User Instructions

BÜHLER BU3011 peristaltic pump

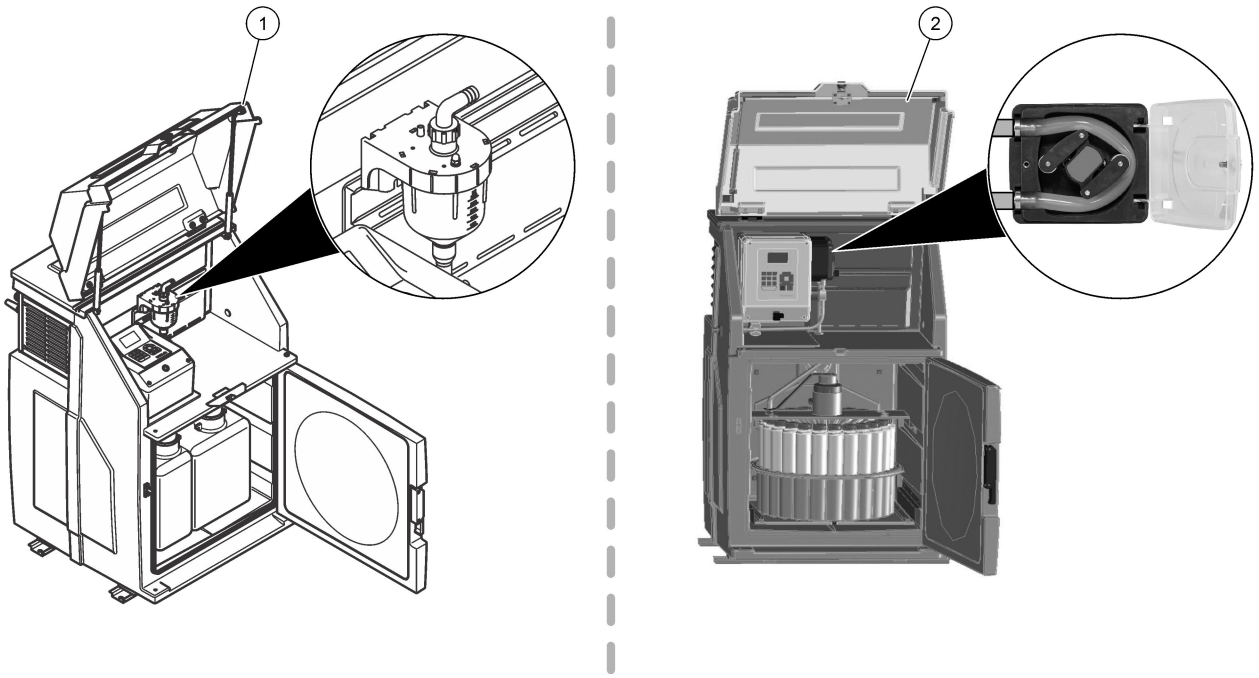
Safety information

Refer to the installation manual for general safety information, hazard descriptions and precautionary labels descriptions.

Introduction

This document applies to sampler BÜHLER BU3011.XX.PXX51 with peristaltic pump. Refer to Figure 1.

Figure 1 Sampler versions



1 Sampler with dosing vessel	**2** Sampler with peristaltic pump

Calibrate the sampler

Make sure to calibrate the sampler before the sampler is put into operation. Calibration must be the first on-site step each time a new sampling point is used.

Items to collect:

- Measuring glass with 2 L minimum capacity
- Measuring glass with 200 mL minimum capacity

1. On the sampler menu, select **SETUP** > **SYSTEM SETTINGS** > **CALIBRATION VOL**.
2. Push **NEXT** to start the calibration.
3. Select **START UPPER VOLUME**. Push **NEXT**.
   The sampler automatically starts three calibration cycles.
4. Use the 2 L measuring glass to collect the sample of the three calibration cycles.
5. Enter the total volume of the three cycles. Push **NEXT**.
   The sampler shows the message "UPPER VOLUME CALIBRATED"
6. Select **START LOWER VOLUME**. Push **NEXT**.
   The sampler automatically starts three calibration cycles.

