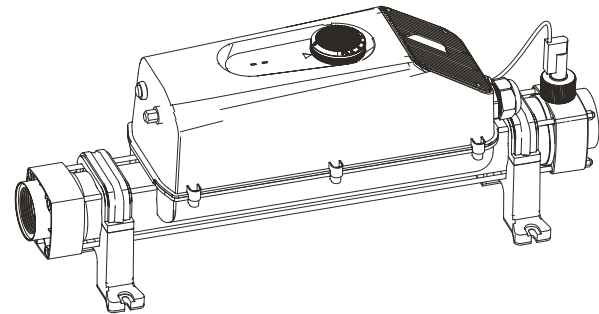




ATECPOOL

Atecpool Thermolite Titanium Inline Electric Heater

User manual V1.0



**Atecpool Thermolite
Titanium Inline Electric Heater**

Congratulations on your purchase of the inline electric heater! This user manual will guide you through the installation, operation, and maintenance of your heater to ensure optimal performance and safety.

EN

Table of Contents

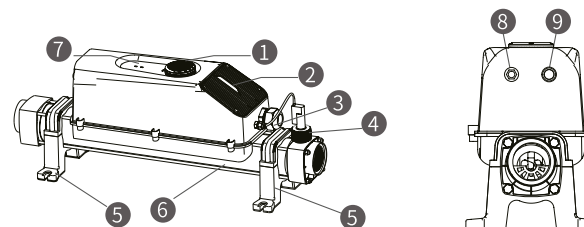
- Introduction** 02
- 1.Product introduction: 02
- 2.Power Requirement 03
- 3.Specifications 03
- Safety Instructions** 04
- Installation** 04
- 1.Installation diagram for wall or floor mounting 04
- 2.Pipe Work 05
- 3.Flow Direction 06
- 4.If rigid pipework is used 06
- 5.If flexible pipework is used 07
- 6.Electric Connection 07
 - 6.1.Dedicated RCD safety circuit 07
 - 6.2.Circuit schematic 08
 - 6.3.Minimum cable sectional area 10
- 7.Operating Instructions 10
 - 7.1.Indicator instruction 11
 - 7.2.Button instruction 11
- Operation** 11
- 1.Flow requirements 11
- 2.Water quality 11
- Maintenance** 12
- Troubleshooting** 12
- Warranty and Support** 14

! Introduction

The inline electric heater is designed to provide efficient heating solutions for various applications such as water heating, space heating, or process heating. It is compact, reliable, and easy to use.

EN

1.Product introduction:



- 1.Thermostat
- 2.Access Cover
- 3.Power Cord Access
- 4.Flow Switch
- 5.Lower Foot
- 6.Flow Tube
- 7.Indicator
- 8.Thermal Cutout Reset
- 9.Power Switch

2.Power Requirement

Code	Output power/kW	Input Voltage/V	Phase	Reference current/A
ETH060S	6	220-240	Single	27
ETH090S	9	220-240	Single	40
ETH120S	12	220-240	Single	53

Code	Output power/kW	Input Voltage/V	Phase	Reference current/A
ETH060	6	380-415	Three	9
ETH090	9	380-415	Three	13
ETH120	12	380-415	Three	18
ETH150	15	380-415	Three	22
ETH180	18	380-415	Three	26
ETH240	24	380-415	Three	35

3. Specifications:

Dimension	599 * 160 * 229 mm
Net Weight	≈5kg
Gross weight	≈5.75kg
Power Supply	Single phase or three phase
Frequency	50/60 Hz
Flow Requirement	4 - 17 m ³ /h
Heating Elements & Flow Tube	GR1 titanium
Control Thermostat	5 - 43 ℃ (1.2℃ differential)
Safety Thermal Cutout	60℃ (Manual reset)
Contactora	Siemens 3RT6025 or 3RT6028
Water Connections	1.5" BSP female thread supplied with 1½"/50mm stepped ABS unions for rigid pipe and 1½"/1¼" stepped hose tails for flexible pipe
Working Pressure	4 bar maximum
Mounting	Floor or wall mounting

