

AriaPRO

High efficiency heat pumps



Users Instructions

**Installation &
Servicing
Instructions**

CE

THESE INSTRUCTIONS
TO BE RETAINED
BY USER



Vokèra is a licensed member of the Benchmark scheme which aims to improve the standards of installation and commissioning of domestic hot water systems in the UK.



Dear Customer,
 Thank you for choosing a Vokèra AriaPRO.
 This booklet contains information necessary for the correct installation of this appliance.
 Thanks again.
 VOKÈRA Ltd.

Compliance

The unit complies with the following Standards:

- Electromagnetic Compatibility Directive 2004/108/EC as subsequently amended
- Machinery Directive 2006/42/EC as subsequently amended

Range

Heat pumps	Code
AriaPRO 004 M	20033107
AriaPRO 006 M	20033108
AriaPRO 008 M	20033109
AriaPRO 012 M	20033110
AriaPRO 015 M	20033111

Warranty

The Vokèra product you bought has a SPECIFIC WARRANTY, valid from the date of installation.
 Conditions are specified in the WARRANTY CERTIFICATE, which we invite you to read carefully.

Contents

General	
General notices	3
Fundamental safety rules	3
Description	4
Identification	4
Technical Data	5
Dimensions	7
Electrical diagrams	8
Refrigerating circuit	18
Installer	
Product delivery	18
Handling and transportation	18
Access to inner parts	18
Installation	19
Hydraulic connections	20
Condensate discharge connection	20
Electrical connections	21
Control panel	22
System's charging	23
Technical Service	
First commissioning	23
Stop for an extended period of time	23
System's drainage	23
Ordinary maintenance	23
Extraordinary maintenance	24
Control	
Control panel	25
Functions	26
Abnormal operations	
Anomalies warnings	29

The following symbols are used in this publication:

- ⚠ WARNING = actions requiring special care and appropriate training.
- ⊘ DO NOT = actions that MUST ON NO ACCOUNT be carried out.

General

General notices

- ⚠ Check the integrity and completeness of the supplied equipment as soon as you take it out of its packaging. If necessary, consult the Agency that sold you the equipment.
- ⚠ All VOKÈRA equipment shall be installed by competent persons. The installation must conform to current Legislation and the instructions in this booklet.
- ⚠ These units must comply with their intended use, pursuant to their performance characteristics.
- ⚠ VOKÈRA will not accept any liability for damages to property, people or animals because of installation, calibration and maintenance mistakes or erroneous usage of the equipment.
- ⚠ In case of abnormal operation, or leaks of liquids or refrigerant gases, position the main switch of the system in the "off" position and close the stop taps. Call VOKÈRA's Technical Service or other professionally qualified personnel immediately. Do not try to repair the unit.
- ⚠ This booklet must be kept carefully as it is an integral part of the equipment and must ALWAYS be present, including in case of sale of the equipment to another owner or user, or of transfer to another system. Should the manual get damaged or lost, please ask for a duplicate manual from the VOKÈRA's Technical Service.
- ⚠ Repairs or maintenance actions must be carried out by VOKÈRA's Technical Service staff or other skilled staff, pursuant to the provisions of this publication. Do not modify or tamper with this equipment, as doing so might cause dangerous situation, for which the manufacturer waives all liability.
- ⚠ In the installation and/or maintenance operations please adopt the appropriate attire and accident prevention devices. The Manufacturer waives all and any responsibility for failure to observe the safety and accident prevention regulations from time to time in force.
- ⚠ Comply with the legislation in force on the country of deployment with regard to the use and disposal of packaging, of cleaning and maintenance products and for the management of the unit's decommissioning.
- ⚠ Pursuant to the EC standard n. 842/2006 on certain fluorinated greenhouse gases, it is mandatory to declare the exact quantity of refrigerant present in the installed system. This piece of information can be found on the technical tag attached to the outdoor unit.
- ⚠ This unit contains fluorinated greenhouse gases covered by the Kyoto protocol. Maintenance and disposal activities must be carried out exclusively by skilled personnel.
- ⚠ The units contain refrigerant gas: handle them carefully, to avoid damaging the gas circuit.

Fundamental safety rules

- ⊘ Do not allow children or unassisted disabled people to use the unit.
- ⊘ Do not open the access covers and carry out technical or cleaning activities before disconnecting the unit from the power grid by positioning the system's main switch in the "off" position.
- ⊘ It is forbidden to modify the safety or regulation devices without the authorisation and directions of the manufacturer.
- ⊘ Do not stand, sit and/or place objects on the unit.
- ⊘ Do not pull, detach or twist the electrical wires coming out of the unit, even when the unit is disconnected from the power grid.
- ⊘ Do not spray or throw water directly on the unit.
- ⊘ Do not dispose of, abandon or leave the potentially hazardous packaging materials within the reach of children.
- ⊘ It is strictly forbidden to touch any moving parts, interfere with them or introduce pointed objects through the grids.

Description

AriaPRO

The product is characterised by:

- PAM and PWN modulation DC-INVERTER control, which allows the compressor to modulate its performance continuously from 30% up to 120%, guaranteeing high energetic standards at all moments.
- Pre-painted sheet metal cabinet.
- Revolving TWIN ROTARY-type compressor mounted on antivibrating mounts and placed in a special compartment.
- Electronically controlled variable speed fan, ensuring a highly silent operation.
- AISI 316 stainless steel plate heat exchanger, utilities side, insulated with closed cell anticondensation lining, complete with resistor and differential pressure switch.
- Exchanger made of copper pipes and aluminium corrugated fins.
- Safety devices such as pressure switches, sensors, specific automatic switches and main door-blocking switch.
- Phase monitor.
- Integrated hydronic module, quickly installed with the help of a few external components.
- Micro-processor electronic control regulation performance
- Climate control.

The AriaPRO range units are designed for the production of refrigerated water for air conditioning, heated water for heating and sanitary hot water for homes, residential units, etc., and are used together with terminal units for small and medium systems.

They are designed for outdoor installation, so their constituent materials were chosen for this specific requirement.

1	Automatic air vent valve
2	Flow meter
3	Safety valve (output 1 / 2')
4	Temperature probe
5	Recirculation pump
6	Cap to release pump seizure
7	Expansion tank
8	Position 4 LED Inverter Board Diagnostics (models 012 M - 015 M)
9	Location of Diagnostic LEDs circuit board
10	Wiring terminal

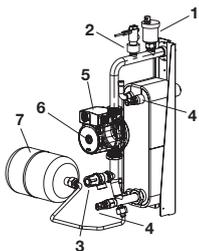
Identification

Technical Tag

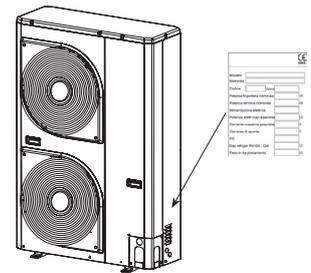
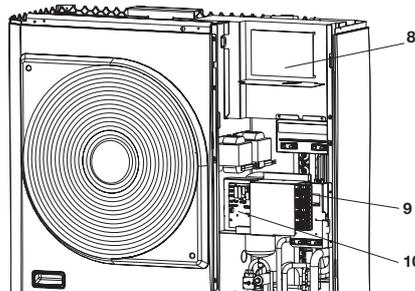
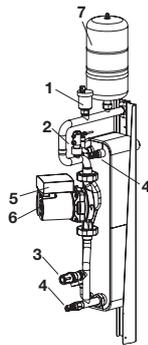
⚠ The technical tag shows all technical and performance data of the unit. Should the tag get lost, please ask for a duplicate tag from the VOKÉRA's Technical Service.

⚠ Any tampering with, the removal or the lack of the Technical Tag or of any other element whose absence prevents certain identification of the product makes it more difficult to install and maintain the product.

004 - 006 - 008



012 - 015



Technical Data

Model		004 M	006 M	008 M	012 M	015 M
Output in heating mode						
Nominal capacity(1)	kW	4.1	5.8	7.2	11.9	14.5
Power Consumption(1)	kW	1.01	1.38	1.84	3.04	3.57
COP(1)	kW	4.05	4.2	3.91		4.06
Energy class(1)		A		B		A
Nominal capacity(2)	kW	3.9	5.8	7.4	12.95	14
Power Consumption(2)	kW	1.21	1.93	2.34	4.3	4.36
COP(2)	kW	3.2	3.01	3.16	3.01	3.21
Energy class(2)		A		B		
Nominal capacity(3)	kW	3.5	3.8	4.1	8	10.2
Power Consumption(3)	kW	1.13	1.23	1.31	2.6	3.29
COP(3)	kW	3.1				
Nominal capacity(4)	kW	3.4	3.7	3.9	8	10.2
Power Consumption(4)	kW	1.31	1.42	1.48	3.08	3.92
COP(4)	kW	2.6				
Nominal capacity(5)	kW	4.1	5.4	6.7	11.5	11.7
Power Consumption(5)	kW	1.51	2.09	2.91	4.64	4.18
COP(5)	kW	2.71	2.58	2.3	2.48	2.8
Output in cooling mode						
Nominal capacity(6)	kW	4.9	7	7.8	13.5	16
Power Consumption(6)	kW	1.21	1.94	2	3.74	4.2
EER(6)	kW	4.05	3.61	3.9	3.61	3.81
Energy class(6)		A		B		A
Nominal capacity(7)	kW	3.3	4.7	5.8	10.2	13
Power Consumption(7)	kW	1.13	1.61	3.03	3.5	4.47
EER(7)	kW	2.91				
ESEER(7)	kW	4.5	4.6	4.4	4.3	4.4
Energy class(7)		B				
Generalities						
Sound pressure in heating(1)	dB(A)	42		44	47	48
Sound pressure in cooling(7)	dB(A)	44		45	48	49
Compressor		Rotary DC Inverter Tecnology				
R410a refrigerant charge	kg	1.195	1.35	1.81	2.45	3.39
Empty weight	kg	63	61	71	105	130

Standard conditions

Note	
1	outdoor temperature D.b. + 7 °C / w.b. + 6°C, water 35 - 30 °C.
2	outdoor temperature + 7 °C / w.b. + 6°C, water 45 - 40 °C.
3	outdoor temperature D.b. + 2 °C / w.b. + 1 °C, water 35 - 30 °C.
4	outdoor temperature D.b. + 2 °C / w.b. + 1 °C, water 45 - 40 °C.
5	outdoor temperature D.b. + 7 °C / w.b. + 6°C, water 55 °C.
6	outdoor temperature D.b.+35 °C / w.b.+24°C, water 18 - 23 °C.
7	outdoor temperature D.b. +35 °C, water 7 - 12 °C.

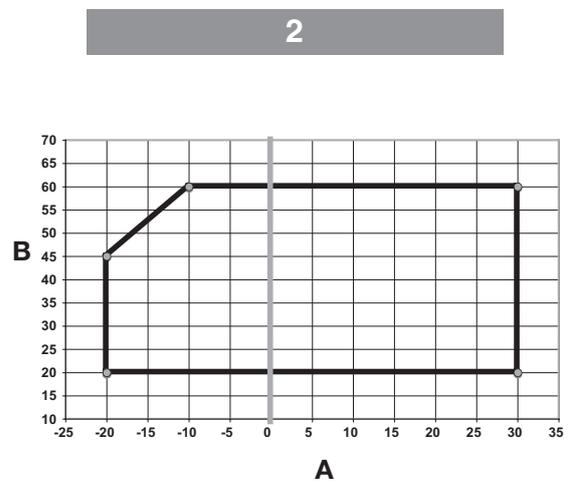
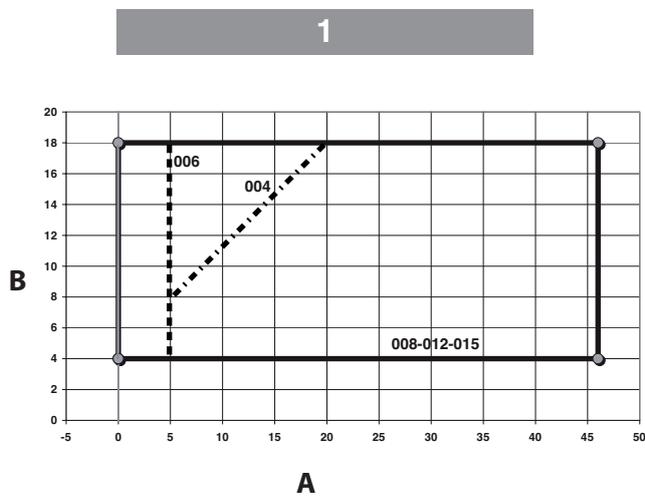
- Sound pressure measured in a hemispheric field 4 meters in front of the fan.
- Unit performances are compliant with Directive UNI EN 14511:2004.
- Fouling factor: 0.18 x 10⁻⁴ (m² K)/W.

Model		004 M	006 M	008 M	012 M	015 M
Sizing electric line						
Power supply	V- ph - Hz	230 - 1 -50				
Allowable Voltage Range	V	207 ÷ 254				
Maximum power drawn	kW	2	2,3	2,7	5,1	5,1
Maximum current drawn	A	7,2	11	14	23	20
Type power fuses		gL tipo				
Power supply fuses	A	10 - tipo B	15 - tipo B	15 - tipo B	25 - tipo D	25 - tipo D
Power supply cables	mm ²	H07RN-F 3 x 2.5mm ²				
Maximum pump current external circulation	A	2				

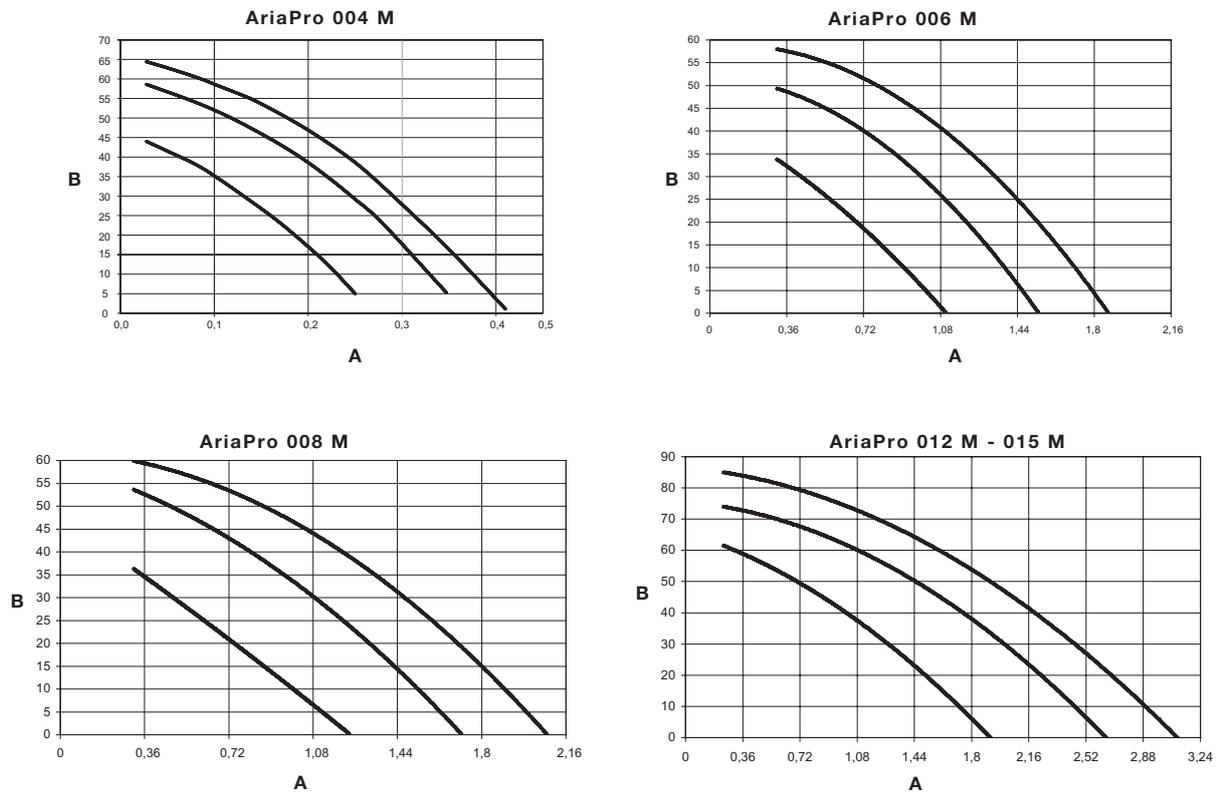
Operating conditions

- ⚠ With models 004 - 006, min. outdoor air temperature must be +5°C if operating in cooling mode.
- ⚠ For the optimum working of the heat pump when producing hot water in summer operation, outdoor air temperature should not exceed 30°C.
- ⚠ When outdoor air temperature exceeds 30°C, hot water production may be limited according to the settings of the safety devices in the equipment.
- ⚠ For technical activities, please refer to the technical tag mounted on board the machine
- ⊘ It is forbidden to work outside of the working field

