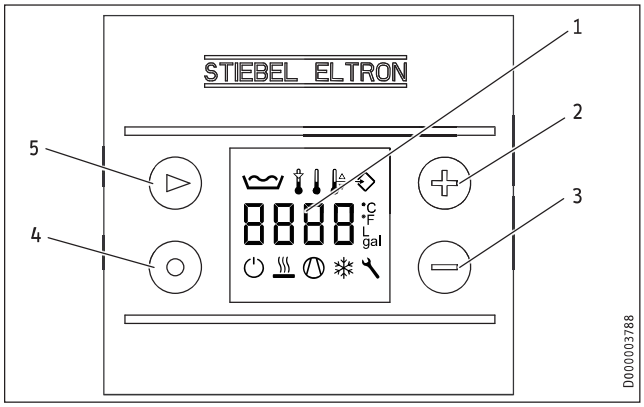
4.3 Display and operating controls

Note
15 seconds after every operation, the appliance automatically reverts to the default display (mixed water volume) and saves the set value.



1 Mixed water volume display (litres|40 °C) /
Display of actual temperature in upper cylinder section /
Set temperature display 1 /
Set temperature display 2 /
Fault code display
2 "Plus" button
3 "Minus" button
4 "Rapid heat-up" button
5 "Menu" button

Symbols

Symbol	Description
	Mixed water volume: The currently available mixed water volume at 40 °C and at 15 °C cold water temperature is shown.
	Set temperature adjustment: Subject to intake temperature and hot gas temperature, the appliance may temporarily reduce the set temperature to the actual value captured by the integral sensor. The appliance displays the "Set temperature adjustment" symbol and blocks DHW heating until the actual temperature captured by the integral sensor is 6 K below the temporary set temperature. DHW heating is then re-enabled and the originally selected set temperature is applied again.
	Actual temperature: The current actual temperature is shown. The actual temperature indicates the temperature in the upper section of the DHW cylinder and therefore largely corresponds to the outlet temperature.
	Set temperature
	External signal transmitter: Set temperature 2 is the DHW temperature to which the appliance regulates if an external signal transmitter is connected and active.
	Standby: The symbol flashes if the appliance PCB and load (compressor) are supplied with power separately. This connection option is required if the appliance is to be operated via switchable sockets in an energy management system, for example (see chapter "Electrical connection").
	Electric emergency/booster heater: This symbol indicates the presence of a demand on this component. This symbol being displayed does not necessarily mean that the electric emergency/booster heater is running.
	Heat pump: This symbol indicates the presence of a demand on this component. This symbol being displayed does not necessarily mean that the compressor is running.
	Defrost active
	Service/fault: Notify your qualified contractor if the "Service/fault" symbol appears on the display. Continuous illumination of the symbol indicates that the fault is not preventing appliance operation. A flashing "Service/fault" symbol indicates that water is not being heated and it is essential you notify your qualified contractor. Switching the appliance to emergency mode is a special case. The electric emergency/booster heater will then heat the water despite the flashing "Service/fault" symbol.

The "Electric emergency/booster heater" and "Heat pump" symbols are displayed when there is a demand for these appliance components. These symbols being displayed does not necessarily mean that the electric emergency/booster heater and the heat pump are running. Example: The appliance is in rapid/comfort heat-up mode. The electric emergency/booster heater switches off when the temperature in the upper cylinder section has reached 65 °C. The heat pump has not yet heated the lower section to 65 °C and the rapid/comfort heat-up function has therefore not been terminated yet. The electric emergency/booster heater symbol is displayed until the rapid/comfort heat-up function has terminated.

4.4 Adjusting the settings

The default display shows the mixed water volume.

The "Menu" button allows you to call up all information and adjustment options in sequence. The relevant symbol appears.

■ Menu	
☐■ Mixed water volume display	
☐■ Actual temperature display	
☐■ Set temperature 1	
☐■ Set temperature 2	
☐■ Fan speed	
☐■ Air intake temperature display	
☐■ Enable the “Runtime-dependent rapid heat-up” function	In appliances with no electric emergency/booster heater, this parameter has no function.
☐■ Time set for the “Runtime-dependent rapid heat-up” function	In appliances with no electric emergency/booster heater, this parameter has no function.
☐■ Change units	
☐■ Charge level	
☐■ Fault code	
☐■ E fault code	
■ Advanced menu (with service plug only)	
☐■ Integral sensor offset	
☐■ Set the cylinder volume	
☐■ Compressor lockout due to evaporator fault	
☐■ Clear high pressure lockout	
☐■ Clear low pressure lockout	
☐■ Temperature of evaporator fins	
☐■ Number of times hot gas temperature sensor was triggered	
☐■ Number of defrost faults	
☐■ Number of low pressure triggers	
☐■ Number of high pressure triggers	
☐■ Hot gas temperature switching value	
☐■ Fan lead time	
☐■ Integral sensor replacement	
☐■ Set value limit	

