HYBRID SYSTEMS

scheda TECNICA

IMMERGAS

VICTRIX HYBRID

Hybrid heat pumps
air-water
with single-phase inverter

INDEX

MAIN CONTENTS

VICTRIX HYBRID

VICTRIX HYBRID is the hybrid heat pump that represents, within the Immergas range, a solution specifically designed to increase energy efficiency when replacing old appliances, even on traditional radiator systems: on the existing one, thanks to its compact size, it represents the ideal solution to easily install a hybrid generator to replace an old gas boiler, with extremely easy operations and reduced installation impact. Composed of a 4 kW single-phase air/water block outdoor unit (with R32 coolant) and an indoor condensing unit (from 28.3 kW in DHW and 24.1 kW in central heating mode), to be connected hydraulically in series. A single "package" code identifies the complete system (outdoor unit + indoor unit).
A control panel is also supplied as standard, to manage condensation units and heat pumps: the smart activation logic, integrated in the system's electronics, is able to determine the most convenient energy source at that moment (heat pump / condensation unit) and - therefore - to choose the source to be activated.
Operation in room central heating takes place with the use of a heat pump and condensation unit, with the option of activating the two units at the same time; VICTRIX HYBRID, on the other hand, does not provide cooling operation.
2 configurations are available: combined instant and PLUS (for combination with an external storage tank), with separate codes for methane and LPG; in the PLUS version, the DHW is heated by also using the heat pump.

In a replacement, VICTRIX HYBRID guarantees high savings in terms of operating costs (seasonal efficiency 35% higher with respect to a boiler), as well as a strong reduction in polluting emissions (thanks to the main operation of the heat pump; furthermore the indoor condensing unit is NOx class 6, the most ecological required by the standards).
The heat pump outdoor unit is supplied with a thermostatic anti-freeze valve as standard, which prevents system glycol from entering cold climate areas; the indoor condensation unit is approved for indoor or outdoor use in a partially protected environment, or even recessed in OMNI CONTAINER (with a special door kit for installation in the OMNI CONTAINER itself). The VICTRIX HYBRID PLUS model can also be installed in the SOLAR CONTAINER and in the DOMUS CONTAINER, in applications with BASIC MAGIS PRO.
VICTRIX HYBRID models meets the requirements of the ErP (2009/125/EC) and ELD (2010/30/EC) Directive; there are a number of optional kits available, which allow it to be used in different plant applications.

INCENTIVES FOR REPLACEMENT
Benefit from tax deductions in force and from the Thermal Account 2.0 in operations on existing appliances (as well as the wall flue exhaust option, ref. It.Legislative Decree 102/2014).

VICTRIX HYBRID

1 CHARACTERISTICS VICTRIX HYBRID

Hybrid air/water heat pumps, for room heating only and domestic hot water production, consisting of an outdoor unit in heat pump (single-phase with inverter) and a wall-mounted indoor condensation unit (the connection between the 2 units is hydraulic, i.e. with water circuit); a single "package" code identifies the complete system, consisting of the following main components:

- **Outdoor unit** with block heat pump, which mainly includes Swing-type rotary compressor with liquid separator, management electronics, lamination valve, finned coil for exchange with external air (with single fan), external probe for sliding temperature operation, water/coolant gas heat exchanger, 3 bar water safety valve, water side filter (already mounted inside the system return), anti-vibration feet. The supply also includes a thermostatic antifreeze valve (which is only triggered in the absence of electricity, as the electronics include an antifreeze function with activation of the pump and of the condensing unit if required), which prevents glycol from entering into the system, and shut-off cocks for flow and return with vacuum breaker valve. The cooling circuit is hermetically sealed (R32 coolant). Inertial storage tank only required for systems with water content lower than 20 litres;
- Wall-mounted condensation **indoor unit** (power 24.1 kW in heating and 28.3 kW in DHW), which includes:

• Total pre-mixing combustion system with steel multigas cylindrical burner, complete with ignition electrode and ionisation control, double shutter pneumatic gas valve;
• Gas/water primary heat exchanger with internal coil made of single-pipe Stainless steel; fan for flue evacuation with electronically variable speed;
• Circuit for disposal of condensate including trap and flexible drain hose;
• Water/water secondary heat exchanger for the production of domestic hot water in stainless steel with 14 plates (on the instant model; the PLUS version, on the other hand, is designed to be combined with a separate storage tank unit);
• Hydraulic unit consisting of a 3-way electric valve, a 7 m a.c. power consumption modulating circulation pump, a 3 bar primary circuit safety valve, a sanitary flow switch for detecting sanitary water withdrawal (instantaneous mod.), an expansion vessel for the nominal 8 litre diaphragm (actual 5.8) with 1.0 bar pre-charge and pressure gauge;
• System water flow probe, system return probe and flue probe;
• Control panel with control cover door, microprocessor P.C.B. with 3 sensor continuous flame modulation (1 DHW and 2 C.H.) with P.I.D. control, modulation range from 4.3 to 24.1 kW (28.3 kW in DHW mode);
• Electronic ignition with ionisation control, ignition delay device in central heating phase, anti-freeze protection system (standard to -5 °C), pump anti-block device function, post-ventilation function, chimney sweep function and pump functioning mode selection;
• Solar delay timing function for coupling with solar thermal systems, with the option of connecting a domestic hot water probe (optional for instantaneous model);
• Screed heater function;
• Self-diagnosis system;
• IPX5D electrical insulation rating; the indoor unit is also approved for outdoor use in a partially protected environment or built-in in OMNI CONTAINER with a special door kit (see optional kit);
• For the VICTRIX HYBRID PLUS model only, the indoor unit can also be installed in the SOLAR CONTAINER and in the DOMUS CONTAINER, in applications with BASIC MAGIS PRO;
• Sample points for combustion analysis, lower protection guard, connection group, gas interception cock and cold water cock.

- **Control panel** (standard) to manage condensation units and heat pumps, designed for BUS connection to the condensation unit and the heat pump unit (2 separate BUS connections must therefore be made). The power supply (low voltage) of the Panel is obtained from the condensation unit. The indoor unit is also equipped with a TA contact (room thermostat) to be used, as an alternative to the control panel probe, to manage requests from the rooms; this contact also enables to manage systems divided into several zones and can be used both to directly connect on-off room thermostats (in the case of zone valves), and DIM kits (Multi-system Distribution Manifolds) with pumps.

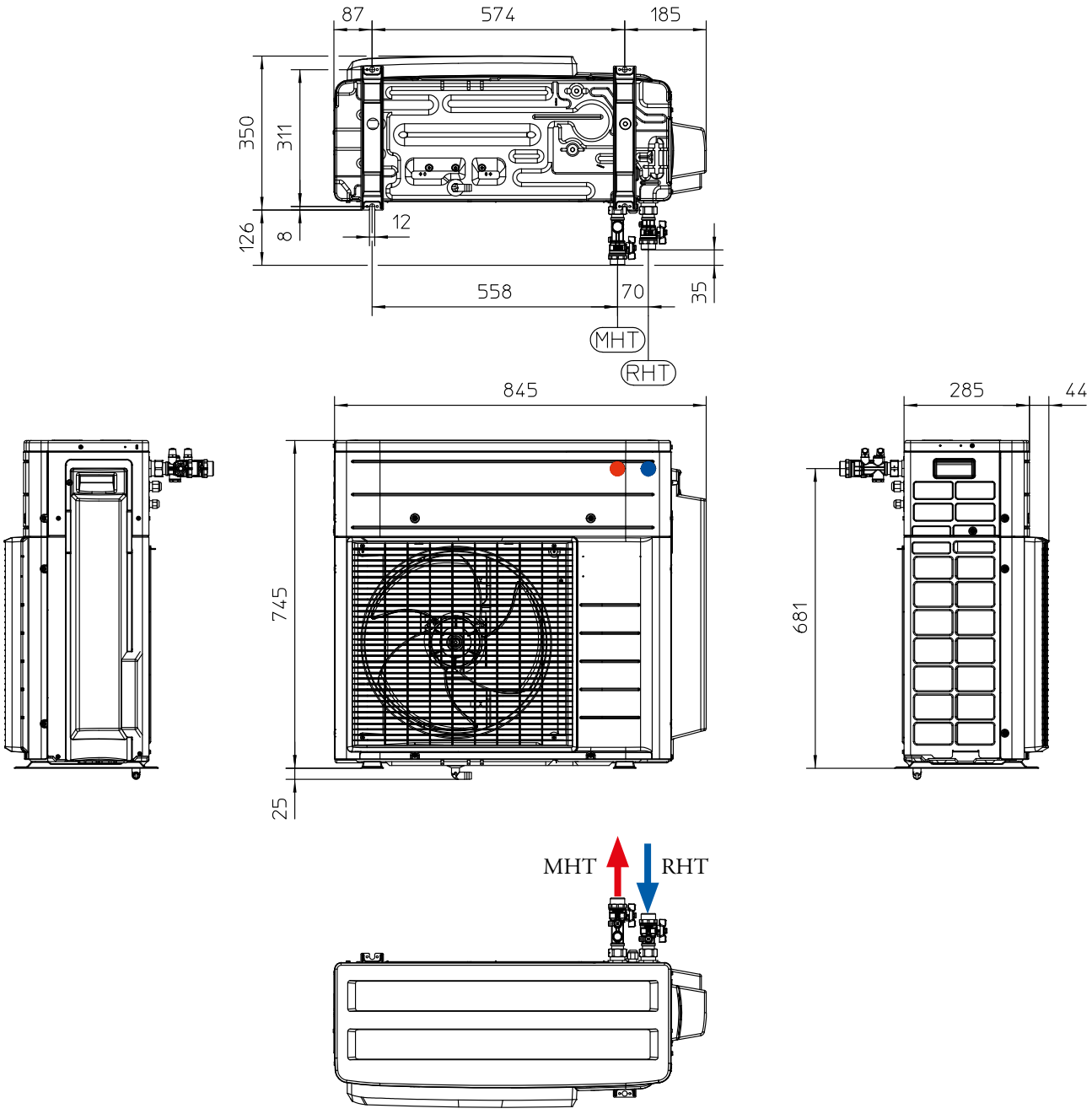
Category II2HM3P appliance, works with natural gas supply, LPG (separate codes) and propane air (with optional conversion kit).
CE Marking.

It is available in the instant version:
• VICTRIX HYBRID code 3.030698 (3.030698GPL for the LPG version);
or in the PLUS version:
• VICTRIX HYBRID PLUS code 3.030699 (3.030699GPL for the LPG version).

N.B.: *for correct installation of the condensation unit, the Immergas "Green Range" air intake/flue exhaust kit must be used.*

2 AUDAX.DK4 DIMENSIONS AND CONNECTIONS

Model	Height mm	Width mm	Depth mm	Hydraulic connections
AUDAX.DK4	745	845	350	G 1" M

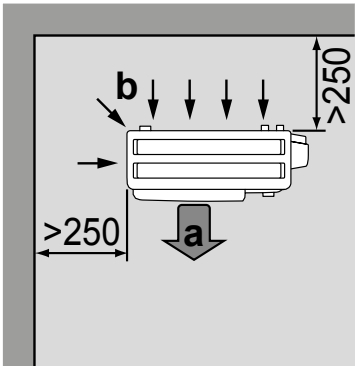


- RHT Return to heat pump = G 1" M
- MHT Flow from heat pump = G 1" M

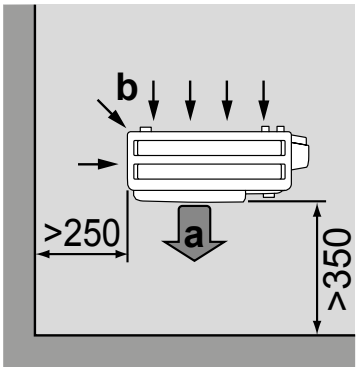
The machine is supplied as standard with Flow and Return cocks and anti-vibration feet

3 AUDAX.DK4 MINIMUM INSTALLATION DISTANCES

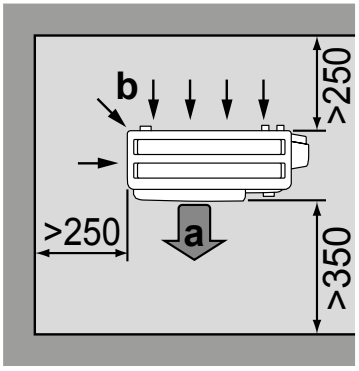
With two sides of the unit facing a side and rear wall



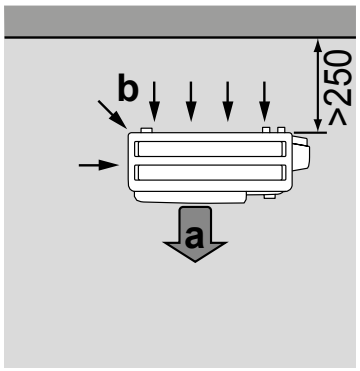
With two sides of the unit facing a side and front wall



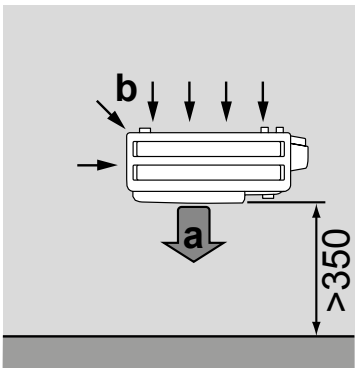
With three sides of the unit facing a wall

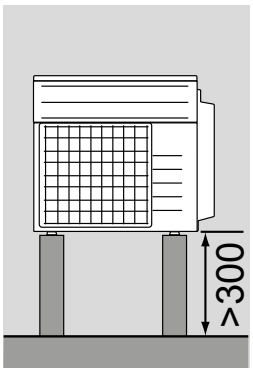


With the back side of the unit facing a wall



With the front side of the unit facing a wall





(mm)

KEY:

a - Air outlet
b - Air inlet

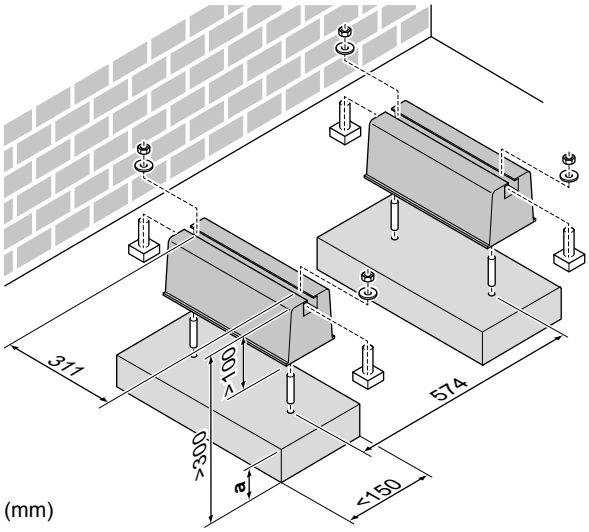
Place of installation:

The place of installation is very important and must be established by the system's designer or by a specifically qualified person, and must consider the technical requirements, standards and laws in force.

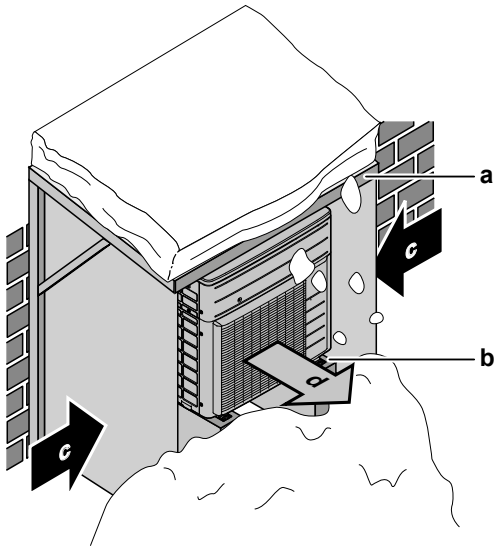
- The condensing unit must be installed outside the building only; the indoor unit must be installed inside the building or outdoors in a partially protected place;
- It is recommended to avoid:
- positioning in basement windows;
- obstacles or barriers that cause recirculation of exhaust air;
- places with aggressive atmospheres;
- limited spaces or anyhow in places where sound levels from the appliance can be enhanced through reverberations or resonance;
- positioning in corners where there is an accumulation of dust, leaves and anything else that can reduce the appliance's efficiency due to blocked passageways;
- prevent exhaust air from the device from coming into the rooms through doors or windows, thus disturbing people;
- The appliances must:
- be placed on a level surface that is able to withstand its weight;
- be placed on a slab that is hard enough and which does not transfer any vibrations to the underlying or adjacent rooms;
- in any case, provide a space of at least 300 mm under the unit (to avoid operating problems in the event of heavy snow);
- use the vibration-dampening supports supplied with the machine;
- the effects of the wind can be minimised by installing the unit with the intake side facing a wall;
- the unit must not be installed with the intake side against the wind;
- the effects of the wind can be further minimised by installed a deflector plate facing the unit air flow side (not supplied).

N.B.: The spaces shown in the previous page must be left free to allow air to circulate and to ensure accessibility for repairs or maintenance on every side of the units. In fact, it must be possible to disassemble all the unit components under the utmost safety conditions (both for objects and for people).

- If the unit is installed in zones subject to heavy snow, it will be necessary to raise the machine by at least a height 100 mm more than the strongest expected snowfall or, alternatively, use wall-support brackets (optional); protect the outdoor unit from direct snowfall and take care that the outdoor unit is NEVER buried under snow;
- However, provide a space of at least 300 mm under the unit;
- the unit must be installed in a position protected from snow falling from above.
  If this is not possible, you must at least prevent the snow from clogging the air/coolant exchanger (even by constructing a small protective roof for the unit, if necessary).
  If blowing lateral snowfalls are possible, make sure that the heat exchanger coil CANNOT be covered by snow.

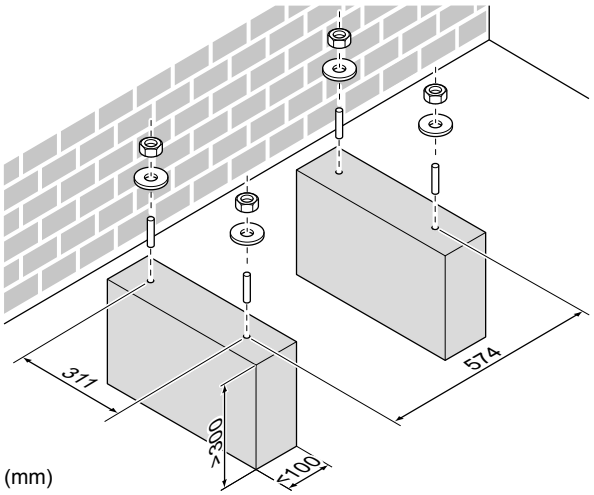


(mm)

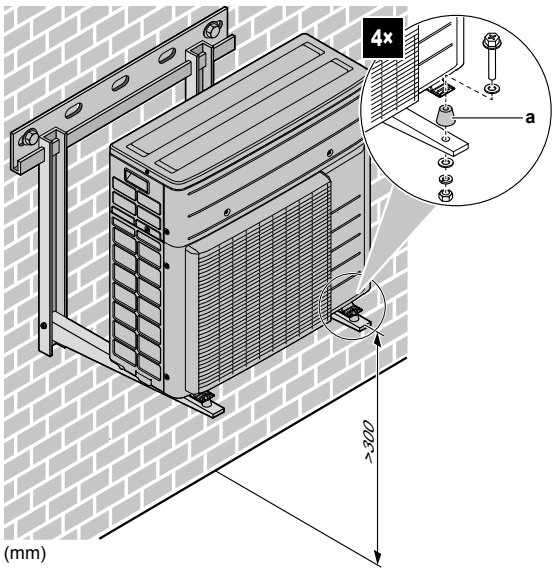


KEY:

a - Snow cover or shelter
b - Pedestal
c - Prevailing wind direction
d - Air outlet



(mm)

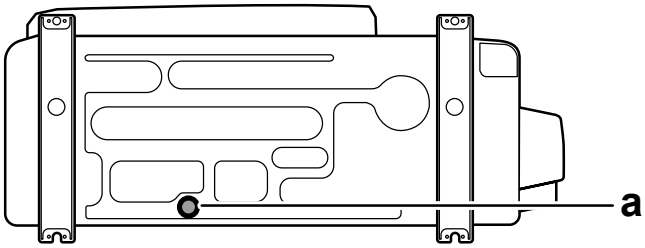


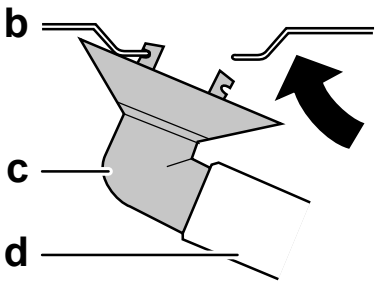
(mm)

4 DRAINAGE AND CONDENSATE DRAIN

If the condensate produced is drained through the drain pipe, connect the drain fitting (c) supplied as standard to the drain pipe (d) (not supplied) with an internal diameter of 16 mm available on the market.
In case of installation in very cold areas or areas subject to heavy snow where there is the possibility that the condensate freezes, an anti-condensation resistance kit for outdoor unit (optional) must be adopted which allows the anti-freeze protection of the outdoor unit to be extended up to -15 °C.

N.B.: If the condensate water produced by the unit is not properly drained, the performance of the entire system will suffer a negative impact and the system itself could be damaged.





