For the competent person

Installation and maintenance instructions

ecoLEVEL

Condensed water pump

GB, IE

Vaillant

Table of contents

1 Notes on the documentation

The following information is intended to help you throughout the entire documentation.
Further documents apply in combination with these installation and maintenance instructions.
We accept no liability for any damage caused by failure to observe these instructions.

Other applicable documents

➤ When installing the condensed water pump, you must observe all the installation instructions for the assemblies and components of the system.

These instructions are enclosed with the various system parts and supplementary components.

1.1 Attaching and storing documents

Please pass these installation and maintenance instructions on to the system operator, who is responsible for storing the instructions so that they are available whenever required.

1.2 Symbols used

The symbols used in the text are explained below.

Symbol that denotes danger:
- Imminent danger to life
- Risk of severe personal injury
- Risk of minor personal injury

Symbol that denotes danger:
- Risk of death from electric shock

Symbol that denotes danger:
- Risk of material damage
- Risk of damage to the environment

Symbol that denotes useful tips and information

➤ Symbol for a required action

1.3 Applicability of the instructions

These installation and maintenance instructions apply exclusively to units with the following article number:
- 306287

The article number of the unit can be found on the identification plate.

1.4 Identification plate

The identification plate with the serial number, the protection rating classification, the supply voltage, the frequency, and the CE label is situated on the underside of the ecoLEVEL condensed water pump.

1.5 CE label

CE labelling shows that the ecoLEVEL condensed water pump complies with the basic requirements of the following applicable directives as stated on the identification plate:
- Permissible voltages (Directive EN 60 335-1 and EN 60 335-2-41)
- Electromagnetic compatibility (Directive EN 55 014-1 and EN 55 014-2)

2 Safety and warning information

2.1 Safety and warning information

➤ During operation, follow the general safety information and warnings that appear before every operation.

2.2 Classification of warnings

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

Warning symbol	Signal word	Explanation
	**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

2.3 Structure of warnings

Warning signs are identified by an upper and lower separating line and are laid out according to the following basic principle:

Signal word.
Type and source of danger.
Explanation of the type and source of danger
➤ Measures for averting the danger

2.4 Intended use

The Vaillant condensed water pump is constructed using state-of-the-art technology in accordance with the recognised safety rules and regulations. Nevertheless, there is still a risk of injury or death to the user or others or of damage to the unit and other property in the event of improper use or use for which it is not intended.
The ecoLEVEL condensed water pump is intended for use only in conjunction with Vaillant system components in which condensed water is produced as a by-product of operation. This includes all Vaillant condensing boilers.
The ecoLEVEL condensed water pump is only approved for individual units up to 45 kW. The pump and all of its components are designed for delivering condensed water from heating installations. The introduction of rainwater into the system as a result of the flue gas system is taken into account in terms of the permitted volume, the composition, and also the content of solids in the condensate.
This unit is not designed to be used by persons (including children) with limited physical, mental or sensory capabilities or by persons who do not have enough experience and/or knowledge, unless they are supervised by a person who is responsible for their safety or have been instructed by him/her about how to use the unit.
Children must be supervised to ensure that they do not play with the unit.
The condensed water pump is not suitable for the pumping of other fluids or solid media. In particular, waste water of all types, chemicals and oil-containing emulsions must not be fed into the condensed water pump. Using the condensed water pump in vehicles is regarded as improper 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, or use beyond that specified, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper. The manufacturer/supplier is not liable for any claims or damage resulting from improper use. The user alone bears the risk.
Intended use also includes observance of the operating and installation and maintenance instructions and all other applicable documents, as well as adherence to the maintenance and inspection conditions.

Caution
Improper use of any kind is prohibited.

2.5 General safety information

Working on the ecoLEVEL condensed water pump
The ecoLEVEL condensed water pump must only be installed and started up by a competent person. The existing regulations, rules and guidelines must be observed when doing so. Inspection/maintenance and repairs must also be carried out by this skilled tradesman.
Only competent persons who have acquainted themselves with all the safety information provided in these installation instructions, and the fitting, operating and maintenance instructions, may work on this unit.

Risk of electric shock when opening the unit and carrying out maintenance work.
When operating this unit, certain components must inevitably be under dangerous voltages which can lead to severe bodily injury or to death.
- ➤ Ensure that the unit is only opened by a company operating a recognised competent persons scheme.
- ➤ Only open the bottom cover plate if all electrical connections to the pump have been isolated.
- ➤ Before carrying out any visual inspections and maintenance work, ensure that the power supply is switched off and secured against being switched back on again.

Risk of electric shock when the unit is switched on.
When operating this unit, certain components must inevitably be under dangerous voltages which can lead to severe bodily injury or to death.
- ➤ If measurements need to be made with the power supply switched on, never touch the electrical connections.
- ➤ Remove all jewellery from wrists and fingers.
- ➤ Make sure that the test equipment is in a good, safe operating condition.
- ➤ When working on the unit when it is switched on, ensure that it is standing on an insulated base, in other words make sure that there is no earth connection.

Risk of burns and explosion when unsuitable liquids are used.
Pumping out flammable and explosive liquids such as petrol, heating oil, etc., poses a risk of burns and explosions.
- ➤ Do not use the pump to pump out flammable or explosive liquids.

Risk of explosions in explosive atmospheres.
Operating the pump in explosive atmospheres could trigger an explosion.
- ➤ Do not use the pump in an explosive atmosphere.

Risk of injury due to condensate.
The condensate pumped by the pump poses a risk to the eyes if they come into contact with it.
- ➤ Avoid any contact of the condensed water with the eyes.
- ➤ Make sure that the ecoLEVEL condensed water pump is only operated out of the reach of children.
- ➤ In case of eye contact with the condensate, rinse the eyes thoroughly with clean water and seek medical advice.

Danger of poisoning by flue gas leaks.
If you connect the condensate drain hose of the pump with the waste water piping, the internal siphon of the boiler may be completely emptied.
- ➤ Do not connect the water condensate hose of the pump with a sealed connection to the waste water piping ('free outlet').

Malfunctions and material damage due to instability.
If the pump is not in a stable position during operation, this can lead to malfunctions of the pump. This may result in damage to the pump or boiler.
- ➤ During operation, ensure that the pump has a stable base or is attached to the wall.

Risk of damage due to improper modifications.
Modifications to the ecoLEVEL condensed water pump may damage the unit and are therefore generally prohibited.
- ➤ Under no circumstances should you ever attempt to make alterations to the pump or other parts of the system.
- ➤ Consult an approved heating specialist company to make such alterations.

Material damage caused by leaking condensed water
In the event of a defect in the condensed water pump, leaking condensed water may cause material damage or damage to the boiler.
- ➤ Connect a current interrupter or an alarm to the safety cut-out switch.
- ➤ For more information, see section **5.5**.

Material damage caused by unsuitable discharge pipes
If you use discharge pipes that are not acid-resistant, this can lead to leaks and damage caused by leaking condensed water.
- ➤ If you need to extend the condensed water discharge pipe during installation, use only acid-resistant discharge pipes.

Earthing, conductor dimensioning, short-circuit protection
- ➤ The pump connection has a protective connection. Make sure that the power supply is earthed in accordance with legal requirements.

2.6 Regulations and standards

- ➤ Observe the national regulations, standards, guidelines and laws.

