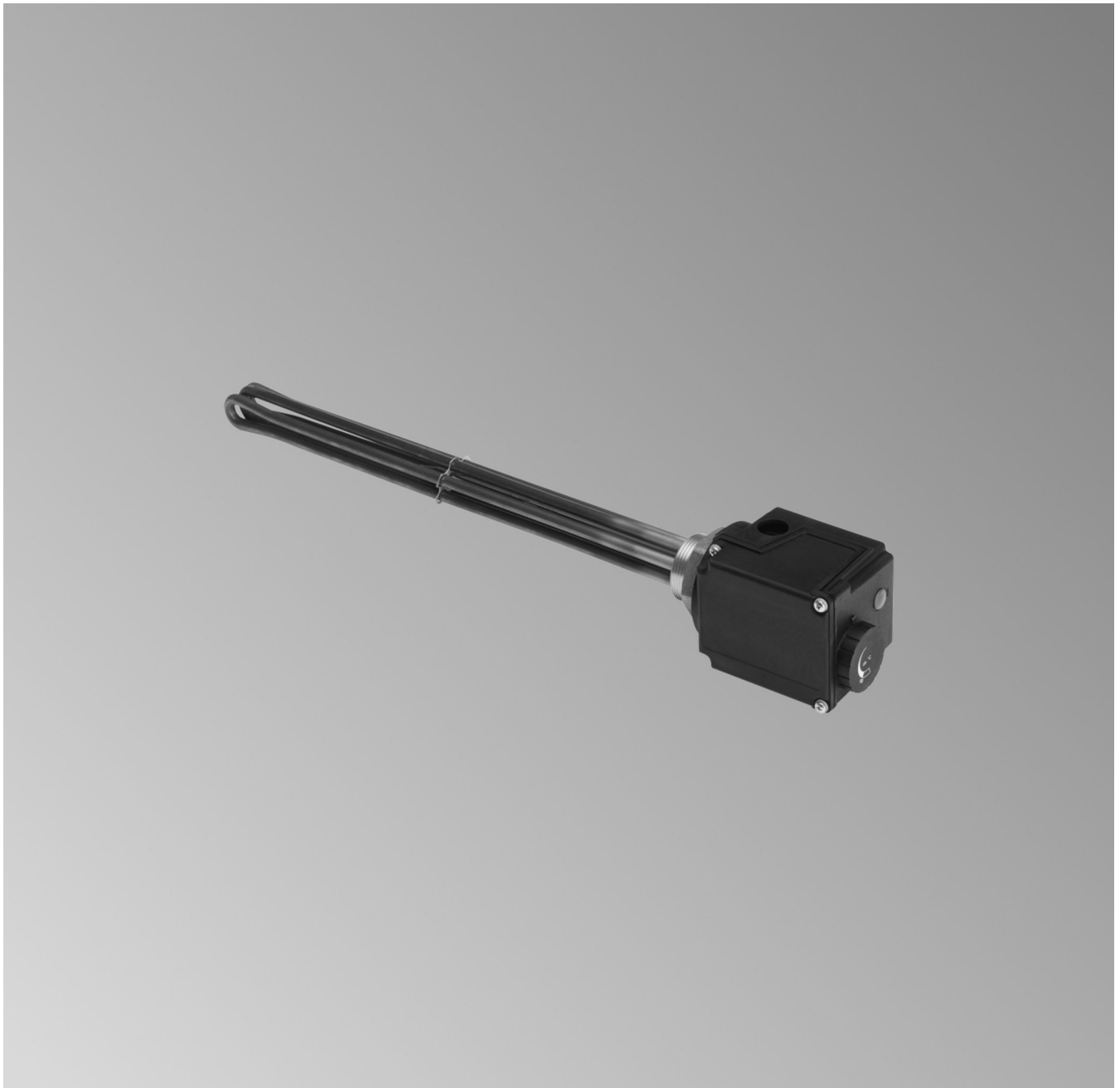


EHE immersion heater

6 kW and 12 kW
For installation in DHW cylinders

For applicability, see the last page

EHE immersion heater



Safety instructions

Safety instructions



Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained



Danger

This symbol warns against the risk of injury.



Please note

This symbol warns against the risk of material losses and environmental pollution.

Note

Details identified by the word "Note" contain additional information.

Target group

These instructions are exclusively intended for qualified contractors.