7. Use the 200 mL measuring glass to collect the sample of the three calibration cycles.
8. Enter the total volume of the three cycles. Push **NEXT**.
   The sampler shows the message "LOWER VOLUME CALIBRATED"

The sampler is calibrated and prepared for operation.

Replace the pump tube

⚠WARNING



Pinch hazard. Parts that move can pinch and cause injury. Do not touch moving parts.

⚠WARNING



Personal injury hazard. Use of non-approved parts may cause personal injury, damage to the instrument or equipment malfunction. The replacement parts in this section are approved by the manufacturer.

⚠CAUTION



Pinch hazard. Remove power from the instrument before maintenance or service activities are done.

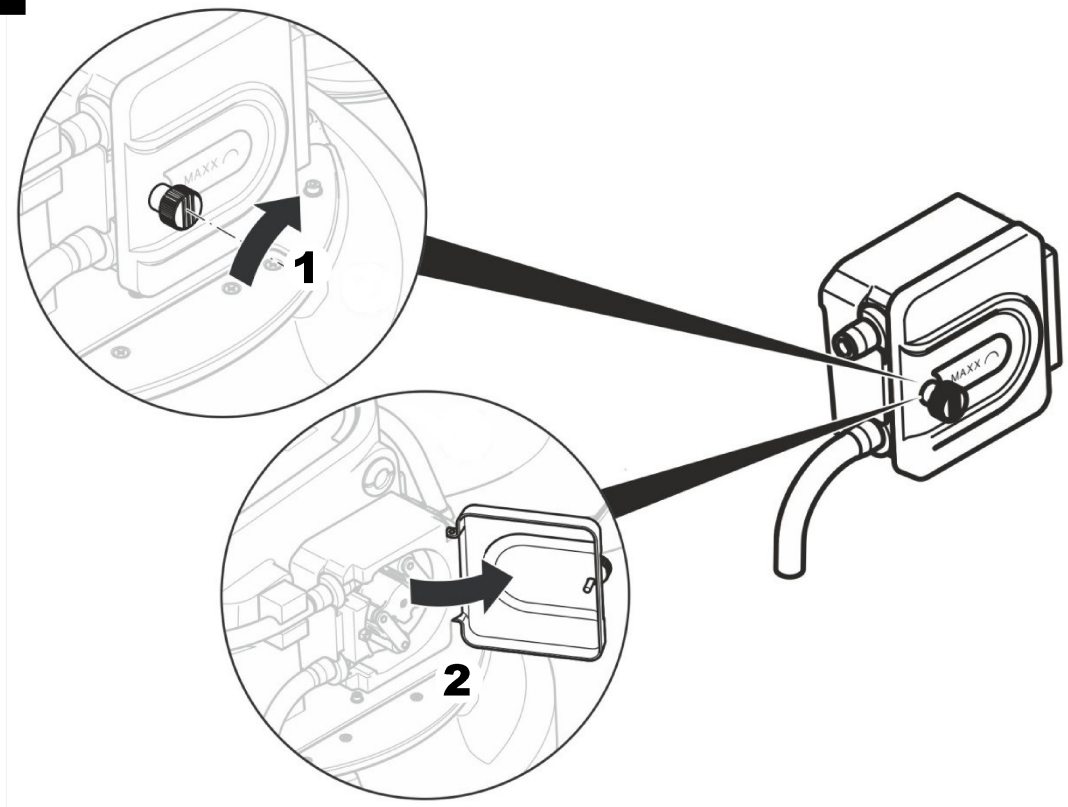
Examine and clean the pump tubing and rollers at regulars intervals. Replace the pump tubing at regular intervals and when damage is seen.