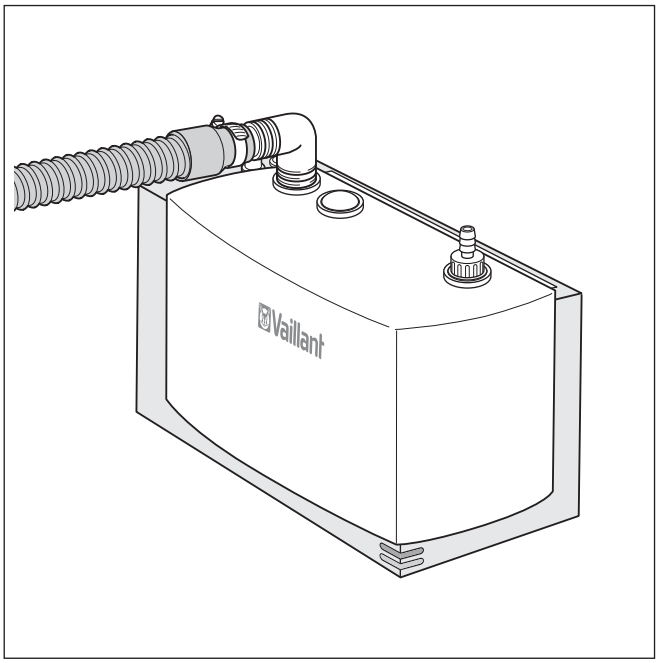
3 Installation

3.1 Installation variants

There are two different ways in which to install the condensed water pump. Different inlet hoses are required for the two installation variants.

Installation variant 1: Installation using a condensate angle/non-ecoLEVEL inlet hose
The condensate angle from the ecoLEVEL scope of delivery is intended for installation variant 1.
The inlet hose from the ecoLEVEL scope of delivery must not be used for installation variant 1.
For installation variant 1, you can use an inlet hose, for example, which is included in the scope of delivery of the following unit:
- Condensate neutraliser

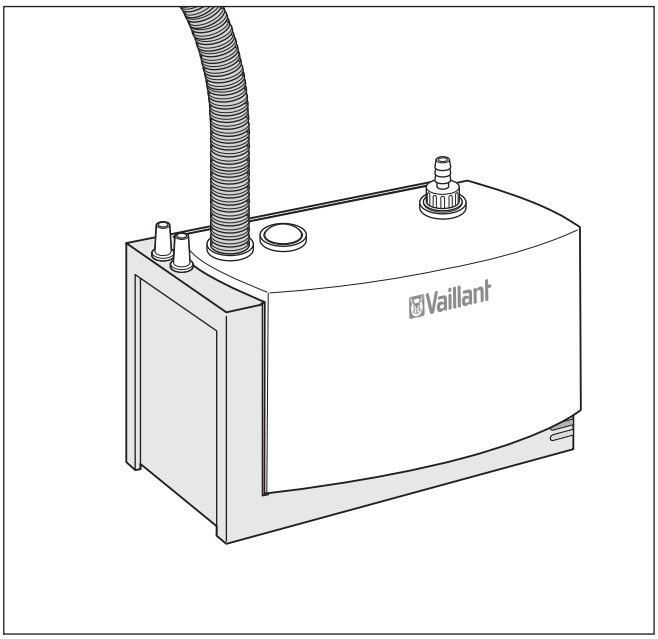
For information on how to connect the inlet hose with the condensate angle, see section **4.2**.
➤ Also refer to the instructions for the unit to which the inlet hose belongs (condensate neutraliser device).



3.1 Condensed water pump with condensate angle and inlet hose

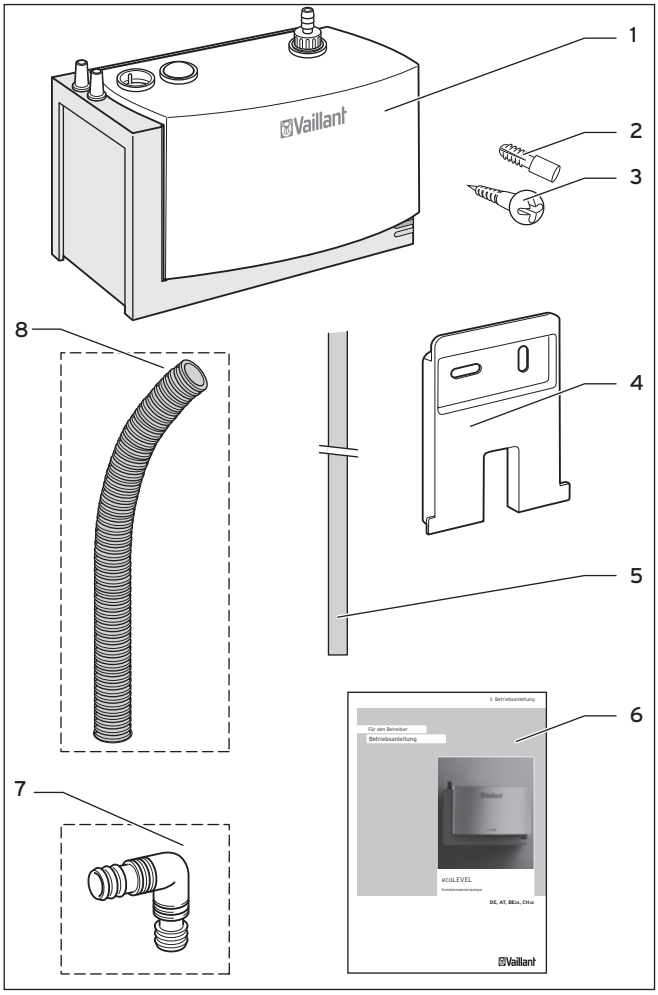
Installation variant 2: Installation without a condensate angle/with ecoLEVEL inlet hose
The inlet hose in the scope of delivery is intended for installation variant 2.
The condensate angle from the scope of delivery must not be used for installation variant 2.

For information on how to connect the inlet hose without the condensate angle, see section **4.3**.



3.2 Condensed water pump with inlet hose (no condensate angle)

3.2 Scope of delivery



3.3 Scope of delivery

Item	Component	Dimensions	Number
1	Condensed water pump	(H x W x L) 150 x 175 x 100 mm	1
2	Fixing plugs	6 mm	2
3	Bolts	4 x 35 mm	2
4	Wall bracket	-	1
5	Drain hose	Diameter 10 mm x 6 m	1
6	Operating manual, Installation and maintenance instructions	-	1
7	Condensate angle for inlet hose (installation variant 1 only)	-	1
8	Inlet hose (installation variant 2 only)	Diameter 24 mm x 1.15 m	1
	Wall bracket for drain hose		6

3.1 Scope of delivery

Warning.
Risk of injury and material damage due to lack of leak-tightness.
If you install the condensate angle using the supplied inlet hose (→ **3.3**, item 8), this leads to leaks. Condensate may leak out and cause injury to persons. Leaking condensate can also cause material damage.
- ➤ Only use the supplied inlet hose without the condensate angle.
- ➤ Use the condensate angle (→ **3.3**, item 7) only with a suitable inlet hose.

An inlet hose that is suitable for installation with the condensate angle is included with the condensate neutraliser. Also refer to the instructions for the condensate neutraliser.

3.3 Required tools

The following tools are required for installation:
- Drill
- Drill bit (6 mm)
- Flat blade screwdriver
- Spirit level
- Cutting blade
- Tools for electrical connection
- Hammer

