV5**
For repetitive pulses: 101 MW/cm^2 @ 355 nm
For single pulse: 3.5 GW/cm^2 @ 355 nm

Back To Top