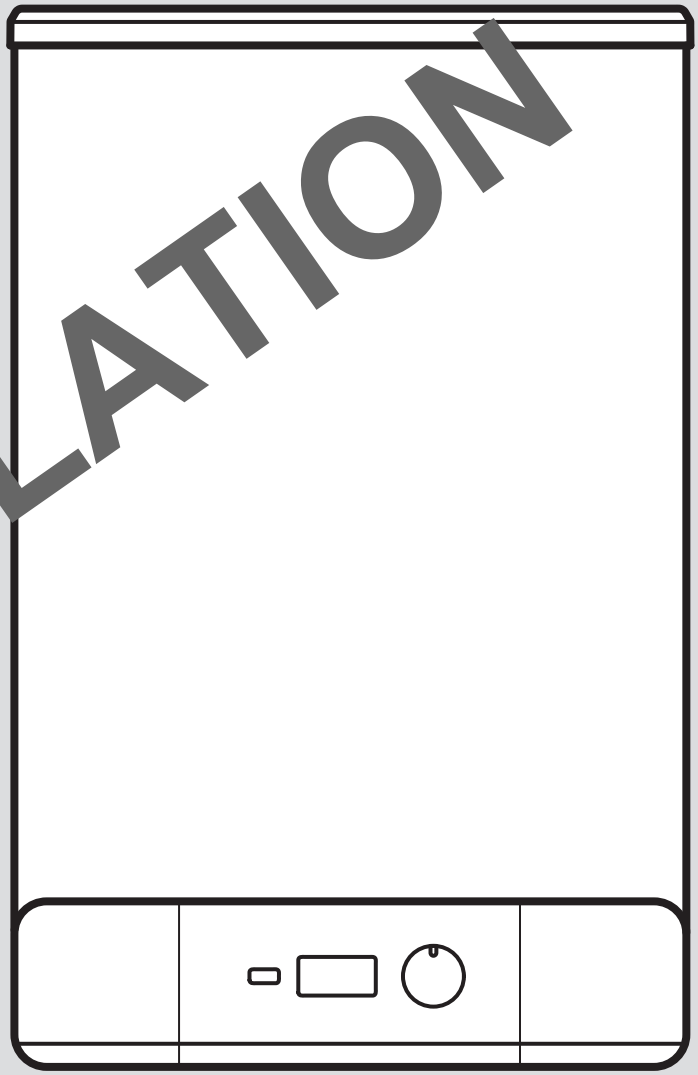
DemirDöküm

DT4-D 50 INT I
DT4-D 65 INT I
DT4-D 80 INT I



en Installation and maintenance instructions

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8000031435_01 - 19.11.2024

Installation and maintenance instructions

Contents

1 Safety

1.1 Action-related warnings

Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning symbols and signal words

Danger!
Imminent danger to life or risk of severe personal injury

Danger!
Risk of death from electric shock

Warning.
Risk of minor personal injury

Caution.
Risk of material or environmental damage

1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The product is designed to generate and maintain heated drinking water for households.

– Max. hot water temperature: 75 ℃

The product is approved exclusively for vertical installation on the wall.

The product must only be operated if a safety group is installed.

Intended use includes the following:

– observance of accompanying operating, installation and maintenance instructions for the product and any other system components
– compliance with all inspection and maintenance conditions listed in the instructions.

The use of the product in vehicles, such as mobile homes and caravans, is not classed as intended use. Units that are not classed as vehicles are those that are installed in a fixed and permanent location (known as "fixed installation").

Any other use that is not specified in these instructions, or use beyond that specified in this document, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

Caution.

Improper use of any kind is prohibited.

1.3 General safety information

1.3.1 Risk caused by inadequate qualifications

The following work must only be carried out by competent persons who are sufficiently qualified to do so:

– Set-up
– Dismantling
– Installation
– Start-up
– Inspection and maintenance
– Repair
– Decommissioning

▸ Proceed in accordance with current technology.

1.3.2 Risk of death from electric shock

There is a risk of death from electric shock if you touch live components.

Before commencing work on the product:

▸ Disconnect the product from the power supply by switching off all power supplies at all poles (electrical partition with a contact gap of at least 3 mm, e.g. fuse or circuit breaker).
▸ Secure against being switched back on again.
▸ Check that there is no voltage.

1.3.3 Risk of burns or scalding caused by hot components

▸ Only carry out work on these components once they have cooled down.

1.3.4 Risk of scalding and material damage due to escaping hot or cold water

▸ If you use plastic pipes for the hot or cold water connection of the product, you must only use pipes that are temperature-resistant up to 95 °C under a pressure of 1.0 MPa (10 bar).

1.3.5 Risk of material damage caused by using an unsuitable tool

- Use the correct tool.

1.3.6 Risk of material damage caused by frost

- Do not install the product in rooms prone to frost.

1.3.7 Material damage due to leaks

- Ensure that there is no mechanical stress on the connection cables.
- Do not suspend any loads from the pipelines (e.g. clothing).

1.3.8 Risk of death due to safety group components either not being installed or being incorrectly installed

If certain safety group components (e.g. expansion relief valve, return flow prevention, pressure reducer) have either not been installed or have been incorrectly installed, this may lead to potentially fatal scalding and other injuries.

- Install the necessary safety group components.
- Do not install hydraulic accessories between the safety group and the domestic hot water cylinder's cold water pipe.
- Explain to the operator how the safety group works and where it is to be positioned.

1.3.9 Material damage due to unsuitable installation surface

The installation surface must be even and have sufficient load-bearing capacity to support the operating weight of the product. An uneven installation surface may cause leaks in the product.

If the installation surface does not have sufficient load-bearing capacity, the product may become detached and fall off.

There is a risk of death if the connections are subject to leaks.

- Make sure that the product is positioned flush against the installation surface.
- Ensure that the installation surface has sufficient load-bearing capacity to bear the operating weight of the product.

1.3.10 Excessive water pressure

Excessive water pressure may lead to damage to the product and, as a result, cause injuries.

Validity: Product with rated excess pressure > 6 bar

- Install a pressure regulator as close as possible to the product's cold water inlet.
- Note the particular characteristics of the pressure regulator as well as the details of the installation.

- Install an optional safety assembly as close as possible to the product's cold water inlet.
  - Required safety assembly components: Expansion relief valve, isolation valve, non-return valve and discharge pipe
- Install the discharge pipe above the drain pipework's funnel in such a way that the discharge pipe opposite the atmosphere remains open.
- Install the drain pipework in a frost-free environment with a steady downward gradient to a drain.
- Inform the end user that they must manually check that the expansion relief valve is working correctly at regular intervals.

1.3.11 Expansion relief valve

- During operation, hot water may drip out of the expansion relief valve.
- The expansion relief valve must be left open to the atmosphere.

1.3.12 Replacing the damaged power supply cable

- If the power supply cable for this product is damaged, it must be replaced by the manufacturer or their customer service or a similarly qualified person in order to prevent any hazards.

1.4 Regulations (directives, laws, standards)

- Observe the national regulations, standards, directives, ordinances and laws.

2 Notes on the documentation

2.1 Observing other applicable documents

► Always observe all the operating and installation instructions included with the system components.

2.2 Storing documents

► Pass these instructions and all other applicable documents on to the end user.

2.3 Validity of the instructions

This language version of the instructions applies only to Azerbaijan.

Product article number

DT4-D 50 INT I	8000031383
DT4-D 65 INT I	8000031377
DT4-D 80 INT I	8000031382

3 Product overview

3.1 Product designation

The product is a Elektrik isti su tutacağı, bağlı.

3.2 Data plate

The data plate is located on the underside of the product.

The data plate contains the following information:

Information	Meaning
Serial no.	For identification
DT4-D XX I	Product designation
I	Fill quantity
W	Power
V	Operating voltage
Hz	Frequency
MPa (bar)	Pressure
IP xx	IP rating
CE marking	Unit complies with European standards and directives
Waste container	Proper disposal of the unit

3.3 CE marking

CE

The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.

The declaration of conformity can be viewed at the manufacturer's site.

3.4 Design

The cylinder is equipped with external heat insulation. The cylinder vessel is made of enamelled steel. The heating elements that transfer the heat are located inside the vessel. As additional corrosion protection, the vessel has a magnesium protection anode.

3.5 Regulations on packaging, transportation and storage

The products are delivered in the manufacturer's packaging.

The products are transported by road, by sea and by rail in accordance with the goods transport regulations that apply to the relative means of transport. During transportation, it is absolutely essential for the product to be firmly secured against moving horizontally and vertically.

Products that are not installed are stored in the manufacturer's packaging. The products must be stored under standard conditions in closed rooms that have natural air circulation (non-aggressive and dust-free environment, temperature gradients of -10 °C to +37 °C, up to 80% air humidity, without shocks or vibrations).

3.6 Duration of storage

– Duration of storage: 2 years from production date

3.7 Service life

If the regulations on transportation, storage, installation and operation are observed, the product's expected service life is 15 years from the date of installation.

4 Set-up

4.1 Checking the scope of delivery

Quantity	Component
1	Domestic hot water cylinder
1	Hanging bracket
1	Expansion relief valve
4	Screws
4	Rawl plug
4	Washers
1	Spacer
1	Adjusting screw
1	Discharge line
1	Operating instructions
1	Installation and maintenance instructions

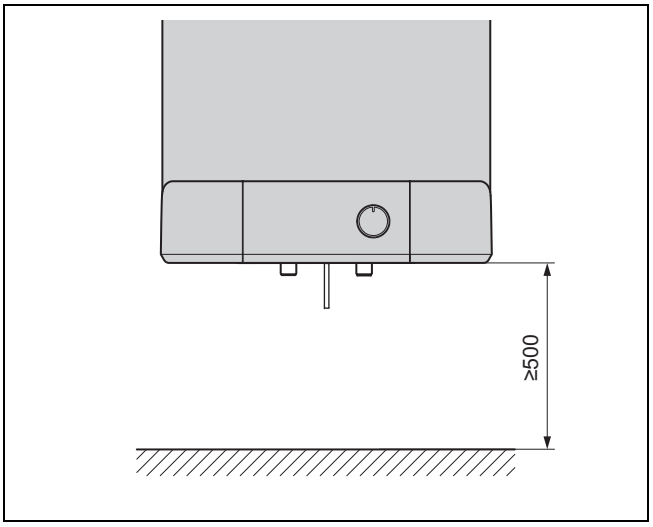
4.2 Requirements for the installation site

- ► Select the installation site so that the cables can be easily routed.
- ► Install the product in rooms that are always dry and free of frost.
- ► Make sure that the wall is even, vertical and sturdy.
- ► Make sure that the load-bearing capacity of the wall, rawl plugs and screws are sufficient for bearing the product's operating weight.
- ► Make sure that the rawl plugs and screws are suitable for the wall.

4.3 Requirements for electrical installation at the installation site

- ► Make sure that the product can be installed outside of protective areas 0 to 2.
- ► Make sure that the dwelling is equipped with an earth line.
- ► Make sure that the power mains is suitable for the product.
  - – Voltage: 230 V/50 Hz
- ► Make sure that the line protection switch is suitable for the measuring current.
  - – Measuring current: 16 A

4.4 Observing the minimum clearances



- ► Comply with the minimum clearances during installation.

4.5 Installing the product

1. During installation, pay attention to the length of the electrical line, the minimum clearances with respect to the wall, floor and ceiling, and the permitted protective area.

Condition: Wall made of concrete hollow bricks

- ► Install the product using a special load-bearing structure.

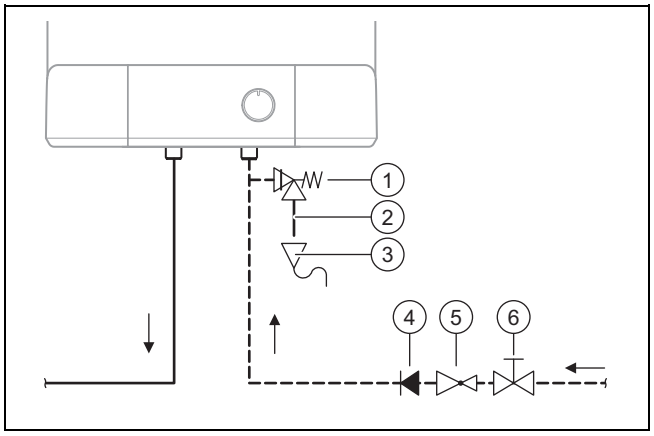
2. Based on the product's operating weight and the structural condition of the installation surface, determine the fixing material, e.g. rawl plugs and screws.
3. Make sure that the rawl plugs and screws are suitable for the product's installation surface.
4. Use the installation template that is printed on the packaging.
5. Drill the holes.
6. Insert the rawl plugs into the holes and screw in the screws.
   - – Clearance between the screw and the wall: ≈ 30 mm
7. Mount the hanging bracket.
8. Use a screw to install the spacer at the lower end of the cylinder on the wall.
9. Use the adjusting screw to align the product in parallel to the wall.
10. Align the hanging brackets vertically and tighten the screws.
11. Mount the product in the hanging brackets using the hooks.

4.6 Installing the product

Warning.
Risk of adverse health effects caused by impurities in the potable water.

Sealing residues, dirt or other residues in the pipelines may adversely affect the quality of the potable water.

- ► Flush all of the hot and cold water pipes thoroughly before you install the product.



1	Expansion relief valve	4	Return flow prevention (optional)
2	Discharge line	5	Pressure reducer (optional)
3	Tundish (optional)	6	Stop valve

1. Install components **(1)** to **(6)** in accordance with the illustration.
2. Install the safety device as close as possible to the product's cold water inlet.
3. Install the drain pipework at a constant incline.
4. Maintain a clearance between the expansion relief valve's discharge pipe and the tundish so that the drain pipework is open to the atmosphere.
   - – Clearance: ≥ 20 mm
5. Make sure that the diameter of the drain pipework is at least equal to that of the expansion relief valve's discharge pipe.
6. If the connection pressure is high, install a pressure reducer.

– Connection pressure: ≥ 0.7 MPa
– Pressure setting: 0.3 to 0.4 MPa

5 Electrical installation

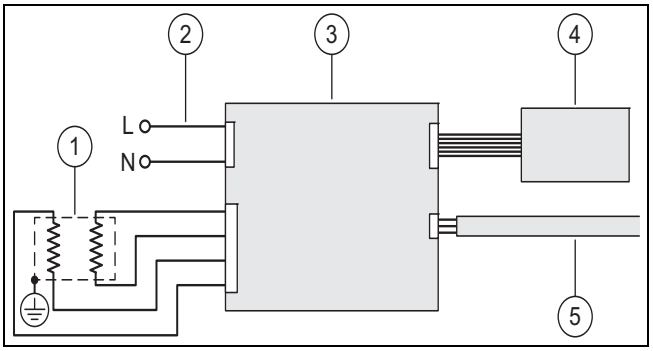
Only qualified electricians are allowed to carry out the electrical installation.

