

# Calibration Unit

for the MD8 Series of Air Samplers



①: Calibration unit    ②: MD8 airscan    ③: Air Port MD8

The portable Sartorius 16756 calibration unit has been specifically developed for the flow rate calibration of the MD8 series of air samplers, such as the MD8 airscan or AirPort MD8 (the latest model in the series).

By employing this calibration unit, users of the MD8 air samplers are able to precisely calibrate their instruments themselves.

Calibration of the MD8 is done by connecting the two units inline and measuring the actual volume of air passing through the calibration unit at the indicated flow rates.

The software in the MD8 airscan | AirPort MD8 provides a calibration menu, enabling the nominal flow rates displayed on this instrument to be adjusted to the actual values measured by the calibration unit connected to it.

Exact calibration of the sampled air flow rates is especially needed to fulfill validation requirements.

The calibration unit can be battery or mains operated, and is supplied complete with connectors, a connecting hose and a filter holder.

## Specifications

Flow rate measurement:	Cylindrical piston gas meter
Measuring range:	min. 1 m <sup>3</sup> /h max. 16 m <sup>3</sup> /h
Max. error of the measuring system:	±2% (1 m <sup>3</sup> /h–16 m <sup>3</sup> /h)
Measuring signal:	2500 pulses = 1 m <sup>3</sup>
Measuring range of the frequency measurement:	0.6 Hz – 12 Hz
Accuracy:	±0.005 Hz
Automatic shutoff after 1 minute at a frequency of:	< 0.4 Hz
RS232 serial interface:	19,200 baud, 8 data bits, 1 stop bit, no parity

Current consumed by measurement electronics:	
Quiescent current:	120 µA
Operating current:	225 mA
Battery pack:	NiCd battery pack 9.6 V
Capacity:	1000 mAh
Dimensions of the battery pack:	96 × 28 × 28 mm
Weight of the battery pack:	205 g
Hours of operation with fully charged battery pack:	approx. 4 h
Time it takes to load a completely discharged battery pack:	approx. 10 h

**Battery monitoring\*:** Automatic charging module

When the calibration unit is operated on mains (AC) power, the battery pack is charged through an automatic charging module. Once the preset end-of-charging voltage (10.6 V) is reached, the charging current (100 mA) is automatically reduced. This prevents the battery pack from overcharging.

**Power supply requirements:** 14.5 V DC 530 mA

**Allowable ambient temperature of the calibration unit:** 0°C ... +40°C

**Type of protection:** IP 40 during operation with filter holder, connector and PVC hose

**Numerical display of flow rate on the LCD (in m<sup>3</sup>/h and l/min):** Alphanumerical display of 4 × 20 pixels

**Weight of the calibration unit without accessories:** Approx. 11 kg

**Dimensions:** Length = 300 mm (without filter holder)  
Width = 390 mm (with handles)  
Height = 182 mm min., 200 mm max. (rotating feet)

**Type of connector on the inlet and outlet ports for the filter holder and MD8 airscan | AirPort MD8:** Bayonet-design quick connect

\* The calibration unit can be run continuously on the battery charger without overloading the rechargeable battery pack. The unit can also be used during recharging (run on mains | AC power supply). We recommend leaving the calibration unit connected to the battery charger | power supply unit when it is not being used to prevent the rechargeable batteries from becoming completely discharged.

### Equipment Supplied and Filters Required



#### Equipment Supplied for the 16756:

- ①: Calibration unit
- ②: Battery charger | power supply unit: Specific for the country in which it is used
- ③: Filter holder: 17655
- ④: Set of connectors: 17657, consisting of 17658 (for connecting the MD8 airscan to the hose) and 17659 (for connecting the hose to the calibration unit)
- ⑤: PVC hose (2 m): 17085

#### Filters Required:

Filters are not supplied with the calibration unit, as calibration should be carried out with the type of gelatin filters you have available for use with your MD8 series air sampler, i.e., either gelatin filter units (order no. 17528-080) or gelatin disc filters (order no. 12602-080).

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