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Installation Instructions
DPD analyzer module CA75

Spare parts

Endress+Hauser
People for Process Automation

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1 Spare parts kits

These installation instructions apply to the following spare parts kits:

Order code	Designation	Page
71753418	CA75 Door with sealing	→ 8
71753417	CA75 Flow sensor with hoses	→ 9
71753406	CA75 Sample valve (2 pcs.)	→ 10
71753411	CA75 Photometer	→ 11
71753409	CA75 Sample filter	→ 12
71753412	CA75 Pump platen (2 pcs.)	→ 13
71753414	CA75 Main PCB APCMB1 SMD	→ 16
71753415	CA75 circuit board APCSL1 SMD	→ 17

2 Intended use

- The parts of the kits must only be used as spare parts for the analyzer Module CA75. Any other use is not permitted!
- Only use original parts from Endress+Hauser.
- In the Device Viewer, check if the spare part is suitable for the device in question.

3 Personnel authorized to carry out conversion

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to perform the stated tasks.
- The electrical connection may only be established by an electrical technician.
- The technical personnel must have read and understood these Installation Instructions and must follow the instructions they contain.
- Measuring point faults may be repaired only by authorized and specially trained personnel.
- In the case of Ex-certified devices, the technical staff must also be trained in explosion protection.

Repairs not described in the Operating Instructions provided must only be carried out directly at the manufacturer's site or by the service organization.

4 Safety instructions

⚠ WARNING

Risk of death due to electric shock!

- Perform work on the device with the utmost caution, especially when the device remains fully or partially powered on during maintenance tasks.
- The analyzer has no power switch. If necessary, use the system-side circuit breaker.
- Follow the instructions in the relevant chapters of this manual, as the procedure for electrical safety depends on the service kits used.
- All work must be carried out according to applicable safety standards.
- Follow the instructions in the Operating Instructions for the device.

⚠ CAUTION

Risk to health due to contact with reagents (chemicals) or process solutions!

- Wear chemical-resistant protective gloves, protective goggles and protective clothing,
- Immediately rinse splashes with plenty of water and a 1% sodium bicarbonate solution ($NaHCO_3$, baking soda).
- In case of eye contact, rinse the affected area with plenty of water and then seek medical advice. Show the relevant safety data sheet to the physician.
- Note the nationally applicable workplace safety regulations for the work area when handling toxic or corrosive chemicals.

⚠ CAUTION

Electronic assemblies are sensitive to electrostatic discharges (ESD)!

- Before removing an assembly from the antistatic packaging, it must be discharged, e.g. at a protective ground. Continuous grounding, e.g. with an ESD wristband, is recommended.

Potential impact on the process

Before decommissioning an active device, the potential impact on the overall process must be taken into account! This applies in particular when using the switching contacts, the analog signal outputs or the communication interface of the associated measuring instrument to control process variables. Coordinate service tasks with the operator!

Contact Endress+Hauser Service if you have questions: www.addresses.endress.com

5 Scope of delivery

The scope of delivery is stored in the Spare Parts Finder (SFT) as a components sheet. The QR code below enables access to the scope of delivery including an overview of devices with the item numbers of the maintenance parts. The order code, product root or serial number of the device must be entered for this purpose.