5.1 Connecting the product

1. Make sure that you do not connect the product to the power grid prior to start-up.
2. To connect the product, use H 05 VV-F 3 G 2,5 mm^2 lines.
3. Switch off the power supply.
4. Check that there is no voltage.
5. Secure the power supply against being switched back on.
6. Earth the domestic hot water cylinder.
7. Do not use pipelines for earthing.
8. Protect the electrical circuit using a circuit breaker.
   – Rated current: ≥ 16 A
9. Switch off the circuit breaker.
10. Connect the electrical connection cables.

5.1.1 Connecting electrical supply lines

5.1.1.1 Single-phase connection, 230 V ~



1	Heating element 1.8 + 1.2 kW	3	Switch box
2	Mains connection	4	Printed circuit board
		5	NTC sensor

6 Initial start-up

Initial start-up must only be carried out by customer service.

6.1 Start-up

1. Open the cold-water stopcock.
2. Open the hot water taps.
3. Wait until water flows out of the hot water taps.
4. Close the hot water taps.
5. Check the expansion relief valve by opening the drain cock on the expansion relief valve.
   ◁ Water must escape from the draining cock.
6. Check all pipe connections for leak-tightness.
7. Switch on the main switch.
8. Switch on the line protection switch.

Danger!
Risk of death from legionella.

Legionella multiply at temperatures below 60 °C.

► Ensure that the end user is familiar with all of the Anti-legionella measures in order to comply with the applicable regulations regarding legionella prevention.

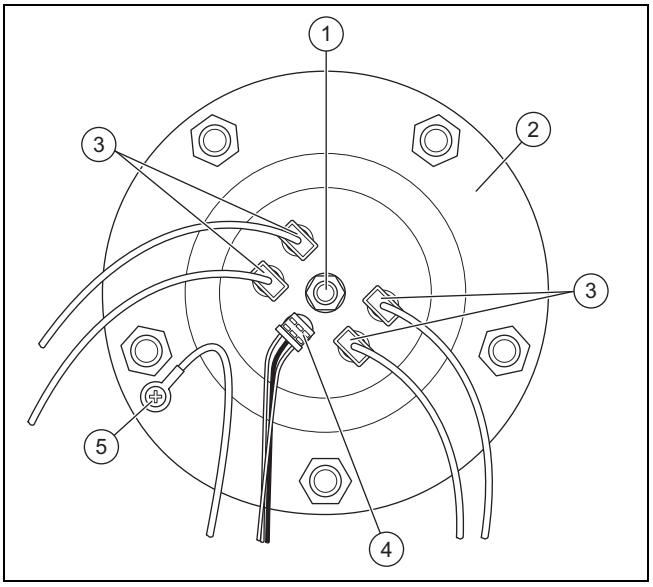
9. Set the required temperature.
   – Temperature range: 10 to 75 °C
   ◁ The display shows the set temperature.
10. Activate the Anti-legionella function.
11. Turn the rotary knob to the lowest temperature and press the reset button for 15 seconds.
    ◁ The Anti-legionella function has been activated and the Legionella symbol is shown on the display for 10 seconds.
12. Wait until the heat-up time has ended before switching the product to normal operating mode.

7 Handing the product over to the end user

► Inform the end user how to handle the product. Answer any questions the end user may have. In particular, draw attention to the safety warnings which the end user must follow.
► Explain to the end user how the safety devices work and where they are located.
► Explain to the end user how to limit the domestic hot water temperature at the draw-off point in order to prevent scalding.
► Inform the end user that they must have the product maintained in accordance with the specified intervals.
► Provide the end user with all relevant instructions and unit documentation for safe-keeping.

8 Maintenance

8.1 Checking the magnesium protection anode



1	Heating element bolt	4	NTC sensor
2	Flange with hex nuts	5	Earth line
3	Heating element		

1. Disconnect the product from the power supply. (→ Page 10)
2. Empty the product. (→ Page 11)

Removing the flange

3. Undo the screws on the cover for the flange and electronics box.
4. Unscrew the earth line from the flange.
5. Unplug the plug from the heating elements and from the NTC sensor.
6. Remove the NTC sensor.
7. Unscrew the hex nuts from the flange.
8. Remove the flange straight from the cylinder tank.

Replacing the magnesium protection anode

9. Replace the magnesium protection anode when it is worn.
   – Wear: 60 %

Installing the flange

10. Replace the flange seal.
11. Screw the flange in place.
12. Screw on the earth line.
13. Plug the NTC sensor into the intended opening.
14. Plug the plugs into the heating elements and the NTC sensor.
15. Screw the cover to the product tightly.
16. Start up the product. (→ Page 9)

8.2 Checking the inner vessel and components for scale deposition

1. Disconnect the product from the power supply. (→ Page 10)
2. Empty the product. (→ Page 11)
3. Remove the flange. (→ Page 10)
4. If necessary, clean the inner vessel with descaling agents or by carefully scraping it with a wooden spatula.
5. Install the flange. (→ Page 10)
6. Replace components if necessary.
7. Start up the product. (→ Page 9)

9 Detecting and eliminating faults

9.1 Replacing the defective NTC sensor

1. Disconnect the product from the power supply. (→ Page 10)
2. Undo the screws on the cover for the flange and electronics box.
3. Pull out the NTC sensor's plug from the PCB.
4. Remove the defective NTC sensor.
5. Plug the new NTC sensor into the intended opening.
6. Plug the NTC sensor's plug into the PCB.
7. Screw the cover to the product tightly.
8. Start up the product. (→ Page 9)

9.2 Replacing a defective heating element

1. Disconnect the product from the power supply. (→ Page 10)
2. Empty the product. (→ Page 11)
3. Remove the flange. (→ Page 10)
4. Unscrew the defective heating element from the flange.
5. Screw the new heating element onto the flange.
6. Install the flange. (→ Page 10)
7. Start up the product. (→ Page 9)

9.3 Overview of fault messages

Fault display view (→ Page 13)

10 Decommissioning

Disconnecting the product from the power supply

Danger!
Risk of electric shock

There is a risk of electric shock when working on electrical components that are connected to the low-voltage network.

- ► Disconnect the product from the power supply.
- ► Secure the product against being switched back on again.
- ► Check that the product is voltage-free.
- ► Only open the product when it is voltage-free.

► Remove the mains connection lines.

Emptying the product

1. Close the cold water stop cock.
2. Open a hot water valve connected to the product.
3. Loosen the connection between the cold water pipe and the product.
4. Drain the domestic hot water cylinder via the product's cold water pipe.

Removing the product

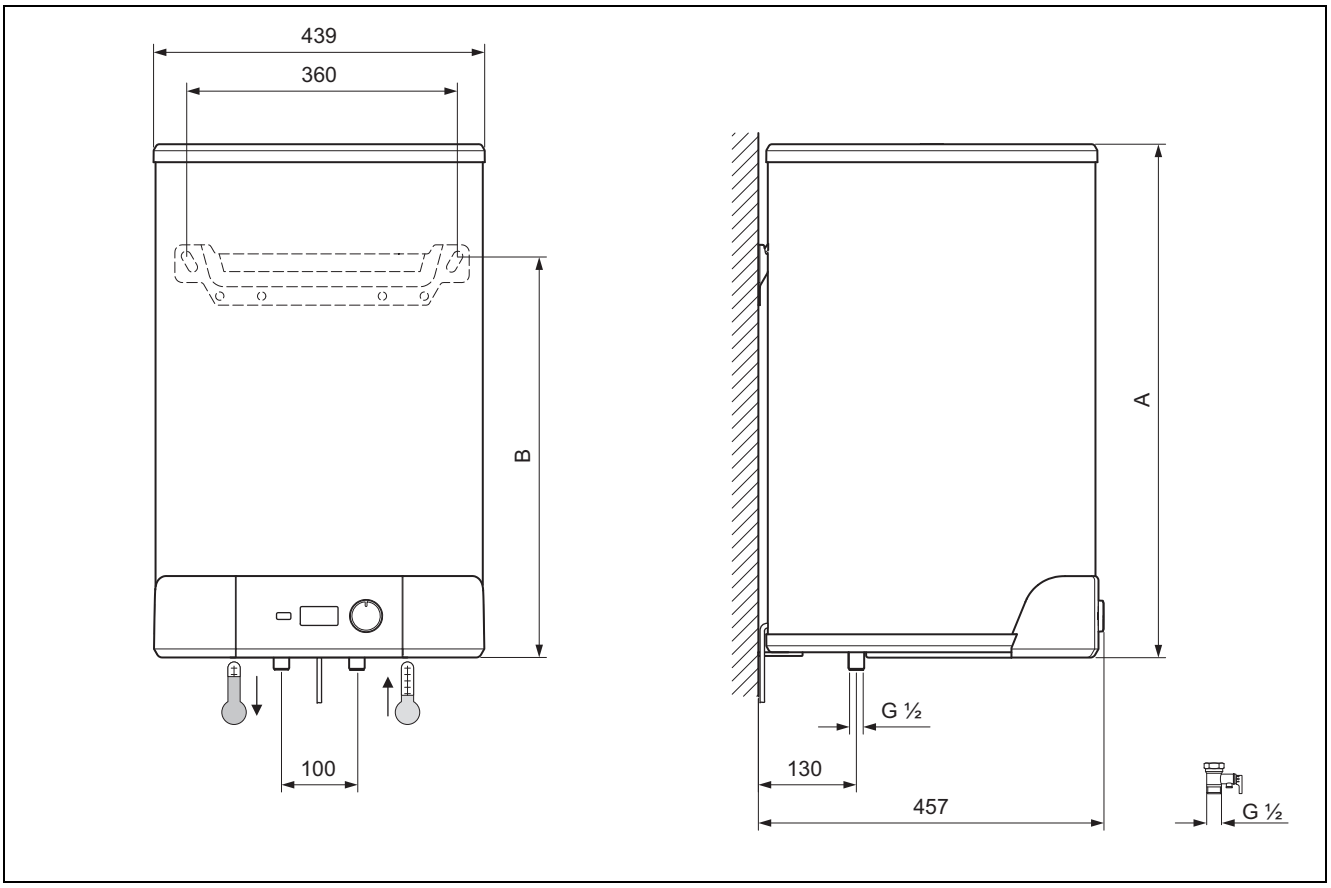
5. Remove the cold and hot water piping.
6. Undo the screws.
7. Lift the product and remove it from the wall.
8. Remove the screws from the wall.

11 Customer service

You can find the contact details for our customer service below the address on the back page of this document.

Appendix

A Dimensions and dimension drawing



Dimensions

	A	B
DT4-D 50 INT I	555 mm	408 mm
DT4-D 65 INT I	680 mm	533 mm
DT4-D 80 INT I	805 mm	658 mm

B Technical data

	Filling volume	Operating weight	Net weight	Power	Mains voltage
DT4-D 50 INT I	50 l	67 kg	17 kg	3 kW	230 V
DT4-D 65 INT I	65 l	85 kg	20 kg	3 kW	230 V
DT4-D 80 INT I	77 l	101 kg	24 kg	3 kW	230 V

	Protection class	IP rating
DT4-D 50 INT I	I	IP25
DT4-D 65 INT I	I	IP25
DT4-D 80 INT I	I	IP25

B.1 Technical data – General

Heat insulation	PU foam, CFC-free
Inner vessel	Steel, enamelled, with magnesium protection anode

C Fault display view

Display	Cause	Troubleshooting
F1	Domestic hot water overheating (≥85 °C for 2 seconds)	Make sure that the temperature of the cold water at the cylinder's cold water connection is <85 °C. Reset the fault message using the reset button on the PCB.
F2	Temperature sensor reports a fault	Replace the temperature sensor.
F3	Insufficient voltage at the product's power supply or PCB defective	Reset the fault message using the reset button on the PCB. If the fault still exists, replace the PCB.
F4	Insufficient voltage at the product's power supply	Make sure that the mains power is designed for the product's operation. Reset the fault message using the reset button on the PCB.
turbo function flashes	Second heating element defective	Replace the heating element.

Installation and maintenance instructions

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Caution.
Risk of material or environmental damage

1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The product is designed to generate and maintain heated drinking water for households.

– Max. hot water temperature: 75 ℃

The product is approved exclusively for vertical installation on the wall.

The product must only be operated if a safety group is installed.

Intended use includes the following:

– observance of accompanying operating, installation and maintenance instructions for the product and any other system components
– compliance with all inspection and maintenance conditions listed in the instructions.

The use of the product in vehicles, such as mobile homes and caravans, is not classed as intended use. Units that are not classed as vehicles are those that are installed in a fixed and permanent location (known as "fixed installation").

Any other use that is not specified in these instructions, or use beyond that specified in this document, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

Caution.

Improper use of any kind is prohibited.

1.3 General safety information

1.3.1 Risk caused by inadequate qualifications

The following work must only be carried out by competent persons who are sufficiently qualified to do so:

– Set-up
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– Installation
– Start-up
– Inspection and maintenance
– Repair
– Decommissioning

► Proceed in accordance with current technology.

1.3.2 Risk of death from electric shock

There is a risk of death from electric shock if you touch live components.

Before commencing work on the product:

► Disconnect the product from the power supply by switching off all power supplies at all poles (electrical partition with a contact gap of at least 3 mm, e.g. fuse or circuit breaker).
► Secure against being switched back on again.
► Check that there is no voltage.

1.3.3 Risk of burns or scalding caused by hot components

► Only carry out work on these components once they have cooled down.

1.3.4 Risk of scalding and material damage due to escaping hot or cold water

► If you use plastic pipes for the hot or cold water connection of the product, you must only use pipes that are temperature-resistant up to 95 °C under a pressure of 1.0 MPa (10 bar).

1.3.5 Risk of material damage caused by using an unsuitable tool

- Use the correct tool.

1.3.6 Risk of material damage caused by frost

- Do not install the product in rooms prone to frost.

1.3.7 Material damage due to leaks

- Ensure that there is no mechanical stress on the connection cables.
- Do not suspend any loads from the pipelines (e.g. clothing).

1.3.8 Risk of death due to safety group components either not being installed or being incorrectly installed

If certain safety group components (e.g. expansion relief valve, return flow prevention, pressure reducer) have either not been installed or have been incorrectly installed, this may lead to potentially fatal scalding and other injuries.

- Install the necessary safety group components.
- Do not install hydraulic accessories between the safety group and the domestic hot water cylinder's cold water pipe.
- Explain to the operator how the safety group works and where it is to be positioned.

1.3.9 Material damage due to unsuitable installation surface

The installation surface must be even and have sufficient load-bearing capacity to support the operating weight of the product. An uneven installation surface may cause leaks in the product.

If the installation surface does not have sufficient load-bearing capacity, the product may become detached and fall off.

There is a risk of death if the connections are subject to leaks.

- Make sure that the product is positioned flush against the installation surface.
- Ensure that the installation surface has sufficient load-bearing capacity to bear the operating weight of the product.

1.3.10 Excessive water pressure

Excessive water pressure may lead to damage to the product and, as a result, cause injuries.

Validity: Product with rated excess pressure > 6 bar

- Install a pressure regulator as close as possible to the product's cold water inlet.
- Note the particular characteristics of the pressure regulator as well as the details of the installation.

