

5705

Faraday Cup Electrometer (FCE)

The reliable reference for nanoparticle counting

- SI traceable reference
- No consumables



Features

- All in one, ready to use solution together with GRIMM 5706 DMA controller
- Fast response time and data sampling rate up to 16 Hz
- Detection of positively and negatively charged particles
- Capable of handling various flowrates
- Sensitivity: 0.1 fA at 1 Hz
- Rinsing air design to minimize leakage currents

Technical data

Detector type	Faraday Cup Electrometer
Sensitivity	0.1 fA at 1 Hz
Noise level	0.35 fA
Maximum current	$\pm 4\,000$ fA
Maximum particle concentration	1.5×10^6 singly charged p/cm ³
Response time	$t_{10} \dots t_{90}$: 200 ms
Feedback resistor	1 T Ω \pm 10% (measured with an accuracy of 1%)
Sample flow rate	1 ... 5 l/min
Rinsing air flow rate	0.6 l/min

Benefits

- SI traceable reference
- High precision at low and high currents
- No consumables
- Rugged, compact and reliable
- GRIMM 5475 nano software for Counters

Power supply	12 VDC \pm 10% (< 100 mA)
Output	$3x \pm 0 \dots 10$ V
Gains	G1 = ± 4 fA/V G2 = ± 40 fA/V G3 = ± 400 fA/V
Operating conditions	<ul style="list-style-type: none"> ▪ Ambient temperature: 0 ... 40 °C (32 ... 104 °F) ▪ Ambient humidity: 0 ... 95% RH, non-condensing ▪ Absolute pressure range: 600 ... 1 100 mbar
Dimensions (h x w x d)	19 x 9 x 9 cm (7.5 x 3.5 x 3.5 inch)
Weight	1.36 kg (3.0 lbs)



FCE in SPMPS+E setup



FCE in SMPS+E with ESS setup