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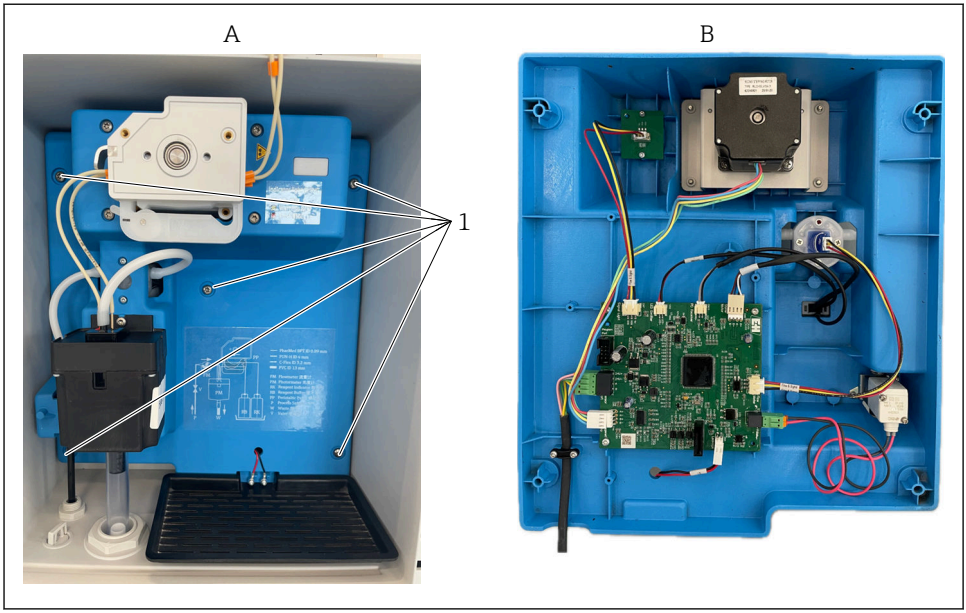
https://sft-p.cdn.endress.com/

6 Replacing the components

6.1 Access for service work

The graphic below shows the view inside the analyzer module and the rear view of the carrier plate.



1 *Access for service work on the rear of the carrier plates*

1 Screws for securing the carrier plates
A Access to the carrier plate
B Rear of carrier plate

6.2 Preparation

The spare part installation differs depending on the spare part and parameters. Therefore, refer to and differentiate between the following sections.

6.2.1 Work without removing the chemical containers = replacing modules/ components in the electronics compartment

1. Select **Menu → Operation → Chx: DPD Total / Free chlorine → Activate service hold** and confirm with the navigator button.
2. Wait until the analyzer has finished the measurement and **Manual** is displayed as the **Current mode**.
3. **Disconnect the analyzer from the power supply and secure the circuit breaker against unintentional device restart.**

6.2.2 Work with the removal of chemical containers = replacing components on or behind the carrier plate

1. Select **Menu → Operation → Chx: DPD Total / Free chlorine → Activate service hold** and confirm with the navigator button.

2. Wait until the analyzer has finished the measurement and **Manual** is displayed as the **Current mode**.
3. Stop the sample feed.
4. Remove the covers of the reagent bottles and the hoses and place them in a plastic vessel.
5. Remove the bottle tray together with the bottles from the analyzer.
6. Place the hoses in an empty beaker and select **Menu → Operation → Chx: DPD Total / Free chlorine → Flush reagent hoses**.

The software evaluates this as the bottles being removed. Therefore, they need to be reinserted at a later time.

All the hoses are now flushed, clean and filled with air. It is now possible to work on the analyzer without risk.

7. The analyzer cannot drain the SPx sample hose and the photometer cuvette independently. If required for draining, remove the hose from the flowmeter and drain it with a dispenser.

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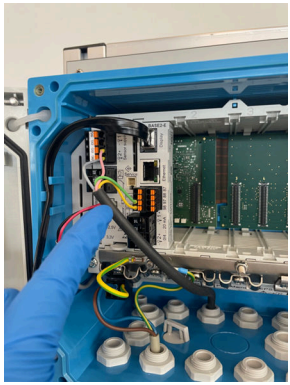
2 Disconnect the sample supply line

8. **Disconnect the analyzer from the power supply and secure the circuit breaker against unintentional device restart.**



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3 Removing the cable connection to the CM44x transmitter

6.3 Replacing the door

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4 Link to Components Sheet, including scope of delivery and device overview

1. Use a long-nose pliers to pull the pin (1) out of the top hinge.
2. Use a long-nose pliers to pull the pin (2) out of the bottom hinge. Secure the door against falling!
3. Remove the door.

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5 Remove the door

4. To install the new door, align the hinges in the door and in the housing with one another so that the pins can be inserted with a suitable tool.