Items to collect:

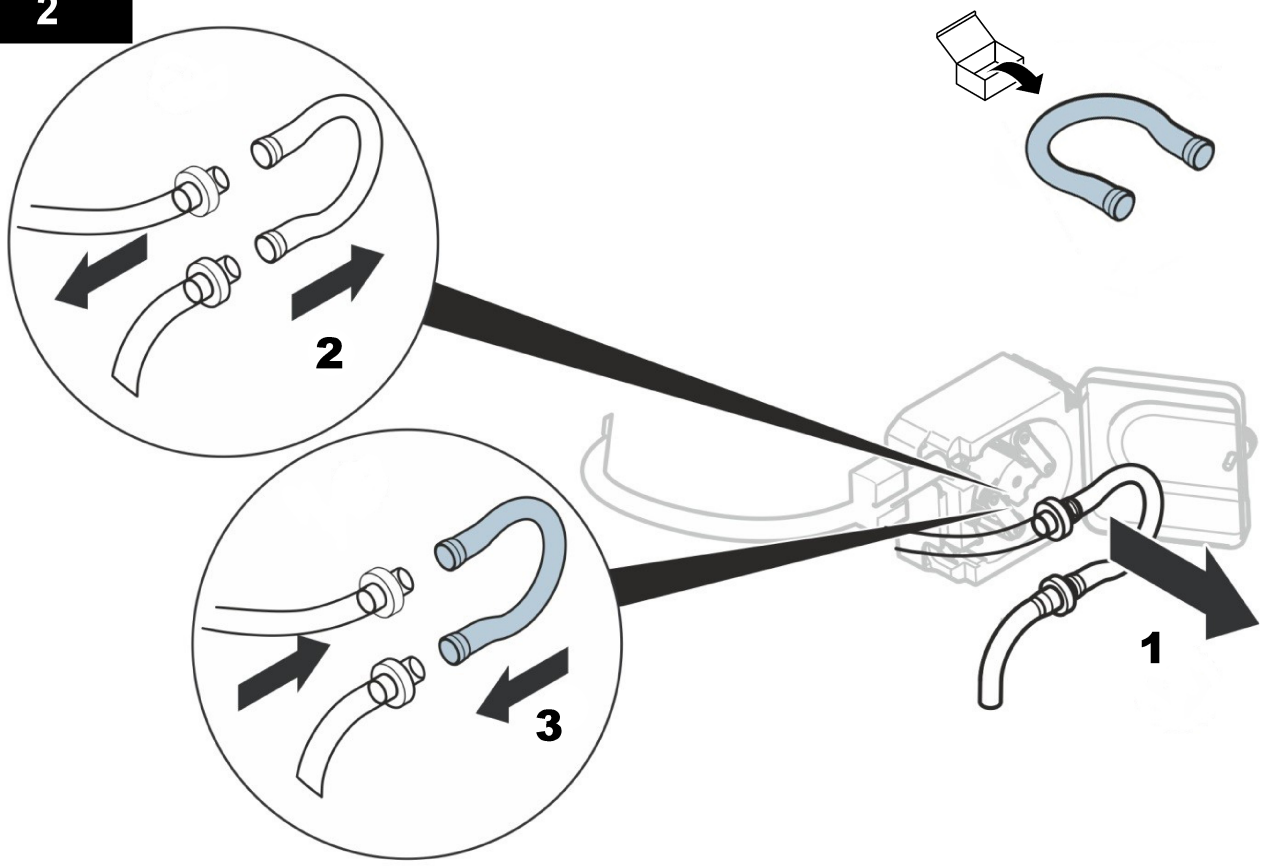
- Silicone tubing for peristaltic pump, item no. BM901062

