

MAINTENANCE

Instruction and **IE** recommendation booklet

 **IMMERGAS**

RAPAX 300 V2
RAPAX 300 SOL V2



Dear Customer,

Our compliments for having chosen a top-quality Immergas product, able to assure well-being and safety for a long period of time. As an Immergas customer you can also count on a qualified after-sales service, prepared and updated to guarantee constant efficiency of your boiler. Read the following pages carefully: you will be able to draw useful suggestions regarding the correct use of the appliance. By respecting these suggestions, you will no doubt be satisfied with your Immergas product.

For any assistance and scheduled maintenance please contact Authorised After-Sales centres: they have original spare parts and are specifically trained by the manufacturer.

General recommendations

All Immergas products are protected with suitable transport packaging.

The material must be stored in a dry place and protected from weathering.

The instruction book is an integral and essential part of the product and must also be given to the new user in the case of transfer or succession of ownership.

It must be stored with care and consulted carefully, as all of the warnings provide important safety indications for installation, use and maintenance stages.

This instructions manual provides technical information for installing Immergas boilers. As for the other issues related to boiler installation (e.g. safety in the work site, environment protection, injury prevention), it is necessary to comply with the provisions of the regulations in force and the principles of good practice.

In compliance with the legislation in force, the systems must be designed by qualified professionals, within the dimensional limits established by the Law. Installation and maintenance must be performed in compliance with the regulations in force, according to the manufacturer's instructions and by professionally qualified staff, intended as staff with specific technical skills in the system sector, as envisioned by the Law.

Improper installation or assembly of the Immergas appliance and/or components, accessories, kits and devices can cause unexpected and not foreseeable problems for people, animals and properties. Read the instructions provided with the product carefully to ensure proper installation.

Maintenance must be carried out by skilled technical staff. The Authorised After-sales Service represents a guarantee of qualifications and professionalism.

The appliance must only be destined for the use for which it has been expressly declared. Any other use will be considered improper and therefore potentially dangerous.

If errors occur during installation, operation and maintenance, due to non-compliance with technical laws in force, standards or instructions contained in this book (or however supplied by the manufacturer), the manufacturer is excluded from any contractual and extra-contractual liability for any damages and the appliance warranty is invalidated.

INDEX

1	Important Recommendations	5	4	Parameter settings / Utilisation.....	18	5	Recommendations - maintenance and repairs...	21
1.1	Warnings.....	5	4.1	Remote panel.....	18	5.1	Advice for the user.....	21
1.2	Installation.....	5	4.2	Description of symbols.....	18	5.2	Domestic maintenance.....	21
1.3	Plumbing connection.....	5	4.3	Main menu.....	18	5.3	Maintenance by approved professionals.....	21
1.4	Wiring.....	5	4.4	System settings.....	19	5.4	Troubleshooting support.....	21
2	Product presentation.....	6	4.5	Parameters to be adjusted upon installation.....	19	5.5	Work on the boiler.....	22
2.1	Important advice.....	6	4.6	Selection of operating modes.....	19	5.6	Quick fault diagnosis for use carried out by a professional technician.....	24
2.2	Technical features.....	6	4.7	Controls lock.....	20	5.7	After-sale service.....	25
2.3	Dimensions and components.....	7	4.8	Mode in "Heat pump only" system.....	20	5.8	Scope of application of the warranty.....	25
3	Installation.....	8	4.9	Mode in system "Connection with the boiler".....	20	5.9	Declaration of conformity.....	25
3.1	Choice of the installation place.....	8	4.10	Mode in system "Connection to the solar system".....	20	6	Product fiche (in compliance with Regulation 812/2013).....	26
3.2	Product installation.....	11				7	Parameters for filling the form of the whole system.....	27
3.3	Plumbing connection.....	11						
3.4	Aeration connection.....	12						
3.5	Electrical connection.....	12						
3.6	Electrical connection for plus boiler and photovoltaic system.....	14						
3.7	Boiler wiring diagram.....	15						
3.8	Commissioning.....	16						
3.9	Thermal solar connection diagram (optional).....	17						
3.10	Boiler solar connection diagram (optional).....	17						

1 IMPORTANT RECOMMENDATIONS

1.1 WARNINGS.

This appliance may only be used by adults Users whose physical, sensory or mental abilities are not impaired. Before using this appliance, it is in any case required to read this instructions booklet (User section) and/or the operating instructions by skilled technical personnel.

Use by incompetent adult personnel let alone by children is forbidden, both due to safety issues and to issues of correct appliance operation and warranty. This appliance has been designed to serve one residential housing unit only (and similar) subject to assessment of the energy requirement for domestic hot water; it is not a heating system pursuant to the legislation in force.

1.2 INSTALLATION.

Warning: due to its weight (from 90 to 110 kg depending on the version), this appliance must be handled with care to avoid injury to persons or damage to property and to the product itself. Installation must therefore be performed taking into account the following instructions:

- Install the appliance in a frost-free room. The warranty does not cover any appliance breakdown caused by excessive pressure due to the safety valve blocking because of ice.
- Ensure the floor on which the appliance is to be installed is suitable to withstand the appliance's own weight and that of the water content (270 litres approximately). It is recommended to perform a structural assessment by the designer of the dwelling.
- If the boiler is mounted on a false ceiling, under the roof or above a living area, it is mandatory to install a drip tray to be connected to the drain.
- Suitably aerate the installation room in the event the appliance is to be installed in a room and/or in a position where the ambient temperature is always higher than 35°C.
- This device is intended for use up to a maximum height of 3000 m.
- Position the appliance in an accessible area and at such a distance from the wall to permit correct maintenance / accessibility (Parag. 3.1).

- Refer to the installation diagrams (Parag. 3.1).

Warning: failure to comply with recommended installation procedures, especially those related to the room volume below the minimum of 20 m³, may significantly reduce system performance.

- It is recommended to provide suitable shut-off valves on the plumbing coupling to allow for any routine and extraordinary maintenance operations which might require emptying / filling the boiler.
- In order to prevent any stability and safety issues, it is obligatory to secure the boiler to the floor, on a flat surface, using the fastening anchors supplied.

1.3 PLUMBING CONNECTION.

It is mandatory to install a safety device, set to be triggered at 0.7 MPa (7 bars) (not supplied with the boiler), sized 3/4", compliant with standard EN1487 as amended and added, and in any case compliant with local regulations in force, to be fitted to the cold water inlet of the boiler.

The safety device must be protected from ice.

The safety unit must be fitted with a discharge device (overpressure) to be operated regularly to remove any limestone deposits.

It must also be checked regularly to ensure it is not blocked.

The pressure reducer (not supplied as standard) is required when the water mains pressure exceeds 0.5 MPa (5 bars) and must be mounted on the main water supply line.

The safety unit must also be connected to a drain pipe kept in the open air, in a frost-free environment, with a permanent downward gradient, to remove any expansion water from the heating process, or drainage water from the water-heater.

The maximum operating pressure of the heat exchanger circuit must not exceed 0.3 MPa (3 bars) and its max temperature must not exceed 100°C.

To perform any discharge operations of the water-heater, strictly adhere to the following sequence:

- Disconnect the appliance from the electrical power supply.

- Disconnect the appliance from the mains water supply (cold water).

- Open the hot water cock.

- Actuate the discharge device of the safety unit.

1.4 WIRING.


Before removing the cover of the water-heater, always ensure the power is disconnected, to prevent any risk of injury due to electric shocks.

The following must be provided upstream of the electrical installation:

- A thermal magnetic breaker or 16A multi-pole fuse with contacts compliant with regulations in force.
- A 30 mA differential circuit breaker.

Should the power supply cable be found to be damaged for any reason, it must be replaced by the After-sale Support, or in any case by skilled and qualified personnel.

The water-heater must be connected to earth according to the methods set out by the regulations in force.

A special terminal, suitably marked  is provided for the specific purpose.

This manual is supplied jointly with the boiler; in the event of loss it may also be obtained from the Authorised area Support service or be downloaded from the suitable website.

2 PRODUCT PRESENTATION

2.1 IMPORTANT ADVICE.

Transport and storage. The product may be transported in upright position on a pallet, or rotated by 90° on a side

The appropriate side is shown clearly on an information label placed on the product packaging. It is forbidden to transport the product lying on the other sides as it might be irreparably damaged.

An inclination indicator is used to check that the product has been transported and handled in accordance with our recommendations.

We recommend to strictly comply with these instructions.

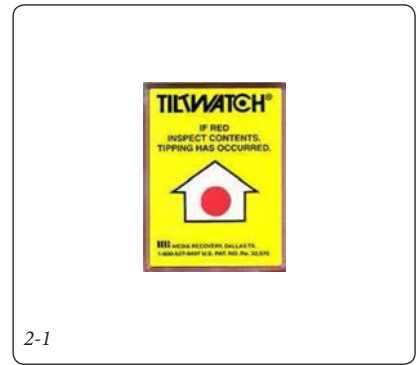
The product warranty shall be voided in the event the above instructions should not be complied with (evidenced by the red colouring of the position indicator (Fig. 2-1).

The manufacturer disclaims any liability for any fault to the product resulting from transport or handling not complying with the above recommendations.

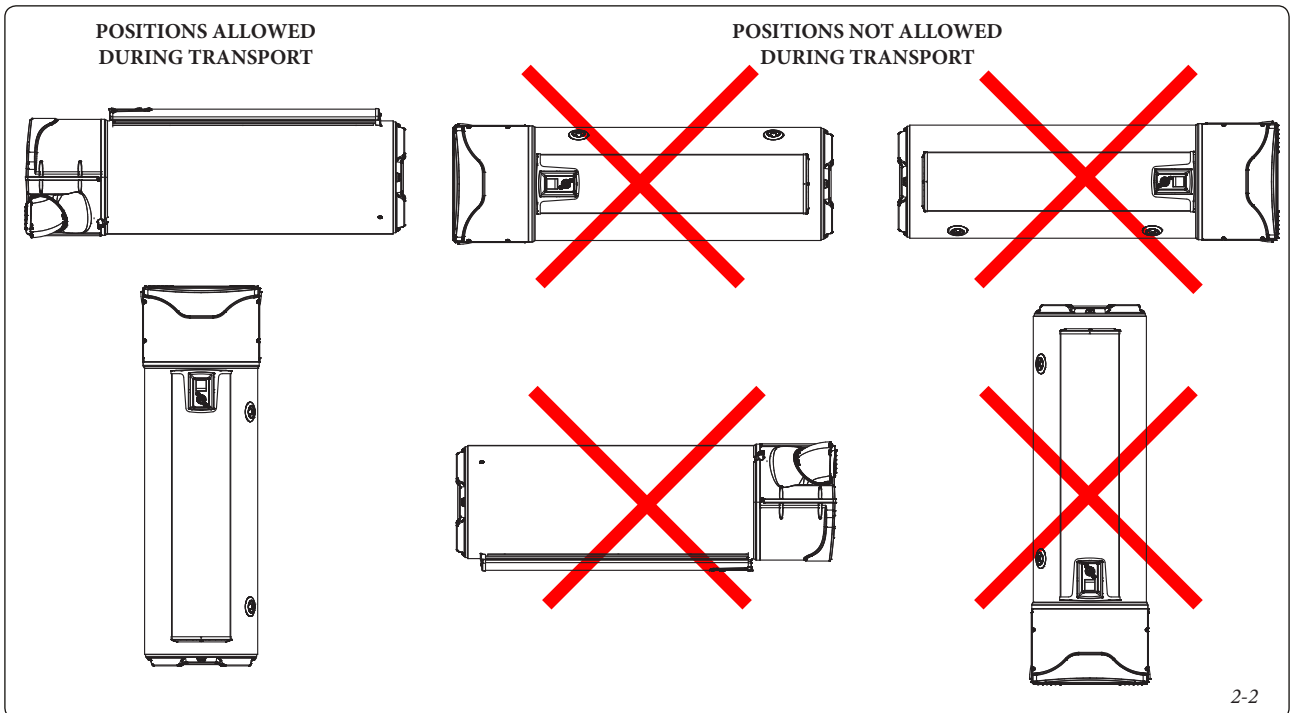
Under no circumstances may this product be stacked (Fig. 2-2).

Safety directives. The installation work and commissioning of thermodynamic boilers can be hazardous due to high pressure and electrical parts.

Thermodynamic boilers must be installed, commissioned and maintained by trained and qualified personnel only.



2-1



2-2

2.2 TECHNICAL FEATURES.

Dimensions		H 1949 x w 620 x D 665
Empty weight (version without coil) Rapax 300 V2	kg	92.8
Empty weight (version with coil) Rapax 300 Sol V2	kg	108
Capacity of tank	L	270
Hot + cold water connection		3/4" M
Anti-corrosion protection		Magnesium anode
Maximum operating pressure	bar	8
Electrical connection (voltage/frequency)		230 V single-phase 50 Hz
Max total power absorbed by the device	W	2465
Average power absorbed by heat pump	W	525
Max power absorbed by heat pump	W	665
Power absorbed by auxiliary electrical unit	W	1800
Setting range of the water temperature of the heat pump	°C	from 40 to 62 (temperature factory setting 52°C)
Temperature range for the use of the heat pump (air temperature)	°C	from -5 to +43
Air flow rate without ducts		
- Speed 1	m ³ /h	300
- Speed 2	m ³ /h	390
Load losses acceptable on ventilation circuit, without affecting performance	Pa	25
Coolant fluid		R134a (IGN.TR.8)
Mass of coolant fluid	kg/l	1.35
Coolant fluid volume	Ton CO ₂ Eq.	1.9

2.3 DIMENSIONS AND COMPONENTS.

Key:

- AC - 3/4" M Domestic hot water outlet
- AF - 3/4" M Domestic cold water inlet
- MP - 1" F Flow from solar panels (Rapax 300 Sol V2 model only)
- RP - 1" F Return to solar panels (Rapax 300 Sol V2 model only)
- SC - Condensate drain \varnothing 20
- RC - 3/4" M Recirculation (Rapax 300 Sol V2 model only)

Ref.	Rapax 300 V2	Rapax 300 Sol V2
X	304	462

2-3

Key:

- 1 - Adjustable nozzle
- 2 - Rear cover
- 3 - Aeraulic shoe
- 4 - Filter
- 5 - Condenser 15 μ F
- 6 - Pressure reducer
- 7 - Fan spiral
- 8 - Hot gases valve unit
- 9 - Flue pressure switch
- 10 - Fan
- 11 - Fan support plate
- 12 - Condenser 1,5 μ F
- 13 - Condenser 4 μ F
- 14 - Terminals unit
- 15 - Front cover
- 16 - Compressor
- 17 - Compressor jacket
- 18 - Column support guide
- 19 - Heating element
- 20 - Heating element
- 21 - Control console
- 22 - Control unit
- 23 - Front column
- 24 - Plug in the lower part
- 25 - Jacket cover
- 26 - Adjustment board

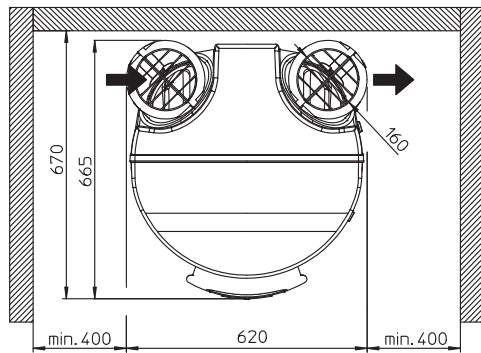
Not shown: manual, dielectric connection, condensate discharge pipe, safety unit.

