



MAGIS PRO

12 - 14 - 16 V2

Split single-phase and three-phase inverter reversible air-water heat pumps with outdoor unit and separate hydronic module



MAGIS PRO 12 - 14 - 16 V2



Range of "split" inverter reversible air/water heat pumps, composed of an outdoor condensing unit and an indoor hydronic module; a single "pack" code identifies the complete system (hydronic module + condensing unit). There are 3 versions available with single-phase power supply (MAGIS PRO 12 V2, MAGIS PRO 14 V2, MAGIS PRO 16 V2), and 3 versions with three-phase power supply (MAGIS PRO 12 V2 T, MAGIS PRO 14 V2 T, MAGIS PRO 16 V2 T). The water circuit is fully protected against freezing because installed inside the home (in this case there is no need to add antifreeze); it is, therefore, particularly suitable for cold climate areas.

The MAGIS PRO V2 versions are ideal for conditioning rooms in central heating mode (maximum flow temperature 55°C) in cooling mode, and can produce DHW coupled with a separate storage tank unit.

Make the refrigerant connections between the hydronic module and the outdoor condensing unit coolant gas R410A).

At plant application level, the system can be combined to electric resistances/boiler; for the production of DHW, MAGIS PRO V2 is equipped with standard integrated motorised 3-way valve (connection to a storage tank).

The System manager is available as optional, to be used mainly when having to combine an integrative boiler: it is capable of identifying the most economical energy source at a given time and therefore choose the right appliance to activate.

The hydronic module of the MAGIS PRO V2 is approved for outdoor use in a partially protected area and can also be installed inside the CONTAINER for SUPER TRIO TOP or the DOMUS CONTAINER for SUPER TRIO TOP (in all solutions you can choose between 12, 14 or 16 kW power, all with single-phase or three-phase power supply).

MAGIS PRO V2 also meets the requirements of the ErP Directive (2009/125/EC) and ELD (2010/30/EC); there are a number of optional kits available, which allow it to be used in different plant applications.



55 °C **A+** MAGIS PRO 12 - 14 - 16 V2

35 °C **A+++** MAGIS PRO 12 - 14 V2

35 °C **A++** MAGIS PRO 16 V2

MAGIS PRO 12 - 14 - 16 V2

1 MAGIS PRO 12 - 14 - 16 V2 FEATURES (SINGLE-PHASE OR THREE-PHASE)

"Split" inverter reversible single-phase or three-phase air/water heat pumps, composed of an outdoor condensing unit and a wall-hung indoor hydronic module; a single code identifies the complete system consisting of the following main components:

- **Outdoor unit** (UE AUDAX PRO V2 / UE AUDAX PRO V2 T) which mainly includes rotary compressor, inverter electronics, throttle valve, 4-way valve for cycle inversion, finned exchange coil with outdoor air. The cooling circuit is already preloaded (R410A refrigerant) in the outdoor unit, equipped with the relative shut-off valves;
- **Wall-hung hydronic module** (UI MP AP), with a similar shape and appearance to a boiler, which includes the hydraulic circuit components for connection to the system, as well as the related management and communication electronics with the condensing unit, in particular it consists of:
 - 72-plate water/R410A Heat exchanger unit,
 - 10 litre system expansion vessel, water manifold, flow meter,
 - Hydraulic unit with a high head and low power consumption circulator,
 - 3-way motorised diverter valve (for coupling to separate storage tank),
 - Transformer for managing the internal communication board with the outdoor unit.
- Hydraulically the module is set-up for connection to a heating/cooling zone and for connection to the DHW storage tank; there are also the R410A connections for the outdoor unit;
- Within the hydronic module you can place the integrative electric resistance kit for 3 kW system (optional, directly controlled by the electronics of the hydraulic module), in cases where a gas boiler is not combined; only one or two integrative electrical resistances can be installed (3 kW or 6 kW);
- Compared with block heat pumps, the water circuit is fully protected against freezing because it can be installed inside the home (important in cold zones);
- Max. flow water temperature 55 °C (for central heating systems with low and medium temperatures);
- The electronics of MAGIS PRO V2 is designed to directly manage 3 zones (one direct and two mixed), for the third mixed zone it is necessary to provide the configurable relay interface kit code 3.015350) for both central heating and cooling operation; in this case MAGIS PRO V2 can be connected to remote zone panels via Bus connections (up to 3 can be provided), or it can be connected with simple on/off contacts (e.g. CHRONO 7) to control the room temperature of the 3 zones. 3 humidistats or 3 Modbus temperature and humidity sensors can be connected to control humidity;
- Possibility to set 3 climatic heating curves and 3 climatic cooling curves (for the 3 zones), on the electronics of the hydronic module without having to provide the System manager; if the condensing unit is installed in "unfavourable" conditions for detecting the outdoor temperature, another external probe can be combined (optional);
- Possibility to set on each zone if the zone is only hot, hot/cold, only cold (dehumidification included, with dew point calculation);

- The consent for the activation of the system and DHW resistances (both optional) is provided by MAGIS PRO V2 electronics (the power supply is to be taken separately);
- To manage the dehumidifiers, it is necessary to insert in the indoor wall-hung unit a 2 relay board kit (optional), to control 2 dehumidifiers (the third one is controlled by the configurable relay interface kit code 3.015350); the kit allows the dehumidifiers to be activated through a potential-free contact;
- The MAGIS PRO V2 electronics manages the anti-legionella function, which can only be activated if the system is provided with an auxiliary generator (resistance);
- Input to force activation with photovoltaic system that produces electricity;
- It includes a 230 V output to control summer/winter diverter valves in heating systems with fan coil cold/radiant panels; switching occurs with the change of mode (summer/winter) from the control panel;
- Possibility of connection to the System manager (optional), to be used mainly when wanting to combine an integrative boiler;
- The integrated electronics also manage the screed heating function in order to perform the initial central heating cycle on new radiant panel systems;
- The minimum content required for these 12-14-16 kW machines is 50 litres of water for any type of system. Minimum water content is mainly important to provide proper execution of defrosting cycles.

It is available in the model:

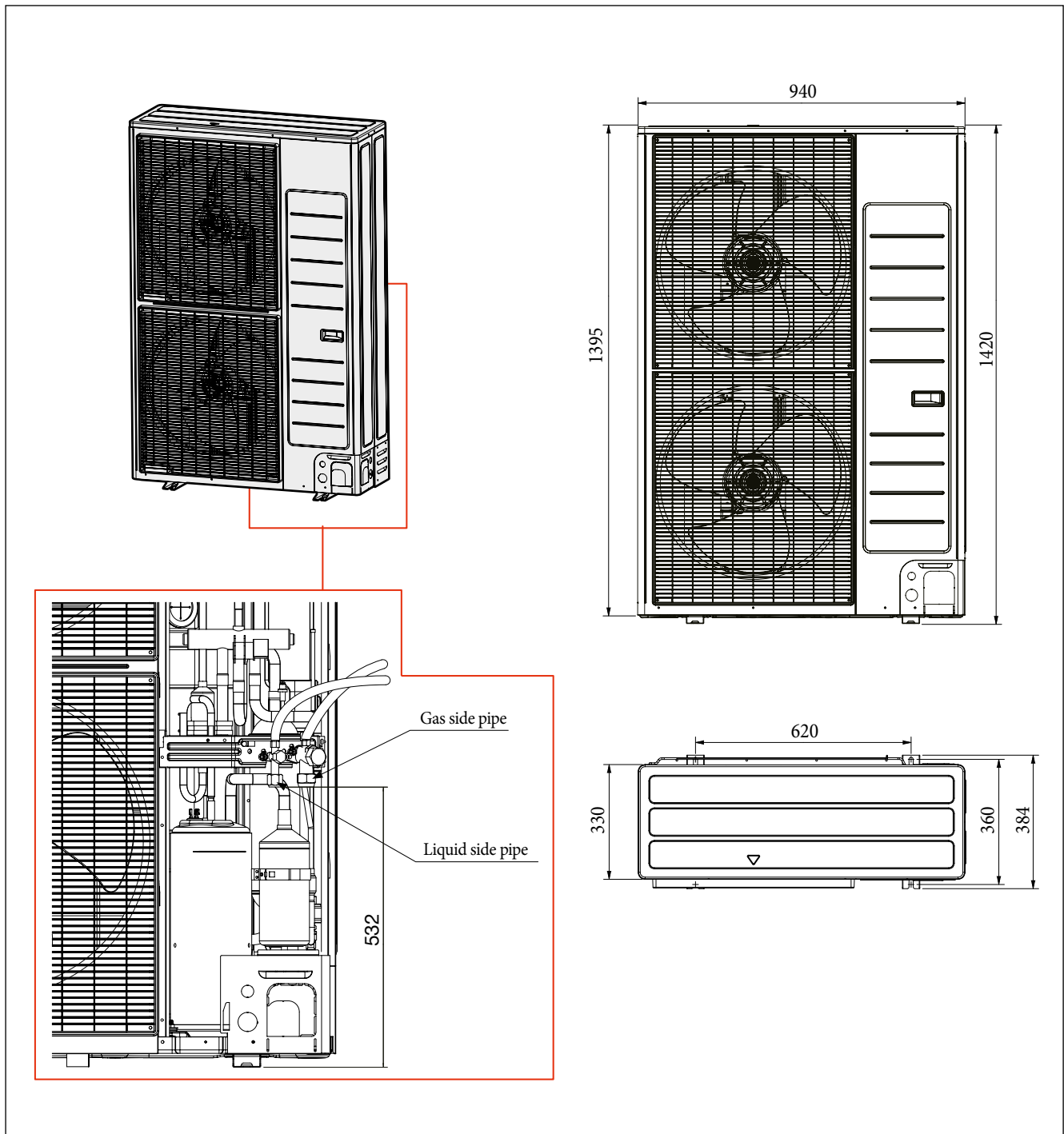
- | | |
|----------------------------|----------------------|
| • MAGIS PRO 12 V2 | code 3.030663 |
| • MAGIS PRO 14 V2 | code 3.030664 |
| • MAGIS PRO 16 V2 | code 3.030665 |
| • MAGIS PRO 12 V2 T | code 3.030666 |
| • MAGIS PRO 14 V2 T | code 3.030667 |
| • MAGIS PRO 16 V2 T | code 3.030668 |

EC Declaration Of Conformity.

- | | |
|--------------------------------|----------------------|
| • Installation template | code 2.016868 |
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MAGIS PRO 12 - 14 - 16 V2

2 UE AUDAX PRO V2 DIMENSIONS AND CONNECTIONS (OUTDOOR UNIT)



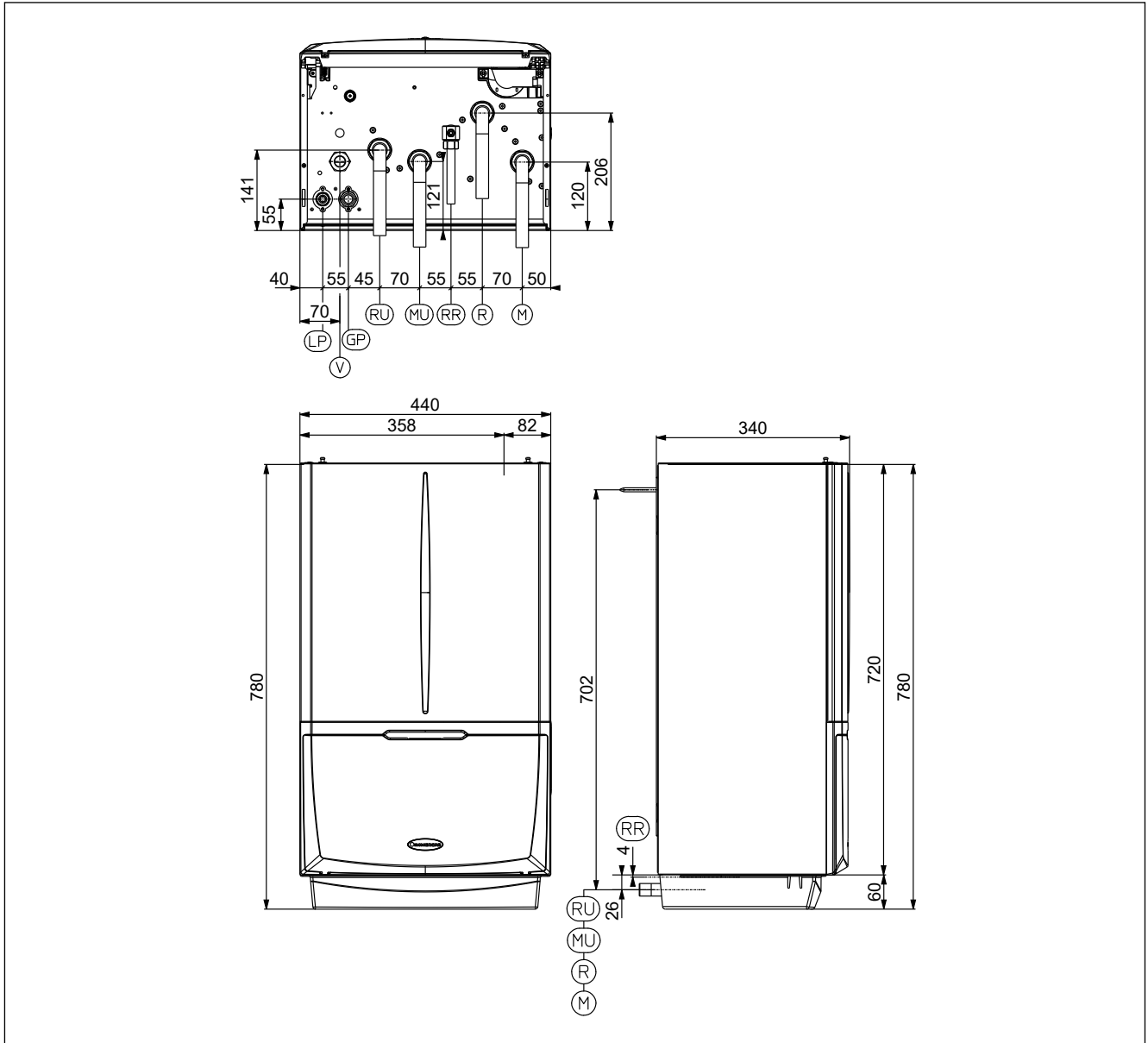
Height = 1420 mm	Width = 940 mm	Depth = 384 mm	Condensate drain = Ø 20 mm
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	R410A	
Model	LP (Cooling liquid)	GP (Gaseous liquid)
UE AUDAX PRO 12-14-16 V2	3/8" (9.52 mm)	5/8" (15.88 mm)
UE AUDAX PRO 12-14-16 V2 T	3/8" (9.52 mm)	5/8" (15.88 mm)

