

Dry the aerosol stream for accurate data



Aerosol Inlet Dryer

KEY FEATURES

- Nafion® membrane technology
- Sample flow rate to 5 LPM
- Excellent drying efficiency – up to 14°C decrease of dew point
- Extremely low particle loss – < 4 %
- 100% compatible with AE33 Aethalometer®
- Fully functional as stand-alone device

APPLICATIONS

- Ambient Air Quality monitoring in humid locations
- Laboratory aerosol studies
- Direct combustion emissions measurement
- Low temperature sampling (drying does not affect volatiles)



Manufactured in Europe by
Aerosol d.o.o., Ljubljana, Slovenia

Product specifications

MEASUREMENT PRINCIPLE

Removal of water vapor from sample stream by diffusion through Nafion® membrane into low-pressure purge air surround. No interference with free flow of aerosol stream. Purge air pressure reduction provided by vacuum pump (supplied).

PERFORMANCE

- Sample air flow: up to 5 LPM
- Drying efficiency: 14 °C reduction of dew point @ input TD = 22 °C
- Particle loss: < 4 %
- Temperature display accuracy: 0.2 °C
- Relative humidity display accuracy: 2%

ENVIRONMENTAL OPERATING CONDITIONS

- Indoor use only; environmental protection IP X0
- Temperature range: 10 – 40 °C, non-condensing

AIR CONNECTORS

- Sampling air: inlet / outlet type – ¼" NTPF
- Purge air, vacuum pump connection: 1/8" NTPF
- Purge air flow: 4 LPM
- Drying pressure: -700 mBar

ELECTRICAL CONNECTORS

- USB Type B (for supply only)
- RS232 serial interface for data export
- Chassis functional grounding

USER INTERFACE

- Display: 4 x 20 alphanumeric character display
- LED status indicators: Red, Yellow, Green
- Vacuum gauge/ Vacuum adjustment screw

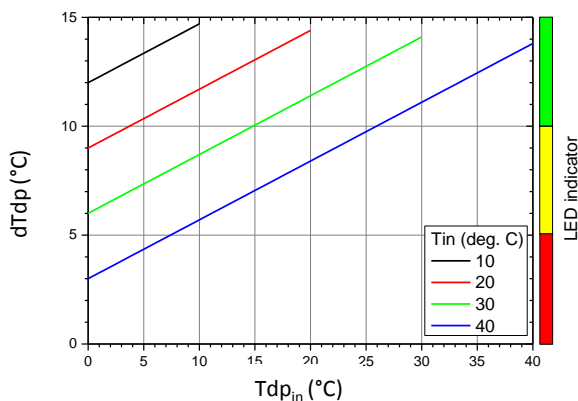
PHYSICAL SPECIFICATIONS

- Length: 82 cm, Diameter: 11 cm
- Weight: 4.5 kg
- Power requirement 5 V DC, 100 mA via USB cable (supplied)

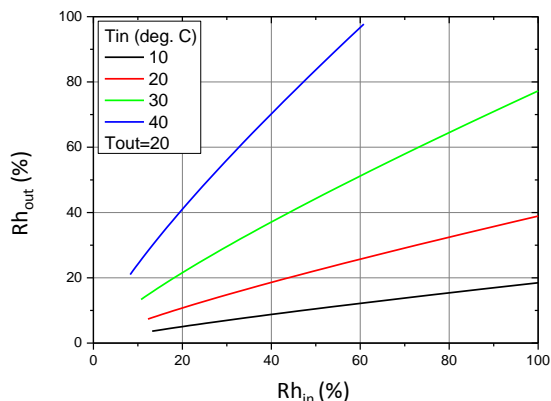
EXTERNAL PUMP included

- KNF Neuberger model N838.1.2.KN.18-230V/50 Hz (EU) / N838.1.2.KN.18-115V/60 Hz (US)
- Flow: 37 LPM free air, 5 LPM at vacuum 300mbar abs.
- Maximum vacuum: 100 mbar abs
- Dimensions: 402x121x110 mm
- Weight: 6.8 kg

Aerosol Inlet Dryer performance charts.



dT_{dp} = reduction of sample air dew point temperature
T_{dp,in} = dew point temperature of inlet air
T_{in} = temperature of inlet air



RH_{out} = relative humidity of outlet air
RH_{in} = relative humidity of inlet air
T_{out} = temperature of outlet air
T_{in} = temperature of inlet air

The **Aerosol Inlet Dryer** was designed for use with the Aethalometer® Model AE33, but will remove water vapor from a sample stream for any other analytical purpose.

Reference:

World Meteorological Organization / Global Atmospheric Watch, Aerosol Measurement Procedures: Guidelines and Recommendations. TD No. 1178, September 2003



Scan the code for more info

GENERAL INQUIRIES:

Aerosol d.o.o., Kamniška 41, SI-1000 Ljubljana, Slovenia
tel: +386 1 439 1700 fax: +386 59 191 221 sales@aerosol.eu

US, Mexico, Canada:
Magee Scientific Corp., 1916 M.L. King Jr. Way,
Berkeley CA 94704, USA tel: +1 510 845 2801 fax: +1 510 845 7137
sales@mageescientific.com

or the distributor responsible for your country.