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SAFETY REGULATIONS

CAUTION

This manual constitutes an integral and essential part of the product. It must be kept with care and accompany the product at all times, whether in case of transfer to a new owner / user or use on a new application.

Read the information and warnings given in this manual in full; they are essential to the safe installation, use and maintenance of the product.

Do not use the product for any purpose other than that specified in this manual. The manufacturer is not liable for damage resulting from improper use of the product or failure to install it as instructed herein.

All routine and extraordinary maintenance must be done exclusively by qualified staff using solely original spare parts. The manufacturer is not liable for damage resulting

Key to symbols:

⚠ Failure to comply with this warning implies the risk of personal injury, in some circumstances even fatal.

△ Failure to comply with this warning may result in serious damage to property, plants or animals.
The manufacturer is not liable for damage resulting from improper use of the product or failure to install it as instructed herein.

Install the appliance on a solid basement which is not subject to vibration.

△ Noisiness during operation.

When drilling holes in the wall for installation purposes, take care not to damage any electrical wiring or existing piping.

⚠ Electrocution caused by contact with live wires.

Damage to existing installations.

△ Flooding caused by water leaking from damaged pipes.

Perform all electrical connections using wires which have a suitable section.he electrical connection of the product must be done following the instruction manual in the relative paragraph.

⚠ Fire caused by overheating due to electrical current passing through undersized cables.

Protect all connection pipes and wires in order to prevent them from being damaged.

⚠ Electrocution caused by contact with live wires.

△ Flooding caused by water leaking from damaged piping.

Make sure the installation site and any systems to which the appliance must be connected comply with the applicable norms in force.

⚠ Electrocution caused by contact with live wires which have been installed incorrectly.

△ Damage to the appliance caused by improper operating conditions.

Use suitable manual tools and equipment (make sure in particular that the tool is not worn out and that its handle is fi xed properly); use them correctly and make sure they do not fall from a height. Replace them once you have fi nished using them.

⚠ Personal injury from the falling splinters or fragments, inhalation of dust, shocks, cuts, pricks and abrasions.

△ Damage to the appliance or surrounding objects caused by falling splinters, knocks and incisions.

Use electrical equipment suitable for its intended use (in particular, make sure that the power supply cable and plug are intact and that the parts featuring rotary or reciprocating motions are fastened correctly); use this equipment correctly; do not obstruct passageways with the power supply cable, make sure no equipment could fall from a height. Disconnect it and replace it safely after use.

⚠ Personal injury caused by falling splinters or fragments, inhalation of dust, knocks, cuts, puncture wounds, abrasions, noise and vibration.

△ Damage to the appliance or surrounding objects caused by falling splinters, knocks and incisions.

Make sure any portable ladders are positioned securely, that they are suitably strong and that the steps are intact and not slippery and do not wobble when someone climbs them. Ensure someone provides supervision at all times.

⚠ Personal injury caused by falling from a height or cuts (stepladders shutting accidentally).

Make sure any rolling ladders are positioned securely, that they are suitably strong, that the steps are intact and not slippery and that the ladders are fitted with handrails on either side of the ladder and parapets on the landing .

⚠ Personal injury caused by falling from a height.

During all work carried out at a certain height (generally with a difference in height of more than two meters), make sure that parapets are used to surround the work area or that individual harnesses are used to prevent falls. The space where any accidental fall may occur should be free from dangerous obstacles, and any impact upon falling should be cushioned by semi-rigid or deformable surfaces.

⚠ Personal injury caused by falling from a height.

Make sure the workplace has suitable hygiene and sanitary conditions in terms of lighting, ventilation and solidity of the structures.

⚠ Personal injury caused by knocks, stumbling etc.

Protect the appliance and all areas in the vicinity of the work place using suitable material.

△ Damage to the appliance or surrounding objects caused by falling splinters, knocks and incisions.

Handle the appliance with suitable protection and with care.

△ Damage to the appliance or surrounding objects from shocks, knocks, incisions and squashing.

During all work procedures, wear individual protective clothing and equipment. It is forbidden to touch the product installed, without shoes or with parts of the body are wet.

⚠ Personal injury caused by electrocution, falling splinters or fragments, inhalation of dust, shocks, cuts, puncture wounds, abrasions, noise and vibration.

Place all debris and equipment in such a way as to make movement easy and safe, avoiding the formation of any piles which could yield or collapse.

△ Damage to the appliance or surrounding objects from shocks, knocks, incisions and squashing.

All operations inside the appliance must be performed with the necessary caution in order to avoid abrupt contact with sharp parts.

⚠ Personal injury caused by cuts, puncture wounds and abrasions.

Reset all the safety and control functions affected by any work performed on the appliance and make sure they operate correctly before restarting the appliance.

⚠ Explosions, fires or asphyxiation caused by gas leaks or an incorrect flue gas exhaust.

△ Damage or shutdown of the appliance caused by out-of-control operation.

Before handling, empty all components that may contain hot water, carrying out any bleeding if necessary.

⚠ Personal injury caused by burns.

Descale the components, in accordance with the instructions provided on the safety data sheet of the product used, airing the room, wearing protective clothing, avoid mixing diff erent products, and protect the appliance and surrounding objects.

⚠ Personal injury caused by acidic substances coming into contact with skin or eyes; inhaling or swallowing harmful chemical agents.

△ Damage to the appliance or surrounding objects due to corrosion caused by acidic substances.

If you detect a smell of burning or smoke, keep clear of the appliance, disconnect it from the electricity supply, open all windows and contact the technician.

⚠ Personal injury caused by burns, smoke inhalation, asphyxiation

Don't step upon the external and internal unit.

⚠ Personal injury or damages to the appliance.

Never leave the external unit open, without its housing, for longer than strictly necessary for installation.

⚠ The equipment may be damaged by bad weather.

WARNING:

All operation concerning installation, maintenance, and other malfunction shall be done by qualified staff.

Do not leave flammable material in the vicinity of the system. Make sure that all components of the system are positioned as required by regulations.

In the presence of noxious vapour or dust in the area of installation, install a separate air handling system for the product.

Do not place fluid containers and other foreign objects on the internal or external units.

Do not place flammable material in the vicinity of the installation.

Do not use the external unit for treating water from industrial processes, swimming pools or domestic water.

In such cases, install a heat exchanger upline of the external unit.

The device is not intended to be used by people (including children) of reduced physical, sensory or mental capacity, or who are not familiar or experienced with the equipment, unless they have been trained or are supervised in the use of the equipment by a person responsible for their safety.

Children must be supervised to ensure that they do not play with the equipment or its packaging (staples, plastic bags, polystyrene protection, etc.)

The product's protection panels and all maintenance and hookup of electrical equipment must be done by qualified staff.

WARNING!

This appliance can be used by children aged from 8 years and above and person with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

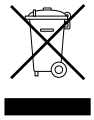
Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.a da bambini senza sorveglianza.

CE Labelling

appliance complies with norms:

- 2014/30/EU - relating to Electromagnetic Compatibility
- 2014/35/EU - related to electrical safety (LVD)
- RoHS2 2011/65/EU related to the restriction of the use of certain dangerous substances in electrical and electronic equipment (EN 50581)
- Regulation (EU) No. 813/2013 on ecodesign (no. 2014/C 207/02 - transitional methods of measurement and calculation)

This product conforms to Directive WEEE 2012/19/EU.



The symbol of the crossed waste paper basket on the appliance indicates that at the end of its working life the product should be disposed of separately from normal domestic household rubbish, it must be disposed of at a waste disposal centre with dedicated facilities for electric and electronic appliances or returned to the retailer when a new replacement product is purchased.

The user is responsible for the disposal of the product at the end of its life at an appropriate waste disposal centre.

The waste disposal centre (which using special treatment and recycling processes effectively dismantles and disposes of the appliance) helps to protect the environment by recycling the material from which the product is made.

For further information about waste disposal systems visit your local waste disposal centre or the retailer from which the product was purchased.

Cleaning the heating system

At the first installation, it is necessary to pre-clean the installation.

In order to ensure the proper functioning of the appliance, after each cleaning operation or water substitution, verify that the appearance of the liquid system is clear, without visible impurities and that water hardness is under 20°F.

Characteristics of the water supplied to the appliance

Ensure that the system is supplied with water having a maximum hardness of 20 ° F.

For areas where the water is particularly hard, provide a water softener does not change in any way the warranty, if the component is installed in a proper manner and is subject to regular checks and maintenance.

In particular, the hardness of the water supplied to the appliance, must never be less than 12 ° F.

In case of aggressive water filling (the pH should be kept between 6.6 and 8.5), ferruginous or hard, use treated water in order to prevent scaling, corrosion and damages to the appliance. Please note that even a small amount of impurities in the water may decrease the performance of the installation.

The used filling water must absolutely be treated in case of installation of large capacity (high volumes of water) or in case of frequent replenishments of water in order to maintain a constant level of liquid in the installation. Where it is necessary to proceed with the cleaning of the installation, fill the entire system with treated water.

Verify that the maximum pressure, at the level of the water supply, does not exceed 5 bar. Otherwise, provide the installation with a pressure reducer valve.

SYSTEM DESCRIPTION

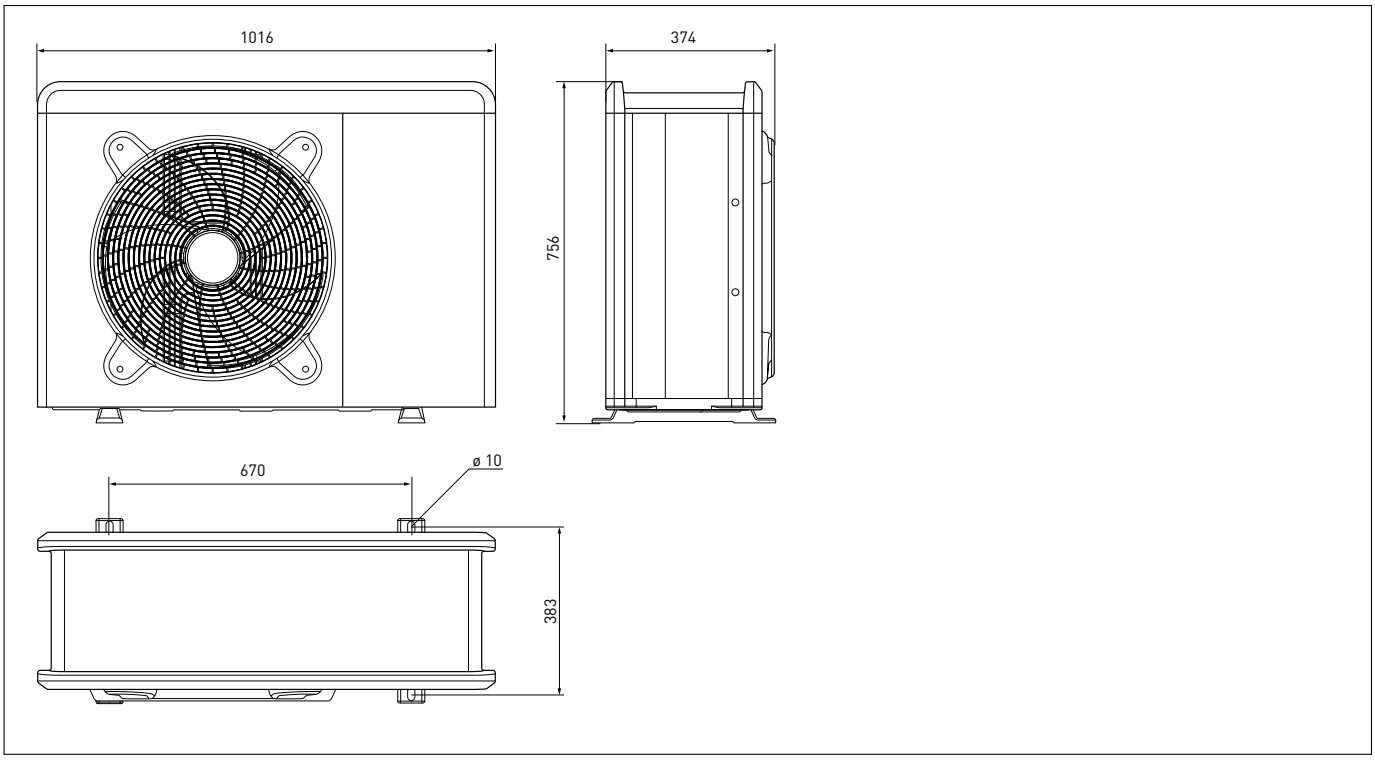
System composition
NIMBUS POCKET M NET System consists of:
- External unit
- Internal unit
- System interface
- Outdoor sensor
- Sensys Net for connectivity

For more information on available accessories, please refer to the product catalogue.

EXTERNAL UNIT
As external unit, one of the following models is provided:
- NIMBUS 40 M EXT
- NIMBUS 50 M EXT
- NIMBUS 70 M EXT
- NIMBUS 70 M-T EXT
- NIMBUS 90 M-T EXT
- NIMBUS 110 M-T EXT

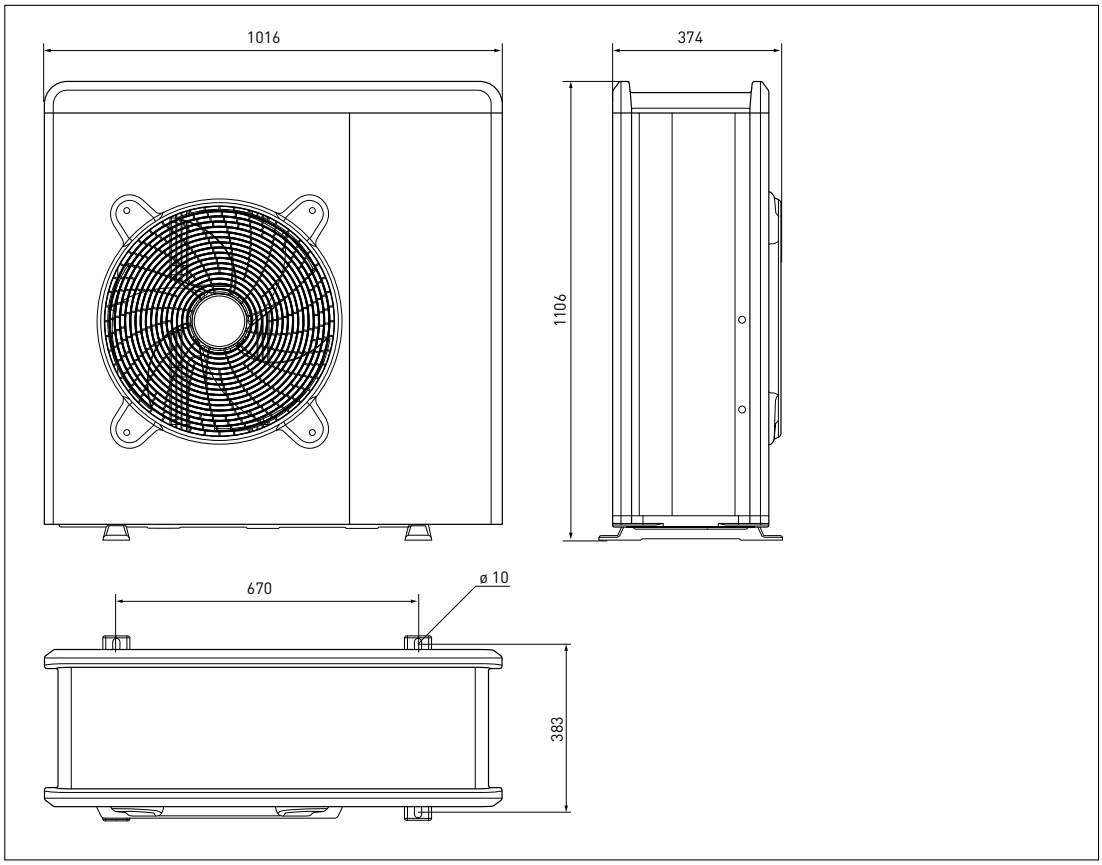
Weights and dimensions (mm)

