

**F&J SPECIALTY PRODUCTS, INC.**

*The Nucleus of Quality Air Monitoring Programs*

## **MINI-ROTARY VANE EMERGENCY RESPONSE AIR SAMPLERS**



CE

**DFRV-40L Series**



**DFRV 400 Series**

CE



**DFRV ABM50 Series**

Rev: 18 April 2024

# TABLE OF CONTENT

	<b>Page</b>
<b>Models</b>	
DFRV-40L-AC	3
DFRV-40L-400-AC	5
DFRV-ABM50- 40L-AC	7
DFRV-40L-12Li	9
DFRV-40L-400-12Li	11
DFRV-ABM50-40L-20Li	13
DFRV-ABM50-40L-30Li	15
<b>Indoor Filter Holders</b>	17
<b>World Calibrator</b>	18
<b>Consumables and Accessories</b>	19
<b>Product Profile</b>	20

# EMERGENCY RESPONSE AIR SAMPLING SYSTEM

## AC/DC POWERED AIR SAMPLER

### DIGITAL FLOW METER TECHNOLOGY

#### F&J MODEL DFRV-40L-AC

#### NOTABLE FEATURES:

- State-of-the-Art Electronics
- Operating Modes
  - Line Power (100VAC – 250VAC)
  - 12VDC External Source
- Lightweight — ~12 lbs. (5.4 kg)
- Maximum Flow 40 LPM with fiber glass FP47M filter media
- Bright OLED Display; 4 Line x 32 characters
- Automatic Flow Control Feature
- Flowrate and Volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options)
- Auto shut-off by time or volume
- Brushless Motor
- Internal Data Storage Downloadable as (.csv) file
- Data Download via Bluetooth with Optional Bluetooth Dongle for PC Device



**Unit shown with optional filter holder FJ-34**

#### GENERAL DESCRIPTION:

F&J Model DFRV-40L-AC is a lightweight, small footprint, brushless motor powered air sampling system operable from (1) line power, or (2) an external 12 VDC source such as a 12 VDC battery system.

The DFRV-40L-AC is well suited for indoor air sampling from line power or for remote area air sampling activities where users do have line power available.

The automatic flow control feature with the F&J Digital Flowmeter technology provides maximum flexibility for emergency response, or remote and unattended sampling responsibilities. The set flowrate is maintained automatically in case of dust loading and does not require operator attention.

Typical flow range is 8 - 40 SLPM (0.3 – 1.41 SCFM) [0.6 Sm<sup>3</sup>/hr – 2.4 Sm<sup>3</sup>/hr]. This flow rate varies by the filter media utilized. If pressure drop across the filter media is not significant, lower flows will not be achievable without the bypass valve option.

The air sampler is also equipped with internal data storage that allows user to download the sampling data as a .csv file for easy data analysis.

# DFRV-40L-AC AC/DC Powered Air Sampler Specifications

**Pump Type:** Mini rotary vane vacuum pump

**Motor:** Brushless motor 12 VDC

**Maximum Flowrate:** Typical 40 LPM  
with 47 mm glass fiber media (98%DOP efficiency)

**Power Source:**  
External -  
Line Power; 100VAC or 250VAC  
External 12 VDC

**Current Draw:** 5.0 A maximum

**Filter Holder Fitting:** 1.83—12 U.N.F (Air Sampler)  
1.80—12 U.N.M (Filter Holder)

**Handle:** Durable metal

**Weight:** 12 lbs. (5.4 kg)

**Dimensions:** 10.3" L × 10.5" W × 8.5" H  
(26 × 27 × 22 cm)  
Height with handle extended ~11.4"

**Operating Temperature Range:**  
14°F-122°F (-10°C to 50°C)

**Display:** Bright OLED; 4 Line x 32 characters

**Elapsed Time:** HHH:MM up to 168 hours

**Flow Control:**  
Adjustable from keypad between 8-40 LPM

**Flow Accuracy:** ± 4.0% of Full Scale

**Factory Settable Reference T and P**

Classical STP	0°C, 1 ATM (760 mmHg)
Normal T and P	20°C, 1 ATM (760 mmHg)
Modified Normal T and P	70°F, 1 ATM (760 mmHg)
Standard Ambient T and P	25°C, 1 ATM (760 mmHg)

**OPTIONS:**

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

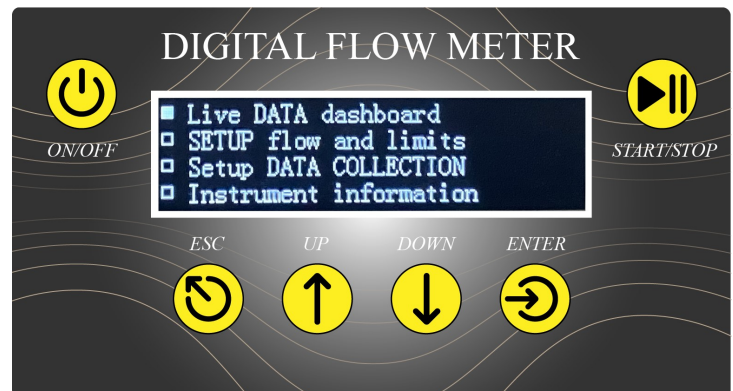
**Standard Aluminum Combination Filter Holders Available:**

FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-19	F&J Model C	2" or 50 mm
FJ-27	F&J Model B	2" or 50 mm
FJ-34	F&J Model C	47 mm
FJ-39	F&J Model B	47 mm
FJ-52	F&J Model M	2" or 50 mm
FJ-54	F&J Model M	47 mm

**Available Engineering Units for Flow and Volume:**

SLPM / SLP  
SCFM / SCF  
SCMH / SCM

**Digital Flowmeter Keypad/Display**



# EMERGENCY RESPONSE SAMPLING SYSTEM

## DIGITAL FLOW METER TECHNOLOGY

### F&J Model DFRV-40L-400-AC

#### NOTABLE FEATURES:

- State-of-the-Art Electronics
- Operating Modes
  - Line Power (100VAC – 250 VAC)
  - External 12 VDC source
- Lightweight — ~17.1 lbs. (7.8 kgs)
- Maximum Flow 35 to 40 LPM Maximum; typical
- Bright LED Display
- Automatic Flow Control Feature
- Flowrate and Volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
- Auto shut-off on time or volume
- Brushless motor (12 VDC)



Displayed With Optional Rain Hood  
and Filter Holder

#### GENERAL DESCRIPTION:

F&J Model DFRV-40L-400-AC is a lightweight, small footprint, DC voltage powered air sampling system operable from (1) line power, or (2) auxiliary DC connector (12 – 15 VDC).

The automatic flow control feature with the F&J Digital Flowmeter technology provides maximum flexibility for emergency response sampling responsibilities. The set flowrate is maintained automatically in case of dust loading and does not require operator attention. The air sampler is contained in a lightweight small dimensioned enclosure which is water tight. The unit can be carried very easily by its large, rugged plastic handle.

Typical flow range is 8 - 40 SLPM (0.3 -1.41 SCFM). This flow rate varies by the filter media utilized. If pressure drop across the filter media is not significant lower flow will not be achievable without bypass valve option.

# DFRV-40L-400-AC Battery Powered Air Sampler Specifications

**Pump Type:** Mini rotary vane vacuum pump

**Motor:** 12 VDC Brushless motor (4200 rpm)

**Maximum Flowrate:** 40 LPM typical  
with 47mm glass fiber media (98% DOP efficiency)

**Power Source:**  
External – Line Power; 100VAC to 240VAC  
– Auxiliary 12 VDC source  
– Battery Bank LIBATBANK-12V

**Current Draw:** 3.5 A maximum

**Filter Holder Fitting:** 3/8 FNPT quick disconnect

**Handle:** Durable plastic

**Weight:** 17.1 lbs. (7.8 kgs)

**Dimensions:** 16.8”L × 9.0”W × 14.0”H  
(42.7 × 22.9 × 35.6 cm)

**Average Db:** 67.5

**Operating Temperature Range:** 0°F to 122°F  
(-18°C to 50°C)

**Display:** Bright LED (6 character, 1,2 cm H)

**Elapsed Time:** DD:HH:MM up to 168 hours

**Flow Control:**  
Adjustable from keypad between 8-35 LPM

**Flow Accuracy:** ±4.0% of Full Scale

**Factory Settable Reference T and P**

Classical STP	0°C, 1 ATM
Normal T and P	20°C, 1 ATM
Modified Normal T and P	70°F, 1 ATM
Standard Ambient T and P	25°C, 1 ATM

**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 Holder with Rain Hood
  - 47mm Particulate / C Geometry – FJ-47RH
  - 50mm Particulate / C Geometry – FJ-50RH
- FJ-47RHM
- FJ-47RH
- FJ-47RHM-P
- FJ-47RH-P
- Bypass Needle Valve

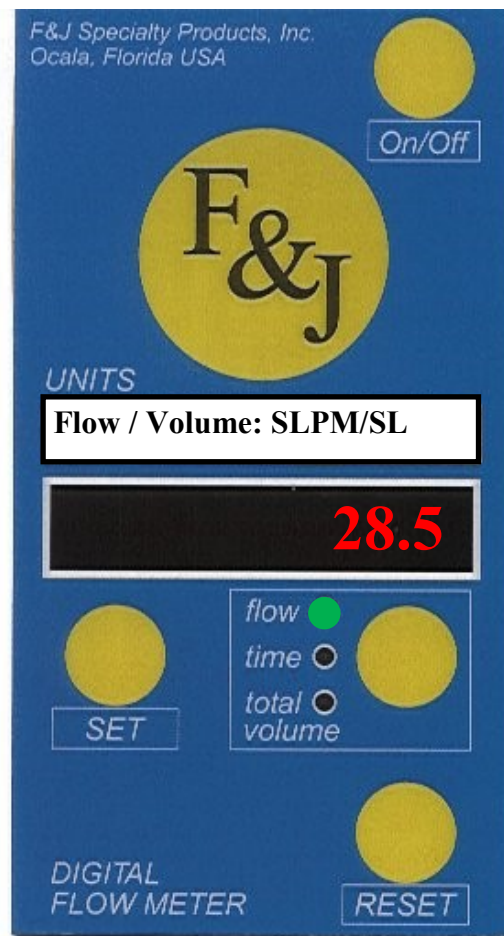
**Standard Combination Filter Holders Available:**