2-4

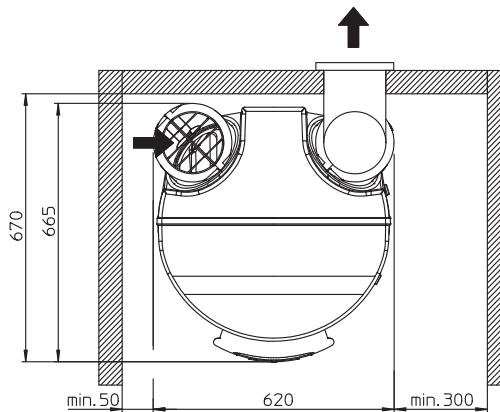
3 INSTALLATION

3.1 CHOICE OF THE INSTALLATION PLACE.

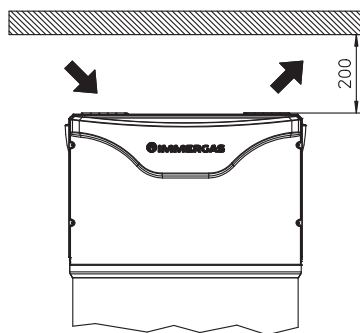
Floor strength	<ul style="list-style-type: none"> Withstands a load of 400 kg at least (surface below boiler) <p>PLEASE NOTE: strictly install a water storage tank under the boiler when the latter is positioned under inhabited buildings.</p>	
The installation area shall be suitable for protection index IPX1B, as per provision CEI 64-8		
	Non-ducted or semi-ducted configuration	Ducted configuration
Type of installation room Room examples Volume of room where air is extracted Temperature of boiler installation room Air intake temperature Ceiling height Surface area required	<ul style="list-style-type: none"> Unheated room, characterised by temperature exceeding 5°C and preferably insulated from the home's heated rooms. Recommended room= basement or semi-basement, room where the temperature is higher than 10°C all year round. garage, boiler room (with the exception of rooms where type B generators are installed), basement floor, ironing room, etc. Volume > 20 m³ from 5°C to 43°C. -5°C to 43°C. > 2.00 m. 2,10 m² (Fig. 3-1). Crucial for the surface to be level. 	<ul style="list-style-type: none"> Room at least frost-free. Recommended Room = living space (the heat loss of the boiler is not wasted), close to the outer walls. Do not install close to sleeping areas, because of the noise produced. laundry room, cellar, cupboard in entrance hall, etc. / > 1°C. -5°C to 43°C. > 2.00 m. 2,10 m² (Fig. 3-1). Essential for surface to be level.



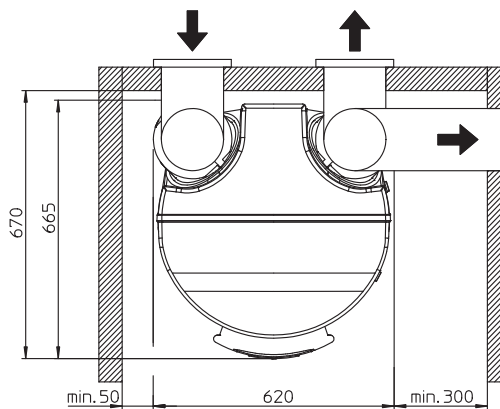
"Non ducted" configuration



"Ducted" configuration



"Non ducted" configuration



"Ducted" configuration

3-1

RECOMMENDED CONFIGURATIONS.

- **1st configuration: installation without duct in unheated room (Volume > 20 m³) (Fig. 3-2). INTERNAL/INTERNAL parameter (Paragraph 4.5).**

Examples of unheated rooms:

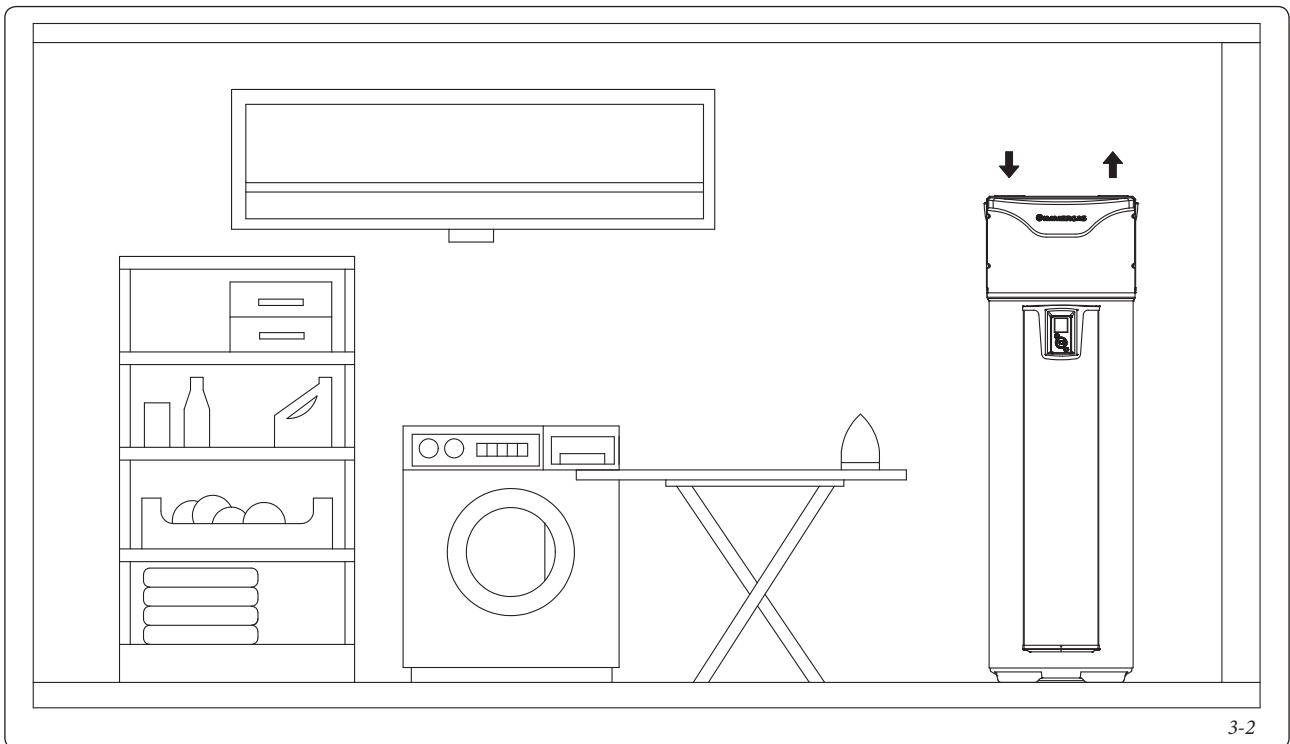
- Garage: Recovery of free calories released by car engine when turned off after running, or other domestic electrical goods operating.
- Laundry room: dehumidifying the room and recovery of waste calories from washing machines and tumble-dryers.
- Basement room: recovery of free calories released by the floor and walls of the basement.

- **2^a configuration: installation in a heated or unheated room, with ducts (Fig. 3-3).**

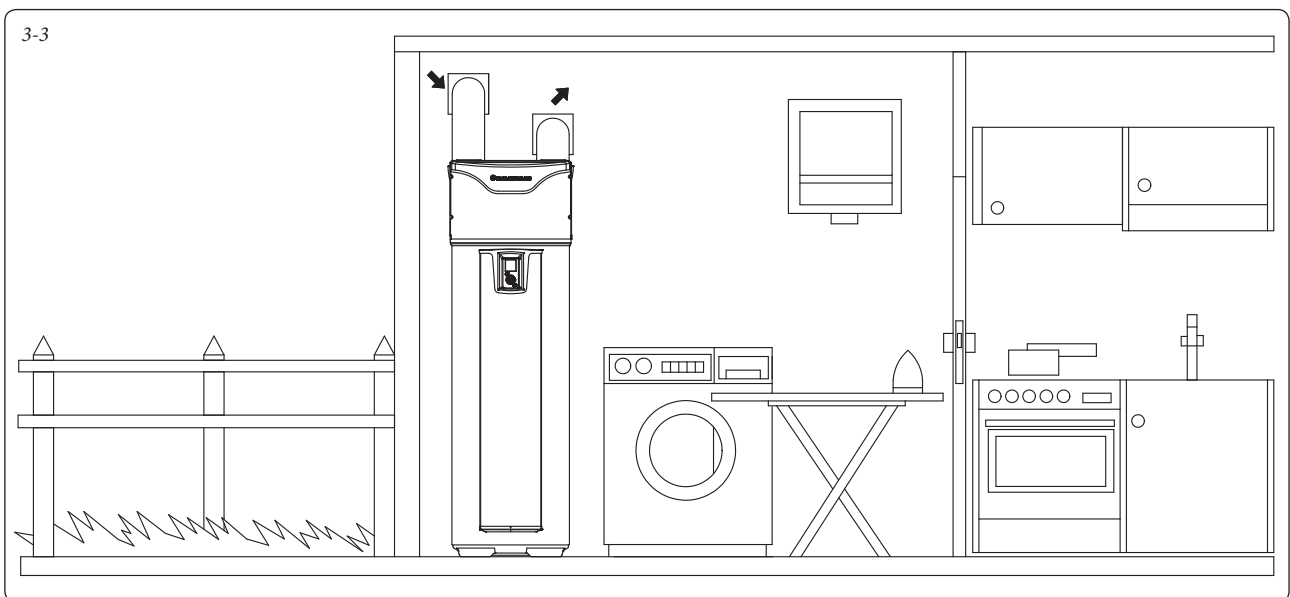
EXTERNAL/EXTERNAL parameter (Paragraph 4.5).

Recommendations:

- Comply with maximum duct lengths (Paragraph 3.4).
- Use rigid or semi-rigid ducts.
- Provide grilles at air intake and outlet to avoid ingress of foreign bodies. PLEASE NOTE: manually shuttered air intake and outlet grilles are forbidden



3-2



3-3

CONDITIONED CONFIGURATIONS (subject to assessment).

- **Installation in unheated room, with 1 duct only (volume > 20 m³) (Fig. 3-4).**
INTERNAL/EXTERNAL parameter (Paragraph 4.5).
 Possible consequence:

- In the event of installation with air intake in the same room and expulsion through duct, the ventilation openings must be sized providing a minimum diameter of 160 mm.

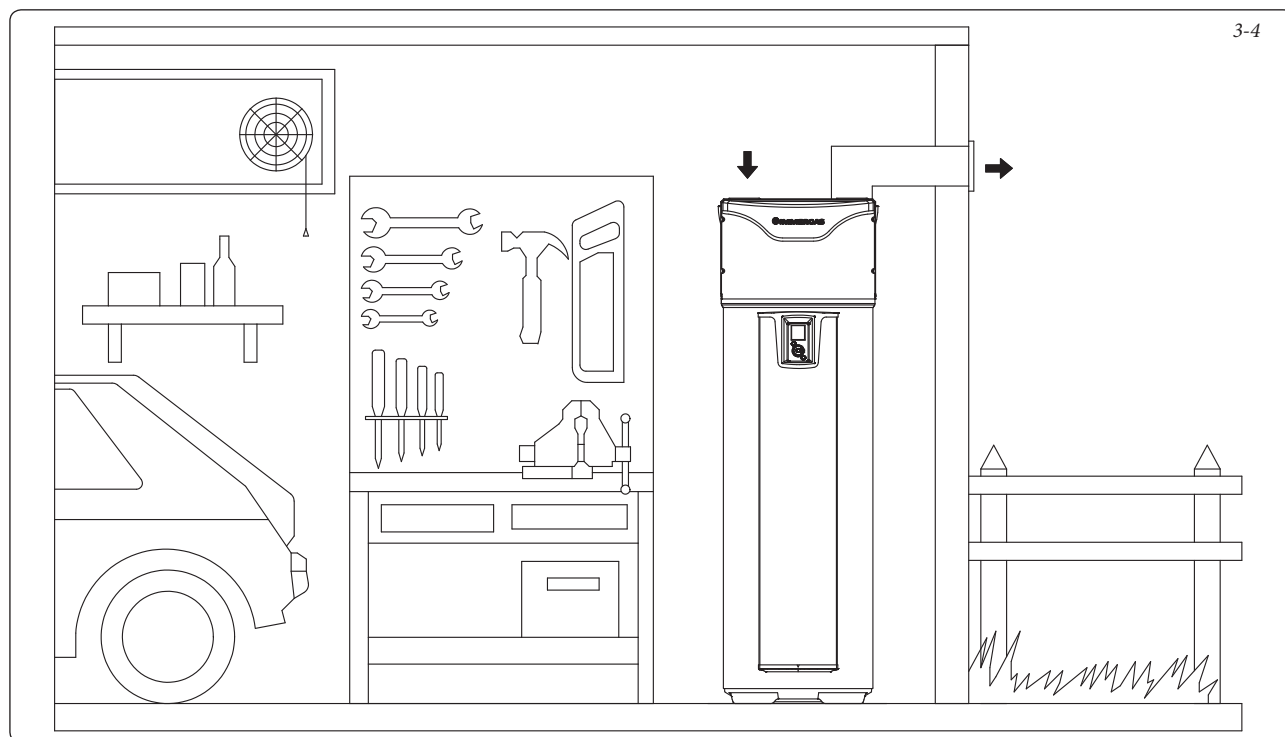
PLEASE NOTE: in winter, the intake air will be colder than that discharged by the boiler, which will increase garage cooling.

