DHWE 51 SZ
DHWE 81 SZ
DHWE 101 SZ

Dimplex®

Installation and operating instructions

English



Smart domestic hot water wall-mounted cylinder

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1. Notes on safe operation

NOTE

Please read these instructions carefully. Keep these instructions in a safe place and pass them on to possible future owners.

- The device is only suitable for domestic hot water preparation within enclosed rooms.
- The device must only be installed by an authorised specialist.
- A disconnecting device with at least 3 mm contact opening (e.g. circuit breaker) must be provided in the permanently installed wiring.
- The maximum water pressure specified on the rating plate must not be exceeded at any time.
- The device must be disconnected from the power source before work is carried out on the device.
- Repairs and corrective measures must only be carried out by a qualified electrician or by your after-sales service.
- The device must be reliably connected to a protective conductor.
- Switch off the fuse in the event of a fault.
- Block the water supply in the event of leaks.
- Only have the fault remedied by the plant after-sales service or a recognised specialist company.

⚠ ATTENTION!

This device can be used by children aged 8 and over and by persons with limited physical, sensory or mental aptitude or lack of experience and/or knowledge, providing they are supervised or have been instructed in the safe use of the device and understand the associated potential dangers.

⚠ ATTENTION!

Cleaning and user maintenance may not be carried out by children without supervision. Children must be supervised to ensure that they do not play with the device.

⚠ ATTENTION!

A separating device must be installed in the fixed electrical installation in accordance with the set-up regulations, which has a contact clearance in accordance with the conditions of overvoltage category III on every pole for full separation.

- It is recommended that a separate electric circuit be provided for the power supply.
- The current regulations in accordance with VDE 0100 Part 701 must be observed.
- Ensure that the electrical connection cable does not come into contact with the domestic hot water pipe.
- With a closed pressure connection system, a safety valve must be used on the cold water supply pipe of the domestic hot water cylinder to prevent impermissible pressure rises.
- Ensure that water can drip unhindered out of the outlet opening of the safety valve (into open atmosphere).
- The drain pipe of the safety valve must be installed vertically downwards and frost-free.
- Check the safety valve regularly to ensure that it is not blocked. Any limescale deposits must be removed.
- No isolating valve may be installed between the domestic hot water cylinder and the safety valve.
- Before the domestic hot water cylinder is connected to the power supply and switched on, it must be filled with water.
- The domestic hot water cylinder is equipped with an additional temperature safety device. In the event of a fault, if the thermostat fails, the water temperature in the tank can increase up to 130 °C in line with the safety standards. Water connections and pipelines must be suitable.
- If you disconnect the domestic hot water cylinder from the grid, it must be emptied if there is a risk of frost.

Order code	Unit	DHWE 51 SZ	DHWE 81 SZ	DHWE 101 SZ
Connection voltage		400 V 50 Hz; 230 V 50 Hz		
Power consumption	kW	6/4; 2		
Protection class		I (with protective conductor)		
Degree of protection		IP24 (splash-proof)		
Nominal volume	Litres	48.3	78.0	97.3
Permissible operating pressure	MPa (bar)	0.6 (6)		
Installation location		Vertically on the wall		
Design		Open or closed domestic hot water cylinder		
Container		Steel, enamelled, with magnesium protection anode		
Mixed water quantity at 40 °C	Litres	66	116	137
Heat-up time from 10 °C to 65 °C (2 kW)	Minutes	98	157	196
Connection thread inflow and outflow	Inch	1/2"		
Drain nozzle	Inch	3/8"		
Dimensions (width x height x depth)	mm	640 x 500 x 512	860 x 500 x 512	1005 x 500 x 512
Weight empty / weight filled	kg	30 / 80	36 / 116	41 / 141
Thermal insulation		PU foam 40 mm (min.)		
Temperature setting values	°C	15 / 25 / 35 / 45 / 57 / 65 / 70		
Colour		White (RAL 9010) with black operating panel		
Load profile		M	M	L
Energy efficiency class according to (EU) 812/2013		B	B	C
Energy efficiency (ηwh) according to (EU) 812/2013 [1]	%	40.0	40.0	40.0
Annual electricity consumption [1]	kWh	1241	1226	2461
Set temperature	°C	57	57	57
Daily electricity consumption	kWh	6.419	6.471	12.410
Weekly electricity consumption with intelligent control	kWh	23.119	24.179	47.414
Weekly electicity consumption without intelligent control	kWh	26.566	28.411	53.133
Sound power level indoor	dB(A)	15	15	15
Overload protector		+	+	+
Protection against dry operation		+	+	+

[1)] The energy efficiency values refer to operation in Smart mode.