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

**Available Engineering Units for Flow and Volume:**

- SLPM / SLP
- SCFM / SCF
- SCMH / SCM

**Digital Flow Meter Keypad/Display**





# EMERGENCY RESPONSE AIR SAMPLING SYSTEM

## DIGITAL FLOW METER TECHNOLOGY

### F&J MODEL DFRV-ABM50-40L-AC

#### NOTABLE FEATURES:

- State-of-the-Art Electronics
- Operating Modes
  - Line Power (100VAC – 250VAC)
  - External (12 VDC)
- Lightweight ~14.20 lbs. ( 6.44 kg)
- Maximum Flow 40 SLPM Maximum; typical
- Bright OLED Display; 4 Line x 32 characters
- Automatic Flow Control Feature
- Flowrate and Volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
- Auto shut-off on time or volume
- High vacuum rotary vane pump
- Brushless motor (12 VDC)
- Data Download via Bluetooth with Optional Bluetooth Dongle for PC Device



**Shown with optional  
filter holder FJ-34**

#### GENERAL DESCRIPTION:

The DFRV-ABM50-40L-AC exhibits exceptional suitability for air sampling activities within the realm of alternative energy applications. This versatile air sampler is constructed exclusively around a 12 VDC internal operating system. This configuration equips the sampler with the capability of being powered by solar or wind energy sources for its operational requirements.

An inherent feature of the Digital Flow Meter (DFM) series is its automated flow control. This innovative feature affords a high degree of adaptability, especially in scenarios demanding prompt response for emergency sampling responsibilities. The preset flowrate is maintained automatically even under conditions of excessive dust loading, mitigating the need for operator attention. The air sampling instrument is securely housed within a robust, water resistant and compact metal enclosure. The air sampler's light weight and sturdy metal handle facilitates convenient transportation for emergency situations.

The standard flow range spans from 5 to 40 SLPM (0.2 to 1.41 SCFM). However, it is important to note that this maximum flow rate may vary based on the specific filter media utilized. It is important to note that in cases where the pressure drop across the filter media is not significant, achieving flow rates at the bottom of the range necessitates the integration of a bypass valve option.

The air sampler is also equipped with internal data storage that allows user to download the sampling data as a .csv file for easy data analysis.

# DFRV-ABM50-40L-AC AC/DC Powered Air Sampler Specifications

**Pump Type:** Mini Rotary Vacuum Pump

**Motor:** Brushless motor 12 VDC

**Maximum Flowrate:** 40 SLPM typical  
with 47 mm glass fiber media (98% DOP efficiency)

**Power Source:**  
Line Power; 100VAC to 250VAC  
External – 12 VDC source

**Current Draw:** 5.0 A maximum

**Filter Holder Fitting:** 1.83—12 U.N.F (Air Sampler)  
1.80—12 U.N.M (Filter Holder)

**Handle:** Durable metal

**Weight:** 14.20 lbs. (6.44 kg)

**Dimensions:** 13.8”L × 9.5”W × 9”H  
(35.0 × 24.2 × 22.8 cm)

**Operating Temperature Range:**  
18°F-122°F (-10°C-50°C)

**Display:** Bright OLED Display; 4 Line x 32 characters

**Elapsed Time:** HHH:MM up to 168 hours

**Flow Control:**  
Adjustable from keypad between 5-40 LPM  
(Note: Achievable maximum flow rate depends on filter media)

**Flow Accuracy:** ±4.0% of Full Scale

## Factory Settable Reference T and P

Classical STP	0°C, 1 ATM (760 mmHg)
Normal T and P	20°C, 1 ATM (760 mmHg)
Modified Normal T and P	70°F, 1 ATM (760 mmHg)
Standard Ambient T and P	25°C, 1 ATM (760 mmHg)

## OPTIONS:

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

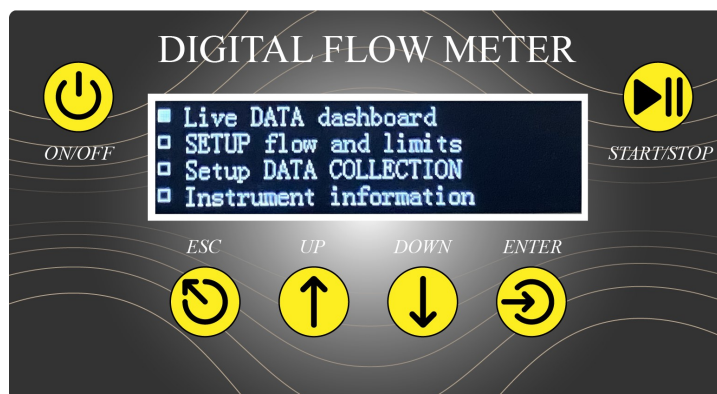
## Standard Aluminum Combination Filter Holders Available:

FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-19	F&J Model C	2” or 50 mm
FJ-27	F&J Model B	2” or 50 mm
FJ-34	F&J Model C	47 mm
FJ-39	F&J Model B	47 mm
FJ-52	F&J Model M	2” or 50 mm
FJ-54	F&J Model M	47 mm

## Available Engineering Units for Flow and Volume:

SLPM / SL  
SCFM / SCF  
SCMH / SCM

## Digital Flowmeter Keypad/Display





# Emergency Response Air Sampling System

## Digital Flowmeter Technology

### F&J Model DFRV-40L-12Li

#### NOTABLE FEATURES:

- State-of-the-Art Electronics
- Operating Modes
  - Line Power (100VAC – 250VAC)
  - 12 Ah LiFePO<sub>4</sub> Battery
- Lightweight — ~9 lbs. (4.1 kg)
- Maximum Flow 30 to 40 LPM with fiber glass filter media
- Bright OLED (4 line x 32 character)
- Automatic Flow Control Feature
- Flowrate and Volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options)
- Auto shut-off on time or volume
- Battery Life Indicator
- Long-lasting Lithium FePO<sub>4</sub> Battery (>2000 discharge/charge cycles)
- Brushless motor (12 VDC)



**Shown with optional filter holder FJ-34**

#### GENERAL DESCRIPTION:

F&J Model DFRV-40L-12Li is a lightweight, small footprint, brushless DC motor powered air sampling system operable from (1) on-board 12Ah Lithium FePO<sub>4</sub> batteries, or (2) line power.

The DFRV-40L-12Li is well suited for indoor air sampling from line power or for remote area air sampling activities where users do have line power available.

The automatic flow control feature with the F&J Digital Flowmeter technology provides maximum flexibility for emergency response or remote and unattended sampling responsibilities. The set flowrate is maintained automatically in case of dust loading and does not require operator attention.

Typical flow range is 8 - 40 SLPM. This flow rate varies by the filter media utilized. If pressure drop across the filter media is not significant lower flow will not be achievable without bypass valve option.

The air sampler is also equipped with internal data storage that allows user to download the sampling data as a .csv file for easy data analysis.

# DFRV-40L-12Li AC/DC Powered Air Sampler Specifications

**Pump Type:** Mini rotary vane vacuum pump

**Motor:** Brushless motor 12 VDC

**Maximum Flowrate:** Typical 35 - 40 LPM with 47 mm glass fiber media (98% DOP efficiency)

**Motor:** Brushless motor 12 VDC

**Power Source:**

External - Line Power; 100VAC or 250VAC

Internal - 12 Ah LiFePO<sub>4</sub> Battery

**Operating time on batteries:** Depends on filter Media utilized and operating flow rate

**Current Draw:** 5.0 A maximum

**Filter Holder Fitting:**

3/8 FNPT quick disconnect

**Handle:** Durable metal

**Weight:** 12 lbs. (5.4 kg)

**Dimensions:** 10.1" L × 10.3" W × 8.3" H  
(25.6 × 26.2 × 21.1 cm)

**Operating Temperature Range:**

14°F-122°F (-10°C to 50°C)

**Display:** Bright OLED (4 line x 32 character)

**Elapsed Time:** DD:HH:MM up to 168 hours

**Flow Control:**

Adjustable from keypad between 8-40 LPM

**Flow Accuracy:** ± 4.0% of Full Scale

**Factory Settable Reference T and P**

Classical STP	0°C, 760 mm Hg
Normal T and P	20°C, 760 mm Hg
Modified Normal T and P	21.1°C, 760 mm Hg
Standard Ambient T and P	25°C, 760 mm Hg

**OPTIONS:**

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

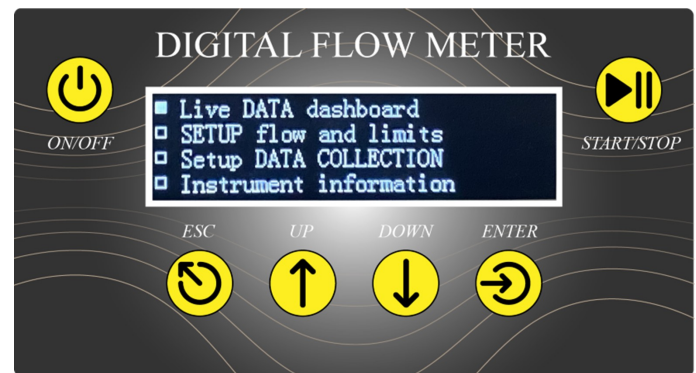
**Standard Combination Filter Holders Available:**

FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-19	F&J Model C	2" or 50 mm
FJ-27	F&J Model B	2" or 50 mm
FJ-34	F&J Model C	47 mm
FJ-39	F&J Model B	47 mm
FJ-52	F&J Model M	2" or 50 mm
FJ-54	F&J Model M	47 mm

**Available Engineering Units for Flow and Volume:**

SLPM / SLP  
SCFM / SCF  
SCMH / SCM

**Digital Flowmeter Keypad/Display**



# EMERGENCY RESPONSE SAMPLING SYSTEM

## DIGITAL FLOW METER TECHNOLOGY

### F&J Model DFRV-40L-400-12Li

#### NOTABLE FEATURES:

- State-of-the-Art Electronics
- Operating Modes
  - Line Power (100VAC – 250 VAC)
  - On-Board Batteries
- Long-lasting 12 Ah LiFePO<sub>4</sub> battery pack
- Internal battery charging system operable from line power input
- Lightweight — ~23 lbs. (10 kg)
- Maximum Flow 35 to 40 LPM Maximum; typical
- Bright OLED Display; 4 Line x 32 Characters
- Automatic Flow Control Feature
- Flowrate and Volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
- Auto shut-off on time or volume
- Battery Life Indicator (Graphical and Digital)
- Brushless motor (12 VDC)
- Internal Data Storage Downloadable as (.csv) file
- Data Download via Bluetooth with Optional Bluetooth Dongle for PC Device



Displayed With Optional Rain Hood and Filter Holder

#### GENERAL DESCRIPTION:

F&J Model DFRV-40L-400-12Li is a lightweight, small footprint, DC voltage powered air sampling system operable from (1) on-board 12 Ah LiFePO<sub>4</sub> battery, or (2) line power.

The DFRV-40L-400-12Li is well suited for emergency response sampling activities where users do not know whether line power will be available. Typical operating time from on-board battery is approximately 6 - 8 hours utilizing FP47M glass fiber filter paper.

The automatic flow control feature with the F&J Digital Flowmeter technology provides maximum flexibility for emergency response sampling responsibilities. The set flowrate is maintained automatically in case of dust loading and does not require operator attention. The air sampler is contained in a lightweight small dimensioned enclosure which is water tight. The unit can be carried very easily by its large, rugged plastic handle.

Typical flow range is 8 - 40 SLPM (0.3 -1.41 SCFM). This flow rate varies by the filter media utilized. If pressure drop across the filter media is not significant lower flow will not be achievable without bypass valve option.

# DFRV-40L-400-12Li Battery Powered Air Sampler Specifications

**Pump Type:** Mini rotary vane vacuum pump

**Motor:** Brushless motor 12 VDC

**Maximum Flowrate:** 40 SLPM typical  
with FP-47M glass fiber media

**Power Source:**

Internal – LiFePO<sub>4</sub>; 12.8 VDC/12 Ah Battery Pack  
External – Line Power; 100VAC to 240VAC

**Battery Charging System:**

Internal system which charges from line power

**Operating Time on Batteries:** ~ 6-8 hours w/FP47M

**Current Draw:** 5.0 A maximum

**Filter Holder Fitting:** 3/8 FNPT quick disconnect

**Handle:** Durable plastic

**Weight:** 23 lbs. (10 kg)

**Dimensions:** 16.8”L × 9.0”W × 14.0”H  
(42.7 × 22.9 × 35.6 cm)

**Average Db:** 67.5 at 1 meter

**Operating Temperature Range:** 0°F to 122°F  
(-18°C to 50°C)

**Display:** Bright OLED (4 Line x 32 Characters)

**Elapsed Time:** HHH:MM up to 168 hours

**Flow Control:**

Adjustable from keypad between 8-40 LPM

**Flow Accuracy:** ±4.0% of Full Scale

**Factory Settable Reference T and P**

Classical STP	0°C, 1 ATM (760 mmHg)
Normal T and P	20°C, 1 ATM (760 mmHg)
Modified Normal T and P	70°F, 1 ATM (760 mmHg)
Standard Ambient T and P	25°C, 1 ATM (760 mmHg)

**OPTIONS:**

- Combination Filter Holder with Rain Hood
  - 47mm Particulate / C Geometry – FJ-47RH
  - 50mm Particulate / C Geometry – FJ-50RH
- FJ-47RHM
- FJ-47RH
- FJ-47RHM-P
- FJ-47RH-P
- Bypass Needle Valve
- Bluetooth Dongle for PC Device (P/N: BTDG)

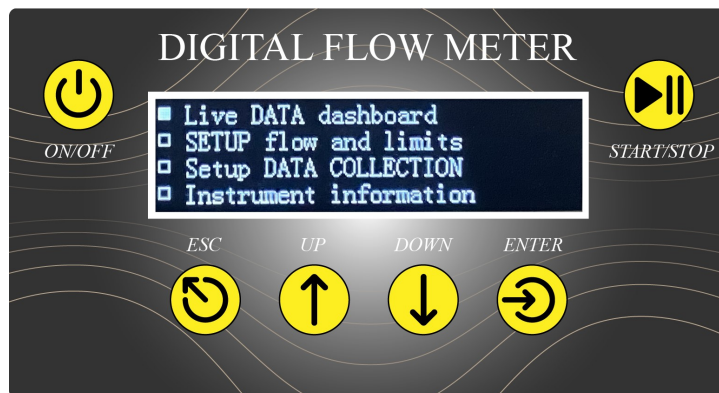
**Standard Plastic Combination Filter Holders Available:**

