



ZODIAC

Heat line⁺



GB Exchanger Instructions for installation and use



Cette notice d'installation fait partie intégrante du produit et doit être impérativement remise à l'utilisateur.

Lire attentivement les avertissements contenus dans le présent livret car ils fournissent des indications importantes au niveau de la sécurité d'utilisation et de maintenance. Conserver ce livret afin de pouvoir toujours le consulter.

L'installation doit être effectuée, conformément aux normes en vigueur et en respectant les instructions du fabricant, par une personne professionnellement qualifiée.

Par "personne professionnellement qualifiée", il s'entend une personne ayant les compétences techniques dans le secteur des composants P.S.A. et des installations de chauffage.

Un défaut dans l'installation peut entraîner des dommages sur des personnes, animaux ou objets pour lesquels le fabricant ne saurait être tenu responsable.

Après avoir retiré l'emballage de l'appareil, s'assurer de l'état du contenu.

Avant de raccorder l'appareil, s'assurer que les données fournies par P.S.A. sont compatibles avec l'installation à réaliser dans les limites maximales autorisées du produit concerné.

Au préalable de toute opération d'entretien, de maintenance ou de réparation sur l'appareil, couper l'alimentation électrique sur ce dernier.

En cas de panne et/ou de fonctionnement anormal de l'appareil n'envisager aucune tentative de réparation sur celui-ci, couper l'alimentation électrique sur ce dernier.

L'éventuelle intervention de réparation devra être effectuée par un service d'assistance autorisé qui utilisera exclusivement des pièces de remplacement d'origine. Le non respect des clauses décrites ci-dessus peut compromettre la sécurité d'utilisation de l'appareil.

Pour garantir l'efficacité de l'appareil et pour son fonctionnement correct, il est indispensable de faire effectuer un entretien périodique de ce dernier en se conformant aux instructions fournies par P.S.A.

Dans le cas où l'appareil devrait être vendu ou transféré chez un utilisateur différent, s'assurer que ce livret accompagne le matériel afin que le nouveau propriétaire ou l'installateur puisse le consulter.

Cet appareil devra être destiné exclusivement à l'usage pour lequel il a été conçu; toute autre utilisation aléatoire devra être considérée comme impropre et dangereuse.

Sont exclues toutes responsabilités contractuelles ou extracontractuelles de P.S.A. pour des dommages causés suite à des erreurs d'installation ou d'utilisation, ou par un non respect des instructions fournies par P.S.A. ou des normes d'installation en vigueur concernant le matériel en objet.

IMPORTANT - CAUTION - IMPORTANT

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This manual is an integral part of the product and must be supplied to the installer and the end user.

The advice included in this manual must be carefully read as they supply important indications about safety and maintenance. Keep this manual in order to consult it if necessary.

The appliance must be installed according to the standards in force, by qualified personnel, this means by personnel having skill to care of PSA products and heating installations.

A failing installation can cause damages to persons, pets or items. In any case, the manufacturer can be considered as responsible of such damages.

When unpacking the unit, check its state.

Before connecting the unit, make sure that the advice supplied by this manual are in accordance with the installation and its conditions of use.

Before any servicing, maintenance and repair, switch off the main supply.

In event of failure or abnormal operation, switch off the unit before any repair.

Any repair shall be performed by PSA authorized service personnel with genuine spare parts. The use of non-genuine parts can be harmful to the unit and to the persons.

In order to ensure a long-lasting efficiency of the unit, it shall be maintained in accordance with the instructions included in this manual.

In event of sale or transfer of this unit to another user, make sure this manual is supplied as well.

This unit must be exclusively used for the use it was designed to. Any other use shall be considered as improper and hazardous.

In event of damages due either to an improper installation or use or if the instructions provided by PSA or the standards in force are improperly applied, all PSA responsibilities will be void.

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1. GENERAL

1.1 General terms of delivery

Any equipment, even CARRIAGE and PACKING FREE, travels at the consignee's risk. The consignee shall make reserves in writing on the carrier's delivery bill if he notes damage caused during the transport (confirmation to be sent to the carrier within 48 hours by registered mail and Acknowledgement of Receipt).