FORBIDDEN CONFIGURATIONS.

Installation configurations forbidden	Associated risk
✘ The boiler takes air from a room containing a heat source, that has to be paid, used to heat this place.	Excessive system consumption: the boiler no longer uses free calories, but those produced by other appliances connected to other energy sources.
✘ Connection to controlled mechanical ventilation system (CMV).	The air flow rates in the thermodynamic boiler (around 300 m ³ /h) are incompatible with those of a CMV (around 100 m ³ /h). Furthermore, the CMV ducts may convey greasy vapour and dust, potentially harmful for the duration in service of your boiler.
✘ Connection to an attic.	In the presence of inadequate isolation between the building and the relative attics, this type of installation may increase the thermal loss of the building. In extreme cases, condensate might form on the ceilings of the rooms under the attic due to its cooling. There is a greater risk from falling objects and dust ingress to the water-heater in this configuration, which could reduce its life expectancy.
✘ duct which takes air from the outside, conveying cold air inside.	Significant loss of performance coefficient PCO and much greater cooling of the room.
✘ Connection to a geo-thermal system.	Excessive loss of load, and problems balancing the two fans in series. High risk of clogging of the evaporator.

Other prohibitions:

- Do not connect the device's fan to a tumble-dryer
- Avoid very dusty rooms
- Do not extract air containing solvents or explosive materials
- Do not connect the appliance to a suction hood used to extract greasy or polluted air.
- Do not install the boiler in a room exposed to frost
- Do not place any objects on the boiler
- In non-ducted or semi-ducted configuration, do not place it in a room where an open chamber heat generator is installed (type B)



3.2 PRODUCT INSTALLATION.

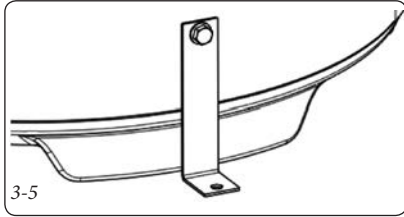
- 1 - Take the boiler to the installation premises.
- 2 - Open the box.
- 3 - Separate the boiler from the pallet and place it where the plumbing connection is.

The boiler must be installed on a smooth and level surface ($\pm 1^\circ$).

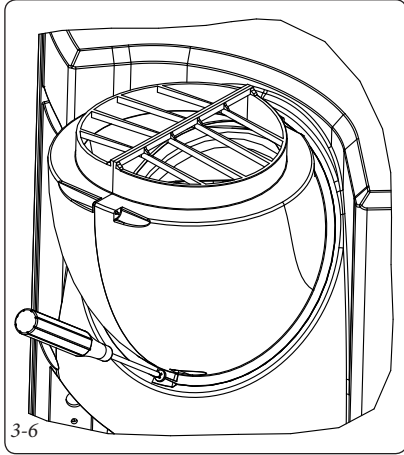
If the surface is not level, the position must be adjusted using the levelling feet.

Unless this is done, there could be problems with removal of condensates, leading to icing up.

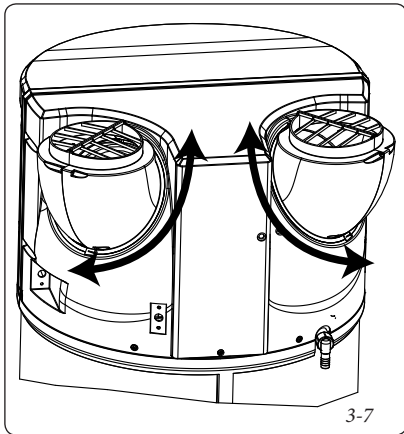
It is a mandatory requirement (in accordance with article 20 of EN 60335-1) for the boiler



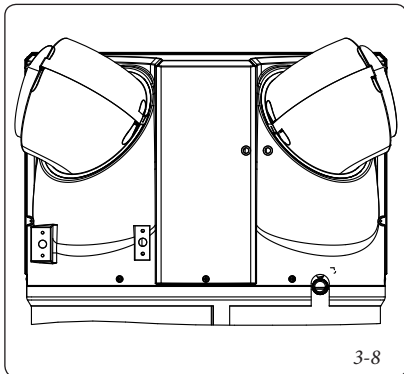
3-5



3-6



3-7



3-8

to be secured to the floor using the fixing attachments provided (Fig. 3-5).

- 4 - Adjustment of air intake and outlet vents.
 - Remove the screws from behind each of the adjustable outlets, with a screwdriver (Fig. 3-6).
 - After removing the clamping screws, the outlets may be rotated through 360° to help install the product (Fig. 3-7).
 - To aid correct positioning of the ducts on the adjustable outlets, a specific position is required (Fig. 3-8) to extract the outlets from their housing.

PLEASE NOTE: the configuration shown in Fig. 3-10 is forbidden: the device draws in the exhaust air, which is colder.

This phenomenon, called recirculation, significantly reduces the performance of the appliance.

3.3 PLUMBING CONNECTION.

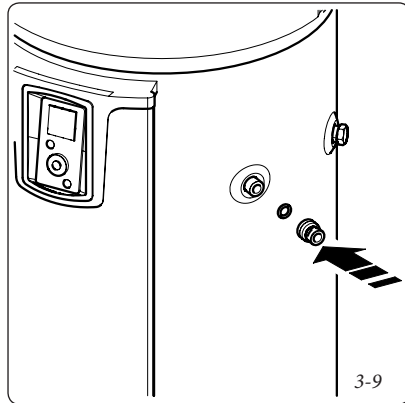
Connection to the cold water intake.

Before connecting the water supply, it is essential to clean the pipes thoroughly, to avert the risk of any metal or other particles entering the boiler tank.

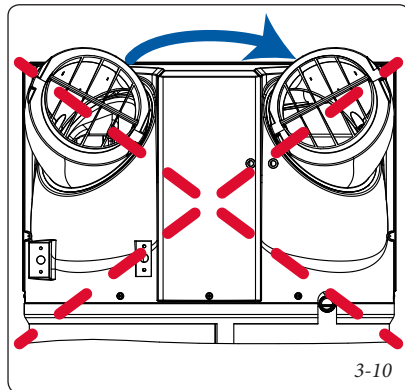
It is obligatory to install a safety device, set to be triggered at 0.7 MPa (7 bars) (not supplied with the boiler), sized 3/4", compliant with standard EN1487 as amended and added, and in any case compliant with local regulations in force, to be fitted to the cold water inlet of the boiler. The safety device must be protected from ice.

PLEASE NOTE: no plumbing fittings (stop valve, pressure reducer, etc.) must be placed between the safety unit and the cold water intake of the boiler, except for a copper pipe.

Connect the safety unit to a drain pipe kept in the open air, in a frost-free environment, with a permanent downward gradient, to remove any expansion water generated by the heating process or drainage water coming from the boiler itself.



3-9



3-10

The pipes used must tolerate a temperature of 100°C and a pressure of 1 MPa (10 bars).

When the inlet water pressure exceeds 0.5 MPa (5 bars), a pressure reducer is required (not supplied as standard).

The pressure reducer must be installed at the beginning of the main distribution network.

A pressure of 0,3 to 0,4 MPa (3 and 4 bars) is recommended.

Connection to the hot water intake.

PLEASE NOTE: do not connect the hot water directly to copper pipes, in order to avoid copper/iron galvanic coupling (risk of corrosion). It is therefore obligatory to fit a dielectric fitting on the hot water outlet (supplied with the appliance) (Fig. 3-9).

Any corrosion on the threads of the hot water outlet fitting, due to failure to use the fitting supplied, shall void product warranty.

In the event pipes in synthetic material have been used (e.g.: PER), we strongly recommend installing a thermostatic control device at the exit side of the boiler and set it according to the performance of the material used.

PLUMBING CONNECTIONS FOR COIL VERSION.

Especially for Rapax 300 V2 the use of recirculation is not recommended; this type of installation may cause water destratification in the tank, leading to increased use of the heat pump and electrical resistor.

Connection to the recirculation fitting.

PLEASE NOTE: do not connect the recirculation fitting directly to copper pipes, in order to avoid copper/iron galvanic coupling (risk of corrosion). It is therefore mandatory to mount a dielectric system to the recirculation fitting (not supplied as standard with the device).

Any corrosion on the threads of the recirculation fitting, due to failure to use the fitting, shall void product warranty.

PLEASE NOTE: if recirculation is not used, close the fitting with the "cap + gasket" set (supplied with the appliance).

Connection of the primary circuit of the boiler.

PLEASE NOTE: protect from overpressure caused by water expansion during heating with a 0.3 MPa (3 bars) valve, and with a closed diaphragm expansion vessel (if not fitted in the boiler). The operating pressure of the circuit must not exceed 0.3 MPa (3 bars), and its temperature must not be higher than 100°C.

Solar circuit connection.

PLEASE NOTE: protect from overpressure caused by water expansion during heating with a 0.6 MPa (6 bars) valve, and with a closed diaphragm expansion vessel. The operating pressure of the circuit must not exceed 0.6 Mpa (6 bars), and its temperature must not be higher than 100°C. A glycol mixture must be provided as heat transfer fluid for frost and corrosion protection.

Removal of condensates.

PLEASE NOTE: cooling of the circulating air in contact with the evaporator leads the water contained in the air to condensing. The condensed water flowing down the back of the heat pump must be removed from the heat pump and conveyed into suitable plastic pipes.

On the basis of air humidity, **up to 0.25 l/h of condensate may be formed.** The condensate run-off must not be conveyed into the drain, since the ammonia fumes that flow back from the drain could damage the heat exchanger fins and parts of the heat pump.

It is therefore obligatory to fit a siphon for the discharge of waste water (do not use for any reason the pipe supplied to obtain a siphon).

3.4 AERATION CONNECTION.

When the volume of the room where the boiler is installed is less than 20 m³, the appliance may be connected to air ducts with diameter 160 mm. If these ducts are not insulated, condensate might form in them during appliance operation.

It is therefore essential to choose insulated air ducts (Fig. 3-11).

Poor-quality air ducts (crushed, too long, or with too many bends, etc.) may cause a loss of performance.

Flexible ducts are therefore definitely not recommended.

PLEASE NOTE: if there are connections to the ducts, adjust fan settings accordingly.

PLEASE NOTE: the overall loss of load on ducts and fittings for discharge and intake of air **must be less than 150 Pa.** Calculation of load losses must be made using the measurement instruments supplied by the manufacturer, in accordance with the proposed ducting accessories.

Note: adjustable outlets may allow the use of ducting bends to be reduced or dispensed with altogether. For additional information on adjustable outlets, see Parag. 3.2.

3.5 ELECTRICAL CONNECTION.

PLEASE NOTE: the boiler may be electrically connected only after being filled with water.

PLEASE NOTE: do not apply upstream of the electrical connection of the boiler a timer or timing devices that may interrupt the appliance's power supply.

The boiler can be connected and operated only with single-phase 230V AC power supply. Connect the boiler with a cable having conductors with 2.5 mm² section. Installation shall consist of:

- A thermal magnetic breaker or 16A multi-pole fuse with contacts compliant with regulations in force.
- A 30 mA differential circuit breaker.

If the power cable is damaged, it must be replaced by the manufacturer, the after-sales service or similarly qualified personnel, due to safety concerns.

PLEASE NOTE: earthing is obligatory.

Do not connect the power supply directly to the electrical resistor.

The safety thermostat the electrical integration is fitted with must not be tampered with; if required, it may be repaired/maintained exclusively by skilled and qualified personnel, according to the instructions provided by the manufacturer. **Failure to comply with this clause shall void the warranty.**

The appliance must be installed in compliance with the provisions of the regulations in force.

Installation with connection to a Plus boiler (model "SOL").

In the "SOL" version, the internal heat exchanger may be used in alternative to Solar connection, to connect a boiler.

There is a pre-arrangement for electrical connection to the boiler, to be made through terminals C1 and C2 (clean contact); this contact might be placed in series with the NTC probe connection of a Plus (although this will lead to DHW probe anomaly on the boiler - until there is no demand and the probe is therefore interrupted).

The boiler is triggered with intake air temperatures outside the correct RAPAX operation range, or if the BOOST mode is active.

Photovoltaic self-consumption contact.

The boiler is equipped with a contact to fully exploit the electricity produced by the PV system, in order to accumulate thermal energy within the boiler (self-consumption).

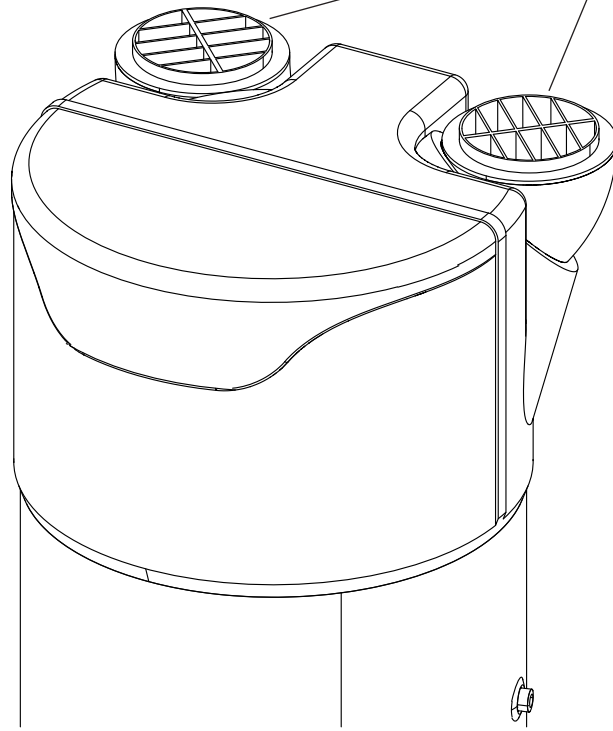
Having an inverter/electronic device which supplies a signal when PV production exceeds a certain value, when this contact is closed the boiler is triggered in heat pump mode to heat the DHW up to 62°C, unless otherwise programmed. When the photovoltaic contact is opened, the system goes back to the previous settings only after 30 min., to avoid alternating operation caused by clouds or temporary shadows.

