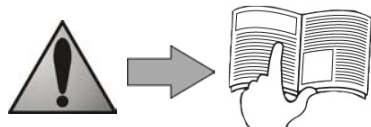
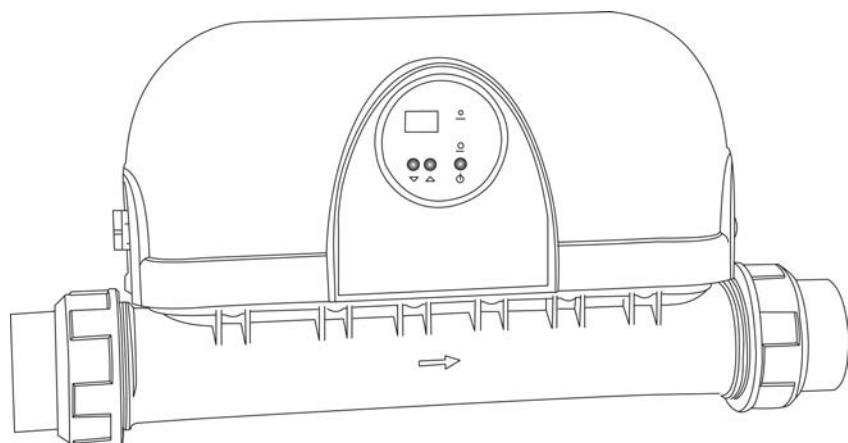




Instructions for installation and use  
English

EN



- Read this manual carefully before installing, maintaining or repairing this device!
- The symbol  indicates important information that must be taken into account in order to avoid risk of personal injury and/or damage to the appliance.
- The symbol  indicates useful information.



## Warnings



- Our products may be subject to change without notice as part of our continuous improvement policy.
- Exclusive use: pool water heating (must not be used for any other purpose).
- The device must be installed by a qualified technician according to the manufacturer's instructions and in compliance with local regulations. The installer is responsible for the correct installation of the device and for ensuring compliance with local regulations. The manufacturer shall not be held liable for any potential issues that may occur as a result of failure to comply with local standards pertaining to installation.
- This appliance must be handled by competent and qualified personnel (physically and mentally) who are familiar with the operating instructions (by reading the user guide). Persons who do not satisfy these requirements must not handle the device so as to avoid exposure to potentially dangerous parts.
- If the device malfunctions: do not attempt to repair the device yourself, call your installer.
- Before carrying out any operation on the machine, check that the power supply is cut and that the machine is tagged out,
- Before reconnecting any component, check that the voltage indicated on the device corresponds to the mains voltage.
- If any safety device is removed or shunted, the warranty will automatically be void. This will also apply if parts are replaced with parts acquired elsewhere than our stores.
- Incorrect installation may cause serious damage and/or personal injuries (possibly death).
- Keep the device out of the reach of children.

# Summary

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Available in appendix at the end of the manual:

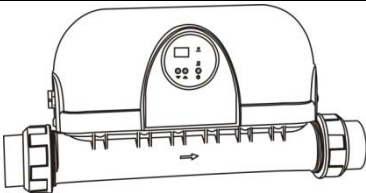



- wiring diagrams
- dimensions and description

## 1. Information before installation

### 1.1 General terms of delivery, storage and transport

Any equipment, even carriage and packing free, travels at the consignee's risk. The consignee shall make reservations in writing on the carrier's bill of lading if damage is detected, caused during transport (confirmation to be sent to the carrier within 48 hours by registered mail with acknowledgement of receipt).