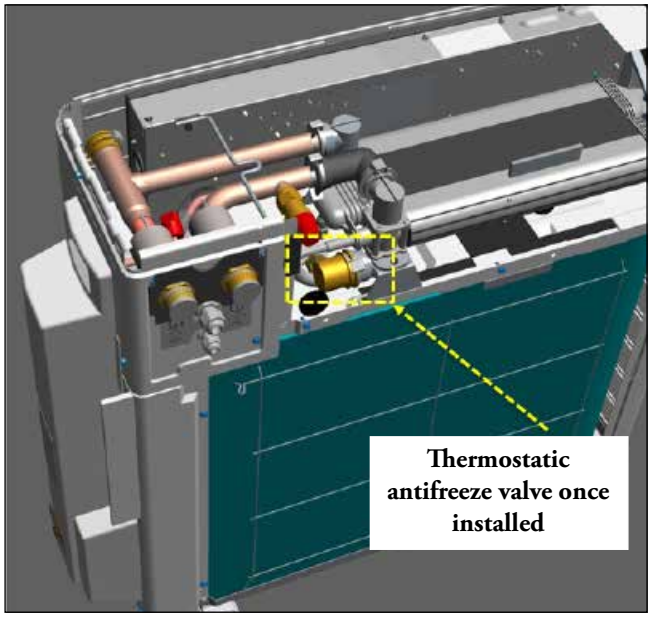
KEY:
a - Drain hole
b - Lower frame
c - Drain fitting (supplied as standard)
d - Flexible hose (obtain on the market)

5 THERMOSTATIC ANTIFREEZE VALVE

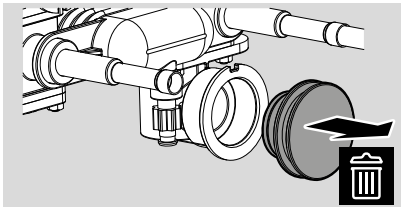
In case of an electric power supply, VICTRIX HYBRID is equipped with a system that protects it against freezing thanks to the periodic start-up of the pump and, if necessary, activation of the condensation unit.
If the outdoor unit is installed in areas having temperatures below 0 °C, it is recommended to provide special antifreeze systems in order to guarantee the machine's integrity, especially the water-gas heat exchanger, when there is a blackout.
For example, insert an appropriate top quality, non-hazardous antifreeze liquid into the heating system. In this case, the instructions of the manufacturer of this liquid must be followed scrupulously regarding the percentage necessary with respect to the minimum temperature at which the system must be kept.
An aqueous solution must be made with potential pollution class of water 2 (EN 1717:2002).

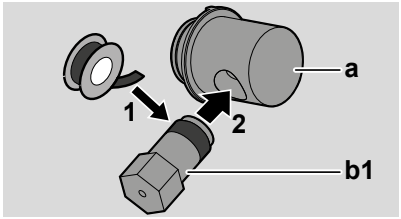
NOTE: In cases where you do NOT wish to introduce antifreeze glycol into the system, the outdoor unit is equipped with a thermostatic antifreeze valve (supplied as standard, but to be installed as shown in the figure on the side), which intervenes when the water temperature detected inside the machine (HP) drops below 3 ÷ 4 °C, allowing the water inside the machine to be drained. The water drain is directed towards the condensate collection tank located in the lower part of the heat pump.

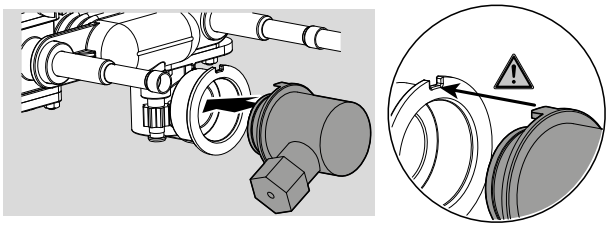
ATTENTION: using the thermostatic antifreeze valve is an alternative to the solution of introducing antifreeze glycol into the circuit.

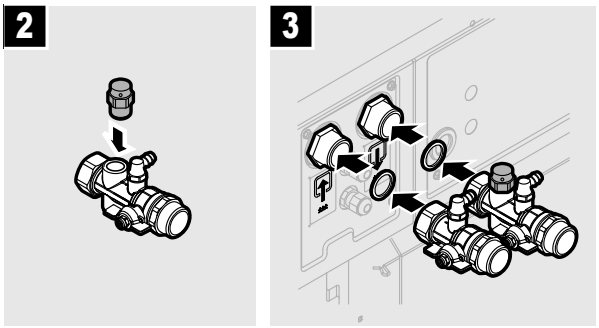


Thermostatic antifreeze valve once installed









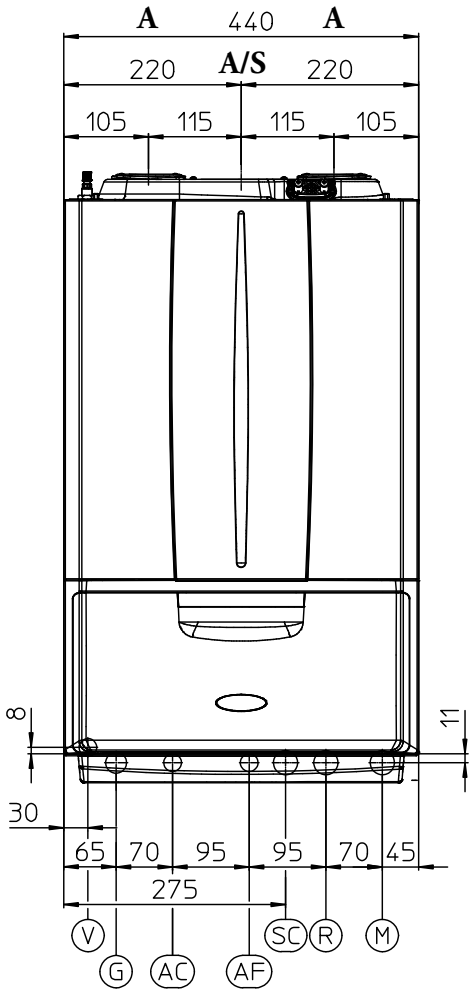
N.B.: In addition to the thermostatic antifreeze valve, a vacuum breaker valve is also supplied, which must be installed on the heat pump delivery valve (MHT) by removing the cap present.

VICTRIX HYBRID

6 MAIN DIMENSIONS VICTRIX HYBRID (CONDENSATION UNIT)

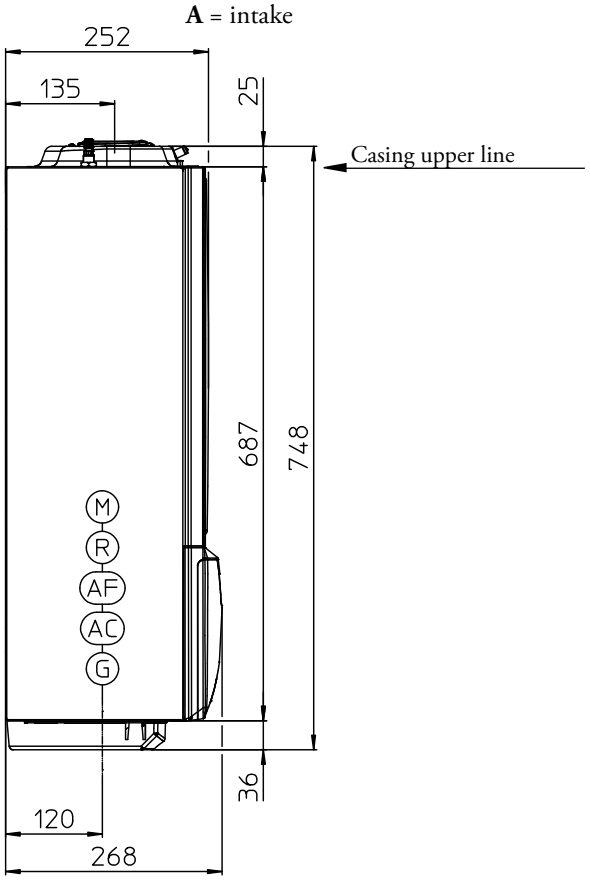
Model	Height mm	Width mm	Depth mm	Ø intake/exhaust mm
VICTRIX HYBRID	748	440	268	100/60 - 125/80 - 80/80

6.1 CONNECTIONS VICTRIX HYBRID



SC = Condensate drain (min. internal Ø= 13 mm)

A/S = intake/exhaust
A = intake



Distance between casing upper line and Ø 60/100 concentric bend axis: **100 mm**

Distance between casing upper line and Ø 80/125 concentric bend axis: **210 mm**

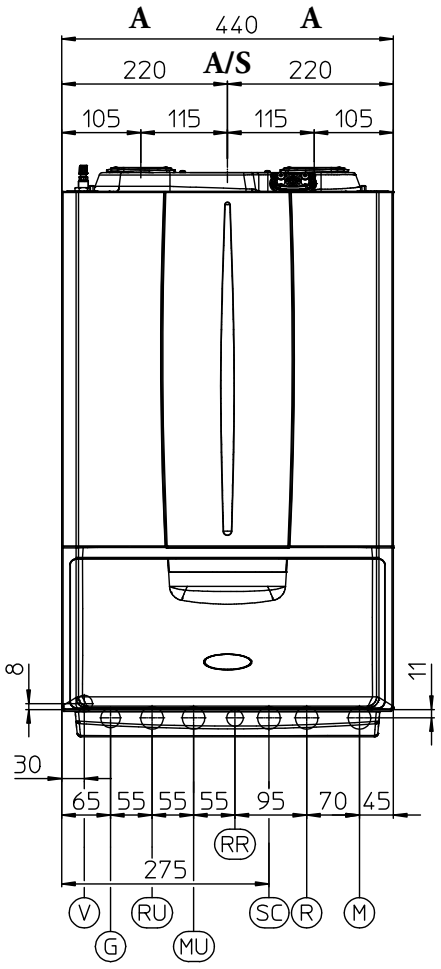
Distance between casing upper line and separator bend axis Ø 80/80: **S = 140 mm; A = 140 mm**

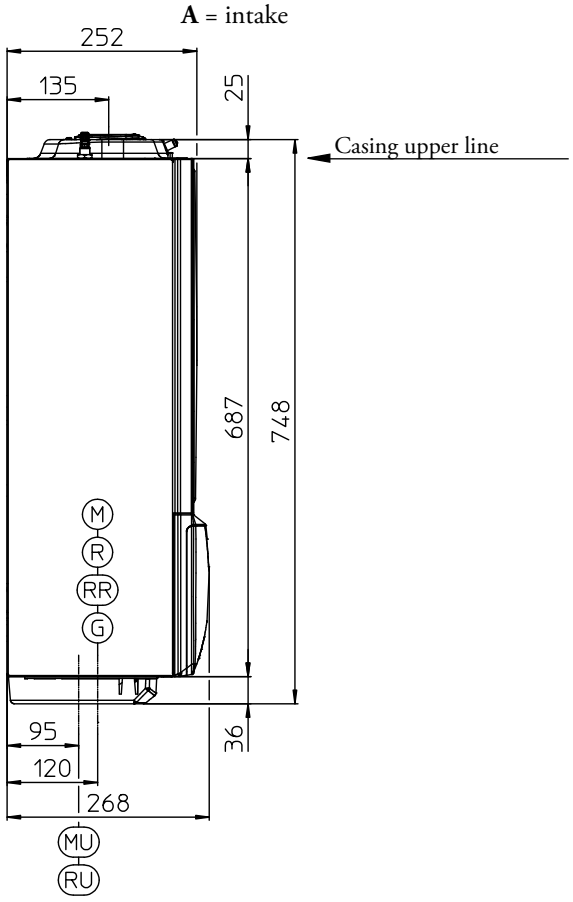
VICTRIX HYBRID					
Flow System M	**Return system R**	**Inlet Cold AF**	**Hot Outlet AC**	**Gas G**	**Expansion vessel Litres**
3/4"	3/4"	1/2"	1/2"	3/4"	8 (real 5.8)

7 MAIN DIMENSIONS VICTRIX HYBRID PLUS (CONDENSATION UNIT)

Model	Height mm	Width mm	Depth mm	Ø intake/exhaust mm
VICTRIX HYBRID PLUS	748	440	268	100/60 - 125/80 - 80/80

7.1 CONNECTIONS VICTRIX HYBRID PLUS





SC = Condensate drain (min. internal Ø= 13 mm)

RU* = Connection not to be used (see hydraulic diagram on pages 53 and 57)

Distance between casing upper line and Ø 60/100 concentric bend axis: **100 mm**

Distance between casing upper line and Ø 80/125 concentric bend axis: **210 mm**

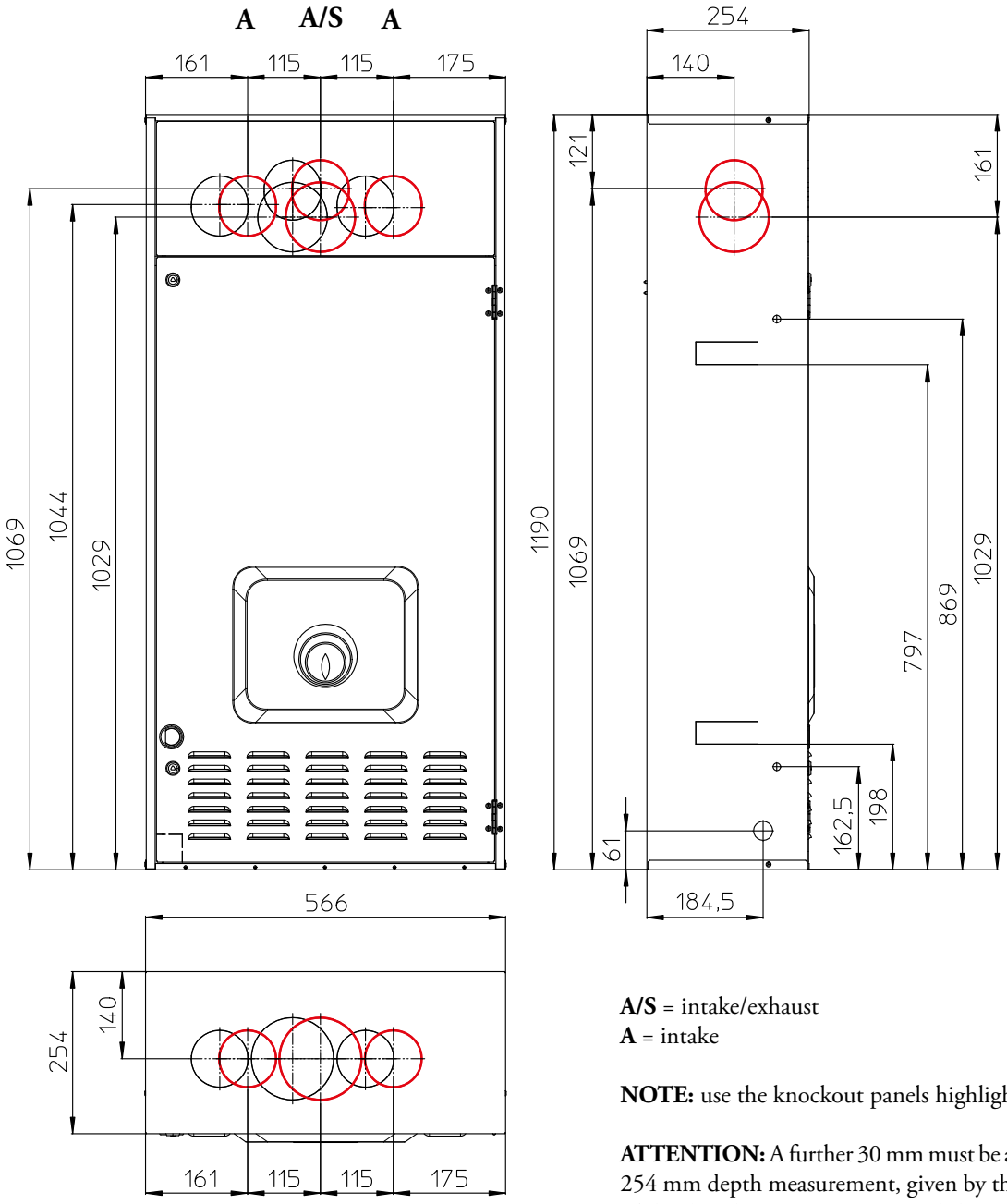
Distance between casing upper line and separator bend axis Ø 80/80: **S = 140 mm; A = 140 mm**

VICTRIX HYBRID PLUS						
Flow System M	**Return System R**	**System Filling RR**	**Storage tank Flow MU**	**Storage tank return RU***	**Gas G**	**Expansion vessel Litres**
3/4"	3/4"	1/2"	3/4"	3/4"	3/4"	8 (real 5.8)

VICTRIX HYBRID

8 OMNI CONTAINER MAIN DIMENSIONS

Height mm	Width mm	Depth mm	Ø intake/exhaust mm
1190	566	254 - (284)	100/60 - 80/80



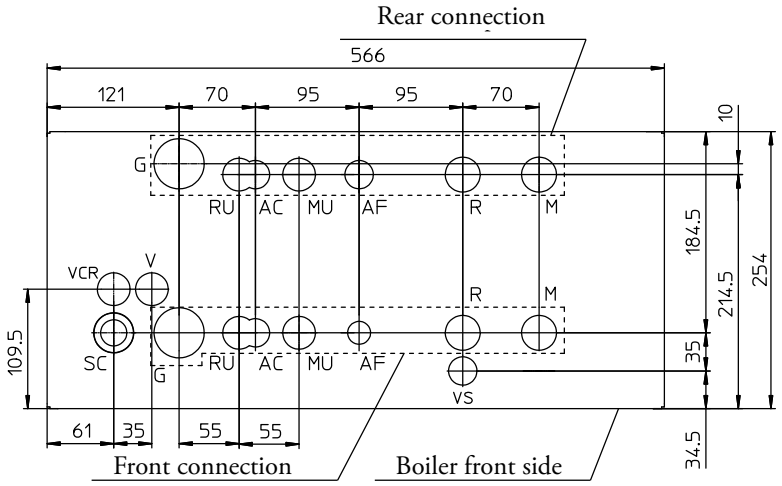
N.B.: Front or rear connection unit (OPTIONAL)

A/S = intake/exhaust
A = intake

NOTE: use the knockout panels highlighted in red.

ATTENTION: A further 30 mm must be added to the 254 mm depth measurement, given by the extension of the door kit 3.026851 required (but optional) including the support bracket for VICTRIX HYBRID, it is therefore necessary to make sure that it can be opened without hindrance.

9 VICTRIX HYBRID CONNECTION TEMPLATE IN OMNI CONTAINER



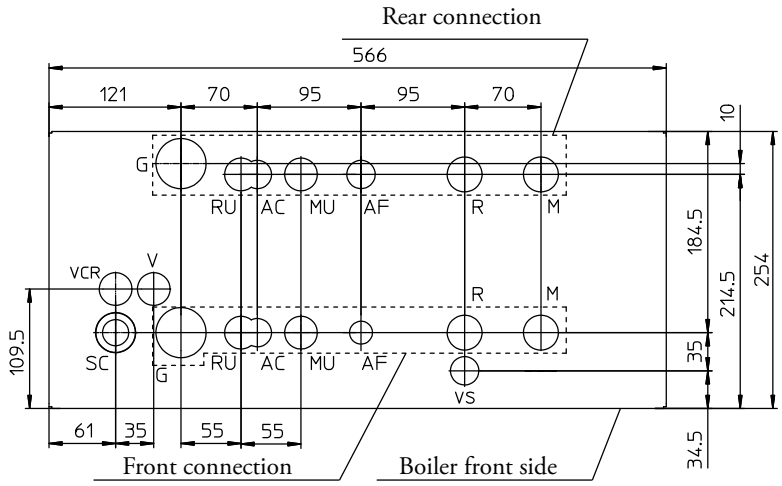
✱ with the connection unit for recess installation (optional) the gas connection is 1/2"

N.B.: Connection unit (OPTIONAL)

Model	Flow M	Return R	Hot Outlet AC	Cold Input AF	Gas G
VICTRIX HYBRID	3/4"	3/4"	1/2"	1/2"	✱

9.1 TEMPLATE CONNECTION VICTRIX HYBRID PLUS IN OMNI CONTAINER

RU(1) = Connection not to be used (see hydraulic diagram on page 53)

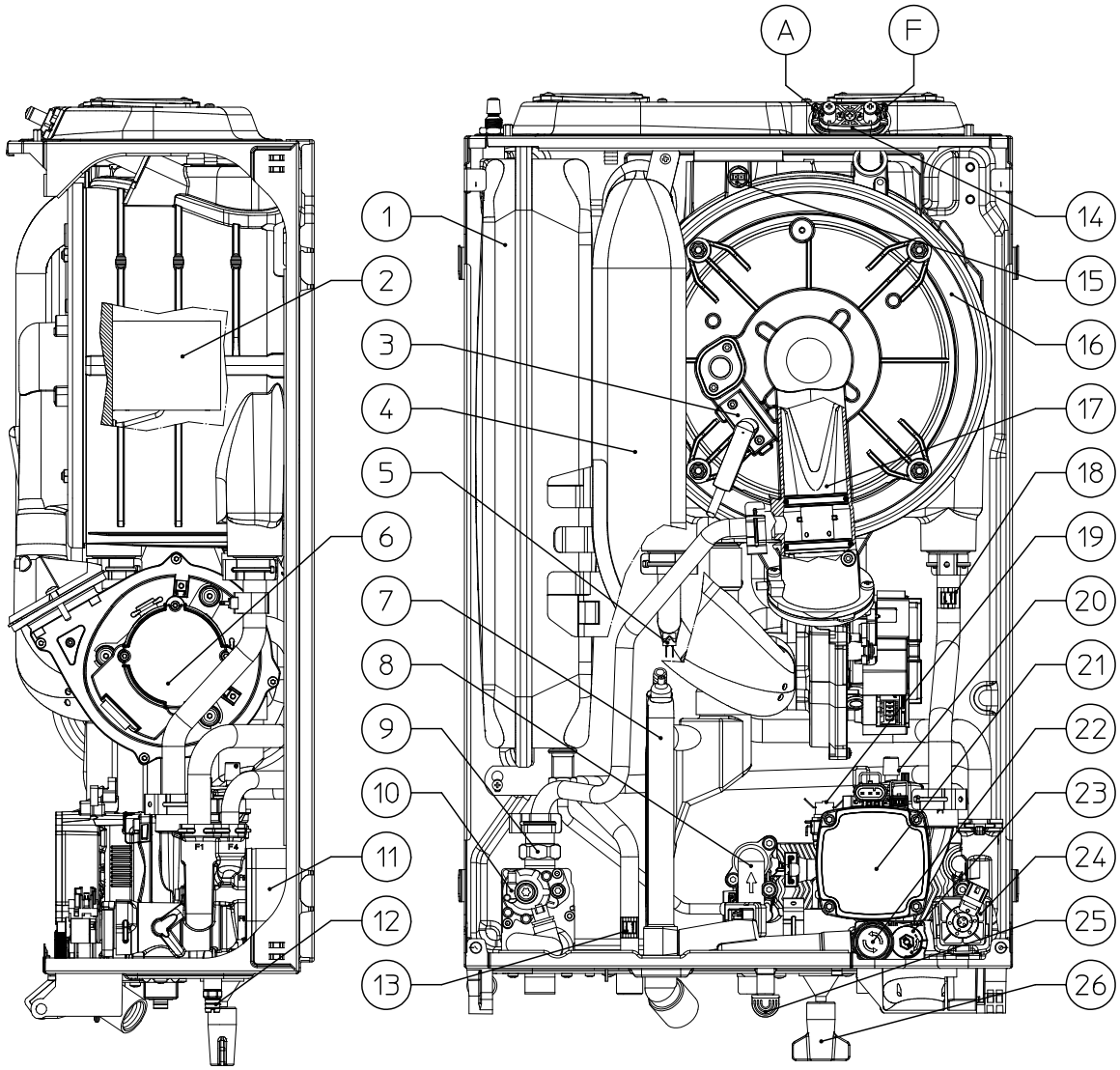


✱ with the connection unit for recess installation (optional) the gas connection is 1/2"

