



VICTRIX HYBRID

Hybrid heat pumps
air-water
with single-phase inverter





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 refrigerant) and a condensation indoor unit from 24 or 32 kW (the latter only available in instantaneous version) 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 - VICTRIX HYBRID 32

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VICTRIX HYBRID - VICTRIX HYBRID 32 FEATURES

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/refrigerant 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 contains 560 grams of refrigerant R32. Inertial storage tank only required for systems with water content lower than 20 litres;
- Wall-mounted condensation **indoor unit** with 24,1 kW power in central heating (28,3 kW in DHW) or with 28 kW power (32 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;
 - Secondary water/water heat exchanger for the production of domestic hot water, in stainless steel with 14 plates (model 24 kW) and 16 plates (model 32 kW);
 - Hydraulic unit consisting of a 3-way electric valve, a 7 m a.c. low power consumption modulating circulation pump (24 kW model) and 7,5 m a.c. (32 kW model), a 3 bar primary circuit safety valve, a DHW flow switch for detecting domestic hot water withdrawal (instantaneous mod.), a system expansion vessel for the nominal 8 litre diaphragm (actual 5,8) for 24 kW model and 10 nominal litres (actual 6,4) for 32 kW model 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:
 - VICTRIX HYBRID from 4,3 to 24,1 kW (28,3 kW in DHW);
 - VICTRIX HYBRID 32 from 4,9 to 28 kW (32 kW in DHW);

- 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 recessed in OMNI CONTAINER with a special door kit (see optional kit);
- 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 II2H3P - I3P - II2HM3P appliance, supplied with Methane, in addition to the Methane and Hydrogen mixture at 20% in volume (20% H_2 NG), or with LPG (distinct codes) as well as with propane air (with optional transformation Kit). CE Marking.

It is available in the instant version:

• **VICTRIX HYBRID code 3.030698 (3.030698GPL for the LPG version);**

or in version:

• **VICTRIX HYBRID 32 code 3.033308 (3.033308GPL for LPG version).**

Installation template code 2.017665

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



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/refrigerant 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 refrigerant). Inertial storage tank only required for systems with water content lower than 20 litres;
- **Wall-mounted condensation outdoor 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;
 - 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;

- 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 recessed 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 II2H3P - I3P - II2HM3P appliance, supplied with Methane, in addition to the Methane and Hydrogen mixture at 20% in volume (20% H_2 NG), or with LPG (distinct codes) as well as with propane air (with optional transformation Kit). CE Marking.

It is available in the version:

- **VICTRIX HYBRID PLUS code 3.030699 (3.030699GPL for the LPG version).**

Installation template code 2.017665

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

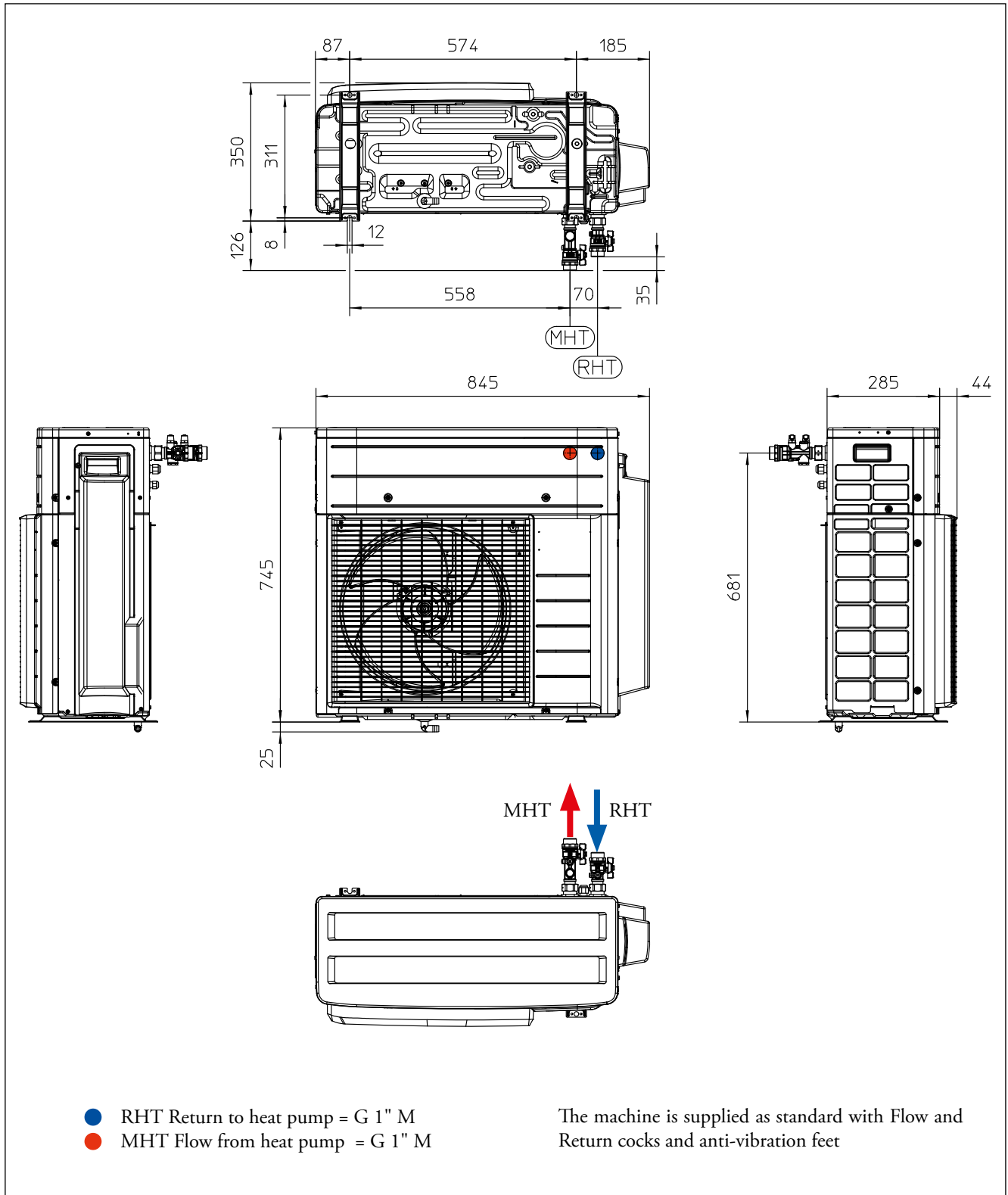


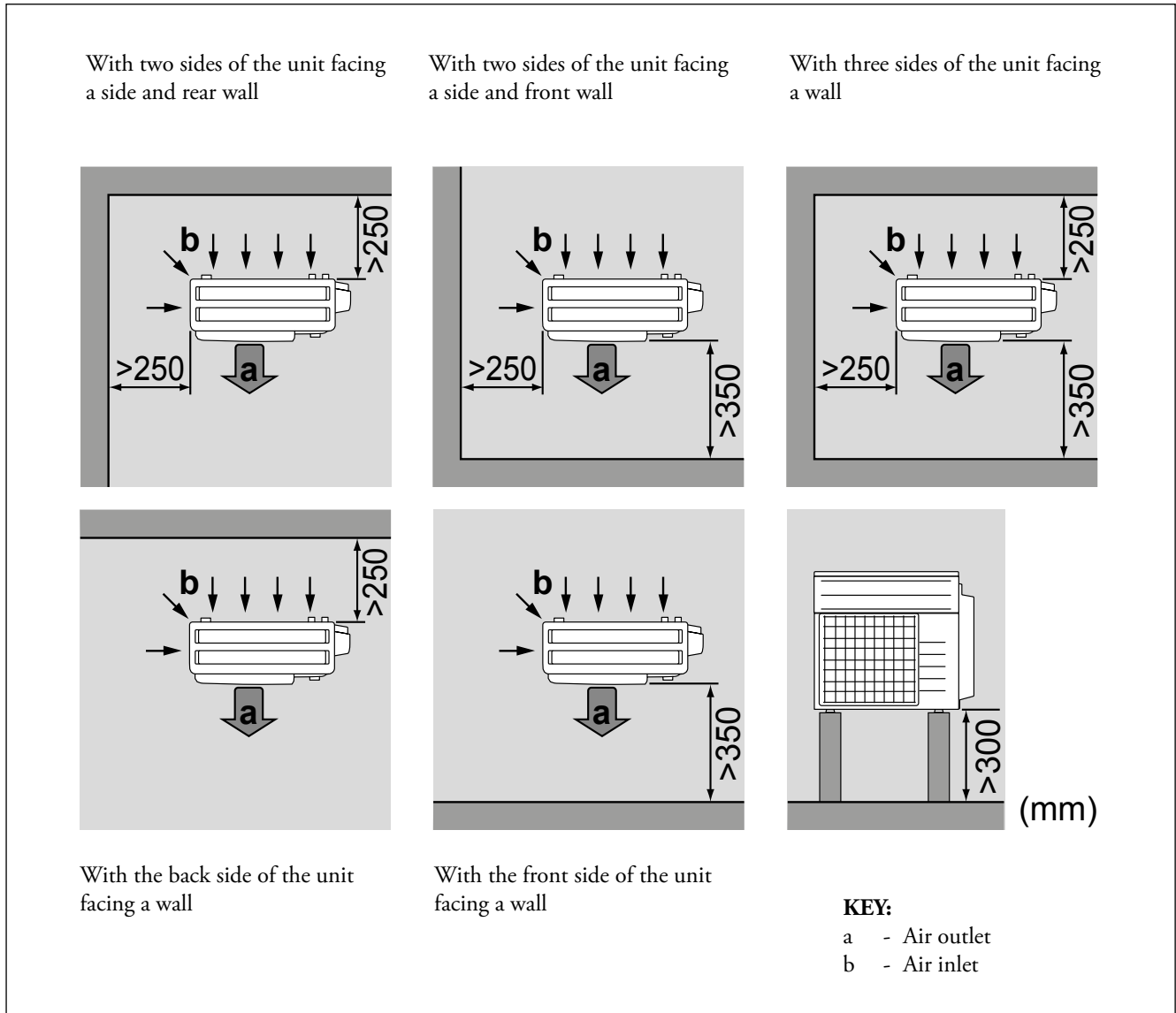
VICTRIX HYBRID

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AUDAX.DK4 DIMENSIONS AND CONNECTIONS

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





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).

VICTRIX HYBRID

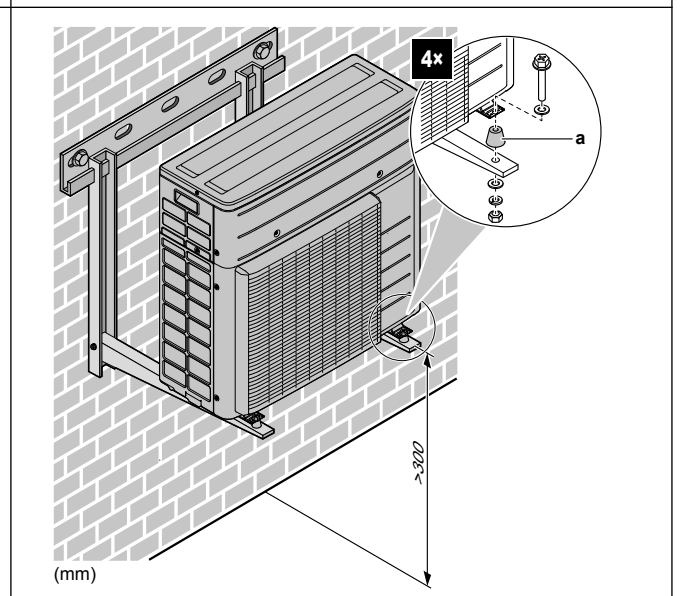
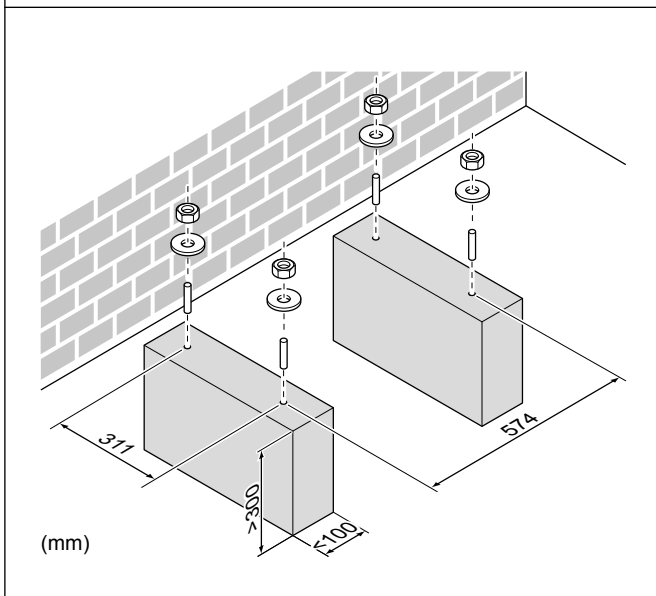
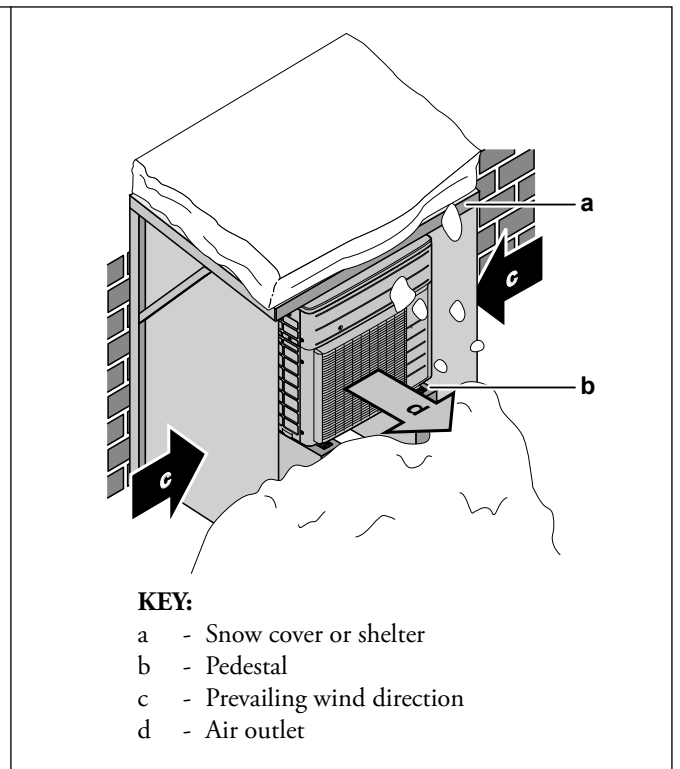
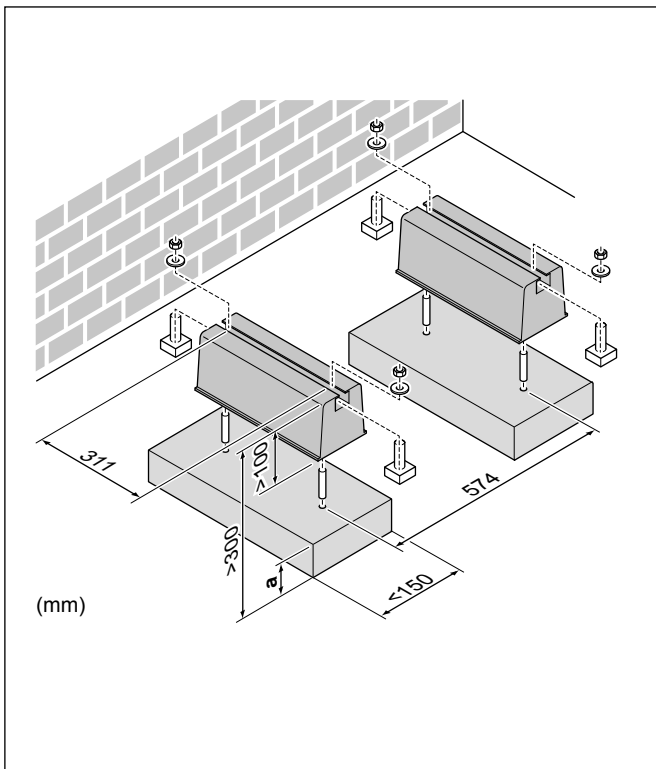
N.B.: The spaces shown in the previous page must be left free to allow air to circulate and to ensure accessibility for repairs or maintenance on every side of the units. In fact, it must be possible to disassemble all the unit components under the utmost safety conditions (both for objects and for people).

- 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/refrigerant heat 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.



