

5 Troubleshooting

| Error | Description | Measure | Chapter |
|-------|--|---|--|
| 14 | Negative pressure / airflow too low | <ol style="list-style-type: none"> 1. Exchange air filters 2. Clean fresh air bores 3. Check suction system 4. Adjust suction pressure 5. Exchange bellows 6. Adjust suction pressure 7. Exchange measuring head | 5.3 page 42 5.1 page 41 3.1 page 30 5.6 page 45 3.1 page 30 5.5 page 43 |
| 13 | Optical sensor dirty | <ol style="list-style-type: none"> 1. Clean infrared filter | 5.2 page 41 |
| 12 | Voltage of internal battery too low | <ol style="list-style-type: none"> 1. Exchange measuring head | 5.5 page 43 |
| 11 | Ambient temperature too low (<0°C) | <ol style="list-style-type: none"> 1. Remove ambient cooling components | |
| 10 | Ambient temperature too high (>70°C) | <ol style="list-style-type: none"> 1. Remove or turn away ambient heating components 2. Install metal heat shields against radiation 3. Install vortex coolers | |
| 9 | Electronics temperature too low (<0°C) | <ol style="list-style-type: none"> 1. Remove ambient cooling components | |
| 8 | Electronics temperature too high (>75°C) | <ol style="list-style-type: none"> 1. Remove or turn away ambient heating components 2. Install metal heat shields against radiation 3. Install vortex coolers | |
| 7 | Reset button defective | <ol style="list-style-type: none"> 1. Eliminate blocking 2. Exchange Measuring head | 5.5 page 43 |
| 6 | Supply voltage too high | <ol style="list-style-type: none"> 1. Measure supply voltage 2. Exchange measuring head | 5.5 page 43 |
| 5 | Switch for adjusting sensitivity defective | <ol style="list-style-type: none"> 1. Exchange measuring head | 5.5 page 43 |
| 4 | Optical sensor defective | <ol style="list-style-type: none"> 1. Clean infrared filter 2. Exchange measuring head | 5.2 page 41 5.5 page 43 |
| 3 | Airflow-sensor defective | <ol style="list-style-type: none"> 1. Exchange measuring head | 5.5 page 43 |
| 2 | Electronic module defective | <ol style="list-style-type: none"> 1. Exchange measuring head | 5.5 page 43 |
| | All LED off | <ol style="list-style-type: none"> 1. Measure supply voltage 2. Activate Self-repair of Polyfuse 3. Replace measuring head fuse 4. Exchange measuring head | 5.7 page 40 5.7 page 40 5.5 page 43 |



