HEAVY-DUTY ELECTRIC HEATER

RE/I TITANIUM 60-120 kW

DIRECTIONS FOR INSTALLATION AND USE

P.S.A. October 2000

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1.GENERAL

1.1 General terms of delivery

Any equipment, even CARRIAGE and PACKING FREE, travels at the consignee's risk. The consignee shall make reserves in writing on the carrier's delivery bill if he notes damage caused during the transport (confirmation to be sent to the carrier within 48 hours by registered mail and Acknowledgement of Receipt).

1.2 Voltage

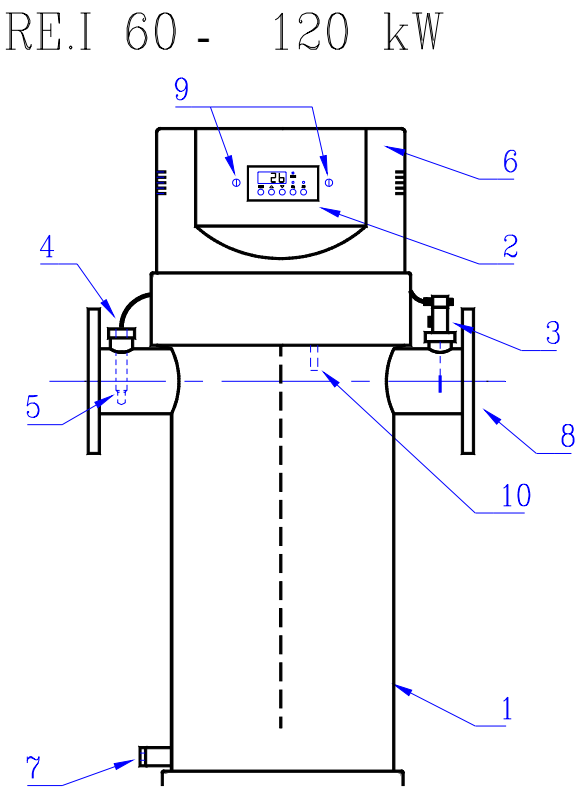
Prior to any operation, check that the voltage on the identification plate of the appliance corresponds to the mains voltage provided on site.

1.3 Water treatment

In order to use our appliances in the best conditions, swimming pool water shall comply with the following values: free chlorine: max. 2.5 mg/l, total bromine: max. 5.5 mg/l, pH between 6.9 and 8.0. For any other treatment, the fitter and the user shall apply to the supplier of the planned disinfection process (chemical, electrochemical or electrophysical) for the compatibility with the materials of our appliances. In any case, treatment shall be installed downstream the heating equipment.

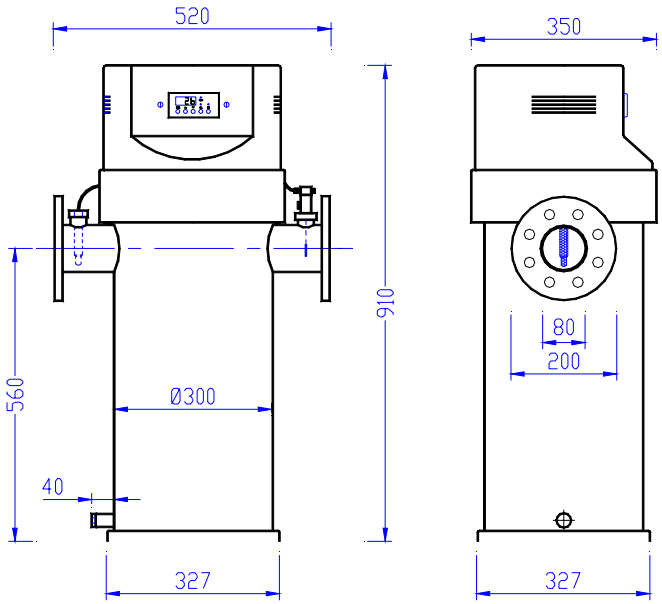
2. DESCRIPTION

2.1 Description



1. Stainless steel housing
2. Digital controller
3. Flow switch
4. Temperature sensor (position designed for water circulation from left to right)
5. Thermo-well
6. Hood
7. Drain
8. Connection flange DN 80
9. Screws
10. High limit sensor (position designed for water circulation from left to right)

2.2 Dimensions (mm)



3. INSTALLATION OF THE UNIT

The appliance shall be installed in a technical facility close to the filter of the pool. It shall be vertically fixed onto the floor, at the lowest level of the hydraulic circuit in order to make sure it is always full of water.