40-50 M EXT

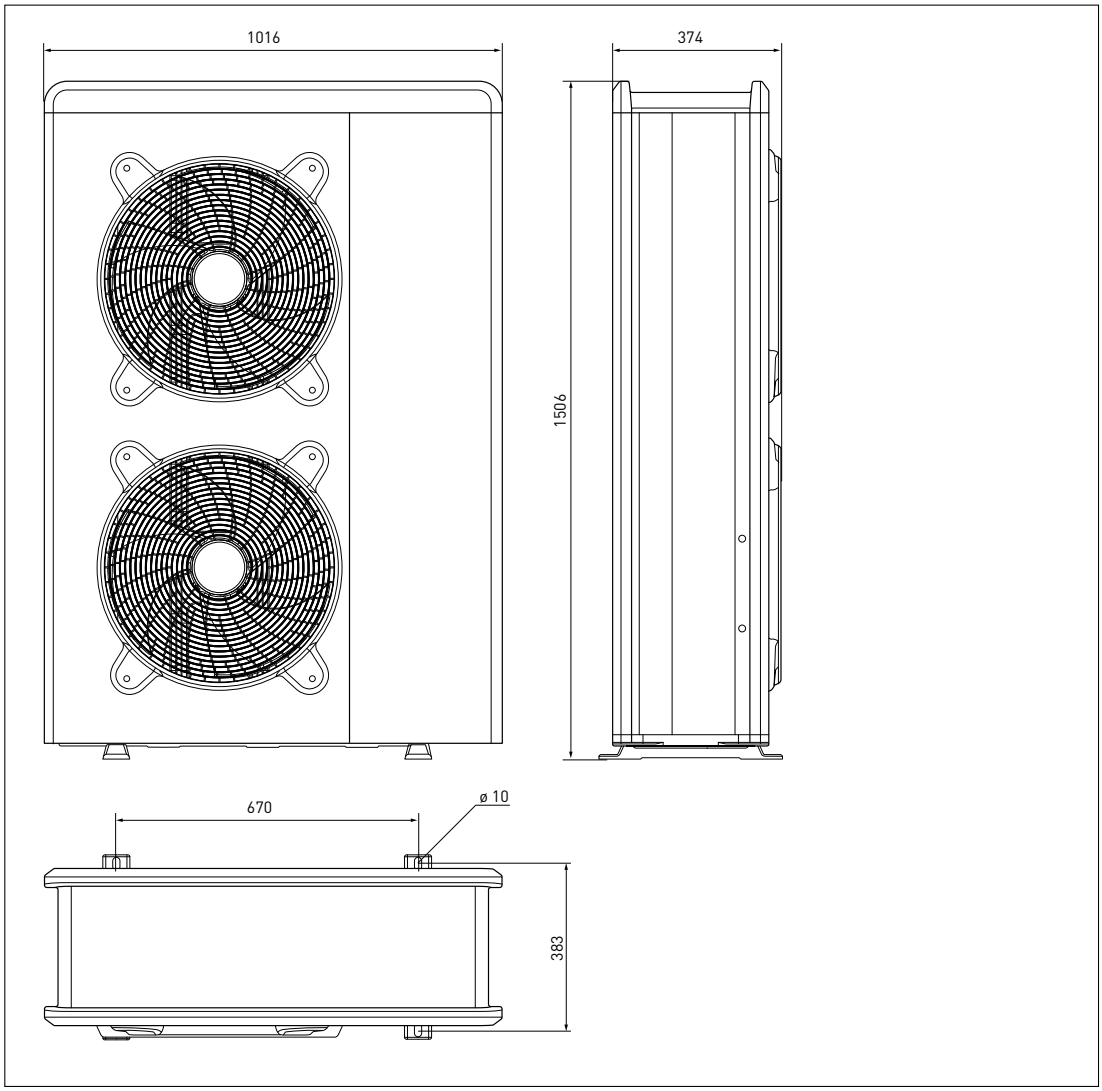


EXTERNAL UNIT	Weight kg
40 M EXT	63
50 M EXT	63
70 M EXT	94
70 M-T EXT	102
90 M-T EXT	125
110 M-T EXT	125

70 M - 70 M-T EXT

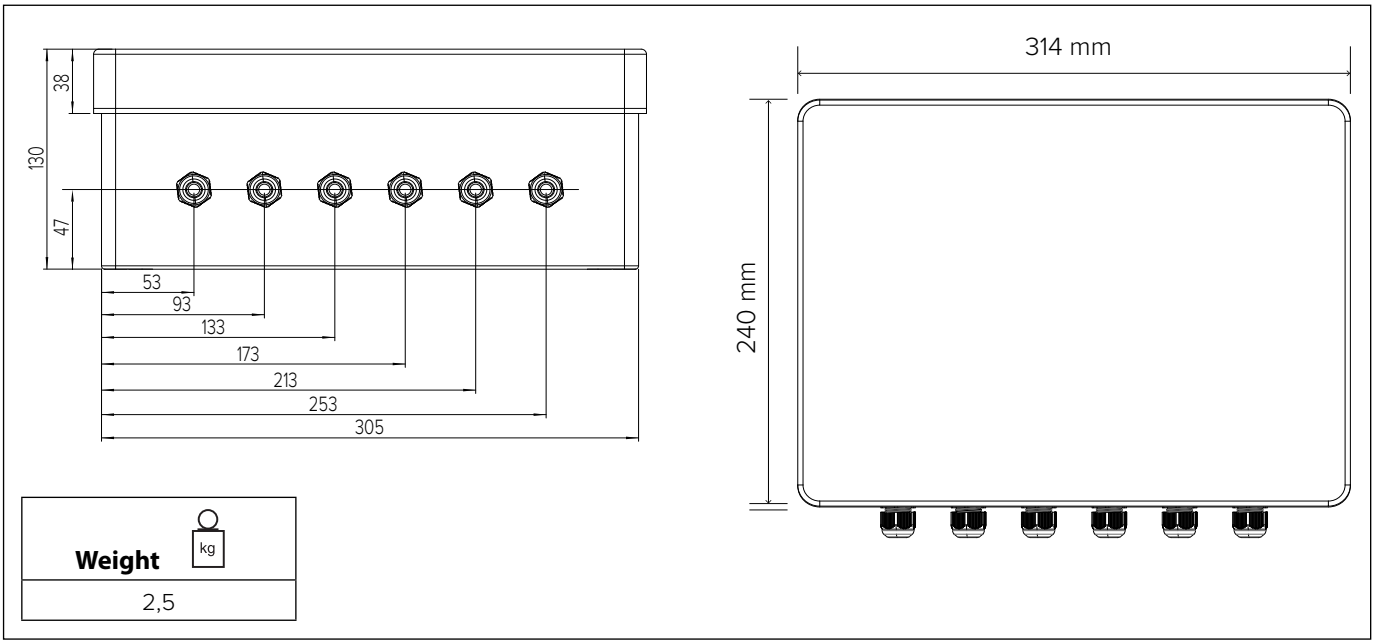


90 -110 M-T EXT

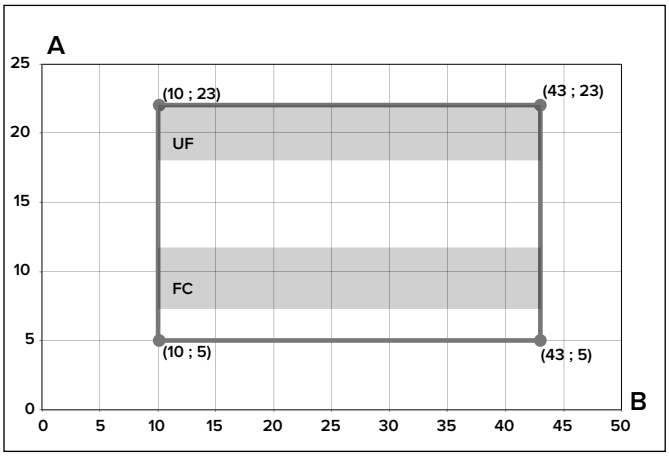


INTERNAL UNIT

Weights and dimensions (mm)

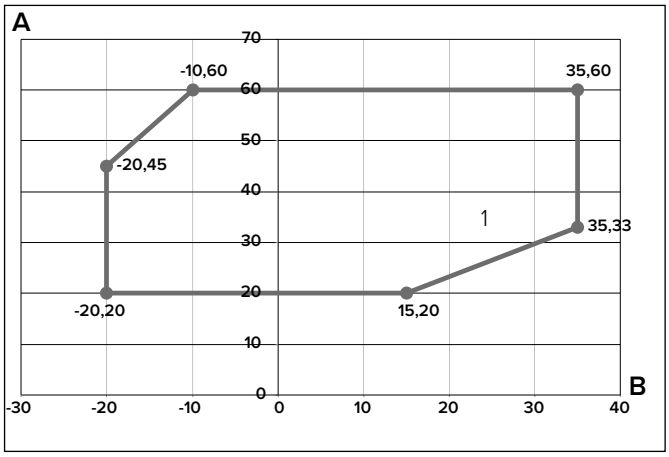


Restrictions of cooling operation



A - Flow water temperature (°C)
B - External air temperature (°C)

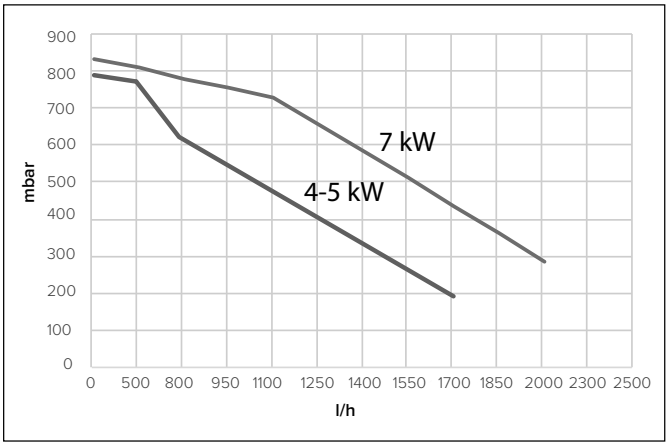
Restrictions of heating operation



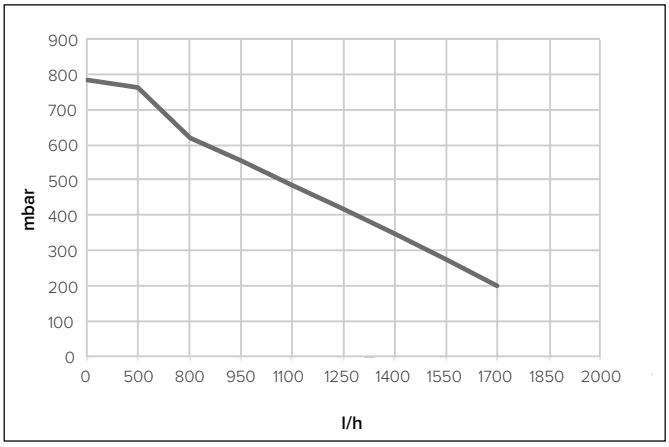
Example: 1B = 35 and A = 33

AVAILABLE PRESSURE

Pressure available for distribution on the installation.



Available pressure for sizes: 40 M - 50 M - 70 M - 70 MT EXT



Available pressure for sizes: L - XL EXT

System Size	Flowmeter OFF Threshold [l/h]	Flowmeter ON Threshold [l/h]	Nominal flow rate [l/h]
40 M EXT	280	360	640
50 M EXT	350	450	800
70 M EXT	490	630	1120
70 M-T EXT	490	630	1120
90 M-T EXT	630	810	1440
110 M-T EXT	770	990	1755

Available pressure

The curves indicated above show the available pressure of internal units.

In order to have a correct sizing of the system, the pressure drop curve of the entire circuit (in function of the nominal flow rate) must stay below the available pressure curve everywhere. Pressure drop values depend on the specific installation.

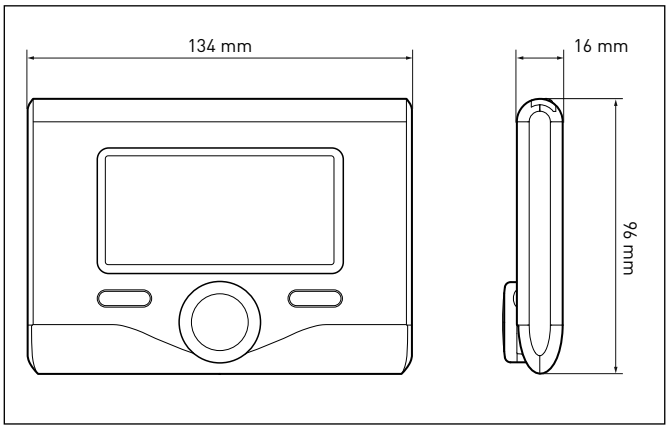
You can install a supplementary circulation pump if the module's own unit is not powerful enough. For the electrical hookup, refer to «Electrical circuit».

Warning: in case of installation of thermostatic valves on all terminals or zone valves, install a bypass to ensure the minimum operating flow rate.

Compressor Frequency

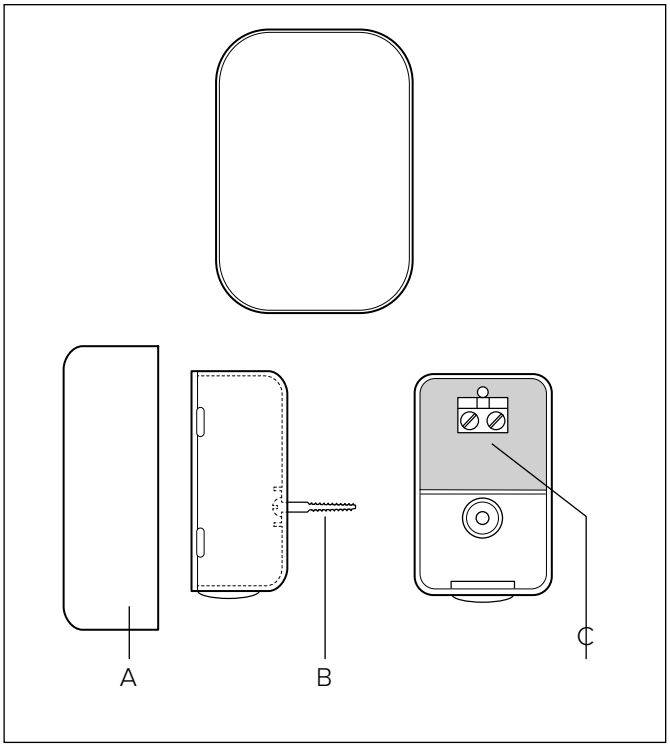
Heat Pump	Frequency min [Hz]	Frequency max (heat) [Hz]	Frequency max (cool) [Hz]
4 kW	18	80	65
5 kW	18	100	80
7 kW	18	90	70
9 kW	18	75	57
11 kW	18	90	70

SYSTEM INTERFACE



TECHNICAL DATA	
Power supply	BUS
Electrical absorption	max. < 0,5W
Operating temperature	-10 ÷ 60°C
Storage temperature	-20 ÷ 70°C
Bus wire length and cross-sectional area NOTE: TO AVOID INTERFERENCE PROBLEMS, USE A SHIELDED CABLE OR TWISTED PAIR CABLE.	max. 50 m min. 0.5 mm^2
Buffer memory	2 h
Conformity LVD 2014/35/EU - EMC 2014/30/EU	CE
Electromagnetic interference	EN 60730-1
Electromagnetic emissions	EN 60730-1
Conformity to standards	EN 60730-1
Temperature sensor	NTC 5 k 1%
Resolution degree:	0,1°C

OUTDOOR SENSOR



Position the outdoor sensor on the north-facing wall of the building, at least 2.5 m from the ground and away from direct sunlight.
Remove the cover and install the sensor using the rawl plug and screw provided. Perform connection using a 2x0.5 mm2 wire.
Maximum connection length 50 m. Connect the wire to the terminal by introducing it from the lower part after creating a suitable passage.
Place the sensor cover back in the correct position.

PRODUCT FICHE (valid from September 26th, 2015)		
SUPPLIER'S NAME	ARISTON	
SUPPLIER'S MODEL IDENTIFIER	SENSYS	OUTDOOR SENSOR
Class of the temperature control	V	II
Contribution to seasonal space heating energy efficiency in %	+3%	+2%
Adding an ARISTON OUTDOOR SENSOR:		
Class of the temperature control	VI	--
Contribution to seasonal space heating energy efficiency in %	+4%	--
In a 3-zones system with 2 ARISTON ROOM SENSORS		
Class of the temperature control	VIII	--
Contribution to seasonal space heating energy efficiency in %	+5%	--

INSTALLATION GUIDE

Warning

The appliance must be installed by a qualified technician in possession of the skills required by law.

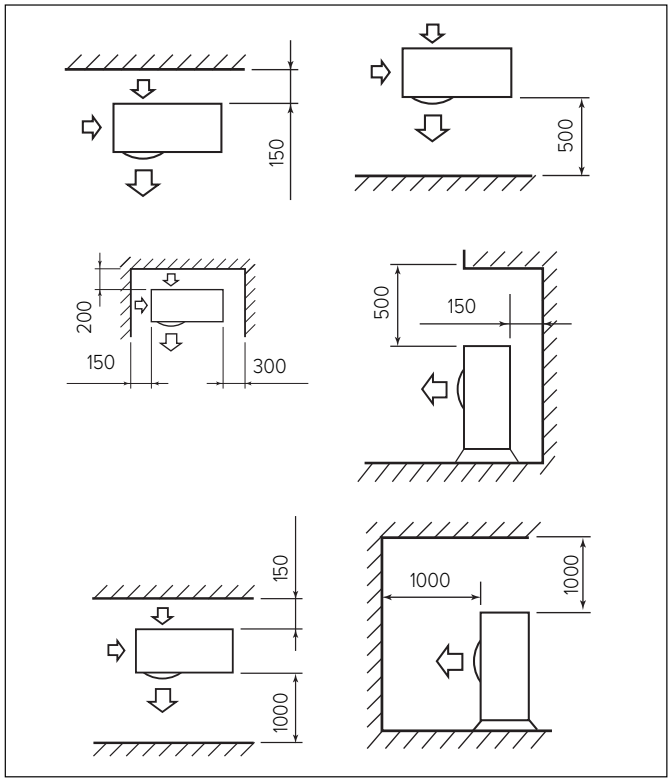
Before installing the appliance

- The outdoor unit uses an ecological refrigerant liquid (type HFC R-410A) that does not affect the integrity of the ozone layer. Refrigerant R-410A operates at a pressure 50-70% higher than refrigerant R22. Make sure that all the materials used for maintenance and to fill the components can be used with refrigerant R-410A.
- The bottles containing refrigerant R-410A are equipped with a dip tube which allows the liquid to flow only when placed in a vertical position with the valve in the upper position.
- The appliance should be filled with the indicated refrigerant R-410A. Apply a dispenser, available on the market, on the pipe sleeve, in order to vaporize the refrigerant before it flows in the external unit.
- The refrigerant R-410A, as all HFC fluids, is only compatible with the oils recommended by the compressor manufacture.
- The vacuum pump is not sufficient to completely eliminate the presence of humidity in the oil.
- POE type oils quickly absorb humidity. Do not expose oil to air.
- Never open the appliance when it is in vacuum conditions.
- Do not throw the refrigerant R-410A in the environment.
- Ensure that, during the installation of the external unit, all national regulations in terms of safety are observed.
- Make sure that the appliance is connected properly to the ground. Check that the voltage and frequency of power supply match those necessary to the external unit and that the installed capacity is sufficient to allow the functioning of the appliance itself.
- Check that the impedance of the supply net corresponds to the power input from the external unit as shown on the data plate of this unit (EN 61000-3-12).
- Check that safety switches are correctly sized and connected to the external unit.

Choice of placement

- Avoid a mounting where the ODU is surrounded by walls
- Avoid a mounting in sinks. Cold air sinks down and by that air short circuit could occur.
- Avoid positioning the external unit in places which are difficult to access for the subsequent installation and maintenance.
- Avoid placing it near sources of heat.
- Avoid placing it in places where the external unit is subjected to continuous vibration.
- Do not place the external unit on structures that do not guarantee support.
- Avoid placing it in close proximity to fuel tanks of gas.
- Avoid a positioning that provides exposure to oil vapors.
- Avoid a positioning characterized by particular environmental conditions.
- Choose a location where noise and air discharged from the outdoor unit will not disturb the neighbors.
- Choose a position sheltered from the wind.
- Provide a placement that allows the compliance to the required installation distances.
- Avoid placing it in a location that prevents access to ports and / or passageways.
- The structure of the soil surface should be able to support the weight of the external unit and reduce as much as possible vibrations.
- If the external unit is installed in a location where there are abundant snowfall, install the unit at least 200 mm above the usual level of fallen snow or use a support bracket.
- External unit must be installed on antivibration support.