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

**Available Engineering Units for Flow and Volume:**

SLPM / SLP  
SCFM / SCF  
SCMH / SCM

**Digital Flow Meter Keypad/Display**



# EMERGENCY RESPONSE AIR SAMPLING SYSTEM DIGITAL FLOW METER TECHNOLOGY F&J MODEL DFRV-ABM50-40L-20Li

## NOTABLE FEATURES:

- State-of-the-Art Electronics
- Operating Modes
  - Line Power (100VAC – 250VAC)
  - On-board LiFePO<sub>4</sub> 20 Ah battery
- Lightweight ~24.0 lbs. ( 10.8 kg)
- Maximum Flow 40 SLPM; typical
- Bright OLED Display; 4 Line x 32 characters
- Automatic Flow Control Feature
- Flowrate and Volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
- Auto shut-off on time or volume
- High vacuum rotary vane pump
- Brushless motor (12 VDC)
- Data Download via Bluetooth with Optional Bluetooth Dongle for PC Device



**Shown with optional  
filter holder FJ-34**

## GENERAL DESCRIPTION:

F&J Model DFRV-ABM50-40L-20Li is a lightweight, small footprint, rotary vane AC/DC powered air sampling system operable from (1) line power, (2) the on-board 20 Ah LiFePO<sub>4</sub> battery, or (3) an external 12-15 VDC power source.

The DFRV-ABM50-40L-20Li is well suited for alternative energy air sampling activities. The unit may be operated from solar power or a wind power source through either the AC input or DC input.

The automatic flow control feature with the F&J Digital Flowmeter technology provides maximum flexibility for emergency response sampling responsibilities. The set flowrate is maintained automatically in case of dust loading and does not require operator attention. The air sampler is contained in a rugged, metal, small dimensioned enclosure which is water tight. The unit can be carried very easily by its metal handle.

Typical flow range is 5 - 40 SLPM (0.2 –1.41 SCFM). This flow rate varies by the filter media utilized. If pressure drop across the filter media is not significant lower flow will not be achievable without bypass valve option.

The air sampler is also equipped with internal data storage that allows the user to download the sampling data as a .csv file for easy data analysis.



# DFRV-ABM50-40L-20Li AC/DC Powered Air Sampler Specifications

**Pump Type:** Mini rotary vacuum pump

**Motor:** Brushless motor 12 VDC

**Maximum Flowrate:** 40 SLPM typical  
with 47 mm glass fiber media (98% DOP efficiency)

**Power Source:**  
Line Power; 100VAC to 250VAC  
On-board LiFePO<sub>4</sub> 20 Ah battery

**Current Draw:** 5.0 A maximum

**Filter Holder Fitting:** 1.83—12 U.N.F (Air Sampler)  
1.80—12 U.N.M (Filter Holder)

**Handle:** Durable metal

**Weight:** 24.0 lbs. (10.8 kg)

**Dimensions:** 13.8”L × 9.5”W × 9”H  
(35.0 × 24.2 × 22.8 cm)

**Operating Temperature Range:**  
18°F-122°F (-10°C-50°C)

**Display:** Bright OLED; 4 Line x 32 characters

**Elapsed Time:** HHH:MM up to 168 hours

**Flow Control:**  
Adjustable from keypad between 5-40 LPM  
(Note: Achievable maximum flow rate depends on filter media)

**Flow Accuracy:** ±4.0% of Full Scale

## Factory Settable Reference T and P

Classical STP	0°C, 1 ATM (760 mmHg)
Normal T and P	20°C, 1 ATM (760 mmHg)
Modified Normal T and P	70°F, 1 ATM (760 mmHg)
Standard Ambient T and P	25°C, 1 ATM (760 mmHg)

## OPTIONS:

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

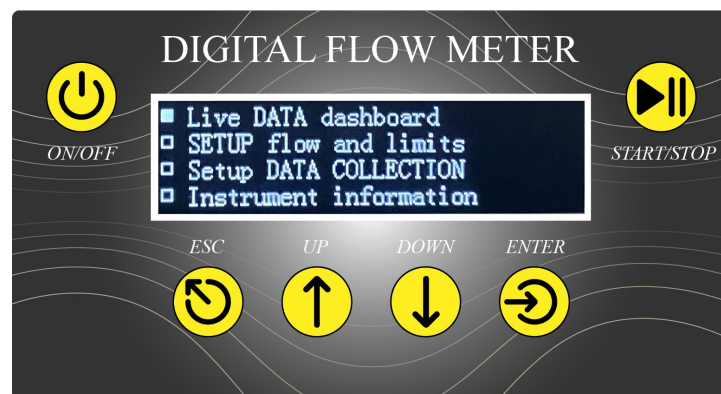
## Standard Aluminum Combination Filter Holders Available:

FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-19	F&J Model C	2” or 50 mm
FJ-27	F&J Model B	2” or 50 mm
FJ-34	F&J Model C	47 mm
FJ-39	F&J Model B	47 mm
FJ-52	F&J Model M	2” or 50 mm
FJ-54	F&J Model M	47 mm

## Available Engineering Units for Flow and Volume:

SLPM / SL  
SCFM / SCF  
SCMH / SCM

## Digital Flowmeter Keypad/Display





# EMERGENCY RESPONSE AIR SAMPLING SYSTEM

## DIGITAL FLOW METER TECHNOLOGY

### F&J MODEL DFRV-ABM50-40L-30Li

#### NOTABLE FEATURES:

- State-of-the-Art Electronics
- Operating Modes
  - Line Power (100VAC – 250VAC)
  - On-board 30 Ah LiFePO<sub>4</sub> rechargeable battery
- Lightweight — 22 lbs. (9.98 kg)
- Maximum Flow 40L SLPM Maximum with 47 mm glass fiber media (98% DOP efficiency) FP47M
- Bright OLED Display; 4 Line x 32 characters
- Automatic Flow Control Feature
- Flowrate and Volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
- Auto shut-off on time or volume
- Battery Life Indicator
- Brushless motor (12 VDC)
- Data Download via Bluetooth with Optional Bluetooth Dongle for PC Device



**Shown with optional  
filter holder FJ-34**

#### GENERAL DESCRIPTION:

F&J Model DFRV-ABM50-40L-30Li is a military grade lightweight, small footprint, AC/DC voltage powered air sampling system operable from (1) line power, or (2) an on-board 30 Ah LiFePO<sub>4</sub> battery.

The DFRV-ABM50-40L-30Li is well suited for emergency response air sampling activities and where users do not know whether line power will be available. Typical operating time from on-board battery is approximately 10—12 hours utilizing FP47M glass fiber filter paper.

The automatic flow control feature with the F&J Digital Flowmeter technology provides maximum flexibility for emergency response sampling responsibilities. The set flowrate is maintained automatically in case of dust loading and does not require operator attention. The air sampler is contained in a rugged, metal, small dimensioned enclosure which is water tight. The unit can be carried very easily by its metal handle.

Typical flow range is 5 - 40 SLPM (0.18 – 1.41 SCFM). This flow rate varies by the filter media utilized. If pressure drop across the filter media is not significant lower flow will not be achievable without bypass valve option.

The air sampler is also equipped with internal data storage that allows the user to download the sampling data as a .csv file for easy data analysis.

# DFRV-ABM50-40L-30Li AC/DC Powered Air Sampler Specifications

**Pump Type:** Mini rotary vacuum pump

**Motor:** Brushless motor 12 VDC

**Maximum Flowrate:** 40 LPM typical  
with 47 mm glass fiber media (98% DOP efficiency) FP47M

**Power Source:**  
Line Power; 100VAC to 240VAC  
On-board LiFe(PO<sub>4</sub>) battery (30 Ah/12.8 VDC)/30Ah

**Current Draw:** 4.0 A maximum

**Operating Time on Battery:** ~10-12 hours with FP47M

**Filter Holder Fitting:** 1.83—12 U.N.F (Air Sampler)  
1.80—12 U.N.M (Filter Holder)

**Enclosure:** Steel

**Handle:** Durable metal

**Weight:** 22 lbs. (9.98 kg)

**Dimensions:** 13.8”L × 9.5”W × 9”H  
(35.0 × 24.2 × 22.8 cm)

**Average dBA:** 67.5

**Operating Temperature Range:**  
18°F-122°F (-10°C-50°C)

**Display:** Bright OLED Display; 4 Line x 32 characters

**Elapsed Time:** HHH:MM up to 168 hours

**Flow Control:**  
Adjustable from keypad between 5-40 LPM

**Flow Accuracy:** ±4.0% of Full Scale

## Factory Settable Reference T and P

Classical STP	0°C, 1 ATM (760 mmHg)
Normal T and P	20°C, 1 ATM (760 mmHg)
Modified Normal T and P	70°F, 1 ATM (760 mmHg)
Standard Ambient T and P	25°C, 1 ATM (760 mmHg)

## OPTIONS:

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

## Standard Aluminum Combination Filter Holders Available:

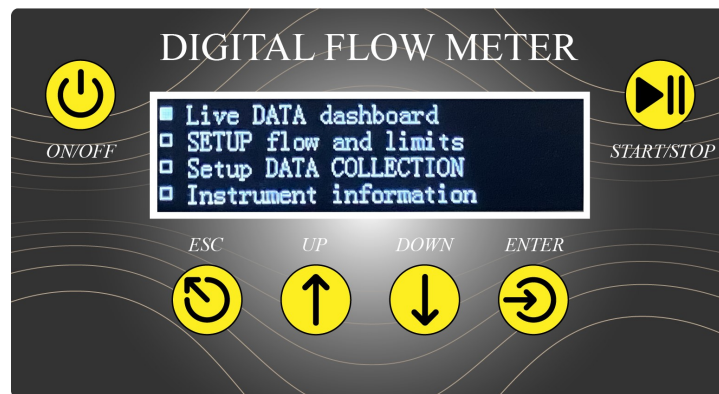
FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-19	F&J Model C	2” or 50 mm
FJ-27	F&J Model B	2” or 50 mm
FJ-34	F&J Model C	47 mm
FJ-39	F&J Model B	47 mm
FJ-52	F&J Model M	2” or 50 mm
FJ-54	F&J Model M	47 mm