6.4 Replacing the flow sensor

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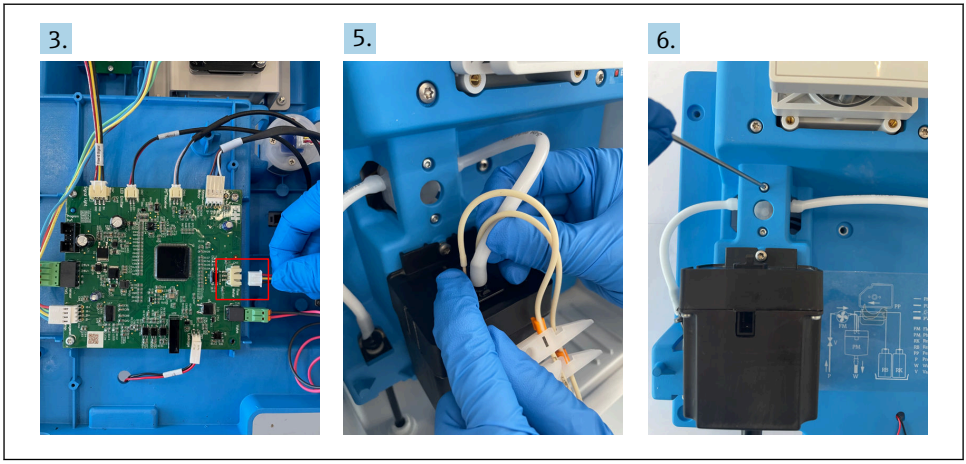
6 Link to Components Sheet, including scope of delivery and device overview

1. Carry out preparatory work as per Section 6.2.2 → 6.
2. Fold the carrier plate forward.
3. Release the **flowmeter** connector of the flow sensor from the main board (rear of carrier plate).
4. Fold back the carrier plate.
5. Remove the hoses from the cuvette and sample supply.
6. Release the two securing screws for the flow sensor and remove the flow sensor.



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7. Install the new flow sensor in the reverse order. Retain the hose arrangement.
8. Put the analyzer back into operation → 17.

6.5 Replacing the sample valve

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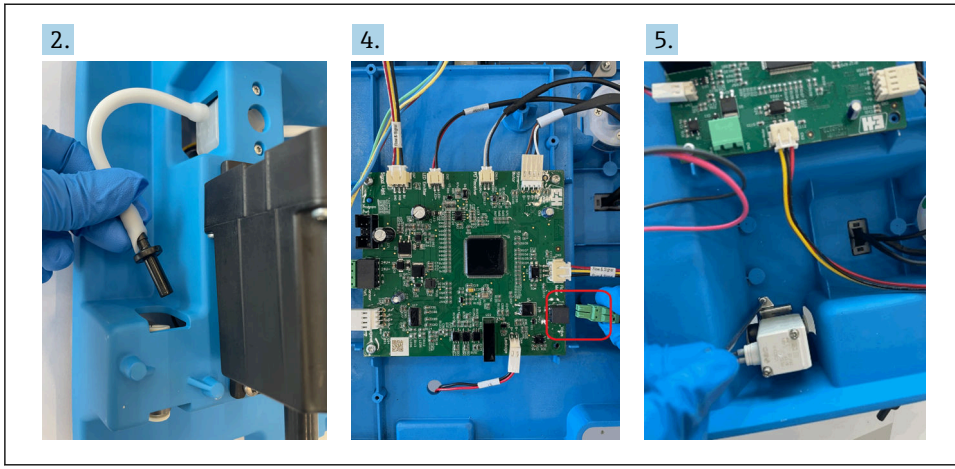
7 *Link to Components Sheet, including scope of delivery and device overview*

1. Carry out preparatory work as per Section 6.2.2 → 6.
2. Remove the quick-release connector from the sample valve.
3. Fold the carrier plate forward.
4. Release the **valve** connector of the sample valve from the main board (rear of carrier plate).
5. Release the securing screws and remove the sample valve.



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6. Install the new sample valve in reverse order.
7. Put the analyzer back into operation → 17.

