

USER MANUAL

This document is intended for the installer and the end user. After installation and start-up of the system, it has to be delivered to the owner or to the person in charge of managing the system.

DESTINATION OF USE

The electric immersion heaters with regulation thermostat and manual reset safety thermostat, are intended to be used as a heating source inside boilers / domestic hot water tanks.

The manufacturer shall not be held responsible for any damage or injuries caused by lack/inefficiency of earthing, incorrect installation, alteration, bad maintenance and unskilled use, or in case the electrical safety standards in force in the country of use of the appliance are not respected.

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CONDITIONS OF USE

The device may only be used within the temperature limits recommended by the manufacturer (maximum temperature of the heating element 100°C).

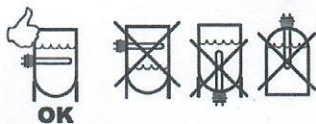


UNI CTI 8065

The heating element may only be used to heat potable water with a hardness between 7°f and 20°f, according to standards. In case of a higher water hardness it is advisable to install a water softener in the plant.

The heating element must not work in free air, but always completely immersed. The manufacturer declines any liability for damage caused by dry operation of the heating element.

The heating element may only be installed inside the boiler in a horizontal position, must work always fully immersed in water, preferably in the lower part of the tank for a better heat exchange – Avoid installation in areas of the boiler where sedimentation may occur.



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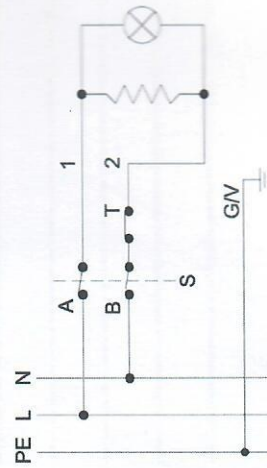
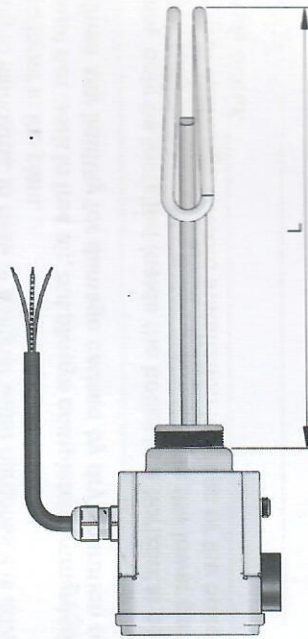
TECHNICAL FEATURES

- Electric heating element in AISI-316L (according to D.M. 174/04 and D.L. Nr. 31) or INCOLOY 800
- AISI-304 plug G1"1/2
- Protective plastic housing (IP 65)
- Supply voltage 230 V \pm 10% 50/60Hz for single-phase version and 400 V \pm 10% 50/60Hz for three-phase
- Regulating thermostat from 30°C to 70°C, safety thermostat with manual resetting 90°C for single-phase
- Regulating thermostat from 30°C to 74°C, safety thermostat with manual resetting 98°C for three-phase version
- Adjustment knob
- Red indicator light which signals the operation of the heating element
- Power supply cord in PVC (without plug)

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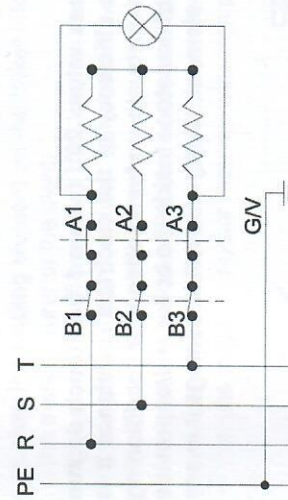
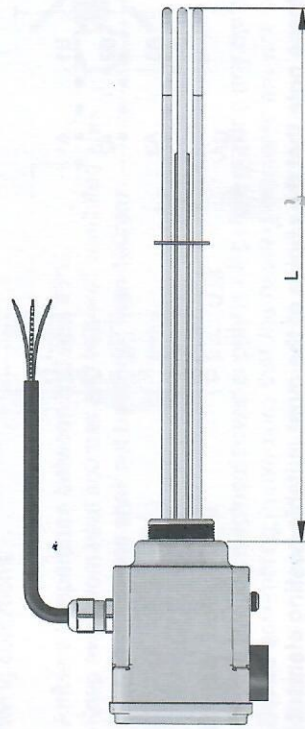
SINGLE-PHASE VERSION

INCOLOY 800		AISI - 316L		Voltage (V)	Power (W)	L (mm)
Code (*)	Code (*)	Code (*)	Code (*)			
820040200	820000100	820000100	820000100	230	1500	320
820040100	820000200	820000200	820000200	230	2000	320
820040500	820000300	820000300	820000300	230	2200	320
820040600	820000400	820000400	820000400	230	2500	320
820040300	820000500	820000500	820000500	230	3000	320
820040700	820001300	820001300	820001300	230	4500	480



