OXYGON

SWIMMING POOL · WATER TREATMENT · HEATING · COOLING

Evolution 2 Series

Electric Pool Heater — Analogue & Digital

Installation, Operating & Maintenance Manual

Series codes: 203.11.239 – 203.11.262

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1. Safety Warnings

Read and follow these instructions for proper installation, use and maintenance. **Failure to install the unit correctly may void the warranty.** Retain this manual for future reference.

INSTALLATION BY A QUALIFIED ELECTRICIAN ONLY

This device must be installed by a **qualified electrician** in accordance with national and regional requirements, and an **Electrical Installation Certificate** must be provided on completion. The manufacturer is not liable for issues caused by poor or improper installation. **Any alteration** to the unit, or replacement of components with non-standard parts, **affects the warranty**.

THE SAFETY CIRCUIT MUST BE CONNECTED

The heater is fitted with a **high-limit Safety Circuit** which must be connected to a **dedicated 30 mA RCD** and circuit breaker. It constantly monitors the flow-tube temperature and, on a sudden rise, **triggers the RCD and shuts down power**. **Failure to connect it voids the warranty** and may result in product failure. The circuit has a **TEST BUTTON** which must be tested after installation.

FIRE HAZARD — COMBUSTIBLE SURFACES

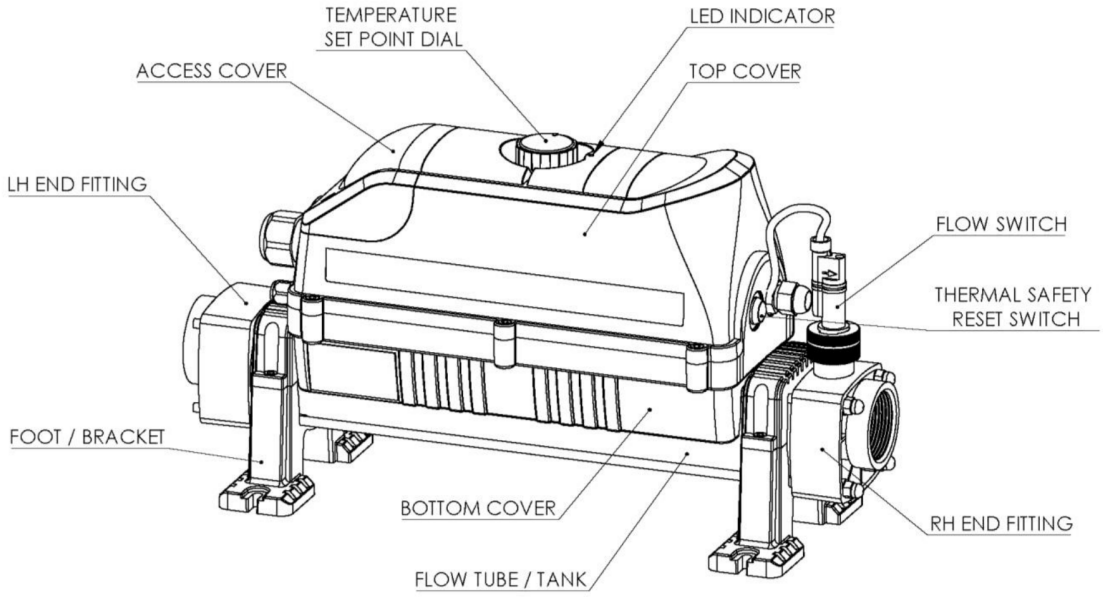
If the heater is placed against **combustible material**, a fireproof barrier must be fitted covering a minimum of **15 cm around** the outside of the unit. **Do not cover** the unit — adequate ventilation is required.

DRY LOCATION — MOISTURE VOIDS THE WARRANTY

The heater must be installed in a **dry, permanent, weather-proof area**. In any case where **water or moisture enters the enclosure the warranty is void**. If the heater is unused during the winter months it must be **drained**: water freezing inside will cause severe damage.