2. Device installation

The device must be installed in a frost-free room and as close as possible to the withdrawal point.

The device may only be installed and operated in a vertical position on vertical walls with water connections facing downwards.

For mounting walls with a low load bearing capacity, e.g. lightweight construction walls, the installer must select a suitable mounting method with suitable screws (minimum diameter 8 mm) and dowels.

In rooms with a bath or shower, the device must be installed in accordance with the valid regulations according to VDE 0100 Part 701.

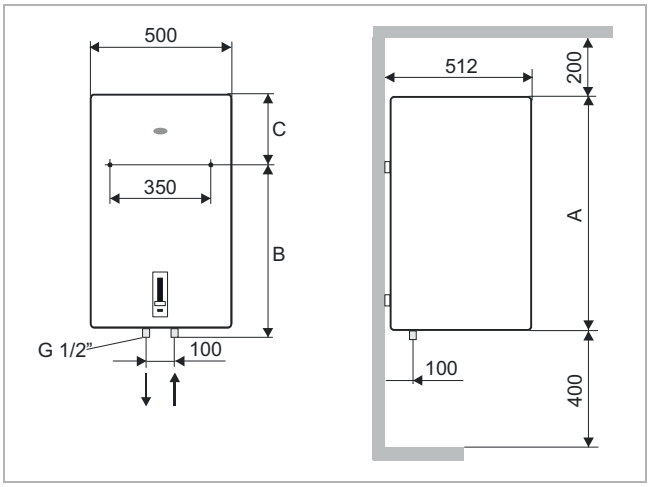


Fig. 1: Dimensions and mounting dimensions in mm

Type	A	B	C
DHWE 51 SZ	610	400	240
DHWE 81 SZ	830	600	260
DHWE 101 SZ	975	750	255

Mounting instructions

- Mount the drill template (packaging) in the designated installation position.
- Mark and drill the mounting holes for the wall bracket horizontally and insert the dowels.
- Mount the wall bracket, insert and tighten the screws.
- Hook in the domestic hot water cylinder.

3. Water connection

⚠ ATTENTION!

The regulations of the water supply company and DIN 1988 must be observed.

⚠ ATTENTION!

The maximum operating pressure specified on the rating plate must not be exceeded.

i NOTE

The connection components (supply and drain pipes, safety assembly, etc.) must be selected so that all components can withstand the possible temperatures of approx. 130 °C in the event of a thermostat malfunction and consequential damage can therefore be avoided.

i NOTE

In order to enable problem-free replacement of the domestic hot water cylinder in the event of after-sales service work, all connections must be detachable.

i NOTE

The device works with water, which must have a total hardness between 6.5 °dH and 17 °dH. With particularly hard water (total hardness >14 °dH), it is advisable to use a water softener.

i NOTE

Failure to observe the above points or to comply with the limit values for the water quality result in all warranty claims being void.

3.1. Water connection in the closed system

Closed domestic hot water cylinders and pipe systems, i.e. those under pipeline pressure, can supply multiple tap points.

- The domestic hot water cylinder must be installed before the tap point (mixed battery / fitting).
- Only pressure-resistant fittings may be used.
- A type-tested safety assembly (see Fig. 2) in accordance with DIN 1988 must be installed in the cold water inlet.
- With a line pressure over 0.5 MPa (5 bar), a safety assembly with pressure reducer must be used.
- To guarantee unhindered drainage, the drainage siphon of the safety assembly must be installed tilted slightly downwards in a frost-free environment.
- If the water in the cylinder is heated, its volume expands. This means that the drain of the safety assembly starts to drip. The drain must therefore be open, i.e. must have no fixed connection to the pipe system.
- Isolating valves, constrictions and sieves may not be installed between the safety assembly and the cylinder.
- A non-return valve must be installed that guarantees that water can not flow back from the domestic hot water cylinder into the water network.

- Before connection to the electric network, the domestic hot water cylinder must be filled with water.