### 1.2 Content

			
X1	X2	X2	X2

### 1.3 Operating conditions

Operating range: water temperature of between 2 °C and 40 °C

### 1.4 Technical specifications

Red Line +	Unit	3	6	9	12
Power *	kW	3	6	9	12
Power supply	Single-phase 230V	X	X	X	
	Three-phase 400V	X	X	X	X

\* with a manufacturer tolerance of ±5%

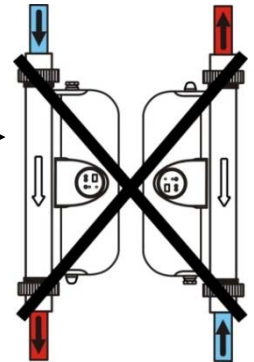
• protection rating: **IP 45**

## 2. Installation

### 2.1 Selecting an installation site

**The appliance must be installed in a technical room ventilated, dry and without stored pool treatment products.**  
**90° elbow fittings must not be installed directly at the exchanger outlet; leave at least 25 cm of straight pipe to prevent chatter of the flow controller armature.**

- The appliance must be set horizontally or vertically and supported by pipes held in place by fixing clips on either side of the heater,
- If the heater is installed vertically, the water flow must circulate from bottom to top,
- The heater must not be installed as below, the flow controller will be triggered: →
- An unobstructed space around the appliance is required to facilitate its installation and maintenance,
- Preferably, the heater should be installed at the low point so that it is always full of water,
- The water treatment system must be installed after the exchanger and at a low point to prevent chlorine from returning back into the heater.



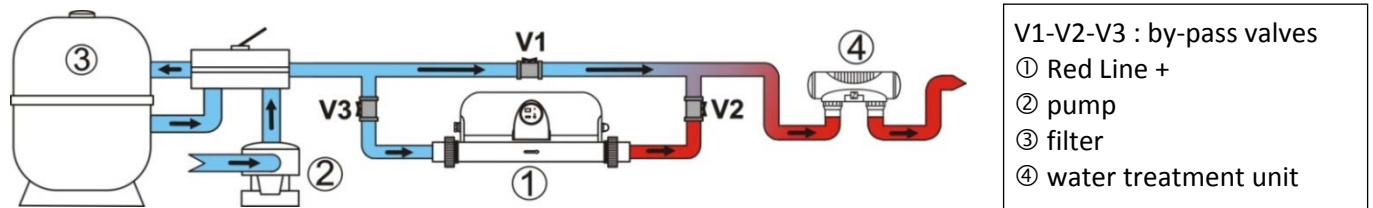
### 2.2 Hydraulic connections

**Observe the hydraulic connection direction (see arrow on the heater body).**

The connection shall comprise a PVC rigid pipe:

- directly if the flow rate is less than 30m<sup>3</sup>/hour,
- from a by-pass if the water flow rate is greater than 30m<sup>3</sup>/h,
- it is recommended to use a by-pass as this makes maintenance of the appliance simpler,
- on the swimming pool filtration circuit, after the filter ③ and before any water treatment unit ④.

Check the tightening of the hydraulic connections, and for leaks.



Red Line +	Hydraulic circuit pressure		Connections	Minimum water flowrate	Maximum water flowrate
	test	service			
3-6-9-12	4 bars	2 bars	Ø63 or Ø50	5 m <sup>3</sup> /h	30 m <sup>3</sup> /h

### 2.3 Electrical connections

#### 2.3.1 Voltage and protection

- the electrical supply to the heater must pass via a protection and disconnection device (not supplied) complying with the standards and regulations in force in the country,
- electrical protection: 30 mA differential trip switch (circuit-breaker or switch) dedicated.

**i**

- electric cables shall be fixed,
- acceptable tolerance of tension variation: ± 10% (while working),
- the stuffing box must be used for all electrical connections.

#### 2.3.2 Connections

- the electrical supply cable must not be exposed to elements that are sharp, hot or represent a crush hazard,
- check that all cables are secure and all terminal connections are correct.

**Red Line + 12 kW appliances are cabled to be powered in three phase only.**  
 Red Line + 3, 6 and 9 kW are already cabled to be powered in single phase.  
 To shift to three phase connection:

- remove the sticker from the terminal,
- remove the 2 shunts (or bridging callipers),
- reverse the sticker 180° from its initial position.

Loose terminals may cause the supply terminal board to overheat, and will void the warranty.

The device must be connected to an earth electrode.