1.2 Voltage

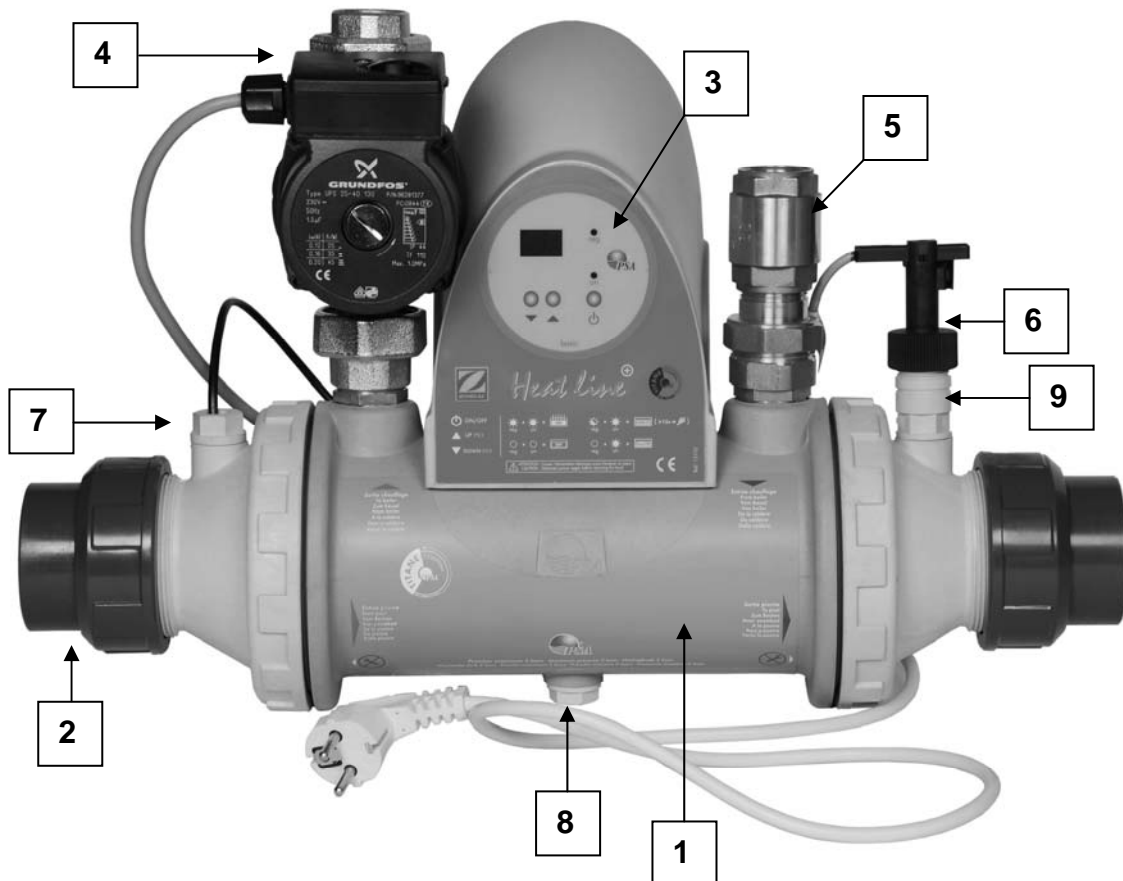
Prior to any operation, check that the voltage on the identification plate of the appliance corresponds to the mains voltage provided on site.

1.3 Water treatment

In order to use our appliances in the best conditions, swimming pool water shall comply with the following values: free chlorine: max. 2.5 mg/L, total bromine: max. 5.5 mg/L, pH between 6.9 and 8.0. For any other treatment, the fitter and the user shall apply to the supplier of the planned disinfection's process (chemical, electrochemical or electro-physical) for the compatibility with the materials of our appliances. In any case, treatment shall be installed downstream the heating equipment.

