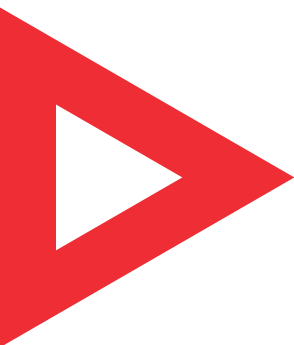
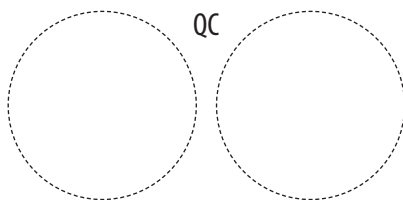


Catalogue No.

Production date



Installation and operation manual / Warranty card

Electrical set GE kW

Complete heating element on a Ø180 flange
intended for mounting in water heaters

For use in steel-enamelled tanks with magnesium anode.

 Please read the instructions carefully before beginning the installation and use of the product.

1. Use / 2. Technical specification / 3. Heating element

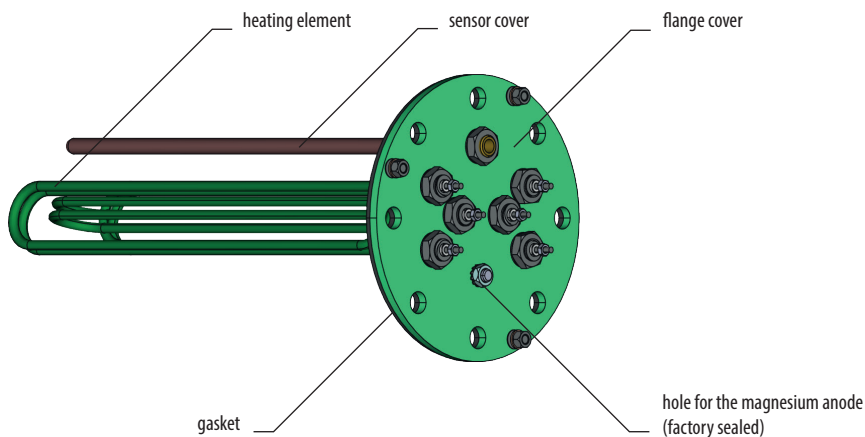
1. Intended use

The heating element with a thermoregulator is used exclusively for heating domestic water in an enamelled water heaters. In water heaters where cathode corrosion protection by magnesium or titanium anode is provided, the heater should be partially isolated from the tank's walls through a cable with a resistor. As a result, the difference of electrochemical potentials in the water-filled heater between the copper elements and the carbon-steel heater is partially compensated. This has a great impact on the durability of the heating element and the magnesium anode. Range of operating temperatures of the heating element: from 25 to 70°C ± 5.

2. Technical specification

Heating power [kW]	Voltage [V]	Temperature range [°C]	Protection [A]	Connection cable [mm ²]	Contactor [A]	Flange diameter [mm]	Mounting	Protection class [IPx]	Electrical scheme
4,5	3/PE ~230/400	25-70°C ±5	10	5x2,5	-	Ø180	M12 screw	24	Star
6	3/PE ~230/400	25-70°C ±5	16	5x2,5	-	Ø180	M12 screw	24	Star
9	3/PE ~230/400	25-70°C ±5	16	5x2,5	-	Ø180	M12 screw	24	Star
12	3/PE ~230/400	25-70°C ±5	20	5x2,5	-	Ø180	M12 screw	24	Star

3. Heating element



4. Installation

Installation of the heating element should be performed only by a qualified installer with a valid SEP with the principles of fire protection. The manufacturer is not liable for damage to the heating element caused by improper installation.

The heater is designed to work with a pressure of not more than 10 bar (1 MPa). Remember to install a safety valve with an opening pressure of not more than that specified in the operating parameters of the water heater. The valve should be selected based on its capacity, taking into account the power of all the heating elements and heat exchangers in the tank.



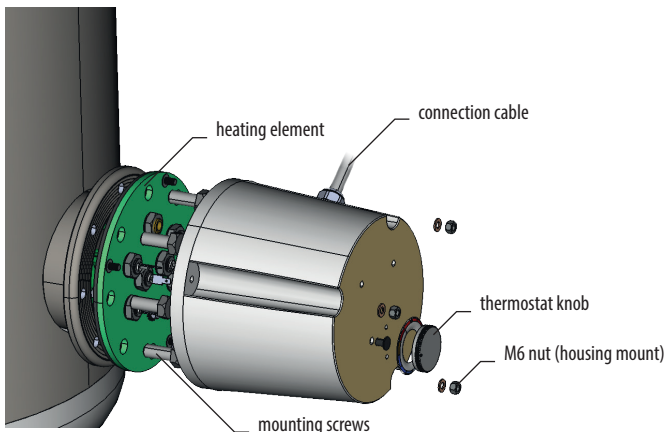
It is recommended to install electrical set in Galmet heat exchangers.



WARNING! Before installing the electrical set, it is recommended to mount the magnesium anode in the hole covered with the M8 screw located on the flange.

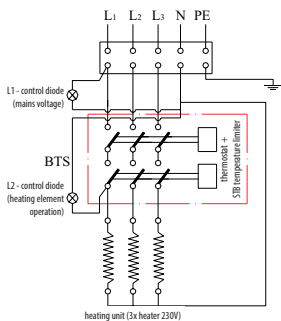
In order to install the electrical set, the following should be done:

- empty the water from the tank,
- unscrew the inspection hole cover (8 screws),
- screw the heating element, which can only work in a horizontal position,
- fill the tank with water,
- check the tightness of the threaded connection and tighten if necessary,
- connect the control module with the heating element,
- plug the heating element to the power socket while providing the basic fire protection.