5.1 Clean fresh air bores

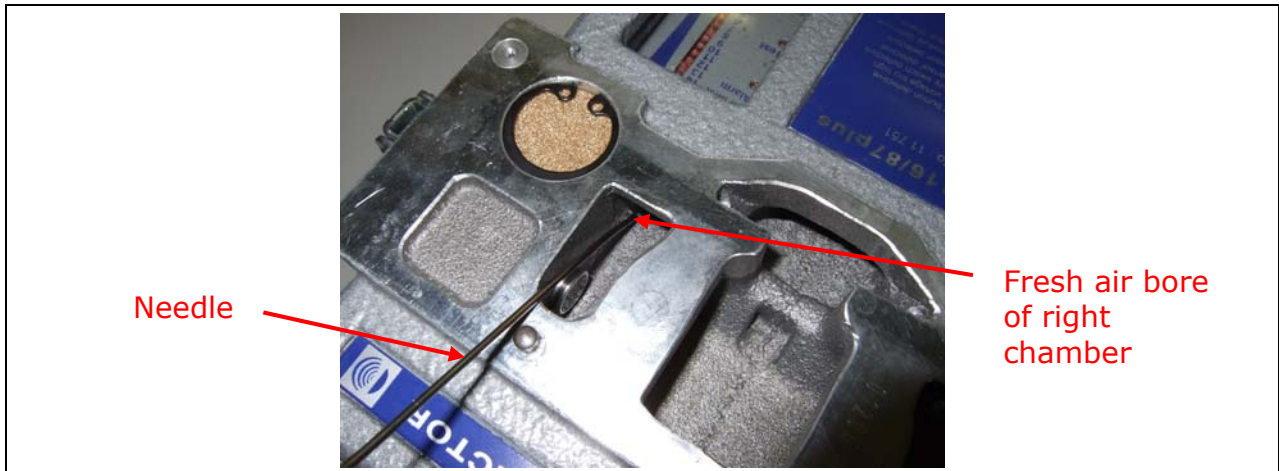



Figure 44: Cleaning of fresh air bore in the left and the right chambers

5.2 Clean infrared filter

| | |
|--|---|
|  | <p>CAUTION! Dirty optical filter glass may cause a loss of sensitivity of the device.</p> |
|--|---|

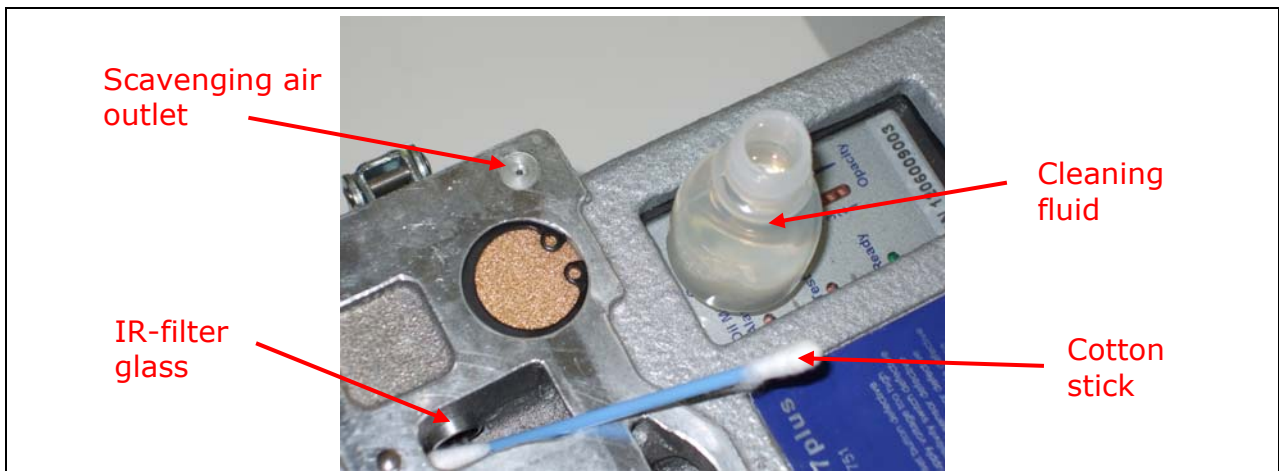



Figure 45: Cleaning of IR-Filter glass in the left and the right chamber


| | |
|---|--|
|  | <p>WARNING! Use only cleaning fluids for optical components as delivered in the service box.</p> |
|---|--|



5.3 Exchange air filters in the measuring head



Figure 46: Exchange of the air filters

| | |
|---|--|
|  | <p>WARNING! Do not try to clean the filters, use always new ones.</p> |
|---|--|

