### Installation and maintenance instructions



# eloSTOR pro

VEH 50/7-3

VEH 80/7-3

VEH 100/7-3

VEH 120/7-3

AT, DE





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#### 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: 85 °C

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 servicing 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 use in industrial or commercial processes 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
- ► Observe all instructions that are included with the product.
- Proceed in accordance with current technology.
- ► Observe all applicable directives, standards, laws and other regulations.

#### 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 death due to legionella in the drinking water

Legionellas are pathogens that multiply quickly at temperatures of up to approximately 50 °C. The legionellas die off at temperatures of over 60 °C.



#### 1 Safety



Explain to the operator how the anti-Legionella function works.

# 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 Preventing frost damage

If the product remains out of operation in an unheated room for an extended period of time, the water may freeze in the product and in the pipelines.

► Install the product in an installation room that is always frost-free.

#### 1.3.6 Material damage due to leaks

- ► Ensure that there is no mechanical tension on the supply lines.
- ► Do not suspend any loads from the pipelines (e.g. clothing).

# 1.3.7 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.

# 1.3.8 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.

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.

# 1.3.9 Risk of material damage caused by using an unsuitable tool

 Use the correct tool to tighten or loosen threaded connections.

# 1.3.10 Material damage due to limescale deposits in the expansion relief valve

Hard water can cause limescale to accumulate in the expansion relief valve.

- ► Regularly check the expansion relief valve manually to ensure that it works correctly by turning the cap one turn anticlockwise. Water escapes.
  - Escaping water may be hot.

# 1.4 Regulations (directives, laws, standards)

Observe the national regulations, standards, guidelines and laws.



#### 2 Notes on the documentation

#### 2.1 Observing other applicable documents

➤ You must 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 system operator.

#### 2.3 Validity of the instructions

These instructions apply only to:

#### **Product article number**

VEH 50/7-3	0010016657
VEH 80/7-3	0010016658
VEH 100/7-3	0010016659
VEH 120/7-3	0010016660

#### 3 Product description

#### 3.1 Identification plate

The identification plate is located on the lower side of the product.

The identification plate contains the following information:

Information	Meaning
Serial no.	Serial number
VEH XX 7-3	Type designation
1	Fill quantity
3/N/PE 400 V 1/N/PE 230 V ~ 50/60 Hz	Electrical connection data
MPa (bar)	Max. operating pressure
IP25D	IP rating
DYE .	VDE mark

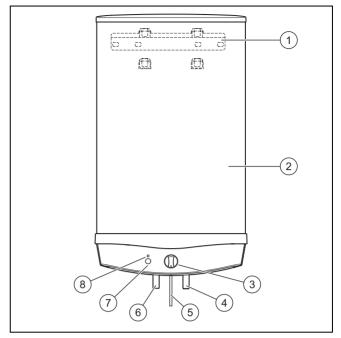
#### 3.2 CE label



The CE label shows that the products comply with the basic requirements of the applicable directives as stated on the identification plate.

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

#### 3.3 Design



- 1 Product bracket
- 2 Domestic hot water cylinder
- 3 Rotary knob
- 4 Cold water connection
- Mains connection line
- 6 Hot water connection
- 7 Rapid heating button
  - Signal lamp

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.

5

#### 4 Set-up

#### 4.1 Checking the scope of delivery

► Check that the scope of delivery is complete.

Quantity	Component
1	Domestic hot water cylinder
1	Product bracket
1	Installation template
1	Operating instructions
1	Installation and maintenance instructions

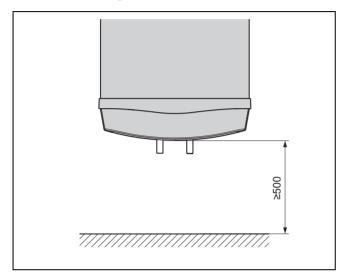
#### Applicability: VEH 80/7-3

Quantity	Component
1	Connector 0020192421
1	Connector 0020192422

#### 4.2 Requirements for the installation site

- Observe the following requirements:
  - Installation height above sea level: < 2000 m
  - Installation only in rooms that are always dry and free of frost
  - Installation only on a level, vertical and stable wall
  - Installation only on a wall with sufficient load-bearing capacity for the filled product (→ Appendix: Technical data)

#### 4.3 Observing the minimum clearances



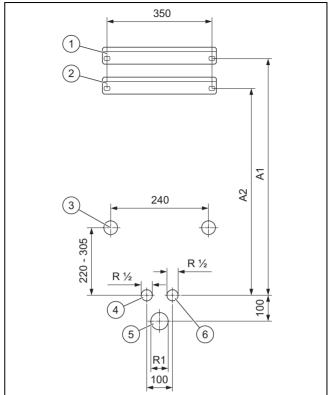
► Comply with the minimum clearances during installation.