2. The Evolution 2 Series

The **Evolution 2** series are electric pool heaters manufactured in England. They come in two versions with an **identical hydraulic and electrical body**: **Analogue**, with a rotary thermostat and indicator lamps, and **Digital**, with a display and a rotary push-knob showing temperature, status and fault messages. Every instruction in this manual applies to **both**; the digital-controller chapter applies to the Digital version only.



Evolution 2 heater components

Key: access cover · temperature set point dial · LED indicator · top / bottom cover · LH / RH end fitting · flow switch · thermal safety reset switch · flow tube / tank · foot / bracket.

3. Technical Data & Product Codes

Evolution 2 Analogue

Oxygon code	Output	Current	Voltage / Phases	Length "L"
203.11.239	1.0 kW	6 A	220-240 V / 1PH	—
203.11.240	2.0 kW	9 A	220-240 V / 1PH	462 mm
203.11.241	3.0 kW	13 A	220-240 V / 1PH	462 mm
203.11.242	4.5 kW	20 A	220-240 V / 1PH	462 mm
203.11.243	6.0 kW	27 A	220-240 V / 1PH	462 mm
203.11.244	9.0 kW	40 A	220-240 V / 1PH	462 mm
203.11.245	12.0 kW	53 A	220-240 V / 1PH	462 mm
203.11.246	15.0 kW	66 A	220-240 V / 1PH	592 mm
203.11.247	18.0 kW	79 A	220-240 V / 1PH	592 mm
203.11.248	15.0 kW	22 A	380-400 V / 3PH	592 mm
203.11.249	18.0 kW	26 A	380-400 V / 3PH	592 mm
203.11.250	24.0 kW	35 A	380-400 V / 3PH	592 mm

Evolution 2 Digital

Oxygon code	Output	Current	Voltage / Phases	Length "L"
203.11.251	1.0 kW	6 A	220-240 V / 1PH	—
203.11.252	2.0 kW	9 A	220-240 V / 1PH	462 mm
203.11.253	3.0 kW	13 A	220-240 V / 1PH	462 mm
203.11.254	4.5 kW	20 A	220-240 V / 1PH	462 mm
203.11.255	6.0 kW	27 A	220-240 V / 1PH	462 mm
203.11.256	9.0 kW	40 A	220-240 V / 1PH	462 mm
203.11.257	12.0 kW	53 A	220-240 V / 1PH	462 mm
203.11.258	15.0 kW	66 A	220-240 V / 1PH	592 mm
203.11.259	18.0 kW	79 A	220-240 V / 1PH	592 mm
203.11.260	15.0 kW	22 A	380-400 V / 3PH	592 mm
203.11.261	18.0 kW	26 A	380-400 V / 3PH	592 mm
203.11.262	24.0 kW	35 A	380-400 V / 3PH	592 mm

Note: the length **"L"** depends on the output — see the dimensions table. The manufacturer does not publish a length for the 1.0 kW code in the power table.