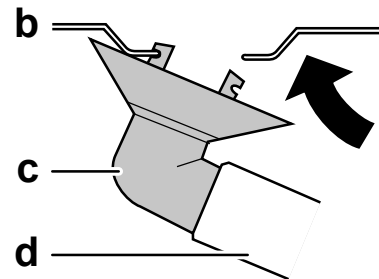
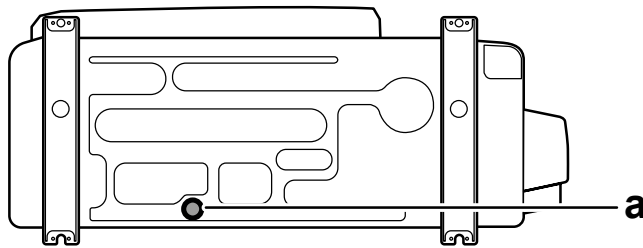
5

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 -14 °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)

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THERMOSTATIC ANTIFREEZE VALVE

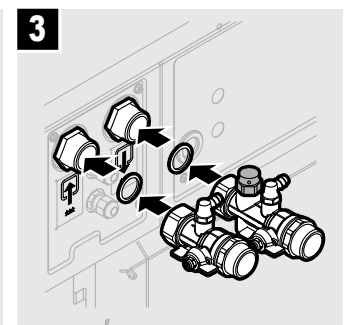
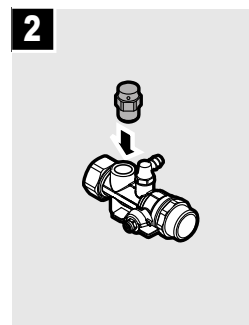
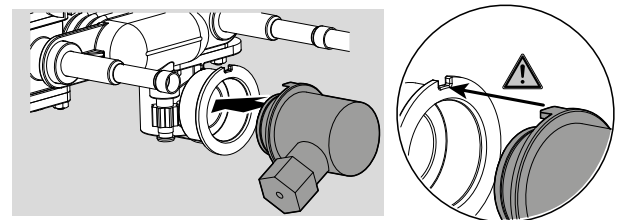
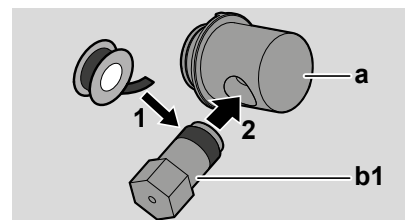
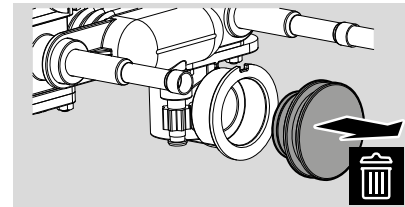
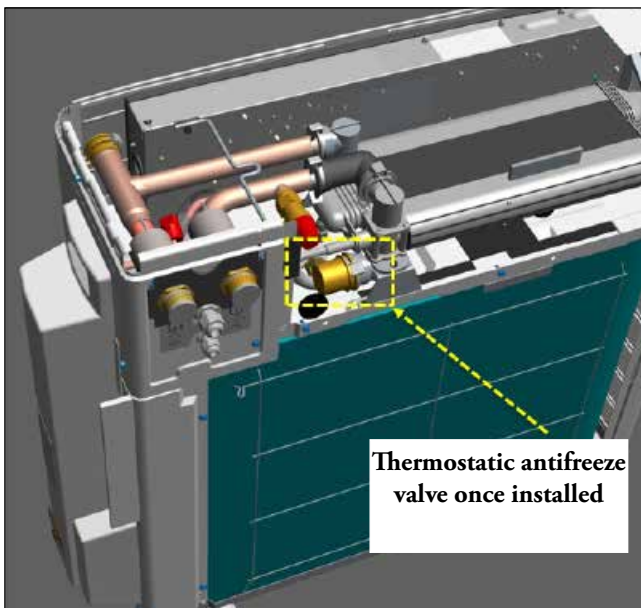
In case of an electric power supply, VICTRIX HYBRID is equipped with a system that protects it against freezing thanks to the periodic start-up of the pump and, if necessary, activation of the condensation unit.

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 anti-freeze 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.



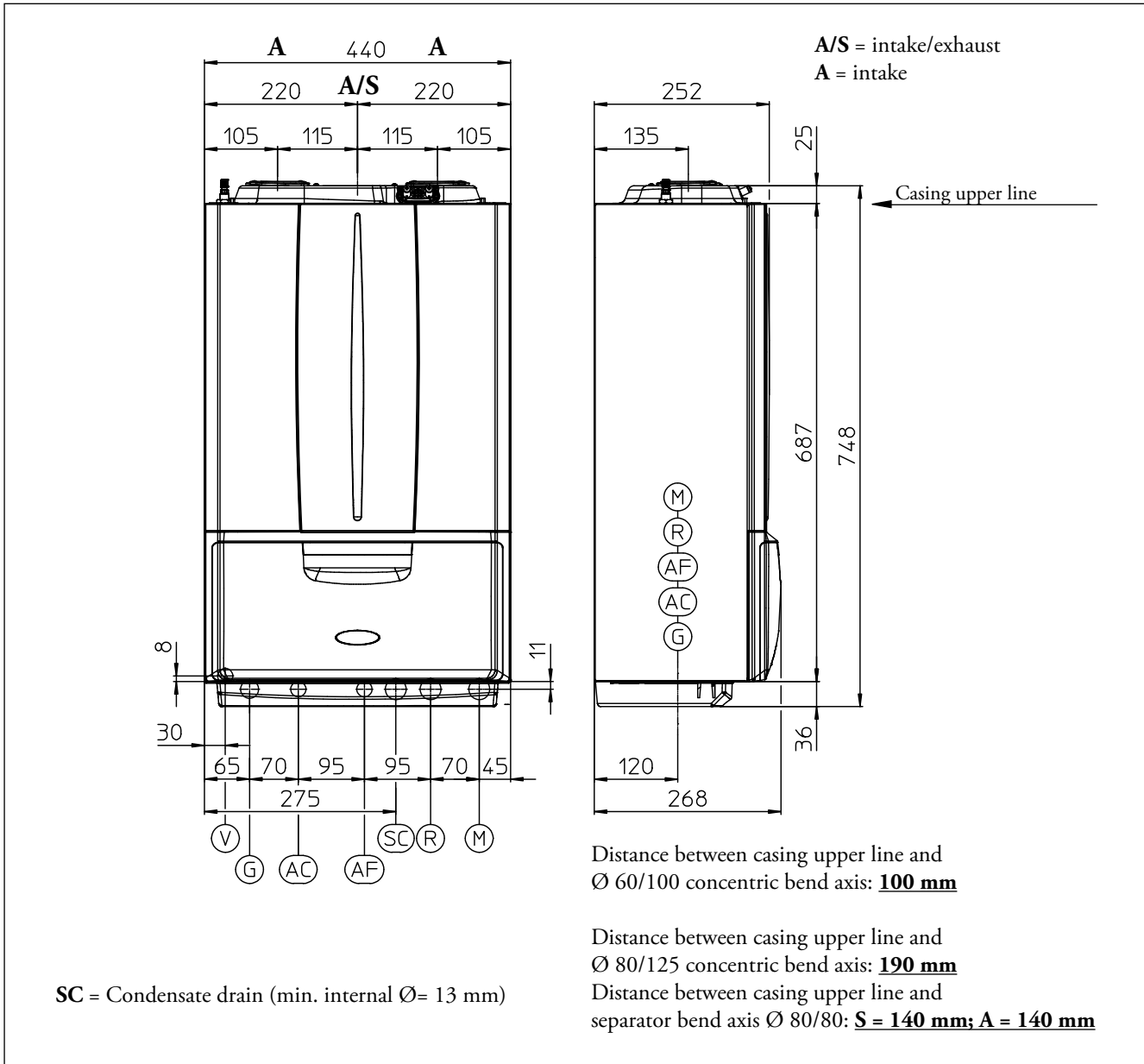
N.B.: In addition to the thermostatic antifreeze valve, a vacuum breaker valve is also supplied, which must be installed on the heat pump delivery valve (MHT) by removing the cap present.

VICTRIX HYBRID - VICTRIX HYBRID 32

7 MAIN DIMENSIONS VICTRIX HYBRID 24 - 32 (CONDENSATION UNIT)

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

7.1 CONNECTIONS VICTRIX HYBRID



VICTRIX HYBRID - VICTRIX HYBRID 32

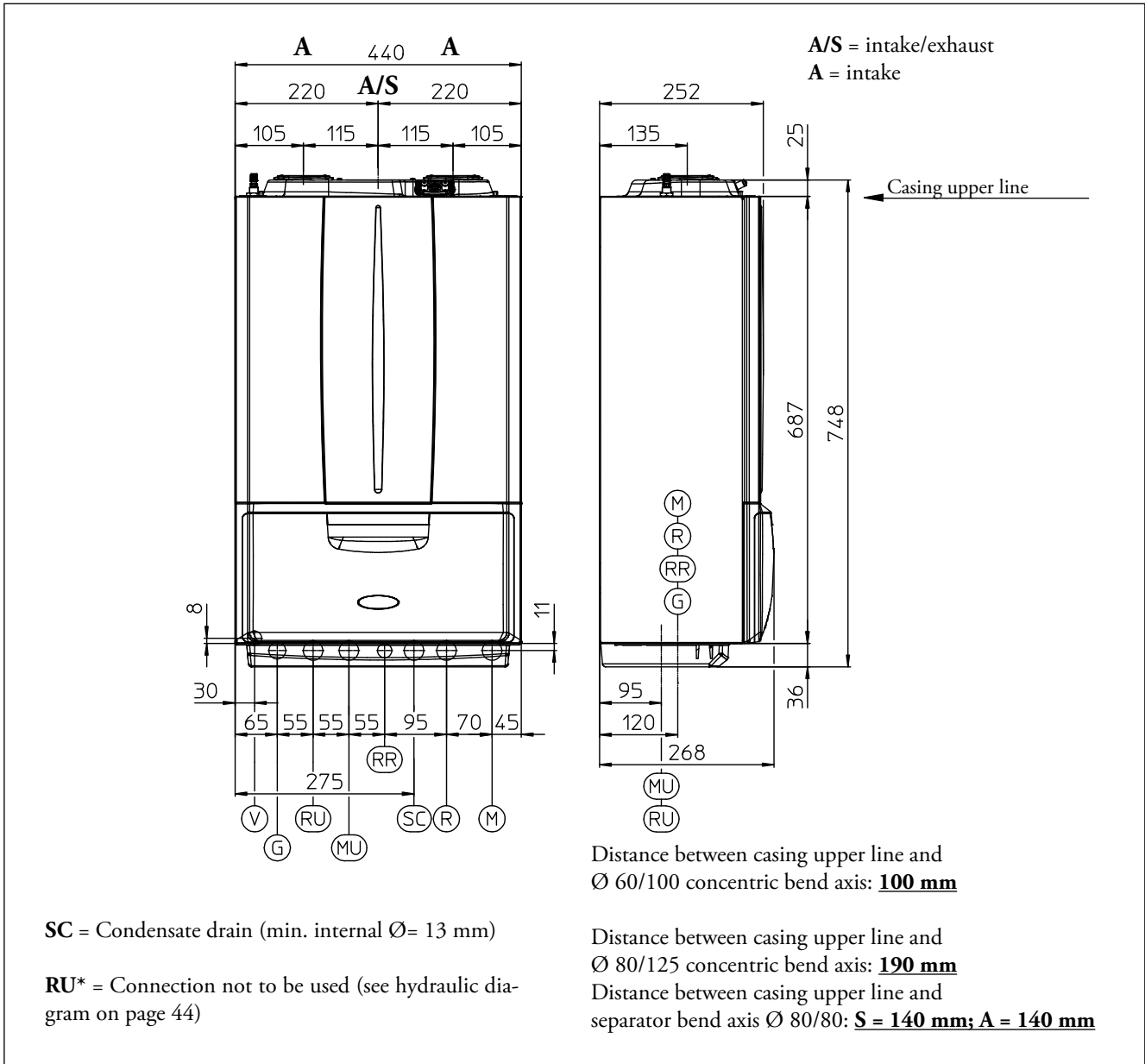
Flow System	Return system	Inlet Cold	Hot Outlet AC	Gas G	Expansion vessel Litres
M 3/4"	R 3/4"	AF 1/2"	1/2"	3/4"	VHY 24 = 8 (actual 5,8) VHY 32 = 10 (actual 6,4)

VICTRIX HYBRID PLUS

8 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

8.1 CONNECTIONS VICTRIX HYBRID PLUS

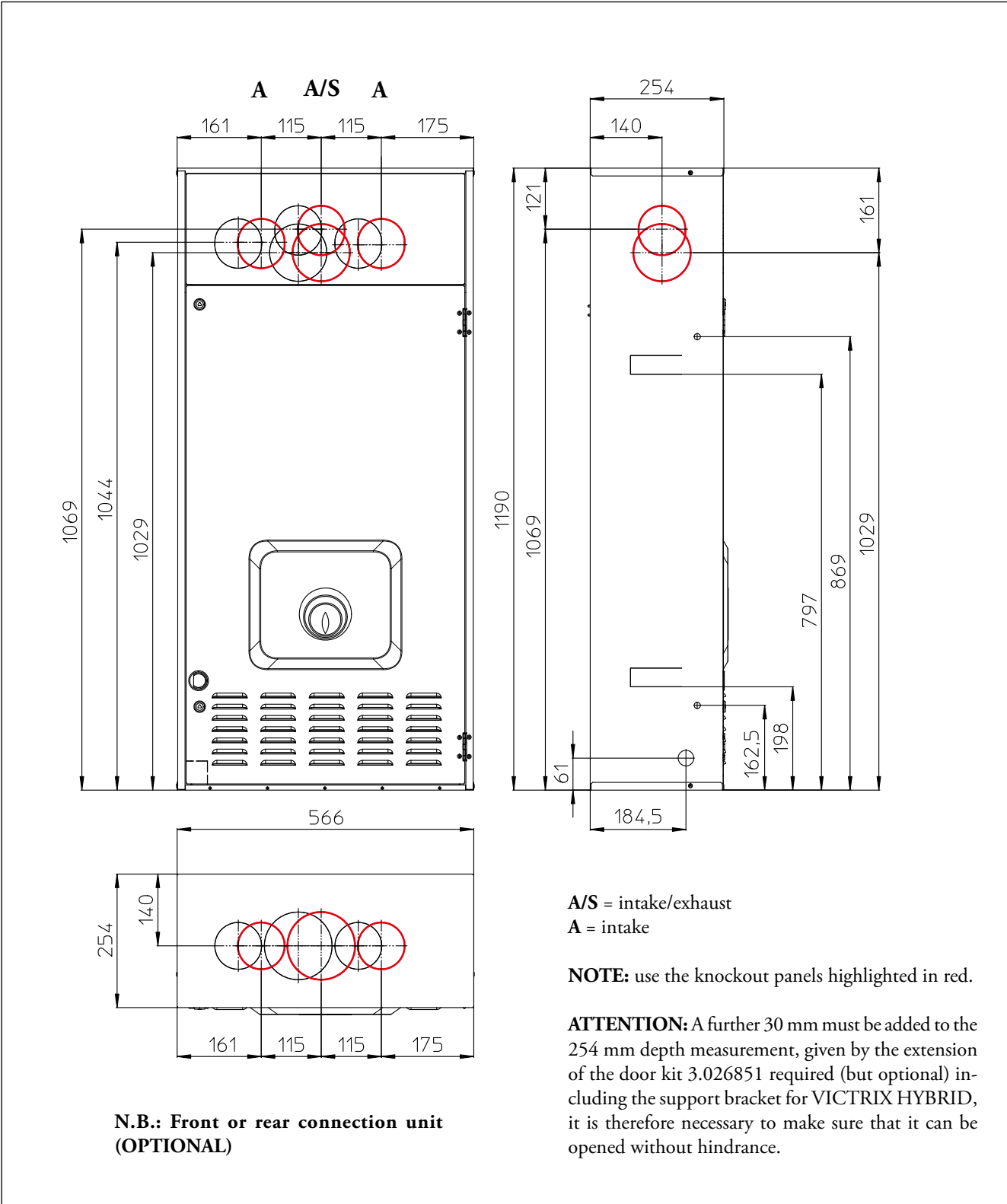


VICTRIX HYBRID PLUS

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

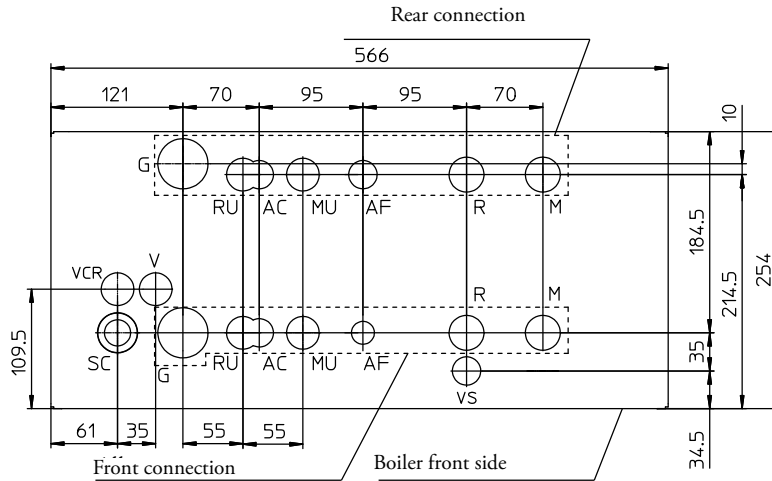
9 OMNI CONTAINER MAIN DIMENSIONS

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



VICTRIX HYBRID

10 VICTRIX HYBRID CONNECTION TEMPLATE IN OMNI CONTAINER



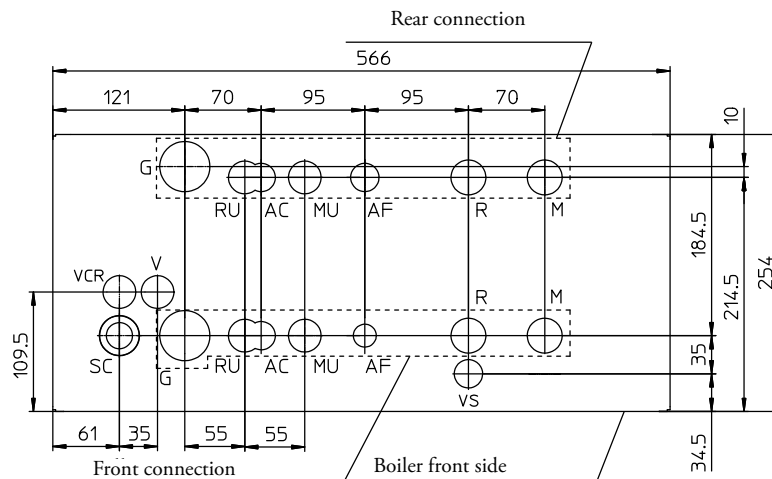
* with the connection unit for recessed installation (optional) the gas connection is 1/2"

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"	*

10.1 TEMPLATE CONNECTION VICTRIX HYBRID PLUS IN OMNI CONTAINER

RU⁽¹⁾ = Connection not to be used (see hydraulic diagram on page 43)



* with the connection unit for recessed installation (optional) the gas connection is 1/2"

