

REPLACEMENT OF THE SENSOR-CUBE MEASURING-CELL

Follow the next steps to replace the pH cell of an MS01 sensor cube, the chlorine cell of an MS02 sensor cube or the ORP cell of an MS04 sensor cube.

Step 1: Prepare the necessary equipment

- a clean and dry place to work,
- absorbing paper,
- a syringe with a round tip of 2 mm,
- a 2.5 mm hexagonal key,
- an earthing wristband,
- a dry and clean cloth or a cotton swab,
- one of the following set of spare parts. See [Tab. 1](#).

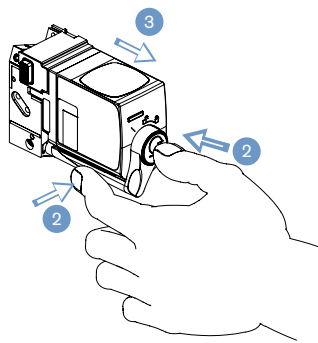
Tab. 1 : Spare-part sets


Set of spare parts	Article number
<ul style="list-style-type: none"> ▪ 1 pH measuring cell ▪ 1 black seal ▪ 1 rubber elastomer 	568038
<ul style="list-style-type: none"> ▪ 1 chlorine measuring cell ▪ 1 black seal ▪ 1 rubber elastomer 	568040
<ul style="list-style-type: none"> ▪ 1 ORP measuring cell ▪ 1 black seal ▪ 1 rubber elastomer 	568039

Step 2: Remove the sensor cube from the backplane

→ Make sure you are working in a dry and clean place.

→ Before removing the last sensor cube from its backplane, stop the circulation of the fluid in the backplane to avoid liquid hammers in the system.



1. Prepare some absorbing paper.
2. Press the sensor-cube push-button and turn the bayonet lever to the right in the unlocked position ().
3. Pull the sensor cube and remove it from the backplane.
4. Place the sensor cube on absorbing paper.

	<p>5. Flush air in the fluid connection on the bayonet-lever side with a syringe. The air flushes the remaining liquid out.</p>
	<p>6. Press the push-button and turn the bayonet lever to the maintenance position.</p>

Fig. 1 : Removing the sensor cube from the backplane

Step 3: Remove the measuring cell

→ Make sure you are working in a dry and clean place.

NOTE

Elements / Components sensitive to electrostatic discharges

- ▶ The product contains electronic components that are sensitive to electrostatic discharges. They may be damaged if they are touched by an electrostatically charged person or object. In the worst case scenario, these components are instantly destroyed or disabled as soon as they are activated.
- ▶ To minimise or even avoid any damage caused by an electrostatic discharge, take all the precautions described in the EN 61340-5-1 norm.

	<p>1. To handle the measuring cell or any electrical component, wear an earthing wristband that is connected to the earth.</p> <p>2. Loosen the 2 M2.5 screws with the 2.5 mm hexagonal key and remove the cover.</p>
	<p>3. Keep the cover with the M2.5 screws and the cover seal in a safe and dry place. If there is liquid in the cover, then dry it.</p>


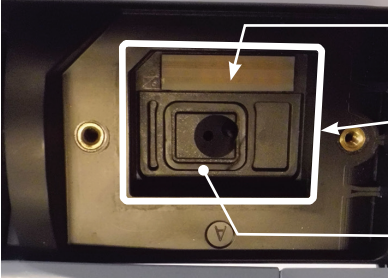

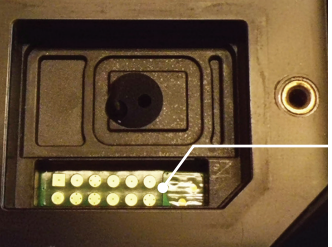
	<p>4. Carefully remove the measuring cell with your fingers. Do not damage the measuring-cell housing.</p>
 <p>Rubber elastomer Measuring-cell housing Black seal</p>	<p>5. Remove the black seal. 6. If there is liquid inside the measuring-cell housing, then dry it with absorbing paper.</p>
	<p>7. Remove the rubber elastomer. If necessary, use a small and flat screwdriver to remove the rubber elastomer. Do not damage the measuring-cell housing or the electrical contacts behind the rubber elastomer. 8. Dispose of the old rubber elastomer, the old black seal and the old measuring cell in an environmentally-friendly way.</p>
 <p>Electrical contacts</p>	<p>9. If there are traces of corrosion on the electrical contacts behind the rubber elastomer, then contact Bürkert.</p>

Fig. 2 : Removing the measuring cell

Step 4: Replace the measuring cell

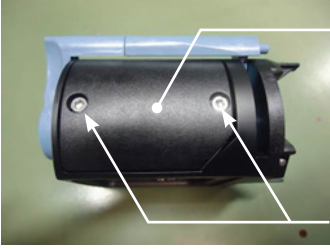
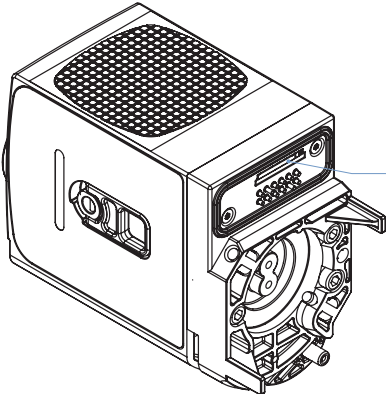
- Make sure you are working in a dry and clean place.
- To handle the measuring cell or any electrical component, wear an earthing wristband that is connected to the earth.
- Make sure you have the correct measuring cell. See [Tab. 1](#).