- Install an optional safety assembly as close as possible to the product's cold water inlet.
  - Required safety assembly components: Expansion relief valve, isolation valve, non-return valve and discharge pipe
- Install the discharge pipe above the drain pipework's funnel in such a way that the discharge pipe opposite the atmosphere remains open.
- Install the drain pipework in a frost-free environment with a steady downward gradient to a drain.
- Inform the end user that they must manually check that the expansion relief valve is working correctly at regular intervals.

1.3.11 Expansion relief valve

- During operation, hot water may drip out of the expansion relief valve.
- The expansion relief valve must be left open to the atmosphere.

1.3.12 Replacing the damaged power supply cable

- If the power supply cable for this product is damaged, it must be replaced by the manufacturer or their customer service or a similarly qualified person in order to prevent any hazards.

1.4 Regulations (directives, laws, standards)

- Observe the national regulations, standards, directives, ordinances and laws.

2 Notes on the documentation

2.1 Observing other applicable documents

► Always observe all the operating and installation instructions included with the system components.

2.2 Storing documents

► Pass these instructions and all other applicable documents on to the end user.

2.3 Validity of the instructions

This language version of the instructions applies only to Albania.

Product article number

DT4-D 50 INT I	8000031383
DT4-D 65 INT I	8000031377
DT4-D 80 INT I	8000031382

3 Product overview

3.1 Product designation

The product is a Rezervuar elektrik i ujit të ngrohtë, mbyllur.

3.2 Data plate

The data plate is located on the underside of the product.

The data plate contains the following information:

Information	Meaning
Serial no.	For identification
DT4-D XX I	Product designation
I	Fill quantity
W	Power
V	Operating voltage
Hz	Frequency
MPa (bar)	Pressure
IP xx	IP rating
CE marking	Unit complies with European standards and directives
Waste container	Proper disposal of the unit

3.3 CE marking

CE

The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.

The declaration of conformity can be viewed at the manufacturer's site.

3.4 Design

The cylinder is equipped with external heat insulation. The cylinder vessel is made of enamelled steel. The heating elements that transfer the heat are located inside the vessel. As additional corrosion protection, the vessel has a magnesium protection anode.

3.5 Regulations on packaging, transportation and storage

The products are delivered in the manufacturer's packaging.

The products are transported by road, by sea and by rail in accordance with the goods transport regulations that apply to the relative means of transport. During transportation, it is absolutely essential for the product to be firmly secured against moving horizontally and vertically.

Products that are not installed are stored in the manufacturer's packaging. The products must be stored under standard conditions in closed rooms that have natural air circulation (non-aggressive and dust-free environment, temperature gradients of -10 °C to +37 °C, up to 80% air humidity, without shocks or vibrations).

3.6 Duration of storage

– Duration of storage: 2 years from production date

3.7 Service life

If the regulations on transportation, storage, installation and operation are observed, the product's expected service life is 15 years from the date of installation.

4 Set-up

4.1 Checking the scope of delivery

Quantity	Component
1	Domestic hot water cylinder
1	Hanging bracket
1	Expansion relief valve
4	Screws
4	Rawl plug
4	Washers
1	Spacer
1	Adjusting screw
1	Discharge line
1	Operating instructions
1	Installation and maintenance instructions

4.2 Requirements for the installation site

► Select the installation site so that the cables can be easily routed.

► Install the product in rooms that are always dry and free of frost.

► Make sure that the wall is even, vertical and sturdy.

► Make sure that the load-bearing capacity of the wall, rawl plugs and screws are sufficient for bearing the product's operating weight.

► Make sure that the rawl plugs and screws are suitable for the wall.

4.3 Requirements for electrical installation at the installation site

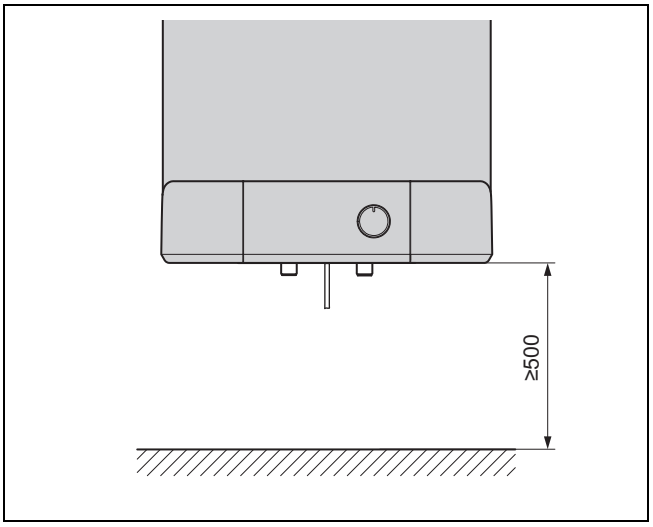
► Make sure that the product can be installed outside of protective areas 0 to 2.

► Make sure that the dwelling is equipped with an earth line.

► Make sure that the power mains is suitable for the product.
  – Voltage: 230 V/50 Hz

► Make sure that the line protection switch is suitable for the measuring current.
  – Measuring current: 16 A

4.4 Observing the minimum clearances



► Comply with the minimum clearances during installation.

4.5 Installing the product

1. During installation, pay attention to the length of the electrical line, the minimum clearances with respect to the wall, floor and ceiling, and the permitted protective area.

Condition: Wall made of concrete hollow bricks

► Install the product using a special load-bearing structure.

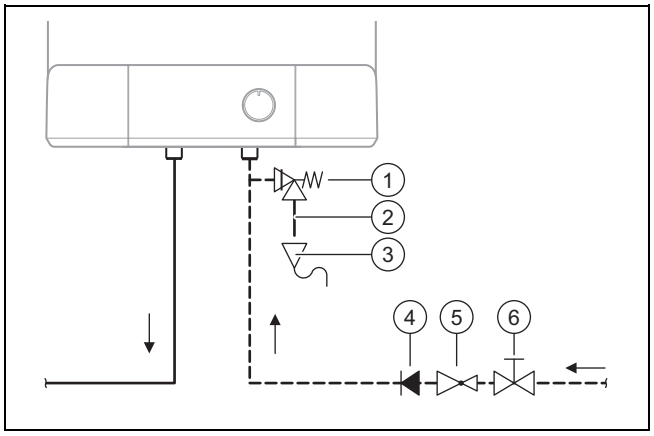
2. Based on the product's operating weight and the structural condition of the installation surface, determine the fixing material, e.g. rawl plugs and screws.
3. Make sure that the rawl plugs and screws are suitable for the product's installation surface.
4. Use the installation template that is printed on the packaging.
5. Drill the holes.
6. Insert the rawl plugs into the holes and screw in the screws.
   – Clearance between the screw and the wall: ≈ 30 mm
7. Mount the hanging bracket.
8. Use a screw to install the spacer at the lower end of the cylinder on the wall.
9. Use the adjusting screw to align the product in parallel to the wall.
10. Align the hanging brackets vertically and tighten the screws.
11. Mount the product in the hanging brackets using the hooks.

4.6 Installing the product

Warning.
Risk of adverse health effects caused by impurities in the potable water.

Sealing residues, dirt or other residues in the pipelines may adversely affect the quality of the potable water.

► Flush all of the hot and cold water pipes thoroughly before you install the product.



1	Expansion relief valve	4	Return flow prevention (optional)
2	Discharge line	5	Pressure reducer (optional)
3	Tundish (optional)	6	Stop valve

1. Install components **(1)** to **(6)** in accordance with the illustration.
2. Install the safety device as close as possible to the product's cold water inlet.
3. Install the drain pipework at a constant incline.
4. Maintain a clearance between the expansion relief valve's discharge pipe and the tundish so that the drain pipework is open to the atmosphere.
   – Clearance: ≥ 20 mm
5. Make sure that the diameter of the drain pipework is at least equal to that of the expansion relief valve's discharge pipe.
6. If the connection pressure is high, install a pressure reducer.

– Connection pressure: ≥ 0.7 MPa
– Pressure setting: 0.3 to 0.4 MPa

5 Electrical installation

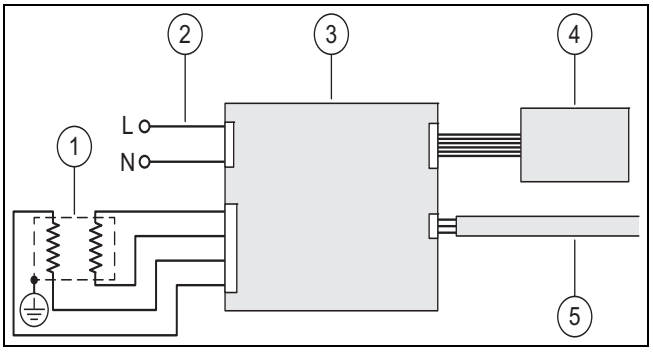
Only qualified electricians are allowed to carry out the electrical installation.

5.1 Connecting the product

1. Make sure that you do not connect the product to the power grid prior to start-up.
2. To connect the product, use H 05 VV-F 3 G 2,5 mm^2 lines.
3. Switch off the power supply.
4. Check that there is no voltage.
5. Secure the power supply against being switched back on.
6. Earth the domestic hot water cylinder.
7. Do not use pipelines for earthing.
8. Protect the electrical circuit using a circuit breaker.
   – Rated current: ≥ 16 A
9. Switch off the circuit breaker.
10. Connect the electrical connection cables.

5.1.1 Connecting electrical supply lines

5.1.1.1 Single-phase connection, 230 V ~



1	Heating element 1.8 + 1.2 kW	3	Switch box
2	Mains connection	4	Printed circuit board
		5	NTC sensor

6 Initial start-up

Initial start-up must only be carried out by customer service.

6.1 Start-up

1. Open the cold-water stopcock.
2. Open the hot water taps.
3. Wait until water flows out of the hot water taps.
4. Close the hot water taps.
5. Check the expansion relief valve by opening the drain cock on the expansion relief valve.
   ◁ Water must escape from the draining cock.
6. Check all pipe connections for leak-tightness.
7. Switch on the main switch.
8. Switch on the line protection switch.

Danger!
Risk of death from legionella.

Legionella multiply at temperatures below 60 °C.

► Ensure that the end user is familiar with all of the Anti-legionella measures in order to comply with the applicable regulations regarding legionella prevention.

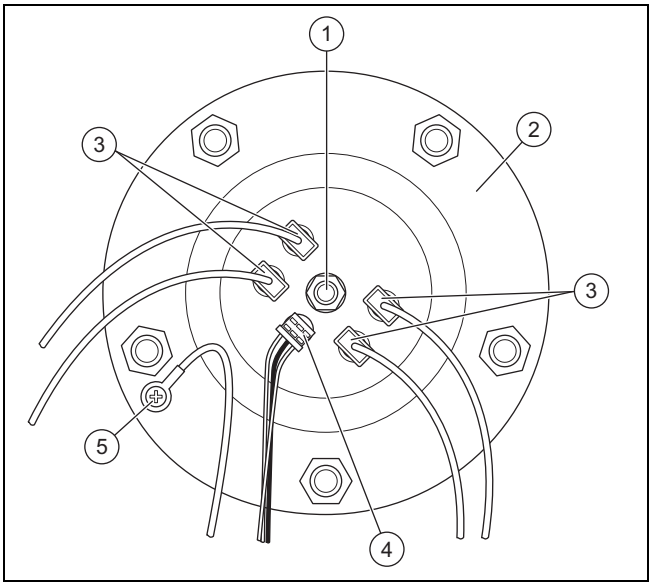
9. Set the required temperature.
   – Temperature range: 10 to 75 ℃
   ◁ The display shows the set temperature.
10. Activate the Anti-legionella function.
11. Turn the rotary knob to the lowest temperature and press the reset button for 15 seconds.
    ◁ The Anti-legionella function has been activated and the Legionella symbol is shown on the display for 10 seconds.
12. Wait until the heat-up time has ended before switching the product to normal operating mode.

7 Handing the product over to the end user

► Inform the end user how to handle the product. Answer any questions the end user may have. In particular, draw attention to the safety warnings which the end user must follow.
► Explain to the end user how the safety devices work and where they are located.
► Explain to the end user how to limit the domestic hot water temperature at the draw-off point in order to prevent scalding.
► Inform the end user that they must have the product maintained in accordance with the specified intervals.
► Provide the end user with all relevant instructions and unit documentation for safe-keeping.

8 Maintenance

8.1 Checking the magnesium protection anode



1	Heating element bolt	4	NTC sensor
2	Flange with hex nuts	5	Earth line
3	Heating element		

1. Disconnect the product from the power supply. (→ Page 21)
2. Empty the product. (→ Page 22)

Removing the flange

3. Undo the screws on the cover for the flange and electronics box.
4. Unscrew the earth line from the flange.
5. Unplug the plug from the heating elements and from the NTC sensor.
6. Remove the NTC sensor.
7. Unscrew the hex nuts from the flange.
8. Remove the flange straight from the cylinder tank.

Replacing the magnesium protection anode

9. Replace the magnesium protection anode when it is worn.
   – Wear: 60 %

Installing the flange

10. Replace the flange seal.
11. Screw the flange in place.
12. Screw on the earth line.
13. Plug the NTC sensor into the intended opening.
14. Plug the plugs into the heating elements and the NTC sensor.
15. Screw the cover to the product tightly.
16. Start up the product. (→ Page 20)

8.2 Checking the inner vessel and components for scale deposition

1. Disconnect the product from the power supply. (→ Page 21)
2. Empty the product. (→ Page 22)
3. Remove the flange. (→ Page 21)
4. If necessary, clean the inner vessel with descaling agents or by carefully scraping it with a wooden spatula.
5. Install the flange. (→ Page 21)
6. Replace components if necessary.
7. Start up the product. (→ Page 20)

9 Detecting and eliminating faults

9.1 Replacing the defective NTC sensor

1. Disconnect the product from the power supply. (→ Page 21)
2. Undo the screws on the cover for the flange and electronics box.
3. Pull out the NTC sensor's plug from the PCB.
4. Remove the defective NTC sensor.
5. Plug the new NTC sensor into the intended opening.
6. Plug the NTC sensor's plug into the PCB.
7. Screw the cover to the product tightly.
8. Start up the product. (→ Page 20)

9.2 Replacing a defective heating element

1. Disconnect the product from the power supply. (→ Page 21)
2. Empty the product. (→ Page 22)
3. Remove the flange. (→ Page 21)
4. Unscrew the defective heating element from the flange.
5. Screw the new heating element onto the flange.
6. Install the flange. (→ Page 21)
7. Start up the product. (→ Page 20)

9.3 Overview of fault messages

Fault display view (→ Page 24)

10 Decommissioning

Disconnecting the product from the power supply

Danger!
Risk of electric shock

There is a risk of electric shock when working on electrical components that are connected to the low-voltage network.

- ► Disconnect the product from the power supply.
- ► Secure the product against being switched back on again.
- ► Check that the product is voltage-free.
- ► Only open the product when it is voltage-free.

► Remove the mains connection lines.

Emptying the product

1. Close the cold water stop cock.
2. Open a hot water valve connected to the product.
3. Loosen the connection between the cold water pipe and the product.
4. Drain the domestic hot water cylinder via the product's cold water pipe.