N.B.: Connection unit (OPTIONAL)

Model	Flow M	Return R	Flow Boiler MU	Return Boiler RU(1)	Cold Input - System filling AF	Gas G
VICTRIX HYBRID PLUS	3/4"	3/4"	3/4"	3/4"	1/2"	✱

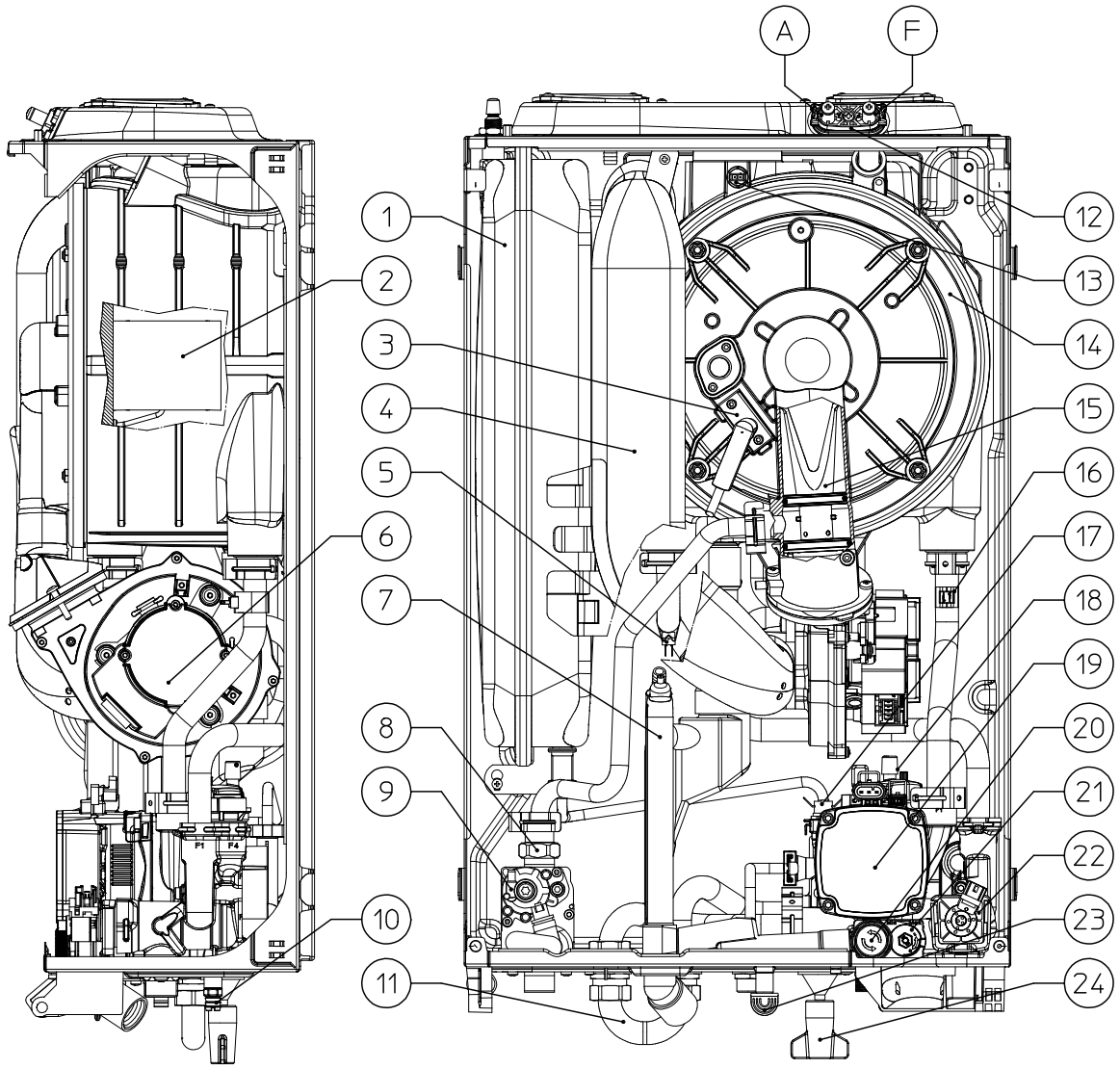
10 MAIN COMPONENTS VICTRIX HYBRID (CONDENSATION UNIT)



KEY:

1 - System expansion vessel
2 - Burner
3 - Ignition/detection electrode
4 - Air intake pipe
5 - Flow probe
6 - Fan
7 - Condensate drain trap
8 - D.H.W. flow switch
9 - Gas nozzle
10 - Gas valve
11 - DHW heat exchanger
12 - System draining valve
13 - DHW probe
14 - Sample points (air A) - (flue gases F)
15 - Flue probe
16 - Condensation module
17 - Venturi
18 - Return probe
19 - System pressure switch
20 - Air vent valve
21 - Condensation unit pump
22 - 3 bar safety valve
23 - By-pass
24 - 3-way valve (motorised)
25 - Valve drain fitting signal
26 - System filling cock

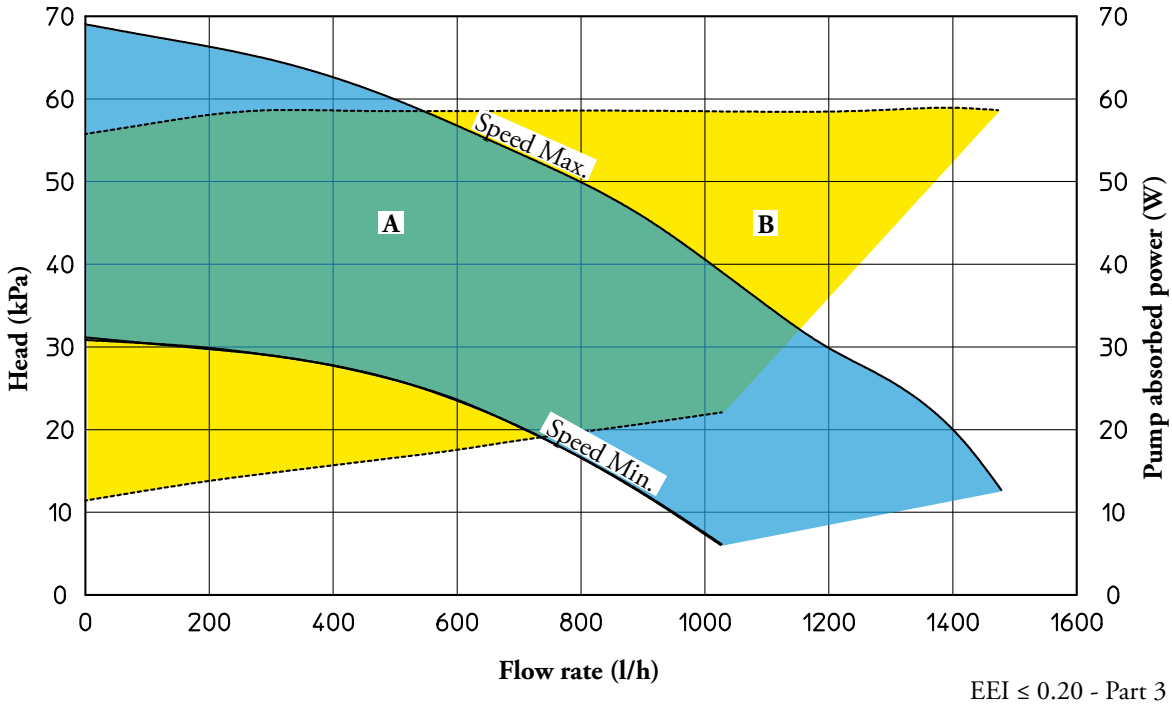
11 MAIN COMPONENTS VICTRIX HYBRID PLUS (CONDENSATION UNIT)



KEY:

1 - System expansion vessel
2 - Burner
3 - Ignition/detection electrode
4 - Air intake pipe
5 - Flow probe
6 - Fan
7 - Condensate drain trap
8 - Gas nozzle
9 - Gas valve
10 - System draining cock
11 - Storage tank flow flow by-pass
12 - Sample points (air A) - (flue gases F)
13 - Flue probe
14 - Condensation module
15 - Venturi
16 - Return probe
17 - System pressure switch
18 - Air vent valve
19 - Condensation unit pump
20 - 3 bar safety valve
21 - By-pass
22 - 3-way valve (motorised)
23 - Valve drain fitting signal
24 - System filling cock

12 GRAPH OF PUMP FLOW RATE/HEAD (CONDENSATION UNIT)



EEI ≤ 0.20 - Part 3

KEY:

A = Head to the system with bypass closed

B = Absorbed power by the circulator (dotted area)

12.1 GRUNDFOS UPM3 15-70 PUMP SETTINGS AND CONFIGURATIONS

Indoor condensation units are equipped with a low power consumption pump with variable speed regulator, the pump also works for the heat pump, since the two generators are placed in series with each other.

The circulator speed is set using the parameters present in the Assistance Menu -> System Definition of the Control panel.

For the hybrid heat pump to work properly, it is not allowed to drop below the minimum value indicated in the aforementioned graph.

In domestic hot water mode, the circulator pump always runs at full

speed.

NOTE: The indoor unit comes out of the factory with the by-pass closed.

For a correct operation of the system, the indoor unit by-pass must be kept closed.

It is essential for correct operation that a branch of the system always remains open; otherwise it will be required to install an external by-pass (especially in the case of zone valves or thermostatic valves on the heating bodies); the purpose is to allow the antifreeze function to be carried out (which occurs when the circulator is restarted).

For proper system operation, make sure that the minimum flow rate in operating conditions never drops below 500 l/h.

Treating the feed water allows you to prevent problems and maintain the function and efficiency of the generator over time.

Legislative Decree 26/06/2015 requires a chemical treatment of the thermal system water, in compliance with the UNI 8065 standard, in the cases provided for by the Decree.

TECHNICAL NOTE: System minimum water content:

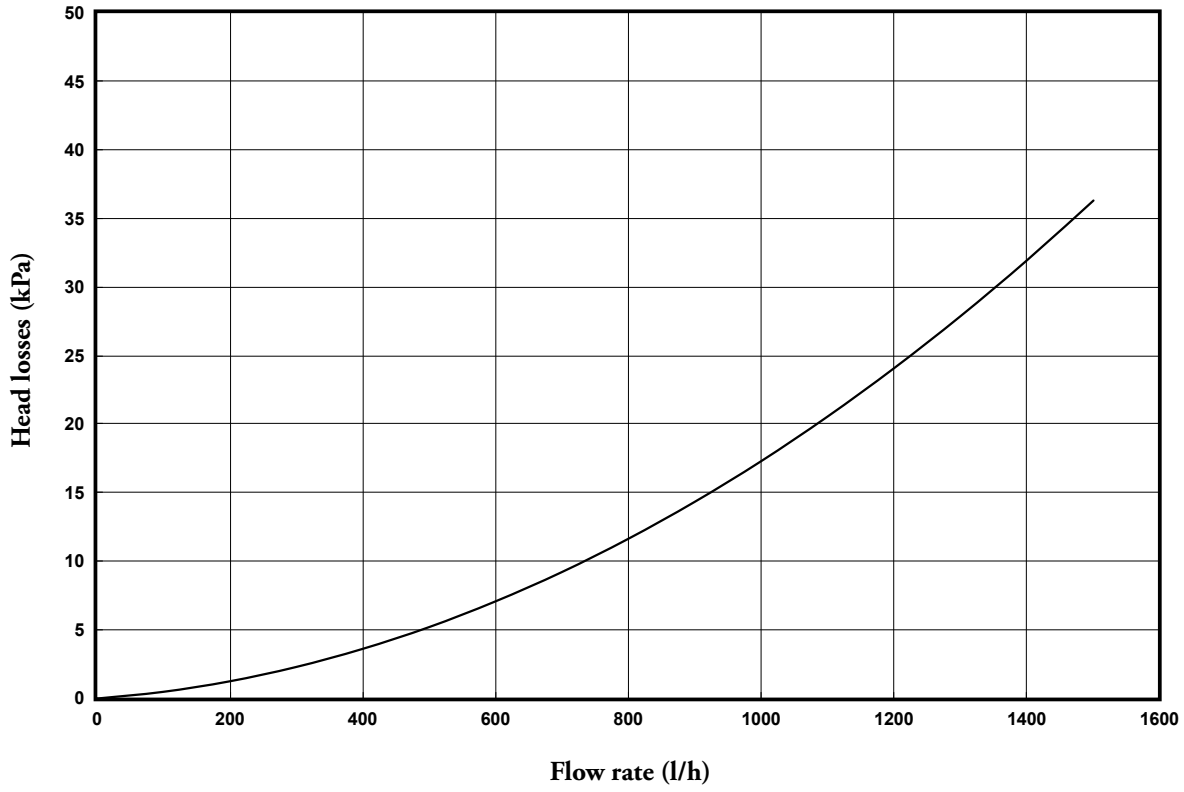
*To facilitate correct operation of the heat pump a minimum water content in the system is required, which must be **20 litres** for all kinds of systems.*

So attention must be paid to the systems divided over several zones, where the water content available to the machine changes continuously.

13 AUDAX.DK4 HYDRAULIC CIRCUIT RESISTANCE GRAPH (OUTDOOR UNIT)

The resistance of the hydraulic circuit of the outdoor unit (HP) must be taken into account to evaluate and verify the flow rate and head values available to the system.

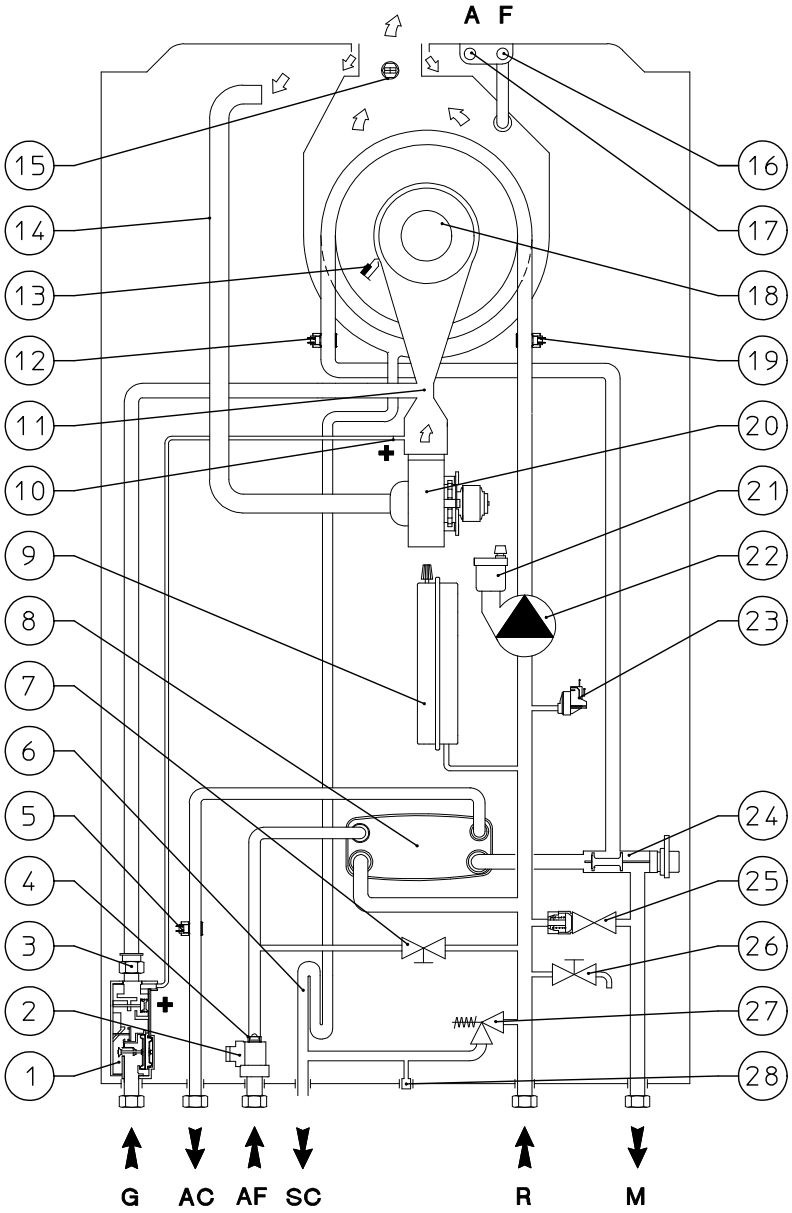
The graph below shows the resistance (pressure drops) of the internal circuit of the heat pump as the system flow rate varies. For the correct connection of the outdoor unit, see the instruction booklet.



KEY:

A = AUDAX.DK4 hydraulic circuit resistance

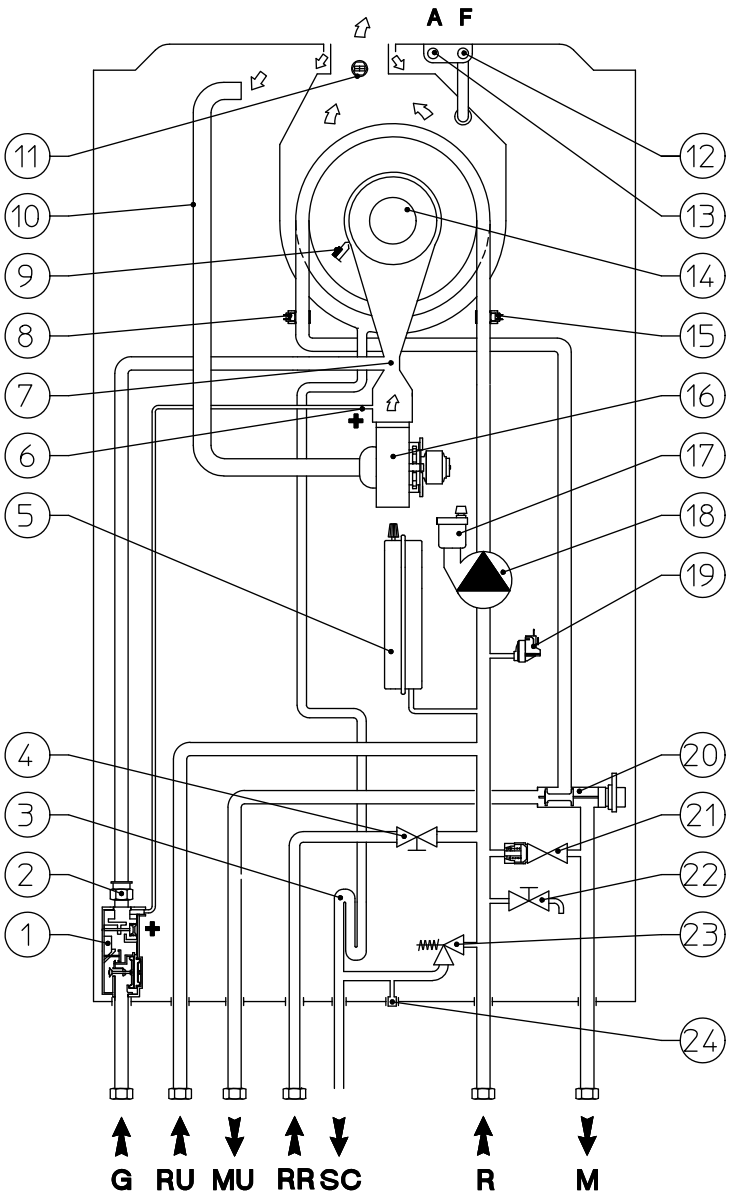
14 VICTRIX HYBRID HYDRAULIC DIAGRAM (CONDENSATION UNIT)



KEY:

1 - Gas valve
2 - D.H.W. flow switch
3 - Gas nozzle
4 - Flow limiter
5 - DHW probe
6 - Condensate drain trap
7 - System filling valve
8 - DHW heat exchanger
9 - System expansion vessel
10 - Positive (+) pressure point
11 - Venturi
12 - Flow probe
13 - Ignition/detection electrodes
14 - Air intake pipe
15 - Flue probe
16 - Flue sample point
17 - Air sample point
18 - Burner
19 - Return probe
20 - Fan
21 - Air vent valve
22 - Condensation unit pump
23 - Absolute pressure switch
24 - 3-way valve (motorised)
25 - By-pass
26 - System draining valve
27 - 3 bar safety valve
28 - 3 bar safety valve drain fitting signal

