

Picture 1

The Compact electric heater is available with outputs from 3kW to 18kW, see identity plate placed on the body. It shall by safety reasons be equipped with a flow switch or a pressure switch. In the connection box a thermostat and/or an overheating limit control can be mounted. The standard heater must not be used in aggressive water, salt water or in pools where a salt/chlorinator is used. In such circumstances a Compact electric heater Titanium/Nic-tech is required.

Follow these instructions:

		<u>Stainless steel/Incoloy</u>	<u>Titanium/Nictech</u>
Chlorine content:		max 3 mg/l (ppm)	max 3 mg/l (ppm)
Chloride (salt) content:		max 150 mg /l	-
pH-value:		7,2 - 7,8	7,2 - 7,8
Alkalinity:		60-120 mg/l (ppm)	60-120 mg/l (ppm)
Calcium hardness:		200-1000 mg/l (ppm)	200-1000 mg/l (ppm)
Max temperature:		110°C	110°C
Max pressure:	without pressure switch	10 bar	10 bar
Max pressure:	with pressure switch:	2 bar	2 bar
Minimum flow:	without flow switch	20 l/min	20 l/min
	with flow switch	85 l/min	85 l/min

Safety

If the heater is mounted against inflammable material the installer must place a gypsam wallboard between the heater and the inflammable wall. The board must protrude a minimum of 10 cm outside the body of the heater. The heater must not be covered, enclosed in or placed near inflammable material.

Assembly the heater

The connection box shall be mounted on the body/heating element as shown in picture 2. Accessories like overheating limit control and/or thermostat shall be mounted in the box according to the separate instruction included in the kits. The flow switch shall be mounted so the direction of the arrow on the flow switch housing comply with the direction of the water flow. The pressure switch shall be connected to terminal block 1 and 3.

Pipe installation

The pipe installation must be done before the electric installation. The electric heater must be installed in a horizontal position on the return pipe to the pool, after the filter, so that it is flooded at all times, see installation illustration. The heater may be installed in a vertical position only if there is a positive pressure of water in the tubes of at least 50 cm.

Do **not** install a gate valve between heater and pool. If a valve is required, install a check valve.

Dosage of chlorine, acid or similar, must be done **after** the heater in the flow direction to avoid corrosion.

In case of climates with sub-zero temperatures the heater must be installed so that it can be emptied.

Electric installation

The electric installation must be done by a licenced electrician.

The heater shall be connected over one or two contactors, depending on type of heater, see wiring diagram.

Connect earth to heating element according to picture 2.

The heater shall be installed in such way that it cannot be activated if the circulation pump is not working (sufficient flow), i.e. the power supply to the contactor must be guided over the motor protection of the pump.

Start

1. Start the pump of the pool water circulation.
2. Check that the water circulation is normal before the heater is turned on.
3. Test the heater by turning the thermostat knob back and forth and check that the contactor of the thermostat turns on and off. Check any flow switch or pressure switch by turning off the flow through the heater with a gate valve and control that the contactor is being deenergized.
4. Set desired pool water temperature by turning the thermostat knob.
5. The heater will now heat the pool water to desired temperature.

Management

When back-washing and cleaning the filter, the power to the heater must be turned off.

The heater must be drained before it is exposed to sub-zero temperatures.

If the heater does not start

- a) Check the fuses.
- b) The overheating limit control is released: Press the reset button on the connection box.
- c) Any pressure switch is not closed: The pressure switch is pre-installed on 0,2 bar. If a correct pressure is not attainable, the return pipe to the pool shall be somewhat cut down in order to increase the back pressure in the return pipe.
- d) Check that the direction of the arrow on the flow switch housing agree to the direction of the water flow.
- e) Reset the thermostat to a higher temperature.

