

1. Warning notice

WARNING


Danger of explosion due to improper use!


The improper use of flammable solvents may develop flammable, explosive gases which may result in serious injuries.


- Only use the device in the range of its intended use (see below).
- Make sure that the ventilation flap is closed (0 %).
- Do not create explosive gas-air mixtures inside the device or in its immediate surroundings.
- The use of the device above 60 °C is not permitted. As exception, 80 °C can only be used for aqueous eluents.
- With a gas sensor, the device is not allowed to exceed a temperature of 70 °C. For the use over 70 °C with an aqueous eluent, remove the gas sensor.
- All specifications have to be followed.

2. Intended use

Any use that goes beyond the intended use and/or any other type of use of the device can lead to dangerous situations. Usage of the device above 60 °C is not permitted. A temperature of 80 °C can only be used for aqueous eluents.

 **Note:** Only use the gas sensor for up to a temperature of 70 °C. For the use over 70 °C with an aqueous eluent, remove the gas sensor.

 **Note:** Make sure that the ventilation flap of the oven is closed.

 **Note:** Always keep the temperature in the sample compartment at least 25 K below the boiling point of the solvent used.

Do not use solvents:


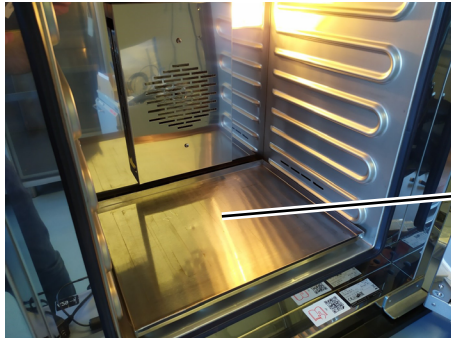

- With an auto-ignition temperature below 200 °C.
- With a boiling point below 56 °C.
- With high vapor concentrations.

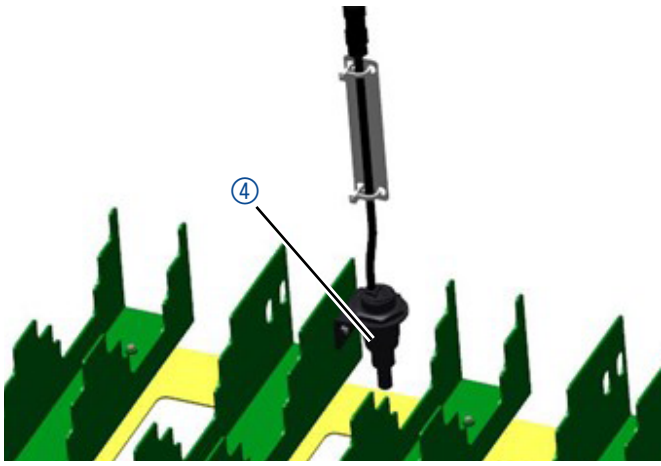
The use of flammable solvents may develop flammable, explosive gases. Make sure that no ignition sources are near the device. The device is not explosion-proof (it does not comply with the regulations of the German Employers' Liability Insurance Association VBG 24). Only charge the device with materials and substances which are non-toxic or do not emit explosive vapors, and cannot explode, burst or self-ignite at the set temperature.

The device is not allowed to be used to dry, evaporate or burn of varnishes or similar materials whose solvents may create an explosive mixture when combined with air. If there are doubts about the material properties in that matter, the device must not be charged with these materials.

3. Installing the leak sensor

- Prerequisites** ■ The device has been switched off.
Tools ■ Torx screwdriver, T20

Process	Figure
<p>1. Open the oven.</p>	 <p>Fig.1 Empty oven</p>
<p>2. Set the leak tray ① inside the oven.</p>	 <p>Fig.2 Leak tray (P5234)</p>
<p>3. Set the Column holder ② inside the leak tray (see figure 3). 4. Thread the cable of the leak sensor through the lower opening ③.</p>	 <p>Fig.3 Column holder bottom (G1938)</p>

Process	Figure
<p>5. Mount the pre-assembled leak sensor ④ to the column holder with two screws.</p> <p>Note: The leak sensor should be positioned between 1 mm - 4 mm above the surface of the leak tray.</p>	 <p>Fig.4 Positioning the leak sensor</p>

Result The leak sensor has been installed.

