

F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

GLOBAL LOW VOLUME AIR SAMPLING SYSTEM F&J MODEL GAS-22

NOTABLE FEATURES:

- Precision machined DP flow sensor
- State-of-the-Art electronics
- Vacuum fluorescent display; 4 line × 24 characters
- Flow rate and volume measurements corrected to operator selectable Reference Temperature and Pressure
- Constant air flow regulator
- Display in English or various metric units
- Dual RS-232 communication ports
- Flow rate accuracy: $\pm 3.0\%$ Full Scale
- Auto zero calibration feature of flow sensor
- Various operator selectable sampling modes
- Multiple operator selectable data storage and data transmission frequency rates
- Display of Multiple on-board calculations
- Wide temperature range electronics



GENERAL DESCRIPTION:

The Model GAS-22 Global Air Sampling System is a microprocessor controlled low-volume air sampler consisting of 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 venturi, 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 oil-less 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 aluminum environmental Weatherhouse, model WH-3 having an enclosure rating of IPX3.

The GAS-22 utilizes a bright VFD that has four (4) lines by 24 characters and utilizes wide temperature range electronic components for use in extreme ambient conditions.

The GAS-22 Global Air Sampling System is designed for continuous outdoor use. Please consult the product specifications for the design temperature range and the installation category.

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

** All pictures are being used for illustrative purposes only. Actual product may vary slightly.*

** Specifications, availability and components are subject to change without notice.*

REV: 01 March 2022

GAS-22 Global Low Volume Air Sampling System (100—120 VAC)

SPECIFICATIONS

Pump Type:	Oil-less, carbon vane ¼ HP, 1725 RPM @ 60 Hz
Maximum Capacity:	4.3 CFM (122 LPM) @ 0" Hg Pressure drop
Ultimate Vacuum:	25" (635 mm) Hg @ sea level
Power requirements:	100-120VAC; 50/60Hz; 5 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 (14-115 LPM)
Dimensions:	32"L × 26"W × 48 ¼" H (w/legs)(81.3×66×122.6 cm)
Weight:	112 lbs. (51 kg)
Installation Category:	Pollution Degree 3
Enclosure Rating:	IPX3

ELECTRONIC SPECIFICATIONS:

Air flow:	± 3.0% of full scale
Temperature:	± 0.9°F (0.5°C)
Barometric Pressure:	1% over measured range
Operating Temperature:	32° - 122° F (0° - 50° C)
Storage Temperature Range:	-30° - 158°F (-34° - 70°C)
Calibration:	Operator calibration-verification 1 per year
Communications Interface:	Dual RS-232
Display:	VFD, 4×24 characters

Data Storage:

Simultaneous data storage of all measured parameters in non-volatile memory; time and date stamp on records. Data storage for continuous sampling:

Optional reporting of all stored data and/or summary record for host computer or local printer via RS-232 serial link

On-Board Calculations:

Flow calculation from differential pressure value using best fit curve method

Flow correction for operator selectable reference temperature and pressure

Auto-zero correction utilizing electro-pneumatic method to compensate for offset and drift (automatic, once every minute)