#### 4.4 Installing the product



#### Note

All VEH/7 cylinders can be installed with the existing safety group.



Product bracket (replacement for VEH 5)

1

- Product bracket (new installation or replacement for VEH 6)
- 3 Bearing surfaces for wall support
- 4 Hot water connection
- 5 Discharge connection
- 6 Cold water connection
- A1 Distance between the product bracket and water connections (replacement for VEH 5)
- A2 Distance between the product bracket and water connections (new installation or replacement for VEH 6)
- 1. Install the product bracket.

	Unit	A1 (Replace- ment for VEH 5)	A2 (New installation or replacement for VEH 6)
VEH 50/7-3	mm	790	690
VEH 80/7-3	mm	1020	920
VEH 100/7-3	mm	1020	920
VEH 120/7-3	mm	1020	920

- 2. Hang the product in the product bracket.
  - Lateral corrections are possible as a result of movement.
- Install the safety group to the water connections of the VEH.

Conditions: New safety group required

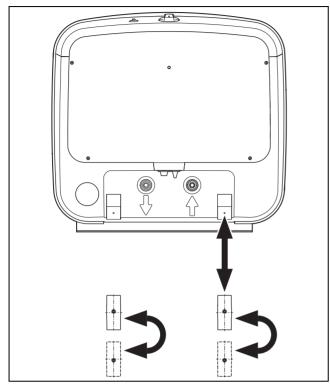
- Vaillant Safety group without a pressure reducer 0020174068
- Vaillant Safety group with a pressure reducer 0020174067

#### Conditions: VEH 80

Replace the connectors from the safety group with the connectors supplied for the VEH 80.

- Vaillant connector 0020192421
- Vaillant connector 0020192422

#### Conditions: The wall is uneven.



Smooth out any unevenness in the wall with the wall supports.

#### 5 Installation

#### 5.1 Hydraulic installation



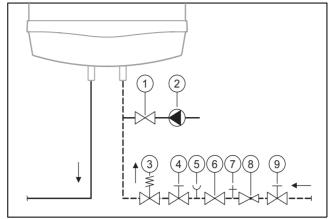
#### Warning.

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.

#### Conditions: Pressure-tight installation



- 1 Return flow prevention
- 6 Return flow prevention
- 2 Circulation pump
- 7 Test valve
- 3 Expansion relief valve
- 8 Pressure reducer
- 4 Stop valve
- Cold water stop valve
- 5 Pressure gauge connectors
- Install components (1) to (9).
- Install the safety device as close as possible to the product's cold water inlet.
- ▶ Install the drain pipework at a constant incline.
- ► 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
- Make sure that the diameter of the drain pipework is at least equal to that of the expansion relief valve's discharge pipe.
- ► Check the water connection positive pressure.

#### Result 1:

Water connection positive pressure: ≤ 6 bar

► Install a suitable safety group without a pressure reducer, e.g. the **Vaillant** safety group 0020174068.

#### Result 2:

Water connection positive pressure: 6 ... 16 bar

Install a suitable safety group with a pressure reducer, e.g. the Vaillant safety group with pressure reducer 0020174067.

### 5.2 Requirements for electrical installation at the installation site



#### Danger!

#### Risk of electric shock

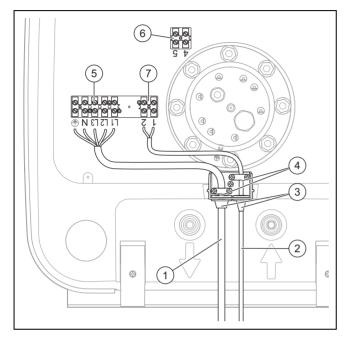
There is a risk of electric shock when working on electrical components that are connected to the low-voltage network.

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

#### 6 Start-up

- Connect the product to a permanent mains connection via a partition wall.
  - Requirements for the partition: Contact opening of at least 3 mm; mains connection is switched off at all pins
- Make sure that the line protection switches are suitable for the measuring current.
  - Measuring current: 16 A

#### 5.3 Electrical installation



- 1 Mains connection cable
- 2 Auxiliary connection cable
- 3 Cable duct
- 4 Strain relief
- 5 Mains connection terminal
- 6 Output selection terminal
- 7 Auxiliary connection terminal



#### 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 de-energised.
- Only open the product when it is de-energised.