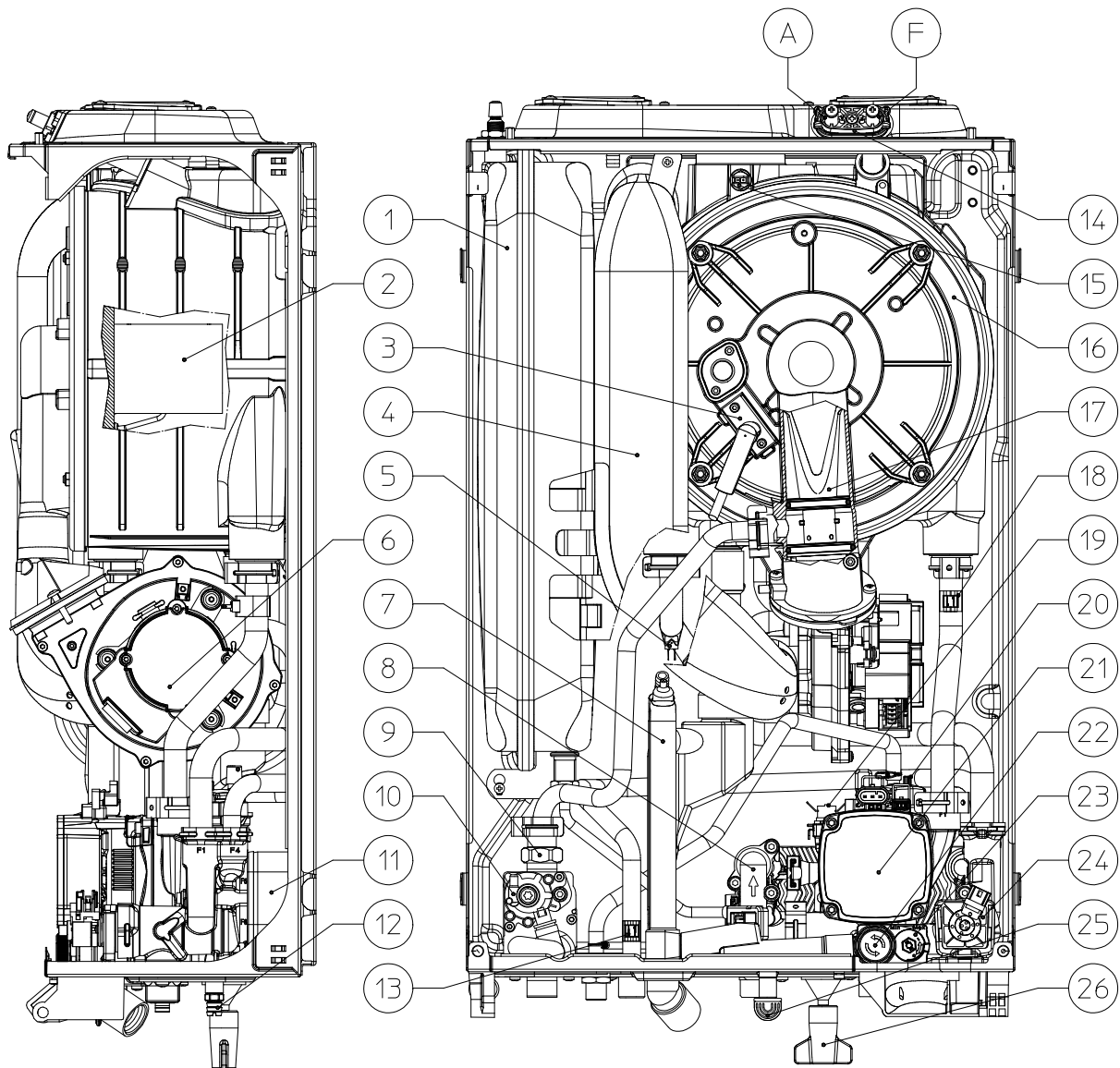
N.B.: Connection unit (OPTIONAL)

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

VICTRIX HYBRID - VICTRIX HYBRID 32

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MAIN COMPONENTS VICTRIX HYBRID (CONDENSATION UNIT)



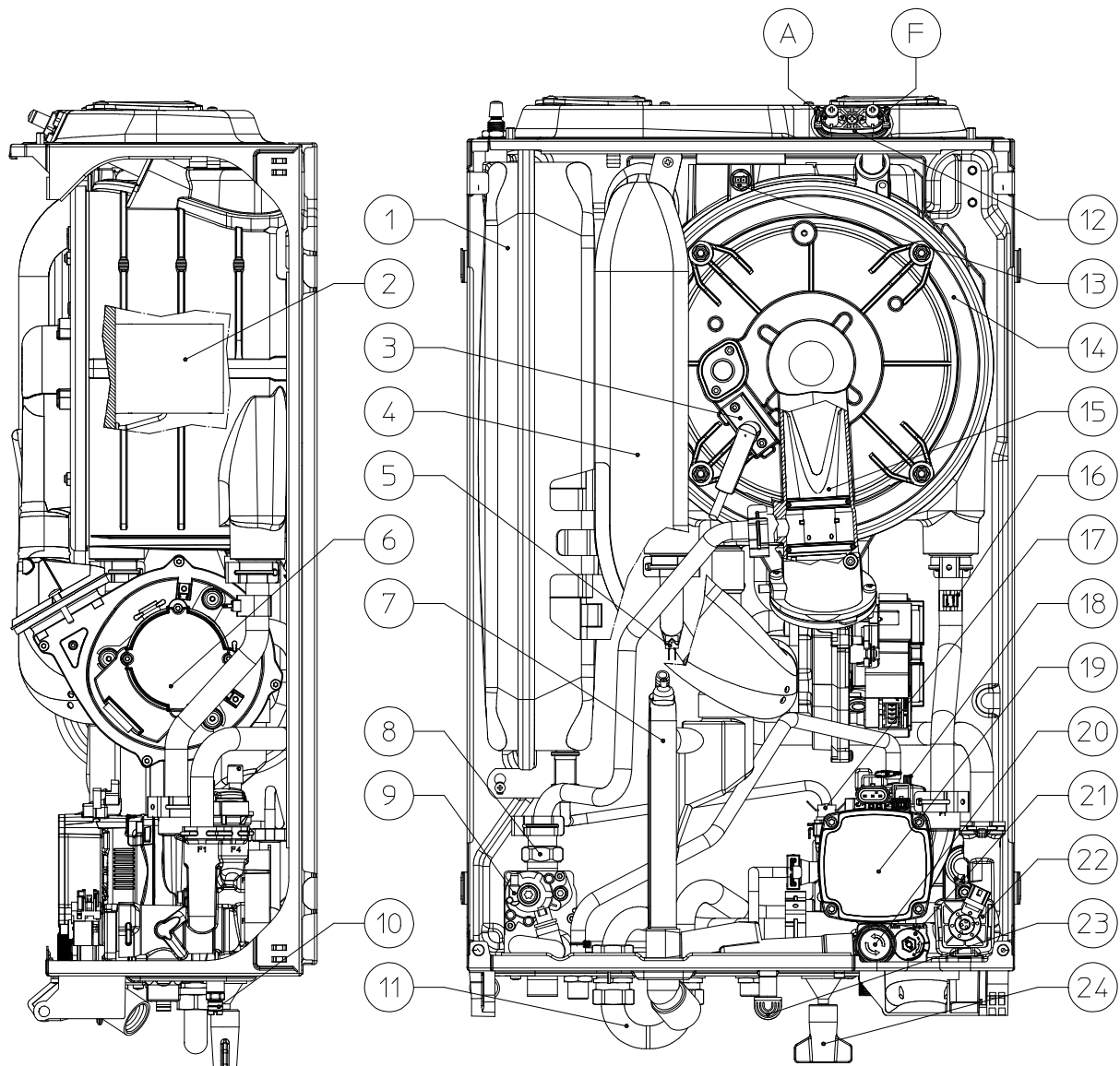
KEY:

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

VICTRIX HYBRID PLUS

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MAIN COMPONENTS VICTRIX HYBRID PLUS (CONDENSATION UNIT)

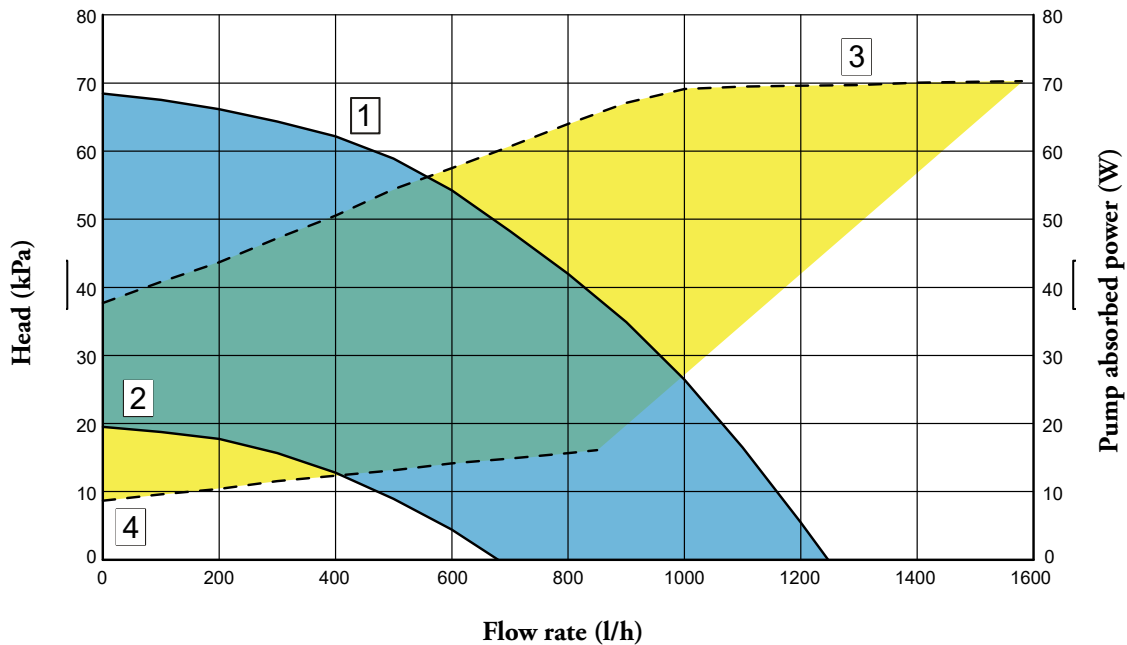


KEY:

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

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PUMP HEAD/FLOW RATE GRAPHICS (I.U.+ O.U.)



EEI ≤ 0.20 - Part 3

KEY:

- 1 = Head available to the system at speed 100% with by-pass closed
- 2 = Head available to the system at Speed 40% with by-pass closed
- 3 = Circulator power input at Speed 100% with closed by-pass
- 4 = Circulator power input at Speed 40% with closed by-pass
- Area between curves 1 and 2 = Head available with bypass closed
- Area between curves 3 and 4 = Power absorbed by the pump with bypass closed

13.1 GRUNDFOS UPM4 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.

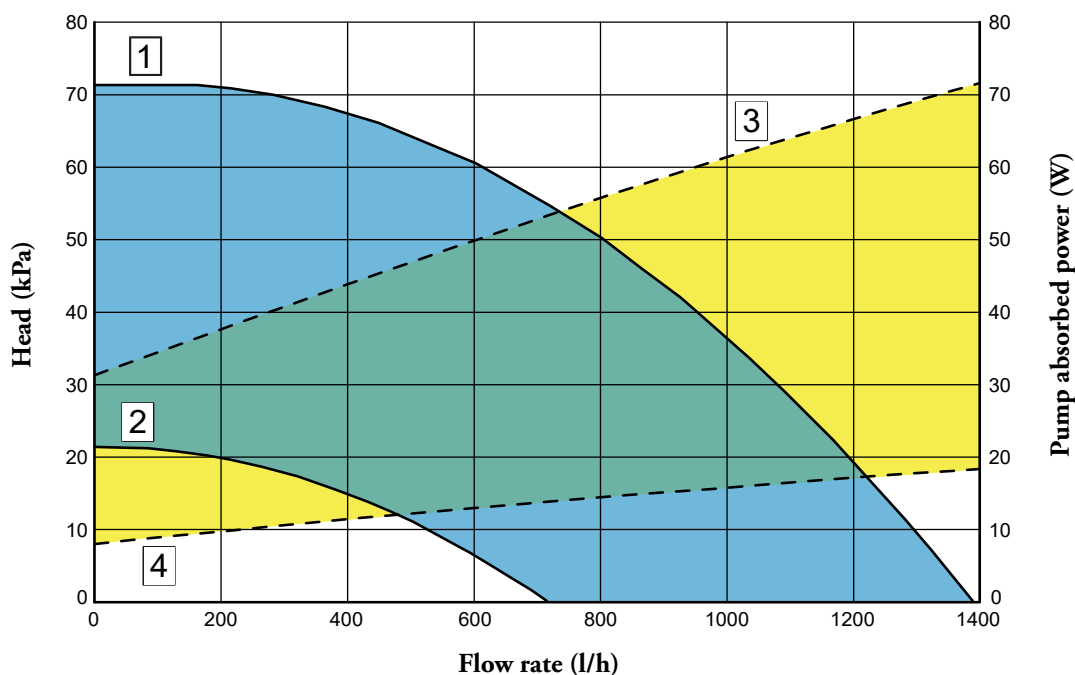
TECHNICAL NOTE - System minimum water content:

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.

VICTRIX HYBRID 32

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PUMP HEAD/FLOW RATE GRAPHICS (I.U.+ O.U.)



EEI ≤ 0.20 - Part 3

KEY:

- 1 = Head available to the system at speed 100% with by-pass closed
- 2 = Head available to the system at speed 60% with by-pass closed
- 3 = Circulator power input at Speed 100% with closed by-pass
- 4 = Circulator power input at Speed 60% with closed by-pass
- Area between curves 1 and 2 = Head available with bypass closed
- Area between curves 3 and 4 = Power absorbed by the pump with bypass closed

14.1 GRUNDFOS UPM4 15-75 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.

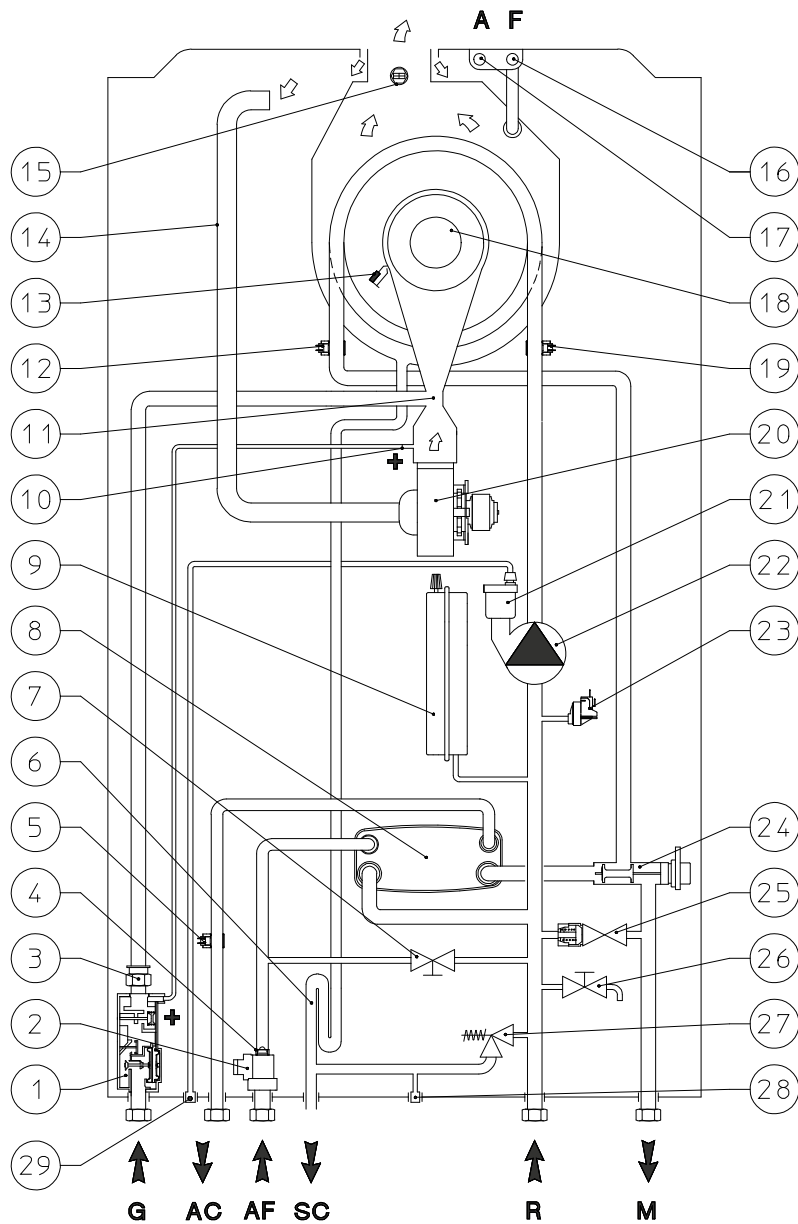
TECHNICAL NOTE - System minimum water content:

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.