- Work on electrical equipment must only be carried out by qualified electricians.

Regulations

Observe the following when working on this system:

- National installation regulations
- Statutory regulations regarding the prevention of accidents
- Statutory regulations regarding environmental protection
- The Code of Practice of relevant trade associations
- All current safety regulations as defined by DIN, EN, DVGW, VDE and all locally applicable standards
 - Ⓐ ÖNORM, EN and ÖVE
 - ⒸH SEV, SUVA, SVTI, SWKI and SVGW

Working on the system

- Isolate the system from the power supply (e.g. by removing the separate fuse or by means of a mains isolator) and check that it is no longer 'live'.
- Safeguard the system against reconnection.

Intended use

This appliance may only be used for auxiliary domestic hot water heating in sealed unvented vessels (DHW cylinders). Due to its design, the appliance may only be installed and operated in a horizontal position. When operational, the heating rods and sensor well must be completely surrounded by potable water on all sides. Do not impede the natural thermal water flow. The technical limits specified in these instructions must be observed.

The appliance is only intended to be installed and operated in sealed systems that comply with EN 12 828/DIN 1988, with due attention paid to the associated installation, service and operating instructions. DHW cylinders are exclusively designed to hold fill water of potable quality.

Intended use presupposes that a fixed installation in conjunction with permissible, system-specific components has been carried out.

Commercial or industrial use for purposes other than domestic hot water heating shall be deemed inappropriate.

Any usage beyond this must be approved by the manufacturer in each individual case.

Incorrect usage or operation of the appliance (e.g. the appliance being opened by the system user) is prohibited and will result in an exclusion of liability.

Incorrect usage also occurs if the components in the system are modified from their intended function.

Adhere to statutory regulations, especially concerning the hygiene of potable water.

Product information

EHE immersion heater

- Compliant with EN 60335-1 (VDE 0700-1), VDE 0700-253 and the respective country-specific standards, e.g. ÖVE and SEV
- For heating domestic hot water

Note

Only use the EHE immersion heater with very soft to medium hard water up to 2.5 mol/m³ (14 °dH).

- Max. ambient temperature at the casing: 35 °C
- Unheated section: approx. 100 mm from sealing face
- For installation in a DHW cylinder under the following conditions:
 - min. 200 l water capacity
 - Water inlet and outlet pipes must be made of metal.
 - All metal parts that come into contact with water must be permanently and securely connected to the earth conductor.
- The safety valve must be installed in accordance with the installation instructions of the manufacturer and of the DHW cylinder.
- Temperature controller:
 - **Note**
To prevent rapid scale build-up on the EHE immersion heater we recommend setting the temperature controller no higher than 60 °C (marking on the rotary selector).
 - Setting range of the temperature controller: approx. 34 to 75 °C.
 - Temperature during frost protection mode: approx. 10 °C.
 - Start up: approx. 34 °C.



Please note

- Temperatures above 90 °C will trigger the high limit safety cut-out of the EHE immersion heater. When using the EHE immersion heater in a DHW cylinder with integral heat exchanger, limit the temperature introduced by the heat exchanger to 90 °C.

Minimum clearance

- When positioning the DHW cylinder, ensure there is sufficient clearance to install the EHE immersion heater.
- Allow for the installed length of the EHE immersion heater plus 150 mm.



DHW cylinder installation instructions

Fitting the EHE immersion heater

Note

The heating rods and sensor tube of the EHE immersion heater must not come into contact with each other.

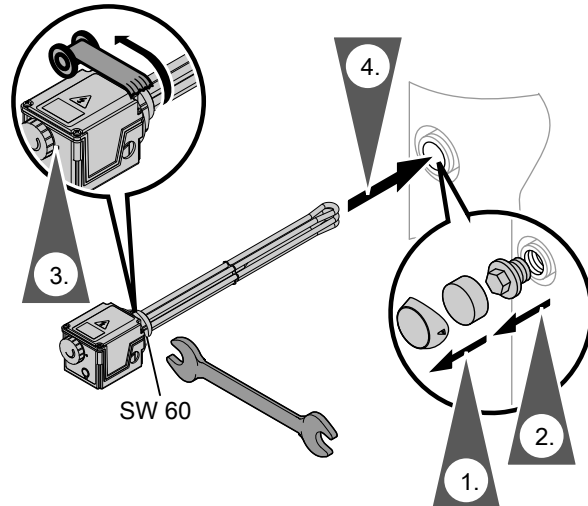


Fig. 1

Power supply

Isolators for non-earthed conductors:

Fit an isolator in the power cable to provide omnipolar separation of all active conductors from the mains, corresponding to overvoltage category III (3 mm) for full insulation. This isolator must be fitted in the permanent electrical installation, in line with the installation requirements.

