

# F&J SPECIALTY PRODUCTS, INC.

*The Nucleus of Quality Air Monitoring Programs*

## HEAVY DUTY MOBILE LOW VOLUME AIR SAMPLER w/DIGITAL FLOWMETER MODEL DF-14MHT



### GENERAL DESCRIPTION:

The Model DF-14MHT heavy duty hand truck mounted mobile low volume air sampler with digital flowmeter and an adjustable, aluminum sampling gooseneck. The adjustable gooseneck permits sampling at heights varying from 4' to 7' above floor level. Model DF-14MHT contains state of the art microprocessor electronics, which provides for corrected flow rate measurements, volume totalizations, and an RS232 communications port. It has a large bright LED display.

The DF-14MHT Air Sampler includes an oil-less, carbon vane vacuum pump with a constant airflow regulator for use where a nearly constant airflow is desirable. The regulator holds a constant pressure drop across an in-line orifice by varying the flow through a bypass valve into the pump. This system allows the pump to work at a minimum pressure drop at all times, permitting it to run cooler, thus extending its lifetime. The oil-less pump requires no lubrication to maintain optimal efficiency during its service life. The pump is mounted on a rugged hand truck with two 11" diameter pneumatic tires to facilitate mobile transportation of the unit.

The typical operating flow range is 0.5 to 4 CFM (14 to 115 LPM).

### NOTABLE FEATURES:

- Display in English or metric units set at factory
- Choices of flow/volume units:
 

sccm	scc
SLPM	SL
SCMH	SCM
SCFM	SCF
- State of the Art microprocessor electronics
- Flowrate and volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
 

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
- Elapsed time meter
- Auto zero calibration feature of flow sensor
- Bright LED display
- Flow rate accuracy within  $\pm 4\%$  F.S.
- RS-232 Communication Port w/Operator selectable download frequency for real-time data
- 110 – 120 VAC, 50/60Hz; single phase

### OPTIONS:

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

### STANDARD COMBINATION FILTER

#### HOLDERS:

<u>FILTER HOLDER MODEL</u>	<u>CHARCOAL CARTRIDGE DIMENSIONS</u>	<u>PARTICULATE PAPER DIAMETER</u>
FJ-05P	F&J Model B	2" or 50 mm
FJ-21P	F&J Model C	2" or 50 mm
FJ-35P	F&J Model B	47 mm
FJ-46P	F&J Model C	47 mm
FJ-51P	F&J Model M	2" or 50 mm
FJ-53P	F&J Model M	47 mm

# DF-14MHT DIGITAL LOW VOLUME AIR SAMPLER (110-120VAC)

## SPECIFICATIONS:

### PUMP TYPE:

Oil-less, carbon vane 1/4 HP, 1725 RPM @ 60 Hz

### MAXIMUM CAPACITY:

4 CFM (115 LPM) at 0" Hg Pressure drop

**ULTIMATE VACUUM:** 25" (635 mm) Hg at sea level

### POWER REQUIREMENTS:

110 – 120VAC, 50/60 Hz; 6 amperes; single phase

**CIRCUIT BREAKER PROTECTION:** 10 amperes

**ELECTRICAL CORD:** All temperature, 3 wire, 14 gauge

### THERMAL OVERLOAD PROTECTION:

Furnished as an integral part of the motor

**CONSTANT AIRFLOW REGULATOR:** Aluminum construction with silicone diaphragm; adjustable from 0.5 to 4 CFM (15-115 LPM)

**DIMENSIONS:** 21" L × 19" W × 55" H (53×48×140 cm)

### SAMPLING GOOSENECK:

Adjustable to 7' (213 cm); sturdy aluminum

**WHEELS:** 11" D pneumatic tires

**WEIGHT:** 67 lbs. (30,5 kg)

**INSTALLATION CATEGORY:** Pollution Degree 2

**OPERATING TEMPERATURE RANGE:** 32°-104°F (0°-40°C)

## ELECTRONIC SPECIFICATIONS:

### MEASUREMENT ACCURACY:

Air flow: +/- 4% of full scale  
Temperature: +/- 2.0°F (1.1°C)  
Barometric Pressure: 2% over measured range

