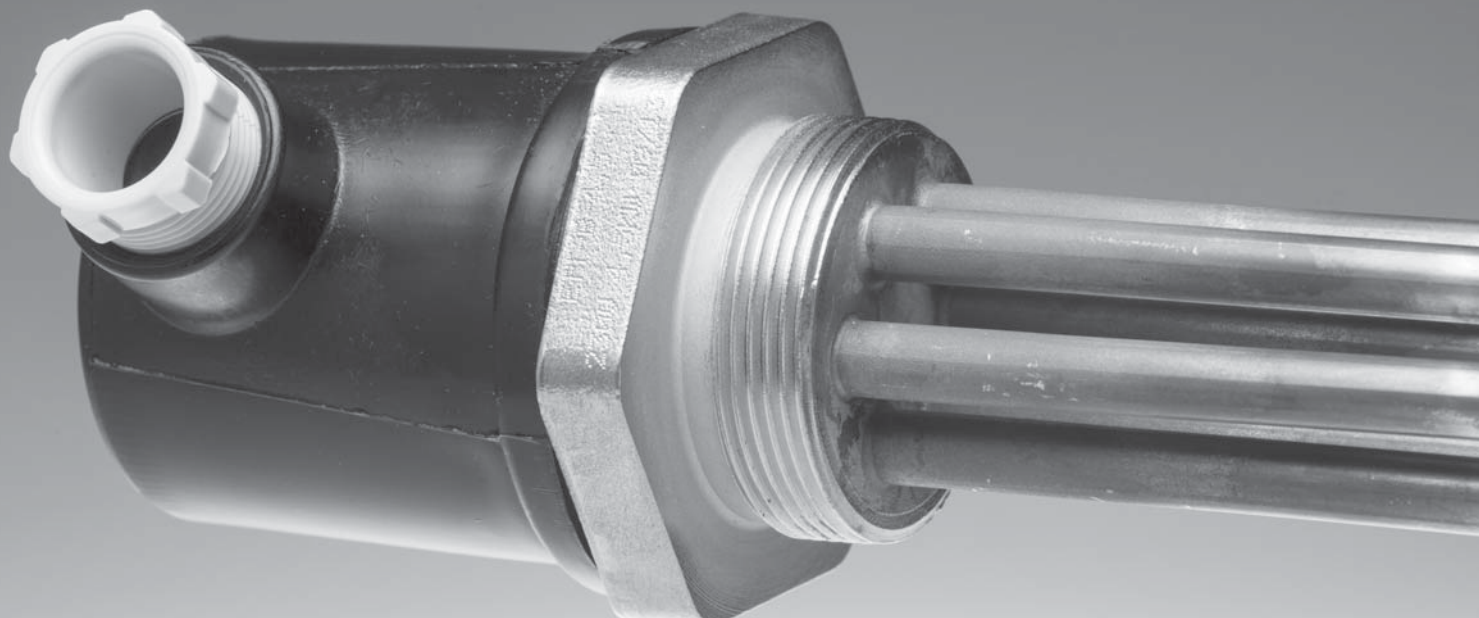


ELECTRIC HEATING ELEMENTS



- for heated towel rails
- for thermal stores
- for hot water storage tanks
- for electric boilers



CONTENTS

4 - 8

G 1/2" ELECTRIC HEATING ELEMENTS
for heated towel rails



10 - 11

G 6/4" ELECTRIC HEATING ELEMENTS
for thermal stores and hot water storage tanks



12 - 19

G 6/4" ELECTRIC HEATING ELEMENTS WITH THERMOSTATS
for thermal stores and hot water storage tanks



20

M 48X2 ELECTRIC HEATING ELEMENTS
for electric boilers



22 - 23

OVERVIEW OF HEATING ELEMENTS, APPLICATION

24

TAILOR-MADE ELECTRIC HEATING ELEMENTS

G 1/2" ELECTRIC HEATING ELEMENTS with plug

Output: 200 - 1350 W
Application: heated towel rails



Z-ZT Electric Heating Elements

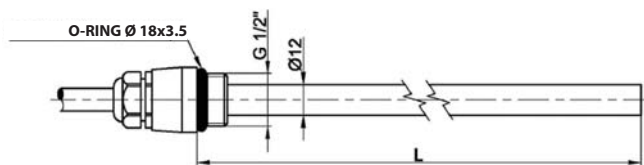
Resistance heating elements intended for heating of static or flowing water, antifreeze fluid or thermal oil in heated towel rails.

They are designed to be installed in any position except for vertical with el. cable upwards. The power supply spiral cable is fitted with Uni Schuko plug.

For room temperature control, the heating elements can be switched on/off by TZ33 or TZT63 plug-in thermostats.

These heating elements are not equipped with a room thermostat.

DIMENSIONS, MODELS



TECHNICAL DATA

HEATING ELEMENT	stainless steel AISI A304
CONNECTION	G 1/2" M
HEATING ELEMENT BODY	chrome plated brass
POWER SUPPLY	230 V 50 Hz
EL. WIRING	1/N/PE AC 230V
IP RATING	IP 44
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	fixed setting, automat. reset
SWITCH-OFF TEMP.	80 ± 5 °C
SWITCH-ON TEMP.	35 ± 15 °C
SAFETY THERMOSTAT	fixed setting, no reset
SWITCHING TEMP.	110 +0/-5 °C
POWER CABLE	
CROSS SECTION	3 × 0.75 mm ²
LENGTH	3 m
CABLE GLAND	Pg9

MODEL		Z-ZT 200	Z-ZT 300	Z-ZT 400	Z-ZT 500	Z-ZT 600	Z-ZT 700	Z-ZT 800	Z-ZT 900	Z-ZT 1000	Z-ZT 1200	Z-ZT 1350
NOMINAL OUTPUT	W	200	300	400	500	600	700	800	900	1000	1200	1350
NOMINAL CURRENT	A	0.9	1.3	1.8	2.2	2.6	3.0	3.5	3.9	4.4	5.2	5.9
ELEMENT LENGTH (L) ± 5 mm	mm	318	395	435	535	585	685	735	835	885	1045	1135
CODE	--	11950	7145	7146	7585	7586	7587	7147	7148	7590	7591	8402

ACCESSORIES

G1/2" T-piece, FFM, to install a heating element into a radiator in a hot-water heating system - **code: 7926**



TZ33 Plug-in Thermostat - **code: 6295**



The heating element is switched on/off to keep the room temperature at the value set by the rotating knob.

The desired temperature is set by rotating the thermostat control knob.

TZT63 Plug-in Thermostat - **code: 8269**



Thermostat with 2 control modes:

- current - heating element switched on/off to keep the room temperature at the set value
- timer - when switched on, the element keeps heating for the set period (15 min. to 5 hours). Room temperature is then shown on the display together with countdown time to switch off.

G 1/2" ELECTRIC HEATING ELEMENTS with plug&switch

Output: 300 - 1350 W
Application: heated towel rails



Z-ZTV Electric Heating Elements

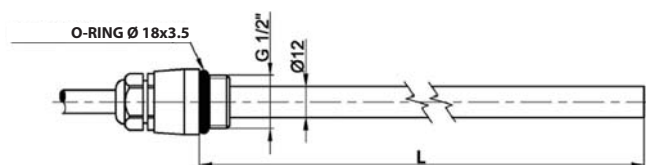
Resistance heating elements intended for heating of static or flowing water, antifreeze fluid or thermal oil in heated towel rails.

They are designed to be installed in any position except for vertical with el. cable upwards. The power supply spiral cable is fitted with Uni Schuko plug with switch.

For room temperature control, the heating elements can be switched on/off by TZ33 or TZT63 plug-in thermostats.

These heating elements are not equipped with a room thermostat.