5.4 Exchange air filter in pressure regulator unit

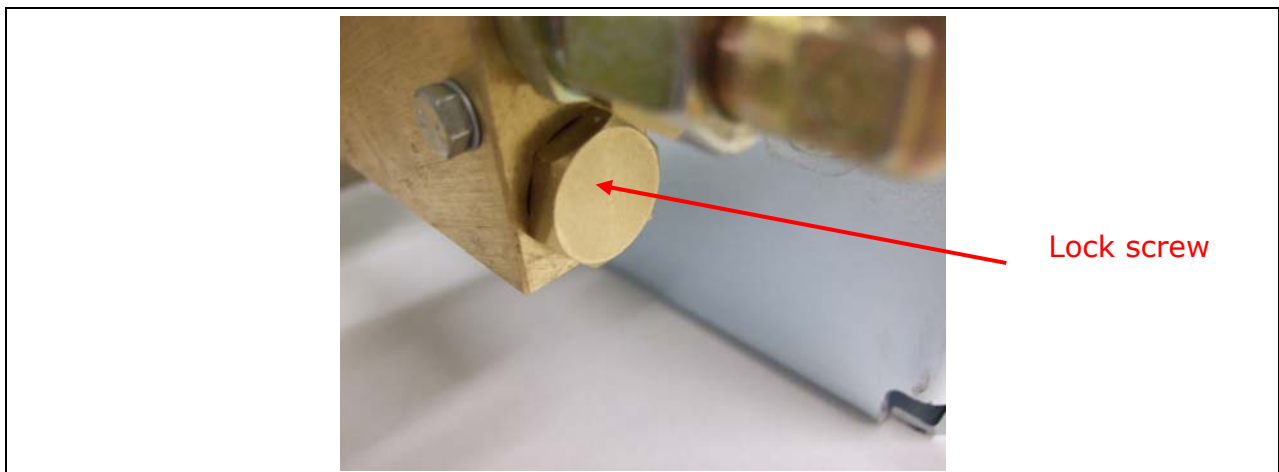



Figure 47: The air filter is behind the lock screw of the throttle block

| | |
|---|---|
|  | <p>WARNING! Switch off the compressed air supply during the maintenance work. After the exchange re-check the negative suction pressure.</p> |
|---|---|



