



## EMERGENCY RESPONSE MOBILE HIGH VOLUME AIR SAMPLING SYSTEM MODEL DF-ERHV-DT

### 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
- 100 – 120 VAC, 50/60Hz; single phase



DF-ERHV-DT  
Digital Flow Meter  
Electronic Flow Management System  
Mobile High Volume Air Sampler

### GENERAL DESCRIPTION:

The DF-ERHV-DT Series Air Sampling Systems are designed for temporary or emergency response continuous air sampling applications. The DF-ERHV-DT Series Air Samplers feature a brushless motor with electronic motor speed control that maintains a user selectable flow rate. The flow rate range attainable through the filter media is dependent upon the air porosity of the filter media. Flow rates as high as 119 m<sup>3</sup>/hr (70 CFM) are attainable with certain glass fiber filter media. The DF-ERHV-DT Series design accommodates rapid field service and component replacement.

For mobility, 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 DF-ERHV-DT model utilizes an 8"×10" (20,3×25,4 cm) filter. The 8" x 10" (20,3cm x 25,4cm) filter holder is stored in its own enclosure.

The electronic flow control measurement sub-system of the DF-ERHV-DT Series provides an operator selectable reference standard corrected flow measurement and a constant flow of air through the filter medium. The air flow rate is measured by a precision-machined DP sensor. The controller can be readily set to any sampling flow rate between 17 - 119 m<sup>3</sup>/hr (10 – 70 CFM). The flow rate obtainable depends on the filter paper air flow resistance.

REV: 25 July 2019

### Performance:

Basic components of the system are modular and independently serviceable. Sample flow rate can be set between 17 - 136 m<sup>3</sup>/hr (10 – 80 CFM).

**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:** 10 – 70 CFM (17 and 119 m<sup>3</sup>/hr)  
(Depending on filter paper dimensions and air resistance).

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

**Power:** 100-120VAC; 50/60Hz; 9.5 amperes; single phase.

**Housing:** Heavy duty polypropylene case with strong ABS latches and wide-track polyurethane Wheels. Features stainless steel pins, hardware, and padlock protectors.

**Dimensions Case 1 & 2:** [48.00in x 17.00in x 14.00in (121.92cm x 43.18cm x 35.56)]

**Dimensions Case 3:** [20.5in x 20.5 x 20.5 (52.07cm x 52.07cm x 52.07cm)]

**Weight:** 53 lbs. ( 24.0 kg.) Case 1; 40 lbs. (18.1 kg.) Case 2; 19.4 lbs. ( 8.7 kg.) Case 3

**Shipping Weight:** 75 lbs. ( 34.0 kg.) Case 1; 50 lbs. (22.7 kg.) Case 2; 25.2 lbs. ( 11.4 kg.) Case 3

**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
- Utilization of 8"×10" (20,3×25,4 cm) rectangular filter

### OPTIONS:

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