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3 UI MAGIS PRO V2 DIMENSIONS AND CONNECTIONS (INDOOR UNIT)

Height = 780 mm	Width = 440 mm	Depth = 340 mm
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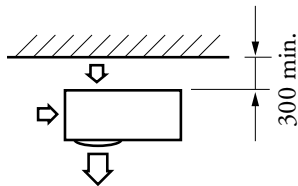


UI MAGIS PRO V2

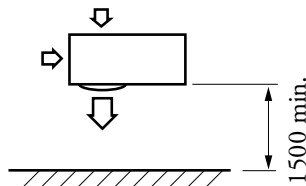
Expansion vessel Litres	R410A LP	R410A GP	Return Storage tank RU	Flow Storage tank MU	Filling system RR	Return system R	Flow System M
10 (real 8.3)	3/8" (9.52 mm)	5/8" (15.88 mm)	1"	1"	1/2"	1"	1"

4 SINGLE UE AUDAX PRO V2 MINIMUM INSTALLATION DISTANCES

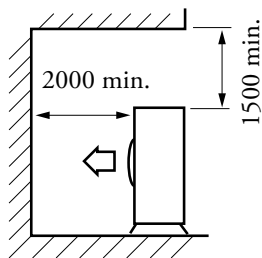
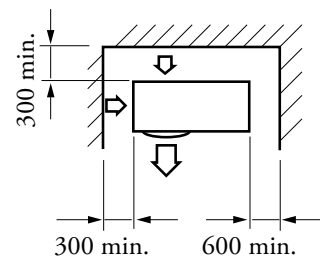
With the back side of the unit facing a wall



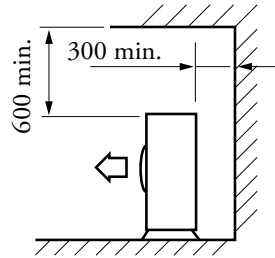
With the front side of the unit facing a wall



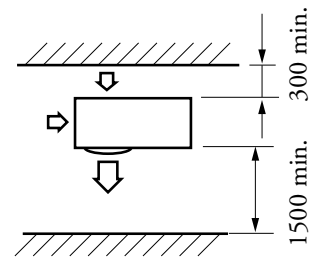
With three sides of the unit facing a wall



With the top and front sides of the unit facing a wall



With the top and back sides of the unit facing a wall



With the front and back sides of the unit facing a wall

(Unit: mm)

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.

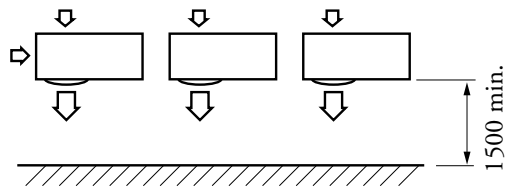
- The condensing unit must be installed outside the building only; the indoor unit must be installed inside the building or outdoors in a partially protected place;
- It is recommended to avoid:
 - positioning in basement windows;
 - obstacles or barriers that cause recirculation of exhaust air;
 - places 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;
 - installed by means of the vibration-dampening supports supplied with the machine.
- If the unit is installed in zones subject to heavy snow, it will be necessary to raise the machine by at least the height of the strongest expected snowfall or, alternatively, use wall-support brackets (optional).

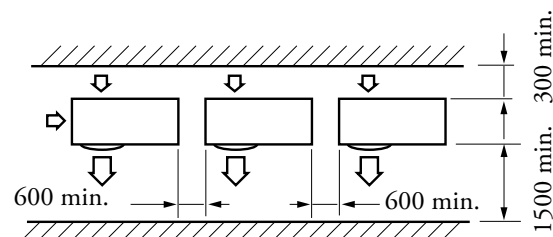
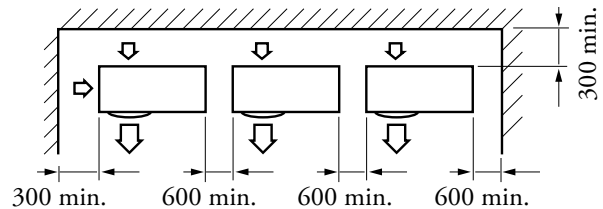
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5 UE AUDAX PRO V2 MINIMUM INSTALLATION DISTANCES (SEVERAL APPLIANCES)

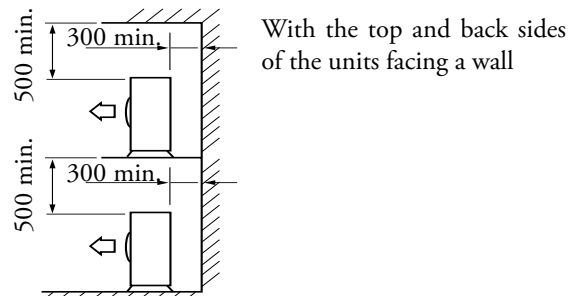
The front side of the unit facing a wall



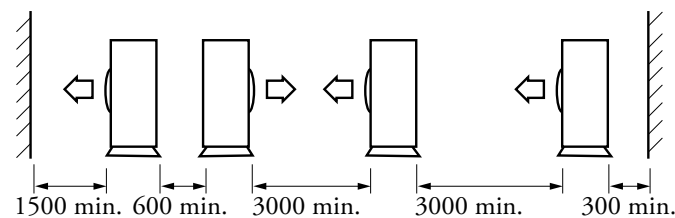
With three sides of the units facing a wall



With the front and back sides of the units facing a wall



With the top and back sides of the units facing a wall



With the units facing each other and with the front and back sides of the end units facing a wall

(Unit: mm)

In addition:

- 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);
- 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 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).

6

DRAIN HOLES AND CONDENSATE DRAIN

During central heating, ice can deposit on the outer surface of the refrigerant-air heat exchanger.