VICTRIX HYBRID - VICTRIX HYBRID 32

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VICTRIX HYBRID HYDRAULIC DIAGRAM (CONDENSATION UNIT)

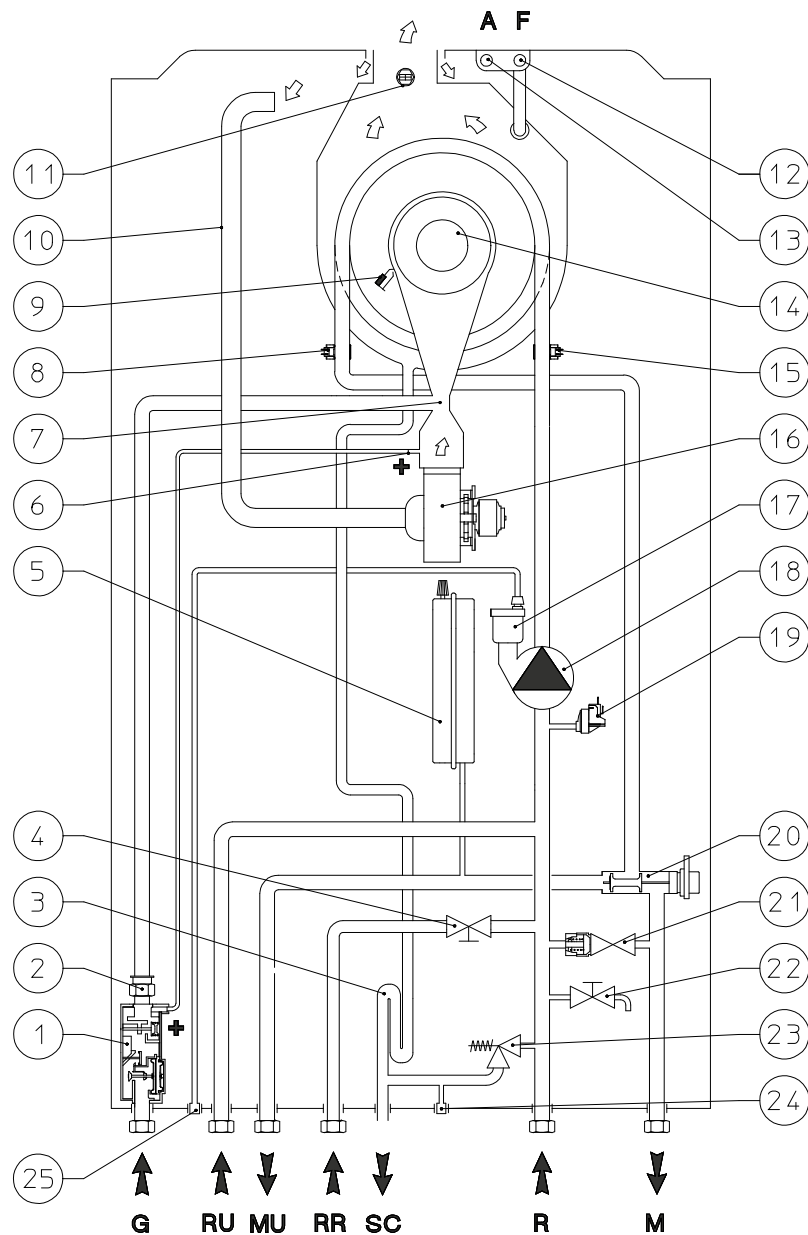


KEY:

- | | |
|------------------------------------|--|
| 1 - Gas valve | 15 - Flue probe |
| 2 - D.H.W. flow switch | 16 - Flue sample point |
| 3 - Gas nozzle | 17 - Air sample point |
| 4 - Flow limiter | 18 - Burner |
| 5 - DHW probe | 19 - Return probe |
| 6 - Condensate drain trap | 20 - Fan |
| 7 - System filling cock | 21 - Air vent valve |
| 8 - DHW heat exchanger | 22 - Condensation unit pump |
| 9 - System expansion vessel | 23 - Absolute pressure switch |
| 10 - Positive (+) pressure point | 24 - 3-way valve (motorised) |
| 11 - Venturi | 25 - By-pass |
| 12 - Flow probe | 26 - System draining valve |
| 13 - Ignition/detection electrodes | 27 - 3 bar safety valve |
| 14 - Air intake pipe | 28 - Safety valve drain fitting signal |
| | 29 - Air vent valve drain |

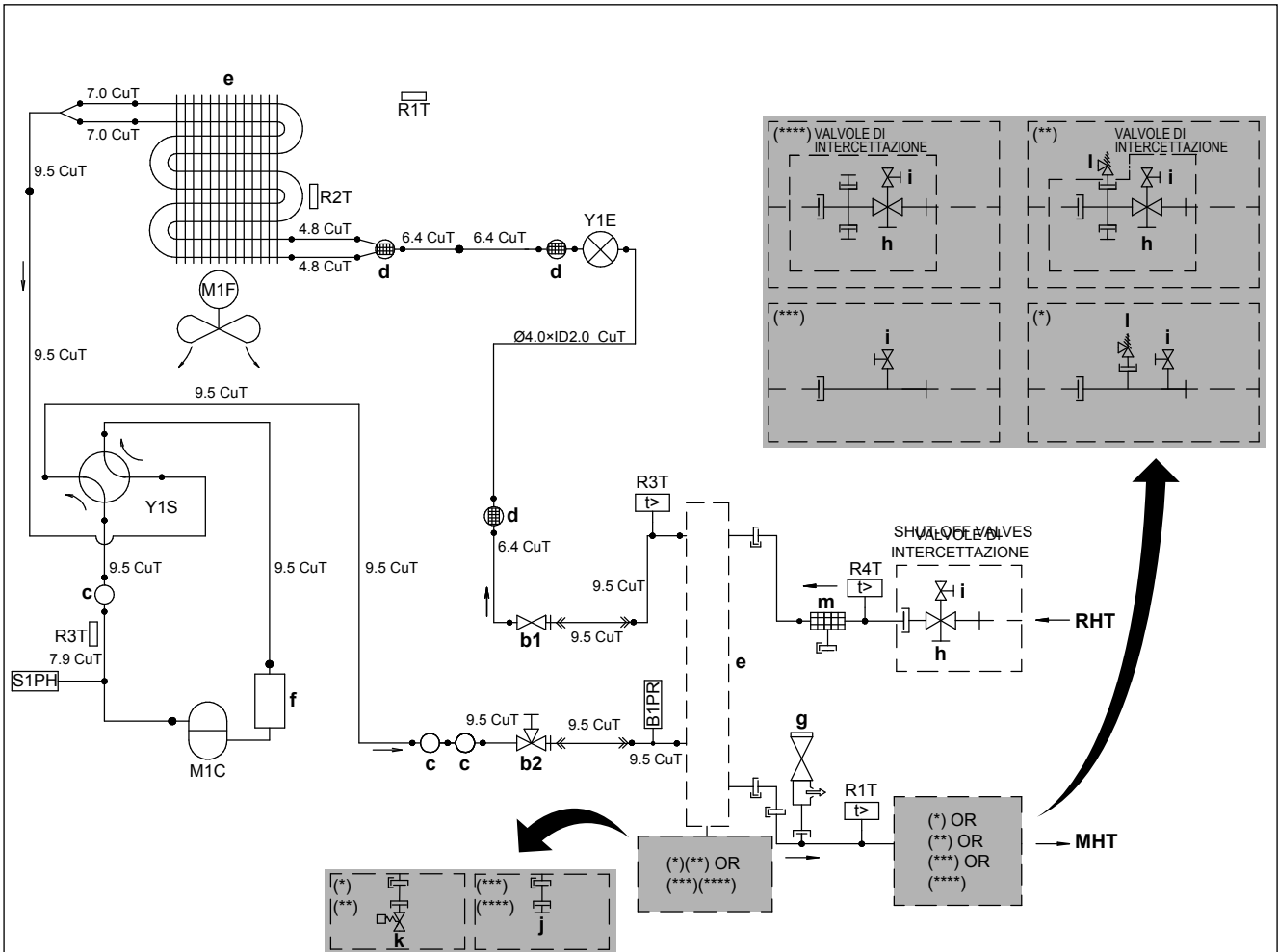
VICTRIX HYBRID PLUS

16 VICTRIX HYBRID PLUS HYDRAULIC DIAGRAM (CONDENSATION UNIT)



KEY:

- | | |
|-----------------------------------|--|
| 1 - Gas valve | 13 - Air sample point |
| 2 - Gas nozzle | 14 - Burner |
| 3 - Condensate drain trap | 15 - Return probe |
| 4 - Filling cock / tap | 16 - Fan |
| 5 - System expansion vessel | 17 - Air vent valve |
| 6 - Positive (+) pressure point | 18 - Pump |
| 7 - Venturi | 19 - Absolute pressure switch |
| 8 - Flow probe | 20 - 3-way valve (motorised) |
| 9 - Ignition/detection electrodes | 21 - By-pass |
| 10 - Air intake pipe | 22 - System draining cock |
| 11 - Flue probe | 23 - 3 bar safety valve |
| 12 - Flue sample point | 24 - Safety valve drain fitting signal |
| | 25 - Air vent valve drain |



KEY:

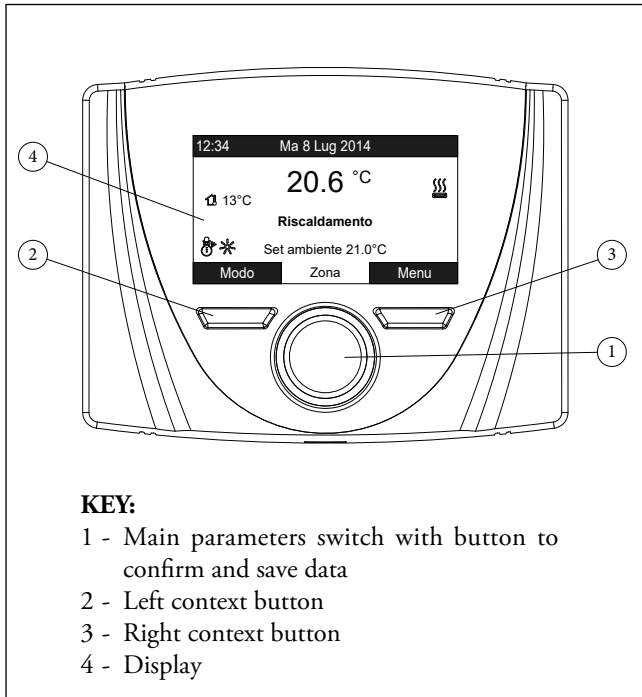
- RHT - Return to heat pump
- MHT - Flow from heat pump
- b1 - Stop valve (cooling liquid)
- b2 - Stop valve with service opening (refrigerant gas)
- c - Silencer
- d - Silencer with filter
- e - Heat exchanger
- f - Storage tank
- g - Safety valve
- h - Cut-off valve
- i - Air purge
- j - Cap
- k - Antifreeze protection valve
- l - Vacuum switch
- m - Filter
- B1PR - Refrigerant 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

VICTRIX HYBRID

18

CONTROL PANEL PROGRAMMING MENU



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).

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.

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
Generator management	Defines electricity and gas prices for choosing the generator
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

18.1 MAINTENANCE TECHNICIAN MENU PROGRAMMING (ASSISTANCE)

Assistance Menu		
Menu item	Description	Range
Definition system	Sub-menu to define the devices connected to the system.	-
Temperature control	Temperature control setting sub-menu.	-
O.U. settings	Outdoor Unit configuration sub-menu.	-
Integration	System integration setting sub-menu.	-
Generator info	System information sub-menu.	-
Maintenance	Activation of system maintenance functions.	
Restore default setting	Allows to reset all parameters with factory values.	Yes / No

Assistance Menu -> System Definition			
Menu item	Description	Range	Default
Room control interface	Establishes the temperature control device in use.	P. Rem / TA	P. Rem.
Pump functioning	The pump can operate in two modes. - 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. / Cont.	Inter.
Min speed pump	Minimum speed used value.	10 - 100%	60%
Max speed pump	Maximum speed used value.	10 - 100%	100%
Pump Delta T	Temperature delta to be maintained.	5 - 10	5
DHW hysteresis	Not used on this model.	--	--
Room antifreeze enabling	Enables the room antifreeze function.	Yes / No	Yes
Room antifreeze temp.	Allows to set the room temperature for activation of the anti-freeze function.	3 - 10 °C	5 °C

Assistance Menu -> Temperature control			
Menu item	Description	Range	Default
Enable external probe	Defines the use of the external probe.	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 - 55	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

Assistance Menu -> Heat adjustment continues on the next page

VICTRIX HYBRID

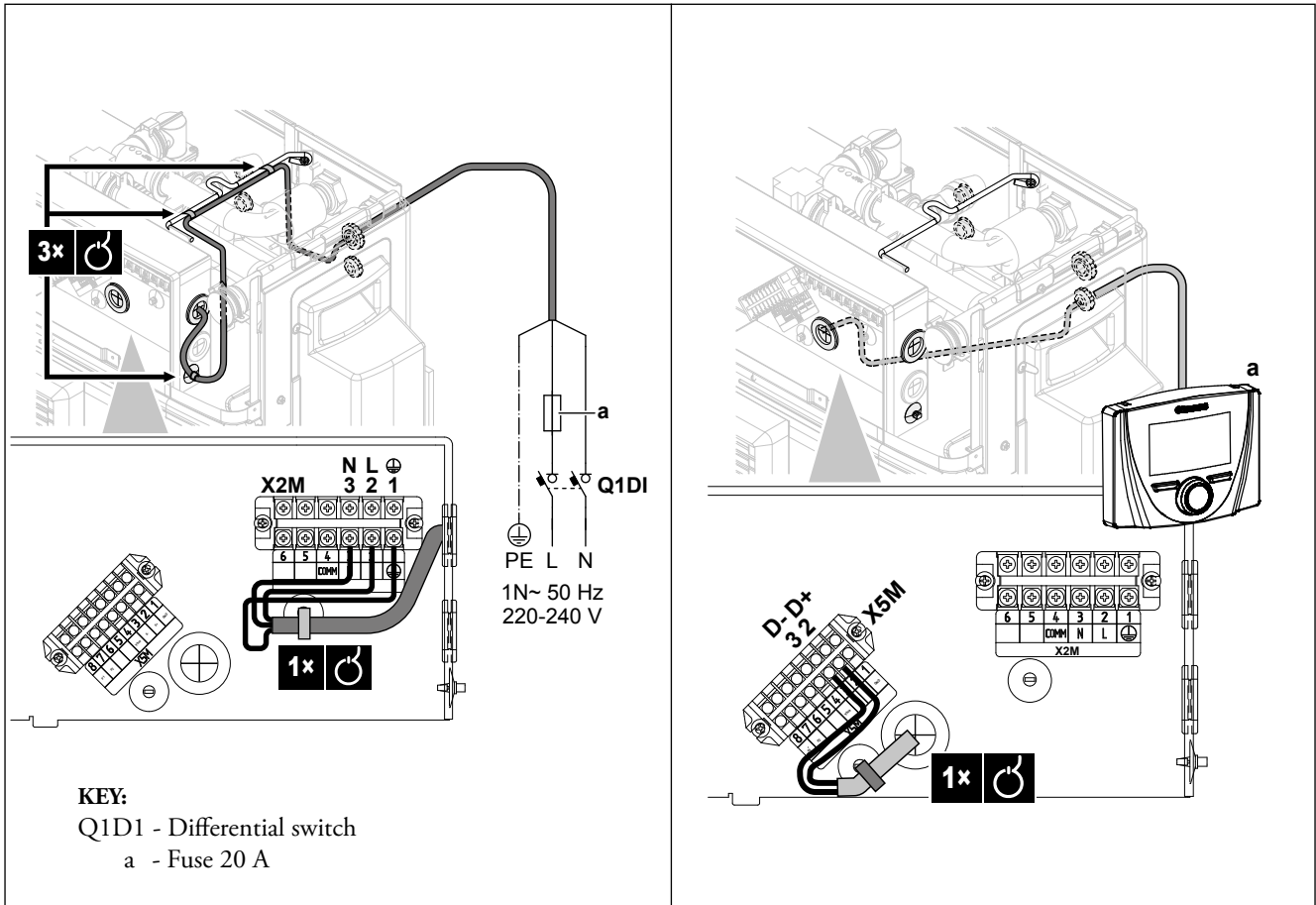
Minimum external temp.	With the external probe enabled it defines at what external temperature the system must operate at the maximum flow temperature.	-25 - +15 °C	-5
External temp. maximum	With the external probe present it defines at what maximum external temperature the system must operate at the minimum flow temperature.	-5 - +45 °C	25
Modul. with room probe	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 -> O.U. settings

Menu item	Description	Range	Default
Enab. heater kit	Enables operation of the heater kit.	Yes / No	No
Reduction function	Enables a reduction of HP noise. (O.U.)	No / Level 1 / Level 2	NO
Prot. Antifreeze	Indicate the presence of antifreeze fluid in the system.	Level 1 / Level 2 / Level 3	Level 3 = (glycol Missing)

Assistance menu -> Integration

Menu item	Description	Range	Default
DHW integration enabling	Enables IU operation in DHW mode (only for V. H. PLUS version) if the OU is not sufficient to reach the set point.	Yes / No	Yes
Enable heating integration	Enables IU operation in CH mode if the EU is not sufficient to reach the set point.	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).	0 ÷ 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.	0 ÷ 240 (5 minute intervals)	20'
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
Integration mode	It determines whether the heat generator integration is activated at a fixed temperature or automatically by means of the cost-effectiveness calculation.	Auto / Manual	Manual
DHW (Domestic hot water) activation temperature	If "Integration mode = MAN" is set (only for V. H. PLUS version), the outdoor temperature is established below which domestic hot water of the indoor unit only is enabled.	-14 - 35 °C	0
Central heating activation temperature	If "Integration mode = MAN" is set, the outdoor temperature is established below which central heating of the indoor unit only is enabled.	-14 - 25 °C	0



Features of the indoor 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.

N.B: It is always necessary to install a type “A” residual current device, which must have 30mA high speed contacts (less than 0.1 seconds). Circuit breaker with tripping curve “C” with magnetic release setting 5-10 In (rated current).