3.4 Selecting the installation site

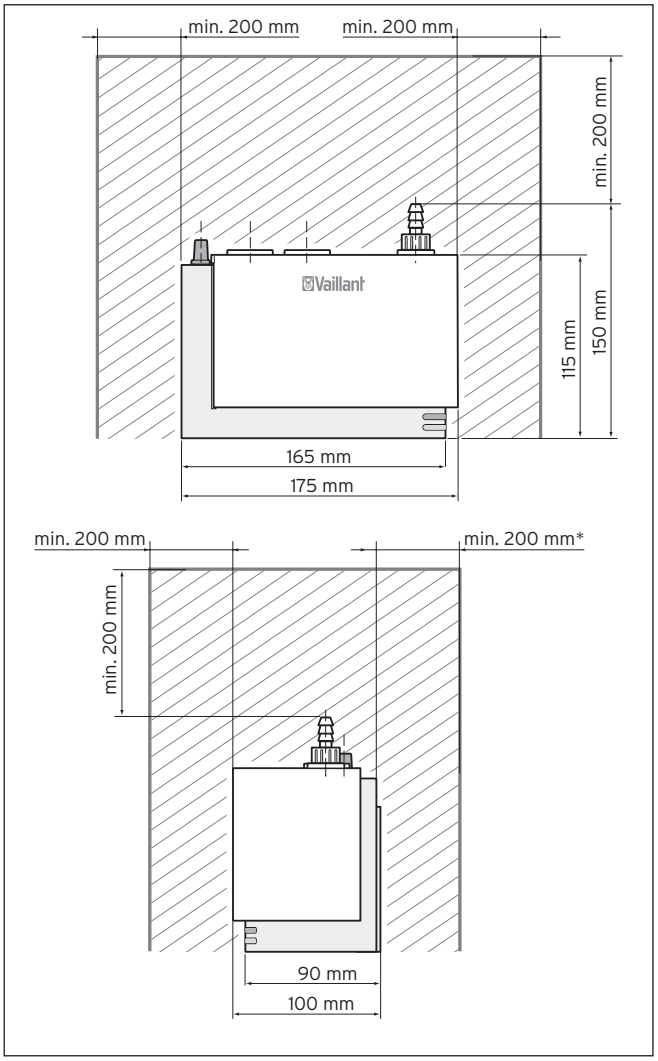
The ecoLEVEL condensed water pump is designed for installation in the room housing the boiler.
The ambient temperature must be between 5 °C and 60 °C.
The condition of the walls in the installation room must allow the connecting elements supplied to be used without any problems.
- ➤ If the walls are not in a suitable condition, a suitable installation surface must be prepared before starting the installation.

The ecoLEVEL condensed water pump must not be used as a storage surface for objects.

3.5 Dimensions and installation clearances

- Select the appropriate dimensions and installation clearances:
  - Choose variant 1 if you are using the condensate angle.
  - Choose variant 2 if you are not using the condensate angle.
- During installation, adhere to the appropriate dimensions and installation clearances.

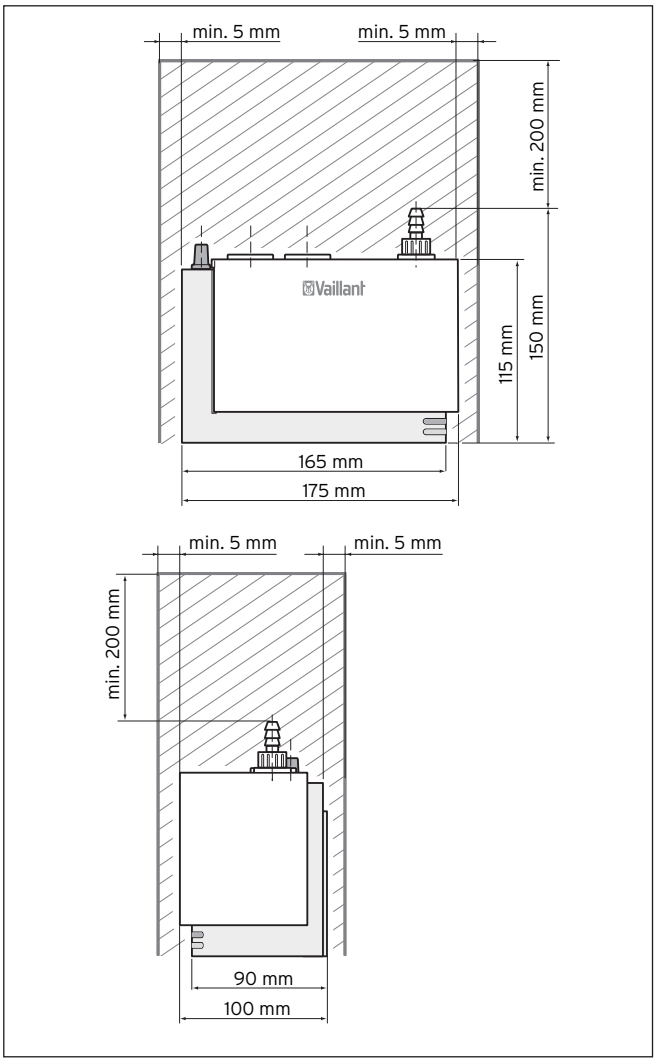
Variant 1: Dimensions and installation clearances (when using a condensate angle)



3.4 Dimensions and installation clearances (when using a condensate angle)

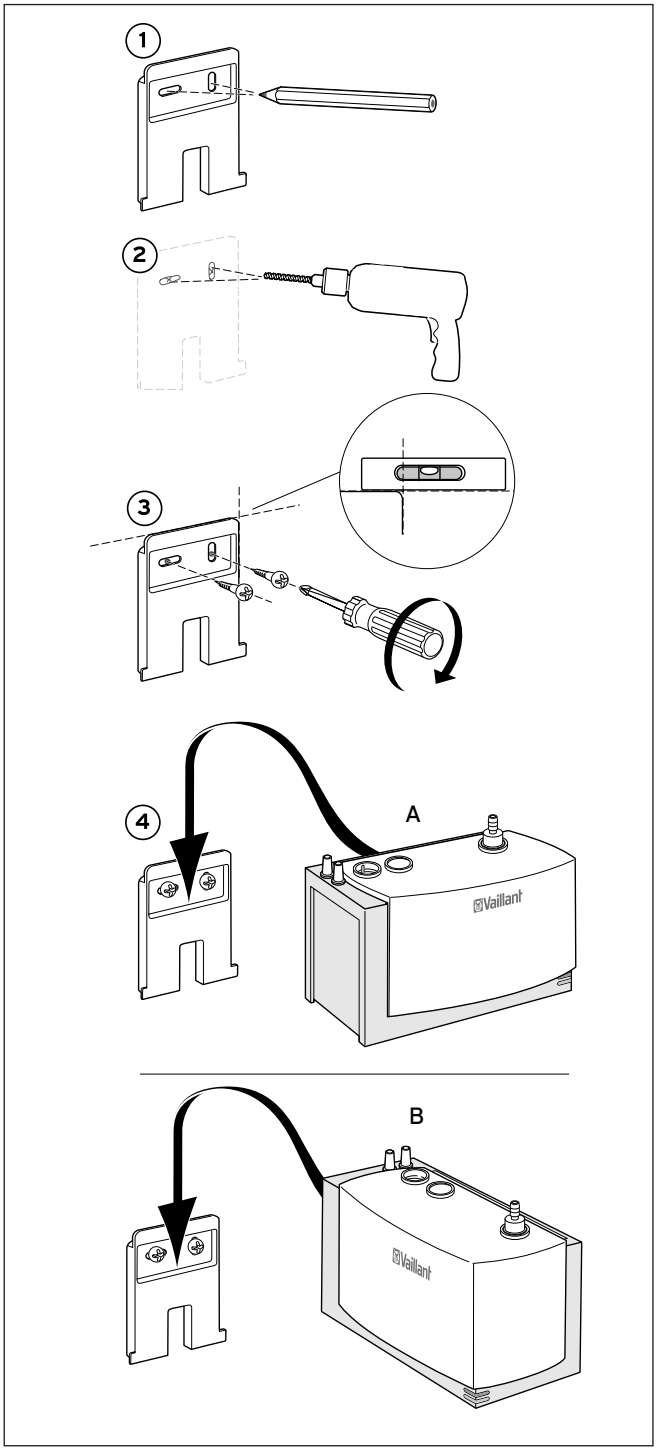
* Minimum installation clearance only intended for installation variant "B" (➙ **fig. 3.4**).

Variant 2: Dimensions and installation clearances (when not using a condensate angle)



3.5 Dimensions and installation clearances (when not using a condensate angle)

3.6 Installing the wall bracket



3.6 Installing the wall bracket

- Push the pre-assembled wall bracket downwards out of the casing for the condensed water pump.
- Install the wall bracket in a suitable position underneath the condensate drain point of the boiler in accordance with **3.6**.
  The wall bracket must be installed horizontally. Use a spirit level.
- Push the condensed water pump from above onto the guide surfaces of the wall bracket.
  A small hook retains the pump on the bracket in the lowest position.

The condensed water pump can be secured in the bracket either on the wide rear surface (**A**) or on the narrow side (**B**) as shown in **3.6**.