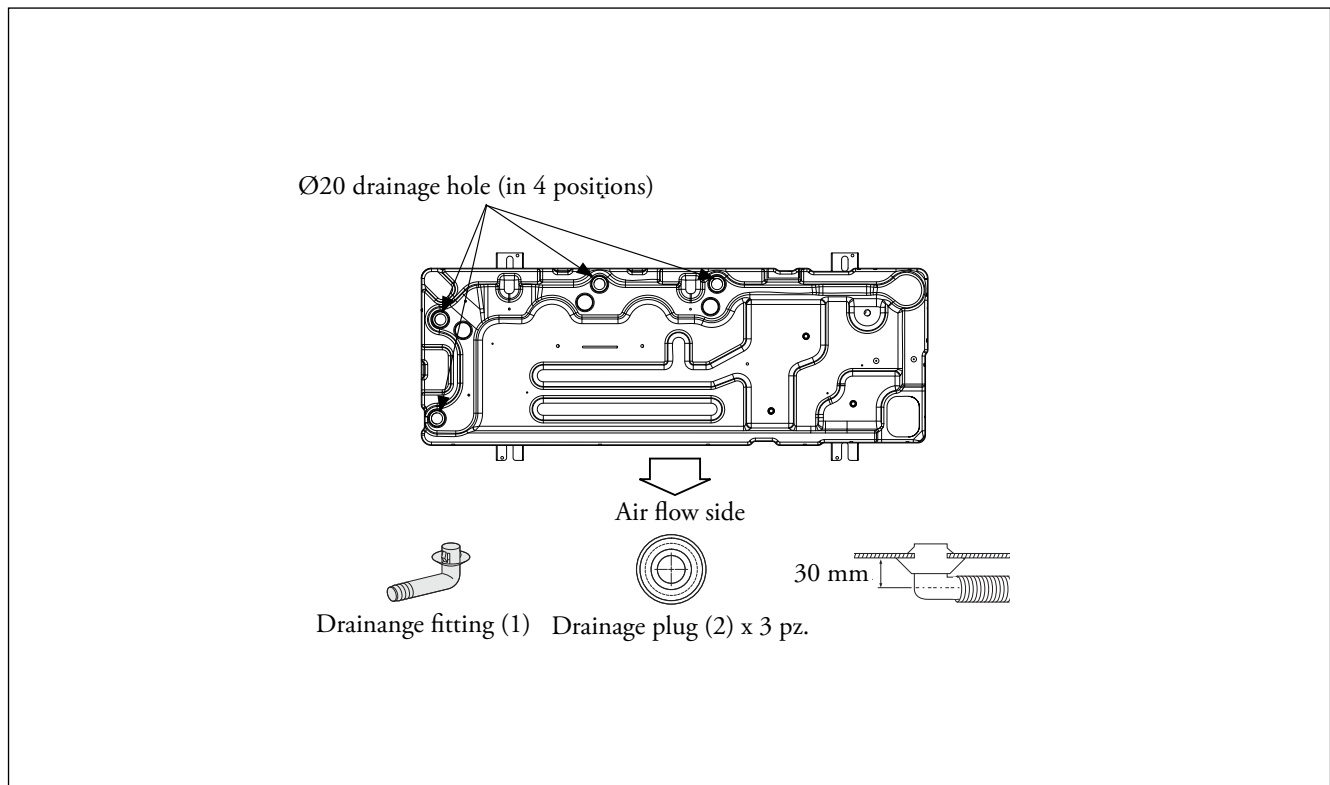
To prevent these deposits from becoming excessive, the unit runs defrosting cycles to melt these deposits.

The water resulting from this process is eliminated via drainage holes to prevent it from re-solidifying at the bottom of the unit when the outdoor temperature is quite low.

If, for whatever reason, this water cannot be allowed to drain freely, you must leave the appliance raised at least 100 mm above the floor level and the drain sleeve supplied as standard should be used.

If the produced condensate is drained through the drain pipe, connect the standard supplied drain fitting (1) in one of the drainage holes on the bottom of the appliance and close the other holes with drain plugs (2) (see drawings below) and use the drain pipe (16 mm internal diameter) commercially available so that it conveys the water to the desired location. In the event of installation in very cold zones or zones subject to heavy snow where the condensate drain pipe can freeze, take the necessary precautions to keep the drainage holes or the condensate drain pipe free.

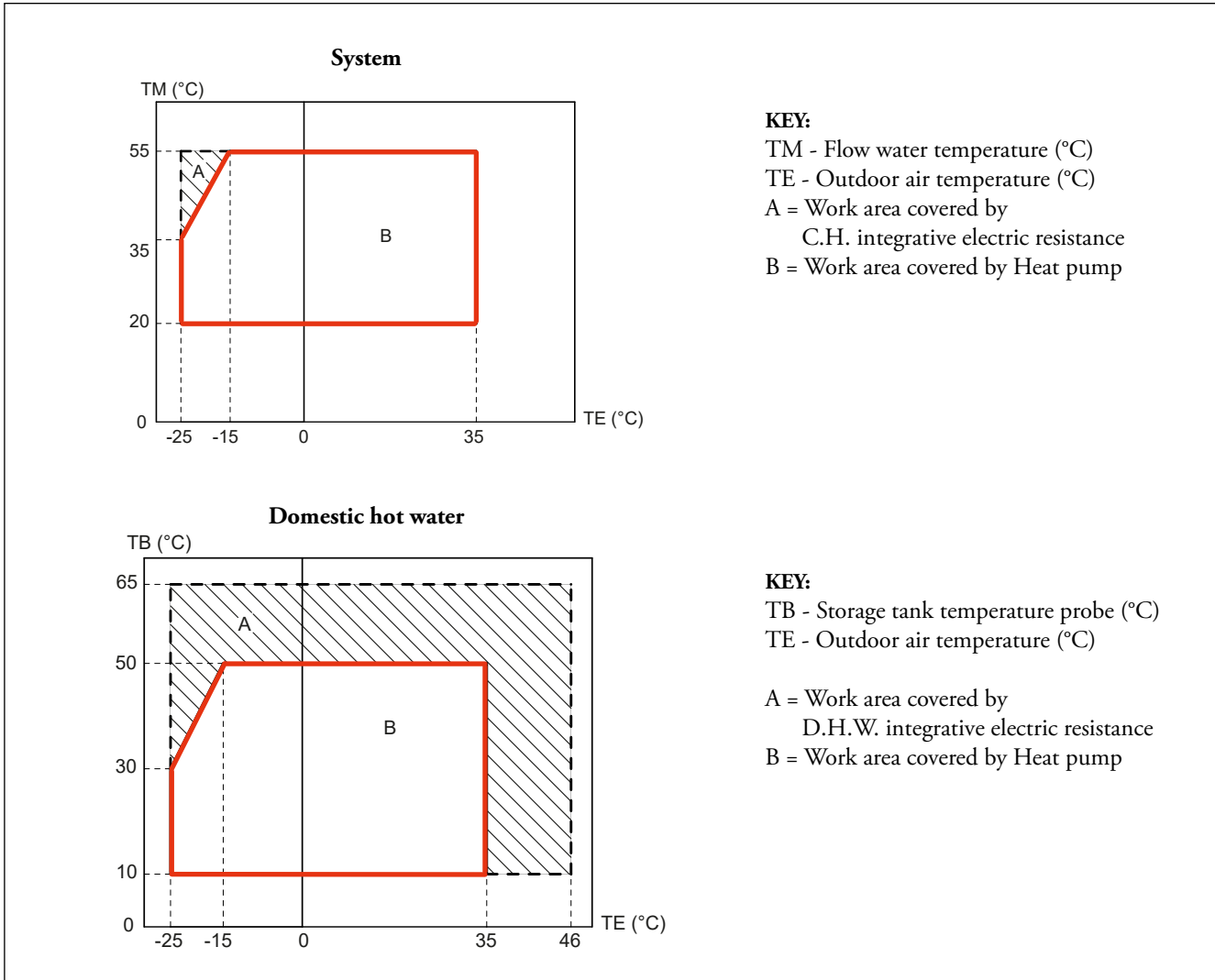
N.B.: If the water produced by the unit is not properly drained, the performance of the entire system will suffer a negative impact and the system itself could be damaged.



