

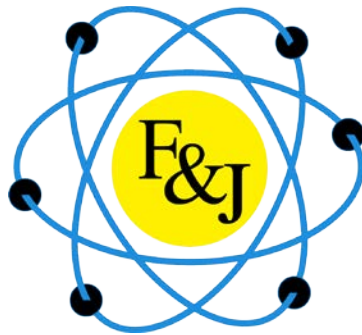
Digital Low Volume Air Samplers 100 Volt



DL28BV.2



DL-1V.2



DL-22V.2



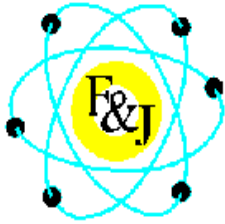
DL-3034MV.2

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The Nucleus of Quality Air Monitoring Programs

DIGITAL LOW VOLUME AIR SAMPLER F&J MODEL DL-1V.2

NOTABLE FEATURES:

- Wide temperature range electronics
- Data storage up to 60 days
- RS-232 communication port
- Display in English or metric units
- Microprocessor controlled electronics
- Flow rate measurement and volume totalizations corrected to Standard Temperature and Pressure
- Various selectable sampling modes
- Precision machined venturi flow sensor
- Auto zero calibration feature of flow sensor
- Multiple on-board calculations with display
- Flow rate accuracy within $\pm 2.5\%$ of full scale
- Programmable chain of custody identification
- Optional data communications package
- 100 – 120 VAC, 50/60Hz; single phase
- Vacuum Fluorescent Display (VFD); 2×24 characters
- Certified to UL and CSA electrical safety standards



GENERAL DESCRIPTION:

The Model DL-1V.2 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 orifice by varying the flow through a bypass valve into the pump. This system allows the pump to work at a minimum head 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 base with four rubber feet. A handle is provided on the chassis to facilitate transportation.

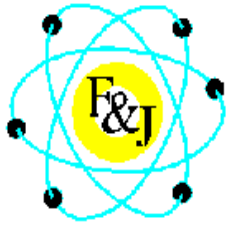
The DL-1V.2 has a bright VFD that has two (2) lines by 24 characters and utilizes wide temperature range electronic components for use in extreme ambient conditions.

The DL-1V.2 Air Sampling system is designed for continuous indoor 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).

DL-1V.2 Digital Low Volume Air Sampler Specifications

PUMP TYPE:	Oil-less, carbon vane ¼ HP, 1425 RPM @ 50 Hz
MAXIMUM CAPACITY:	4,5 CFM (126 LPM) @ 0” Hg Pressure drop
ULTIMATE VACUUM:	25” (635 mm) Hg @ sea level
POWER REQUIREMENTS:	100-120VAC; 50/60Hz; 2,5 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 (10-115 LPM)
HANDLE:	Steel
DIMENSIONS:	40,6L × 19W × 33,6 cm H
WEIGHT:	19,5 kg
INSTALLATION CATEGORY:	Pollution Degree 2
OPERATING TEMPERATURE:	-18° to 50°C
STORAGE TEMPERATAURE:	-18° to 70°C
ELECTRONIC SPECIFICATIONS:	
MEASUREMENT ACCURACY:	
Air flow:	± 2,5% of full scale
Temperature:	± 0,9°F (0,5°C)
Barometric Pressure:	1% over measured range
CALIBRATION:	Factory calibration 1 per year
COMMUNICATIONS INTERFACE:	RS-232
DISPLAY:	VFD, 2×24 characters
DATA STORAGE:	
Simultaneous data storage of all measured parameters in non-volatile memory; time and data stamp on records. Data storage for continuous sampling: Data Collection Options of 1, 10, 20, 30, or 60 days, 1 record per hour for 60 day option Optional reporting of all stored data and/or summary record for host computer or local printer via RS-232 serial link.	



