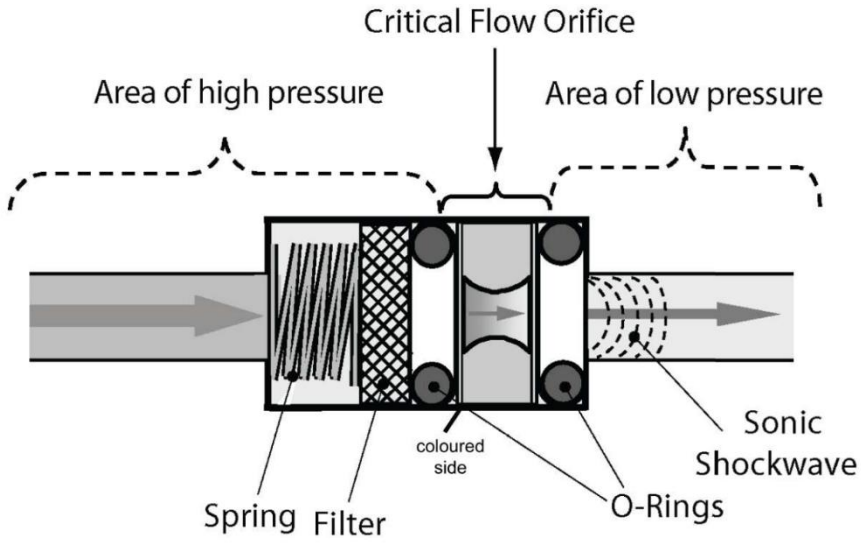
NOx module (A) – Replacing the critical orifices and the capillaries

1 Tools you need

- 2 new critical orifices or an ultrasonic bath
- wrench 9/16", ½", and 7/16"
- tweezers

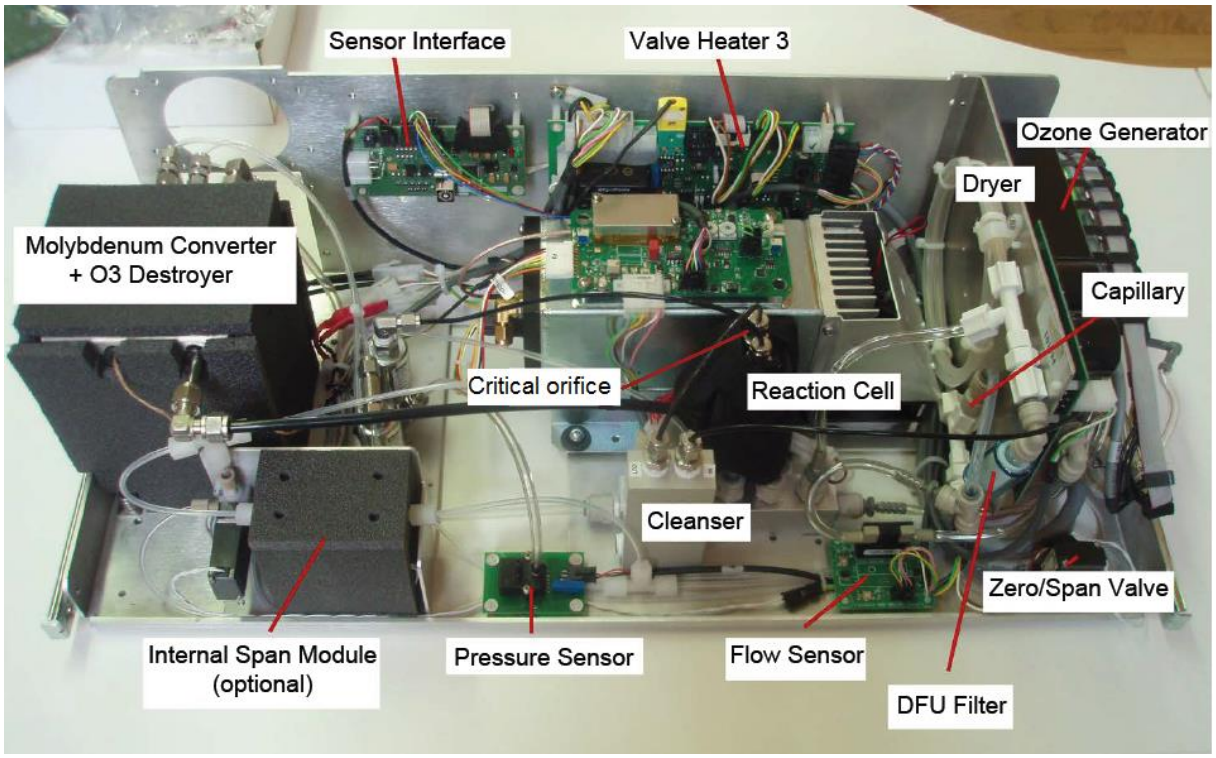
2 Replacing the critical orifices

There are 2 critical flow orifices located above the NO reaction cell. Despite the fact that these flow restrictors are protected by sintered stainless steel filters, they can, on occasion, clog up, particularly if the instrument is operated without sample filter or in an environment with very fine, sub-micron particle-size dust.

