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1ph heating element w. conn.&switch

Installation and Operation Manual
SINGLE-PHASE HEATING ELEMENT
with connector and switch

EN

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1 - General

1.1 - Application

This electric heating element is designed to heat sanitary water in a hot water storage tank or heating fluid in a thermal store, incl. DUO Thermal Stores. This heating element is not designed to heat fluids in stainless steel vessels.

1.2 - Installation

Screw the el. heating element into the respective threaded sleeve (G 6/4” F) with the cable gland pointing downwards. Sealing cord, hemp, Teflon tape or semi-permanent thread sealant should be used to avoid leaks.

1.3 - Maintenance

Clean the exterior of the heating element with a soft cloth and a suitable detergent. Never use abrasive cleaners or solvents.
If the element is used in extra hard water, it is recommended to remove sediments at least once a year.
Unplug the element before cleaning. Then drain water from the tank and dismount the heating element. Scratch the hard deposits on the heating rod with a plastic or wooden spatula and flush with water. Be careful not to damage the protective nickel layer on the heating rod. Then reinstall the element according to this instruction manual, fill the tank with water, air-bleed and pressurize it. Check the threaded connection for leaks. Finally, reconnect the heating element to the mains.

1.4 - Disposal

IMPORTANT INFORMATION ON PROPER DISPOSAL OF E-WASTE AS REQUIRED BY THE EC DIRECTIVE 2002/96/EC (WEEE)

Do not dispose of this product as unsorted municipal waste. Please dispose of this product by returning it to the point of sale or to your local municipal collection point for recycling.
Respecting these rules will help to preserve, protect and improve the quality of the environment, protect human health and utilize natural resources prudently and rationally. The crossed out wheeled bin with marking bar, printed ether in the Manual or on the product itself, identifies that the product must be disposed of at a recycling collection site.

WEEE Registration Number: 02771/07-ECZ

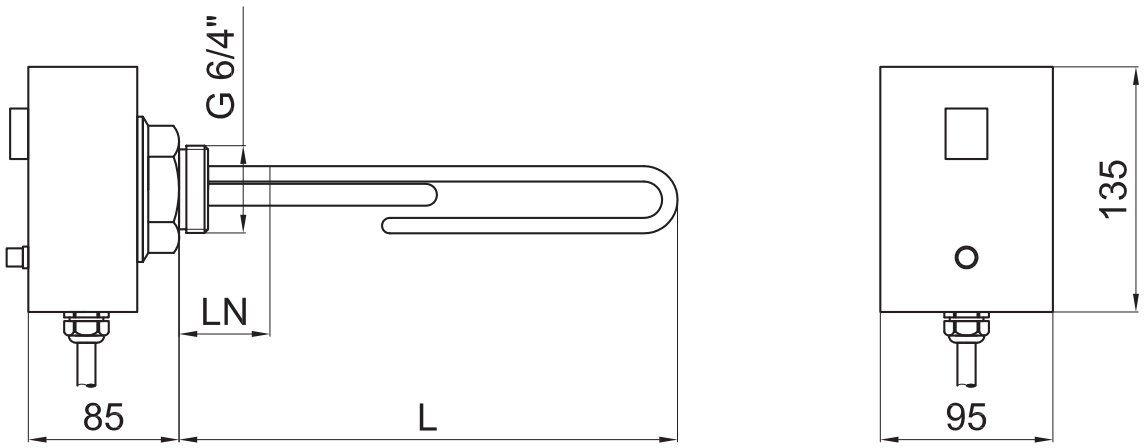
2 - Single-phase heating element with connector and switch

2.1 - Technical description

The electric heating element consists of a nickel-plated heating rod with G 6/4“ outer thread, a safety capillary thermostat with manual reset in case of a temperature drop below 40 °C, set to 99 °C and +0 °C, -10 °C tolerance, 3× 1.5 mm² power supply cable with a connector. The power supply cable is 5 m long. IP 40 protection.

2.2 - Dimensions

	output	power supply	model	code	material	non-heating end LN	heating rod length L	min. hot water storage tank size	min. thermal store size		
230 V	[kW]					[mm]	[mm]				
	2.0	1/N/PE AC 230V	ETT-N-2,0	16942	nickel-plated copper	180	350	RGC 120 H	PS 200	HSK 390	DUO 390
	3.0	1/N/PE AC 230V	ETT-N-3,0	16943	nickel-plated copper	180	450	RBC 200	PS 200	HSK 390	DUO 390