■ Menu

☐■ Mixed water volume display

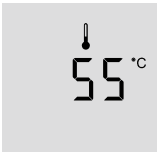
The currently available mixed water volume at 40 °C and at 15 °C cold water temperature is shown.

"-- L" is shown if less than 10 l mixed water is currently available.

DHW demand for	Mixed water volume at 40 °C
Bath	120-150 l
Shower	30-50 l
Washing hands	2-5 l

The mixed water volume that can be achieved depends on the cylinder size and the set temperature selected.

☐■ Actual temperature display



In the "Mixed water volume" menu, press "Menu" once to access the "Actual temperature" menu.

The "Actual temperature" symbol appears.

The current actual temperature is shown. The actual temperature is the temperature in the upper section of the DHW cylinder, and therefore largely corresponds to the outlet temperature.

☐■ Set temperature 1

Note
For hygiene and other reasons, only change this value if instructed by Stiebel Eltron representative..

Set temperature 1 is the DHW temperature to which the appliance regulates if no external signal transmitter is connected and active.

		Factory setting
Set temperature 1	°C	61

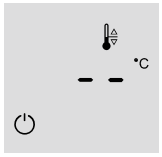
In the "Actual temperature" menu, press "Menu" once to access the "Set temperature 1" menu.

The set temperature 1 symbol appears.

You can change the value using the "Plus" and "Minus" buttons. Setting range: 61 - 65 °C

Note
Another way to adjust set temperature 1 is to press the "Plus" or "Minus" buttons from within the default display (mixed water volume).

Frost protection

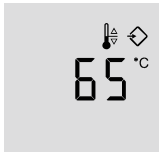


Only frost protection remains active if you set the set temperature to below 20 °C using the "Minus" button. The display shows "-- °C".

☐■ Set temperature 2

Note
For hygiene reasons, do not set a DHW temperature of less than 61 °C.

Set temperature 2 is the DHW temperature to which the appliance regulates if an external signal transmitter is connected and active.



In the "Set temperature 1" menu, press "Menu" once to access the "Set temperature 2" menu. The "External signal transmitter" symbol appears.

You can change the value using the "Plus" and "Minus" buttons. Setting range: 61 - 65 °C

Operation with external signal transmitter

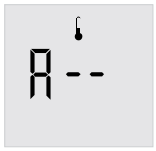
Material losses
See "Permissible voltage range for external signal transmitters" in chapter "Specification/data table".

As standard, these appliances are designed to allow you to allocate a separate, individual set DHW temperature to a connected external signal transmitter, such as a PV system or an economy tariff transmitter. This set temperature 2 is activated if the terminal connected to the external signal transmitter receives a signal (see chapter "Electrical connection / External signal transmitter connection option"). While activated, set temperature 2 replaces the standard set DHW temperature ("Set temperature 1").

☐■ Air intake temperature display

An "A" appears as the air intake temperature symbol.

The current air intake temperature is displayed.



The air intake temperature is displayed only while the appliance fan is running. If it is not possible to establish an air intake temperature, two dashes are shown.

☐■ Enabling the "Runtime-dependent rapid heat-up" function

Note
In appliances with no electric emergency/booster heater, this parameter has no function.

Note
Only use the runtime-dependent quick heat-up if instructed by a Stiebel Eltron representative.
Enabling this function is likely to impact the efficiency of the product and may lead to unnecessary higher energy consumption and operational costs.

The appliance offers a runtime-dependent rapid heat-up option. If the selected set temperature is not reached by the heat pump after a user defined period, the appliance switches on the electric emergency/booster heater in parallel to back up the heat pump (subject to this function being enabled).

Once the set value has been reached, the electric emergency/booster heater remains inactive until the set time has elapsed again following a heat demand. This function is disabled at the factory.

This function is set in two stages. First enable the function and set the runtime in the second parameter.

The tHE0 setting disables the runtime-dependent rapid heat-up function. This function is enabled via setting tHE1. The function is disabled at the factory.

