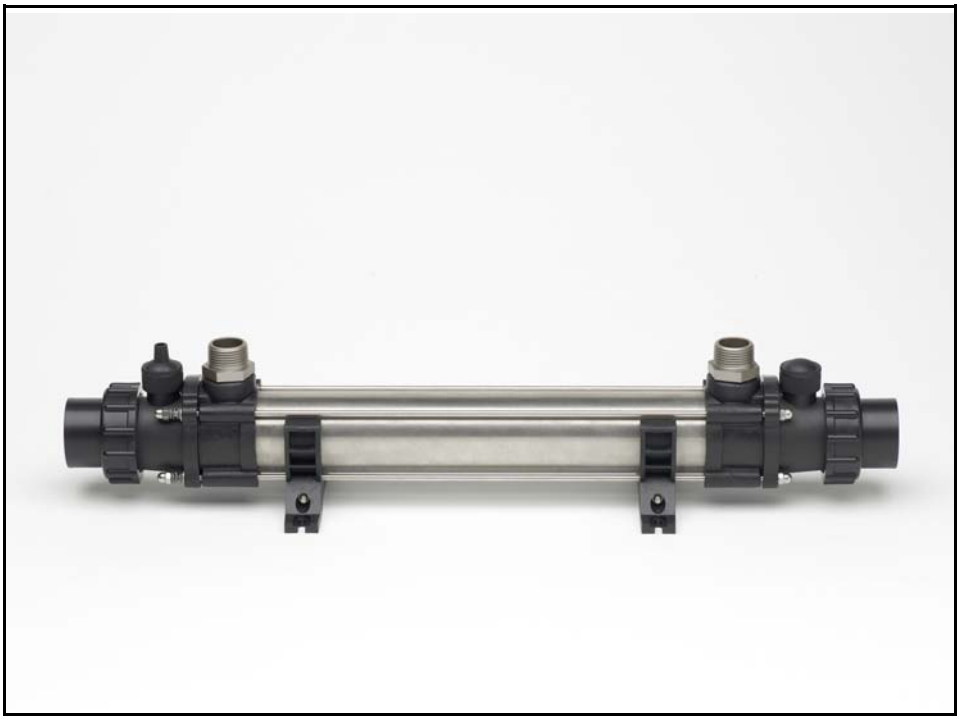
ELECRO ENGINEERING

Heat Exchanger



Installation Instructions & Operating Manual

PLEASE READ CAREFULLY BEFORE INSTALLING

Incorrect Installation Will Affect Your Warranty

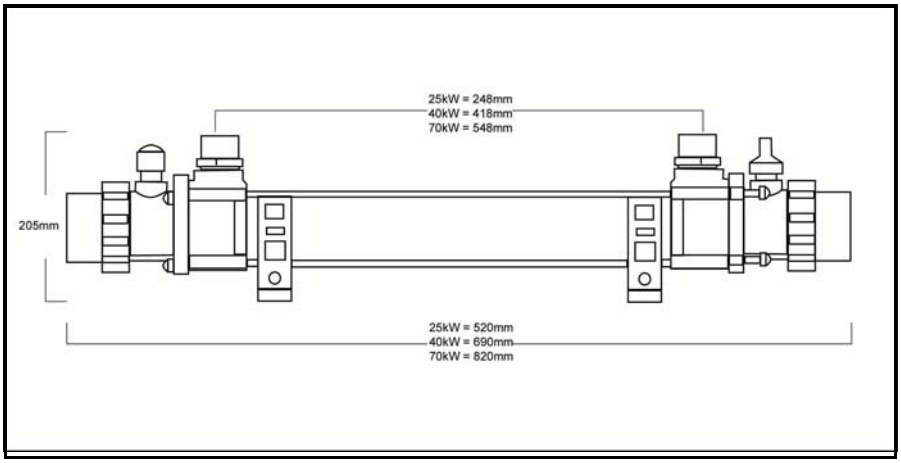
Do Not Discard, Keep For Future Reference

ELECRO HEAT EXCHANGERS

Congratulations on purchasing your new Elecro Heat Exchanger. Elecro heat exchangers are manufactured in the UK, to exacting standards and use the highest quality materials, to ensure exceptional performance and reliability. Please take a moment to read these instructions. Your new heat exchanger must be installed and operated as specified.