EN

EN

Safety Instructions

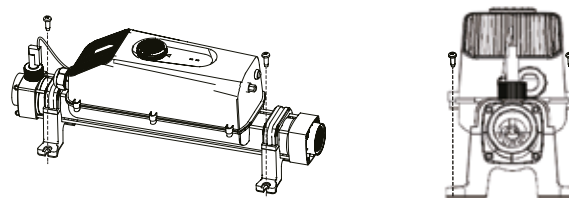
Please follow the following instructions for safety usage:

1. Read and understand all instructions before installation and operation.
2. Ensure that the electrical supply matches the specifications mentioned on the heater.
3. Do not operate the heater if it is damaged or if any part of the wiring is exposed.
4. Keep flammable materials away from the heater.
5. Do not immerse the heater in water or any other liquid.
6. Do not use the heater in hazardous environments.
7. Do not attempt to disassemble or modify the heater.
8. If the heater is placed near combustible materials, a fire barrier must be placed between the heater and the wall. The fire barrier must cover the outside of the heater by at least 15 cm. To ensure adequate ventilation, the device must not be covered with a lid.
9. The heater must be installed in a dry, wind- and rain-proof place. Under any circumstances, the warranty will be void if water or moisture enters the enclosure.
10. If the heater is not used during the winter, it must be drained to prevent frost damage. Water must not freeze inside the heater, otherwise serious damage may occur.

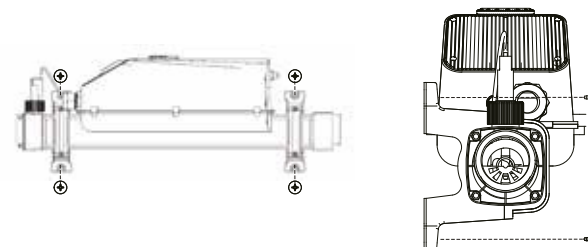
Installation

1. Installation diagram for wall or floor mounting:

FLOOR MOUNT: The heater support feet are fixed on the ground with 4pcs M5×22 tapping screws.



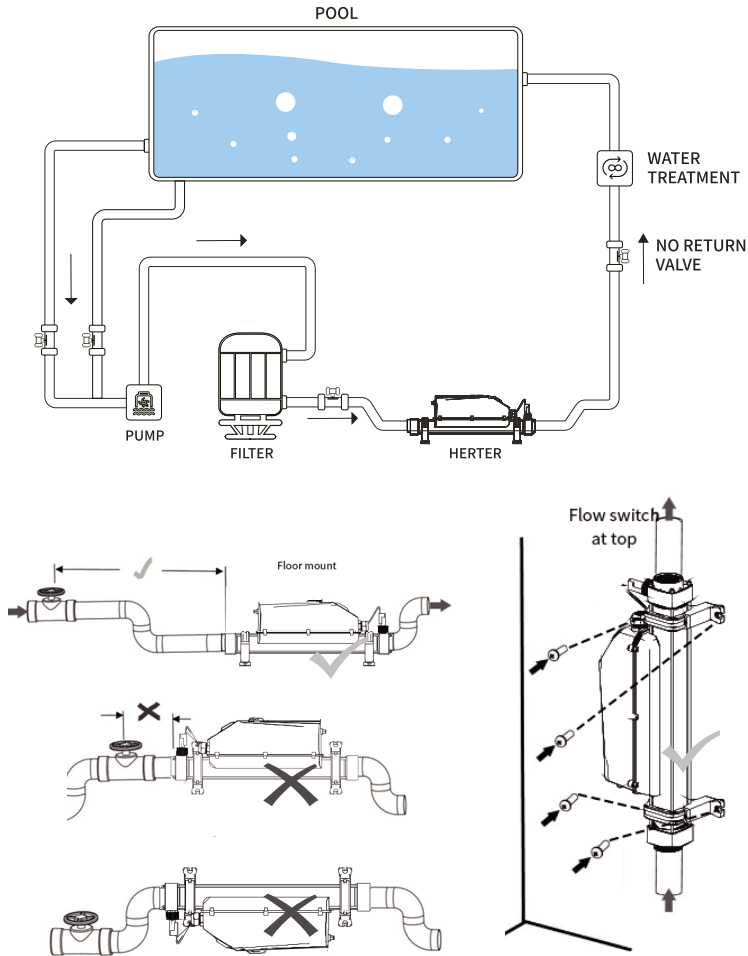
WALL MOUNT: The heater support feet are fixed on the wall with 4pcs M5×22 tapping screws.