#### Caution.

# Material damage due to the mains connection cable and auxiliary connection cable being switched

If the connection cables are switched, the product can be operated but the thermostat and safety cut-out will not work.

- Ensure that the mains connection cable is correctly connected to the mains connection terminal and the auxiliary connection cable to the auxiliary connection terminal.
- 1. Observe the connection diagram. (→ Page 12)
- 2. Guide the mains connection cable (1) through the cable duct (3) and through the strain relief (4).
- 3. Tighten the screws on the strain relief (4).
- 4. Secure the mains connection cable (1) to the mains connection terminal (5).
- 5. Guide the auxiliary connection cable (2) through the cable duct (3) and through the strain relief (4).
- 6. Tighten the screws on the strain relief (4).
- 7. Secure the auxiliary connection cable **(2)** to the auxiliary connection terminal **(7)**.

#### Re-work

 Using an indelible pen, note the connected power on the identification plate.

#### 6 Start-up

- 1. Open the cold water stop cock.
- 2. Open the hot water valves.
- 3. Wait until water flows out of the hot water valves.
- 4. Close the hot water valves.
- 5. Check that the expansion relief valve is functioning properly by venting the expansion relief valve.
  - Water must escape from the expansion relief valve.
- 6. Ensure that the safety cut-out is switched on.
- 7. Check that all of the pipe connections are leak-tight.
- 8. Switch on the fuses.
- 9. Switch on the line protection switches.
- 10. Check whether the signal lamp lights up and signals the heating of the domestic hot water cylinder.

#### 6.1 Operating

The domestic hot water cylinder operating instructions list the functions that can be set by the operator.

#### 6.2 Checking that the product works correctly

- Open the hot water draw-off point that is furthest away from the domestic hot water cylinder.
  - If water leaks from the hot water draw-off point, the domestic hot water cylinder has been sufficiently filled with water.
- 2. When the domestic hot water cylinder is heated for the first time, check whether the expansion relief valve is operating correctly.
  - If water drips from the discharge line, the expansion relief valve is operating correctly.

#### 6.3 Handing the product over to the operator

- Inform the operator how to handle the product. Answer any questions the operator may have. In particular, draw attention to the safety information which the operator must follow.
- Explain to the operator how the safety devices work and where they are located.
- Explain to the operator how to limit the hot water temperature at the draw-off point in order to prevent scalding.
- ► Inform the operator of the necessity to have the product maintained on a regular basis.
- Provide the operator with all relevant instructions and unit documentation for safe-keeping.

#### 7 Inspection and maintenance

You can find the inspection and maintenance work in the maintenance plan in the appendix. (→ Page 15)

#### 7.1 Preparing the maintenance work

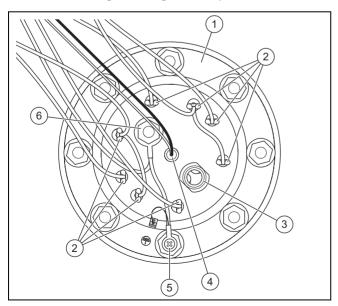


#### Danger! Risk of electric shock

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 de-energised.
- Only open the product when it is de-energised.
- ▶ Remove the mains connection lines.

#### 7.1.1 Checking the magnesium protection anode



- 1 Flange with hex nuts
- 3 Drain cock
- 2 Heating elements

- 4 Temperature sensor
- 6 Magnesium protection anode
- 5 Earth line
- Disconnect the product from the power supply.
   (→ Page 10)
- 2. Empty the product. (→ Page 10)

#### Removing the flange

- 3. Unscrew the cover on the flange.
- 4. Remove the electrical connections on the heating elements **(2)** from the terminal block.
- Undo the hex nuts on the cover for the flange (1) and the electronics box.
- 6. Remove the temperature sensor **(4)** for the thermostat and the safety cut-out.
- 7. Unscrew the earth line (5) from the flange.
- 8. Remove the flange straight from the cylinder tank.