4 Hydraulic connection

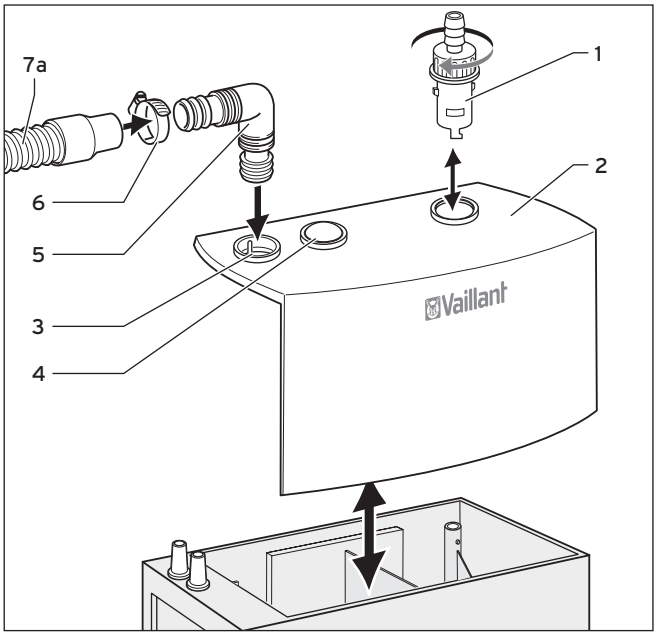
Caution.
Material damage.
The pump and the wall bracket can be damaged during fitting if excessive force is used.
- ➤ Do not connect the hoses until you have removed the non-return valve and the cover.

Optionally, you can also connect the hoses with or without the condensate angle.

4.1 Connecting the inlet hose

Caution!
Material damage.
If the inlet hose is not connected correctly, the condensed water cannot flow freely into the pump.
- ➤ Route the inlet hose at a constant downward gradient from the boiler to the ecoLEVEL condensed water pump.
- ➤ Lay the inlet hose as straight as possible, avoiding any bends or kinks.

4.2 Connecting the inlet hose with the condensate angle



4.1 Remove the non-return valve and cover, and install the condensate angle

Key
1 Non-return valve
2 Cover
3 Opening for condensate angle/inlet hose
4 Additional opening for condensate angle/inlet hose
5 Condensate angle
6 Hose clamp
7a Inlet hose (suitable for installation with condensate angle)

Warning.
Risk of injury and material damage due to lack of leak-tightness.
If you install the condensate angle using the supplied inlet hose (→ **3.3**, item 8), this leads to leaks. Condensate may leak out and cause injury to persons. Leaking condensate can also cause material damage.
- ➤ Only use the supplied inlet hose for installation variant 2.
- ➤ Only use the condensate angle (→ **3.3**, item 7/**4.1**, item 5) for installation variant 1, and only with a compatible inlet hose.

An inlet hose that is suitable for installation with the condensate angle is included with the condensate neutraliser. Also refer to the instructions for the condensate neutraliser.

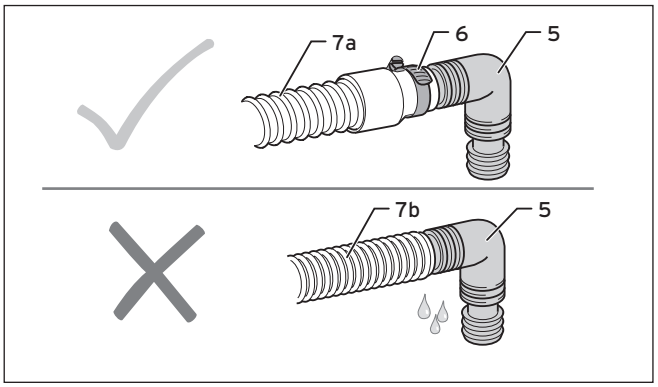
Removing the cover and the non-return valve

- ➤ To open the cover of the pump (**2**), turn the non-return valve (**1**) a quarter turn to the left.

Both the cover and the non-return valve are then unlocked.
- ➤ Remove the cover (**2**) and the non-return valve (**1**) by pulling upwards.

Install the inlet hose and condensate angle

- ➤ Place the hose clamp (**6**) loosely around the start of the inlet hose (**7a**).
- ➤ Place the inlet hose on the condensate angle (**5**)
- ➤ Using the hose clamp (**6**), attach the hose and angle to form a tight connection.
- ➤ Push the condensate angle into the opening (**3**) in the removed cover (**2**) until it clicks into place.



4.2 Watertight connection between the inlet hose and condensate angle

➤ Ensure that the connection between the inlet hose (**7a**) and the condensate angle (**5**) is watertight: The inlet hose and condensate angle (**5**) must be tightly connected using the hose clamp (**6**) (**→ fig. 4.2**, top).

A connection using the supplied inlet hose (**7b**) and condensate angle (**5**) (**→ fig. 4.2**, bottom) together is not watertight and is not permitted.

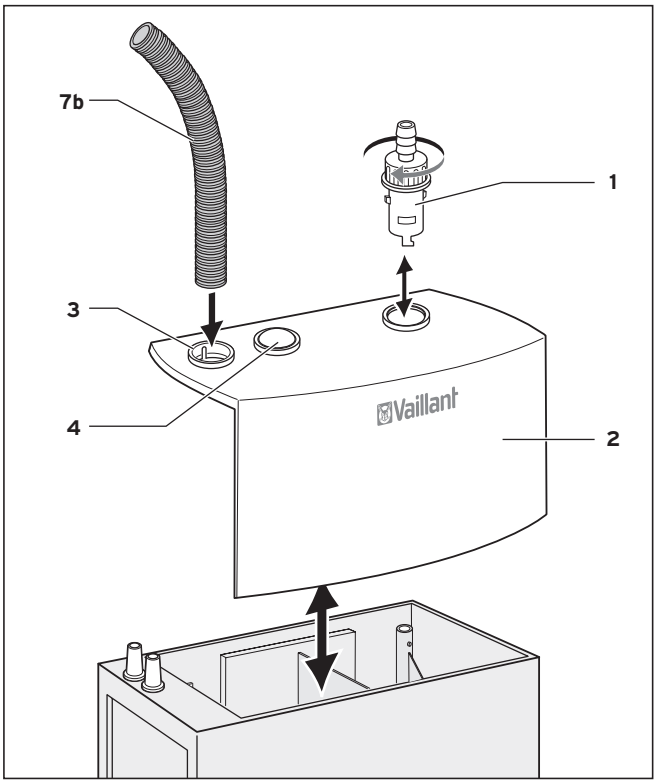
If a second hose is to be connected, remove the plug from the second inlet opening (**4**) and connect the additional hose as described above.

➤ Place the cover onto the ecoLEVEL condensed water pump from above.

4.3 Connecting the inlet hose without the condensate angle

Shorten the inlet hose

➤ Determine the required length of the inlet hose.
➤ Shorten the hose so that it clicks a maximum of 3 notches into the cover.
➤ Ensure that the hoses do not protrude into the water when the pump is at its maximum fill level.



4.3 Remove the cover and the non-return valve

Key
1 Non-return valve
2 Cover
3 Opening for condensate angle/inlet hose
4 Additional opening for condensate angle/inlet hose
7b Inlet hose (only suitable for installation without the condensate angle)

Removing the cover and the non-return valve

➤ To open the cover of the pump (**2**), turn the non-return valve (**1**) a quarter turn to the left.

Both the cover and the non-return valve are then unlocked.

➤ Remove the cover (**2**) and the non-return valve (**1**) by pulling upwards.

Install the inlet hose

➤ Push the inlet hose into the inlet opening (**3**) of the removed cover until the inlet hose clicks into position (max. 3 notches).

Install the second inlet hose

➤ If you need to connect a second hose, remove the plug from the second inlet opening (**4**)
➤ Shorten the hose so that it clicks a maximum of 3 notches into the cover.
➤ Ensure that the hoses do not protrude into the water when the pump is at its maximum fill level.
➤ Note that the hoses must be pushed no more than 3 notches into the inlet openings (**3**) and (**4**).

