oventrop

Valves, controls + systems

EN

Temperature sensor PT1000
for fresh water stations Regumaq X-25 and Regumaq X-45
Operating instructions

Contents

1. General information

The original operating instructions were drafted in German.
The operating instructions in other languages have been translated from German.

Other relevant documents

▶ Also consult the operating instructions of the fresh water station used by you.

Regumaq X-25

www.oventrop.com/qr/1381125

Regumaq X-45

www.oventrop.com/qr/1381140

1.1 Validity of the operating instruction

These operating instructions are valid for the temperature sensor PT1000 for the fresh water stations Regumaq X-25 and Regumaq X-45.

1.2 Extent of supply

- Temperature sensor PT1000
- O-ring
- Safety and installation advice

1.3 Contact

Contact address

OVENTROP GmbH & Co. KG

Paul-Oventrop-Straße 1

59939 Olsberg

GERMANY

Technical services

Phone: +49 (0) 29 62 82-234

1.4 Declaration of conformity

Oventrop GmbH & Co. KG hereby declares that this product complies with the basic requirements and other relevant provisions of the EU Directives concerned.

The declaration of conformity can be obtained from the manufacturer.

1.5 Symbols used

	Highlights important information and further explanations.
▶	Action required
•	List
1. 2.	Fixed order. Steps 1 to X.
▷	Result of action

2. Safety-related information

2.1 Correct use

Operating safety is only guaranteed if the product is used correctly.

The temperature sensor PT1000 may be used for water temperature measurement in the Oventrop fresh water stations Regumaq X-25 and Regumaq X-45.

Any other use of the product will be considered incorrect use.

Claims of any kind against the manufacturer and/or its authorised representatives due to damage caused by incorrect use will not be accepted.

Observance of the operating instructions is part of compliance with correct use.

2.2 Warnings

Each warning contains the following elements:

Warning symbol SIGNAL WORD
Type and source of danger Possible consequences if the danger occurs or the warning is ignored. ▶ Ways to avoid the danger.

The signal words identify the severity of the danger arising from a situation.

⚠ DANGER
Indicates an imminent danger with high risk. The situation will lead to death or serious injury if not avoided.

⚠ WARNING
Indicates a possible danger with moderate risk. The situation may lead to death or serious injury if not avoided.

⚠ CAUTION
Indicates a possible danger with lower risk. The situation will lead to minor and reversible injury if not avoided.

NOTICE
Indicates a situation that may lead to damage to property if not avoided.

2.3 Safety notes

We have developed this product in accordance with current safety requirements.

Please observe the following notes concerning safe use.

2.3.1 Danger to life due to electric current

Danger to life due to contact with live components.

- ▶ Completely disconnect the station from the power supply.
- ▶ Check that no voltage is present.
- ▶ Secure the station against switching back on.
- ▶ Only install in dry indoor areas.

2.3.2 Danger caused by inadequately qualified personnel

Any work on this product must only be carried out by qualified tradespeople.

As a result of their professional training and experience as well as their knowledge of the relevant legal regulations, qualified tradespeople are able to carry out any work on the described product professionally.

User

The user must be informed how to operate the product by qualified tradespeople.

2.3.3 Risk of burns due to hot components and surfaces

- ▶ Allow the station to cool down before working on it.
- ▶ Wear suitable protective clothing to avoid unprotected contact with hot system components and fittings.

2.3.4 Availability of the operating instructions

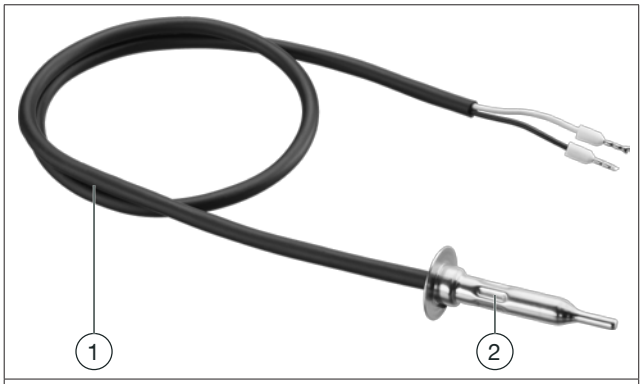
Any person working on the product has to read and apply these operating instructions.

The operating instructions must be available at the installation location of the product.

- ▶ Hand these operating instructions and all other relevant documents over to the user.

3. Technical description

3.1 Construction



Illust. 1: Construction

(1)	Connecting cable
(2)	Sensor

3.2 Functional description

The temperature sensor PT1000 is installed at 3 positions in the fresh water stations Regumaq X-25 and Regumaq X-45.