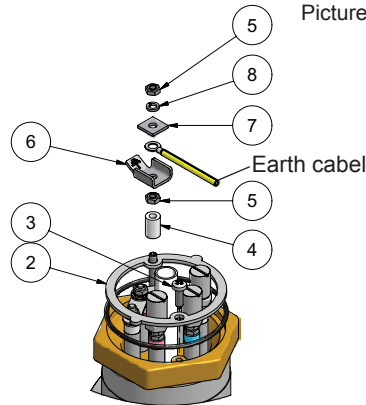
Compact electric heater

Assembly

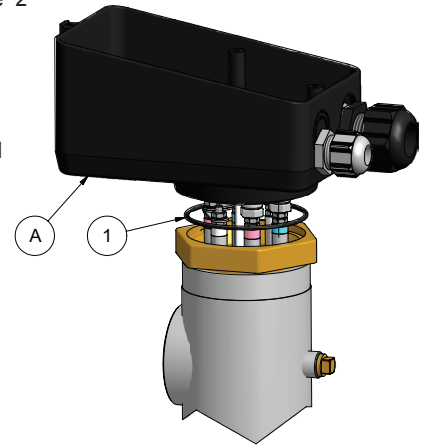
A. Connection box

1399000 Assembly kit inner:

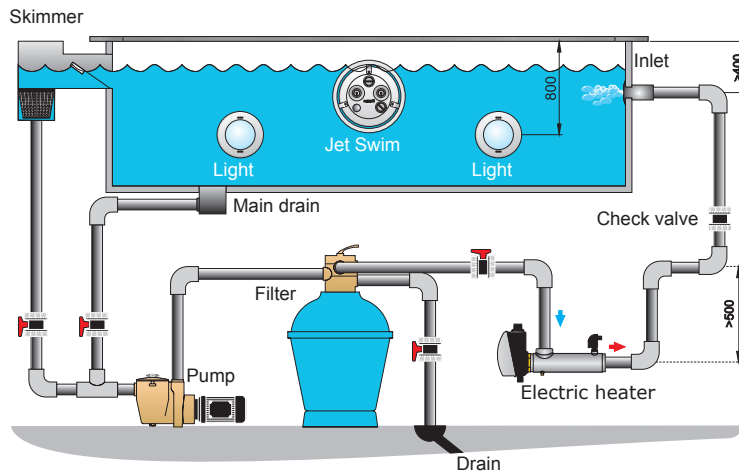
1. O-ring
2. Bracket ring
3. Screw
4. Spacer
5. Nut
6. Earth connection
7. Square washer
8. Washer



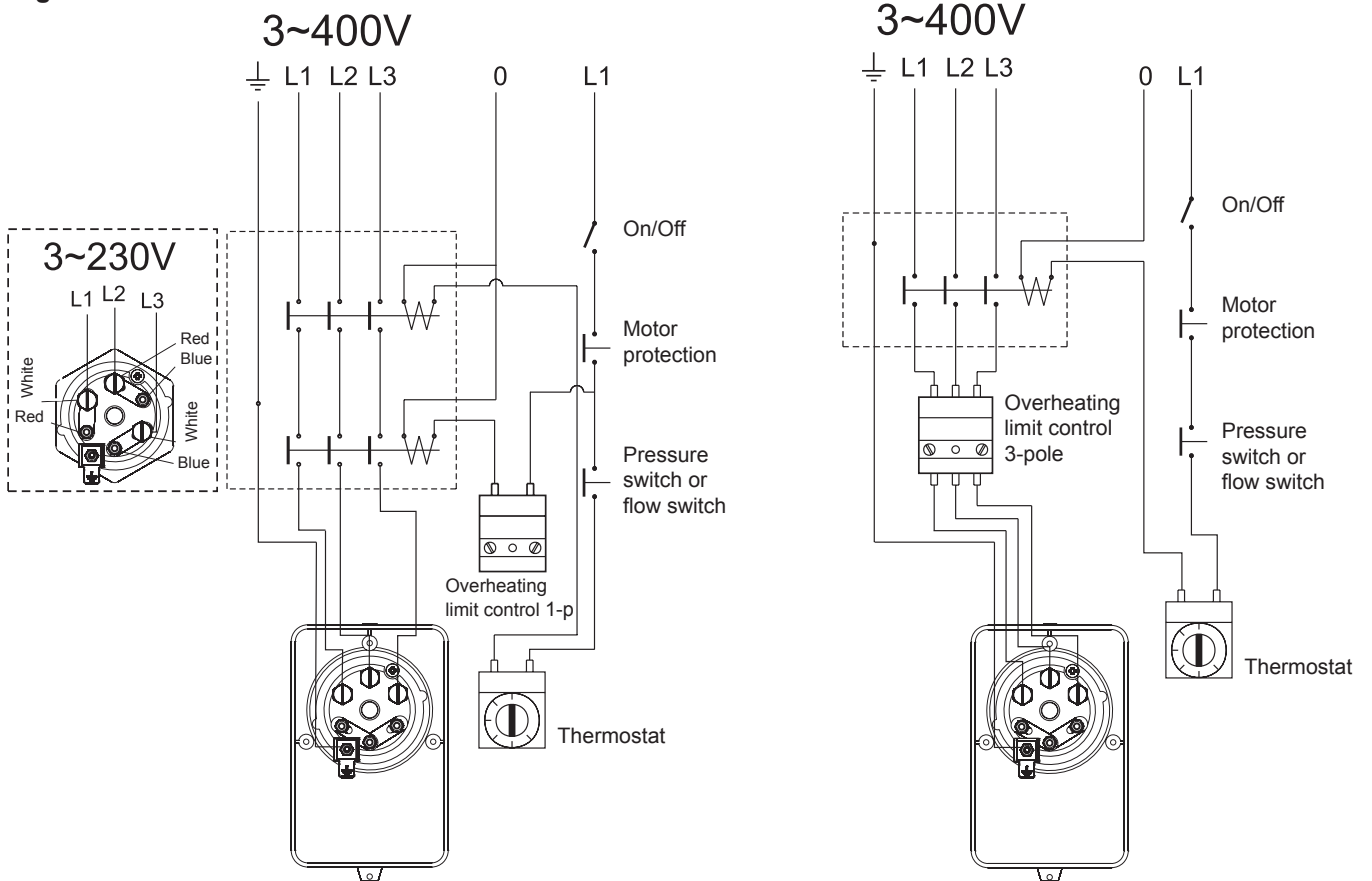
Picture 2



Installation



Diagram



ENGLISH