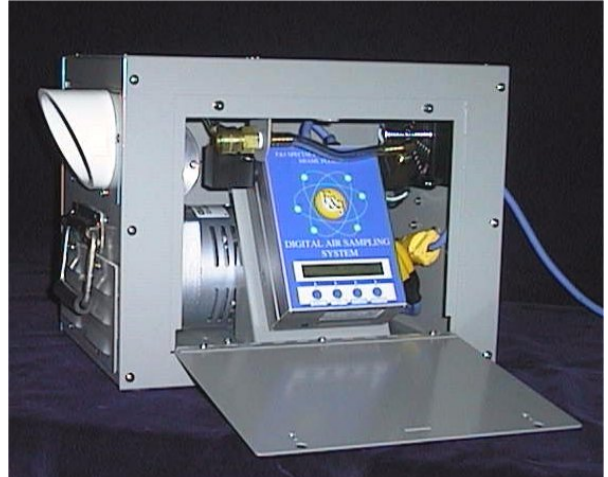
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The Nucleus of Quality Air Monitoring Programs

DIGITAL LOW VOLUME AIR SAMPLER F&J MODEL DL28BV.2

NOTABLE FEATURES:

- Wide temperature range electronics
- Data storage up to 60 days
- RS-232 communication port
- Display in English or metric units
- Microprocessor controlled electronics
- Flowrate measurement and volume totalizations corrected to Standard Temperature and Pressure
- Various selectable sampling modes
- Precision machined venturi flow sensor
- Auto zero calibration feature of flow sensor
- Multiple on-board calculations with display
- Flowrate accuracy within $\pm 2.5\%$ of full scale
- Programmable chain of custody identification
- Optional data communications package
- 100-120VAC, 50/60Hz; single phase
- Vacuum fluorescent display (VFD); 2×24 characters
- Certified to UL and CSA electrical safety standards



GENERAL DESCRIPTION:

The Model DL28BV.2 Air Sampling System is a microprocessor controlled low volume air sampler consisting of an oil-less 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 head 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 base plate with four rubber feet. Handles are provided on the enclosure to facilitate transportation. The DL28BV.2 is constructed with a weather resistant aluminum environmental enclosure. The enclosure rating is IPX3.

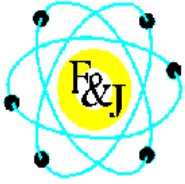
The DL-28BV.2 utilizes a bright VFD that has two (2) lines by 24 characters and utilizes wide temperature range electronic components for use in extreme ambient conditions.

This unit is designed for continuous indoor or outdoor use. This unit can be adapted for tripod mounting if desired. 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).

DL28BV.2 Digital Low Volume Air Sampler Specifications

PUMP TYPE:	Oil-less, carbon vane ¼ HP, 1425 RPM @ 50 Hz
MAXIMUM CAPACITY:	4,5 CFM (140 LPM) @ 0” Hg Pressure drop
ULTIMATE VACUUM:	25” (635 mm) Hg @ sea level
POWER REQUIREMENTS:	100-120VAC; 50/60Hz; 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)
DIMENSIONS:	48,3L × 31,75W × 33,7 cm H
WEIGHT:	26,8 kg
INSTALLATION CATEGORY:	Pollution Degree 3
ENCLOSURE RATING:	IPX3
OPERATING TEMPERATURE:	-18° to 50°C
STORAGE TEMPERATAURE:	-18° to 70°C
ELECTRONIC SPECIFICATIONS:	
MEASUREMENT ACCURACY:	
Air flow:	± 2,5% of full scale
Temperature:	± 0,9°F (0,5°C)
Barometric Pressure:	1% over measured range
CALIBRATION:	Factory calibration 1 per year
COMMUNICATIONS INTERFACE:	RS-232
DISPLAY:	VFD, 2×24 characters
DATA STORAGE:	
Simultaneous data storage of all measured parameters in non-volatile memory; time and data stamp on records. Data storage for continuous sampling: Data Collection Options of 1, 10, 20, 30, or 60 days, 1 record per hour for 60 day option Optional reporting of all stored data and/or summary record for host computer or local printer via RS-232 serial link.	



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DIGITAL LOW VOLUME AIR SAMPLER F&J MODEL DL-22V.2

NOTABLE FEATURES:

- Wide temperature range electronics
- Data storage up to 60 days
- RS-232 Communication Port
- Display in English or metric units
- Microprocessor controlled electronics
- Flow rate measurement and volume totalizations corrected to Standard Temperature and Pressure
- Various selectable sampling modes
- Precision machined venturi flow sensor
- Auto zero calibration feature of flow sensor
- Multiple on-board calculations with display
- Flow rate accuracy within $\pm 2.5\%$ of full scale
- Programmable chain of custody identification
- Optional data communications package
- 100 – 120 VAC, 50/60 Hz; single phase
- Vacuum Fluorescent Display; 2×24 characters
- Certified to UL & CSA electrical safety standards



GENERAL DESCRIPTION:

The Model DL-22V.2 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 orifice, by varying the flow through a bypass valve into the pump. This system allows the pump to work at a minimum head 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 GFCI protected aluminum environmental Weatherhouse, model WH-3 having an enclosure rating of IPX3.