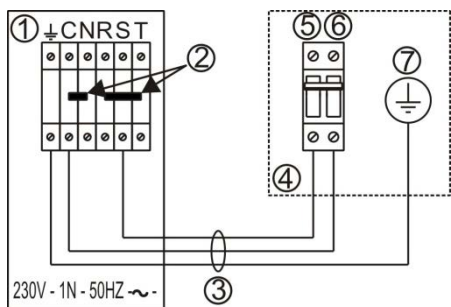


Risk of electric shock inside the device.

The device must only be connected by a qualified and experienced technician.

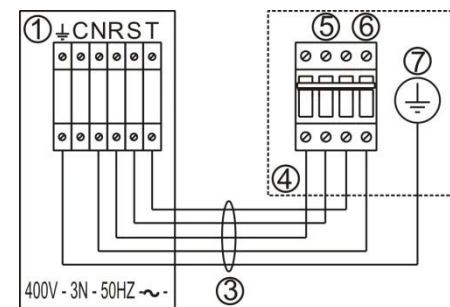
If the power cable is damaged, it must be replaced by a qualified technician.

### Single-phase



- ① Heater terminal strip
- ② Shunt
- ③ Power cable
- ④ 30 mA differential circuit breaker
- ⑤ Phase
- ⑥ Neutral
- ⑦ Earth

### Three-phase



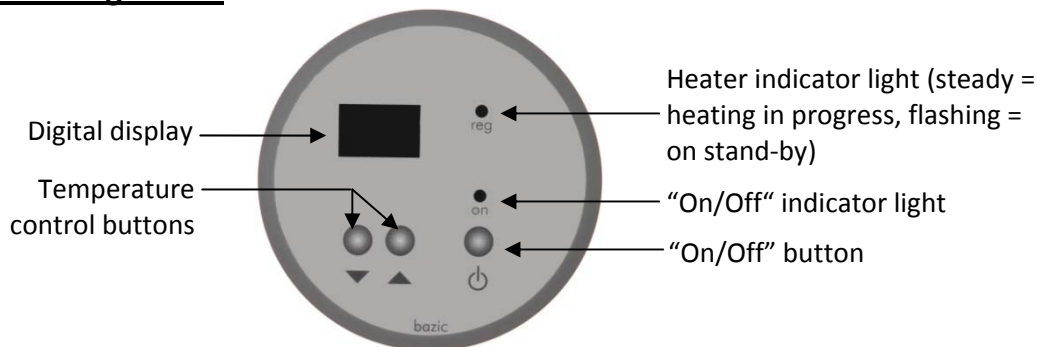
### 2.3.3 Cable cross-sections

- supply cable cross-section: cables with a maximum length of 20 metres (calculation base: 5A/mm<sup>2</sup>), must be checked and adapted depending on installation conditions.

Red Line +	Voltage	Terminal shunts		Current consumption	Cable section		Electrical protection
		R-S-T	C-N	A	mm <sup>2</sup>		A
3	230V/1N/50Hz	R-S-T	C-N	14	3x4	3G4	16
	400V/3N/50Hz	/	/	5	5x2.5	5G2.5	10
6	230V/1N/50Hz	R-S-T	C-N	27	3x6	3G6	32
	400V/3N/50Hz	/	/	9	5x2.5	5G2.5	16
9	230V/1N/50Hz	R-S-T	C-N	40	3x10	3G10	50
	400V/3N/50Hz	/	/	13	5x4	5G4	16
12	400V/3N/50Hz	/	/	18	5x4	5G4	20

## 3. Use

### 3.1 Presentation of the regulation



### 3.2 Starting the device

- Fully open valves 2 and 3 and close valve 1 (see §2.2), if installed,
- Start the filtration pump,
- Check that there is no air in the circuit,
- Check that the water flow rate is between 5 and 30m<sup>3</sup>/h. If it is above 30m<sup>3</sup>/h, adjust valve 1 so as to obtain 30m<sup>3</sup>/h maximum,
- Turn on control unit power, then start it,
- Adjust the setpoint temperature: display and modify the setpoint value by pressing either ▼ or ▲.