Danger
Incorrectly executed electrical installations can result in injuries from electrical current and in appliance damage.

Connect the power supply and implement all safety measures (e.g. RCD circuit) in accordance with the following regulations:

- IEC 60364-4-41
- VDE regulations
- Technical connection requirements specified by the local power supply utility

Danger
If system components are not earthed, serious injury from electric current can result if an electrical fault occurs.
Connect the appliance and pipework to the equipotential bonding of the building in question.

Danger
Incorrect core allocation can result in serious injury and damage to the appliance.
Never interchange cores "L" and "N".

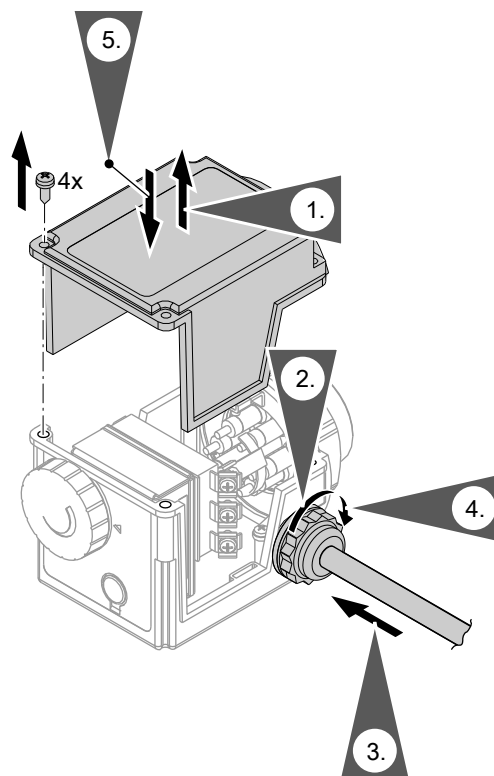



Fig. 2

1. Open the casing.
2. Mount the cable fitting (supplied inside the casing).

Recommended power cable: H05V2V2-F

Power supply (cont.)

3. Feed cable H05V2V2-F through the cable fitting and make the electrical connection.
The EHE immersion heater can be operated in 3 output settings.
The output is determined by the type of connection.
Make the mains connection for the EHE immersion heater as 6 kW and 12 kW respectively, as detailed in the tables below.

5. **Danger**  An electrical fault causing dangerous injury may result if the casing is not securely sealed.
Only use the washers, screws and casing seal supplied. Never move or damage the casing seal when closing the casing.

4. Apply strain relief to the cable.

Close casing.

EHE immersion heater 6 kW

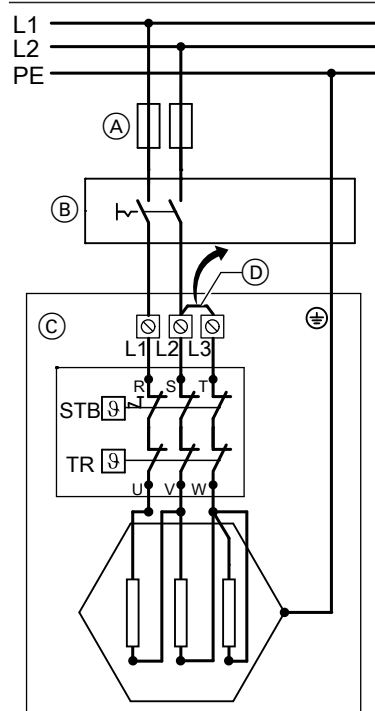
2 kW heating output terminal: 1/N/PE 230 V~	4 kW heating output terminal: 1/N/PE 230 V~	6 kW heating output terminal: 3/PE 400 V~
<p>Note Remove jumper (D) when connecting.</p>		<p>Note Remove jumper (D) when connecting.</p>
<p>(A) On-site fuse/MCB, output-dependent (B) 3-pole switch (on-site) (C) EHE immersion heater (D) Remove jumper (standard delivery)</p>	<p>(A) On-site fuse/MCB, output-dependent (B) 3-pole switch (on-site) (C) EHE immersion heater (D) Jumper (standard delivery)</p>	<p>(A) On-site fuses/MCBs, output-dependent (B) 3-pole switch (on-site) (C) EHE immersion heater (D) Remove jumper (standard delivery)</p>

Power supply (cont.)