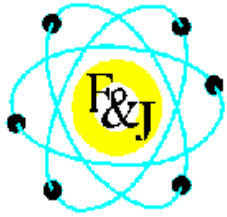
The DL-22V.2 utilizes a bright VFD that has two (2) line by 24 characters and utilizes wide temperature range electronic components for use in extreme ambient conditions.

The DL-22V.2 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).

DL-22V.2 Digital Low Volume Air Sampler Specifications

PUMP TYPE:	Oil-less, carbon vane ¼ HP, 1425 RPM @ 50 Hz
MAXIMUM CAPACITY:	4,5 CFM (127 LPM) @ 0” Hg Pressure drop
ULTIMATE VACUUM:	25” (635 mm) Hg @ sea level
POWER REQUIREMENTS:	100-120VAC; 50/60Hz; 2,5 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)
DIMENSIONS:	81,3L × 66,0W × 61,6 cm H
WEIGHT:	51 kg
INSTALLATION CATEGORY:	Pollution Degree 3
ENCLOSURE RATING:	IPX3
OPERATING TEMPERATURE:	-18° to 50°C
STORAGE TEMPERATURE:	-18° to 70°C
ELECTRONIC SPECIFICATIONS:	
MEASUREMENT ACCURACY:	
Air flow:	± 2,5% of full scale
Temperature:	± 0,9°F (0,5°C)
Barometric Pressure:	1% over measured range
CALIBRATION:	Factory calibration 1 per year
COMMUNICATIONS INTERFACE:	RS-232
DISPLAY:	VFD, 2×24 characters
DATA STORAGE:	
Simultaneous data storage of all measured parameters in non-volatile memory; time and data stamp on records. Data storage for continuous sampling: Data Collection Options of 1, 10, 20, 30, or 60 days, 1 record per hour for 60 day option Optional reporting of all stored data and/or summary record for host computer or local printer via RS-232 serial link.	



F&J SPECIALTY PRODUCTS, INC.

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Microprocessor Monitored Low Volume Air Sampling System Model DL-3034MV.2

NOTABLE FEATURES:

- Precision machined venturi flow sensor
- Microprocessor controlled electronics
- Flow rate measurement and volume corrected to STP
- Display in English or metric units
- Programmable chain of custody identification
- RS-232 communication port
- Flow rate accuracy with +/- 2.5% of full scale
- Auto-zero calibration feature of flow sensor
- Various sampling modes to select from
- Data storage up to 60 days
- Multiple on-board calculations with display
- Adjustable sampling gooseneck 4'-7' (122-213 cm)
- Durable ¾ HP oil-less carbon vane pump designed for continuous use
- 100-120VAC; 50/60Hz; single phase
- Vacuum Fluorescent Display; 2×24 characters



GENERAL DESCRIPTION:

The DL-3034MV.2 Air Sampling System incorporates a low maintenance single-phase 110VAC; 50/60Hz oilless pump requiring no lubrication and state-of-the-art microprocessor controlled electronics. It will perform measurements, monitor flow rate, perform on-board calculations and automatically shut off the unit after a preset totalized sample volume has been collected or prescribed sampling time has elapsed. All flow rate and volume measurements are corrected to Standard Temperature and Pressure (STP).

The unit is mounted on a rugged portable stand. The DL-3034MV.2 system has the flexibility to be operated locally or via a PC through the RS-232 serial port. Remote communications with the system via a host PC is optional. Data may be downloaded via the RS-232 serial port to a PC utilizing optional software including a report and graphical representation of the data. Local operation is implemented via a four-button keypad and a two line x 24-character VFD display.