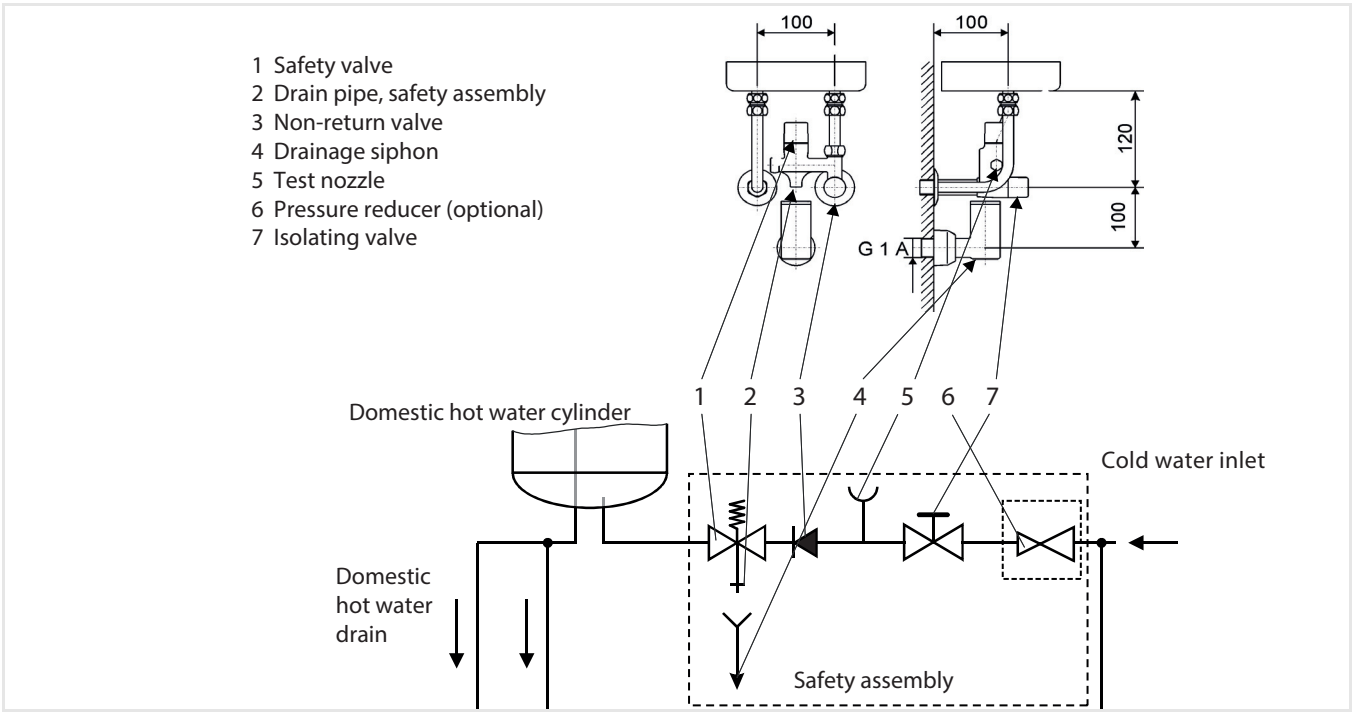


Fig. 2: Water connection in the closed system

3.2. Water connection in the open system

In pressureless flow operation, the water can only be withdrawn at one point.

- Only fittings for open domestic hot water cylinders may be used.
- This fitting is installed in the cold water inlet of the domestic hot water cylinder.
- A non-return valve must be installed that guarantees that water can not flow back from the domestic hot water cylinder into the water network.
- It is advisable to install a drain nozzle.
- Before connection to the power supply, the domestic hot water cylinder must be filled with water.
- If the water in the device is heated, its volume expands. This means that the drain pipe of the fitting starts to drip. This behaviour is related to the function. Excessive tightening of the two valves on the fitting can not prevent this dripping.