1	Cooling
2	Heating
A	Outdoor temperature (°C)
B	Outlet water temperature (°C)

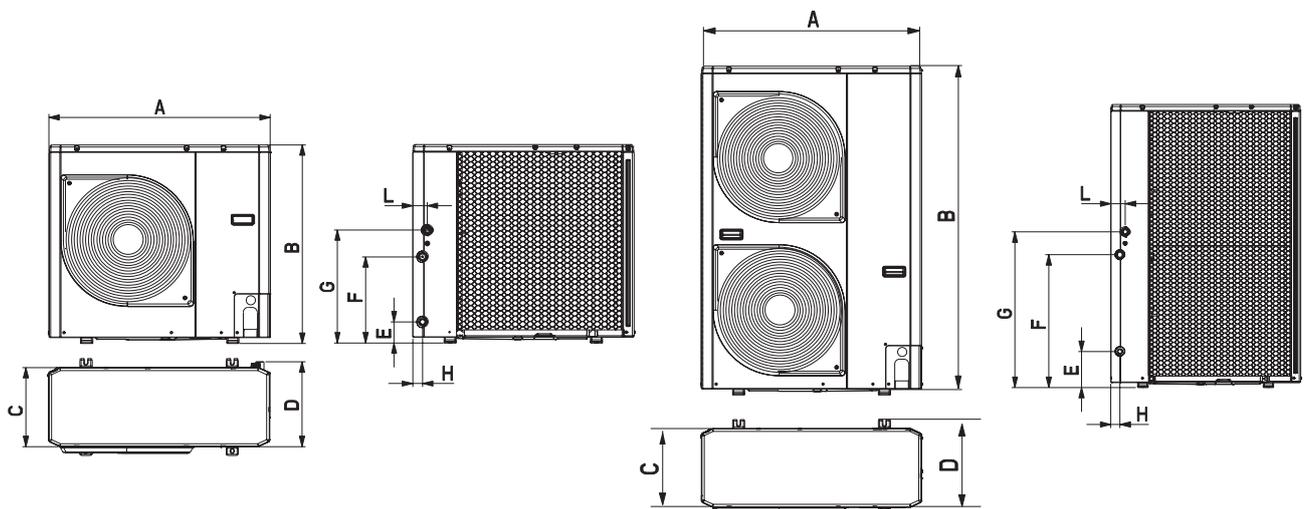


Flow-rate/head diagram



Dimensions

Modello		004 M	006 M	008 M	012 M	015 M
Dimensions						
Empty weight	kg	61		71		105
A	mm			908		
B	mm		821			1363
C	mm			326		
D	mm			350		
E	mm		87			174
F	mm		356			640
G	mm		466			750
H	mm		40			44
L	mm		60			69

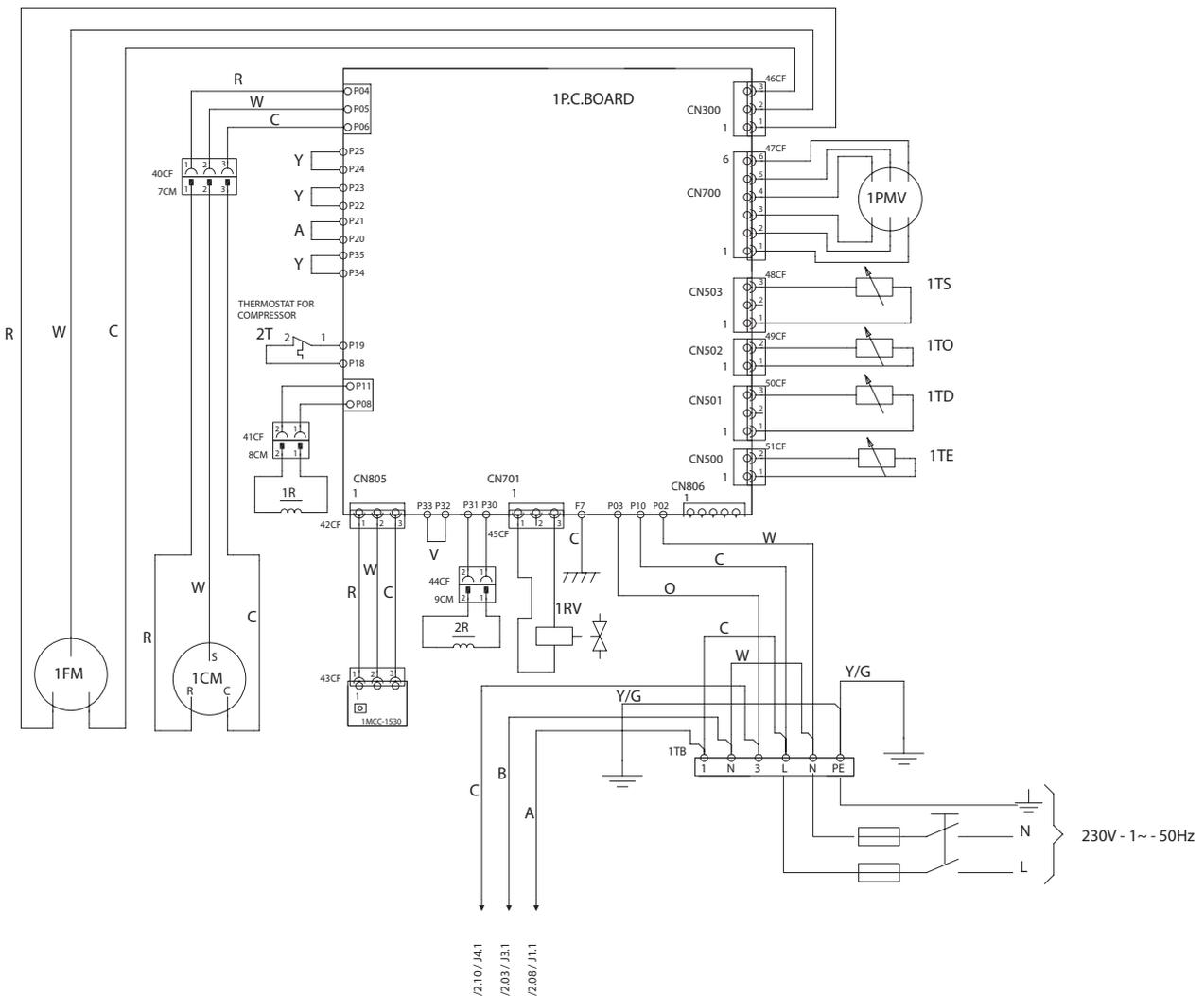


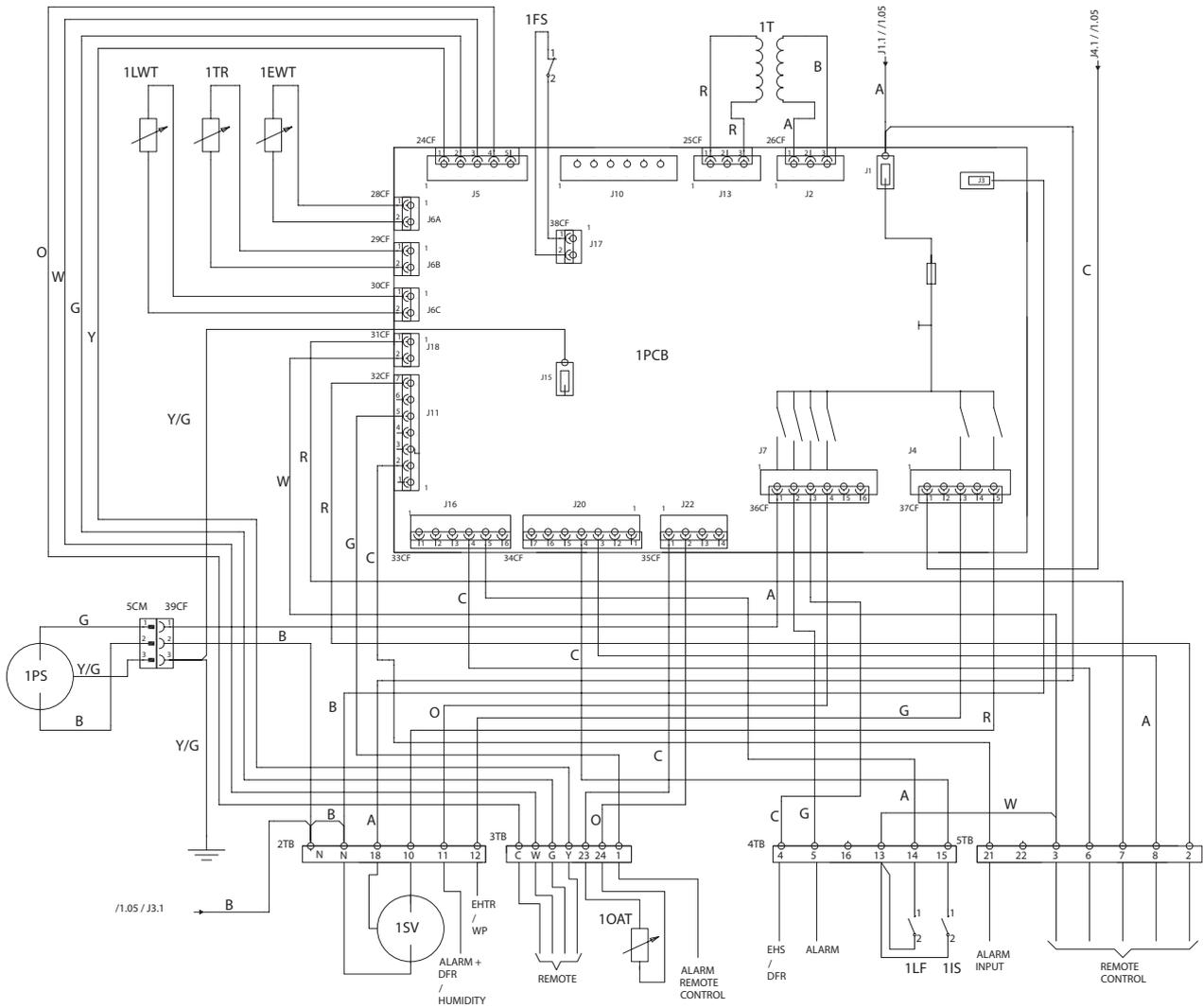
Electrical diagrams

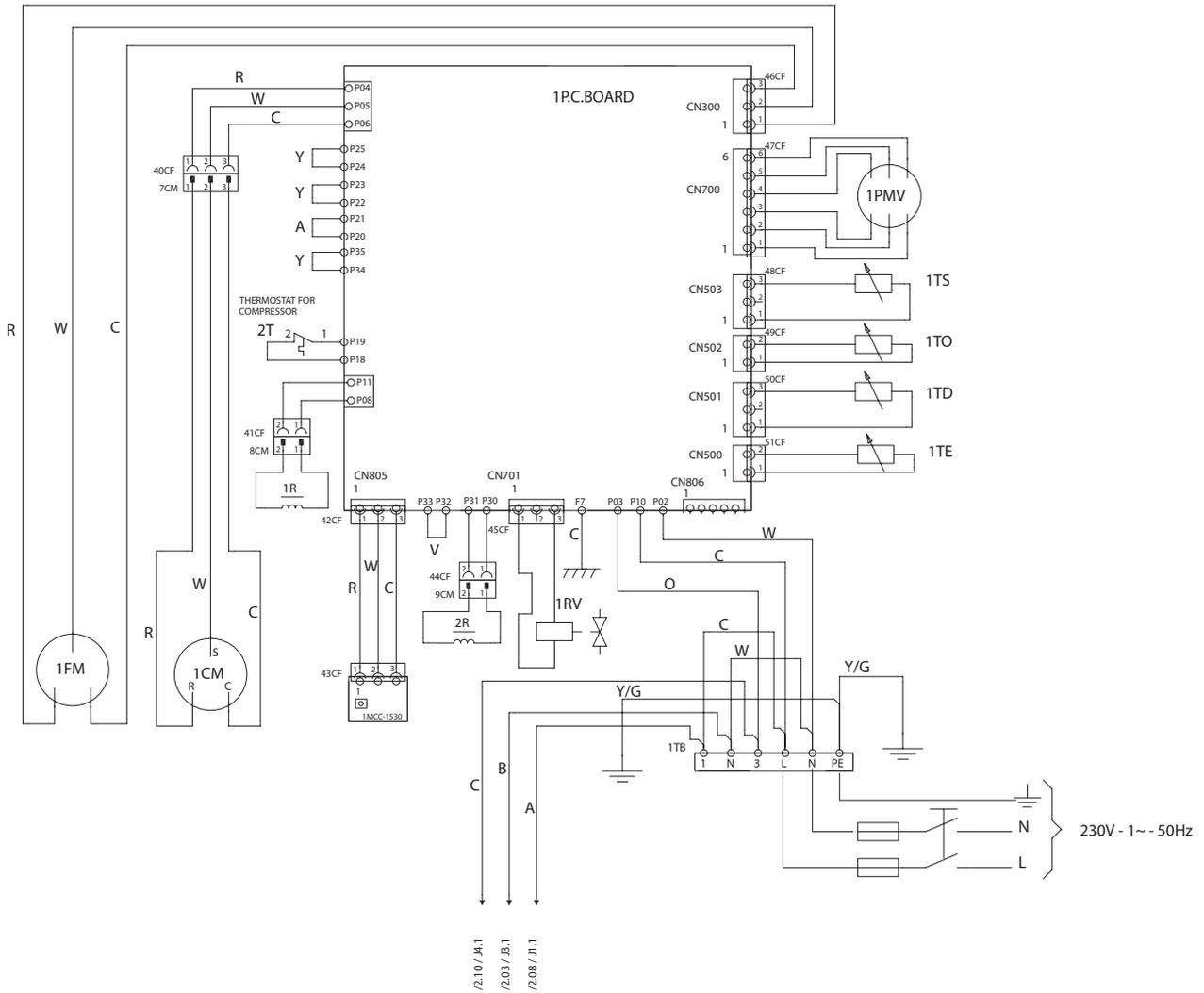
-	Wiring of the manufacturer
----	Field wiring
CM	Compressor motor
FM	Fan engine
RV	Reversing valve (4 way)
TS	Probe temperature low-pressure pipe
TO	
TD	Probe temperature high pressure pipe
TE	Temperature probe capacitor pipe
PMV	Modulating valve engine
R	Red
F	Fuse
LWT	Outlet water sensor
EWT	Inlet water sensor
TR	Refrigerant sensor
FS	Flow meter

