OZONE ANALYZER BMT 961

Dismantling the Analyzer and Cleaning the Cuvette

Rev. 01/99

1. Opening the casing

Remove the four screws (1.5 mm Allen screws) at the corners of the rear panel (do not extract any other screws!) and remove the device (together with the rear panel) from its casing. The tube connections can be used for pulling the device out - but not the flat band cable.

2. Unscrewing the tube connections

Unscrew the two union nuts covering the cuvette's Teflon® (PTFE) tubes and withdraw the tubes.

3. Separating the lamp housing and the cuvette-block from the circuit board

The lamp housing and the cuvette-block - the black "T" on the circuit board - comprise an inseparable unit. This unit can be removed by unscrewing the four outer screws (M3 cross-headed) on the bottom of the circuit board. Do not unscrew the two screws (normally fixed with varnish) near the legend "xxx g/m^3" or the screws on the top surface of the circuit board!

The cuvette opening (on the circuit board side) must always point upwards so that the contents of the cuvette do not fall out. Keep pressing both the circuit board and the cuvette block pressed together (against the spring inside the cuvette block).

First, the two screws near the edge of the circuit board are unscrewed, followed by the two screws at the centre of the circuit board. The circuit board is then lifted with the bottom side pointing upwards.

4. Dismantling the cuvette

The following parts may now be removed from the bore in the cuvette - and in this order:

- spring
- black aluminium ring
- O-ring (seal)
- lower cuvette window (with the cuvette upside-down)
- spacer (which determines the length of the cuvette)
- upper cuvette window
- O-ring (though this normally remains in the cuvette)

5. Cleaning the cuvette

The cuvette window, spacer and seals can be cleaned with water (or with household detergent or alcohol). If the cuvette is very badly soiled, check and clean the cuvette-block (you can clean the

holes with a "Q-Tip" or similar), the PTFE tubes and the tube screw fittings. Dry all the parts, and remove dust with a paint-brush, particularly from the seals. If necessary, use new (quartz) cuvette windows and O-Rings (KALREZ®).

6. Assembling the cuvette

- insert the O-ring (if it has been removed)
- insert the upper cuvette window
- insert the spacer

The spacer consists of two thick rods and two thin wires which join them. During assembly, one of the two thicker rods is placed diagonally between the gas inlet and outlet (but without blocking them!). This is a particularly critical operation with the 200 model. For special measuring ranges, where the PVC spacer is used, there is only one possible insertion position - whereby the openings of the spacer lie in front of the cuvette-block's holes.

- insert the lower cuvette window
- insert the O-ring
- insert the black aluminium ring with the conical face pointing towards the sealing ring
- insert the spring

Remount the circuit board and fasten it with the four screws, first tightening the two screws nearest to the cuvette. Whilst tightening the screws, press the circuit board and the cuvette-block together (counter to the force of the spring) so that the spacer in the cuvette cannot twist.

7. Functional test

Place the circuit board complete with the cuvette-block and lamp housing on a dry, non-conductive base, and connect it to the BMT 961 P power pack.

Do not touch the lower side of the circuit board!

Warning: High Voltage!

Connect to the mains voltage. After allowing a few minutes of warm up, press the AUTO ZERO button and keep it pressed. A value of around 23% of the measuring range (e.g., approximately 11.5 for a device with a measuring range of 50 g/m^3) should appear on the display. Release the AUTO ZERO button. The device should display a value of 0.00 within a few seconds. Shortly after switching on, the zero mark will not yet be stable - small deviations from the display value are thus normal.

8. Connect up the tubes

Reconnect the tubes to the interior of the device and tighten the union nuts *by hand*. Now, a leak test is obligatory! If dust is not removed from the O-rings in the cuvette, it will result in a ozone leakage!

With older units, it should be ensured that the jumper between the display and cuvette is closed, as otherwise the UV lamps will not light up (it has occasionally been experienced that this jumper can come open when the cuvette is being assembled - it doesn't exist in units since 1991).

9. Close the casing

Slide the circuit board into the casing's guide slots and fasten the rear panel with the four hexagonal socket screws.