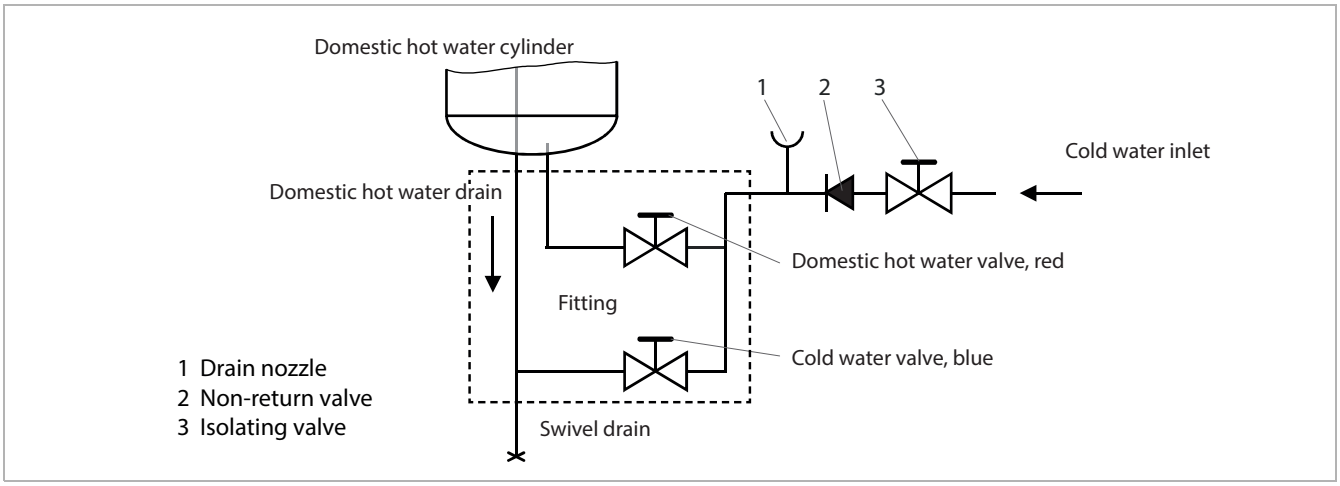


Fig. 3: Water connection in the open system

4. Electrical connection

4.1. Notes on the electrical connection

The connection to the electric network must take place in accordance with the valid national regulations.

⚠ ATTENTION!

Disconnect from the power supply before working on the domestic hot water cylinder!

- In rooms with bathtubs or showers, the device must be installed in accordance with the valid regulations according to VDE 0100-701.
- A fault-current circuit breaker with a trip current of I_{rat} = 30 mA must be installed in the electric circuit.
- There must be a disconnecting device upstream of the device with a distance of at least 3 mm. This requirement is met via circuit breakers, for example.

Connection via a wall socket takes place with a flexible connection cable, e.g. H05VV-F 3 x 1.5 mm² with protective conductor.

Protect the connection cable against twisting or pulling out with strain relief.