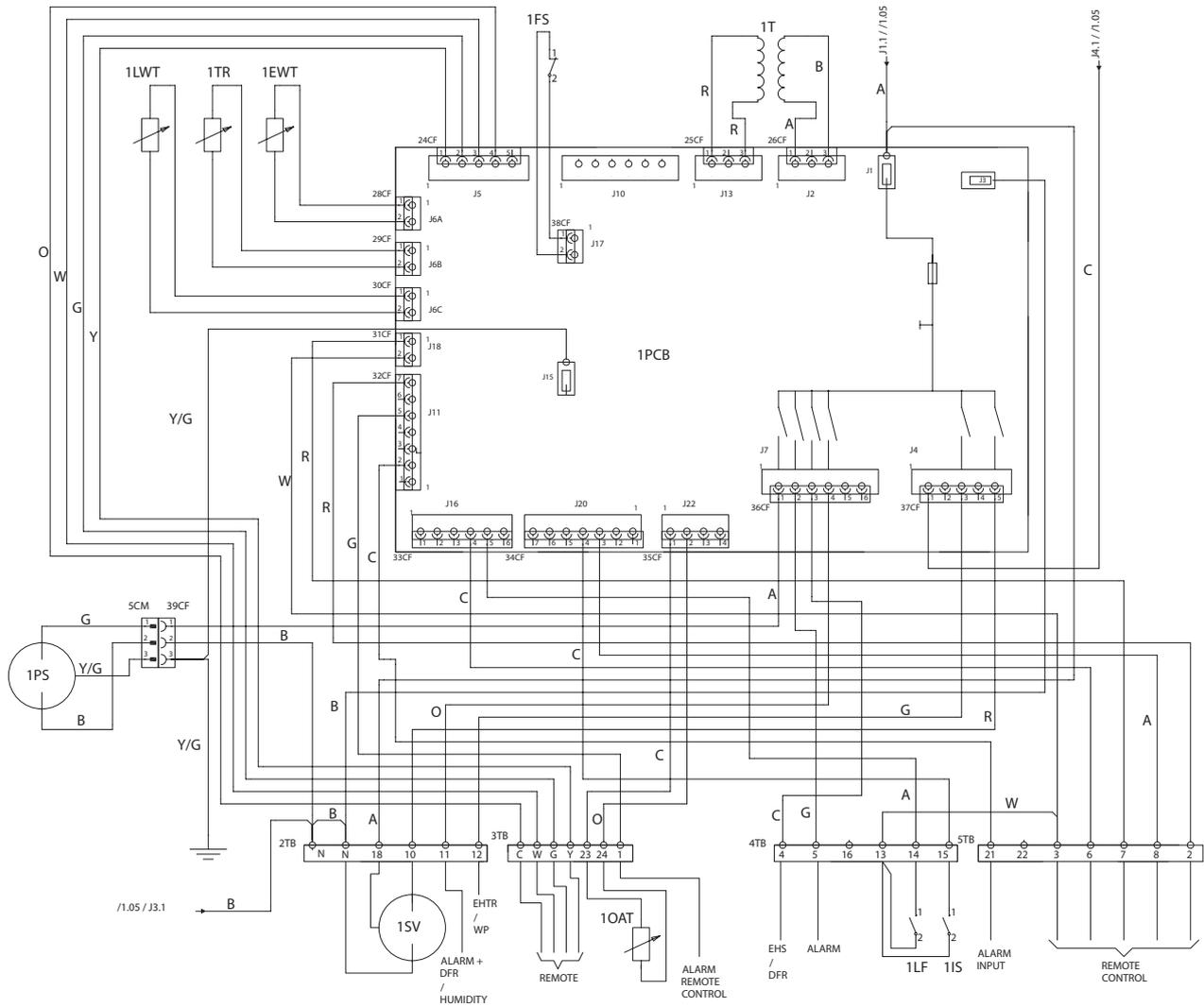
T	Transformer
PS	Water pump motor
E-HTR	Electric Heater
AD	Alarm status and defrost
OAT	Outside air probe
LF	Limiting frequency
IS	Health input
SV	Three-way health valve
Y	Yellow
O	Orange
A	Brown
C	Black
V	Purple
B	Blue
W	White
Y/G	Yellow Green