DIMENSIONS, MODELS



TECHNICAL DATA

HEATING ELEMENT	stainless steel AISI A304
CONNECTION	G 1/2" M
HEATING ELEMENT BODY	chrome plated brass
POWER SUPPLY	230 V 50 Hz
EL. WIRING	1/N/PE AC 230V
IP RATING	IP 44
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	fixed setting, automat. reset
SWITCH-OFF TEMP.	80 ± 5 °C
SWITCH-ON TEMP.	35 ± 15 °C
SAFETY THERMOSTAT	fixed setting, no reset
SWITCHING TEMP.	110 +0/-5 °C
POWER CABLE	
CROSS SECTION	3 × 0.75 mm ²
LENGTH	3 m
CABLE GLAND	Pg9

MODEL		Z-ZTV 300	Z-ZTV 400	Z-ZTV 500	Z-ZTV 600	Z-ZTV 700	Z-ZTV 800	Z-ZTV 900	Z-ZTV 1000	Z-ZTV 1200	Z-ZTV 1350
NOMINAL OUTPUT	W	300	400	500	600	700	800	900	1000	1200	1350
NOMINAL CURRENT	A	1.3	1.8	2.2	2.6	3.0	3.5	3.9	4.4	5.2	5.9
ELEMENT LENGTH (L) ± 5mm	mm	395	435	535	585	685	735	835	885	1045	1135
CODE	--	13426	13427	13428	13429	13430	13431	13432	13433	13434	13435

ACCESSORIES

G1/2" T-piece, FFM, to install a heating element into a radiator in a hot-water heating system - **code: 7926**



TZ33 Plug-in Thermostat - **code: 6295**



The heating element is switched on/off to keep the room temperature at the value set by the rotating knob.

The desired temperature is set by rotating the thermostat control knob.

TZT63 Plug-in Thermostat - **code: 8269**



Thermostat with 2 control modes:

- current - heating element switched on/off to keep the room temperature at the set value
- timer - when switched on, the element keeps heating for the set period (15 min. to 5 hours). Room temperature is then shown on the display together with countdown time to switch off.

G 1/2" ELECTRIC HEATING ELEMENTS with plug-in thermostat and T-piece

Output: 300 - 1350 W
Application: heated towel rails



Z-SKVT Electric Heating Elements

Resistance heating elements intended for heating of static or flowing water, antifreeze fluid or thermal oil in heated towel rails.

They are designed to be installed in any position except for vertical with el. cable upwards. The power supply spiral cable is fitted with Uni Schuko plug.

These heating elements come in a kit with a TZT33 plug-in thermostat and a G 1/2" FFM T-piece, for installation into a heated towel rail connected in a traditional hot-water heating circuit.



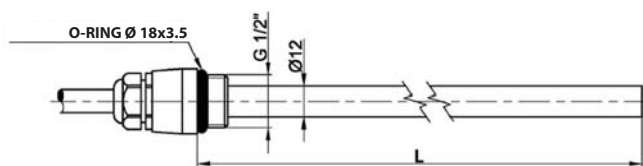
The heating element is switched on/off to keep the room temperature at the value set by the rotating knob.

The desired temperature is set by rotating the thermostat control knob.

TECHNICAL DATA

HEATING ELEMENT	stainless steel AISI A304
CONNECTION	G 1/2" M
HEATING ELEMENT BODY	chrome plated brass
POWER SUPPLY	230 V 50 Hz
EL. WIRING	1/N/PE AC 230V
IP RATING	IP 44
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	fixed setting, automat. reset
SWITCH-OFF TEMP.	80 ± 5 °C
SWITCH-ON TEMP.	35 ± 15 °C
SAFETY THERMOSTAT	fixed setting, no reset
SWITCHING TEMP.	110 +0/-5 °C
ROOM THERMOSTAT	analog
SPST CONTACT	16 A
TEMPERATURE ADJUSTMENT RANGE	5 - 35 °C
TEMPERATURE ADJUSTMENT METHOD	rotating knob
SWITCHING DIFFERENCE	0,5 °C
IP RATING	IP 20
POWER CABLE	
CROSS SECTION	3× 0.75 mm ²
LENGTH	3 m
CABLE GLAND	Pg9

DIMENSIONS, MODELS



MODEL		Z-SKVT	Z-SKVT	Z-SKVT	Z-SKVT	Z-SKVT	Z-SKVT	Z-SKVT	Z-SKVT	Z-SKVT	Z-SKVT
		300	400	500	600	700	800	900	1000	1200	1350
NOMINAL OUTPUT	W	300	400	500	600	700	800	900	1000	1200	1350
NOMINAL CURRENT	A	1.3	1.8	2.2	2.6	3.0	3.5	3.9	4.4	5.2	5.9
ELEMENT LENGTH (L) ± 5mm	mm	395	435	535	585	685	735	835	885	1045	1135
CODE	--	7573	7574	7575	7576	7577	7578	7579	7580	7581	8597

G 1/2" ELECTRIC HEATING ELEMENTS with plug-in thermostat with timer and T-piece



Output: 300 - 900 W
Application: heated towel rails

Z-SKVT-T Electric Heating Elements

Resistance heating elements intended for heating of static or flowing water, antifreeze fluid or thermal oil in heated towel rails.

They are designed to be installed in any position except for vertical with el. cable upwards. The power supply spiral cable is fitted with Uni Schuko plug.

These heating elements come in a kit with a TZT 63 plugin thermostat and a G 1/2" FFM T-piece, for installation into a heated towel rail connected in a traditional hot-water heating circuit.

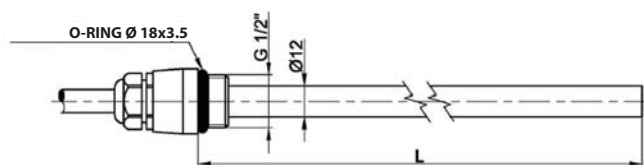
The heating element is switched on/off to keep the room temperature at the value set by the rotating knob. In the timer mode, the element heats during the preset time (15 min. to 5 hours). LCD display shows the room temperature and countdown time to switching off.



TECHNICAL DATA

HEATING ELEMENT	stainless steel AISI A304
CONNECTION	G 1/2" M
HEATING ELEMENT BODY	chrome plated brass
POWER SUPPLY	230 V 50 Hz
EL. WIRING	1/N/PE AC 230V
IP RATING	IP 44
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	fixed setting, automat. reset
SWITCH-OFF TEMP.	80 ± 5 °C
SWITCH-ON TEMP.	35 ± 15 °C
SAFETY THERMOSTAT	fixed setting, no reset
SWITCHING TEMP.	110 +0/-5 °C
ROOM THERMOSTAT	analog
SPST CONTACT	16 A
TEMPERATURE ADJUSTMENT RANGE	5 - 35 °C
TEMPERATURE ADJUSTMENT METHOD	keys
SWITCHING DIFFERENCE	0,5 °C
TIMER ADJUSTMENT RANGE	15 min. - 5 hours, in 15min. steps
IP RATING	IP 20
POWER CABLE	
CROSS SECTION	3 × 0.75 mm ²
LENGTH	3m
CABLE GLAND	Pg9

DIMENSIONS, MODELS



MODEL		Z-SKVT-T	Z-SKVT-T	Z-SKVT-T	Z-SKVT-T	Z-SKVT-T	Z-SKVT-T	Z-SKVT-T	Z-SKVT-T	Z-SKVT-T	Z-SKVT-T
		300	400	500	600	700	800	900	1000	1200	1350
NOMINAL OUTPUT	W	300	400	500	600	700	800	900	1000	1200	1350
NOMINAL CURRENT	A	1.3	1.8	2.2	2.6	3.0	3.5	3.9	4.4	5.2	5.9
ELEMENT LENGTH (L) ± 5mm	mm	395	435	535	585	685	735	835	885	1045	1135
CODE	--	8841	8842	8843	8844	8845	8846	8847	8848	8849	8850

G 1/2" ELECTRIC HEATING ELEMENTS with thermostat

Output: 300 - 900 W
Application: heated towel rails



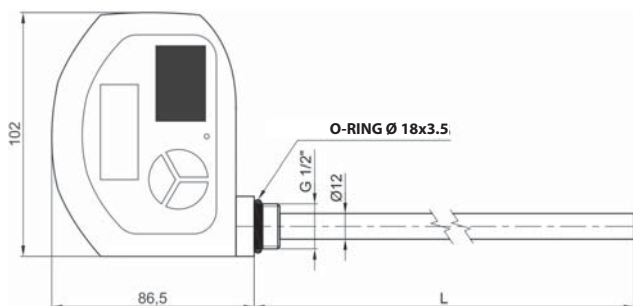
TT-TNTW Electric Heating Elements

Resistance heating elements intended for heating of static or flowing water, antifreeze fluid or thermal oil in heated towel rails.