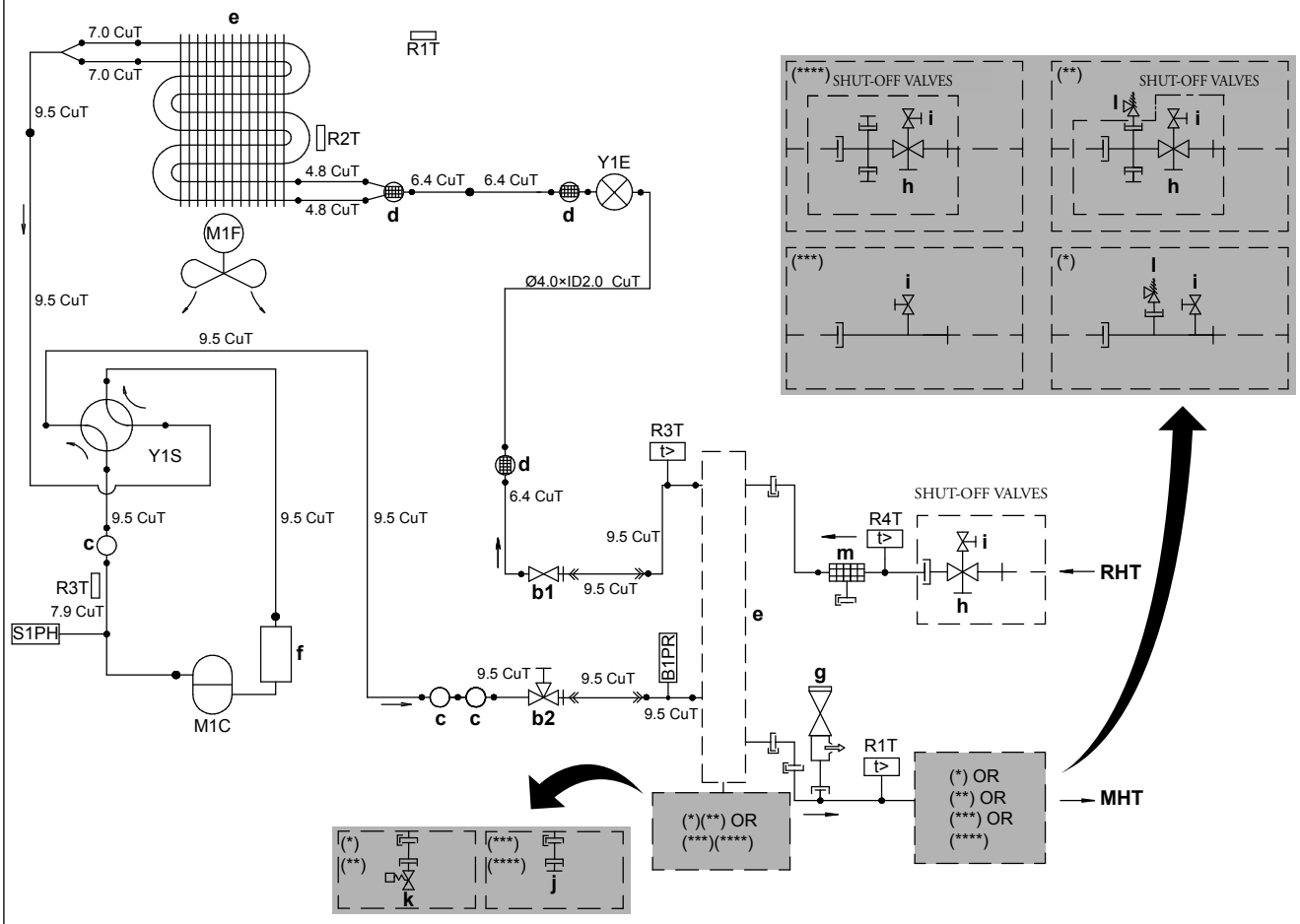
15 VICTRIX HYBRID PLUS HYDRAULIC DIAGRAM (CONDENSATION UNIT)



KEY:

1 - Gas valve
2 - Gas nozzle
3 - Condensate drain trap
4 - Filling cock / tap
5 - System expansion vessel
6 - Positive (+) pressure point
7 - Venturi
8 - Flow probe
9 - Ignition/detection electrodes
10 - Air intake pipe
11 - Flue probe
12 - Flue sample point
13 - Air sample point
14 - Burner
15 - Return probe
16 - Fan
17 - Air vent valve
18 - Pump
19 - Absolute pressure switch
20 - 3-way valve (motorised)
21 - By-pass
22 - System draining cock
23 - 3 bar safety valve
24 - 3 bar safety valve drain fitting signal

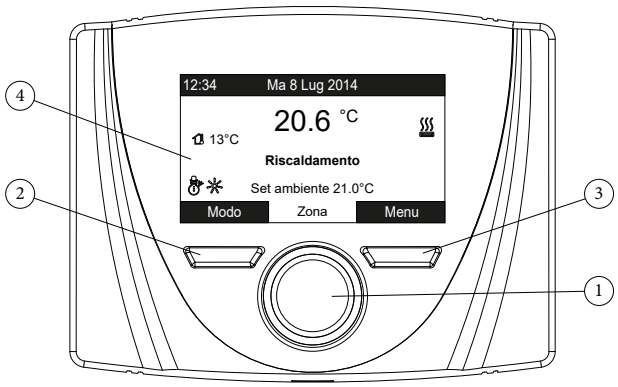
16 AUDAX.DK4 HYDRAULIC DIAGRAM (EXTERNAL CONDENSING UNIT)



KEY:

RHT - Return to heat pump
MHT - Flow from heat pump
b1 - Stop valve (cooling liquid)
b2 - Stop valve with service opening (coolant gas)
c - Silencer
d - Silencer with filter
e - Heat exchanger
f - Storage tank
g - Safety valve
h - Cut-off valve
i - Air purge
j - Cap
k - Antifreeze protection valve
l - Vacuum switch
m - Filter
B1PR - Coolant pressure sensor
Shut-off valve - Standard supplied shut-off valves
M1C - Compressor motor
M1F - Fan motor
R1T - External probe
R1T (t>) - Water outlet probe
R2T - Evaporator probe
R3T - Compressor outlet probe
R3T (t>) - Liquid phase probe
R4T (t>) - Water inlet probe
S1PH - High pressure switch
Y1E - Electronic expansion valve
Y1S - Four way reversal
—|— - Screw connection
—≫— - Flared connection
—|— - Quick release connector
—●— - Brazed connection

17 CONTROL PANEL PROGRAMMING MENU



KEY:

1 - Main parameters switch with button to confirm and save data
2 - Left context button
3 - Right context button
4 - Display

Once the device is powered, it goes into the status prior to switch-off. Press the "Modo" (Mode) (2) button to cyclically select the desired mode amongst those available.

Depending on the system's configuration, the main screen displays various information regarding the system.
Press the "Menu" (3) button to access a list of variables that enable you to customise use of the system.
To browse the menus, which can be accessed by pressing the relative "RH" or "LH" context buttons, scroll through the sub-menus displayed by turning the main switch (1).
Press the said main switch (1) to select the one highlighted.
Therefore, by pressing repeatedly, you can scroll down the menu levels and go back to a previous level by pressing the "Indietro" (Back) context button. To exit the menu completely, press the "Esci" (Exit) button, which will take you back to the initial page of normal operation.
To confirm the parameter change, press the main switch (1).

MAIN MENU	
Menu item	Description
Zone Set Point	Defines the operating parameters to manage the zone
DHW Set point	Defines the operation parameters in domestic circuit mode
Clock and Programs	Defines the date/time and time operating slots
Information	Display system operating data
Anomalies log	Displays the list of the last 10 anomalies
Support	Password protected menu dedicated to a qualified technician
Language	Defines the Control panel operation language

Zone Set Point Menu			
Menu item	Description	Range	Default
Set Central heating comfort	Room temperature in central heating zone Comfort mode.	15 - 35 °C	20
Set Central heating economy	Room temperature in central heating zone Economy mode.	5 - 25 °C	17
Flow set with RT	Flow temperature in heating mode with room thermostat.	20 - 80 °C	40
Maximum flow set	Maximum flow temperature with room probe active.	20 - 80 °C	50
Central heating flow offset	Offset temperature for central heating zone (only used with operation with external probe).	- 15 - + 15°C	0

DHW Set point			
Menu item	Description	Range	Default
Comfort Set	DHW temperature in Comfort phase.	30 ÷ 60 °C	50
Economy Set	DHW storage temperature in Economy phase.	30 ÷ 45 °C	30
Disinfection	Activates domestic hot water disinfection mode (V. H. PLUS version only).	OFF - 24 hours - 7 days	OFF

Clock and programs menu			
Menu item	Description	Range	Default
Date and time	Current date and time setting.		
Time slots	Defines the time range for operation in Comfort and Economy mode.		
	Calendar 1 Slot 1 ON	0-24, 0-45	00:00
Zone program	Time programme.		
	Zone: Monday	CAL1, CAL2, CAL3, CAL4	CAL1
	Zone: Tuesday	CAL1, CAL2, CAL3, CAL4	CAL1
	Zone: Wednesday	CAL1, CAL2, CAL3, CAL4	CAL1
	Zone: Thursday	CAL1, CAL2, CAL3, CAL4	CAL1
	Zone: Friday	CAL1, CAL2, CAL3, CAL4	CAL1
	Zone: Saturday	CAL1, CAL2, CAL3, CAL4	CAL1
	Zone: Sunday	CAL1, CAL2, CAL3, CAL4	CAL1
DHW Program	DHW operation time program.		
	Domestic hot water: Monday	CAL1, CAL2, CAL3, CAL4	CAL1
	Domestic hot water: Tuesday	CAL1, CAL2, CAL3, CAL4	CAL1
	Domestic hot water: Wednesday	CAL1, CAL2, CAL3, CAL4	CAL1
	Domestic hot water: Thursday	CAL1, CAL2, CAL3, CAL4	CAL1
	Domestic hot water: Friday	CAL1, CAL2, CAL3, CAL4	CAL1
	Domestic hot water: Saturday	CAL1, CAL2, CAL3, CAL4	CAL1

Clock and programs menu			
Menu item	Description	Range	Default
	Domestic hot water: Sunday	CAL1, CAL2, CAL3, CAL4	CAL1
Reduced mode program	Reduced mode time program.		
	Reduced mode: Monday	CAL1, CAL2, CAL3, CAL4	CAL1
	Reduced mode: Tuesday	CAL1, CAL2, CAL3, CAL4	CAL1
	Reduced mode: Zone: Wednesday	CAL1, CAL2, CAL3, CAL4	CAL1
	Reduced mode: Thursday	CAL1, CAL2, CAL3, CAL4	CAL1
	Reduced mode: Friday	CAL1, CAL2, CAL3, CAL4	CAL1
	Reduced mode: Saturday	CAL1, CAL2, CAL3, CAL4	CAL1
	Reduced mode: Sunday	CAL1, CAL2, CAL3, CAL4	CAL1
Holiday Program	Defines the period during which the system disables both hot water heating and room central heating functions. At the end of the set days, the previously active functions will be reset.		Deactivate

Information Menu	
Menu item	Description
OU flow temperature	Outdoor unit flow temperature.
OU return temperature	Outdoor unit return temperature.
IU flow temperature	Indoor unit flow temperature.
Outside temperature	External temperature detected by the external probe.
Calculated system temperature set	Required flow temperature.
DHW temperature	DHW (Domestic hot water) storage tank water temperature (V. H. PLUS version only).
IU board software version	Indoor unit board software revision.
OU board software version	Outdoor unit board software revision.
OU gateway software version	Outdoor unit gateway board software revision.
OU inverter software version	Outdoor unit inverter software revision.
Display software version	Display software revision installed on the control panel.
Operating mode	Mode: Off / Heating / DHW / Antifreeze / Room Antifreeze / Defrosting.

VICTRIX HYBRID

Anomalies Log Menu
Description
Displays the log of the last 10 anomalies (see VICTRIX HYBRID instruction booklet).

Assistance Menu			
Menu item	Description	Range	Default
Password protected menu dedicated to a qualified technician.			

Language Menu			
Menu item	Description	Range	Default
Language	Defines the Remote Panel operation language.		ITA

17.1 MAINTENANCE TECHNICIAN PROGRAMMING MENU

Assistance Menu		
Menu item	Description	Range
Zone Definition	Zone system sub-menu settings.	-
Definition system	Sub-menu to define the devices connected to the system.	-
Temperature control	Temperature control setting sub-menu.	-
Integration	System integration setting sub-menu.	-
Heat pump	Heat pump operating parameters sub-menu.	-
Information	System information sub-menu.	-
Restore default setting	Allows to reset all parameters with factory values.	Yes / No

Assistance Menu -> Zone Definition			
Menu item	Description	Range	Default
Room control interface	Establishes the temperature control device in use.	P. Rem / TA	P. Rem.
Heater kit	Enables operation of the heater kit.	Yes / No	No
Glycol	Indicates the presence of antifreeze fluid in the system.	Yes / No	No

Assistance Menu -> System Definition			
Menu item	Description	Range	Default
Reduction function	This enables a reduction of the PdC operating frequency.	No Level 1 Level 2 Level 3	No
Min. Pump speed	Minimum speed used value.	10 - 100 %	50 %
Maximum pump speed	Maximum speed used value.	10 - 100 %	100 %
OU func. T delta	Temperature delta to be maintained with OU operation (heat pump).	5 - 10	5
IU func. T delta	Temperature delta to be maintained with IU operation (condensation unit).	5 - 20	10
Pump functioning	The pump can function in two ways. - Intermittent: in “winter” mode, the circulator is managed by the control panel or the room thermostat. Continuous = in “Winter” mode the pump is always in operation.	Inter./continuous	Inter.
DHW hysteresis	Temperature value to be subtracted from the DHW set-point to calculate the boiler ignition temperature to heat the system (V. H. PLUS version only).	1 - 20	3

Assistance Menu -> System Definition continues on the next page

Menu item	Description	Range	Default
Domestic hot water priority timing	In winter mode the boiler, at the end of a domestic hot water request, is ready to switch to central heating mode if there is an active request. Timing sets a time period in which the boiler waits before changing the operating mode, in order to quickly and comfortably satisfy an additional request for domestic hot water.	0 - 100 seconds (step 10 sec)	20 seconds
Central heating ignition timing	The indoor unit has an electronic timer, which prevents the burner from igniting too often in central heating mode.	0 - 600 seconds (step 10 sec)	180 seconds
Central heating ramp timing	In central heating mode, the indoor unit performs an ignition ramp in order to reach the maximum output set.	0 = 840 seconds (step 10 sec)	180 seconds
Heating ignition delay	The indoor unit is set to switch-on immediately after a request. In the case of particular systems (e.g. area systems with motorised thermostatic valves etc.) it may be necessary to delay ignition.	0 - 600 seconds (step 10 sec)	0 seconds

Assistance Menu -> Temperature control			
Menu item	Description	Range	Default
External probe use	Defines the external probe connection.	Yes / No	Yes
Minimum flow set	With the external probe not in use it defines the minimum flow temperature that can be set by the user. With the external probe enabled it defines the minimum flow temperature corresponding to operation with maximum external temperature.	20 ÷ 45	30
Maximum flow set	Without the external probe it defines the maximum flow temperature that can be set by the user. With the external probe present it defines the maximum flow temperature corresponding to operation with minimum external temperature.	35 ÷ 80	50
Outside temperature minimum	With the external probe enabled it defines at what external temperature the system must operate at the maximum flow temperature.	-25 ÷ +15 °C	-5 °C
Outside temperature maximum	With the external probe present it defines at what maximum external temperature the system must operate at the minimum flow temperature.	-5 ÷ +45 °C	25 °C
Room probe modulation	It enables you to set operation of the control panel as ON/OFF or modulating. Set “Yes”, the flow temperature will be varied depending on the room temperature set. Set “No”, the flow temperature will be kept constant until the desired room temperature is reached. N.B.: if an outdoor temperature probe is enabled, the flow temperature will be set depending on the relative functioning curve.	Yes / No	Yes
Inertia or dimension	It establishes the system reaction speed according to the type of system present. Example: 5 system with little heat inertia 10 system with normal dimensions with radiators 20 system with a lot of heat inertia (e.g. floor-standing system)	1 ÷ 20	10

Assistance Menu -> Heat adjustment continues on the next page

Assistance Menu -> Temperature control			
Menu item	Description	Range	Default
Enabling antifreeze	Enables the room antifreeze function.	Yes / No	Yes
Anti-freeze temperature	Allows to set the room temperature for activation of the anti-freeze function.	3 ÷ +10 °C	5 °C
Disable OU antifreeze (HP)	Disables all the antifreeze protections of the heat pump.	Yes / No	No

Assistance menu -> Integration			
Menu item	Description	Range	Default
DHW integration enabling	Enables domestic hot water mode of the IU (V. H. PLUS version only).	Yes / No	Yes
Enable central heating integration	Enables the operation of the IU in heating.	Yes / No	Yes
DHW int. wait time	Waiting time to reach the setting set before activation of the integration in the production of domestic hot water (V. H. PLUS version only).	1 ÷ 240 (5 minute intervals)	20'
Central heating int. wait time	Waiting time to reach the setting set before activation of the integration in room heating.	1 ÷ 240 (5 minute intervals)	20'
Integration mode	Establishes how to integrate the heat generator to the condensing unit, you can choose between automatic and manual.	Auto / Manual	Manual
Manual activation temperature	Establishes the outdoor temperature under which central heating integration is enabled.	-15 ÷ 35 °C	0
Integration band	If the flow temperature of the outdoor unit (HP) is lower than the heating-set value minus the activation band divided by 2, then after a period equal to the activation delay time, the indoor unit will be turned on (condensation unit).	0 ÷ 15 °C	3
F1 Electricity price	Allows to enter the price of electricity in € per kWh for time slot 1.	0 ÷ 2.55 € per kWh	0.23
F2 Electricity price	Allows to enter the price of electricity in € per kWh for time slot 2.	0 ÷ 2.55 € per kWh	0.23
F3 Electricity price	Allows to enter the price of electricity in € per kWh for time slot 3.	0 ÷ 2.55 € per kWh	0.23
Gas price	Allows to enter the methane price in € per cubic metre. For other gasses, the value to be inserted must be calculated by multiplying the user gas price by the correction factor indicated in the table below: **Gas used** / **Correction factor** Methane: 1.0 Propane Air: 0.79 LPG (m^3): 0.38 LPG (litre): 1.45	0 ÷ 2.55 € per m^3	0.95

VICTRIX HYBRID

Assistance Menu -> Heat pump	
Menu item	Description
Working parameters	Sub-menu for working data.
Status	Sub-menu for operating state.
Maintenance	Sub menu for maintenance operations.

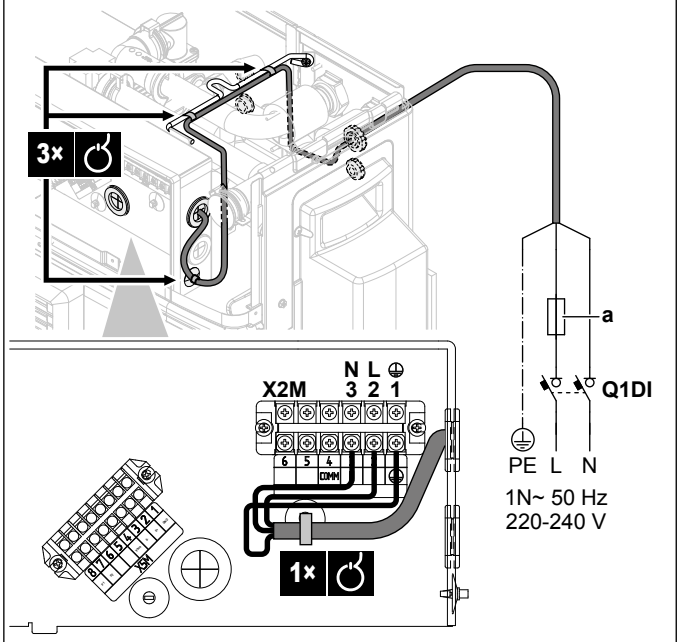
Assistance Menu -> Heat pump -> Working parameters	
Menu item	Description
OU flow temperature	Instant outlet temperature from the outdoor unit.
OU return temperature	Outdoor unit return temperature.
Calculated system temperature set	Flow temperature determined by the outdoor unit.
DHW temperature calculated set	DHW temperature determined by the outdoor unit.
Compressor outlet temp.	Outdoor unit compressor current temperature.
Cool.temp. on heat exchanger	Coolant temperature inside the heat exchanger.
Evaporator temp.	Evaporator temperature.
External temp.	External room temperature.
Compressor frequency	Current compressor frequency.
Compressor max. freq	Indicates the maximum frequency that can be reached by the compressor with the present conditions.
OU pump override	Circulator activation request for safety functions.
IU override from OU	Indoor unit activation request for safety functions.

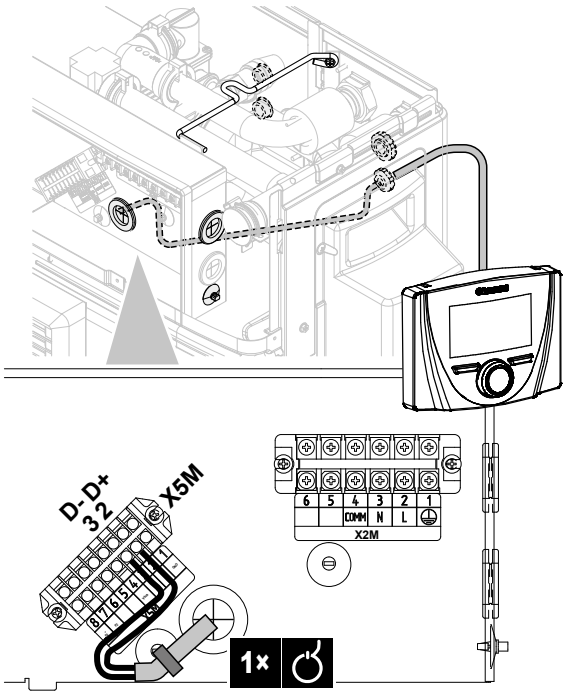
Assistance menu -> Heat pump -> Status (operating)	
Menu item	Description
HP Initialisation	Indicates that the initialisation phase of the indoor unit has ended.
Heat pump operational	Indicates that the heat pump is available.
Antifreeze function Pdc	Indicates that the heat pump is performing an antifreeze function.
Defrost	Indicates that the defrosting of the outdoor unit is in progress.
Hot Start	Indicates the machine was hot started in DHW (V. H. PLUS verison only).
Cold Start	Indicates the machine was cold started.