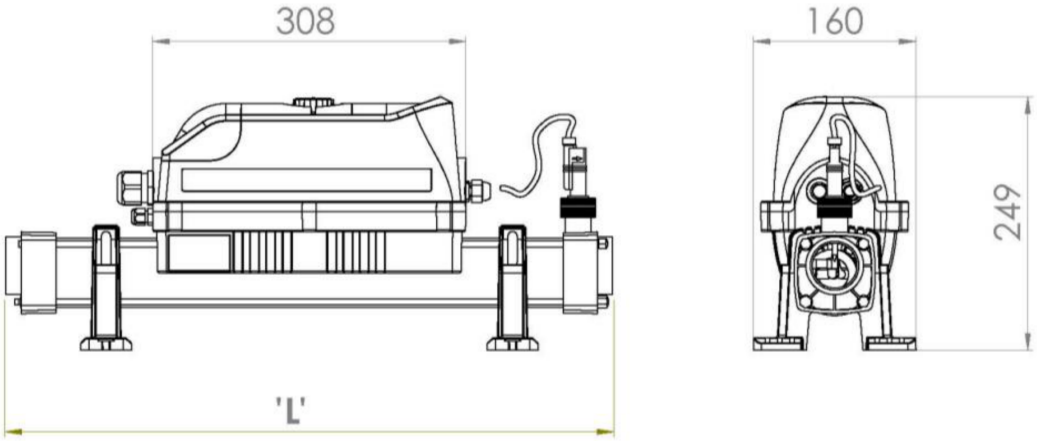
Common series data

Output range	1.0 – 24.0 kW
Voltage	220-240 V single phase · 380-400 V three phase
Frequency	50/60 Hz
Maximum flow	17 m³/h
Minimum flow	1 m³/h (2–6 kW) · 4 m³/h (9–24 kW)
Minimum pipe bore	32 mm
Thermostat differential	0.5 °C
Protection	30 mA RCD + high-limit safety circuit
Safety devices	flow switch · thermal safety with manual reset
Start delay	2 minutes
Country of manufacture	England

4. Dimensions

The dimensions apply to **both versions** and are given in millimetres (mm).

Dimension	Value
Width	160 mm
Height	308 mm
Depth with feet	249 mm
Length "L" — single phase up to 12 kW	462 mm
Length "L" — single phase 15/18 kW & all three phase	592 mm



Dimensions — "L" varies with output

5. Installation & Mounting

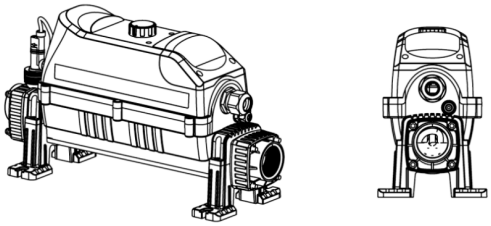
• The heater is installed **horizontally or vertically**, with enough space for the pipe connections and wiring.

• It must be **firmly secured with screws** to a firm base or wall.

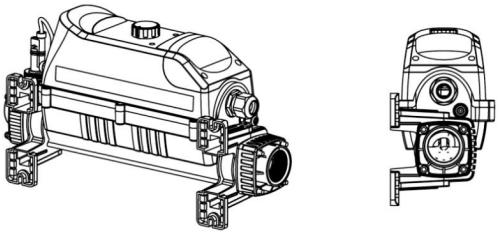
• On combustible material, fit a fireproof barrier covering at least **15 cm** around the unit.

• **Do not cover** the unit — adequate ventilation is required.

• The location must be **dry and weather-proof**.