5.5 Exchange measuring head

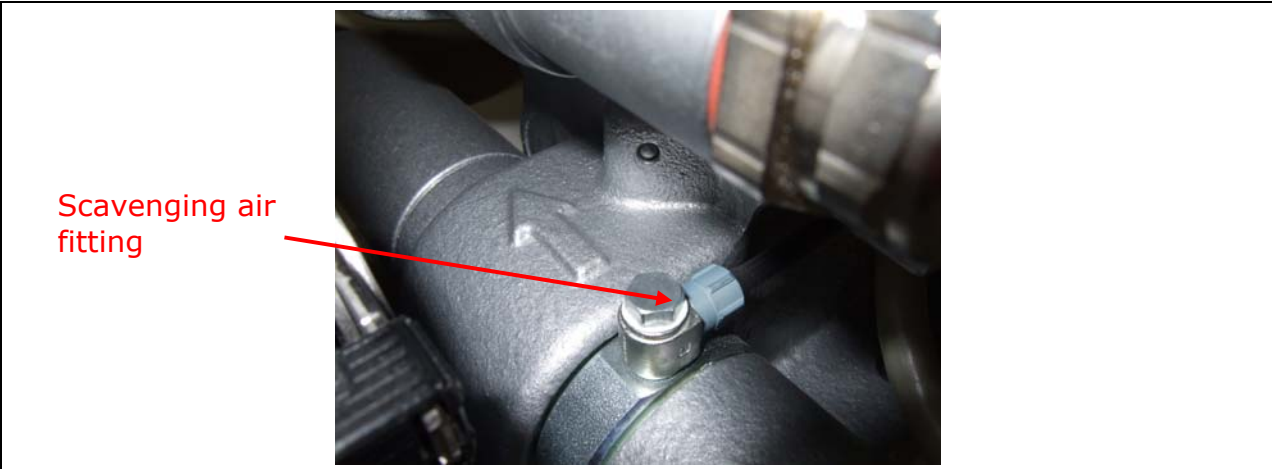


Figure 48: Step 1 is to open the scavenging air fitting

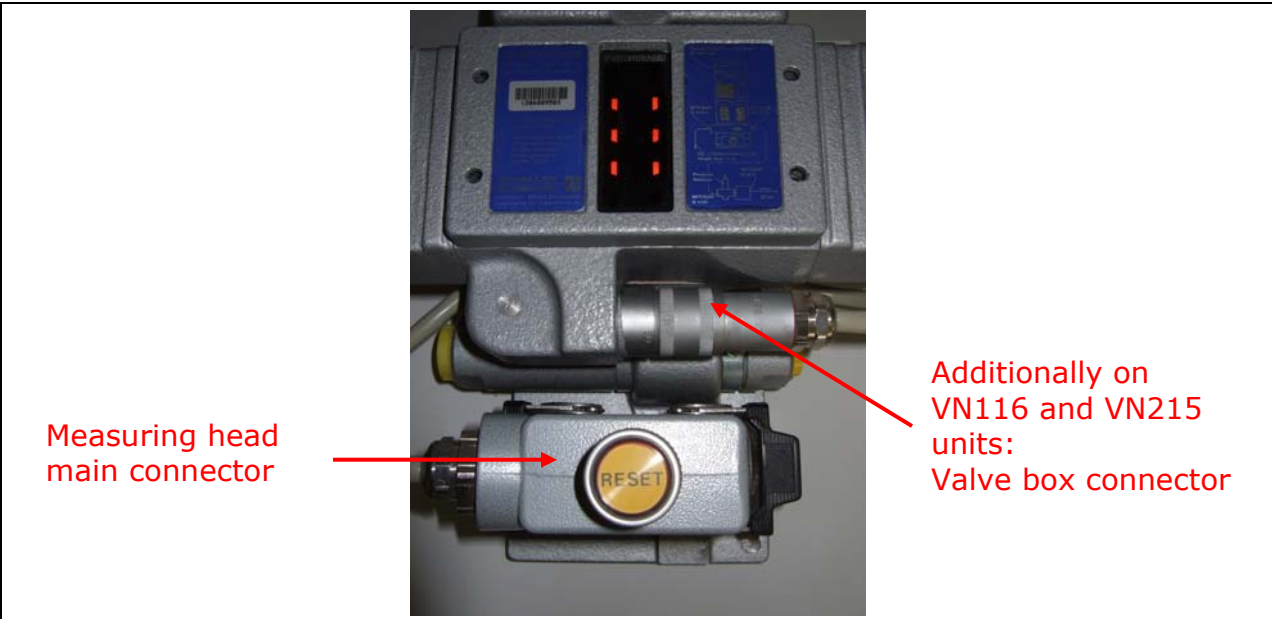


Figure 49: Step 2 is to unplug the connectors



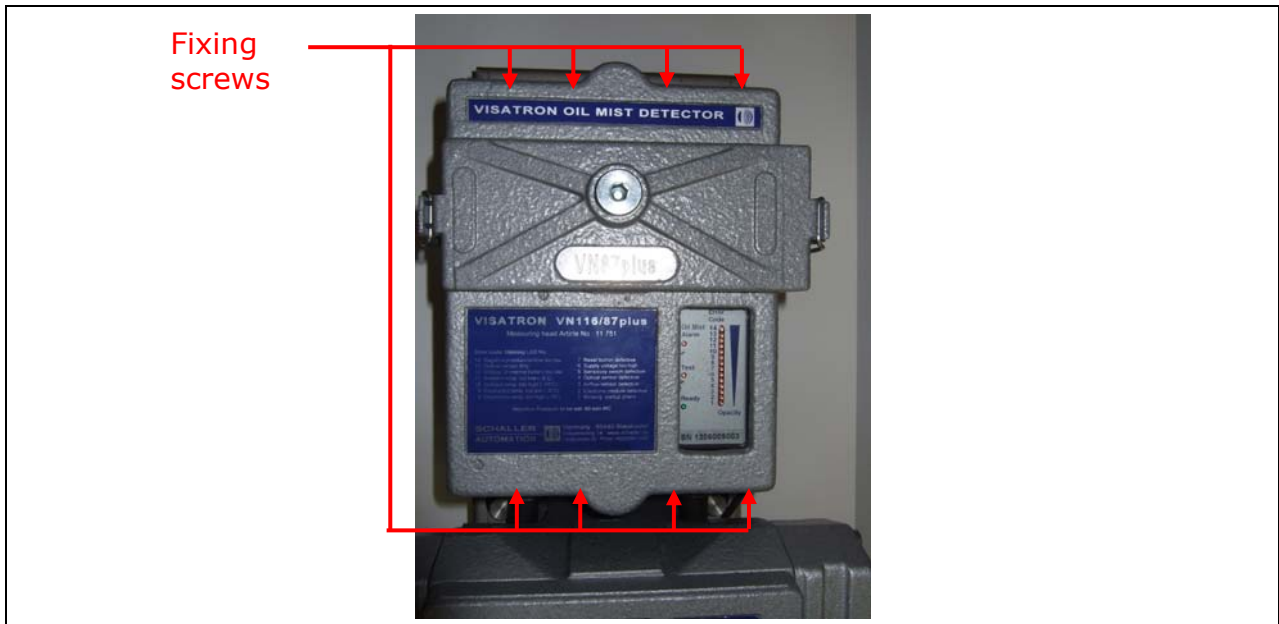


Figure 50: Step 3 is to unscrew the measuring head

To mount the new measuring head execute the 3 steps in reverse order.