This heater must be installed correctly by qualified personnel only, and in accordance with any national/ regional requirements/ regulations.

DIMENSIONS

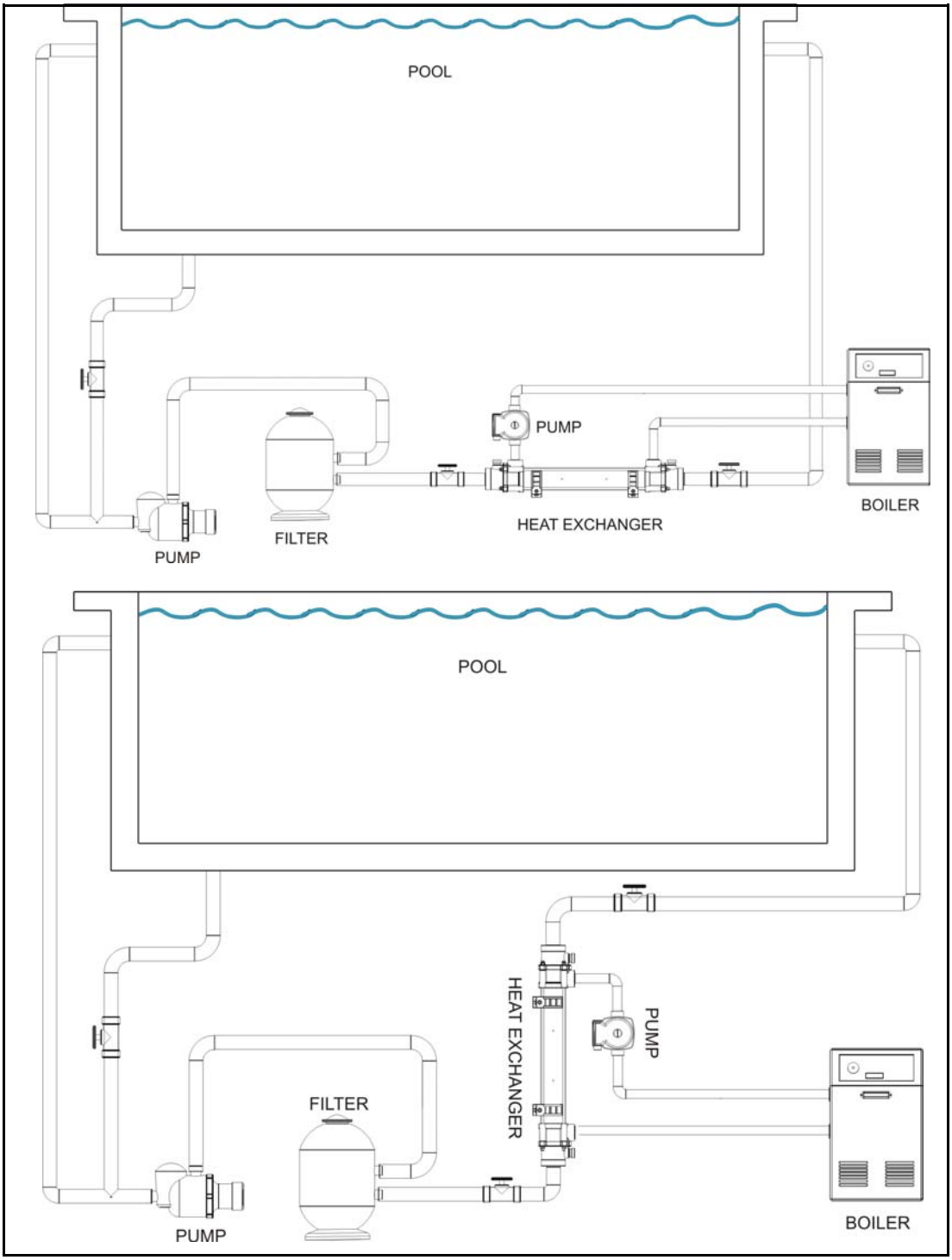


SPECIFICATION

Product Code	Power Output Primary @ 90ºc	Pool Water Connec-tion	Secondary Water Connec-tion	Flow Rate (Primary)	Flow Rate (Secondary)	Pressure drop (Primary)	Pressure drop (Secondary)	Service Pressure	Weight
Stainless Steel									
EHE25SS	25kW	1.5"/ 50mm	26/34mm / 1" BSP m	0.7M³/h / 150gp/h	6M³/h / 1300gp/h	1.4Kpa / 0.2psi	3.8Kpa / 0.55psi	3 bar	2Kgs
EHE40SS	40kW	1.5"/ 50mm	26/34mm / 1" BSP m	1.5M³/h / 330gp/h	9M³/h / 2000gp/h	2.5Kpa / 0.36psi	8.8Kpa / 1.27psi	3 bar	3Kgs
EHE70SS	70kW	1.5"/ 50mm	26/34mm / 1" BSP m	3M³/h / 660gp/h	13M³/h / 2800gp/h	6.0Kpa / 0.86psi	13.7 / 1.98psi	3 bar	4Kgs
Titanium									
EHE25T	25kW	1.5"/ 50mm	26/34mm / 1" BSP m	0.7M³/h / 150gp/h	6M³/h / 1300gp/h	1.4Kpa / 0.2psi	3.8Kpa / 0.55psi	3 bar	2Kgs
EHE40T	40kW	1.5"/ 50mm	26/34mm / 1" BSP m	1.5M³/h / 330gp/h	9M³/h / 2000gp/h	2.5Kpa / 0.36psi	8.8Kpa / 1.27psi	3 bar	3Kgs
