

FDMS Leak Check Procedure

Notes

The following procedure describes how to carry out a leak check in the reference cycle of the FDMS on the assumption that if there are no leaks in the reference cycle there will also be no leaks in the base cycle. This is a reasonable assumption as the plumbing in the base cycle is identical to that in the reference cycle except for the additional path via the cooler and linear valve which are both checked by this procedure.

Procedure

1. Switch off the Air temp (Set Temps and Flow screen)
Data stop-Edit-0-Enter
2. Unplug the pump to check the “no pump” flows and note the values when stable
3. Re-start the pump
4. Switch off the FDMS drier power to avoid valve switching during leak check
5. When the flows are stable fit the flow audit adapter to the sample inlet and slowly close the brass valve
6. When the flows have settled compare the readings with the “no pump” readings, Main flow should agree within 0.15 and Aux Flow within 0.60 if more than this then investigate and correct leak before proceeding. Repeat from step 5. Note the final readings
7. **VERY Slowly** open the flow audit valve
8. Switch the FDMS drier power on
9. Set the Air temp back to 30 degrees in the (Set Temps / Flow screen)
Data stop-Edit-30-Enter
10. Using a flow meter placed in ambient conditions note the ambient Temp and flows check this against the readings of the instrument. If correct proceed if not adjustment is required before the next step
11. Disconnect the auxiliary tube from the flow splitter and fit a blocker
12. Connect a flow meter to the sample inlet and observe the flow which should be 3L/min note this value which should be within 0.05 of set point if not adjust using FAdj Main in the Set Temps / Flows screen
13. Reconnect the auxiliary tube and observe the reading on the flow meter which should now be 16.67L/min (3 lpm Main plus 13.67 lpm Aux) if not, adjust using FAdj Aux in the Set Temps / Flows screen.
14. Leak and flow checks are now complete **Push F1**