Removing the product

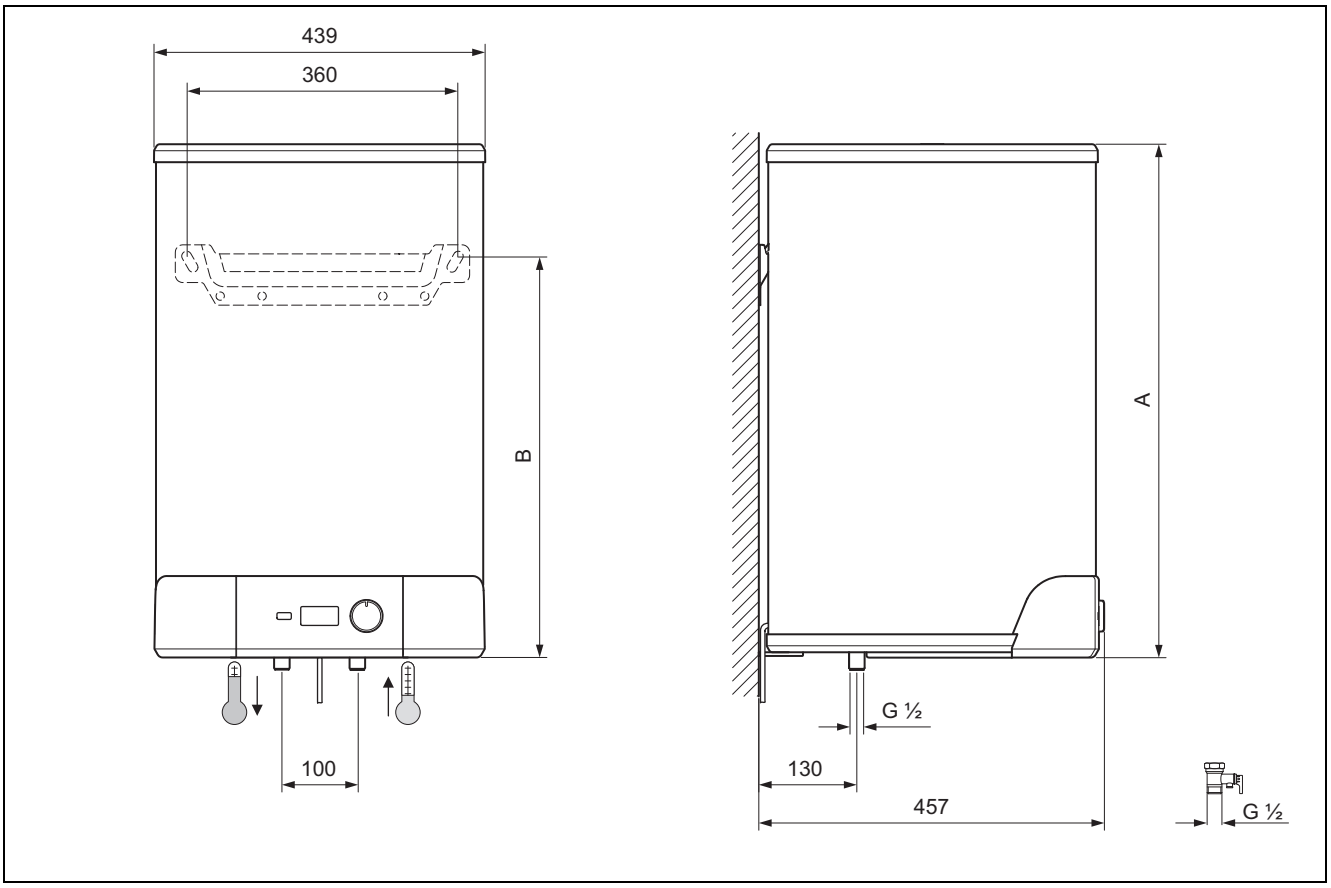
5. Remove the cold and hot water piping.
6. Undo the screws.
7. Lift the product and remove it from the wall.
8. Remove the screws from the wall.

11 Customer service

You can find the contact details for our customer service below the address on the back page of this document.

Appendix

A Dimensions and dimension drawing



Dimensions

	A	B
DT4-D 50 INT I	555 mm	408 mm
DT4-D 65 INT I	680 mm	533 mm
DT4-D 80 INT I	805 mm	658 mm

B Technical data

	Filling volume	Operating weight	Net weight	Power	Mains voltage
DT4-D 50 INT I	50 l	67 kg	17 kg	3 kW	230 V
DT4-D 65 INT I	65 l	85 kg	20 kg	3 kW	230 V
DT4-D 80 INT I	77 l	101 kg	24 kg	3 kW	230 V

	Protection class	IP rating
DT4-D 50 INT I	I	IP25
DT4-D 65 INT I	I	IP25
DT4-D 80 INT I	I	IP25

B.1 Technical data – General

Heat insulation	PU foam, CFC-free
Inner vessel	Steel, enamelled, with magnesium protection anode

C Fault display view

Display	Cause	Troubleshooting
F1	Domestic hot water overheating (≥85 °C for 2 seconds)	Make sure that the temperature of the cold water at the cylinder's cold water connection is <85 °C. Reset the fault message using the reset button on the PCB.
F2	Temperature sensor reports a fault	Replace the temperature sensor.
F3	Insufficient voltage at the product's power supply or PCB defective	Reset the fault message using the reset button on the PCB. If the fault still exists, replace the PCB.
F4	Insufficient voltage at the product's power supply	Make sure that the mains power is designed for the product's operation. Reset the fault message using the reset button on the PCB.
turbo function flashes	Second heating element defective	Replace the heating element.

Installation and maintenance instructions

Contents

1 Safety

1.1 Action-related warnings

Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning symbols and signal words

Danger!
Imminent danger to life or risk of severe personal injury

Danger!
Risk of death from electric shock

Warning.
Risk of minor personal injury

Caution.
Risk of material or environmental damage

1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The product is designed to generate and maintain heated drinking water for households.

– Max. hot water temperature: 75 ℃

The product is approved exclusively for vertical installation on the wall.

The product must only be operated if a safety group is installed.

Intended use includes the following:

– observance of accompanying operating, installation and maintenance instructions for the product and any other system components
– compliance with all inspection and maintenance conditions listed in the instructions.

The use of the product in vehicles, such as mobile homes and caravans, is not classed as intended use. Units that are not classed as vehicles are those that are installed in a fixed and permanent location (known as "fixed installation").

Any other use that is not specified in these instructions, or use beyond that specified in this document, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

Caution.

Improper use of any kind is prohibited.

1.3 General safety information

1.3.1 Risk caused by inadequate qualifications

The following work must only be carried out by competent persons who are sufficiently qualified to do so:

– Set-up
– Dismantling
– Installation
– Start-up
– Inspection and maintenance
– Repair
– Decommissioning

▸ Proceed in accordance with current technology.

1.3.2 Risk of death from electric shock

There is a risk of death from electric shock if you touch live components.

Before commencing work on the product:

▸ Disconnect the product from the power supply by switching off all power supplies at all poles (electrical partition with a contact gap of at least 3 mm, e.g. fuse or circuit breaker).
▸ Secure against being switched back on again.
▸ Check that there is no voltage.

1.3.3 Risk of burns or scalding caused by hot components

▸ Only carry out work on these components once they have cooled down.

1.3.4 Risk of scalding and material damage due to escaping hot or cold water

▸ If you use plastic pipes for the hot or cold water connection of the product, you must only use pipes that are temperature-resistant up to 95 °C under a pressure of 1.0 MPa (10 bar).

1.3.5 Risk of material damage caused by using an unsuitable tool

- Use the correct tool.

1.3.6 Risk of material damage caused by frost

- Do not install the product in rooms prone to frost.

1.3.7 Material damage due to leaks

- Ensure that there is no mechanical stress on the connection cables.
- Do not suspend any loads from the pipelines (e.g. clothing).

1.3.8 Risk of death due to safety group components either not being installed or being incorrectly installed

If certain safety group components (e.g. expansion relief valve, return flow prevention, pressure reducer) have either not been installed or have been incorrectly installed, this may lead to potentially fatal scalding and other injuries.

- Install the necessary safety group components.
- Do not install hydraulic accessories between the safety group and the domestic hot water cylinder's cold water pipe.
- Explain to the operator how the safety group works and where it is to be positioned.

1.3.9 Material damage due to unsuitable installation surface

The installation surface must be even and have sufficient load-bearing capacity to support the operating weight of the product. An uneven installation surface may cause leaks in the product.

If the installation surface does not have sufficient load-bearing capacity, the product may become detached and fall off.

There is a risk of death if the connections are subject to leaks.

- Make sure that the product is positioned flush against the installation surface.
- Ensure that the installation surface has sufficient load-bearing capacity to bear the operating weight of the product.

1.3.10 Excessive water pressure

Excessive water pressure may lead to damage to the product and, as a result, cause injuries.

Validity: Product with rated excess pressure > 6 bar

- Install a pressure regulator as close as possible to the product's cold water inlet.
- Note the particular characteristics of the pressure regulator as well as the details of the installation.

- Install an optional safety assembly as close as possible to the product's cold water inlet.
  - Required safety assembly components: Expansion relief valve, isolation valve, non-return valve and discharge pipe
- Install the discharge pipe above the drain pipework's funnel in such a way that the discharge pipe opposite the atmosphere remains open.
- Install the drain pipework in a frost-free environment with a steady downward gradient to a drain.
- Inform the end user that they must manually check that the expansion relief valve is working correctly at regular intervals.

1.3.11 Expansion relief valve

- During operation, hot water may drip out of the expansion relief valve.
- The expansion relief valve must be left open to the atmosphere.

1.3.12 Replacing the damaged power supply cable

- If the power supply cable for this product is damaged, it must be replaced by the manufacturer or their customer service or a similarly qualified person in order to prevent any hazards.

1.4 Regulations (directives, laws, standards)

- Observe the national regulations, standards, directives, ordinances and laws.

2 Notes on the documentation

2.1 Observing other applicable documents

► Always observe all the operating and installation instructions included with the system components.

2.2 Storing documents

► Pass these instructions and all other applicable documents on to the end user.

2.3 Validity of the instructions

This language version of the instructions applies only to Turkmenistan.

Product article number

DT4-D 50 INT I	8000031383
DT4-D 65 INT I	8000031377
DT4-D 80 INT I	8000031382

3 Product overview

3.1 Product designation

The product is a Elektrik suw ýyladyjy enjam, ýapyk.

3.2 Data plate

The data plate is located on the underside of the product.

The data plate contains the following information:

Information	Meaning
Serial no.	For identification
DT4-D XX I	Product designation
I	Fill quantity
W	Power
V	Operating voltage
Hz	Frequency
MPa (bar)	Pressure
IP xx	IP rating
CE marking	Unit complies with European standards and directives
Waste container	Proper disposal of the unit

3.3 CE marking

CE

The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.

The declaration of conformity can be viewed at the manufacturer's site.

3.4 Design

The cylinder is equipped with external heat insulation. The cylinder vessel is made of enamelled steel. The heating elements that transfer the heat are located inside the vessel. As additional corrosion protection, the vessel has a magnesium protection anode.

3.5 Regulations on packaging, transportation and storage

The products are delivered in the manufacturer's packaging.

The products are transported by road, by sea and by rail in accordance with the goods transport regulations that apply to the relative means of transport. During transportation, it is absolutely essential for the product to be firmly secured against moving horizontally and vertically.

Products that are not installed are stored in the manufacturer's packaging. The products must be stored under standard conditions in closed rooms that have natural air circulation (non-aggressive and dust-free environment, temperature gradients of -10 °C to +37 °C, up to 80% air humidity, without shocks or vibrations).

3.6 Duration of storage

– Duration of storage: 2 years from production date

3.7 Service life

If the regulations on transportation, storage, installation and operation are observed, the product's expected service life is 15 years from the date of installation.

4 Set-up

4.1 Checking the scope of delivery

Quantity	Component
1	Domestic hot water cylinder
1	Hanging bracket
1	Expansion relief valve
4	Screws
4	Rawl plug
4	Washers
1	Spacer
1	Adjusting screw
1	Discharge line
1	Operating instructions
1	Installation and maintenance instructions

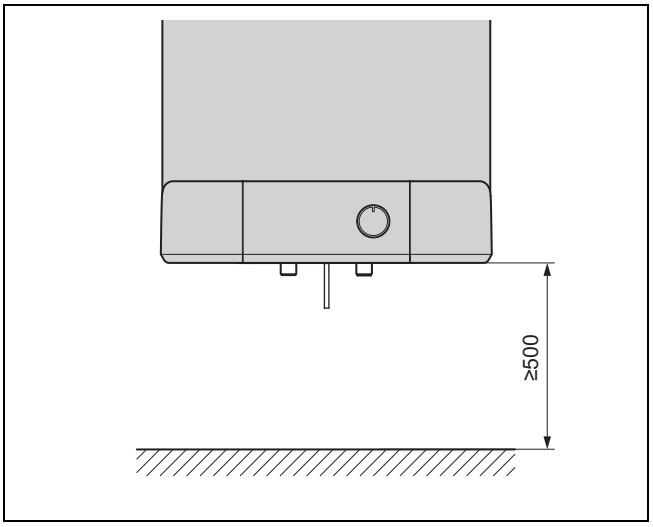
4.2 Requirements for the installation site

- ► Select the installation site so that the cables can be easily routed.
- ► Install the product in rooms that are always dry and free of frost.
- ► Make sure that the wall is even, vertical and sturdy.
- ► Make sure that the load-bearing capacity of the wall, rawl plugs and screws are sufficient for bearing the product's operating weight.
- ► Make sure that the rawl plugs and screws are suitable for the wall.

4.3 Requirements for electrical installation at the installation site

- ► Make sure that the product can be installed outside of protective areas 0 to 2.
- ► Make sure that the dwelling is equipped with an earth line.
- ► Make sure that the power mains is suitable for the product.
  - – Voltage: 230 V/50 Hz
- ► Make sure that the line protection switch is suitable for the measuring current.
  - – Measuring current: 16 A

4.4 Observing the minimum clearances



- ► Comply with the minimum clearances during installation.

4.5 Installing the product

1. During installation, pay attention to the length of the electrical line, the minimum clearances with respect to the wall, floor and ceiling, and the permitted protective area.

Condition: Wall made of concrete hollow bricks

- ► Install the product using a special load-bearing structure.

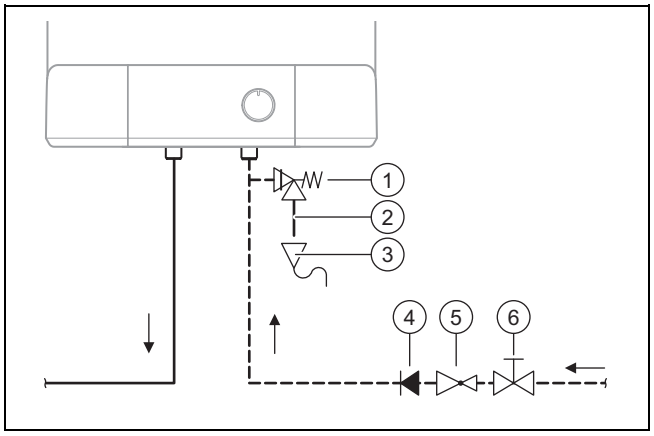
2. Based on the product's operating weight and the structural condition of the installation surface, determine the fixing material, e.g. rawl plugs and screws.
3. Make sure that the rawl plugs and screws are suitable for the product's installation surface.
4. Use the installation template that is printed on the packaging.
5. Drill the holes.
6. Insert the rawl plugs into the holes and screw in the screws.
   - – Clearance between the screw and the wall: ≈ 30 mm
7. Mount the hanging bracket.
8. Use a screw to install the spacer at the lower end of the cylinder on the wall.
9. Use the adjusting screw to align the product in parallel to the wall.
10. Align the hanging brackets vertically and tighten the screws.
11. Mount the product in the hanging brackets using the hooks.

