



F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

MOBILE LOW VOLUME AIR SAMPLER with DIGITAL FLOWMETER MODEL DF-14M



GENERAL DESCRIPTION:

The Model DF-14M cart mounted mobile low volume air sampler with digital flowmeter has an adjustable, aluminum sampling gooseneck. The adjustable gooseneck permits sampling at heights varying from 4' to 7' above floor level. Model DF-14M 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-14M 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 mobile cart with two rubber wheels to permit mobile transportation of the unit.

The DF-14M Air Sampler is designed for indoor use.

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

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STANDARD FEATURES:

- Bright LED display
- Flowrate and volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
 - Classical STP 0°C, 760 mmHg
 - Normal T and P 20°C, 760 mmHg
 - Modified Normal T and P 21,1°(70°F), 760mmHg
 - Standard Ambient T and P 25°C, 760 mmHg
- Reference or ambient flow conditions are operator selectable
- Elapsed time meter
- RS-232 Communication Port w/Operator selectable download frequency for real-time data
- Storage of elapsed time and volume in the event of power outage
- Auto Shut-off on time or volume
- Choices of flow/volume units:
 - SLPM SL
 - SCMH SCM
 - SCFM SCF
- Display in English or metric units set at factory
- State of the Art microprocessor electronics
- Auto zero calibration feature of flow sensor
- Flow rate accuracy within $\pm 4\%$ F.S.
- 110 – 120 VAC, 50/60Hz; single phase

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

COMBINATION FILTER HOLDERS AVAILABLE:

FILTER HOLDER	CHARCOAL CARTRIDGE	PARTICULATE PAPER DIAMETER
MODEL #	DIMENSIONS	
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-14M Digital Low Volume Air Sampler Specifications (110-120VAC)

PUMP TYPE:	Oil-less, carbon vane ¼ HP, 1725 RPM @ 60 Hz
MAXIMUM CAPACITY:	4 CFM (115 LPM) @ 0" Hg Pressure drop
ULTIMATE VACUUM:	25" (635 mm) Hg @ sea level
POWER REQUIREMENTS:	110-120VAC; 50/60Hz; 6 amperes, single phase
CIRCUIT BREAKER PROTECTION:	10 amps
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 (14-115 LPM)
DIMENSIONS:	18"L×15"W×4' – 7'H (46×38×122 - 213 cm)
AVERAGE dB:	71.3
WEIGHT:	67 lbs. (30,4 kg)
INSTALLATION CATEGORY:	Pollution Degree 2
OPERATING TEMP. RANGE:	32° to 104°F (0° to 40°C)
SAMPLING GOOSENECK:	Adjustable 4' to 7' (122 cm – 213 cm) sturdy aluminum
WHEELS:	8", hard rubber

ELECTRONIC SPECIFICATIONS:

MEASUREMENT ACCURACY:

Air flow	± 4% of full scale
Temperature	± 2°F (1,1°C)
Barometric Pressure	2% over measured range

CALIBRATION: Factory calibration 1 per year

COMMUNICATIONS INTERFACE: RS-232 serial port

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)