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		
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 mm ² , 3 wires	0.75 - 1.5mm ² , 2 wires

VICTRIX HYBRID

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VICTRIX HYBRID TERMINAL BOARD CONNECTIONS

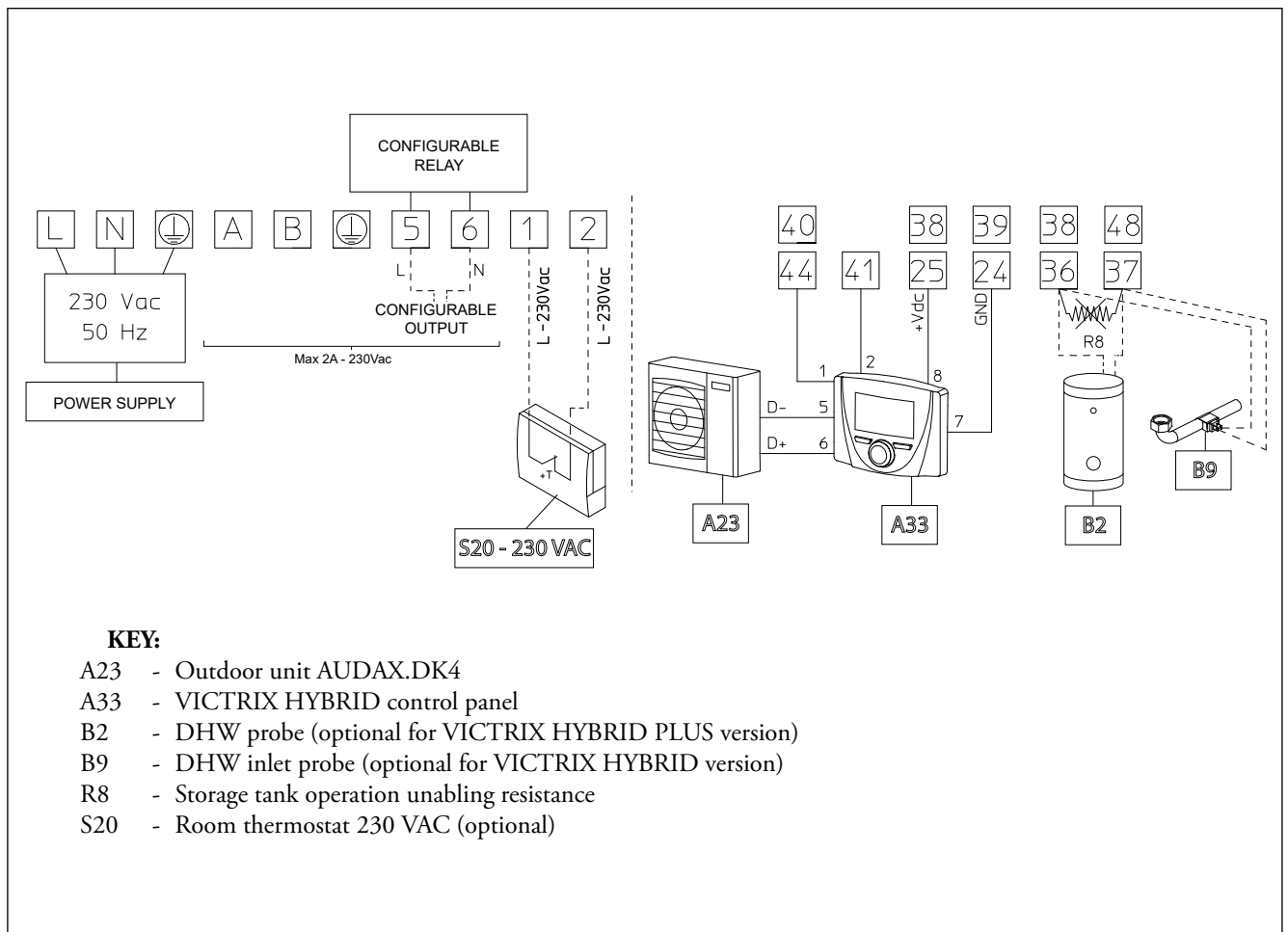
The connection between the condensation indoor unit and the heat pump outdoor unit must be made as shown in the wiring diagram below.

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, 2 of which BUS cables with cross-section 0,75-1,5 mm²) 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 (230 Vac), 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).

NOTE: The room thermostat (S20) must be suitable for crossing the 230 Va phase; when the thermostat is closed, 230 Vac continuity (PHASE ONLY) is given between terminals 1 and 2.



VICTRIX HYBRID - VICTRIX HYBRID 32

21 VICTRIX HYBRID WIRING DIAGRAM

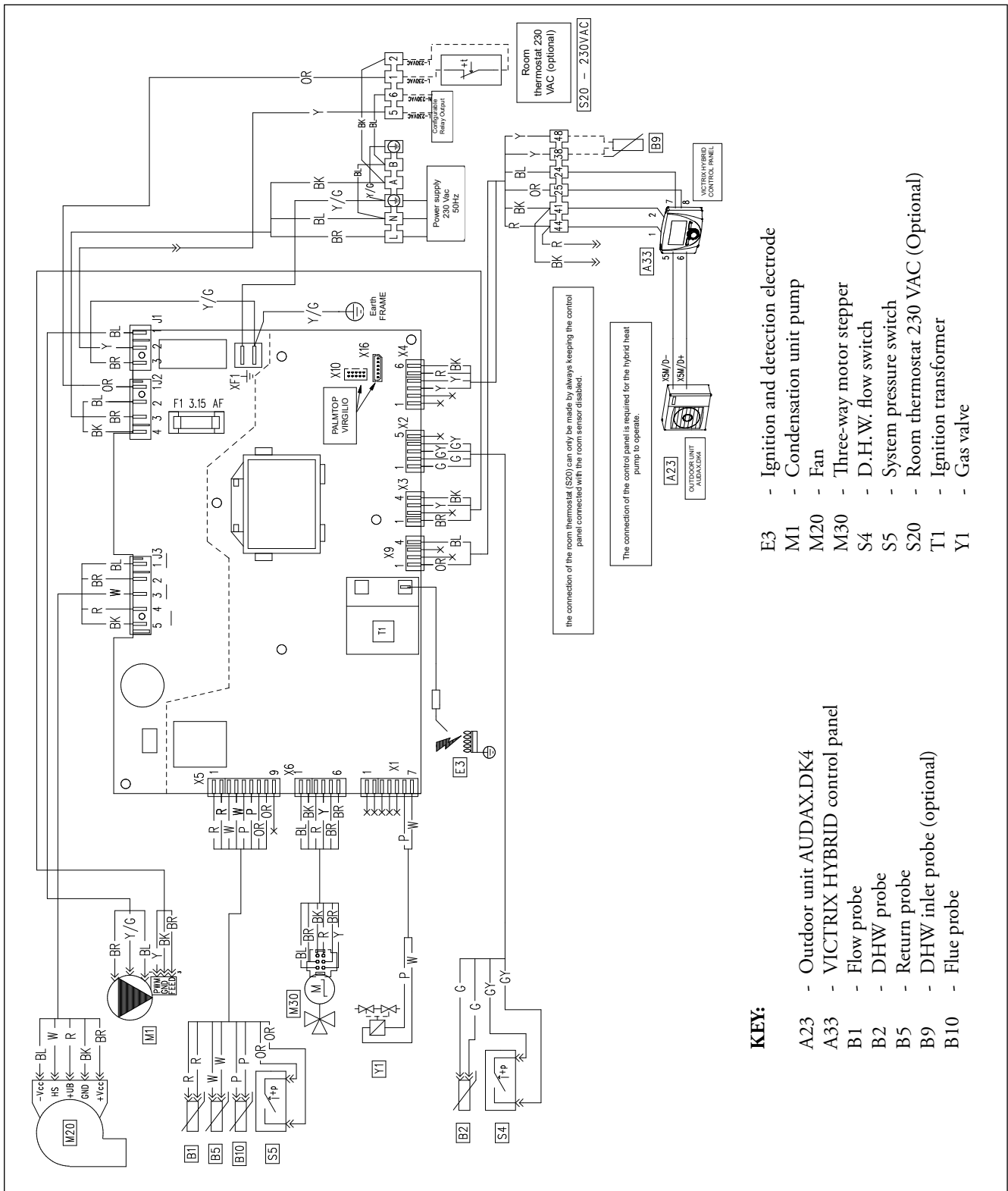
ROOM THERMOSTAT CONTROL PANEL

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.

The room thermostat(S20) must be suitable for crossing the 230 Va phase; when the thermostat is closed, 230 Vac continuity (PHASE ONLY) is given between terminals 1 and 2.



- 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

VICTRIX HYBRID PLUS

22 VICTRIX HYBRID PLUS WIRING DIAGRAM

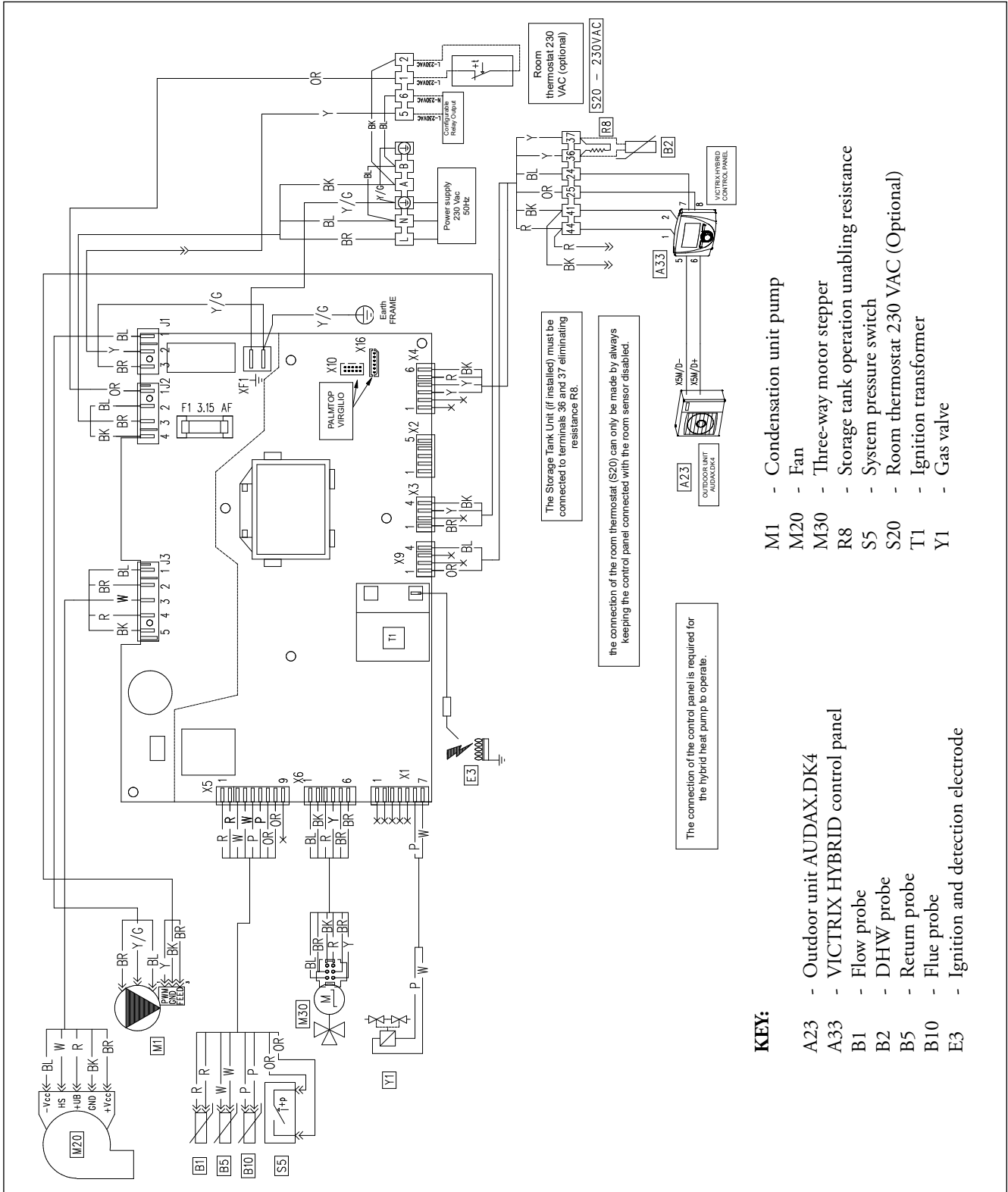
ROOM THERMOSTAT CONTROL PANEL

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

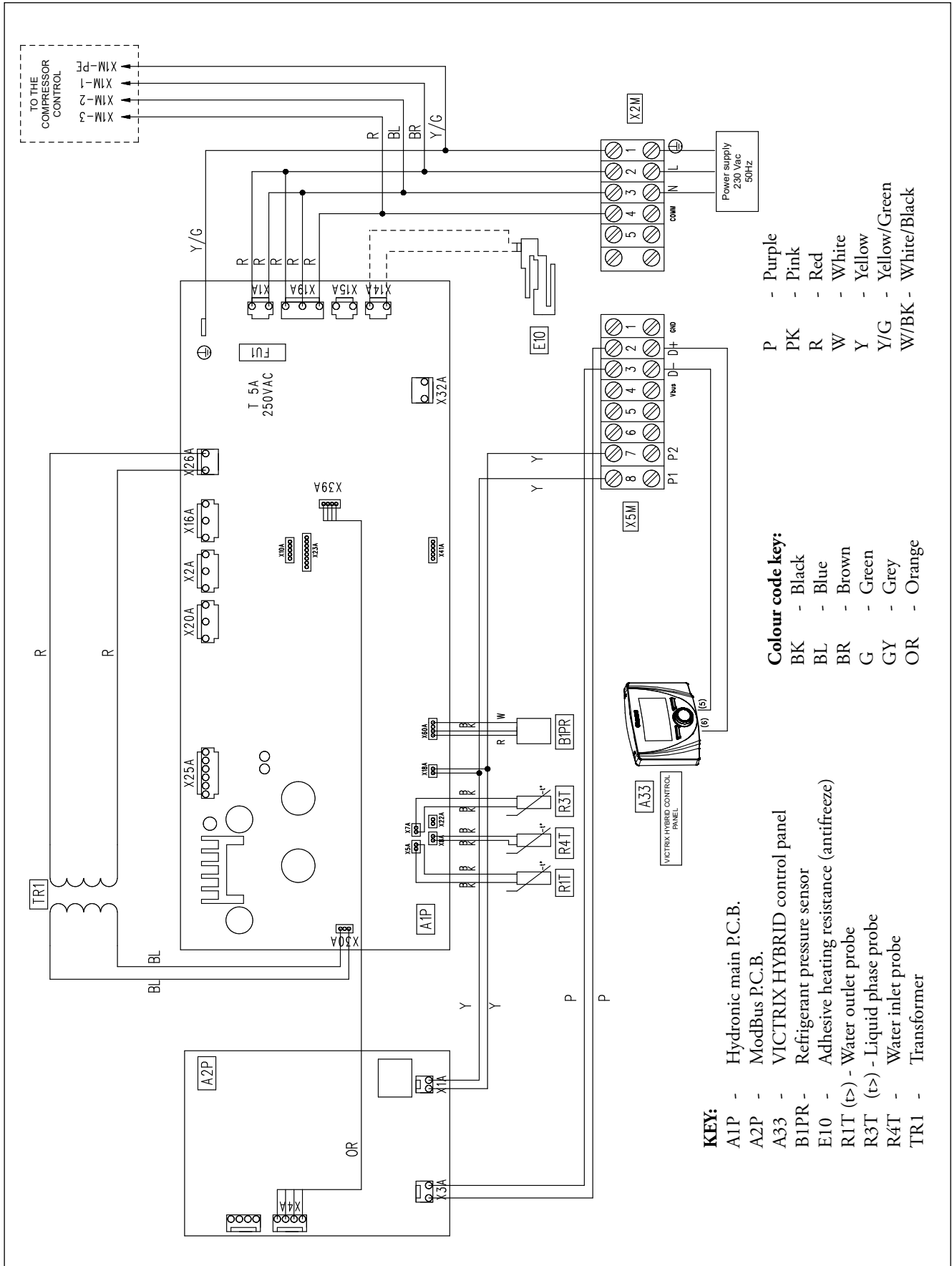
The connection of the room thermostat (S20) can only be made by always keeping the Control panel connected with the room

sensor disabled.

The room thermostat(S20) must be suitable for crossing the 230 Va phase; when the thermostat is closed, 230 Vac continuity (PHASE ONLY) is given between terminals 1 and 2.