WARNING! Check the values of the wire break resistors or in case of doubt use the old ones.



5.6 Exchange bellows and suspension-system

Step 1 is to dismount the measuring head.

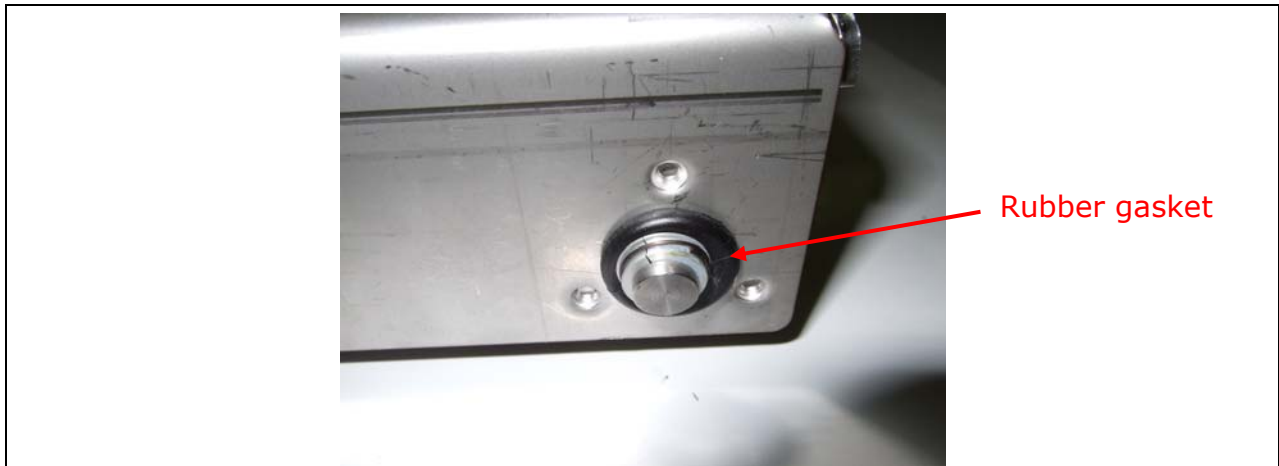


Figure 51: **Step 2** is to press out the 4 rubber gaskets with a blunt tool and finally to remove the carrier plate