Package Contents					
Name	Quantity	Image	Name	Quantity	Image
Heater	1		Document package	1	
Hard tube lock nut	2		Hard tube adapter	2	
Hard pipe joint	2		Hard tube adapter	2	
Diameter 55*5 O Ring	5		Handle throat band	3	
ST4.2+13 self-tapping screws	4		M5 Hexagon nut	4	
Self-tapping screw ST2.9 ×13-CH	2		Hex wrench (M4 screw)	1	
M5×22 tapping screw	6				

2. Pipe Work

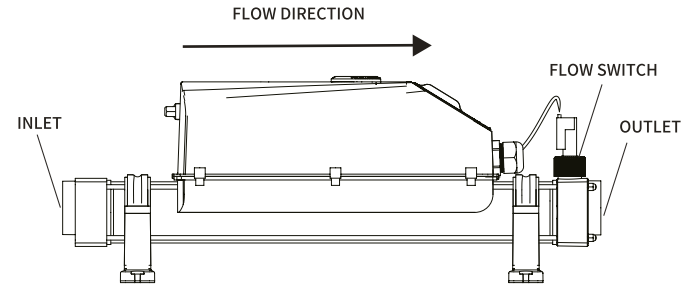
The heater should be installed at a low point in the filtration system. It should be positioned downstream of (after) the filter and upstream of (before) any dosing or other water treatment plan.



For vertical wall mounting water must always enter at the bottom. We don't recommend heater to install vertically under any circumstances.

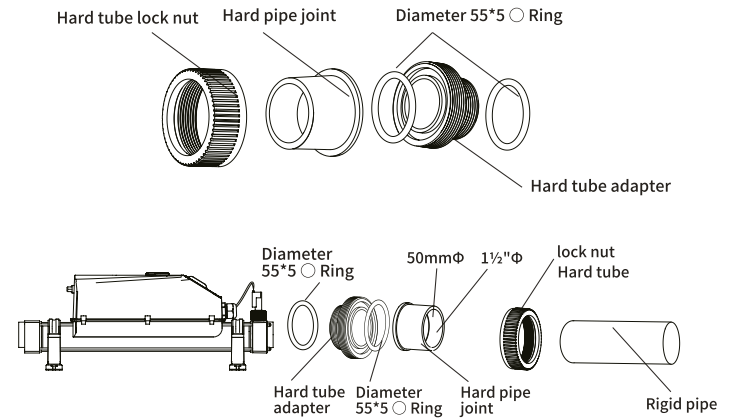
3. Flow Direction

Please be sure to install the HEATER in accordance with the water flow direction shown in the figure below.



4. If rigid pipework is used

There is no need to use mastic or PTFE tape to connect unions to the heater, use the O-ring supplied which should be slid over the threaded ends.

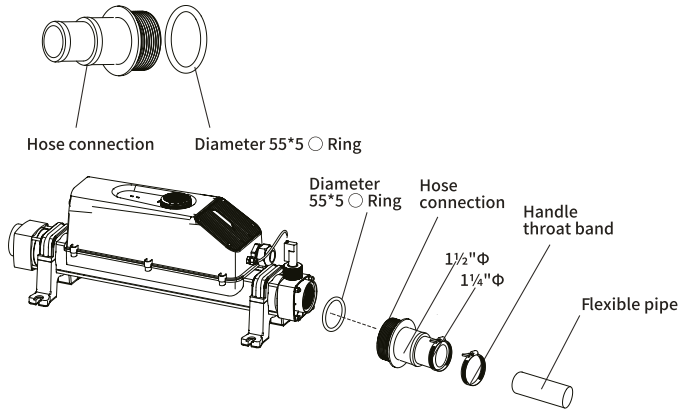


Caution:

All unions of HEATER are made from ABS plastic, when gluing connections to an ABS pipe, an ABS cement must be used. Be sure to apply the glue evenly and to all surfaces that will be in contact to reduce the risk of leakage.