4. CONNECTIONS

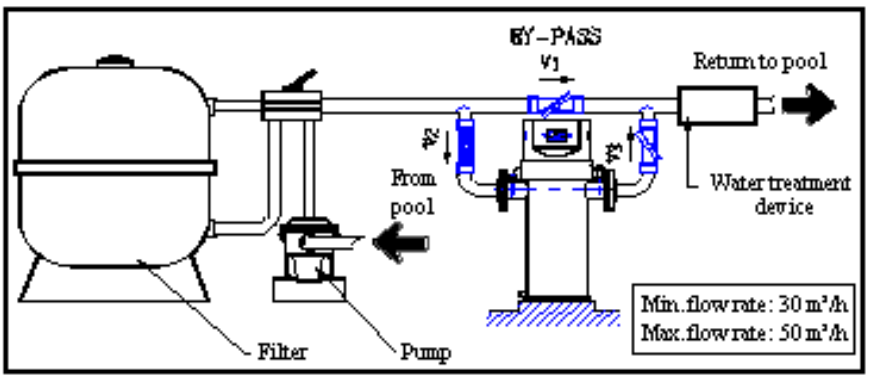
4.1 Hydraulic connections

The electric heater shall be connected in line to the return circuit downstream the filtration process, with a minimum flow rate of 30 m³/h up to 50 m³/h. If the flow rate is over 50 m³/h, the appliance shall be installed on a by-pass.

Caution: make sure the appliance is installed the way it always contains water, even when the filtration is not running. Risk of dry fire otherwise.
Caution: The appliance shall be installed upstream any disinfection process.

Direction of circulation: The genuine way of circulation of the water through the appliance is from the left to the right. To reverse direction:

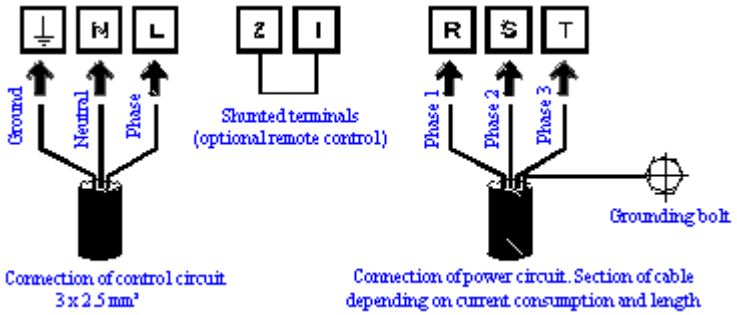
- Invert thermosensor and flow switch.
- Thermosensor shall be located on side of water inlet
- Flow switch shall be located on side of water outlet



Test pressure 4 bars - Operation pressure: 2 bars

4.2 Electric connections

The power supply of the heater shall be insured by a cable as per indications below and protected by a differential 30mA circuit breaker, according to the national regulation. The heater shall mandatory be connected to 3 phase mains supply (400V-3-50Hz) for the power circuit and to single phase mains supply (230V-1N-50 Hz) for control circuit by means of a separate cable.



