



thermo scientific

PRODUCT SPECIFICATIONS

Personal DataRAM pDR-1500 Monitor

Active, real-time aerosol monitor/data logger with aerodynamic sizing

The Thermo Scientific™ Personal DataRAM pDR-1500 Portable Monitor is a fully integrated, real-time, high precision sampling instrument that provides maximum ease-of-use and increased operating time.

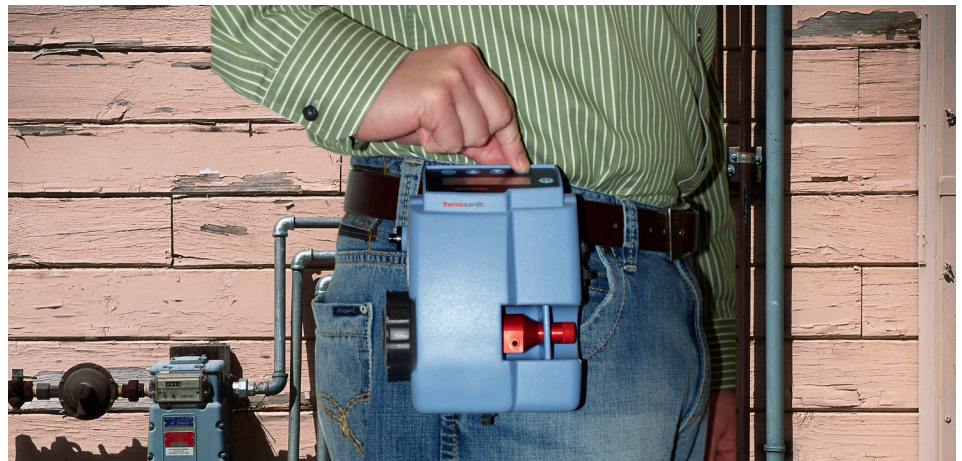
Features

- True volumetric flow control
- Interchangeable cyclones for higher accuracy cut points
- Personal aerosol instrument with benchtop performance
- Full compensation for environmental variables
- Suitable for NIOSH Methods 0500 and 0600

Introduction

The pDR-1500 personal DataRAM is designed for applications such as site remediation, size discrimination, mass validation, exposure modeling, and protection of asthma patients.

The pDR-1500 personal DataRAM accurately measures aerosol



concentration in real-time, with relative humidity compensation, true volumetric flow control and legacy pDR nephelometry. An integrated sample filter enables post-gravimetric validation of data.

Superior particle-cut points compared to those achievable using impactors are

delivered through volumetric flow control and ACGIH traceable cyclones, available in pairs, for PM10 and PM4 or PM2.5 and PM1. A toroidal entrance assures optimized aerosol aspiration and a representative sample even without a cyclone.



Thermo Scientific™ Personal DataRAM
pDR-1500 Monitor

Thermo Scientific Personal DataRAM pDR-1500 Monitor

| Specifications | |
|---|---|
| Concentration measurement range | 0.001 to 400 mg/m ³ range (auto ranging) ¹ |
| Scattering coefficient range | 1.5 × 10 ⁻⁶ to 0.6m ⁻¹ (approx.) @ lambda = 880nm (not displayed) |
| Precision/repeatability over 30 days | ± 2% of reading or ± 0.005 mg/m ³ , whichever is larger, for 1 second (2-sigma) ² averaging time ± 0.5 of reading or ± 0.0015 mg/m ³ , whichever is larger, for 10 second averaging time ± 0.2% of reading or ± 0.0005 mg/m ³ , whichever is larger, for 60 second averaging time |
| Accuracy ¹ | ±5% of reading ± precision (traceable to SAE Fine Test Dust) |
| Resolution | 0.1% of reading or 0.001 mg/m ³ , whichever is larger |
| Particle size range of max. response | 0.1 to 10 µm |
| Aerodynamic particle cut-point range | 1.0 to 10 µm |
| Flow rate range | 1.0 to 3.5 liters/minute |
| Concentration display updating interval | 1 second |
| Concentration display averaging time ³ | 1 to 60 seconds (user selectable) |
| Data logging averaging periods ³ | 1 second to 1 hour |
| Total number of data points logged in memory | > 500,000 |
| Number of data tags | 99 (maximum) |
| Logged data | Averaging concentration, temperature, RH, barometric pressure, time/date, and data point number |
| Readout display | LCD 16 characters (4 mm height) × 2 lines |
| Serial interface | USB / RS-232, 19, 200 baud |
| Computer requirements | IBM-PC compatible, 486 or higher, Windows 95® or higher, ≥ 8 MB memory, hard disc drive 3.5" floppy, VGA or higher resolution monitor |
| Real time analog signal | 0 to 2V and 4 to 20 mA. Selectable full scale ranges of: 0 – 0.1, 0 – 0.4, 0 –1.0, 0 – 4.0, 0 –10, 0 – 40, 0 –100, and 0 – 400 |
| Internal battery run time | 4 AA alkaline, > 24 hour run time, 5 V peak-to-peak @ 1.2 L/min; > 6 hour @ 3.5 L/min |
| Run time @ 25° C | Run time may vary with temperature |
| Current consumption | 70 to 450 mA (in run mode); 32 mA (in ready mode) |
| Operation environment | -10° to 50°C (14° to 122°F), 10 to 95% RH, non-condensing |
| Storage environment | -20° to 70°C (-4° to 158°F) |
| Dimensions (max external) | 181 mm (7.1") H × 143 mm (5.6") W × 84 mm (3.3") D |
| Weight | 1.2 kg (41 oz) |

Notes

1. Referred to gravimetric calibration with SAE Fine (ISO Fine) test dust (mmd = 2 to 3 µm. g = 2.5, as aerosolized)
2. At constant temperature and full battery voltage
3. User selectable

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific products.

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