4.6 Installing the product

Warning.
Risk of adverse health effects caused by impurities in the potable water.

Sealing residues, dirt or other residues in the pipelines may adversely affect the quality of the potable water.

- ► Flush all of the hot and cold water pipes thoroughly before you install the product.



1	Expansion relief valve	4	Return flow prevention (optional)
2	Discharge line	5	Pressure reducer (optional)
3	Tundish (optional)	6	Stop valve

1. Install components **(1)** to **(6)** in accordance with the illustration.
2. Install the safety device as close as possible to the product's cold water inlet.
3. Install the drain pipework at a constant incline.
4. Maintain a clearance between the expansion relief valve's discharge pipe and the tundish so that the drain pipework is open to the atmosphere.
   - – Clearance: ≥ 20 mm
5. Make sure that the diameter of the drain pipework is at least equal to that of the expansion relief valve's discharge pipe.
6. If the connection pressure is high, install a pressure reducer.

– Connection pressure: ≥ 0.7 MPa
– Pressure setting: 0.3 to 0.4 MPa

5 Electrical installation

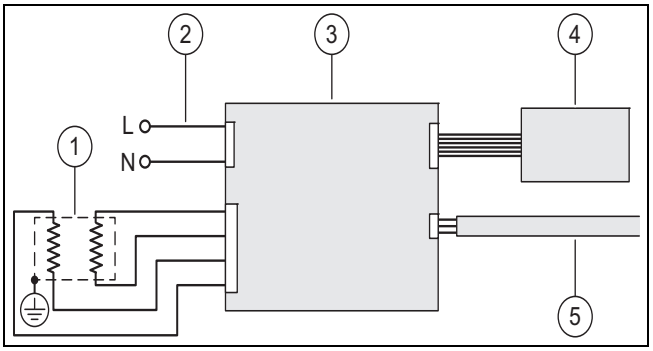
Only qualified electricians are allowed to carry out the electrical installation.

5.1 Connecting the product

1. Make sure that you do not connect the product to the power grid prior to start-up.
2. To connect the product, use H 05 VV-F 3 G 2,5 mm^2 lines.
3. Switch off the power supply.
4. Check that there is no voltage.
5. Secure the power supply against being switched back on.
6. Earth the domestic hot water cylinder.
7. Do not use pipelines for earthing.
8. Protect the electrical circuit using a circuit breaker.
   – Rated current: ≥ 16 A
9. Switch off the circuit breaker.
10. Connect the electrical connection cables.

5.1.1 Connecting electrical supply lines

5.1.1.1 Single-phase connection, 230 V ~



1	Heating element 1.8 + 1.2 kW	3	Switch box
2	Mains connection	4	Printed circuit board
		5	NTC sensor

6 Initial start-up

Initial start-up must only be carried out by customer service.

6.1 Start-up

1. Open the cold-water stopcock.
2. Open the hot water taps.
3. Wait until water flows out of the hot water taps.
4. Close the hot water taps.
5. Check the expansion relief valve by opening the drain cock on the expansion relief valve.
   ◁ Water must escape from the draining cock.
6. Check all pipe connections for leak-tightness.
7. Switch on the main switch.
8. Switch on the line protection switch.

Danger!
Risk of death from legionella.

Legionella multiply at temperatures below 60 °C.

► Ensure that the end user is familiar with all of the Anti-legionella measures in order to comply with the applicable regulations regarding legionella prevention.

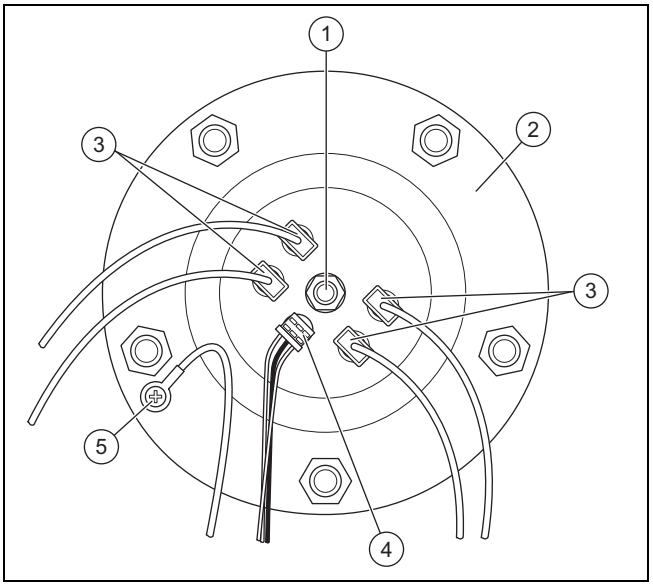
9. Set the required temperature.
   – Temperature range: 10 to 75 °C
   ◁ The display shows the set temperature.
10. Activate the Anti-legionella function.
11. Turn the rotary knob to the lowest temperature and press the reset button for 15 seconds.
    ◁ The Anti-legionella function has been activated and the Legionella symbol is shown on the display for 10 seconds.
12. Wait until the heat-up time has ended before switching the product to normal operating mode.

7 Handing the product over to the end user

► Inform the end user how to handle the product. Answer any questions the end user may have. In particular, draw attention to the safety warnings which the end user must follow.
► Explain to the end user how the safety devices work and where they are located.
► Explain to the end user how to limit the domestic hot water temperature at the draw-off point in order to prevent scalding.
► Inform the end user that they must have the product maintained in accordance with the specified intervals.
► Provide the end user with all relevant instructions and unit documentation for safe-keeping.

8 Maintenance

8.1 Checking the magnesium protection anode



1	Heating element bolt	4	NTC sensor
2	Flange with hex nuts	5	Earth line
3	Heating element		

1. Disconnect the product from the power supply. (→ Page 32)
2. Empty the product. (→ Page 33)

Removing the flange

3. Undo the screws on the cover for the flange and electronics box.
4. Unscrew the earth line from the flange.
5. Unplug the plug from the heating elements and from the NTC sensor.
6. Remove the NTC sensor.
7. Unscrew the hex nuts from the flange.
8. Remove the flange straight from the cylinder tank.

Replacing the magnesium protection anode

9. Replace the magnesium protection anode when it is worn.
   – Wear: 60 %

Installing the flange

10. Replace the flange seal.
11. Screw the flange in place.
12. Screw on the earth line.
13. Plug the NTC sensor into the intended opening.
14. Plug the plugs into the heating elements and the NTC sensor.
15. Screw the cover to the product tightly.
16. Start up the product. (→ Page 31)

8.2 Checking the inner vessel and components for scale deposition

1. Disconnect the product from the power supply. (→ Page 32)
2. Empty the product. (→ Page 33)
3. Remove the flange. (→ Page 32)
4. If necessary, clean the inner vessel with descaling agents or by carefully scraping it with a wooden spatula.
5. Install the flange. (→ Page 32)
6. Replace components if necessary.
7. Start up the product. (→ Page 31)

9 Detecting and eliminating faults

9.1 Replacing the defective NTC sensor

1. Disconnect the product from the power supply. (→ Page 32)
2. Undo the screws on the cover for the flange and electronics box.
3. Pull out the NTC sensor's plug from the PCB.
4. Remove the defective NTC sensor.
5. Plug the new NTC sensor into the intended opening.
6. Plug the NTC sensor's plug into the PCB.
7. Screw the cover to the product tightly.
8. Start up the product. (→ Page 31)

9.2 Replacing a defective heating element

1. Disconnect the product from the power supply. (→ Page 32)
2. Empty the product. (→ Page 33)
3. Remove the flange. (→ Page 32)
4. Unscrew the defective heating element from the flange.
5. Screw the new heating element onto the flange.
6. Install the flange. (→ Page 32)
7. Start up the product. (→ Page 31)

9.3 Overview of fault messages

Fault display view (→ Page 35)

10 Decommissioning

Disconnecting the product from the power supply

Danger!

Risk of electric shock

There is a risk of electric shock when working on electrical components that are connected to the low-voltage network.

- ► Disconnect the product from the power supply.
- ► Secure the product against being switched back on again.
- ► Check that the product is voltage-free.
- ► Only open the product when it is voltage-free.

► Remove the mains connection lines.

Emptying the product

1. Close the cold water stop cock.
2. Open a hot water valve connected to the product.
3. Loosen the connection between the cold water pipe and the product.
4. Drain the domestic hot water cylinder via the product's cold water pipe.

Removing the product

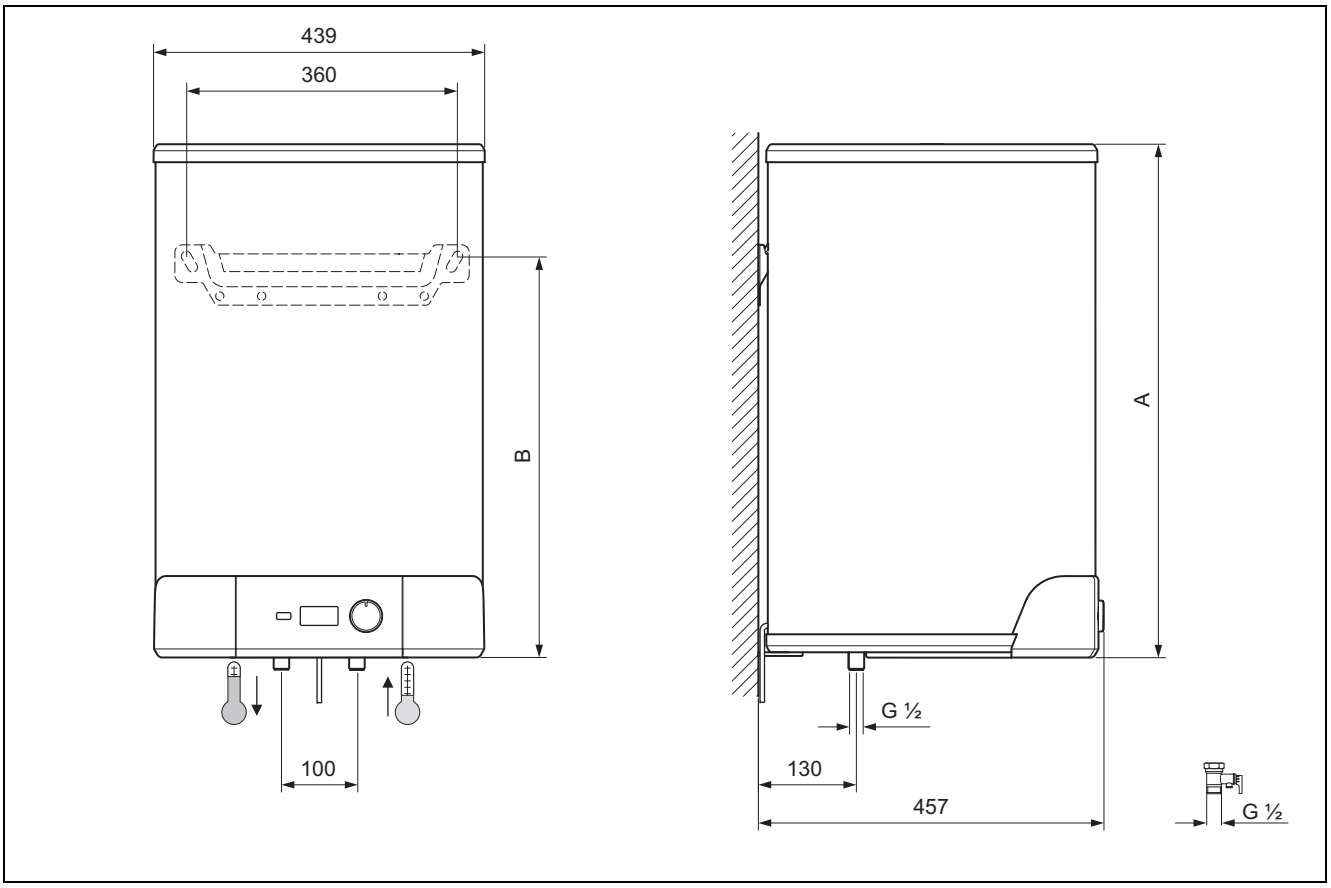
5. Remove the cold and hot water piping.
6. Undo the screws.
7. Lift the product and remove it from the wall.
8. Remove the screws from the wall.

11 Customer service

You can find the contact details for our customer service below the address on the back page of this document.

Appendix

A Dimensions and dimension drawing



Dimensions

	A	B
DT4-D 50 INT I	555 mm	408 mm
DT4-D 65 INT I	680 mm	533 mm
DT4-D 80 INT I	805 mm	658 mm

B Technical data

	Filling volume	Operating weight	Net weight	Power	Mains voltage
DT4-D 50 INT I	50 l	67 kg	17 kg	3 kW	230 V
DT4-D 65 INT I	65 l	85 kg	20 kg	3 kW	230 V
DT4-D 80 INT I	77 l	101 kg	24 kg	3 kW	230 V

	Protection class	IP rating
DT4-D 50 INT I	I	IP25
DT4-D 65 INT I	I	IP25
DT4-D 80 INT I	I	IP25

B.1 Technical data – General

Heat insulation	PU foam, CFC-free
Inner vessel	Steel, enamelled, with magnesium protection anode

C Fault display view

Display	Cause	Troubleshooting
F1	Domestic hot water overheating (≥85 °C for 2 seconds)	Make sure that the temperature of the cold water at the cylinder's cold water connection is <85 °C. Reset the fault message using the reset button on the PCB.
F2	Temperature sensor reports a fault	Replace the temperature sensor.
F3	Insufficient voltage at the product's power supply or PCB defective	Reset the fault message using the reset button on the PCB. If the fault still exists, replace the PCB.
F4	Insufficient voltage at the product's power supply	Make sure that the mains power is designed for the product's operation. Reset the fault message using the reset button on the PCB.
turbo function flashes	Second heating element defective	Replace the heating element.

Installation and maintenance instructions

Contents

1 Safety

1.1 Action-related warnings

Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning symbols and signal words

Danger!
Imminent danger to life or risk of severe personal injury

Danger!
Risk of death from electric shock

Warning.
Risk of minor personal injury

Caution.
Risk of material or environmental damage

1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The product is designed to generate and maintain heated drinking water for households.

– Max. hot water temperature: 75 ℃

The product is approved exclusively for vertical installation on the wall.

The product must only be operated if a safety group is installed.

Intended use includes the following:

– observance of accompanying operating, installation and maintenance instructions for the product and any other system components
– compliance with all inspection and maintenance conditions listed in the instructions.

