# NOx module (A) – Cleaning the reaction cell

  The reaction cell should be cleaned at least once a year. A dirty reaction cell will cause excessive noise, drifting zero or span values or low response. To clean the reaction cell, it is necessary to remove it from the sensor housing following the steps below.

1- Tools you need
   - wrench 9/16", ½", and 7/16"
   - a medium Phillips screwdriver
   - a soft cloth

2- Turn off and unplug the airpointer. Pull the NOx module drawer out

3- Locate the reaction cell in the NOx module
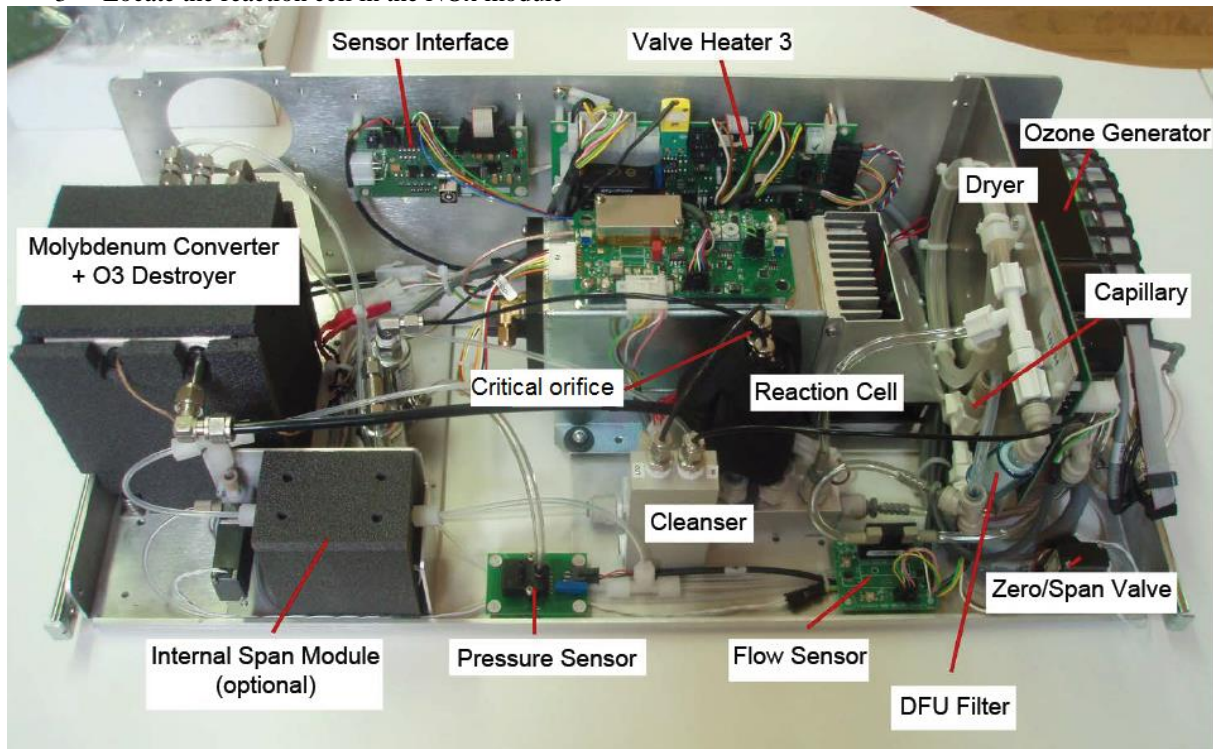
4- Disconnect the black 1/4" exhaust tube (connected to the Vacuum Fitting) and the 1/8" sample and ozone air tubes (connected to the two Orifice Assemblies) from the reaction cell. Disconnect the heater/thermistor cable

5- Remove four screws holding the reaction cell to the PMT housing and lift out the cell and manifold