- KEY:**
- A23 - Outdoor unit AUDAX.DK4
 - A33 - VICTRIX HYBRID control panel
 - B1 - Flow probe
 - B2 - DHW probe
 - B5 - Return probe
 - B10 - Flue probe
 - E3 - Ignition and detection electrode
 - M1 - Condensation unit pump
 - M20 - Fan
 - M30 - Three-way motor stepper
 - R8 - Storage tank operation unabling resistance
 - S5 - System pressure switch
 - S20 - Room thermostat 230 VAC (Optional)
 - T1 - Ignition transformer
 - Y1 - Gas valve



- 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

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

VICTRIX HYBRID

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AUDAX.DK4 TECHNICAL DATA (OUTDOOR UNIT)

		AUDAX.DK4
Heating circuit		
Nominal power in CH mode with water set at 35 °C / Air 7 °C	kW	3.83
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	3.28
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	0.85
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	1.29
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		4.49
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		2.56
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	- 14 - 25 (35)
Energy class in heating at 55°C		A++
Energy class in heating at 35°C		A++
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)

Energy class in CH with 55°C/35°C		-	A++ / A++
Domestic hot water maximum nominal heat input / *20% H_2 NG		kW (kcal/h)	28,8 (24.773) / *26,4 (22.700)
CH maximum nominal heat input / *20% H_2 NG		kW (kcal/h)	24,6 (21.194) / *22,6 (19.433)
DHW maximum useful heat output / *20% H_2 NG		kW (kcal/h)	28,3 (24.295) / *25,9 (22.274)
CH maximum useful heat output / *20% H_2 NG		kW (kcal/h)	24,1 (20.717) / *22,1 (19.006)
Minimum nominal heat input / *20% H_2 NG		kW (kcal/h)	4,5 (3.862) / *4,4 (3.783)
Minimum useful heat output / *20% H_2 NG		kW (kcal/h)	4,3 (3.689) / *4,2 (3.612)
Efficiency at 100% Pn (80/60°C)		%	97.8
Efficiency at 100% Pn (50/30°C)		%	106.1
Efficiency at 100% Pn (40/30°C)		%	108.2
Efficiency at 30% load (return at 30°C)		%	108.3
Efficiency at 100% heat output (η_{100}) UNI EN 15502-1		%	97.8
Efficiency at partial heat output (η_{30}) UNI EN 15502-1		%	108,3
Room central heating seasonal efficiency (η_s)		%	93
Domestic hot heating energy efficiency (η_{wh})		%	87
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			
Energy class in DHW / load profile		-	A / XL
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 - 2.60 (3.05 DHW)
Gas flow rate at LPG burner (G31)	MIN - MAX	kg/h	0.35 - 1.91 (2.24 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	61
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)

VICTRIX HYBRID 32

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VICTRIX HYBRID 32 TECHNICAL DATA (CONDENSATION UNIT)

Energy class in CH with 55°C/35°C		-	A++ / A++
Domestic hot water maximum nominal heat input / *20%H ₂ NG		kW (kcal/h)	32,6 (28.036) / *31,3 (26.918)
CH maximum nominal heat input / *20%H ₂ NG		kW (kcal/h)	28,6 (24.596) / *27,0 (23.220)
DHW maximum useful heat output / *20%H ₂ NG		kW (kcal/h)	32,0 (27.520) / *30,7 (26.402)
CH maximum useful heat output / *20%H ₂ NG		kW (kcal/h)	28,0 (24.080) / *26,4 (22.704)
Minimum nominal heat input / *20%H ₂ NG		kW (kcal/h)	5,1 (4.386) / *4,9 (4.214)
Minimum useful heat output / *20%H ₂ NG		kW (kcal/h)	4,9 (4.214) / *4,7 (4.042)
Efficiency at 100% P _n (80/60°C)		%	97.9
Efficiency at 100% P _n (50/30°C)		%	106.0
Efficiency at 100% P _n (40/30°C)		%	107.9
Efficiency at 30% load (return at 30°C)		%	108.4
Efficiency at 100% heat output (η ₁₀₀) UNI EN 15502-1		%	97.9
Efficiency at partial heat output (η ₃₀) UNI EN 15502-1		%	108,4
Room central heating seasonal efficiency (η _s)		%	93
Domestic hot heating energy efficiency (η _{wh})		%	87
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	10.0 / (6.4)
System expansion vessel factory-set pressure		bar	1.0
Head with 1000 l/h flow rate		kPa (m c.a.)	54,0 (5,4)
DHW circuit			
Energy class in DHW / load profile		-	A / XL
Hot water production useful heat output		kW (kcal/h)	32.0 (27.520)
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	16,3
Gas supply			
Gas flow rate at METHANE burner (G20)	MIN - MAX	m ³ /h	0.54 - 3.03 (3.45 DHW)
Gas flow rate at LPG burner (G31)	MIN - MAX	kg/h	0.40 - 2.22 (2.53 DHW)
Electric power supply		V/Hz	230 - 50
Nominal power absorption		A	0.90
Installed electric power		W	115
Power absorbed by pump max speed		W	75
Power absorbed in stand-by		W	3
Electric insulation rating	IP		X5D
Water content		litres	2.4
Empty condensation unit weight		kg	35.5
Effective efficiency at 100% output (Italian Lgs. D. 192/05 as amended)			>93+2·log P _n (P _n = 28.0 kW)

27 VICTRIX HYBRID PLUS TECHNICAL DATA (CONDENSATION UNIT)

Energy class in CH with 55°C/35°C		-	A++ / A++
Domestic hot water maximum nominal heat input / *20% H_2 NG		kW (kcal/h)	28,8 (24.773) / *26,4 (22.700)
CH maximum nominal heat input / *20% H_2 NG		kW (kcal/h)	24,6 (21.194) / *22,6 (19.433)
DHW maximum useful heat output / *20% H_2 NG		kW (kcal/h)	28,3 (24.295) / *25,9 (22.274)
CH maximum useful heat output / *20% H_2 NG		kW (kcal/h)	24,1 (20.717) / *22,1 (19.006)
Minimum nominal heat input / *20% H_2 NG		kW (kcal/h)	4,5 (3.862) / *4,4 (3.783)
Minimum useful heat output / *20% H_2 NG		kW (kcal/h)	4,3 (3.689) / *4,2 (3.612)
Efficiency at 100% Pn (80/60°C)		%	97.8
Efficiency at 100% Pn (50/30°C)		%	106.1
Efficiency at 100% Pn (40/30°C)		%	108.2
Efficiency at 30% load (return at 30°C)		%	108.3
Efficiency at 100% heat output (η_{100}) UNI EN 15502-1		%	97.8
Efficiency at partial heat output (η_{30}) UNI EN 15502-1		%	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 - 2.60 (3.05 DHW)
Gas flow rate at LPG burner (G31)	MIN - MAX	kg/h	0.35 - 1.91 (2.24 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	61
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 INOXSTOR 200 V2		litres	202,6
Empty Storage Tank Unit weight UB OMNISTOR 300 V2		kg	75
Empty Storage Tank Unit weight UB INOXSTOR 200 V2		kg	60,7
Empty condensation unit weight		kg	32.9
Effective efficiency at 100% output (Italian Lgs. D. 192/05 as amended)			>93+2·log Pn (Pn = 24.1 kW)

VICTRIX HYBRID

28

COMBUSTION FEATURES VICTRIX HYBRID VICTRIX HYBRID PLUS (CONDENSATION UNIT)

		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	97.9	97.9
Combustion efficiency P min (80/60°C)	%	97.9	97.9
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)	% (W)	2,1 (517)	2,1 (517)
Chimney losses with burner on (P min) (80/60°C)	%	2.1	2.1
Chimney losses with burner off	% (W)	0,03 (6)	0,03 (6)
Casing losses with burner on (100% Pn) (80/60°C)	%	0,1 (25)	0,1 (25)
Casing losses with burner on (Pmin) (80/60°C)	%	2.4	2.4
Casing losses with burner off	% (W)	0,4 (99)	0,4 (99)
Flue gas temperature Maximum Heat Input	°C	72	73
Flue gas temperature Minimum Heat Input	°C	64	69
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
*O ₂ at the Maximum Central Heating Heat Input	%	3.50	3.50
*O ₂ at Maximum Domestic Hot Water Heat Input	%	3.50	3.50
*O ₂ at Minimum Heat Input	%	5.10	4.70
CO at Maximum Heat Input	mg/kWh	342	379
CO at Minimum Heat Input	mg/kWh	7	9
NO _x at the Maximum Heat Input	mg/kWh	58	80
NO _x at Minimum Heat Input	mg/kWh	22	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	4 - 154	

NOTE: VICTRIX HYBRID - VICTRIX HYBRID PLUS models can also work with propane air, in addition to 20% in volume (20%H₂NG).

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.

* O₂ values refer to gas G20 and are a reference for calibrating boilers supplied with 20%H₂NG.

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COMBUSTION FEATURES VICTRIX HYBRID 32 (CONDENSATION UNIT)

		Methane (G20)	LPG (G31)
Combustion efficiency 100% Pn (80/60°C)	%	98.0	98.0
Combustion efficiency P min (80/60°C)	%	98.0	98.0
Effective efficiency at 100% Pn (80/60°C)	%	97.9	97.9
Effective efficiency P min (80/60°C)	%	95.5	95.5
Effective efficiency at 100% Pn (50/30°C)	%	106.0	106.0
Effective efficiency P min (50/30°C)	%	108.2	108.2
Effective efficiency at 100% Pn (40/30°C)	%	107.9	107.9
Effective efficiency P min (40/30°C)	%	108.2	108.2
Chimney losses with burner on (100% Pn) (80/60°C)	% (W)	2,0 (572)	2,0 (572)
Chimney losses with burner on (P min) (80/60°C)	%	2.0	2.0
Chimney losses with burner off	% (W)	0,02 (6)	0,02 (6)
Casing losses with burner on (100% Pn) (80/60°C)	% (W)	0,1 (29)	0,1 (29)
Casing losses with burner on (Pmin) (80/60°C)	%	2.5	2.5
Casing losses with burner off	% (W)	0,35 (99)	0,35 (99)
Flue gas temperature Maximum Heat Input	°C	75	75
Flue gas temperature Minimum Heat Input	°C	62	62
Flue flow rate at Central Heating Maximum Heat Input	kg/h	45	44
Flue flow rate at Maximum Domestic Hot Water Heat Input	kg/h	51	50
Flue flow rate at Minimum Heat Input	kg/h	9	9
CO ₂ at the Maximum Central Heating Heat Input	%	9.50	11.20
CO ₂ at Maximum Domestic Hot Water Heat Input	%	9.50	11.20
CO ₂ at Minimum Heat Input	%	8.60	10.00
*O ₂ at the Maximum Central Heating Heat Input	%	3.90	3.80
*O ₂ at Maximum Domestic Hot Water Heat Input	%	3.90	3.80
*O ₂ at Minimum Heat Input	%	5.50	5.60
CO at Maximum Heat Input	mg/kWh	251	347
CO at Minimum Heat Input	mg/kWh	5	5
NO _x at the Maximum Heat Input	mg/kWh	54	84
NO _x at Minimum Heat Input	mg/kWh	18	39
Weighted CO	mg/kWh	15	-
Weighted NO _x	mg/kWh	30	-
NO _x class	-	6	6
Intake/exhaust available head (min-max flow rate)	Pa	6 - 204	

NOTE: the VICTRIX HYBRID 32 model can also work with propane air, in addition to the Methane and Hydrogen mixture at 20% in volume (20% H_2 NG).

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.

* O₂ values refer to gas G20 and are a reference for calibrating boilers supplied with 20% H_2 NG.

VICTRIX HYBRID

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

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 = -14 °C

VICTRIX HYBRID

31

SEPARATE STORAGE TANK UNIT COUPLING FOR DHW PRODUCTION

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 200 V2*.

As for the production of domestic hot water, the VICTRIX HYBRID appliance (instantaneous 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).

* The INOXSTOR 200 V2 storage tank unit is suitable to be combined with hybrid systems/heat pumps, such as VICTRIX HYBRID PLUS, only connecting in series 2 coils and moving the DHW probe to the designed sample point.



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 200 V2 version;
- 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 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

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

Magnetic cyclone filter kit (only for indoors)
code 3.024176

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<p>Polyphosphate dispenser kit for instant condensation units (indoor only) code 3.017323</p>	<p>Solar inlet probe kit for instant condensation unit (only if the connection kit with copper pipes is present) code 3.021452</p>
<p>Universal connection kit (for indoor unit) code 3.011667</p>	<p>System shut-off valves kit code 3.5324</p>
<p>OPTIONAL COMBINABLE WITH VICTRIX HYBRID PLUS</p>	
<p>Front connection kit for installation VICTRIX HYBRID PLUS in OMNI CONTAINER code 3.025409</p>	<p>Rear connection kit for installation VICTRIX HYBRID PLUS in OMNI CONTAINER code 3.025398</p>
<p>INOXSTOR 200 V2 code 3.027746</p>	<p>OMNISTOR 300 code 3.027910</p>
<p>OMNISTOR 500 code 3.027911</p>	
<p>3/4" thermostatic mixing valve kit Adjustment range 42÷60 °C code 3.019099</p>	<p>Electronic anode double kit for INOXSTOR V2 and OMNISTOR code 3.025003</p>
<p>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</p>	<p>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</p>
<p>OPTIONAL FOR RECESSED SOLUTIONS</p>	
<p>OMNI CONTAINER (recessed frame) the door must be replaced by pairing code 3.026851 code 3.016991</p>	<p>Door kit for installation in OMNI CONTAINER (the kit includes the installation bracket of the indoor unit) code 3.026851</p>
<p>Universal door kit for existing recessed frames (the kit includes the installation bracket of the indoor unit) code 3.027041</p>	<p>Recessed magnetic cyclone filter kit code 3.029367</p>
<p>Front connection kit for installation VICTRIX HYBRID in OMNI CONTAINER code 3.025396</p>	<p>Rear connection kit for installation VICTRIX HYBRID in OMNI CONTAINER code 3.025382</p>

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.

APPENDIX: LOGIC OF OPERATION AND ADJUSTMENT

33 VICTRIX HYBRID OPERATING PRINCIPLES

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

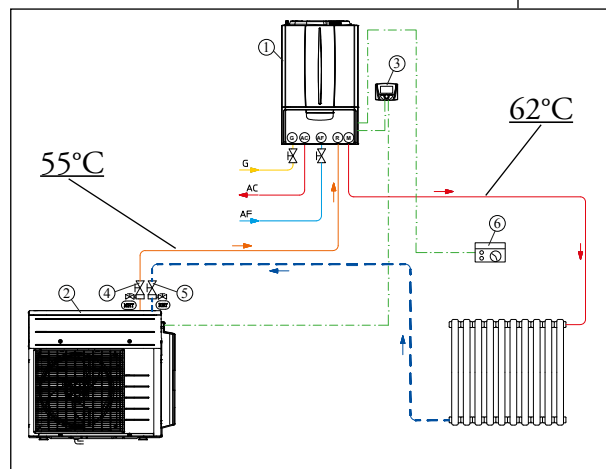
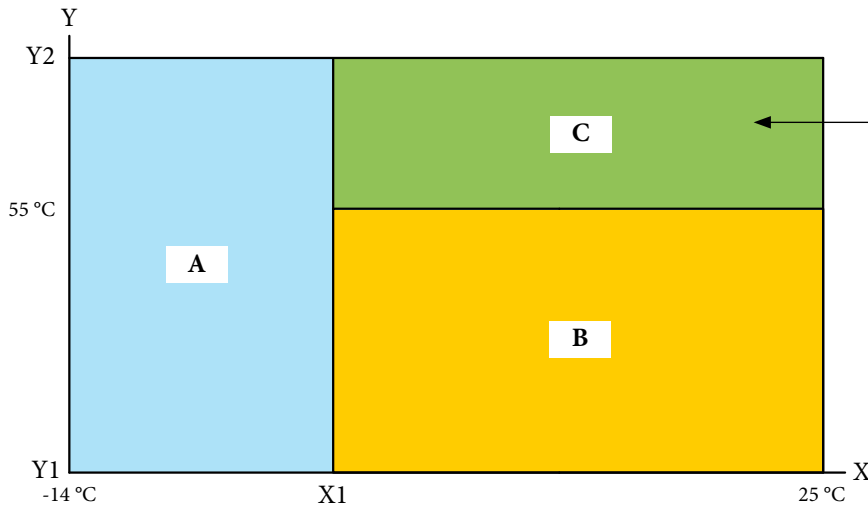
CENTRAL HEATING MODE

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 integration temperature between condensation unit and "Manual" HP is set in the Control panel menu, below this outdoor temperature (example value X1= +5 °C) only the condensation unit is activated, above this outdoor integration temperature, above this outdoor integration temperature the HP always starts and if the set flow 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 with “differentiated” sets (see example below).



KEY:

- X - External temperature
- X1 - Integration activation temperature
- Y - Central heating set
- Y1 - Minimum
- Y2 - Maximum
- A - Exclusive operation of the indoor unit
- B - Outdoor unit operation; When the activation time set by the user has elapsed, the indoor unit also starts
- C - Simultaneous "differentiated sets" operation

Calculated flow temperature increase 62 °C:

The outdoor unit will operate to preheat the indoor unit at a lower set point (flow of 55 °C) than that of this latter, which activates to reach a flow temperature of 62 °C

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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.

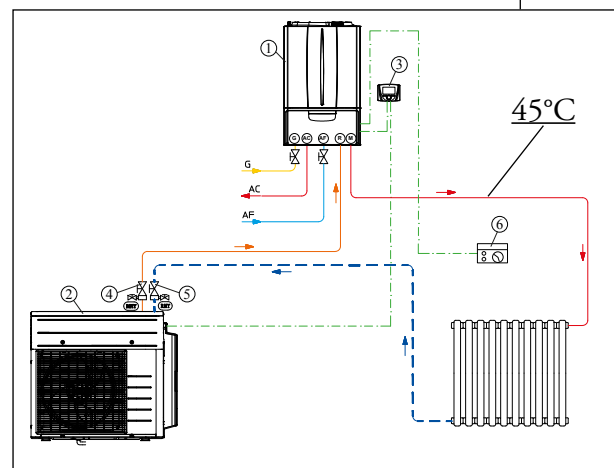
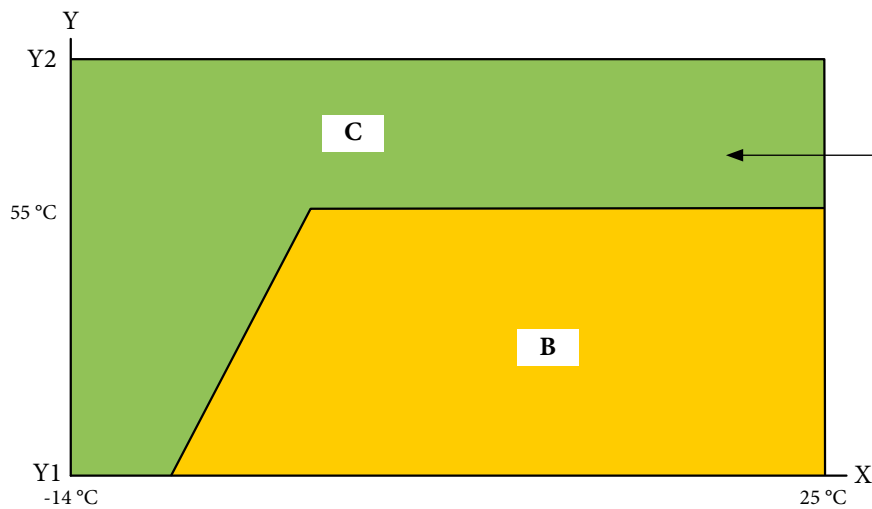
Also in the latter case, if in the waiting time (which can be set in the specific parameter menu) you do not reach the set delivery set, the condensation unit is also activated, in series and at the same time.

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: Depending on the outdoor temperature, VICTRIX HYBRID calculates the flow temperature at which there is economical equivalence.

The heat pump set point is that of economical equivalence (displayed in assistance menu).

The boiler set point is the one set by the temperature controller. The two generators are activated simultaneously with "differentiated" sets (see example below).



KEY:

- X - External temperature
- Y - Central heating set
- Y1 - Minimum
- Y2 - Maximum

- B - Outdoor unit operation; When the activation time set by the user has elapsed, the indoor unit also starts
- C - Simultaneous "differentiated sets" operation

Example of flow temperature calculated 45 °C with outdoor air at 0 °C:

The outdoor unit will operate to preheat the indoor unit at a lower set point (calculating a flow temperature with economic equivalence) than that of this latter, which activates to reach a flow temperature of 45 °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.