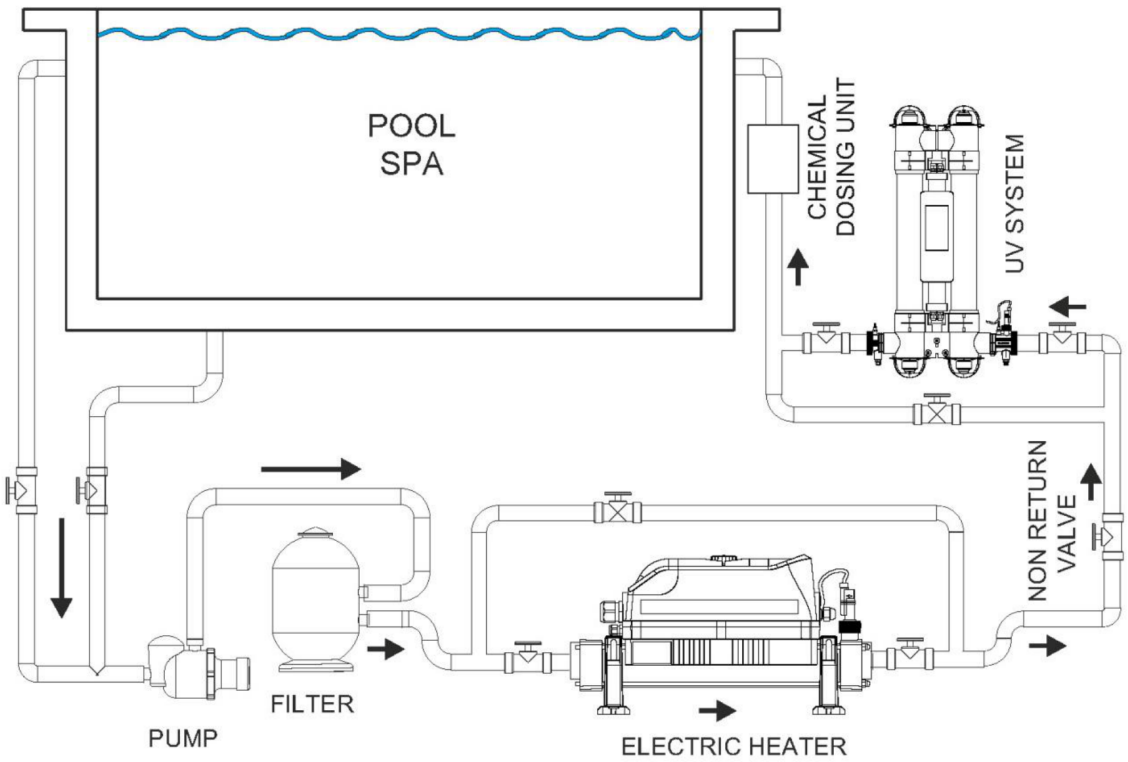
Floor mount



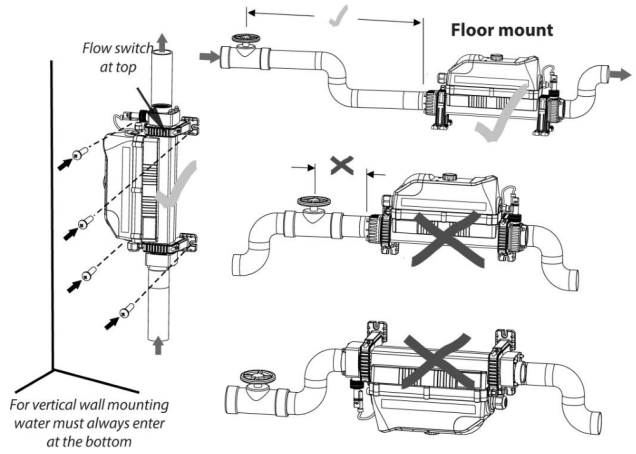
Wall mount

6. Pipe Work

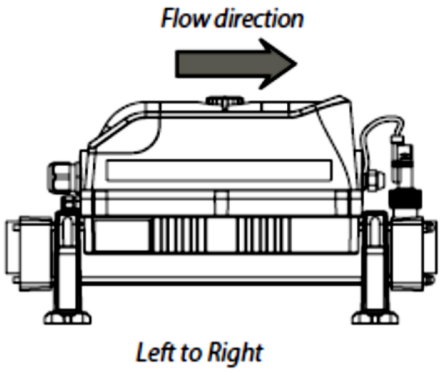
- The heater is installed at a **low point** in the filtration system.
- Always **after the filter** and **before** any dosing or other water-treatment equipment.
- The pipe work to and from the heater must have a **minimum bore of 32 mm**.
- The return pipe carrying water back to the pool must incorporate a **safety loop** ("kick-up") **as close as possible** to the heater. It supports correct air purging and keeps the heater **completely full of water**.
- The heater accepts flow from **one end only**. If the flow direction is opposite, **rotate the heater by 180°** so the flow switch is always where the water **exits**.
- **DO NOT REVERSE THE FLOW SWITCH.**
- On **rigid unions** no mastic or PTFE tape is needed — use the **O-ring supplied**.
- On **flexible pipe**, connect to the non-threaded side of the hosetail and secure with **two jubilee clips**; wrap PTFE tape or silicone before connecting.



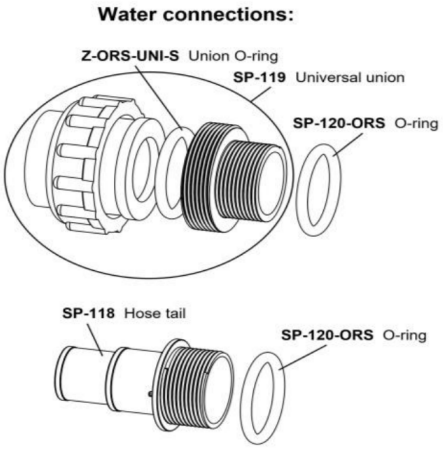
Position in the circuit — pool/spa, pump, filter, electric heater, chemical dosing unit, UV system, non-return valve