6.6 Replacing the photometer

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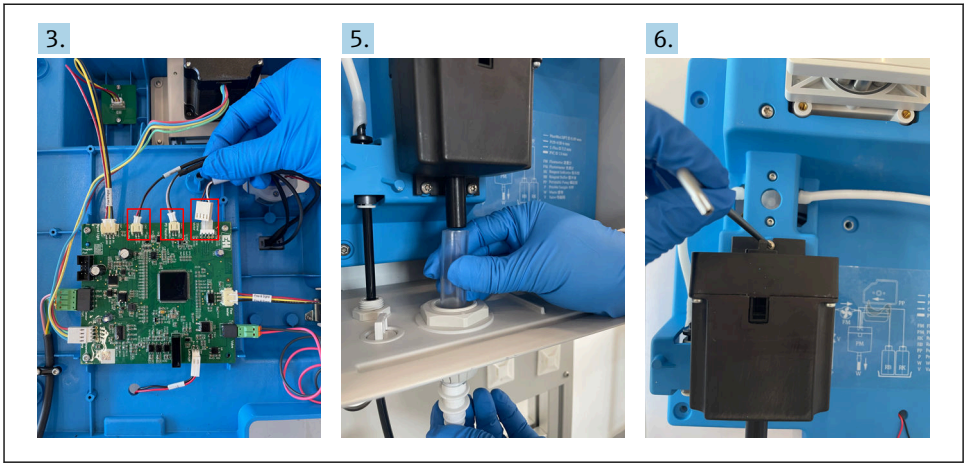
8 *Link to Components Sheet, including scope of delivery and device overview*

1. Carry out preparatory work as per Section 6.2.2 → 6.
2. Fold the carrier plate forward.
3. Disconnect the photometer connector from the main board (rear of carrier plate).
4. Fold back the carrier plate.
5. Disconnect the drain hose from the photometer.
6. Release the securing screws and remove the photometer.



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7. Install the new photometer in reverse order.
8. Put the analyzer back into operation → 17.

6.7 Replacing the sample filter

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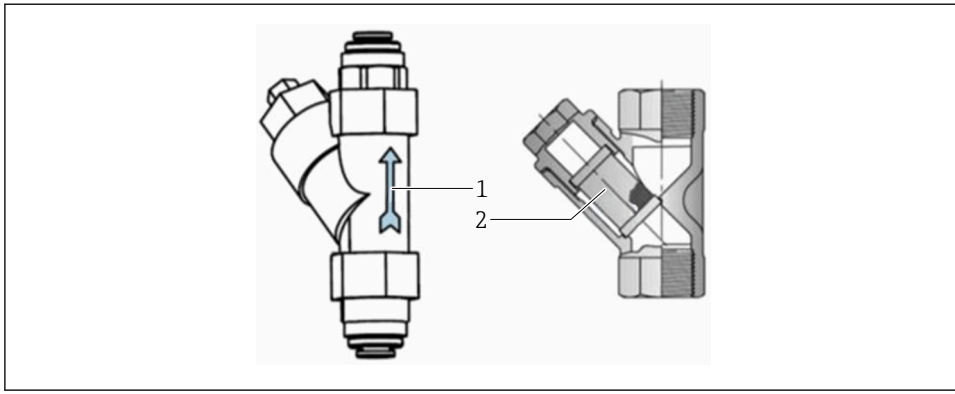
9 *Link to Components Sheet, including scope of delivery and device overview*

1. Carry out preparatory work as per Section 6.2.2 → 6.
2. Interrupt the sample supply, e.g., by closing the upstream valves on the system or by switching off the system's own sampling.
3. Release the mounting bracket for the filter.
4. Open the hose connection on the outlet side of the filter (upper filter = toward the flow controller) and pull the filter (2) downward off the short piece of hose.



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10 Sample filter

1 Direction of flow
2 Filter insert

5. Install the new filter in reverse order. Use the new plug adapters from the scope of delivery.
6. Restore the sample supply.
7. Put the analyzer back into operation → 17.
8. Select **Menu → Operation → Chx: DPD Total / Free chlorine → Activate service hold** and confirm with the navigator button.
9. Check the new filter for leaks (seals of the threaded connections, filter insert closure, hoses on the inlet and outlet side).