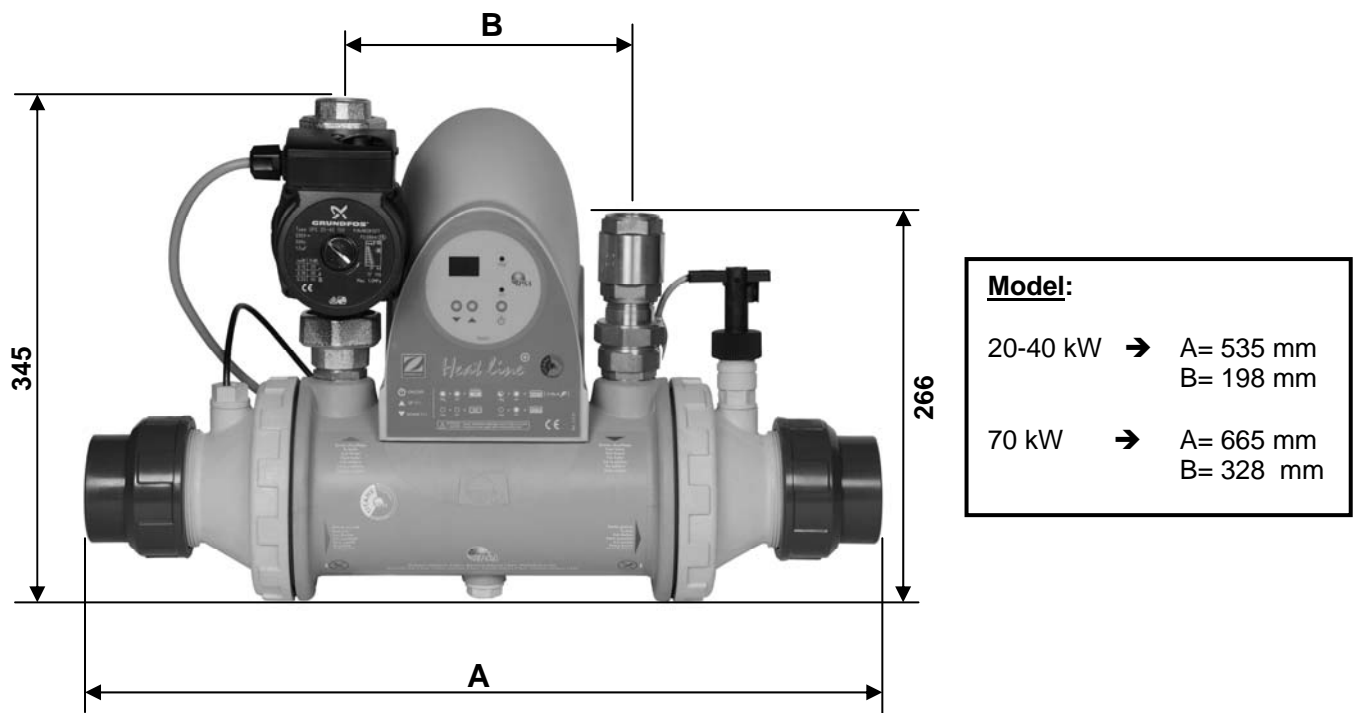
2. DESCRIPTION

2.1 Presentation



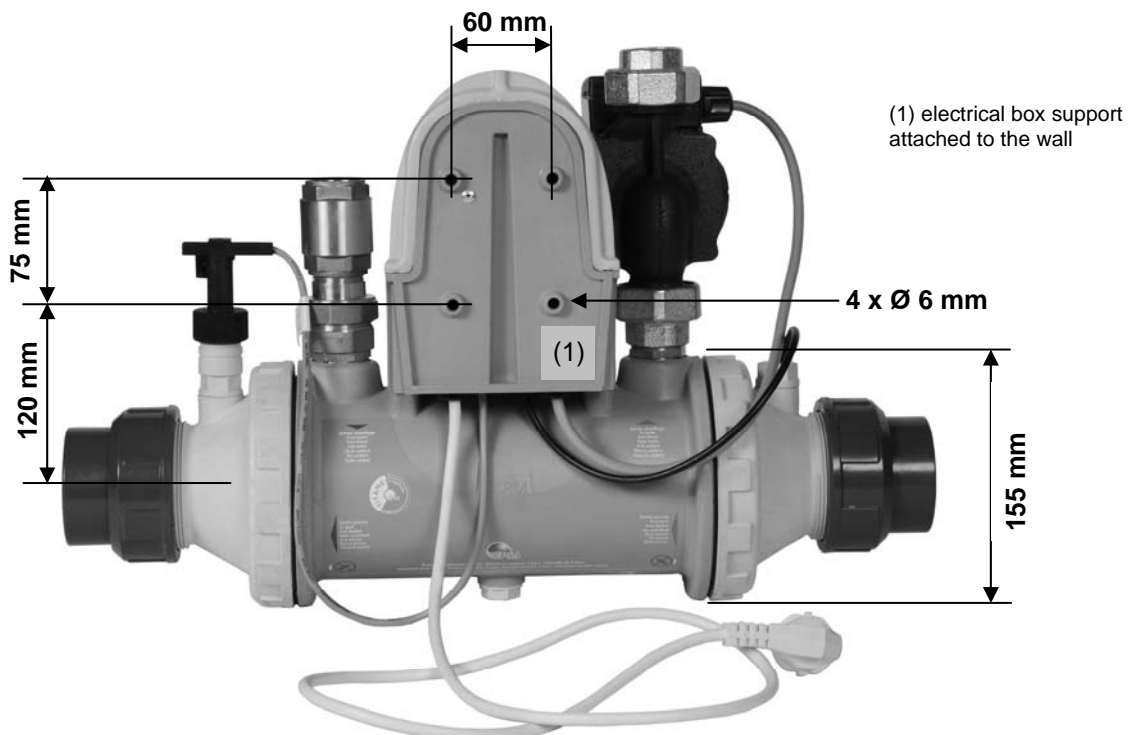
- 1- multitubular titanium heat exchanger
- 2- fittings ½ union PVC Ø63 + reduction Ø50
- 3- "Bazic" control thermostat
- 4- circulating pump for primary circuit (female connection Ø26/34)
- 5- check valve (female connection Ø26/34)
- 6- flow switch (female connection Ø20/27)
- 7- pocket for control sensor
- 8- drain plug for primary circuit (male Ø15/21)
- 9- adapter for flow switch (Ø15/21 to Ø20/27)
- 10- orifice blocked (with threading Ø 26/34 female) on exchanger body 70 kW: **never use a primary circuit connection!**

2.2 Dimensions



3. INSTALLATION OF THE UNIT

The heater shall be placed in a technical equipment area (ventilated, dry and without stored pool maintenance substances), close to the boiler and to the filter of the pool. It shall be fixed horizontally to the wall by means of 4 screws (not provided).



If the boiler is far from the facility, plan to install the heat exchanger close to the boiler in order to limit the losses of calories in the primary circuit. Plan the connection at the pool by ducts buried in a trench at 50 cm depth, in Ø50 (or Ø 63 if the circuit is more than 30 metres there and back).

Notice: If the exchanger is far away from the boiler, provide the hydraulic connection with appropriate section taking account of the distance, the flow rate and the pressure drop. In some cases, the circulating pump should be replaced with a more powerful pump. In any case, these connections shall be properly insulated and fitted with automatic air bleed on high points of the circuit.