5. Schemes / 6. Operation

5. Schemes



Electrical diagram 230/400 V~

6. Operation

The operating temperature range of the GE electric set is from 25 to 70°C ($\pm 5^\circ\text{C}$).

The heating element has a built-in temperature limiter that protects the heating element against overheating (the activation temperature of the STB temperature limiter is 98°C ($\pm 8^\circ\text{C}$)).

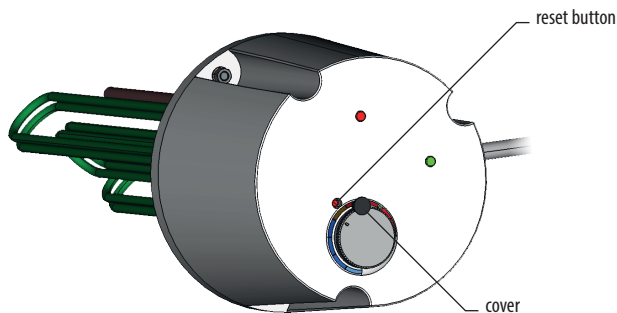
In case the STB is activated the heating element stops heating (all control diodes are off), it is necessary to turn off the heating element and determine the cause of the limiter's activation.

To restart the electrical set, reset the STB limiter, for this purpose it is necessary to:

- with power disconnected, press the reset button on the thermostat (insert a screwdriver into the hole in the cover),
- reconnect the power to the electrical set.



WARNING! All work on the electrical set should be performed by people with appropriate permissions and with the power turned off.



7. Warranty

7.1. Warranty void

The buyer loses the warranty if:

- the buyer makes any repairs or alterations to the heating element,
- the service detects any interference in any part of the heating element,
- the service detects any damage, tampering or removal of serial numbers or other identifying marks to the heating element,
- this warrant card gets lost.

7.2. Repair terms

In the event of product's malfunction please notify the distributor. All flaws resulted from the manufacturer's fault will be removed up to 21 days from the date of notification. Keep the receipt and warranty card in order for the service to access it.

7.3. Scope of the warranty

The following defects or failures are not covered by the warranty:

- mechanical damage caused by the use of chemical agents,
- caused by improper installation of the heating element,
- caused by improper manual handling, transport, storage, or cleaning of the heating element,
- improper use of the heating element (not using the element in accordance with generally accepted standards of using the electric heating elements).

24 months of warranty for the electrical set GE*

* Provided that the user complies with the basic principles of operation.

8. Safety conditions

- the safety valves must be set so that the pressure in the tank does not exceed its nominal value,
- the overflow system should be set so that the pressure in the tank does not exceeded its nominal value,
- heating element must be installed in the bottom part of the tank on Ø 180 mm flange,
- before the initial start-up - ensure that there is water in the tank (the heating element must reside below the water level),
- maximum working pressure cannot exceed 10 bar.



If the supply cord is damaged, it should be replaced by a special cord from the manufacturer or repaired at a proper repair service.



This symbol indicates that the electrical and electronic equipment can not be put together with other waste. These devices must be returned to a designated waste disposal, where they will be processed accordingly. Waste disposal of the electrical and electronic equipment helps protect the environment and prevent any potential negative effects on human health.

DECLARATION OF CONFORMITY



„GALMET Sp. z o.o.” Sp. K.
48-100 Głubczyce, Raciborska 36

declares that the following product:
**4,5 kW; 6 kW; 9 kW; 12 kW electrical sets
for the enamelled water heaters:**

to which this declaration applies to is compliant with the following directives:

Low Voltage Directive 2014/35/EU
EMC Directive 2014/30/EU

as well as the following standards:

PN-EN 60335-2-73
PN-EN 60335-1
PN-EN 62233
PN-EN 55014-1
PN-EN 55014-2
PN-EN 61000-4

Głubczyce, 01.03.2018

.....
(Place and date)

PREZES Zarządu
Stanisław Galarski

.....
(Authorized person signature)

WARRANTY CARD

No.	Repair date	Repair description	Service's signature	Owner's signature

Repair date	Repair date	Repair date	Repair date	Repair date
Scope of the repair	Scope of the repair	Scope of the repair	Scope of the repair	Scope of the repair
Service's stamp	Service's stamp	Service's stamp	Service's stamp	Service's stamp
Owner's name and address	Owner's name and address	Owner's name and address	Owner's name and address	Owner's name and address
Owner's signature	Owner's signature	Owner's signature	Owner's signature	Owner's signature

WARRANTY CARD



„Galmef Sp. z o.o.“ Sp. K.
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tel.: +48 77 403 45 00
fax: +48 77 403 45 99

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Warranty coupon 1	Warranty coupon 2	Warranty coupon 3	Warranty coupon 4
Heater type:	Heater type:	Heater type:	Heater type:
Serial no.:	Serial no.:	Serial no.:	Serial no.:
Date of sale	Date of sale	Date of sale	Date of sale
Seller's stamp and signature	Seller's stamp and signature	Seller's stamp and signature	Seller's stamp and signature

Confirmation of the installation
Heater type:
Serial no.:
Date of sale
Seller's stamp and signature