Replacing the cover

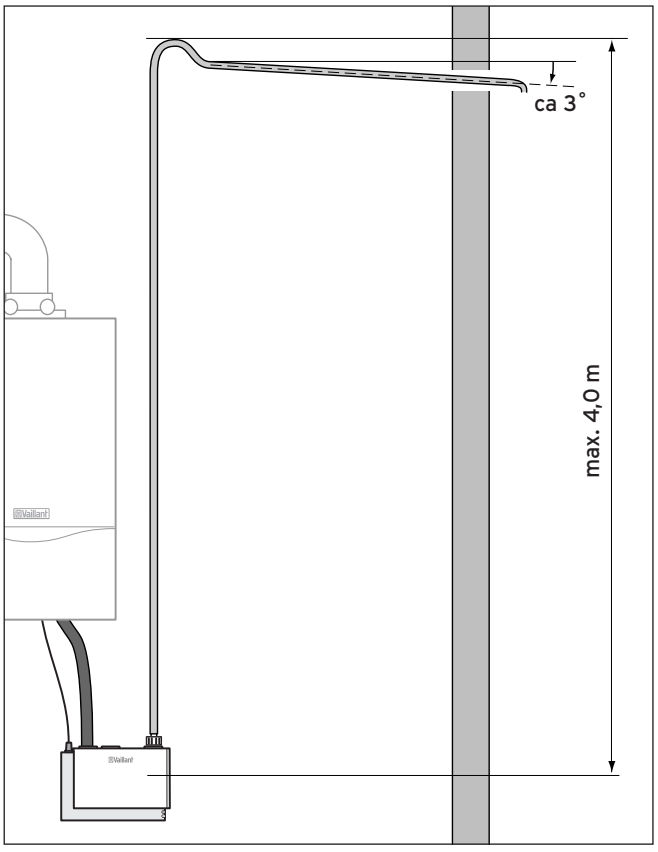
➤ Place the cover onto the ecoLEVEL condensed water pump from above.

4.4 Connecting and positioning the drain hose

Connecting the drain hose

➤ Push the drain hose (→ **3.3**, item 5) onto the removed non-return valve (→ **4.1**/**4.3**, item 1). until it stops
➤ Insert the non-return valve into the cover and lock it into position by turning a quarter turn to the right.

Positioning the drain hose



4.4 Positioning the drain hose

➤ When routing the drain hose, note the following (→ **4.4**):
The drain hose of the pump must connect into the waste-water system of the building housing the installation. The drain hose must lead upwards from the pump,
- in order to compensate for the height difference between the pump outlet and the drain point
- so that the drain hose can be laid at a gradient to the drain point after the diversion.

➤ Lay the drain hose far enough upwards directly from the pump.

Caution:
Material damage caused by unsuitable discharge pipes
If you use discharge pipes that are not acid-resistant, this can lead to leaks and damage caused by leaking condensed water.
➤ If you need to extend the condensed water discharge pipe during installation, use only acid-resistant discharge pipes.

➤ Note that the maximum feed height of the pump is 4 m.
➤ Run the drain hose at a steady downward gradient to a suitable drain location.
➤ At its highest point, lay the drain hose in a U-shape to form a non-return device.

4.5 Connecting the condensed water pump to the boiler

The ecoLEVEL condensed water pump can be connected to the siphon of all Vaillant condensing boilers using the inlet hose provided.
➤ If the boiler's condensed water drain hose is long enough it can be connected directly to the pump (→ **section 4.1**).

If the boiler hose is too short, replace it with the inlet hose provided.
➤ Connect the inlet hose to the condensed water outlet on the boiler.
➤ Connect the inlet hose to the ecoLEVEL condensed water pump in accordance with section **4.1**.
The condensate angle is suitable for connection to units installed at floor level.
➤ Note that only suitable inlet hoses may be used for the condensate angle (→ **fig. 4.1**, item 7a).

Connecting the condensed water pump to the icoVIT floor-standing oil-fired boiler

➤ With icoVIT floor-standing oil-fired boilers, connect the condensed water pump directly to the connection for the condensate neutraliser. Also refer to the instructions for the condensate neutraliser.
➤ Use the condensate angle supplied (→ **4.1**, item 5).
➤ Use the condensate hose of the unit or the condensate neutraliser.
➤ Never use the condensate angle provided (→ **4.3**, item 7b)

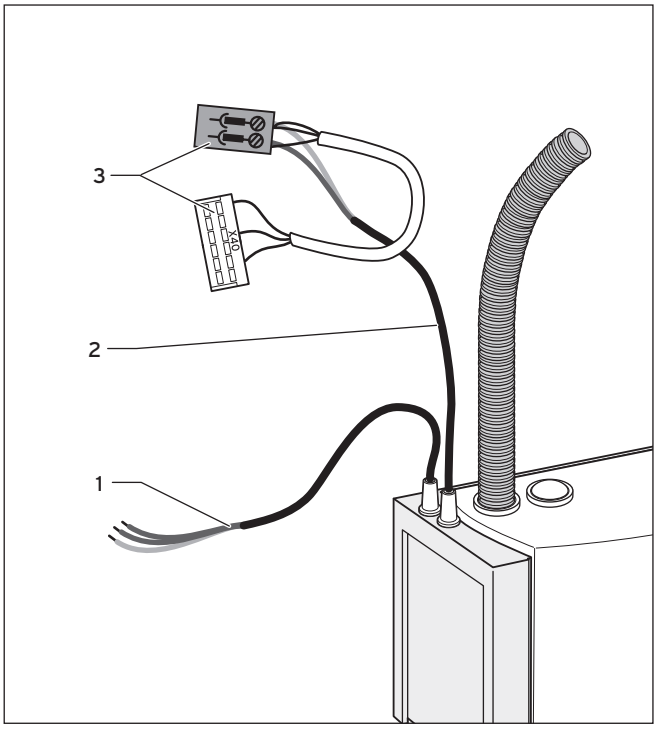
5 Electrical connection

Before you begin the electrical connection for the unit, the installation (➙ **section 3**) and the hydraulic connection (➙ **section 4**) for the ecoLEVEL condensed water pump must be completed.

Danger!
Risk of death from electric shock!
If the electrical installation is not carried out properly, there is a risk of electric shock and damage to the unit.
- ➤ Ensure that only competent persons are permitted to perform the electrical connection.

5.1 Overview of the electrical connections

Caution:
Error functions due to improper use of the plugs.
Using X40 and Pro-E plugs at the same time leads to error functions.
- ➤ Only use one of the connection types mentioned here to connect the safety cut-out switch.



5.1 Overview of the electrical connections

Key
1 230 V connection cable (if necessary: plug can be connected)
2 Main line from ecoLEVEL
3 Connection cable for the safety cut-out switch with Pro-E plug and X-40 plug

The 230 V connection cable (**1**) with the free cable end provides the power supply to the pump.
The connection cable of the safety cut-out switch (**3**) is used for the electrical connection of the safety cut-out switch to the boiler.

5.2 Preparing the electrical connection

Before you establish the electrical connection to the condensed water pump:
- ➤ Switch off the condensed water pump.
- ➤ Switch off the boiler.
- ➤ Secure the condensed water pump and the boiler against being switched back on again.

All electrical and water condensate carrying connections to the pump must be routed so that no mechanical tension is present.

5.3 Connecting the condensed water pump to the 230 V mains voltage

Connection to the 230 V mains voltage can take place in two different methods:

- ➤ Connect the line (**1**) to the 230 V mains voltage via the mains voltage output of the boiler.