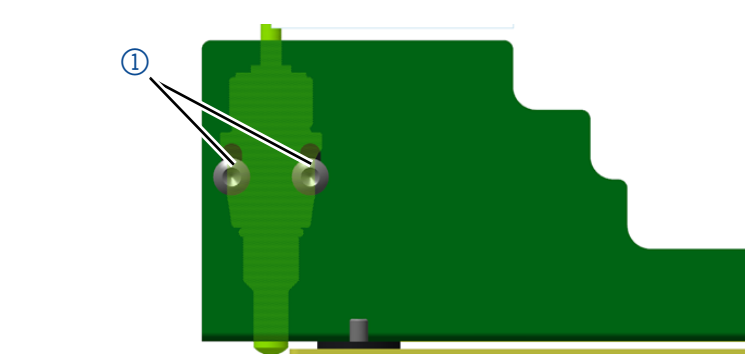
3.1 Adjusting the height of the leak sensor

Prerequisites ■ The device has been switched off.

Tools ■ Torx screwdriver, T20



Note: The sensor should not touch the surface. It should be positioned between 1 mm and 4 mm above the surface of the leak tray and can be adjusted over the oblong holes.

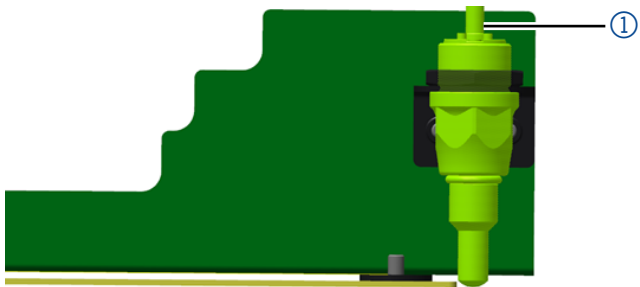
Process	Figure
<ol style="list-style-type: none"> 1. Loosen the two screws ① at the back of the column holder. 2. Adjust the height by pushing the leak sensor up or down within the oblong holes. 	 <p>Fig.5 Loosen screws</p>

Result The height of the leak sensor has been adjusted.

3.2 Adjusting the sensitivity of the leak sensor

The sensor is equipped with a potentiometer to adjust the sensitivity. The sensor is ready for usage when both LEDs (yellow and orange) are glowing. If a liquid is detected, the orange LED turns off and only the yellow LED is glowing.

To adjust the sensitivity proceed as follows:

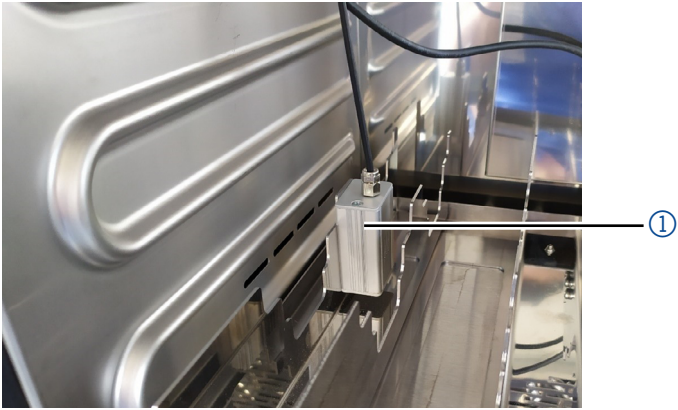
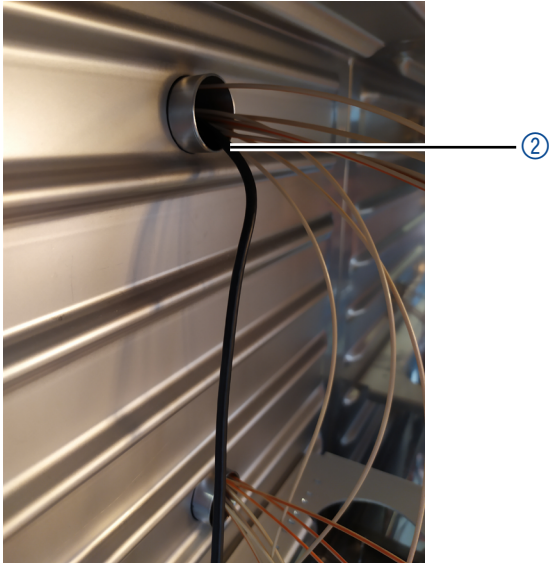
Process	Figure
<ol style="list-style-type: none"> 1. Screw the potentiometer ① clockwise until the orange lamp turns off. 2. Then screw the potentiometer counterclockwise until both lamps turn on. 3. Check the sensitivity of the sensor by bringing 1-3 milliliters of liquid underneath the sensor. Use a polar eluent which has been used before, because the leak sensor does not detect strong unpolar solvents. 4. The orange lamp turns off. <p>Note: If the orange lamp does not turn off, increase the sensitivity by screwing the potentiometer clockwise.</p>	 <p>Fig. 6 Potentiometer of the leak sensor</p>