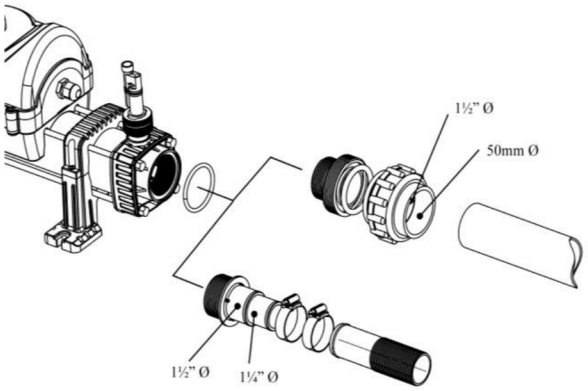
Safety loop and correct orientation — ✓ correct, ✗ incorrect; flow switch at top, floor mount



Flow direction — left to right



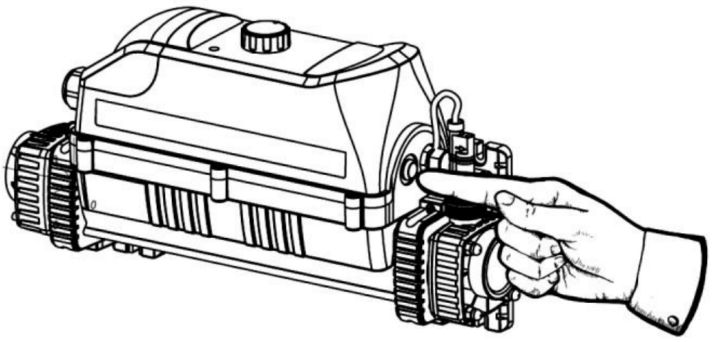
Rigid union with O-ring



Flexible pipe connection

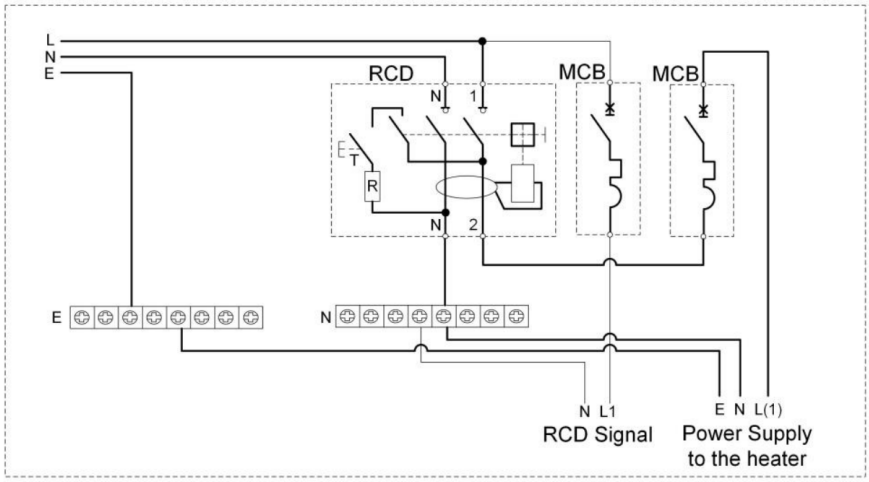
7. Electrical Connection & Safety Circuit

- The power supply must be fitted with a **30 mA RCD**. The electrician may replace the supplied cable gland with a larger size if required.
- Remove the **access cover** to connect the power supply cable.
- Make sure all terminal-block connections match **the label inside the heater** and are tight.
- Protect the cable from **sharp edges, hot surfaces and crush hazards**; fix it so it is not a trip hazard.
- The **Safety Circuit** must be connected to a **dedicated** RCD and circuit breaker — see the diagram.
- After installation, **test the TEST BUTTON** of the Safety Circuit.