#### Replacing the magnesium protection anode

9. Replace the magnesium protection anode **(6)** when it is worn to an extent of 60%.

#### Installing the flange

- 10. Replace the flange seal.
- Check the inner vessel and components for scale deposition. (→ Page 9)
- 12. Screw the flange in place.
- 13. Screw on the earth line.
- 14. Insert the temperature sensor for the thermostat and the safety cut-out into the opening provided for them.
- Use a cube plug to place the electrical connections for the heating elements on the terminal block.
- 16. Screw the cover to the product tightly.
- 17. Start up the product. (→ Page 8)

# 7.1.2 Checking the inner vessel and components for scale deposition

- Disconnect the product from the power supply.
   (→ Page 10)
- 2. Empty the product. (→ Page 10)
- 3. Remove the flange. (→ Page 9)
- 4. If necessary, clean the inner vessel with descaling agents or by carefully scraping it with a wooden spatula.
- 5. Install the flange. (→ Page 9)
- 6. Replace components if necessary.
- 7. Start up the product. (→ Page 8)

#### 7.2 Completing maintenance work

- 1. Fit the casing.
- Ensure that all of the product's components have been installed correctly.
- 3. Connect the product to the power supply.
- 4. Switch on the product.

#### 8 Detecting and rectifying faults

#### 8.1 Replacing a defective heating element

- Disconnect the product from the power supply.
   (→ Page 10)
- 2. Empty the product. (→ Page 10)
- 3. Remove the flange. (→ Page 9)
- 4. Unscrew the defective heating element from the flange.
- 5. Screw the new heating element onto the flange.
- 6. Install the flange. (→ Page 9)
- 7. Start up the product. (→ Page 8)

#### 8.2 Rectifying faults

Use the table in the appendix to rectify the faults (→ Page 11).

#### 9 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 de-energised.
- Only open the product when it is de-energised.
- 1. Remove the mains connection lines.

#### **Emptying the product**

- 2. Close the cold water stop cock.
- 3. Open a hot water valve connected to the product.
- 4. Drain the domestic hot water cylinder using the drain cock.

#### Removing the product

- 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.

#### 10 Recycling and disposal

#### Disposing of the packaging

- Dispose of the packaging correctly.
- Observe all relevant regulations.

#### 11 Customer service

#### Applicability: Austria

Vaillant Group Austria GmbH Clemens-Holzmeister-Straße 6 1100 Wien

#### Österreich

E-Mail Kundendienst: termin@vaillant.at

Internet Kundendienst: http://www.vaillant.at/werkskundendienst/

Telefon: 05 7050-2100 (zum Regionaltarif österreichweit, bei Anrufen aus dem Mobilfunknetz ggf. abweichende Tarife - nähere Information erhalten Sie bei Ihrem Mobilnetzbetreiber)

Der flächendeckende Kundendienst für ganz Österreich ist täglich von 0 bis 24 Uhr erreichbar. Vaillant Kundendiensttechniker sind 365 Tage für Sie unterwegs, sonn- und feiertags, österreichweit.

#### Applicability: Germany

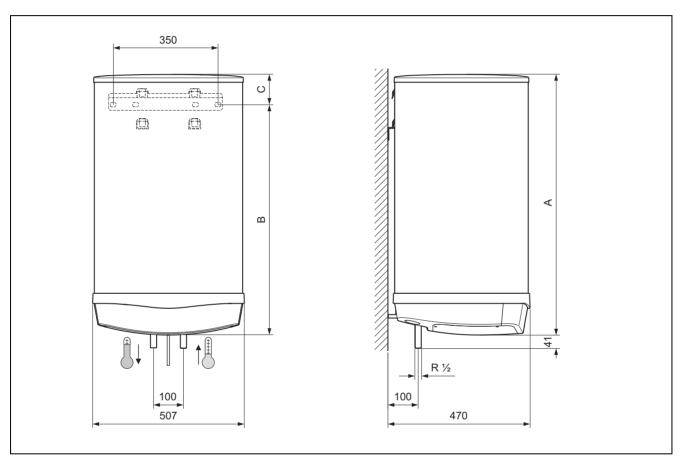
Auftragsannahme Vaillant Kundendienst: 021 91 5767901

### **Appendix**

### A Rectifying faults

Fault	Possible cause	Troubleshooting
The safety cut-out has been tripped.	Dry fire	<ul> <li>Check why the domestic hot water cylinder does not contain any water and replace the faulty component.</li> <li>Fill the domestic hot water cylinder.</li> </ul>
	Heat-up time too long	Check that the electrical plug connections and other connections are seated correctly and correct these if necessary.
	Expansion relief valve is open     Expansion relief valve is defective	<ul><li>Close the expansion relief valve.</li><li>Replace the expansion relief valve.</li></ul>