⚠ Prevent light from entering the Photomultiplier Tube (PMT)! While removing the reaction cell, cover the PMT window with an opaque plate
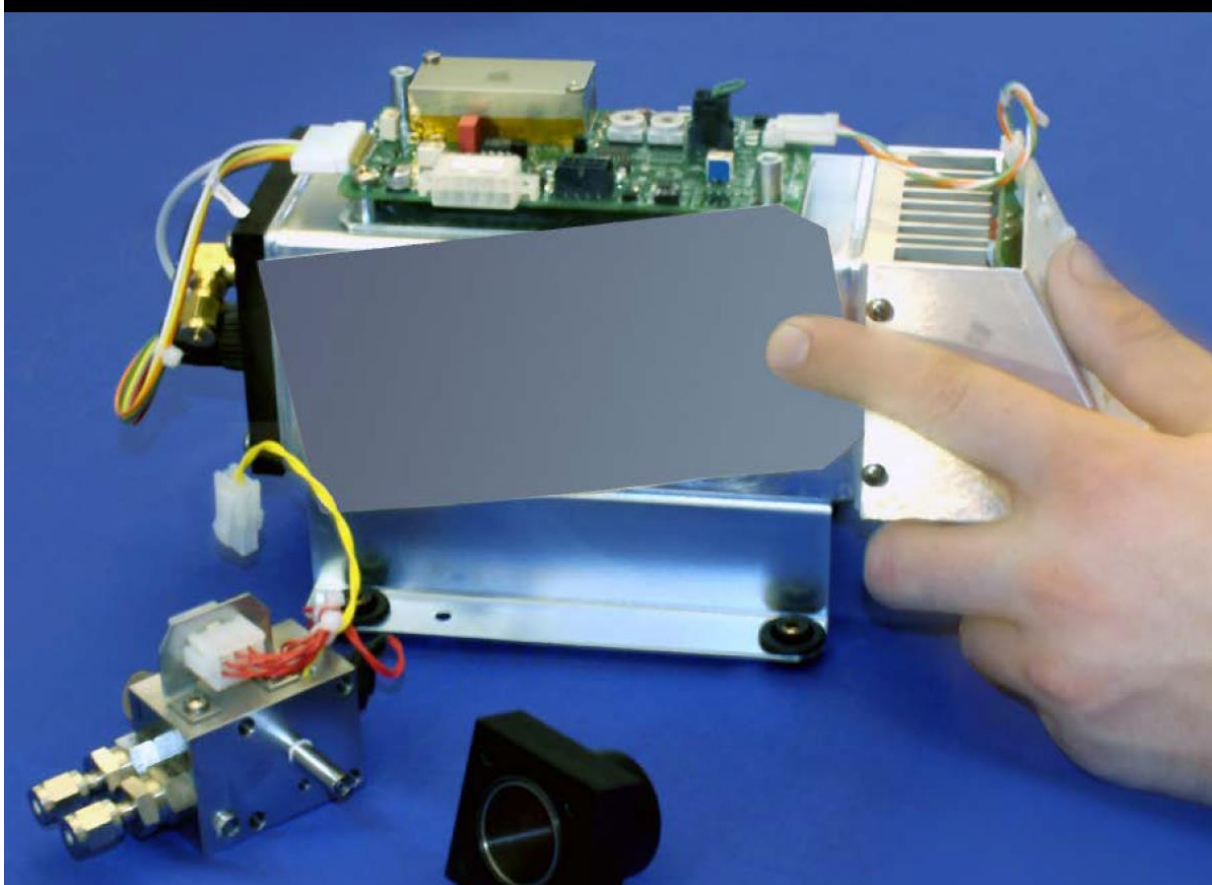
6-   The reaction cell will separate into two halves, the stainless steel manifold assembly, and the black plastic reaction cell with window, stainless steel cylinder and O-Rings
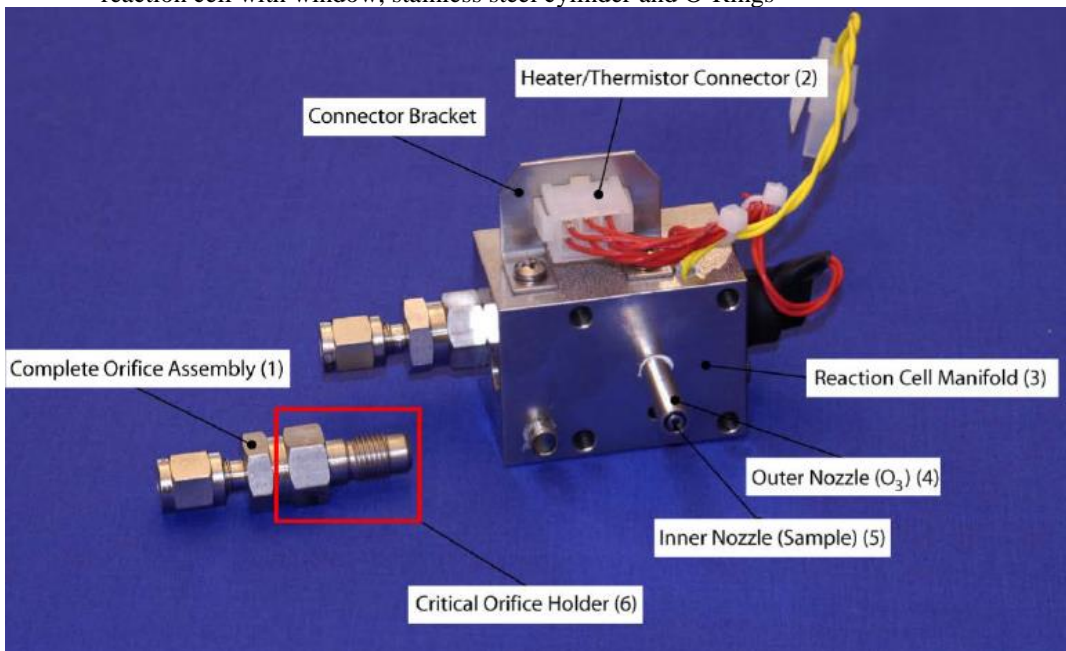