Or:

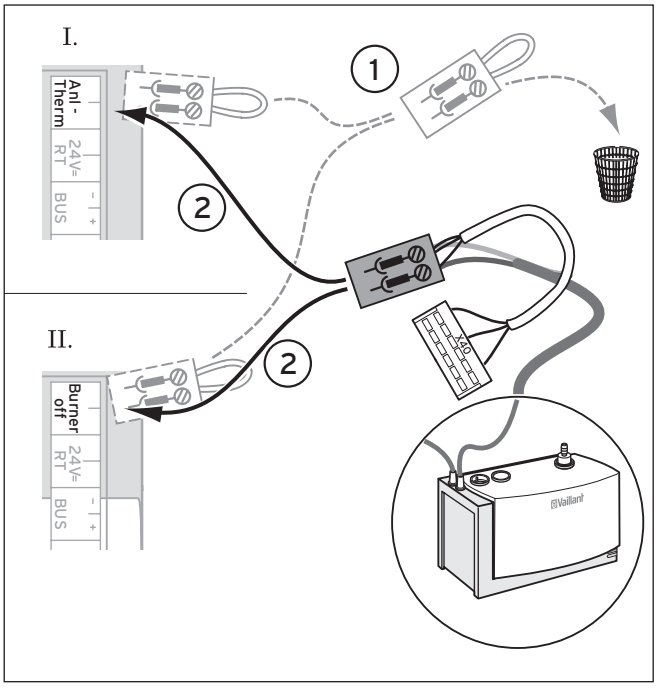
- ➤ Install a mains plug on the cable (**1**) and connect the pump via a mains socket (the plug is not included in the scope of delivery).

5.4 Connecting the condensed water pump to the safety cut-out switch

The type of connection on the printed circuit board (PCB) depends upon the individual boiler.
Connection types A or B are possible. The description of the individual connection type can be found in the following sub-sections.

Connecting the safety cut-out switch – connection type A

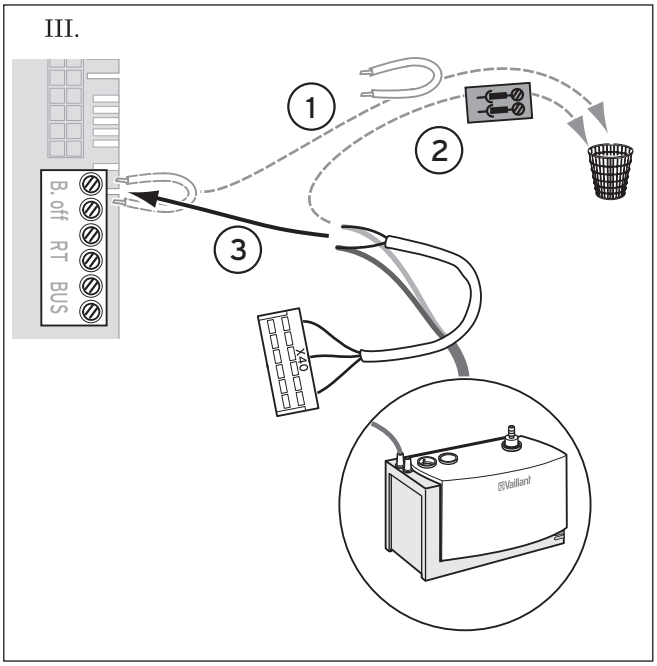
For connection type A, you can connect the safety cut-out switch to the extra-low voltage circuit of the boiler using variants I., II. or III.(➙ **fig. 5.2**).



5.2 Connecting the safety cut-out switch, connection type A

Variants I. and II.

- ➤ Open the electronics box on the boiler.
- ➤ On the boiler PCB, remove the plug from the blue socket which is labelled as either "Anl-Therm" (**I.**) or "Burner off" (B.Off) (**II.**) (**1**).
- ➤ Instead, plug the Pro-E plug on the connection cable of the safety cut-out switch into the blue socket which is labelled as either "Anl-Therm" (**I.**) or "Burner off" (B.Off) (**II.**)(**2**).

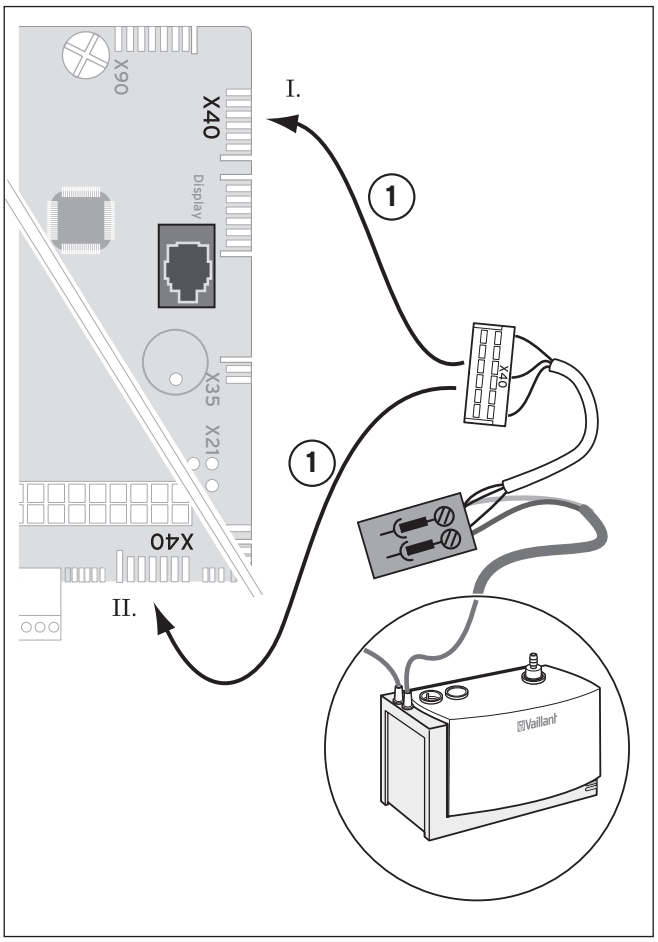


5.3 Connecting the safety cut-out switch, connection type A

Variant III.

- ➤ Open the electronics box on the boiler.
- ➤ Remove the cable bridge from the plug on the PCB of the boiler (**1**).
- ➤ Remove the Pro-E plug from the connection cable of the safety cut-out switch (**2**).
- ➤ Instead, connect the free cable ends of the connection cable to the "Burner off" (B. off) terminal block (**3**).

Connecting the safety cut-out switch – connection type B:
For connection type B, you can connect the safety cut-out switch to the extra-low voltage circuit of the boiler using variants I., or II.(→ **fig. 5.4**).



5.4 Connecting the safety cut-out switch, connection type B

Variants I. and II:
- ➤ Open the electronics box on the boiler.
- ➤ Select variant I. or II., (→ **fig. 5.4**) depending on where the X40 plug is located on the PCB.
- ➤ Plug the X-40 plug into the peripheral plug location X40.

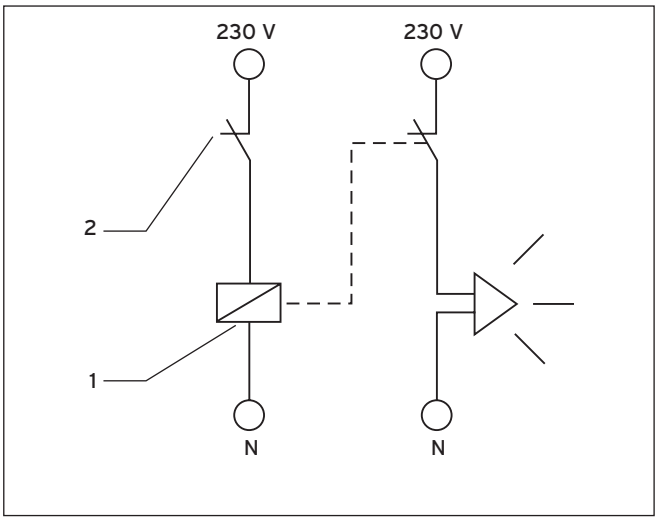
Connection type B if connection X40 is occupied
If the boiler has a multi-functional module 2 of 7 (article number 0020017744) fitted, connection X40 is already occupied. If this is the case, connect the safety cut-out switch as follows:
- ➤ Insert the plug in the connection X40B of the multi-functional module 2 of 7.
- ➤ Also refer to the instructions for the multi-functional module.