Minimum and maximum values of measured parameters

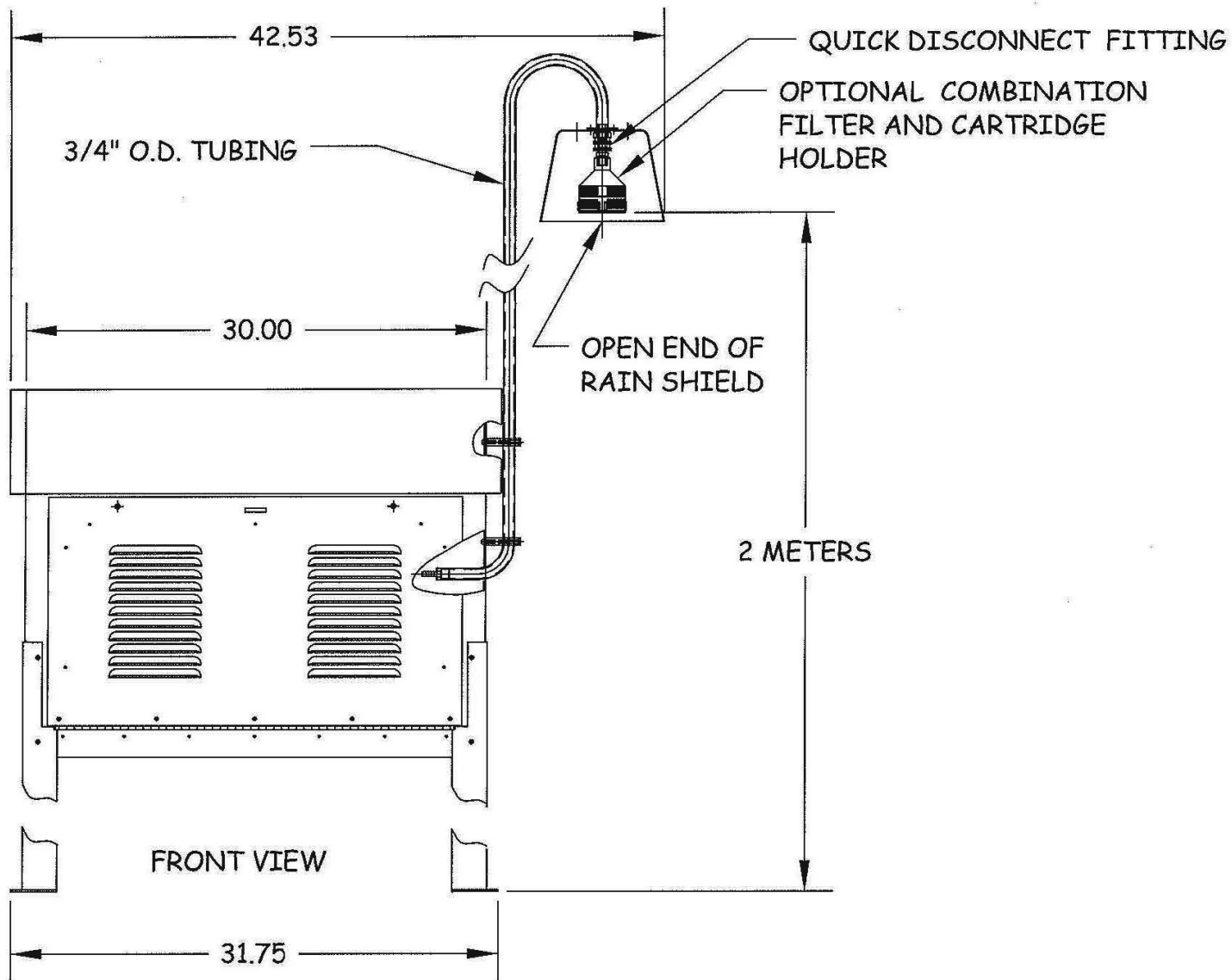
COMBINATION FILTER HOLDERS AVAILABLE:

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.

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

GOOSENECK SAMPLING SYSTEM P/N: 2108GN

Standard DOE Design Vertical Arrangement



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

ELECTRICAL SURGE PROTECTION FOR REMP AIR SAMPLING SYSTEMS P/N: FJ-SSI-AS-02



Surges or power line transients are brief overvoltage spikes or disturbances on a power wave form which can damage, degrade or destroy electronic equipment and motors. Externally generated transients include utility grid switching, magnetic coupling and nearby or direct lightning strikes.

F&J SPECIALTY PRODUCTS, INC. (F&J) recommends the use of a “Surge Protective Device” (SPD) for both analog and digital air samplers utilized in REMP air sampling applications. F&J has commissioned a leading manufacturer of SPDs in the USA to design and develop a product that would protect air sampling instruments utilized in NPP REMP programs from the negative effects of power line surges.

Dimensions: 7.3”L × 4.8”W × 2.5”H

Weight: 1.97 lbs. (.90 kg)

Receptacles; Two (2) 125VAC, 15A standard USA female grounding receptacles powered by one standard USA male plug

Test Standard; IEEE Std C62.41.2TM–2002 and IEEE Std C62.62TM—2010

References:

- IEEE Std C62.41.1TM–2002—IEEE Guide on the Surge Environment in Low-Voltage (1000 V and less) AC Power Circuits
- IEEE Std C62.41.2TM–2002—IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits
- IEEE Std C62.62–2010—IEEE Standard Test Specifications for Surge-Protective Devices (SPDs) for use on the Load Side of the Service Equipment in Low-Voltage (1000 V and less) AC Power Circuits

These are the standards that describe the surge environment and govern performance specifications of SPDs.