	<p>The rubber elastomer is made of 3 insulating layers alternating with 2 conductive layers.</p>
	<ol style="list-style-type: none"> Put the new rubber elastomer in place. Do not pollute or scratch the rubber elastomer. Make sure the conductive layers are correctly oriented (see picture opposite).
	<ol style="list-style-type: none"> Put the new black seal in place. Do not grease the black seal.
	<ol style="list-style-type: none"> Carrefully put the measuring cell in place. The electrical contacts of the measuring cell must be in contact with the 2 conductive layers of the rubber elastomer.

Fig. 3 : Replacement of the rubber elastomer, the black seal and the measuring cell in the sensor cube

Step 5: Screw the cover

	<ol style="list-style-type: none"> If there is liquid inside the cover, then dry it. Make sure the cover seal is not damaged. If the cover seal is damaged, then contact Bürkert. Do not grease the cover seal. Place the cover seal on the cover, as indicated in the picture.
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	<ol style="list-style-type: none"> 4. Place the cover on the sensor cube. 5. To maintain the cover, push in the middle of the cover with your thumb. 6. With a 2.5 mm hexagonal key, tighten the 2 M2.5 screws to a torque of 0.8 N·m, i.e. 0.59 ft·lbf.
	<ol style="list-style-type: none"> 7. If any, make sure the micro-SIM card of the sensor cube is still in place.

Step 6: Mount the sensor cube on a sensor-cube backplane

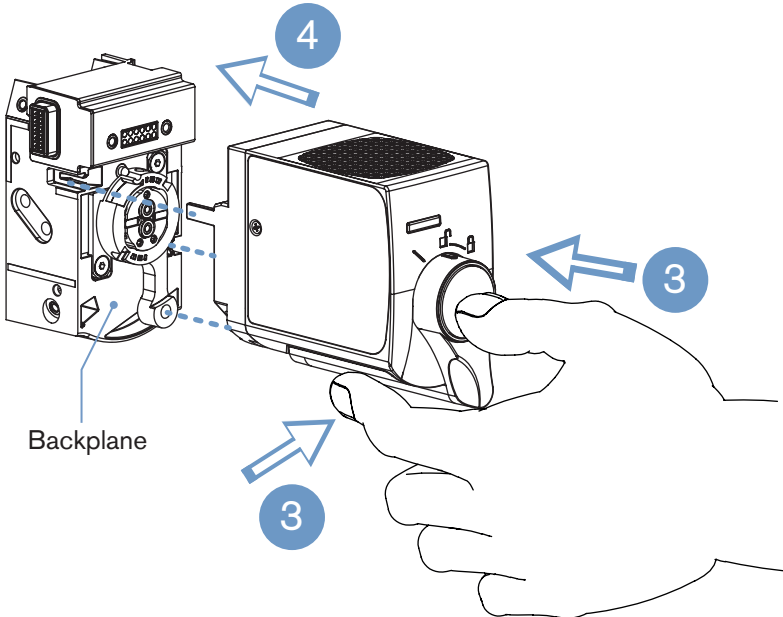


	<ol style="list-style-type: none"> 1. Dry the surface of the backplane that will be in contact with the sensor cube. 2. Dry the surface of the sensor cube. 3. While the push-button is pushed, turn the bayonet lever from the maintenance position to the unlocked position, . 4. Insert the 2 adaptation pins in their holes and then plug the sensor cube in the backplane. 5. While the push-button is pushed, turn the bayonet lever to the locked position, .
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Fig. 4 : Mounting a sensor cube on the backplane of the system


Step 7: Do the adjustment of the sensor cube

After the replacement of the measuring cell, the status LED of the sensor cube can have the following colors:

- GREEN: the sensor cube is working properly.
→ Calibrate the sensor cube. Refer to the Operating Instructions of the related sensor cube.
- BLUE: a maintenance operation is due. Do the following:



The procedure is written for a system Type 8905 with touchscreen. See the Operating Instructions of the Type ME21 display software, available at www.burkert.com.

1. Log in as **Advanced User** or as **Installer**.
2. To display the generated messages, tap .
3. If the message **Pair cell with sensor in maintenance menu** is displayed, then go to the **Maintenance** menu.

If another message is displayed, then contact Bürkert.
4. Select **Sensor cell pairing**.
The message **Do you want to pair cell with sensor?** is displayed.
5. To validate, tap **Next**.
The message **Device restarting...** is displayed.
6. To validate, tap **Finish**.
The sensor cube restart.
7. If the status LED of the sensor cube is GREEN, then calibrate the sensor cube. Refer to the Operating Instructions of the related sensor cube.
 The new sensor cube is operational.

If the status LED of the sensor cube is NOT GREEN, then contact Bürkert.