**Filter holders for 102 mm and 110 mm are available**

## Available Engineering Units for Flow and Volume:

SLPM / SL  
SCFM / SCF  
SCMH / SCM

## Digital Flowmeter Keypad/Display



# INDOOR COMBINATION FILTER HOLDERS

## Aluminum Filter Holders

<b>FJ-19</b>	2.0" particulate - Model C
<b>FJ-27</b>	2.0" Particulate - Model B
<b>FJ-34</b>	47 mm Particulate - Model C
<b>FJ-39</b>	47 mm Particulate - Model B
<b>FJ-52</b>	2.0" Particulate - Model M
<b>FJ-54</b>	47 mm Particulate - Model M

## Plastic Filter Holders

<b>FJ-19P</b>	2.0" particulate - Model C
<b>FJ-27P</b>	2.0" Particulate - Model B
<b>FJ-34P</b>	47 mm Particulate - Model C
<b>FJ-39P</b>	47 mm Particulate - Model B
<b>FJ-52P</b>	2.0" Particulate - Model M
<b>FJ-54P</b>	47 mm Particulate - Model M

# WORLD CALIBRATOR PC INTERFACEABLE



**WORLD CALIBRATOR  
Displayless Version**



**WORLD CALIBRATOR  
Vacuum Fluorescent Display  
(VFD) Version**

**Notable Features:**

- PC Interface program:
  - Western or Asian Languages
- Operator Selectable Options
  - Multiple language options; European or Asian Version
  - Multi gas option
  - Volumetric or mass flow
  - At Reading or Full Scale Accuracy Calibration Type
  - Reference T and Reference P
  - Engineering units for all reported parameters
- Semi-Automatic calibration-verification when used with F&J digital air samplers
- Customizable calibration report
- Standard Accuracy:  $\pm 1.0\%$  Full Scale (F.S.)
- Customizable to 1% of Reading Accuracy
- Two Year Warranty
- Complementary Storage Case

**Notable Features:**

- Vacuum Fluorescent Display:
  - (4 lines $\times$ 24 characters)
- 4 button key pad for stand alone operation
- Mass flow or Volumetric flow
- Volume Totalization Feature
- Operator selectable Reference T and P
- Operator selectable engineering units
- Multi gas option
- Standard Accuracy:  $\pm 1.0\%$  Full Scale (F.S.)
- Customizable to 1% of Reading Accuracy
- User customizable calibration report
- Semi-Automatic calibration-verification when used with F&J digital air samplers
- PC Interface program:
  - Western or Asian languages
- Two Year Warranty
- Complimentary Storage Case



# CONSUMABLES AND ACCESSORIES FOR AIR MONITORING PROFESSIONALS

## Assorted Filter Paper



## Filter Holders



## Radioiodine Collection Cartridges



# PRODUCT PROFILE

## Air Sampling Systems

- High Volume Air Samplers
  - Portable Grab Samplers
  - Environmental Systems
  - Enzyme Dust Samplers
  - PM10 Systems
- Continuous Air Samplers
  - Environmental Systems
  - Portable
  - Fixed Station
- Personal Air Samplers
- Emergency Response DC Powered Air Sampling Systems

## Filter Paper

- Glass Fiber
- Cellulose
- Membrane
- Quartz

## Filter Holders

- Open face
- In-Line
- PAS Filter Holders
- Materials
  - Plastic
  - Aluminum
  - Stainless Steel

## Radon Detection Devices

- 2-Day Passive Charcoal Canisters
- 7-Day Passive Charcoal Canisters
- Continuous Radon Monitors

## Tritium Detection Systems

- Portable and Fixed Station Collection Systems utilizing Silica Gel or Molecular Sieve Absorbents
- Continuous Tritium Monitors

## New Products

- Global Air Sampling Systems
- Digital Flow Meter Air Samplers
- C-14 Collection Systems
- ELITE DIGITAL LIGHT (EDL) Air Samplers
- Isokinetic Air Sampling Systems
- MEGA High Volume Air Samplers
- ULTRA High Volume (CTBTO) Air Samplers
- JUNIOR CTBTO Air Samplers

## Radioiodine Collection Cartridges

- TEDA Impregnated Charcoal
- Silver Zeolite
- Custom Cartridges
- Bulk Silver Zeolite

## Air Flow Calibrators

- World Calibrator Series
- Compact Digital V.2 Series
- Mini-Calibrator