See the instructions for removing the front cover, and for access to the terminal block see paragraph 5.5.

PLEASE NOTE: A cable channel is provided specifically for this connection. Ensure it is used (Fig. 3-12).

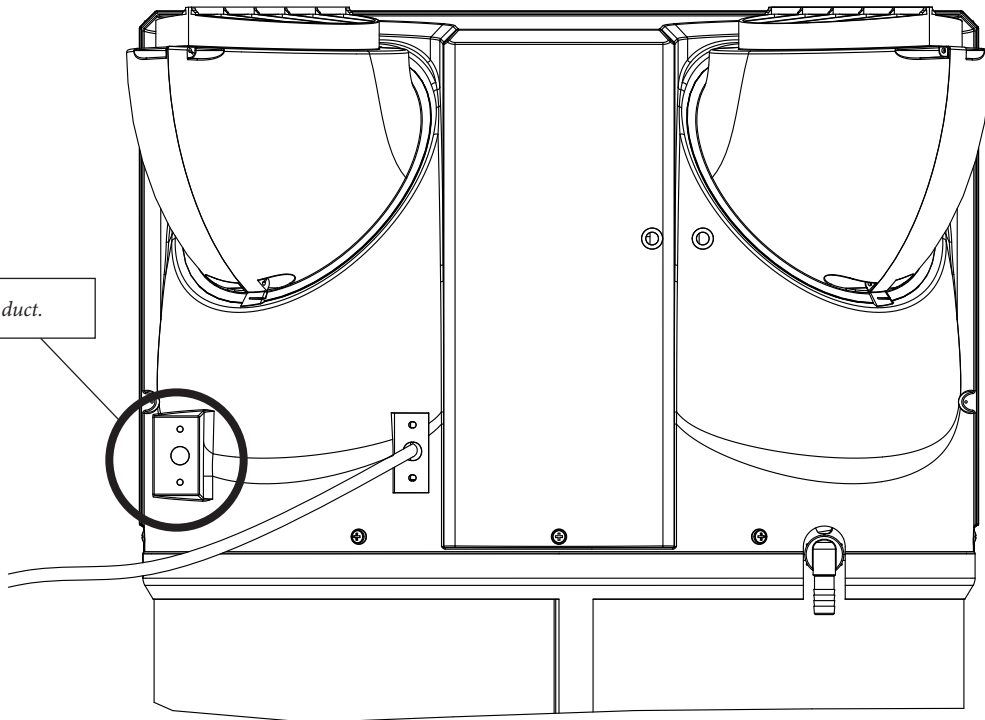
Number of bends	Overall length of the ducts* with air outlet and inlet mounted on wall	Overall length of the ducts** with air outlet and inlet mounted on wall
0 bend	8 m	19 m
1 90° elbow fitting	7 m	16 m
2 90° elbow fittings	5 m	12 m
(*) semi-rigid ducts - (**) rigid ducts		

3-11



The ducts must be fitted to the adjustable air intake and outlet vents.

3-12

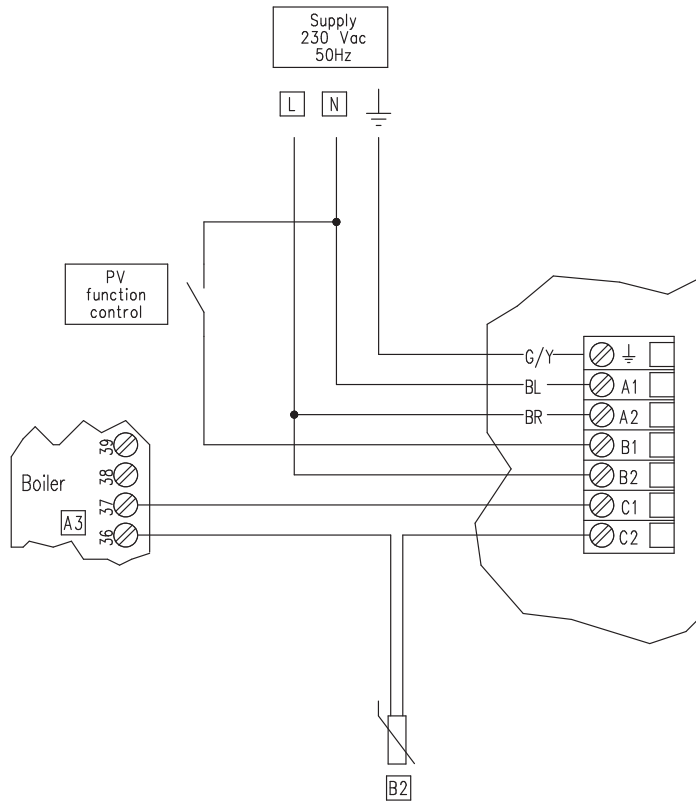


Specific cable duct.

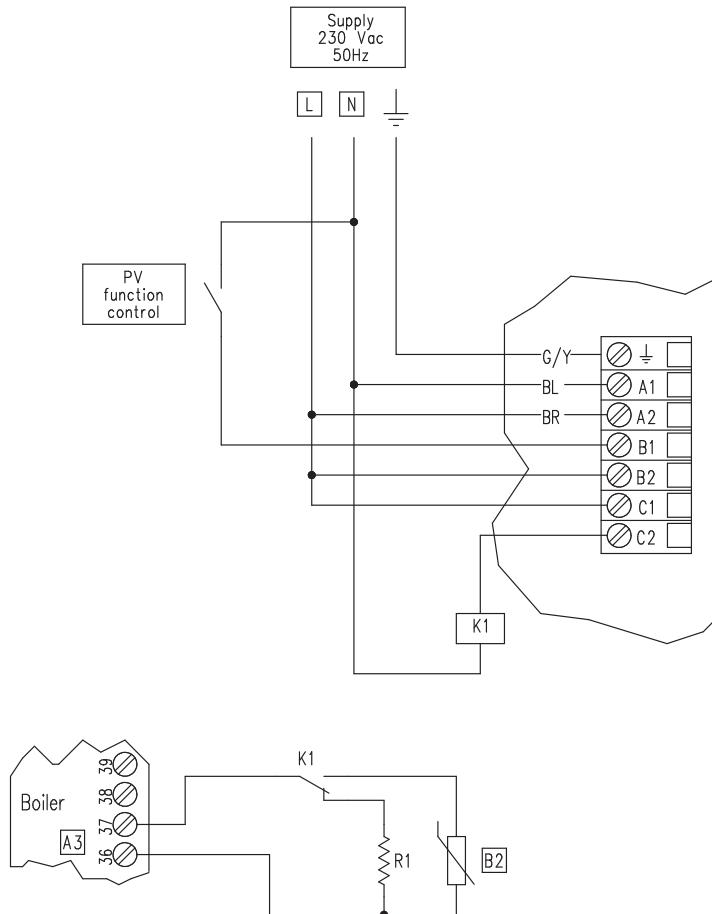
3.6 ELECTRICAL CONNECTION FOR PLUS BOILER AND PHOTOVOLTAIC SYSTEM.

3-13

N.B.: with this configuration the boiler can show an error on DHW probe



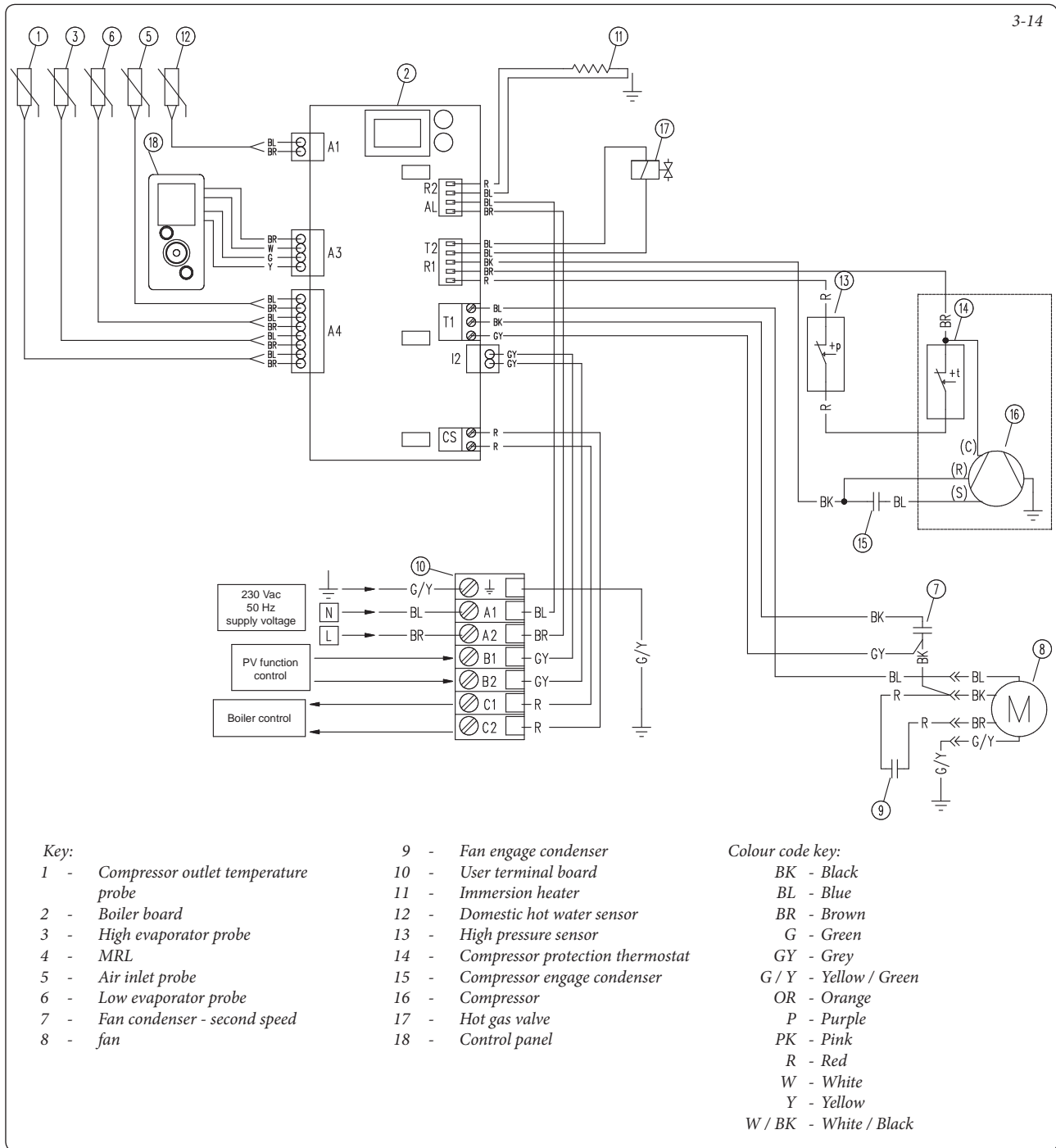
Legend:
 A3 - Integrated P.C.B.
 B2 - Storage tank NTC probe



Legend:
 A3 - Integrated P.C.B.
 B2 - Storage tank NTC probe
 K1 - Relay for DHW request
 R1 - Resistor (2,2 KΩ)

3.7 BOILER WIRING DIAGRAM.

3-14



Probe housing for solar system or boiler (for SOL versions only) (Fig. 3-15):

- 1 - Pull out the plug and foam insert beside the internal exchanger.
- 2 - Push the probe through the plug (if it has a suitable hole).
- 3 - Insert the probe into the conduit, ensuring it is placed correctly at the bottom of the housing.
- 4 - Put the foam insert back, and clip the plug onto the product.

3.8 COMMISSIONING.

Filling the boiler.

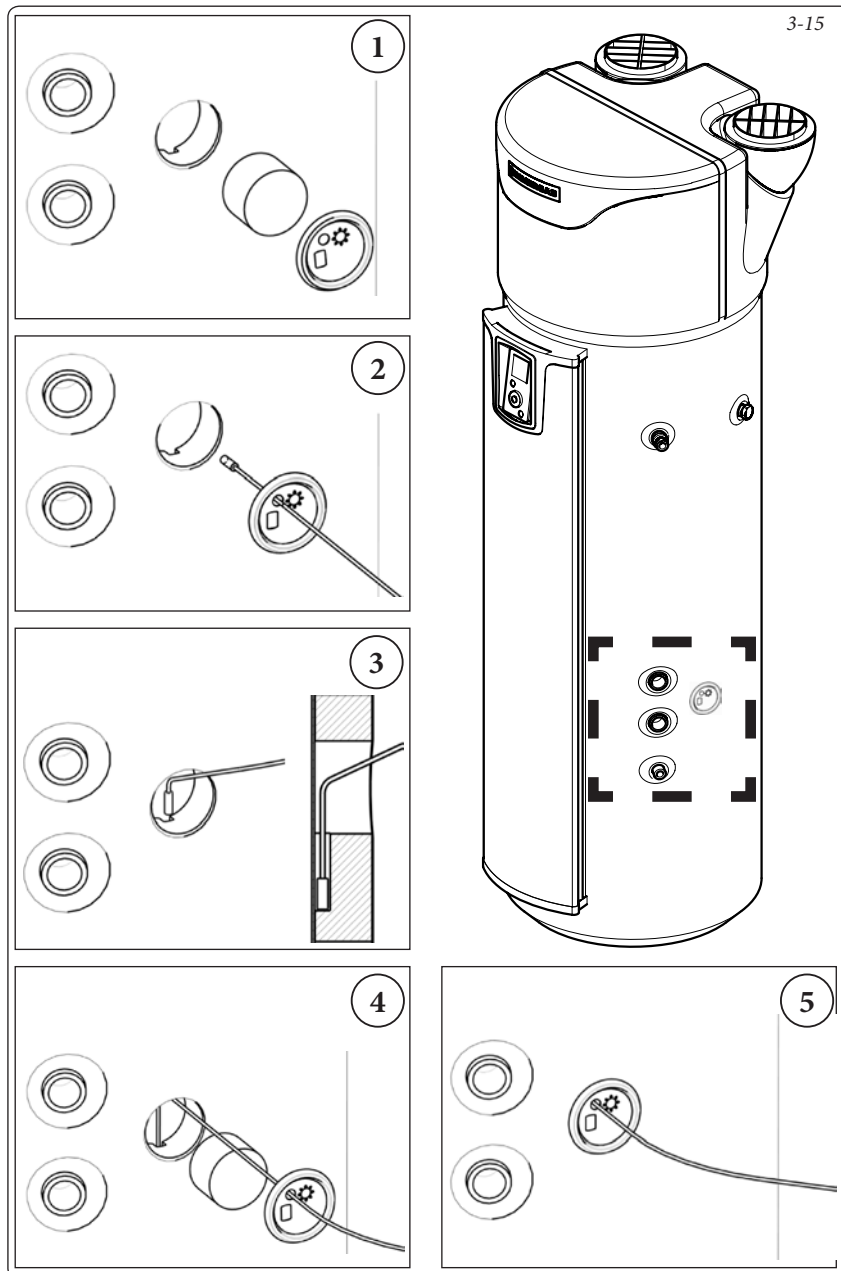
- Open the hot water taps.
- Open the cold water cock on the safety device (ensure the unit emptying valve is closed).
- Run the hot water from the cocks then close them: the boiler will now be full.
- Check water tightness of the fitting to the pipes.
- Check correct operation of plumbing devices by opening the discharge valve

Commissioning.