4. CONNECTIONS

4.1 Hydraulic connections

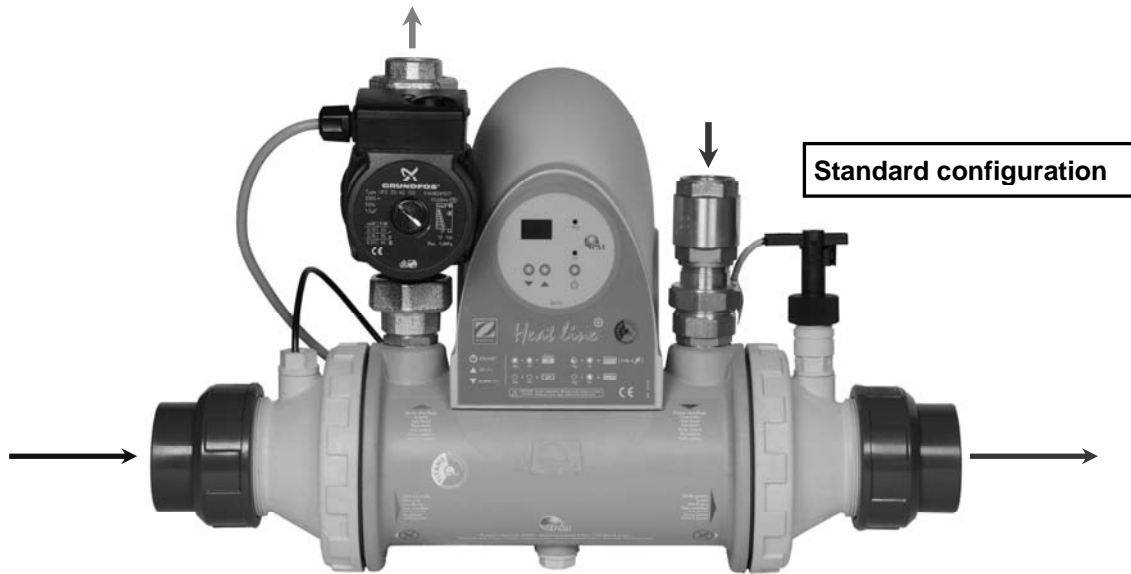
Circuit to pool: the exchanger shall be connected to the filtering circuit via a by-pass (preferably, or absolutely if the filter flow rate is more than 22 m³/h). Water inlet on the left or the right side by turning housing 180° and inversion of circulation pump and one-way valve (see sketch below).

Circuit to boiler: the exchanger shall be connected directly to the primary circuit of the boiler supplying constant temperature (90°C/70°C mandatory). On that circuit, the circulation pump is controlled by the thermostat and shall be connected to the filtration pump to allow heating only when filtration is running. Install automatic air-bleed on high points of primary circuit.

Circulation direction: circulation of both circuits shall be counter-current. Caution, pool water inlet shall always be on the side of the thermo-well.

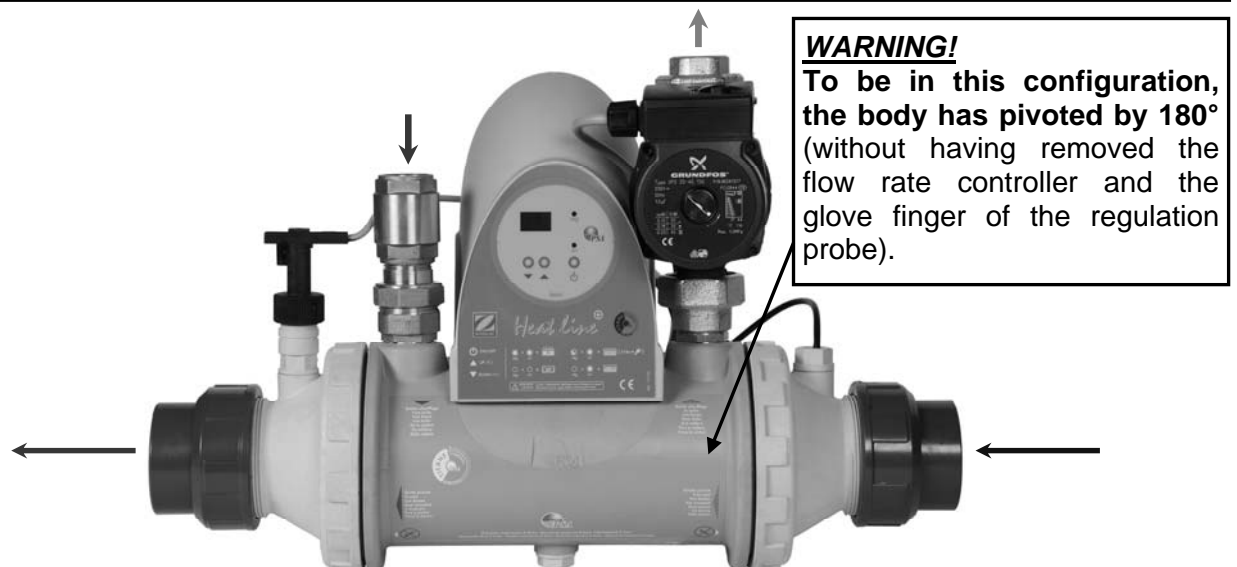
Tested pressure of hydraulic circuit: 4 bars