EHE70T	70kW	1.5"/ 50mm	26/34mm / 1" BSP m	3M³/h / 660gp/h	13M³/h / 2800gp/h	6.0Kpa / 0.86psi	13.7Kpa / 1.98psi	3 bar	4Kgs

INSTALLATION

Your Elecro Heat Exchanger should be fixed using its multi position brackets to a fixed firm base, or wall. The heater can be installed either horizontally or vertically. (Please see diagram below) .



Your Elecro Heat Exchanger should be connected to the two independent water circuits as follows:

1. Connection to Pool Filtration Circuit

The heat exchanger should be plumbed inline, after your pool pump and filter and before any water treatment equipment. It should be fed with clean water. Weed/ debris should not be allowed to enter the heat exchanger. 1.5" Adapters for connection to rigid PVC pipe are included. (50-mm connectors are provided for Europe). The heat exchanger should be installed as close as possible to the boiler and the pool/pond to minimise any heat loss.

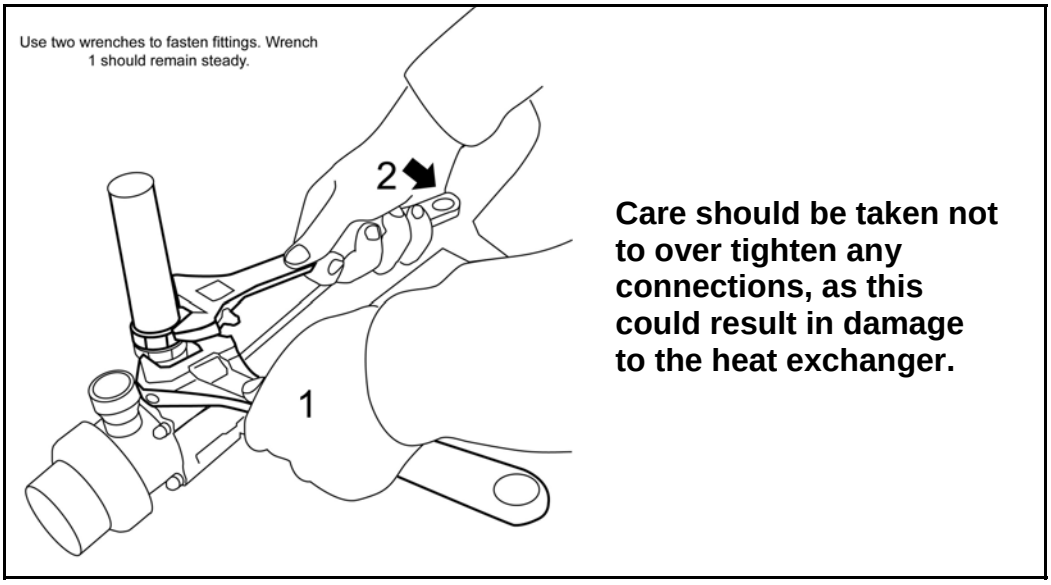
To assist with correct air purging and to ensure that the heat exchanger remains full of water during operation, it should be installed at the lowest point in the filtration circuit.