### B Dimensions and dimension drawing

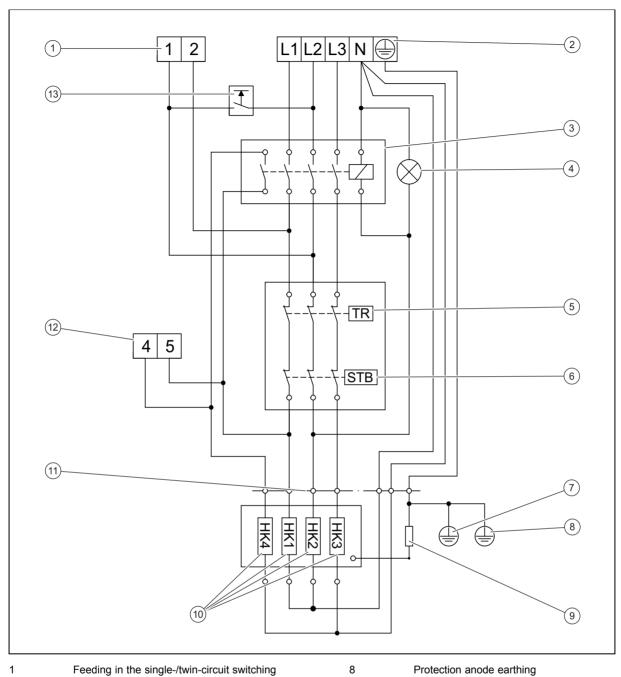


#### **Dimensions**

	VEH 50/7-3	VEH 80/7-3	VEH 100/7-3	VEH 120/7-3
Α	637 mm	875 mm	1,041 mm	1,207 mm
В	529 mm	673 mm	759 mm	759 mm

#### **Connection diagram** C

#### C.1 **Connection diagram**



1	Feeding in the single-/twin-circuit switching	8	Protection anode earthing
2	Mains connection terminal	9	Functional earth resistor
3	Relay	10	Heating elements
4	Signal lamp	11	Isolating plug
5	Thermostat	12	Output selection terminal
6	Safety overheat cut-off device	13	Rapid heating button
7	Vessel earthing		

#### C.2 Selecting the power

Operating mode	Mains connection	Basic load	Rapid heating
Single-circuit switch-ing	L N PE	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li></ul>	-
		<ul><li>VEH 100/7-3</li><li>2 kW</li></ul>	
	1 2 4 5 L1L2L3 N	<ul><li>VEH 120/7-3</li><li>1.5 kW</li></ul>	-
	L N PE	-	-
		<ul><li>VEH 120/7-3</li><li>3 kW</li></ul>	-
	1 2 4 5 L1 L2 L3 N  L	- VEH 50/7-3	-
		<ul><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>	
	1 2 4 5 L1L2L3 N	4 kW - VEH 120/7-3	
		4.5 kW	
	L1 L2 N PE	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>	-
	1 2 4 5 L1L2L3 N	4 kW - VEH 120/7-3	_
		4.5 kW	
	L1 L2 L3 N PE	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>	-
	1 2 4 5 L1L2L3 N	6 kW - VEH 120/7-3	-
		6 kW	

Operating mode	Mains connection	Basic load	Rapid heating
Twin-circuit switching	1 2 4 5 L1L2L3 N	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 1 kW - VEH 120/7-3	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 2 kW - VEH 120/7-3
	1 2 4 5 L1L2L3 N	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 2 kW - VEH 120/7-3	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 2 kW - VEH 120/7-3
	1 2 4 5 L1L2L3 N	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 1 kW - VEH 120/7-3 1.5 kW	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 4 kW - VEH 120/7-3 4.5 kW

### **Appendix**

Operating mode	Mains connection	Basic load	Rapid heating
Twin-circuit switching	N PE	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>
		2 kW	4 kW
	1 2 4 5 L1 L2 L3 N	- VEH 120/7-3	– VEH 120/7-3
		3 kW	4.5 kW
		<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>
	1 2 4 5 L1L2L3 N	1 kW	4 kW
		- VEH 120/7-3 1.5 kW	- VEH 120/7-3 4.5 kW
	1 2 4 5 L1L2L3 N	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>
		2 kW	4 kW
		- VEH 120/7-3	- VEH 120/7-3
		3 kW	4.5 kW
		<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li></ul>	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3
	1 2 4 5 L1L2L3 N	1 kW - VEH 120/7-3	6 kW - VEH 120/7-3
		1.5 kW	6 kW
		<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li><li>2 kW</li></ul>	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li><li>6 kW</li></ul>
	[1   2   [4   5   L1   L2   L3   N   ⊕	- VEH 120/7-3 3 kW	- VEH 120/7-3 6 kW