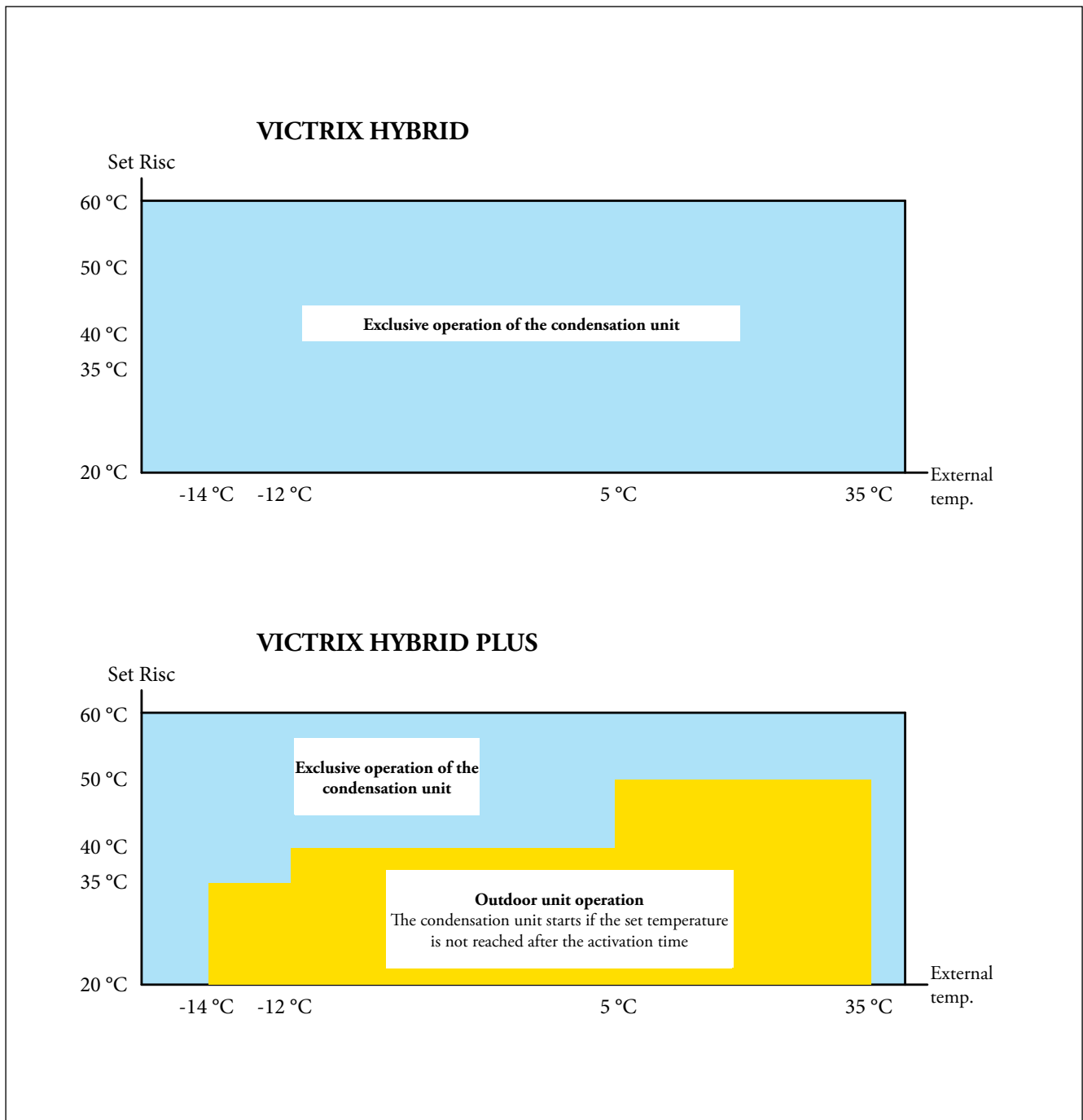
If the conditions (external temperature and set-point) allow the DHW demand to be met with the heat pump, the condensation unit remains off;

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.



VICTRIX HYBRID

34

HYDRAULIC DIAGRAM: VICTRIX HYBRID (INSTANT) WITH RADIATOR SYSTEM

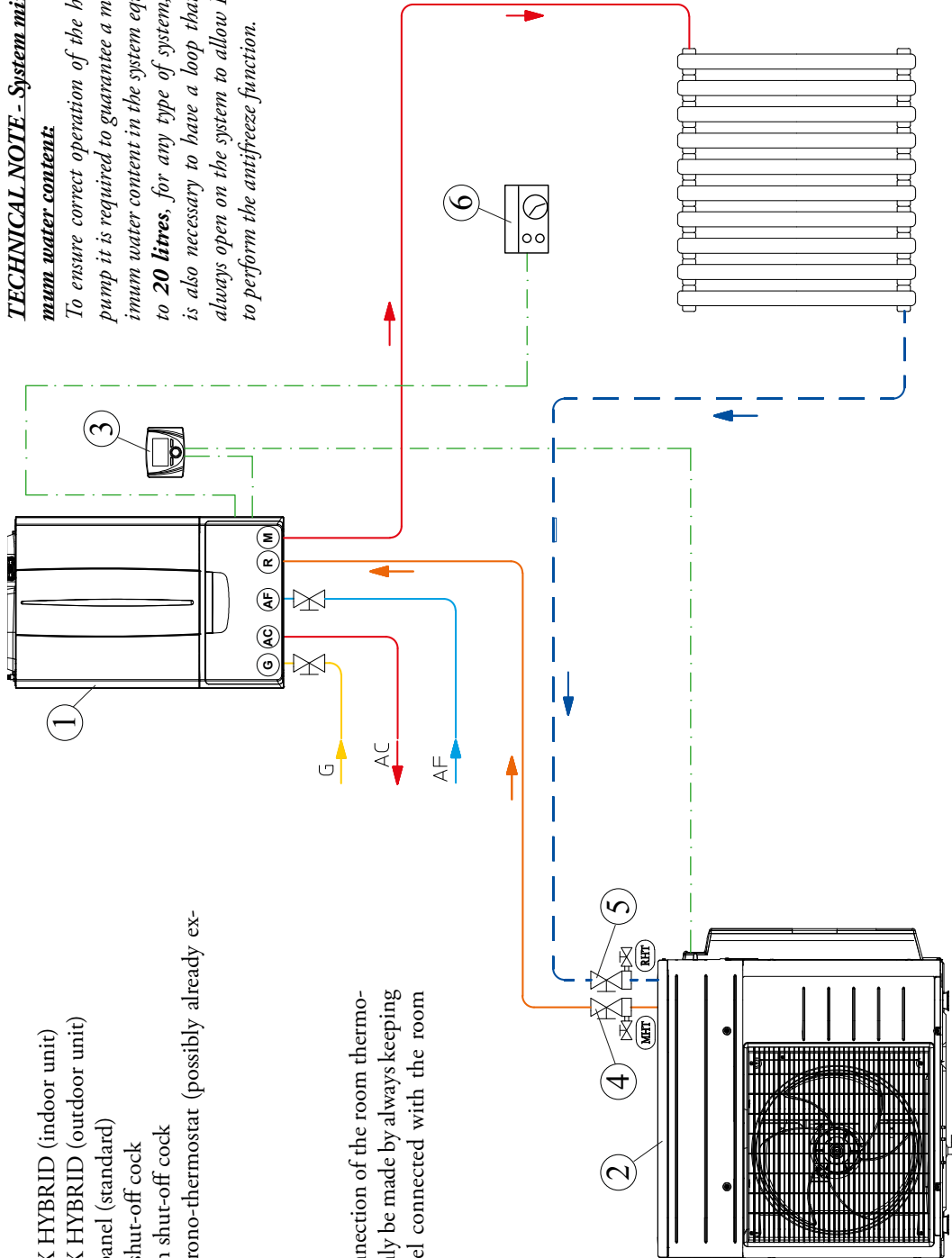
NOTE: The installations must have a max length of pipes, from indoor unit to outdoor unit, of 10 linear m, namely 10 m on the Flow and 10 m on the Return.

KEY:

- 1 - VICTRIX HYBRID (indoor unit)
- 2 - VICTRIX HYBRID (outdoor unit)
- 3 - Control panel (standard)
- 4 - HP flow shut-off cock
- 5 - HP return shut-off cock
- 6 - Room chrono-thermostat (possibly already existing)

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

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

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

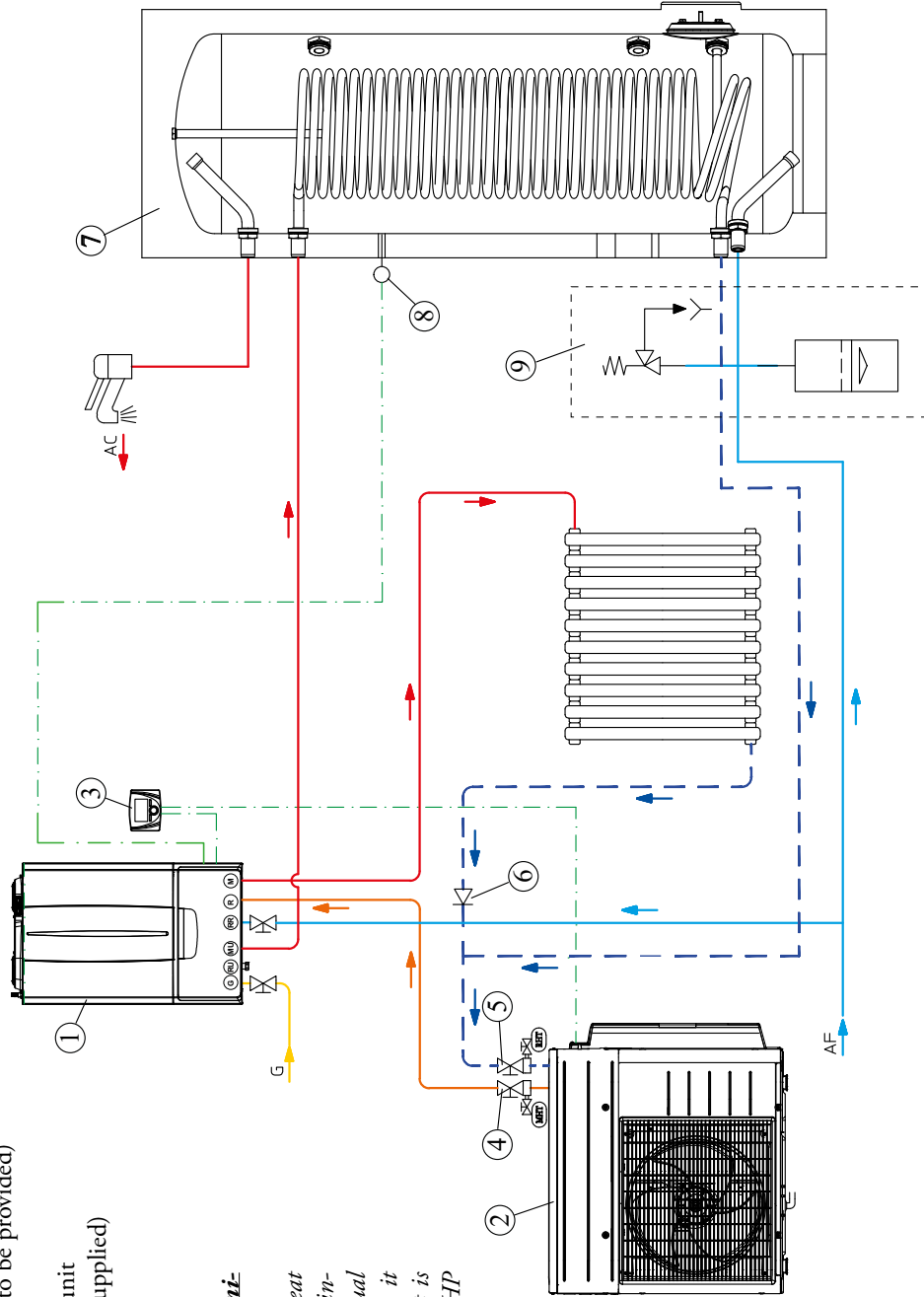
NOTE: in case of connection to the storage tank unit, the return present on the storage tank unit (RU) must be connected to the return of the Outdoor unit (RHT). The storage tank unit return connection, present in the indoor unit, is not used and must be closed. The installations must have a max length of pipes, from indoor unit to outdoor unit, of 10 linear m, namely 10 m on the Flow and 10 m on the Return.

- 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 - One-way valve (not supplied to be provided)
 - 7 - Storage tank unit
 - 8 - NTC probe for storage tank unit
 - 9 - DHW inlet safety unit (not supplied)

TECHNICAL NOTE - System mini-

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.

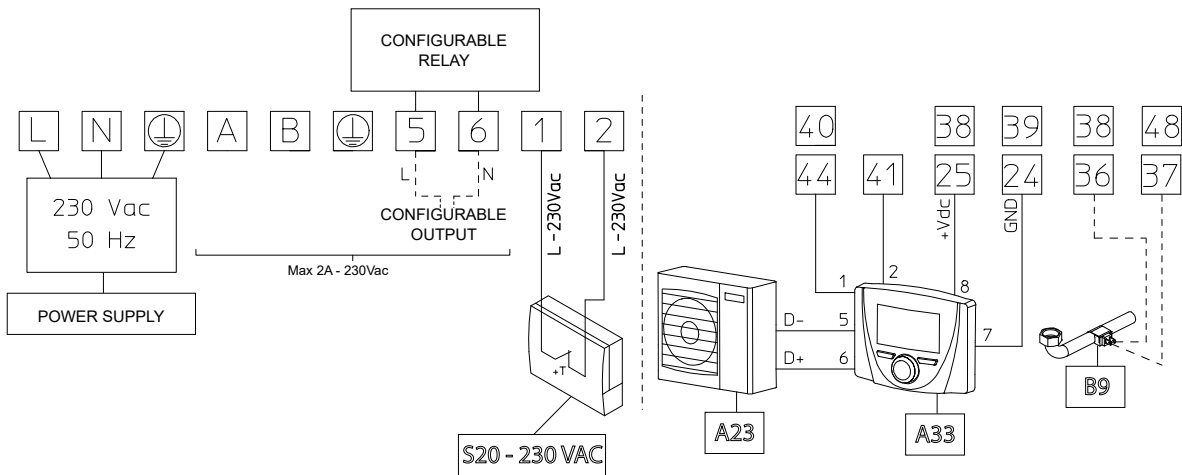


NOTE: this diagram is an example. It is also required to convey the condensate drain of the heat pump and condensation unit.

VICTRIX HYBRID

36

WIRING DIAGRAM: VICTRIX HYBRID (INSTANT) WITH RADIATOR SYSTEM

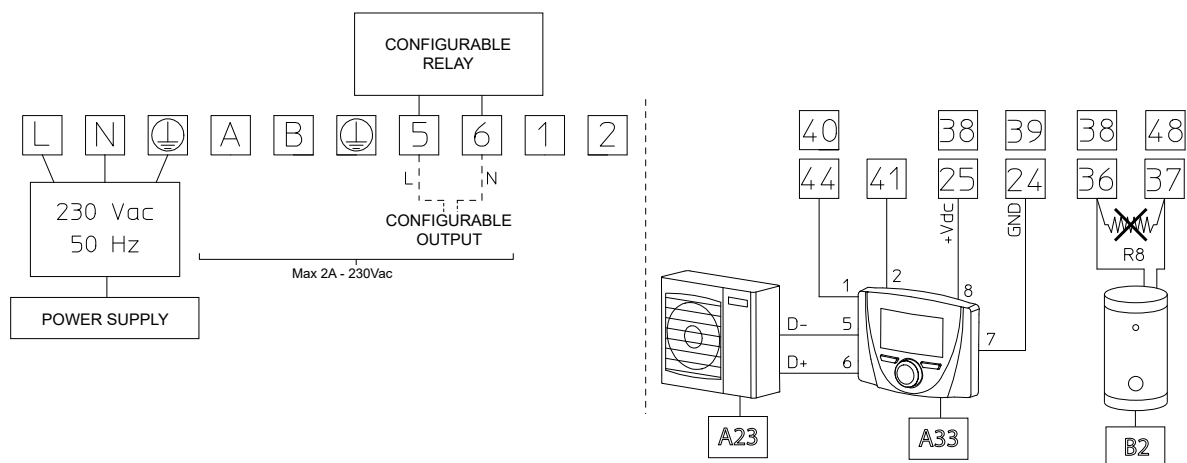


KEY:

- 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

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 (Recessed 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).



RECESSED VICTRIX HYBRID PLUS

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.

