

# ENVIRONMENTAL LOW VOLUME AIR SAMPLER WITH DIGITAL FLOW METER F&J MODEL DF-22E-2G

## NOTABLE FEATURES:

- Bright OLED 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°C, 760mmHg
Standard Ambient T and P	25°C, 760 mmHg
- Reference and ambient flow conditions are displayed
- Elapsed time meter (electronic)
- Storage of elapsed time and volume in the event of power outage
- Detection of zero flow condition after return of power to pause elapsed time until flow returns
- Auto shut-off on time or volume
- Selectable engineering units for flow and volume (to be set at factory)
 

<u>FLOW</u>	<u>VOLUME</u>
sccm	scc
SLPM	SL
SCMH	SCM
SCFM	SCF
- Internal Data Storage Downloadable as (.csv) file
- Data download via Type A USB port wired connection or through Bluetooth with optional Bluetooth Dongle for PC Device

## GENERAL DESCRIPTION:

The DF-22E-2G environmental air sampling system with digital flowmeter is a low-volume air sampler consisting of an oilless, carbon vane vacuum pump, with a constant air flow regulator for use where a nearly constant air flow 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 service life. The oilless pump requires no lubrication to maintain optimal efficiency during its service life. The pump is mounted on a removable base plate, which can be secured within the powder coat painted aluminum environmental weatherhouse, Model WH-3 having an enclosure rating of IPX3. The digital flowmeter has a large bright OLED display.

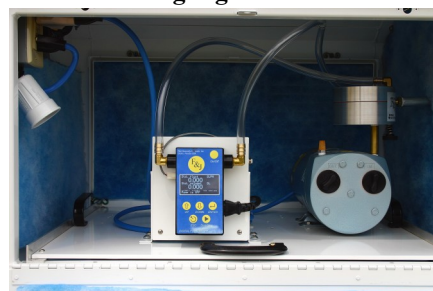
The DF-22E-2G environmental air sampling system is designed for continuous outdoor use. Please consult the product specifications for the design temperature range and the installation category. Standard product displays flow rate, elapsed time and totalized volume by operator selection.

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

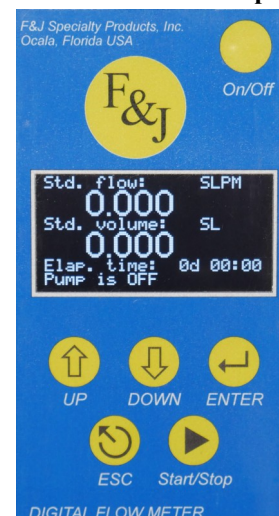
Full view illustrating the exterior gooseneck sampling system



View inside weather house illustrating digital flowmeter



DFM Main Screen Display



## SPECIFICATIONS:

**PUMP TYPE:** Oil-less, carbon vane, ¼ HP, 1725 RPM @ 60 Hz  
**MAXIMUM CAPACITY:** 4 CFM (115 LPM) at 0" Hg Pressure drop.

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

## POWER REQUIREMENTS:

200-240VAC; 50/60 Hz @ 3 amperes; single phase

**CIRCUIT BREAKER PROTECTION:** 6 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 (14-115 LPM).

**HANDLES:** 2-steel, on base plate

**DIMENSIONS:** 32"L × 26"W × 48 ¼" with Legs  
(81.3 × 66.0 × 122.6 cm)

**WEIGHT:** 112 lbs. (51 kg)

## OPERATING TEMPERATURE RANGE:

32°-104° F (0°- 40° C)

**INSTALLATION CATEGORY:** Pollution Degree 3

**ENCLOSURE RATING:** IPX3

**VOLUME TOTALIZER:** Volume totalizations corrected to STP. Units are factory set.

## ELECTRONIC SPECIFICATIONS:

### MEASUREMENT ACCURACY:

Air flow +/- 4.0% of full scale

Temperature +/- 2° F (1.1° C)

Barometric Pressure 2 % over measured range

**CALIBRATION:** Factory calibration 1 per year

**COMMUNICATIONS INTERFACE:** Type A USB 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).

### OPTIONS:

**SAMPLING HEAD:** External gooseneck sampling head mounted to weatherhouse

### COMBINATION FILTER HOLDER:

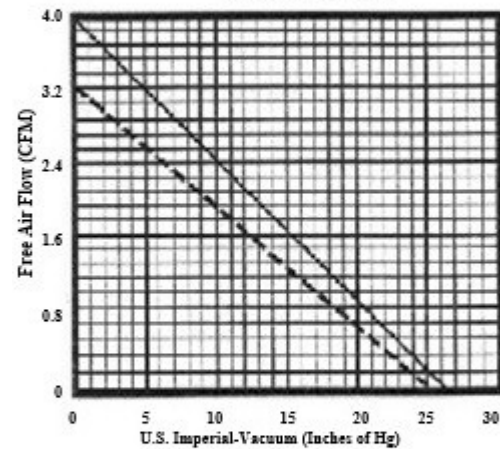
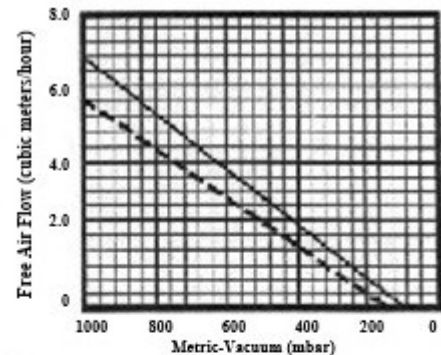
Durable plastic combination filter holders for F&J Model B, C or M charcoal cartridges and 47 mm, 2" or 50 mm diameter particulate filter paper are available. All models have quick disconnect function