DL-3034MV.2 Digital Low Volume Air Sampler Specifications

PUMP TYPE:	Oil-less, carbon vane $\frac{3}{4}$ HP, 1425 RPM @ 50 Hz
MAXIMUM CAPACITY:	10 CFM (127 LPM) @ 0" Hg Pressure drop
ULTIMATE VACUUM:	25" (635 mm) Hg @ sea level
POWER REQUIREMENTS:	100-120VAC; 50/60Hz; 10 amperes, single phase
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 10 CFM (14-283 LPM)
DIMENSIONS:	48,3L × 43,2W × 213 cm H
WEIGHT:	38,2 kg
INSTALLATION CATEGORY:	Pollution Degree 2
OPERATING TEMPERATURE:	-18° to 50°C
STORAGE TEMPERATAURE:	-18° to 70°C
ELECTRONIC SPECIFICATIONS:	
MEASUREMENT ACCURACY:	
Air flow:	± 2,5% of full scale
Temperature:	± 0,9°F (0,5°C)
Barometric Pressure:	1% over measured range
CALIBRATION:	Factory calibration 1 per year
COMMUNICATIONS INTERFACE:	RS-232
DATA STORAGE:	
Simultaneous data storage of all measured parameters in non-volatile memory; time and data stamp on records. Data storage for continuous sampling: Data Collection Options of 1, 10, 20, 30, or 60 days, 1 record per hour for 60 day option Optional reporting of all stored data and/or summary record for host computer or local printer via RS-232 serial link.	

Specifications for DL-1EV.2, D28BV.2, DL-22EV.2 and DL-3034MEV.2 Continued

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)

Minimum and maximum values of measured parameters

COMBINATION FILTER HOLDERS:

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 AVAILABLE:

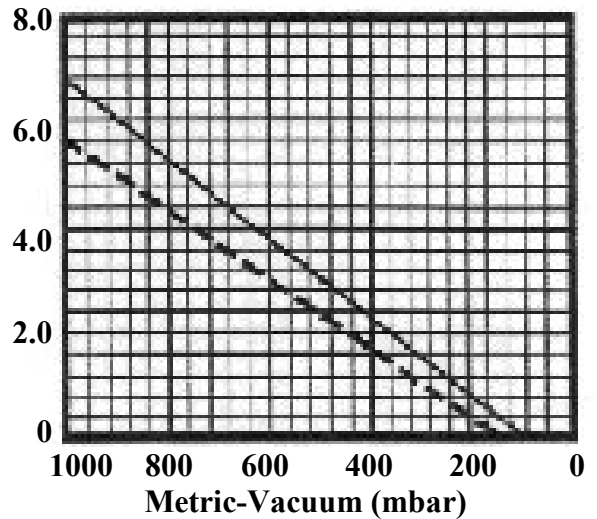
FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-05P	F&J Model B	2" or 50 mm
FJ-21P	F&J Model C	2" or 50 mm
FJ-35P	F&J Model B	47 mm
FJ-46P	F&J Model C	47 mm
FJ-51P	F&J Model M	2" or 50 mm
FJ-53P	F&J Model M	47 mm

PUMP CURVES FOR DL-1EV.2, D28BEV.2, DL-22EV.2 and DL-3034MEV.2

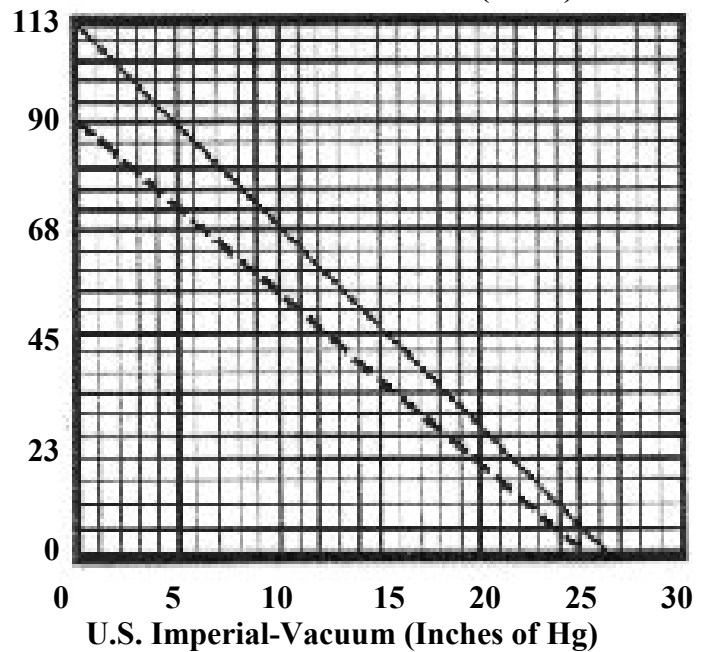
Top line on curve is for 60-cycle performance

Bottom line on curve is for 50-cycle performance

Free Air Flow (cubic meters/hour)



Free Air Flow (LPM)



CONSTANT AIR FLOW REGULATOR CURVE
TYPICAL PUMP OPERATING FLOW RANGE

Free Air Flow (LPM)