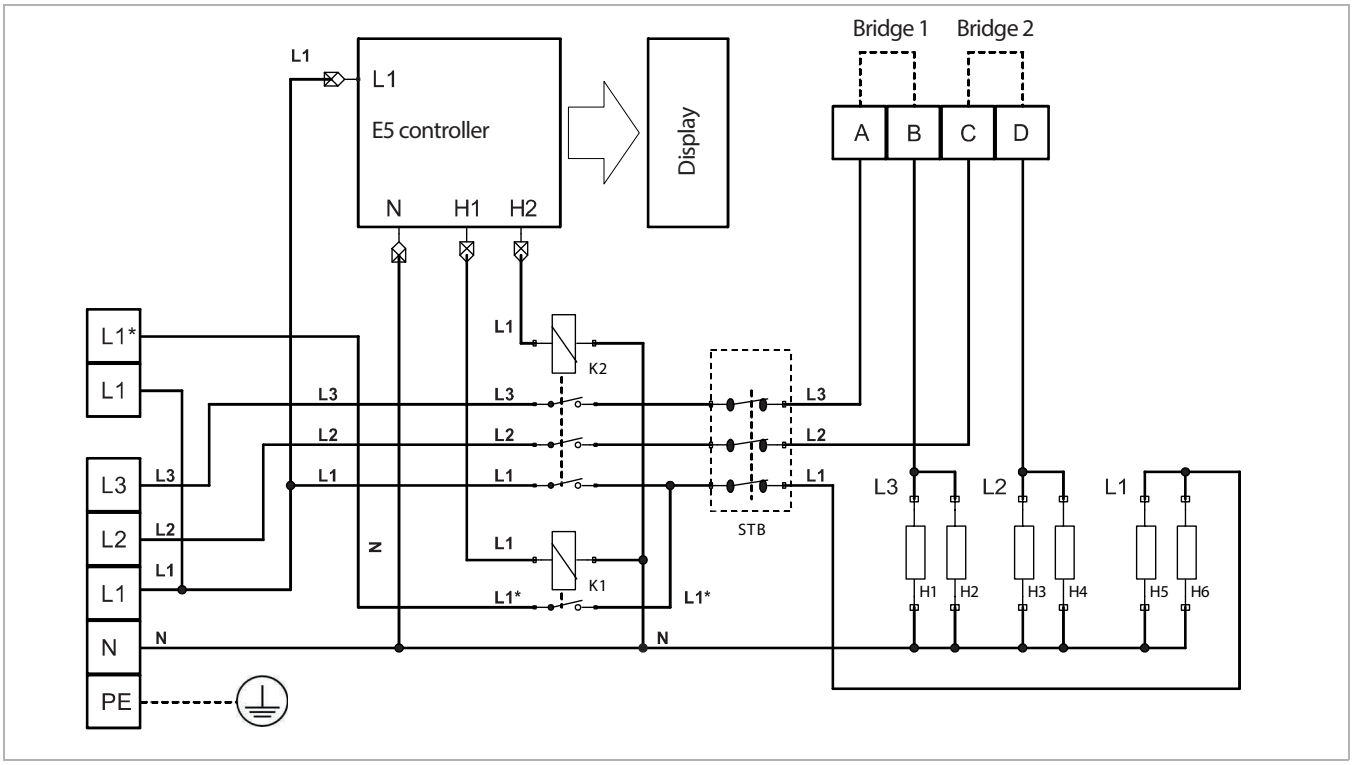


Fig. 4: Circuit diagram

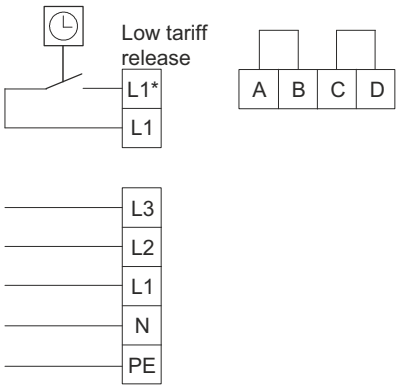
Circuit diagram legend

L1, L2, L3	Phase
N	Neutral conductor
PE	protective conductor
L1*	Phase low-tariff
E5	Control unit
H1	Switch output K1
H2	Switch output K2
K1	Heating relay
K2	Quick-heat relay
STB	Temperature limiter
A, B, C, D	Quick-heat terminals
H1 - H6	Heating elements

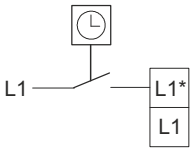
4.2. Terminal connection

Terminal connection, dual-circuit operation

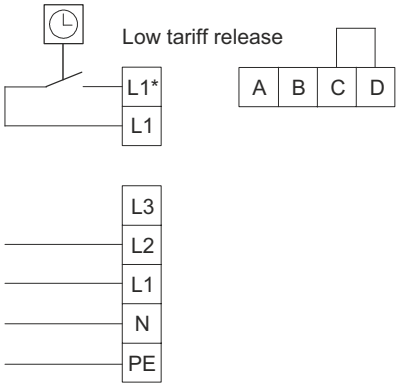
2/6 kW
3/N/PE ~ 400 V



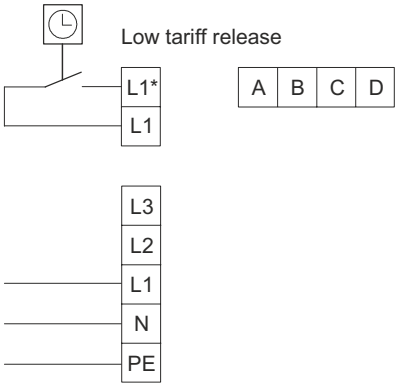
Alternative low tariff circuitry:



2/4 kW
2/N/PE ~ 400 V



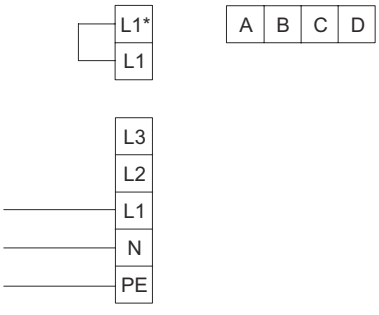
2/2 kW
1/N/PE ~ 230 V



Terminal connection, single-circuit operation

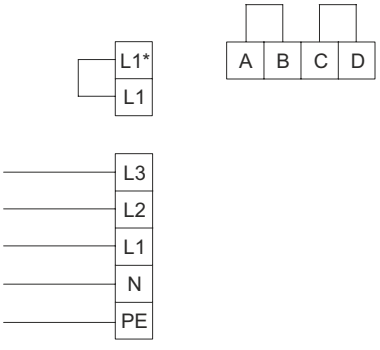
Basic circuit without quick-heat function

2 kW
1/N/PE~ 230 V

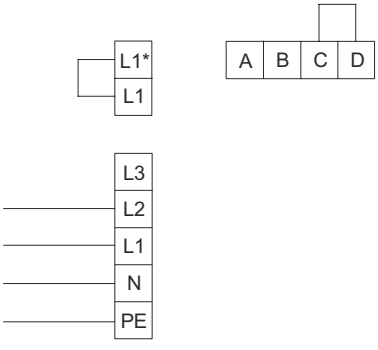


Circuits with quick-heat function

2/6 kW
3/N/PE~ 400 V



2/4 kW
2/N/PE~ 400 V



5. Commissioning

NOTE

Before connection to the electric network, the domestic hot water cylinder must be filled with water. During the first filling, open the drain valve on the fitting.

- Check the pipelines for leakage and repair leaks if necessary.
- Check the function of the safety assembly (in the closed system).
- Carefully open the domestic hot water valve to fill the domestic hot water cylinder until the water escapes without bubbles.
- Also open and flush the cold water valve.
- Switch on the fuse and the fault-current circuit breaker.
- Set the desired operating mode and temperature, See section “6. Operation”.

NOTE

Water may escape during the heat-up process. Via the safety assembly in the closed system, via the fitting outlet in the open system.

⚠ ATTENTION!

The safety assembly and domestic hot water fitting may get hot!

6. Operation

6.1. Operating elements and display

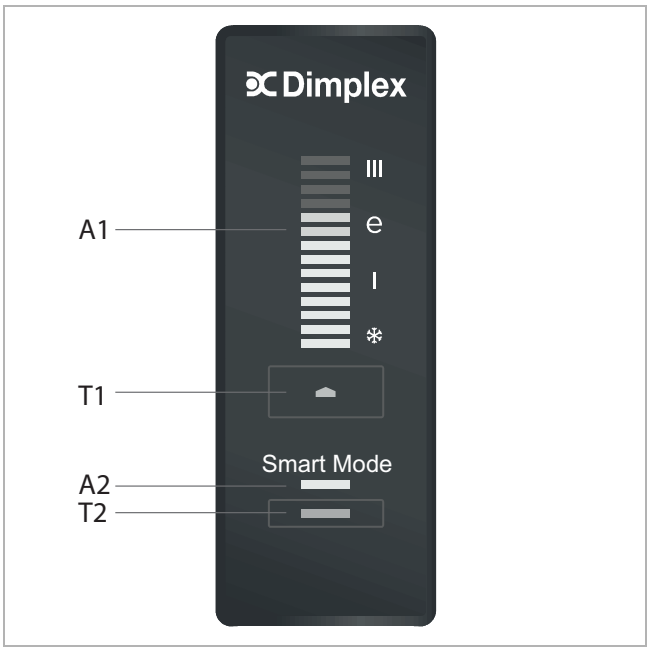


Fig. 5: Operating elements and display

Brief information on the domestic hot water cylinder functions

Button	Time	Function	Display A1 (bar)	Display A2 (LED green)
T1	3 seconds	Device ON/OFF	Current temperature	
T1	Short	Cylinder temperature setting	Set temperature	
T2	3 seconds	Smart memory On/off		flashes/ illuminates
T2	Short	Quick-heat function ON/OFF	Flashes at top	

6.2. Switching the domestic hot water cylinder on and off

To switch on the domestic hot water cylinder, press the T1 button for at least 3 seconds. Display A1 signals the current temperature.

To switch off the domestic hot water cylinder, press the T1 button for at least 3 seconds.

6.3. Setting the water temperature

The bar display A1 shows the current water temperature (actual temperature).