They are designed to be installed in any position except for vertical with el. cable upwards. They can be power supplied either by a cable wired to a terminal box or through an electric plug (not included in supply).

These elements are fitted with a white thermostat with display and timer. In a current mode the heating element is switched on/off depending on the desired and actual room temperatures.

DIMENSIONS, MODELS



TECHNICAL DATA

HEATING ELEMENT	stainless steel AISI A304
CONNECTION	G 1/2" M
HEATING ELEMENT BODY	chrome plated brass
POWER SUPPLY	230 V 50 Hz
EL. WIRING	1/N/PE AC 230V
IP RATING	IP 44
PROTECTION CLASS BY EN 61140 ed.2	II
ROOM THERMOSTAT	electronic
SPST CONTACT	6 A
TEMPERATURE ADJUSTMENT RANGE	5 - 35 °C
TEMPERATURE ADJUSTMENT METHOD	keys
MODES	current, antifrost protection, timer 15 min. - 5 hours
OPERATING THERMOSTAT	fixed setting, automat. reset
SWITCH-OFF TEMP.	80 ± 5 °C
SWITCH-ON TEMP.	35 ± 15 °C
SAFETY THERMOSTAT	fixed setting, no reset
SWITCHING TEMP.	110 +0/-5 °C
POWER CABLE	
CROSS SECTION	3 × 0.75 mm ²
LENGTH	1.2 m
CABLE GLAND	H05VV-F

MODEL		TT-TNTW 300	TT-TNTW 400	TT-TNTW 500	TT-TNTW 600	TT-TNTW 700	TT-TNTW 800	TT-TNTW 900
NOMINAL OUTPUT	W	300	400	500	600	700	800	900
NOMINAL CURRENT	A	1.3	1.7	2.2	2.6	3.0	3.5	3.9
ELEMENT LENGTH (L) ± 5 mm	mm	395	435	535	585	685	735	835
CODE	--	11399	11400	11401	11402	11403	11404	11405

ACCESSORIES

Uni Schuko plug with switch and timer

white - **code: 11841**



G 6/4" ELECTRIC HEATING ELEMENTS

Output: 2 - 12 kW
 Application: hot water storage tanks, thermal stores



ETT-A Electric Heating Elements

Nickel-plated resistance heating elements without thermostatic head intended for heating of static or flowing heating water or antifreeze fluid in thermal stores or drinking water in hot water storage tanks. These elements are not intended for stainless steel tanks. They are suitable for **drinking water heating** in hot water storage tanks.

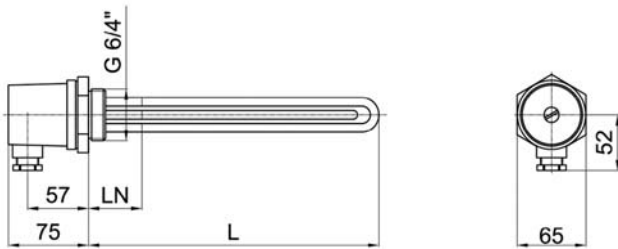
They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards. They are power supplied by a cable (not included in supply) wired to a terminal box or fuse board.

These elements are fitted with neither operating nor safety thermostat.

TECHNICAL DATA

HEATING ELEMENT	nickel plated copper
CONNECTION	G 6/4" M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
POWER SUPPLY	230V or 400/230V 50 Hz
IP RATING	IP 54
PROTECTION CLASS BY EN 61140 ed.2	I

DIMENSIONS, MODELS

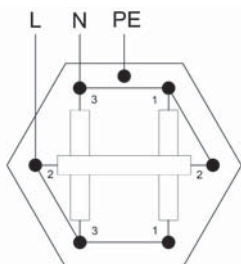


MODEL		ETT-A 2.0	ETT-A 3.0	ETT-A 4.5	ETT-A 6.0	ETT-A 7.5	ETT-A 9.0	ETT-A 12.0
NOMINAL OUTPUT	kW	2.0	3.0	4.5	6.0	7.5	9.0	12.0
NOMINAL CURRENT PER ONE PHASE	A	2.9/8.7*	4.3/13.0*	6.5/19.6*	8.7/26.1*	10.8	13.0	17.4
ELEMENT LENGTH (L)	mm	245	305	370	495	585	680	815
NON-HEATING END LENGTH (LN)	mm	100	100	100	100	100	100	100
CODE	--	8935	8936	8937	8938	8939	8940	8941

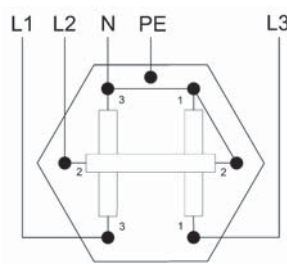
* 3x230V wiring/1x230V wiring

ELECTRIC WIRING

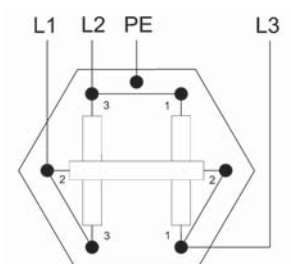
1x230 V – 2 to 6 kW
 suitable for 2 and 3kW elements only



3x230 V – 2 to 6 kW



3x400 V – 7.5 to 12 kW



G 6/4" ELECTRIC HEATING ELEMENTS

Output: 2 - 12 kW
 Application: combination thermal stores



ETT-C Electric Heating Elements

Non-nickel-plated resistance heating elements with a longer non-heating end, without thermostatic head intended for heating of static or flowing heating water or antifreeze fluid in **combination thermal stores with DHW**. They are not intended for hot water storage tanks! These elements are not intended for stainless steel tanks.

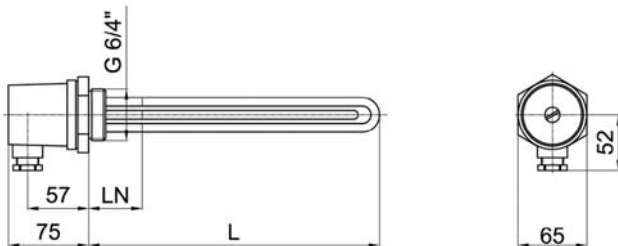
They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards. They are power supplied by a cable (not included in supply) wired to a terminal box or fuse board.

These elements are fitted with neither operating nor safety thermostat.

TECHNICAL DATA

HEATING ELEMENT	copper - no surface finish
CONNECTION	G 6/4" M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
POWER SUPPLY	230 V or 400/230V 50 Hz
IP RATING	IP 54
PROTECTION CLASS BY EN 61140 ed.2	I

DIMENSIONS, MODELS



The elements feature a longer non-heating end (dimension LN) that permits their use for Regulus Thermal Stores with DHW.

