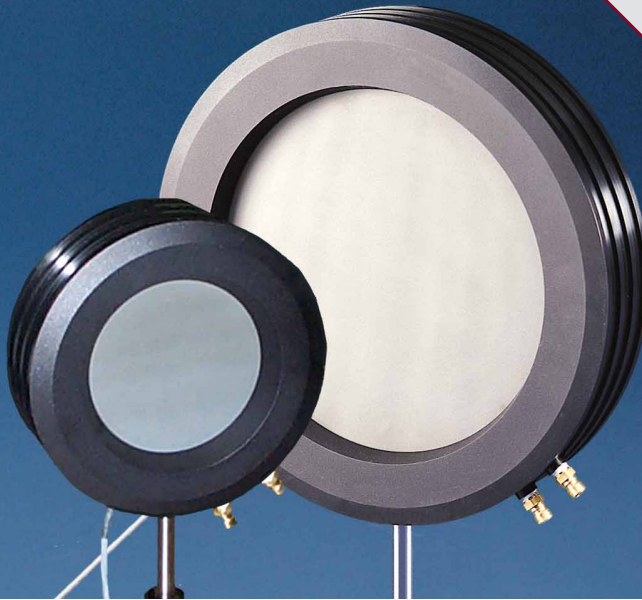


**PM1K-100, PM3K-100,  
 PM5K-100 & PM5K-200**  
 Large Area, Water-Cooled Detectors

**POWER MAX**



PM1K-100 (foreground) and PM5K-200

This new family of large area, multi-kilowatt, water-cooled laser power detectors is compatible with all of our new power meters and features our industry-leading 26 kW/cm<sup>2</sup> damage threshold and broad spectral response.

The **PM1K-100**, **PM3K-100**, and **PM5K-100** detectors provide a range of power capabilities in a 100 mm diameter size and are useful for diode bars and large cross-section laser beams.

With a 200 mm diameter, the **PM5K-200** is ideal for use with large laser diode bar arrays, high divergence laser beams, and measuring the power of any large

collimated laser beam from UV to Far IR. Using Molectron power instruments such as the EPM1000, EPM2000, PM500A, PM500D, and PM5200, this detector measures power levels as high as 5 kW.

As with all PowerMax detectors, these models feature the proprietary damage resistant broadband coatings.

For logging power versus time, use our handy LabVIEW<sup>®</sup> applications programs with the EPM1000 and PM5200. Download these free programs from [www.molectron.com](http://www.molectron.com).

**Features**

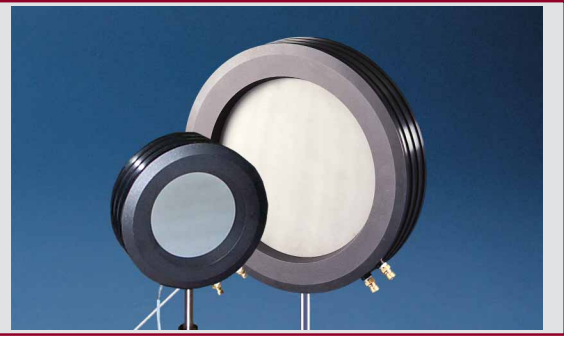
- Large area 100 mm and 200 mm diameter, for large and divergent laser beams
- kW power measurement capability
- Water-cooled for improved linearity at high power
- PowerMax damage-resistant broadband coating with uniform spectral response
- NIST-traceable high power calibration
- Available in three max power levels: 1, 3, and 5 kW

**Applications**

- Measure power at kW level
- Large area to 200 mm diameter
- Industrial process control
- Power of divergent laser diodes and diode arrays
- Production test
- Process calibration

**Use With These Lasers**

- CO<sub>2</sub>
- Nd:YAG
- Diode-pumped Nd:YAG
- Diode bar arrays
- Excimer
- Erbium:YAG



# PM1K-100, PM3K-100, PM5K-100 & PM5K-200

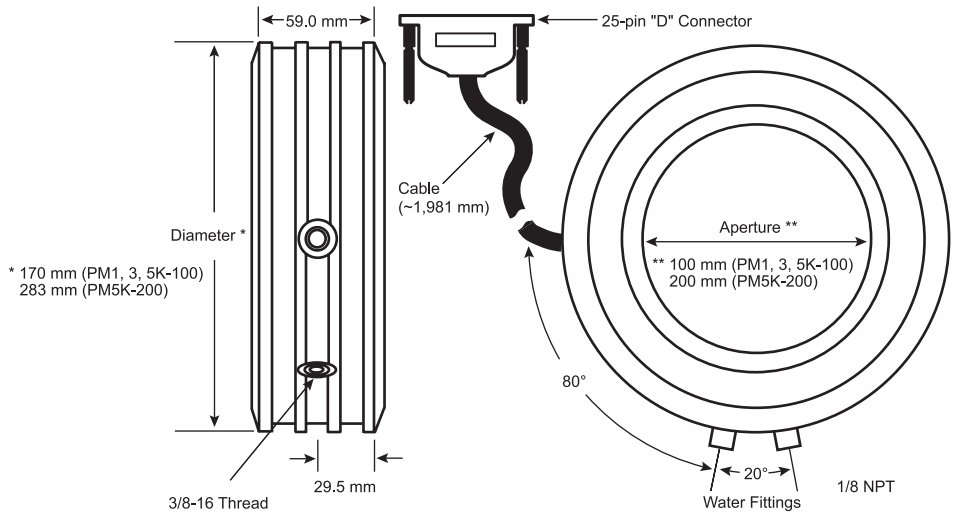
## Large Area, Water-Cooled Detectors

### Specifications

	PM1K-100	PM3K-100	PM5K-100	PM5K-200
Wavelength Range ( $\mu\text{m}$ )	0.19 to 11	0.19 to 11	0.19 to 11	0.19 to 11
Max Power (W)	1,000	3,000	5,000	5,000
Max Intermittent Power (< 5 min) (W)	1,500	4,000	7,500	7,500
Resolution (W)	1	1	1	1
Max Avg Power Density ( $\text{kW}/\text{cm}^2$ ) *	26	26	26	26
Max Pulse Energy Density ( $\text{J}/\text{cm}^2$ )	0.6	0.6	0.6	0.6
Response Time (sec)	45	45	45	45
Detector Coating	Broadband	Broadband	Broadband	Broadband
Detector Diameter (mm)	100	100	100	200

\* Assumes uniform beam distribution at 50% of the maximum power specification. Slight cosmetic damage—which may occur at power densities as low as  $3 \text{ kW}/\text{cm}^2$ —does not affect calibration accuracy.

### Mechanical Details



### $R_v$ Spectral Correction for PowerMax Coatings

