

## DATA SHEET

### ETT-R Heating Element, G 6/4"



Main Features	
Application	Heating of flowing and static fluid, namely in hot water storage tanks and thermal stores. The heating element is connected in star configuration and so it is suitable for utilizing surpluses from single-phase and three-phase photovoltaic systems.
Working fluid	Drinking water, heating water, antifreeze fluid for heating systems and heat pumps.
Installation	Element shall be completely immersed in working fluid.

This heating element is not designed to heat fluids in stainless-steel tanks.  
 This heating element is not designed to heat other fluids than listed, nor gases or vapours.  
 Heating fluid in direct contact with the heating element shall meet the relevant standards.

Hot water in direct contact with the heating element shall not exceed the following values:

Total Dissolved Solids (TDS)	pH	Calcium	Chlorides	Mg	Na	Fe
600 mg/litre	6.5–9.5	40 mg/litre	100 mg/litre	20 mg/litre	200 mg/litre	0.2 mg/litre

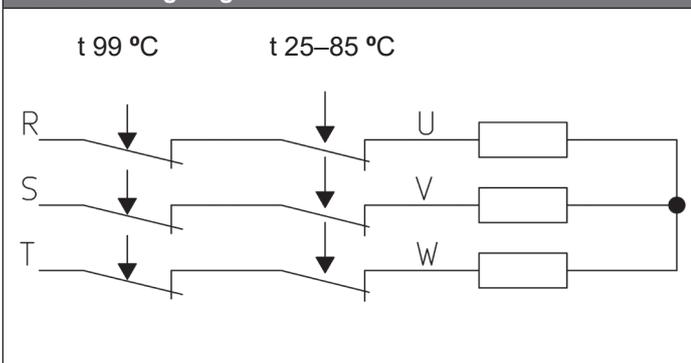
#### Technical Data

Electrical wiring	1/N/PE AC 230 V 3/N/PE AC 400/230 V
IP rating	IP 65
Protection class by EN 61140 ed. 2	I
Body type	electric, resistive, nickel-plated, with thermostatic head
Adjustable thermostat	adjustable from 25 to 85 °C
Safety thermostat	fixed temp. at 99 °C
Safety thermostat reset	manual, after temperature drop by 10 K min.
Max. current at thermostat contacts	20 A
Cable gland	Pg 13
Connection thread	G 6/4" outside
Connection to mains	cable for fixed wiring to a terminal box or fuse box – not included in supply – for recommended cross-sections pls consult the table below

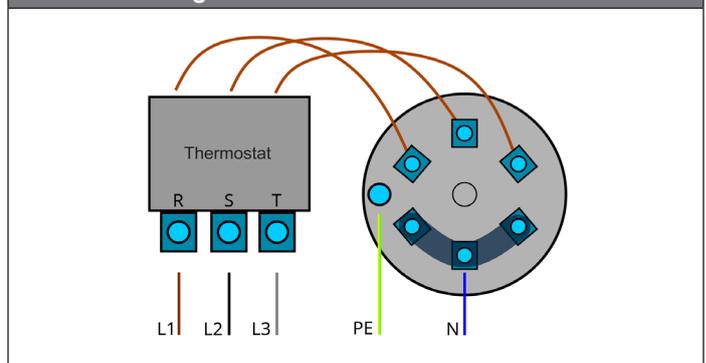
#### Materials

Heating element	nickel-plated copper
Heating element cover	plastic
Threaded hexagon	nickel-plated brass

#### Internal wiring diagram



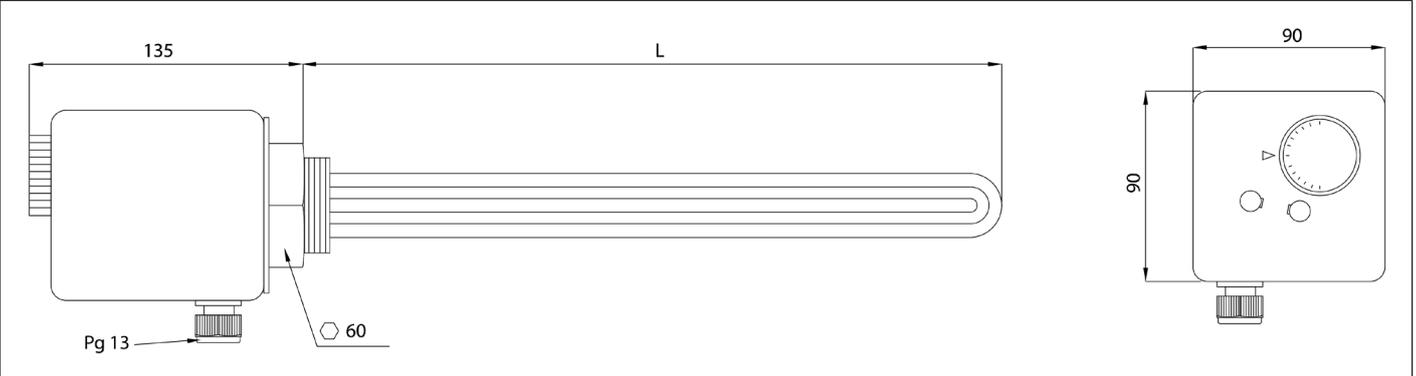
#### Connection diagram



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#### Dimensions



Element type	Nominal output	Element length L [mm]	Non-heating end length LN [mm]	Code
ETT-R – 2.0	2.0 kW	295	100	<b>19695</b>
ETT-R – 3.0	3.0 kW	295	100	<b>19699</b>
ETT-R – 4.5	4.5 kW	360	100	<b>19691</b>
ETT-R – 6.0	6.0 kW	485	100	<b>19277</b>
ETT-R – 9.0	9.0 kW	670	100	<b>19693</b>
ETT-R – 12.0	12.0 kW	805	100	<b>20168</b>

#### Recommended wiring to the mains\*

Element type	wiring 3 x 230 V equal phase load	wiring 3 x 230 V unequal phase load (e.g. a PV system)	wiring 1 x 230 V
ETT-R – 2.0	5G x 1	5G x 1.5	3G x 1.5
ETT-R – 3.0	5G x 1	5G x 2.5	3G x 2.5
ETT-R – 4.5	5G x 1.5	5G x 2.5 (to 3 m)	3G x 2.5 (to 3 m)
ETT-R – 6.0	5G x 1.5	7 x 1.5 (to 3 m)**	3G x 4 (to 3 m)
ETT-R – 9.0	5G x 2.5	7 x 2.5 (to 3 m)**	not recommended
ETT-R – 12.0	5G x 2.5 (to 3 m)	7 x 2.5 (to 3 m)**	not recommended

\* For cables run in the air.

\*\* Separate neutral conductor for each phase.

It is recommended to use cables with silicone insulation.