The temperature sensors PT1000 measure the following temperature values:

- Storage cylinder circuit supply
- Potable water (hot)
- Potable water (cold)/circulation

The controller of the fresh water station calculates the pump speed necessary to achieve the desired potable water temperature on the basis of the actual values detected by the sensors.

3.3 Nominal resistances

°C	Ω
-10	961
-5	980
0	1000
5	1019
10	1039
15	1058
20	1078
25	1097
30	1117
35	1136
40	1155
45	1175
50	1194
55	1213
60	1232
65	1252
70	1271
75	1290
80	1309
85	1328
90	1347
95	1366
100	1385
105	1404
110	1423
115	1442

4. Transport and storage

Temperature range	0 °C to +40 °C
Relative air humidity	Max. 95%
Particles	Store dry and free from dust
Mechanical influences	Protected from mechanical agitation
Weather influences	Do not store outdoors
	Protect from direct sunlight
Chemical influences	Do not store together with aggressive fluids

5. Installation

	You can find information on the construction and the designation of the components in the operating instructions of your fresh water station.

WARNING

Danger to life due to electric current

Danger to life due to contact with live components.

- ▶ Completely disconnect the product from the power supply.
- ▶ Check that no voltage is present.
- ▶ Secure the product against switching back on.
- ▶ Only install the product in dry indoor areas.

CAUTION

Risk of scalding due to hot fluids

If the station has been in operation, there is a risk of scalding due to the unintentional discharge of hot water or water steam.

- ▶ Allow the system to cool down.
- ▶ Wear suitable protective clothing.

CAUTION

Risk of burns due to hot components

Any unprotected contact with hot components may lead to burns.

- ▶ Allow the system to cool down.
- ▶ Wear safety gloves.

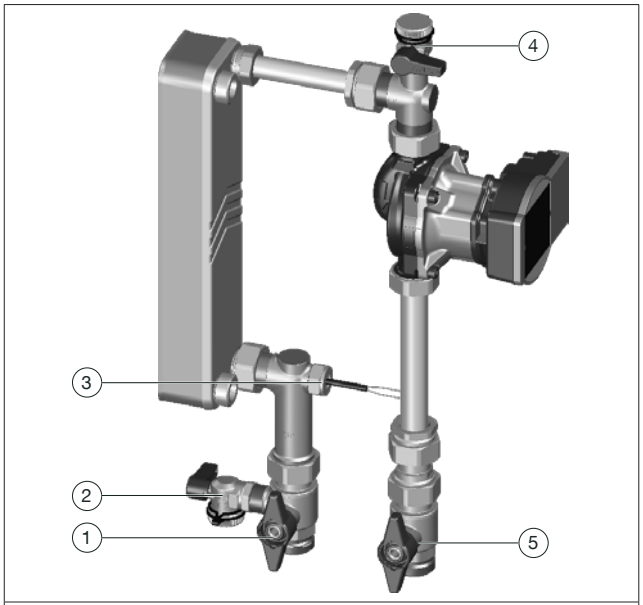
5.1 Tools required

- 24 mm spanner
- Spanner for screw with hexalobular socket
- Fine slot screwdriver

5.2 Preparation of the replacement

1. Completely disconnect the station from the power supply.
2. Lift off the upper shell.

5.3 Replacement of the temperature sensor for the storage cylinder circuit



Illust. 2: Storage cylinder circuit

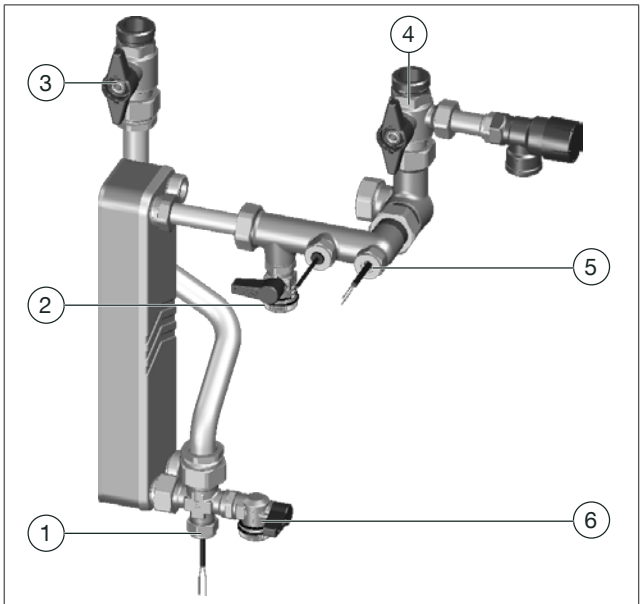
(1)	Isolating ball valve for storage cylinder circuit supply
(2)	Fill and drain ball valve for storage cylinder circuit supply
(3)	Temperature sensor for storage cylinder circuit
(4)	Fill and drain ball valve for storage cylinder circuit return
(5)	Isolating ball valve for storage cylinder circuit return