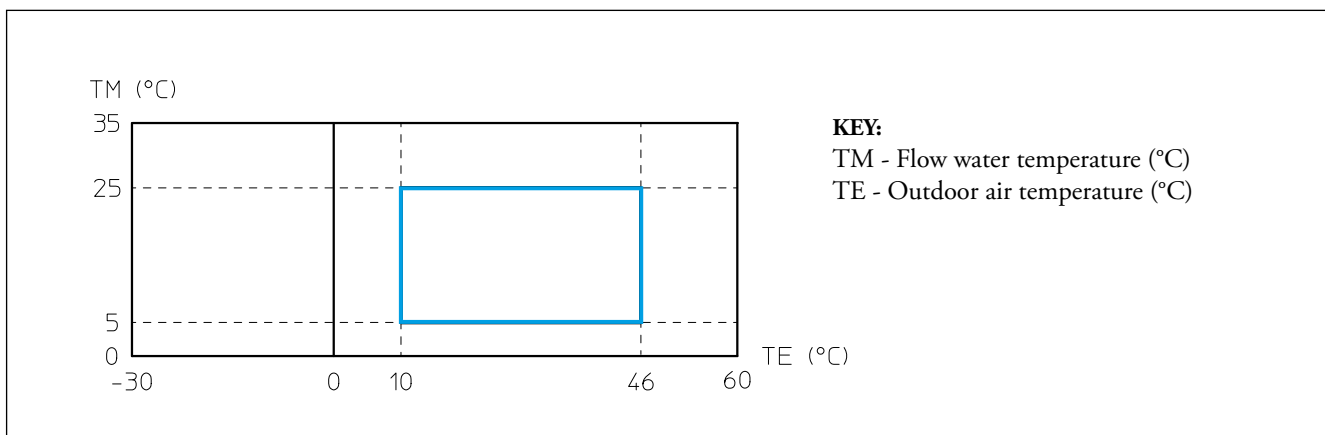
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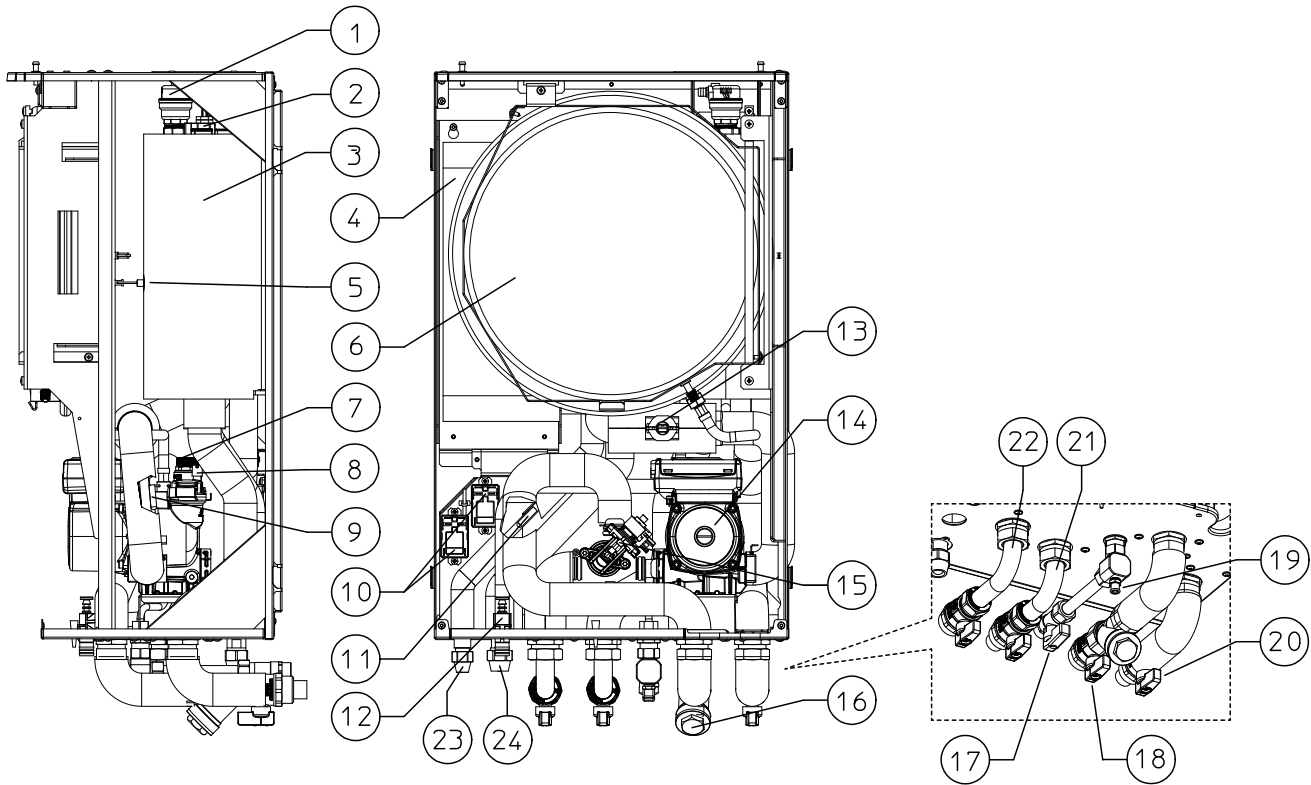
7 **COOLING CIRCUIT WITH R410A FUNCTIONING LIMITS**

Central heating



Cooling





KEY:

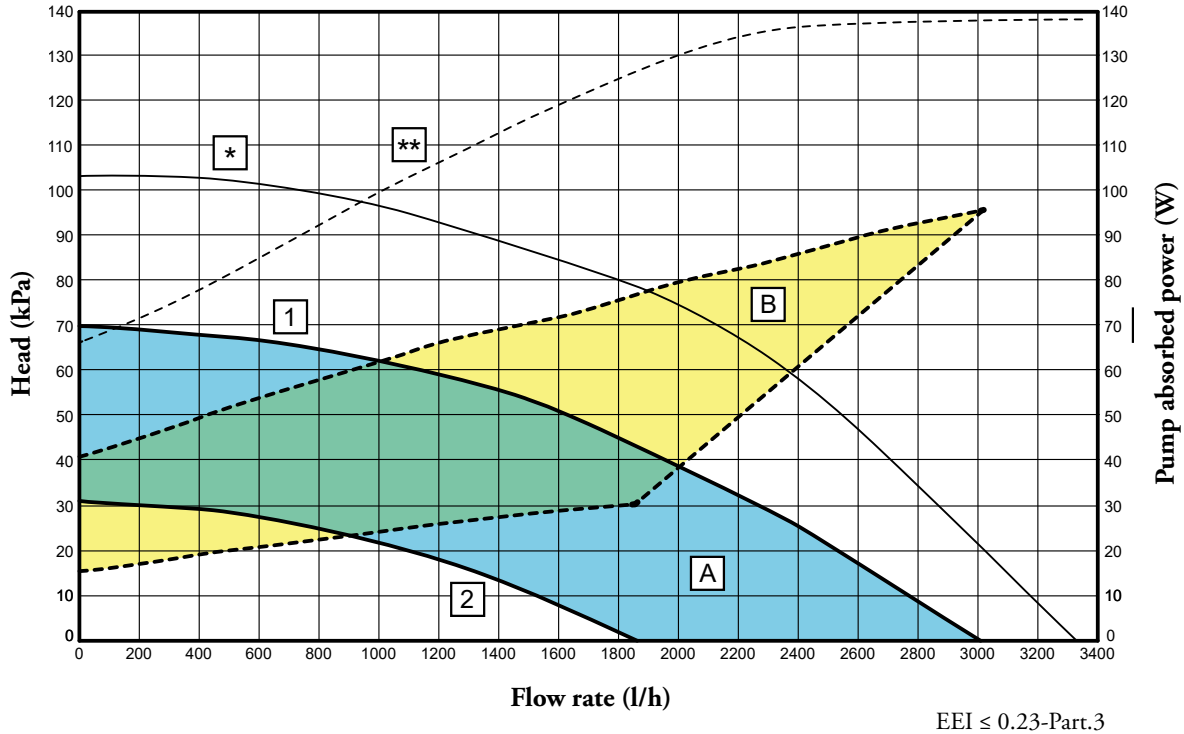
- 1 - Air vent valve
- 2 - Heating system integrated electrical resistance cap (optional)
- 3 - Central heating manifold
- 4 - Plate heat exchanger
- 5 - Flow probe
- 6 - System expansion vessel
- 7 - 3 bar safety valve
- 8 - Air vent valve
- 9 - Return probe
- 10 - Relay (optional)
- 11 - Liquid phase detection probe