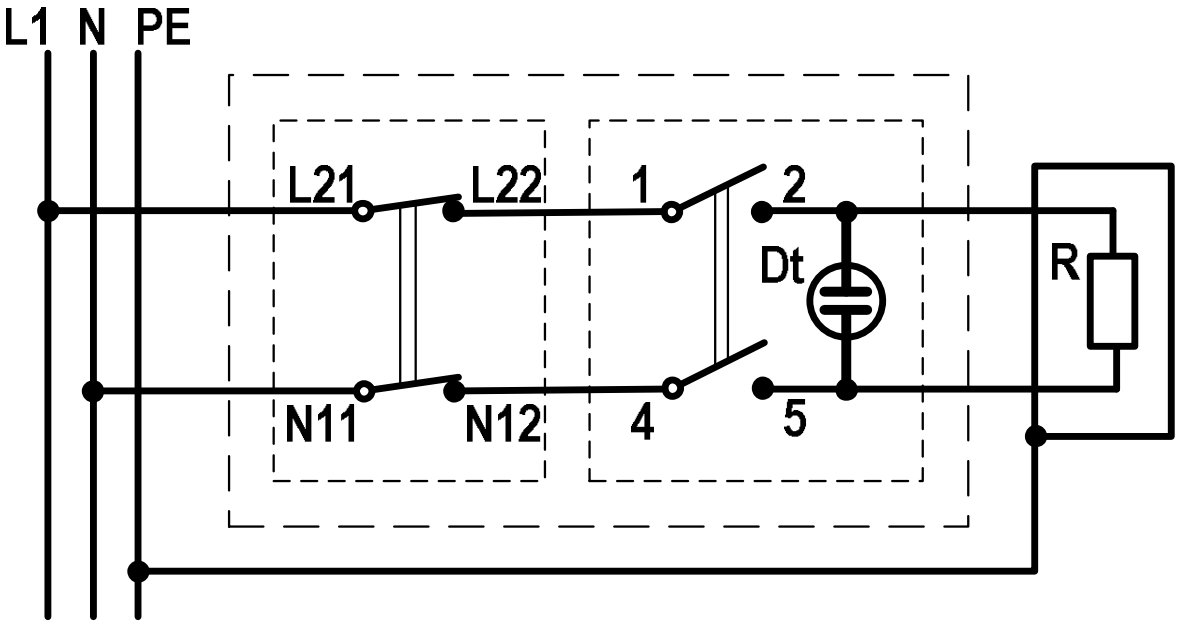


2.3 - Connection to power supply

The electric heating element connects to a solar controller connector 1/N/PE AC 230V 50Hz by a flexible power cord. Do not use the element if the power supply cord or connector is damaged. All repairs shall be performed by a specialized company.

2.4 - Wiring diagram

2.4.1 - Wiring diagram of the heating element



2.5 - Commissioning, operation and possible faults

WARNING!

THE OUTGOING HOT WATER SHALL NOT BE LEAD THROUGH COMMON PLASTIC PIPES. THE PIPING USED SHALL BE RESISTANT TO TEMPERATUREs OF 100 °C AT LEAST.

IF PLAIN COMMON PLASTIC PIPING IS USED, ITS SERVICE LIFE IS SIGNIFICANTLY REDUCED UNDER TEMPERATURES OVER 60 °C. WHEN COMBINED WITH IMPROPER PIPE FIXING THAT PREVENTS/RESTRICTS ITS DILATATION, THE PIPE SERVICE LIFE MIGHT BE JUST SEVERAL HOURS!

IN ORDER TO TIGHTEN THE HEATING ELEMENT, NEVER GRASP ON THE PLASTIC BOX BUT USE THE HEXAGON INSTEAD.

Water in direct contact with the heating element shall not exceed the values given in the chart below. The manufacturer bears no responsibility for defects (e.g. limescale deposits on the heating element) caused by unsuitable operation conditions.

Table of limit values for total dissolved solids in hot water

Description	pH	Total dissolved solids (TDS)	Ca	Chlorides	Mg	Na	Fe
Max. value	6.5-9.5	600 mg/l	40 mg/l	100 mg/l	20 mg/l	200 mg/l	0.2 mg/l

2.5.1 - DHW heating in a hot water storage tank

In order to heat water in the hot water storage tank, open the cold water inlet, fill the tank with water and air-bleed it by opening the hot water tap. Set the desired temperature via the solar controller.

It is recommended to set the temperature to 60 °C. This temperature guarantees the best operation of the heating element, offering also:

- protection against Legionella
- cost reduction
- slower deposit formation

2.5.2 - Heating fluid heating in a thermal store

Fill the heating system with heat transfer fluid, airbleed it and pressurize to the working pressure. Set the desired temperature via the solar controller.

2.5.3 - Heating element state during operation

When the safety temperature is reached, the safety thermostat will cut off the heating element from power supply. The safety thermostat features no automatic reset. After the tank cools down to below 40 °C, unscrew the lid of the heating element and reset it by pressing the button. The heating element is ready again.

2.5.4 - Possible faults

If the tank gets overheated without any other heat source used (the solar controller probably does not turn off the heating element when the set temperature is reached), call your service provider.
If the heating element shows signs of another defect, disconnect it from the mains immediately and call your service provider.

WARRANTY CERTIFICATE

SINGLE-PHASE HEATING ELEMENT with connector and switch

Model: .....

Serial number: .....

Seller: ..... Date of purchase: .....

WARRANTY CONDITIONS

1. The warranty period is 24 months from the date of purchase
2. The product shall be installed and commissioned by a competent company or a person trained by the Manufacturer.
3. When claiming warranty, this Warranty Certificate must be submitted together with the purchase receipt.
4. The warranty is valid only when the technical conditions set by the Manufacturer, installation manual and instructions in the documentation and on the product itself are respected.
5. The warranty does not cover defects caused by external conditions or improper working conditions, defects caused by normal wear and tear, further when the product is not used in compliance with its purpose and when the defect was caused by mechanical damage to the product, improper handling, tampering by a third person, improper installation, improper stocking, natural disaster etc.

COMMISSIONING

Company: ……..……..

Date: ……..……..

Rubber stamp print and signature of the technician:

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