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INSTRUCTIONS FOR THE USE OF THE MIE MODEL pDR-FA ACTIVE SAMPLING ADAPTER

1.0 DESCRIPTION

The MIE Active Sampling Adapter Kit (MIE model pDR-FA) is an optional accessory for the personalDataRAM hand-held dust monitor/data logger. The pDR-FA is designed to seal the sensing chamber of the personalDataRAM such that the instrument can be used for active sampling in combination with a separate air driver (e.g. personal pump).

The pDR-FA consists of two metal plates of L-shaped cross section whose inside walls are covered with a foam rubber gasket. On the outside wall of each of these plates, there is a barbed hose fitting to which plastic (e.g. Tygon) tubing can be connected.

2.0 ATTACHMENT TO personalDataRAM

To install the two plates of the pDR-FA on the personalDataRAM, proceed as follows:

2.1 Remove the two screws on the top of the large protective bumper that covers the sensing chamber.
2.2 Remove the large protective bumper by lifting it firmly upwards and away from the sensing chamber.
2.3 Remove the socket-head screws on the front and back black covers that were exposed by removal of the large top bumper. Lift away the freed front and back flat covers of the sensing chamber; set them aside carefully and such that they can be reattached in the same position as they were previously (dull side inwards) when the personalDataRAM is to be operated as a passive monitor.
2.4 Carefully place one of the two L-shaped plates of the pDR-FA kit against the front opening of the sensing chamber, with the brass hose fitting facing outwards. Align the hole in the plate above that fitting with the mounting hole on the side of the sensing chamber. Fasten the plate to the sensing chamber using one of the two socket-head screws provided with the pDR-FA kit. Make sure that the upper edge of the plate is parallel to and approximately flush with the top edge of the sensing chamber. Tighten the screw firmly.
2.5 Repeat the preceding steps with the second plate, attaching it to the rear opening of the sensing chamber.

To remove the two plates of the pDR-FA from the personalDataRAM, follow the above steps in reverse order. To restore the personalDataRAM to its standard passive configuration, reinstall the two flat black covers which had been removed to install the L-shaped plates of the pDR-FA. Make sure that the dull painted surfaces of the two flat plates face inwards. When handling these plates, avoid soiling, marring or otherwise damaging those dull painted surfaces.

3.0 OPERATION

Either of the two barbed hose fittings can be used as inlet or as exhaust; i.e. they are functionally symmetrical. For personal sampling applications, the front fitting is used preferentially as the inlet port, in order to ensure unobstructed sampling.

Typically, when using the personalDataRAM in combination with the pDR-FA, the exhaust port is connected to a pump (e.g. personal pump) via an in-line filter, using flexible plastic tubing. If desired, a cyclone can be connected to the inlet port for respirable particle monitoring.

The personalDataRAM and pDR-FA combination is designed to operate at any flow rate between 1 and 4 liters/minute. Operation at 2 liters/minute is recommended.

To "ZERO" the personalDataRAM when using it in combination with the pDR-FA, proceed as follows:

3.1 Attach a short length of flexible plastic tubing (provided with the pDR-FA kit) to the right-angle plastic barbed hose fitting of the in-line filter cartridge of the Z-Pouch zeroing kit.
3.2 Attach the other end of the plastic tubing to one of the brass barbed hose fittings of the pDR-FA; the other fitting on the pDR-FA is left open.
3.3 Gently and slowly, proceed to pump the hand-bulb about 25 to 30 times. This causes clean filtered air to flush out the personalDataRAM-sensing chamber, as required to zero the instrument.
3.4 Key the instrument ON, and after it displays "START ZERO: ENTER", key ENTER.
3.5 While the instrument displays "ZEROING", gently pump about 10 times again.
3.6 As soon as the display "CALIBRATION:OK" appears, disconnect the plastic tubing from the personalDataRAM. Zeroing is now complete, and the instrument is ready to perform a measurement run.

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