Service menu -> Heat pump -> Maintenance			
Menu item	Description	Range	Default
Pump down	Function for gas removal on water/gas heat exchanger.	Off / On	
Heater kit test	OU anti-freeze resistance kit control outlet forcing.	Off / On	

Assistance Menu -> Information			
Menu item	Description	Range	Default
Fan speed	Circulator speed status.	0 - 100 %	
Pump flow rate	Indicates circulation inside the hydraulic circulator.	0 - 200 l/h (reading only)	
DHW 3-way	DHW 3-way status.	DHW - C.H.	

18 ELECTRIC CONNECTION CABLES FEATURES





KEY:
Q1D1 - Differential switch
a - Fuse 20 A

Features of the outdoor unit connection. The outdoor unit power cable (not standard supplied) must be suitable for outdoor installation and must have at least a flexible polychloroprene sheath (code IEC:60245 IEC 57 / CENELEC:H05RN-F). Indicatively, the appropriate cable section can be 2.5 ÷ 4 mm², to be checked depending on the specific installation conditions.

Outdoor Unit	Nominal Values		Field of Tolerable Voltage		Maximum absorbed current (MAC) in normal operation	Flow rate of the protective device required for the device (a)
	Hz	V	V	V	A	A
AUDAX.DK4	50	220 - 240	198	264	10.3	20

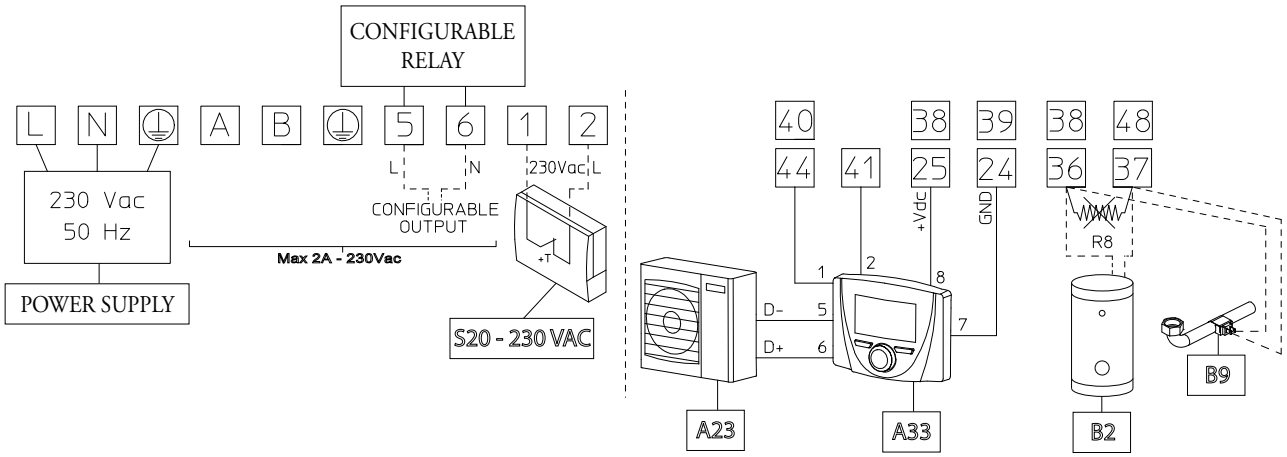
Features of the connection between outdoor and indoor units.
Use H07RN-F or H05RN-F class cables to power the indoor unit.
If the indoor unit is installed in a room with a computer or internet server, you must use a double shielded FROHH2R class cable (Aluminium tape/Polyester + Copper braid).

Indoor condensation unit power supply			BUS Communication cable between outdoor unit and Control panel
Power supply	Max./Min.(V)	Connection cable	
Mono-phase, 220-240V, 50Hz	±10%	0,75 ~ 1.5 mm², 3 wires	0.75 ~ 1.5mm², 2 wires

19 VICTRIX HYBRID TERMINAL BOARD CONNECTIONS

The connection between the condensation indoor unit and the heat pump outdoor unit must be made as shown in the wiring diagram below.
Specifically, a connection (2 BUS cables) must be provided between the Control Panel and AUDAX.DK4, respecting the polarity, and the Control Panel must also be connected (4 wires) to the terminal board from the indoor condensing unit.
The connection of the Control Panel is mandatory for the operation of the hybrid heat pump and for programming its settings.

The hybrid generator can also be activated by a room thermostat (S20), which must be connected to terminals 1 and 2 (230V ac), in this case the Control panel must always be kept connected but with the room sensor deactivated (the detection of the room temperature can be disabled via parameters).



KEY:

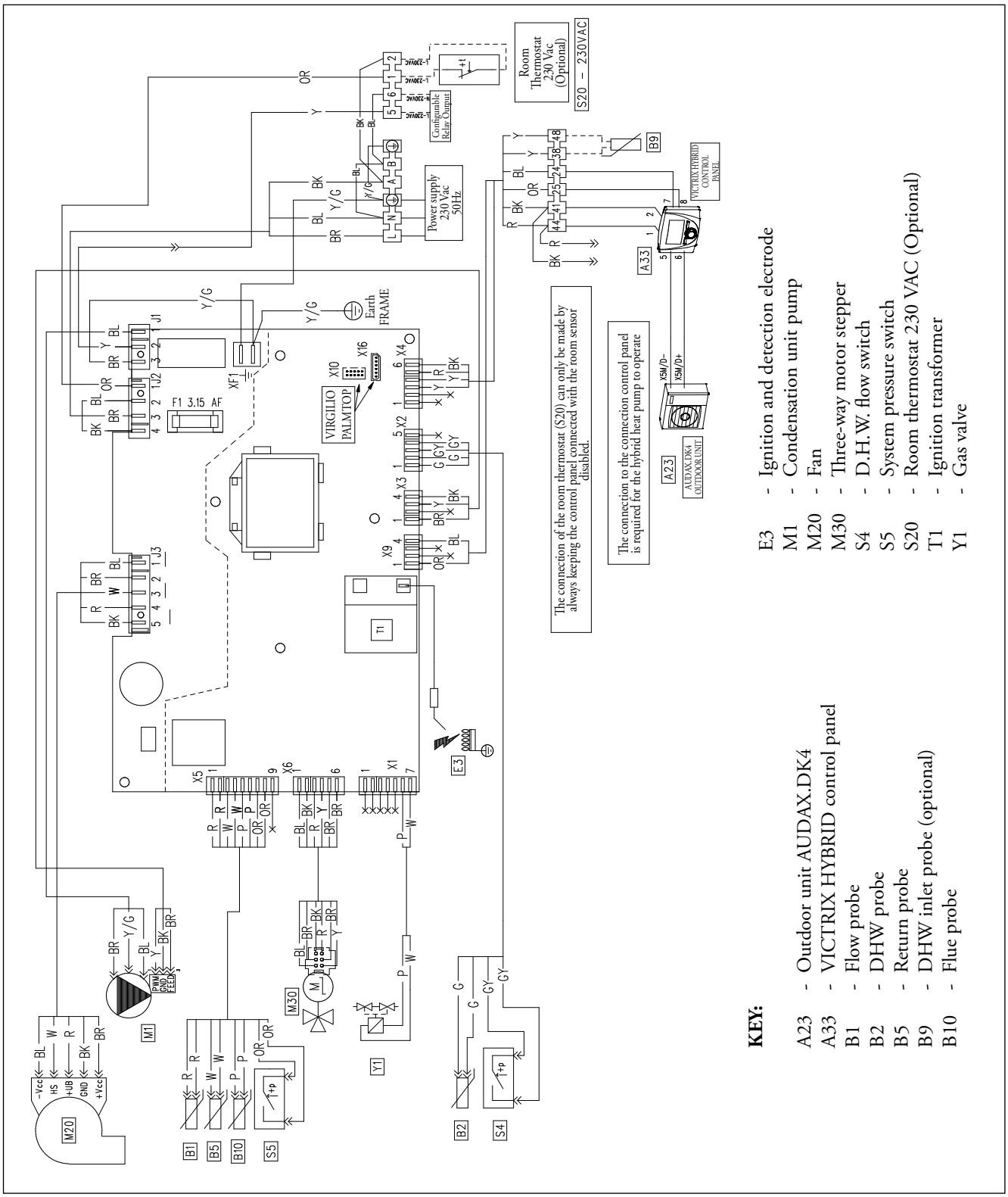
A23 - Outdoor unit AUDAX.DK4
A33 - VICTRIX HYBRID control panel
B2 - DHW probe (optional for VICTRIX HYBRID PLUS version)
B9 - DHW inlet probe (optional for VICTRIX HYBRID version)
R8 - Storage tank operation unabling resistance
S20 - Room thermostat 230 VAC (optional)

20 VICTRIX HYBRID WIRING DIAGRAM

ROOM THERMOSTAT CONTROL PANEL

The connection of the Control panel is required for the hybrid heat pump to operate.

The connection of the room thermostat (S20) can only be made by always keeping the Control panel connected with the room sensor disabled.



KEY:

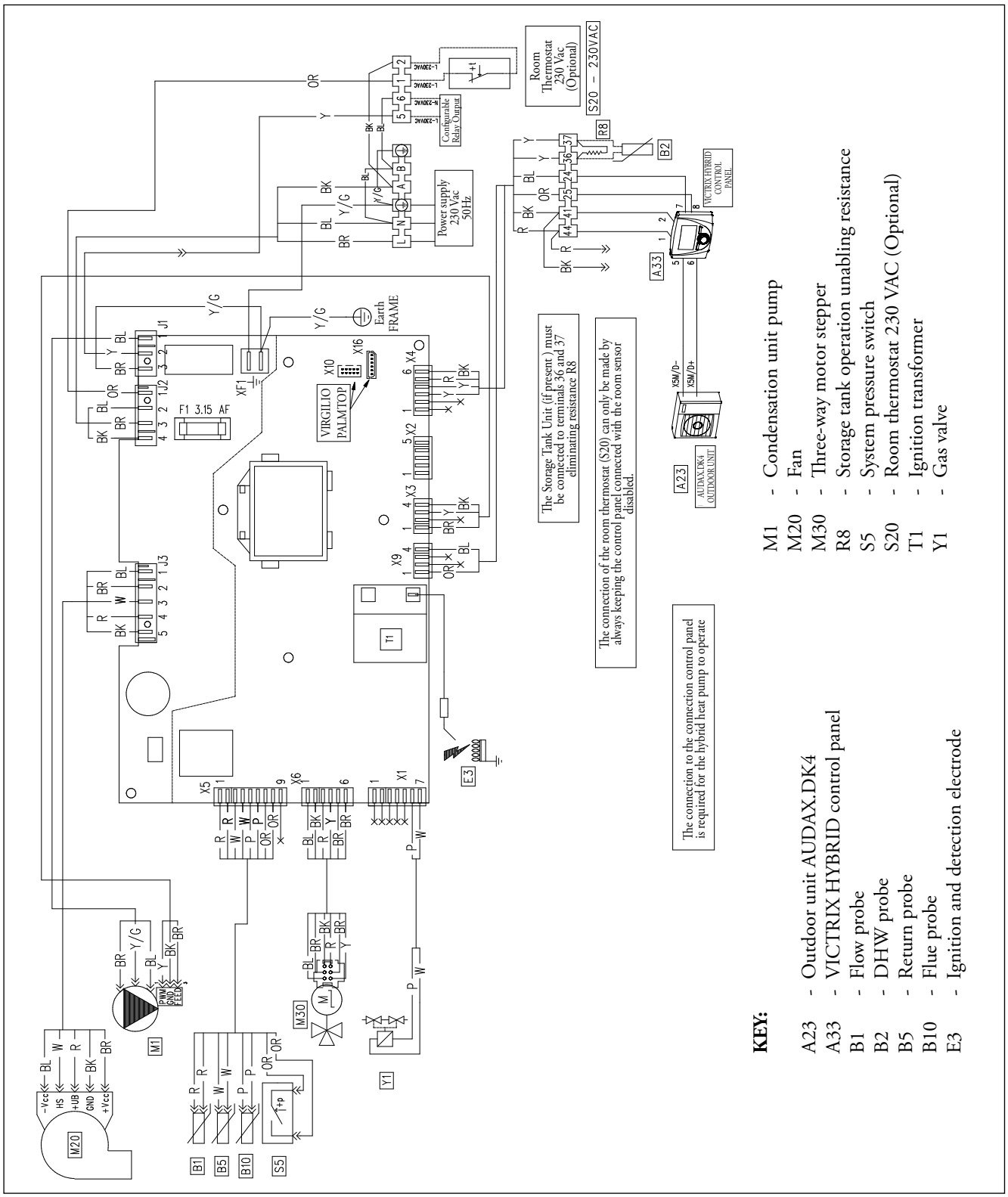
A23	-	Outdoor unit AUDAX.DK4
A33	-	VICTRIX HYBRID control panel
B1	-	Flow probe
B2	-	DHW probe
B5	-	Return probe
B9	-	DHW inlet probe (optional)
B10	-	Flue probe
E3	-	Ignition and detection electrode
M1	-	Condensation unit pump
M20	-	Fan
M30	-	Three-way motor stepper
S4	-	D.H.W. flow switch
S5	-	System pressure switch
S20	-	Room thermostat 230 VAC (Optional)
T1	-	Ignition transformer
Y1	-	Gas valve

21 VICTRIX HYBRID PLUS WIRING DIAGRAM

ROOM THERMOSTAT CONTROL PANEL

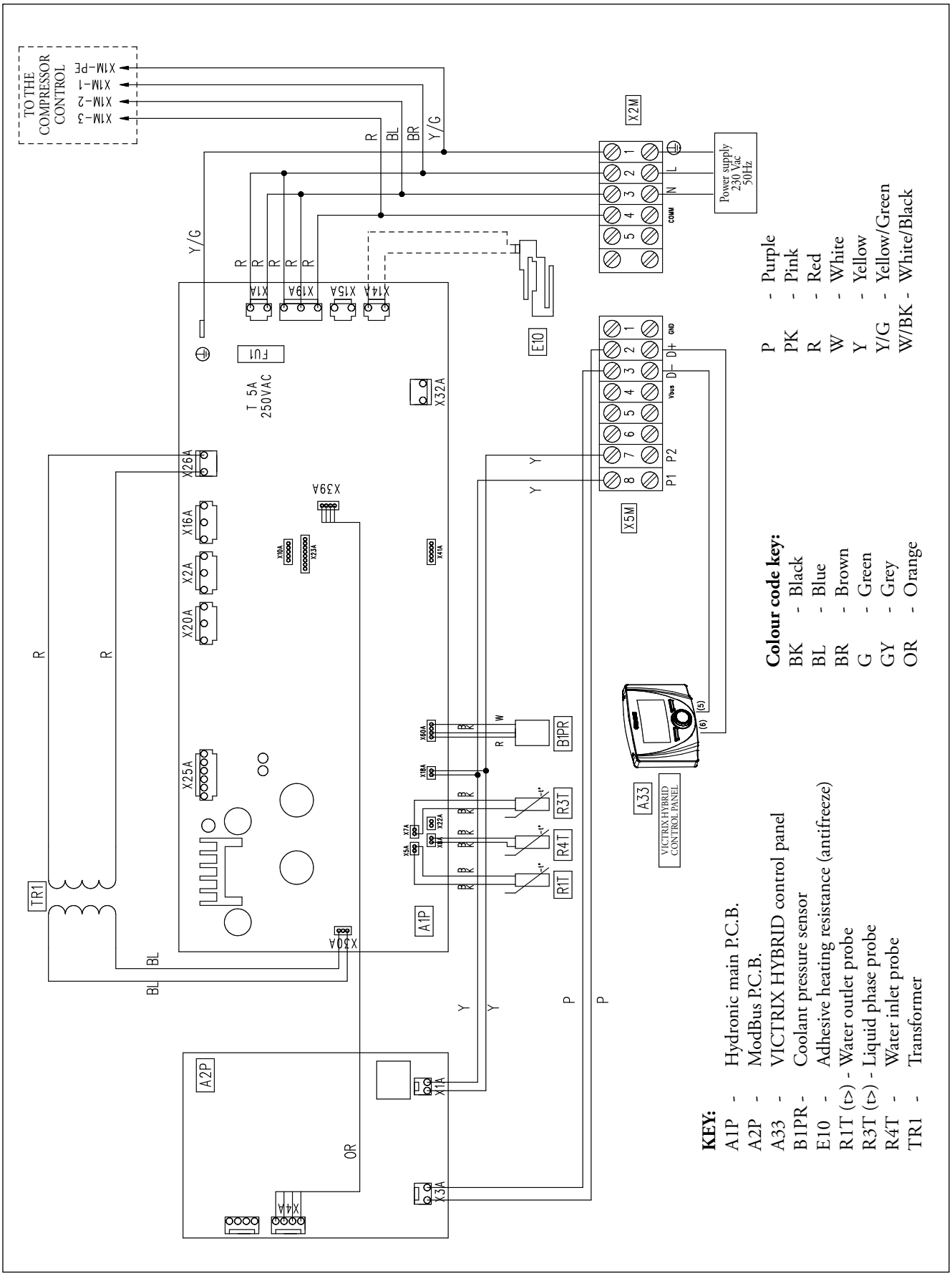
The connection of the Control panel is required for the hybrid heat pump to operate.

The connection of the room thermostat (S20) can only be made by always keeping the Control panel connected with the room sensor disabled.



VICTRIX HYBRID

22 AUDAX.DK4 WIRING DIAGRAM



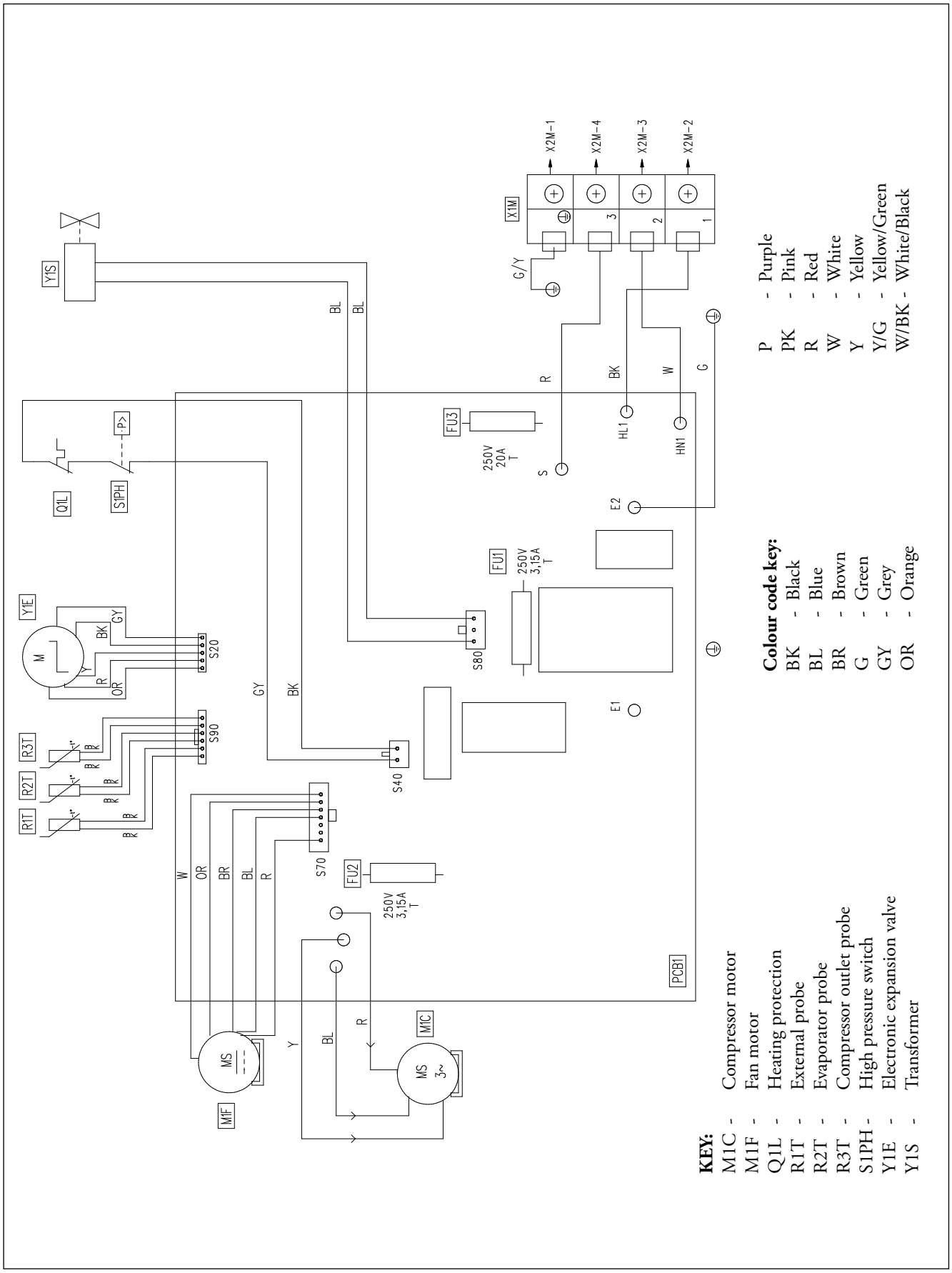
KEY:

A1P - Hydronic main P.C.B.
A2P - ModBus P.C.B.
A33 - VICTRIX HYBRID control panel
B1PR - Coolant pressure sensor
E10 - Adhesive heating resistance (antifreeze)
R1T (t>) - Water outlet probe
R3T (t>) - Liquid phase probe
R4T - Water inlet probe
TR1 - Transformer

Colour code key:

BK	-	Black
BL	-	Blue
BR	-	Brown
G	-	Green
GY	-	Grey
OR	-	Orange
P	-	Purple
PK	-	Pink
R	-	Red
W	-	White
Y	-	Yellow
Y/G	-	Yellow/Green
W/BK	-	White/Black

23 AUDAX.DK4 INVERTER WIRING DIAGRAM



24 AUDAX.DK4 TECHNICAL DATA (OUTDOOR UNIT)

		AUDAX.DK4
Central heating circuit		
Nominal power in CH mode with water set at 35 °C / Air 7 °C	kW	3.98
Nominal power in CH mode with water set at 45 °C / Air 7 °C	kW	3.80
Nominal power in CH mode with water set at 55 °C / Air 7 °C	kW	3.32
Nominal power in CH mode with water set at 35 °C / Air 2 °C	kW	2.97
Nominal power in CH mode with water set at 35 °C / Air -7 °C	kW	3.53
Absorbed power in CH mode with water set at 35 °C / Air 7 °C	kW	0.87
Absorbed power in CH mode with water set at 45 °C / Air 7 °C	kW	1.15
Absorbed power in CH mode with water set at 55 °C / Air 7 °C	kW	1.33
Absorbed power in CH mode with water set at 35 °C / Air 2 °C	kW	0.79
Absorbed power in CH mode with water set at 35 °C / Air -7 °C	kW	1.31
CH mode nominal COP with water set at 35 °C / Air 7 °C		4.55
CH mode nominal COP with water set at 45 °C / Air 7 °C		3.30
CH mode nominal COP with water set at 55 °C / Air 7 °C		2.50
CH mode nominal COP with water set at 35 °C / Air 2 °C		3.78
CH mode nominal COP with water set at 35 °C / Air -7 °C		2.70
CH flow temperature range	°C	25 ÷ 55
Outdoor temp. limits for operation (DHW)	°C	- 15 ÷ 25 (35)
AUDAX.DK4 condensing unit general data		
Electric power supply	V/Hz	230/50
Permitted voltage range	V	198 ÷ 264
Maximum absorbed power (outdoor condensing unit)	W	2600
Fuse required	A	20
Degree of protection	IP	X4D
C.H. sound power level	dB(A)	59
Type of refrigerant / (GWP)		R32 / 675
Refrigerant fluid load (R32)	kg	0.56
Weight	kg	45
Water content	l	2.0

25 VICTRIX HYBRID TECHNICAL DATA (CONDENSATION UNIT)

Domestic hot water maximum heating power		kW (kcal/h)	28.8 (24.773)
Central heating maximum heat input		kW (kcal/h)	24.6 (21.194)
DHW maximum useful heat output		kW (kcal/h)	28.3 (24.295)
CH maximum useful heat output		kW (kcal/h)	24.1 (20.717)
Minimum nominal heat input		kW (kcal/h)	4.5 (3.862)
Minimum nominal heat output		kW (kcal/h)	4.3 (3.689)
Efficiency at 100% Pn (80/60°C)		%	97.8
Efficiency at 30% of the load (80/60°C)		%	102.3
Efficiency at 100% Pn (50/30°C)		%	106.1
Efficiency at 30% of the load (50/30°C)		%	108.3
Efficiency at 100% Pn (40/30°C)		%	108.2
Efficiency at 30% of the load (40/30°C)		%	108.3
Room central heating seasonal efficiency (η_s)		%	93
Water heating energy efficiency (η_{wh})		%	87
Central heating circuit			
Adjustable central heating temperature (min. / max)		°C	min. 20 - 50 / max 85
System max. working temperature		°C	90
System max. working pressure		bar	3
System expansion vessel nominal/(real) capacity		litres	8.0 / (5.8)
System expansion vessel factory-set pressure		bar	1.0
Head with 1000 l/h flow rate		kPa (m c.a.)	40.6 (4.1)
DHW circuit			
Hot water production useful heat output		kW (kcal/h)	28.3 (24.295)
DHW adjustable temperature		°C	30 - 60
Domestic hot water circuit min. dynamic pressure		bar	0.3
Domestic hot water circuit / DHW Circuit max. pressure		bar	8
D.H.W. min. withdrawal		litres/min	1.5
Flow rate in continuous service (ΔT 30°C)		litres/min	13.7
Gas supply			
Gas flow rate at METHANE burner (G20)	MIN - MAX	m^3/h	0.48 - 2.61 (3.06 DHW)
Gas flow rate at LPG burner (G31)	MIN - MAX	kg/h	0.35 - 1.91 (2.25 DHW)
Electric power supply		V/Hz	230 - 50
Nominal power absorption		A	0.60
Installed electric power		W	80
Power absorbed by pump max speed		W	41
Power absorbed in stand-by		W	2
Electric insulation rating	IP		X5D
Water content		litres	2.2
Empty condensation unit weight		kg	33.6
Effective efficiency at 100% output (Italian Lgs. D. 192/05 as amended)			>93+2·log Pn (Pn = 24.1 kW)

26 VICTRIX HYBRID PLUS TECHNICAL DATA (CONDENSATION UNIT)

Domestic hot water maximum nominal heat input		kW (kcal/h)	28.8 (24.773)
Central heating maximum heat input		kW (kcal/h)	24.6 (21.194)
DHW maximum useful heat output		kW (kcal/h)	28.3 (24.295)
CH maximum useful heat output		kW (kcal/h)	24.1 (20.717)
Minimum nominal heat input		kW (kcal/h)	4.5 (3.862)
Minimum nominal heat output		kW (kcal/h)	4.3 (3.689)
Efficiency at 100% Pn (80/60°C)		%	97.8
Efficiency at 30% of the load (80/60°C)		%	102.3
Efficiency at 100% Pn (50/30°C)		%	106.1
Efficiency at 30% of the load (50/30°C)		%	108.3
Efficiency at 100% Pn (40/30°C)		%	108.2
Efficiency at 30% of the load (40/30°C)		%	108.3
Room central heating seasonal efficiency (η_s)		%	93
Central heating circuit			
Adjustable central heating temperature (min. / max.)		°C	Min. 20 - 50 / Max. 85
System max. working temperature		°C	90
System max. working pressure		bar	3
System expansion vessel nominal/(real) capacity		litres	8.0 / (5.8)
System expansion vessel factory-set pressure		bar	1.0
Head with 1000 l/h flow rate		kPa (m c.a.)	40.6 (4.1)
DHW circuit			
Hot water production useful heat output		kW (kcal/h)	28.3 (24.295)
DHW adjustable temperature		°C	10 - 60
Domestic hot water circuit / DHW Circuit max. pressure		bar	8
Flow rate in continuous service (ΔT 30°C)		litres/min	13.7
Gas supply			
Gas flow rate at METHANE burner (G20)	MIN - MAX	m^3/h	0.48 - 2.61 (3.06 DHW)
Gas flow rate at LPG burner (G31)	MIN - MAX	kg/h	0.35 - 1.91 (2.25 DHW)
Electric power supply		V/Hz	230 - 50
Nominal power absorption		A	0.60
Installed electric power		W	80
Power absorbed by pump max speed		W	41
Power absorbed in stand-by		W	2
Electric insulation rating	IP		X5D
Water content		litres	1.8
Stainless steel storage tank capacity UB OMNISTOR 300 V2		litres	279
Stainless steel storage tank capacity UB OMNISTOR 300 V2		litres	202.6
Stainless steel storage tank capacity UB OMNISTOR 300 V2		litres	277
Empty Storage Tank Unit weight UB OMNISTOR 300 V2		kg	75
Empty Storage Tank Unit weight UB INOXSTOR 200 V2		kg	60.7
Empty Storage Tank Unit weight UB INOXSTOR 300 V2		kg	75
Empty condensation unit weight		kg	32.0
Effective efficiency at 100% output			>93+2·log Pn
(Italian Lgs. D. 192/05 as amended)			(Pn = 24.1 kW)

27 COMBUSTION FEATURES VICTRIX HYBRID (CONDENSATION UNIT)

		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	97.8	97.8
Combustion efficiency P min (80/60°C)	%	97.8	97.8
Effective efficiency at 100% Pn (80/60°C)	%	97.8	97.8
Effective efficiency P min (80/60°C)	%	95.5	95.5
Effective efficiency at 100% Pn (50/30°C)	%	106.1	106.1
Effective efficiency P min (50/30°C)	%	106.1	106.1
Effective efficiency at 100% Pn (40/30°C)	%	108.2	108.2
Effective efficiency P min (40/30°C)	%	108.3	108.3
Chimney losses with burner on (100% Pn) (80/60°C)	%	1.7	1.7
Chimney losses with burner on (P min) (80/60°C)	%	2.2	2.2
Chimney losses with burner off	%	0.02	0.02
Casing losses with burner on (100% Pn) (80/60°C)	%	0.2	0.2
Casing losses with burner on (Pmin) (80/60°C)	%	2.3	2.3
Casing losses with burner off	%	0.34	0.34
Flue gas temperature Maximum Heat Input	°C	70	70
Flue gas temperature Minimum Heat Input	°C	64	63
Flue flow rate at Central Heating Maximum Heat Input	kg/h	38	37
Flue flow rate at Maximum Domestic Hot Water Heat Input	kg/h	44	43
Flue flow rate at Minimum Heat Input	kg/h	8	7
CO_2 at the Maximum Central Heating Heat Input	%	9.70	11.40
CO_2 at Maximum Domestic Hot Water Heat Input	%	9.70	11.40
CO_2 at Minimum Heat Input	%	8.80	10.60
CO at Maximum Heat Input	mg/kWh	321	316
CO at Minimum Heat Input	mg/kWh	5	5
NO_x at the Maximum Heat Input	mg/kWh	59	85
NO_x at Minimum Heat Input	mg/kWh	34	55
Weighted CO	mg/kWh	20	-
Weighted NO_x	mg/kWh	35	-
NO_x class	-	6	6
Intake/exhaust available head (min-max flow rate)	Pa	2 - 240	

NOTE: The VICTRIX HYBRID model can also operate with propane air.

Gas flow rates refer to the NHV at the temperature of 15° C and pressure of 1013 mbar.
Flue temperature values refer to an air inlet temperature of 15°C and flow/return temperature = 80/60°C.

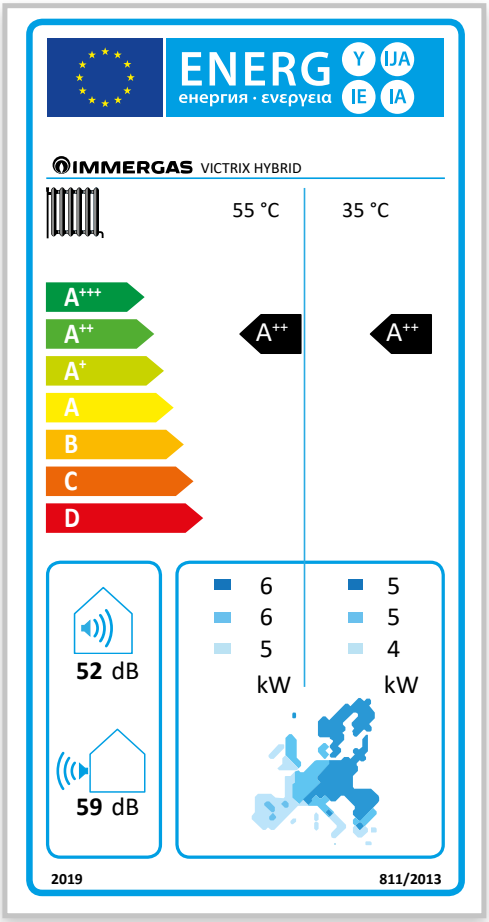
27.1 COMBUSTION FEATURES VICTRIX HYBRID PLUS (CONDENSATION UNIT)

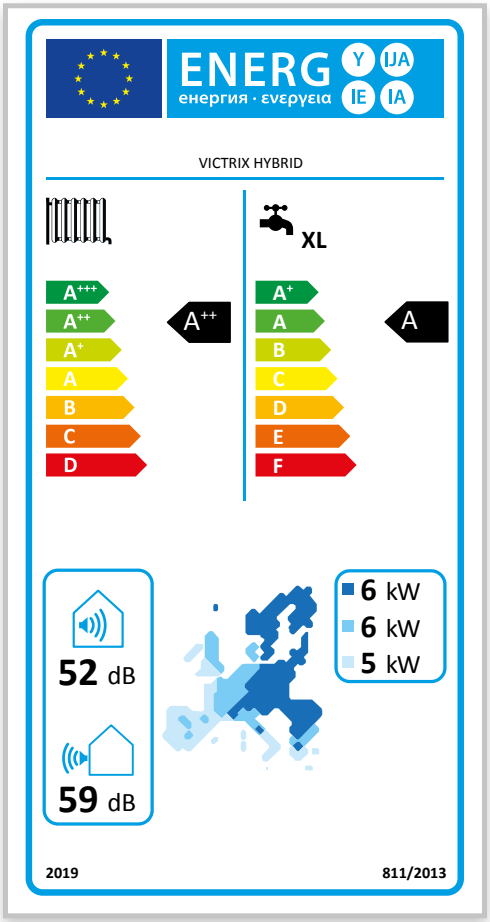
		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	97.8	97.8
Combustion efficiency P min (80/60°C)	%	97.8	97.8
Effective efficiency at 100% Pn (80/60°C)	%	97.8	97.8
Effective efficiency P min (80/60°C)	%	95.5	95.5
Effective efficiency at 100% Pn (50/30°C)	%	106.1	106.1
Effective efficiency P min (50/30°C)	%	106.1	106.1
Effective efficiency at 100% Pn (40/30°C)	%	108.2	108.2
Effective efficiency P min (40/30°C)	%	108.3	108.3
Chimney losses with burner on (100% Pn) (80/60°C)	%	1.7	1.7
Chimney losses with burner on (P min) (80/60°C)	%	2.2	2.2
Chimney losses with burner off	%	0.02	0.02
Casing losses with burner on (100% Pn) (80/60°C)	%	0.2	0.2
Casing losses with burner on (Pmin) (80/60°C)	%	2.3	2.3
Casing losses with burner off	%	0.34	0.34
Flue gas temperature Maximum Heat Input	°C	70	70
Flue gas temperature Minimum Heat Input	°C	64	63
Flue flow rate at Central Heating Maximum Heat Input	kg/h	38	37
Flue flow rate at Maximum Domestic Hot Water Heat Input	kg/h	44	43
Flue flow rate at Minimum Heat Input	kg/h	8	7
CO_2 at the Maximum Central Heating Heat Input	%	9.70	11.40
CO_2 at Maximum Domestic Hot Water Heat Input	%	9.70	11.40
CO_2 at Minimum Heat Input	%	8.80	10.60
CO at Maximum Heat Input	mg/kWh	321	316
CO at Minimum Heat Input	mg/kWh	5	5
NO_x at the Maximum Heat Input	mg/kWh	59	85
NO_x at Minimum Heat Input	mg/kWh	34	55
Weighted CO	mg/kWh	20	-
Weighted NO_x	mg/kWh	35	-
NO_x class	-	6	6
Intake/exhaust available head (min-max flow rate)	Pa	2 - 240	

NOTE: The VICTRIX HYBRID PLUS model can also operate with propane air.

Gas flow rates refer to the NHV at the temperature of 15° C and pressure of 1013 mbar.
Flue temperature values refer to an air inlet temperature of 15°C and flow/return temperature = 80/60°C.

28	PRODUCT FICHE (REGULATION 811/2013)





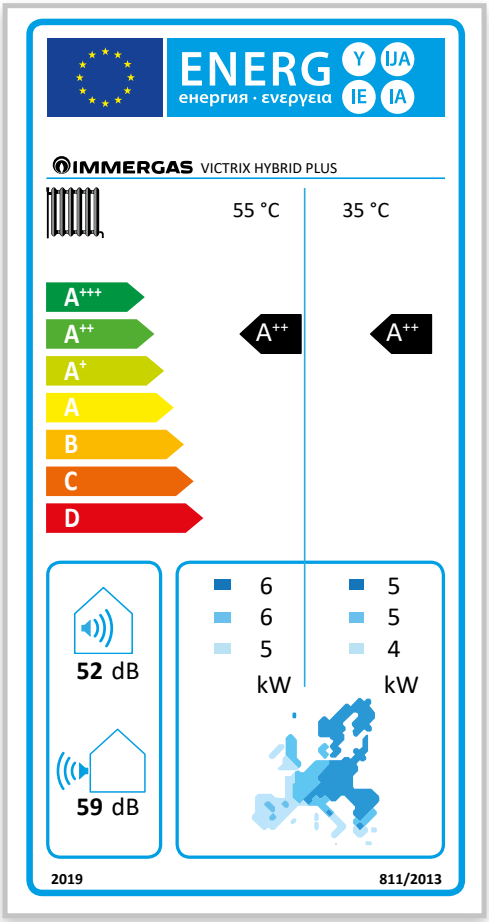
VICTRIX HYBRID

Average temperature (47/55)

Parameter	Value	Colder zones ■	Zones zones ■	Hotter zones ■
Annual energy consumption for the central heating mode (Q_{HE})	kWh/year	4770	3800	1674
Room central heating seasonal efficiency (η_s)	ηs %	121	128	157
Nominal heat output	kW	6.0	6.0	5.0

VICTRIX HYBRID PLUS

29	PRODUCT FICHE (REGULATION 811/2013)



VICTRIX HYBRID PLUS

Average temperature (47/55)

Parameter	Value	Colder zones	Zones zones	Hotter zones
Annual energy consumption for the central heating mode (Q_{HE})	kWh/year	4770	3800	1674
Room central heating seasonal efficiency (η_s)	ηs %	121	128	157
Nominal heat output	kW	6.0	6.0	5.0

30 POWER YIELDED AND ABSORBED IN HEATING AUDAX.DK4 (OUTDOOR UNIT)

Maximum Power with defrost cycles		Water flow temperature °C					
		30		35		40	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	1.80	1.10	2.05	1.18	2.16	1.25
-7	(-8)	2.15	1.07	2.34	1.17	2.13	1.19
-2	(-3)	2.96	1.16	2.89	1.17	2.77	1.18
2	(1)	3.61	1.17	3.46	1.18	3.27	1.18
7	(6)	4.75	0.97	4.65	1.08	4.54	1.28
12	(11)	5.08	0.86	4.86	0.94	4.62	1.09
15	(14)	5.47	0.82	5.17	0.89	4.87	1.02
20	(19)	5.75	0.66	5.30	0.73	4.85	0.83

Maximum Power with defrost cycles		Water flow temperature °C					
		45		50		55	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	2.10	1.25	2.28	1.28		
-7	(-8)	2.24	1.19	2.14	1.18	2.04	1.23
-2	(-3)	2.63	1.18	2.48	1.18	2.29	1.17
2	(1)	3.03	1.18	2.75	1.15	2.49	1.15
7	(6)	4.36	1.28	4.18	1.37	4.06	1.47
12	(11)	4.39	1.09	4.16	1.16	3.92	1.22
15	(14)	4.56	1.02	4.25	1.07	3.94	1.12
20	(19)	4.31	0.83	3.80	0.85	3.38	0.88

90% of power with defrost cycles		Water flow temperature °C					
		30		35		40	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	1.69	1.03	1.81	1.06	1.91	1.08
-7	(-8)	2.06	1.03	2.06	1.05	2.03	1.06
-2	(-3)	2.63	1.04	2.55	1.05	2.47	1.06
2	(1)	3.21	1.04	3.08	1.06	2.94	1.08
7	(6)	4.29	0.88	4.19	0.98	4.09	1.08
12	(11)	4.59	0.77	4.39	0.85	4.18	0.93
15	(14)	4.95	0.74	4.68	0.81	4.40	0.87
20	(19)	5.22	0.60	4.80	0.67	4.39	0.72

90% of power with defrost cycles		Water flow temperature °C					
		45		50		55	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	1.85	1.11	2.02	1.15		
-7	(-8)	1.98	1.07	1.91	1.08	1.81	1.12
-2	(-3)	2.36	1.07	2.21	1.07	2.04	1.07
2	(1)	2.71	1.07	2.46	1.06	2.22	1.05
7	(6)	3.93	1.16	3.76	1.24	3.64	1.34
12	(11)	3.97	1.00	3.75	1.06	3.53	1.12
15	(14)	4.12	0.93	3.84	0.98	3.55	1.02
20	(19)	3.91	0.76	3.44	0.78	3.05	0.81

VICTRIX HYBRID

70% of power with de-frost cycles		Water flow temperature °C					
		30		35		40	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	1.28	0.81	1.38	0.84	1.45	0.87
-7	(-8)	1.56	0.81	1.57	0.84	1.56	0.85
-2	(-3)	2.03	0.82	1.98	0.84	1.92	0.86
2	(1)	2.51	0.83	2.41	0.86	2.29	0.88
7	(6)	3.39	0.71	3.30	0.79	3.22	0.87
12	(11)	3.65	0.62	3.47	0.69	3.30	0.75
15	(14)	3.94	0.59	3.72	0.65	3.49	0.71
20	(19)	4.18	0.48	3.85	0.54	3.52	0.59

70% of power with de-frost cycles		Water flow temperature °C					
		45		50		55	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	1.41	0.90	1.52	0.92		
-7	(-8)	1.52	0.87	1.45	0.89	1.36	0.94
-2	(-3)	1.82	0.88	1.69	0.89	1.54	0.89
2	(1)	2.10	0.88	1.89	0.88	1.70	0.88
7	(6)	3.08	0.95	2.94	1.02	2.84	1.10
12	(11)	3.12	0.82	2.95	0.88	2.77	0.93
15	(14)	3.27	0.77	3.04	0.81	2.80	0.85
20	(19)	3.13	0.63	2.73	0.66	2.41	0.70

50% of power with de-frost cycles		Water flow temperature °C					
		30		35		40	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	0.91	0.63	0.98	0.65	1.02	0.68
-7	(-8)	1.13	0.63	1.13	0.65	1.11	0.67
-2	(-3)	1.48	0.64	1.44	0.66	1.38	0.68
2	(1)	1.85	0.64	1.77	0.67	1.67	0.69
7	(6)	2.52	0.55	2.45	0.62	2.38	0.69
12	(11)	2.57	0.49	2.61	0.54	2.47	0.60
15	(14)	2.99	0.46	2.82	0.51	2.63	0.57
20	(19)	3.19	0.38	2.92	0.43	2.65	0.48

50% of power with de-frost cycles		Water flow temperature °C					
		45		50		55	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
-10	(-11)	0.98	0.71	1.05	0.73		
-7	(-8)	1.07	0.69	1.00	0.70	0.93	0.77
-2	(-3)	1.30	0.69	1.19	0.71	1.07	0.73
2	(1)	1.52	0.70	1.35	0.70	1.20	0.72
7	(6)	2.27	0.75	2.16	0.81	2.07	0.88
12	(11)	2.33	0.65	2.19	0.70	2.04	0.76
15	(14)	2.45	0.62	2.26	0.66	2.07	0.71
20	(19)	2.34	0.52	2.03	0.55	1.77	0.59

- Correction factor stated DC = 1
- TOL = -15 °C

31 SEPARATE STORAGE TANK UNIT COUPLING FPR PRODUCTION OF D.H.W.

In VICTRIX HYBRID PLUS D.H.W. operation, the condensation generator and Heat Pump work on a single boiler flow/return circuit.
The storage tank units expressly designed for this combination are OMNISTOR and INOXSTOR V2.
As for the production of domestic hot water, the VICTRIX HYBRID appliance (instantaneous 28.3 kW in DHW) can be combined with a separate storage tank unit by means of a series connection. This way solar pre-heating can be used to supplement the production of DHW.
VICTRIX HYBRID instant is equipped with a solar function, however operation is further optimised by providing the domestic hot water inlet probe kit (optional).