Result The sensitivity of the leak sensor has been adjusted.

4. Mounting the gas sensor



Note: Ensure that the ventilation slot of the gas sensor is free and not blocked or too close to the side wall or any component. If you take these requirements into account, the gas sensor can be freely positioned.

Process	Figure
<p>1. Use the magnet to mount the gas sensor ① to the column holder bottom (G1938) closest to the opening.</p>	 <p>Fig.7 Gas sensor</p>
<p>2. Thread the cable ② of the gas sensor through the upper opening of the device (see figure 8).</p>	 <p>Fig.8 Cable of gas sensor</p>

Result The gas sensor has been mounted.

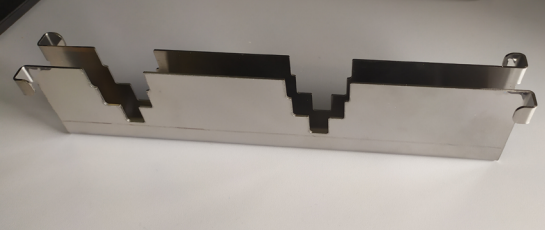
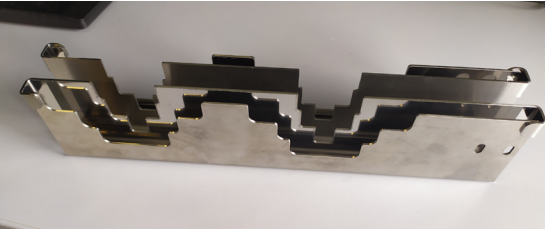
4.1 Using the gas sensor

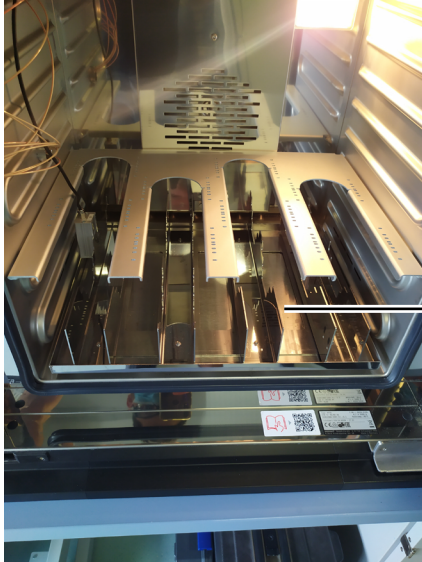
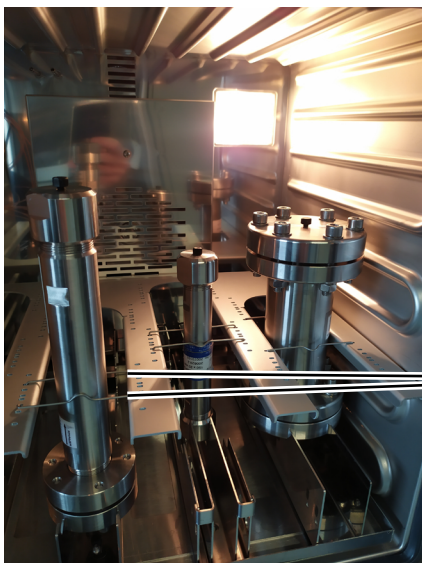
i | **Note:** Before using the gas sensor for the first time or after a long non-usage (>1 month), the gas sensor has to be turned on for 24 hours in order to reach the necessary sensitivity.

i | **Note:** The sensitivity of the gas sensor is not adjustable.

i | **Note:** The maximum operating temperature of the gas sensor is 70 °C. A usage over 70 °C damages the sensor.