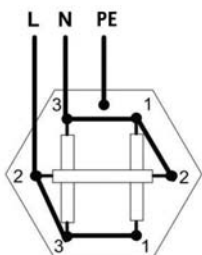
MODEL		ETT-C 2.0	ETT-C 3.0	ETT-C 5.0	ETT-C 6.0	ETT-C 7.5	ETT-C 8.2	ETT-C 9.0	ETT-C 12.0
NOMINAL OUTPUT	kW	2.0	3.0	5.0	6.0	7.5	8.2	9.0	12.0
NOMINAL CURRENT PER ONE PHASE	A	2,9/8,7	4,3/13,0	7,3/21,8	8,7/26,1*	10.8	11.8	13.0	17.4
ELEMENT LENGTH (L)	mm	310	370	500	555	635	700	755	955
NON-HEATING END LENGTH (LN)	mm	180	180	180	180	180	180	180	180
CODE	--	14519	8902	14359	8897	9618	14501	12272	12273

* 3x230V wiring/1x230V wiring

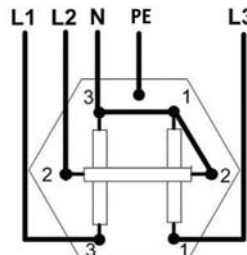
ELECTRIC WIRING

1/N/PE AC 230V or 3/N/PE AC 400/230V:

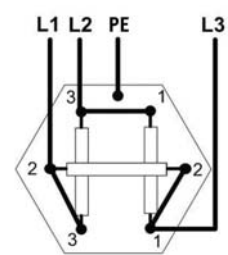
1x 230 V - 2 to 6 kW



3x 230 V - 2 to 6 kW



3x 400 V - 7.5 to 12 kW



G 6/4" ELECTRIC HEATING ELEMENTS with thermostatic head and el. plug

Output: 1.2 - 3 kW

Application: hot water storage tanks, combination thermal stores



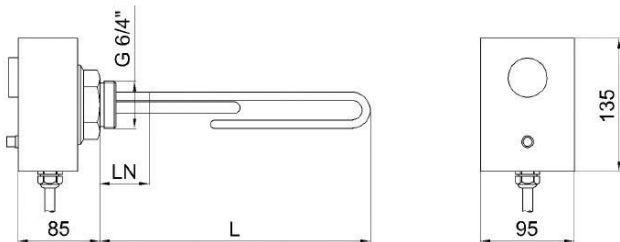
ETT-M Electric Heating Elements

Nickel-plated resistance heating elements with a longer non-heating end, with **thermostatic head** intended for heating of static heating water or antifreeze fluid in **combination thermal stores with DHW** or for drinking water heating in **hot water storage tanks**. These elements are not intended for stainless steel tanks.

They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards. The power supply cable is fitted with **Uni Schuko plug**.

The elements feature a longer non-heating end (dimension LN) that permits their use for combination thermal stores.

DIMENSIONS, MODELS



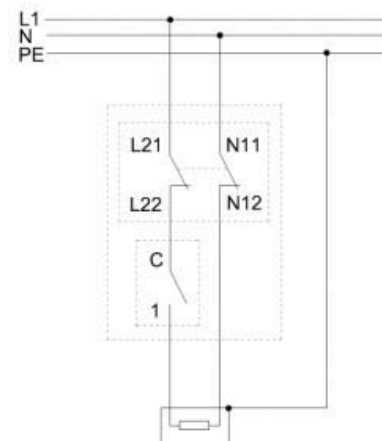
MODEL		ETT-M 1.2	ETT-M 2.0	ETT-M 2.4	ETT-M 3.0
NOMINAL OUTPUT	kW	1.2	2.0	2.4	3.0
NOMINAL CURRENT	A	5.2	8.7	10.4	13.0
ELEMENT LENGTH (L)	mm	300	350	420	450
NON-HEATING END LENGTH (LN)	mm	180	180	180	180
CODE	--	15166	15167	15168	15169

TECHNICAL DATA

HEATING ELEMENT	nickel plated copper
CONNECTION	G 6/4" M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
CASE	PC, flame rating UL94-5V
POWER SUPPLY	230V 50 Hz
IP RATING	IP 40
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	capillary type, adjustable
SWITCH-OVER CONTACT	16 A
TEMPERATURE ADJUSTMENT RANGE	from 0 ± 5 °C to 90 ± 3 °C
TEMPERATURE ADJUSTMENT METHOD	rotating knob
SWITCHING DIFFERENCE	5 ± 1.5 °C
LOWER LIMIT	about 15 °C - frost protection
UPPER LIMIT	cca 60 °C
SAFETY THERMOSTAT	capillary type, fixed setting
SWITCHING TEMP.	99 +0/-10 °C
RESET	manual, after temperature drops below 40 °C
POWER CABLE	
CROSS SECTION	3× 1.5 mm ²
LENGTH	3m
CABLE GLAND	Pg11

ELECTRIC WIRING

1/N/PE AC 230V



G 6/4" ELECTRIC HEATING ELEMENTS with switch and safety thermostat, for CSE SOL

Output: 2 - 3 kW

Application: hot water storage tanks, combination thermal stores



ETT-N Electric Heating Elements

Nickel-plated resistance heating elements with a longer non-heating end, **with thermostatic head** intended for heating of static heating water or antifreeze fluid in **combination thermal stores with DHW** or for drinking water heating in **hot water storage tanks**. These elements are not intended for stainless steel tanks.

They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards.

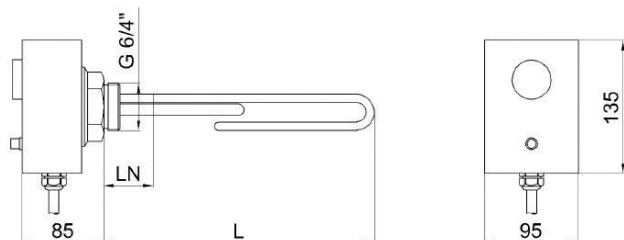
They are supplied from a dedicated power socket integrated in the CSE SOL solar pump station and fitted with a power switch.

The elements feature a longer non-heating end (dimension LN) that permits their use for combination thermal stores.

TECHNICAL DATA

HEATING ELEMENT	nickel plated copper
CONNECTION	G 6/4" M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
CASE	PC, flame rating UL94-5V
POWER SUPPLY	230V 50 Hz
IP RATING	IP 40
PROTECTION CLASS BY EN 61140 ed.2	I
SAFETY THERMOSTAT	capillary type, fixed setting
SWITCHING TEMP.	99 +0/-10 °C
RESET	manual, after temperature drops below 40 °C
POWER CABLE	
CROSS SECTION	3× 1.5 mm ²
LENGTH	5 m
CABLE GLAND	Pg11

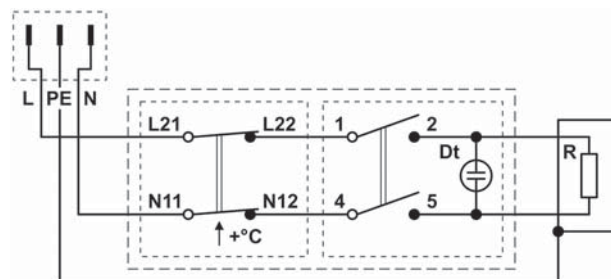
DIMENSIONS, MODELS



MODEL		ETT-N	ETT-N
		2.0	3.0
NOMINAL OUTPUT	kW	2.0	3.0
NOMINAL CURRENT	A	8.7	13.0
ELEMENT LENGTH (L)	mm	350	450
NON-HEATING END LENGTH (LN)	mm	180	180
CODE	--	16942	16943

ELECTRIC WIRING

1/N/PE AC 230V



G 6/4" ELECTRIC HEATING ELEMENTS with thermostatic head and contactor

Output: 2 - 3 kW

Application: hot water storage tanks, thermal stores



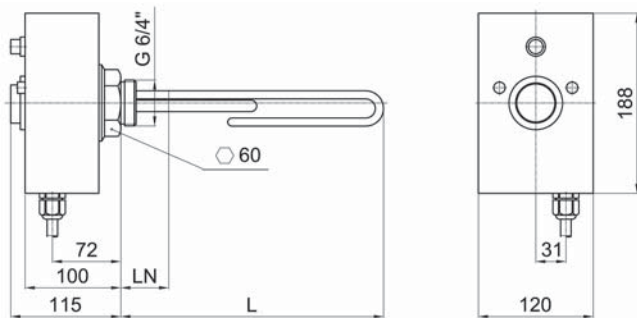
ETT-D2 Electric Heating Elements

Nickel-plated resistance heating elements with **a thermostatic head** and contactor, intended for heating of static heating water or antifreeze fluid in thermal stores or for drinking water heating in hot water storage tanks. These elements are not intended for stainless steel tanks. They **are suitable for drinking water heating** in hot water storage tanks.