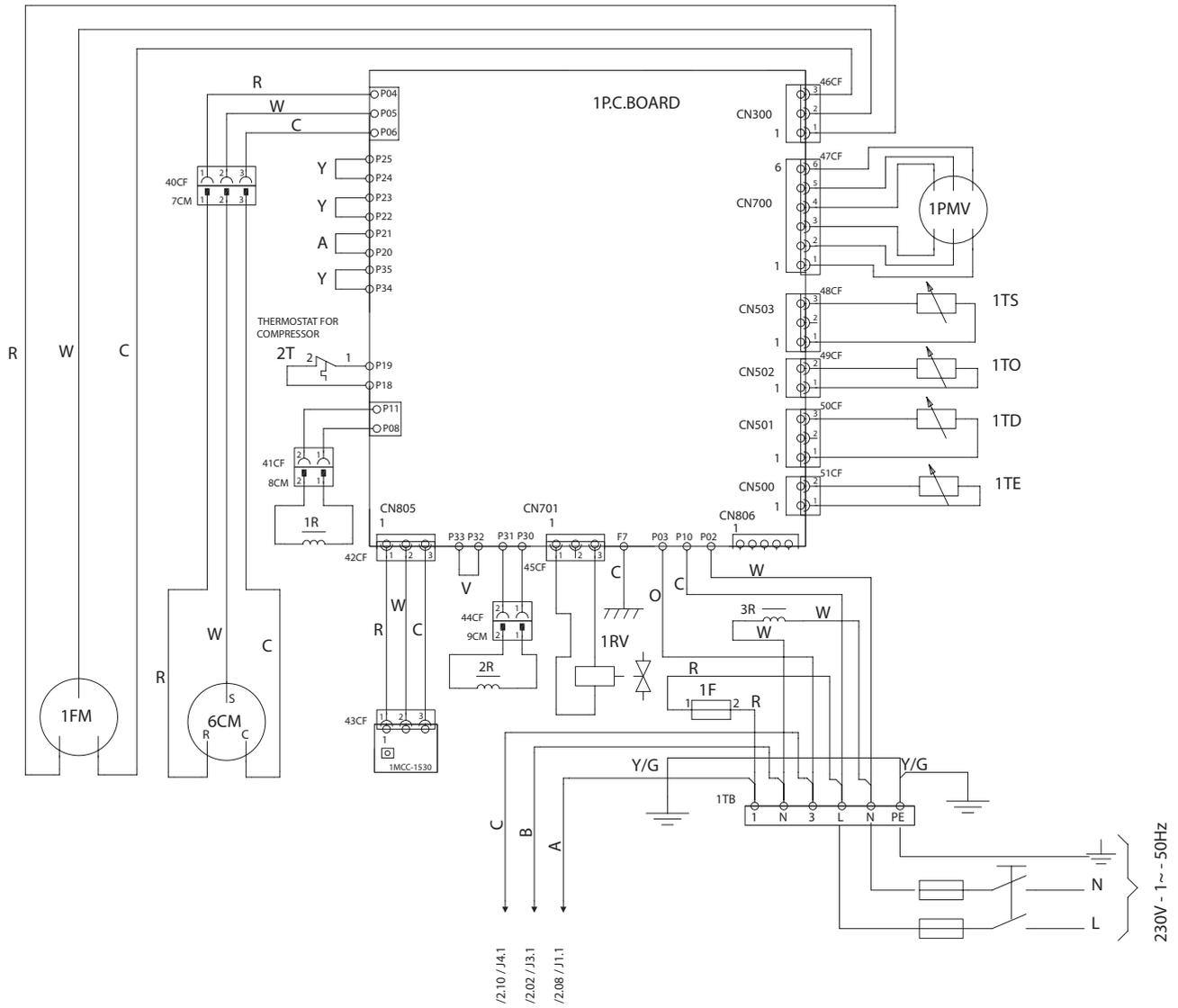
004 M Power

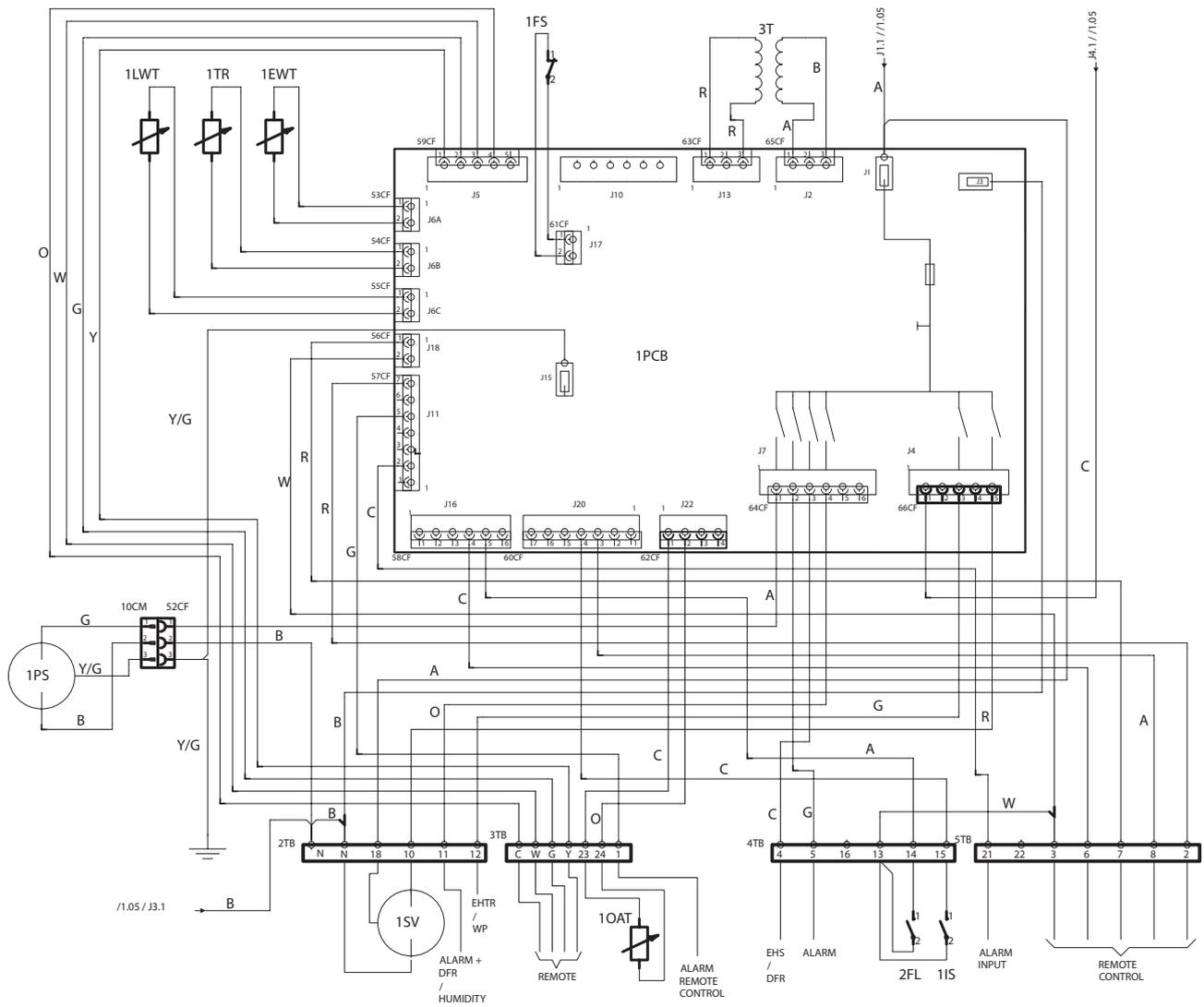


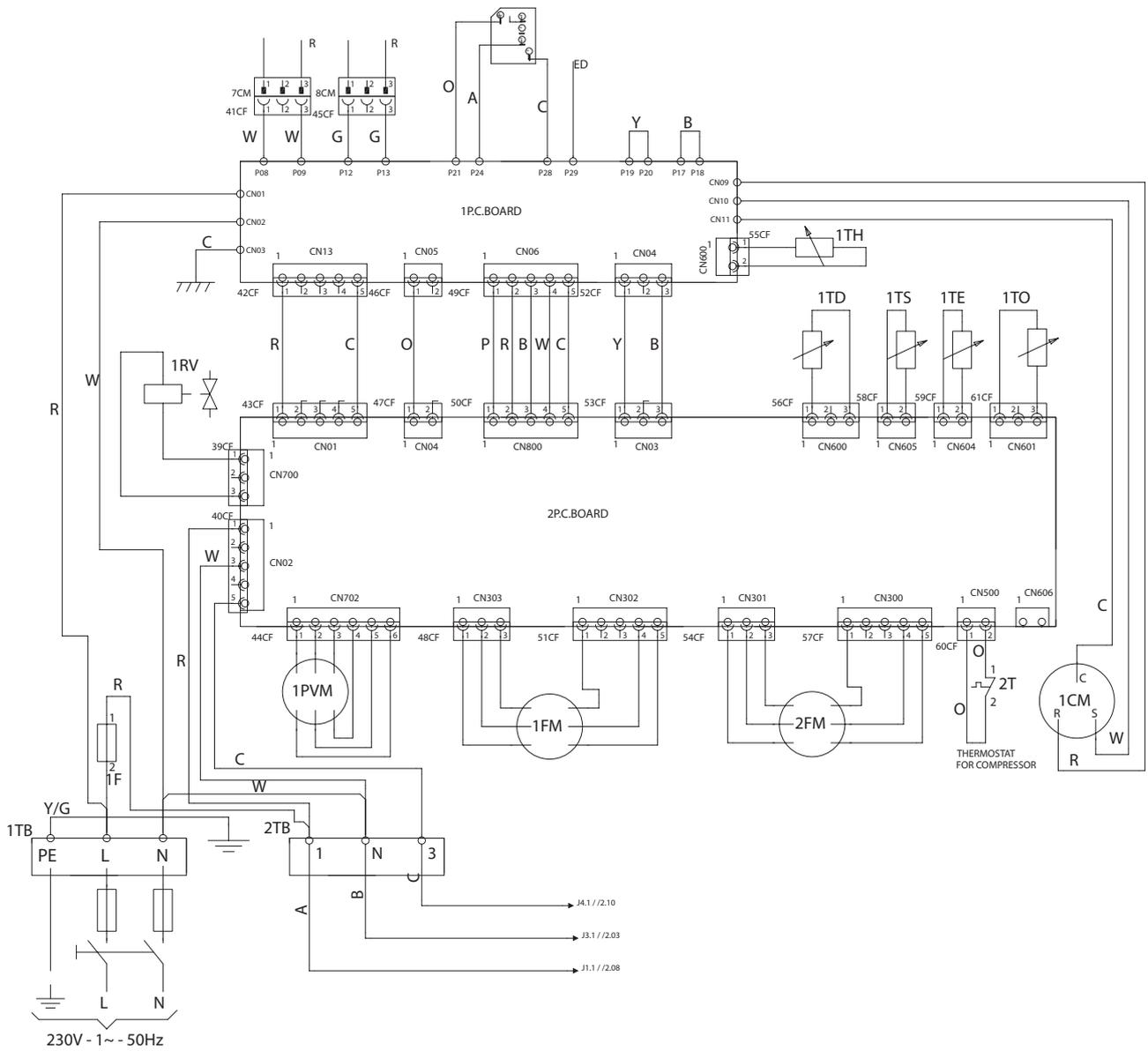


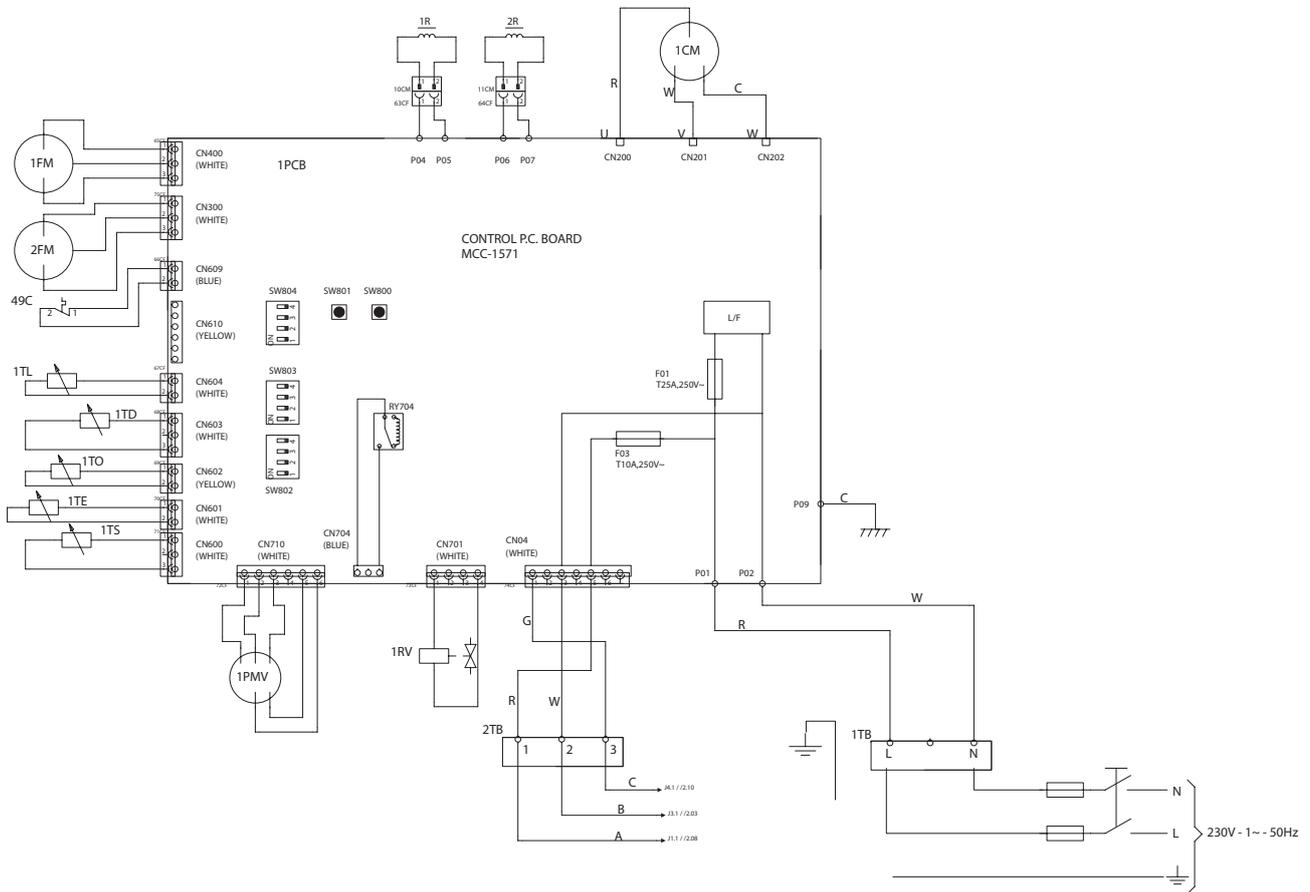


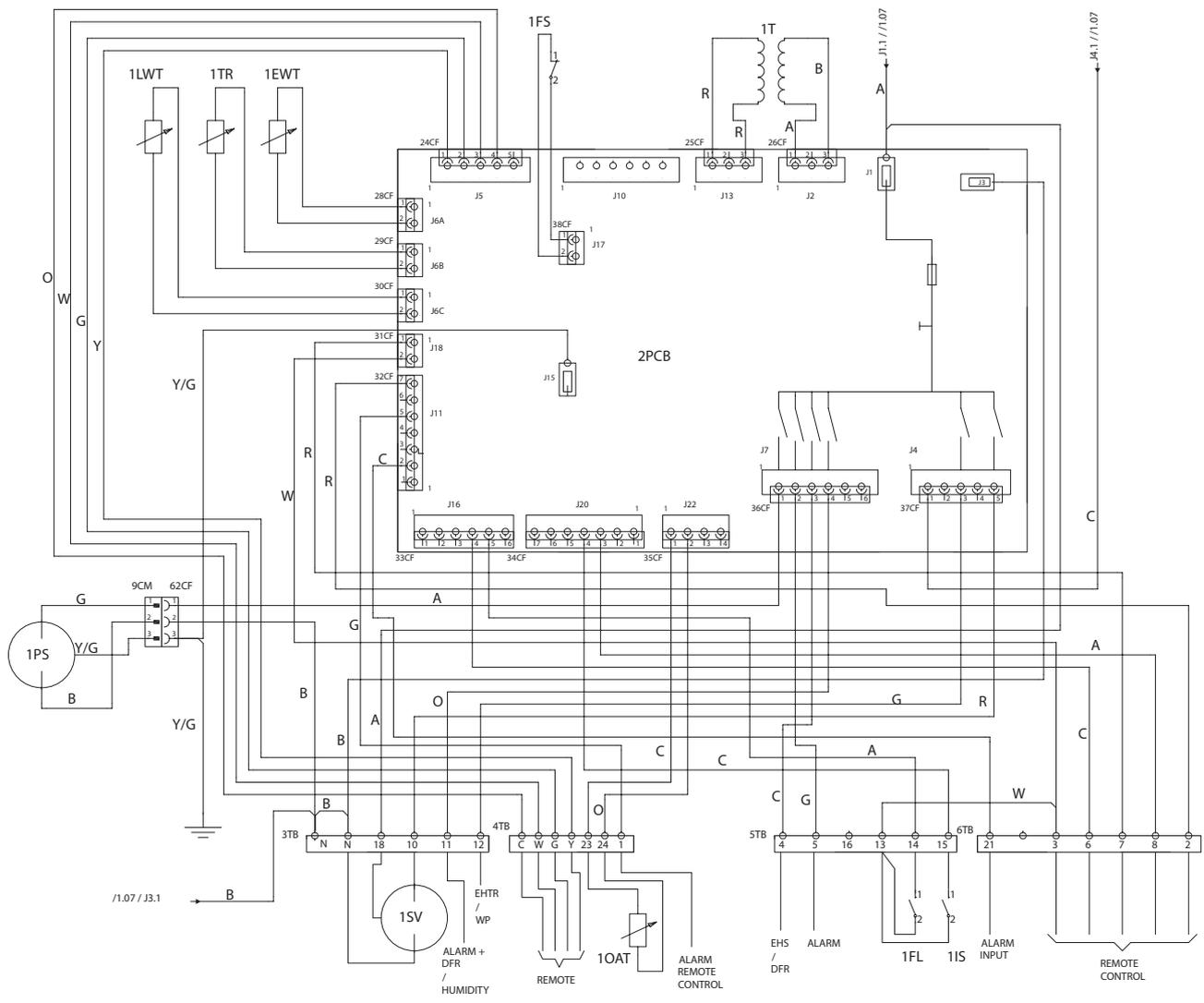








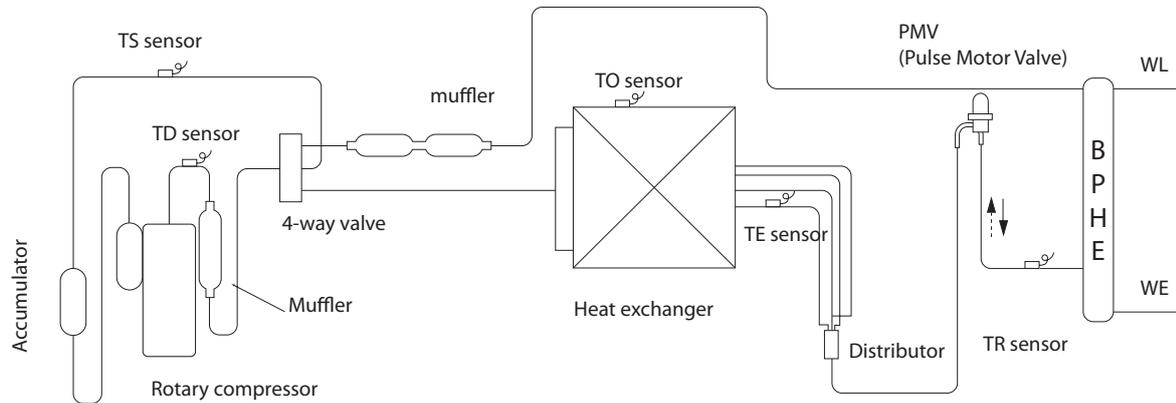




Refrigerating circuit

TS sensor	TS sensor
TD sensor	TD sensor
Accumulator	Liquid accumulator
Rotary compressor	Rotary compressor
Muffler	Silencer
4-way valve	4-way valve
TO sensor	TO sensor
Heat exchanger	Heat exchanger

TE sensor	TE sensor
Distributor	Distributor
TR sensor	TR Sensor
BPHE	Plate heat exchanger
WE	Water Inlet
WL	Water outlet
PWM (Pulse Motor Valve)	Electronic expansion valve



Installer

Product delivery

Preliminary instructions

- ⚠ We suggest to take the equipment out of its packaging only when it has been placed in position at the installation point.
- ⚠ Carefully remove any adhesive strips positioned on the unit.
- ⚠ Do not dispose of, abandon or leave the potentially hazardous packaging materials within the reach of children.

Scope of supply

Also supplied:

- Installer manual
- External probe
- Barcode labels
- Control panel
- Strain relief (size 015M only)
- List of spare parts
- Cable gland
- Drain discharge pipe

- ⚠ The supplied accessories are positioned inside the electrical panel.

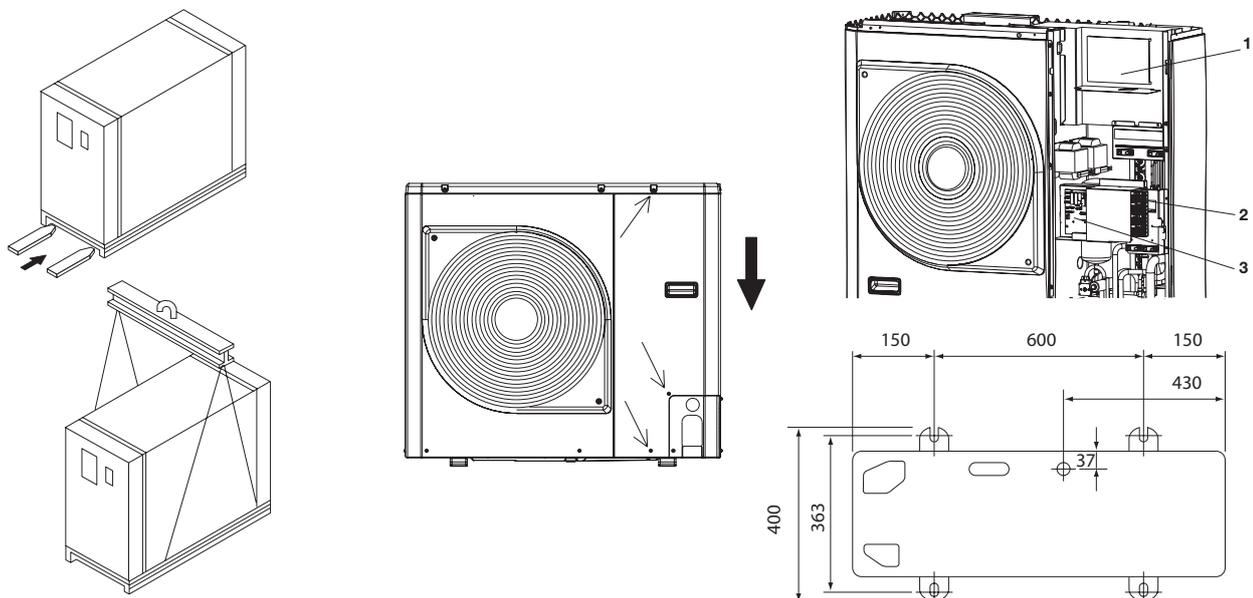
Handling and transportation

- ⚠ The unit must be handled by skilled technicians, appropriately equipped and with the appropriate tools to manage the unit's weight in compliance with the accident prevention regulations.
- ⚠ When handled, the unit must always be kept in a vertical position.
- ⚠ The weight of the equipment is off balance towards the compressor.
- ⚠ If the unit is lifted, use pipes with a diameter and thickness appropriate for the weight of the unit.
- ⚠ Use all the lifting points shown.

Access to inner parts

- Loosen the fastening screw.
- Remove the access panel.