1. Close the isolating ball valve for storage cylinder circuit supply (1).
2. Close the isolating ball valve for storage cylinder circuit return (5).
3. Unscrew the caps of the fill and drain ball valves for storage cylinder circuit supply (2) and storage cylinder circuit return (4).
4. Connect a draining hose to the fill and drain ball valve for storage cylinder circuit supply (2).
5. Open the fill and drain ball valve for storage cylinder circuit supply (2) first and then the fill and drain ball valve for storage cylinder circuit return (4) to drain off the storage cylinder circuit.
6. Loosen the collar nut of the temperature sensor for storage cylinder circuit (3).
7. Carefully pull the temperature sensor for storage cylinder circuit (3) out of the fitting.
8. Let the defective sensor hang down in the electrically connected state.

	Replace the O-ring.

9. Fit the new temperature sensor.
10. Carry out the electrical connection of the new temperature sensor as described in section 5.5.

5.4 Replacement of the temperature sensor for the potable water circuit



Illust. 3: Potable water circuit

(1)	Temperature sensor for potable water (hot)
(2)	Fill and drain ball valve for potable water (cold)
(3)	Isolating ball valve for potable water (hot)
(4)	Isolating ball valve for potable water (cold)
(5)	Temperature sensor for potable water (cold)/ circulation
(6)	Fill and drain ball valve for potable water (hot)

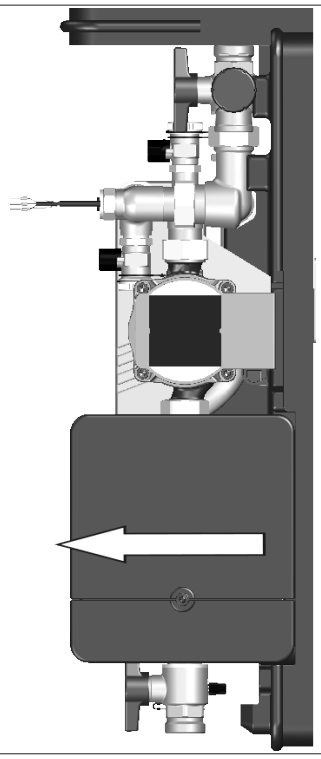
1. Close the isolating ball valve for potable water (cold) (4).
2. Close the isolating ball valve for potable water (hot) (3).
3. When using a circulation pipe, close the isolating ball valve of the circulation pipe.
4. Unscrew the caps of the fill and drain ball valves for potable water (cold) (2) and potable water (hot) (6).
5. Connect a draining hose to the fill and drain ball valve for potable water (hot) (6).
6. Open the fill and drain ball valve for potable water (hot) (6) first and then the fill and drain ball valve for potable water (cold) (2) to drain off the potable water circuit.
7. Loosen the collar nut of the temperature sensor for potable water (cold)/circulation (5).
8. Carefully pull the temperature sensor for potable water (cold)/circulation out of the fitting.
9. Let the defective sensor hang down in the electrically connected state.

	Replace the O-ring.

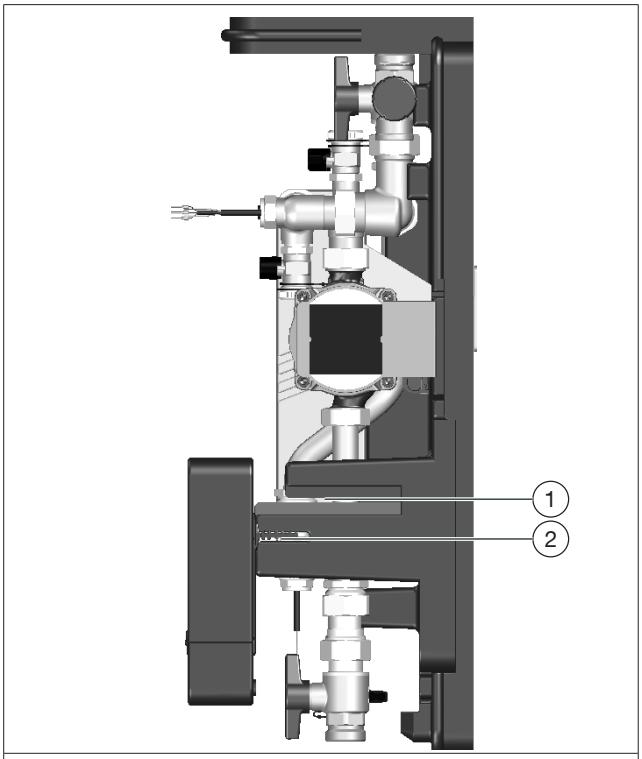
10. Fit the new temperature sensor.
11. Carry out the electrical connection of the new temperature sensor as described in section 5.5.