PLEASE NOTE: if the boiler has been tilted, wait at least 1 hour prior to commissioning.

- Turn on the boiler.
- Check that the screen (4 Fig. 4-1) does not display errors.
- During first power up the adjustment instructions are displayed on the screen. Follow the on-screen instructions carefully to set parameters (date and time, air ducts, installation, recirculation loop, photovoltaic, operating bands, anti-legionella system).
- After setting the parameters, check the operation of the boiler (see section "Operation check").

To return to the settings, refer to section "System Settings" or "Setup Parameters."



Operation check.

The parameters can be accessed in INSTALLER MODE.

Hold down the Menu button (2 Fig. 4-1) and turn the selector switch (1 Fig. 4-1) by a half turn to the right.

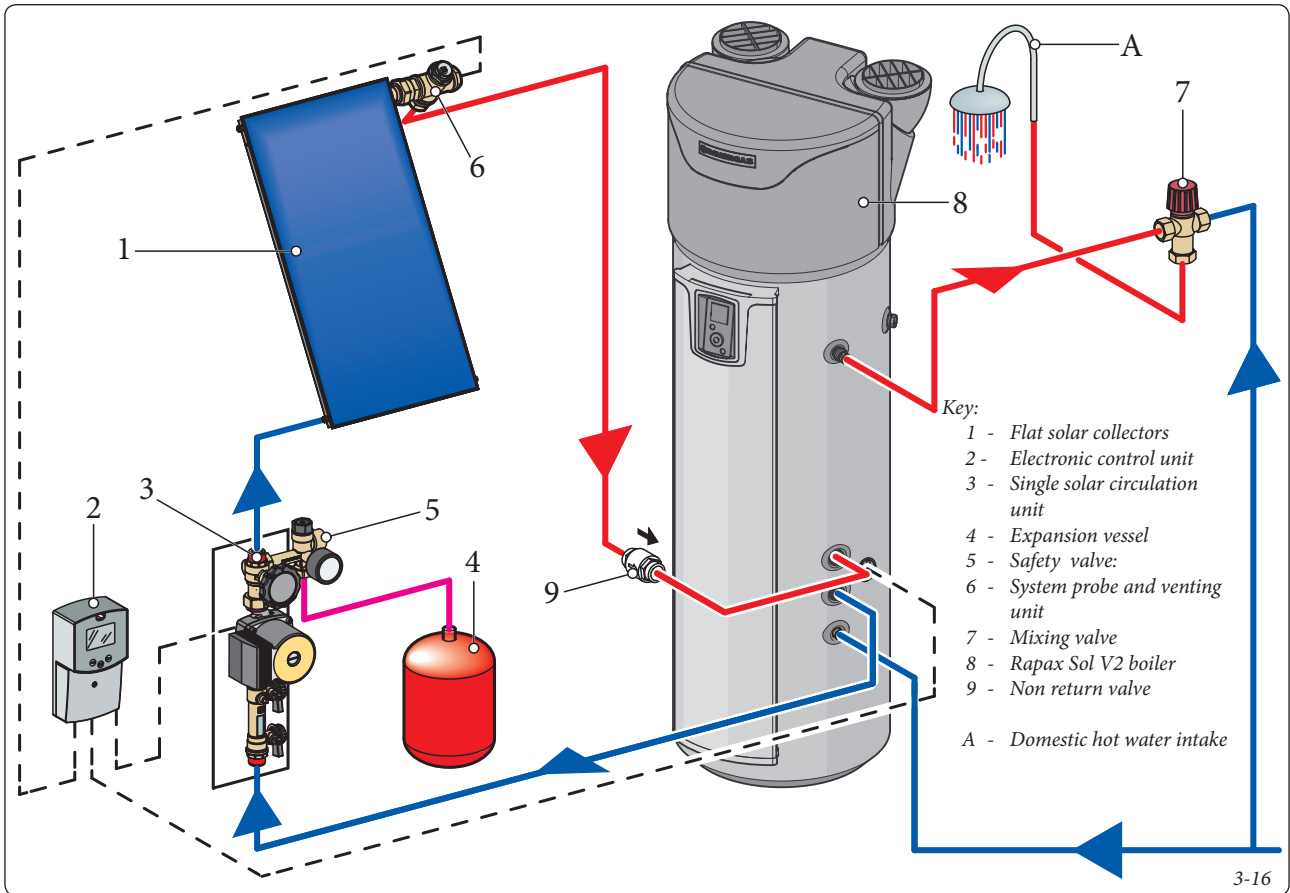
To exit the installer mode, proceed in the same way or wait for 3 minutes.

Access settings → (MENU) → Test → Generators.

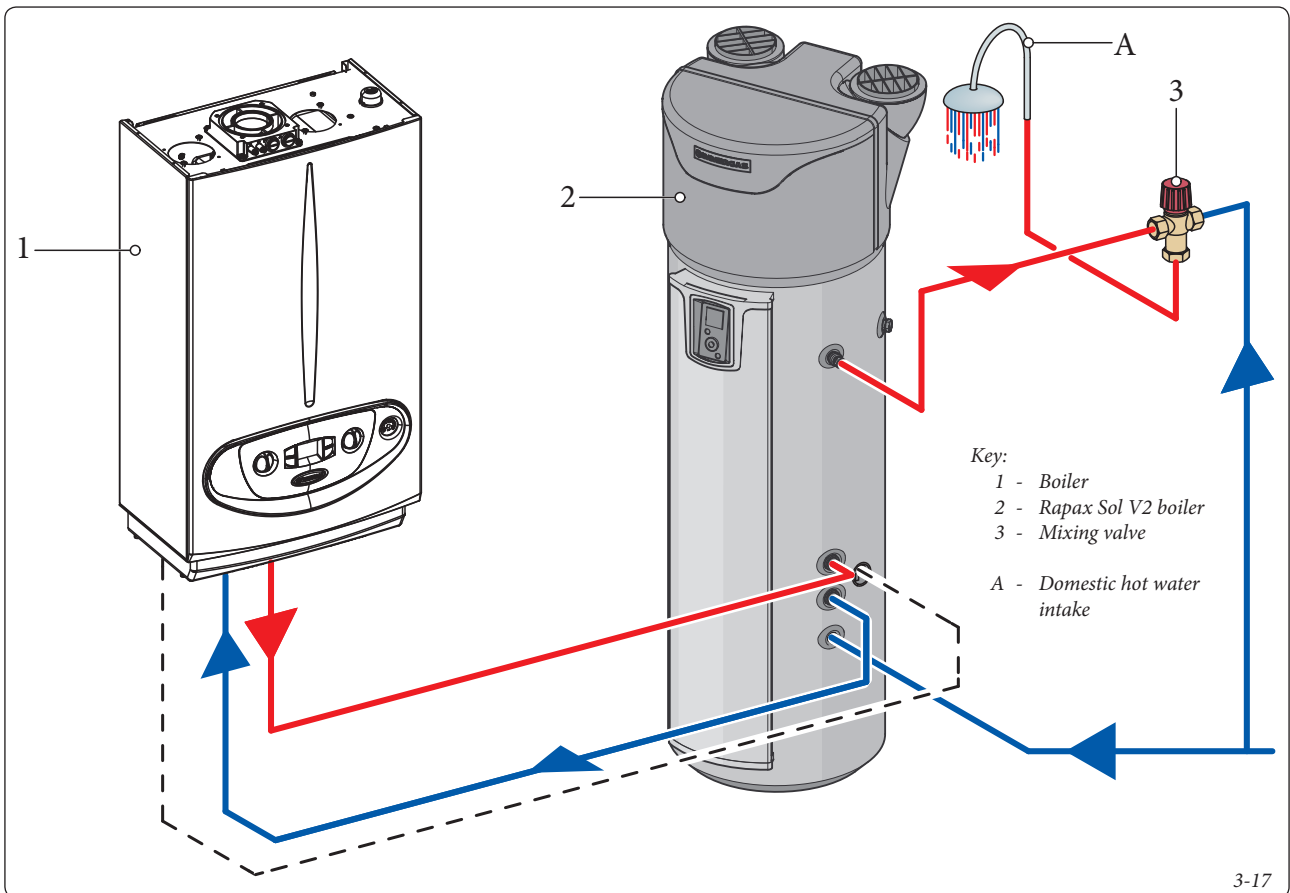
The "TEST" menu allows you to start the actuators of the device in Forced mode.

Compressor		Start of the fan then of the compressor
Fan	Slow operation	Operation of the fan at low speed
	Fast operation	Operation of the fan at high speed
Defrosting fan	Close	Emission of a pop noise from the coil
Compressor + defrosting		Starting of the fan, then the compressor and pop noise of the coil
Electrical integration		Commissioning of electrical integration
Additional boiler		Closure of the boiler dry piloting contact
Temperature sensors		Display of temperatures; Incoming air, High evaporator, Low evaporator, Return compressor, Hot water

3.9 THERMAL SOLAR CONNECTION DIAGRAM (OPTIONAL).

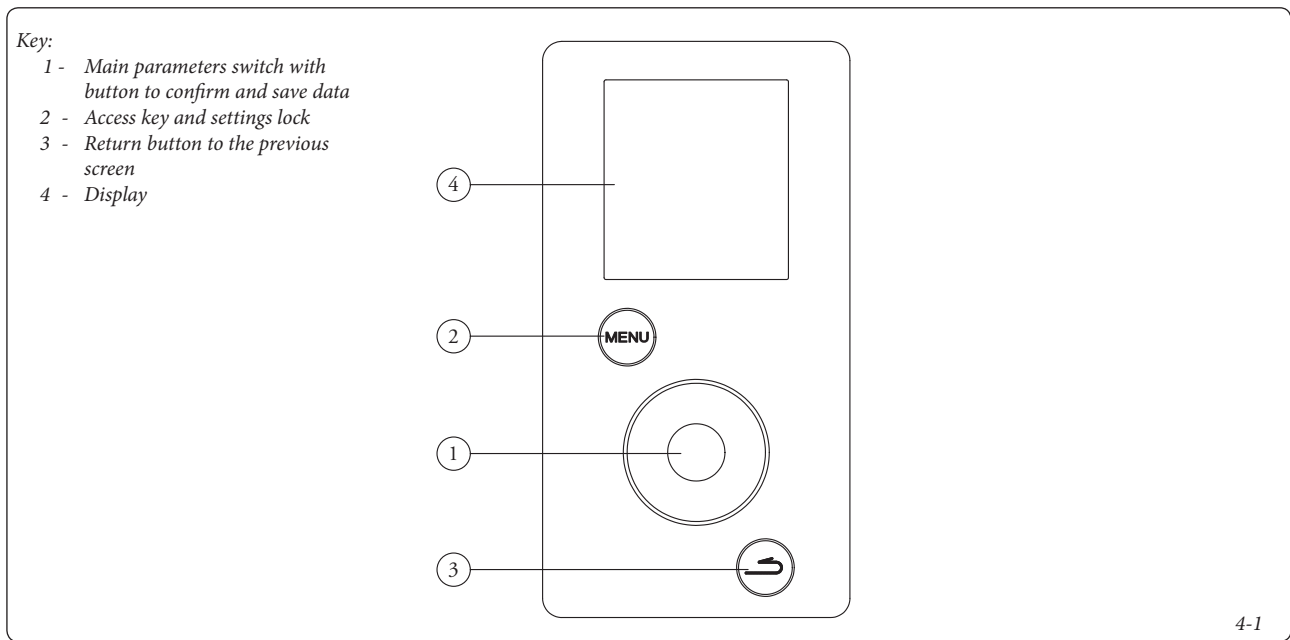


3.10 BOILER SOLAR CONNECTION DIAGRAM (OPTIONAL).



4 PARAMETER SETTINGS / UTILISATION

4.1 REMOTE PANEL.

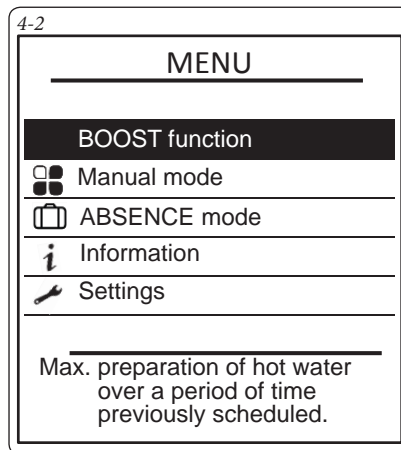


4.2 DESCRIPTION OF SYMBOLS.

Symbol	Description
BOOST	Forced start set
	Absence set / pending
	Current hot water temperature
	Stand-by
	Warning
	Electrical integration in operation
	Heat pump in operation
	Boiler integration in operation
	Reception of a signal at the inlet of the solar system
	Reception of a signal at the inlet of the photovoltaic system / Smart Grid

4.3 MAIN MENU.

Access to the settings by pressing the “Access key and settings lock” (2 Fig. 4-1) and follow the instructions on the screen (4 Fig. 4-1). Navigate the menu by turning the main switch (1 Fig. 4-1) to the left to decrease the values or to the right to increase the values. Press the main switch in the centre (Fig 1. 4-1) to confirm.