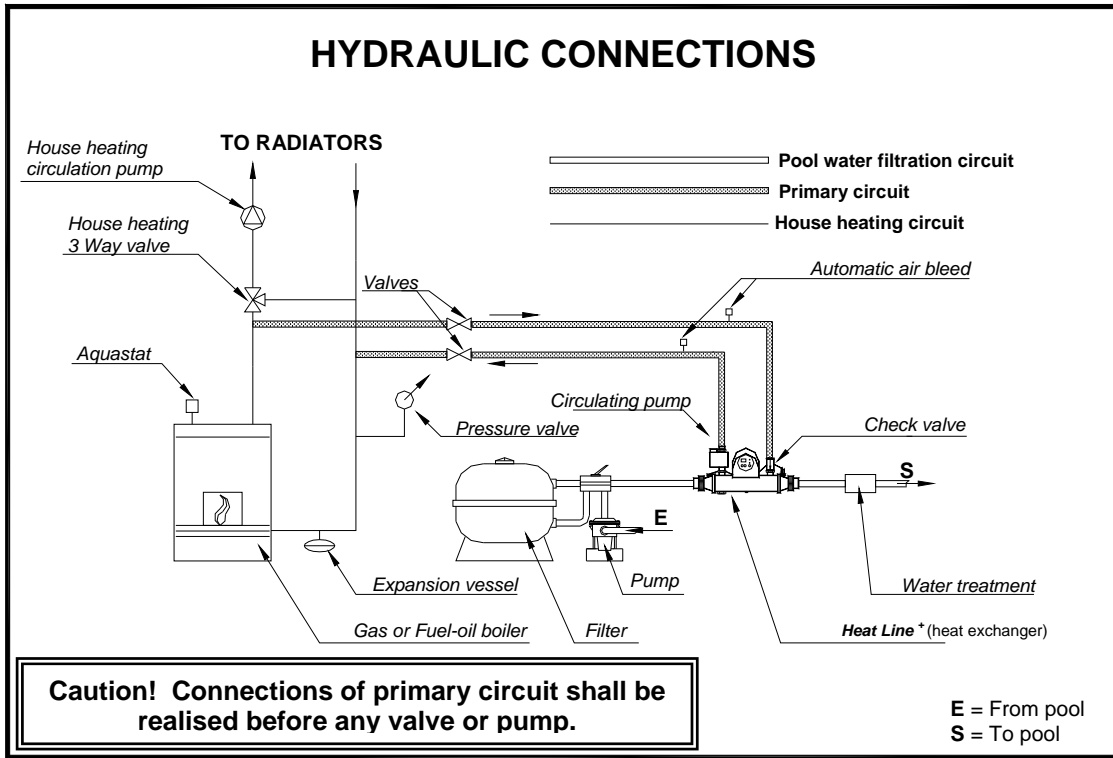
Service pressure of hydraulic circuit: 2 bars



To reverse direction of circulation:

- 1- remove hood of electric box,
- 2- disconnect both connectors of the regulator to release hood,
- 3- remove the 4 screws fixing the hood to the body,
- 4- reverse the body of the exchanger, reverse the circulating pump,
- 5- fix the electric box to the body by means of the 4 screws (see picture below),
- 6- connect both connectors to the "Bazic" regulator,
- 7- fix the hood.





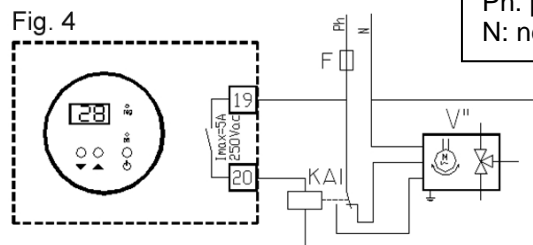
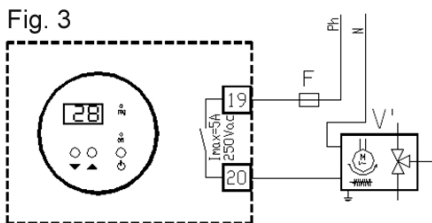
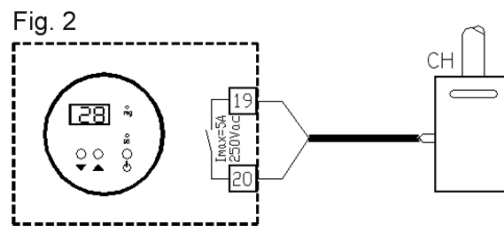
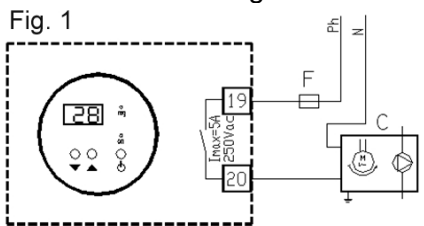
4.2 Electric connections

- The single-phase electrical supply (230V-50Hz) of the exchanger must come from a protection and switching device (not supplied) complying with the standards and regulations in force in the country where it is installed (in France, refer to standard NF C 15100).
- use the supply cable delivered with the appliance: 2 poles + Earth 10/16 A in 3G1 (section 1 mm²).