They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards. They are power supplied by a 5-core cable wired to a terminal box or fuse board.

The heating element features one input for a Ripple control signal and one for master heating system controller.

DIMENSIONS, MODELS



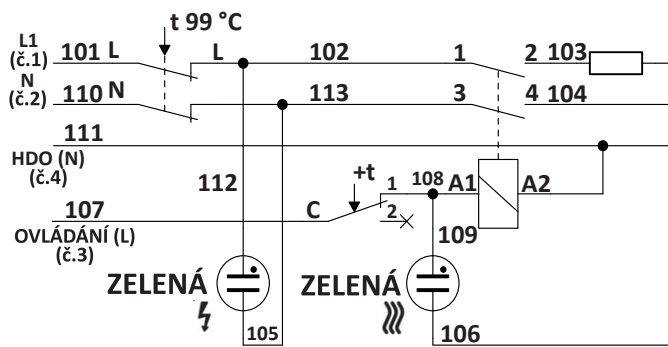
MODEL		ETT-D2 2.0	ETT-D2 3.0
NOMINAL OUTPUT	kW	2.0	3.0
NOMINAL CURRENT	A	8.7	13.0
ELEMENT LENGTH (L)	mm	315	370
NON-HEATING END LENGTH (LN)	mm	100	100
CODE	--	19703	19710

TECHNICAL DATA

HEATING ELEMENT CONNECTION	nickel plated copper G 6/4" M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
CASE	aluminium alloy
POWER SUPPLY	230V 50 Hz
IP RATING	IP 54
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	capillary type, adjustable
SWITCH-OVER CONTACT	16 A
TEMPERATURE ADJUSTMENT RANGE	from 0 ± 5 °C to 90 ± 3 °C
TEMPERATURE ADJUSTMENT METHOD	rotating knob
SWITCHING DIFFERENCE LOWER LIMIT	5 ± 1.5 °C about 15 °C - frost protection
UPPER LIMIT	cca 60 °C - for HW storage tanks
SAFETY THERMOSTAT	capillary type, fixed setting
SWITCHING TEMP.	99 +0/-10 °C
RESET	manual, after temperature drops below 40 °C
CONTACTOR	AC1 : 20 A / 690 V, 1Z
COIL VOLTAGE	AC 220 - 240 V
FREQUENCY	50 Hz

ELECTRIC WIRING

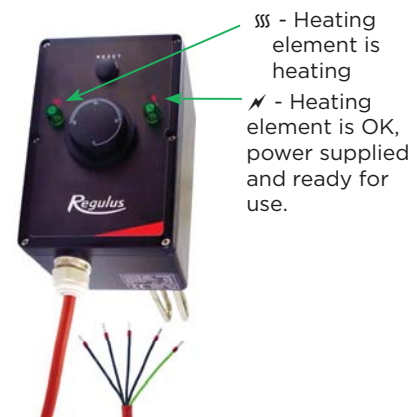
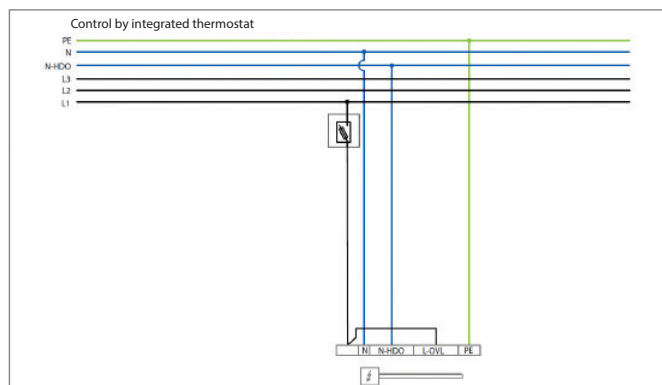
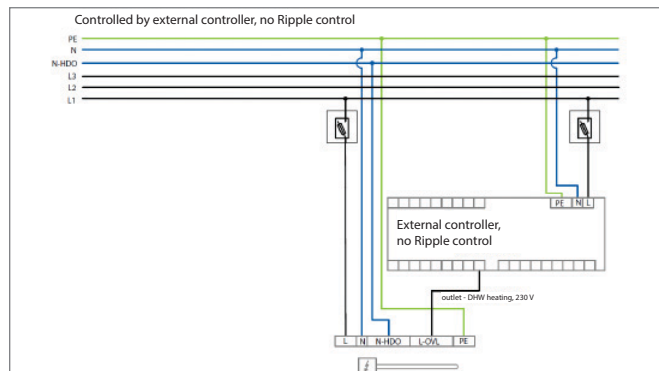
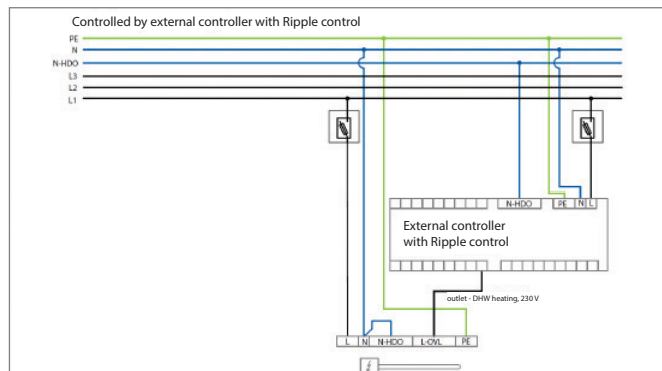
1/N/PE AC 230V



POWER CABLE

CROSS SECTION	5× 1.5 mm ²
LENGTH	2m
CABLE GLAND	Pg11

WIRING EXAMPLES



G 6/4" ELECTRIC HEATING ELEMENTS with thermostatic head and contactor

Output: 3 - 4.5 kW
Application: hot water storage tanks, thermal stores
(heated from PV systems)



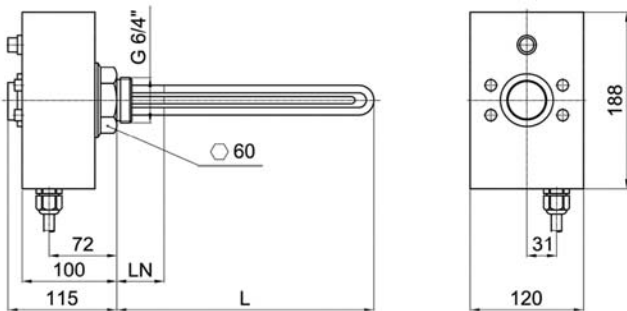
ETT-F Electric Heating Elements

Nickel-plated resistance heating elements **with a thermostatic head and contactor**, intended for heating of static heating water or antifreeze fluid in thermal stores or for drinking water heating in hot water storage tanks. A heating element designed **to use electricity from PV panels**.

They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards. They are power supplied by a 7-core cable wired to a terminal box or fuse board.

The heating element features one input for a Ripple control signal and one for master heating system controller.