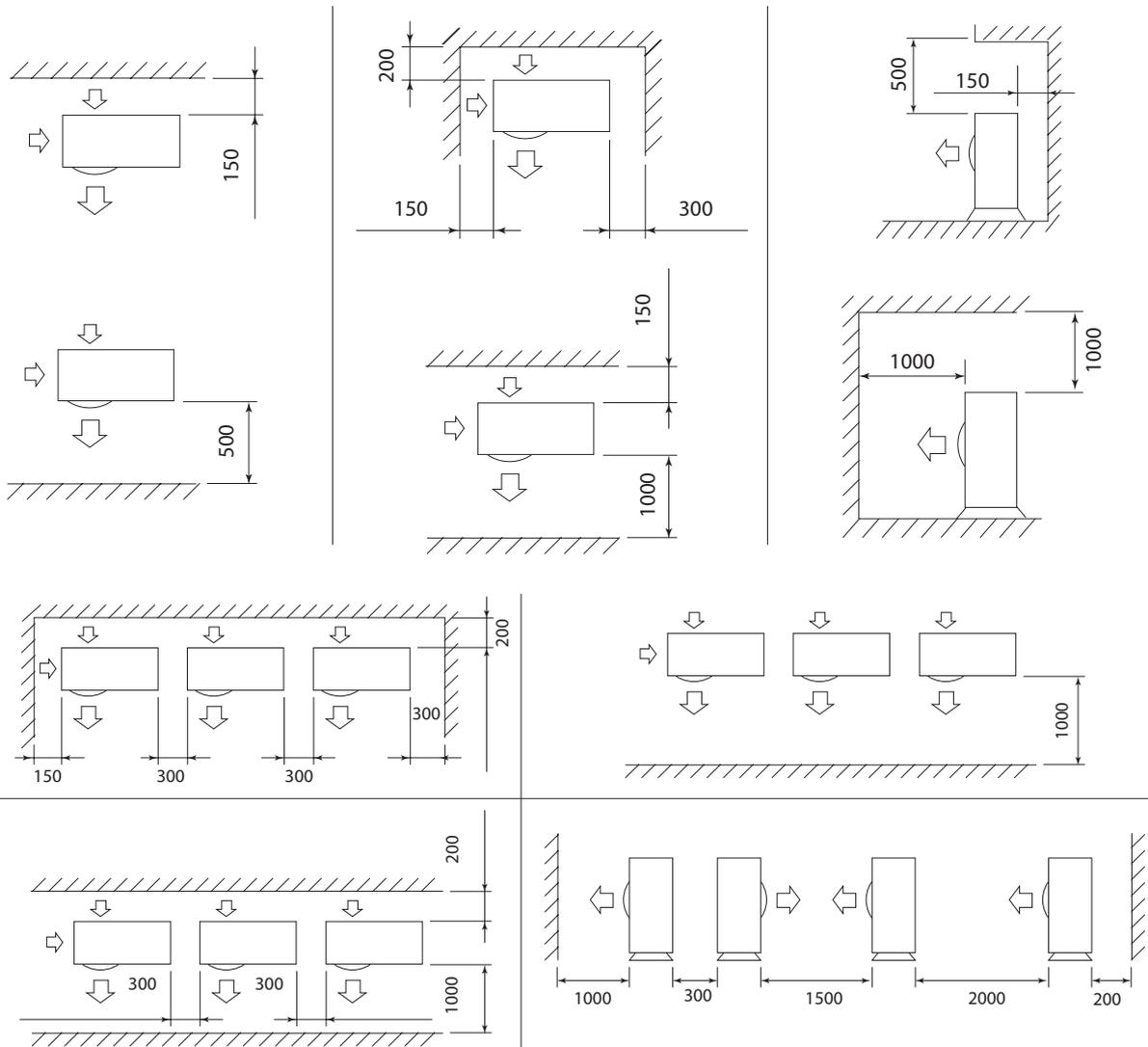
1	Position 4 LED Inverter Board Diagnostics (models 012 M - 015 M)
2	Location of Diagnostic LEDs circuit board
3	Wiring terminal



Installation

Preliminary instructions

- ⚠ The place of installation must be determined by the system's designer or by an expert in the field and must take into account the technical requirements and the current standards and legislation.
- ⚠ We suggest to avoid:
 - The placement in service ducts and/or hopper windows
 - Obstacles or barriers that cause a recirculation of the expelled air
 - Places with aggressive atmospheres
 - Small places where the unit's noise level can be enhanced by reverberation and resonance.
 - Placement in corners, where dust, leaves and other debris may easily deposit and reduce the efficiency of the unit, through obstruction of the air flows.
 - The airflow from the unit can penetrate in the inhabited rooms through doors or windows, creating discomfort.
 - That the airflow from the unit is opposed by a contrary wind.
- ⚠ The units must:
 - Be placed on a level surface able to support their weight.
 - Be placed on a sufficiently rigid floor slab that does not transfer vibrations to the rooms below or next door.
 - It is suggested to place a rubber plate between the slab and the unit, or to use anti-vibrating mounts appropriate for the unit's weight.
- ⚠ The unit must be installed exclusively indoors.
- ⚠ If there are several units placed side by side on the bank side, the required distances must be summed.
- ⚠ Provide for lifting of the unit from the floor:
 - 20mm without conveying of condensation discharge
 - 90 - 100 mm to allow the conveying of the condensation discharge
- ⚠ If the unit is installed in areas subject to heavy snowfall, it shall be necessary to avoid the unit being directly exposed to it.



Hydraulic connections

Preliminary instructions

- ⚠ The choice and installation of system components is left to the skilled installer, who shall operate pursuant to the best practices and the legislation from time to time in force.
- ⚠ Check that the pipes do not contain stones, sand, rust, debris or other extraneous bodies that might damage the system.
- ⚠ It is appropriate to create a by-pass of the unit to make it possible to wash the pipes without having to disconnect the unit.
- ⚠ The connection tubes must have the appropriate diameter and must be supported, so as not to rest their weight on the unit.
- ⚠ Mandatory items:
 - Install a filter whose dimensions are appropriate for the impurities present in the water entering the unit.
 - Install a flow meter for liquids, to be dimensioned and calibrated according to the system's hydraulic characteristics.
 - Install air venting valves in the highest points of the pipes.
 - Install flexible elastic joints to connect the pipes.
 - The flow meter must be positioned halfway through a stretch of horizontal pipe with a length of at least 1 metre.
- ⚠ The system's water content must prevent instabilities in the operation of the refrigerating circuits.
- ⚠ Systems charges with anti-freezing agents or subject to special regulations require the use of water disconnectors.
- ⚠ Failure to install filters, flow meter and anti-vibrating mounts can cause obstruction, breakage and noise issues, for which the manufacturer waives any liability.
- ⚠ Check charge losses from the unit, the system and any other in-line mounted accessories.
- ⚠ The water flow must be maintained stable during operation.
- ⚠ The sealing of threads must be obtained using hemp and green paste. Do not use Teflon when the unit contains anti-freeze liquid.
- ⚠ Do not use the heat pump to treat the water used by industrial processes, in swimming pools or in the house. In all these cases, an intermediate heat exchanger is required.

Condensate discharge connection

With conveying

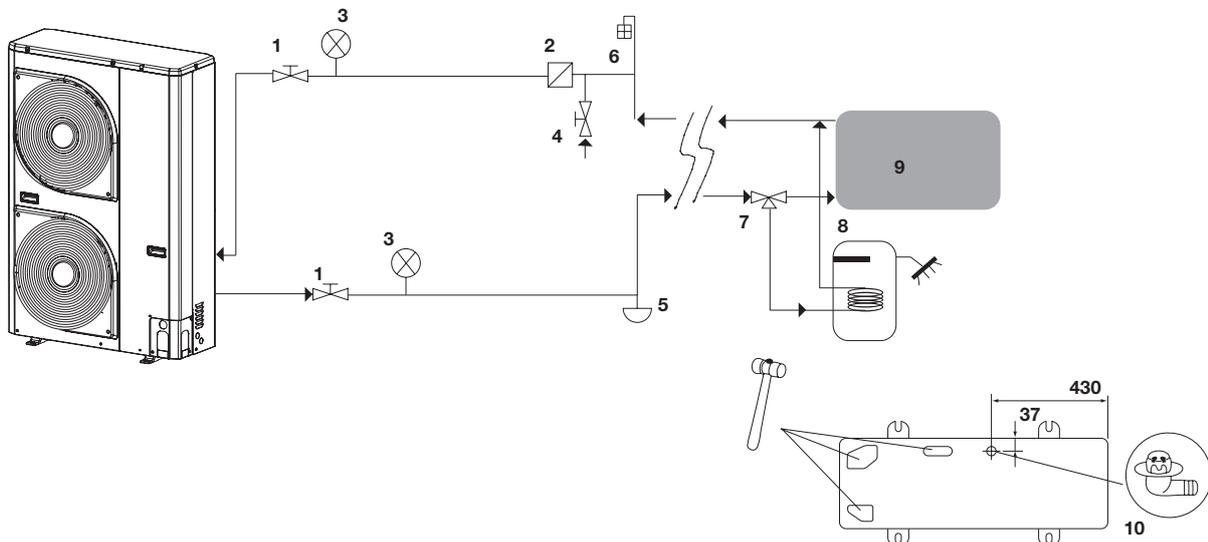
Connect a drainage tube to the connector on the collector tray and run it towards an appropriate discharge area.

Without conveying

- The drainage capacity increases if the pre-cut holes in the base are open.

- ⚠ In case of installation in very cold areas or areas subject to heavy snowfall, where freezing out is a possibility, foresee appropriate antifreeze systems.

1	On-off valve
2	Line water filter (10 mesh / inch)
3	Pressure gauge
4	Filling valve
5	Valve exhaust system (in lowest points of the circuit)
6	Air vent (in the highest points of the circuit)
7	3-way valve
8	Storage tank for domestic water
9	House plant
10	Drain connection



Electrical connections

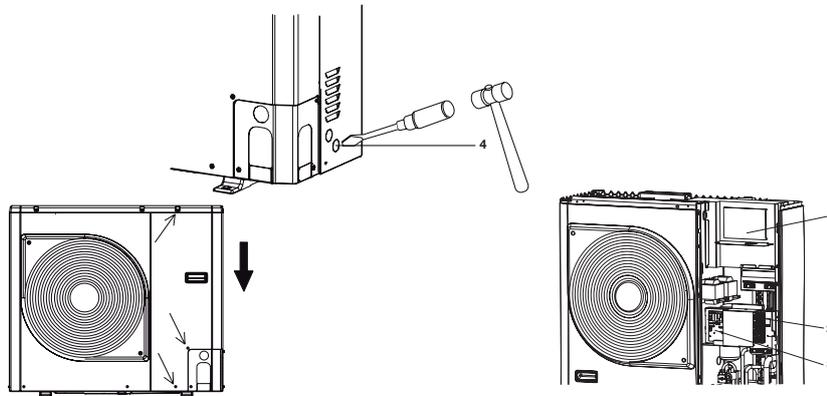
Preliminary instructions

- ⚠ The choice and installation of system components is left to the skilled installer, who shall operate pursuant to the best practices and the legislation from time to time in force.
- ⚠ The manufacturer waives all liability for damages caused by lack of grounding or departure from the electrical diagrams.
- ⚠ Check that:
 - The characteristics of the power supply network shall be appropriate for the unit's power requirements, taking into account also other equipment which might be operated in parallel.
 - Electrical voltage shall be equal to the nominal value +/-10%, with a maximum phase unbalance of 3%.
- ⚠ Mandatory items:
 - The use of an omnipolar magnetothermic switch, lockable line disconnector, compliant with CEI-EN standards (contacts open by at least 4 mm), with adequate disconnection power and differential protection in compliance with the electrical data table below, installed next to the unit.
 - Ground the unit thoroughly.
- ⚠ At the end of the connections, fasten the cables with the appropriate cable glands and replace the terminal boxes' covers.
- ⊘ Do not use gas and water pipes to ground the unit.

Connection

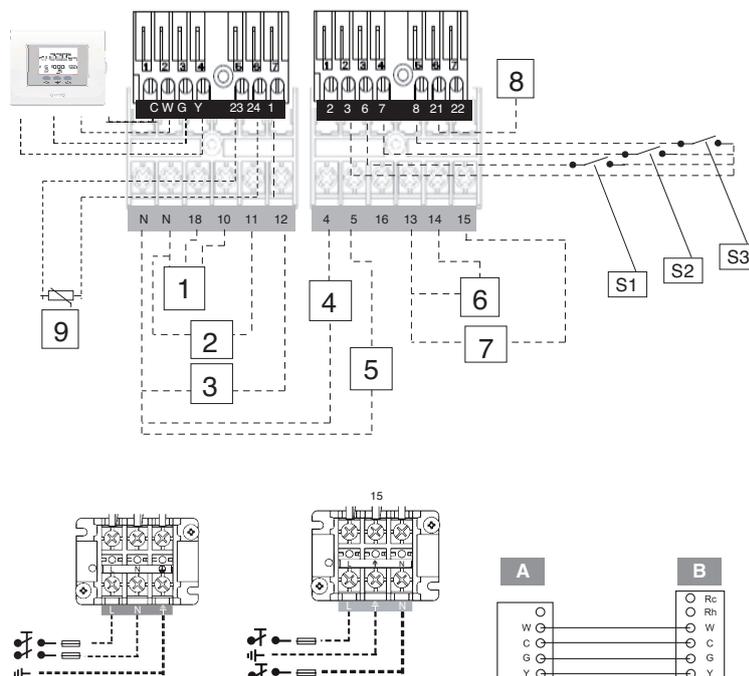
- Punch out the connection points in the pre-cut part.
- Remove the pre-cut part.
- Remove the hole's cutting edges.
- Insert the supplied cable protections .
- Only for size 015 use the strain relief supplied with the unit
- Thread the cables through the holes from the outside, guiding them towards the electrical panel.
- Fasten the cables with the supplied cable grips.
- ⚠ Avoid any direct contact with non insulated copper pipes and the compressor.
- ⊘ It is forbidden to thread the unit's electrical wires in positions not specifically foreseen in this manual.

1	Position 4 LED Inverter Board Diagnostics (models 012.M - 015.M)
2	Location of Diagnostic LEDs circuit board
3	Wiring terminal
4	Electric connections inlet



A	Unit
B	Control panel
S1	Off/ON
S2	Cooling/Heating
S3	Normal / Economic
1	3 Way valve
2	Alarm + defrost / Dehumidifier
3	Trace Heater / Additional Water pump

4	External heat source / Defrost
5	Alarm / Ambient temperature reached
6	Limitation frequency
7	Sanitary Input
8	Alarm Input
9	External temperature probe (NTC 3kΩ@25°C)
10	External water pump



Control panel

The control panel makes it possible to carry out all necessary calibrations to allow the unit to function, and to view the main parameter values and the alarms.

Preliminary instructions

⚠ For correct installation, remember that the panel:

- Must be installed on a wall, preferably not a perimeter one, and one without any hot or cold pipes inside.
- It must be mounted at 1.5 m from the floor.
- It must not be placed next to doors or windows, cooking devices, radiators, fan coils or, more generally, it must not be placed in conditions that might alter the measured temperatures.
- The maximum length of the connecting cable must be taken into account.
- Use a shielded cable for the connection.
- The connection cable must not be spliced; if splicing is necessary, it shall be tinned and adequately protected.
- Any trenching of the connection cable must be separated from the live wires.