5.If flexible pipework is used

There is no need to use mastic or PTFE tape to connect hosetails to the heater, use the O-ring supplied which should be slid over the threaded ends. Connect the pipe to the non threaded-side of the hosetail and secure using two jubilee clips



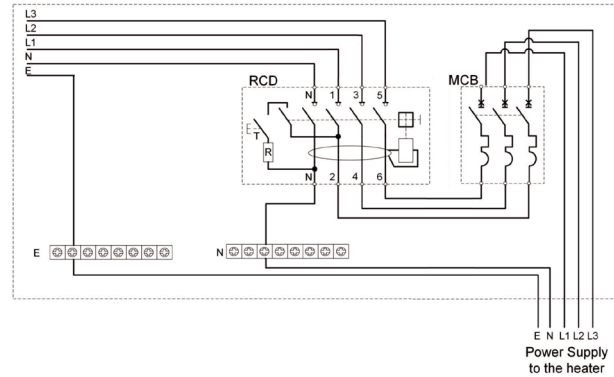
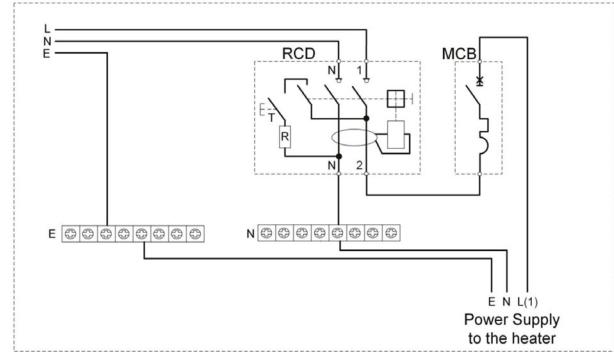
Note:

- The hosetail may need to be cut depending on the diameter of the pipe.
- Wrap PTFE tape or use silicone around the hosetail before connecting the pipe to reduce the risk of leakage.
- When using non-standard pipework, the first thing to note is that the smooth end of the pipe will not fit into anything other than another fitting of the same brand. You will have to cut it off. The hose tail will push fit in to the cut end of the pipe, but it will not be watertight. You can put two jubilee clips on it but because of the ridges in the pipe it will not squeeze down tight. It will need to be sealed with a bathroom type mastic sealant.

6.Electric Connection

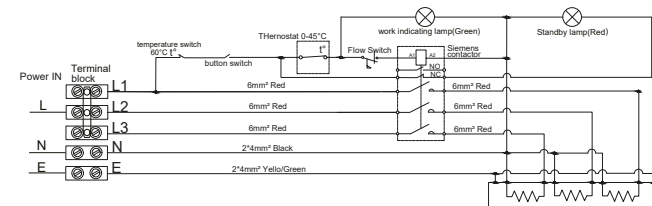
6.1 Dedicated RCD safety circuit

- 1)The heater is fitted with a high limit Safety Circuit which must be connected to a dedicated RCD and circuit breaker.
- 2)The Safety Circuit is constantly monitoring the flow tube temperature. Air pockets, incrustation, debris build-up or faulty components can be a reason of a sudden temperature rise inside the flow tube. To protect heating elements and other components the Safety Circuit will trigger the RCD and shut down the power to the heater.



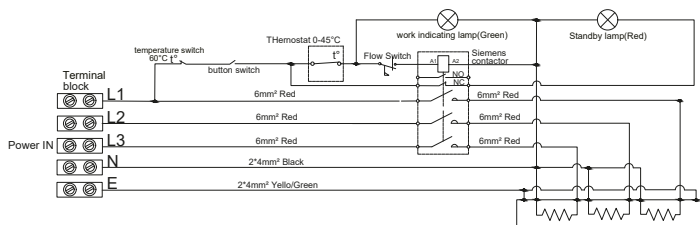
6.2 Circuit schematic

1) Single Phase 220V to 240V 6KW/9KW/12KW



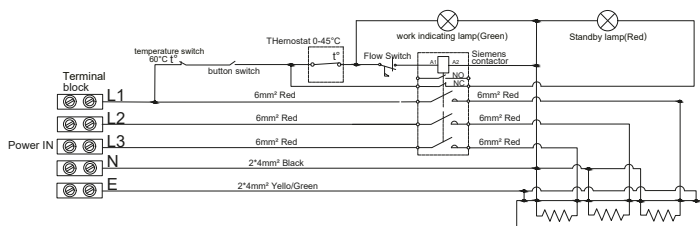
Note: The single phase power supply needs to use a short circuit bar to connect L1, L2, L3 short circuit to the power supply live line L. If the 3 phase power supply is connected, remember not to install a short circuit bar.