- MANDATORY! – The appliance shall be connected to the ground -

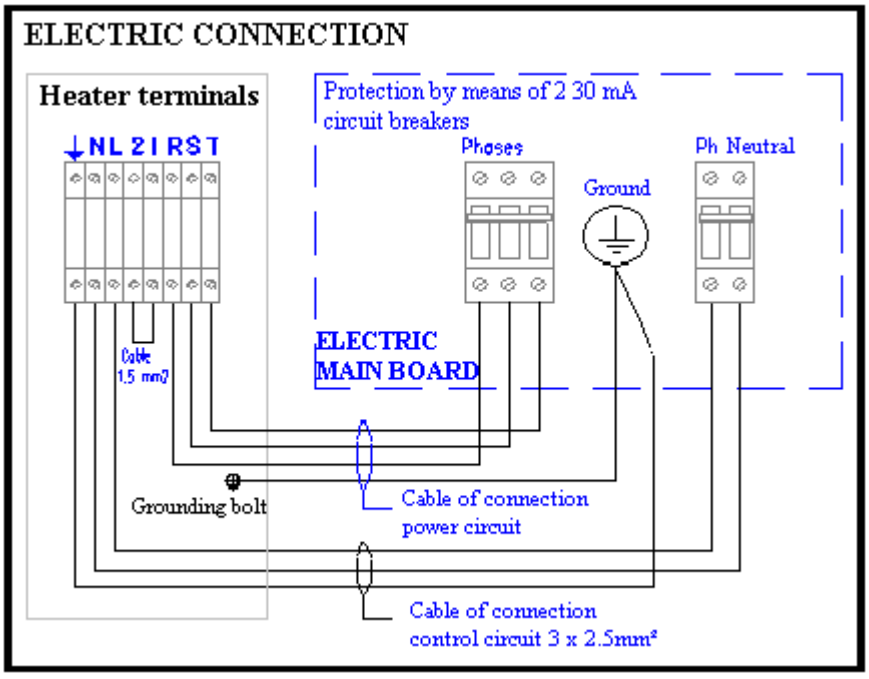
The section of cable shall be defined according to the current consumption (see table below) and the length

MODEL RE/I	60	~~72~~	84	96	~~108~~	120
Restored power	60 kW	~~72 kW~~	84 kW	96 kW	~~108 kW~~	120 kW
Consumed current	87 A	~~104 A~~	122 A	133 A	~~156 A~~	174 A

Electric protection of both circuits to be insured by 2 independent 30 mA circuit breakers.

Notice:

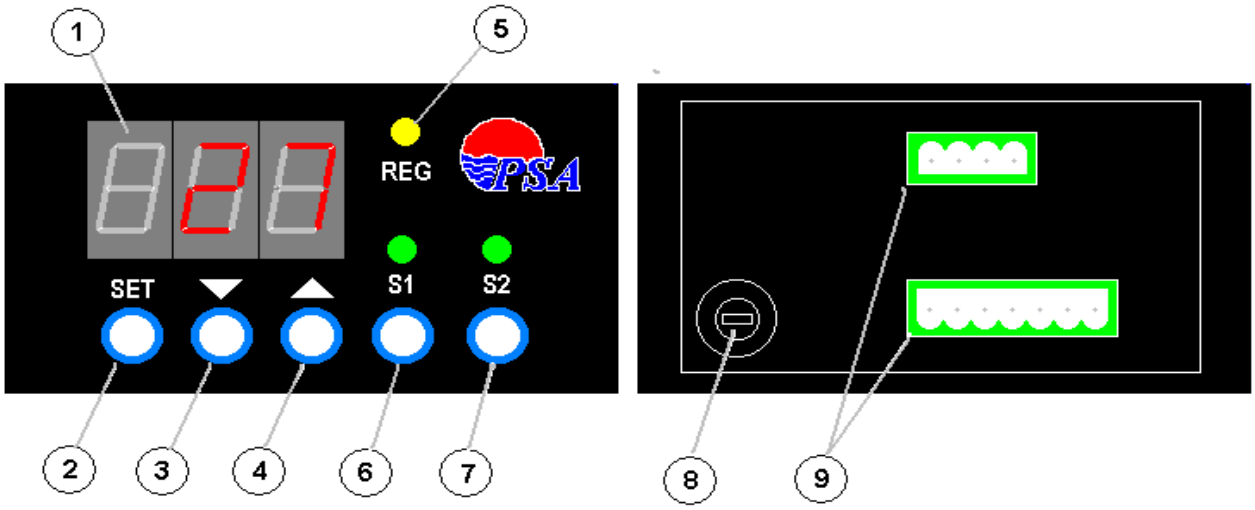
- The acceptable tolerance of tension variation is ± 10% while working.
- Terminals 1 and 2 available for remote control
- Electric cables shall be fixed.



5. USE OF THE CONTROL DISPLAY

5.1 Principle of working

A control sensor, placed on side of water inlet of the heater measures the temperature of the water, and compares it to the required temperature. If the temperature of the water is lower than the one required, the control unit makes the heater run, light (5) flashing, then continuous.