If a flue non-return flap is connected to the multi-functional module 2 in 7 and you want to use the function of the flue non-return flap, you must not use the X40B connection:
- ➤ In this case, use the connection type A "Anl-Therm"/ "Burner off" (B.off).

5.5 Connecting the alarm to the safety cut-out switch

Caution:
Material damage caused by leaking condensed water.
In the event of a defect in the condensed water pump, leaking condensed water may cause material damage or damage to the boiler.
- ➤ Connect a current interrupter or an alarm to the safety cut-out switch.
- ➤ Connect the alarm according to the following connection diagram.

- ➤ Ensure that a competent person connects the alarm on-site.



5.5 Connection diagram for the alarm

Key
1 230 V coil
2 230 V potential-free contact on ecoLEVEL (opener)

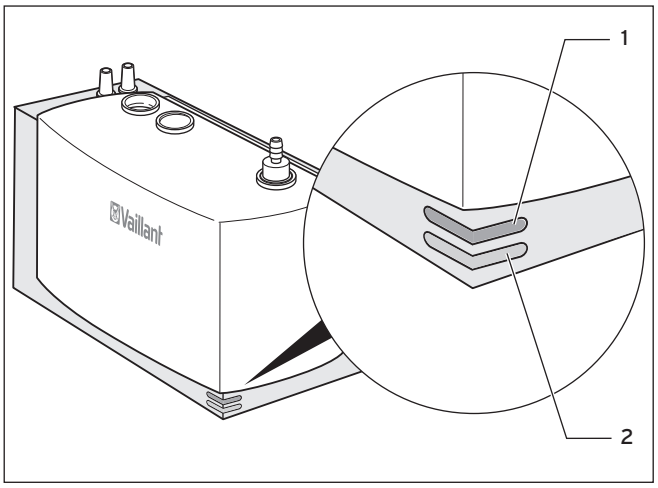
The contact (**2**) is normally closed.
If a fault occurs, the contact (**2**) is opened.

6 Operation and troubleshooting

Once the installation and the hydraulic and electrical connections are completed, the ecoLEVEL condensed water pump is ready for operation. The green LED lights up. The operation is self-regulating and does not require any further manual control.

6.1 LED display of operating status or faults

On the front of the ecoLEVEL condensed water pump casing, there are two LEDs (→ **6.1,** items 1 and 2) which indicate the operating status or faults of the ecoLEVEL condensed water pump.



6.1 Display of operating status

Key
1 Top LED
2 Bottom LED

Which operating status or fault is displayed by the light signals of the LEDs can be taken from the following table.

	Bottom LED (2)	Top LED (1)	Operating status/Fault
1	Lights up green	-	The pump is supplied with 230 V mains voltage. The pump is ready for operation.
2	Lights up green	Flashes green	The pump is in operation and is pumping.
3	Flashes green	Lights up red	The water level has exceeded the maximum permitted value. The safety cut-out switch is triggered if this condition is prolonged. If a connection between the safety cut-out switch and the boiler has been installed, the boiler is switched off. Switching off prevents further condensed water from forming.
4	Flashes green	Flashes red	The pump is at rest for a defined time period and then starts up again on its own.
5	Flashes green	Flashes red (>1 min)	➤ Follow the fault diagnostics (→ **section 6.3**)

6.1 Display of operating status

6.2 Faults

The ecoLEVEL condensed water pump can automatically resolve short-term faults in the normal function sequence. When the maximum permitted water level is reached, both LEDs flash. If the water level cannot be reduced by pumping, the red LED flashes. As a consequence, the safety cut-out switch is triggered after approx. 10 seconds. A potential-free contact or the current circuit opens to switch off the boiler.
If a corresponding connection to the boiler has been installed, the boiler is switched off to prevent any further condensed water from being formed.

6.3 Fault diagnostics and elimination

If the red LED flashes or remains lit for longer than 1 minute, there is a fault in the installation or a defect in the pump.
➤ To eliminate this fault, check the following points:

Cause	Troubleshooting
Pump not pumping: Kink in the drain hose	Remove kink
Motor blocked	Visual inspection of the motor inlet: Check for foreign bodies and remove if necessary
Motor defective	Replace condensed water pump
Pump is not being filled	Check inlet hoses for routing, blockage and seating in the pump, and resolve the fault, if required
Auxiliary float blocked	Release blocked auxiliary float

6.2 Fault diagnosis and elimination

Fault messages on the boiler or system controller

You will also find fault messages on the display of your boiler or system controller. The messages differ depending on the country, boiler, and connection type. The following table shows which message is displayed on your unit.

➤ To eliminate the fault, refer to the installation instructions for your boiler or system.

Connection for safety cut-out switch	Message if fault occurs
Connection type A	Status message on unit display (S.39)
Connection type B	Status message on unit display (S.42) after approx. 15 min fault message (F.77)

6.3 Fault messages, divided according to the connection type

7 Handing over to the operator

The operator must be instructed in the handling and functions of the ecoLEVEL condensed water pump.

➤ Provide the operator with all relevant instructions and unit documentation for safe-keeping.
➤ Go through the operating instructions with the operator and answer any questions the operator may have.
➤ Draw special attention to the safety instructions that the operator must follow.
➤ Inform the operator of the necessity to ensure that the system is regularly inspected/maintained (inspection and maintenance contract).
➤ Make the operator aware of the need to keep the instructions near the ecoLEVEL condensed water pump.

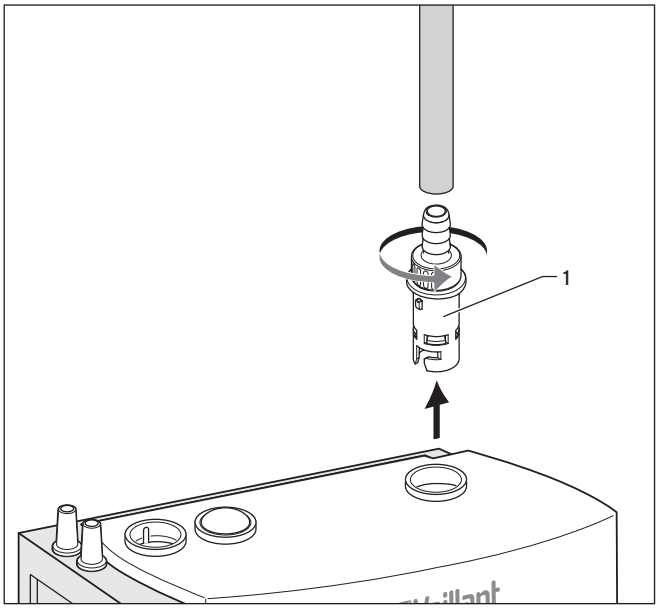
8 Maintenance

Danger!
Risk of death from electric shock!
There is a risk of electrical shock from live connections.
- ➤ Always switch off the power supply to the pump and to the boiler before performing maintenance work.

- ➤ Make sure that the infeeds and drains are free from blockage.
- ➤ Clean the non-return valve, as described in section **8.1**.
- ➤ Remove the cover from the pump and check the condensate vessel for contamination. If necessary, clean the condensate vessel with warm water and a mild cleaner (**➞ section 8.2**).
- ➤ Check the inlet and drain lines and clean these if necessary.
- ➤ Check that the lines are not kinked to ensure that the flow rate is unhindered.

The maintenance of the pump can be based upon the maintenance intervals of the boiler. The pump should be maintained at least once a year.