DIMENSIONS, MODELS



MODEL		ETT-F 3	ETT-F 4.5
NOMINAL OUTPUT	kW	3.0	4.5
NOMINAL CURRENT	A	4.3	6.5
ELEMENT LENGTH (L)	mm	365	463
NON-HEATING END LENGTH (LN)	mm	180	180
CODE	--	16250	12357

TECHNICAL DATA

HEATING ELEMENT CONNECTION	nickel plated copper G 6/4" M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
CASE	aluminum alloy
POWER SUPPLY	230V 50 Hz
IP RATING	IP 54
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	capillary type, adjustable
SWITCH-OVER CONTACT	16 A
TEMPERATURE ADJUSTMENT RANGE	from 0 ± 5 °C to 90 ± 3 °C
TEMPERATURE ADJUSTMENT METHOD	rotating knob
SWITCHING DIFFERENCE	5 ± 1.5 °C
LOWER LIMIT	about 15 °C - frost protection
UPPER LIMIT	about 60 °C - for HW storage tanks
SAFETY THERMOSTAT	capillary type, fixed setting
SWITCHING TEMP.	99 +0/-6 °C
RESET	manual, after temperature drops below 50 °C
CONTACTOR	AC1 : 20 A / 690 V, 1Z
COIL VOLTAGE	AC 220 - 240 V
FREQUENCY	50 Hz

G 6/4" ELECTRIC HEATING ELEMENTS with thermostatic head and contactor

Output: 2 - 9 kW

Application: hot water storage tanks, thermal stores



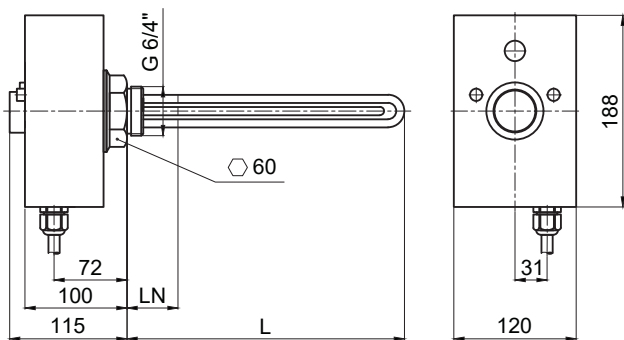
ETT-P Electric Heating Elements

Nickel-plated resistance heating elements **with a thermostatic head and contactor**, intended for heating of static heating water or antifreeze fluid in thermal stores or for drinking water heating in hot water storage tanks. These elements are not intended for stainless steel tanks. They **are suitable for drinking water heating** in hot water storage tanks.

They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards. They are power supplied by a 7-core cable wired to a terminal box or fuse board.

The heating element features one input for a Ripple control signal and one for master heating system controller.

DIMENSIONS, MODELS



TECHNICAL DATA

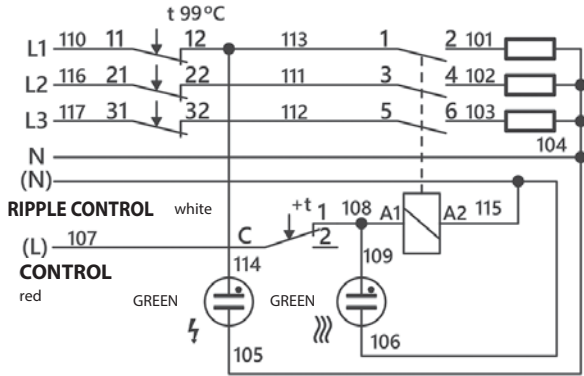
HEATING ELEMENT CONNECTION	nickel plated copper G 6/4" M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
POWER SUPPLY	400/230V 50 Hz
IP RATING	IP 54
PROTECTION CLASS BY EN 61140 ed.2	I
OPERATING THERMOSTAT	capillary type, adjustable
SWITCH-OVER CONTACT TEMPERATURE	16 A from $0 \pm 5 \text{ }^\circ\text{C}$ to $90 \pm 3 \text{ }^\circ\text{C}$
ADJUSTMENT RANGE	
TEMPERATURE ADJUSTMENT METHOD	rotating knob
SWITCHING DIFFERENCE	$5 \pm 1.5 \text{ }^\circ\text{C}$
LOWER LIMIT	about $15 \text{ }^\circ\text{C}$ - frost protection
UPPER LIMIT	about $60 \text{ }^\circ\text{C}$ - for HW storage tanks
SAFETY THERMOSTAT	capillary type, fixed setting
SWITCHING TEMP.	$99 \pm 0/-6 \text{ }^\circ\text{C}$
RESET	manual, after temperature drops below $80 \text{ }^\circ\text{C}$
CONTACTOR	AC1 : 20 A / 690 V, 1Z
COIL VOLTAGE	AC 220 - 240 V
FREQUENCY	50 Hz

MODEL		ETT-P 2.0	ETT-P 3.0	ETT-P 4.5	ETT-P 6.0	ETT-P 7.5	ETT-P 8.2	ETT-P 9.0
NOMINAL OUTPUT	kW	2.0	3.0	4.5	6.0	7.5	8.2	9.0
NOMINAL CURRENT	A	2.9	4.3	6.5	8.7	10.8	11.9	13.0
ELEMENT LENGTH (L)	mm	310	370	500	555	635	700	755
NON-HEATING END LENGTH (LN)	mm	180	180	180	180	180	180	180
CODE	--	19041	19043	18915	18386	19045	19042	19044

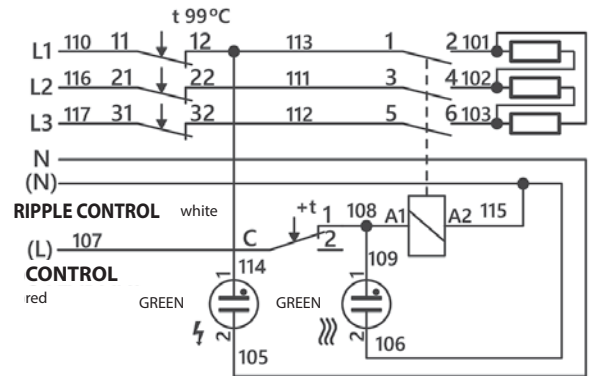
ELECTRIC WIRING

3/N/PE AC 400/230V

2- 6 kW

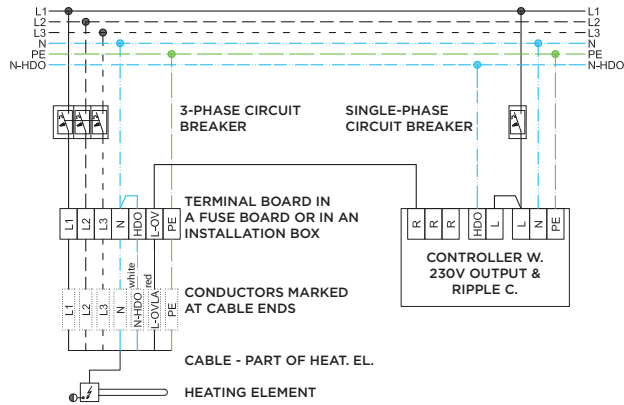


7,5 - 9 kW

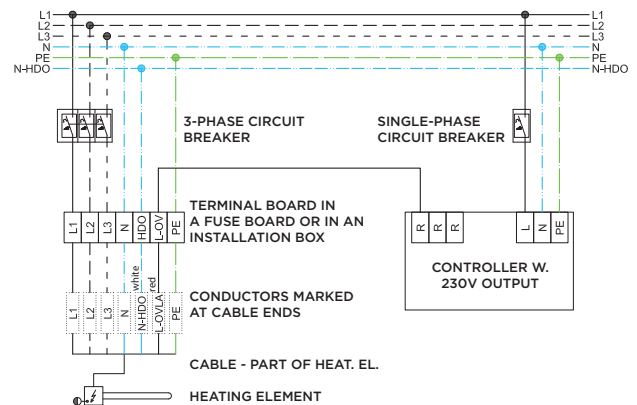


WIRING EXAMPLES

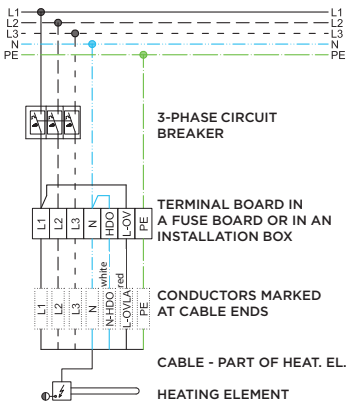
Control via external controller with Ripple control



