

Installation and maintenance instructions for specialists

NE 2.0

Condensate neutraliser



Table of contents

1 Explanation of symbols and safety instructions 2

1.1 Explanation of symbols 2

1.2 General safety instructions 3

2 Product Information 4

2.1 Regulations 4

2.2 Intended use 4

2.3 Declaration of conformity 4

2.4 Scope of delivery 4

2.5 GB importer 4

3 Technical data 4

4 Installation 4

4.1 Installing the condensate neutraliser 5

4.2 Connecting the condensate neutraliser 5

5 Electrical connection 6

6 Commissioning 7

7 Maintenance 7

8 Faults 8

9 Pressure booster (accessory) 9

10 Environmental protection and disposal 10


1 Explanation of symbols and safety instructions

1.1 Explanation of symbols


Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing danger are not taken.


The following signal words are defined and can be used in this document:

 **DANGER**

DANGER indicates that severe or life-threatening personal injury will occur.

 **WARNING**

WARNING indicates that severe to life-threatening personal injury may occur.

 **CAUTION**

CAUTION indicates that minor to medium personal injury may occur.

NOTICE

NOTICE indicates that material damage may occur.

Important information



The info symbol indicates important information where there is no risk to people or property.

Additional symbols

Symbol	Meaning
▶	a step in an action sequence
→	a reference to a related part in the document
•	a list entry
–	a list entry (second level)

Table 1

1.2 General safety instructions

⚠ Notices for the target group

These installation instructions are intended for gas, plumbing, heating and electrical contractors. All instructions must be observed. Failure to comply with instructions may result in material damage and personal injury, including danger to life.

- ▶ Read the installation, service and commissioning instructions (heat source, heating controller, pumps, etc.) before installation.
- ▶ Observe the safety instructions and warnings.
- ▶ Follow national and regional regulations, technical regulations and guidelines.
- ▶ Record all work carried out.

⚠ Failure to observe the safety instructions can result in serious personal injury with potentially fatal consequences as well as damage to property and the environment.

- ▶ Ensure that the acceptance of the system is carried out by the approval authority.
- ▶ Carry out cleaning and maintenance at least once a year. In doing so, also check that the entire system is in proper working order. Immediately remedy any defects identified.
- ▶ Inform the system user in writing of the problem and associated danger
- ▶ Before commissioning the system, carefully read through the safety instructions.
- ▶ Observe the assembly and maintenance instructions of the floor standing condensing boiler.
- ▶ Observe the safety instructions of the neutralising agent manufacturer.

⚠ Danger through failure to consider your own safety in an emergency such as a fire

- ▶ Never put yourself in mortal danger. Your own safety is paramount.

⚠ Risk of damage from operating errors

Operator errors can result in personal injury and material damage.

- ▶ Ensure that only personnel who can operate this device correctly have access to it.
- ▶ Installation and commissioning as well as servicing and maintenance must only be carried out by an approved contractor.

⚠ Safety of electrical devices for domestic use and similar purposes

The following requirements apply in accordance with EN 60335-1 in order to prevent hazards from occurring when using electrical appliances:

“This appliance can be used by children of 8 years and older, as well as by people with reduced physical, sensory or mental capabilities or lacking in experience and knowledge, if they are supervised and have been given instruction in the safe use of the appliance and understand the resulting dangers. Children shall not play with the appliance. Cleaning and user maintenance must not be performed by children without supervision.”

“If the power cable is damaged, it must be replaced by the manufacturer, its customer service department or a similarly qualified person, so that risks are avoided.”

⚠ Installation

- ▶ Only have the appliance installed by an approved contractor.

⚠ Danger from electric shock

- ▶ Always have the electrical connection carried out by an electrician. Follow the connection diagram.
- ▶ Before installation, isolate all poles of the power supply. Secure against unintentional reconnection.
- ▶ Observe the connection diagrams of all devices and accessories involved.

⚠ Inspection and service

- ▶ **Recommendation for customers:** arrange a maintenance and inspection contract with an authorised heating contractor, which includes an annual inspection and responsive maintenance.

⚠ Original spare parts

Liability will not be accepted for damage caused by spare parts not supplied by the manufacturer.

- ▶ Use only original spare parts and original accessories.

