

FDMS FILTER CHANGE PROCEDURE

1. Preparation

- a. BEFORE changing filters on either the TEOM sensor or FDMS unit please ensure that you have all the items required to hand. These are;
 - i. Filter Cartridge with new 47 mm Pallflex (MFAB) filter already in place
 - ii. Lint free Tissues
 - iii. Tweezers
 - iv. TEOM filter
 - v. Filter Exchange tool

2. Changing FDMS 47mm Filter

- a. Press the **DATA STOP** key on the TEOM Control Unit keyboard.
- b. Press **14** and then **Enter** on the TEOM control unit keyboard. This will bring up a special display showing the current operating mode of the FDMS. **The unit MUST be in BASE mode before proceeding**, if not wait till it changes from REF mode to BASE mode before proceeding. (can be up to six minutes)
- c. Switch the power to the FDMS module **OFF** to lock the system in BASE mode. The power can be switched off on the rear panel using the switch above the power cord.
- d. Open the access door on the left side of the FDMS module by releasing the black thumbscrew and then firmly grip and turn the grey seal anti-clockwise to release it as shown.
- e. Remove the blue filter cartridge and replace with a new pre-prepared one. Place the cartridge into the holder with the foil back against the inner chamber and the filter facing upwards.
- f. Using a tissue carefully wipe away any moisture which might be present in and around the filter chamber making sure no loose fibres or tissue are left behind.
- g. Check the condition of the 'V' seal and if damaged either replace it or report it to CMCU.
- h. Replace the grey seal cap with the cartridge inside and turn to lock, then close the access door and secure with the thumbscrew.
 - i. *NOTE. The time the seal is open to atmosphere should be minimised to prevent condensation forming on the cold surfaces.*
- i. Switch **ON** the FDMS power.

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MASS CONCENTRATION
Curr Chan>    BASE
Mass Conc    24.6
Base MC      23.1
  
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2b



2c



2d



2e



2g

TEOM FILTER CHANGE PROCEEDURE

3. Changing TEOM Sensor Filter

- a. Check the control unit is still in **DATA STOP** mode (**S** in mode display)
- b. Open the sensor outer door and open the sensor block by releasing the latch as shown.
- c. Using the filter exchange tool carefully remove the used filter from the end of the tapered element by pulling gently upwards. **DO NOT LEVER OR TURN THE FILTER TOOL** as this could damage the tapered element.
- d. Discard or store the spent filter from the exchange tool and pick up a new filter from one of the two storage pins on the sensor platform.
- e. Place the new filter onto the tapered element using the tool and when in position push the tool directly downward to secure the filter onto the tip of the tapered element. *About 3lbs of pressure is sufficient.*
- f. Using the filter exchange tool take a new filter from the box and place it onto the free storage pin. Close the box and re-seal it in the bag with the desiccant pouch and store inside the sensor housing.
- g. Close the sensor block and secure with the latch as shown.
- h. Check the vacuum gauge and note the value. The vacuum should ideally be better than - 20" Hg.
 - i. *Acceptable performance is usually between -18 to -24 " Hg. If less than -18" Hg report this to CMCU as this indicates the pump is in need of service or replacement.*
- i. Press **RUN** or **F1** on the TEOM Control unit and check that the mode changes from S to 1 and that the **RED** Status lamp on the front panel goes out after a few minutes.
 - i. *After a few minutes the mode will change through 2, 3 and then 4 indicating that the system is again in normal operation. This usually takes 5-10 minutes but can be up to 30 mins depending on system status.*



3b



3b



3g



3h

USEFUL DO'S AND DON'TS

DO PRE- PREPARE THE FDMS 47MM FILTER AND CARTRIDGE BEFORE STARTING PROCEEDURE
DO ENSURE THAT ALL CONDENSATION IS WIPED AWAY FROM COLD SURFACES
DO ENSURE THAT YOU ONLY CHANGE FDMS FILTER IN BASE MODE AND TURN THE FDMS POWER OFF DURING CHANGE
DO CHECK THE PUMP VACUUM IS BETTER THAN 18" HG

DON'T CHANGE THE FDMS FILTER DURING REFERENCE MODE
DON'T FORGET TO TURN THE FDMS POWER BACK ON AFTER THE FILTER CHANGE
DON'T TOUCH THE FDMS FILTER OR TEOM SENSOR FILTER WITH YOUR FINGERS
DON'T LEAVE THE COLD FILTER COMPARTMENT OPEN FOR MORE TIME THAN NECESSARY