6.8 Replacing the pump platen (peristaltic pump)

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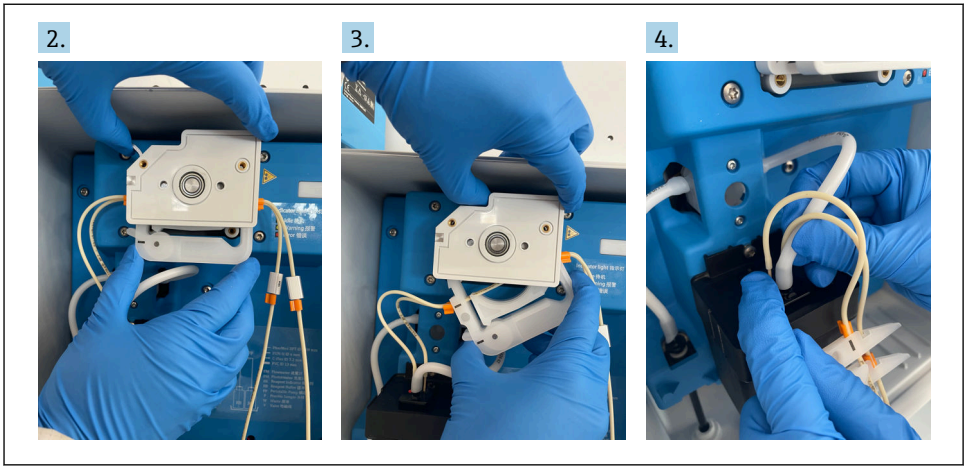
11 Link to Components Sheet, including scope of delivery and device overview

1. Carry out preparatory work as per Section 6.2.2 → 6.

2. Hold the peristaltic pump firmly with one hand and pull the cover upwards with the other hand so that the pump platen can be turned out of the housing (the pump platen still connected to the housing via the fastening clip!).
3. Pull the pump platen downwards and out of the pump housing to release the fastening clip.
4. Remove the sample hoses (PharMed BPT 3-stop hose, ID 0.89 W 0.85 mm) from the photometer and remove the pump platen together with the sample hoses.



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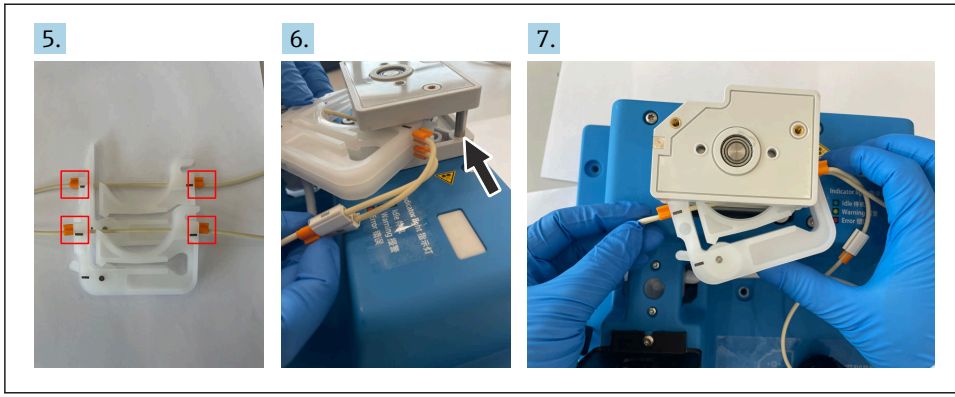
5. Install the new pump platen. To do this, first position the sample hoses in the pump platen in such a way that the red marking rings are positioned on the laser marking of the pump platen.
6. Insert the new pump platen into the pump housing until the fastening clip clicks into the pin on the housing.
7. Screw the pump platen into the housing until it engages.