⚠ Risk of damage to the system from frost

- ▶ If there is a risk of frost, drain the water from the boiler, cylinder, pipes and all water routing components of the heating system. There is no danger from frost if the entire system is dry.

Instructing the customer

- ▶ Explain to the customer how the appliance works and how to operate it.
- ▶ Instruct the customer not to carry out any modifications or repairs.
- ▶ Inform the customer that children must not be in the vicinity of the heating system without adult supervision.
- ▶ Hand over the technical documents to the customer.

Additional safety instructions

The municipal regulations for the discharge of condensation water into public sewers must be observed.

The condensate neutraliser achieves a pH value that allows the condensation water to be discharged into the public sewer.

The fill volume for the required granules is to be dimensioned according to the capacity as specified in the table 2, page 4.

When replacement of the granules is due, a corresponding signal light appears on the control unit of the condensate neutraliser.

The NE 2.0 condensate neutraliser is suitable for condensation water from municipal, natural gas and liquid gas operated floor standing boilers.

2 Product Information

2.1 Regulations

Observe the municipal regulations for discharging condensation water into public sewers. If the condensation water must be neutralised, the pH value must be raised to a harmless, preferably alkaline range.

2.2 Intended use

The condensate neutraliser may only be used for the neutralization of condensate from floor standing gas condensing boilers.

All other use is considered unsuitable. We accept no liability for damage caused through incorrect use.

The condensate neutraliser achieves a pH value that allows the condensation water to be discharged into the public sewer.

The fill volume for the required granules is to be dimensioned according to the capacity as specified in the table 2, page 4.

When replacement of the granules is due, a corresponding signal light appears on the control unit of the condensate neutraliser.

2.3 Declaration of conformity

The design and operating characteristics of this product comply with the British, European and supplementary national requirements.



The UKCA and CE markings declare that the product complies with all the applicable British and European legislation, which is stipulated by attaching these markings.

The complete text of the Declaration of Conformity is available on the Internet: www.bosch-thermotechnology.com.

2.4 Scope of delivery

- Condensate neutraliser
- Inlet hose with screw fitting
- Power cable with plug
- PVC pipe Ø 40 mm
- Granules

2.5 GB importer

Bosch Thermotechnology Ltd.
Cotswold Way, Warndon
Worcester WR4 9SW / UK

3 Technical data

	Abbreviation	Unit	NE 2.0
Dimensions	W × D × H	mm	545 × 840 × 275
Connections	EKO	–	DN 40 ¹⁾ G1 ¹⁾
	AKO	–	G1
	EL	–	G1
Weight ²⁾	–	kg	60

1) Optionally

2) Operating condition

Table 2 Dimensions and connections

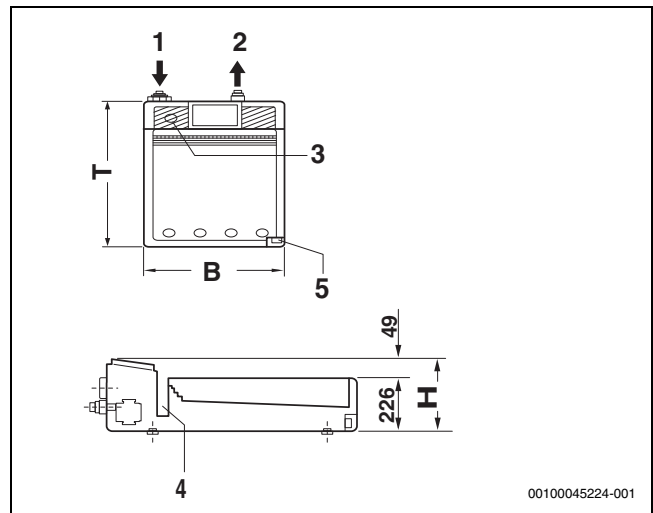


Fig. 1 Dimensions and connections (→ Tab. 2)

- [1] EKO = Condensate inlet (inlet hose)
- [2] AKO = Condensate outlet (drain hose)
- [3] Measurement port
- [4] Sludge chamber
- [5] EL = Draining

4 Installation

⚠ CAUTION

Damage to the condensate neutraliser due to improper use!

- ▶ Do not step on the casing.
- ▶ Do not expose the hoses to any load in order to avoid tearing out the threaded connection.