1. Digital display
2. Key for displaying or modifying the required temperature
3. Key for raising the required temperature.
4. Key for lowering the required temperature or switching off the failure beeper.
5. State light of control: continuous light shows the thermostat is "on demand". Flashing light shows the temporisation before the heater runs is activated.
6. On/Off switch first level with On/Off light above.
7. On/Off switch second level with On/Off light above.
8. Fuse
9. Electric connectors

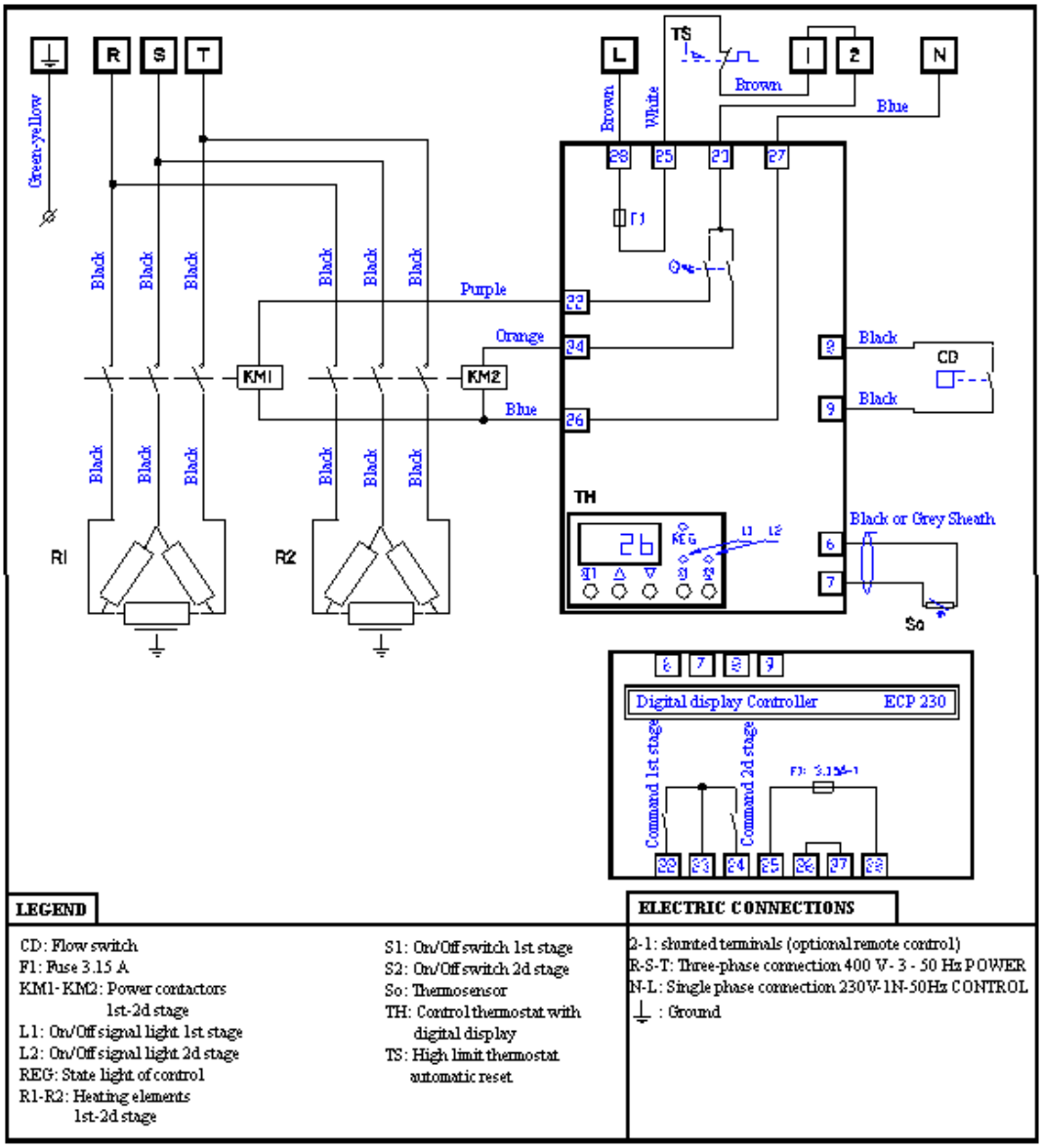
5.2 Setting of required temperature

Press the key SET (2) to display the required temperature, then keeping this key pressed, press the key ▲ (3) to increase it or ▼ (4) to lower it. Release the key SET, then the temperature of the water is displayed again.