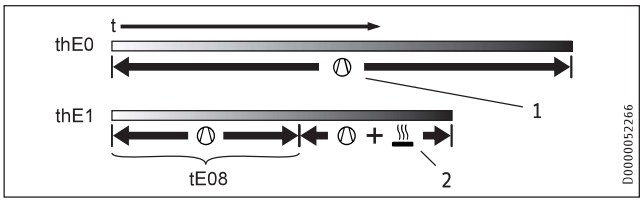
Switch between the tHE0 and tHE1 settings using the "Plus" and "Minus" buttons. The tHE1 setting allows the electric emergency/booster heater to cut in if the set temperature is not reached after expiry of the runtime selected below.

☐■ Time set for the "Runtime-dependent rapid heat-up" function

Note
In appliances with no electric emergency/booster heater, this parameter has no function.

To avoid increased power consumption, only reduce the factory-set time for runtime-dependent rapid heat-up if necessary. See chapter "Specification / Appliance parameters".

Set the runtime using the "Plus" and "Minus" buttons. After the set number of hours, the appliance checks whether the set temperature has been reached. If this is not the case, the appliance switches on the electric emergency/booster heater.



1 "Heat pump" symbol
2 "Electric emergency/booster heater" symbol
tHE0 Runtime-dependent rapid heat-up disabled
tHE1 Runtime-dependent rapid heat-up enabled
tE08 Adjustable number of hours (e.g. 8 in this case) during which heating is only provided by the heat pump

☐■ Change units

You can select whether the temperatures and the volume details are displayed in SI units or US units. If you select 1, the values are displayed in degrees Celsius and litres. If you select 0, the values are displayed in degrees Fahrenheit and gallons.

Press the "Menu" button until "SI" appears on the display.

Using the "Plus" and "Minus" buttons, set whether the display should use SI units (1) or US units (0).

Charge level

Increasing this value increases the minimum available amount of DHW. The effect corresponds to a virtual shift of the temperature sensor downwards. This results in a faster recovery at the expense of higher energy consumption and reduced efficiency. Reducing this value has the opposite effect and results in a longer recovery at the expense of DHW availability.

DHW heating is started when the available mixed water volume decreases to the percentage of the maximum mixed water volume set in the "Charge level" parameter.

		Factory setting
Charge level WWK 222 (H)	%	56
Charge level WWK 302 (H)	%	64

The displayed mixed water volume is based on a mixed water temperature of 40 °C. At water temperatures below 40 °C (±1 K), the mixed water volume is not calculated or displayed.

A further start condition, which overlaps with the charge level start conditions, is the reduction of the temperature captured by the cylinder top sensor to 6 K below the active set temperature.

Press the "Menu" button until an "L" followed by a number appears on the display.

You can change the value using the "Plus" and "Minus" buttons. Setting range: 30 - 100 %

Material losses
Do not change this parameter unless instructed by a Stiebel Eltron representative.

☐■ Fault code

If the "Service/fault" symbol is illuminated or flashes, you can call up the fault code using the "Menu" button. This menu remains disabled if no fault has arisen.

See chapter "Troubleshooting / Fault codes".

☐■ E fault code

A fault code preceded by E appears if the fault relates to the refrigerant circuit.

4.5 "Rapid heat-up" button

Note
In appliances with no electric emergency/booster heater, this button only allows you to clear the high pressure/low pressure lockout. You cannot start rapid/comfort heat-up or emergency heating mode.

Note
To start rapid/comfort heat-up with the "Rapid heat-up" button, the start screen must be displayed.

Press the "Rapid heat-up" button for two seconds.

The heat pump and electric emergency/booster heater symbols appear.

4.5.1 Rapid/comfort heat-up

Normally, the "Rapid heat-up" button is used to activate the rapid/comfort heat-up function, which enables you to cover an unexpectedly high DHW demand without changing any of the appliance's standard settings.

If rapid/comfort heat-up is activated manually by pressing the relevant button, the heat pump and the electric emergency/booster heater will start once in parallel, irrespective of the selected set temperature, and will remain active until the DHW temperature in the cylinder has reached 65 °C. To save energy, the electric emergency/booster heater switches off sooner, once a temperature of 65 °C has been achieved in the upper cylinder section (rapid heat-up).

The rapid/comfort heat-up function remains active until a temperature of 65 °C has been achieved in the entire DHW cylinder (comfort heat-up). The appliance then automatically switches back to the previously set parameters.