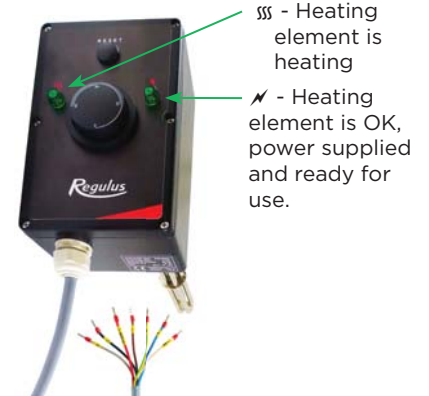
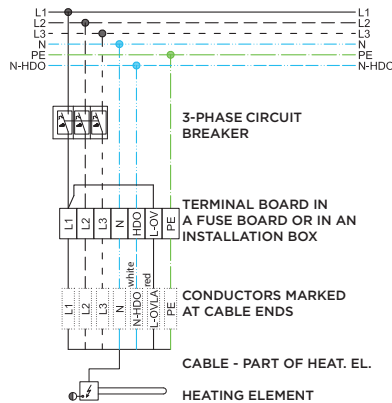
Control via external controller without Ripple control



Control via integrated thermostat without Ripple control



Control via integrated thermostat with Ripple control



M 48x2 ELECTRIC HEATING ELEMENTS

Output: 2 - 9 kW
 Application: electric boilers



ETT-B Electric Heating Elements

Non-nickel-plated resistance heating elements without thermostatic head intended for heating of static or flowing heating water or antifreeze fluid **in electric boilers**. These elements are not intended for stainless steel tanks.

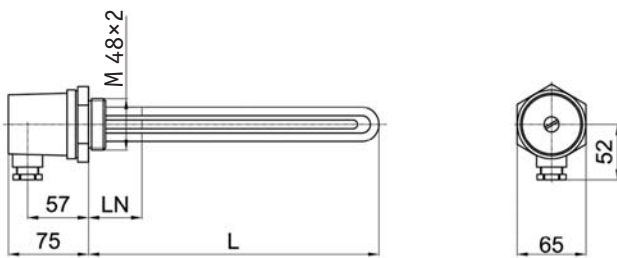
They are designed to be installed in a horizontal position so that the element is completely immersed, the cable gland downwards. They are power supplied by a cable (not included in supply) wired to a terminal box or fuse board.

These elements are fitted with neither operating nor safety thermostat.

TECHNICAL DATA

HEATING ELEMENT	copper - no surface finish
CONNECTION	M 48x2 M
HEXAGON WITH G 6/4" THREAD	nickel plated brass
POWER SUPPLY	230 V or 400/230V 50 Hz
IP RATING	IP 54
PROTECTION CLASS BY EN 61140 ed.2	I

DIMENSIONS, MODELS



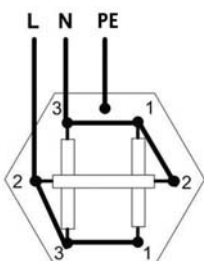
MODEL		ETT-B 2.0	ETT-B 3.0	ETT-B 4.5	ETT-B 6.0	ETT-B 7.5	ETT-B 9.0
NOMINAL OUTPUT	kW	2.0	3.0	4.5	6.0	7.5	9.0
NOMINAL CURRENT PER ONE PHASE	A	2.9/8.7*	4.3/13.0*	6.5/19.6*	8.7/26.1*	10.8	13
ELEMENT LENGTH (L)	mm	178	240	333	428	520	615
NON-HEATING END LENGTH (LN)	mm	45	45	45	45	45	45
CODE	--	4973	4972	4971	4970	4969	16950

* 3x230V wiring/1x230V wiring

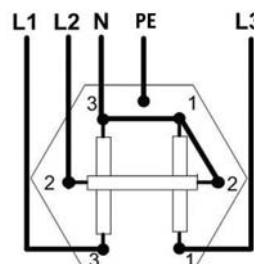
ELECTRIC WIRING

1/N/PE AC 230V or 3/N/PE AC 400/230V:

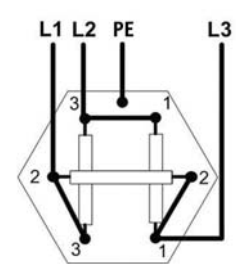
230 V - 2 and 3 kW



3 x 230 V - 2 to 6 kW



3 x 400 V - 7.5 and 9 kW



Max. length of heating elements in HW storage tanks and thermal stores

HW tank type	Max. heating element length in a connection [mm]	Number of connections for heating elements	Max. heating element length in a flange [mm]	Flange codes	Thermal store type	Max. heating element length in a connection [mm]	Number of connections for heating elements
HOT WATER TANKS					THERMAL STORES		
ROBC 200	500	1	500	17199	PSWF 300 N+	635	3
ROBC 300	500	1	500	17199	PSWF 500 N+	680	3
ROBC 400	635	1	585	17432	PSWF 800 N+	755	3
ROBC 500	680	1	680	17432	PSWF 1000 N+	755	3
ROBC 750	815	1	815	17428	PSWF 1500 N+	955	3
ROBC 1000	815	1	815	17428	PSWF 2000 N+	955	3
ROBC 1500	815	1	815	17435	PS 600 ES+	700	0 ²⁾
ROBC 2000	815	1	815	17435	PS 900 ES+	815	0 ²⁾
ROBC 2500	815	1	815	17435	PS 1100 ES+	815	0 ²⁾
ROBC 3000	815	1	815	17435	PS 500 E+	680	1
RBC 200 HP	500	1	370	17434	PS 750 E+	755	1
RBC 300 HP	500	1	370	17434	PS 1000 E+	815	1
RBC 300 HP 3.2V	500	1	370	17432	PS 1100 E+	815	1
RBC 400 HP	635	1	470	17434	PS 1250 E+	955	1
RBC 500 HP	680	1	500	17434	PS 80 Z	585	1
RBC 750 HP	815	1	635	17428	PS 100 IZ	500	2
RBC 1000 HP	-	0	635	17428	PS 200 IZ	500	2
RBC 1500 HP	-	0	815	17435	PS 200 N+	500	5
RBC, R2BC 200	500	1	370	17199	PS, PS2F 300 N+	635	5
RBC, R2BC 300	500	1	370	17199	PS 400 N+	635	5
RBC, R2BC 400	635	1	470	17432	PS 500 Nx, PS2F 500 N+	680	5 ³⁾
RBC, R2BC 500	680	1	500	17432	PS 600 N+	700	5
RBC, R2BC 750	815	1	635	17433	PS 700 N+	755	5
RBC, R2BC 1000	815	1	635	17433	PS, PS2F 800 N+	815	5
RBC, R2BC 1500	815	1	815	17435	PS 900 N+	815	5
RBC, R2BC 2000	815	1	815	17435	PS 1000 Nx, PS2F 1000 N+	815	5 ³⁾
RBC, R2BC 2500	815	1	815	17435	PS 1100 N+	815	5
RBC, R2BC 3000	815	1	815	17436	PS 1500 Nx, PS2F 1500 N+	955	5 ³⁾
RxDC 160	500	1	-	-	PS 2000 Nx, PS2F 2000 N+	955	5 ³⁾
RxDC 200	500	1	-	-	PSxx 3000 N25	955	5 ³⁾
RxDC 250	500	1	-	-	PSxx 4000 N25	955	5 ³⁾
RxDC 300	500	1	370	12707	PSxx 5000 N25	955	5 ³⁾
RGC 120	370	1	-	-	PS 400 K+	680	5
RGC 170	500	1	-	-	PS 500 K+	700	5
NBC 170 HP	-	0	-	-	PS 600 K+	755	5
HSK 220 TV	-	0	-	-	PS 700 K+	815	5
					PS 900 K+	815	5
					PS 1100 K+	955	5