⚠ WARNING

Danger to life due to flue gas spillage!

If the condensate neutraliser is not filled, flue gas may escape from the boiler siphon.

- ▶ To prevent flue gas from escaping: before commissioning, pour approx. 10 litres of water into the inspection aperture of the flue gas collector.

4.1 Installing the condensate neutraliser

If possible, the condensate neutraliser should be located near the floor standing boiler or heat exchanger. The height dimensions in figure 2 must be strictly observed.

- ▶ Remove the appliance cover from the granule trough.
- ▶ Align the granule trough horizontally with the adjustable feet (→ figure 2, [1]).

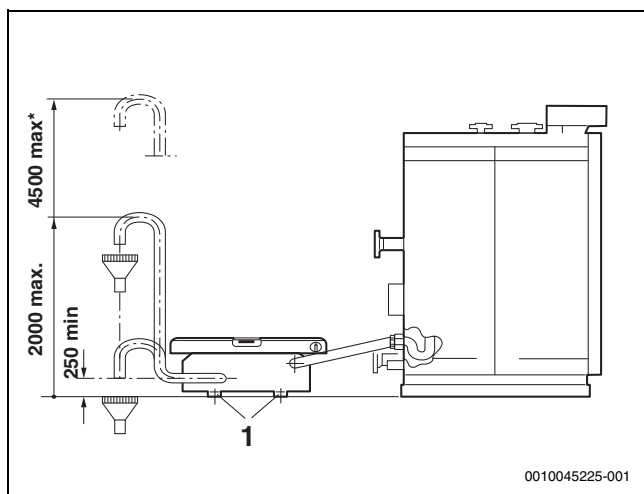


Fig. 2 Height dimensions

[1] Adjustable feet

* Delivery head with pressure booster

4.2 Connecting the condensate neutraliser



All on-site pipes and connecting pieces carrying condensate (e.g. from the flue pipe to the floor standing boiler or condensate neutraliser) must be made of plastic or stainless steel!

With a boiler condensate outlet of $\varnothing 40$ mm, the inlet connection piece on the neutralisation unit (EKO) must be replaced by the PVC pipe (→ figure 3).

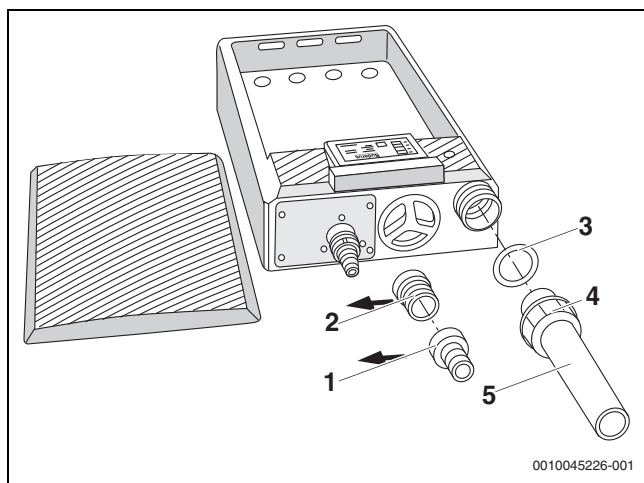


Fig. 3 Replacing the PVC pipe

- [1] Hose connector
- [2] Adaptor
- [3] Gasket
- [4] Pipe socket cap
- [5] PVC pipe

- ▶ Unscrew the union nut, remove the hose connector (→ Figure 3, [1]) and adaptor (→ Figure 3, [2]).
- ▶ Screw in the PVC pipe (→ Figure 3, [5]) with gasket (→ Figure 3, [3]) and union nut (→ Figure 3, [4]).
- ▶ Attach the inlet hose to the condensate outlet of the floor standing boiler or heat exchanger with a hose clamp.