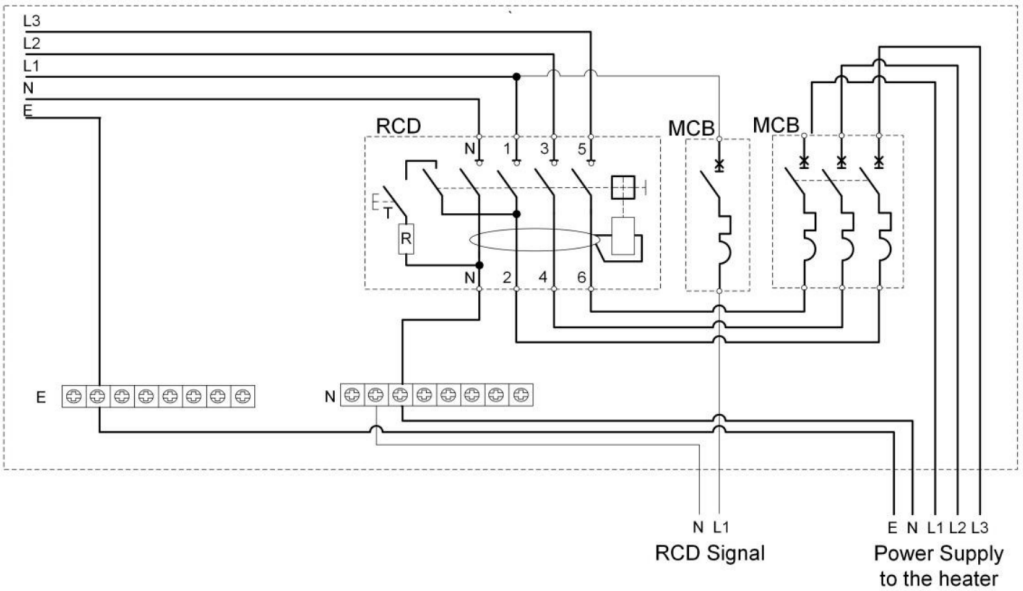


Removing the access cover

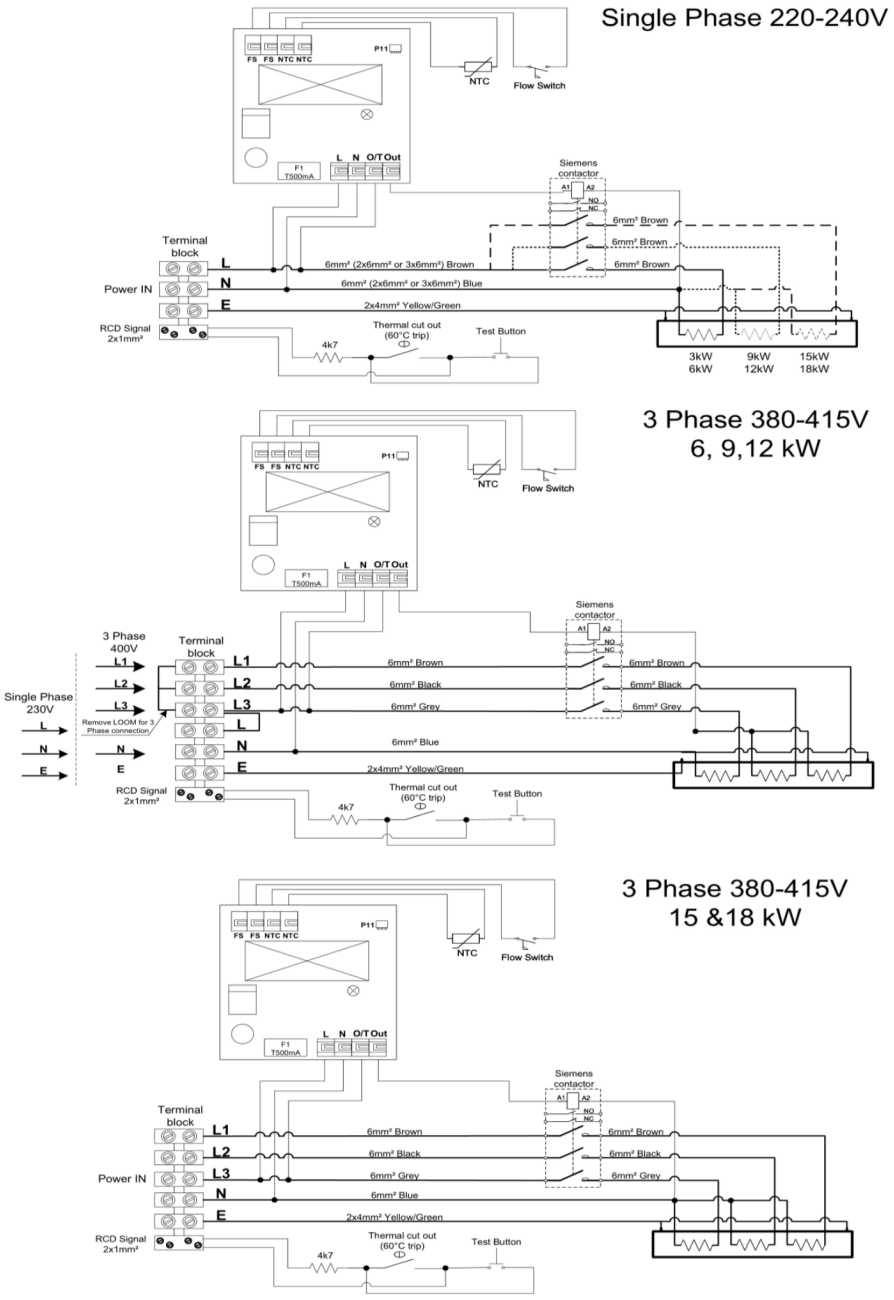
Single Phase Connection of RCD signal to dedicated Power Board for Evolution2 Heater