Thermal store type	Max. heating element length in a connection [mm]	Number of connections for heating elements
--------------------	--	--

THERMAL STORES WITH DHW		
DUO 390/130 x	500	3 ¹⁾
DUO 600/200 x	500	3 ¹⁾
DUO 750/200 x	635	3 ¹⁾
DUO 1000/200 x	700	3 ¹⁾
DUO 1700/200 x	955	3 ¹⁾
HSK 350 K P-B	-	0
HSK 390 x	555	3 ¹⁾
HSK 400 x	555	3 ¹⁾
HSK 600 x	555	3 ¹⁾
HSK 750 x	700	3 ¹⁾
HSK 1000 x	755	3 ¹⁾
HSK 1700 x	955	3 ¹⁾

¹⁾ - P and PV types have an extra 4th connection for a PV element

²⁾ - if any heat source is connected, no heating element can be installed (the thermal store has only 2 connections for heat sources)

³⁾ - when installing heating element to N25 thermal stores, a reduction G 2,5" M x G 6/4" F is necessary

Product code overview

The following table brings a basic overview of the heating elements available. Depending on the desired application, output and features of the heating element, the code can be identified in the table together with the page containing detailed information.

G 1/2" Electric Heating Elements for heated towel rails

Thermostats	El. connection	Output [W]											Series	Page
		200	300	400	500	600	700	800	900	1000	1200	1350		
none	3m twisted cable with plug	11950	7145	7146	7585	7586	7587	7147	7148	7590	7591	8402	Z-ZT	4
	3m twisted cable with plug&switch	-	13426	13427	13428	13429	13430	13431	13432	13433	13434	13435	Z-ZTV	5
plug-in ones	3m twisted cable with plug	-	7573	7574	7575	7576	7577	7578	7579	7580	7581	8597	Z-SKVT	6
plug-in ones with timer	3m twisted cable with plug	-	8841	8842	8843	8844	8845	8846	8847	8848	8849	8850	Z-SKVT-T	7
integrated electronic ones with display and timer	1.2m cable, loose end	-	11399	11400	11401	11402	11403	11404	11405	-	-	-	TT-TNTW	8

G 6/4" Electric Heating Elements for thermal stores and hot water storage tanks

Thermostats	Application	El. connection	Output [kW]											Series	Page
			1.2	2	2.4	3	4.5	5	6	7.5	8.2	9	12		
none	hot water storage tanks, thermal stores	3x 230 V (1x 230 V), no cable	-	8935	-	8936	8937	-	8938	-	-	-	-	ETT-A	10
		3x 400 V, no cable	-	-	-	-	-	-	-	8939	-	8940	8941		
	thermal stores	3x 230 V (1x 230 V), no cable	-	14519	-	8902	-	14359	8897	-	-	-	-	ETT-C	11
		3x 400 V, no cable	-	-	-	-	-	-	-	9618	14501	12272	12273		
operating and safety ones in plastic head	hot water storage tanks, thermal stores	1x 230 V 3m cable with plug	15166	15167	15168	15169	-	-	-	-	-	-	-	ETT-M	12
		1x 230 V, 5m cable with terminal, for CSE SOL	-	16942	-	16943	-	-	-	-	-	-	-	ETT-N	13
operating and safety ones in aluminium head, contactor	hot water storage tanks, thermal stores	1x 230 V 2m cable, loose end	-	11783	-	11784	-	-	-	-	-	-	-	ETT-D	14
		1x 230 V 2m cable, loose end, for PV source	-	-	-	16250	12357	-	-	-	-	-	-	ETT-F	16
		3x 230 V 2m cable, loose end	-	19041	-	19043	-	18915	18386	-	-	-	-	ETT-P	18
		3x 400 V 2m cable, loose end	-	-	-	-	-	-	-	19045	19042	19044	-		18

M 48x2 Electric Heating Elements for electric boilers

Thermostats	Application	El. connection	2	3	4.5	6	7.5	9	Series	Page
none	electric boilers	3x 230 V (1x 230 V), no cable	4973	4972	4971	4970	-	-	ETT-B	20
		3x 400 V, no cable	-	-	-	-	4969	13431		

TAILOR MADE ELECTRIC HEATING ELEMENTS.

Various types of electric heating elements can be designed and manufactured on your request.

Please kindly send your requests to: poptavky@regulus.cz

EXAMPLES



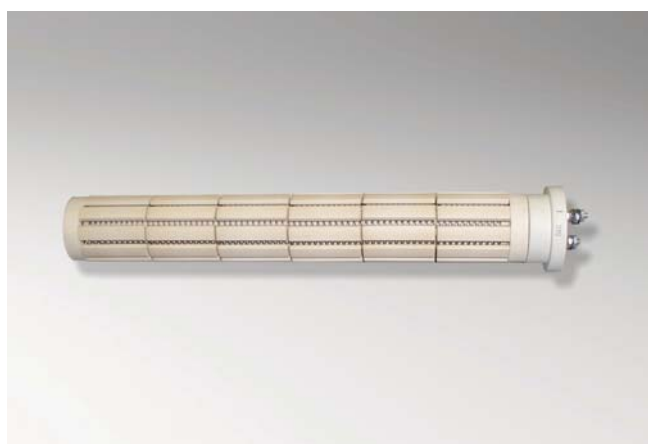
Heating elements with thermostat for heated towel rails



Coiled tubular heating element for air heating



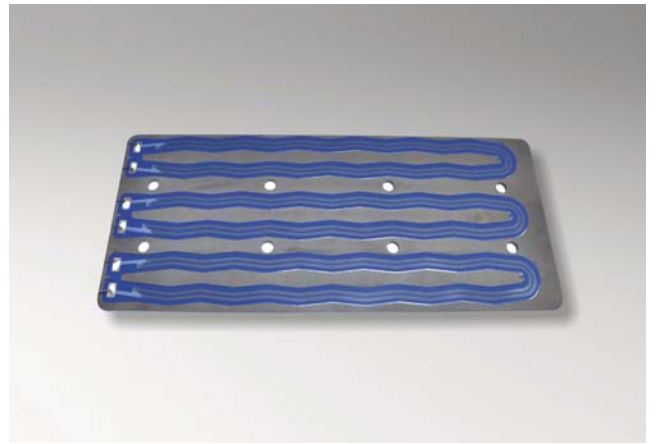
Angled heating element



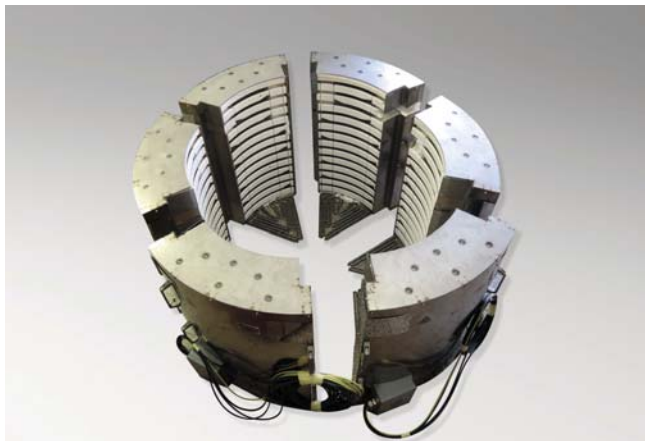
Ceramic heating element



Printed cylindrical heating element



Printed flat heating element



Infrared heater system



Heater belt for mini-breweries



Ceramic heater belt



Heating elements
for hot air heat exchanger