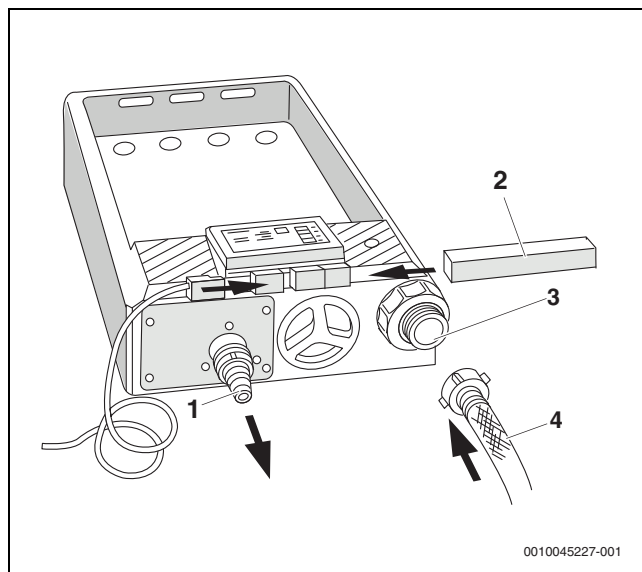


Fig. 4 Connect the EKO inlet hose or AKO drain hose

- [1] AKO = Condensate outlet
- [2] Cover rail
- [3] EKO = Condensate inlet
- [4] EKO inlet hose

- ▶ Connect inlet hose (→ Figure 4, [4]) to the EKO condensate neutraliser (→ Figure 4, [3]).



If the condensate outlet at the floor standing boiler or heat exchanger does not have a siphon, the inlet hose must be routed similar to a siphon but without kinks (observe the heat exchanger installation instructions!).

- ▶ Fasten the drain hose (accessory) to the AKO condensate neutraliser (→ Figure 4, [1]) with a hose clamp and route it to the drain.
- ▶ Connect the power supply plug to the control unit of the condensate neutraliser.
- ▶ Push the cover rail (→ Figure 4, [2]) over the plug and screw with self-tapping screw in the middle.

Calorific value system output [kW]	Granule quantity	
	[l]	[kg]
≤ 650	6.0	7.5
> 650	9.0	11.5
≤ 1000	13.5	17.5
> 1000		
≤ 1500		

Table 3 Granule fill volumes

CAUTION

Harmful to health!

- ▶ Observe the safety instructions of the granule manufacturer.
- ▶ Pour the granules into the granule trough according to table 3, page 5.

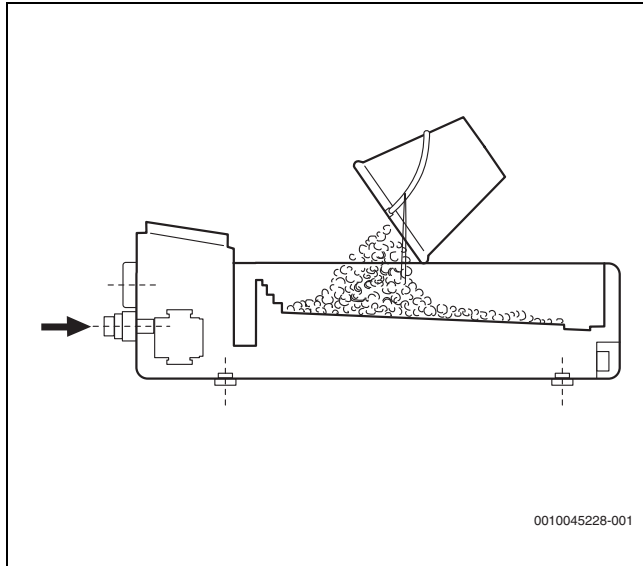


Fig. 5 Sludge chamber

5 Electrical connection

DANGER

Danger to life from electric shock!

- ▶ Electrical work must only be performed by competent qualified person.
- ▶ Before opening appliances, disconnect them from all poles of the power supply and secure against unintentional reconnection.
- ▶ Observe the installation regulations.

- ▶ Unscrew 4 screws from the control unit (→ Figure 4, [1]), remove the control unit and turn through 180° (→ Figure 6).