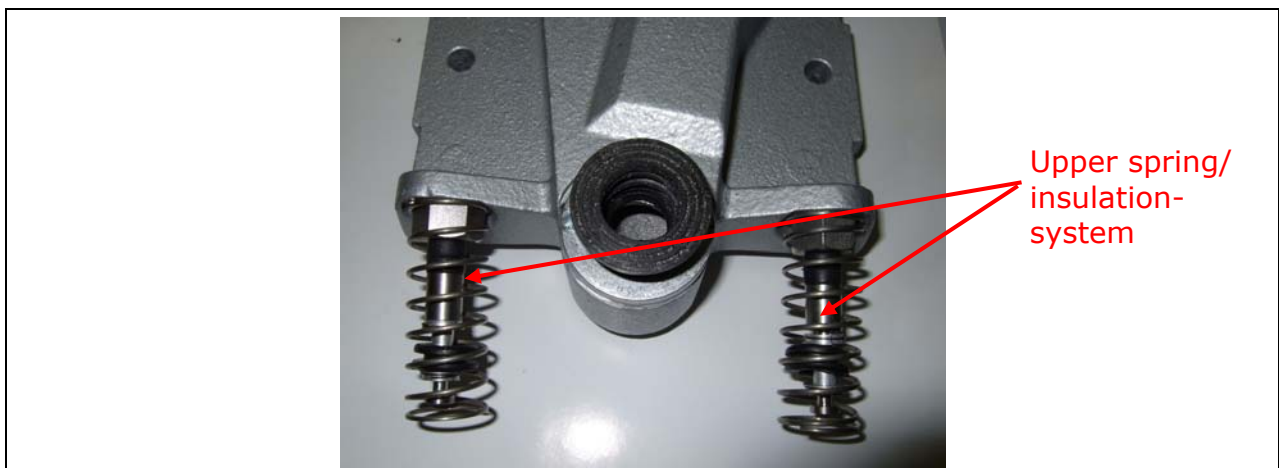


Figure 52: **Step 3** is to exchange the suspension-system if necessary

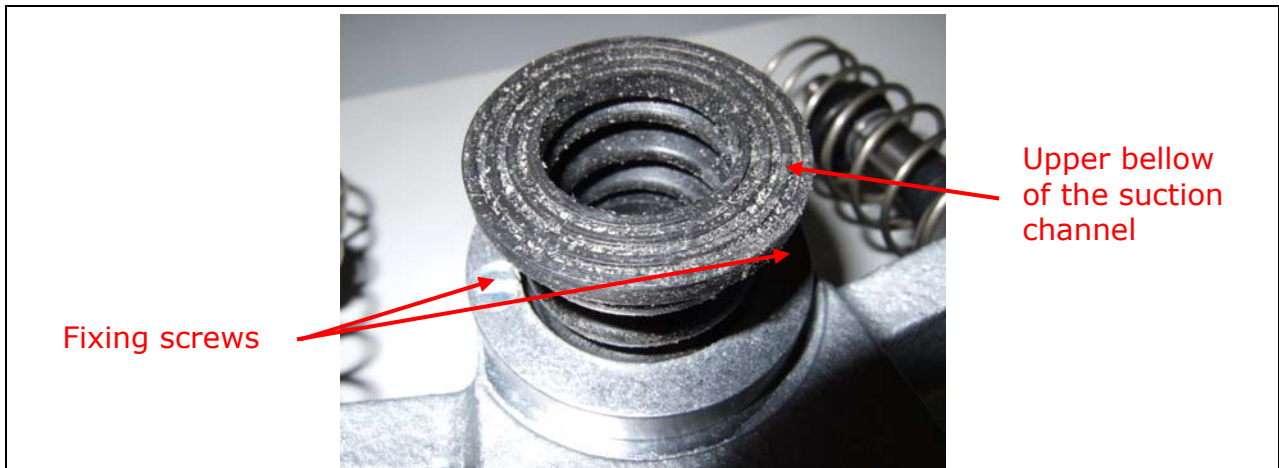


Figure 53: Step 4 is to exchange the 2 bellows if necessary. The bellow is secured by a ring which is fixed by two screws.

