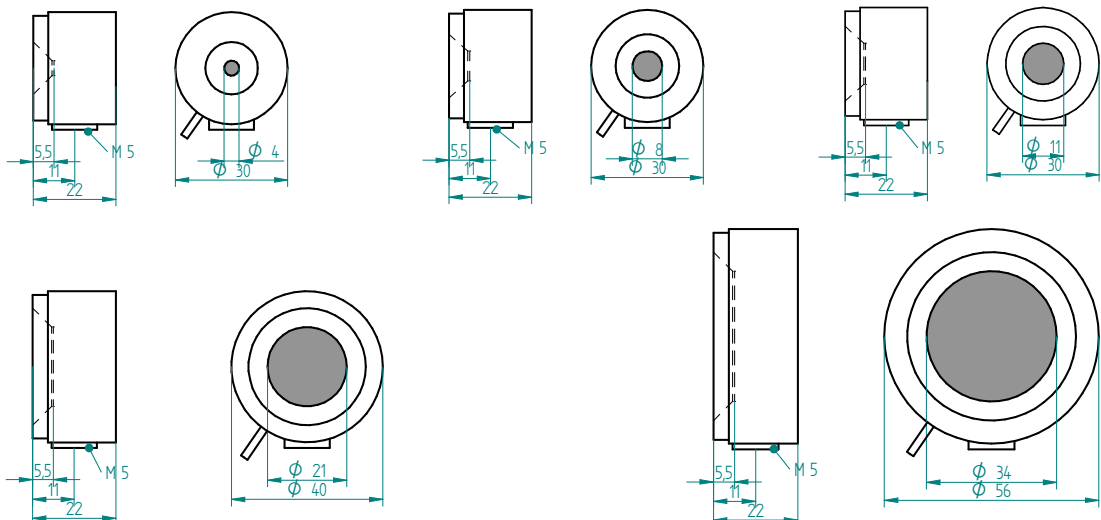


## Series PEM Standard

The detectors are coated with a black absorption layer which possesses an almost constant absorption in the wavelength range from 185 nm to 25  $\mu\text{m}$ . Particularly beneficial is the comparatively high sensitivity of the detectors which without an additional amplifier and due to the insensitivity to interferences permits laser pulse measurements in the  $\mu\text{J}$  range.

The maximum pulse repetition rate depends on the internal capacitance of the detector as well as the load resistor. All detectors can be directly connected using the BNC connector to the 1 MOhm-Input of an oscilloscope. A small load resistor can be used to obtain the highest pulse repetition rate. Repetition rates of up to 100 Hz are then possible. Load resistors of 100 KOhm are part of the deliverable assortment. The corresponding sensitivity of the sensors is also specified.



Type	PEM 4	PEM 8	PEM 11	PEM 21	PEM 34
active diameter	4 mm	8 mm	11 mm	21 mm	34 mm
working range with oscilloscope	1 µJ .. 10 mJ	2 µJ .. 30 mJ	3 µJ .. 70 mJ	5 µJ .. 200 mJ	15 µJ .. 500 mJ
sensitivity in V/J	500..1000 at 1 MΩ 130..250 at 100 kΩ	200..500 at 1 MΩ 50..200 at 100 kΩ	100..400 at 1 MΩ 50..150 at 100 kΩ	50..150 at 1 MΩ 30..80 at 100 kΩ	20.. 70 at 1 MΩ 10..40 at 100 kΩ
Repetition rates with oscilloscope	80 Hz at 1 MΩ 120 Hz at 100 kΩ	40 Hz at 1 MΩ 100 Hz at 100 kΩ	40 Hz at 1 MΩ 80 Hz at 100 kΩ	25 Hz at 1 MΩ 50 Hz at 100 kΩ	25 Hz at 1 MΩ 80 Hz at 100 kΩ
working range with PEM 710	0.1 µJ .. 10 mJ	0.2 µJ .. 30 mJ	0.3 µJ .. 70 mJ	0.5 µJ .. 200 mJ	1.5 µJ .. 500 mJ
Repetition rates with PEM 710	500 Hz	250 Hz	250 Hz	100 Hz	75 Hz
max. pulse duration	2 ms				
spectral range	0,19 .. >25 µm				
power density	8 MW/cm <sup>2</sup>				
energy density	80 mJ/cm <sup>2</sup> (10 ns - pulse); 160 mJ/cm <sup>2</sup> (20 ns - pulse)				
average power	0,15 W/cm <sup>2</sup>				
accuracy	2 %				
dimension (diameter · length)	30 mm x 22 mm	30 mm x 22 mm	30 mm x 22 mm	40 mm x 22 mm	56 mm x 22 mm
connector	BNC cable length 1.5m, E-connector with EEPROM				