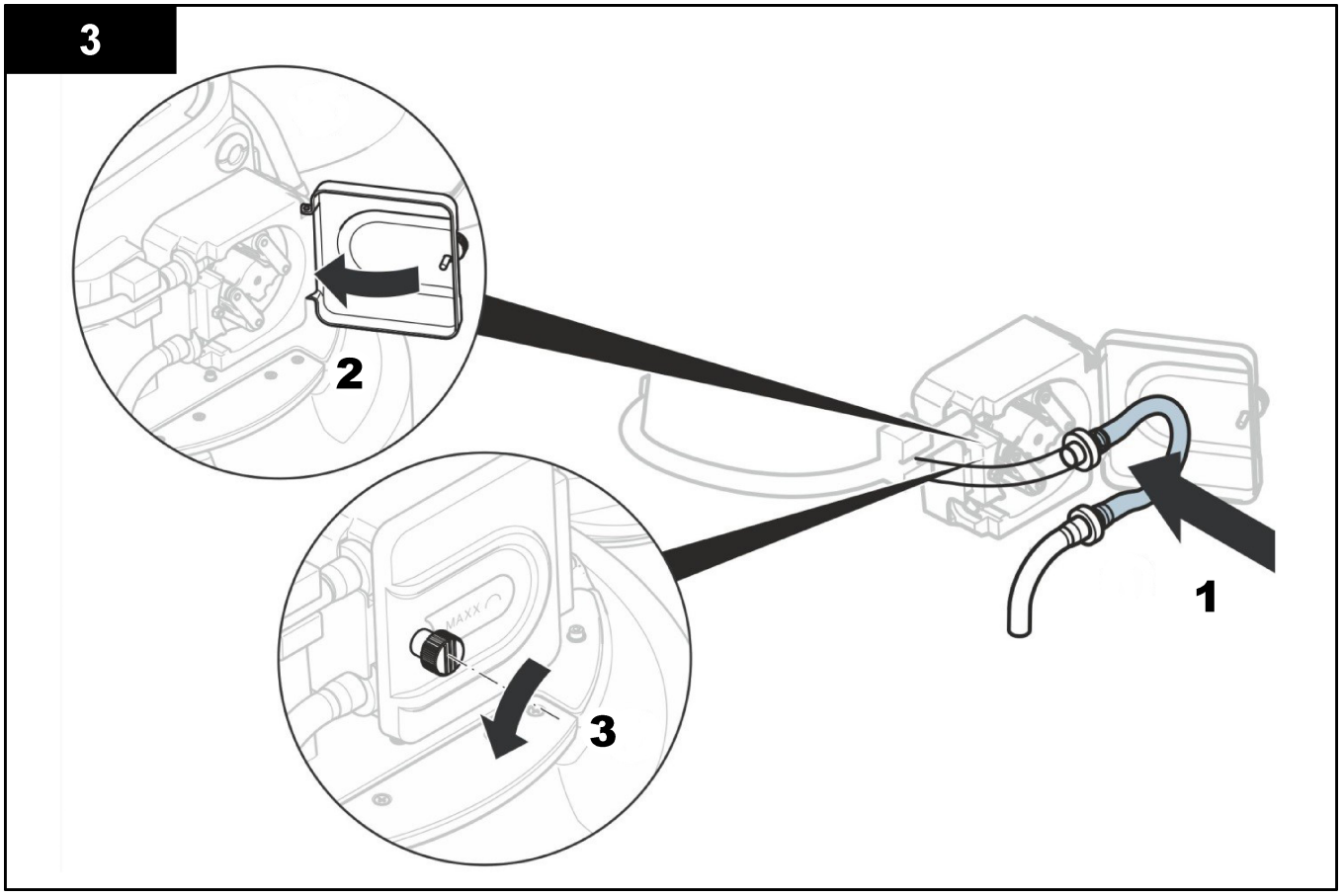
Refer to the illustrated steps replace the pump tube.
Note: *Make sure that the hose and hose connectors are dry.*

1



2





Clean the tube

The sampler measures the sampling volume with two capacitive sensors. Based on the sampling point, dirt can collect on the silicon tube. Refer to Figure 3.