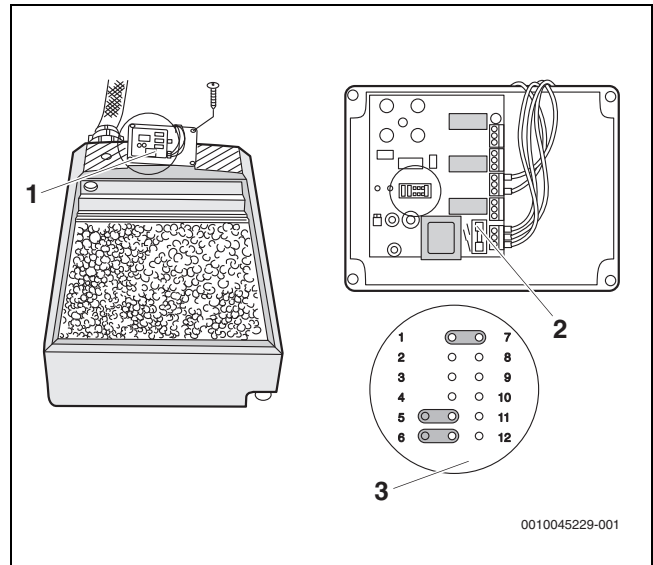


Fig. 6 Jumper settings

- [1] Control unit
- [2] Fuse
- [3] Example = 650 kW



The pump cycles must be set depending on the calorific value system. For the function check, 2 cycles can be set. The setting is carried out using jumpers.

Calorific value system output [kW]	Jumper setting	Calorific value system output [kW]	Jumper setting
> 1000	1 <input type="checkbox"/> 7 2 <input type="checkbox"/> 8 3 <input type="checkbox"/> 9 4 <input type="checkbox"/> 10 5 <input type="checkbox"/> 11 6 <input type="checkbox"/> 12	> 650	1 <input type="checkbox"/> 7 2 <input type="checkbox"/> 8 3 <input type="checkbox"/> 9 4 <input type="checkbox"/> 10 5 <input type="checkbox"/> 11 6 <input type="checkbox"/> 12
≤ 1500 ¹⁾	1 <input type="checkbox"/> 7 2 <input type="checkbox"/> 8 3 <input type="checkbox"/> 9 4 <input type="checkbox"/> 10 5 <input type="checkbox"/> 11 6 <input type="checkbox"/> 12	≤ 1000	1 <input type="checkbox"/> 7 2 <input checked="" type="checkbox"/> 8 3 <input type="checkbox"/> 9 4 <input type="checkbox"/> 10 5 <input type="checkbox"/> 11 6 <input type="checkbox"/> 12
≤ 650	1 <input checked="" type="checkbox"/> 7 2 <input type="checkbox"/> 8 3 <input type="checkbox"/> 9 4 <input type="checkbox"/> 10 5 <input type="checkbox"/> 11 6 <input type="checkbox"/> 12	Service setting 2 cycles	1 <input checked="" type="checkbox"/> 7 2 <input checked="" type="checkbox"/> 8 3 <input type="checkbox"/> 9 4 <input type="checkbox"/> 10 5 <input type="checkbox"/> 11 6 <input type="checkbox"/> 12

1) Delivered condition

Table 4 Jumper setting

- ▶ Plug in the jumper according to table 4.
- ▶ Establish the electrical connection as shown in the wiring diagram.
- ▶ Turn the control unit through 180° again and screw tight.



The 2nd socket (5-pin Euro socket) is equipped with zero potential contacts and can be used for the remote transmission of data for example, if required.

6 Commissioning

- ▶ Connect the mains power supply to the system.
- ▶ Fill approx. 25 l water in to the granule trough.
- ▶ Check all connections for leaks.
- ▶ Check the electrodes and pump function. When the maximum water level (max. electrode) is reached, the pump must start running.
- ▶ Check indicator lamps on display (→ Figure 7).

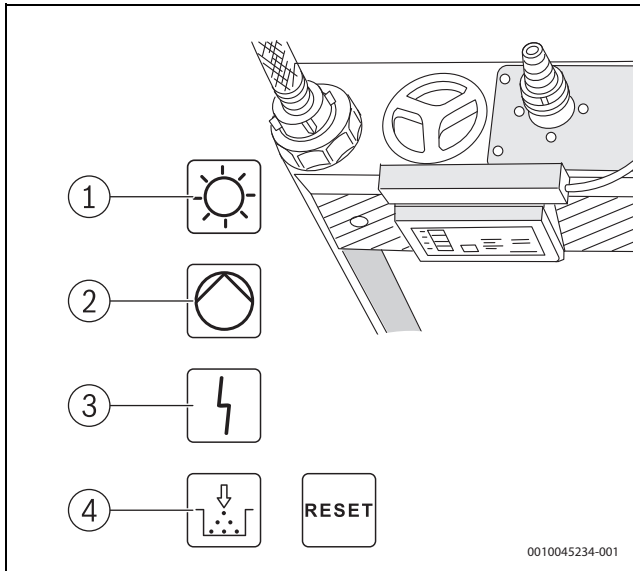


Fig. 7 Indicator lamps

- [1] Operation
- [2] Pump operation
- [3] Fault
- [4] Change granules

- ▶ Put on the appliance cover.
- ▶ Put the system into operation.



