Air Sampling Instruments For Radiological Emergency Preparedness

The necessity of state-of-the-art air sampling and airflow calibration instruments for radiological emergency preparedness teams (REP), civil survey teams (CST) and radiological assistance program teams (RAP) is clearly established in today's terrorism sensitive environment.

Instruments need to be lightweight, reasonably small, simple to operate and to display accurate measurement values that are comparable to other measured results of different survey teams and in compliance with industry recognized standards.

F&J provides a variety of emergency response air sampling instruments that can be utilized by first responders or secondary responders to a dirty bomb terrorist event, or a nuclear power plant accident event.

At some point in the event, there will be a need to monitor radioactivity levels of ambient air which emergency survey workers and the general public will be exposed to. Field samples preferably will be collected utilizing portable lightweight instruments. Subsequently, analysis of samples collected on particulate filter media or radioiodine collection cartridges will be made at a fixed station or mobile radio-analytical laboratory supporting field operations.

Accurate measurement of quantitative radiological pollutant levels in ambient air being breathed by emergency response teams is essential to ensure the health and safety of the REP, CST and RAP team members.

The F&J battery powered air sampler selection includes three levels of flow capacities. The first is ~40 LPM (1.4 CFM) maximum flow units range in weight from ~8 lbs to ~17 lbs. featuring 10 Ah LiFe(PO_4) batteries.

The second level of flow capacity the instruments have a maximum flow of 75 LPM and for the third level ~170 SLPM for operators using large diameter filter media (>125 mm). These emergency response air samplers feature primarily 20Ah, or 30Ah batteries LiFe (PO_4). Some designs operate from AC power, an external 12 VDC power source and do not have an internal battery if it is not required for the user's air sampling application.

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Operability includes, for most models, three power options:

- On-board batteries
- 12 VDC external source such as F&J's LIBATBANK-12V
- line power

These emergency response air samplers can be useful for REP, RAP and CST programs.

These high tech instruments provide several interesting and very useful automated features. The key features include the following:

- automatic flow control
- auto shut off on time or volume
- correction of flowrates and volumes to a reference temperature and pressure
- RS232 communications port
- Digital display with dimming feature to save battery life
- Long battery life
- Lightweight and packaged in small enclosure
- Optional filter holders with rain shields for outdoor use

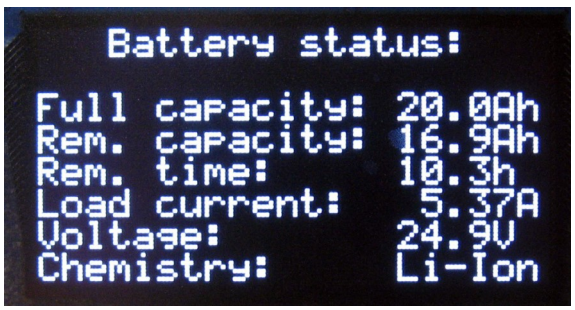
There are three styles of enclosures utilized for the air samplers. The "ammo box" style (metal or plastic) is a waterproof enclosure that can be utilized as the storage and transportation container for the air sampler. The metal "instrument box" enclosure is designed primarily for indoor use or outdoor use in good weather and the ruggedized plastic enclosure for outdoor use in inclement weather or indoor use where dusty or high condensation conditions exist, or if rough handling can be expected during use.

The air sampling instruments in the three types of enclosures offer the same advance technology features of automation and correction of flowrates and volumes to a reference temperature and pressure.

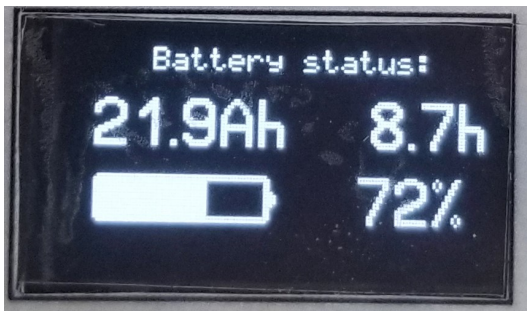
F&J AC/DC battery powered air samplers utilize Lithium Iron Phosphate ($LiFe(PO_4)$) batteries which have greater than 2000 charge/discharge cycles.

All units possess an RS232 communication port to interface with an optional F&J flashcard data storage device. Refer to page 4.

All instruments with on-board batteries are equipped with a battery capacity information screen and an on-board charging system via line power input.



Screen 1



Screen 2

Air Sampling Instruments For Radiological Emergency Preparedness

Ruggedized Plastic Enclosures

DF-40L-400-Li

Lithium ion
~16.5 lbs.
AC/DC/Battery

DF-75L-400-Li

Lithium ion
~21 lbs.
AC/DC/Battery

Note:
All models are Illustrated with an Optional filter holder system

Ruggedized Steel Enclosures

DF-ABM-40L-10Li

10 Ah LiFe(PO_4) Battery
AC/DC/Battery

DF-ABM-40L-AC

AC/DC

Metal Ammo Box Enclosure

DF-ABM50-170L-20Li

20 Ah LiFe(PO_4)
AC/DC/Battery

DF-ABM50-75L-20Li

20 Ah LiFe(PO_4)
AC/DC/Battery

DF-ABM50-40L-20Li

20 Ah LiFe(PO_4)
AC/DC/Battery

DFCB-ABM-100L-AC

AC/DC

DFCB-ABM50-100L-20Li

20 Ah LiFe(PO_4) Battery
AC/DC/Battery

F&J FlashCard Datalogging System

P/N: 232FCDSD

Data Storage Device, RS232 Input, Data stored in SD Card (SD Card not included)

2GB or Higher Secure Digital Card

The SD card is ideally suited to meet the demands of small portable devices that need high capacity flash memory in a very small size. The F&J FlashCard Data Storage Device uses this type of flash memory.

Main Features
Flash memory card; 2GB; SD Memory Card

P/N: 372239

P/N: SDDR-199-A20

Micro SD Card Reader

USB 3.0 SD Card Reader for SDHC (UHS-I), SDXC (UHS-I), microSD, microSDHC (UHS-I), and microSDXC (UHS-I). Fully powered via your USB port ,no additional power supply required. No drivers required for Windows XP/Vista/7/8/8.1/10, Mac OS, Linux, Chrome OS.