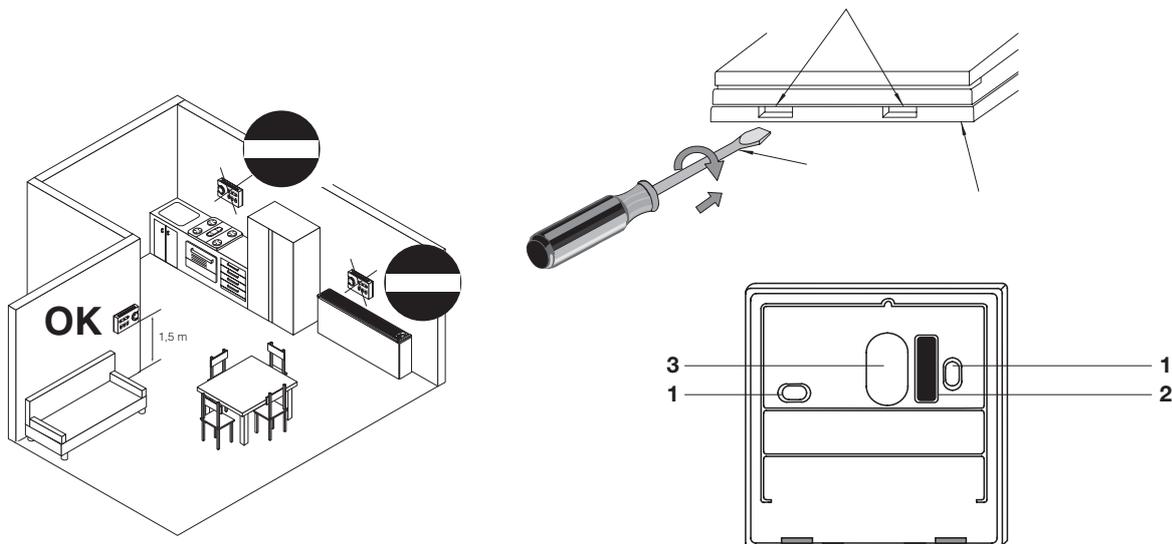
Placement

- Separate the control panel from the base.
- Mark the fastening points using the base as a template.
- Drill a hole in the wall, through which the connections shall be threaded,

Connection

- Thread the connection cable of the control panel through the hole in the base.
- Anchor the base with appropriate screws and bolts.
- Connect the cable to the clamps on the control panel, paying attention to polarity.
- Remount the control panel on the base.

1	Fixing hole
2	Terminal box
3	Connection hole



System's charging

Preliminary instructions

⚠ Do not open the access covers and carry out technical or cleaning activities before disconnecting the unit from the power grid by positioning the system's main switch in the "off" position.

⚠ Check that the main power supply line is disconnected.

⚠ Check that the discharge taps are closed and that the air bleeder screws are open

Pump's release

In case of prolonged stop, it might become necessary to unblock the circulation pump.

⊖ To unblock:

⊖ Access the pump.

- Rotate the impeller with a screwdriver.

Operations

- Open the hydraulic system's stop valves.

- Start charging.

- When water starts to come out of the bleeder valves, close the valves and bring the water's pressure to the system's set value.

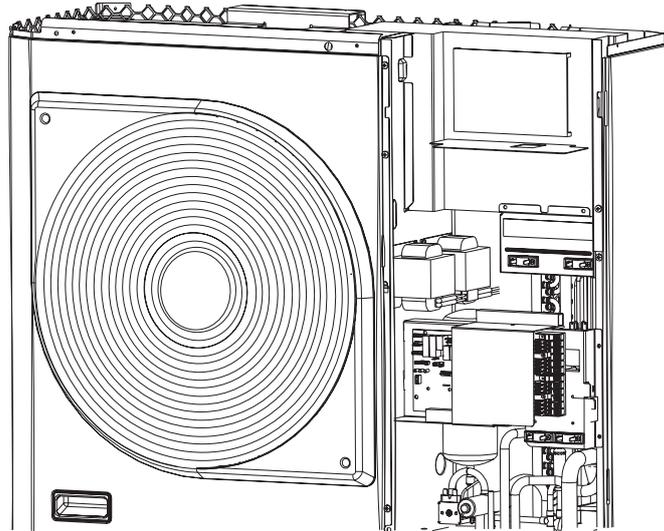
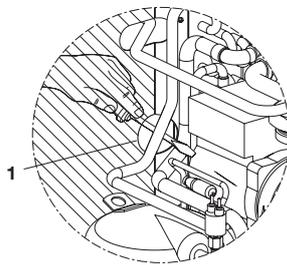
Consider that the safety valves are calibrated at 3 bar.

When the water pressure has stabilised, close the charging valve.

Check the hydraulic sealing of the joints.

Making up of the hydraulic circuits must always take place with the pumps stopped.

1 | Pump's release



Technical Service

First commissioning

Preliminary instructions

⚠ The equipment's first commissioning must be carried out by a qualified engineer.

⚠ Check that:

- All safety conditions have been fulfilled
- The unit was appropriately fastened to support base and correctly positioned.
- All connections have been made correctly
- Check that the stop valves are open.
- Check that the power supply values are correct
- Grounding has been done correctly.
- All connections have been fastened well.

⚠ Check that the voltage values fall within the pre-set limits and that the unbalance between the phases does not exceed 3%.

Start

- Position the system's main switch in the "on" position.
- Position the unit's main switch in the "on" position.
- Check that the operation led on the control panel is lighted, thus showing the presence of voltage.
- Keep the unit under power, but inactive, for at least eight hours, to allow the compressor carter's oil to warm up.
- Position the remote switch (if present) in the "on" position
- Start the equipment according to the directions in the control panel section.

Checks during and after the first commissioning.

⚠ Check that:

- In models with three-phase power supply, the compressor's noise level must not be abnormal (e.g. engine knocking).
- That the suction pressure does not exceed the discharge pressure, if so, invert a phase.
- That the power absorbed by the compressor is lower than maximum power.
- That the unit is operating within the suggested operating limits.
- That the unit stops and then starts again.

⚠ Do not operate the unit with an inverted phase.

Stop for an extended period of time

Preliminary instructions

⚠ Deactivate the unit exclusively from the control panel.

⚠ If there is any likelihood that the external temperature may fall below zero, there is a risk of freeze, and the system MUST BE EMPTIED or anti-freeze liquid (such as ethylene glycol) added, in the doses suggested by the liquid's manufacturer.

Operations

After deactivating the unit:

- Position the remote switch in the "off" position.
- Position the system's main switch in the "off" position.
- Deactivate the indoor terminal units by positioning the switch of each unit in the "off" position.
- Close the water supply taps.
- Close the hydraulic system's stop valves.

System's drainage

- Position the system's main switch in the "off" position.
- Check that the system's charging tap is closed.
- Open the water discharge tap outside the machine.

⚠ Any antifreeze liquid contained in the system should not be discharged freely as it is a pollutant.

Ordinary maintenance

Preliminary instructions

⚠ Regular maintenance is essential in order to keep the unit in top condition, and must be carried out at least once a year by the Technical Service or by skilled technicians.

⚠ Plan the maintenance schedule according to the characteristics of installation and the use of the unit.

⚠ For units installed in a seaside environment, the maintenance intervals shall be halved.

⚠ After carrying out the necessary maintenance actions, the original conditions must be restored.

- ⚠ Do not open the access covers and carry out technical or cleaning activities before disconnecting the unit from the power grid by positioning the system's main switch in the "off" position.

Cleaning

- ⚠ Do not open the access covers and carry out technical or cleaning activities before disconnecting the unit from the power grid by positioning the system's main switch in the "off" position.
- The only necessary cleaning activity to be carried out by the system's user concerns the unit's external cabinet, which must be cleaned using exclusively a cloth wet with soapy water.
- In case of tough stains, wet the cloth with a mix of 50% water and denatured alcohol or with specific detergents.
- After washing, dry the surfaces carefully.
- ⚠ Do not use sponges with scouring products or powdered detergents.

Operations

The annual maintenance plan includes the following checks:

- Mesh filter cleaning
- Supply voltage
- Fastening of electric connections
- Status of the hydraulic joints
- Water circuit charging
- Pump operation check
- Presence of air in the hydraulic circuit
- Safeties efficiency
- Compressor's remote control switch status
- Plate heat exchanger's resistor efficiency
- Compressor's resistor efficiency
- Cleaning of fan grids

Extraordinary maintenance

Preliminary instructions

- ⚠ Check that the main power supply line is disconnected.
- ⚠ Use tools appropriate for the refrigerant used.
- ⚠ It is strongly suggested to use safety goggles and gloves.
- ⚠ In case of partial leak of refrigerant gas, the circuit must be completely emptied before being recharged, and the refrigerant must be recovered.
- ⚠ Any gas leaks indoors can generate toxic gases if they come into contact with naked flames or high temperature bodies, in case of leaks, please air the rooms thoroughly.
- ⊖ Do not charge the refrigerating circuits with a different refrigerant from the prescribed one.
- ⊖ Do not use oils that are different from the prescribed one. The use of different oils may seriously damage the compressor.
- ⊖ Do not use oxygen or acetylene or other flammable or poisonous gases in the refrigerating circuit, as they can cause explosions.
- ⚠ Operating conditions different from the nominal ones may yield values that differ considerably.

Compressor

The compressor is installed on the unit already charged with oil and sealed. In case of breakages, if the compressor can be repaired, use only original ester oil.

- ⚠ Do not use oils that are different from the prescribed one. The use of different oils may seriously damage the compressor.

Refrigerant charge

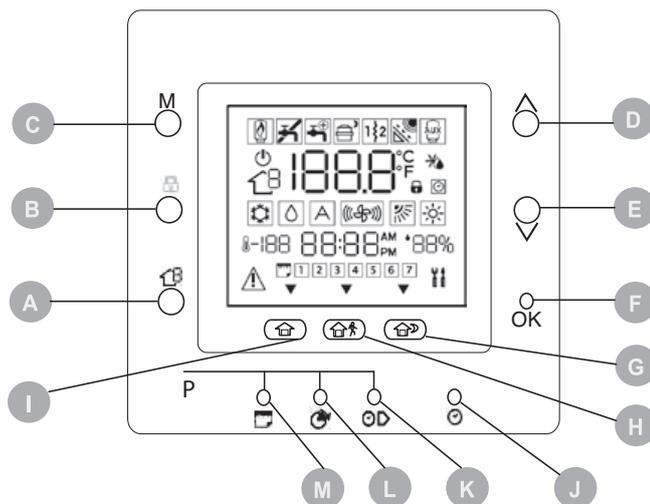
Proceed as follows:

- Empty and dry the whole refrigerating circuit using a vacuum pump connected to both the low pressure and high pressure ports, until the value displayed on the vacuum gauge is about 10 Pa.
- Wait for a few minutes and check that such value does not go up again to over 50 Pa.
- Connect the refrigerant gas cylinder or a charging cylinder to the low pressure line port.
- Charge the required quantity of refrigerant gas, as shown in the unit's technical tag.
- ⚠ In case of partial leak, the circuit must be completely emptied before being recharged.
- ⚠ The refrigerant must be charged into the unit only in its liquid state. Always check the overheating and undercooling values which, in the unit's nominal operating conditions must fall between 5 and 10° C in refrigerators and 4 and 8° C in heat pumps, respectively.

Control

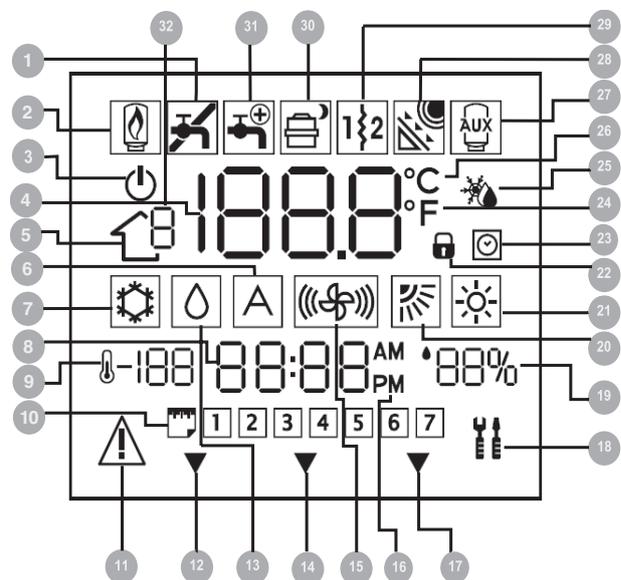
Control panel Keys

A	ZONE
B	BLOCK
C	METHOD
D	Up arrow
E	Down arrow
F	OK
G	night
H	outdoor
I	indoor
J	D / H / M SET TIME
K	START TIME
L	PERIOD
M	DAYS
BLOCK	It keeps the temperature currently selected or start the program schedule.
E	Down arrow
Up arrow	Increases the temperature or increases the number of selected items on the screen when adjusting the advanced settings programmatically.
Down arrow	Decreases the temperature or decreases the number of selected items on the screen when adjusting the advanced settings programmatically.
OK	Saves the settings once the set-up or a step programming has been carried out
night	Activates heating and cooling settings planned for the period of "night".
outdoor	Activates the heating and cooling settings for the planned period away from home.
indoor	Activates the heating and cooling settings planned for the period "at home".
D / H / M SET TIME	Mode for setting the date and time.
START TIME	Activates the programming menu, displaying the beginning of the six periods of time scheduled.
PERIOD	Activates the programming menu, displaying the six periods of time scheduled.
DAYS	Activates the programming menu, displaying the options: 1 to 7 every day, from 1 to 5 weekdays, from 6 to 7 for weekend, day by day 1,2,3,4,5,6,7
ZONE	This key is used in programming.



Symbols

1	Domestic Water Supply
2	Gas boiler
3	System off
4	Air temperature inside the room
5	ZONE
6	Not used
7	Cooling Mode
8	Now
9	Outdoor temperature
10	Weekday
11	Alarm
12	system is using the "At Home" settings
13	Not used
14	system is using the "Away from home" settings
15	Not used
16	AM / PM indicator for the current time
17	The system is using the "Night" settings
18	Maintenance/installer Mode
19	Percentage relative humidity
20	Not used
21	Heating Mode
22	Keypad lock
23	Time program activated
24	Fahrenheit
25	Thermostat set on anti-freeze temperature
26	Celsius
27	Auxiliary heat source
28	Solar
29	Auxiliary electric heater
30	Heat pump functioning
31	Domestic water supply booster
32	Zone number



Functions

Setting the current date and time.

Upon first use of the machine, it is necessary to set the current date and time.

Push the D/H/M SET TIME key.

The selected parameter starts blinking.

Push the D/H/M SET TIME key to change parameter.

Activate the arrow keys.

Set the current value.

Push the OK key to confirm.

Setting of room temperature

- Push the mode key.
- Select the desired operation mode.
- Activate the arrow keys.
- Set the desired temperature.
- The temperature value is stored until the next programmed period.
- The icon for the timer programme blinks.
- Push the lock key.
- The set temperature shall be maintained until the user presses the lock key again.

Keyboard lock

To lock:

- Push the Days, Period and Period Start keys concurrently for 3 seconds.
- All keys shall be disabled.
- The keyboard locked icon is displayed.

To unblock:

- Push the Days, Period and Period Start keys concurrently for 3 seconds.

Touch'n'Go functions

The Touch'n'Go functions make it possible to access simplified programming options.

The functions values are pre-set by default on typical temperatures and periods, different for heating and cooling.

Available functions and pre-set values:

Function	Heating	Cooling
Indoor	20° C	24° C
Outdoor	15° C	28° C
Night	18° C	26° C

To select:

- Push the key for the desired function.
- Push the Lock key to keep the home at one of three comfort levels indefinitely.