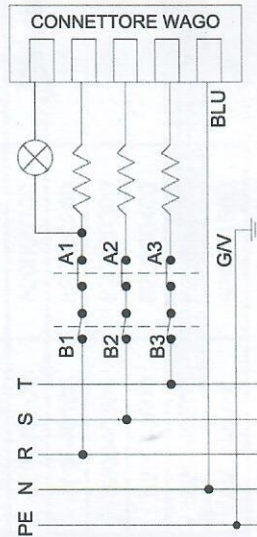
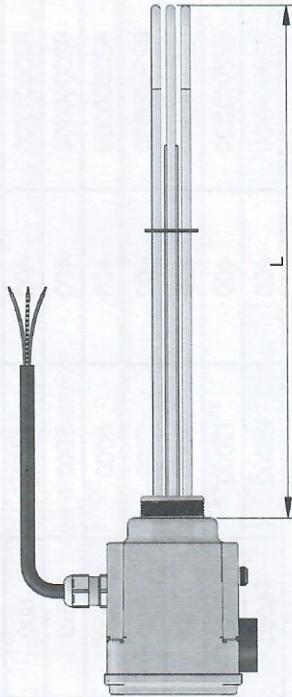
THREE-PHASE VERSION

INCOLOY 800		AISI - 316L		Voltage (V)	Power (W)	L (mm)
Code (*)	Code (*)	Code (*)	Code (*)			
823030000	823000100	823000100	823000100	400	3000	300
823040500	823000400	823000400	823000400	400	4000	400
823041800	823000500	823000500	823000500	400	4500	450
823041900	823001200	823001200	823001200	400	5000	500
823042000	823000600	823000600	823000600	400	5500	550
823040200	823000200	823000200	823000200	400	6000	600
823042100	823000800	823000800	823000800	400	7500	700
823040300	823000300	823000300	823000300	400	9000	700
823042200	823001800	823001800	823001800	400	12000	850
823042300	8230004200	8230004200	8230004200	400	15000	1000



VERSION 230V - 400V

Code (*)	Voltage (V)	Power (W)	L (mm)
823001900	230/400	2000	245
823002900	230/400	3000	300
823002000	230/400	5000	500
823002100	230/400	6000	400



Attention: Please note that the choice of the most suitable heating element for the specific use is responsibility of your designer or installer.

WARNING

In presence of water with a hardness value > 20°f (where 1°f = French degree = 10mg CaCo3 / l), to preserve the efficiency of the electrical resistance it is strongly recommended to install an adequate system (softener or conditioning dispenser) to reduce the formation of limestone inside the boiler and/or provide for periodic cleaning of the heating element, taking care not to damage it in any way.



According to the degree of water hardness and the conditions of use, it might periodically become necessary to remove the limestone deposit from the heater. Please note the warranty does not cover any damages directly or indirectly due to an accumulation of limestone on the heater.

In the presence of impurities, provide filters upstream of the accumulation. Depending on the system, the place of installation and the type of water, also provide for the installation of a sacrificial anode and / or a magnetic dirt separator.



1. INSTALLATION

The installation must be performed by a competent and qualified technician in compliance with the rules and regulations in force.

Check the integrity of the appliance in all parts and the correspondence of the standard accessories (asberit seal and power cord). The manufacturer disclaims any liability for damages caused. The manufacturer declines all responsibility in case of improper use of the heating element during transport.

Do not bend the heating elements and make sure that the space available inside and outside the tank is compatible with the dimensions and overall dimensions for mounting the heater.

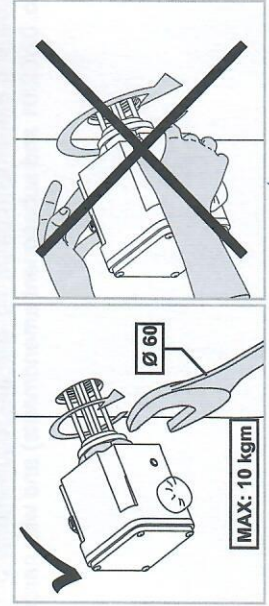
Make sure that the environment in which the heating element is installed meets the following conditions:

1. Ambient temperature between 5°C and 45°C.
2. Keep away from heat sources and in a well ventilated area.
3. Fittings or sleeves shall not be longer than 100mm



Assembly instructions

- Ensure that the electrical power supply is off before making any connections;
- Before assembling, make sure that the heating elements are not touching each other and, if necessary, adjust their position manually;
- Insert the separately provided asberit gasket on the base of the threaded plug;
- Screw the heating element on the boiler into the designated housing provided by the manufacturer of the plant;
- Close the plug by means of an SW 60 end wrench with a peak torque of 10 KGM;
- Proceed to fill the boiler with water and check the tightness of the threaded plug.
- Screw the heater into the connection of the boiler indicated by the manufacturer of the same, in the case of a connection available with a larger diameter, the use of a reducing bush is allowed (reductions shall be in steel or cast iron; avoid elements in brass, copper or other material with high potential electric).



