

# 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)

## 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

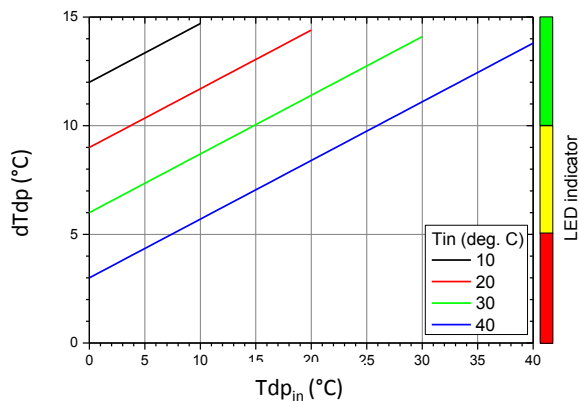
### PHYSICAL SPECIFICATIONS

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

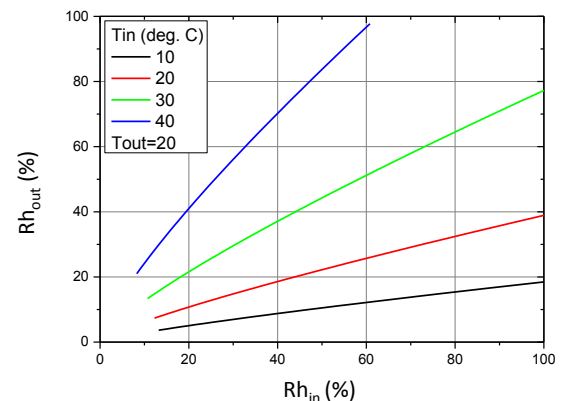
### EXTERNAL PUMP included

- 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<sub>dp</sub> = reduction of sample air dew point temperature  
T<sub>dp,in</sub> = dew point temperature of inlet air  
T<sub>in</sub> = temperature of inlet air



RH<sub>out</sub> = relative humidity of outlet air  
RH<sub>in</sub> = relative humidity of inlet air  
T<sub>out</sub> = temperature of outlet air  
T<sub>in</sub> = 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.



Scan the code for more info

Contact Benchmark Monitoring for more information:

M: +(614) 0166 6077  
F: +(612) 4938 2076  
P: +(612) 4016 8589

E: sales@benchmarkmonitoring.com.au  
W: www.benchmarkmonitoring.com.au

A: U5 / 17 Enterprise Crescent, McDougalls Hill NSW 2330 Australia