- Pressing and holding either of these two buttons allows rapid change of the setpoint value.
- The temperature is controlled degree by degree.
- The setpoint value adjustment range is between 2 °C and 40 °C.
- This maximum temperature may be lowered to protect the swimming pool liner (see §5.4).
- If the setpoint temperature is greater than the pool water temperature: the "reg" indicator light flashes for 15 seconds, then remains steady,





- If the water flow rate is too low (less than 5 m<sup>3</sup>/h), or if the filtration is stopped, the “reg” indicator light will flash and the heater will stop heating,
- When the pool has reached the desired temperature, the “reg” indicator light goes out, the heater will stop heating.

### **3.3 Checks to be carried out after operating for a few moments**

Check that the heater stops heating when:

- the setpoint temperature is decreased or when the control is shut off,
- filtration is switched off.

### **3.4 Winter storage**



**Winter storage is essential due to the risk of body of the heater freezing and breaking. This situation is not covered by the warranty.**

- Turn off control unit power,
- Shut off water circulation,
- Drain the heater :
  - close valves 2 and 3 (see §2.2), if installed,
  - unscrew the fittings to drain the heater,
  - when the heater is empty, lightly retighten the fittings, without creating a seal.

## **4. Maintenance**

### **4.1 Maintenance instructions**



It is recommended that the device be general serviced on a yearly basis to ensure proper operation, maintain performance levels and prevent some potential failures.

**This is the responsibility of the user and must be performed by a qualified technician.**

- Check the electrical components,
- Check the ground connection,
- Check that the electric cable connections are properly tightened and that the electric box is clean

### **4.2 Recycling**



This symbol means that your device must not be thrown in the bin. The device must be collected by a selective system in view of re-use, recycling or similar. Any substances it may contain which are potentially dangerous to the environment shall be eliminated or neutralised.

Request information on recycling procedures from your retailer.

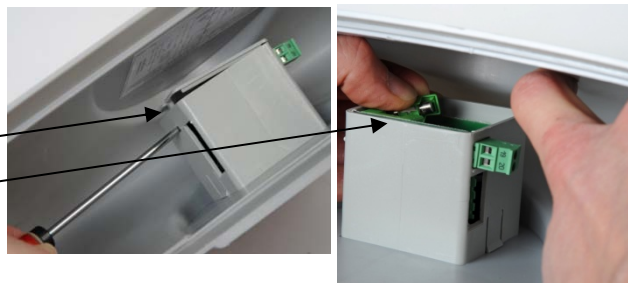
## **5. Resolution of problem**

### **5.1 Malfunctions of the device**

<b>Dysfunction</b>	<b>Causes</b>	<b>solution</b>
The display does not work	Power is not supplied to the appliance	The regulator fuse is blown (for replacement, see §5.2)
The appliance displays a flashing “E0”	The control sensor is out of service or disconnected	<b>Appliance power off and locked out</b> , reconnect or standard replacement of the sensor (the “E0” fault is automatically cleared)
The pool water is hotter than requested	The regulator is not operating correctly	check that the power contactor is not damaged
The “reg” light is on but the appliance does not heat	the positive safety overheating thermostat (TS) has been tripped	reset it by removing the small cap to the side of the appliance and by pressing on its central cap
	the appliance has not been installed in compliance with instructions	contact an approved technician

## 5.2 Fuse replacement

- **IMPORTANT!** Disconnect **power to the appliance!**
- Remove the cover.
- Disconnect the regulator.
- Remove the regulator cover.
- Remove the fuse (T3, 15AH250V).