Setting to work

- Before carrying out the connection with the electricity network ensure that:
 1. The heating element is fully immersed in water, it can not be used in free air.
 2. Power cord insulation dimensions are appropriate for the maximum power of the heating element
 3. The voltage is consistent with the rating data stated on the label placed on the housing; the maximum tolerance is $\pm 10\%$ of the nominal value;
 4. The power supply circuit meets the requirements of the current regulations;
 5. Electrical system provides a GFCI (safety switch) of 30 mA maxi.
 6. The plant is equipped with an earth connection.

ANY DAMAGES OR INJURIES CAUSED BY LACK OF EFFICIENCY OF THE GROUNDING, IMPROPER INSTALLATION, TAMPERING, POOR MAINTENANCE AND INCOMPETENCE OF USE, OR DUE TO THE FAILURE TO COMPLY WITH THE ELECTRICAL SAFETY REGULATIONS IN FORCE IN THE COUNTRY IN WHICH THE DEVICE IS USED.



2. INSTRUCTIONS FOR USE:

The version in AISI-316L has uniquely been designed to heat sanitary water.
The version in INCOLOY 800 can be used to heat technical water.

- Any other use is prohibited.
- Depending on your needs, the water temperature in the tank can be adjusted with the control knob. The adjustable maximum temperature is of 70°C (in the single-phase version) and 75°C (in the three-phase version), the minimum temperature is of 30°C. To prevent a rapid buildup of limestone on the heating element, a temperature lower than 60°C is recommended.
- The heating element is supplied with a safety thermostat for manual resetting that allows to interrupt the power supply to the heating element in order to avoid its overheating. The thermostat is set at 90°C (in the single-phase version) and at 98°C (in the three-phase version).

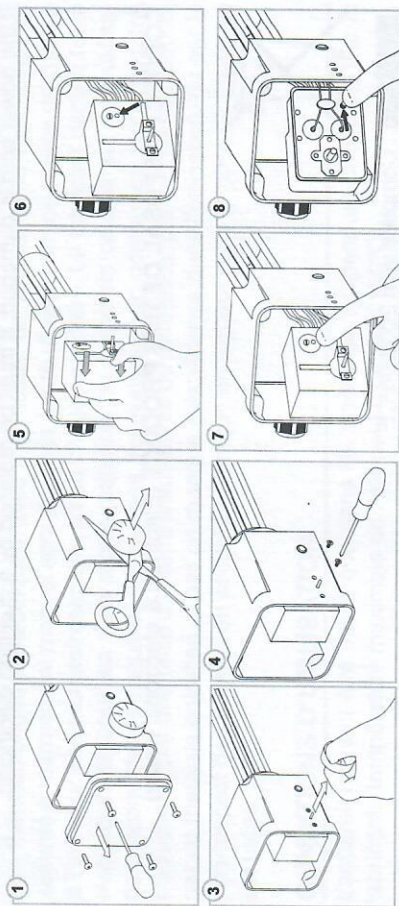
Please note: Let qualified personnel check your plant before reaming the safety thermostat.

The heater must be used within the temperature limits indicated above, in any case never with a temperature higher than 100°C, and exclusively to heat water free of impurities or polluting elements (complying with the requirements of UNI CTI 8065 and / or L.D. no. 02/02/01 and subsequent amendments) and with hardness between 7°F and 20°F.

INSTRUCTIONS FOR MANUAL RESET OF THE THERMOSTAT

BEFORE STARTING ANY OPERATION, MAKE SURE YOU HAVE DISCONNECTED THE POWER SUPPLY

It's recommended to have the system checked by qualified staff before resetting the safety thermostat.



- Make sure there is no voltage before resetting (disconnect from mains)
- Remove the four screws fixing the cover to the housing, using a suitable cross-head screwdriver
- Insert an electrician's scissors and put gently pressure behind the regulating knob to partially remove it from relative gasket on the housing
- Complete manually the extraction of the knob from the shaft
- Remove the two screws fixing the thermostat to the housing, using a suitable cross-head screwdriver
- Pull gently the shaft out from its pertinent hole in the case, taking care not to damage the internal cables
- To reset the three-phase thermostat, press the green button (model with metal casing) or black button (model with plastic casing) until the contact triggers (you shall hear the typical "CLICK")
- To reset the single-phase thermostat, using a suitable sized slotted screwdriver, press the button inside the hole until the contact triggers (you shall hear the typical "CLICK")
- Reassemble everything, proceeding in reverse order to what has been explained so far