Minimum distances to installation (mm)

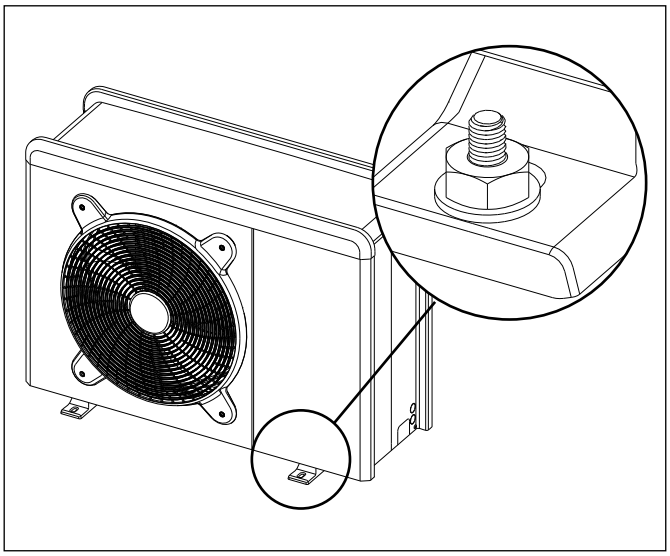


WARNING:
Define where the units will be located taking into account the minimum installation clearances in mm shown here above.
Note: The distances indicated here above are the minimum for a good unit operation. To avoid abnormal noise, echoes and resonances increase this distances especially on the front side of the units. The height of the obstacles at both front and side should be lower than the height of the outdoor unit.

⚠ Attention

Before installation, check strength and horizontality of the base. Based on the pictures, connect the base of the external unit firmly to the ground, using suitable anchor bolts (M10 x 2 pairs).

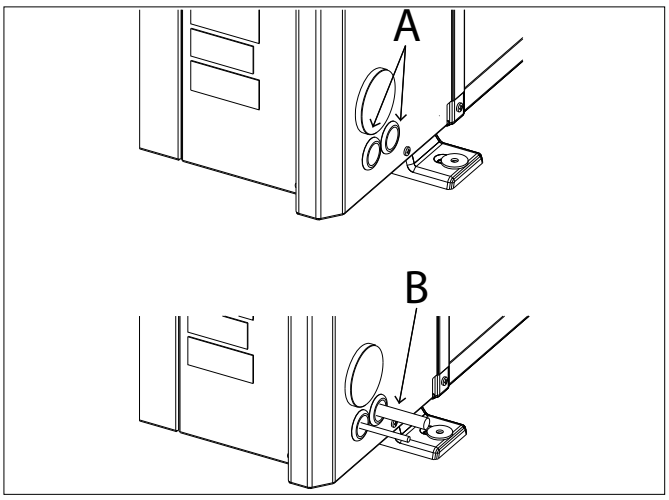
If the external unit should be exposed to significant air flow, protect the fan using a protective screen and verify the proper positioning and functioning.



1. Opening procedure for lateral passages

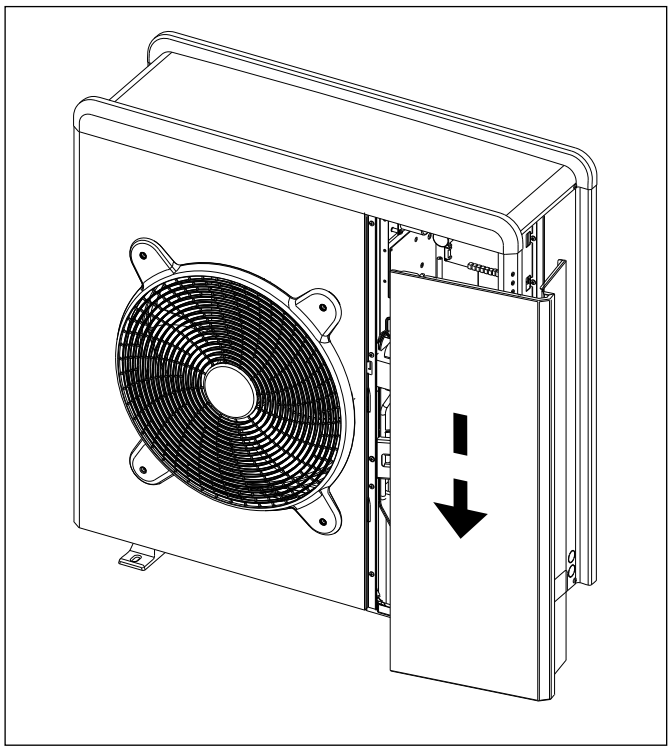
To allow the passage of cables, remove, with the help of a screwdriver, the precut parts (A) of the chassis of the external unit. To effectively remove the material, keep the front panel of the unit installed.

Prior to the passage of the cables, place the black grommets (B) provided within the document envelope.



2. Removal of frontal panel

Remove the screws that block the frontal panel and pull it forward and down.



INTERNAL UNIT

Preinstallation

The NIMBUS POCKET M NET is designed for wall installation. Make sure that all module components are intact following transport and handling and have not been damaged by knocks.
In case of evident damages to the product, do not proceed with installation.

CAUTION

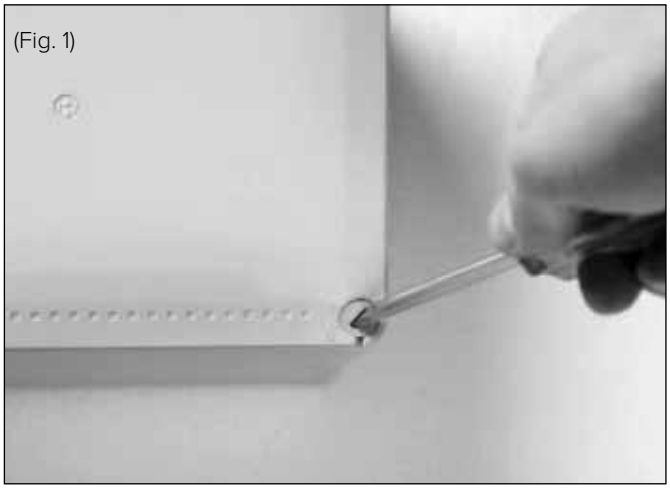
When drilling the wall, take care not to damage any existing electrical wiring or piping.

WALL INSTALLATION

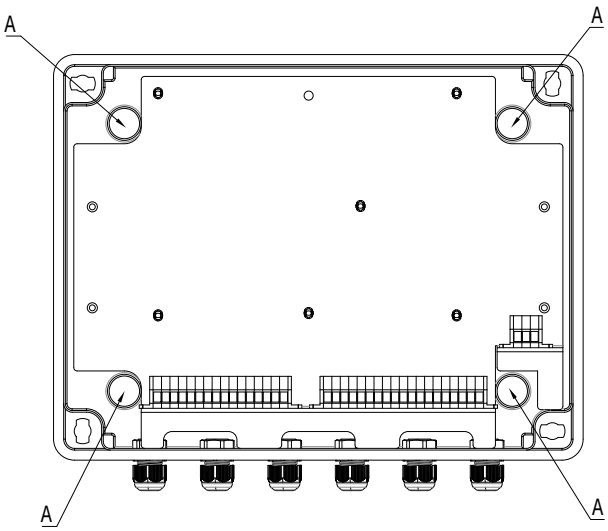
The first step is to remove the box cover: with a screwdriver turn all the four blocking screws 90 degrees (1)
In the fourth angle of the box there are four precut holes (2).
Now you can proceed as follow:

- drill four holes in the box with a 3.5mm tip (A);
- after identifying a suitable wall, drill a hole in it with a 6mm tip and insert one of the four wall plugs provided;
- hang the light box on the wall and insert in one of the four holes with one of the fixing screws;
- take a spirit level and put the box horizontally
- after this you can drill the other 3 holes from the box with a 3.5mm tip;
- now you remove the box and increase those holes with a 6mm tip and insert the other three wall plugs;
- now you can fix the box with the remaining fixing screws;
- making the electrical connections according to the specific paragraph;
- close and block the cover.

(Fig. 1)



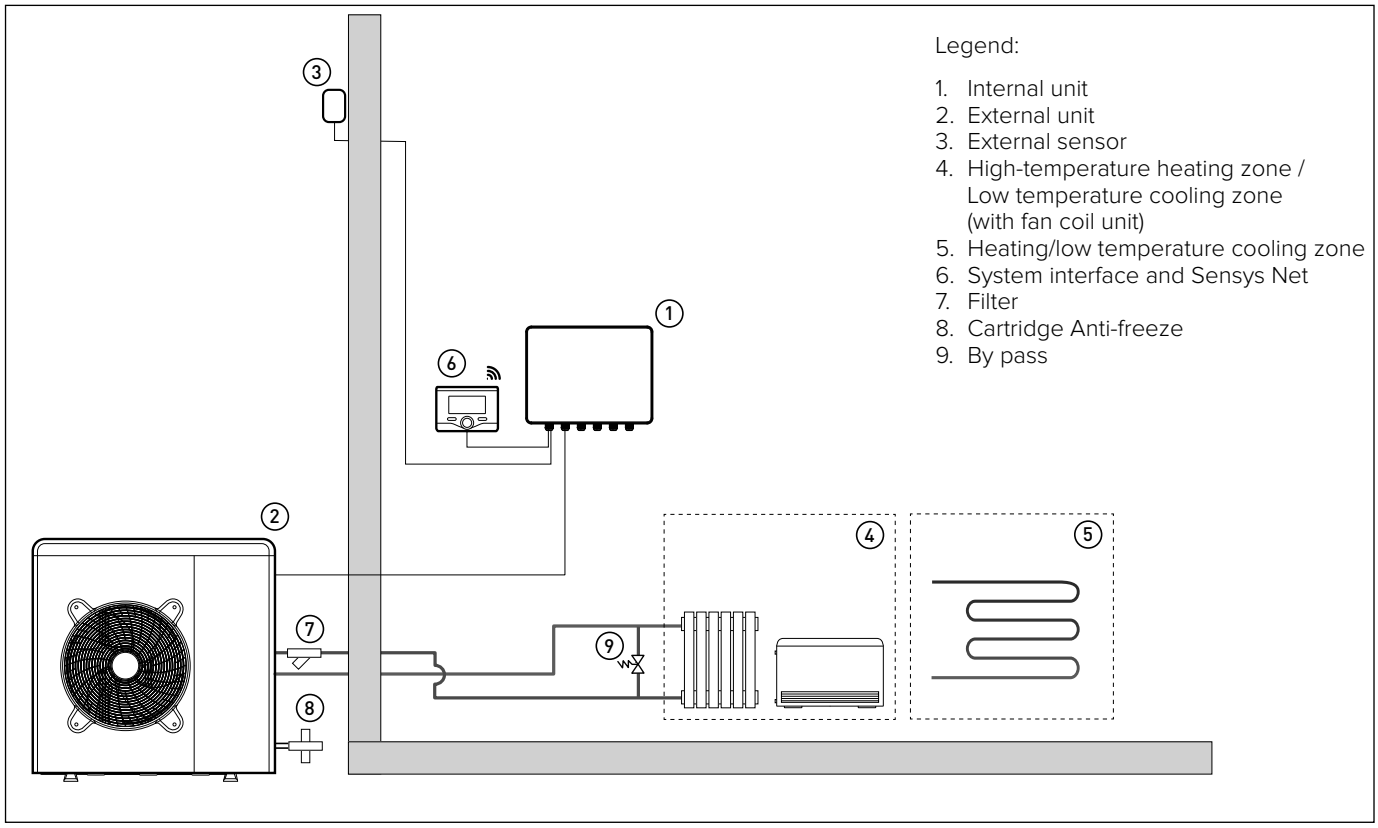
(Fig. 2)



FINAL INSTALLATION OF THE WHOLE SYSTEM

⚠ Attention
The electrical connections are made after completing all hydraulic connections

The circulation pump which drives the fluid between the external unit and the heating/cooling system in positioned in the external unit. The Light box is consisted in one box in which are contained the electrical blocks: low voltage, high voltage and power supply.



NOTE: Installation with under-floor systems
For under-floor installations, make sure to install a safety device on the heating delivery circuit, as required by DTU 65.11. For the thermostat hookup, refer to "Electrical connections".
If the delivery temperature is too high, the system stops in both domestic hot water and heating/cooling modes, and the remote control will report error cod 116 "Under-floor heating thermostat open". The system will start again when the manual re-arm thermostat is closed.

ELECTRICAL WIRING

⚠ ATTENTION
The electrical connections shall be made after completing all hydraulic connections.

The internal and external units must be powered separately according to what is indicated on the tables. Between the internal and external units should also be made a MOD BUS connection. This connection may be made through the use of a cable of reduced section (recommended section 0,75 mm^2). Do not let this cable walk along a power connection.

Electrical circuit
- Check that the voltage and frequency of power supply from the network coincide with the data shown in the data plate of the appliance (see table)
- In order to ensure greater security, the main electrical system should be checked by a qualified technician before proceeding with the installation (see note).
- The manufacturer is not liable for any damage caused by installation with improper grounding or abnormalities in the electrical system.
- Check that the installation is adequate to support the power consumption of the installed units, indicated on the data plate of the product.
- The electrical connections must be carried out with the aid of a fixed supply connection (do not use mobile sockets) and equipped with a bipolar switch, having a distance between the contacts of at least 3 mm.
- It is essential to connect the appliance to a correctly grounded electrical circuit, as to ensure the safety of the installation. It is also forbidden to use for the grounding of the system and the hydraulic connection of the heating tubes.
- The manufacturer is not liable for any damage caused by installation with improper grounding or implant level anomalies electric.
- Connect the power cord to a 230V-50Hz or (400V-50Hz), verifying the polarizations of the L-N (or L1, L2, L3, N) connection and the connection to the earth. The section of the used cables must comply with the power of the installation (see plate characteristic).
- For the electrical connection of the installation, you shall not use power strips, extension cords and adapters. It is also prohibited to use the hydraulic pipes and heating system pipes to ground the installation.

The system is not protected against lightning. If you need to change the fuses, use fast fuses.
Warning: Before obtaining access to terminals, all supply circuits must be disconnected.

TABLE OF ELECTRICAL CONNECTIONS

EXTERNAL UNIT		**40 M EXT**	**50 M EXT**	**70 M EXT**	**70 M-T EXT**	**90 M-T EXT**	**110 M-T EXT**
Nominal running current / phase	A	6.4	8	11	3.8	6	7.3
Maximum running current / phase	A	9	11	16	5.4	8.4	10
Circuit breaker size (*)	A	16-C type	16-C type	20-C type	10-C type	12-C type	12-C type
Nominal Voltage	V	230	230	230	400	400	400
Operating voltage limits	V	216-243	216-243	216-243	376-424	376-424	376-424
Cos phi		> 0,9					
Power supply cable	Reference	H07RN-F					
		3G2.5	3G2.5	3G2.5	5G2.5	5G2.5	5G2.5
	Max ϕext	16.2	16.2	16.2	19.9	19.9	19.9
Communication cable	Reference	H05RN-F					
	Type	2x0.75mm^2					

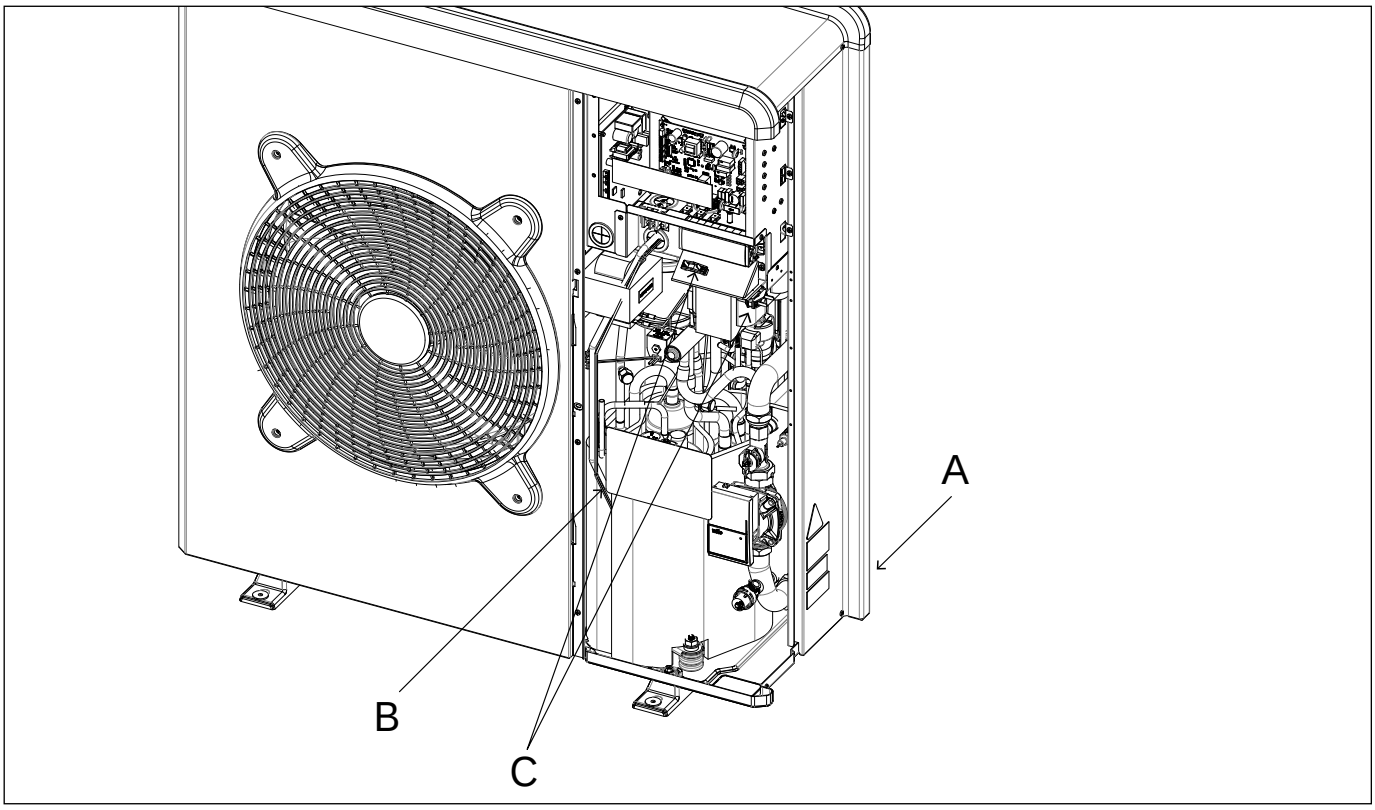
(*) For the installations in ERDF network it is better to follow the instructions provided by "SeQuelec" and use the circuit breaker type D.