If the heat exchanger is installed in a vertical plain, it is essential that the pool/pond water (secondary circuit) enters low and exits high.

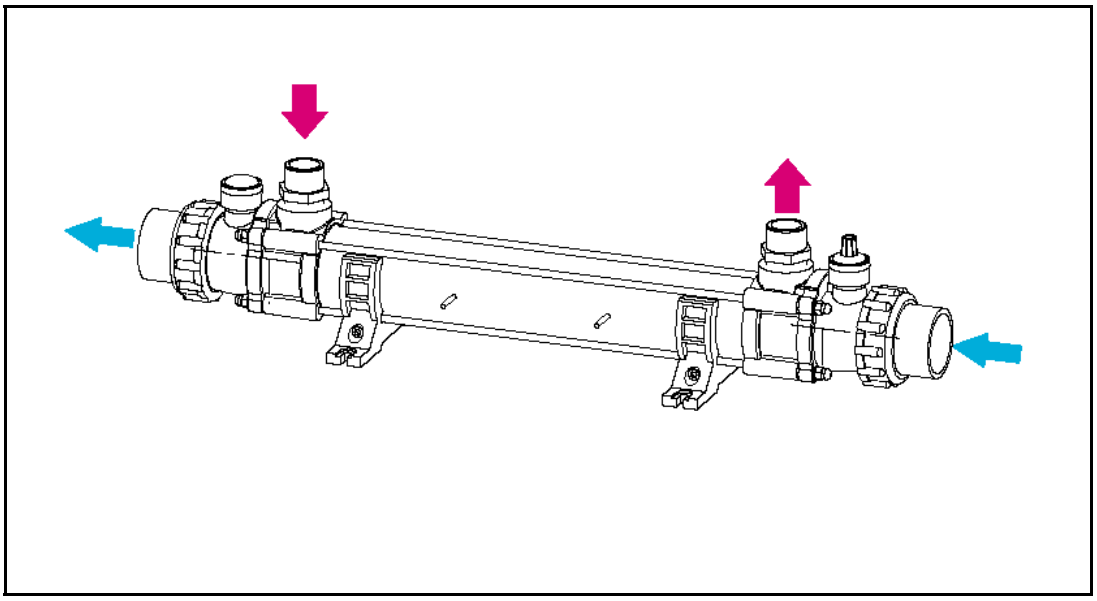
2. Connection to Heating (Primary) Circuit

The heat exchanger should be connected directly to the primary heating circuit i.e. boiler, Via the provided 1” BSP male brass connectors. Please see diagram below. The boiler should supply a constant temperature of 70-90°C (158-184°F). The circulation pump of the primary circuit should be controlled by thermostat, which should also be connected to the filtration pump to allow heating only when the filtration is running. Air bleed valves should be installed at the high points of the primary circuit.

To ensure correct temperature detection, it is essential that the thermostat/ thermistor is positioned at the water inlet of the heat exchanger. The thermostat pocket and flow switch use a common port, and can thus be swapped as required.



Care should be taken not to over tighten any connections, as this could result in damage to the heat exchanger.