Note
The electric emergency/booster heater and heat pump symbols are displayed until the rapid/comfort heat-up function has terminated.

Note
To end rapid/comfort heat-up, press the "Rapid heat-up" button for two seconds.

4.5.2 Emergency mode

If the appliance is faulty, you can use emergency mode to activate the electric emergency/booster heater.

Following a DHW demand, the appliance measures the temperature rise every 15 minutes. If the temperature rise was <0.25 °C within the 15 minute period, this is recorded by a counter. If the temperature rise did not reach >0.25 °C in any 15 minute period over 13 hours, the compressor shuts down. The fault key flashes on the display and a fault code indicates that the appliance is not heating the water.

Press the "Rapid heat-up" button for two seconds.

The "Electrical emergency/booster heater" symbol appears. The "Service/fault" symbol flashes.

After the "Rapid heat-up" button has been pressed, the indicated fault code increments by a value of 256, as the fault codes are added together (see fault code table in chapter "Troubleshooting"). The fault key continues to flash. The electric emergency/booster heater is activated.

The current set temperature (set temperature 1 or set temperature 2) is ignored.

In emergency heating mode, the appliance operates with a fixed set temperature. In the upper cylinder section, the DHW is heated up to 65 °C by the electric emergency/booster heater.

Following one-off enabling of this function by means of the "Rapid heat-up" button, this function remains enabled for 7 days.

Following 7 days of emergency operation the electric emergency/booster heater is disabled. The fault code shown on the display decreases by 256.

If you press the "Rapid heat-up" button again for two seconds within the 7 days of emergency heating mode, the 7-day runtime for emergency heating mode will restart.

If the 7-day runtime for emergency heating mode has expired, you can restart emergency heating mode for a further 7 days by pressing "Rapid heat-up".

Pressing the "Rapid heat-up" button only enables emergency mode if a fault with fault code 8 occurred previously. In standard mode, pressing the "Rapid heat-up" button only triggers one-off heat-up of the DHW cylinder.

Emergency mode is no longer active after an interruption to the power supply. The appliance tries again to heat with the heat pump.

You can avoid having to wait until the temperature increase time has elapsed (see chapter "Specification") by starting manual emergency heating mode.

Manual emergency heating mode

If a fault has occurred and no fault code is displayed, you can activate emergency heating mode.

Keep the "Plus" and "Minus" buttons pressed. In addition, press the "Menu" button and keep all three buttons pressed for 5 seconds.

The "Electrical emergency/booster heater" symbol appears. The "Service/fault" symbol flashes.

5. Cleaning, care and maintenance

WARNING Electrocution
- **Only clean the exterior of the appliance.**
- **Never open the appliance.**
- **Do not insert objects through the grille into the interior of the appliance.**
- **Never spray the appliance with water.**
- **Never spray water into the appliance.**

WARNING Injury
Maintenance work, such as checking electrical safety, must only be carried out by a qualified contractor.

Appliance components	Care and maintenance tips
Casing	Use a damp cloth to clean the casing sections. Never use abrasive or corrosive cleaning agents.
Air intake grille / air discharge grille	Clean the air intake grille and air discharge grille every six months. Cobwebs or other dirt could obstruct the air supply to the appliance.
DHW cylinder	The DHW cylinder is equipped with a maintenance-free impressed current anode to protect it against corrosion. In order for the impressed current anode to protect the DHW cylinder in the appliance against corrosion, the appliance must not be disconnected from the power supply for more than 16 hours if the DHW cylinder is filled with water and the impressed current anode is not separately connected to a continuous power supply.
Electric emergency/booster heater	Have the electric emergency/booster heater descaled from time to time. This will extend the service life of the electric emergency/booster heater.
Safety equipment	Activate the valves at least every 6 months to prevent them from becoming blocked, e.g. by limescale deposits.
Evaporator	Have the evaporator regularly checked by a qualified contractor.
Condensate drain	Undo the condensate drain. Check that the condensate drain is clear and remove any dirt from the "Condensate drain" connection.

5.1 Protective anode and battery change

The appliance is equipped with a maintenance-free impressed current anode that protects the cylinder from corrosion when it is connected to the power supply. At the factory, the appliance is fitted with rechargeable batteries that ensure the power supply to the impressed current anode in the case of a power failure. The appliance power supply must not be interrupted for more than 16 hours.

If the power supply is regularly interrupted by a switching contact or the security of supply is inadequate, the batteries of the impressed current anode must be replaced every three years. Failure to comply may result in damage to the appliance.