5. Mounting the upper column holder

Process	Figure
<p>1. Set the adapter (P4904A, figure 9) into the column holder for columns with an inner diameter of 20 mm and smaller (P4904, figure 10).</p>	<div style="text-align: center;">  <p>Fig.9 Adapter for column holder</p> </div> <div style="text-align: center;">  <p>Fig.10 Adapter within column holder</p> </div>

Process	Figure
<p>2. Set the upper column holder ① inside the column oven.</p> <p>Note: The height of the upper column holder depends on the column length. For columns with a length of 150 mm, place the holder on the second compartment. For columns longer than 150 mm, use the third compartment.</p>	 <p data-bbox="651 1012 1316 1048">Fig. 11 Memmert oven with upper column holder</p>
<p>3. Fix each column with two clamps ②.</p> <p>Note: The columns shown in figure 12 have a length of 150 mm and an inner diameter of 20 mm, 25 mm or 50 mm, and are depicted exemplary.</p>	 <p data-bbox="651 1711 1125 1747">Fig. 12 Fixing columns with clamps</p>

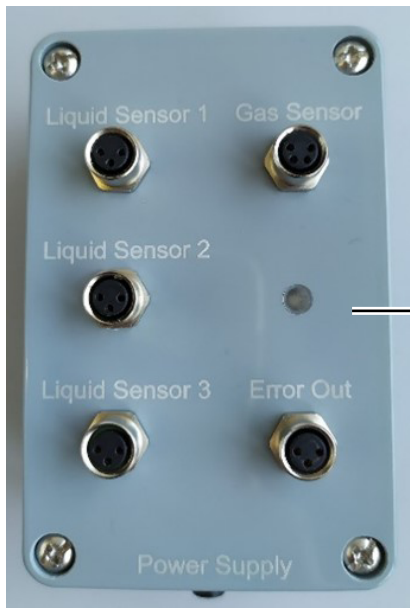
Result The upper column holder and the columns have been mounted.

6. Mounting a distribution box 24V

Prerequisites ■ The AZURA® Click rail has been mounted to the outer side panel of the AZURA L device according to [V6711](#).

Note: The distribution box is equipped for the usage of one gas sensor and up to three leak sensors.

To mount the distribution box proceed as follows:

Process	Figure
<ol style="list-style-type: none"> 1. Attach the distribution box ① to the AZURA Click carrier rail. 2. Connect the power adapter (G2142) to the power supply plug of the distribution box without plugging the power adapter into the socket. 3. Connect the first liquid sensor to the plug "Liquid Sensor 1", further liquid sensors to the plug 2 and 3. 4. Connect the gas sensor to the plug "Gas Sensor". 5. Connect the prepared Error-Out cable to the plug „Error OUT". <p>Note: To prepare the Error-Out cable see the next section.</p>	 <p>Fig. 13 Distribution box</p>

Result The distribution box has been mounted.

6.1 Preparation of the Error-Out cable

Note: The pin header connection is needed to connect the sensors via the cable (M2891) with the Error-In pin of the device.

- Prerequisites**
- The device has been switched off.
 - The power plug has been pulled.
 - Check the pin header assignments in the manual of the device. The following pin header connections are needed:

- Error IN
- GND

- Tool**
- Depressor tool

NOTICE

Electronic defect

Connecting cables to the multi-pin connector of a switched on device causes a short circuit.

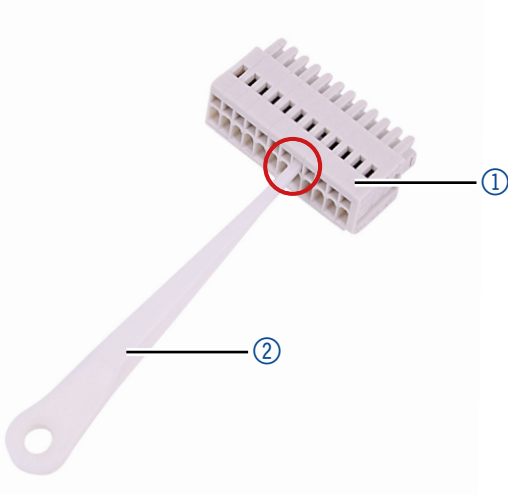
- Turn off the device before connecting cables.
- Pull the power plug.