Do not admit any long extension or multisocket connection.

Remark: Plan for a socket to connect the supply cable delivered with the appliance.

- Electrical protection: this current socket must have a 5 A fuse switch with, upstream, a 30 mA differential circuit breaker (calibre > than 5 A), or an **independent** 30 mA circuit breaker (calibre 5 A) upstream.
- use a 3G1 wire (1 mm² section) if you wish to control a complementary pump (fig. 1), an electric valve (fig. 2 and 3) or a boiler (fig. 4) to provide power to the primary circuit of the exchanger. This function is carried out via the dry contact without polarity “normally open at rest” (Imax 5A at 250 Vac 50-60hZ) available on the regulator terminals 19-20.



Ph: phase
N: neutral

- C: complementary pump KA1: control relay
 CH: existing boiler V': 3 port valve with mechanical return
 F: fuse V'': 3 port motorized valve with movement in two directions
- The elements: C - CH - F - KA1 - V' - V'' are not supplied with this device.

Notice:

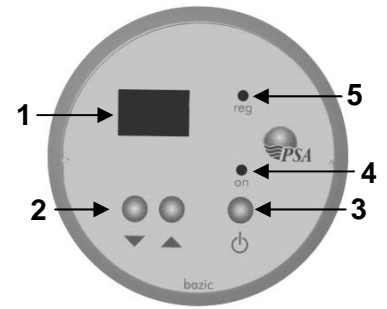
- electric cables shall be fixed,
- the wire connected to terminals 19-20 must go through the additional discharger 'grommet' (supplied) which should be installed on the base of the box.

5. USE OF THE CONTROL DISPLAY

5.1 Presentation

The "Bazic" control unit fitted in the front side is equipped with:

- a digital display of 2 digits **(1)** to display the current and required pool's temperatures,
- two sensitive switches to adjust the required temperature **(2)**,
- a sensitive on/off switch **(3)**,
- an on/off led (**on: led red**)(4),
- an operation state led **(5)** => while heating: **fix led**



=> temporisation in process: **blinking led**

Comments: the adjustment range of the set point varies between 2° and 40°C*. This maximum temperature may be decreased in order to protect the swimming pool liner, or it may be increased for specific purposes.

* The temperature is adjusted to the nearest °C assymmetrically.

In order to change this maximum set point, access the menu "parameters" and change the parameter "r2":

- 1) turn the regulator switch off, the "on" light goes off and the water temperature of the pool is displayed,
- 2) press the ▼ and ▲ keys simultaneously for five seconds until, "PA" is displayed,
- 3) press the ⏻ key to re-enter the number **80**, the access code for the menu "parameters", using the ▼ or ▲ keys,
- 4) press the ⏻ key to validate this code; "PA" is displayed,
- 5) press the ▼ and ▲ keys simultaneously for five seconds,
- 6) press the ▲ key to view each parameter until "r2" is displayed,

Note: in order to display the parameter value "r2", press the key ⏻, then to change it, press the ▼ or ▲ key.

Important! Press the ⏻ key in order to validate this new setting.

- 7) press the ▼ and ▲ keys simultaneously to return to the pool water temperature display screen.

5.2 Setting of the temperature

The temperature is set by means of the sensitive keys **(2)**

Display the value of the required temperature by pushing either ▼ or ▲ key.

Remark: keeping one of these two buttons pressed makes it possible to go into fast search for the desired water temperature value.

5.3 Access to the protection fuse

- 1) **WARNING!** Switch off the appliance!
- 2) remove the cover from the Heat Line+,
- 3) disconnect the regulator,
- 4) remove the regulator cover,
- 5) remove the protection fuse (T3,15AH250V).

Notice: neither display nor operation if out of order



6. STARTING UP

Technical features:

Model	Rate power	Flow rates primary circuit	Pressure drop primary circuit	Flow rates secondary circuit	Pressure drop secondary circuit	Primary connection	Secondary connection	Weight
Heat line+ 20	20 kW*	0.9 m ³ /h	0.15 mWC	10 m ³ /h	0.5 mWC	1"	PVC Ø50 and Ø63	6.5 Kg
Heat line+ 40	40 kW*	1.7 m ³ /h	0.2 mWC	15 m ³ /h	0.8 mWC	1"	PVC Ø50 and Ø63	7 Kg
Heat line+ 70	70 kW*	3 m ³ /h	0.3 mWC	20 m ³ /h	1 mWC	1"	PVC Ø50 and Ø63	7.5 Kg

* Primary circuit 90/70°C, secondary pool water 26°C

- Protection index: IP 44

6.1 Before starting up, check

- the hydraulic fittings are correctly tightened,
- there is no leak,

- the appliance is correctly fixed to the wall,
- the connections of the electric cables are correctly tightened.