To change:

- Push the key for the desired function for 3 seconds.
- The set temperature starts blinking.
- The heat or cool symbol starts blinking
- Activate the arrow keys.
- Set the desired temperature.
- The triangular icon above the key starts blinking.

To change mode:

- Push the mode key.
- Select the desired operation mode.
- Repeat the change operations.
- Push the OK key to confirm.

Reset

- Press the At home and Away keys concurrently for 10 seconds to enter the user configuration mode.
- The number 999 is displayed in the Temperature area of the screen.
- The number 10 is displayed in the Time area of the screen.
- Activate the arrow keys.
- Set the value "0".
- The temperature "Fd" abbreviation is displayed in the Temperature area of the screen.
- Reset is activated.
- The Control panel is reset to the default values.

Time slots.

The Control panel can hold up to six time slots, called periods, identified on the display as P1, P2, P3, P4, P5 and P6.

Period	Start time
P1	6:00 AM
P2	8:00 AM
P3	17:00 PM
P4	22:00 PM
P5	22:00 PM
P6	00:00 AM

The period values are pre-set by default:

To select:

- Push the Days key repeatedly.
- Select the desired time option.
- Push the period key.
- The "P" and "1" values start blinking.
- The P1 period is activated.

To change:

- Push the Start period key.
- 6:00 AM starts blinking.
- Activate the arrow keys.
- Select the desired value.
- Push the Start period key to change parameter.
- Repeat the change operations.
- Push the OK key to confirm.

⚠ The end of period value corresponds to the start or period one for the next period.

To check:

- Push the Days key.
- Select the time option.
- Push the period key.
- Check the set times.
- Push the period key to proceed.

If the settings are incorrect:

- "--" is displayed on screen.
- The triangular icons are turned on.

If the settings are correct:

- Push the OK key to confirm.

Programming

The time slots can be associated with:

The functions:

- indoor
- outdoor
- night

The unit's setting modes:

- ON/OFF
- Frequency reduction ON/OFF.

To match:

- Set the time slot as shown in the relevant chapter
- Push the desired Touch'n'Go key.
- The triangular icon above the key starts blinking.
- Push the Zone key.
- If the unit's status is ON, you are choosing to turn the heat pump OFF during the P1 period
- If the unit's status is OFF, you are choosing to turn the heat pump ON during the P1 period
- Push the Maintain key.
- If the unit's status is ON, you are choosing to turn the frequency reduction mode "OFF"
- If the unit's status is OFF, you are choosing to turn the frequency reduction mode "ON"

To go to the second period:

- Press the Period key twice
- P2 starts blinking
- Repeat the settings

To check:

- Push the Days key.
- Select the time option.
- Push the Period key.
- Check the set times.
- Push the Period key to proceed.

If the settings are incorrect:

- "--" is displayed on screen.

- The triangular icons are turned on.
- If the settings are correct:
- Push the OK key to confirm.

Temporary change of the programming

While the unit is in use, it might be necessary to change its programming temporarily.

To change:

- Push the desired Touch'n'Go key.
- The function's symbol starts blinking

The system shall start in the selected function until the following programming or until further choice.

To go back to the original programmed period:

- Push the Touch'n'Go key that had been previously activated.
- The function's symbol stops blinking

Settings lock

While the unit is in use, it is possible to lock the temperature values associated with a Touch'N'Go function also for a time slot for which they had not been meant.

To lock:

- Push the desired Touch'n'Go key.
- Push the Maintain key.
- The icon for the timer programme blinks off.

To go back to the original programming:

- Push the Maintain key.
- The icon for the timer programme starts blinking and then remains turned on.

Change of parameters

It is possible to change the settings of different functions on the Control Panel.

- Push the Touch'N'Go keys concurrently for 3 seconds.
- "1" starts blinking in the Time area of the screen.
- Push the mode key.
- The value of the parameter starts blinking in the Temperature area of the screen.
- Activate the arrow keys.
- Select the desired value.
- Push the Mode key to lock the settings.
- If you press the OK key the settings shall be saved and the value of the parameter shall start blinking, with the possibility of changing it later on.
- If you press the Mode key the settings shall be saved and the change of the next parameter shall be enabled.

To move:

- Activate the arrow keys.

To confirm:

Push the OK key to confirm.

⚠ Refer to the functions table for further details on the various parameters.

Quick keys to activate the frequency reduction mode.

To activate:

- Push the Lock key for 10 seconds.
- The Heat pump active with frequency reduction icon lights up.

To deactivate:

- Push the Lock key for 10 seconds.
- The Heat pump active with frequency reduction icon turns off.

⚠ The frequency reduction mode has priority over other time programmes.

Installer configuration mode:

To enter:

- Push the Zone key and the Lock key concurrently for 3 seconds.
- The number of the parameter starts blinking in the Time area of the screen.
- The value of the parameter is shown in the Temperature area of the screen.

To change:

- Push the mode key.
- The value of the parameter starts blinking in the Temperature area of the screen.
- Activate the arrow keys.

Select the desired value.

Push the Mode key to lock the settings.

- If you press the OK key the settings shall be saved and the value of the parameter shall start blinking, with the possibility of changing it later on.
- If you press the Mode key the settings shall be saved and the change of the next parameter shall be enabled.

To move:

- Activate the arrow keys.

To exit without saving:

- Push the Zone key.

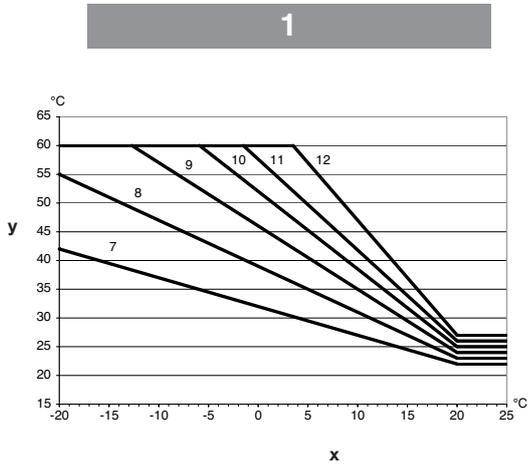
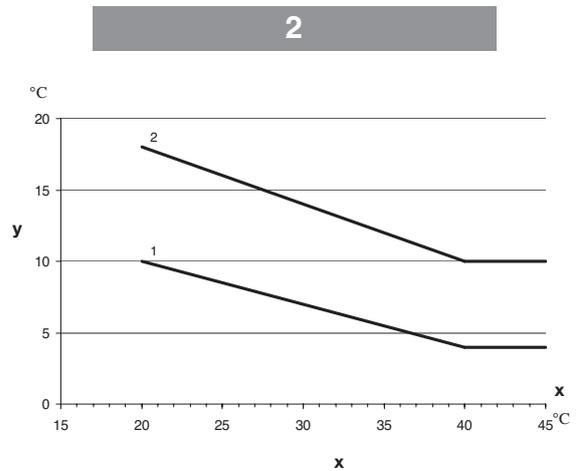
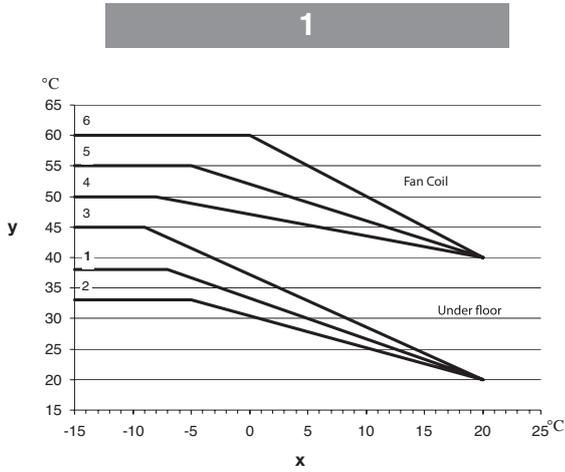
To confirm:

- Push the OK key to confirm.

Pre-set curves

There are six available curves for heating and two for cooling, accessible through parameters 112 and 117 in the installer's configuration table. The curves are set so as to maintain an indoor temperature of 20°C. When the external temperature reaches 20°C, the units stop providing either heating or cooling.

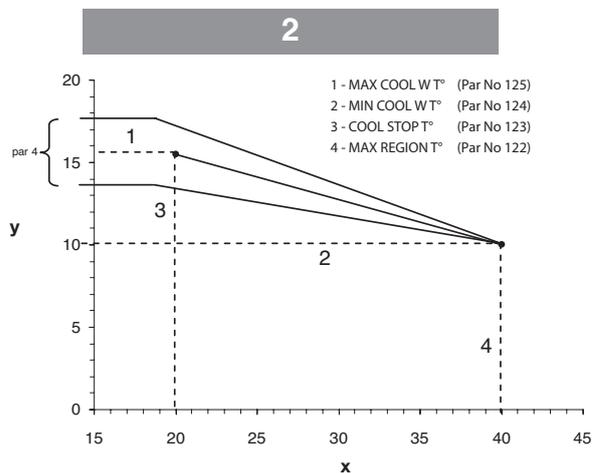
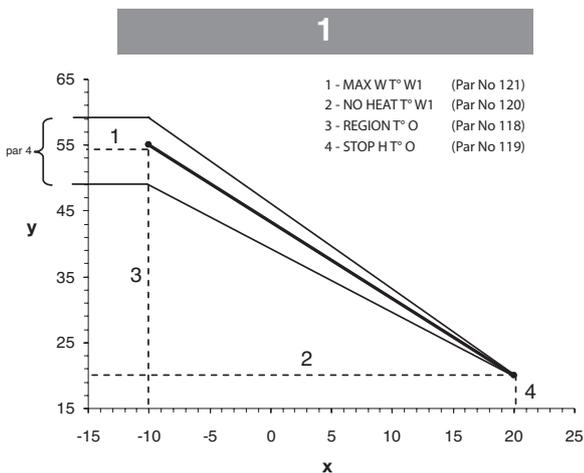
1	Heating
2	Cooling
x	Outdoor temperature
Y	Water temperature



Customised Climate Curves.

Parameters 112 and 117 set at zero make it possible to load a customised curve in the control. The pictures show which parameters in the installer's configuration table must be set to create the customised climate curves for heating and cooling.

1	Heating
2	Cooling
x	Outdoor temperature
Y	Water temperature



Adapting the heating curve.

The Control Panel adapts the water's set-point to the actual temperature in the room, as measured by the Control Panel's user interface, so as to maintain a constant temperature in the room, for comfort and energy saving.

For this reason the actual water temperature may vary as against the calculated set point one, by +/- 5°C.

The user can interact with this function increasing or decreasing the set-point, regulating the water temperature through parameter 4, as shown in the picture.

Correction of room temperature

The user can correct the temperature measured by the Control Panel in case of mistakes due to placement.

Through parameter 13 (see parameter's functions table) it is possible to correct the temperature by +/-5°C.

Reset of default configuration

To enter:

- Push the Zone key and the Lock key concurrently for 10 seconds.
- The number 899 is displayed in the Temperature area of the screen.
- The number 10 is displayed in the Time area of the screen.
- Activate the arrow keys.
- Set the value "0".
- The temperature "Fd" abbreviation is displayed in the Temperature area of the screen.
- Reset is activated.
- The Control panel is reset to the default values.

Abnormal operations

Anomalies warnings.

Preliminary instructions

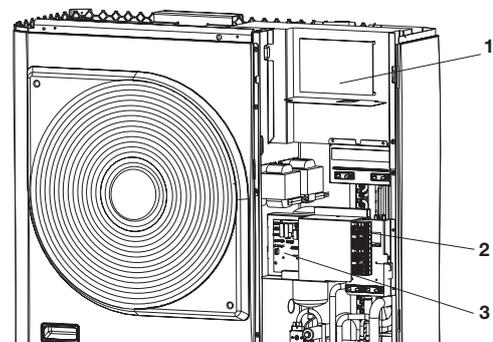
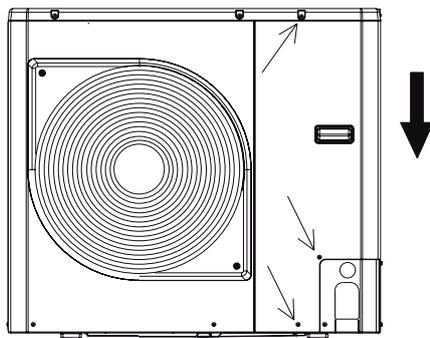
- ⚠ In the presence of operating abnormalities, the unit is secured and blocked.
- ⚠ Safety block can occur randomly.
- ⚠ Wait for at least 10 minutes before restarting the unit.
- ⚠ Any repetition of the abnormal operation requires an accurate check of the unit's components.
- ⚠ Before resetting, it is necessary to remove the cause of the anomaly.
- ⚠ Abnormal operations are notified by the Control Panel with codes comprising letters and numbers, which alternate with the system's backflow temperature.
- ⚠ Part of the alarms resets automatically, while others require a manual reset by the Technical Service.

Troubles can be diagnosed by Leds on mother circuit board.

- Example: error 23
- Off for 4 seconds
- 2 blinks: first number
- Off for 2 seconds
- 3 blinks: second number
- Off for 6 seconds
- The cycle repeats until the problem is solved.

Code	Description
2	Safety input alarm
3	Enter water Temperature Thermistor (EWT)
4	Actual Refrigerant Temperature Thermistor BPHE
5	Outdoor Air Thermistor of GMC
6	Loss communication to Control panel
7	Control panel Room Thermistor
8	Unit Capacity Mismatch
9	Flow Switch error / Water Pump
10	EEPROM Corrupt
11	OAT high than Stop Heat
12	OAT low than Stop Cool
13	Loss Communication to RS485 (system configuration type=6)
14	Loss of Signal From CDU
15	Leaving water Temperature Thermistor (LWT)
17	CDU Outdoor Air Thermistor (TO)
18	G-Tr short circuit protection
20	Position Detection Circuit Error
21	Current Sensor Error
22	Outdoor Heat Exchange Sensor (TE) / (TS)
23	Discharge Temperature Sensor (TD)
24	Outdoor Fan Error
26	Other Outdoor Error
27	Compressor Lock
28	Discharge Temperature Error
29	Compressor Breakdown

1	Position 4 LED Inverter Board Diagnostics (models 012 M - 015 M)
2	Location of Diagnostic LEDs circuit board
3	Wiring terminal
4	Electric connections inlet



Size 012 M only

Troubles of the inverter can be diagnosed by Leds on inverter printed circuit board.

Before a check, confirm each bit of the DIP switch is set to off position

LED indication	Cycle control P.C. board				Cause
	LED indication				
	D800	D801	D802	D803	
D800 O: Red D801 O: Yellow D802 O: Yellow D803 O: Yellow ◆: Flashing ●: Off ○: On	○	●	●	●	Heat exchanger sensor (TE) error
	●	●	○	●	Suction sensor (TS) error
	○	○	●	●	Hot gas discharge sensor (TD) error
	●	○	●	○	High-pressure protection error
	●	○	●	●	Outdoor air temperature sensor error (TO)
	○	○	○	●	Outdoor motorised fan error DC
	○	●	●	○	Communication error between IPDU (Abnormal stop)
	●	○	●	○	High-pressure release operation
	●	○	○	●	Discharge temp. error: hot gas is too high
	○	○	●	○	EEPROM error
	●	●	○	○	Communication error between IPDU (No abnormal stop)
	◆	●	●	●	G-Tr short-circuit protection
	●	◆	●	●	Detect circuit error
	◆	◆	●	●	Current sensor error
	●	●	◆	●	Comp. lock error
	◆	●	◆	●	Comp. break down

Size 015 M only

Troubles of the inverter can be diagnosed by Leds on inverter printed circuit board.