- 12 - 3-bar safety valve drain fitting
- 13 - System flow-meter
- 14 - Pump
- 15 - 3-way valve (motorised)
- 16 - Filter that can be inspected
- 17 - System filling valve
- 18 - System return cock
- 19 - System draining cock
- 20 - System flow cock
- 21 - Storage tank unit flow
- 22 - Storage tank unit return
- 23 - Chiller line - liquid phase
- 24 - Chiller line - gaseous phase

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9

GRAPH OF INDOOR UNIT PUMP FLOW RATE/HEAD



KEY:

- A = Head available to the system
- B = Absorbed power by the circulator (dotted area)
- 1 = Maximum Speed (A04 = 75%)
- 2 = Minimum Speed (A03 = 50%)
- * = Max. head settable with A04 = 100%
- ** = Max. input power with A04 = 100%

9.1

INDOOR UNIT PUMP SETTINGS AND CONFIGURATIONS

The hydronic modules are supplied with a low power consumption pump with variable speed control.

The pump speed is set via the following parameters: **Fixed ("A 05" = 0)**: the circulator speed is fixed and corresponds to the settings made through the "A 04" parameter (settable between 75% and 100%).

ΔT constant ("A 05" = 5 ÷ 25 K): the pump speed varies to maintain the ΔT (5K) constant between the system flow and return. Also, you can adjust the pump operating range, by setting the maximum speed through the "A 04" parameter and the

minimum speed through the "A 03" parameter.

NOTE: for proper system operation, make sure that the minimum flow rate in operating conditions never drops below 750 l/h.

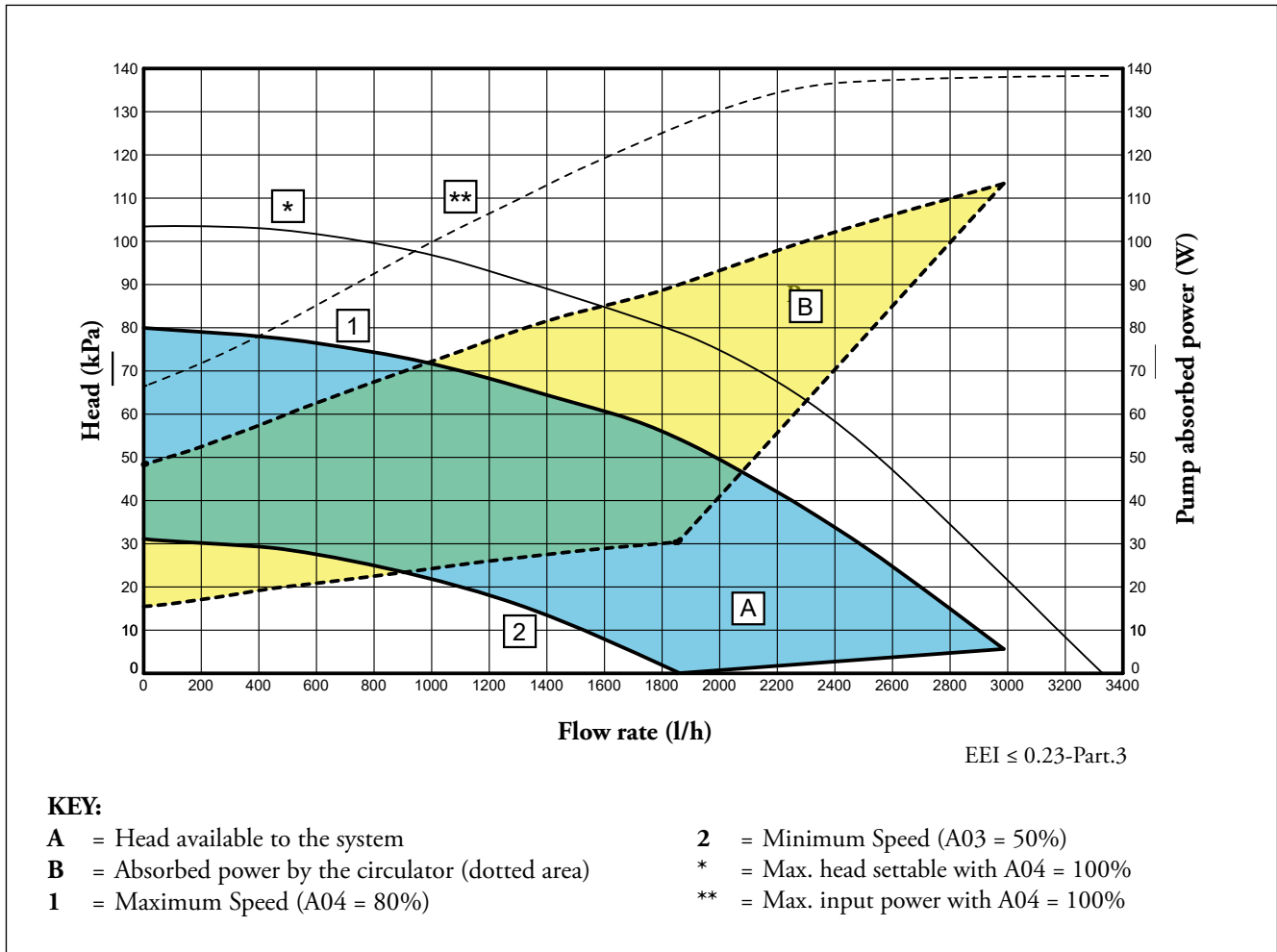
Treating the feed water allows you to prevent problems and maintain the function and efficiency of the generator over time.