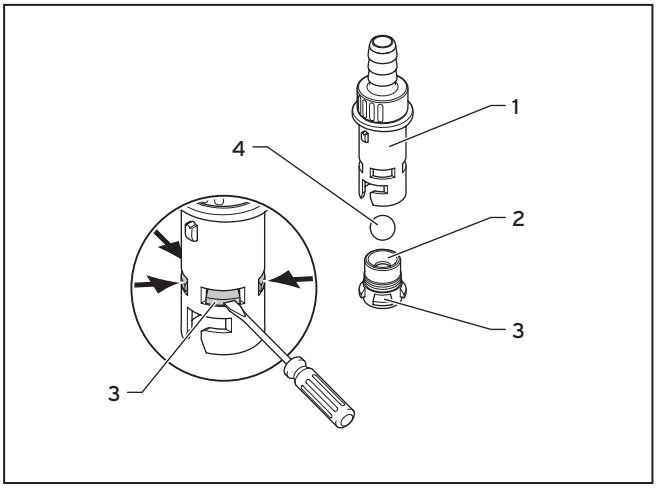
8.1 Cleaning the non-return valve



8.1 Removing the non-return valve

Removing the non-return valve

- ➤ Remove the drain hose.
- ➤ In doing so, protect against leaking condensed water. For more information, see the "Safety" section (**➞ section 2.2**).
- ➤ Remove the non-return valve (**1**) from the pump cover by turning it anti-clockwise.



8.2 Removing the sealing insert

Removing the sealing insert from the non-return valve

- ➤ Proceed carefully when removing the sealing insert. Ensure that the sealing insert is not damaged.
- ➤ To remove the sealing insert (**2**) from the casing of the non-return valve, use a screwdriver to carefully push in the four protruding burls (**3**).

The sealing insert becomes loose from the casing.

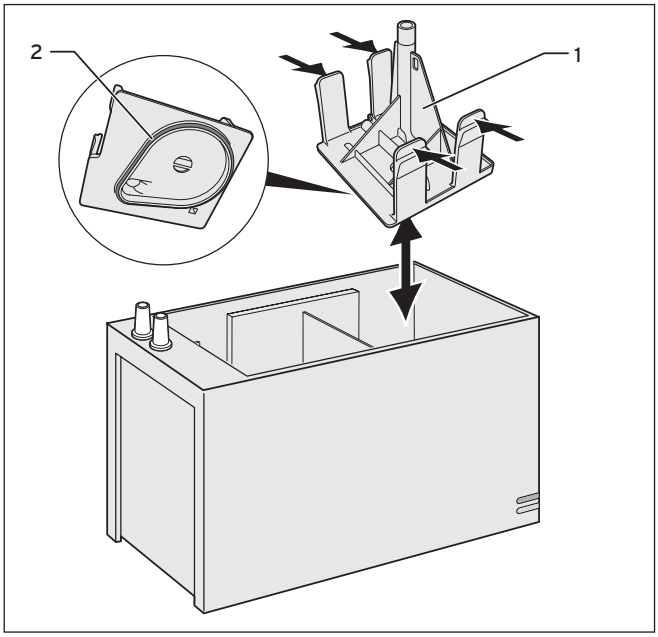
Cleaning the non-return valve

- ➤ Remove the ball (**4**) from the non-return valve.
- ➤ Flush the casing of the non-return valve thoroughly with warm water.
- ➤ Clean the ball from the non-return valve with warm water.

Reinstalling the non-return valve

- ➤ If required, clean the pump first before you reinstall the non-return valve (**➞ section 8.2**).
- ➤ Proceed with the installation carefully. Ensure that the sealing insert is not damaged.
- ➤ Place the ball (**➞ 8.2**, item 4) into the non-return valve.
- ➤ Position the burls (**➞ 8.2**, item 3) of the sealing insert (**➞ 8.2**, item 2) at the designated position.
- ➤ Carefully push the sealing insert into the non-return valve.

8.2 Cleaning the pump



8.3 Cleaning the pump

Removing the internal component
- ➤ Remove the cover of the pump.
- ➤ Press the clip on the internal component (**1**) inwards and hold.
- ➤ Remove the internal component (**1**) from the condensate vessel.

Removing the O-ring
- ➤ Ensure that the O-ring (**2**) does not remain in the pump.
- ➤ Should the O-ring (**2**) remain in the nut on the base of the pump, remove it using tweezers.

Cleaning the pump
- ➤ Clean the condensate vessel and the internal component (**1**) using a soft brush, warm water and some soap. Do not use scouring or cleaning agents which could damage the plastic casing.

Reassemble the unit
- ➤ Place the O-ring (**2**) onto the internal component (**1**) as shown.
- ➤ Place the internal component (**1**) back into the condensate vessel.
- ➤ Ensure that the clips click into place.
- ➤ Replace the pump cover on the unit.

9 Spare parts

Procuring spare parts
The original components of the unit were also certified as part of the CE declaration of conformity. If you do not use certified Vaillant genuine spare parts, this voids the CE conformity of the unit. We therefore strongly recommend that you fit Vaillant genuine spare parts.
You can find information about available Vaillant genuine spare parts from the contact address provided on the reverse of this document.
- ➤ If you require spare parts for servicing or repair work, use only Vaillant genuine spare parts.

10 Guarantee and Customer Service

10.1 Vaillant guarantee

Vaillant provides a full parts and labour guarantee for this appliance for the duration as shown on the enclosed registration card which must be fully completed and returned within 30 days of installation. All appliances must be installed by a suitably competent person fully conversant and in accordance with all current regulations applicable to the appliance type installation. In the case of gas appliances the Gas Safety (Installation and Use) Regulations 1998, and the manufacturer's instructions. In the UK competent persons approved at the time by the Health and Safety Executive undertake the work in compliance with safe and satisfactory standards. Installers should also be fully conversant with and competent with all necessary electrical and building regulations that may apply to the installation.
In addition all unvented domestic hot water cylinders must be installed by a competent person to the prevailing building regulations at the time of installation (G3).
All appliances shall be fully commissioned in accordance with our installation manual and Benchmark commissioning check list (this will be included within the installation manual). These must be signed and given to the user for safe keeping during the hand over process. Installers should also at this time advise the user of the annual servicing requirements and advise of appropriate service agreement.
Terms and conditions do apply to the guarantee, details of which can be found on the registration card included with this appliance. In order to qualify for guarantee after one year the appliance must be serviced in accordance with our installation manual servicing instructions. The benchmark service history should be completed.
Note - all costs associated with this service are excluded from this guarantee. Failure to install and commission this appliance in compliance with the manufacturer's instructions will invalidate the guarantee (this does not affect the customer's statutory rights).

10.2 Vaillant Service

To ensure regular servicing, it is strongly recommended that arrangements are made for a Maintenance Agreement. Please contact Vaillant Service Solutions (0870 6060 777) for further details.

11 Recycling and disposal

Both the pump and its transport packaging are made mainly of recyclable raw materials.

Unit
Faulty pumps and all the accessories must not be disposed of in the household waste.
- ➤ Make sure that the old unit and any accessories are disposed of properly.

If your Vaillant unit is labelled with this symbol, it does not belong with your household waste at the end of its useful life.
- ➤ In this case, make sure that the Vaillant unit and any accessories present are properly disposed of at the end of their useful life.

As this Vaillant appliance is covered by the law regarding the marketing, return and environmentally friendly disposal of electrical and electronic equipment (ElektroG in Germany), the unit can be disposed of at no cost at a municipal collection point.

Packaging
- ➤ Leave the disposal of the transport packaging to the approved competent person who installed the unit.

12 Technical data

Technical data		Units	ecoLEVEL
Design			Appliance for wall-mounted installation
Nominal capacity		l	0.5
Supply voltage		V	230
Max. current consumption		A	1
Frequency		Hz	50
Max. nominal output		W	25
Max. feed height		m	4
Dimensions	Height	mm	150
	Width	mm	175
	Depth	mm	100
Weight when filled with water		kg	1.8
Inlet hose (max. outside diameter)		mm	24
Drain hose (min. inner diameter)		mm	10
Water inlet temperature		°C	1 - 60
Ambient temperature		°C	5 - 60
Safety			Radio-shielded, non-interacting with the mains supply
Safety cut-out switch			5 mA - 4 A; 230 V
Level of protection in accordance with EN 60529			IP 44
Approved for individual units		kW	up to 45

12.1 Technical data

Supplier

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