## 5.3 FAQ

<b>Where should my water treatment system be positioned with respect to the heating system?</b>	The water treatment system (chlorinator, salt chlorinator, etc.) must be installed preferably downstream from the appliance (see installation §2.2), and must be compatible with the latter (check with the manufacturer)	
<b>Is it possible to improve temperature performance?</b>	protect the pool with a cover (floating cover, roller cover, etc.), to avoid heat loss	
	Check that filtration time is sufficient	during the heating phase, water flow must be continuous (24/24) to maintain the temperature throughout the season, allow for “automatic” flow of at least 12 hours/day (the longer automatic flow is used, the more time the appliance will have to function and to heat the water)

## 5.4 Modification of the maximum setpoint temperature

- Turn off the regulator (the “on” indicator light goes off, the pool water temperature is displayed).
- Simultaneously press and hold ▼ and ▲ for 5 seconds, “PA” is displayed.
- Press ⏻.
- Then enter the value “80” using the ▼ or ▲ keys (access code to the settings menu).
- Press ⏻ to confirm this code, “PA” is displayed.
- Simultaneously press and hold the ▼ and ▲ keys for 5 seconds.
- Press ▲ to scroll through each parameter until “r2” is displayed.
- Press ⏻, the current value of the parameter “r2” is displayed.
- Press ▼ or ▲ to modify the maximum setpoint value.
- Press ⏻ to confirm this new value.
- Simultaneously press and hold ▼ and ▲ for 5 seconds to return to the pool water temperature display.

## 6. Product registration

Register your product using our website:

- you will be among the first to be informed of new Zodiac products and special offers,
- You can help us to constantly improve our product quality.

Australia – New Zealand	<a href="http://www.zodiac.com.au">www.zodiac.com.au</a>
South Africa	<a href="http://www.zodiac.co.za">www.zodiac.co.za</a>
Europe and rest of the world	<a href="http://www.zodiac-poolcare.com">www.zodiac-poolcare.com</a>

## 7. Conformity certificate

Z.P.C.E. declares that the following products or ranges:

**Special swimming pool heater: Red Line + 3-6-9-12**

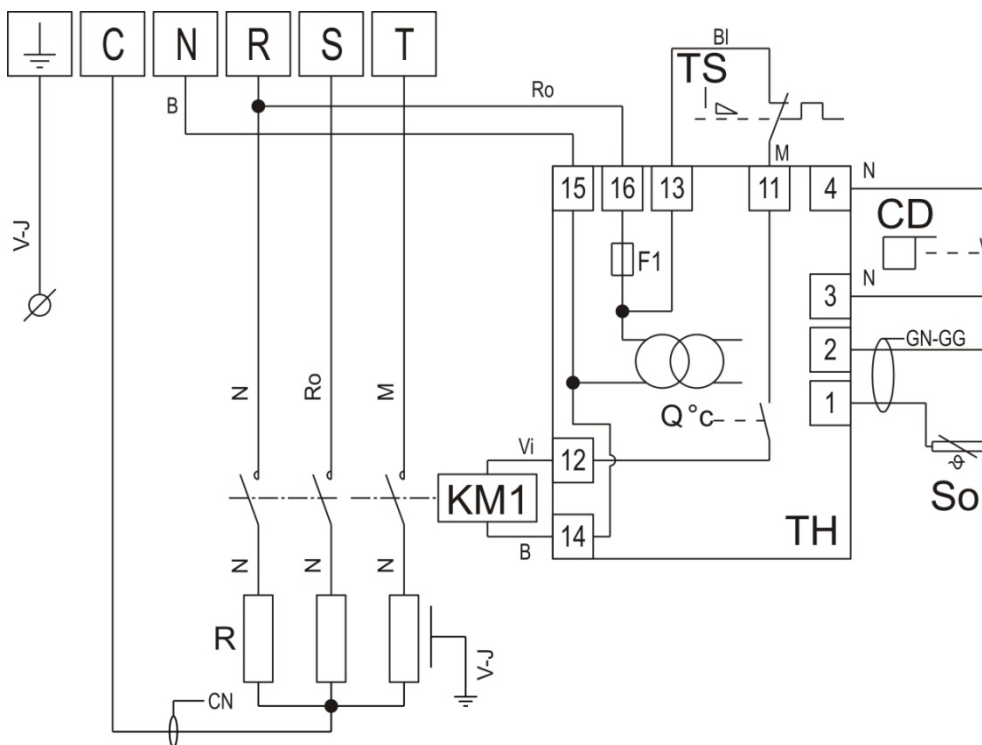
are in compliance with the provisions of:

- **the ELECTROMAGNETIC COMPATIBILITY directive 89/336/EEC**
- **the LOW VOLTAGE directive 73/23/EEC**

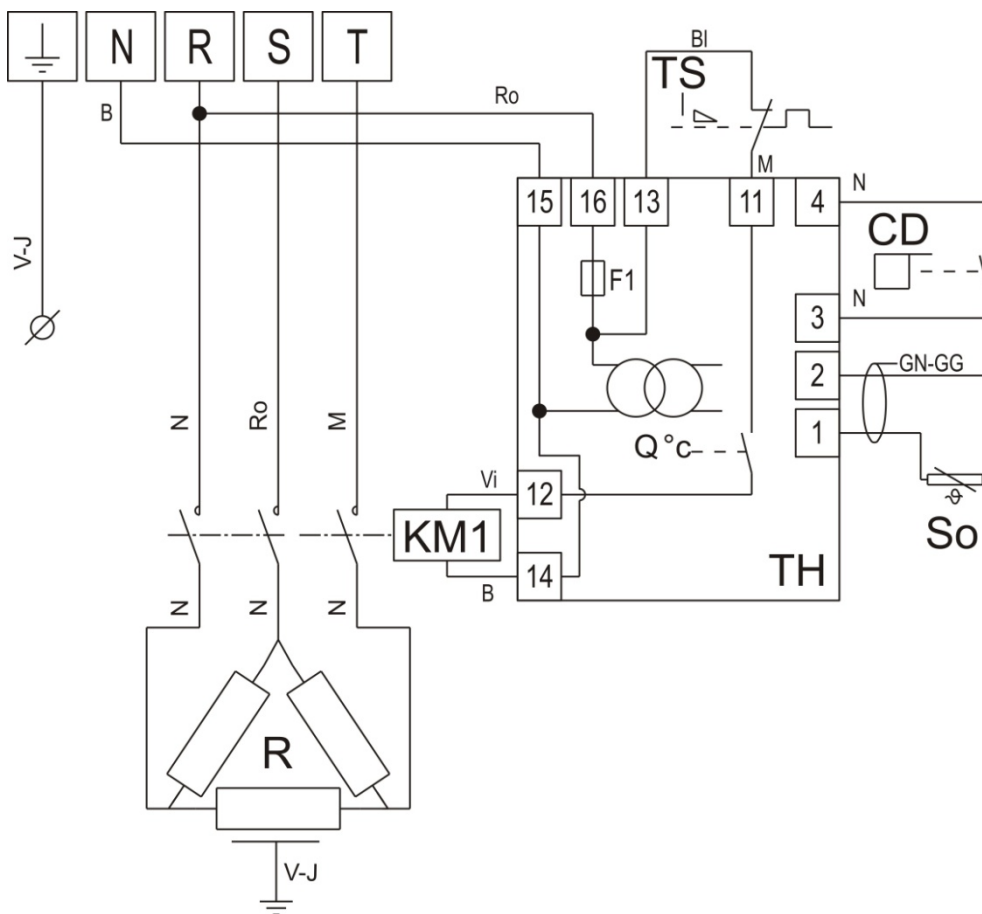


# Wiring diagram


## Red Line 3-6-9 kW single-phase and three-phase



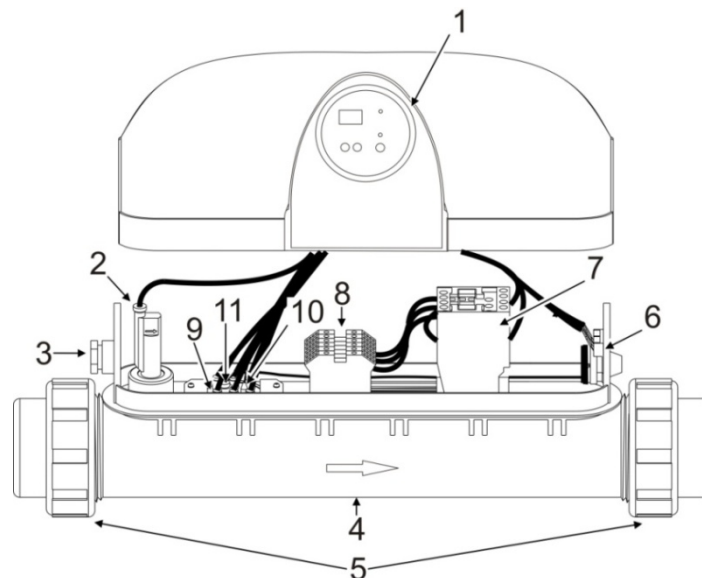
## Red Line 12 kW three-phase





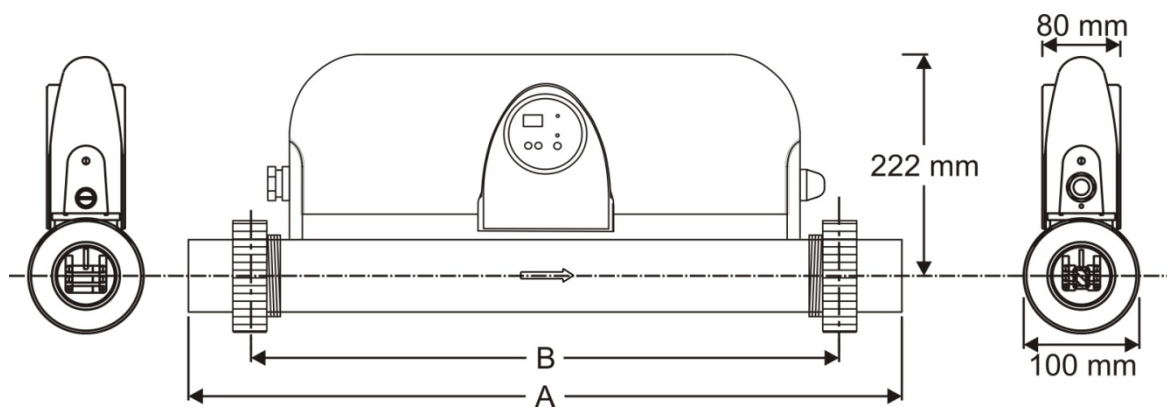
<b>C-R</b>	power supply 230V-1N-50Hz
<b>N-R-S-T</b>	power supply 400V-3N-50Hz
<b>TH</b>	control thermostat with digital display
<b>F1</b>	fuse 3.15 A-G
<b>CD</b>	flow controller
<b>So</b>	pool water control sensor (PTC)
<b>R</b>	Heating element (power engraved on the metal resistor cup)
<b>KM1</b>	power contactor
<b>TS</b>	safety thermostat positive (triggering at 63°C, manual reset)
<b>GN-GG</b>	black or grey sheath
<b>CN</b>	Black cable with clips of colours
<b>V-j</b>	green-yellow
<b>B</b>	blue
<b>M</b>	brown
<b>Bl</b>	white
<b>N</b>	black
<b>Ro</b>	red
<b>Vi</b>	violet
	Ground

## Description



<b>1</b>	Controller
<b>2</b>	flow switch
<b>3</b>	cable crossing
<b>4</b>	Preheater body
<b>5</b>	½ union Ø63/50 fittings
<b>6</b>	safety thermostat positive
<b>7</b>	power contactor
<b>8</b>	connection terminal
<b>9</b>	Heating element
<b>10</b>	Pockets + control sensors
<b>11</b>	Pockets + high limit sensors

## Dimensions



Red Line	A	B	weight
	mm	mm	Kg
3-6	538	452	3,5
9-12	638	552	4

# Notes

A series of horizontal dashed lines for writing notes, arranged in a regular grid pattern across the page.

Plaque signalétique – Product name plate

Pour plus de renseignements, merci de contacter votre revendeur.  
For further information, please contact your retailer.

Votre revendeur / your retailer