- **BOOST function (BOOST).**
Increase the production of hot water regularly; Set the number of the BOOST operation days (from 1 to 7). At the end of the chosen period, the boiler resumes operation with the initial settings. The BOOST can be interrupted at any time:
BOOST pause
- **OPERATION mode (☐☐).**
Chose the operating mode
Select AUTO or MANUAL (see section 4.6 "Operating modes").

- **ABSENCE mode (☐☐).**
Schedule an absence.
It allows you to indicate in the boiler:
 - a permanent absence from the current date;
 - a scheduled absence (set the start date of the absence and the end date). On the eve of your return, an anti-legionella cycle is activated. In this period, the water temperature is kept above 15°C. The function can be stopped at any time:
Disable absence
- **Information (i).**
 - Display the energy savings.
Allows you to view the utilization rate of the heat pump and electrical integration of the last 7 days, the last 12 months, from commissioning.
 - Display power consumption.
It allows you to view energy consumption in kW / hour, in recent days, in recent months, in recent years.
 - Display the budget parameters.
It allows you to view all the settings recorded in the boiler.
- **Settings (🔧).**
 - Set the time and date.
Set the day and then confirm. Then set the month, year, hour and minutes.
 - Set the operating time slots
It lets you define the time slots in which the device is authorized to start.
 - Set the language.
French, English, Dutch, Spanish, Portuguese, German, Italian and Polish.
 - Electrical integration.
It allows you to turn off the support of electrical integration.

4.4 SYSTEM SETTINGS.

Access to the system settings: (MENU) + Settings.

- **Date and time.**

Set the day and then confirm. Do the same for the month, year, hour and minute.

- **Operating time.**

This parameter defines the operating time slots of the heat pump, of the electrical integration, and if present, of the hydraulic auxiliary device according to the hot water requirements:

24/24 continuously Start at any time of the day.

Scheduling Start in scheduled periods.

- **Language.**

Possible settings in French, English, Dutch, Spanish, Portuguese, German, Italian and Polish.

- **Electrical integration.**

It allows you to activate or not the electrical integration support. If it is off, the device will never use the electrical integration; in case of low temperatures it is then possible a shortage of hot water.

4.5 PARAMETERS TO BE ADJUSTED UPON INSTALLATION.

(If not set at the time of commissioning)

The parameters can be accessed in INSTALLER MODE.

Hold down the Menu button (2 Fig. 4-1) and turn the selector switch (1 Fig. 4-1) by a half turn to the right.

To exit the installer mode, proceed in the same way or wait for 3 minutes.

Access to the system settings: (MENU)

Settings

- **Air ducts (aeraulic operation).**

This parameter defines the aeraulic connection type realized:

Inside / Inside	Suction and return not connected to air ducts (ambient air)
Outside / Outside	Suction and return connected to air ducts (coated air)
Inside / Outside	Return connected to an air duct (semi-coated)

- **Installation (for products with coil).**

Heat pump only	The indoor heat exchanger is not used
Connection with boiler	The indoor heat exchanger is connected to a boiler controlled through the device
Connection with solar system	The indoor heat exchanger is connected to a solar energy system

In "Boiler integration" it is asked to define a preference relating to the operation of priorities between the boiler and the heat pump according to 4 levels:

HP priority	The integration will be only active at the end of the heating for very low air temperatures (<7°C)
HP optimization	The integration will be only active until the end of the heating and ± early depending on the air temperature
Boiler optimization	The heat pump is activated at the end of the heating and ± soon as a function of air temperature
Boiler priority	The heat pump is active at the beginning of heating and for air temperature >10°C.

- **PV Photovoltaic system/Smart-grid.**

This parameter allows to activate the device coupled with a photovoltaic system. This operating mode generates the forced starting of the heat pump when the boiler receives a signal coming from the photovoltaic system. The setting automatically returns to the previously selected mode after 30 minutes if the photovoltaic system signal is lost. While receiving the signal the set point temperature is automatically set at 62°C (not adjustable).

- **Ventilation.**

It allows you to turn on the air extraction function (2 speeds: 300 or 390 m³/h). When the unit does not heat domestic water, the fan turns on to evacuate the ambient air to the outside (only activated when the aeraulic connection type is Indoor/Outdoor).

- **Anti-legionella.**

It allows you to turn on the water disinfection function several times a month. The water temperature reaches 62°C 1-4 times a month depending on the desired setting.

- **Emergency mode.**

Enabling this mode allows continuous operation only with the electrical integration.

- **Recirculation loop.**

This mode should be strictly activated when a domestic water recirculation system is installed. The set point temperature is 65°C and the operation of the heat pump adjusted accordingly. The unit is authorized to operate continuously (programming is not available).

4.6 SELECTION OF OPERATING MODES.

The pressure on the button (MENU) allows you to access the menu **Mode**

- **In AUTO mode (only available on "Thermodynamic only" systems).**

This operating mode automatically manages the energy choice that allows maximum savings while guaranteeing an adequate comfort in terms of hot water. The boiler analyses the consumption of the previous days to adapt the production of hot water according to needs. It reacts to unexpected events to ensure the hot water making relaunches during the day. Therefore, the set point temperature is automatically adjusted between 50 and 62°C according to the consumption profile. The boiler operates preferably through the

heat pump. The electrical integration can be automatically selected to ensure a sufficient volume of hot water.

PLEASE NOTE: this mode is not available on the "Connection to the boiler" and "Connection to the solar system" plants.

- **The MANUAL mode.**

This mode allows you to define the desired amount of hot water by choosing the set point. This set point is also represented as an equivalence of number of showers (about 50 litres of hot water).

If the ECO mode is not active, the boiler favours operation with heat pump only. However, if the air temperature is low or consumption remarkable, the electrical integration (or boiler) can be authorized as a support at the end of heating to reach the temperature set. If the ECO mode is active, the boiler only works with the heat pump at an air temperature ranging between -5 and +43°C. Therefore, the electrical integration is not authorized at the time of heating. This feature optimizes the savings, but can cause hot water shortages. Regardless of the ECO adjustment, if the air temperature exceeds the operating time slots, the electrical integration will be automatically selected to ensure a sufficient volume of hot water.

PLEASE NOTE: the ECO active/non active modes are not available on "Connection to the boiler" plants.

PLEASE NOTE: MANUAL modes and "Connection to the solar system" plants: this mode also allows the operation of the heat pump in addition to the solar system. The contemporary prolonged operation of the heat pump and of the solar system may damage the product. It is therefore necessary to allow the operation of the heat pump only in the absence of solar energy (use the time programming of the heat pump).

- **The BOOST mode.**

This mode activates the heat pump and all other available sources of energy (if declared boiler integration, electrical integration) simultaneously to the maximum set point of 62°C.


- **The ABSENCE mode.**

This mode maintains the sanitary water temperature above 15°C using the heat pump. The boiler and electrical integrations can be activated if the heat pump is not available.

- **The RECIRCULATION mode.**

This mode allows the heat pump to operate continuously to reach the set point of 62°C. The integrations (if declared boiler and electric) are activated after 7 hours of heating with the heat pump.

4.7 CONTROLS LOCK.

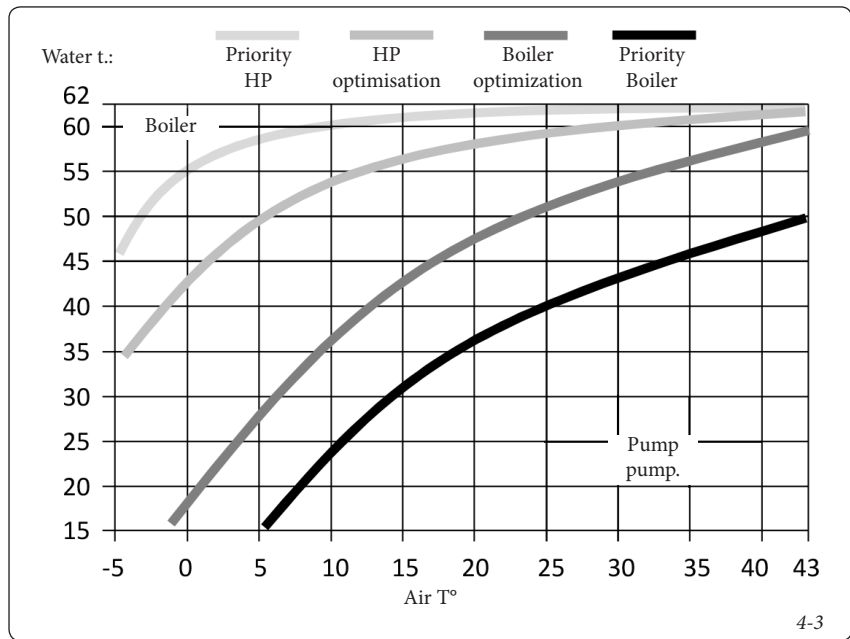
The pressure of the button (), for a few seconds, allows you to lock/unlock the controls.

4.8 MODE IN "HEAT PUMP ONLY" SYSTEM

- **Auto.**
The set point temperature is automatically adjusted between 50 and 62°C according to the consumption profile of the previous days. The boiler operates preferably through the heat pump. The electrical integration can be activated automatically as support.
- **MANUAL-ECO Off.**
The fixed set point temperature is adjusted between 50 and 62°C by the user. The boiler operates preferably through the heat pump. The electrical integration can be automatically activated to ensure a sufficient volume of hot water.
- **MANUAL-ECO On.**
The fixed set point temperature is adjusted between 50 and 55°C by the user. The boiler operates exclusively with the heat pump to optimize the savings. The electrical integration is authorized for operation only when the air temperature exceeds the operating time slots.

4.9 MODE IN SYSTEM "CONNECTION WITH THE BOILER".

- **MANUAL.**
The fixed set point temperature is adjusted between 50 and 62°C by the user. The boiler operates preferably through the heat pump. The electrical integration can be automatically activated to ensure a sufficient volume of hot water. If the media by the boiler is not available (in the boiler stop, for example), the electrical integration will be activated.
- **"SMART Energy" function.**
A heat pump draws the energy available in the air and returns this energy in the hot water by heat exchange in the tank. The performance of a heat pump will then be higher with parameters that facilitate these exchanges of energy; that is to say with hot air and cold water temperature in the tank. Our product permanently calculates, depending on the air temperature and the water temperature, which energy is cheaper. This SMART Energy function can decide to start heating with the heat pump and reach the last degree with the boiler integration.
In addition, you can set the Smart Energy function with 4 different priority levels:



HP priority	The integration will be only active at the end of the heating for very low air temperatures (<7°C)
HP optimisation	The integration will be only active until the end of the heating and ± early depending on the air temperature
Boiler optimization	The heat pump is active at the end of the heating and ± early depending on the temperature of the air
Boiler priority	The heat pump is active at the beginning of heating and for air temperature equal to >10°C

4.10 MODE IN SYSTEM "CONNECTION TO THE SOLAR SYSTEM"

The boiler only operates outside the solar energy production periods (when it receives a signal from the solar station). During sun production periods the production of hot water is realized by the internal heat exchanger therefore the heat pump and the electric integration are inactive.

- **MANUAL-ECO Off**

The fixed set point temperature is adjusted between 50 and 62°C by the user. The boiler operates preferably through the heat pump. The electrical integration can be automatically activated to ensure a sufficient volume of hot water.

- **MANUAL-ECO On**

The fixed set point temperature between 50 and 55°C is adjusted by the user. The boiler operates exclusively with the heat pump to optimize the savings. The electrical integration is authorized for operation only when the air temperature exceeds the operating time slots.

PLEASE NOTE: the electrical integration will never work if the "Electrical integration" is Off.

5 RECOMMENDATIONS - MAINTENANCE AND REPAIRS

5.1 ADVICE FOR THE USER.

You must empty the boiler if the absence mode cannot be used or when the device is powered down. Proceed in the following way:

- Cut the power supply.
- Close the cold water inlet tap.
- Open a hot water tap.
- Put the safety valve in the drain position.

Important Note - End of the useful life of the device:

- At the end of its life, the appliance must be taken to a sorting centre for electrical and electronic equipment for recovery of fluids. Do not dispose of the appliance in domestic waste, but in the stated collection centres, where it may be recycled. Check your local collection service to find out about existing waste collection centres.



- It is forbidden by law to discharge into the atmosphere the cooling fluid contained in the appliance. Degassing operations are strictly forbidden, and may be hazardous.

Note: the GWP (Global Warming Potential) of R134a is 1350.

5.2 DOMESTIC MAINTENANCE.

The user must perform some minor home maintenance operations on the boiler: act on the safety valve once or twice a month to remove mineral deposits, if any, and ensure it is not blocked.

Check regularly that there are no alarms on the display. If there are any alarms, contact the authorised local service centre to address the faults.

It is recommended to treat water with a softener in the areas where there is a high amount of scale (Th>20°F). **Water hardness must remain above 15°F.** The softener does not involve derogations of the warranty, provided it is dosed in a workman-like manner and regularly maintained.

Water treatment must comply with the National/local provisions in force.

5.3 MAINTENANCE BY APPROVED PROFESSIONALS.

The appliance must be checked by a professional every 2 years, in order to ensure its long-term performance..

- Disconnect the appliance from the electricity (circuit-breaker, fuses, etc.)
- Drain the tank:
 - close the cold water inlet cock of the safety unit,
 - open a hot water tap,
 - put the safety valve in the drain position.
- Remove the front cover.
- Disconnect the wires from the thermostat terminals.
- Dismantle the heating assembly.
- Change the magnesium anode. The magnesium anode has to be changed every 2 years or as soon as its diameter is less than 10mm.
- Remove the scale deposited as sludge or flakes in the bottom of the tank, and carefully clean the casings of the heating elements and thermostat. Do not scratch or strike the scale attached to the walls, as this could affect the coating. Residues may be removed using a water and dust vacuum cleaner.
- Refit the heating assembly with a new seal, carefully and gradually tightening the nuts (cross-tightening).
- Fill the boiler by leaving a hot water tap open, if the water flows it indicates that the boiler is full.
- Check the water tightness of the seal and only then replace the thermostat and its fittings, and reconnect the power supply.
- The next day, check the water tightness of the seal again and gently tighten the nuts again if necessary.
- Check the electrical connections.
- Check correct positioning of the temperature probe in the pit located near the electrical integration (the probe must be located at the bottom of the pit).