INTERNAL UNIT		
Electrical supply	V - ph - Hz	230 - 1 -50
Admitted voltages field	V	196 ÷ 253
Rated power input	kW	10
Max current	mA	25 (nominal) - 140 (maximal)
Thermal cutout/ differential circuit breaker	A	20A - type C
Supply cable dimensions		2x0.75 mm^2

Wiring signal EDF, AFR, PV	mm^2	H07RN-F 2 x 0,75 mm^2

N.B. It is strongly recommended to separate the supply cables from the communication cables.

WARNING:
Make ground connection prior to any other electrical connections.
The internal and external units must be powered separately.
To prevent any risk, the power supply cable of the outdoor and indoor unit must only be replaced by the technicians of the after-sales service.



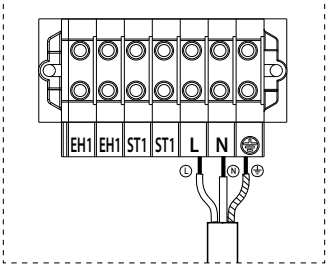
External Unit electrical connection

- When removing the front panel, the electric parts appear at the front side.
- The power supply cables can be inserted into the precut holes (A) in the back (Take off the knockout part)
- Be sure to fix the power cable (B) and indoor/outdoor communication cable with all the clips provided into the units and if necessary add bundling bands sold on the market in order to be sure that they will not be in contact with the compressor and the hot pipes.
- To ensure good tensile strength, the electric cables must be fastened using the cable-holder on the plate (C).
- Connect the communication cable to the terminals as identified by their respective numbers on the terminal block of indoor and outdoor unit.

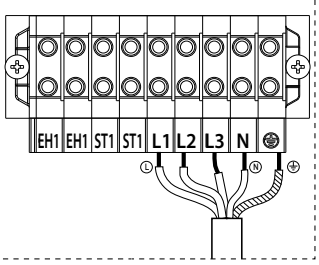
According to the installation instructions, all devices for disconnection from the power supply mains must have a contact opening (4 mm) to allow total disconnection according to the condition provided for the overvoltage class III.

Warning: Before obtaining access to terminals, all supply circuits must be disconnected.

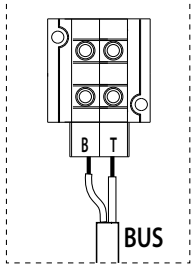
External unit terminal block 1Ph



External unit terminal block 3Ph



Bus terminal block



EH1 - Antifreeze electric heaters for water piping.
ST1 - Safety thermostat connection (230 V) for under-floor system (shunt connection).

Internal Unit electrical connection

Before any operation on the system, turn off the main power. Observe the phase and neutral connections.

To access the control panel of the internal unit, proceed as follows: Remove the three screws (A) indicated in figure and remove the cover of the electrical panel (B).

When opening the internal unit, you will find the following connections:

ANODE - Tank Protech anode connection. Observe the electrical polarities.

TA1 - Ambient contact thermostat connection, zone 1.

TA2 - Ambient contact thermostat connection, zone 2.

SE - Outdoor temperature sensor connection.

TNK - Tank sensor connection.

BUF - Buffer sensor connection.

BUS - BUS connection for System interface and BUS connection between internal and external unit.

IN-AUX - Humidistat/auxiliary input connection.

HV IN 3 - 230V Input. Select the operation mode by the parameter 17.1.2.

PV Integration: through this input is possible to use the DHW tank as energy storage in case of a surplus of energy production by a PV system. Connect the output contact from an energy meter to the PV input, the output contact is closed when the energy production is higher than a threshold settable on the energy meter.

HV IN 1 - 230V Input. Select the operation mode by the parameter 17.1.0.

- EDF (Night tariff): applying a 230V signal to the input the tank charge is enabled according to the DHW modes HC-HP or HC-HP 40°C selectable by the parameter 17.5.2
- SG Ready 1: input signal nr 1 for the SG Ready standard (see paragraph SMART GRID READY STANDARD).

HV IN 2 - 230V Input. Select the operation mode by the parameter 17.1.1.

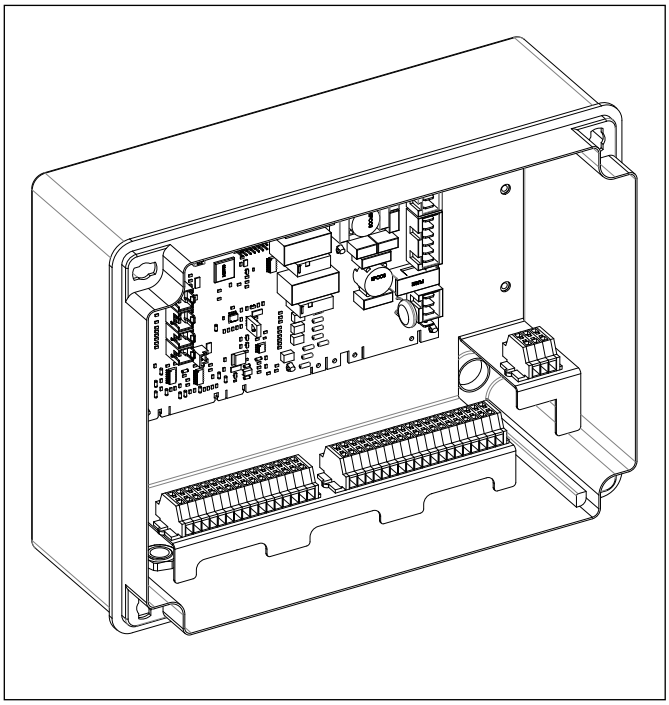
- DLSG (load shedding): this input signal, if supplied by the electrical grid provider, disable the heating resitors.
- SG Ready 2: input signal nr 2 for the SG Ready standard (see paragraph SMART GRID READY STANDARD).

OUT-AUX 1- Auxiliary output, free potential contact (see parameter 17.1.4)

ST1 - Safety thermostat connection (230 V) for under-floor system (shunt connection).

PM AUX- Auxiliary pump connection.

V1 - Diverter valve connection for domestic water circuit



V 2 - Diverter valve connection for cooling circuit

L 1 - Three-phase power phase 1 connection (230 V) for internal unit

L 2 - Three-phase power phase 2 connection (230 V) for internal unit

L 3 - Three-phase power phase 3 connection (230 V) for internal unit

N - Connection of the neutral point (230 V) of the internal unit .

⏚ - Earth connection of the internal unit .

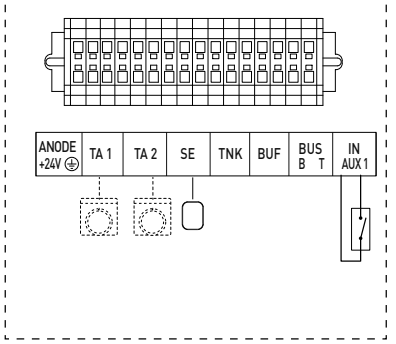
The size and length of the cables must be sized according to the power indicated on the data plate of the internal unit.

Ensure that the power cables are properly tightened in order to avoid overheating.

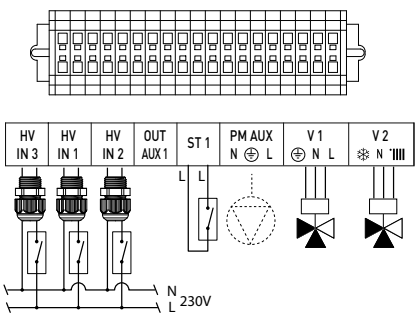
WARNING

After carrying out the connections between the indoor and outdoor units, put back both panels of the respective units.

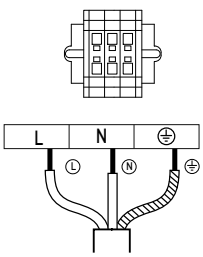
Low voltage terminal block of internal unit



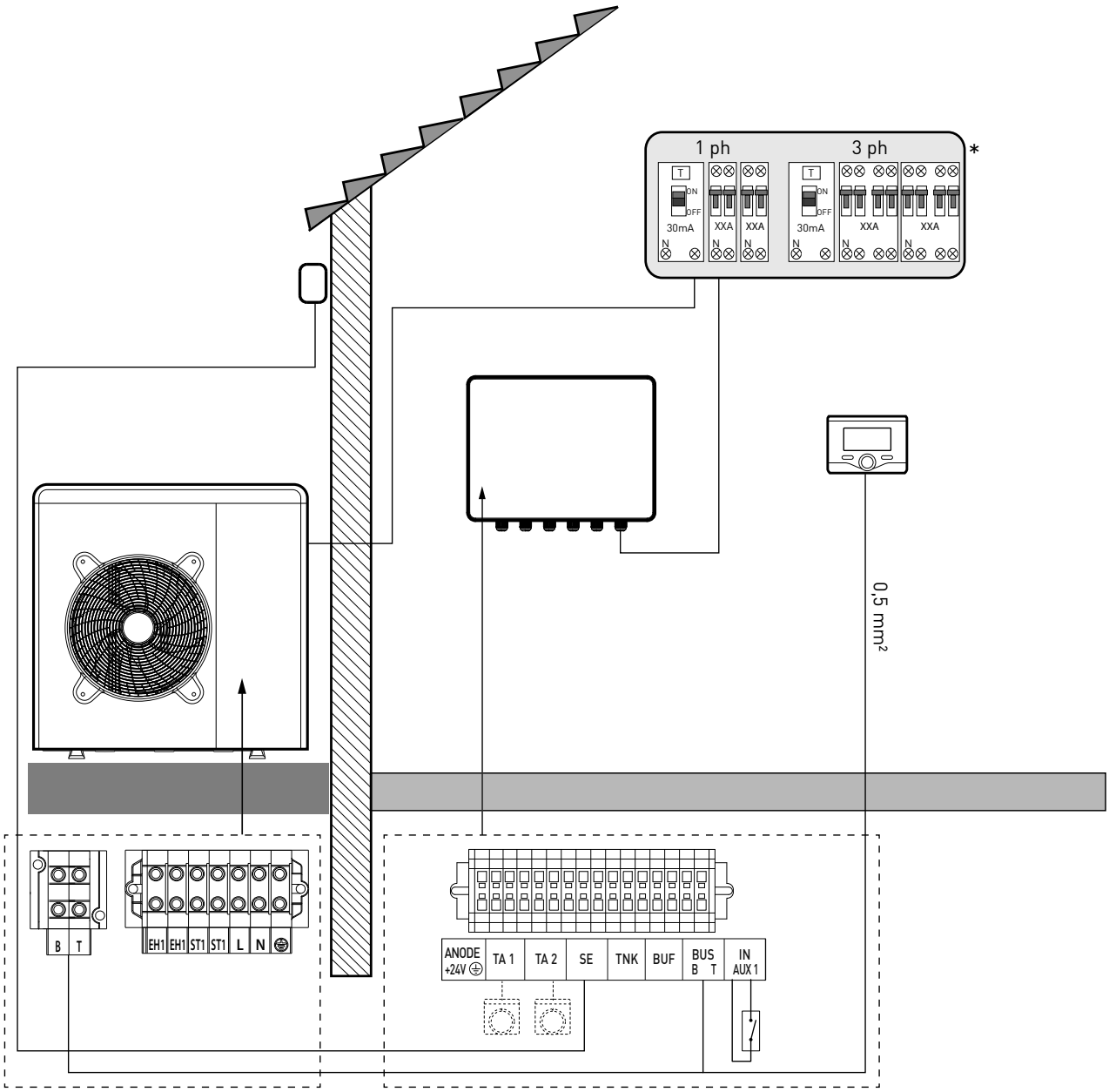
High voltage terminal block of internal unit



Power supply terminal block of internal unit



Electrical connections between internal and external unit
Before any work on the system, shut off the power at the breaker.

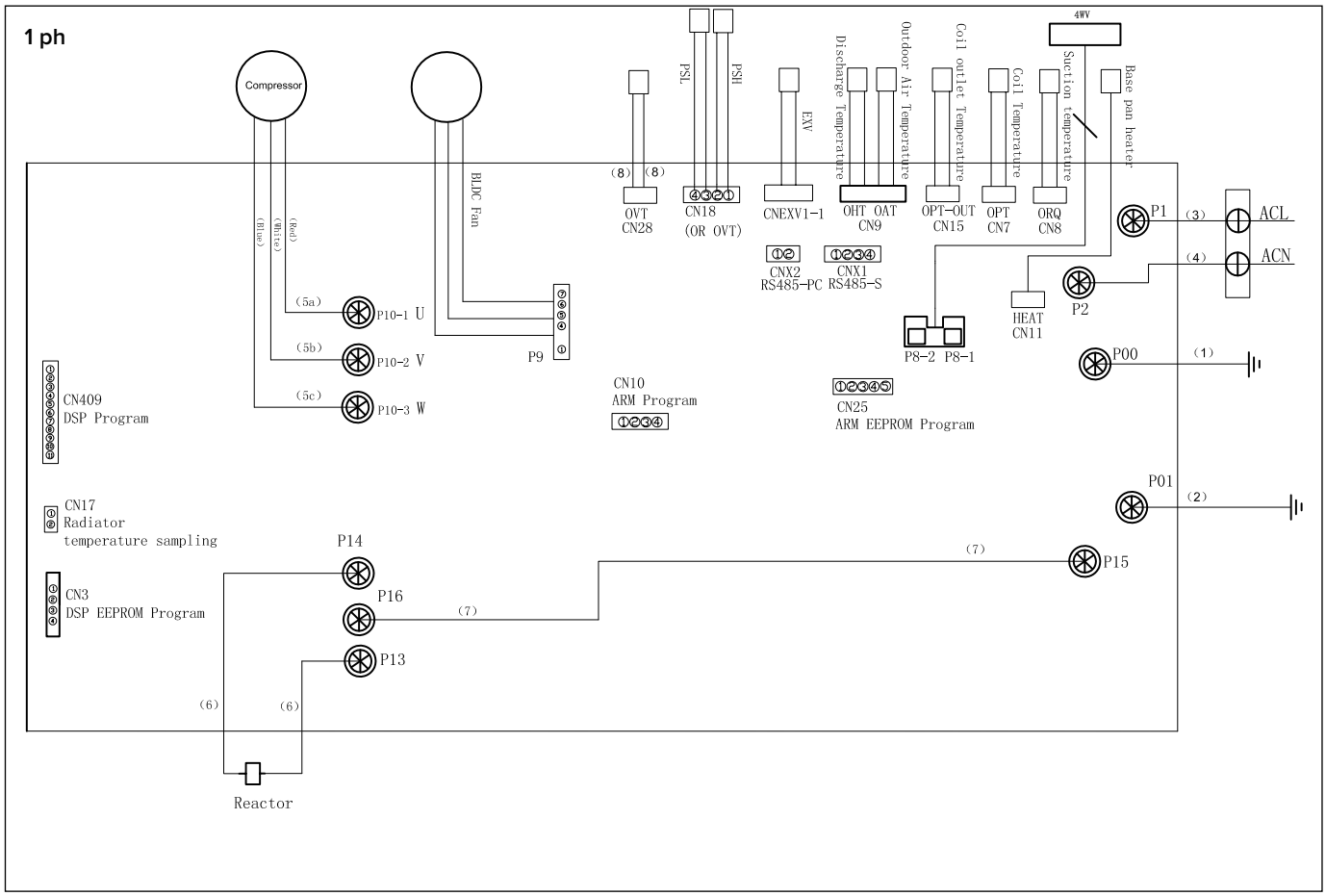


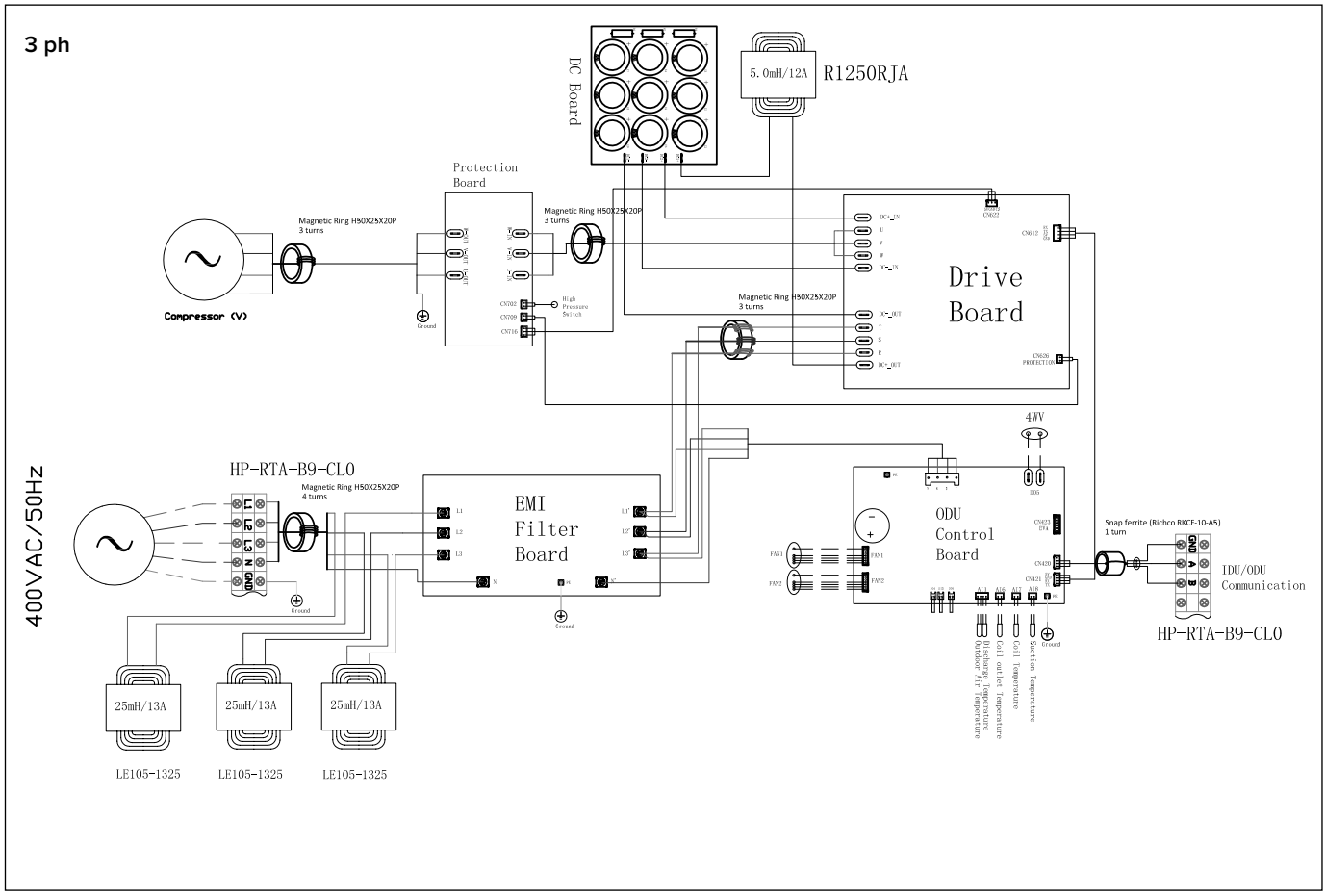
NOTE
It is strongly recommended to verify the presence of a surge protection device (SPD) on main power line and of circuit breakers connected to the external and internal unit's control box

* See table of electrical connections

WARNING
After carrying out the connections between the indoor and outdoor unit, put back both panels of the respective units.