6. STARTING UP

ADDITIONAL TECHNICAL FEATURES

MODEL RE/I	60		72		84		96		108		120	
Power of heating elements (kW)	1st stage 2 x 12	2d stage 3 x 12	1st stage 3 x 12	2d stage 3 x 12	1st stage 3 x 12	2d stage 4 x 12	1st stage 4 x 12	2d stage 4 x 12	1st stage 4 x 12	2d stage 5 x 12	1st stage 5 x 12	2d stage 5 x 12
Weight	35 kg											



LEGEND

CD: Flow switch
F1: Fuse 3.15 A
KM1- KM2: Power contactors 1st-2d stage
L1: On/Off signal light 1st stage
L2: On/Off signal light 2d stage
REG: State light of control
R1-R2: Heating elements 1st-2d stage
S1: On/Off switch 1st stage
S2: On/Off switch 2d stage
So: Thermosensor
TH: Control thermostat with digital display
TS: High limit thermostat automatic reset

ELECTRIC CONNECTIONS

2-1: shunted terminals (optional remote control)
R-S-T: Three-phase connection 400 V- 3 - 50 Hz POWER
N-L: Single phase connection 230V-1N-50Hz CONTROL
⏚ : Ground

IMPORTANT!

ELIMINATION OR SHUNTING OF ONE OF THE SAFETY OR REMOTE CONTROL ORGANS LEADS AUTOMATICALLY TO THE CANCELLATION OF THE GUARANTEE

6.1 Before starting up, check:

- The hydraulic fittings are correctly tightened.
- There is no leak.
- The appliance is stable.
- The connections of the electric cables are correctly tightened. Incorrectly tightened cables may cause overheating of terminals.
- The appliance is correctly connected to the ground.
- No tools or objects have been forgotten inside the appliance.
- The water contained in the appliance is not frozen. In event of frost, the heater shall not operate.

6.2 Starting up

- Run the filtration pump to make the pool water cross the heater.
- Purge the air from circuit and make sure no air remains in the appliance.
- Set the by pass in order to provide to the heater a flow rate from 30 m³/h to 50 m³/h.
- Switch on the mains supply circuit breakers.
- Set the required temperature on the display to be on demand (REG light flashing)
- Press the ON/Off key (S1 and/or S2).

Notice: When the temperature of the pool meets the required temperature, REG light (continuous) will go out and the heater will stop automatically.

Caution

- If on first setting, flow rate is lower than 5 m³/h, the heater won't work (flow switch remains open).
- If flow switch switches Off and On when the heater is working, the heater will stop and start again only after 4 minutes.

6.3 Checking

Make sure that the heater stops when:

- decreasing the required temperature on the control display.
- filtration is switched off or closing a valve.

Important: Before any intervention, make sure the unit is switched off.

6.4 Failure

In event of overheating, the heater is automatically stopped by high limit switch. Reset is automatic.

If **E0** displayed (flashing and beeping. To stop beeping, press key ▼).
➲Control sensor out of order (wire cut, on short circuit or disconnected).
⇨Replace sensor or connect correctly.

If **E2** displayed (flashing and beeping. To stop beeping, press key ▼).
➲Digital control display out of order.
⇨Replace control display.

6.5 Winter storage

- Switch off the appliance by pressing the keys S1 and S2
- Switch off the power supply
- Drain the pool circuit by removing drain plug on the bottom of the body, in order to avoid the risk of freezing. **The guarantee will be cancelled in event of freezing of the appliance due to an improper winter storage.**

7. WARNING

MAKE SURE THE APPLIANCE IS DISCONNECTED FROM MAINS SUPPLY BEFORE ANY INTERVENTION.

8. ELECTRIC DIAGRAM