31.1 FEATURES

Stainless steel storage tank unit for the production of domestic hot water.
Ideal in combination with heat pumps in particular OMNISTOR (larger coil). They are ideal for containing DHW and equipped with an inspection flange in the lower part.
They have a 5-year conventional warranty.
They include:

- 1 single water/water heat exchanger in stainless steel with increased surface for OMNISTOR versions;
- 2 Stainless steel double concentric coil water/water heat exchangers for INOXSTOR V2 versions;
- 2 probe-supports and NTC probe for VICTRIX HYBRID PLUS connection;
- Thermometer;
- Double magnesium anode;
- Suitable flexible and removable insulation (thickness 6 cm for OMNISTOR 300 and INOXSTOR 200/300 V2 and thickness 8 cm for OMNISTOR 500);
- Can be combined with optional double electronic anode kit code 3.025003.

The use of this storage tank unit involves the installation of an appropriately sized expansion vessel and safety valve, not included in the supply

Type	Code	Capacity (litres)	Energy efficiency class	Dimensions (mm)		Thermal exchange coils
				Height	Outside diameter	
OMNISTOR 300	3.027910	276.8	C	1715	620	1 Increased
OMNISTOR 500	3.027911	480.3	C	1735	810	1 Increased
INOXSTOR 200 V2	3.027746	202.6	C	1325	620	2 Separate
INOXSTOR 300 V2	3.027747	279.0	C	1715	620	2 Separate

32 OPTIONAL HEAT ADJUSTMENT

CRONO 7 (weekly digital chrono-thermostat) device class IV* or VII code 3.021622 	**CRONO 7 WIRELESS** device class IV* or VII code 3.021624 
NOTE: Certain heat adjustment devices can have different classes. For example, the CRONO 7 which belongs by default to class “IV”, setting the CRONO 7 with modulating operation the same device becomes class "VII". * Factory set device class.	

OTHER OPTIONAL VICTRIX HYBRID

Telephone control (combinable with CRONO7 and CRONO 7 WIRELESS) code 3.013305 	**GSM telephone control** (combinable with CRONO7 and CRONO 7 WIRELESS) code 3.017182 
Additional system expansion vessel kit (2 litres) code 3.017514	**Anti-freeze electric resistance kit (-15 °C)** code 3.017324
Top cover kit for direct air intake code 3.027263	**Compact condensate drain pump kit** code 3.026374
Condensate antifreeze resistance kit for heat pump units code 3.030930	**Wall brackets kit for outdoor unit** code 3.022154
25-litre horizontal inertial storage tank kit code 3.027842	**Outdoor unit adjustment kit for 25 litre horizontal inertial storage tank** code 3.030915
Propane air conversion kit code 3.027535	**Condensate neutraliser kit** code 3.019857
Condensation unit bottom guard kit code 3.027341	

Polyphosphate dispenser kit for instant condensation units (indoor only) code 3.017323	**Solar inlet probe kit for instant condensation unit (only if the connection kit with copper pipes is present)** code 3.021452
Universal connection kit (for indoor unit) code 3.011667	**System shut-off valves kit** code 3.5324
OMNI CONTAINER (recessed frame) the door must be replaced by pairing code 3.026851 code 3.016991	**Door kit for installation in OMNI CONTAINER** (the kit includes the installation bracket of the indoor unit) code 3.026851
Front connection kit for installation VICTRIX HYBRID in OMNI CONTAINER code 3.025396	**Rear connection kit for installation VICTRIX HYBRID in OMNI CONTAINER** code 3.025382
OPTIONAL COMBINABLE WITH VICTRIX HYBRID PLUS	
Front connection kit for installation VICTRIX HYBRID PLUS in OMNI CONTAINER code 3.025409	**Rear connection kit for installation VICTRIX HYBRID PLUS in OMNI CONTAINER** code 3.025398
INOXSTOR 200 V2 code 3.027746	**INOXSTOR 300 V2** code 3.027747
OMNISTOR 300 code 3.027910	**OMNISTOR 500** code 3.027911
3/4" thermostatic mixing valve kit Adjustment range 42÷60 °C code 3.019099	**Electronic anode double kit for INOXSTOR V2 and OMNISTOR** code 3.025003
Contact NTC probe kit for storage tank To combine VICTRIX HYBRID PLUS with commercial storage tank unit (supplied as standard on all matching Immergas storage tank units) code 3.019375	**Solar thermal coupling kit for OMNISTOR** (including aesthetic cover casing, plate heat exchanger with shut-off cocks, insulated connection pipes, solar control unit and single circulation unit 1÷6 l/min) code 3.029723

The hybrid system is designed to be combined with DIM (Multi-system Distribution Manifold), available in recess or wall-hung versions, to manage homogeneous or mixed zone systems, managing the same areas only with CRONO 7 and is not connectable to the signal state.

DECLARATION OF CONFORMITY OF THE PRODUCT

To download the updated declaration of conformity of the product, please refer to the IMMERGAS website:
www.immergas.com

APPENDIX: LOGIC OF OPERATION AND ADJUSTMENT

33 VICTRIX HYBRID OPERATING PRINCIPLES

The VICTRIX HYBRID control logic establishes various operating situations described below:

CENTRAL HEATING MODE

When operating in winter heating mode the operating logic between condensation units and Heat Pump can be selected between 2 options:

- With fixed external switching temperature ("MANUAL" mode).
- With variable external switching temperature according to the electricity and gas costs ("AUTO" mode).

OPERATION IN ROOM HEATING MODE (MANUAL MODE):

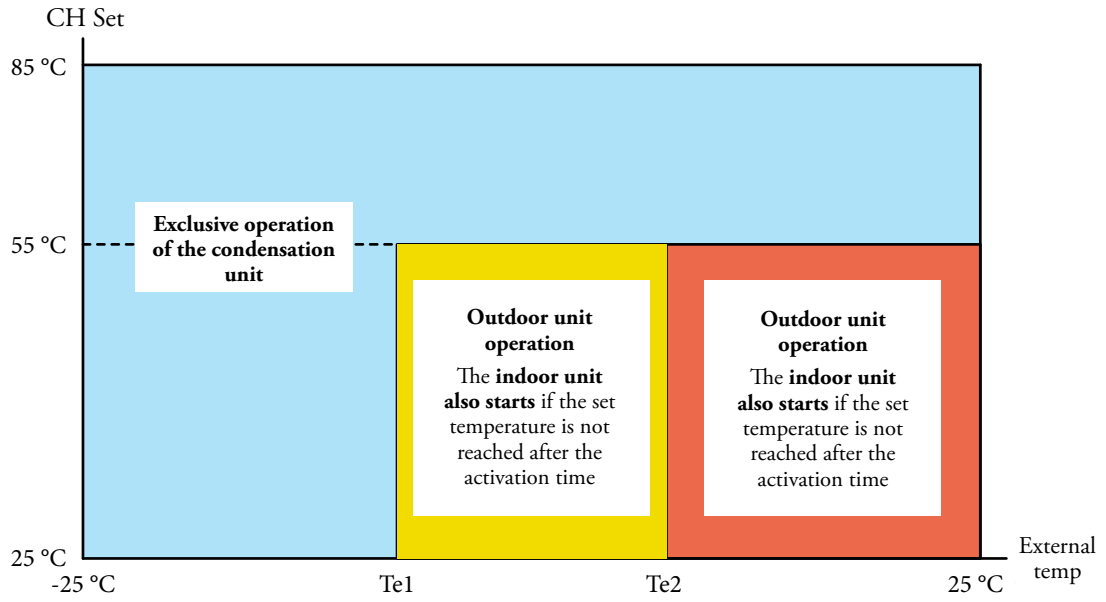
Following a request in the room heating phase, if an external switching temperature between condensation unit and "manual" HP is set in the Control panel menu, below this temperature (example +5 °C) only the condensation unit is activated, above this temperature the HP always starts and if the set delivery time is not reached in the waiting time (which can be set in the specific parameter menu), the condensation unit is also activated, in series and simultaneously.

OPERATION IN ROOM HEATING MODE (AUTOMATIC MODE):

With automatic operation, the specific menu includes the costs of electricity and gas through which the electronics calculate a convenience COP; based on the detected external temperature and the calculated flow set, the condensation unit (COP lower than the convenience COP) or the Heat Pump (COP greater than or equal to the convenience COP) are activated.
Also in the latter case, if in the waiting time (which can be set in the specific parameter menu) you do not reach the set delivery set, the condensation unit is also activated, in series and at the same time.

Simultaneous operation significantly increases the number of hours in which the HP is active in the heating period: for most of the time the heating request is satisfied by the HP alone or by the hybrid operating mode.

NOTE: If, depending on the outdoor temperature, VICTRIX HYBRID requires a flow temperature higher than 55 °C, the condensation unit is activated directly.

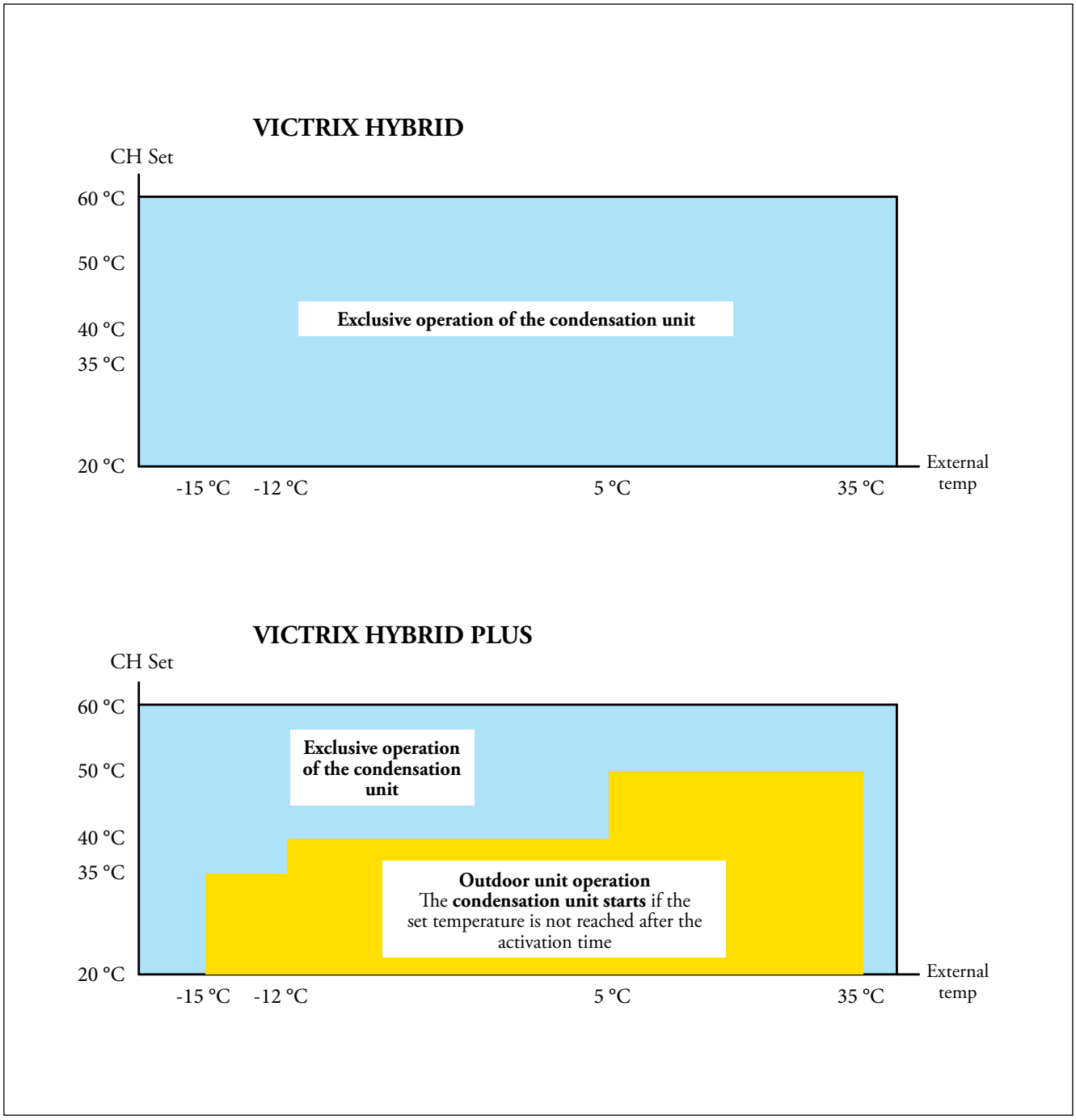


In "automatic" mode values Te1 and Te2 are determined by the system logic
(by setting the "manual" mode, the value "Te2" corresponds to the value of "Te1" + 5 °C)

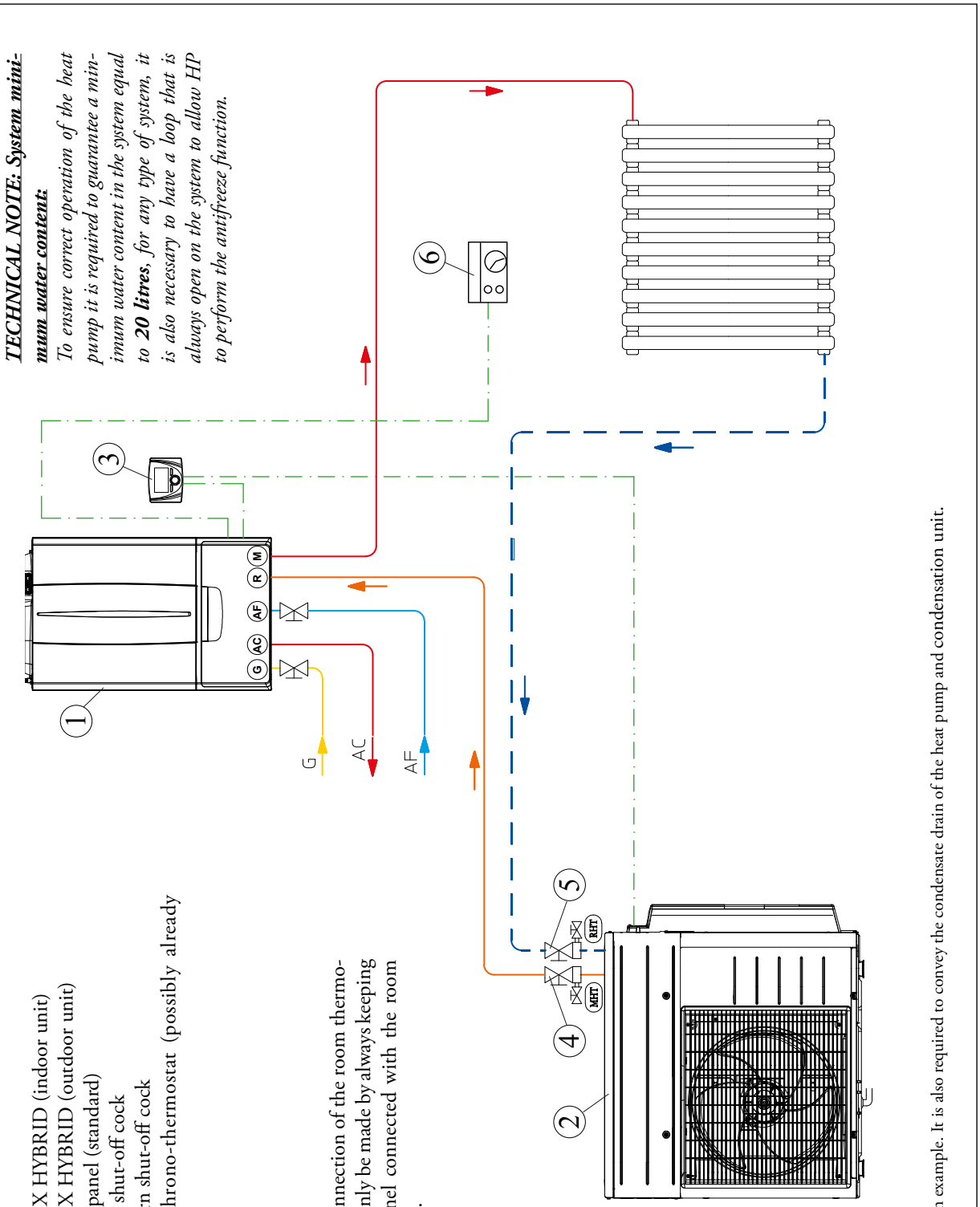
VICTRIX HYBRID

OPERATION IN DHW PHASE WITH VICTRIX HYBRID (INSTANT):
Following a DHW request, the system switches with priority to DHW phase and the Heat Pump is stopped.
The DHW is satisfied only by the condensing unit.

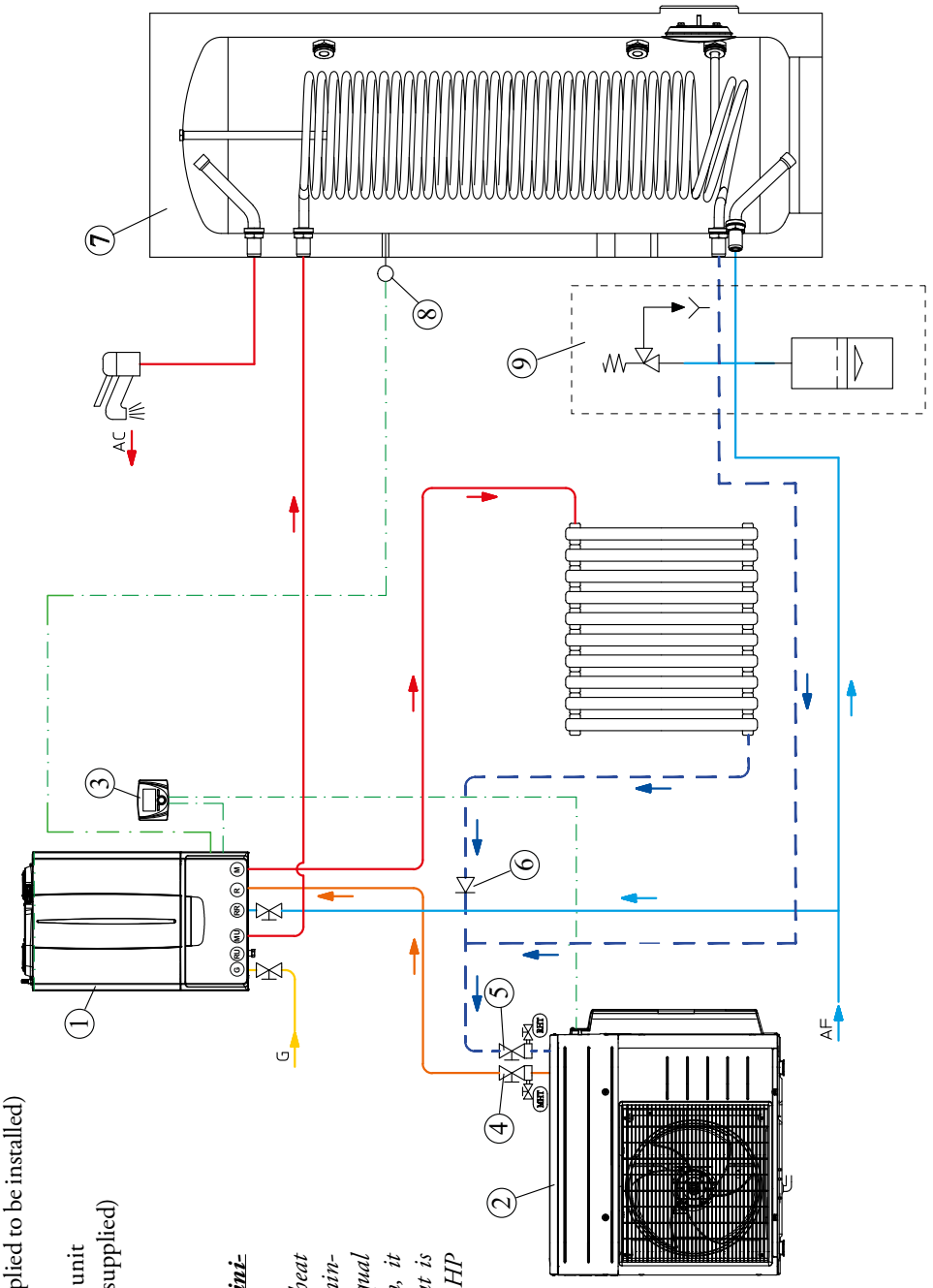
OPERATION IN DHW PHASE WITH VICTRIX HYBRID PLUS:
Following a DHW request, the system switches with priority to this service; in this case the two generators never operate simultaneously.
If the conditions (external temperature and set-point) allow the DHW demand to be met with the heat pump, the condensation unit remains off;
If the set temperature is not reached during the activation time (which can be set in the specific parameter menu), the condensation unit is activated and the HP is switched off.
The DHW temperature limit, when the HP is activated, is the one shown in the yellow area.
If the conditions do not allow to satisfy the request with the heat pump, the condensation unit is activated (blue area) and the HP is turned off.
The condensation unit is also activated to perform the anti-legionella function.



