



EMERGENCY RESPONSE MOBILE HIGH VOLUME AIR SAMPLING SYSTEM MODEL DF-ERHV-DTE-PUF

NOTABLE FEATURES:

- Digital Flow Meter Flow Management Electronics
- Display in English or metric units set at factory
- Choices of flow/volume units:
SLPM SL
SCMH SCM
SCFM SCF
- State of the Art microprocessor electronics
- Automatic flow control
- Auto Shut-off on time or volume
- Flowrate and volume totalizations displayed are corrected to a factory settable Reference Temperature (T) and Pressure (P) (4 options available)
- Elapsed time meter
- Auto zero calibration feature of flow sensor
- Bright LED display
- Flowrate accuracy within $\pm 4.0\%$ F.S.
- RS-232 Communication Port w/Operator selectable download frequency for real-time data
- 220 – 240 VAC, 50/60Hz; single phase



DF-ERHV-DTE-PUF coupled to FJ-TP4PUF
Tripod Mounted Filter Holder.
DFM Electronic
Flow Management System

GENERAL DESCRIPTION:

The DF-ERHT-DTE-PUF Series Mobile High Volume Air Sampling Systems are designed for emergency response continuous air sampling applications. The DF-ERHV-DTE-PUF Series Air Samplers feature a brushless motor with electronic motor speed control that maintains a user selectable flowrate. The flow rate range attainable through the filter media is dependent upon the air porosity of the filter media. Flow rates as high as 56 to 400 SLPM are attainable with 3" long (unwashed) Poly-Urethane Foam (PUF) and 4" Quartz Filter Paper. The DF-ERHV-DTE-PUF Series design accommodates mobile transport rapid field service and set up in the field.

For mobility and durability, the air sampler is housed in a rugged weather resistant polypropylene enclosure with wheels and multiple handles. The tripod, accessories and consumables are stored in an identical heavy duty polypropylene case. The air sampler is connected to the discharge port of the filter holder mounted on the tripod by a rugged flexible plastic hose.

The electronic flow control measurement sub-system of the DF-ERHV-DTE-PUF Series provides a normalized flow measurement to a Reference T and P and an operator selectable constant flow of air through the filter medium. The air flow is measured by a precision-machined differential pressure sensor. The controller can be readily set to any sampling flow rate between 56 to 400 SLPM (2 to 14 CFM) depending on the filter paper air resistance and dimensions. The bright LED readout displays multiple air sampling information including current flow rate, elapsed sample time and totalized volume. The optional filter holder can be custom designed to accommodate any filter size and type. The DF-ERHV-DTE-PUF model connects to a TP-4 tripod mounted filter holder via a rugged plastic conduit. The tripod and filter holder system is stored in a heavy duty mobile plastic storage transportation case.

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Performance:

Basic components of the system are modular and independently serviceable.

Technology: Microprocessor controlled state-of-the-art electronics

Operating Temperature Range: 0°F* to 122°F (-17°C* to 50°C)
* warm start/continuous operation

Operating Relative Humidity: 0 – 95% RH

Typical Flow Rate Range*: 56 to 400 SLPM (2 to 14 SCFM)
(Depending on filter paper dimensions and air resistance).
* Approximate value for 102mm quartz paper plus 3” PUF filter

Motor: Brushless: 1.5 H.P.(1100 Watt) motor with electronic motor speed control

Power: 220-240VAC; 50/60Hz; 5 amperes; single phase.

Housing: Dual heavy duty polypropylene cases with strong ABS latches and wide-track polyurethane wheels. Features stainless steel pins, hardware, and padlock protectors.

Dimensions: 48.00in x 17.00in x 14.00in (121.92cm x 43.18cm x 35.56)

Weight: 53 lbs. (24 kg.)

Shipping Weight: ~ 75 lbs. (34 kg.)

Installation Category: Pollution Degree 3

Enclosure Rating: IPX3

Automatic Flow Control:

The system microprocessor monitors flow rate relative to the preset STP flow rate established during the setup procedure and electronically adjusts the electronic motor speed if necessary, to maintain the flow within $\pm 4\%$ of setting. The microprocessor computes the STP flow rate by correcting for temperature and pressure observed at field conditions

On-Board Measurement, Calculations and Other System Features

Measurements:

- Temperature of air flow through system
- Inlet pressure to the flow sensor
- Differential Pressure of the flow sensor

Calculations/Determinations:

- Totalized volume, STP
- Current flow rate, STP
- Elapsed time

Factory Settable Reference T and P

Classical STP 0°C, 1 ATM
Normal T and P 20°C, 1 ATM
Modified Normal T and P 70°F, 1 ATM

Other System Features:

- Automatic shut off of system on totalized volume or elapsed time
- RS-232 port for real-time data download
- Bright LED display
- Automatic flow control

OPTIONS:

- Data Storage Device (P/N: 232FCDS D)
- 2 GB Secure Digital Card (P/N: 372239)
- Flash card Reader (P/N: SDDR-199-A20)
- Ruggedized Cellular Phone (P/N: CASRPS-DFM)