**CALIBRATION:** Calibration verification 1 per year

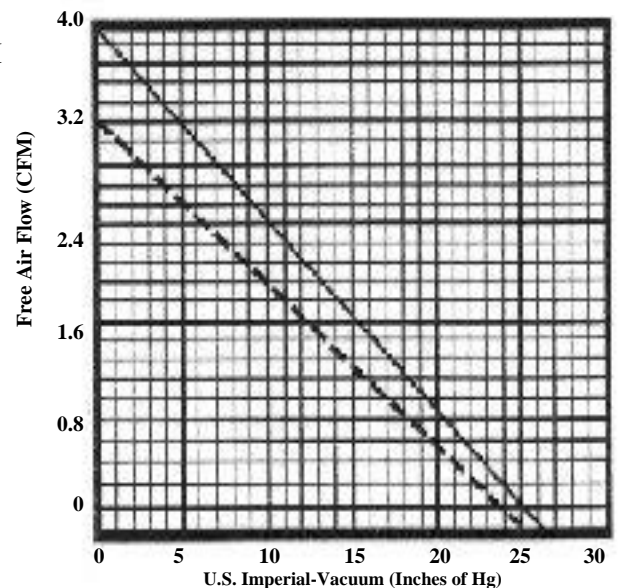
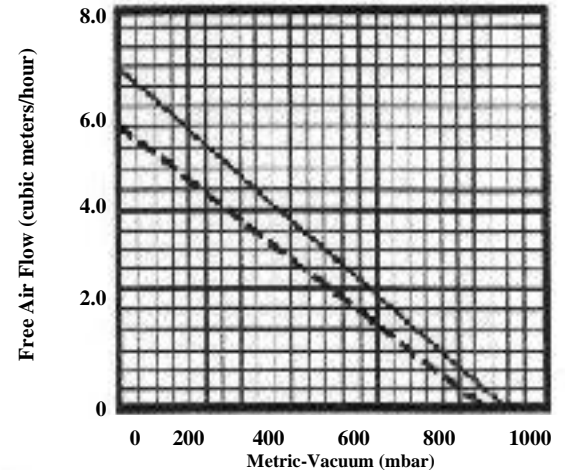
**COMMUNICATIONS INTERFACE:** RS-232

**ON-BOARD CALCULATIONS:** Flow calculation from differential pressure value using best-fit curve method  
Flow correction for standard temperature and pressure  
Auto-zero correction utilizing electro-pneumatic method to compensate for offset and drift (automatic, once every minute)

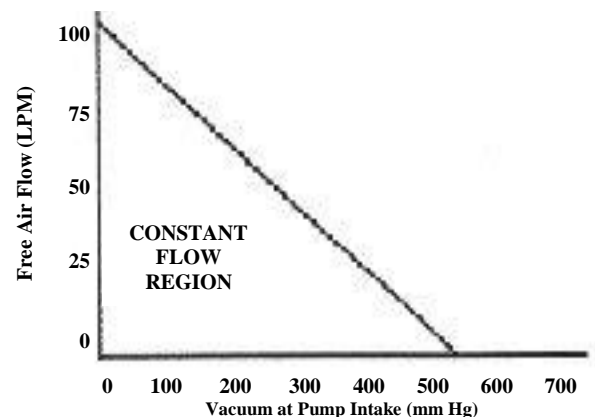
**COMBINATION FILTER HOLDER:** Durable plastic combination filter holders for F&J Model B, C or M charcoal cartridges and 47 mm, 2" or 50 mm diameter particulate filter paper are available. All models have quick-disconnect function.

## PUMP CURVE

Top line on curve is for 60-cycle performance  
Bottom line on curve is for 50-cycle performance



CONSTANT AIR FLOW REGULATOR CURVE  
TYPICAL PUMP OPERATING FLOW RANGE



F&J SPECIALTY PRODUCTS, INC.

PO Box 2888 Ocala, FL 34478 / Tel: (352) 680-1177 / Fax: (352) 680-1454 / Email: fandj@fjspecialty.com