2) 3 Phase 380V-415V 6KW/9KW/12KW



Note: Do not use the short-circuit bar when the 3-phase power supply is connected.

3) 3 Phase 380-415V 15KW/18KW/24KW



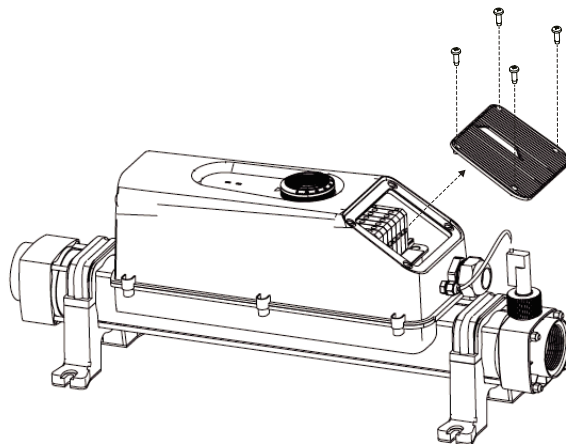
Note: Do not use the short-circuit bar when the 3-phase power supply is connected.

Warnings:

- This device must be installed by a qualified Electrician following the instructions provided in this manual. The manufacturer will not be liable for any issues caused by poor or improper installation.
- Any alterations made to the unit (unless stated) will affect the warranty. This also applies if components are changed for non-standard components acquired anywhere other than direct from the manufacturer.
- Incorrect installation may result in serious damage to property/persons.
- The heater must be installed in accordance with the country/regional requirements and regulations and an Electrical Installation Certificate must be provided on completion of the installation.
- The power supply must be fitted with a 30mA RCD. If required, the Electrician may replace the cable entry gland supplied with a larger size to secure the cable powering the heater.

6.3 Minimum cable sectional area

This should be calculated at 5-amp/mm² for distances up to 20 metres (these sections are indicative and should be checked and adapted if necessary, for cable lengths over 20 metres).

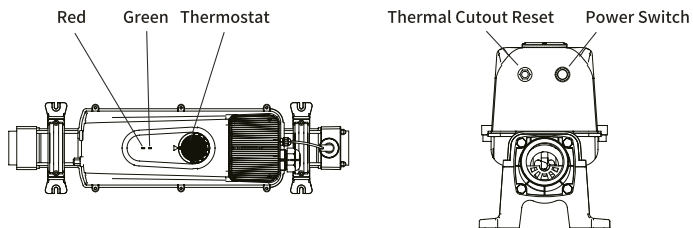


Connections

- To connect the power supply cable, remove access cover
- Make sure that all connections to the terminal block are correct as per the label inside the heater and they are tight.
- Make sure not to expose the cable to anything which can cause damage to it i.e. sharp edges, hot surfaces, or crush hazards.
- The cable should be fixed to avoid any trip hazard.

7. Operating Instructions

Upon completion of the installation, run the water-circulating pump to purge the system and heater of air (i.e. remove any trapped air in the system and heater).
Click "Power switch" to turn on the heater, turn the thermostat to the desired temperature, and the heater will start working when the conditions (water temperature, water flow) are met.



7.1 Indicator instruction

State	Indicator
Heating up	Only GREEN lights up
Standby	Only RED lights up
Lack of water flow	RED and GREEN light up

7.2.Button instruction

Switch	Description
Thermal Cutout Reset	After the heater is powered off due to triggering of thermal protection, click this button to manually reset.
Power Switch	Turn on / off heater

Operation

1.Flow requirements

The flow rate of water into the heater must not exceed 17,000 litres per hour (17m³ per hour/3,740 UK gallons per hour). A higher flow rate will require the installation of a by-pass to prevent damage to the heater elements.

The heater will not operate unless the following minimum flow rates are achieved: 4,500 litres per hour (4.5m³ per hour) .