Evaporator:

- The cleanliness of the evaporator and the fan must be checked **every year**. Clogging of these components may reduce the performance of the heat pump.
- Unscrew and remove the front cover to access the evaporator. The rear cover may also be removed if necessary.
- If necessary, the evaporator and the fan are to be cleaned with a soft bristle brush. Brush very gently the evaporator to avoid damaging its fins. If the fins are folded, straighten them using a suitable brush.

PLEASE NOTE: always disconnect the device from the power supply before starting any work.

Expansion valve:

- Only a refrigeration engineer is permitted to access the expansion valve adjustment screw. If the expansion valve is adjusted without approval from the manufacturer, the product warranty shall be voided.
- Generally speaking, it is not recommended to change the expansion valve setting before all other repair solutions have been exhausted.

Condensate evacuation pipe:

- Check cleanliness of the condensate evacuation pipe. Any pollution (dust) in the room may in fact cause deposits in the condensate recovery tank. These deposits may block the condensate evacuation tube, and cause excessive accumulation of water in the tank, which could lead to malfunctions.

5.4 TROUBLESHOOTING SUPPORT.

Control panel alarm codes

Errors can be suspended or reactivated by pressing "OK".

This action also stops the buzzer.

Error Code	Cause	Consequences	System status / Solution
03	Defective water temperature probe (pit)	No possible warming up	Check connections or replace the probe (reference A1)
07	No water in the boiler	No warming up	Check presence of water inside the boiler.
09	Water temperature too high (> 80°C)	Risk of activation of the mechanical safety No warming up	Check the connections and the position of the probe (reference A1) Make sure that the integration is not piloted permanently If necessary, reset the mechanical safety and contact the installer
21	Faulty air intake temperature probe.	HP stoppage. Heating with electrical integration	Check the connections or replace the probe (reference A4)
22	Faulty top evaporator temperature probes	HP stoppage. Heating with electrical integration	Check the connections or replace the evaporator probes (reference A4) Check the correct operation of the fan

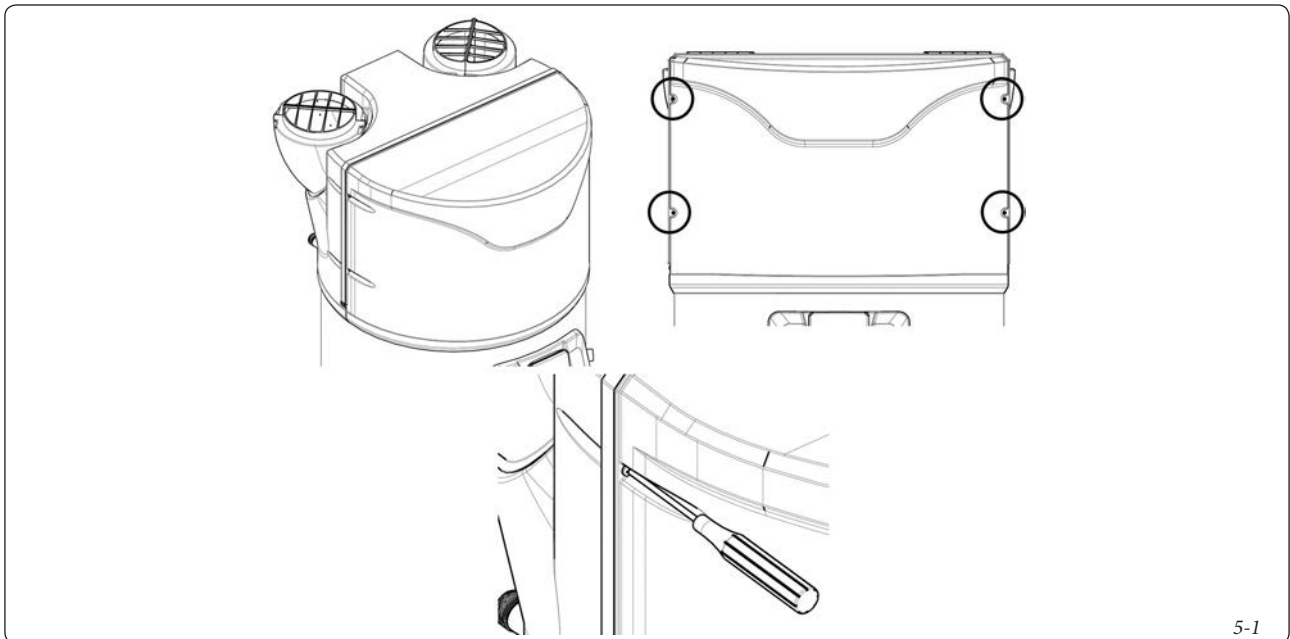
Error Code	Cause	Consequences	System status / Solution
23	Faulty low evaporator temperature probes	HP stoppage. Heating with electrical integration	Check the connections or replace the evaporator probes (reference A4) Check the correct operation of the fan
25	Pressure switch alarm (faulty high pressure)	HP stoppage. Heating with electrical integration	Ensure the air temperature does not exceed 43°C. By pressing the mode button the fault is reset, contact the installer
27	Faulty compressor output temperature probe	HP stoppage. Heating with electrical integration	Check the connections or replace the probe (reference A4) Contact the installer.
Inefficient de-frosting function	De-icing malfunction	HP stoppage. Heating with electrical integration	Check the connections or replace the coil (reference T2) Check fan functioning By pressing the mode button the fault is reset, contact the installer
Temp discharge failure	Compressor temperature off limits	HP stoppage. Heating with electrical integration	Contact the installer.
Heat pump failure	Heat pump in operation for over 50 h without stopover	HP stoppage. Heating with electrical integration	Contact the installer.

5.5 WORK ON THE BOILER.

Remove the front cover of the heat pump

PLEASE NOTE: always disconnect the device from the power supply before starting any work.

Remove the four screws from the cover with a screwdriver (Fig. 5-1).



5-1

Remove the rear cover of the heat pump

PLEASE NOTE: always disconnect the device from the power supply before starting any work.

Note: This operation is only needed for complex operations: (cleaning the evaporator, works on the fan, works on the compressor, etc.).

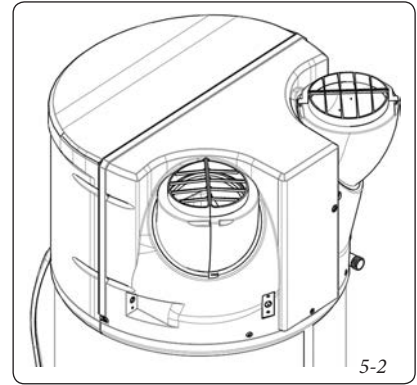
PLEASE NOTE: it is essential to disconnect the power cable on the terminal board, so that the rear cover of the heat pump can be removed (Fig. 5-2).

Remove the five screws from the cover with a screwdriver (Fig. 5-3).

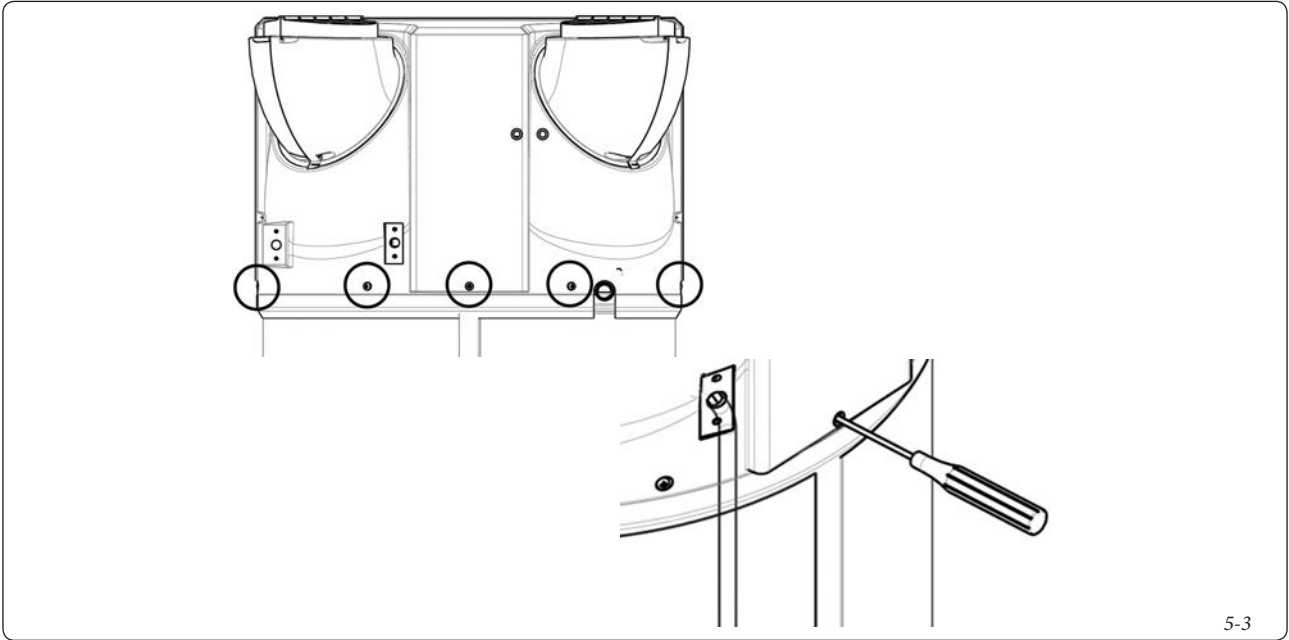
Access to the auxiliary electric unit of the boiler. 5-4).

To access the auxiliary power unit, proceed as follows:

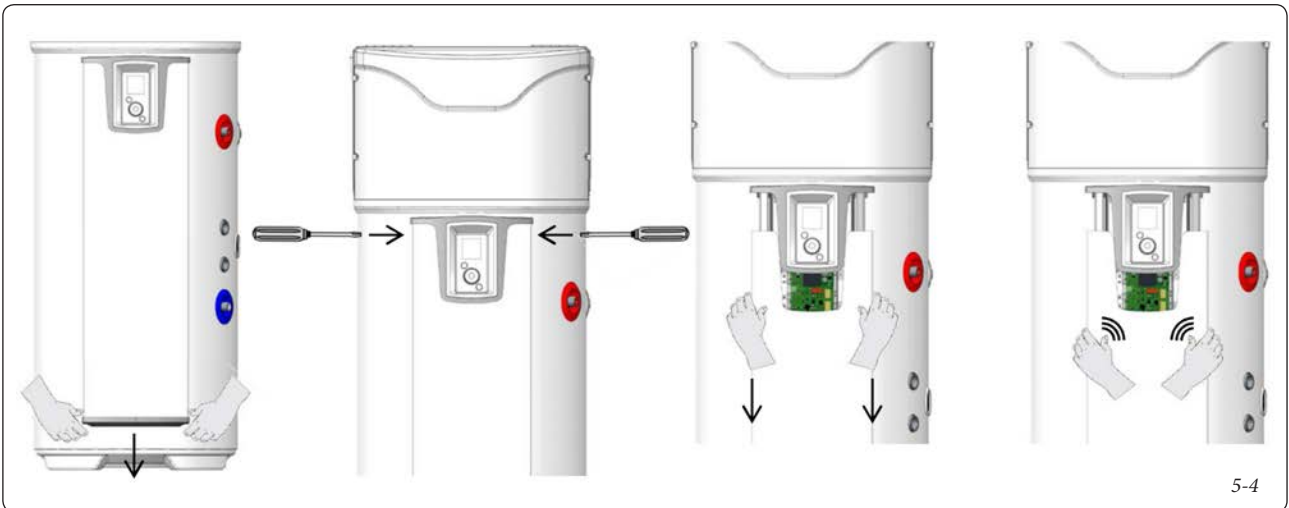
- Remove the lower tap of the column releasing it,
- Unscrew the 2 fastening screws on each side of the column,
- Slide the column down a few centimeters to free it from the console,
- Press the centre of the column to open it and release it from the guide rails.



5-2



5-3



5-4

**5.6 QUICK FAULT DIAGNOSIS
FOR USE CARRIED OUT BY A
PROFESSIONAL TECHNICIAN.**

Fault detected	Possible cause	Diagnosis and solution
Not sufficient hot water	Delivery temperature on a too low value.	Adjust the delivery temperature to a higher value. Refer to the settings menu.
	Heating element or its wiring partially off-duty.	Check the resistance of the heating element on the connector of the electric bundle and the good conditions of the bundle itself.
	Cold water rbackflow into the hot water circuit.	Close the cold water supply to the level of the stopping tap of the safety unit. Then, open a tap in "hot water" position. Wait 10 minutes. If water flows, identify the faulty taps and/or make sure that any safety device is properly positioned (see "Hydraulic connection" paragraph).
No warming up. No hot water.	No power supply of the boiler: fuses, wiring, etc...	Check the power supply of the boiler are live
Poor flow of the hot water tap.	Safety valve damaged or clogged.	Replace the safety device.
Continued loss of water to the level of the safety unit at the outside of the heating period.	Too high pressure in the network.	Make sure that the outlet pressure of the water meter does not exceed 0.5 MPa (5 bars), otherwise install a pressure reducer set to 0.3 MPa (3 bars) at the beginning of the water main distribution network .
The electrical integration does not work.	Faulty electrical thermostat. Faulty heating element.	Replace the thermostat. Replace the heating element.
Outflow of condensates.	The boiler is not properly levelled.	Ensure that the boiler is placed on a flat surface.
	Drain of condensed clogged.	Clean (see the paragraph "maintenance carried out by an authorized professional"). Check that there is no siphon on the discharge pipe.
Presence of odours.	There is no siphon.	Install a siphon
	There is no water in the siphon.	Fill the siphon.
Emission of vapour during the bleeding phase.		Disconnect the power supply and contact the installer.
Malfunction of the remote control or display problems.	Faults related to interferences on the power grid.	Initialize a new boiler restoring the power supply after having disconnect it.
The HP works for a short time, the electrical integration is almost always in operation.	The ambient air temperature exceeds the tolerated thresholds.	Wait until the temperatures are back within the tolerated thresholds (make sure the boiler is installed in a room >20 m ³ , see paragraph "Installation").
	Heavily encrusted evaporator.	Clean the evaporator (see the paragraph "maintenance carried out by an authorized professional").
The fan does not turn.	Heavily encrusted fan.	Clean the fan.
Loud boiling noise.	Presence of scale in the boiler.	Descale it.
Malfunctioning othwise originated.		Contact the after-sales service for any other kind of failure.