Circulation direction:

The primary and secondary circuits should be installed so water flows are counter current i.e. The hot water from the primary circuit should flow in the opposite direction to the pool water in the secondary circuit.

CAUTION

If the heater is not used during winter months it must be drained to prevent frost damage.

NOTE: For Winterising/ maintenance - it is recommended that the heat exchanger is installed with isolation valves on both water input and output sides of the primary and secondary circuits. This will allow the water to be shut off on both sides and aid removal from the system., when required.

WATER QUALITY

To prevent damage to your heat exchanger, the water quality must be kept within the following limits:
Stainless Steel Heat Exchangers:
Chlorine Content: Max 3mg/l (ppm)
Chloride Content: Max 150mg/l
PH: 6.8-8.0
Calcium Hardness: 200-1000mg/l (ppm)
Stainless Steel heater exchangers are **NOT** suitable for use with salt water if the concentration of salt is greater than 0.3% (½ oz per UK gallon).

Titanium Heat Exchangers:
Titanium heaters remain unaffected by PH levels & are suitable for use with salt water systems.

EQUIPPED HEAT EXCHANGERS

For Elecro heat exchanger models supplied as equipped, these heat exchangers include the following equipment:

Non return Valve
Grundfos Circulation Pump (Primary heating circuit)
Flow Switch
Digital or analogue temperature control

If installing a fully equipped heat exchanger, it is essential to take note of the flow direction indicated on the, non-return valve and Grundfos circulating pump.

The heat exchanger should be set up as per the following diagrams, taking care to respect the indicated flow directions.

For pool water entering on the left side of the heat exchanger, the primary water flow and equipment should be arranged as shown in diagram A.

For pool water entering on the right side of the heat exchanger, the primary water flow and equipment should be arranged as shown in diagram B.