5.5 Electrical connection of the temperature sensor

NOTICE	
	Damage to the electrical lines and connections caused by tensile forces Electrical lines and/or connections can break if excessive tensile forces are applied. ▶ Ensure that the cables connected to the controller are not subjected to tensile forces.

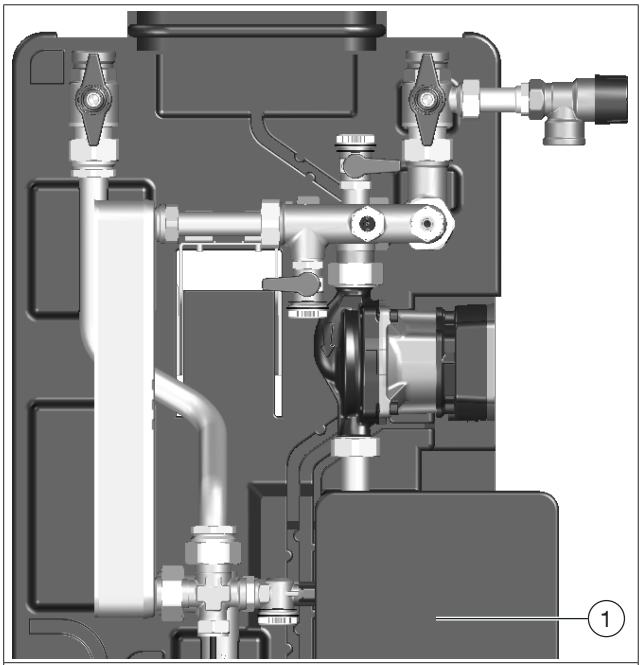


Illust. 4: Removal of the controller from the lower shell



Illust. 5: Installation position

(1)	Opening for operation position
(2)	Opening for installation position



Illust. 6: Opening of the controller

(1)	Connection panel cover
(2)	Screw with hexalobular socket
(3)	Supply line cover

1. Carefully remove the controller from the lower shell as shown in Illust. 4.
2. Rotate the controller and secure it in the installation position as shown in Illust. 5.
3. Loosen the screw with hexalobular socket (see position (2) in Illust. 6) and put it to one side.
4. Slide the connection panel cover (see position (1) in Illust. 6) upwards until it audibly locks into place.
5. Fold down the supply line cover (see position (3) in Illust. 6) and put it to one side.
6. Shorten the connecting cable of the new temperature sensor according to the length of the connecting cable of the defective temperature cable.
7. Strip off the connecting cable.
8. Sever the cable tie securing the electrical supply line of the temperature sensor in place for tension relief with a side cutter.
9. Loosen the clamping connections of the defective temperature sensor and put the temperature sensor to one side.

	Loosen the clamping connections by carefully holding down the orange spring mechanism with a fine slot screwdriver while pulling out the lines.

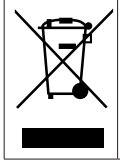
10. Connect the new temperature sensor and secure the connecting cable in place with a suitable cable tie.
11. Close the supply line cover and the connection panel cover.
12. Tighten the screw.
13. Put the controller back from the installation position to the operation position (see Illust. 4).
14. Make sure that the electrical lines are laid in the designated channels in the lower shell.
15. Fit the upper shell.

6. Commissioning

- ▶ Fill and bleed the relevant circuit as described in the chapter "Commissioning" of the operation instructions of your fresh water station.
- ▶ Connect the station to the power supply.
- ▷ The fresh water station is ready for operation.

7. Disposal

Directive 2012/19/UE WEEE:



Waste electrical and electronic components (WEEE) must not be disposed of with domestic waste, but must be dropped off at a collection point of the recycling of electrical and electronic appliances.

NOTICE

Risk of environmental pollution

Incorrect disposal (for instance with domestic waste) may lead to environmental damage.

- ▶ Dispose of packaging material in an environmentally friendly manner.
- ▶ Dispose of the components appropriately.

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