Operating mode	Mains connection	Basic load	Rapid heating
Manual mode	1 2 4 5 L1L2L3 N	-	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 2 kW - VEH 120/7-3
		_	- VEH 120/7-3 1.5 kW
	1 2 4 5 L1L2L3 N PE  L N PE  L N PE  1 2 4 5 L1L2L3 N PE	-	-
		-	- VEH 120/7-3 3 kW
		-	<ul><li>VEH 50/7-3</li><li>VEH 80/7-3</li><li>VEH 100/7-3</li><li>4 kW</li></ul>
		-	- VEH 120/7-3 4.5 kW

Operating mode	Mains connection	Basic load	Rapid heating
Manual mode	1 2 4 5 L1 L2 L3 N	-	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 4 kW - VEH 120/7-3 4.5 kW
	1 2 4 5 L1 L2 L3 N	-	- VEH 50/7-3 - VEH 80/7-3 - VEH 100/7-3 6 kW - VEH 120/7-3 6 kW

### D Maintenance plan

Maintenance work	Interval
Checking seals	Each time maintenance work is carried out
Tighten the fixing screws	Each time maintenance work is carried out
Checking the magnesium protection anode	Every three years
Checking the inner vessel and components for scale deposition	Every three years

#### E Technical data

#### Technical data – General

	VEH 7-3
Operating mode	Single- or twin-circuit switching or manual operation
Thermal insulation	PU foam, CFC-free
Inner vessel	Steel, enamelled, with magnesium protection anode
Safety	Complies with national safety regulations; radio-shielded; does not affect the mains supply

#### Technical data - General

	VEH 50/7-3	VEH 80/7-3	VEH 100/7-3	VEH 120/7-3
Product dimensions, height	637 mm	875 mm	1.041 mm	1.207 mm
Product dimensions, width	504 mm	504 mm	504 mm	504 mm
Product dimensions, depth	450 mm	450 mm	450 mm	450 mm
Weight when filled with water	80 kg	130 kg	160 kg	185 kg
Nominal capacity	50 I	80 I	100 I	120 I
Electrical power consumption	- 1 kW - 2 kW - 4 kW - 6 kW	- 1 kW - 2 kW - 4 kW - 6 kW	- 1 kW - 2 kW - 4 kW - 6 kW	- 1.5 kW - 3 kW - 4.5 kW - 6 kW

#### Technical data - Output

	VEH 50/7-3	VEH 80/7-3	VEH 100/7-3	VEH 120/7-3
Standby energy consumption (in 24 hours at 65 °C)	0.6 kWh	0.8 kWh	0.93 kWh	1.06 kWh
Selectable hot water temperature range	7 85 °C	7 85 °C	7 85 °C	7 85 °C
Energy-saving setting	60 °C	60 °C	60 °C	60 °C
Mixed water volume from 40 °C	96 I	157 I	196 I	237

### **Appendix**

	VEH 50/7-3	VEH 80/7-3	VEH 100/7-3	VEH 120/7-3
Heat-up time (from 10 to 60 °C) at 1 kW	2.73 h	4.60 h	6.83 h	-
Heat-up time (from 10 to 60 °C) at 1.5 kW	-	_	-	4.35 h
Heat-up time (from 10 to 60 °C) at 2 kW	1.43 h	2.18 h	3.51 h	-
Heat-up time (from 10 to 60 °C) at 3 kW	-	_	-	2.16 h
Heat-up time (from 10 to 60 °C) at 4 kW	0.73 h	1.00 h	1.82 h	-
Heat-up time (from 10 to 60 °C) at 4.5 kW	-	-	-	1.32 h
Heat-up time (from 10 to 60 °C) at 6 kW	0.39 h	0.68 h	0.90 h	0.98 h
Permissible operating pressure	0 0.6 MPa	0 0.6 MPa	0 0.6 MPa	0 0.6 MPa

#### Technical data – Electrics

	VEH 50/7-3	VEH 80/7-3	VEH 100/7-3	VEH 120/7-3
Electric connection	– 230 V/50 Hz			
	– 400 V/50 Hz			
Rated current	16 A	16 A	16 A	16 A
Level of protection	IP25D	IP25D	IP25D	IP25D



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