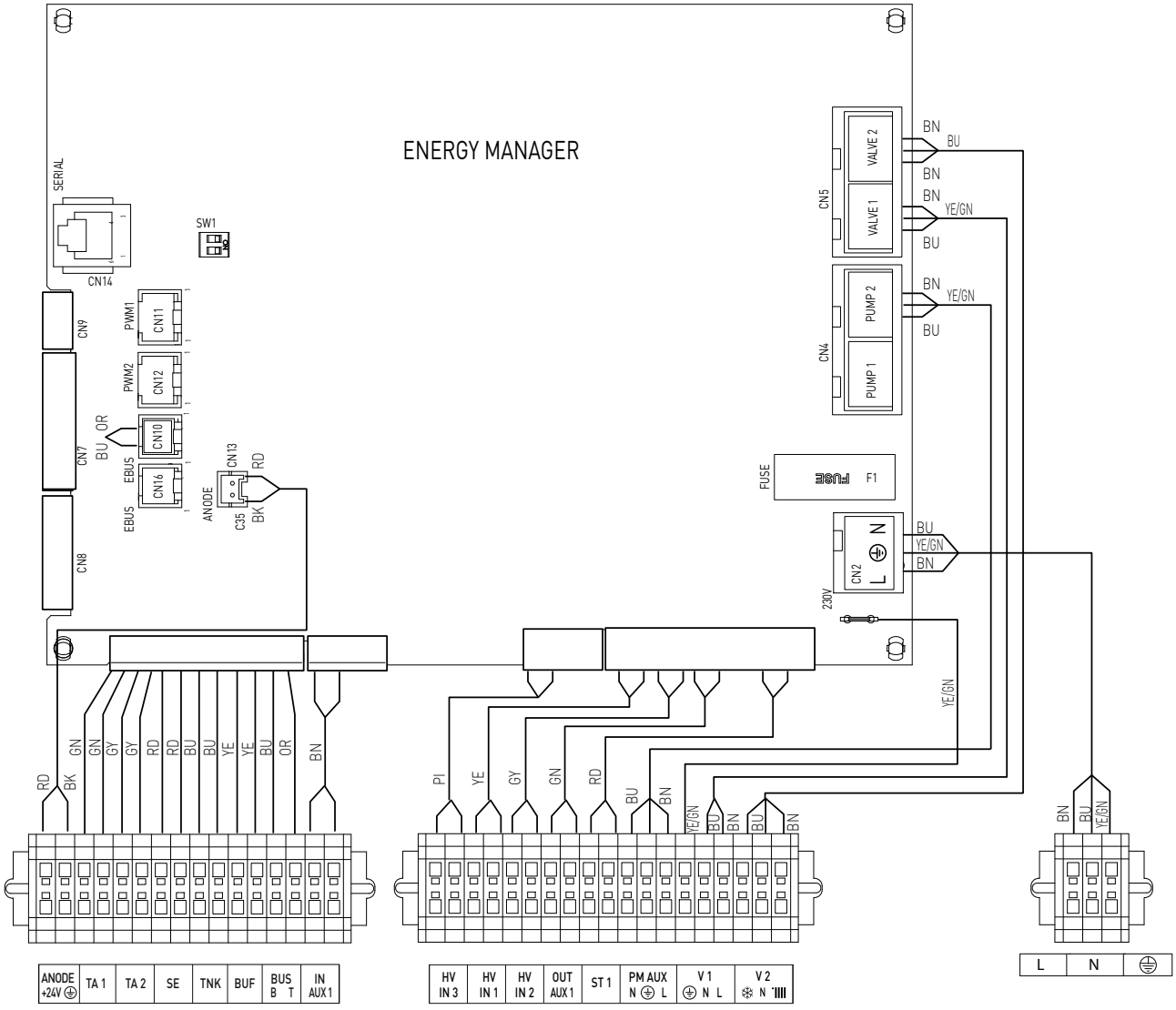
ELECTRICAL SCHEME - BOX OF EXTERNAL UNIT





ELECTRICAL SCHEME - LIGHT BOX 1Z

BK = Black
BN = Brown
BU = Blue
RD = Red
OR - Orange
YE = Yellow
GN = Green
GY = Grey
WH = White
PI - Pink



INSTALLATION OF SYSTEM INTERFACE

Positioning
The system interface recognizes the temperature of the environment, so this factor must be taken in consideration during the choice of the positioning of the same.
We recommend to place the remote control away from sources of heat (radiators, direct exposure to sunlight, fireplaces etc.) as well as positioning near drafts or openings to the outside which may affect the operation of system interface, should be avoided. You are also required to place the interface at least 1.5 m from the floor.

WARNING:
USE ONLY THE PROVIDED SYSTEM INTERFACE.

WARNING
User interface installation has to be made by a qualified technician. Before installing, disconnect power supply before installing the remote control.

Wall installation
The Sensys system interface must be fitted to the wall before the BUS line is connected.
- connect the pair of wires to the connector (fig. 1);
- open up the holes required for fixing;
- fix the base of the device to the box on the wall using the screws supplied in the kit (fig. 2);
- position the system interface on the base, pushing it gently downwards (fig. 3).

Connection to the installation
The sending, receiving, and decoding operations are performed by a BUS signal protocol, which ensures the interaction between the system and the interface.
Connect the wires to the terminal block included in the electrical panel of the internal unit of the system.

NOTE: To avoid interference problems when connecting the system interface and internal unit, use a shielded cable or twisted pair cable.

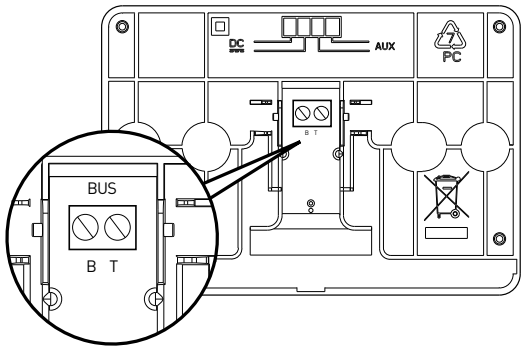


Fig. 1

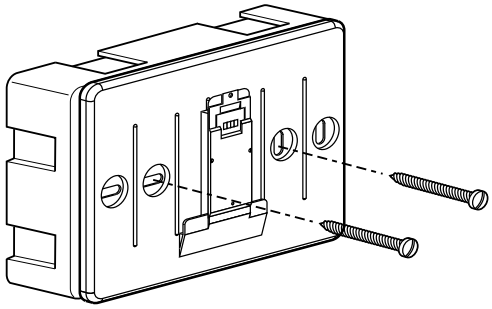


Fig. 2

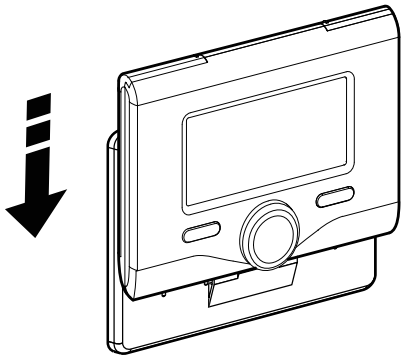
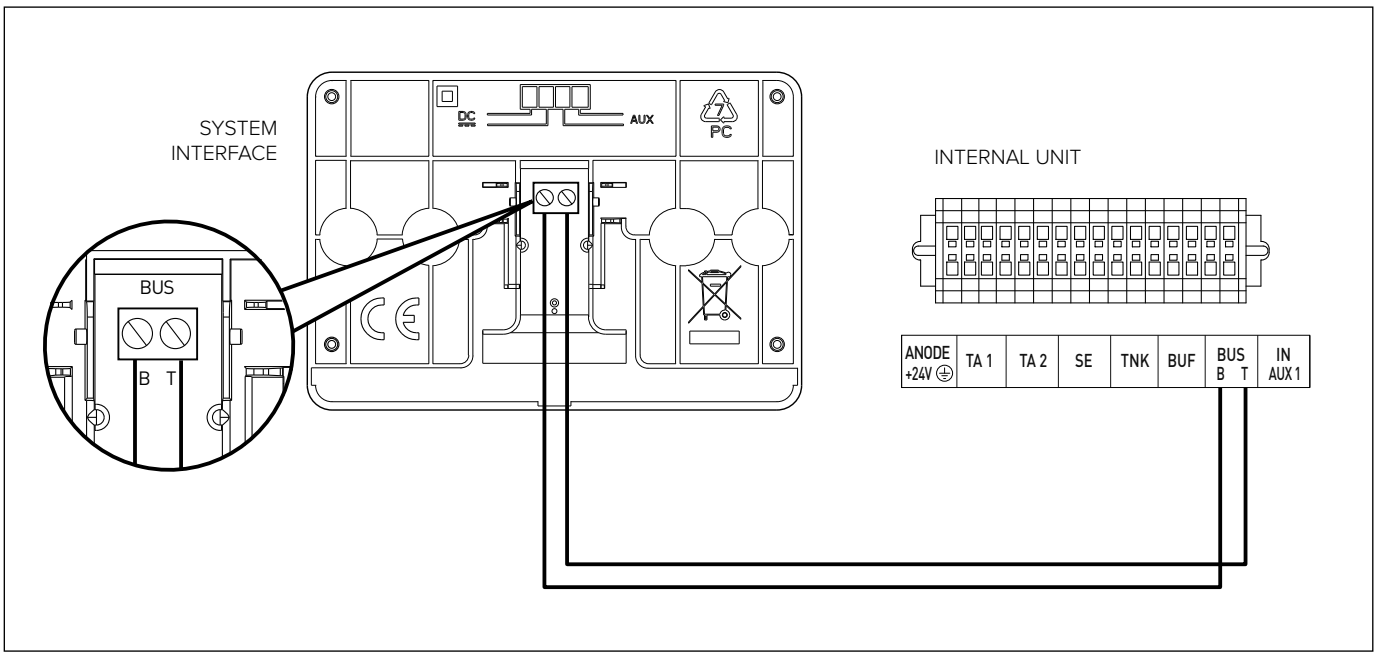


Fig. 3

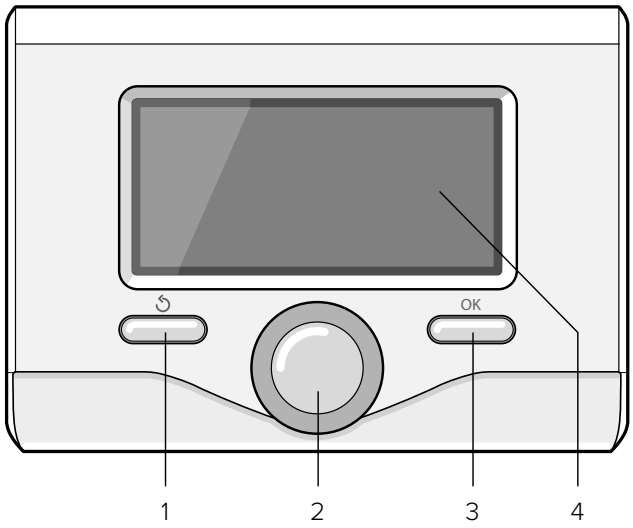


Display symbols:

- ( ) Summer / DHW settings
- ( ) Winter
- ( ) Only Winter / CH settings
- ( ) Cooling
- ( ) OFF, system off
- ( ) Time program
- ( ) Manual operation
- ( ) Desired room temperature
- ( ) Room temperature detected
- ( ) Desired room temperature override
- ( ) Outdoor temperature
- (auto) AUTO function enabled
- ( ) HOLIDAY function enabled
- ( ) Central heating active
- ( ) Domestic hot water active
- ( ) Error indication
- ( ) Menu
- ( ) System performance
- ( ) Screen setting
- ( ) Floor Heating
- ( ) Circulation pump
- ( ) Valvola deviatrice
- (ST1) Under-floor heating system thermostat
- ( ) Anti-frost function
- ( ) Thermal Cleanse Function
- ( ) Configurable device
- ( ) Heat pump
- (1) Heating element 1
- (2) Heating element 2
- ( ) Heating element excluded
- (HC) Manual mode HC
- (HC40) DHW comfort in period at a reduced rate
  setpoint up to 40 ° C during the period at the full rate
- (BOOST) BOOST mode
- ( ) Silent mode
- ( ) Special function
- ( ) Dehumidification
- (AP) Access Point configuration
- ( ) Gateway connected to internet
- ( ) Gateway not connected to router
- ( ) Gateway connected to router but not to the internet
- ( ) Software update in progress

Buttons and Display:

1. back button (previous screen)
2. knob
3. **OK** button
   (to confirm operation or access main menu)
4. DISPLAY



⚠ WARNING

To guarantee safety and correct operation of the system interface, it must be commissioned by a qualified technician in possession of the skills as required by law.

IGNITION PROCEDURE

- Insert the system interface into the connection shoe by pushing it gently downwards; after a brief initialisation, the system interface will be connected.
- The display screen shows “Select language”. Turn the knob and select the desired language. Press the OK button to confirm.
- The display shows date and time.
  Use the knob to select the date, press the OK button, turn the knob to select the exact day, press the OK button to confirm and move on to the month, followed by the year, pressing the OK button to confirm after each step. Turn the knob to select the time, press the OK button, turn the knob to select the exact hour, press the OK button to confirm and move on to the minute value. Press the OK button to confirm. Turn the knob and select summer time, press the OK button, select auto or manual, press the OK button.

The display shows the basic screen.

- Select the country
  Now follow step by step directions that appear from time to time on the display.

TECHNICAL AREA ACCESS

- Simultaneously press the back “ ↺ “and “OK” buttons until “Insert code” appears on the display.
- Turn the knob to enter the technical code (234) then press OK; the display will show TECHNICAL AREA:
- Language, date and time
- BridgeNet Bus network settings
- Complete menu
- Configuration Wizard
- Service
- Faults

Turn the knob and select:

- BridgeNet Bus network settings

The display will show the list of devices connected within the system:

- System interface (local)
- Energy Manager
- Zone Manager

To set the correct zone to which the system interface is associated, turn the knob and select:

- System interface (local)

Press the OK button. Turn the knob and set the correct zone. Press OK to confirm the setting.

Turn the knob and select:

- COMPLETE MENU

Press the OK button to confirm. Turn the knob and select:

17.0 User parameters

17.0.0 CH mode

- Green
  (excludes the electric resistances for the integration of the heating)
- Standard

Press the OK button to confirm.

17.0.1 Quiet Mode Activation

Press the OK button to confirm.

Turn the knob and select:

- ON (active function to reduce noise)
- OFF

Press the OK button to confirm. Turn the knob and select:

17.0.4 Domestic Hot Water BOOST

Press the OK button to confirm.

Turn the knob and select:

- ON (enable the boost cycle to speed up the DHW service. Max duration 180 min.)
- OFF

17.0.5 Delta T PV sanitary setpoint

Turn the knob to set the value that encreases the sanitary setpoint when the PV contact is supplied.

17.1 EM INPUT OUTPUT CONFIGURATION

Press the OK button to confirm. Turn the knob and select:

17.1.0 HV Input 1

- Not defined: no function associated to the input. Fault 941 is displayed.
- Absent: Input not enabled.
- EDF (night tariff): Input not active (0V). If the Comfort function (par .17.5.2) is set as HC-HP the heat pump and the heating resistors tank charge is suspended; if the comfort function is set as HC-HP 40°C, the tank charge is limited, considering as DHW setpoint temperature the minimum between the reduced setpoint temperature and 40°C. Inut active (230V). The heat pump and the resistors are enabled for the tank charge following the standard logics.
- SG Ready 1: input signal nr 1 for the SG Ready standard (see. Paragraph SMART GRID READY STANDARD)
- External Switch OFF signal: input signal to set the the machine OFF. Every heat request, cooling request and DHW service is stopped and antifreeze protection logics are active.