3 Phase Connection of RCD signal to dedicated Power Board for Evolution2 Heater



RCD signal connection — single phase above, three phase below



Wiring diagrams — single phase 220-240 V, three phase 380-415 V (6/9/12 kW) and three phase 15 & 18 kW

8. Water Quality & Flow

Water quality **must** be within the following limits. **Failure to meet them voids the warranty.**

Parameter	Limit
pH	6.8 – 8.0
Total alkalinity (TA)	80 – 140 ppm
Chloride content	max 150 mg/l
Free chlorine	2.0 mg/l
Total bromine	max 4.5 mg/l
Calcium hardness	200 – 1,000 ppm

STAINLESS STEEL HEATERS — NOT FOR SALT WATER

Heaters with **stainless steel** heating elements are **not suitable** for saline (salt) water pools. **Only** heaters with **titanium** heating elements are suitable for such water.

Flow	Value
Maximum flow rate	17 m³/h — above this a **bypass** is required to prevent damage to the heating elements
Minimum flow, 2 – 6 kW heaters	1 m³/h
Minimum flow, 9 – 24 kW heaters	4 m³/h

9. Operation

• On completion of the installation, run the circulating pump to **purge all air** from the system and the heater.

• Switch on the power supply and set the thermostat to the desired temperature.

• The heater starts heating (**red light illuminated**) **only** when the pump is running above the minimum flow rate **and** the set point is higher than the water temperature.

• Once the set point is reached, the heater maintains the temperature within a **0.5 °C** differential.

Digital controller (Digital version only)

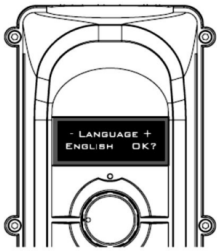
• **Language:** on initial power-up the display asks for a language. Available: English, French, Spanish, German, Russian. After 3 seconds of inactivity it defaults to **English**. To return to language mode, press the knob during heating or reset power to the heater.

• **Set point:** turn the knob to the required temperature and press it to confirm — the display shows **SAVED**.

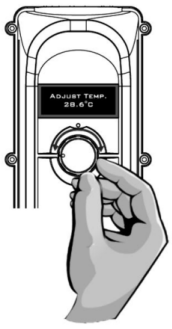
• **HEATER DELAY:** shown for **two minutes** before heating starts. The delay prevents cycling caused by trapped air or water fluctuations and ensures the element is fully submerged.