Italian 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 proper execution of the heat pump defrost cycles, a minimum water content in the system is required, which must be 50 litres for all kinds of system. So attention must be paid to the systems divided over several zones, where the water content available to the machine changes continuously. This is why it may be necessary to provide a heating flywheel that guarantees normal operation with systems divided into zones (with variable water content in circulation). This minimum content also guarantees proper operation with fan coils used for cooling (a condition in which the flow temperature is very low and has significant heat load variations that vary the number of active fan coils). It is also important to check that the dehumidifier line has a minimum of 3 UkW of the machine (dehumidifier hydraulic circuit connection).

9.2 GRAPH OF INDOOR UNIT PUMP FLOW RATE/HEAD



9.3 INDOOR UNIT PUMP SETTINGS AND CONFIGURATIONS

The hydronic modules are supplied with a low power consumption pump with variable speed control. The pump speed is set via the following parameters: **Fixed ("A 05" = 0)**: the circulator speed is fixed and corresponds to the settings made through the "A 04" parameter (settable between 80% and 100%). **ΔT constant ("A 05" = 5 ÷ 25 K)**: the pump speed varies to maintain the ΔT (5K) constant between the system flow and return. Also, you can adjust the pump operating range, by setting the maximum speed through the "A 04" parameter and the

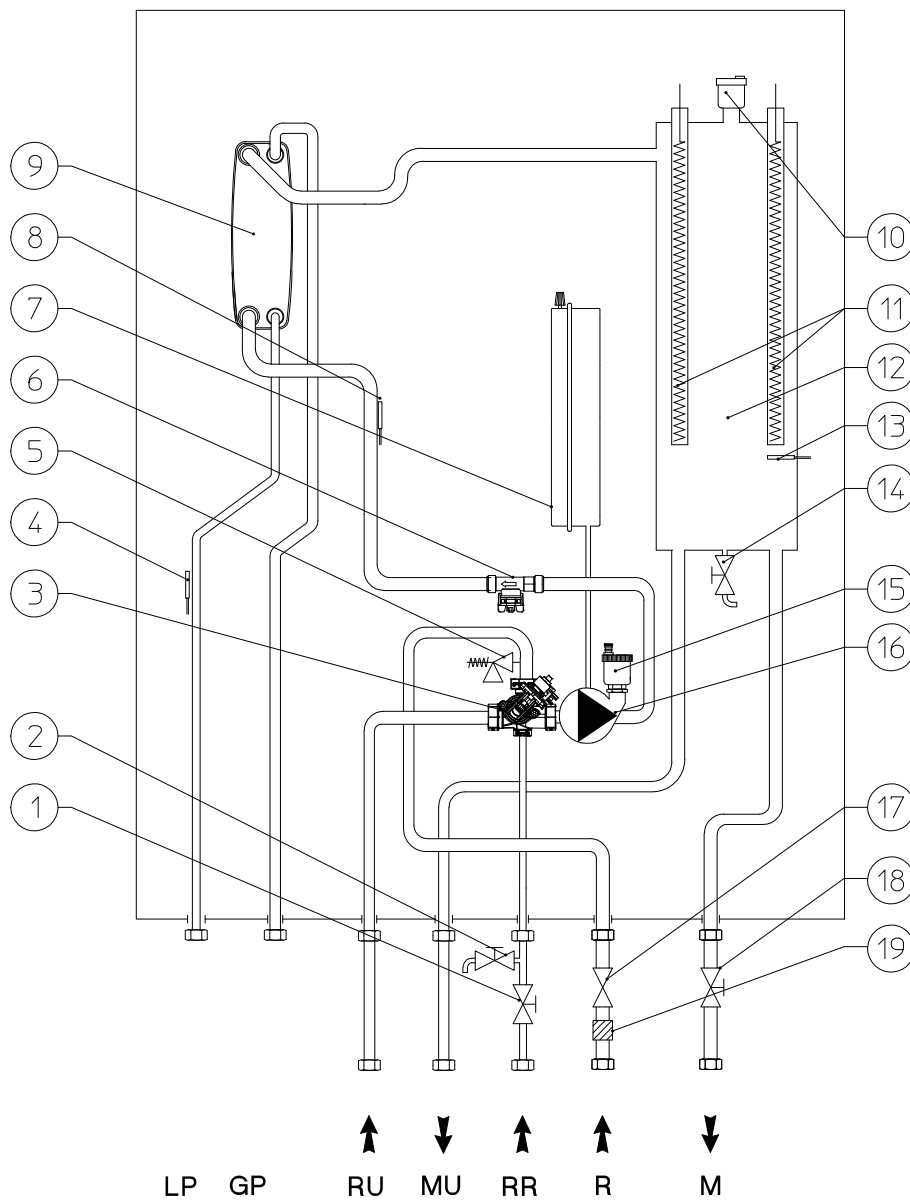
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HYDRAULIC DIAGRAM MAGIS PRO V2 (INDOOR UNIT)



KEY:

- | | |
|--|-----------------------------------|
| 1 - System shut-off cock | 15 - Air vent valve |
| 2 - System draining cock | 16 - Pump |
| 3 - Motorised 3-way valve | 17 - System shut-off fitting with |
| 4 - Liquid phase detection probe | 18 - System shut-off cock |
| 5 - 3 bar safety valve | 19 - Inspectionable filte |
| 6 - System flow-meter | |
| 7 - System expansion vessel | LP - Chiller line - liquid phase |
| 8 - Return probe | GP - Chiller line - gaseous phase |
| 9 - Plate heat exchanger | RU - Storage tank unit return |
| 10 - Air vent valve | MU- Storage tank unit flow |
| 11 - Central heating integrated electric resistance (optional) | RR - System filling |
| 12 - Central heating manifold | R - System return |
| 13 - Flow probe | M - System flow |
| 14 - System draining cock | |