Diagram A. Pool water flow left to right

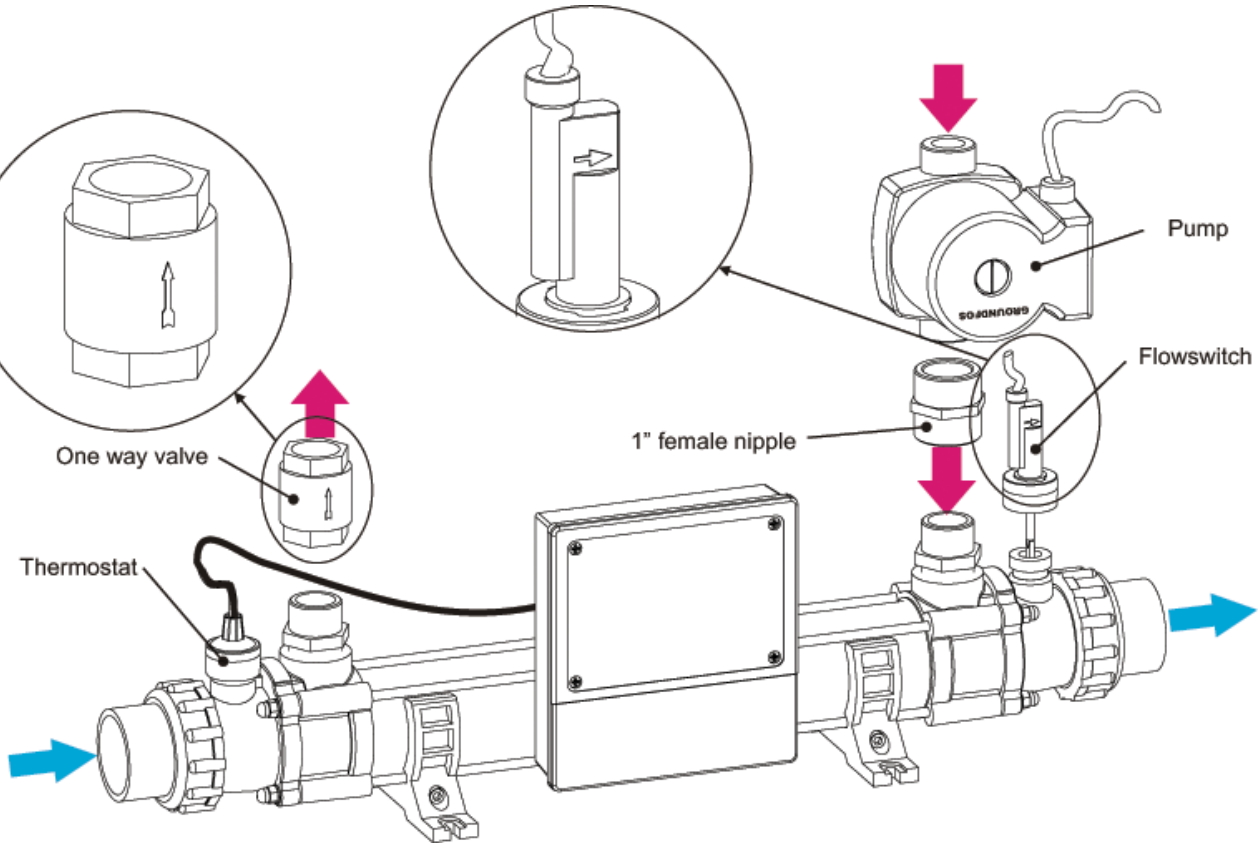
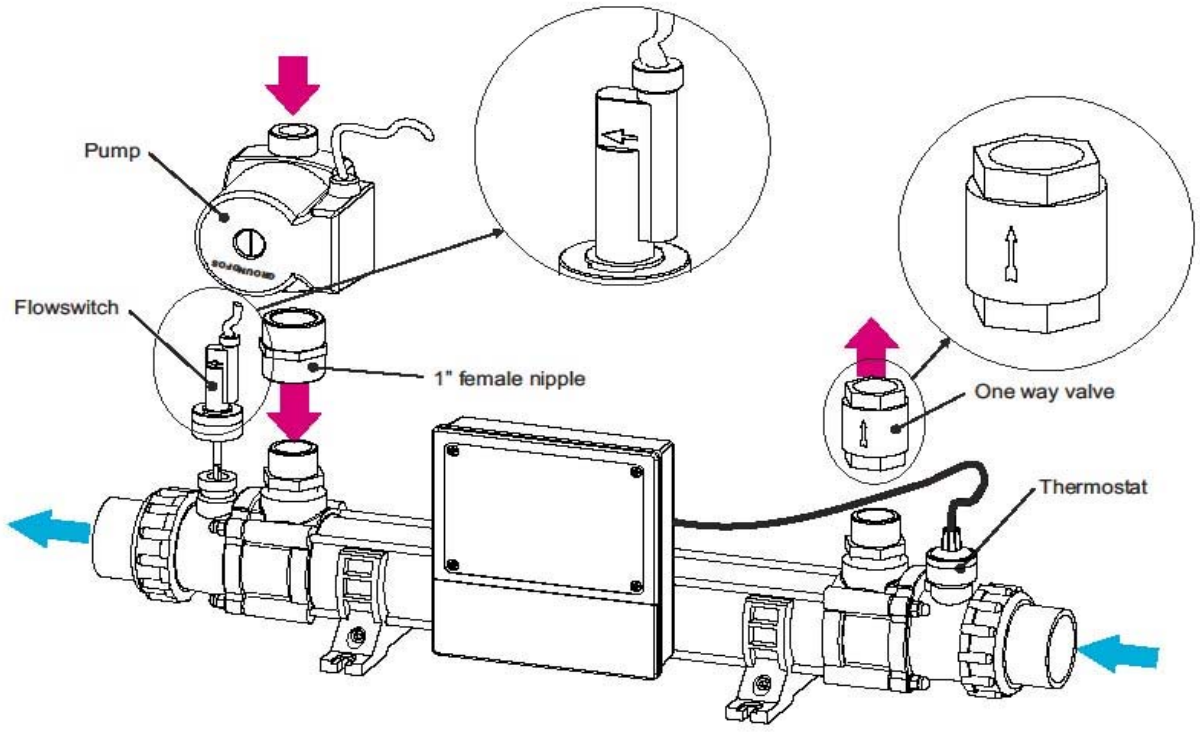


Diagram B. Pool water flow right to left



CONTROLLER INSTRUCTIONS

The control box can be attached to the Elecro Heat Exchanger as shown in the diagrams on the previous page, using the fixings provided.