The use of the product in vehicles, such as mobile homes and caravans, is not classed as intended use. Units that are not classed as vehicles are those that are installed in a fixed and permanent location (known as "fixed installation").

Any other use that is not specified in these instructions, or use beyond that specified in this document, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

Caution.

Improper use of any kind is prohibited.

1.3 General safety information

1.3.1 Risk caused by inadequate qualifications

The following work must only be carried out by competent persons who are sufficiently qualified to do so:

– Set-up
– Dismantling
– Installation
– Start-up
– Inspection and maintenance
– Repair
– Decommissioning

► Proceed in accordance with current technology.

1.3.2 Risk of death from electric shock

There is a risk of death from electric shock if you touch live components.

Before commencing work on the product:

► Disconnect the product from the power supply by switching off all power supplies at all poles (electrical partition with a contact gap of at least 3 mm, e.g. fuse or circuit breaker).
► Secure against being switched back on again.
► Check that there is no voltage.

1.3.3 Risk of burns or scalding caused by hot components

► Only carry out work on these components once they have cooled down.

1.3.4 Risk of scalding and material damage due to escaping hot or cold water

► If you use plastic pipes for the hot or cold water connection of the product, you must only use pipes that are temperature-resistant up to 95 °C under a pressure of 1.0 MPa (10 bar).

1.3.5 Risk of material damage caused by using an unsuitable tool

- Use the correct tool.

1.3.6 Risk of material damage caused by frost

- Do not install the product in rooms prone to frost.

1.3.7 Material damage due to leaks

- Ensure that there is no mechanical stress on the connection cables.
- Do not suspend any loads from the pipelines (e.g. clothing).

1.3.8 Risk of death due to safety group components either not being installed or being incorrectly installed

If certain safety group components (e.g. expansion relief valve, return flow prevention, pressure reducer) have either not been installed or have been incorrectly installed, this may lead to potentially fatal scalding and other injuries.

- Install the necessary safety group components.
- Do not install hydraulic accessories between the safety group and the domestic hot water cylinder's cold water pipe.
- Explain to the operator how the safety group works and where it is to be positioned.

1.3.9 Material damage due to unsuitable installation surface

The installation surface must be even and have sufficient load-bearing capacity to support the operating weight of the product. An uneven installation surface may cause leaks in the product.

If the installation surface does not have sufficient load-bearing capacity, the product may become detached and fall off.

There is a risk of death if the connections are subject to leaks.

- Make sure that the product is positioned flush against the installation surface.
- Ensure that the installation surface has sufficient load-bearing capacity to bear the operating weight of the product.

1.3.10 Excessive water pressure

Excessive water pressure may lead to damage to the product and, as a result, cause injuries.

Validity: Product with rated excess pressure > 6 bar

- Install a pressure regulator as close as possible to the product's cold water inlet.
- Note the particular characteristics of the pressure regulator as well as the details of the installation.

- Install an optional safety assembly as close as possible to the product's cold water inlet.
  - Required safety assembly components: Expansion relief valve, isolation valve, non-return valve and discharge pipe
- Install the discharge pipe above the drain pipework's funnel in such a way that the discharge pipe opposite the atmosphere remains open.
- Install the drain pipework in a frost-free environment with a steady downward gradient to a drain.
- Inform the end user that they must manually check that the expansion relief valve is working correctly at regular intervals.

1.3.11 Expansion relief valve

- During operation, hot water may drip out of the expansion relief valve.
- The expansion relief valve must be left open to the atmosphere.

1.3.12 Replacing the damaged power supply cable

- If the power supply cable for this product is damaged, it must be replaced by the manufacturer or their customer service or a similarly qualified person in order to prevent any hazards.

1.4 Regulations (directives, laws, standards)

- Observe the national regulations, standards, directives, ordinances and laws.

2 Notes on the documentation

2.1 Observing other applicable documents

► Always observe all the operating and installation instructions included with the system components.

2.2 Storing documents

► Pass these instructions and all other applicable documents on to the end user.

2.3 Validity of the instructions

This language version of the instructions applies only to Uzbekistan.

Product article number

DT4-D 50 INT I	8000031383
DT4-D 65 INT I	8000031377
DT4-D 80 INT I	8000031382

3 Product overview

3.1 Product designation

The product is a Elektr issiq suv to'plagichi, yopiq.

3.2 Data plate

The data plate is located on the underside of the product.

The data plate contains the following information:

Information	Meaning
Serial no.	For identification
DT4-D XX I	Product designation
I	Fill quantity
W	Power
V	Operating voltage
Hz	Frequency
MPa (bar)	Pressure
IP xx	IP rating
CE marking	Unit complies with European standards and directives
Waste container	Proper disposal of the unit

3.3 CE marking

The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.

The declaration of conformity can be viewed at the manufacturer's site.

3.4 Unit symbol for the movement of goods in the member states of the Eurasian Economic Union

The product is marked with the unit symbol for the movement of goods in the member states of the Eurasian Economic Union. This certifies that the product meets all the technical regulations of the Eurasian Economic Union and of all the countries represented within it.

3.5 Design

The cylinder is equipped with external heat insulation. The cylinder vessel is made of enamelled steel. The heating elements that transfer the heat are located inside the vessel. As additional corrosion protection, the vessel has a magnesium protection anode.

3.6 Regulations on packaging, transportation and storage

The products are delivered in the manufacturer's packaging.

The products are transported by road, by sea and by rail in accordance with the goods transport regulations that apply to the relative means of transport. During transportation, it is absolutely essential for the product to be firmly secured against moving horizontally and vertically.

Products that are not installed are stored in the manufacturer's packaging. The products must be stored under standard conditions in closed rooms that have natural air circulation (non-aggressive and dust-free environment, temperature gradients of -10 °C to +37 °C, up to 80% air humidity, without shocks or vibrations).

3.7 Duration of storage

– Duration of storage: 2 years from production date

3.8 Service life

If the regulations on transportation, storage, installation and operation are observed, the product's expected service life is 15 years from the date of installation.

4 Set-up

4.1 Checking the scope of delivery

Quantity	Component
1	Domestic hot water cylinder
1	Hanging bracket
1	Expansion relief valve
4	Screws
4	Rawl plug
4	Washers
1	Spacer
1	Adjusting screw
1	Discharge line
1	Operating instructions
1	Installation and maintenance instructions

4.2 Requirements for the installation site

► Select the installation site so that the cables can be easily routed.

► Install the product in rooms that are always dry and free of frost.

► Make sure that the wall is even, vertical and sturdy.

► Make sure that the load-bearing capacity of the wall, rawl plugs and screws are sufficient for bearing the product's operating weight.

► Make sure that the rawl plugs and screws are suitable for the wall.

4.3 Requirements for electrical installation at the installation site

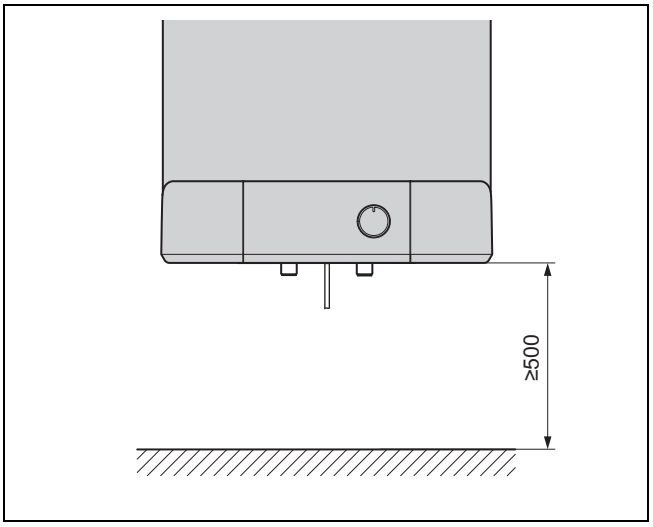
► Make sure that the product can be installed outside of protective areas 0 to 2.

► Make sure that the dwelling is equipped with an earth line.

► Make sure that the power mains is suitable for the product.
  – Voltage: 230 V/50 Hz

► Make sure that the line protection switch is suitable for the measuring current.
  – Measuring current: 16 A

4.4 Observing the minimum clearances



► Comply with the minimum clearances during installation.

4.5 Installing the product

1. During installation, pay attention to the length of the electrical line, the minimum clearances with respect to the wall, floor and ceiling, and the permitted protective area.

Condition: Wall made of concrete hollow bricks

► Install the product using a special load-bearing structure.

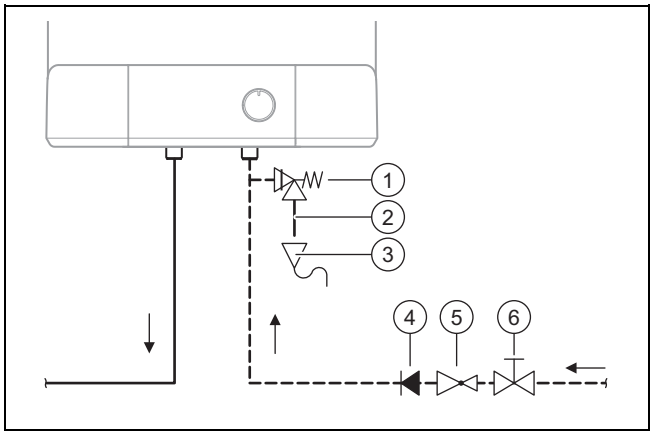
2. Based on the product's operating weight and the structural condition of the installation surface, determine the fixing material, e.g. rawl plugs and screws.
3. Make sure that the rawl plugs and screws are suitable for the product's installation surface.
4. Use the installation template that is printed on the packaging.
5. Drill the holes.
6. Insert the rawl plugs into the holes and screw in the screws.
  – Clearance between the screw and the wall: ≈ 30 mm
7. Mount the hanging bracket.
8. Use a screw to install the spacer at the lower end of the cylinder on the wall.
9. Use the adjusting screw to align the product in parallel to the wall.
10. Align the hanging brackets vertically and tighten the screws.
11. Mount the product in the hanging brackets using the hooks.

4.6 Installing the product

Warning.
Risk of adverse health effects caused by impurities in the potable water.

Sealing residues, dirt or other residues in the pipelines may adversely affect the quality of the potable water.

► Flush all of the hot and cold water pipes thoroughly before you install the product.



1	Expansion relief valve	4	Return flow prevention (optional)
2	Discharge line	5	Pressure reducer (optional)
3	Tundish (optional)	6	Stop valve

1. Install components **(1)** to **(6)** in accordance with the illustration.
2. Install the safety device as close as possible to the product's cold water inlet.
3. Install the drain pipework at a constant incline.
4. Maintain a clearance between the expansion relief valve's discharge pipe and the tundish so that the drain pipework is open to the atmosphere.
  – Clearance: ≥ 20 mm
5. Make sure that the diameter of the drain pipework is at least equal to that of the expansion relief valve's discharge pipe.
6. If the connection pressure is high, install a pressure reducer.

– Connection pressure: ≥ 0.7 MPa
– Pressure setting: 0.3 to 0.4 MPa

5 Electrical installation

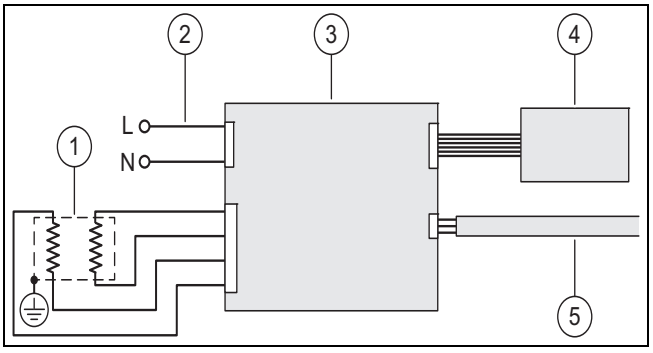
Only qualified electricians are allowed to carry out the electrical installation.

5.1 Connecting the product

1. Make sure that you do not connect the product to the power grid prior to start-up.
2. To connect the product, use H 05 VV-F 3 G 2,5 mm^2 lines.
3. Switch off the power supply.
4. Check that there is no voltage.
5. Secure the power supply against being switched back on.
6. Earth the domestic hot water cylinder.
7. Do not use pipelines for earthing.
8. Protect the electrical circuit using a circuit breaker.
   – Rated current: ≥ 16 A
9. Switch off the circuit breaker.
10. Connect the electrical connection cables.

5.1.1 Connecting electrical supply lines

5.1.1.1 Single-phase connection, 230 V ~



1	Heating element 1.8 + 1.2 kW	3	Switch box
2	Mains connection	4	Printed circuit board
		5	NTC sensor

6 Initial start-up

Initial start-up must only be carried out by customer service.

6.1 Start-up

1. Open the cold-water stopcock.
2. Open the hot water taps.
3. Wait until water flows out of the hot water taps.
4. Close the hot water taps.
5. Check the expansion relief valve by opening the drain cock on the expansion relief valve.
   ◁ Water must escape from the draining cock.
6. Check all pipe connections for leak-tightness.
7. Switch on the main switch.
8. Switch on the line protection switch.

Danger!
Risk of death from legionella.

Legionella multiply at temperatures below 60 °C.

► Ensure that the end user is familiar with all of the Anti-legionella measures in order to comply with the applicable regulations regarding legionella prevention.

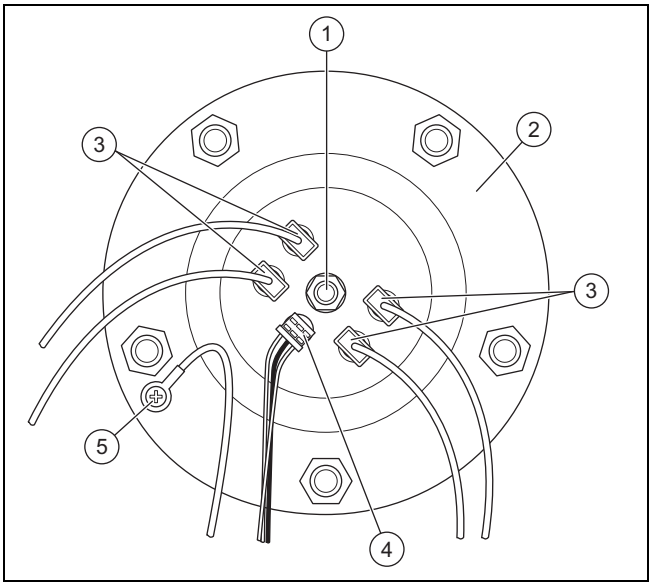
9. Set the required temperature.
   – Temperature range: 10 to 75 °C
   ◁ The display shows the set temperature.
10. Activate the Anti-legionella function.
11. Turn the rotary knob to the lowest temperature and press the reset button for 15 seconds.
    ◁ The Anti-legionella function has been activated and the Legionella symbol is shown on the display for 10 seconds.
12. Wait until the heat-up time has ended before switching the product to normal operating mode.