If the message "Error sensor / error electrodes" shows, clean the tube as follows:

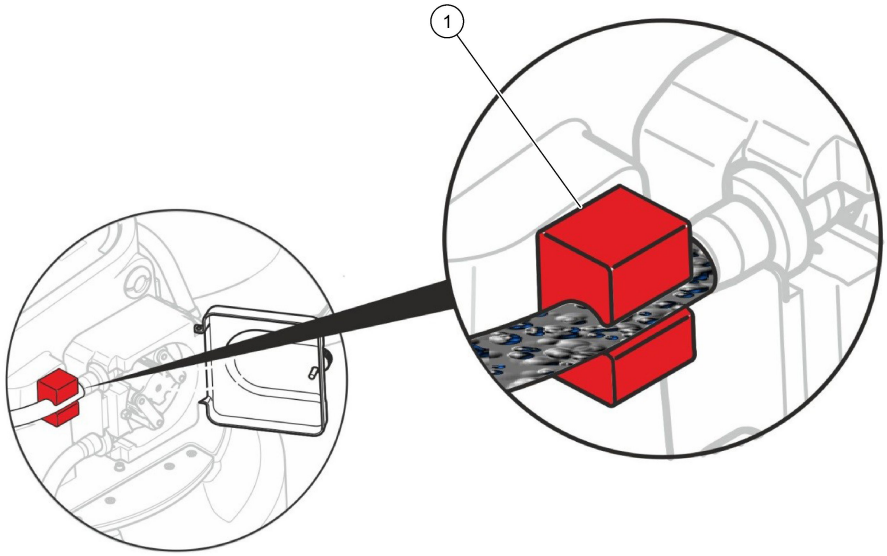
1. Cut a piece of sponge of approximately 12 x 12 mm.
   Note: *As an alternative, buy a cleaning sponge. There are cleaning sponge balls with different diameters ready to use. Make sure that the diameter of the sponge is more than the tube diameter. Refer to* Figure 2.

Figure 2 Cleaning sponge



2. On the sampler menu select **DIAGNOSTICS / TEST** > **COMPONENT TEST** > **PUMP** to manually operate the pump in forward (suction) and backward (purging).
3. Moisten the sponge and put it into the tube by using the tube suction. Then, alternatingly operate the pump in the two directions.
   The sponge collects the dirt on the tube.
4. Repeat until the tube is clean.
5. Remove the sponge.

Figure 3 Tube cleaning



1	Capacitive sensor

Appendix

Set MAXX-MODE to on

If the pump tube becomes very dirty or water stays in the pump tube due to poor tube routing, the capacitive sensors on the pump tube may no longer operate reliably. Then, some samples are not collected or no samples are collected.

Set **MAXX-MODE** to on to make sure that sampling continues even when the capacitive sensors do not operate reliably. **MAXX-MODE** uses the data collected while the capacitive sensors operated correctly to collect the correct sample volume. The accuracy of the sample volume collected is not as good as when the two capacitive sensors operate correctly, but the accuracy is approximately the same.

Always remove dirt from the pump tube immediately. When the sensors operate correctly again, the instrument goes back to normal operation.

Set **MAXX-MODE** to on as follows:

1. On the sampler menu, select **SETUP** > **SYSTEM SETTINGS**.
2. Select **SAMPLING MODE** > **MAXX-MODE**.

   Note: *If a calibration has not been completed,* ***"CALIBRATION NEEDED"*** *shows on the display when a sample is collected.*

Save the log messages for sensor status

Log messages for the sensor status are only available when **MAXX-MODE** is set to on.

To save the log messages for sensor status to the data memory, do the steps that follow:

Note: *Log messages for the sensor status are only saved to the data memory when the sensor status changes.*

1. On the sampler menu, select **SETUP** > **SYSTEM SETTINGS**.
2. Select **LOG ENTRIES** > **SENSOR STATE**.

   Log messages for sensor error and sensor dirty are saved to the data memory (1 = normal operation and 0 = error).

   Note: *When* ***MAXX-MODE*** *is set to on, no error messages occur (e.g.,* ***"SENSORS DIRTY"*** *or* ***"ERROR SUCTION"****).*

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