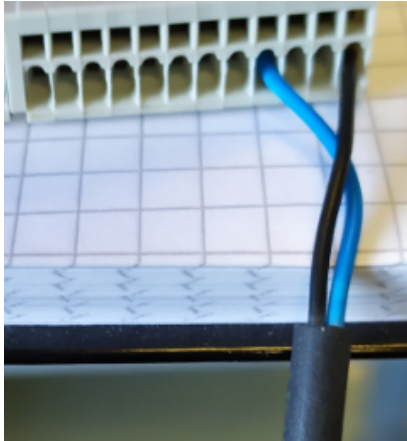

NOTICE

Electronic defect

Electrostatic discharge can destroy the electronics.

- Wear a protective bracelet against electrostatic discharge and ground.

Process	Figure
<p>1. Insert the depressor tool ② into one of the small openings in the upper row of the terminal strip ①.</p>	 <p>Fig. 14 Pin header</p>


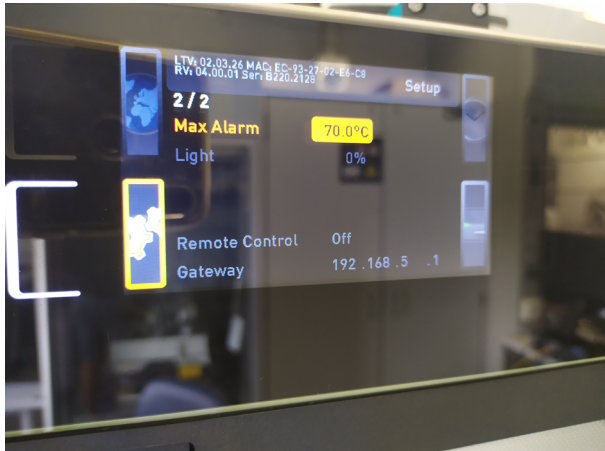
Process	Figure
<ol style="list-style-type: none"> 2. Lead the blue cable to the opening 2 of the pin header position "Error IN" of the device. 3. Pull the black cable to the opening 2 of the pin header position „GND" of the device. 4. Pull out the depressor tool. 	 <p>Fig. 15 Prepared Error-Out cable</p>
<ol style="list-style-type: none"> 5. Connecting the Error-Out cable to the "Error OUT" plug ③ of the distribution box. 	 <p>Fig. 16 Fully connected distribution box (one leak sensor, one gas sensor and Error-Out cable)</p>

Result The Error-Out cable has been prepared.

7. Settings of the Memmert oven




Note: The following oven settings are mandatory for the correct functionality of the leak and gas sensor.

Process	Figure
<ol style="list-style-type: none"> 1. Close the ventilation flap of the oven and set it to 0 %. 2. Set the fan to a minimum of 50 % (see figure 17). <p>Note: This is only possible for oven type UF 55 (A29903).</p> <ol style="list-style-type: none"> 3. Direct to <i>MENU > SETUP</i> and set the Max Alarm to 70 °C (see figure 18). <p>Note: The gas sensor can only be used up to 70 °C.</p>	 <p>Fig. 17 Setting Fan</p>  <p>Fig. 18 Setting Max Alarm</p>

Result The setting for the fan and/or the Max Alarm have been set.

8. Troubleshooting

Problem	Solution
The oven temperature is not stable.	<ul style="list-style-type: none"> Do not use the oven lamp more than 30 min. The oven lamp produces heat which influences the oven temperature.
The red LED of the distribution box is turned on.	 <ul style="list-style-type: none"> The gas sensor has to be replaced.
The liquid sensor does not detect the used eluent.	<ul style="list-style-type: none"> Increase the sensitivity by screwing the potentiometer clockwise. The eluent is too unpolar and can not be detected by the sensor.
The sensitivity of the gas sensor is low after long non usage (>1 month).	<ul style="list-style-type: none"> Turn the gas sensor on for 24 hours in order to reach the necessary sensitivity.