### STANDARD COMBINATION FILTER HOLDERS:

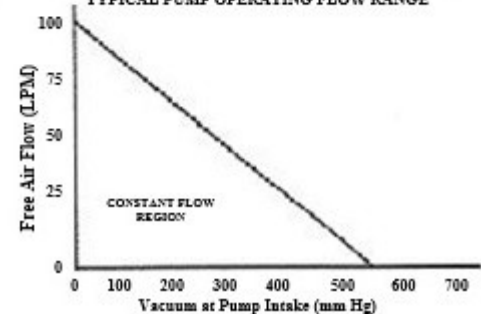
FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-05P	F&J MODEL B	2" or 50 mm
FJ-21P	F&J MODEL C	2" or 50 mm
FJ-35P	F&J MODEL B	47 mm
FJ-46P	F&J MODEL C	47 mm
FJ-51P	F&J MODEL M	2" or 50 mm
FJ-53P	F&J MODEL M	47 mm

## 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

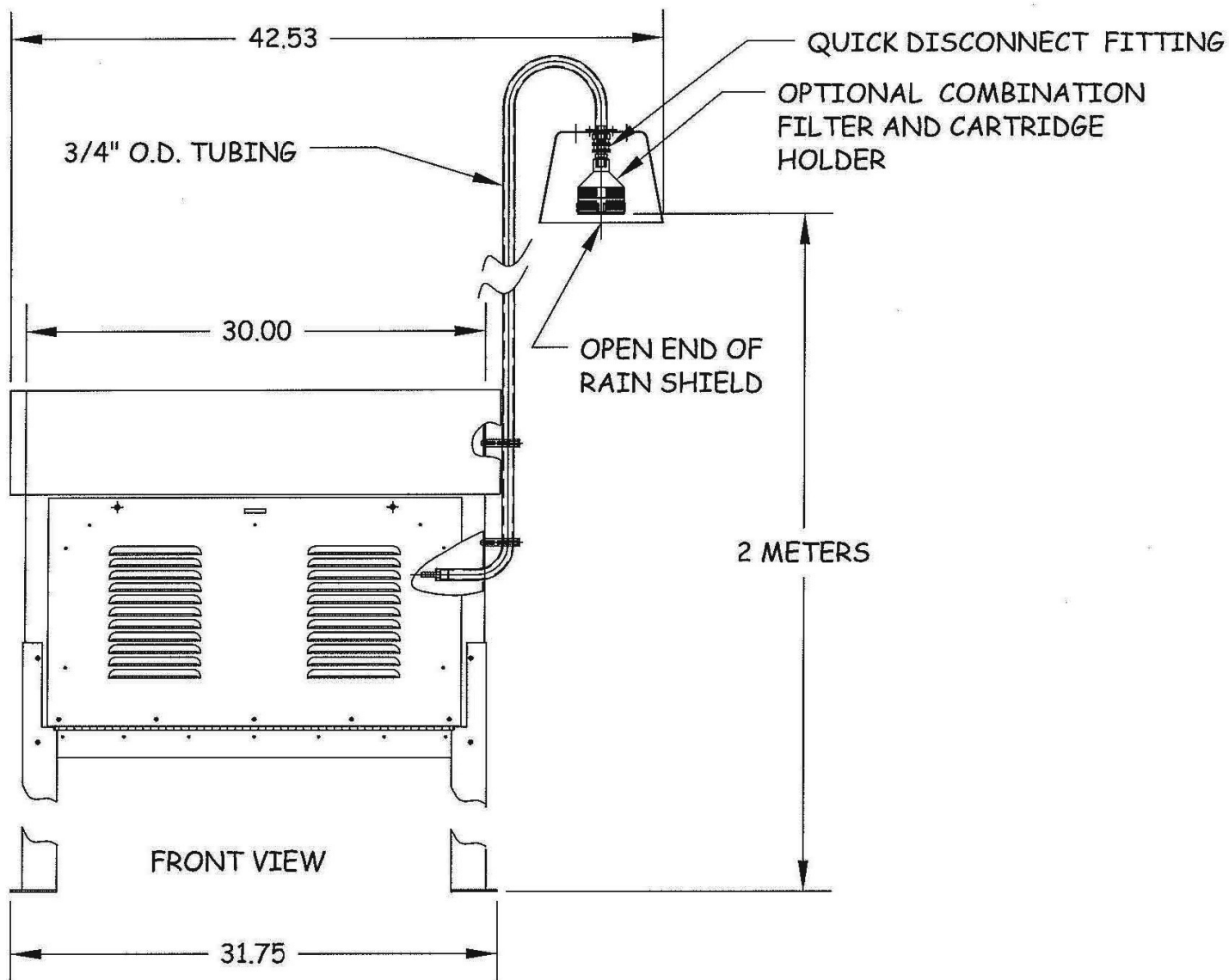


### Optional Features:

- Bluetooth Dongle for PC Device (P/N: BTDG)

## OPTIONAL GOOSENECK SAMPLING SYSTEM P/N: 2108GN

Standard DOE Design Vertical Arrangement



Environmental Air Sampling System with external standard style  
Gooseneck sampling assembly 3/8"