PLEASE NOTE: Do not connect the power supply directly to the electrical resistor.

5.7 AFTER-SALE SERVICE.

Only use original spare parts. Specify the exact type of boiler and serial number for any order.

Operations on electrical parts must be performed by skilled and qualified personnel pursuant to legislation in force.

If the power cable is damaged, it must be replaced by the after-sales service or similarly qualified personnel, due to safety concerns.

Scope of application of the warranty.

5.8 SCOPE OF APPLICATION OF THE WARRANTY.

The following faults are excluded from this warranty:

• **Abnormal environmental conditions:**

- Various damage caused by impact or falling during handling after leaving the factory.
- Placement of the device in a location subject to frost or bad weather (humidity, aggressive or poorly ventilated rooms).
- Use of water whose features do not comply with those set forth by the regulations in force on the matter.
- Water pressure above 0,5 MPa (5 bars).
- Electrical power with significant voltage spikes (mains, lightning, etc.).
- Damage from undetectable problems caused by choice of location (places difficult to access) and that could have been avoided if the appliance were repaired immediately.

• **Installation does not comply with regulations, standards, professional rules, especially:**

- Missing or incorrectly fitted new safety unit, modification of calibration, etc.
- Sleeveings (cast iron, steel or insulating) missing on hot water connection pipes, leading to their corrosion.
- Faulty electrical connection: incorrect earthing, inadequate cable section, connection of flexible cables without metal terminations, failure to comply with connection diagrams specified by the Manufacturer.

- Powering up the appliance without first filling it (dry heating).

- Placing the appliance without consideration of manual instructions.

- External corrosion caused by poor sealing on pipes.

• **Faulty maintenance:**

- Abnormal scaling of heating elements or safety units.
- No maintenance of safety unit, leading to excess pressure.
- No maintenance on magnesium anode (magnesium anode diameter must be 10mm at least).
- No cleaning of evaporator or condensate evacuation.
- Modification of original equipment, without notifying the manufacturer, or use of spare parts not recommended by the manufacturer.

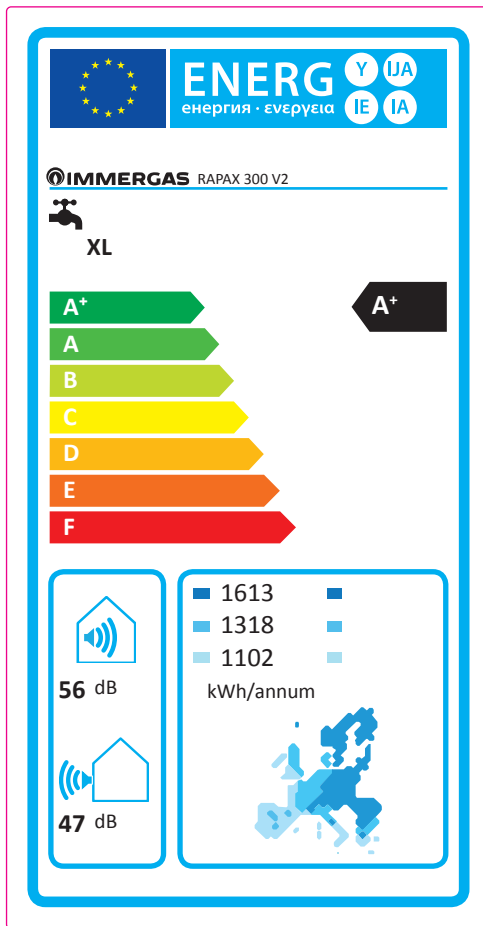
5.9 DECLARATION OF CONFORMITY.

In case of need the declaration of conformity is available at the manufacturer's.

- This device has been designed to serve one residential housing unit only (and similar) subject to assessment of the energy requirement for domestic hot water; it is not a heating system pursuant to the legislation in force".

6 PRODUCT FICHE (IN COMPLIANCE WITH REGULATION 812/2013).

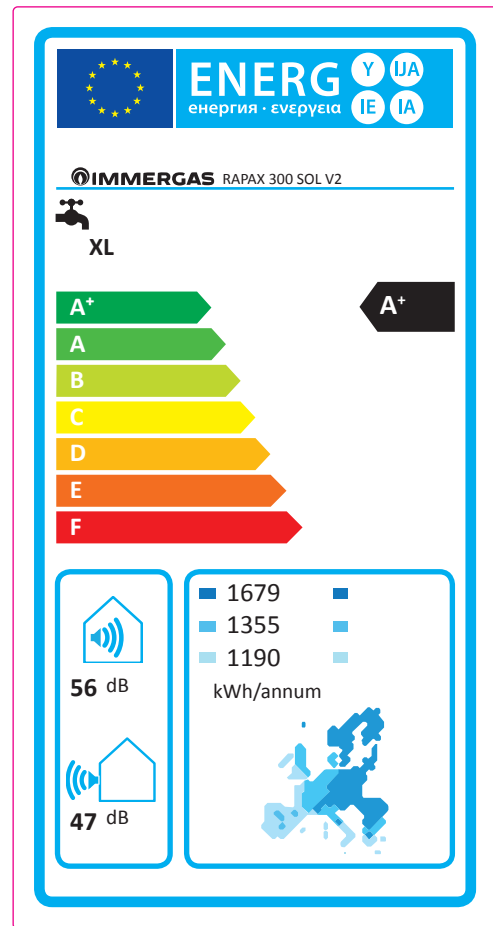
Rapax 300 V2



Parameter	value
Energy efficiency in normal climate conditions	127 %
Energy efficiency in colder climate conditions	103 %
Energy efficiency in warmer climate conditions	152 %
Annual energy consumption in average climate conditions	1318 kW/h
Annual energy consumption in colder climate conditions	1613 kW/h
Annual energy consumption in warmer climate conditions	1102 kW/h
Thermostat temperature	54 °C
Daily electrical power consumption	6,170 kW/h
V40	341 L

For proper installation of the appliance refer to chapter 1 of this booklet (for the installer) and current installation regulations. For proper maintenance refer to chapter 5 of this booklet (for the maintenance technician) and adhere to the frequencies and methods set out herein.

Rapax 300 Sol V2



Parameter	value
Energy efficiency in normal climate	124 %
Energy efficiency in colder conditions	100 %
Energy efficiency in warmer weather	141 %
Annual energy consumption in average climatic conditions	1355 kW/h
Annual energy consumption in colder weather	1679 kW/h
Annual energy consumption in warmer weather	1190 kW/h
Thermostat temperature	54 °C
Daily electrical power consumption	7,160 kW/h
V40	333 L

For proper installation of the appliance refer to chapter 1 of this booklet (for the installer) and current installation regulations. For proper maintenance refer to chapter 5 of this booklet (for the maintenance technician) and adhere to the frequencies and methods set out herein.

7 PARAMETERS FOR FILLING THE FORM OF THE WHOLE SYSTEM.

Should you wish to install a unit, starting from the heat pump boiler Rapax V2 or Rapax 300 Sol V2, use the diagram shown on fig. 7-3.

To fill it in correctly, enter the figures shown in table Fig. 7-2 (as shown in the package fiche facsimile Fig. 7-1).

The remaining values must be obtained from the technical data sheets of the products used to make up the assembly (e.g. solar devices, integration heat pumps, temperature controllers). Use sheet fig. 7-3 for “assemblies” related to the domestic hot water function (e.g.: boiler + solar thermal system).

Facsimile for filling in domestic hot water production system package fiche.

Water heating energy efficiency of combination heater

¹
 %

Declared load profile:

Solar contribution

From fiche of solar device

Auxiliary electricity

$$(1,1 \times \text{'1'} - 10\%) \times \text{'11'} - \frac{\text{'111'}}{\text{'1'}} = + \text{} \%$$

Water heating energy efficiency of package under average climate

³
 %

Water heating energy efficiency class of package under average climate

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
<input type="checkbox"/> M	< 27 %	≥ 27 %	≥ 30 %	≥ 33 %	≥ 36 %	≥ 39 %	≥ 65 %	≥ 100 %	≥ 130 %	≥ 163 %
<input type="checkbox"/> L	< 27 %	≥ 27 %	≥ 30 %	≥ 34 %	≥ 37 %	≥ 50 %	≥ 75 %	≥ 115 %	≥ 150 %	≥ 188 %
<input type="checkbox"/> XL	< 27 %	≥ 27 %	≥ 30 %	≥ 35 %	≥ 38 %	≥ 55 %	≥ 80 %	≥ 123 %	≥ 160 %	≥ 200 %
<input type="checkbox"/> XXL	< 28 %	≥ 28 %	≥ 32 %	≥ 36 %	≥ 40 %	≥ 60 %	≥ 85 %	≥ 131 %	≥ 170 %	≥ 213 %

Water heating energy efficiency under colder and warmer climate conditions

Colder: ³ - 0.2 x ² = %

Warmer: ³ + 0.4 x ² = %

The energy efficiency of the package of products provided far in this fiche may not correspond to its actual energy efficiency once installed in a building, as the efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Parameters for filling in DHW package assembly chart.

Parameter	Rapax 300 V2	Rapax 300 Sol V2
I'	112	111
II'	*	*
III'	*	*

* to be determined according to Regulation 812/2013 and transient calculation methods as per Notice of the European Community no. 207/2014.

7-2

Domestic hot water production system package fiche.

Water heating energy efficiency of combination heater

%

Declared load profile:

Solar contribution

From fiche of solar device

Auxiliary electricity

$(1,1 \times \text{---} - 10\%) \times \text{---} - \text{---} \text{---} =$

%

Water heating energy efficiency of package under average climate

%

Water heating energy efficiency class of package under average climate

	G	F	E	D	C	B	A	A ⁺	A ⁺⁺	A ⁺⁺⁺
<input type="checkbox"/> M	< 27 %	≥ 27 %	≥ 30 %	≥ 33 %	≥ 36 %	≥ 39 %	≥ 65 %	≥ 100 %	≥ 130 %	≥ 163 %
<input type="checkbox"/> L	< 27 %	≥ 27 %	≥ 30 %	≥ 34 %	≥ 37 %	≥ 50 %	≥ 75 %	≥ 115 %	≥ 150 %	≥ 188 %
<input type="checkbox"/> XL	< 27 %	≥ 27 %	≥ 30 %	≥ 35 %	≥ 38 %	≥ 55 %	≥ 80 %	≥ 123 %	≥ 160 %	≥ 200 %
<input type="checkbox"/> XXL	< 28 %	≥ 28 %	≥ 32 %	≥ 36 %	≥ 40 %	≥ 60 %	≥ 85 %	≥ 131 %	≥ 170 %	≥ 213 %

Water heating energy efficiency under colder and warmer climate conditions

Colder: - 0.2 x = %

Warmer: + 0.4 x = %

The energy efficiency of the package of products provided far in this fiche may not correspond to its actual energy efficiency once installed in a building, as the efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

7-3

Follow us

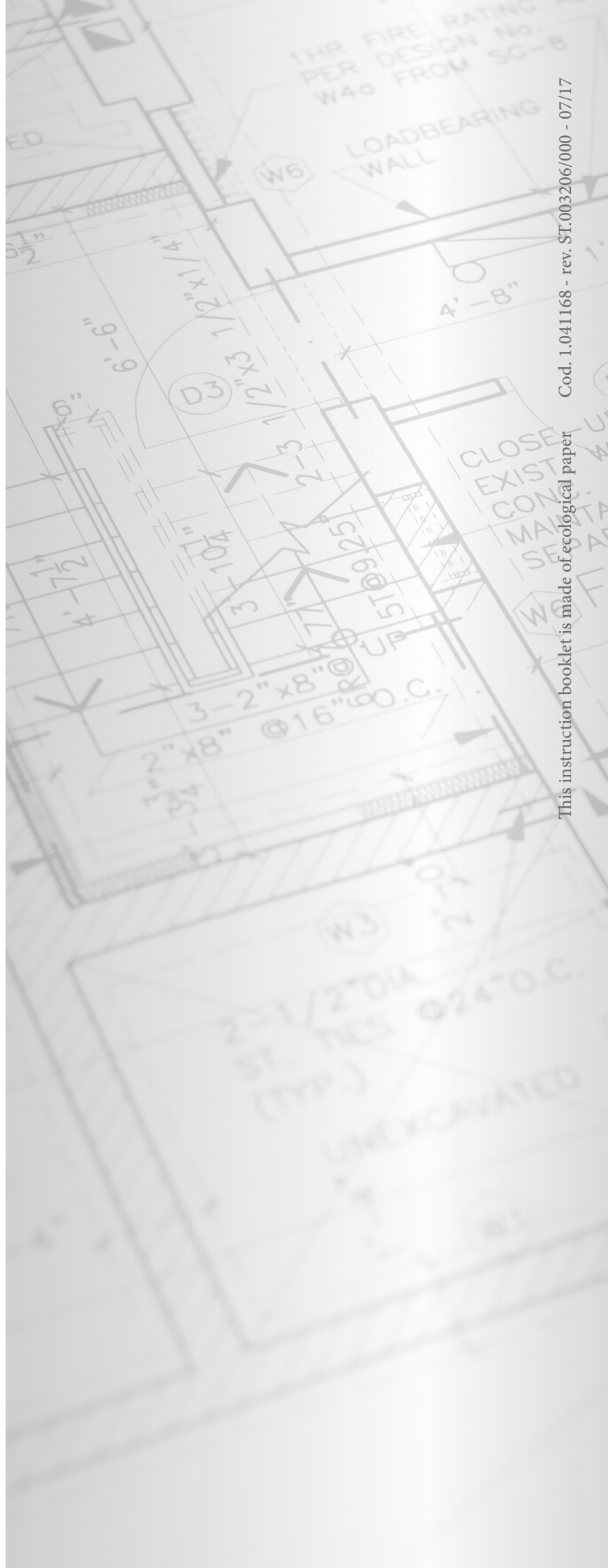
Immergas Italia



immergas.com

Immergas S.p.A.
42041 Brescello (RE) - Italy
Tel. 0522.689011
Fax 0522.680617

Certified company ISO 9001



Cod. 1.041168 - rev. ST.003206/000 - 07/17

This instruction booklet is made of ecological paper