Electrical connection
Undo the lower cover screws and remove the electrical cover. All electrical connections should be made into the relevant terminal block position, according to the labelled positions.

Programming
For Elecro Heat Exchangers, equipped with analogue control, the control dial should be rotated until set at the desired swimming pool temperature.

For Elecro Heat Exchangers, equipped with digital control. The current pool temperature is displayed in the red upper display. The lower green display 'required temperature' can be selected by the user. This is the temperature you would like your pool water to be maintained at.

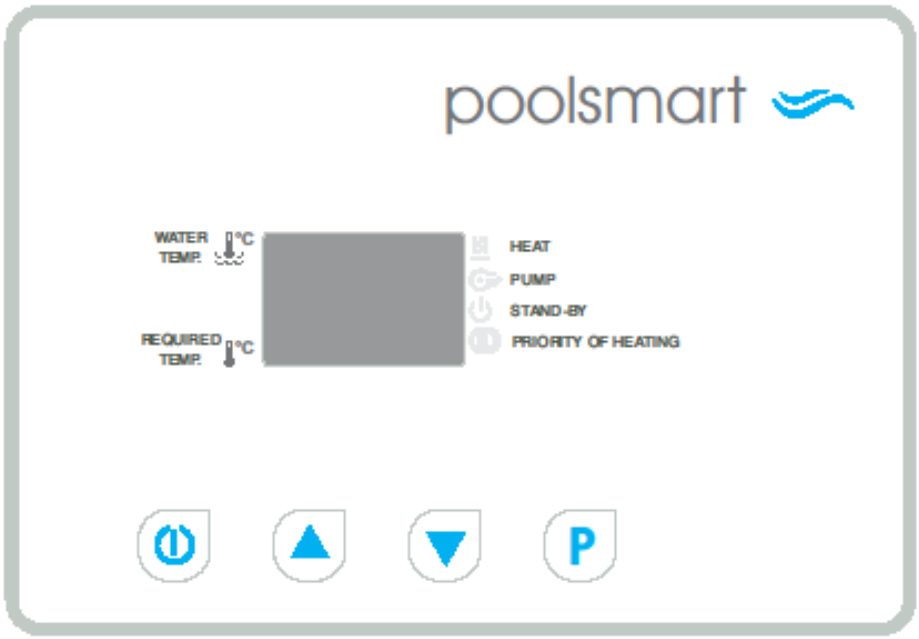
Press and hold for 2 seconds to power the control on/off

Press to increase set temperature (required pool temperature)