• After two minutes the **red light** comes on and the display shows the current water temperature.

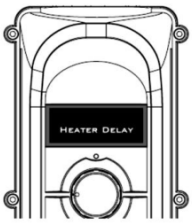
• **Calibration:** if the displayed temperature differs from the actual pool temperature, press and hold the knob for **five seconds** and adjust. Maximum adjustment is **± 2 °C**. Calibration is not possible while a "No flow" message is shown.



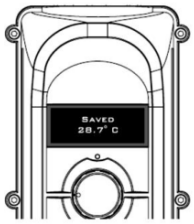
Language selection



Setting the temperature



HEATER DELAY message



Saved & temperature display

Useful advice: to reduce running costs and speed up heating, insulate the pool wherever possible. A **floating cover** is an essential minimum to retain heat.

10. Troubleshooting

Message / Symptom	Possible cause	Remedy
NO FLOW	Insufficient flow: the pump is off or not powerful enough; the cartridge filter needs cleaning or replacing; the sand/glass filter creates too high a back pressure.	Check the pump, clean the filter, backwash.
HEATER DELAY	Normal two-minute delay before heating starts.	None — wait.
OUT OF RANGE	Temperature sensor failure, or flow-tube temperature outside the sensor range (0 – 100 °C) — in winter it can drop below 0 °C.	Check the sensor; the message clears when the temperature returns to range.
SHUTDOWN HIGH AMBIENT	The temperature inside the electrical enclosure reached **60 °C** — direct sunlight or a very hot environment.	Shade or ventilate. The heater returns automatically once the temperature drops.
No display when switched on	Power failure external to the heater.	Check fuses, RCD and switchgear. The PCB is fitted with a **fuse** which should be inspected.
Heating does not start	The set temperature has already been reached.	Turn the dial above the current water temperature.
The flow tube feels warm	Direct sunlight, or an **air pocket** trapped inside (especially if the highest point feels warmer).	Shade the unit; purge the system completely.
The returning water does not feel much warmer	Normal: the temperature gain per pass is proportional to the flow. A 6 kW heater at 4 m^3/h gives about 1.2 °C per pass.	None. Slowing the flow does not speed up heating.
Circuit breaker trips **after hours**	Faulty or incorrectly sized MCB; insufficient cable cross-section; **loose connections** at either end of the supply cable.	Electrician: check the installation and protection.
Circuit breaker or RCD trips **instantly**	Short circuit in the wiring or a faulty component; heating element going to ground or damaged; **moisture** inside the heater.	Return the heater to the manufacturer.
The supply cable gets very hot	Insufficient cable cross-section or loose connections.	Electrician: inspect connections and upgrade the cable.

11. Maintenance & Winterising

- **Annual maintenance and cleaning** is recommended.
- **Before any maintenance, isolate the unit from the mains.**
- Drain the heater and clean the **flow tube and heating elements** of scale, sludge and debris — this extends element life and avoids failures.
- Check that electrical cable connections are **properly tightened**.
- **Winterising:** if the heater is not in use it must be **drained**. Water freezing inside will cause severe damage.
- Dispose of electrical and electronic equipment in accordance with the applicable regulations.

12. Warranty & Contact

- Guaranteed for **two years within Europe** and one year outside, from the date of purchase, against faulty workmanship and materials.
- The manufacturer will, at its discretion, **replace or repair** faulty units or components returned for inspection. Proof of purchase may be required.
- Not covered: **incorrect installation**, inappropriate use or neglect, **failure to connect the Safety Circuit**, moisture in the enclosure, water outside the quality limits, frost damage.
- Shipping damage must be reported **within 48 hours** of receipt; later claims are not covered.
- **Consumables** (glass parts, seals, water connections) are excluded.

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ISO Certifications

ISO 9001:2015 Quality Management *EUROCERT*	**ISO 14001:2015** Environmental Management *BQV*	**ISO 45001:2018** Occupational Health & Safety *BQV*
ISO 22301:2019 Business Continuity *EUROCERT*	**ISO 46001:2019** Water Efficiency *BQV*	

Recycling of materials must be carried out in accordance with applicable regulations.