Incorrectly tightened cables may cause overheating of terminals,

- the appliance is correctly connected to the ground,

Note: after a long stop, check if the circulation pump is not blocked, in this case, before switching on, undo the screw in the front of the circulator (**warning!** Water can escape), then turn the circulator motor shaft using a screwdriver.

6.2 Starting up

- start the filtration pump,
- Check the pool water circulation in the exchanger,
- Check the filling and degassing of the heating circuit,
- switch on the 30 mA différentiel circuit breaker, at the head of the line,
- set the required temperature on the display to be on demand ("reg" light flashing) see§ 5.2,
- press key ϕ ,

With a demand for heating and the filtering in operation, the "reg" led flashes for 15 seconds, then stays on. The internal regulator contact (terminals 19-20) is then closed => heating in progress (*the circulator must be in operation*).

N.B.: energy is transferred to the secondary circuit to give calories to the pool.

Observation:

- when the appliance heats the water ("reg" led lit up), if the filter stops or if the water flow rate is less than 5 m³/h, the appliance stops heating ("reg" led flashing). The flow controller "CD" is open,
- when the pool reaches the desired temperature, the appliance stops heating ("reg" led off).

6.3 Checking

Make sure that the heat exchanger stops when:

- decreasing the required temperature on the control thermostat,
- filtration is switched off,
- when pressing key ϕ .

Important! Before any intervention, make sure the unit is switched off.

6.4 Failure

- if the regulation probe is out of service or disconnected, with a flashing "E0" displayed, **appliance switched off and disabled**, reconnect or change the probe.

The "E0" fault is automatically cleared.

- If the regulator display does not work, check that:
 - 1) the mains supply is live,
 - 2) the regulator protection fuse is not blown (see paragraph 5.3)
- if the pool water temperature rises beyond the setpoint temperature, check that:
 - 1) the regulator is working properly,
 - 2) no other circulator is pushing on the primary circuit. If this is so, plan for a solenoid valve at the outgoing direction of the primary heating circuit controlled by terminals 19-20.

6.5 Winter storage

- switch off the appliance by pressing key ϕ ,
- switch off the power supply (by disengaging of the 30 mA differential circuit breaker at the head of the exchanger line),
- drain the pool circuit by removing both connection union fittings in order to avoid the risk of frost.
- drain the primary circuit by removing the drain plug if frost can be expected.

The guarantee will be cancelled in event of frost of the appliance due to an improper winter storage.

6.6 Restart

- refer to the procedures described in paragraphs **6.1, 6.2, 6.3 and 6.7.**

6.7 Maintenance

To be done once a year by an approved and qualified person:

- visual check of the condition of the various electrical components.

7. WARNING

Make sure the appliance is disconnected from mains supply before any intervention. Any intervention shall be qualified and authorised personnel only.

8. RECYCLING THE PRODUCT



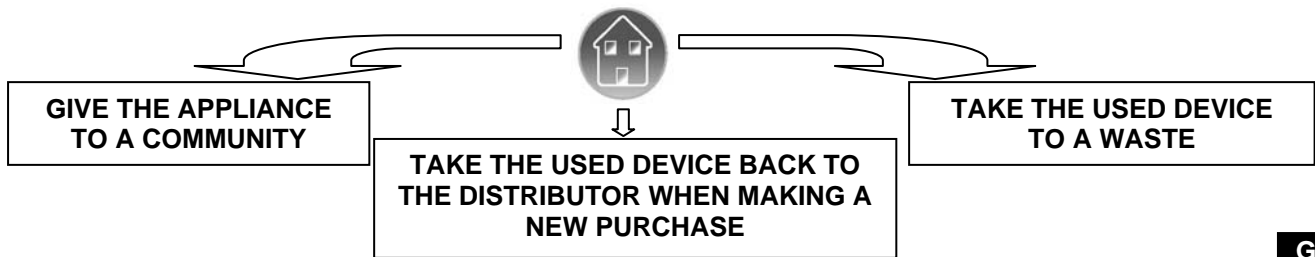
Your appliance is reaching the end of its working life. You would like to get rid of it or replace it. **Please do not throw it into the dustbin** or into your local council's selective sorting containers.

When this symbol appears on a new appliance, it means that the equipment must not be thrown away and that it will be collected selectively so that it can be reused, recycled or recovered. Any substances it may contain which are potentially dangerous to the environment will be eliminated or neutralised.

You can give it to a community association who will be able to repair it and put it back into circulation. If you buy a new one, you can take the old one to the store or ask the delivery man to take it back.