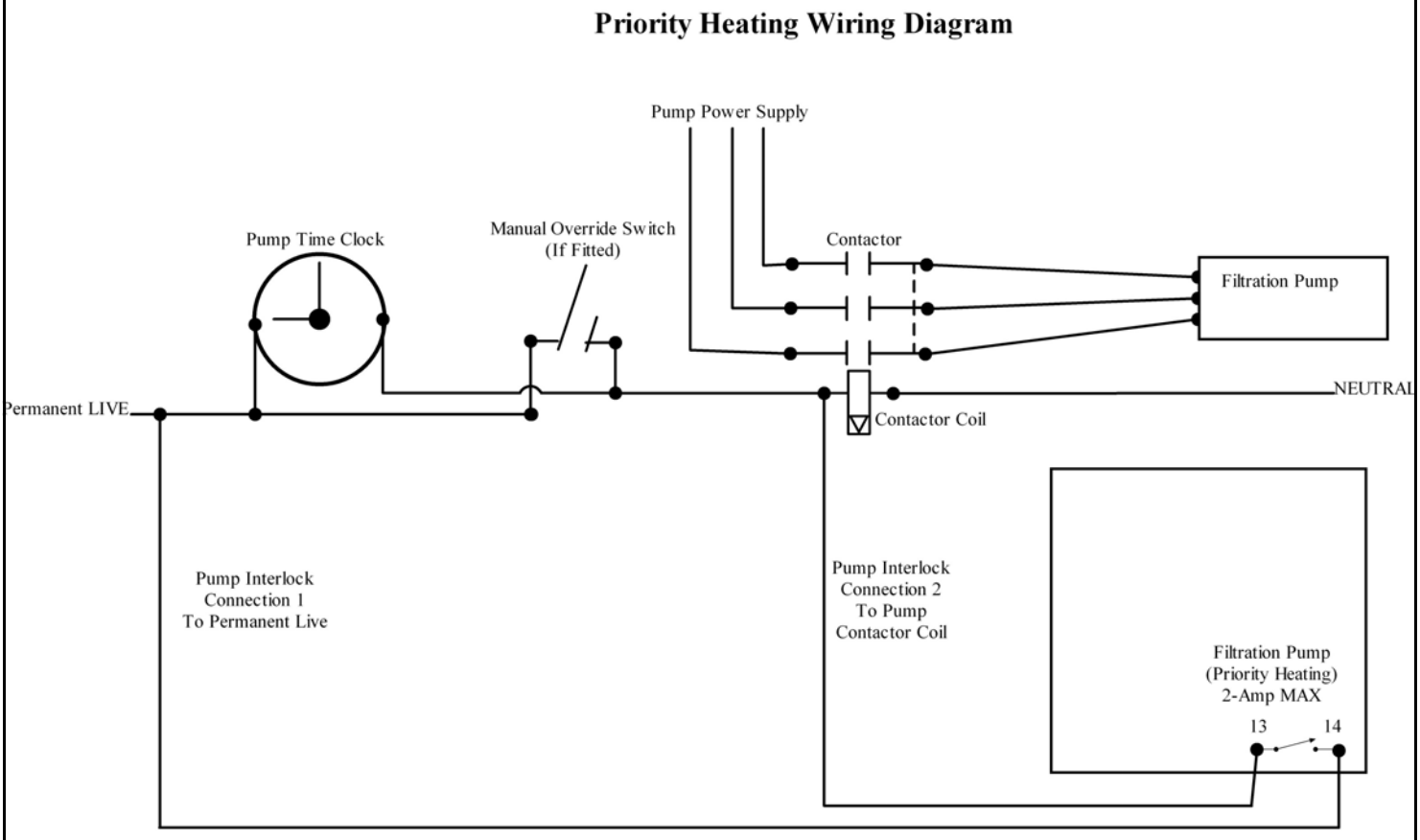
Press to decrease set temperature (required pool temperature)

Press and release to activate/ deactivate 'Priority Heating'

Priority Heating is a function that ensures your pool water is constantly maintained at your required temperature. When Priority heating is activated the Priority Heating Icon on the bottom right of the display will illuminate. The control will now monitor the pool temperature, and start both the pool circulation pump and heating process when necessary.



PRIORITY HEATING WIRING SCHEMATIC



GUARANTEE

Your Elecro heat exchanger is guaranteed for one year from the date of purchase against faulty workmanship and materials.

ELECRO ENGINEERING LTD will replace or repair, at it's discretion, any faulty units or components returned to the company for inspection. Proof of purchase may be required.

ELECRO ENGINEERING LTD will not be liable in cases of incorrect installation of the heater, or inappropriate use, or neglect of the heater.

CE Declaration Of Conformity

The manufacturer declares that the herewith products or ranges

HEAT EXCHANGERS

Are in conformity with the provisions:
of the ELECTROMAGNETIC COMPATIBILITY directive 89/336/EEC, as amended 93/068/EEC. Controlled by AEMC Measures laboratory—technical report no P96045T

The harmonised standards have been applied: EN 55014—EN 55104

EN 55011
EN 55022
CEI 801-4
CEI 801-2
CEI 801-3

of the LOW VOLTAGE directive 73/23/EEC.

The harmonised standards have been applied

EN 60335-2-35

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