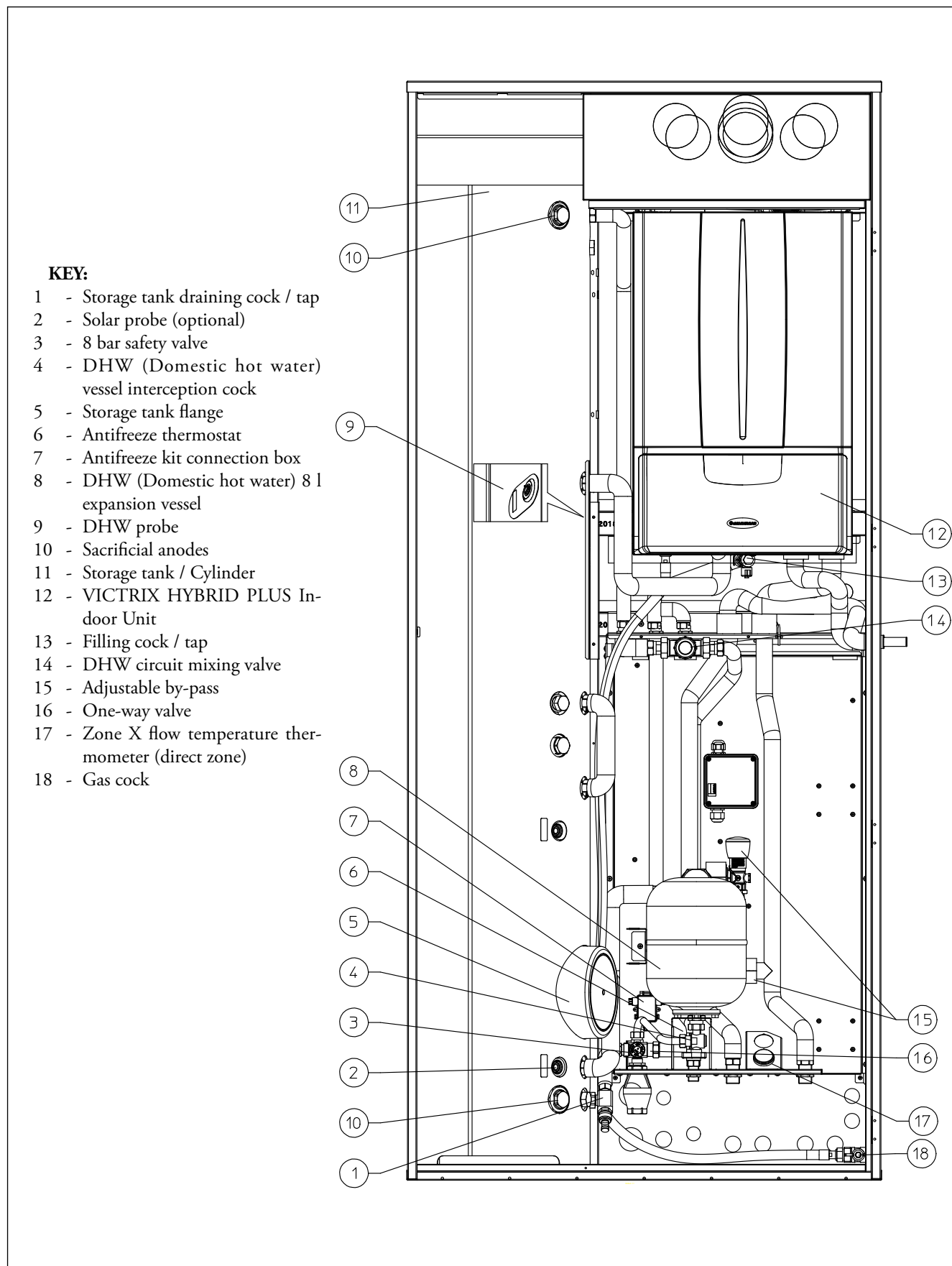
The above kits are the main ones; additional accessories are available to complete the installation.



NOTE: with regard to the hydraulic connections on the SOLAR or DOMUS CONTAINER use the references MZ - RZ (Zone X - direct).

RECESSED VICTRIX HYBRID PLUS

37.2 MAIN COMPONENTS OF VICTRIX HYBRID PLUS WITH BASIC MAGIS PRO



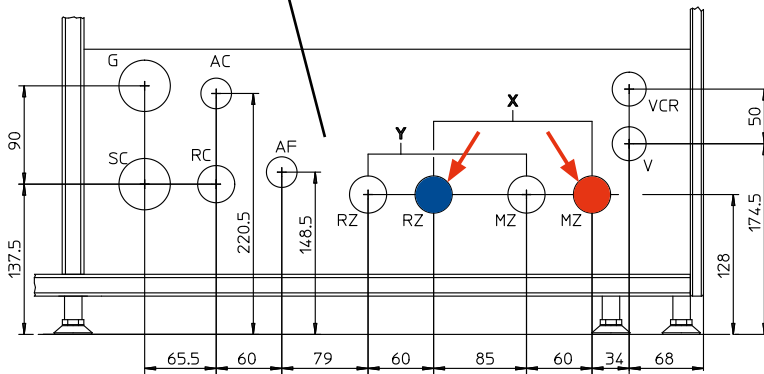
RECESSED VICTRIX HYBRID PLUS

37.3 CONNECTIONS IN DOMUS CONTAINER TECHNICAL CABINET

N.B.: OPTIONAL connection unit

REAR CONNECTION

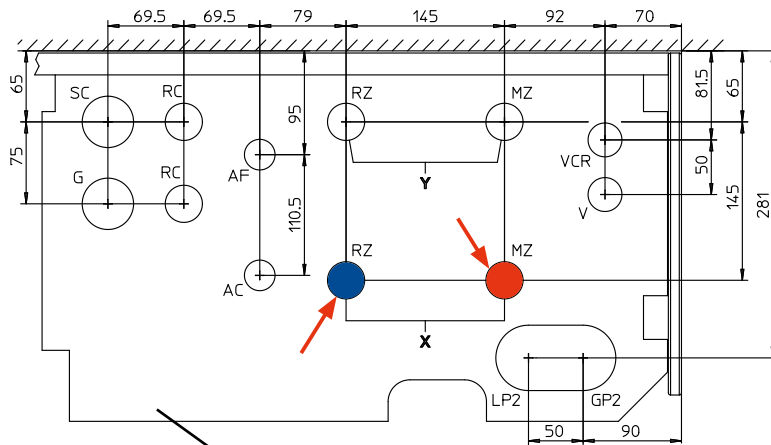
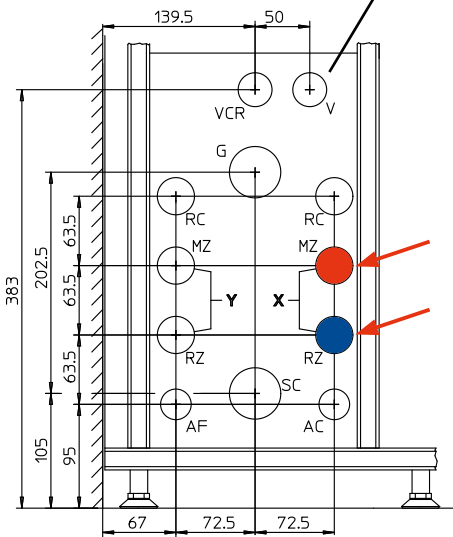
Rear connection unit kit - code 3.020630



NOTE: The dimensions of the connection templates refer to the installation situation (height from the floor, rear wall, etc...). For VICTRIX HYBRID PLUS with BASIC MAGIS PRO, use connections highlighted with red arrow ← (Flow in red, Return in blue).

RH SIDE CONNECTION

Horizontal connection unit kit code 3.020574



LOWER CONNECTION

Vertical connection unit kit - code 3.020575

	Zone X	Zone Y
VICTRIX HYBRID PLUS with BASIC MAGIS PRO system	Direct zone	NOT PRESENT (do NOT use)

KEY:

- SC - Condensate drain (not present)
- V - Electrical connection
- VCR - Remote Panel Connection
- RC - DHW recirculation G1/2"
- MHT2- Flow from heat pump G3/4"
- RHT2- Return to heat pump G3/4"

VICTRIX HYBRID PLUS with BASIC MAGIS PRO					OUTDOOR UNIT	
GAS G	Hot Outlet AC	Cold Input AF	Zone X flow MZ	Zone X return RZ	Flow from HP MHT2	Return to HP RHT2
1/2	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"

RECESSED VICTRIX HYBRID PLUS

37.4

SOLAR CONTAINER RECESSED FRAME CONNECTIONS

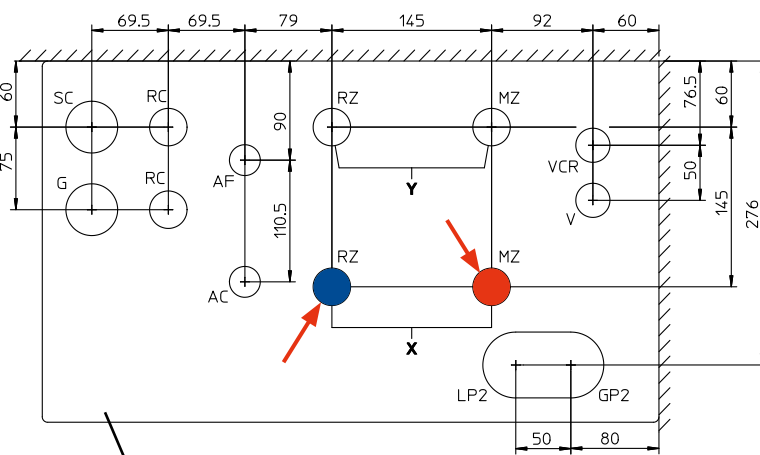
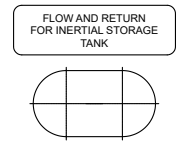
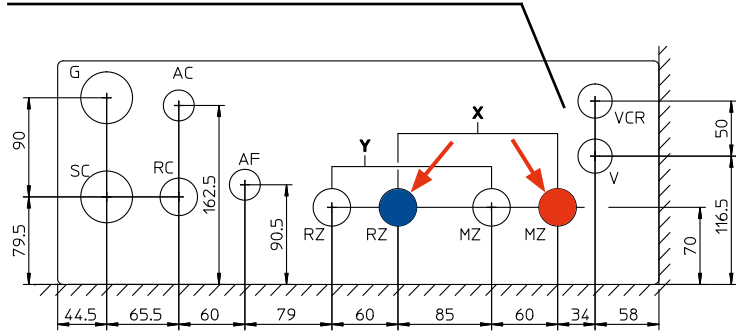
N.B.: OPTIONAL connection unit

NOTE: The dimensions of the connection templates refer to the installation situation (from flush with box to bottom wall or floor, rear wall, side wall, etc...).

For VICTRIX HYBRID PLUS with BASIC MAGIS PRO, use connections highlighted with red arrow ← (Flow in red, Return in blue).

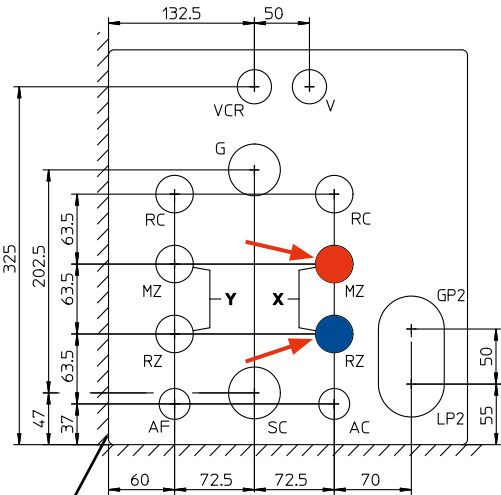
REAR CONNECTION

Rear connection unit kit - code 3.020630



LOWER CONNECTION

Vertical connection unit kit - code 3.020575



RH SIDE CONNECTION

Horizontal connection unit kit code 3.020574

	Zone X	Zone Y
VICTRIX HYBRID PLUS with BASIC MAGIS PRO system	Direct zone	NOT PRESENT (do NOT use)

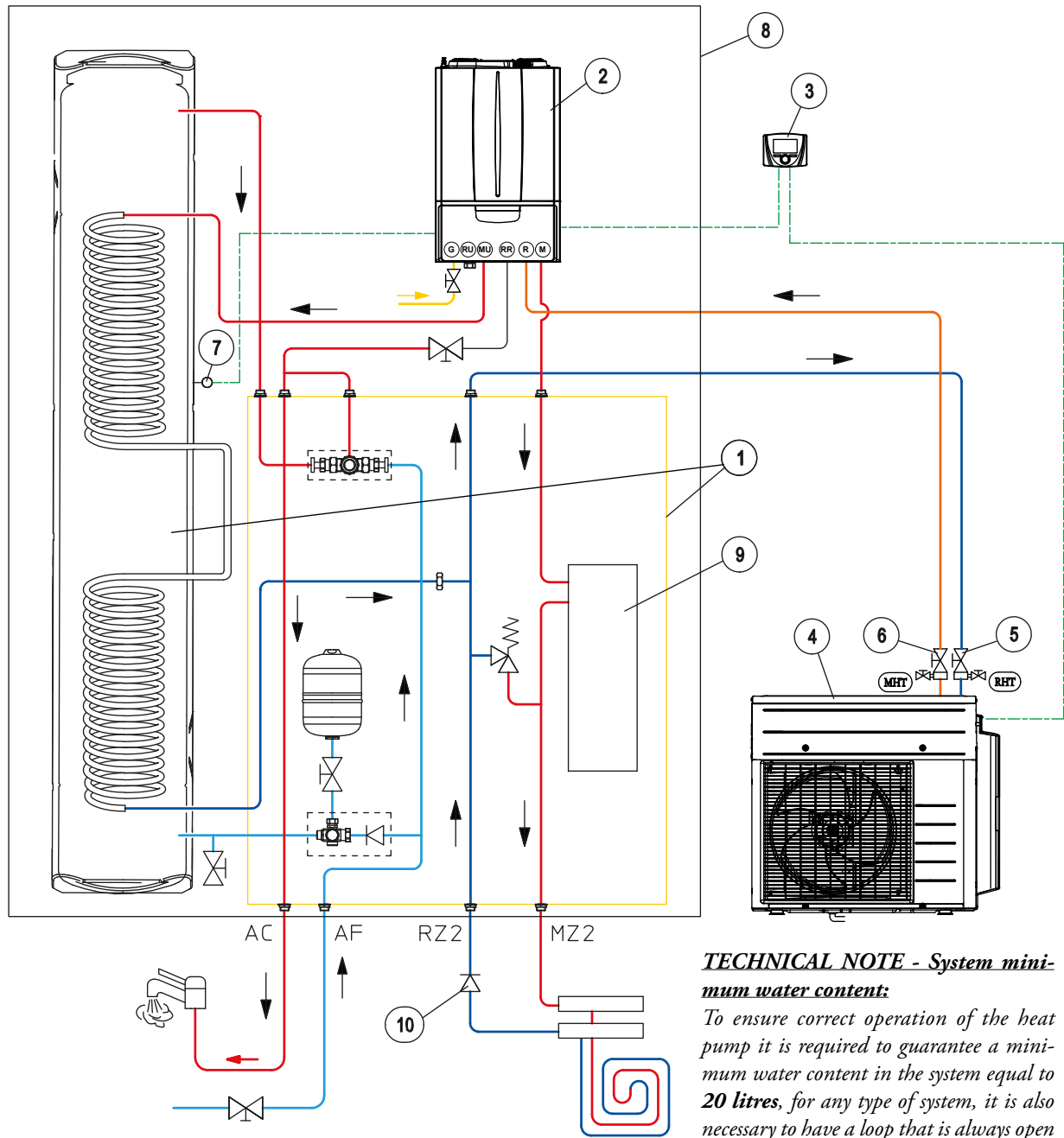
KEY:

- SC - Condensate drain (not present)
- V - Electrical connection
- VCR - Remote Panel Connection
- RC - DHW recirculation G1/2"
- MHT2- Flow from heat pump G3/4"
- RHT2- Return to heat pump G3/4"

VICTRIX HYBRID PLUS with BASIC MAGIS PRO					OUTDOOR UNIT	
GAS G	Hot Outlet AC	Cold Input AF	Zone X flow MZ	Zone X return RZ	Flow from HP MHT2	Return to HP RHT2
1/2	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"

RECESSED VICTRIX HYBRID PLUS

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



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

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)

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 data declared refer to new products that are correctly installed and used with respect to 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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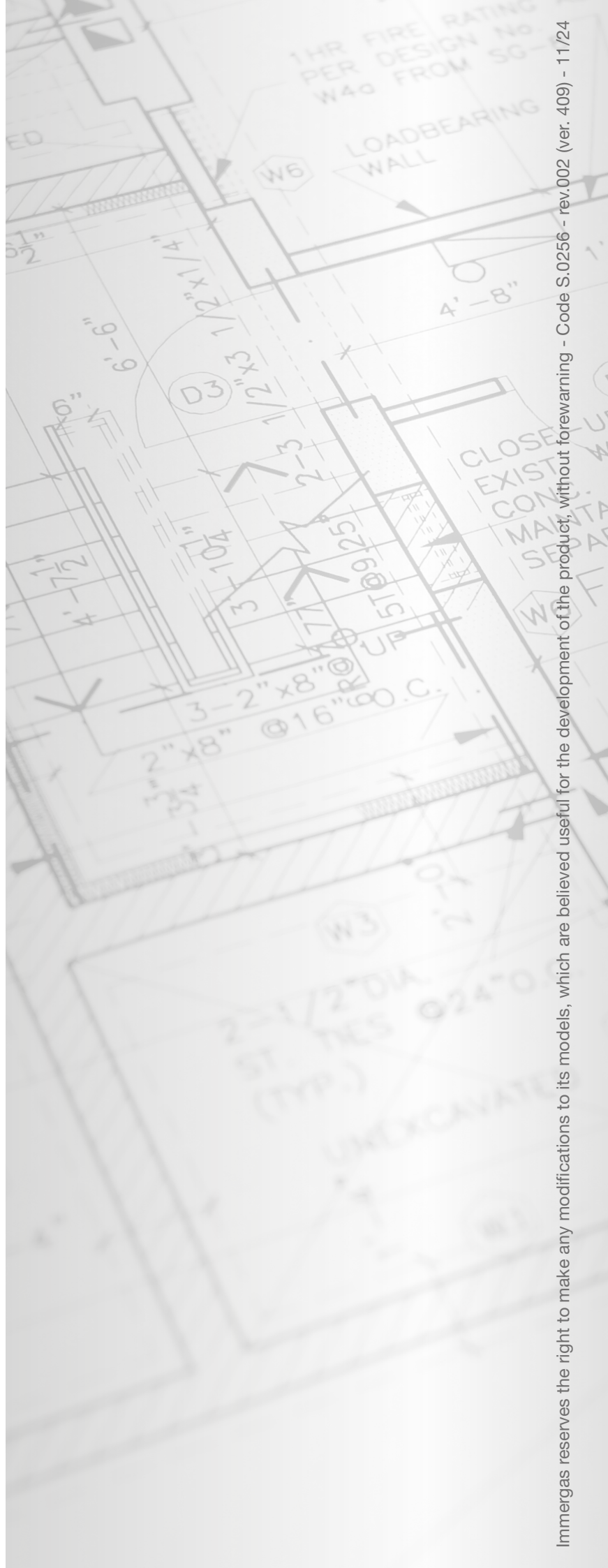
To request further specific details, sector Professionals can also use the following e-mail address:
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