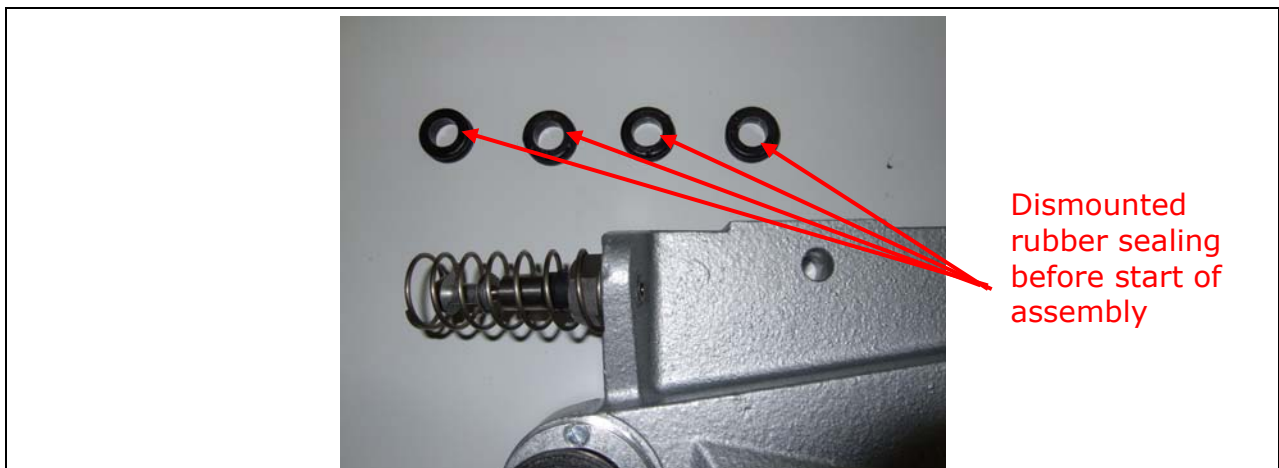


Figure 54 Step 5 is to pull out the gaskets before the carrier plate is mounted

To finish the assembly execute the first 2 steps in reverse order.



5.7 Measuring head fuses

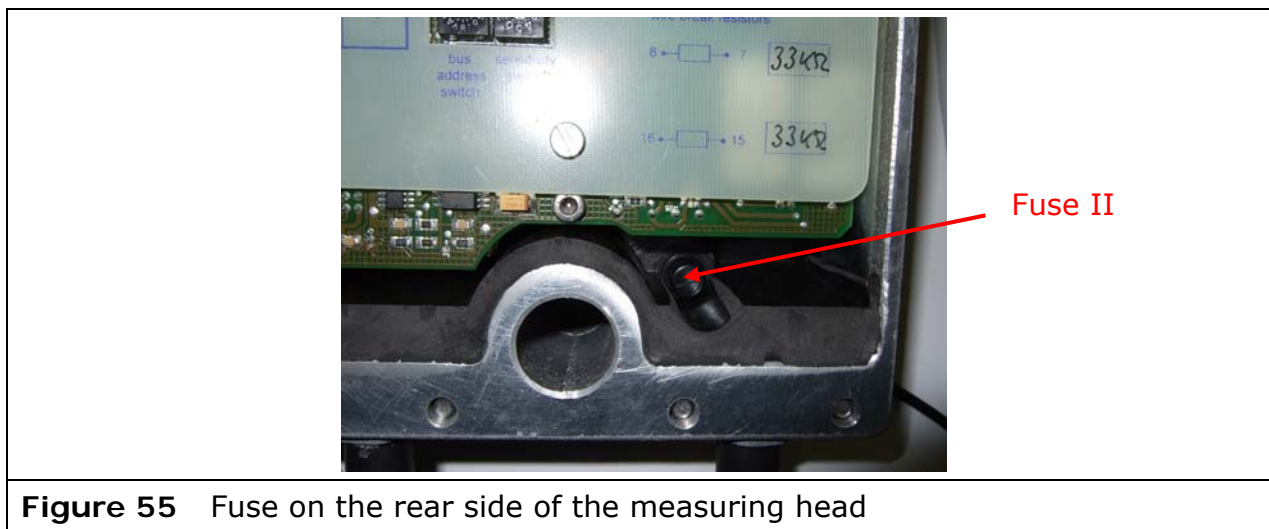


Figure 55 Fuse on the rear side of the measuring head

The device has two internal fuses. The first is located in the main connector of the measuring head. This is a 'self-repairing' fuse which protects the filter circuit in the connector.

To reset this fuse, unplug the main connector and **wait 5 minutes** before you plug it again.



WARNING! Unplug the main connector during the exchange of the fuse.

If all LED's remain off exchange the 2A semi lag fuse II at the rear side of the measuring head (see Figure 55).