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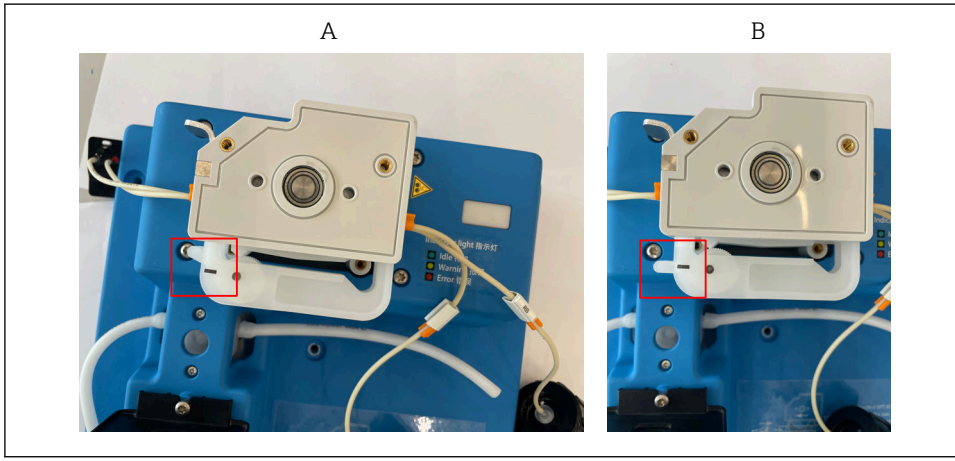
8. Once the pump platen is engaged, close the left-hand locking lever so that it is aligned with the laser marking.



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12 *Locking lever*

A *Locking lever open*
B *Locking lever closed*

6.9 Replacing the main PCB APCMB1 SMD

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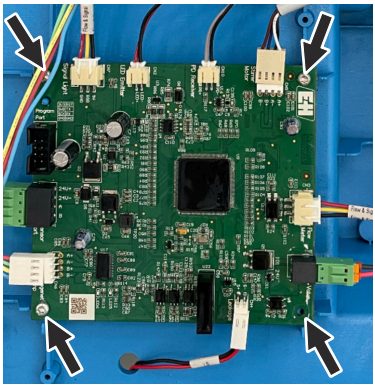
13 Link to Components Sheet, including scope of delivery and device overview

1. Carry out preparatory work as per Section 6.2.2 → 6.
2. Release all cables from the main board.
3. Release the securing screws.



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14 Main board APCMB1 SMD

4. Install the new circuit board in reverse order.
5. Put the analyzer back into operation → 17.

6.10 Replacing the indicator PCB APCSL1 SMD

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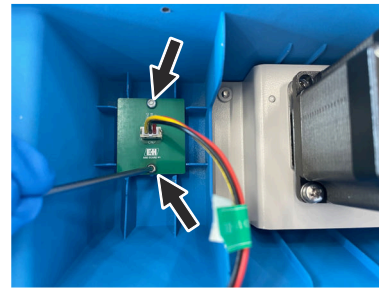
15 *Link to Components Sheet, including scope of delivery and device overview*

1. Carry out preparatory work as per Section 6.2.2 → 6.
2. Release all cables from the pump board.
3. Release the securing screws.



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4. Install the new circuit board in reverse order.
5. Put the analyzer back into operation → 17.

6.11 Recommissioning

1. Re-establish the power supply to the device.
2. Insert the bottle tray together with all bottles.
3. Screw the cover with the hoses onto the bottles. Ensure that the hoses are not mixed up! If in doubt, refer to the hose connection diagram on the inside of the device door.
4. Select **Menu → Operation → Chx: DPD Total / Free chlorine → Insert reagents**.
5. If necessary, adjust the size of the reagent bottle.
6. Select the **Next** button.
7. Activate the sample supply.

8. Select **Menu → Operation → Chx: DPD Total / Free chlorine → Service hold** to start normal measuring mode.
9. It is recommended to perform a one-point calibration at the end of the service work. To do so, select **Menu → Calibration → Chx: DPD Total / Free chlorine → Menu → Determine calibration factor**.
10. Check all the new components for leaks.

7 Additional documentation

Detailed information on the device can be found in the Operating Instructions for the assembly and in the other documentation available at:
- CA75 product page: https://www.endress.com/ca75
- Spare parts finder: https://sft-p.cdn.endress.com/
- www.endress.com/device-viewer
- Smartphone/tablet: Endress+Hauser Operations app

8 Disposal

If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

www.addresses.endress.com

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