2.Water quality

The water quality **MUST** be within the following limits:

- PH: 6.8 – 8.0
- Total Alkalinity (TA): 80 - 140 ppm
- Chloride Content MAX: 150 mg/litre
- Free Chlorine: 2.0 mg/litre
- Total Bromine: Max 4.5 mg/litre
- Total Dissolved Solids (TDS)/Calcium hardness: 200 – 1,000 ppm

Maintenance

- 1.Regularly clean the heater to remove dust or debris that may affect performance.
- 2.Check and tighten electrical connections periodically.
- 3.Inspect the heater for signs of wear or damage.
- 4.If any part needs replacement, ensure that it is done with genuine parts recommended by the manufacturer.
- 5.Refer to the maintenance section in the manual for detailed instructions.
- 6.The heater should be drained, the flow tube and heating elements should be cleaned. Removing scale/sludge and any debris or blockages will extend the life expectancy of the heating element(s) and avoid potential failures.

Troubleshooting

— If you encounter any issues with the heater, refer to the troubleshooting section in the manual.

— Follow the recommended steps to identify and resolve common problems.

Fault Display and Handling		
Abnormal Display	Exception Type	Recovery Method
RED and GREEN light up together	Water pump power not turned on	Power on the pump
	Insufficient water pump flow	The water pump flow should not be less than 4.5 cubic meters/hour
	The pump and pipe are blocked	Clean the pump and pipe

Both the red and green indicators are not on, and the heater cannot work	The power supply of the front PDB is faulty	Check components such as cables, air switches, leakage switches, and safety tubes in the distribution line
	Key switch	Check whether the key switch is pressed. Use a multimeter to measure the resistance of the two pins of the key switch and it should be less than 2 Ω. If the resistance exceeds 2 Ω, replace the key switch
	Temperature switch	Press the reset button of the temperature switch to check whether the temperature switch can be restored. If the temperature switch cannot be restored, use a multimeter to measure the resistance of the two pins of the temperature switch and it should be less than 2 Ω. If the resistance exceeds 2 Ω, replace the temperature switch
The heater does not switch from standby to power on	The set temperature has been reached	Raise the set temperature and turn the thermostat dial to a higher water temperature than current temperature
	Insufficient flow	Ensure that the power of the pump can meet the minimum flow value required by the heater. If the power of the pump really meets the requirements, check whether the filtration system of the circulating water pipeline is blocked. If so, replace it
	Flow switch	Check whether the flow switch is stuck because of water impurity. If it is stuck, please clean it up
	Temperature controller	Switch off the heater power supply, turn the thermostat dial to a higher water temperature than the previous value, and set the multimeter to the current level to test the resistance between the two pins of the thermostat. If the resistance value is greater than 2Ω, the temperature switch is faulty and the thermostat needs to be replaced
Heater is tripping circuit breaker (MCB) or RCD instantly	1) Circuit breaker fault. 2) The circuit breaker specifications are incorrect, and the rated current of the circuit breaker is less than the rated current of the heater.	Replace the circuit breaker with a proper specification
	1)The cross-sectional size of the power cable is insufficient. 2)The power cable connector is loose.	Contact an electrician

	Temperature switch	1)Use an insulation resistance meter to measure the insulation resistance between the titanium tube and the power heel of the electric heat pipe. If the measurement value is less than 400 Ω, the electric heat pipe has electricity leakage and needs to be replaced. 2)Check the heater for water leakage and moisture, if so, please check the water leakage point and dry. 3)If there is a short circuit in the cable, use a multimeter to measure and remove the short circuit fault.
	Line fault	Line short circuit: Check the insulation impedance of the line to the ground and eliminate the short circuit.
Heater is tripping circuit breaker (MCB) after few minutes/ hours of operation	Electric heat pipe leakage or damage	Use an insulation resistance meter to measure the insulation resistance between the titanium tube and the power heel of the electric heat pipe. If the measurement value is less than 400 MΩ, the electric heat pipe has electricity leakage and needs to be replaced.
	The circuit or component is damp	Check the heater for water leakage and moisture, if so, please check the water leakage point and dry.

Note: If the issue persists, contact customer support for assistance.

Warranty and Support

This product is guaranteed from the date of purchase against faulty workmanship and materials for:

- two years within Europe
- one year outside Europe
- Any glass parts, seals and water connections are considered as consumables and are not covered by the warranty.
- Read the warranty terms provided by the manufacturer.
- Follow the warranty guidelines for repairs or replacements.
- If you require any support or have questions, contact the manufacturer's customer support.

Remember, proper installation, operation, and maintenance are crucial for the safe and efficient functioning of your inline electric heater.