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The Nucleus of Quality Air Monitoring Programs

LOW VOLUME AIR SAMPLER F&J MODEL LV-22E

NOTABLE FEATURES:

- Constant air flow regulator adjustable by user
- Powder coat painted aluminum enclosure with cooling fan
- Durable oil-less carbon vane pump designed for continuous use
- Internal intake and exhaust mufflers
- Rotometer, elapsed time meter and vacuum gauge
- 220– 240VAC, 50/60Hz; single phase



GENERAL DESCRIPTION:

Model LV-22E is a low volume air sampler consisting of a 1/4 HP oil-less, carbon vane vacuum pump with an 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 oil-less pump requires no lubrication to maintain optimal efficiency during its service life. The LV-22E is enclosed in a weather resistant aluminum environmental cabinet, Model WH-3. An optional mechanical volume totalizer is available.

It should be noted that as pressure varies, the flow through an orifice with a constant pressure drop varies approximately as the square root of the ratio of the absolute pressure. Thus, if paper loading causes a pressure drop to one-half of the original value, the orifice is adjustable, allowing a flow rate adjustment from near-zero up to the pump's maximum capacity. Best long-term regulation is maintained at or below 2 cubic feet per minute (57 liters per minute).

The typical operating flow range is 1 to 3 CFM (10 – 100 LPM).

REV: 08 Dec 2011

LV-22E Low Volume Air Sampler (220 – 240 VAC)

SPECIFICATIONS:

- PUMP TYPE:** Oil-less, carbon vane 1/4 HP;
1425 RPM @ 50 Hz
- MAXIMUM CAPACITY:** 4 CFM (113 LPM) at 0" Hg Pressure drop.
- ULTIMATE VACUUM:** 25" (635 mm) Hg at sea level.
- VACUUM GAUGE:** 0" - 30" (0 to 762 mm) Hg.
- POWER REQUIREMENTS:** 220 – 240VAC;
50/60Hz at 3 amperes; single phase
- FUSE PROTECTION:** 6-1/4 Amperes
- ELECTRICAL CORD:** All temperature, 3 wire, 16 gauge
- THERMAL OVERLOAD PROTECTION:** Furnished as an integral part of the motor.
- CONSTANT AIRFLOW REGULATOR:** Aluminum construction with silicone diaphragm; adjustable from 1 to 3 CFM (10- 100 LPM).
- DIMENSIONS (w/Legs):** 81,3L x 65,0W x 122,6 cm H
(32 "L x 26"W x 48¼"H)
- WEIGHT:** 46,8 kg (103 lbs.)
- INSTALLATION CATEGORY:** Pollution Degree 3
- ENCLOSURE RATING:** IPX3

AVAILABLE ROTOMETER SCALES:

| <u>MODEL</u> | <u>RANGE</u> |
|--------------|--------------|
| R10100 | 10-100 LPM |
| R13 | 1 - 3 CFM |

OPTIONS:

- Mechanical Volume Totalizer; Metric or English units
- DLM100-04 Digital Electronic Monitor

COMBINATION FILTER HOLDER:

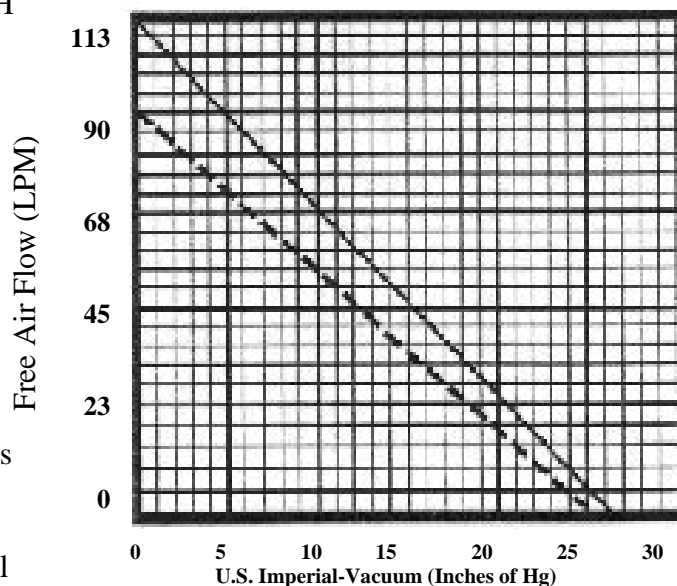
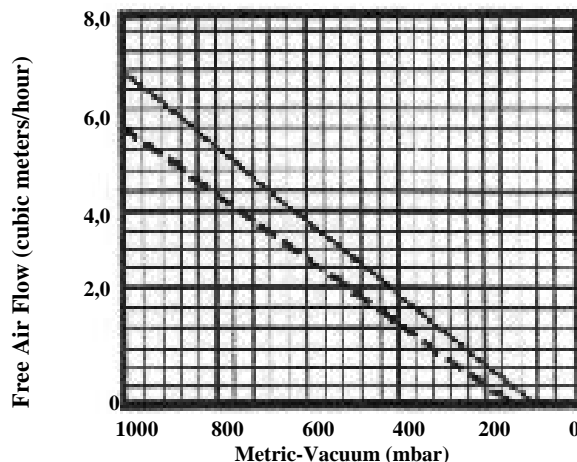
Durable plastic combination filter holders for F&J Model B, C or M charcoal cartridges and 47 mm, 2" or 50 mm diameter particulate filter paper are available. All models have quick disconnect function

STANDARD COMBINATION FILTER HOLDERS:

| <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 |

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