Observe the installation instructions of the floor standing boiler!

7 Maintenance



The condensate neutraliser must be inspected at least once annually and maintained if required.



The granules required for neutralisation must be replaced at certain intervals depending on the operating mode of the floor standing boiler. The "Granule change" indicator lamp on the control unit lights up when replacement is due (→ Figure 8). On this occasion, the entire appliance should be cleaned.

- ▶ Press the reset button 1x briefly, residual water is pumped out (→ Figure 8).

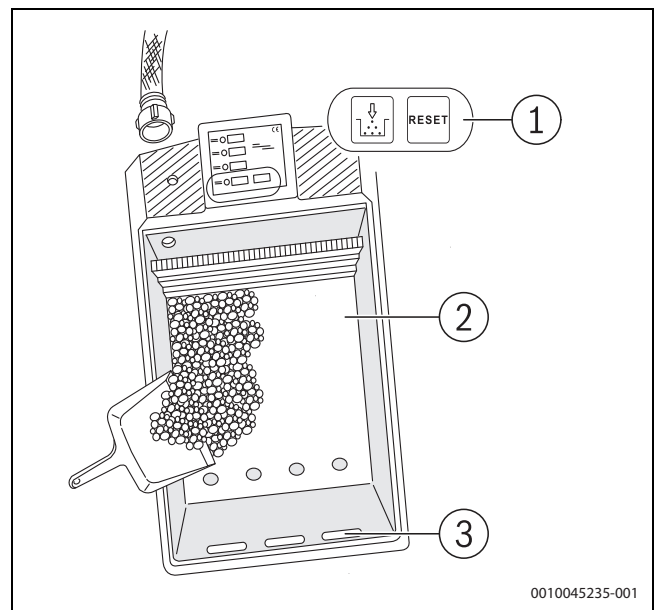


Fig. 8 Change granules

- [1] Change granules
- [2] Sludge chamber
- [3] Overflow slots



Danger to life from electric shock!

- ▶ Before working on the system: switch off the power supply.

- ▶ Remove the appliance cover.
- ▶ Using an ash shovel, or similar Remove the granules from the trough and dispose of in domestic waste.



Ensure that no granules enter the overflow slot (→ Figure 8, [2]).

- ▶ Release the inlet hose.
- ▶ Unscrew the drain hose.
- ▶ Take the entire appliance to the cleaning location.
- ▶ Cleaning the sludge chamber (→ Figure 8, [1]).

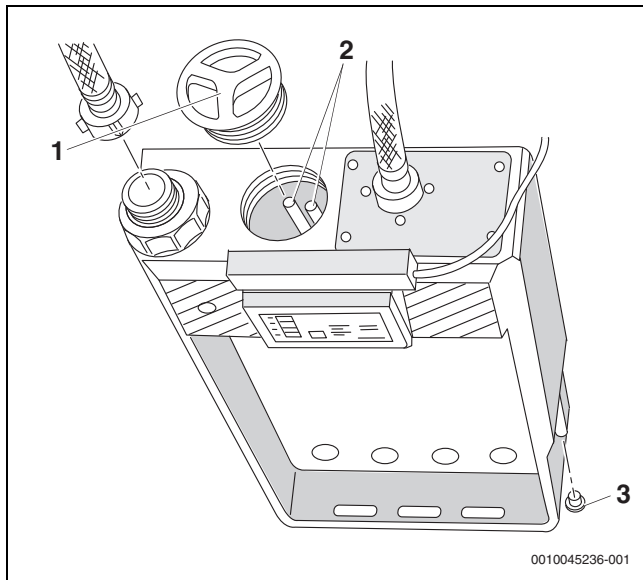


Fig. 9 Cleaning the condensate neutraliser

- [1] Cover of the inspection aperture
- [2] Electrodes
- [3] Drain flap

- ▶ Unscrew the cover of the inspection aperture (→ Figure 9, [1]) and drain flap (→ Figure 9, [3]).
- ▶ Rinse the granule trough, sludge chamber and drain pan with water.
- ▶ If necessary, carefully clean the electrodes (→ Figure 9, [2]).
- ▶ Take the appliance to the location, align horizontally, close the cover of the inspection aperture (→ Figure 9, [1]) and drain flap (→ Figure 9, [3]) again.
- ▶ Connect the supply and drain hose.



