

Astral Calorimeters, 16mm to 50mm

Astral Calorimeters, 16mm & 50mm

Astral Series detectors are available in either surface or volume absorbing models with apertures of custom sizes or standard aperture models. The surface absorbing models are ideal for measuring CW lasers while the volume absorbing models are designed for pulsed lasers using either the watts mode or single pulse energy mode. Astral Series calorimeters from Scientech store all calibration data with the detector.

The 16 and 50mm aperture models are grouped together because they all support 30W power levels. These calorimeters require an Astral Power Meter.

Astral Series Calorimeters Specifications, 16 & 50 mm Apertures

Model /SKU	AC5000S	AC50FXS	ACX50FXS	AC5001S	ACX5001S	AC50UVS	AC5004S
Detector Calibration Data	stored in detector	stored in detector	stored in detector	stored in detector	stored in detector	stored in detector	stored in detector
Type Absorber	Surface	Surface	Surface	Volume	Volume	Volume	Volume
Aperture Diameter	50.8 mm	50.8 mm	16 mm	50.8 mm	16 mm	50.8 mm	50.8 mm
Spectral Response	.25-35 μm	.19-26 μm	.40-2 μm	.26-1.2 μm	.40-1.2 μm	.19-.36 μm	.85-4.2 μm
Average Power Maximum	30 W	30 W	30 W	30 W	30 W	30 W	30 W
Average Power Minimum	40 mW	40 mW	40 mW	40 mW	40 mW	40 mW	40 mW
Maximum Power Density	200 W/cm ²	6 kW/cm ²	48 kW/cm ²	30W/cm ² @ 1064nm 23W/cm ² @ 532nm 8.5W/cm ² @ 355nm 175mW/cm ² @ 266nm	30W/cm ² @ 1064nm 23W/cm ² @ 532nm 68W/cm ² @ 355nm 1.4W/cm ² @ 266nm	50W/cm ² @ 355nm	35W/cm ² @1064nm
Maximum Peak Power Density	1 MW/cm ²	70MW/cm ²	560MW/cm ²	100GW/cm ² @1064nm 78GW/cm ² @ 532nm 29GW/cm ² @ 355nm 580MW/cm ² @266nm	8.5 GW/cm ²	Repetitive pulses: 101MW/cm ² @355nm Single pulse: 3.5GW/cm ² @355nm	125GW/cm ² @ 1064nm
Maximum Single Pulse Energy	30 J	30 J	30 J	30 J	30 J	30 J	30 J
Max Energy Density, Repetitive Pulses (pulse width in sec)	1,000 x (pulse width) ^{1/2} to max of 200J/cm ²	4,950 x (pulse width) ^{1/2} to max of 12.3J/cm ²	39,600 x (pulse width) ^{1/2} to max of 36.9J/cm ²	4.1J/cm ² @1064nm 3.2J/cm ² @532nm 1.2J/cm ² @355nm 24mJ/cm ² @266nm	4.1J/cm ² @1064nm 3.2J/cm ² @532nm 9.6J/cm ² @355nm 192mJ/cm ² @266nm	1.1J/cm ² @ 355nm	4.8J/cm ² @ 1064nm
Max Energy Density, Single Pulse (pulse width in sec)	1,000 x (pulse width) ^{1/2} to max of 200J/cm ²	4,950 x (pulse width) ^{1/2} to max of 12.3J/cm ²	39,600 x (pulse width) ^{1/2} to max of 36.9J/cm ²	8J/cm ² @1064nm 6.2J/cm ² @532nm 2.3J/cm ² @355nm 46mJ/cm ² @266nm	8J/cm ² @1064nm 6.2J/cm ² @532nm 18.4J/cm ² @355nm 368mJ/cm ² @266nm	40J/cm ² @ 355nm	10J/cm ² @ 1064nm
Response Time	3 sec	3 sec	3 sec	3 sec	3 sec	3 sec	3 sec
Dimensions (D x L), CM	12.07 x 5.8	12.07 x 5.8	12.07 x 9.96	12.07 x 5.8	12.07 x 9.96	12.07 x 5.8	12.07 x 5.8
Compatible Meters	AI310, AI310D, AI310D-USBL	AI310, AI310D, AI310D-USBL	AI310, AI310D, AI310D- USBL	AI310, AI310D, AI310D- USBL	AI310, AI310D, AI310D- USBL	AI310, AI310D, AI310D- USBL	AI310, AI310D, AI310D- USBL

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