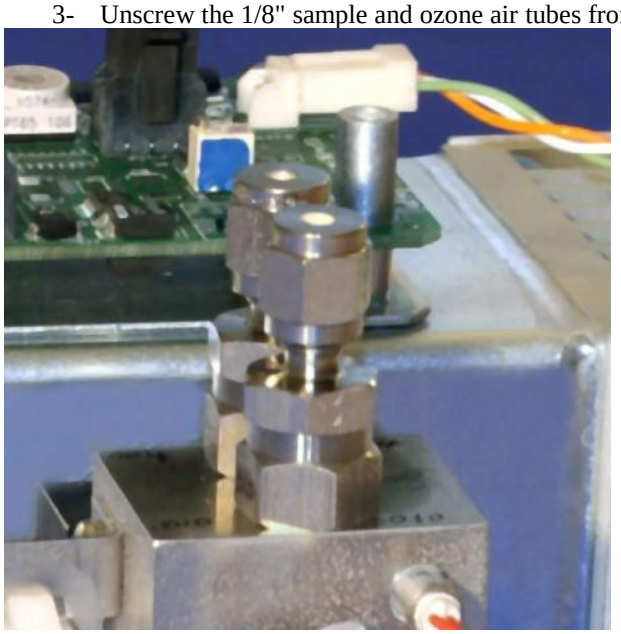


1- Turn off and unplug the airpointer. Pull the NOx module drawer out

2- Locate the reaction cell in the NOx module

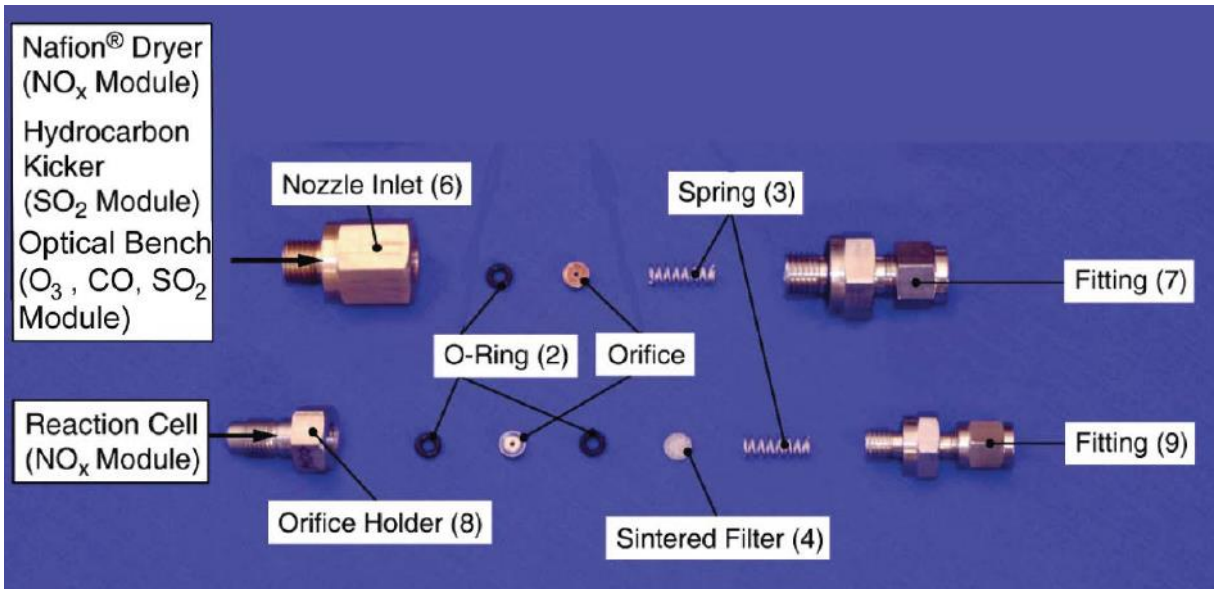


3- Unscrew the 1/8" sample and ozone air tubes from the reaction cell manifold



4- Unscrew the orifice holder with a 9/16" wrench. This part holds all components of the critical flow assembly

5- Take out the components of the assembly: one spring, one sintered filter, two O-Rings and the orifice



6- Discard the two O-Rings and the sintered filter. Clean the critical flow orifice in an ultrasonic cleaner for about 30 minutes using water. Air-dry the parts. If you do not have an ultrasonic cleaner, simply discard the critical orifices and replace them with new ones.

7- Reassemble the parts and reconnect them to the reaction cell manifold

8- Reconnect all tubing, power up the analyzer and, after a warm-up period of 30 minutes, perform a Sample Flow Check

3 Replacing the capillaries

There are 3 capillaries in the NOx module: 1 with a purple dot and 2 with a red dot. To check a capillary, remove the push-fit connectors holding the capillary, inspect it and if necessary, install a new capillary. In the absence of flow / pressure / leak problems, and if the capillary looks clean and intact, put the capillary back in place.