To change the water temperature, tap on the T1 button until the desired temperature is displayed. The desired temperature (setpoint temperature) is displayed for approx. 5 seconds and then saved.

The current water temperature is then displayed permanently.

Adjustable temperatures:

Water temperature	Symbol	Bar number
70 °C	III	14
65 °C		12
57 °C	e	10
45 °C		8
35 °C	I	6
25 °C		4
15 °C	❄	2

The setting **"e"** is advisable for a domestic hot water temperature of approx. 57 °C. The limescale formation and heat losses are comparatively low in this case.

If the domestic hot water cylinder is not used for an extended period, it is advisable to set the control to the "frost protection" position. In this setting, the domestic hot water cylinder keeps the water temperature at around 15 °C. This setting prevents the stored water from freezing and thus protects the device from damage.

6.4. Quick-heat function

The quick-heat function can be activated for additional hot water consumption. Tap on the T2 button briefly for this. The activated quick heat is indicated by the flashing of the two upper bars in display A1. After achieving the set temperature, quick heat automatically switches off and remains switched off.

This function may not be available for single-circuit operation (continuous power supply).

i NOTE

To activate this function, the set water temperature must be higher than the current temperature.
The setpoint temperature cannot be changed during quick-heat operation.

6.5. Smart mode (learning function)

This operating mode is recommended in particular in the event of repeated withdrawal cycles, e.g. the regular morning shower.

A recording function controls the domestic hot water temperature for the suitable time and enables extremely energy-efficient operation. The duration of the recording is 7 days.

Carry out the following steps to start the recording:

- Press the T2 button for at least 3 seconds to start the recording. The recording function is indicated by a flashing green LED (display A2). The setpoint temperature cannot be changed during the recording.
- The recording ends automatically after 7 days. The green LED (display A2) lights up. The recorded 7-day programme is then run permanently.
- Pressing the T2 button again for at least 3 seconds interrupts the recording or switches off the "Smart mode" function.

If the consumption behaviour changes, a new recording must be started. The existing profile is overwritten after another recording period of 7 days.

i NOTE

For dual-circuit operation (domestic hot water preparation during low tariff periods at night), Smart mode, depending on user behaviour, is not useful and should remain deactivated.

6.6. Preventative thermal disinfection

If the water temperature in the cylinder is not heated over 65 °C over a period of 14 days, the preventative thermal disinfection switches the domestic hot water cylinder automatically to a temperature of 70 °C. This temperature is maintained for 120 minutes.

7. Draining the domestic hot water cylinder

If the domestic hot water cylinder is switched off and if there is a risk of frost, the device must be drained completely.

⚠ ATTENTION!

Disconnect from the power supply before working on the domestic hot water cylinder!

7.1. Drainage in the closed system

Close the isolating valve of the cold water inlet. Open the domestic hot water valves of the connected fittings. Switch the safety valve to "open".

The remaining residual water can be drained off via the drain nozzle.

7.2. Drainage in the open system

Close the isolating valve of the cold water inlet.

Open the cold and domestic hot water valve of the fitting. Vent the domestic hot water drain of the domestic hot water cylinder by loosening the connection.

The remaining residual water can be drained off via the drain nozzle.

8. Faults

i NOTE

The device can be reset by pressing the T1 and T2 buttons at the same time.

In the event of a malfunction, check whether the fuse or the fault-current circuit breaker have triggered.

Notes on fault diagnosis can be found in the table below.

Display A1	Diagnostics	Troubleshooting, measure
No display	No power supply	Check fuses and FI circuit breaker
	Overload protector tripped	Contact after-sales service
Flashes repeatedly 2x speed	Error Temperature sensor	Contact after-sales service
Flashes repeatedly 3x speed	Overheating water temperature	Switch off the device and flush by opening the domestic hot water valve
Flashes repeatedly 4x speed	Water level low, no water	Fill water reservoir

If the device cannot be commissioned, notify after-sales service.

9. Maintenance

Regular service guarantees correct function and long service life of the domestic hot water cylinder. The first inspection should be carried out two years after the first commissioning by a specialist company or the plant after-sales service. The function of the safety assembly must be checked at regular intervals.

Limescale deposits in the cylinder can not be avoided completely when the water is heated up. These can be removed by a specialist if necessary. The limescale quantity inside the domestic hot water cylinder depends on the water quality and the set domestic hot water temperature.