17.1.1 HV Input 2

- 0. Not defined: no function associated to the input. Fault 942 is displayed.
- 1. Absent: Input not enabled.
- 2. DLSG (load shedding): Input not active (0V). Heating resistors are disabled in every cycles.
- 3. SG Ready 2: input signal nr 2 for the SG Ready standard (see. Paragraph SMART GRID READY STANDARD)

17.1.2 HV Input 3

- 0. Not active
- 1. PV integration active: Input not active (0V), no tank integration from PV system. Input active (230V): if the system is in stand-by, the DHW setpoint temperature is incremented by the amount defined by the parameter 17.0.5 - PV Delta T DHW setpoint temp.

17.1.3 AUX Input 1

- 0. None
- 1. Humidistat: when the contact is closed, the heat pump switches off

17.1.4 AUX Output 1 (AFR)

- 0. None
- 1. Fault alarm: the contact is closed in case of fault
- 2. Humidistat alarm: the output is closed when the AUX 1 is set as humidistat and it is closed.
- 3. External heat request: the contact is closed to generate an heat request to a external heat source instead of the heating resistors.
- 4: Cooling Request: the contact is closed to generate a cooling request to an external cooling source

17.1.5 AUX Output 2 (Come AUX1 OUT1)

17.1.6 AUX P2 Circulator Setting

- 0: Auxiliary circulator: circulator follows in parallel the switch on/off of the primary circulator P1
- 1: Cooling circulator: driven ON when Cooling mode selected and heat request active
- 2: buffer circulator: circulator is activated when Global Heat Request and Buffer Activation is ON

Push OK button. Turn the knob and select:

17.2 ENERGY MANAGER PARAMETER 1

17.2.0 Hydraulic scheme

Hydraulic scheme. Define the hydraulic configuration corresponding to the installation. Here we got the options:

- None
- Plus (SPLIT M-R; M-RX); only heating/cooling
- Compact (SPLIT M-CR; M-CRX); DHW tank integrated
- Flex (SPLIT M-R; M-RX with separated tank) external DHW tank
- HP Water Heater; only DHW (non utilizzare)
- Lightbox: the machine provides CH + service DHW and Cooling using only the HP without any internal unit idraulics

17.2.1 Thermoregulation

Activate/deactivate the thermoregulation function

17.2.2 Eco / Comfort

Define the delay time of the heating resistors switching on starting from the longer one (ECO PLUS) to the shorter one (COMFORT PLUS).

17.2.3 FlowT HP Offset

Define the flow setpoint temperature compensation due to heat losses along the hydraulic connection between the outdoor unit and the internal hydraulic module.

17.2.4 Boost Time

Enabled only with thermoregulation active and thermoregulation type set as “Basic Thermoregulation” (see parameters 421/521/621). It defines the delay time to increment the flow setpoint temperature by step of 4°C (max 12°C). If the parameter value is 0 the function is not active.

17.2.5 External temperature correction

Offset compensation of the external tempearture probe reading

17.2.6 Active Resistance Stages

Define the number of active stages of the heating resistors

17.2.8 External Unit Version

- SPLIT
- MONOBLOCK

17.2.9 Antiblocking Function Enable

activate the antiblocking function ofthe main circulator. Main circulator is switched on and 3way valve is positioned in DHW mode for 30s after 23h without any activity.

Push OK button. Turn the knob and select:

17.3 CENTRAL HEATING

17.3.0 CH pump pre-run time

Define the pre-run time of the main circulator to detect water flow in the primary circuit.

17.3.1 Time for pre-run new attempt

Define the waiting time between a pre-run cycle and the following one.

17.3.2 CH Pump Overrun

Post circulation time.

17.3.3 Pump Speed Control

Change the speed control type:

- 0: Fixed Low Speed
- 1: Fixed High Speed
- 2: Modulating speed control

17.3.4 EM Delta T Pump Setpoint

Set the target of the pump modulation control algotithm from 5°C to 20°C

17.3.5 Max PWM Pump

Circulator max speed

17.3.6 Min PWM Pump

Circulator min speed

17.3.9 Floor drying Flow Set Point Temperature

Define the flow setpoint temperature for the floor heating. (See parametre 17.8.1).

Push OK button. Turn the knob and select:

17.4 COOLING

17.4.0 Cooling mode activation

Press the OK button. Turn the knob and select:

- Not active
- Active (enables the function)

17.4.1 Cooling anticycling time

Define the delay time for the end of cooling request and heat pump switching off.

17.4.2 Cooling Flow T HP Offset

Define the flow setpoint temperature compensation due to heat losses along the hydraulic connection between the outdoor unit and the internal hydraulic module.

Push OK button. Turn the knob and select:

17.5 DOMESTIC HOT WATER

17.5.0 DHW Comfort Setpoint Temperature

17.5.1 DHW Reduced Set Point Temperature

17.5.2 Comfort function

Configures the domestic hot water production mode as follows:

- Disabled
- Time Based (starts the comfort function for periods which can be set through the domestic water production schedule programming feature)
- Always Active
- HC/HP
  NOTE: The hot water storage is heated only by the heat pump when the EDF input is enabled (see par. 17.1.0) and switches to 230V (reduced rate electricity supply).
- HC/HP 40°C
  NOTE: Similar to HC/HP, during full rate electricity supply (EDF input = 0V) the hot water storage is kept heated to 40°C.
- GREEN
  NOTE: uses only the heat pump in the periods configured with the domestic water auxiliary schedule programming function.

17.5.3 Max HP charging time

Define the charging time of the DHW tank done only with the heat pump. When this time elapses, the integration resistors are switched on.

Press the OK button to confirm. Turn the knob and select:

17.5.4 Thermal Cleanse Function

Activating this function, the sanitary water tank is heatted up at 60°C for 1h every 30 dasy .

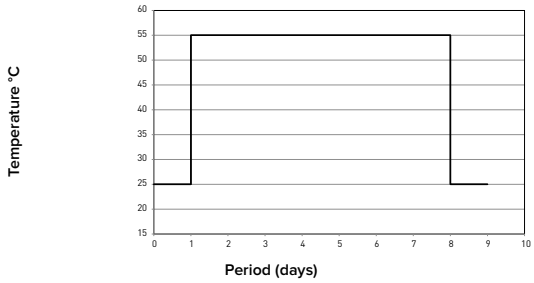
- ON (enable function)
- OFF

17.5.5 Thermal Cleanse Function start time
Define the start time of the thermal cleanse function
17.5.6 Thermal Cleanse Function frequency
Set the period after wich a new Thermal Cleanse is performd

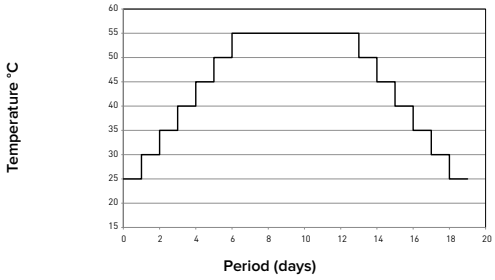
Push OK button. Turn the knob and select:
17.6 MANUAL MODE - 1
Manual activation of the system components (circulators, diverter valve, resistors, etc)

Push OK button. Turn the knob and select:
17.7 MANUAL MODE - 2
17.7.1 Force Hp Heat
Activate the heat pump in heating mode.
17.7.2 Force Hp Cool
Activate the heat pump in cooling mode.
17.7.3 Rating Heating Mode
Activate the heat pump in heating mode at fixed frequency set by the parameter 17.7.5
17.7.4 Rating Cooling Mode
Activate the heat pump in cooling mode at fixed frequency set by the parameter 17.7.5.
17.7.5 Fixed compressor frequency
Define the compressor frequency during the working mode of the heat pump selected by the parameters 17.7.1 or 17.7.2.
In manual mode the heat pump keeps the protection logics active, therefore the compressor frequency might be different from the set one.
17.7.6 Fixed Fan 1 RPM
Define the fan 1 velocity in RPM
17.7.7 Fixed Fan 2 RPM
Define the fan 2 velocity in RPM
17.7.9 Ext Unit Electric Heater Activation
- 0. OFF
- 1. ON (Turn on the external bas panel electric heater on the external unit)
- 1. ON (set the base)

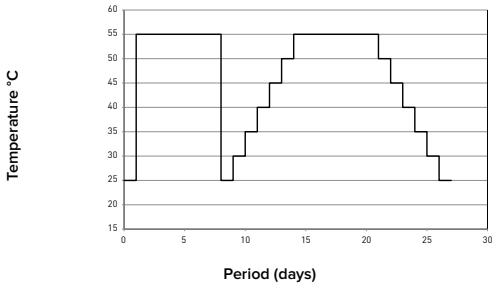
Push OK button. Turn the knob and select:
17.8 TEST & UTILITIES
Press the OK button to confirm. Turn the knob and select:
17.8.0 Air-purge function
Active the air purge cycle of the system; the air purge duration is 18 minutes.
Press the OK button to confirm.
Turn the knob and select:
17.8.1 Floor drying cycle
define the floor drying cycle mode:
- 0. OFF
- 1. Functional Heating
  (floor drying done at fixed temperature of 55°C for 6 days)



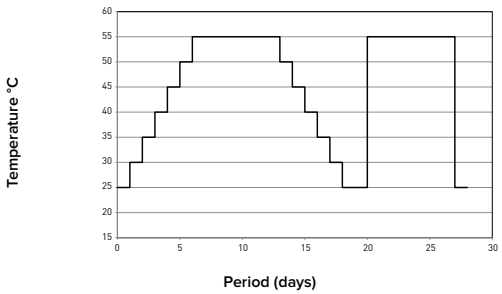
- 2. Curing Heating
  (floor drying done with variable temperature from 25°C to 55°C according to the profile reported in the picture below for 18 days)



- 3. Functional Heating + Curing Heating
  (floor drying done at fixed temperature of 55°C for 6days and then with variable temperature from 25°C to 55°C for the following 18 days)



- 4. Curing Heating + Functional Heating
  (floor drying done with variable temperature from 25°C to 55°C for the first 18 days and then at fixed temperature of 55°C for the following 6 days)



- 5. Manual
  (floor drying done at the setpoint temperature set by the parameter 17.3.9)

17.8.5 Refrigerante Recover Cycle
Activate this function to recover the refrigerant gas before every maintenance operation on the refrigerant circuit.
17.8.6 Resistance Power Rating Configuration
set the backup resistance configuration
- 0: if the backup interface module comprizes 2kW+2kW (+2kW) electrical resistances
- 1: if the backup interface module comprizes 2kW+4kW electrical resistances

17.8.7 Defrost
Test the defrost function ON
17.8.8 TDM Flow Sensor Type.
Set the flow sensor relf recognition or flow meter type DN15 or DN20 (default for monoblock external units)

Push OK button. Turn the knob and select:
17.9 ENERGY MANAGER STATISTICS
17.10 HP DIAGNOSTICS - 1
17.11 HP DIAGNOSTICS - 2
17.12 HP DIAGNOSTICS - 3
17.13 HP DIAGNOSTICS - 4
Displays the characteristic information of the heat pump (temperatures, water flow switch status, HP status, etc).

Push OK button. Turn the knob and select:
17.14 ENERGY MANAGER DIAGNOSTICS -1 INPUT
Displays the values of the system board inputs

Push OK button. Turn the knob and select:
17.15 ENERGY MANAGER DIAGNOSTICS - 2 OUTPUT
Displays the values of the system board outputs

Push OK button. Turn the knob and select:
17.16 ERROR HISTORY
Last 10 Errors.

Push OK button. Turn the knob and select:
17.17 RESET MENU
Reset Factory Settings.

Push OK button. Turn the knob and select:
19 CONNECTIVITY
Press the OK button.
After checking the availability of the Sensys NET service in your country, follow the instructions in the Sensys NET.

THERMOREGULATION

To set the temperature adjustment parameters, simultaneously press and hold the back " ↺ " and "OK" buttons until "Enter code" appears on display. Turn the knob to enter the technical code (234), then press OK; the display will show Technical area.

Turn the knob and select

- **Complete Menu.**

Press the OK button. Turn the knob and select:

4 ZONE 1 PARAMETERS

4.1 SUMMER/WINTER CHANGEOVER

4.1.0 S/W function activation Z1

turn the knowb and select to activate summer/winter changeover:

- OFF
- ON

4.1.1 S/W temperature threshold

turn the knowb and select the threshold temperature of the summer/winter function.

4.1.2 S/W delay time

turn the knowb and select the time delay for S/W activations.

Press the OK button. Turn the knob and select:

4.2 ZONE 1 SETTINGS

4.2.0 Zone 1 Temperature range

Press the OK button. Turn the knob and select the temperature range:

0 low temperature

1 high temperature

4.2.1 Thermoregulation

Turn the knob and select the installed temperature adjustment:

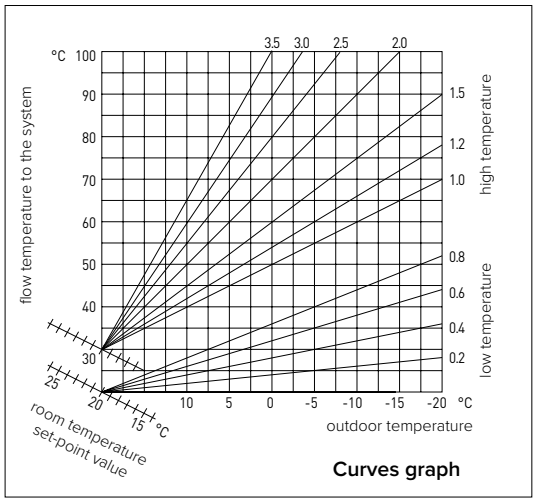
- 0 Fix Flow T (defined by parameter 4.0.2)
- 1 Basic Thermoreg
  flow setpoint temperature is incremented by step of 4°C (max 12°C), delay time of temperature variation defined by parameter 17.2.4
- 2 Room T Only
- 3 Outdoor T Only
- 4 Room+Outdoor T

Press the OK button. Turn the knob and select:

4.2.2 Slope

Press the OK button. Turn the knob and set the curve in accordance with the type of heating system and press the OK button.

- low temperature system
  (floor panels)
  curve between 0.2 and 0.8
- high temperature system
  (radiators)
  curve between 1.0 and 3.5



The checking process for the suitability of the curve requires a long period of time during which several adjustments may be necessary. When the outdoor temperature falls (winter), three conditions may arise:

1. The temperature of the room may fall, indicating that a steeper curve should be set;
2. The temperature of the room may rise, indicating that a gentler curve should be set;
3. The temperature of the room remains constant, indicating that the set curve is exactly right;

Once you have found the curve which maintains the room temperature at a constant level, check the actual temperature value.

4.2.3 Offset

Turn the knob and set the most suitable value. Press the OK button to confirm.

NOTE:

If the room temperature is higher than the desired value the curve must be shifted downwards. If, on the other hand, the room temperature is too low, the curve should be shifted upwards. If the temperature of the room corresponds to the desired value, the curve is in the right position. In the graph below, the curves have been divided into two groups:

- low temperature systems
- high temperature systems

The two groups are divided on the basis of the different point of origin of the curves for high-temperature systems, which is +10°C, a correction which is usually made to the flow temperature in this type of system, during climatic adjustment.

4.2.4 Room Influence Proportional

Press the OK button.

Turn the knob and set the most suitable value, then press the OK button. The influence of the room sensor can be adjusted to a value between 20 (maximum influence) and 0 (no influence). This means the contribution of the room temperature to the flow temperature calculation can be adjusted.

4.2.5 Maximum temperature

Press the OK button.

Turn the knob and set the most suitable value, then press the OK button.

4.2.6 Minimum temperature

Press the OK button. Turn the knob and set the most suitable value, then press the OK button.

4.2.9 Heat request mode

Turn the knob and select:

- Standard
- . RT Time Programs Exclusion
  (RT is active also during night periods)
- Forcing Heat Demand
  (Activation of the function generates an heat demand "always on")

Repeat the steps described to set the values for zone 2 (if present), selecting menu 5.

NOTE:

For the correct operation of the types of thermoregulation: 2. Room T Only, 3. Outdoor T Only, 4. Room + Outdoor T, the parameter 17.1.1 must be set to value 1, or the function SCI must be enabled.

To set the temperature adjustment parameters, simultaneously press and hold back " ↺ " and "OK" buttons until "Enter code" appears on the display. Turn the knob to enter the technical code (234) then press OK; the display will show ***Technical area.***
Turn the knob and select
- Complete Menu.

Press the OK button..
4 Zone 1 Parameters
Press the OK button.
Turn the knob and select:

4.5 Cooling

Press the OK button.
Turn the knob and select:
4.5.0 T set cool Z1
Press the OK button. Turn the knob and set the delivery temperature setpoint, for thermoregulation off or fixed point.
Press the OK button. Turn the knob and select:
4.5.1 *Zone 1 Cooling Temp Range*
Press the OK button.
Turn the knob and select the temperature range:
- Fan Coil
- Underfloor

Press the OK button.
Turn the knob and select:

4.5.2 Thermoregulation

Press the OK button. Turn the knob and set the type of temperature adjustment installed:
- 0 ON/OFF
- 1 Fix Flow T
- 2 Outdoor T Only

4.5.3 Slope

Press the OK button. Turn the knob and set the curve in relation to the type of cooling system, then press the OK button.
- Fan Coil (curves from 18 to 33)
- Underfloor (curves from 0 to 30)

The checking process for the suitability of the curve requires a long period of time during which several adjustments may be necessary.

When the outdoor temperature rises (summer), three conditions may arise:
1. The temperature of the room may rise, indicating that a gentler curve should be set;
2. The temperature of the room may fall, indicating that a steeper curve should be set;
3. The temperature of the room remains constant, indicating that the set curve is exactly right.

Once you have found the curve which maintains the room temperature at a constant level, check the actual temperature value.