CAUTION

Harmful to health!

- ▶ Observe the safety instructions of the granule manufacturer.
- ▶ Fill new granules according to the table (→ Tab. 3, page 5).
- ▶ Press the reset button for approx. 5 seconds until the “Change granules” indicator lamp has gone out (→ Figure 8).
- ▶ Put on the appliance cover, check and put the condensate neutraliser into operation as described under Commissioning.

8 Faults



DANGER

Danger to life from electric shock!

- ▶ Before working on the system: switch off the power supply.

Faults are indicated by the “Fault” indicator lamp(→ Figure 7, page 7).

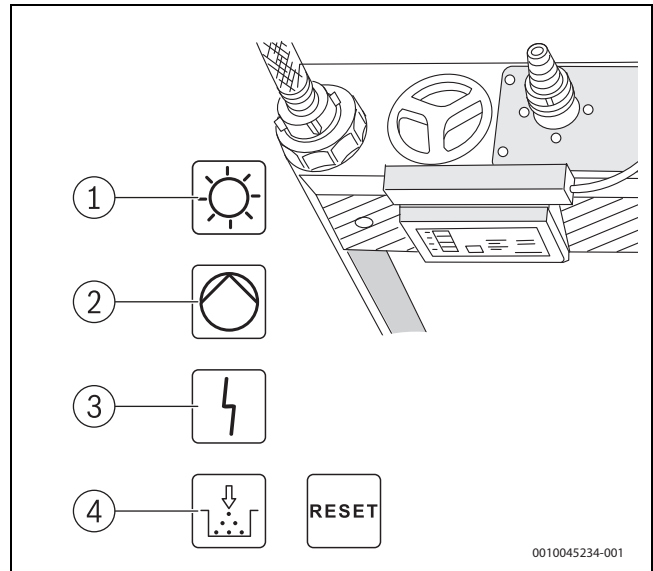


Fig. 10 Indicator lamps

- [1] Operation
- [2] Pump operation
- [3] Fault
- [4] Change granules

- ▶ Check the supply or supply hose.
- ▶ Check the drain or drain hose.
- ▶ Vent the pump.
- ▶ Check the electrodes, clean carefully if required (→ Figure 9, page 7).
- ▶ Check the fuse in the control unit (→ Figure 6, page 6).
- ▶ Pump defective.
- ▶ Inform a contractor.

The condensate neutraliser must be incorporated into the safety control of the entire heating system, as specified in the circuit diagram!

9 Pressure booster (accessory)

With delivery heads >2000 mm to ≤ 4500 mm to the drain, a pressure booster must be installed.

! DANGER

Danger to life from electric shock!

- ▶ Before working on the system: switch off the power supply.