The error which is generating at present and the latest error (Latest error information including present) can be confirmed by lighting led D800 to D804 on inverter printed circuit board.

- When all DIP switch SW803 are Off the status OF error which is generating at present is displayed.
- Only of DIP switch SW803 is turned on the error which generated before (Latest error information including present) is displayed.
- If there is an error, any of LED D800 to D804 goes on (Display 1)
- When pushing the pushdown button switch SW800 for approx. 1 second, the display is exchanged. (Display 2)
- When pushing SW800 again or after 2 minutes, the status returns to that of Display 1

Legenda		
●	D800	Giallo
●	D801	Giallo
■	D802	Giallo
●	D803	Giallo
●	D804	Giallo
○	D805	Verde

Legenda	
●	Spento
■	Lampeggiante
○	Acceso

Display 1 (Initial display)	Display 2 (SW800 operation)	Error contents
●●●●○	●●●●○	Normal
○●●●○	●●■●○	Discharge temp. sensor (TD) error
	●●■●○	Heat exchanger temp. sensor (TE) error
	■●●●○	Heat exchanger temp. sensor (TL) error
	●●●■○	Outside temp. sensor (TO) error
	●●■●○	Suction temp. sensor (TS) error
	■●■●○	Heat sink temp. sensor (TH) error
	■●■●○	Heat exchanger sensor (TE, TS) miswiring
●●●●○	■●●●○	EEPROM error
	■●●●○	Compressor break down
	●■●●○	Compressor lock
	■●●●○	Current detection circuit error
●●●●○	●●■●○	Case thermostat operation
	●●■●○	Model unset
	■●■●○	Communication error between MCU
○●●●○	■●■●○	Other error (Compressor disorder, etc.)
	■●●●○	Discharge temp. error
	■●■●○	Power supply error
	■●■●○	Heat sink overheat error
	■●■●○	Gas leak detection
	■●●●○	4-way valve reverse error
	●●■●○	High pressure protective operation
	■●■●○	Fan system error
	●●■●○	Driving element short-circuit
■●■●○	Position detection circuit error	

User feature and parameters sheet

Feature	Parameter	Description	Icon	Value range		Default value
				Min	Max	
Mode	1	This is the selectable Mode: 0. Off 2. Cooling 3. Heating	Current Mode (and new when changed)	-	-	0
Home antifreeze	2	This parameter enables the Home Antifreeze option when the system is Off: 1. NO. Disable 2. YES. Enable	Antifreeze	1	2	1
Home antifreeze t°	3	Home Antifreeze threshold Temperature value	°C	6°C	12°C	6°C
Adjust t° z1	4	Water set point adjustment for room temperature at Control panel zone	°C	-5°C	+5°C	0°C
Freq reduct mode	5	This code gives information whether Silence mode / Frequency Reduction/ Night mode is active 1. Not Active 2. Active		1	2	1
Freq reduct	6	Value of the frequency reduction in % of CDU		50%	100%	100%
Room mode	7 Lock	Control panel will display this parameter 1. Home 2. Sleep 3. Away	Arrow depending by Room mode	1	3	1
Ctrl room sp z1	8 Lock	This code is the control Room Set-point determined by pressing the Home, Sleep, Away buttons	°C	12°C	38°C	20°C
Room air t° w1	9 Lock	This is the room air Temperature read by the internal Control panel Thermistor	°C	-20°C	50°C	
Sensor value	10 Lock	This is the relative Humidity value from the sensor	%	0	100	
Outdoor t°o	11 Lock	Outdoor Temperature measured by the TO sensor (reading value).	°C	-30°C	90°C	
Gmc oat	12 Lock	OAT from GMC board	°C	-20°C	65°C	
Room sensor adj z1	13	Temperature sensor adjustment to recover bad user interface positioning error	°C	-5°C	5°C	0°C
Day period	14	This Parameter says about the periods per day will be available for the scheduling: 1. 2 2. 4 3. 6		1	3	4
Home heat t°	15	HOME Temperature set-point in Heating mode	°C and the arrow for Home	12°C	38°C	20°C
Home cool t°	16	HOME Temperature set-point in Cooling Mode	°C and the arrow for Home	12°C	38°C	24°C
Sleep heat t°	17	SLEEP Temperature set-point in Heating Mode	°C and the arrow for Sleep	12°C	38°C	18°C
Sleep cool t°	18	SLEEP Temperature set-point in Cooling Mode	°C and the arrow for Sleep	12°C	38°C	26°C
Away heat t°	19	AWAY Temperature set-point in Heating mode	°C and the arrow for Away	12°C	38°C	15°C
Away cool t°	20	AWAY Temperature set-point in Cooling Mode	°C and the arrow for Away	12°C	38°C	28°C
User room sp z1	21 Lock	Room set point	°C	12°C	38°C	20°C
Fault code	22 Lock	Fault codes will be scrolled @ 1 second		3	31	
Fault history	23 Lock	Stores the recent 4 fault codes		3	31	

The parameters which are Read-Only and are not editable, Key pad lock (Lock) icon will be displayed on the screen for those parameters. The list of Read-Only parameter numbers are given below.

Parameter Number: 7, 8, 9, 10, 11, 12, 21, 22 and 23

Installer feature and parameters sheet

Feature	Parameter Number	Description	Value range		Default value	Installer value
			Min	Max		
System type	100	This code is use to set the System type: 1. A2W Monobloc fixed Water Temperature Value (dry contacts) 2. A2W Monobloc Climatic Curve setup (dry contacts) 3. A2W Monobloc Comfort with Control panel 4. A2W Monobloc Comfort with Control panel as Thermostat 5. N.A. 6. A2W Monobloc RS485 7. N.A.	1	7	1. A2W	
User interface type	101	This code is use to define if Control panel User Interface is used and how it is used: 0 Not Used (Input Relay active/SUI) 1. Control panel Installed 2 Control panel used as programmer	0	2	0 Not used	
Control panel software release	102	This code displays the Control panel Software Release	-	-	-	Lock
Control panel software version	103	This code displays the Control panel Software Version	-	-	-	Lock
Output test	104	This code is use to force Output ON to test (max 10 minutes): 0. No test 1. Water pump 2. Alarm / Ambient temperature reached 3. External Heat Source / Defrost 4. Alarm + Defrost / Humidity 5. Trace Heater / Additional Water Pump 6. 3 Way valve 7. SUI Alarm 8. Blank	0	9	0. No test	
Reset pump run-time	105	This code is use to reset the water pump timer to zero.	no	yes	no	
External heat source / defrost	106	This code is use to select the output connected at PIN 4 on terminal strip: 1. External Heat Source 2. Defrost Output	1	2	1	
Humidity limit	107	This code is use to define the humidity threshold limit to enable the output for the external de-humidifier system.	20	100	50%	
Alarm-defrost or humidity selection	108	This code is use to select the output connected at PIN 11 on terminal strip: 1. Unit alarms and/or Defrost 2. Humidity Control	1	2	2	
Frost delta set-point	109	This code is use to set the frost delta set-point used by the Anti frost protection logic as per algorithm.	0°C	6°C	1°C	
Reset compressor run-time	110	This code is use to reset the compressor timer to zero.	No	yes	No	

Flow switch status	111	This code displays the Flow Switch status: 0. Water not flowing 1. Water flowing	-	-	-	
Heat climatic curve number	112	This code is use to select the heat climatic curve number: 0. No predefined climatic curve (Installer has to draw CC) 1-12. Refers to Control panel manuals for climatic curve details.	0	12	0	
Heat water set-point	113	This code is use to set the fixed heating water set-point.	20°C	60°C	45°C	
Eco heat temperature reduction	114	This code is use to set the temperature reduction value for fixed heating water set-point when the unit is in ECO mode.	1°C	20°C	5°C	
Cool water set-point	115	This code is use to set the fixed cooling water set-point.	4°C	25°C	7°C	
Eco cool temperature reduction	116	This code is use to set the temperature reduction value for fixed cooling water set-point when the unit is in ECO mode.	1°C	10°C	5°C	
Cool climatic number	117	This code is use to select the cool climatic curve number: 0. No predefined climatic curve (Installer has to draw CC) 1 - 2. Refers to Control panel manuals for climatic curve details	0	2	0	
Min outdoor air temperature heating	118	This code is use to select the minimum outdoor temperature of the heating climatic curve, depending on the country where the system is installed.	20°C	+10°C	-7°C	
Max outdoor air temperature heating	119	This code is use to select the maximum outdoor temperature of the heating climatic curve.	10°C	30°C	20°C	
Min water temperature heating	120	This code is use to select the minimum water temperature of the heating climatic curve.	20°C	60°C	40°C	
Max water temperature heating	121	This code is use to select the maximum water temperature of the heating climatic curve.	20°C	60°C	55°C	
Max outdoor air temperature cooling	122	This code is use to select the maximum outdoor temperature of the cooling climatic curve, depending on the country where the system is installed.	24°C	46°C	40°C	
Min outdoor air temperature cooling	123	This code is use to select the minimum outdoor temperature of the cooling climatic curve.	0°C	30°C	22°C	
Min water temperature cooling	124	This code is use to select the minimum water temperature of the cooling climatic curve.	4°C	20°C	4°C	
Max water temperature cooling	125	This code is use to select the maximum water temperature of the cooling climatic curve.	4°C	20°C	12°C	
Gmc oat thermistor	126	This code is use to define if GMC OAT thermistor is installed or not 1. GMC thermistor installed 2. GMC thermistor not installed	1	2	2	
To sensor value	127	This code displays the outdoor air temperature value read by the TO sensor.	-	-	-	Lock
Te sensor value	128	This code displays the refrigerant temperature value read by the TE sensor.	-	-	-	Lock
Ts sensor value	129	This code displays the suction temperature value read by the TS sensor.	-	-	-	Lock
Td sensor value	130	This code displays the discharge temperature value read by the TD sensor.	-	-	-	Lock
Cdu mode	131	This code displays the actual Heat Pump operating mode: 1. Off 2. Cool 3 Heat 4. Fail 5. Defrost	-	-	-	Lock
Max compressor frequency	132	This code displays the maximum compressor frequency calculated by GMC control board.	-	-	-	Lock
Requested frequency	133	This code displays the requested frequency by the system control.	-	-	-	Lock
Real frequency	134	This code displays the real compressor frequency	-	-	-	Lock
Compressor runtime	135	This code displays the working on hours of the compressor.	-	-	-	Lock
Cdu capacity	136	This code displays the nominal heat pump capacity [kW].	-	-	-	Lock
Ewt sensor value	137	This code displays the Entering Water Temperature read by the EWT sensor.	-	-	-	Lock
Lwt sensor value	138	This code displays the Leaving Water Temperature read by the LWT sensor.	-	-	-	Lock
Tr sensor value	139	This code displays the refrigerant temperature value read by the TR sensor.	-	-	-	Lock
System mode	140	This code displays the operating mode requested by the System Control: 0. Off 1. Stand by 2. Cooling 3. Heating 4. N.A. 5. N.A. 6. Rating Heating 7. Rating Cooling 8. Freeze Protection 9. Defrost 10. High Temperature Protection 11. Time guard 12. System Fail	-	-	-	Lock
Def module	141	This code displays the list of the all fault codes detected by the outdoor unit. If no fault are occurring, no codes will be displayed.	-	-	-	Lock
Gmc software version	142	This code displays the GMC Software Version	-	-	-	Lock
Gmc software release	143	This code displays the GMC Software Release	-	-	-	Lock
Water pump runtime	144	This code displays the working on hours of the water pump.	-	-	-	Lock
Current water set-point	145	This code displays the current water set-point defined by the system control.	-	-	-	Lock
Dry contact off	146	This code is use to set the different OFF logics: 1. Standard OFF 2. Controlled Off Cycle (only if HP is controlled by dry contact)	1	2	1	
Alarm / satisfied air room temperature	147	This code is use to select the output connected at PIN 5 on terminal strip: 1. Alarm signal 2. Signal of reached air temperature set-point	1	2	1	
External heat source oat limit	148	This code is use to set the OAT threshold value under which only the external heat source will be operative as per algorithm. (Stop HP)	-20°C	65°C	-20°C	
Temperature list	149	This code is use to set which temperature the Control panel shall display in temperature zone. 1. Indoor air temperature 2. Leaving water temperature (from LWT sensor) 3. Entering water temperature (from EWT sensor) 4. Refrigerant temperature (from TR sensor)	1	7	1	
Auxiliary oat limit	150	This code is use to set the OAT threshold value under which both the heat pump and the external heat source will be operative as per algorithm.	-20°C	30°C	0°C	
Auxiliary delay	151	This code is use to set the delay time after which, when (temperature set in code 148) < OAT < (temperature set in code 150), the external heat source will switch on . The counting of the time starts when the activation of the EHS is required as per algor	1 Min	60 Min	10 Min	
Auxiliary hysteresis	152	This code is use to set the hysteresis temperature needed to activate the external heat source.	1°C	20°C	5°C	
Sanitary hot water in off mode	153	This code is use to define if, when system mode is off, the sanitary hot water logic can be activated: 1. Yes, SHW logic is always actives 2. No, SHW logic can be activated only in Heat or Cool mode	1	2	1	

External heat source status	154	This code is use to define the external heat source status when EHS is activated and OAT < temperature value set in Code 148: 0. Always On 1. On/Off depending by actual Room Temperature vs room temperature set-point (same hysteresis of Thermostat functio	0	2	1	
Main water pump logic vs ehs status	155	This code is use to define the water pump logic when EHS is activated and OAT < (temperature value set in Code 148): 0. Always Off 1. On/Off depending by EHS On/Off status 2. Always On	0	2	1	
Trace heater / additional wp logic	156	This code is use to select the output connected at PIN 11 on terminal strip. In case an additional water pump option is active, this code is use to select its operating logic vs the SHW request (if OAT > (temperature value set in Code 148)). 0. Trace he	0	2	1	
Additional water pump logic	157	This code is use to define the additional water pump logic, if it has been installed, when OAT < temperature value set in Code 148: 0. Always Off 1. On/Off depending by EHS On/Off status 2. Always On"	0	2	2	
Delta air set-point	158	This code is use to define the hysteresis versus the temperature room Set-Point to Off the Unit when the System Type is Control panel installed and used as Thermostat (100 Control panel code = 4).	0.2°C	1°C	0.3 °C	

Registered address:

Vokèra Ltd
Borderlake House
Unit 7 Riverside Industrial Estate
London Colney
Herts AL2 1HG

enquiries@vokera.co.uk

www.vokera.co.uk
www.vokera.ie

Sales, General Enquires

T 0844 391 0999
F 0844 391 0998

Vokèra Ireland
West Court, Callan
Co Kilkenny
T 056 7755057
F 056 7755060

Vokèra Limited reserve the right to change
specification without prior notice
Consumers statutory rights are not affected.

A Riello Group Company.
Company Reg No: 1047779