IMPORTANT:
If the room temperature is higher than the desired value, the curve must be shifted downwards decreasing the pameters 4.5.3. If the room temperature is too low, the curve should be shifted upwards increasing the pameters 4.5.3. If the temperature of the room corresponds to the desired value, the curve is correct.
In the graph below, the curves have been divided into two groups:
- fan coil systems (graph A)
- under-floor systems (graph B)

Press the OK button. Turn the knob and select:

4.5.4 Offset

Press the OK button. Turn the knob and set the most suitable value. Press the OK button to confirm.
Turn the knob and select:

4.5.6 Max T

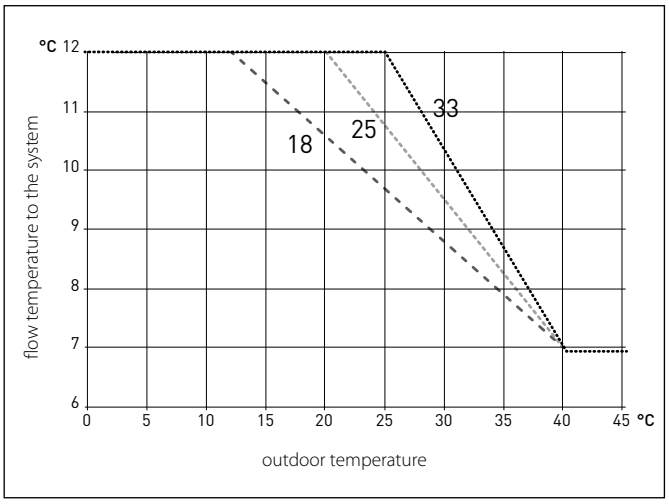
Press the OK button. Turn the knob and set the most suitable value according to zone temperature range (see parameter 4.5.1), then press the OK button.
Turn the knob and select:

4.5.7 Min T

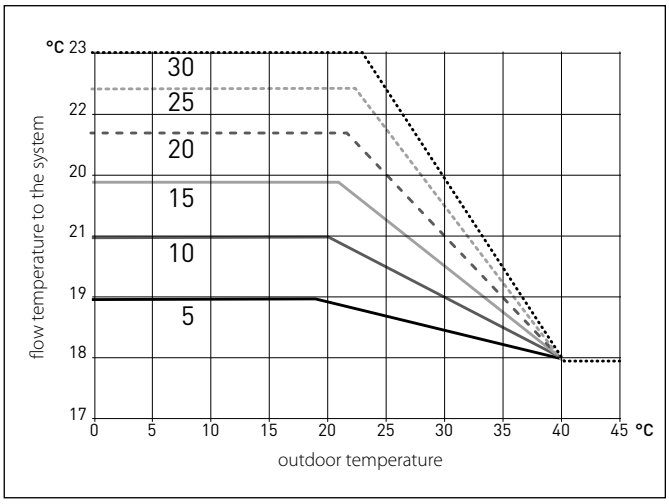
Press the OK button. Turn the knob and set the most suitable value according to zone temperature range (see parameter 4.5.1), then press the OK button.

Repeat the steps described to set the values for zones 2 (if present), selecting menu 5.

Graph A (Fan Coil)



Graph B (Underfloor)



MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
0			**NETWORK**		
0	2		BUS network		
0	2	0	Network presence	System interface Energy Manager Heat Pump Room Sensor Zone Manager	
0	**3**		**System interface**		
0	3	0	Zone number	No zone selected Zone selected	1
0	3	1	Room temperature correction	- 3; +3	0
0	3	2	SW Version Interface		
4			**ZONE1 PARAMETERS**		
4	0		Setpoint		
4	0	0	T Day	10 - 30 °C	19°C Heat - 24°C Cool
4	0	1	T Night	10 - 30 °C	16°C
4	0	2	T set Z1	par. 4.2.5 - 4.2.6	20°C (LT) - 40°C (HT)
4	0	3	Zone frost temperature	2 - 15 °C	5°C
4	**1**		**Summer/Winter Changeover**		
4	1	0	S/W function activation Z1	OFF - ON	
4	1	1	S/W temperature threshold	10 - 30 °C	20°C
4	1	2	S/W delay time	[0-600]	300 min
4	**2**		**Z1 Settings**		
4	2	0	Zone 1 temperature range	Low Temp High Temp	Low Temp
4	2	1	Thermoregulation	Fix Flow T Basic Thermoreg Room T Only Outdoor T Only Room+Outdoor T	Basic Thermoreg
4	2	2	Slope	0,2 - 1 (LT); 1 - 3,5 (HT)	0,6 (LT) - 1,5 (HT)
4	2	3	Offset	-14 ÷ +14 (HT); -7 ÷ +7 (LT)	0°C
4	2	4	Room Influence Proportional	0 - 20°C	2°C (LT) - 10°C (HT)
4	2	5	Max T	20°C ÷ 45°C (LT); 20°C ÷ 70°C (HT)	45°C (LT) - 60°C (HT)
4	2	6	Min T	20°C ÷ 45°C (LT); 20°C ÷ 70°C (HT)	20°C (LT) - 20°C (HT)
4	2	9	Heat request mode	Standard RT Time Programs Exclusion Forcing Heat Demand	
4	**3**		**Z1 Diagnostics**		
4	3	0	Room T		only read
4	3	1	Room T setpoint		only read
4	3	2	Flow temperature		only read
4	3	3	Return temperature		only read
4	3	4	Heat Request Z1	OFF - ON	only read
4	3	5	Pump Status	OFF - ON	only read
4	**4**		**Z1 Zone Module Settings**		
4	4	0	Zone pump modulation	Fixed Modulating on DeltaT Modulating on Pressure	Modulating on DeltaT
4	4	1	Target deltaT for pump modulation	4 ÷ 25°C	7°C (LT) - 20°C (HT)
4	4	2	Pump fixed speed	20 ÷ 100%	100%
4	**5**		**Cooling**		
4	5	0	T Set Cool Z1	par. 4.5.6 - 4.5.7	7°C [FC] - 18°C [UFH]
4	5	1	Zone 1 Cooling Temp Range	Fan Coil UFH	Fan Coil
4	5	2	Thermoregulation type	ON/OFF Fix Flow T Outdoor T Only	ON/OFF
4	5	3	Slope	[18;33] FC; [0-30] UFH	25 FC; 10 UFH

MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
4	5	4	Offset	[-2,5°C; +2,5°C]	0
4	5	6	Max T	MinT -12°C [FC]; MinT - 23°C [UFH]	12°C [FC]; 23°C [UFH]
4	5	7	Min T	7°C-MaxT [FC]; 18-MaxT [UFH]	7°C [FC]; 18°C [UFH
4	5	8	Target deltaT for pump modulation cooling	[-5; -20°C]	-5°C
5			**Zone 2 Parameters (if present)**		
5	0		Setpoint		
5	0	0	T Day	10 - 30 °C	19°C Heat - 24°C Cool
5	0	1	T Night	10 - 30 °C	16°C
5	0	2	T set Z2	par. 5.2.5 - 5.2.6	20 (LT) - 40 (HT)
5	0	3	Zone frost temperature	2 - 15 °C	5°C
5	**1**		**Summer/Winter Changeover**		
5	1	0	S/W function activation Z1	OFF - ON	
5	1	1	S/W temperature threshold	10 - 30 °C	20°C
5	1	2	S/W delay time	[0-600]	300 min
5	**2**		**Z 2 Settings**		
5	2	0	Zone 2 temperature range	Low Temp High Temp	Low Temp
5	2	1	Thermoregulation	Fix Flow T Basic Thermoreg Room T Only Outdoor T Only Room+Outdoor T	Basic Thermoreg
5	2	2	Slope	0,2°C - 1°C (LT); 1°C - 3,5°C (HT)	0,6°C (LT) - 1,5°C (HT)
5	2	3	Offset	-14 ÷ +14 (HT); -7 ÷ +7 (LT)	0
5	2	4	Room Influence Proportional	0°C - 20°C	2°C (LT) - 10°C (HT)
5	2	5	Max T	20°C ÷ 45°C (LT); 20°C ÷ 70°C (HT)	45°C (LT) - 60°C (HT)
5	2	6	Min T	20°C ÷ 45°C (LT); 20°C ÷ 70°C (HT)	20°C (LT) - 20°C (HT)
5	2	9	Heat request mode	Standard RT Time Programs Exclusion Forcing Heat Demand	
5	**3**		**DIAGNOSTIC ZONE 2**		
5	3	0	Max Integral Action on Room Control		only read
5	3	1	Z2 Diagnostics		only read
5	3	2	Room T		only read
5	3	3	Room T setpoint		only read
5	3	4	Flow temperature	OFF - ON	only read
5	3	5	Pump Status	OFF - ON	only read
5	**4**		**Z2 Zone Module Settings**		
5	4	0	Zone Pump Modulation	Fixed Modulating on DeltaT Modulating on Pressure	Modulating on DeltaT
5	4	1	Target deltaT for pump modulation	4°C ÷ 25°C	7°C (LT) - 20°C (HT)
5	4	2	Pump fixed speed	20 ÷ 100%	100%
5	5		Cooling		
5	5	0	T set cool Z2	par. 5.5.6 - 5.5.7	7°C [FC] - 18°C [UFH]
5	5	1	Zone 1 Cooling Temp Range	Fan Coil UFH	UFH

MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
5	5	2	Thermoregulation type	ON/OFF Fix Flow T Outdoor T Only	ON/OFF
5	5	3	Slope	[18;33] FC; [0-30] UFH	25 FC; 10 UFH
5	5	4	Offset	[-2,5°C; +2,5°C]	0°C
5	5	6	Max T	MinT -12°C [FC]; MinT - 23°C [UFH]	12°C [FC]; 23°C [UFH]
5	5	7	Min T	7°C-MaxT [FC]; 18-MaxT [UFH]	7°C [FC]; 18°C [UFH]
5	5	8	Target deltaT for pump modulation cooling	[-5; -20°C]	-5°C
7			**ZONE MODULE (if present)**		
7	**1**		**Manual Mode**		
7	1	0	ZM Manual mode activation	OFF - ON	OFF
7	1	1	Z1 Pump control	OFF - ON	OFF
7	1	2	Z2 Pump control	OFF - ON	OFF
7	1	4	Z2 Mix Valve Control	OFF Open Close	OFF
7	**2**		**General Zone Module**		
7	2	0	Hydraulic scheme definition	Not defined MCD MGM II MGM III MGZ I MGZ II MGZ III	MGM II
7	2	1	FlowT Offset		0
7	2	2	Auxiliary output setting	Heat request External pump Alarm	Heat request
7	2	3	External temperature correction	- 3 ÷ +3°C	0°C
7	3		Cooling		
7	3	0	Flow_T_offset_Cool	[0÷ 6°C]	0°C
7	**8**		**Error History**		
7	8	0	Last 10 Errors		
7	8	1	Reset Error List	Reset? OK=Yes,esc=No	
7	8	2	Last 10 Errors 2		
7	8	3	Reset Error List 2	Reset? OK=Yes,esc=No	
7	**9**		**Reset Menu**		
7	9	0	Reset Factory Settings	Reset? OK=Yes,esc=No	
17			**HP System Parameters**		
17	0		User Parameters		
17	0	0	CH mode	Mode Green Mode Standard	Mode Green
17	0	1	Quiet Mode Activation	OFF - ON	OFF
17	0	2	Quiet Mode start time [hh:mm]	[00:00-24:00]	22:00
17	0	3	Quiet Mode end time [hh:mm]	[00:00-24:00]	06:00
17	0	4	Domestic Hot Water BOOST	OFF - ON	OFF
17	0	5	PV Delta T DHW setpoint temp.	0 ÷ 20°C	0°C
17	**1**		**EM Input Output Configuration**		

MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
17	1	0	HV Input 1	Not Defined Absent EDF SG1 External switch off signal	Absent
17	1	1	HV Input 2	Not Defined Absent DLSG SG2	Absent
17	1	2	HV Input 3	Not active PV Integration Active	Not active
17	1	3	AUX Input 1	None Humidistat sensor	None
17	1	4	AUX Output 1 (AFR)	None Fault alarm Humidistat alarm External heat request Cooling request	None
17	1	5	AUX Output 2	None Fault alarm Humidistat alarm External heat request Cooling request	None
17	1	6	AUX P2 circulator setting	Auxiliary circulator Cooling circulator Buffer circulator	
17	1	7	HP Electric Heater Config	OFF - ON	
17	**2**		**Energy manager parameter 1**		
17	2	0	Hydraulic scheme	None Plus Compact Flex Hp Water Heater Lightbox	None
17	2	1	Thermoregulation	Absent Present	Present
17	2	2	ECO / COMFORT	Eco Plus Eco Average Comfort Comfort Plus	Average
17	2	3	FlowT HP Offset	0 ÷10°C	2°C
17	2	4	Boost Time	0 ÷ 60 min	16 min.
17	2	5	External temperature correction	- 3; + 3°C	0°C
17	2	6	Active Resistance Stages	1 Stage 2 Stages 3 Stages	2 Stages
17	2	7	Pro-Tech anode active	OFF - ON	OFF
17	2	9	Antiblocking pump enable	OFF - ON	
17	**3**		**Central Heating**		
17	3	0	CH pump prerun time	30 ÷ 255 sec.	30 sec.
17	3	1	Time for prerun new attempt	0 ÷ 100 sec.	90 sec.
17	3	2	CH Pump Overrun	0 ÷ 16 min.	3 min.
17	3	3	Pump Speed Control	Low speed High speed Modulating	Modulating
17	3	4	Delta T Pump Setpoint	5 ÷ 20°C	5°C
17	3	5	Max PWM Pump	PWM Min-100	100
17	3	6	Min PWM Pump	0-PWMmax	???
17	3	9	Floor drying Flow Set Point T	25 ÷ 60°C	55°C

MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
17	4		Cooling		
17	4	0	Cooling mode activation	Cooling not active Cooling active	Cooling not active
17	4	1	Cooling anticycling time	0 -10 min.	0 min.
17	4	2	DeltaT_HP_Flow_Comp	-10 ÷ 0°C	-2°C
17	5		Domestic Hot Water		
17	5	0	DHW Comfort Setpoint T	35 ÷ 65°C	55°C
17	5	1	DHW Reduced Set Point T	35°C - Par. 15.5.0	35°C
17	5	2	Comfort Function	Disabled Time based Always Active HC-HP HC-HP 40°C Green Mode	Green Mode
17	5	3	Max HP charging time	30 ÷ 240 min.	120 min.
17	5	4	Antilegionella Function	ON - OFF	OFF
17	5	5	Antilegionella start time [hh:mm]	[00:00-24:00]	01:00
17	5	6	Thermal Cleance Cycle frequency	1 ÷ 30 days	30 days
17	6		Manual Mode - 1		
17	6	0	Manual mode activation	OFF - ON	OFF
17	6	1	HP circulator control	OFF Low Speed High Speed	OFF
17	6	2	Diverter valve control	DHW CH	DHW
17	6	3	Diverter valve COOLING	CH COOLING	CH
17	6	4	Auxiliary circulator	OFF - ON	OFF
17	6	5	Output AUX 1/2 contact	OFF - ON	OFF
17	6	6	Test resistance 1	OFF - ON	OFF
17	6	7	Test resistance 2	OFF - ON	OFF
17	6	8	Test resistance 3	OFF - ON	OFF
17	6	9	Anode output	OFF - ON	OFF
17	7		Manual Mode - 2		
17	7	0	Manual mode activation	OFF - ON	OFF
17	7	1	Force Hp Heat	OFF - ON	OFF
17	7	2	Force Hp Cool	OFF - ON	OFF
17	7	3	Rating heating mode	OFF - ON	OFF
17	7	4	Rating cooling mode	OFF - ON	OFF
17	7	5	Compressor frequency setting	18 ÷ 120 Hz	30 Hz
17	7	6	Fan 1 rpm setting	0 ÷ 1000 rpm	0 rpm
17	7	7	Fan 2 rpm setting	0 ÷ 1000 rpm	0 rpm
17	7	8	TDM aux output	OFF - ON	OFF
17	7	9	Ext Unit Electric Heater Activation	OFF - ON	OFF
17	8		Test & Utilities		
17	8	0	Air-purge function	OFF - ON	OFF

MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
17	8	1	Floor drying cycle	OFF Functional Heating Curing Heating Functional Heating + Curing Heating Curing Heating + Functional Heating Manual	OFF
17	8	2	Floor drying total Remaining Days		only read
17	8	3	Floor drying functional Remaining Days		only read
17	8	4	Floor drying curing Remaining Days		only read
17	8	5	Refrigerant Recover	OFF - ON	OFF
17	8	6	Resistance Power Rating Configuration	2+2(+2) kW 2+4 kW	OFF
17	8	7	Defrost	OFF - ON	OFF
17	8	8	TDM Flow Sensor Type	Not Selected (Self-Recognition) DN 15 DN 20	Not Selected
17	9		Energy Manager Statistics		only read
17	9	0	HP Running hours (h/10)		only read
17	9	1	HP On cycles (n/10)		only read
17	9	2	Resistor Stage 1 running hours (h/10)		only read
17	9	3	Resistor Stage 2 running hours (h/10)		only read
17	9	4	Resistor Stage 3 running hours (h/10)		only read
17	9	5	Resistor Stage 1 On cycles (n/10)		only read
17	9	6	HP Defrost hours (h/10)		only read
17	9	7	Cooling running hours (h/10)		only read
17	9	8	Heating running hours (h/10)		only read
17	9	9	DHW running hours (h/10)		only read
17	10		HP Diagnostics - 1		
17	10	0	Outside air temperature		only read (°C)
17	10	1	HP water flow temp		only read (°C)
17	10	2	HP water return temp		only read (°C)
17	10	3	HP Evaporator temp		only read (°C)
17	10	4	HP Suction temp		only read (°C)
17	10	5	HP Discharge temp		only read (°C)
17	10	6	HP condenser outlet temp		only read (°C)
17	10	7	TEO		only read (°C)
17	11		HP Diagnostics - 2		
17	11	0	Heat Pump Mode	OFF Stand by Cooling Heating Booster Heating Booster Cooling Rating in Heat Mode Rating in Cooling Mode Freeze Protection Defrost High Temperature Protection Timeguard System Fail Hard System Fail Pump Down Soft Fail Mode	only read
17	11	1	HP Error	0 ÷ 29	only read
17	11	2	Safety thermostat	ON - OFF	only read
17	11	3	Flowmeter	0 ÷ 1200 l/min	only read (l/min)
17	11	4	Flow Switch	Open - Closed	only read
17	11	5	Inverter shut off protection	OFF - ON	only read
17	11	6	PEVAP - Evaporator Pressure P		only read
17	11	7	PCOND - Condenser Pressure P		only read

MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
17	11	8	Last inverter error		only read
17	12		HP Diagnostics - 3		
17	12	0	Inverter Capacity	0 ÷ 15 kW	only read (kW)
17	12	1	HP Actual Compressor frequency	0 ÷ 1100 Hz	only read (Hz)
17	12	2	HP Set Compressor Modulation	0 ÷ 100%	only read (%)
17	12	3	Electric Heater 1		only read
17	12	4	Main circulator status	ON - OFF	only read
17	12	5	Fan 1 speed real	0 ÷ 1000 rpm	only read (rpm)
17	12	6	Fan 2 speed real	0 ÷ 1000 rpm	only read (rpm)
17	12	7	Expansion valve	0 ÷ 500	only read
17	**13**		**HP Diagnostics - 4**		
17	13	0	Compressor on/off		only read
17	13	1	Compressor preheating		only read
17	13	2	Current fan 1 status		only read
17	13	3	Currnet fan 2 status		only read
17	13	4	4way valve heat/cool		only read
17	13	5	Base Panel Heater Status		only read
17	13	6	Compressor phase current		only read (mA)
17	**14**		**EM Diagnostics - 1 Input**		
17	14	0	Energy Manager Status	Stand-by Antifreeze Cycle Heating Cycle DHW Cycle Thermal Cleanse Function Air Purge Function Chimney Function Floor drying cycle No Heat Generation Manual Mode Error Initialization Off Cool Mode DHW Antifreeze Photovoltaic Integration Dehumidification Pump Down	only read
17	14	1	CH Flow Set T		only read (°C)
17	14	2	CH Flow Temperature		only read (°C)
17	14	3	CH Return Temperature		only read (°C)
17	14	4	DHW Storage Temperature		only read (°C)
17	14	5	Pressure Switch		only read
17	14	6	HV Input 1		only read
17	14	7	HV Input 2		only read
17	14	8	HV Input 3		only read
17	14	9	AUX Input 1	Open Closed	only read
17	**15**		**Energy Manager Diagnostics - 2 Output**		
17	15	0	CH Circulator Status		only read
17	15	1	HC Pump 2		only read
17	15	2	PCM Diverter Valve (CH/DHW)		only read
17	15	3	PCM Diverter Valve 2 (CH/Cooling)		only read
17	15	4	CH Backup Resistance 1		only read
17	15	5	CH Backup Resistance 2		only read
17	15	6	CH Backup Resistance 3		only read
17	15	7	EM Anode		only read
17	15	8	AUX Output 1 (AFR)		only read
17	15	9	AUX Output 2		only read

MENU	SUB-MENU	PARAMETER	DESCRIPTION	RANGE	DEFAULT
17	**16**		**Error History**		
17	16	0	Last 10 Errors		only read
17	16	1	Reset Error List	Reset? OK=Yes,esc=No	
17	**17**		**Reset Menu**		
17	17	0	Reset Factory Settings	Reset? OK=Yes,esc=No	
17	17	1	Service reset	Reset? OK=Yes,esc=No	
17	17	2	compressor timer reset	Reset? OK=Yes,esc=No	
19			**Connectivity**		
19	0		Connectivity Settings		
19	0	0	ON/OFF Wi-Fi Network		
19	0	1	Network configuration		
19	0	3	WPS Configuration		
19	**1**		**Connectivity Info**		
19	1	0	Connectivity Status	OFF Initialization Idle Acess Point initializing Acess Point mode on Station Mode - Connecting Station Mode - Connected Station Mode - Provisioning Station Mode - Server Connected Wifi error	
19	1	1	Signal Level		
19	1	2	Active Status	Not provisioned Provisioned - Not active Active	
19	1	3	Serial Number		
19	1	4	SW Upgrade Status	Initialization Waiting for Update Updating Micro 1 Updating Micro 2	
19	**2**		**Reset Menu**		
19	2	0	Re-configuration	Resettare? OK=Sì, esc=No	
20			**Buffer**		
20	0		Configuration		
20	0	0	Buffer Activation	OFF - ON	OFF
20	0	1	Buffer Charge Mode	Not Defined Partial Charge (1 sensor) Full Charge (2 sensor)	Not Defined
20	0	2	Buffer hysteresis	0 ÷ 20°C	5°C
20	0	3	Buffer heating setpoint temperature	[20 ÷ 82°C] COOL DISABLE	82°C Cool Disable
20	0	4	Buffer cooling setpoint temperature	[5 ÷ 23°C] COOL ENABLE	7°C Cool Enable
20	0	5	SG Buffer setpoint	[20 ÷ 82°C]	82°C
20	0	6	Buffer OFFSET PV Integration Setpoint	[0 ÷ 20°C]	0°C
20	0	7	Buffer SP Type	Fixed Variable	Fixed
20	**1**		**Diagnostic**		
20	1	0	Buffer temperature sensor (Low)		Only read
20	1	1	Buffer temperature sensor (Mid)		Only read
20	1	2	Buffer temperature sensor (High)		Only read
20	1	3	Buffer Charge Request	OFF – ON	Only read
20	**2**		**Statistics**		
20	2	0	Buffer charge hours Heating (x10)		Only read
20	2	1	Buffer charge hours Cooling (x10)		Only read

MAINTENANCE

Maintenance is an essential operation to insure safety, correct working and duration of life of the appliance.
It must be carried out in accordance with the regulations in force.
It is requested to check periodically the pressure of the refrigerant gas. Before proceeding with maintenance:
- Disconnect the power supply from the appliance
- Close the water taps of the heating circuit

General remarks
It is necessary to perform at least once a year the following checks:
1. Visual control of the general state of the system.
2. Check for leakage of the hydraulic circuit and possible replacement of the seals.
3. Tightness of the circuit of the refrigerant gas.
4. Check the functioning of the heating safety tools (thermostats).
5. Overall control of the functioning of the appliance.
6. Check the pressure on the heating circuit.
7. Check the pressure of the expansion vessel
8. Keep clean the front grille and the outdoor unit battery pack.

ATTENTION
Empty the components that may contain residual hot water before manipulating them.
Remove limestone deposits from the components, following the instructions on the descaling agent used.
Do this in a ventilated room, wearing the necessary safety devices, avoid mixing of chemical products and protecting the equipment and surrounding objects.

Information for the user
Inform the user on how the installed appliances work.
In particular, provide the user with the instruction manual, informing him of the need to keep the booklet close to the appliance.
Also, inform the user of the need to proceed with the following actions:
- Periodically check the water pressure
- Pressurize the system, when necessary providing an adequate air purge
- Adjust the parameters setting and devices in order to obtain a better functioning and a more economical management of the system
- Subcontract, as provided by the rules, periodic maintenance

Antifreeze function of the external unit
The main circulator of the internal unit starts at the minimum speed when the measured temperature by the return water temperature (EWT) sensor is below 7°C in heating mode or the leaving water temperature (LWT) sensor is below 10°C in heating mode or below 1°C in cooling mode.
The main circulator stops when the return water temperature (EWT) sensor is above 8°C in heating mode or the leaving water temperature (LWT) sensor is above 10°C in heating mode or above 4°C in cooling mode.
In case of failure of LWT sensor the protection logics is based on the outdoor temperature sensor (OAT) of the external unit.

The main circulator starts when the outdoor temperature sensor is above 7°C in heating mode.
The main circulator stops after 30” or when the outdoor temperature sensor is above 8°C in heating mode.
This check is repeated every 15 min.

INTERNAL UNIT ERROR LIST

ERROR	DESCRIPTION	TROUBLESHOOTING
1 14	Outdoor Sensor Damaged	Activation of thermoregulation based on outdoor sensor and outdo-or sensor not connected or damaged
4 20*	Bus supply overload	
7 01	Zone1 Send Probe Damaged	
7 02	Zone2 Send Probe Damaged	
7 03	Zone3 Send Probe Damaged (N/A)	
7 11	Zone1 Return Probe Damaged	
7 12	Zone2 Return Probe Damaged	
7 13	Zone3 Return Probe Damaged (N/A)	
7 22	Zone2 Overheat	
7 23	Zone3 Overheat	
9 02	System flow sensor damaged	Flow sensor not connected or damaged
9 03	System return sensor damaged	Return sensor not connected or damaged
9 10	HP communication error	- Check the wiring connection of the modbus cable. - Red led on TDM not blinking-> change TDM control board
9 23	Low pressure error	Check water leakage of the hydraulic circuit - Water pressure switch damaged - Wiring of water pressure switch damaged
9 24	Ebus Communication error between EM and TDM	- Check wiring connection between TDM end Energy Manager
9 33	Overheat	- Check water flow of the heating circuit
9 34	DHW Tank sensor damaged	- DHW tank sensor not connected or damaged
9 35	Tank overtemperature	- Check 3-way valve (DIV1) blocked in DHW position
9 36	Floor Thermostat 1 error	- Check water circulation of the underfloor zone
9 37	No circulation error	- Check main circulation activation - Check water flow sensor detection by par. 17.11.3
9 38	Anode Fault	Check anode connection - Check water presence in the tank - Check anode status
9 40	Hydraulic scheme not defined	- Hydraulic scheme not selected by parameter 17.2.0
9 41	HIV IN1 not defined	Function not selected by parameter 17.1.0
9 42	HIV IN2 not defined	Function not selected by parameter 17.1.1
9 44	Cooling overtemperature	- Check water flow of the cooling circuit
9 45	Flow switch stuck	Check if main circulation is active before the heat request - Check the water flow detection by water flow sensor (see par. 17.11.3) before the heat request
9 55	Water flow switch	Check the flow temperature sensor and return temperature sensor placement.
9 58	Buffer temperature sensor	Buffer charge inhibited
9 59	Buffer over-temperature	Buffer charge inhibited
9 70	P2 circulator configuration not aligned with hydraulics. Check for auxiliary pump configu-ration	Warning displayed for 30 seconds and stored in the historical
9 71	External unit Version undefined	Warning displayed for 30 seconds and stored in the historical
2 P2	Antilegionella not completed	Antilegionella setpoint temperature not reached in 6 hours - Check DHW tapping during antilegionella cycle - Check flow temperature during antilegionella cycle - Check heating resistors activation
2 P3	DHW boost: comfort setpoint not reached	DHW comfort setpoint not reached during boost cycle. - Check DHW tapping during boost cycle - Check flow temperature during boost cycle - Check heating resistors activation

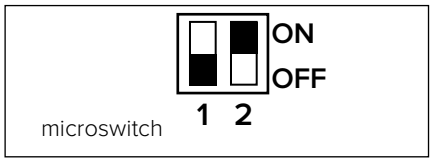
2	P4	First thermostat of resistance (auto)	- Check main circulation activation - Check water flow by par 17.11.3 - Check safety thermostat status and wirings
2	P5	Second thermostat of resistance (manual)	Check main circulation activation - Check water flow by par 17.11.3 - Check safety thermostat status and wirings
2	P6	Night tariff contact not present	- Par 17.5.2 = HP-HC or HP-HC 40°C and par. 17.1.0 = Absent
2	P7	Precirculation Error	Water flow not detected for 5 times during pre-circulation
2	P9	SG ready input configuration not completed	Just one of par 17.1.0 or 17.1.1 is defined as SG Ready input

(*) BUS power supply overload

A BUS power supply overload error may occur due to the connection of three or more devices within the installed system. Devices which may overload the BUS network include:

- Multizone module
- Solar pump assembly
- Module for instant production of domestic hot water

To avoid overloading the BUS power supply, set microswitch 1 on one of the P.C.B.s inside the equipment connected to the system (except the Tank) to OFF, as illustrated in the figure.

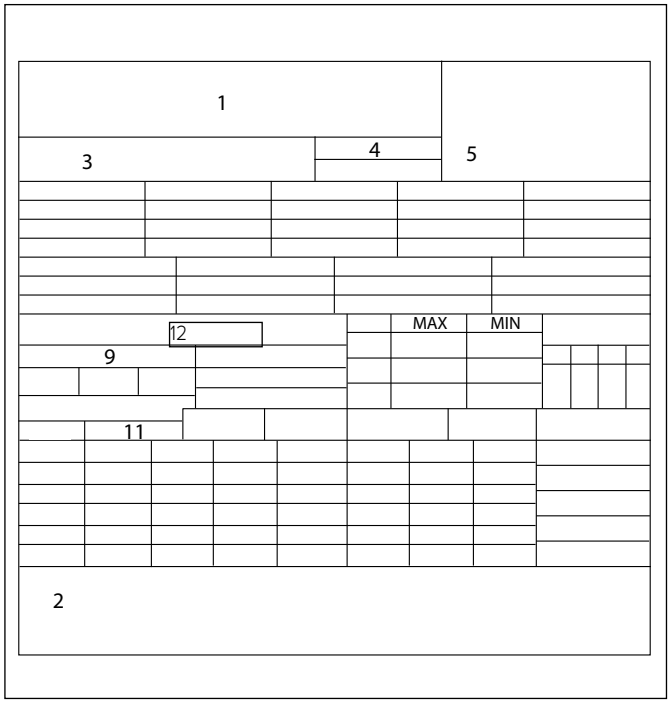


EXTERNAL UNIT ERROR LIST

TDM ERROR	DESCRIPTION	RESET	
		HP POWER OFF	SERVICE RESET
906	HP FAN Mismatch Error	x	
907	HP V4W Mismatch Error	x	
908	HP EXV Mismatch Error	x	
909	HP Zero Fan Speed	x	
910	HP Comunication error	x	
911	HP TE Error	--	--
912	HP V4W Error Service		x
913	HP LWT Error	--	--
914	HP TR Error	--	--
916	HP TEO Error	--	--
917	HP Freeze Service	--	x
918	HP Pump Down Error	--	--
919	HP HIGH SDT Error	x	
922	HP Freeze Error	x	
931	HP INVERTER Error	--	--
937	No circulation error	x	
946	HP compressor error	x	
947	HP V4W Error	x	
948	HP TD Error	--	--
949	HP TS Error	--	--
950	HP HIGH TD Service	--	x
951	HP HIGH TD Error	x	
952	HP TO Error	--	--
953	HP Compressor Heater Mismatch	--	--
954	HP Base Panel Heater Mismatch	--	--
956	HP Compressor model mismatch	--	--
957	HP Fan model mismatch	--	--
960	HP EWT Error	--	--

INVERT-ER ERROR	DESCRIPTION	1ph	3ph
1	Heat Sink-Overheat	x	x
2	Compressor Ipm Over-Current		x
3	Compressor Fail To Drive		x
4	Compressor Over-Current	x	x
5	Input Voltage Lack Of Phase		x
6	Compressor Ipm Current Sampling Failure		x
7	Compressor Drive Capacitors Precharge Failure		x
8	Dc Bus Over-Voltage		x
9	Dc Bus Under-Voltage		x
10	Ac Input Under-Voltage		x
11	Ac Input Over-Current		x
12	Ac Input Voltage Sampling Failure		x
13	Dsp&Pfc Communication Error		x
14	Heat Sink Sensor Error		x
15	Dsp&Mcu Communication Error		x
16	Abnormal Communication With Main Board		x
17	Ipm Module Over-Heat		x
18	Compressor model fault	x	x
19	High Pressure Protection	x	x
21	Fan1 Fail To Drive		x
27	Fan1 Over-Current	x	
29	Fan1 1ph Error		x
35	High pressure switch protection	x	x
36	Ow pressure switch protection	x	x
37	Klixon protection	x	x
38	Inter-boards communication error		x
39	IPM over current	x	
40	Fail to drive the compressor	x	
41	Compressor over current	x	
42	IPM current sampling failure	x	
43	Heat-sink over-heat	x	
44	Fail to Precharge	x	
45	DC bus over voltage	x	
46	DC bus under voltage	x	
47	AC input under-voltage	x	
48	AC input over-current	x	
49	compressor emergency stop	x	
50	AC input voltage sampling fault	x	
51	Heat-sink sensor error	x	
52	DSP & MCU communication error	x	
53	Abnormal communication with IDU control board	x	

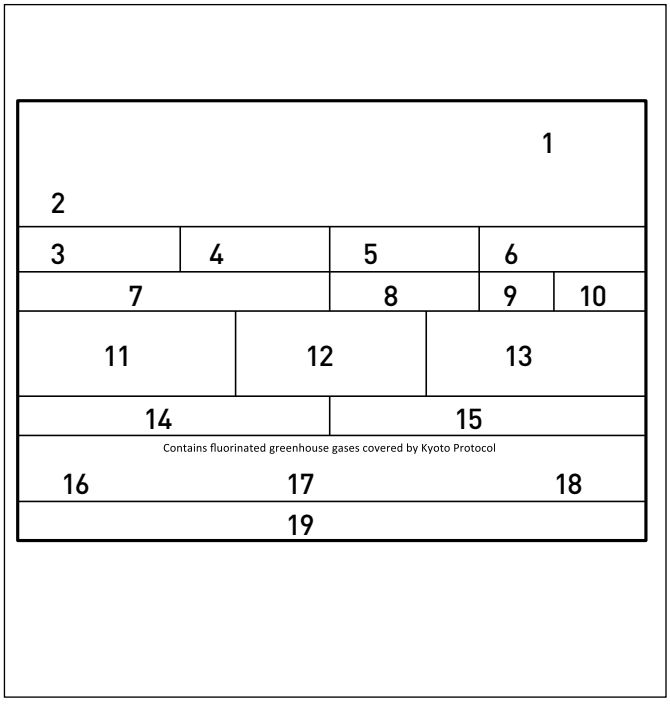
Internal unit data plate



Legend:

1. Brand
2. Manufacturer
3. Appliance model - Serial number
4. Commercial reference
5. Certification number
9. Electrical data
11. Maximum heating pressure
12. Nominal power of heating elements

External unit data plate



Legend:

1. Homologation
2. Certification
3. Model
4. Performance Ratings heating circuit
5. Cooling date
6. Performance Ratings cooling circuit
7. Type of oil in the refrigerant circuit
8. Refrigerant type - load of the refrigerant
9. GWP indice del potenziale di riscaldamento globale
10. Equivalente CO2
11. Electrical data
12. Electrical protection
13. Maximum electric power
14. Maximum pressure refrigerant circuit
15. Minimum pressure refrigerant circuit
16. Plant of manufacturing
17. Protection rating
18. Certificate
19. Contact address

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