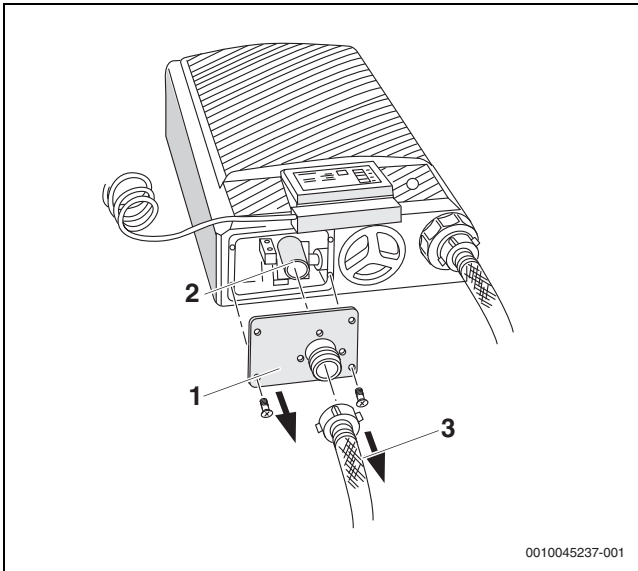


Fig. 11 Removing the cover of the pump housing

- [1] Cover of the pump housing
- [2] Pump connector
- [3] AKO drain hose

- ▶ Unscrew the AKO drain hose (→ Figure 11, [3]).
- ▶ Unscrew the screws from the cover of the pump housing (→ Figure 11, [1]) and remove the cover. The cover is no longer required.
- ▶ Loosen the hose clamp on the pump connector (→ Figure 11, [2]) and pull off the connection hose (attached behind the cover of the pump housing).

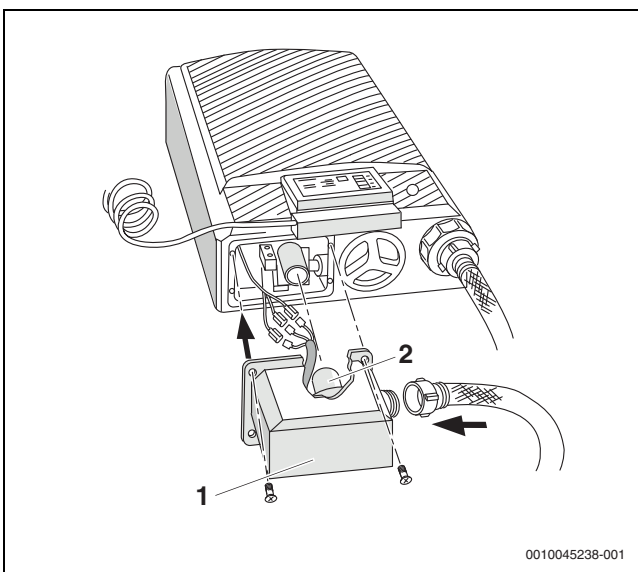


Fig. 12 Installing the pressure booster

- [1] Pressure booster
- [2] O-ring

- ▶ Connect the cable from the pump housing to the cable from the pressure booster with a connector (→ Figure 12).

i

Observe the colour coding!

- ▶ Position the pressure booster (→ Figure 12, [1]) such that the inserted O-ring (→ Figure 12, [2]) in the connector of the pressure booster slides over the connector in the pump housing.

i

Ensure proper routing of the cable!

- ▶ Line up the bores in the mounting flange and on the pump housing and screw the pressure booster (→ Figure 12, [1]) to the pump housing with 4 screws.
- ▶ Unscrew 4 screws from the control unit, remove the control unit and turn through 180° (→ Figure 6, page 6).
- ▶ Replace the fuse supplied and reinstall the control unit (→ Figure 6, page 6).

10 Environmental protection and disposal

Environmental protection is a fundamental corporate strategy of the Bosch Group.

The quality of our products, their economy and environmental safety are all of equal importance to us and all environmental protection legislation and regulations are strictly observed.

We use the best possible technology and materials for protecting the environment taking account of economic considerations.

Packaging

Where packaging is concerned, we participate in country-specific recycling processes that ensure optimum recycling.

All of our packaging materials are environmentally compatible and can be recycled.

Used appliances

Used appliances contain valuable materials that can be recycled.

The various assemblies can be easily dismantled. Synthetic materials are marked accordingly. Assemblies can therefore be sorted by composition and passed on for recycling or disposal.

Old electrical and electronic appliances



This symbol means that the product must not be disposed of with other waste, and instead must be taken to the waste collection points for treatment, collection, recycling and disposal.

The symbol is valid in countries where waste electrical and electronic equipment regulations apply, e.g. "European Directive 2012/19/EC on old electronic and electrical appliances". These regulations define the framework for the return and recycling of old electronic appliances that apply in each country.

As electronic devices may contain hazardous substances, it needs to be recycled responsibly in order to minimize any potential harm to the environment and human health. Furthermore, recycling of electronic scrap helps preserve natural resources.

For additional information on the environmentally compatible disposal of old electrical and electronic appliances, please contact the relevant local authorities, your household waste disposal service or the retailer where you purchased the product.

You can find more information here:

www.weee.bosch-thermotechnology.com/





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