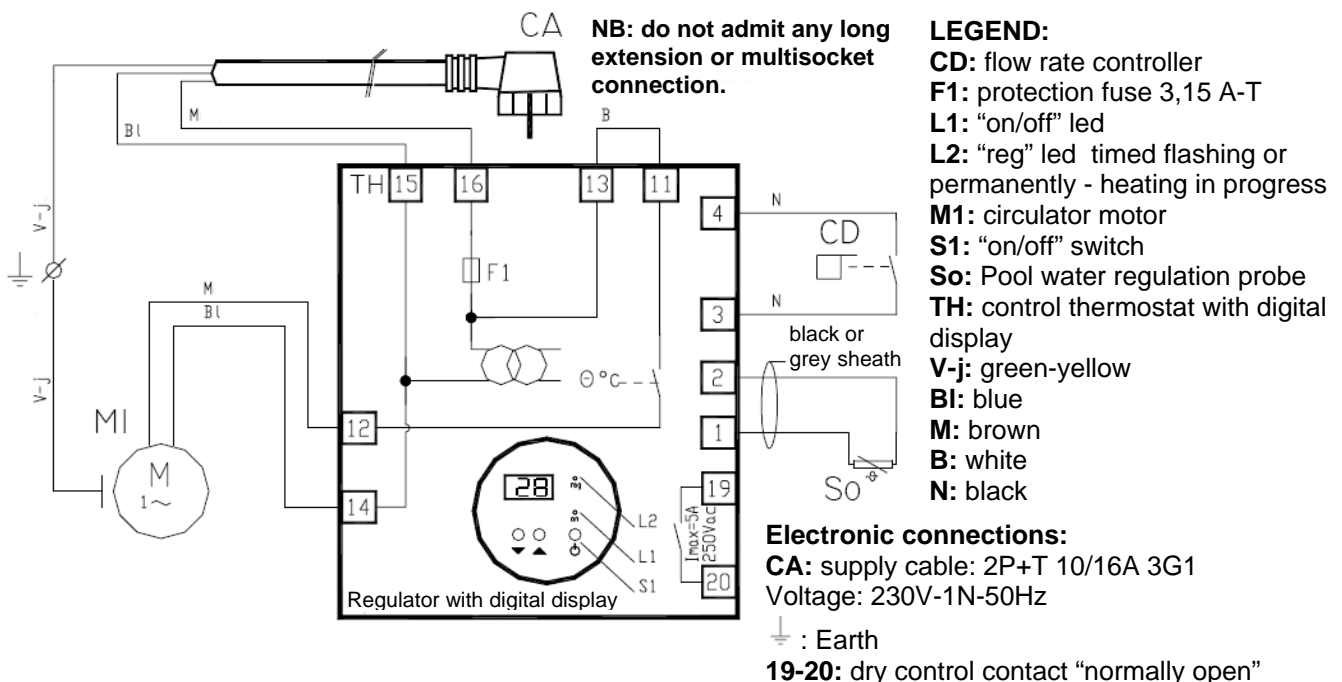
This is known as a **"One-for-One"** exchange.

Otherwise please take it to a waste collection centre, if your local council has set up a selective collection system for these products.



GB

9. ELECTRIC DIAGRAM HEAT LINE+



IMPORTANT!

ELIMINATION OR SHUNTING OF ONE OF THE SAFETY OR REMOTE CONTROL ORGANS LEADS AUTOMATICALLY TO THE CANCELLATION OF THE GUARANTEE

With an aim to improving its products, ZPCE reserves the right to modify the characteristics without prior notice

- Edition 01/2009

DECLARATION C E DE CONFORMITE

déclare que les produits ou gammes ci-dessous :
declares that the herewith products or ranges

ECHANGEURS DE CHALEUR SPECIAL PISCINE
HEAT EXCHANGERS SPECIALLY DESIGNED FOR POOLS

HEAT LINE +

sont conformes aux dispositions :
are in conformity with the provisions

↪ de la directive COMPATIBILITE ELECTROMAGNETIQUE 89/336/CEE
amendée par 93/068/CEE.

↪ of the ELECTROMAGNETIC COMPATIBILITY directive 89/336/EEC, as amended
93/068/EEC.

Les normes harmonisées suivantes ont été appliquées :
The harmonized standards have been applied

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


↪ de la directive BASSE TENSION 73/23/CEE, amendée par 93/068/CEE.
↪ of the LOW VOLTAGE directive 73/23/EEC, as amended 93/068/EEC .

Les normes harmonisées suivantes ont été appliquées :
The harmonized standards have been applied

EN 60335-1

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Votre installateur - Your installer

Zodiac, la maîtrise des éléments.

Mondialement reconnu pour la qualité et la fiabilité de ses produits dans les secteurs de l'aéronautique et du nautisme, Zodiac engage son nom dans l'univers de la piscine pour vous offrir toute une gamme de piscines, nettoyeurs automatiques, systèmes de traitement d'eau, systèmes de chauffage et de déshumidification de piscines. En s'appuyant sur le savoir-faire technologique et l'expérience de PSA, Zodiac vous apporte la garantie d'appareils de très haut niveau tant dans leur conception que dans leurs performances.

Un véritable gage d'efficacité et de tranquillité !

Zodiac, mastering the elements.

Renowned worldwide for the quality and reliability of its products in the aeronautical and marine sectors, Zodiac has now brought its expertise to swimming pools, to bring you a full range of pools, automatic pool cleaners, water treatment systems, heating and dehumidification units.

Backed by PSA technology, expertise and experience, Zodiac brings you the reassurance of top quality equipment in terms of both design and performance.

A real guarantee of efficiency and peace of mind !



Chauffage et déshumidification de piscines - Heating and dehumidification of pools

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