If regular interruptions to the power supply are not anticipated and there is security of supply, no maintenance of the batteries is required and the appliance is maintenance-free in this regard.

6. Troubleshooting

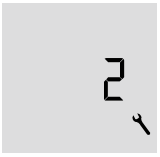
Problem	Cause	▶ Remedy
No hot water is available.	No power at the appliance.	Check that the appliance is connected to the power supply.
	A fuse in the distribution board has blown.	Check whether the fuses in your distribution board have blown. Contact a qualified contractor if the fuse blows again after the appliance is connected to the power supply.
	The air intake or air discharge of the appliance is blocked.	Check the air intake grille and air discharge grille for dirt. Remove any dirt (see chapter "Maintenance and care"). Ensure that the supply and extract air flow are unimpeded.
	Outside the application limits, the appliance blocks the compressor. This could lead to reduced DHW convenience.	No action required. The appliance will restart the compressor automatically within the application limits.
	The DHW cylinder is not completely filled.	The appliance restarts automatically when the DHW cylinder has been filled.
	After DHW was drawn off previously, the appliance was not able to fully heat up the cylinder content.	No action required. Let the appliance complete the heat-up process.
	The safety pressure limiter has responded 5 times in 5 hours.	Notify a qualified contractor. The appliance can only be unlocked with a service programming unit.
The compressor is operational, but the fan is off.	If the appliance is in defrost mode, it may take up to an hour for the fan to switch on again.	No action required. However, if this continues for more than one hour, please consult a qualified contractor.
A safety valve is dripping.	The appliances are under water mains pressure. During the heat-up process, expansion water drips from a safety valve.	If water continues to drip when heating is completed, please inform your qualified contractor.
The condensate drain drips.	The surface temperature of the evaporator is lower than the dew point temperature of the ambient air. Condensate forms.	This is normal. No action required. The amount of condensate depends on the humidity level of the ambient air.
For indoor installation: The room temperature drops too low.		Operation of the appliance can cause the room temperature to fall by 1 to 3 °C. If the room temperature falls by more than 5 °C, check the room size (see chapter "Specification / Data table"). Increasing the room size by opening a door to another room will remedy this.
The “Service/fault” symbol is continuously illuminated.	See chapter “Fault codes”.	Notify a qualified contractor. A continuously illuminated "Service/fault" symbol indicates that a fault has occurred, but the heat pump is heating nevertheless.
The "Service/fault" symbol flashes and the water does not heat up.	See chapter “Fault codes”.	It is imperative that you notify a qualified contractor quickly. A flashing "Service/fault" symbol indicates that a fault has occurred and the heat pump is no longer heating.
The "Defrost" symbol is shown.	The appliance is in defrost mode.	No action required.
The “Heat pump” symbol is flashing.	There is a heat demand, but the compressor is locked out.	No action required. The compressor restarts automatically after the compressor lockout time has elapsed. The symbol stops flashing automatically.

Problem	Cause	▶ Remedy
The “Electric emergency/ booster heater” symbol is flashing.	A temperature controller has switched off the electric emergency/booster heater during rapid heat-up.	No action required. The appliance continues the rapid heat-up process using the heat pump. The symbol stops flashing when the controller re-enables the electric emergency/booster heater. The symbol goes out when the temperature throughout the DHW cylinder reaches the set rapid heat-up temperature.
The “Electric emergency/ booster heater” symbol is illuminated but the electric emergency/ booster heater is not operational.	The "Electric emergency/ booster heater" symbol is illuminated when there is a demand. The internal controller of the electric emergency/ booster heater may have ended electric heating. A possible cause may be a fault in the electric emergency/booster heater. A possible cause may be that the high limit safety cut-out has responded.	Have a qualified contractor check whether the controller of the electric emergency/booster heater is set correctly. The controller must be turned fully anti-clockwise. Have a qualified contractor check the high limit safety cut-out.

Fault code

You can call up a fault code if the "Service/fault" symbol is flashing or continuously illuminated on the display.

Repeatedly press the "Menu" button until the fault code is shown after set temperature 2.