34 HYDRAULIC DIAGRAM: VICTRIX HYBRID (INSTANT) WITH RADIATOR SYSTEM



35 HYDRAULIC DIAGRAM: VICTRIX HYBRID PLUS WITH RADIATOR SYSTEM AND STORAGE TANK UNIT



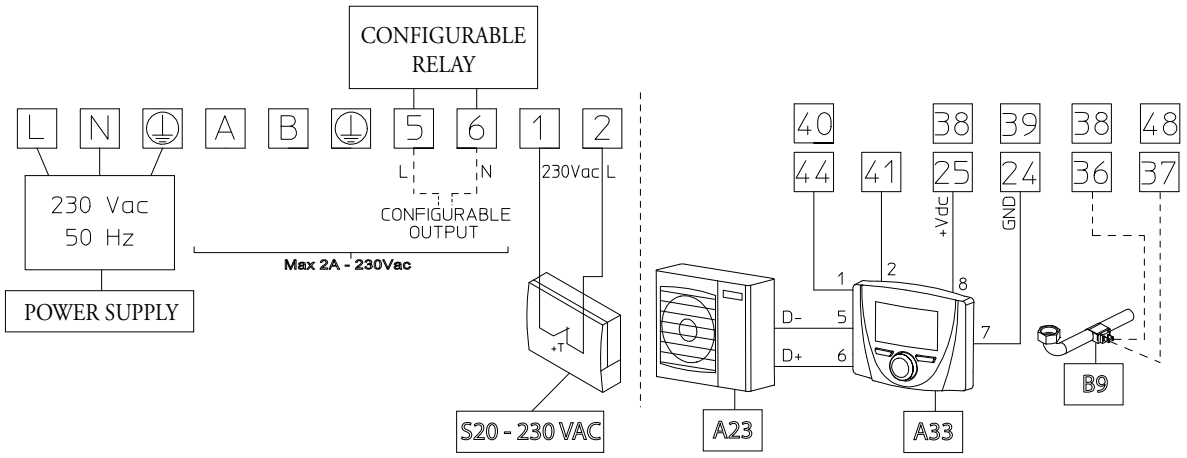
NOTE: in case of connection to the storage unit, the return on the storage unit (RU) must be connected to the return of the outdoor unit (RHT). The connection to the storage tank unit return, present in the indoor unit (RU), is not used and must be plugged.

KEY:
1 - VICTRIX HYBRID PLUS (indoor unit)
2 - VICTRIX HYBRID PLUS (outdoor unit)
3 - Control panel (standard)
4 - HP flow shut-off cock
5 - HP return shut-off cock
6 - Unidirectional valve (not supplied to be installed)
7 - Storage tank unit
8 - NTC probe for storage tank unit
9 - DHW inlet safety unit (not supplied)

TECHNICAL NOTE: System minimum water content:
To ensure correct operation of the heat pump it is required to guarantee a minimum water content in the system equal to ***20 litres****, for any type of system, it is also necessary to have a loop that is always open on the system to allow HP to perform the antifreeze function.*

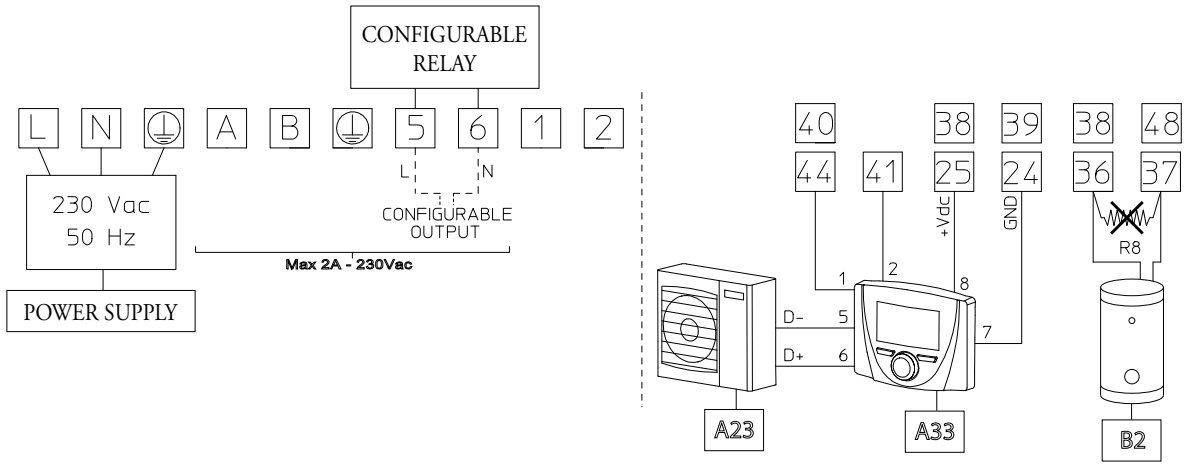
NOTE: this diagram is an example. It is also required to convey the condensate drain of the heat pump and condensation unit.

36 WIRING DIAGRAM: VICTRIX HYBRID (INSTANT) WITH RADIATOR SYSTEM



KEY:
A23 - Outdoor unit AUDAX.DK4
A33 - Control panel
B9 - DHW inlet probe - to be provided for example in the presence of a DHW storage tank in pre-heating (optional)
S20 - Room chrono-thermostat

36.1 WIRING DIAGRAM: VICTRIX HYBRID PLUS WITH RADIATOR SYSTEM AND STORAGE TANK UNIT



KEY:
A23 - Outdoor unit AUDAX.DK4
A33 - Control panel
B2 - DHW probe
R8 - Storage tank operation unabling resistance (to be removed)

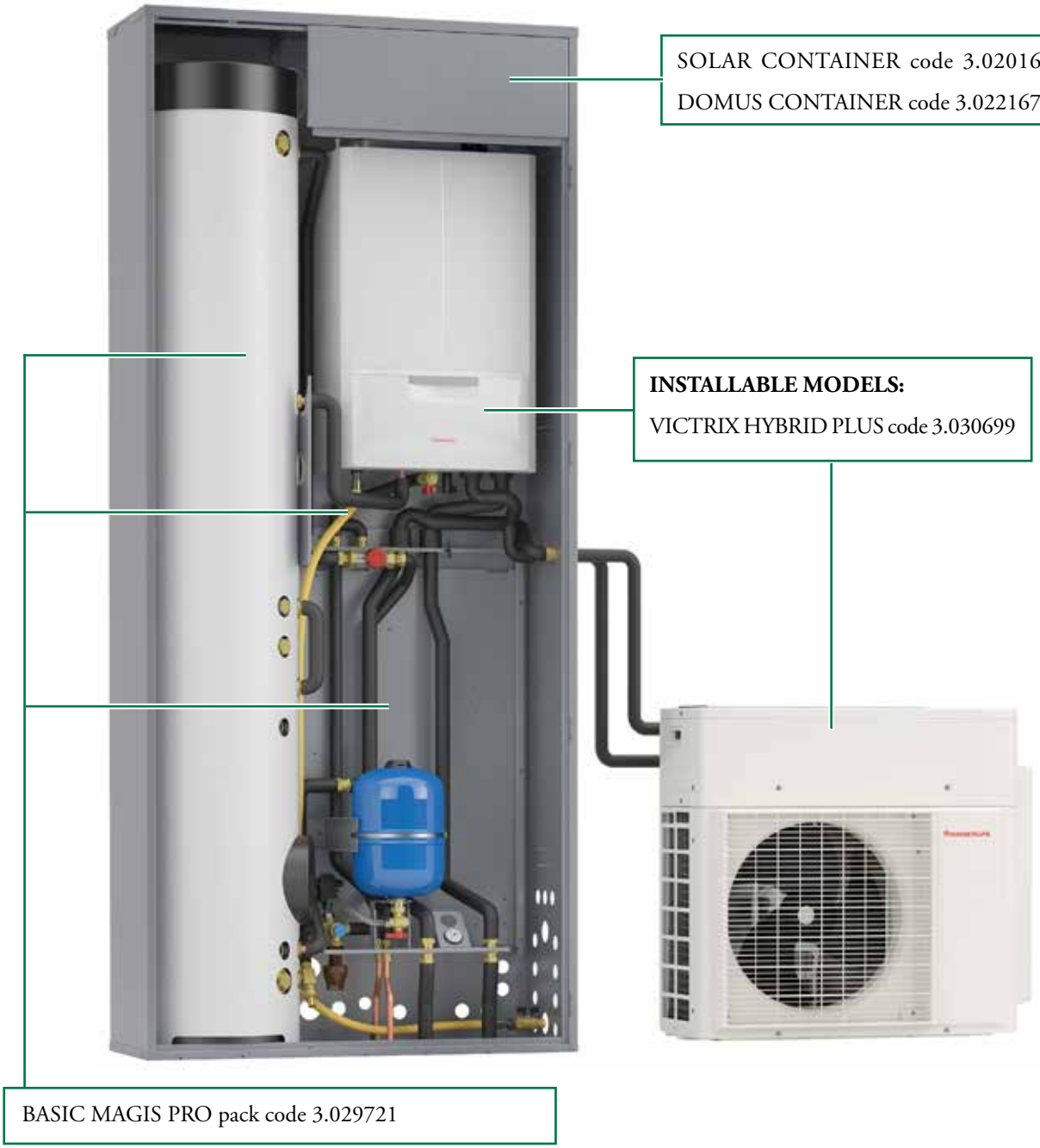
RECESSED VICTRIX HYBRID PLUS

E) APPENDIX: VICTRIX HYBRID PLUS WITH BASIC MAGIS PRO

37 VICTRIX HYBRID PLUS WITH BASIC MAGIS PRO IN SOLAR / DOMUS CONTAINER

Recessed or technical cabinet solution, ideal for high energy class and small apartments, it allows the recovery of living space thanks to the retractable installation.
The complete system consists of separate units that can be purchased separately and installed at different times:

- SOLAR CONTAINER (Recess frame);
- DOMUS CONTAINER (technical cabinet);
- VICTRIX HYBRID PLUS;
- BASIC MAGIS PRO Pack;
- Additional kit for coupling to VICTRIX HYBRID PLUS;
- Hydraulic connections kit for vertical, horizontal or rear outlet (optional);
- Inertial storage kit (optional);
- Polyphosphate dispenser kit (optional);
- Domestic hot water recirculation kit (optional);
- Solar system coupling kit (optional).



37.1 BASIC MAGIS PRO PACK CODE 3.029721

Suitable for recessed solutions in SOLAR CONTAINER or inside a technical cabinet DOMUS CONTAINER for the management of a single-zone single-temperature system, it consists of:

- 160 litre high stratification stainless steel DHW storage tank, including side inspection flange, external insulation made of pressed mineral fibre panels and 15 mm thick expanded polystyrene panel near the hydraulic connections that place the boiler in class "C", 2 stainless steel coils placed respectively in the lower and upper parts of the storage tank connected together, 2 magnesium anodes and inlet and outlet connections for any solar kit (optional);
- anti-freeze protection unit including heating cable (50 W absorption);
- hydraulic unit including:
  - automatic by-pass;
  - 8 litre domestic hot water expansion vessel;
  - 8 bar domestic hot water safety valve;
  - 1 analogue thermometer for reading the system flow temperature;
  - DHW thermostatic mixing valve;
- accessories for coupling MAGIS PRO models in containers including hydraulic and refrigerant gas fittings, DHW storage tank probe;
- electrical wiring.

All components are insulated.
It is available in the following version (single code):

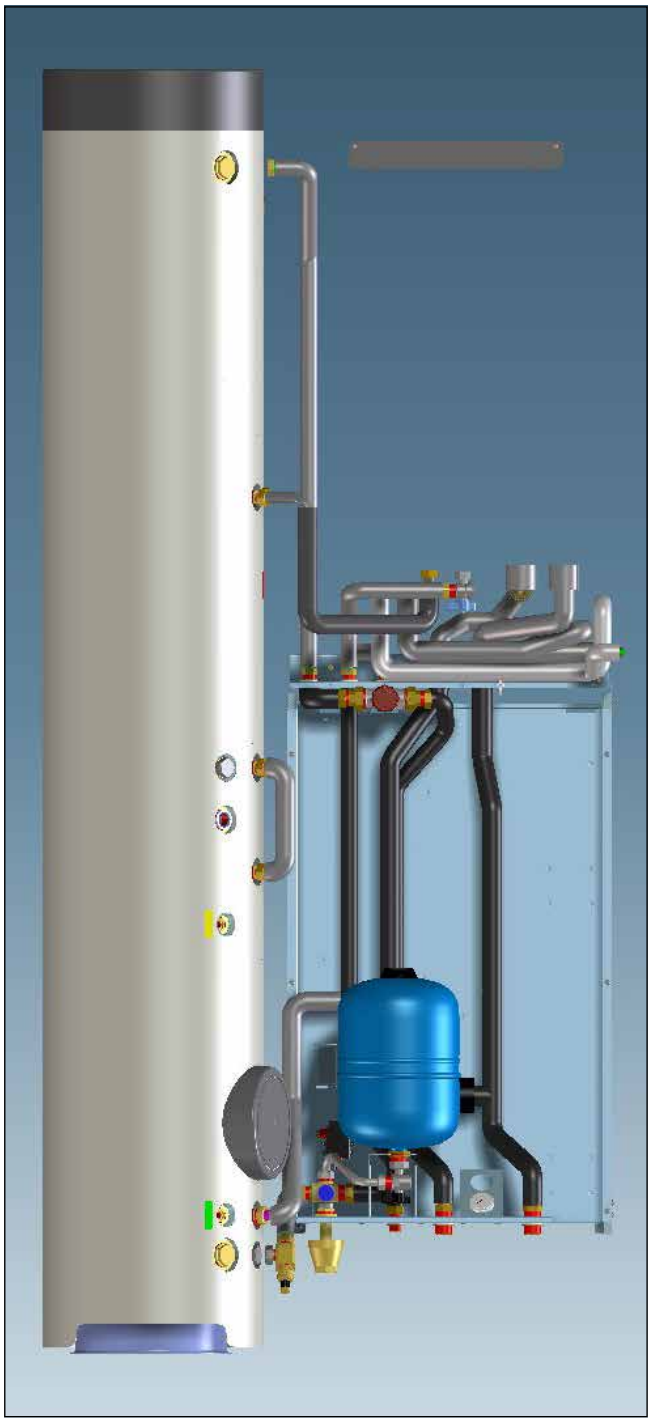
- **BASIC MAGIS PRO pack code 3.029721**

For this application it is required to provide the additional Kit for coupling VICTRIX HYBRID PLUS to BASIC MAGIS PRO including connection pipes, gas pipe with cock, support bracket code 3.030889;

It is possible to couple the following optional additional components:

- Antifreeze resistance kit up to -15 °C for hydronic module protection code 3.017324;
- DHW recirculation kit (does not include pump) code 3.026169, any clock/timer to activate the pump is to be provided separately;
- 15 litre inertial storage kit (it can be inserted in the SOLAR CONTAINER) code 3.029928;
- Polyphosphate dispenser kit code 3.020628;
- Solar thermal system coupling kit code 3.024719.

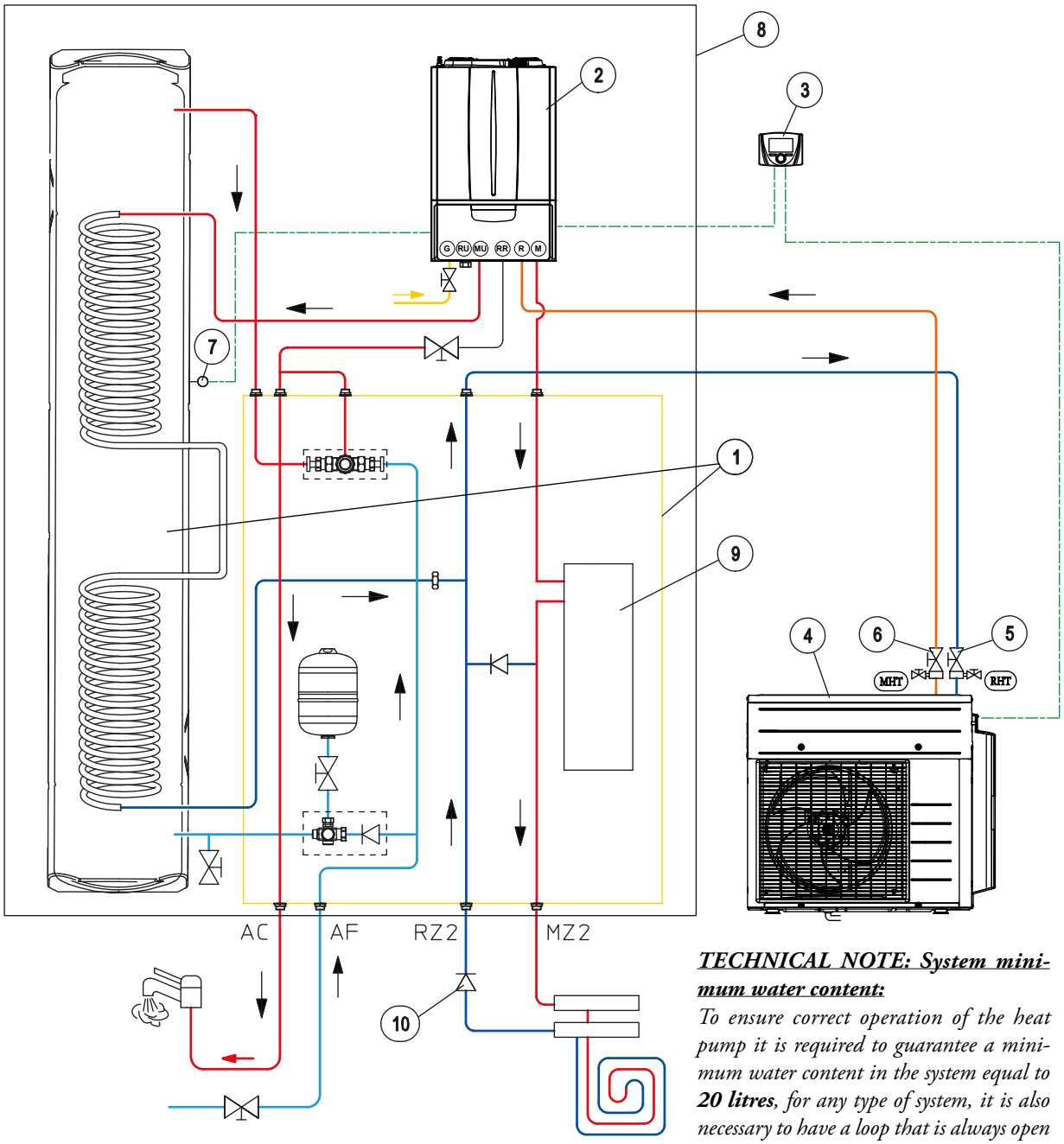
The above kits are the main ones; additional accessories are available to complete the installation.



NOTE: with regard to the hydraulic connections on the SOLAR or DOMUS CONTAINER use the references MZ2 - RZ2 (Zone 2).

RECESSED VICTRIX HYBRID PLUS

37.2 VICTRIX HYBRID PLUS WITH BASIC MAGIS PRO RECESSED SYSTEM SHEET: SYSTEMS WITH RADIANT PANELS



TECHNICAL NOTE: System minimum water content:

To ensure correct operation of the heat pump it is required to guarantee a minimum water content in the system equal to ***20 litres****, for any type of system, it is also necessary to have a loop that is always open on the system to allow HP to perform the antifreeze function.*

KEY:

1 - BASIC MAGIS PRO pack code 3.029721
2 - VICTRIX HYBRID PLUS (Indoor unit)
3 - Control panel (standard with VICTRIX HYBRID PLUS)
4 - VICTRIX HYBRID PLUS (Outdoor unit)
5 - HP return shut-off cock
6 - HP flow shut-off cock
7 - DHW probe
8 - SOLAR CONTAINER
9 - 15-Litre inertial storage tank code 3.029928 (it only can be inserted in SOLAR CONTAINER)
10 - One-way valve (not supplied to be provided)

NOTE: this diagram is an example. It is also required to convey the condensate drain of the heat pump and condensation unit.

During the useful life of the products, performance is affected by external factors, e.g. the hardness of the DHW, atmospheric agents, deposits in the system and so on.
The declared data refer to new products that are correctly installed and used in observance of the Standards in force.
N.B.: correct periodic maintenance is highly recommended.

NOTE: Depending on the specific design and installation conditions, the diagrams and drawings provided in this documentation can require further integration or modifications, according to what is set forth by the Standards and technical regulations in force and applicable (as an example, the R stamp - edition 2009 is mentioned). It is the professional's responsibility to identify the applicable provisions, to evaluate compliance with these in each case and the necessity of any changes to diagrams and drawings.

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The App designed by Immergas for professionals

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immergas.com

To request further specific details, sector Professionals can also use the following e-mail address:
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CERTIFIED
QUALITY SYSTEM

Design, manufacture and after-sales assistance of gas boilers, gas water heaters and relative accessories