Checking the magnesium protection anode

Visual inspection: If 75% of the protection anode are used, the anode must be replaced. Measuring the anode current: Before carrying out the measurement, loosen the earth connection cable to the anode. Measure the anode current between the cylinder and anode. If the anode current is < 0.3 mA, the protection anode must be replaced.

After checking the domestic hot water cylinder, the specialist will set the time for the next inspection based on the assessed condition.

10. Cleaning

Switch off the device before cleaning it. The surfaces of the domestic hot water cylinder can be cleaned by wiping down with a damp, soft cloth. Do not use any aggressive scouring powder, as this could damage the surface.

11. Conformity

CE The devices from the specified series comply with the following valid EU directives and applied standards:

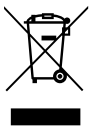
EU Directives:
2014/35/EU Low Voltage Directive
2014/30/EU EMC Directive
2009/125/EG Ecodesign Directive
2011/65/EU RoHS 2 Directive

Norms:
EN 60335-1, EN 60335-2-21, EN 62233
EN 55014-1/-2, EN 61000-3-2, EN 61000-3-3
EN 50440
EN 50581

12. Warranty

This product is supplied with a two-year warranty according to our warranty terms.

13. Recycling



Do not dispose of the device with general household waste. Take the device to the available collection points at the end of its service life.

14. Warranty, service

The warranty conditions are set out below.

Warranty certificate

valid for Germany and Austria.

The following conditions, describing the requirements and scope of our warranty service, do not affect the warranty obligations of the sales person from the sales contract with the end customer. We offer a warranty for the units subject to the following conditions:

Based on the following conditions, we remedy device defects which can be proven to be due to material and/ or manufacturing defects free of charge if they are reported to us without delay upon being detected and within 24 months after delivery to the end customer. This period is 12 months when the device is used commercially. If the defect appears within 6 months after delivery, it can be expected that a material or manufacturing defect is the cause.

This device is only covered by this warranty if it was purchased by a company in one of the member states of the European Union, it is being operated in Germany or Austria when the defect occurs, and warranty services can also be rendered in Germany or Austria.

Defects we have recognised as being covered by the warranty are remedied by free repair of the defective parts at our discretion or replacement with fault-free parts. Exceptional costs of defect remedy due to the type or location of the device's use are not covered by us. The end customer must ensure free access to the device. Dismantled parts which we take back become our property. The warranty period for rework and spare parts ends with the expiration of the original warranty period for the unit.

The warranty does not cover easily breakable parts which have only an insignificant effect on the value or usability of the unit. The original purchase receipt, with purchase or delivery date, must always be presented.

In order to validate the warranty for underfloor heating mats, the test certificate included in the project planning documentation or the installation instructions must be filled in and sent to the address listed below within four weeks after the installation of the heating system.

The warranty becomes void if the end customer or a third party does not comply with the applicable VDE regulations, the stipulations of the local utility company or our installation and operating instructions. Liability for the consequences of modifications and work activities performed improperly by the end customer or third party becomes void. The warranty covers the parts purchased from the supplier. Parts and devices not purchased from the supplier, and device and/or system defects due to parts not purchased from the supplier, are not covered by the warranty.

If the defect cannot be remedied, or the repair is either denied by us or unreasonably delayed, the manufacturer will either deliver a replacement free of charge or reimburse the reduced value. In cases in which replacement is provided, we reserve the right to apply a reasonable utilisation charge for the period of usage elapsed to date. Extended or other claims, especially those for compensation of damages incurred outside of the device, are excluded unless liability is legally mandated. In cases of liability according to § 478 of the German Civil Code (BGB), the liability of the supplier shall be limited to a maximum amount equal to the supplier’s flatrate service fees.

Service

Robert Bosch Hausgeräte GmbH is commissioned to carry out servicing on Dimplex devices in Germany on our behalf.

Please have the following information ready before contacting our after-sales service partner:

- Your address and telephone number,
- Product no. (E-Nr.), see rating plate,
- Date of manufacture (FD), see rating plate,
- Complaint specifics – what is not working?

Germany

Phone:	+ 49 89 69 339 339
Fax:	+ 49 89 20 355 199
E-mail (spare parts):	spareparts@bshg.com

For all other countries, please get in touch with the following contact:

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