



# F&J SPECIALTY PRODUCTS, INC.

*The Nucleus of Quality Air Monitoring Programs*

## DIGITAL AIR MONITORING SYSTEM F&J MODEL DF-1515DTE

### NOTABLE FEATURES:

- 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 and Pressure (4 options available)
- Elapsed time meter
- Auto zero calibration feature of flow sensor
- Bright LED display
- Flow rate 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



### GENERAL DESCRIPTION:

The DF-1515DTE Series Air Sampling Systems are designed for remote unattended continuous air sampling applications. The DF-1515DTE Series Air Samplers feature a brushless motor with electronic motor speed control that maintains a user selectable flowrate. The flowrate range attainable through the filter media is dependent upon the air porosity of the filter media. The DF-1515DTE Series design accommodates rapid field service and component replacement.

The basic components of the system are assembled in a modular fashion so that each component can be readily and independently removed for service.

For durability and weather resistance, the system is housed in a freestanding powder coat painted aluminum enclosure. The sample air is drawn in under the eaves of the hinged lid from all four sides and is exhausted near the bottom of the enclosure. The locking swing door on the enclosure provides convenient access for servicing the equipment inside. A lockable latch on the top cover restricts unauthorized tampering with the filter holder.

The electronic flow control measurement sub-system of the DF-1515DTE Series provides a standard flow measurement and a 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 20 and 70 CFM (560-1980 LPM) depending on the filter paper air resistance and dimensions. The bright LED readout displays multiple air sampling information including current flow rate, current elapsed sample time and totalized volume. The filter holder can be custom designed to accommodate any filter size and type. The DF-1515DTE model utilizes an F&J low profile 8"×10" (20,3×25,4 cm) filter.

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**Performance:**

Basic components of the system are modular and independently serviceable. Sample flow rate can be set between 20 and 70 CFM (560 and 1980 LPM). Filter holder is a 8"×10 (20,3×25,4 cm) diameter standard.

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

**Operating Temperature Range:** 11°F\* to 122°F (-10°C\* to 50°C)  
\*warm start/continuous operation

**Operating Relative Humidity:** 0 – 95% RH

**Typical Flow Rate Range:** 20 – 70 CFM (560 to 1980 LPM)  
(Depending on filter paper dimensions and its air flow resistance).

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

**Power:** 220-240VAC; 50/60Hz; 6 amperes; single phase.

**Housing:** Powder coat painted aluminum      Locking hinged cover  
Removable hinged cover                      Locking swing door with key

**Dimensions:** 50.8"H × 19.0"W × 19.0"D                      (129 H × 48,2 W × 48,2 cm D)

**Weight:** Approximately 70.4 lbs. 31, kg)

**Shipping Weight:** Approximately 120 lbs. (54,4 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 adjustment, if necessary, to maintain the flow within ± 4% of setting. The microprocessor computes the STP flow rate by correcting for temperature and pressure.

## 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
Standard Ambient T and P	25°C, 1 ATM

**Other System Features:**

- Automatic shut off of system on totalized volume or elapsed time
- RS-232 port for real-time data download
- Utilization of 8"×10" (20,3×25,4 cm) filters
- Bright LED display
- Automatic flow control

**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)

**TYPICAL MAXIMUM FLOW RATES  
1100 WATT VACUUM SYSTEM**

<b>STANDARD F&amp;J HINGED 8 X 10 FILTER HOLDER</b>						
<b>Filter Paper (8" X 10")</b>	<b>Maximum Flow Rate (m<sup>3</sup>/hr)</b>		<b>Maximum Flow Rate (LPM)</b>		<b>Maximum Flow Rate (CFM)</b>	
	<b>60 Hz</b>	<b>50 Hz</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>60 Hz</b>	<b>50 Hz</b>
FP810	130	108.2	2175	1811.7	76.8	63.9
FP810M	165	137.4	2765	2303.2	97.6	81.3
GC508X10IN	120	99.9	2013	1676.8	71.1	59.2
5211810	136	113.2	2278	1897.5	80.4	66.9
GC908X10IN	132	109.9	2215	1845.0	78.2	65.1
PG60	136	113.2	2278	1897.5	80.4	66.9
EPM2000	131	109.1	2185	1820.1	77.1	64.2
GA558X10IN	125	104.1	2088	1739.3	73.7	61.3
WH4140	126	104.9	2108	1755.9	74.4	61.9
C-569 (Yellow)	136	113.2	2280	1899.2	80.5	67.0
C-577 (Pink)	111	92.4	1855	1545.2	65.5	54.5
0054-0810	131	109.1	2195	1828.4	77.5	64.5
QR1008X10IN	112	93.2	1876	1562.7	66.2	55.1

## Digital Flow Meter Air Sampler Features

### Operator Selectable Options:

Shut off Type	
On Time	0 min to 168 hours
On Volume	0 to 9.99×10 <sup>99</sup>
RS232 Output Frequency	1/sec, 1/min,1/6min,1/hr
Automatic Flow Control:	Operator selectable within the instrument's operating flow range

### Factory Settable Options:

Flow/Volume units	sccm/scc, SLPM/SL, SCFM/SCF, sm <sup>3</sup> /hr, sm <sup>3</sup> /min
Temperature units	°C, °F
Pressure units	in.Hg, mmHg, kPa
Reference Temperature	0°C, 20°C, 70°F, 25°C
Reference Pressure	29.92 inHg (760 mmHg)
Display Dimming Function	On or Off
Auto Shut-off Function	On or Off
Flow Control	On or Off
Sampling Mode	Volumetric
Gas Type	Air
Language Options for Label	English, French