⚠ Do not remove the sample and ozone nozzles. They are Teflon threaded and require a special tool for reassembly. If necessary, the manifold with nozzles attached can be cleaned in an ultrasonic bath.
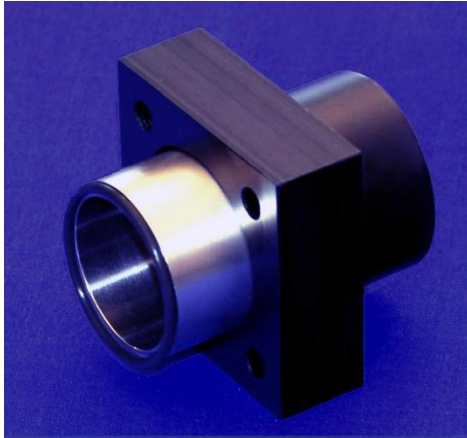
7- The reaction cell (both plastic part and stainless-steel cylinder) and the glass window (optical filter) should be cleaned with water and a clean tissue and air dried thereafter

⚠ Do not touch the optical filter with bare hands!
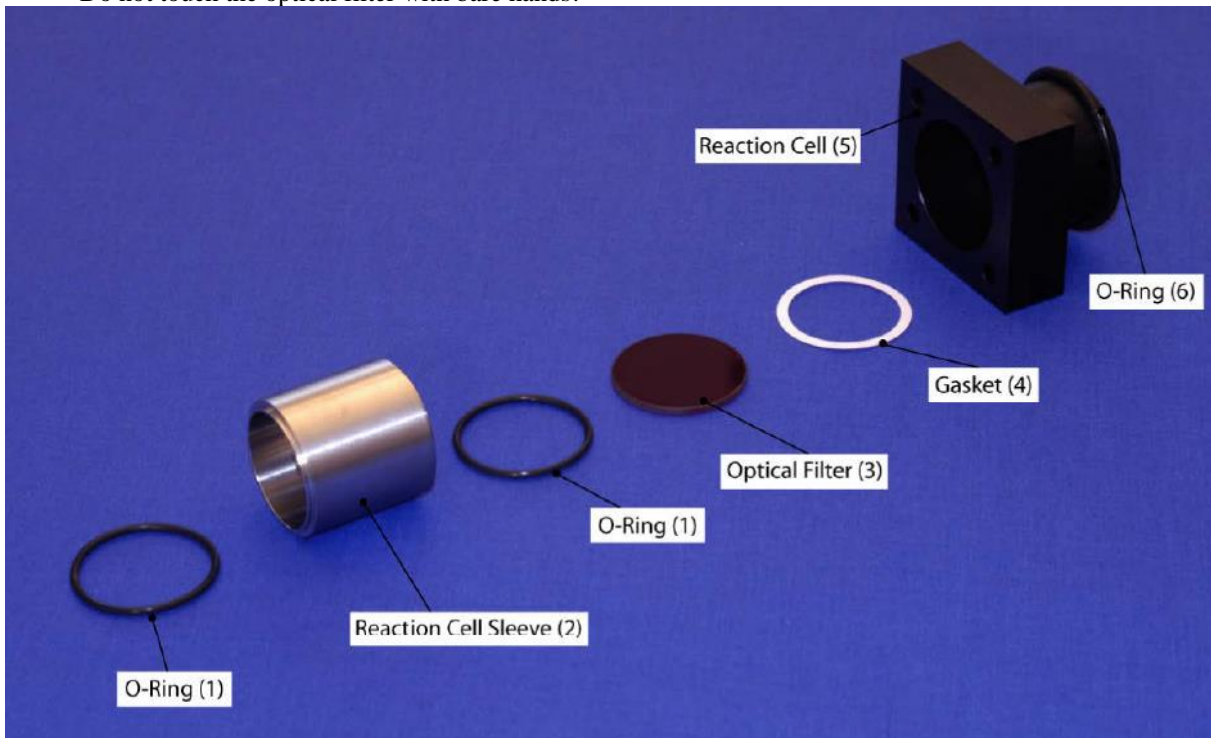
