

## Cleaning the BMT 964 AQ-LC Cuvette

Rev. 1.0 - 30. October 2013

The OZONE-IN-CLEAN-WATER SENSOR BMT 964 AQ-LC for low concentration ozone dissolved in ultra pure water has a cuvette made of stainless steel. Together with the UV lamp and UV detectors it builds a self-contained unit - the cuvette assembly - that can be taken out of the analyser for cleaning. For disassembly please read the following instructions to make sure the correct screws are loosened.

### Preparation

Before attempting to clean the cuvette remove any ozone and any water from the instrument and initiate zeroing (after warm-up). It is needed for comparison with the value after cleaning.

### Unmounting the cuvette assembly

**Caution:** High voltage inside! Disconnect the analyser from mains power before opening the cover!

- remove the cover by loosening the four top screws - watch the grounding wire attached to the cover
- remove any remaining water in the wetted path
- remove the two red and black wires from the pcb (high voltage to UV lamp)
- disconnect the black 4-pole connector from the pcb (signals from detectors)

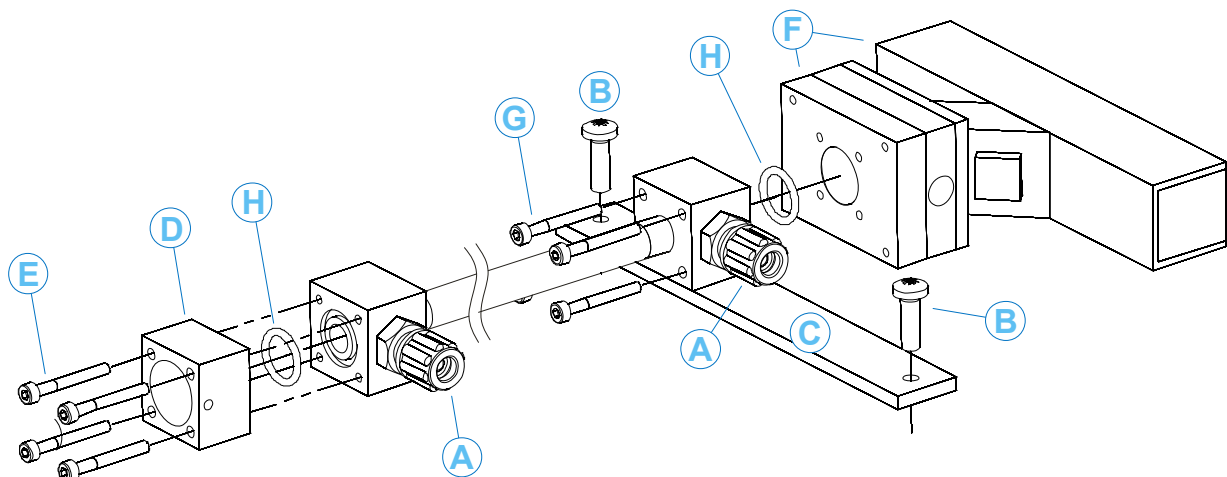


Fig. 1: complete cuvette assembly

- remove both PFA tubings from fittings **A** - handle these with care, they are designed to withstand high pressures
- unscrew the two or three screws **B** (inside the analyser, do not touch the screws visible from outside!) that are holding the cuvette assembly and take the whole unit out - leave the mounting bar **C** attached to the cuvette assembly
- note orientation of detector **D** and unmount the detector block by loosening four screws **E**. Note the O-ring on the end of the tubing (not to be removed)

- unmount the UV lamp assembly **F** by loosening four screws **G**. Do not loosen any other screws! Note the O-ring on the end of the tubing (not to be removed)

### Cleaning cuvette windows and SS tube

The cuvette windows held by the anodised aluminum should be cleaned from the side of the wetted path, only, the other side is not exposed to any dirt and is not accessible by the user. Use lint-free cloth and deionised water or IPA (isopropyl alcohol). A cylindrical nylon pipe brush with 15mm diameter will do, too. The windows are made of quartz glass, the tube is stainless steel.

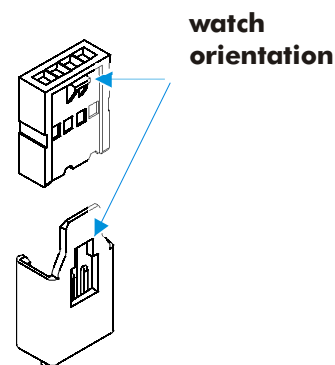
The O-rings leave visible marks on the cuvette windows. Removing these marks improves sealing.

### Reassembling

The whole process of assembly must be conducted in a clean, dry and dust-free environment. Particles on the O-ring and windows might prevent a good sealing and compromise measurement.

Assembly after cleaning is done in the reverse order. Some remarks:

- Tighten the four screws **G** holding the detector and the UV lamp assembly **F** hand-tight only! The surfaces should fully touch each other.
  - Watch the orientation of the 4-pole connector (see graphics)
  - Connecting PFA tubings: make sure to push the tubing fully onto the fittings **A** before tightening the nut!
  - A pressure test of the whole wetted path with 16 bar gauge is mandatory, as well as a leakage test
  - After reassembly and warm-up initiate zeroing and write down the DIRTY level. Compare this with the reading before cleaning. Levels below 10% are considered clean.
- Note:** The DIRTY level is not updated until a zeroing is performed!



If case of any problems do not hesitate to contact us:

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