EHE immersion heater 12 kW

4 kW heating output terminal:

2/PE 400 V~



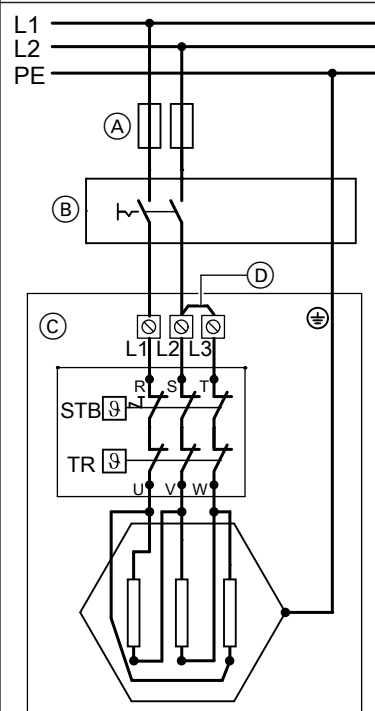
Note

Remove jumper (D) when connecting.

- (A) On-site fuses/MCBs, output-dependent
- (B) 3-pole switch (on-site)
- (C) EHE immersion heater
- (D) Remove jumper (standard delivery)

8 kW heating output terminal:

2/PE 400 V~



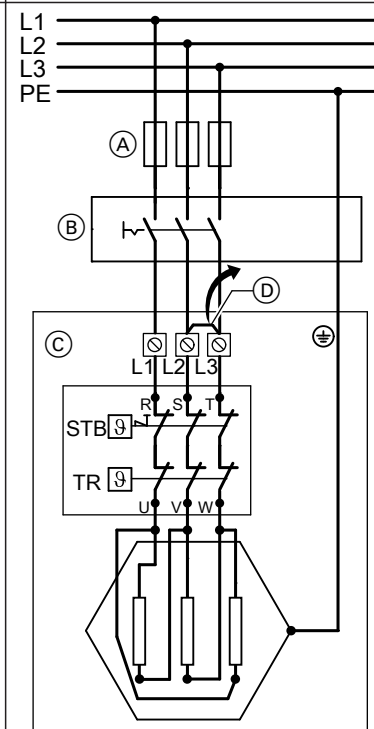
Note

Remove jumper (D) when connecting.

- (A) On-site fuses/MCBs, output-dependent
- (B) 3-pole switch (on-site)
- (C) EHE immersion heater
- (D) Jumper (standard delivery)

12 kW heating output terminal:

3/PE 400 V~



Note

Remove jumper (D) when connecting.

- (A) On-site fuses/MCBs, output-dependent
- (B) 3-pole switch (on-site)
- (C) EHE immersion heater
- (D) Remove jumper (standard delivery)

Connecting the earth conductor to the DHW cylinder



Danger

If system components are not earthed, serious injury from electric current can result if an electrical fault occurs.
Connect the appliance and pipework to the equipotential bonding of the building in question.



DHW cylinder installation instructions

In line with VDE requirements and applicable standards, connect the inner metal cylinder body securely and permanently to the earth conductor with a serrated lock washer.

- The water inlet and outlet pipes of the DHW cylinder must be made of metal.
- All metal parts that come into contact with water must be permanently and securely connected to the earth conductor.

Connecting the earth conductor to the DHW... (cont.)

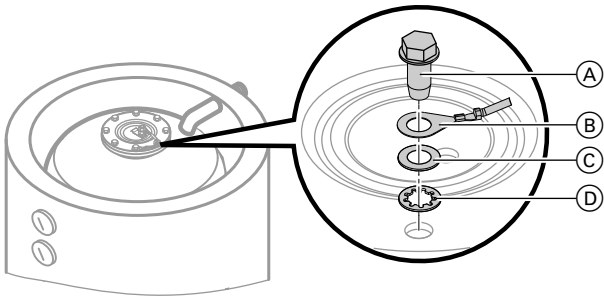


Fig. 3

- Ⓐ Screw (with washer)
- Ⓑ Lug for earth conductor
- Ⓒ Washer
- Ⓓ Serrated lock washer

Commissioning

Note

Only switch ON the EHE immersion heater when the DHW cylinder is full and pressurised.