8- Reassemble in proper order and reattach onto sensor housing. Reconnect pneumatics and heater connections, then reattach the pneumatic sensor assembly and the cleaning procedure is complete
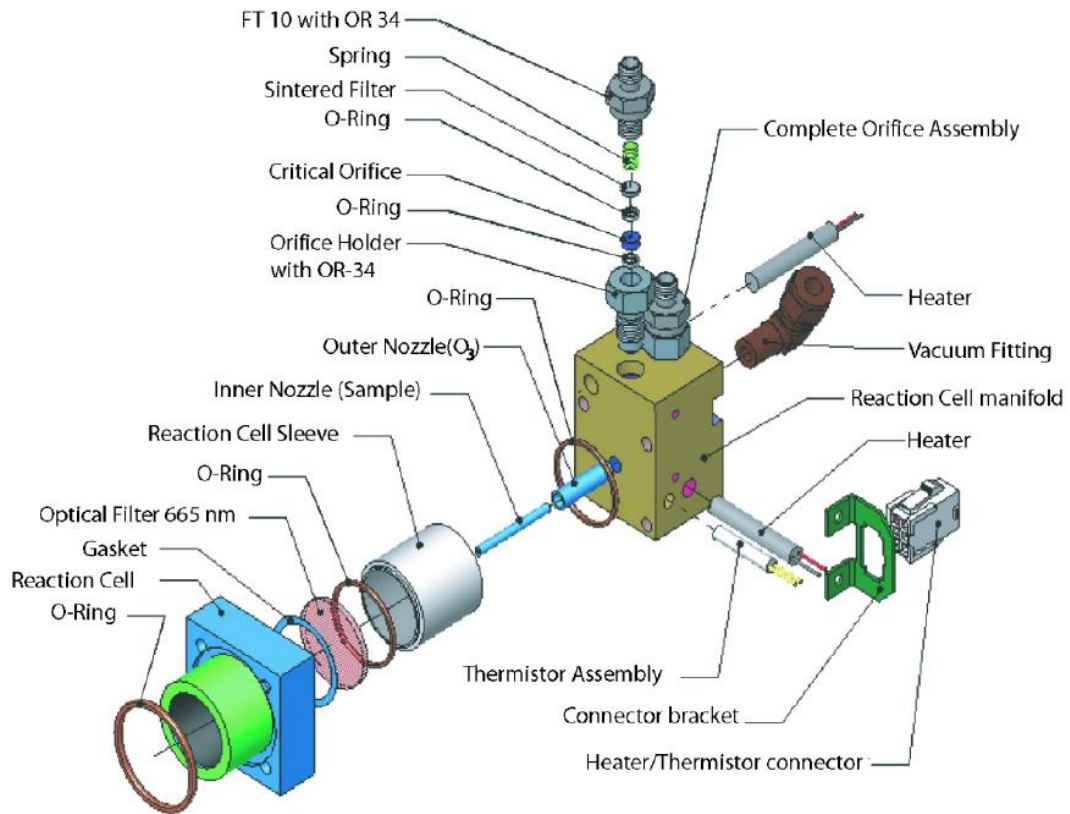
9- Perform a Sample Flow Check

10- Allow the system to burn-in for 24 hours, then recalibrate the module. The analyzer span response may drop 10–15% in the first 10 days due to some conditioning of the reaction cell window. This is normal but requires additional calibration