7 Handing the product over to the end user

► Inform the end user how to handle the product. Answer any questions the end user may have. In particular, draw attention to the safety warnings which the end user must follow.
► Explain to the end user how the safety devices work and where they are located.
► Explain to the end user how to limit the domestic hot water temperature at the draw-off point in order to prevent scalding.
► Inform the end user that they must have the product maintained in accordance with the specified intervals.
► Provide the end user with all relevant instructions and unit documentation for safe-keeping.

8 Maintenance

8.1 Checking the magnesium protection anode



1	Heating element bolt	4	NTC sensor
2	Flange with hex nuts	5	Earth line
3	Heating element		

1. Disconnect the product from the power supply. (→ Page 43)
2. Empty the product. (→ Page 44)

Removing the flange

3. Undo the screws on the cover for the flange and electronics box.
4. Unscrew the earth line from the flange.
5. Unplug the plug from the heating elements and from the NTC sensor.
6. Remove the NTC sensor.
7. Unscrew the hex nuts from the flange.
8. Remove the flange straight from the cylinder tank.

Replacing the magnesium protection anode

9. Replace the magnesium protection anode when it is worn.
   – Wear: 60 %

Installing the flange

10. Replace the flange seal.
11. Screw the flange in place.
12. Screw on the earth line.
13. Plug the NTC sensor into the intended opening.
14. Plug the plugs into the heating elements and the NTC sensor.
15. Screw the cover to the product tightly.
16. Start up the product. (→ Page 42)

8.2 Checking the inner vessel and components for scale deposition

1. Disconnect the product from the power supply. (→ Page 43)
2. Empty the product. (→ Page 44)
3. Remove the flange. (→ Page 43)
4. If necessary, clean the inner vessel with descaling agents or by carefully scraping it with a wooden spatula.
5. Install the flange. (→ Page 43)
6. Replace components if necessary.
7. Start up the product. (→ Page 42)

9 Detecting and eliminating faults

9.1 Replacing the defective NTC sensor

1. Disconnect the product from the power supply. (→ Page 43)
2. Undo the screws on the cover for the flange and electronics box.
3. Pull out the NTC sensor's plug from the PCB.
4. Remove the defective NTC sensor.
5. Plug the new NTC sensor into the intended opening.
6. Plug the NTC sensor's plug into the PCB.
7. Screw the cover to the product tightly.
8. Start up the product. (→ Page 42)

9.2 Replacing a defective heating element

1. Disconnect the product from the power supply. (→ Page 43)
2. Empty the product. (→ Page 44)
3. Remove the flange. (→ Page 43)
4. Unscrew the defective heating element from the flange.
5. Screw the new heating element onto the flange.
6. Install the flange. (→ Page 43)
7. Start up the product. (→ Page 42)

9.3 Overview of fault messages

Fault display view (→ Page 46)

10 Decommissioning

Disconnecting the product from the power supply

Danger!
Risk of electric shock

There is a risk of electric shock when working on electrical components that are connected to the low-voltage network.

- ► Disconnect the product from the power supply.
- ► Secure the product against being switched back on again.
- ► Check that the product is voltage-free.
- ► Only open the product when it is voltage-free.

► Remove the mains connection lines.

Emptying the product

1. Close the cold water stop cock.
2. Open a hot water valve connected to the product.
3. Loosen the connection between the cold water pipe and the product.
4. Drain the domestic hot water cylinder via the product's cold water pipe.

Removing the product

5. Remove the cold and hot water piping.
6. Undo the screws.
7. Lift the product and remove it from the wall.
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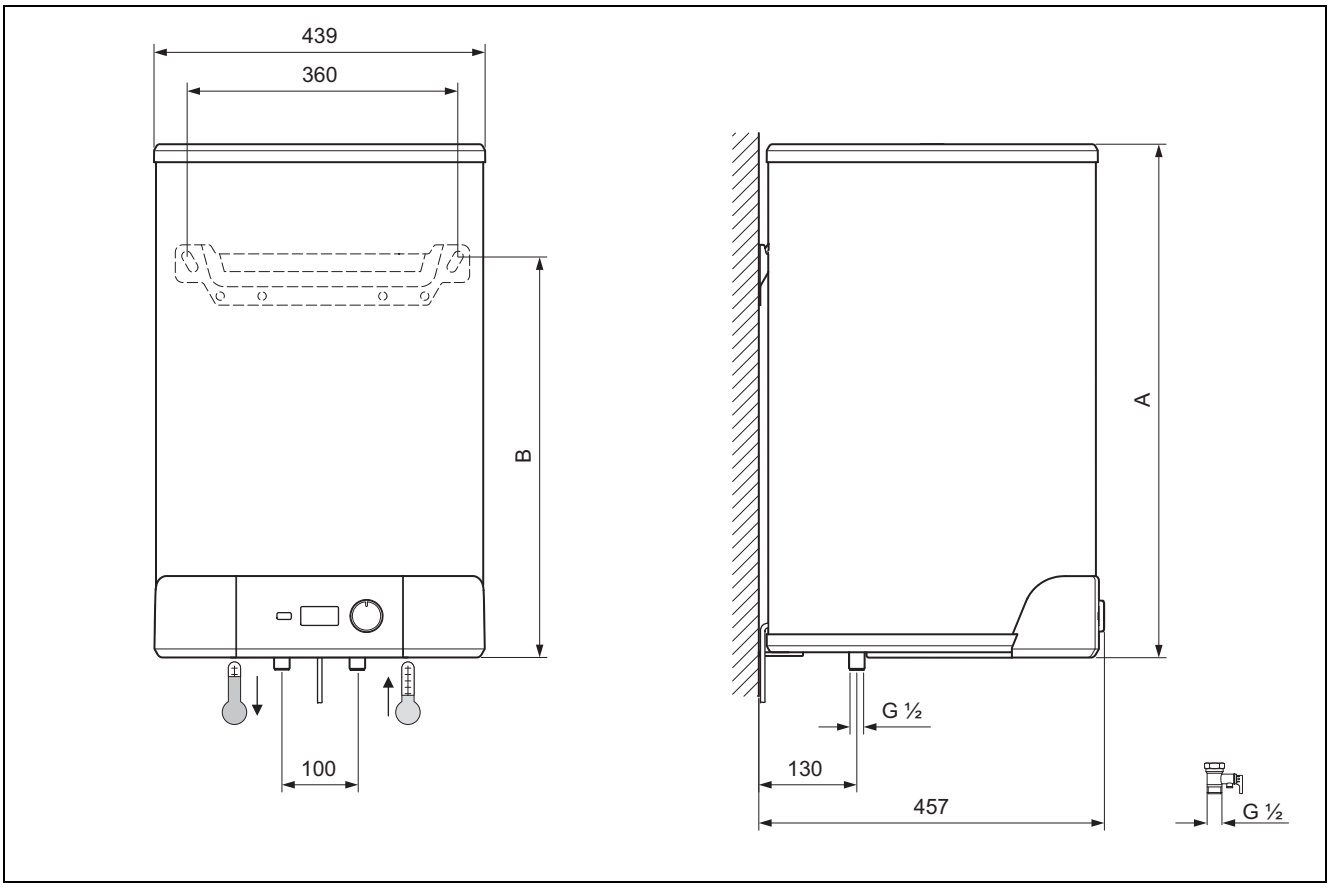

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Display	Cause	Troubleshooting
F1	Domestic hot water overheating (≥85 °C for 2 seconds)	Make sure that the temperature of the cold water at the cylinder's cold water connection is <85 °C. Reset the fault message using the reset button on the PCB.
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turbo function flashes	Second heating element defective	Replace the heating element.

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Improper use of any kind is prohibited.

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– Installation
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– Repair
– Decommissioning

▸ Proceed in accordance with current technology.

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There is a risk of death from electric shock if you touch live components.

Before commencing work on the product:

▸ Disconnect the product from the power supply by switching off all power supplies at all poles (electrical partition with a contact gap of at least 3 mm, e.g. fuse or circuit breaker).
▸ Secure against being switched back on again.
▸ Check that there is no voltage.

1.3.3 Risk of burns or scalding caused by hot components

▸ Only carry out work on these components once they have cooled down.

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▸ If you use plastic pipes for the hot or cold water connection of the product, you must only use pipes that are temperature-resistant up to 95 °C under a pressure of 1.0 MPa (10 bar).

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- Use the correct tool.

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- Do not install the product in rooms prone to frost.

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- Do not suspend any loads from the pipelines (e.g. clothing).

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If certain safety group components (e.g. expansion relief valve, return flow prevention, pressure reducer) have either not been installed or have been incorrectly installed, this may lead to potentially fatal scalding and other injuries.

- Install the necessary safety group components.
- Do not install hydraulic accessories between the safety group and the domestic hot water cylinder's cold water pipe.
- Explain to the operator how the safety group works and where it is to be positioned.

1.3.9 Material damage due to unsuitable installation surface

The installation surface must be even and have sufficient load-bearing capacity to support the operating weight of the product. An uneven installation surface may cause leaks in the product.

If the installation surface does not have sufficient load-bearing capacity, the product may become detached and fall off.

There is a risk of death if the connections are subject to leaks.

- Make sure that the product is positioned flush against the installation surface.
- Ensure that the installation surface has sufficient load-bearing capacity to bear the operating weight of the product.

1.3.10 Excessive water pressure

Excessive water pressure may lead to damage to the product and, as a result, cause injuries.

Validity: Product with rated excess pressure > 6 bar

- Install a pressure regulator as close as possible to the product's cold water inlet.
- Note the particular characteristics of the pressure regulator as well as the details of the installation.

- Install an optional safety assembly as close as possible to the product's cold water inlet.
  - Required safety assembly components: Expansion relief valve, isolation valve, non-return valve and discharge pipe
- Install the discharge pipe above the drain pipework's funnel in such a way that the discharge pipe opposite the atmosphere remains open.
- Install the drain pipework in a frost-free environment with a steady downward gradient to a drain.
- Inform the end user that they must manually check that the expansion relief valve is working correctly at regular intervals.

1.3.11 Expansion relief valve

- During operation, hot water may drip out of the expansion relief valve.
- The expansion relief valve must be left open to the atmosphere.

1.3.12 Replacing the damaged power supply cable

- If the power supply cable for this product is damaged, it must be replaced by the manufacturer or their customer service or a similarly qualified person in order to prevent any hazards.

1.4 Regulations (directives, laws, standards)

- Observe the national regulations, standards, directives, ordinances and laws.

2 Notes on the documentation

2.1 Observing other applicable documents

► Always observe all the operating and installation instructions included with the system components.

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► Pass these instructions and all other applicable documents on to the end user.

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Product article number

DT4-D 50 INT I	8000031383
DT4-D 65 INT I	8000031377
DT4-D 80 INT I	8000031382

3 Product overview

3.1 Product designation

The product is a Электрический накопитель горячей воды, закрытый.

3.2 Data plate

The data plate is located on the underside of the product.

The data plate contains the following information:

Information	Meaning
Serial no.	For identification
DT4-D XX I	Product designation
I	Fill quantity
W	Power
V	Operating voltage
Hz	Frequency
MPa (bar)	Pressure
IP xx	IP rating
CE marking	Unit complies with European standards and directives
Waste container	Proper disposal of the unit

3.3 CE marking

The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.

The declaration of conformity can be viewed at the manufacturer's site.

3.4 Unit symbol for the movement of goods in the member states of the Eurasian Economic Union

The product is marked with the unit symbol for the movement of goods in the member states of the Eurasian Economic Union. This certifies that the product meets all the technical regulations of the Eurasian Economic Union and of all the countries represented within it.

3.5 Design

The cylinder is equipped with external heat insulation. The cylinder vessel is made of enamelled steel. The heating elements that transfer the heat are located inside the vessel. As additional corrosion protection, the vessel has a magnesium protection anode.

3.6 Regulations on packaging, transportation and storage

The products are delivered in the manufacturer's packaging.

The products are transported by road, by sea and by rail in accordance with the goods transport regulations that apply to the relative means of transport. During transportation, it is absolutely essential for the product to be firmly secured against moving horizontally and vertically.

Products that are not installed are stored in the manufacturer's packaging. The products must be stored under standard conditions in closed rooms that have natural air circulation (non-aggressive and dust-free environment, temperature gradients of -10 °C to +37 °C, up to 80% air humidity, without shocks or vibrations).

3.7 Duration of storage

– Duration of storage: 2 years from production date

3.8 Service life

If the regulations on transportation, storage, installation and operation are observed, the product's expected service life is 15 years from the date of installation.

4 Set-up

4.1 Checking the scope of delivery

Quantity	Component
1	Domestic hot water cylinder
1	Hanging bracket
1	Expansion relief valve
4	Screws
4	Rawl plug
4	Washers
1	Spacer
1	Adjusting screw
1	Discharge line
1	Operating instructions
1	Installation and maintenance instructions

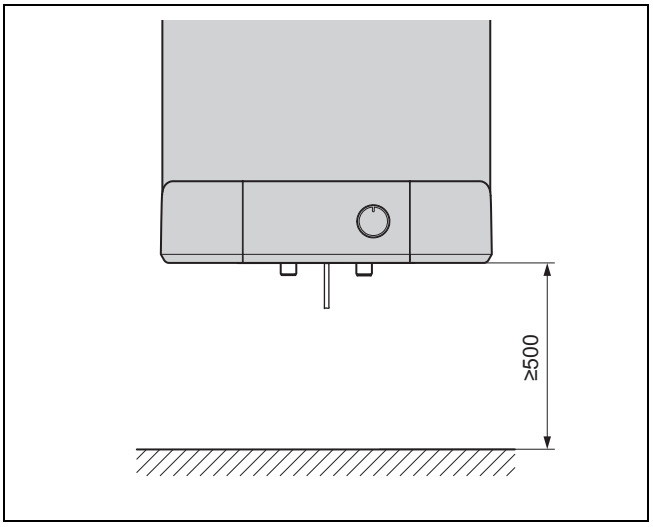
4.2 Requirements for the installation site

- ► Select the installation site so that the cables can be easily routed.
- ► Install the product in rooms that are always dry and free of frost.
- ► Make sure that the wall is even, vertical and sturdy.
- ► Make sure that the load-bearing capacity of the wall, rawl plugs and screws are sufficient for bearing the product's operating weight.
- ► Make sure that the rawl plugs and screws are suitable for the wall.

4.3 Requirements for electrical installation at the installation site

- ► Make sure that the product can be installed outside of protective areas 0 to 2.
- ► Make sure that the dwelling is equipped with an earth line.
- ► Make sure that the power mains is suitable for the product.
  - – Voltage: 230 V/50 Hz
- ► Make sure that the line protection switch is suitable for the measuring current.
  - – Measuring current: 16 A

4.4 Observing the minimum clearances



- ► Comply with the minimum clearances during installation.

4.5 Installing the product

1. During installation, pay attention to the length of the electrical line, the minimum clearances with respect to the wall, floor and ceiling, and the permitted protective area.

Condition: Wall made of concrete hollow bricks

- ► Install the product using a special load-bearing structure.