1. Set the required DHW temperature at the temperature controller.

2. Monitor and check for correct function during the 1st heat-up. At the same time, test the temperature controller's automatic switch-off function.

Note

During the heat-up process water should drip from the safety valve.

Instructing the system user

Instruct the system user on how to operate the EHE immersion heater in conjunction with the heating system as a whole.

The instructions must cover the following points:

- Operating the temperature controller (see page 3)
- What to do in the event of a fault: Disconnect the power supply to the appliance and inform the heating contractor.
- Advise user of the required service intervals in relation to the water hardness (see page 9)
- Advise the user regarding regular operation of the safety valve (see operating instructions for the heating system)
- Further information for the user is available in the operating instructions of the heating system.

Information on users

The EHE immersion heater can also be operated by children 8 years and older, as well as by individuals with reduced physical, sensory or mental faculties or those lacking in experience and knowledge, provided such individuals are being supervised or have been instructed in the safe use of this appliance and any risks arising from it.

Environmental conditions

- ! **Please note**
 - Incorrect ambient conditions can lead to heating system damage and can put safe operation at risk.
Ensure ambient temperatures are above 0 °C and below 35 °C.

Auxiliary components, spare and wearing parts

- ! **Please note**
 - Components not tested with the heating system may damage the system or affect its function. Have all installation or replacement work carried out exclusively by qualified contractors.

Maintenance and service

Depending on the water hardness and the operating conditions, it may be necessary to descale the heating rods at certain intervals.

The EHE immersion heater will require regular servicing at a water hardness $> 1.3 \text{ mol/m}^3$ (7 °dH). Alternatively, take suitable measures to lower the lime content in the domestic water supply.

1. Isolate the EHE immersion heater from the power supply and safeguard against reconnection.
2. Drain the DHW cylinder:



DHW cylinder service instructions

3. Remove the EHE immersion heater in reverse order to installation, see page 4.
4. Descal the heating rods.
5. Reinstall the EHE immersion heater, see page 4.
6. Fill the DHW cylinder.



DHW cylinder service instructions

7. Check the function of the safety valve.



DHW cylinder service instructions and safety valve instructions

8. Reconnect the power supply to the EHE immersion heater.

High limit safety cut-out has responded

At a temperature of 98 °C ^{-6K} the high limit safety cut-out switches the EHE immersion heater off.

The contacts open and are locked out.

Immersion heater was not yet operational:

The high limit safety cut-out was triggered due to cylinder temperatures below -12 °C. Raise the temperature at the sensor to 20 °C, then reset the high limit safety cut-out:

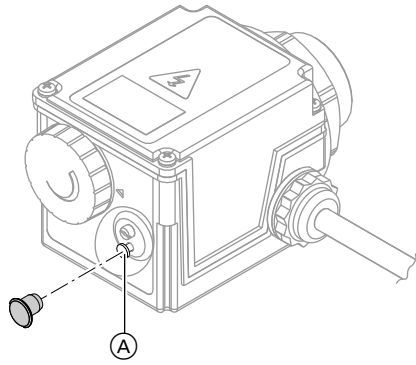


Fig. 4

1. Switch OFF mains power and safeguard against unauthorised reconnection.
2. Remove cover with screwdriver.
3. Press reset button (A).
4. Refit the cover.

Immersion heater was operational:

The high limit safety cut-out may have been triggered because the immersion heater was damaged. Therefore do **not** reset the high limit safety cut-out. Replace the entire immersion heater.

Declaration of conformity

We, Viessmann Werke GmbH & Co KG, D-35197 Allendorf, declare as sole responsible body, that the **EHE immersion heater** product complies with the following standards:

EN 60 335-1
EN 61 000-3-2

EN 61 000-3-3
VDE 0700 Part 253

In accordance with the following Directives, this product is designated with **CE**:

2006/96/EC
2004/108/EC

Allendorf, 01 September 2014

Viessmann Werke GmbH & Co KG



Authorised signatory Manfred Sommer

Applicability

Serial No.:

7537243

7537244

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