Fault code appears

		Fault description	Remedy
2	Continuously on	The cylinder top sensor is faulty. The actual temperature display switches from the cylinder top sensor to the integral sensor. The appliance continues to heat without any loss of comfort. The mixed water volume cannot be calculated and is displayed as "- -".	Notify a qualified contractor.
4	Continuously on	The integral sensor is faulty. In the event of a faulty integral sensor, the integral sensor is set to the value of the cylinder top sensor, and the mixed water volume is calculated using this value. The appliance continues to heat with a reduced start hysteresis. A mixed water volume is still calculated, based on the assumption that the cylinder top temperature is reached throughout the DHW cylinder.	Notify a qualified contractor.
6	Flashing	The cylinder top sensor and the integral sensor are faulty. The appliance no longer delivers heat.	Notify a qualified contractor.
8	Flashing	The appliance has ascertained that the DHW cylinder has not been heated within the maximum temperature increase time, despite there being a demand.	You can temporarily continue to use the appliance by pressing the "Rapid heat-up" key to activate emergency heating mode. See chapter "Appliance description / Emergency mode".
16	Continuously on	A short circuit of the impressed current anode has occurred or the protective anode is faulty.	Immediately notify a qualified contractor, as the appliance is not protected against corrosion if the impressed current anode is faulty.
32	Flashing	The appliance is not being operated with a completely filled DHW cylinder. The appliance is not heating.	Fill the DHW cylinder of the appliance. The fault code disappears and the appliance starts.
		The anode current is interrupted. The appliance is not heating.	Notify a qualified contractor.
64	Continuously on	The defrost temperature has not yet been reached after the maximum defrost time has lapsed. The compressor is faulty.	The fault is reset automatically once the evaporator temperature has risen to the defrost end temperature.
			Notify a qualified contractor.
128	Continuously on	There is no communication between the controller and the programming unit. The most recently selected set values are active. The appliance continues to heat.	Notify a qualified contractor.
256	Flashing	Manually activated emergency mode (only electric emergency/booster heater active)	See chapter "Appliance description / Emergency mode".
512	Flashing	A fault has occurred in the refrigerant circuit.	Notify a qualified contractor.

If several faults occur, the fault codes are added together.

Example: If both the cylinder top sensor and the integral sensor are faulty, the display shows fault code 6 (=2+4).

Application scenarios for emergency heating mode

If the appliance shows fault code 8, you can manually enable emergency heating mode. If a different fault occurred previously, but did not cause the appliance to shut down, the display may show a fault code that is the result of several faults added together.

Listed below are the fault codes which will allow you to enable emergency heating mode.

Fault code displayed	
8	8
10	Fault code 8 + fault code 2
12	8+4
24	8+16
26	8+2+16
28	8+4+16
138	8+2+128
140	8+4+128
152	8+16+128
154	8+2+16+128
156	8+4+16+128

When the appliance is operating in emergency heating mode, the fault code shown is incremented by 256.

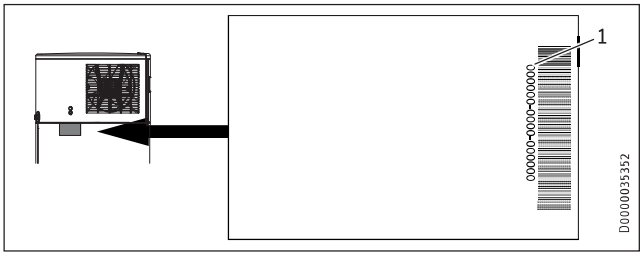
E fault code

		Fault description	Remedy
E 1	Flashing	The temperature sensor on the air inlet is faulty.	Notify a qualified contractor.
E 2	Flashing	The temperature sensor on the evaporator is faulty.	Notify a qualified contractor.
E 4	Continuously on	The hot gas temperature sensor is faulty. The appliance continues to heat. To protect the appliance, the (possibly higher) set temperature is reduced to the set value for setback.	Notify a qualified contractor.
E 16	Continuously on	The high pressure switch has responded. Compressor heating mode is temporarily blocked. Compressor heating mode will continue as soon as the pressure has normalised.	Wait until the pressure has normalised.
E 32	Continuously on	An electrical fault has occurred.	Notify a qualified contractor.
E 64	Flashing	Evaporator temperature < Minimum evaporator temperature	Notify a qualified contractor.
E 128	Flashing	A permanent pressure switch fault has occurred. A pressure fault occurred multiple times within a defined pressure fault evaluation time.	Notify a qualified contractor.

Notifying a qualified contractor

If you cannot remedy the fault, notify your qualified contractor. In Australia, contact us directly (1800153351). To facilitate and speed up your enquiry, please provide the serial number from the type plate (000000-0000-000000). The type plate can be found on the left, above the "DHW outlet" connection.

Sample type plate



1 Number on the type plate