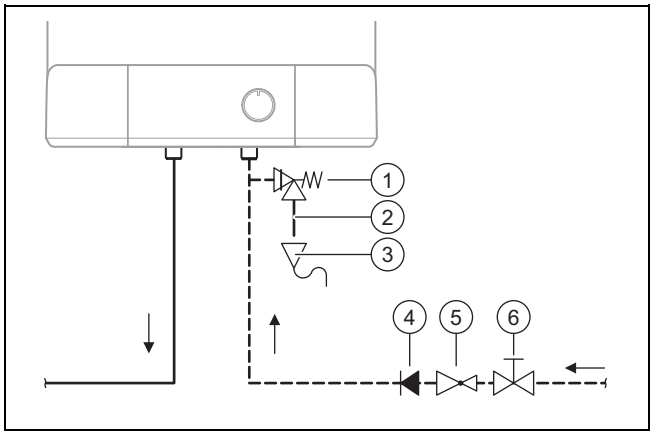
2. Based on the product's operating weight and the structural condition of the installation surface, determine the fixing material, e.g. rawl plugs and screws.
3. Make sure that the rawl plugs and screws are suitable for the product's installation surface.
4. Use the installation template that is printed on the packaging.
5. Drill the holes.
6. Insert the rawl plugs into the holes and screw in the screws.
   - – Clearance between the screw and the wall: ≈ 30 mm
7. Mount the hanging bracket.
8. Use a screw to install the spacer at the lower end of the cylinder on the wall.
9. Use the adjusting screw to align the product in parallel to the wall.
10. Align the hanging brackets vertically and tighten the screws.
11. Mount the product in the hanging brackets using the hooks.

4.6 Installing the product

Warning.
Risk of adverse health effects caused by impurities in the potable water.

Sealing residues, dirt or other residues in the pipelines may adversely affect the quality of the potable water.

- ► Flush all of the hot and cold water pipes thoroughly before you install the product.



1	Expansion relief valve	4	Return flow prevention (optional)
2	Discharge line	5	Pressure reducer (optional)
3	Tundish (optional)	6	Stop valve

1. Install components **(1)** to **(6)** in accordance with the illustration.
2. Install the safety device as close as possible to the product's cold water inlet.
3. Install the drain pipework at a constant incline.
4. Maintain a clearance between the expansion relief valve's discharge pipe and the tundish so that the drain pipework is open to the atmosphere.
   - – Clearance: ≥ 20 mm
5. Make sure that the diameter of the drain pipework is at least equal to that of the expansion relief valve's discharge pipe.
6. If the connection pressure is high, install a pressure reducer.

– Connection pressure: ≥ 0.7 MPa
– Pressure setting: 0.3 to 0.4 MPa

5 Electrical installation

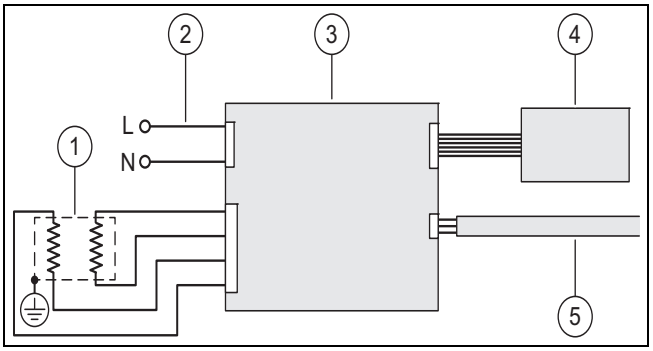
Only qualified electricians are allowed to carry out the electrical installation.

5.1 Connecting the product

1. Make sure that you do not connect the product to the power grid prior to start-up.
2. To connect the product, use H 05 VV-F 3 G 2,5 mm^2 lines.
3. Switch off the power supply.
4. Check that there is no voltage.
5. Secure the power supply against being switched back on.
6. Earth the domestic hot water cylinder.
7. Do not use pipelines for earthing.
8. Protect the electrical circuit using a circuit breaker.
   – Rated current: ≥ 16 A
9. Switch off the circuit breaker.
10. Connect the electrical connection cables.

5.1.1 Connecting electrical supply lines

5.1.1.1 Single-phase connection, 230 V ~



1	Heating element 1.8 + 1.2 kW	3	Switch box
2	Mains connection	4	Printed circuit board
		5	NTC sensor

6 Initial start-up

Initial start-up must only be carried out by customer service.

6.1 Start-up

1. Open the cold-water stopcock.
2. Open the hot water taps.
3. Wait until water flows out of the hot water taps.
4. Close the hot water taps.
5. Check the expansion relief valve by opening the drain cock on the expansion relief valve.
   ◁ Water must escape from the draining cock.
6. Check all pipe connections for leak-tightness.
7. Switch on the main switch.
8. Switch on the line protection switch.

Danger!
Risk of death from legionella.

Legionella multiply at temperatures below 60 °C.

► Ensure that the end user is familiar with all of the Anti-legionella measures in order to comply with the applicable regulations regarding legionella prevention.

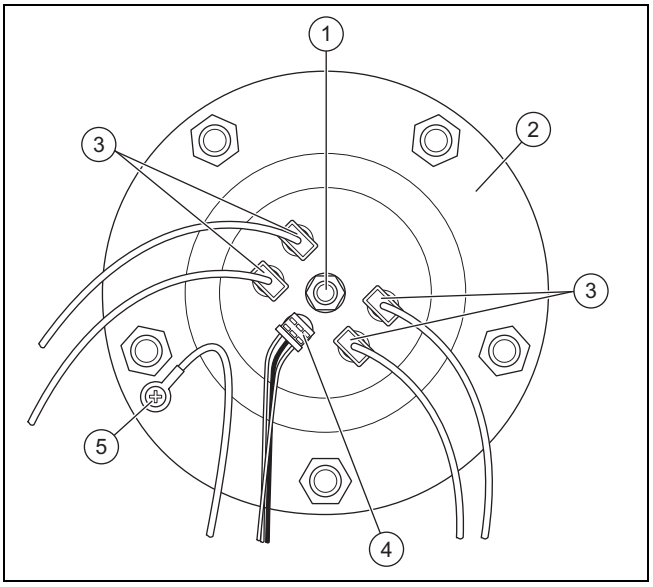
9. Set the required temperature.
   – Temperature range: 10 to 75 °C
   ◁ The display shows the set temperature.
10. Activate the Anti-legionella function.
11. Turn the rotary knob to the lowest temperature and press the reset button for 15 seconds.
    ◁ The Anti-legionella function has been activated and the Legionella symbol is shown on the display for 10 seconds.
12. Wait until the heat-up time has ended before switching the product to normal operating mode.

7 Handing the product over to the end user

► Inform the end user how to handle the product. Answer any questions the end user may have. In particular, draw attention to the safety warnings which the end user must follow.
► Explain to the end user how the safety devices work and where they are located.
► Explain to the end user how to limit the domestic hot water temperature at the draw-off point in order to prevent scalding.
► Inform the end user that they must have the product maintained in accordance with the specified intervals.
► Provide the end user with all relevant instructions and unit documentation for safe-keeping.

8 Maintenance

8.1 Checking the magnesium protection anode



1	Heating element bolt	4	NTC sensor
2	Flange with hex nuts	5	Earth line
3	Heating element		

1. Disconnect the product from the power supply. (→ Page 54)
2. Empty the product. (→ Page 55)

Removing the flange

3. Undo the screws on the cover for the flange and electronics box.
4. Unscrew the earth line from the flange.
5. Unplug the plug from the heating elements and from the NTC sensor.
6. Remove the NTC sensor.
7. Unscrew the hex nuts from the flange.
8. Remove the flange straight from the cylinder tank.

Replacing the magnesium protection anode

9. Replace the magnesium protection anode when it is worn.
   – Wear: 60 %

Installing the flange

10. Replace the flange seal.
11. Screw the flange in place.
12. Screw on the earth line.
13. Plug the NTC sensor into the intended opening.
14. Plug the plugs into the heating elements and the NTC sensor.
15. Screw the cover to the product tightly.
16. Start up the product. (→ Page 53)

8.2 Checking the inner vessel and components for scale deposition

1. Disconnect the product from the power supply. (→ Page 54)
2. Empty the product. (→ Page 55)
3. Remove the flange. (→ Page 54)
4. If necessary, clean the inner vessel with descaling agents or by carefully scraping it with a wooden spatula.
5. Install the flange. (→ Page 54)
6. Replace components if necessary.
7. Start up the product. (→ Page 53)

9 Detecting and eliminating faults

9.1 Replacing the defective NTC sensor

1. Disconnect the product from the power supply. (→ Page 54)
2. Undo the screws on the cover for the flange and electronics box.
3. Pull out the NTC sensor's plug from the PCB.
4. Remove the defective NTC sensor.
5. Plug the new NTC sensor into the intended opening.
6. Plug the NTC sensor's plug into the PCB.
7. Screw the cover to the product tightly.
8. Start up the product. (→ Page 53)

9.2 Replacing a defective heating element

1. Disconnect the product from the power supply. (→ Page 54)
2. Empty the product. (→ Page 55)
3. Remove the flange. (→ Page 54)
4. Unscrew the defective heating element from the flange.
5. Screw the new heating element onto the flange.
6. Install the flange. (→ Page 54)
7. Start up the product. (→ Page 53)

9.3 Overview of fault messages

Fault display view (→ Page 57)

10 Decommissioning

Disconnecting the product from the power supply

Danger!
Risk of electric shock

There is a risk of electric shock when working on electrical components that are connected to the low-voltage network.

- ► Disconnect the product from the power supply.
- ► Secure the product against being switched back on again.
- ► Check that the product is voltage-free.
- ► Only open the product when it is voltage-free.

► Remove the mains connection lines.

Emptying the product

1. Close the cold water stop cock.
2. Open a hot water valve connected to the product.
3. Loosen the connection between the cold water pipe and the product.
4. Drain the domestic hot water cylinder via the product's cold water pipe.

Removing the product

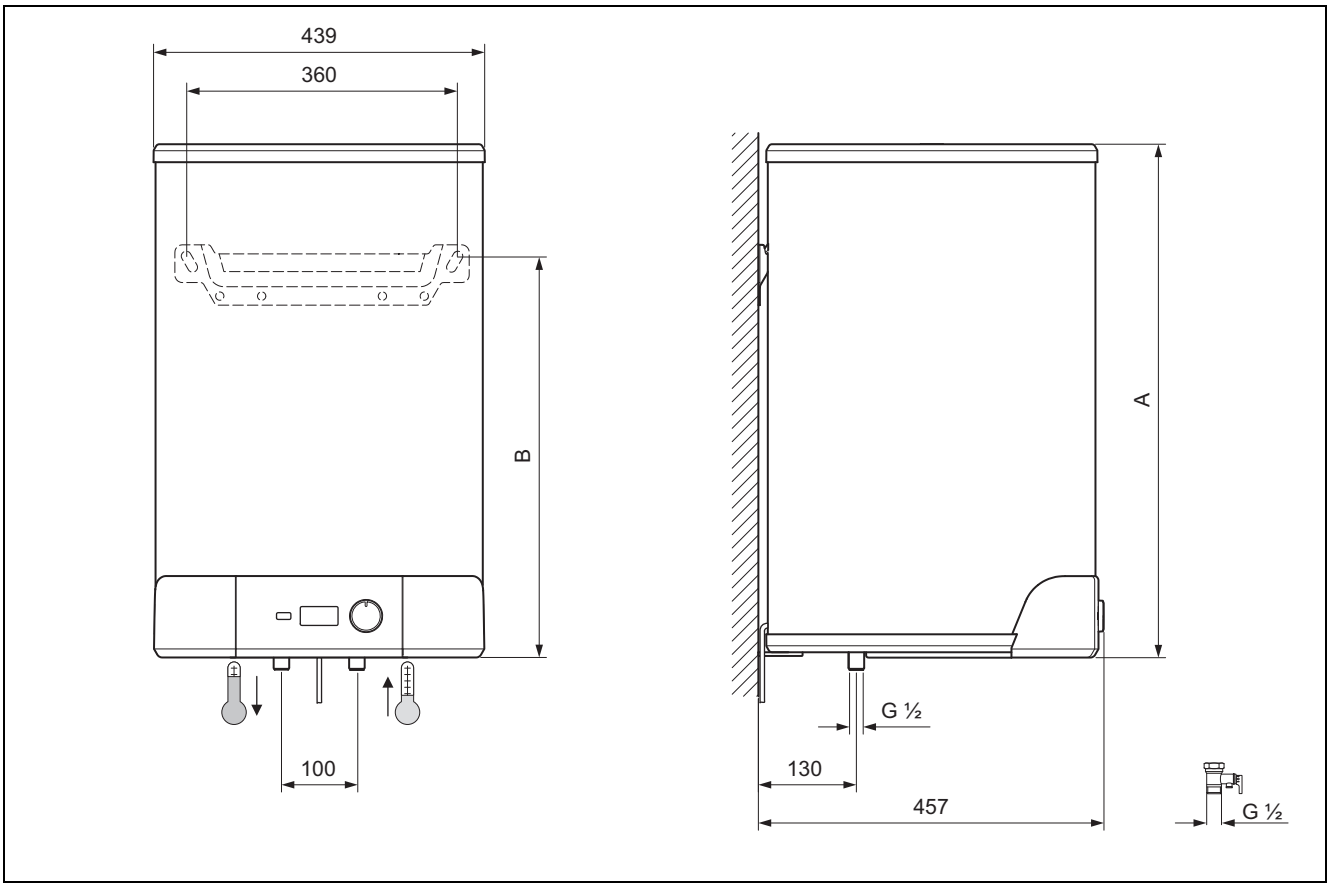
5. Remove the cold and hot water piping.
6. Undo the screws.
7. Lift the product and remove it from the wall.
8. Remove the screws from the wall.

11 Customer service

You can find the contact details for our customer service below the address on the back page of this document.

Appendix

A Dimensions and dimension drawing



Dimensions

	A	B
DT4-D 50 INT I	555 mm	408 mm
DT4-D 65 INT I	680 mm	533 mm
DT4-D 80 INT I	805 mm	658 mm

B Technical data

	Filling volume	Operating weight	Net weight	Power	Mains voltage
DT4-D 50 INT I	50 l	67 kg	17 kg	3 kW	230 V
DT4-D 65 INT I	65 l	85 kg	20 kg	3 kW	230 V
DT4-D 80 INT I	77 l	101 kg	24 kg	3 kW	230 V

	Protection class	IP rating
DT4-D 50 INT I	I	IP25
DT4-D 65 INT I	I	IP25
DT4-D 80 INT I	I	IP25

B.1 Technical data – General

Heat insulation	PU foam, CFC-free
Inner vessel	Steel, enamelled, with magnesium protection anode

C Fault display view

Display	Cause	Troubleshooting
F1	Domestic hot water overheating (≥85 °C for 2 seconds)	Make sure that the temperature of the cold water at the cylinder's cold water connection is <85 °C. Reset the fault message using the reset button on the PCB.
F2	Temperature sensor reports a fault	Replace the temperature sensor.
F3	Insufficient voltage at the product's power supply or PCB defective	Reset the fault message using the reset button on the PCB. If the fault still exists, replace the PCB.
F4	Insufficient voltage at the product's power supply	Make sure that the mains power is designed for the product's operation. Reset the fault message using the reset button on the PCB.
turbo function flashes	Second heating element defective	Replace the heating element.

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