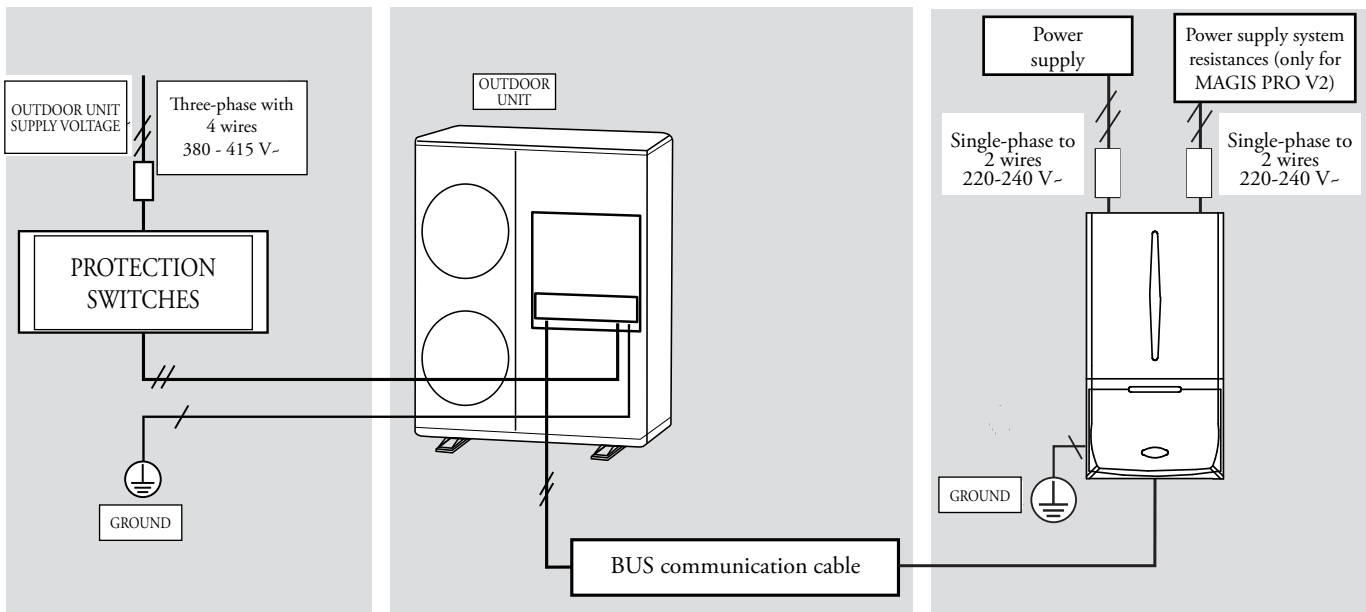
11

ELECTRIC CONNECTION CABLES FEATURES

Distribution panel

Outdoor Unit

Internal Unit



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 or FG 16). Indicatively, the appropriate cable section can be 6 - 10 mm² for UE AUDAX PRO 12-14-16 V2 (single-phase) and 2.5 - 4 mm² for UE AUDAX PRO 12-14-16 V2 T (three-phase) to be checked depending on the specific installation conditions.

N.B.: It is always necessary to install a type "A" differential switch, 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	MAC*1.25 + Additional Load	Flow rate of the protective device required for the device
	Hz	V	V	V	A	A	A
UE AUDAX PRO 12 V2	50	220 - 240	198	264	28	35	35
UE AUDAX PRO 14 V2	50	220 - 240	198	264	30	37,5	40
UE AUDAX PRO 16 V2	50	220 - 240	198	264	32	40	40
UE AUDAX PRO 12 V2 T	50	380 - 415	342	457	10	16,1	20
UE AUDAX PRO 14 V2 T	50	380 - 415	342	457	11	16,1	20
UE AUDAX PRO 16 V2 T	50	380 - 415	342	457	12	16,1	20

Features of the connection between outdoor and indoor units. Use H07RN-F or H05RN-F class cables to power the indoor unit.

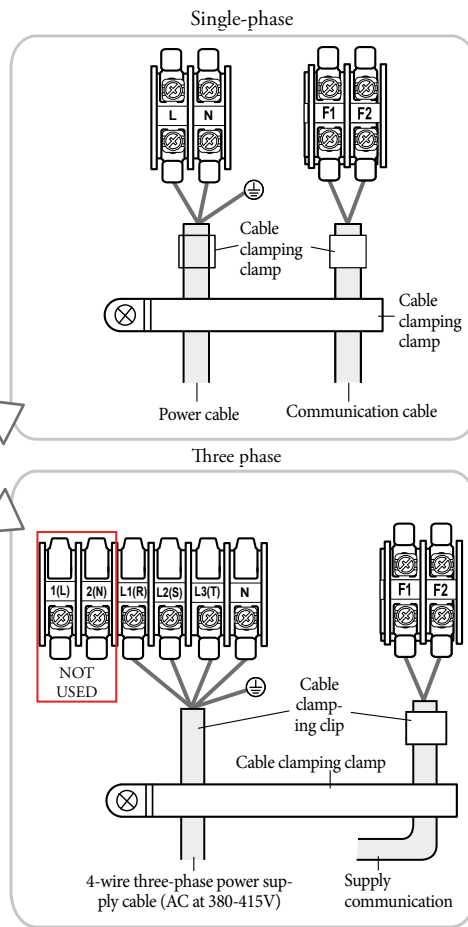
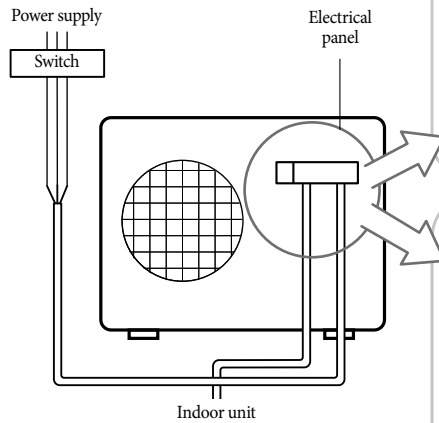
If the indoor unit is installed in a room with a computer or internet server, you must use a double shielded FROHH2R class cable (Aluminium tape/Polyester + Copper braid).

MAGIS PRO V2 Power supply (indoor unit)					BUS communication cable between outdoor units and indoor units
Power supply	Max./Min.(V)	Main Power supply Cable	Power supply Cable System resistances	Power supply Cable DHW (Domestic hot water) resistances	
Monofase, 220-240V, 50Hz	±10%	2,5 mm ² , a 3 fili	6 mm ² , a 3 fili	4 mm ² , a 3 fili	0,75 - 1,5 mm ² , a 2 fili

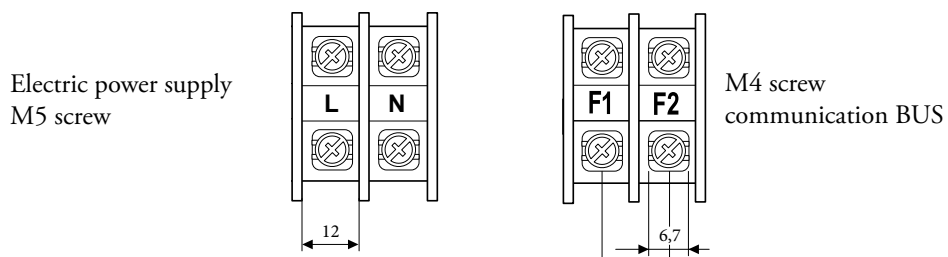
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12 OUTDOOR UNIT TERMINAL BLOCK ELECTRICAL CONNECTIONS

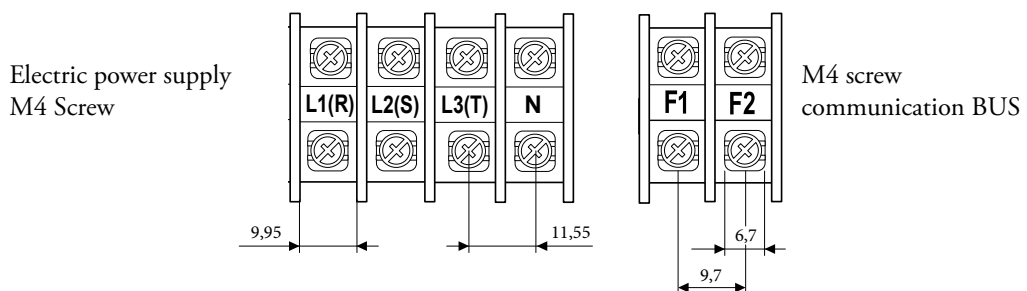
Depending on the model, the actual appearance of the unit may differ from the one shown in the figure.



UE AUDAX PRO 12-14-16 V2 - Power supply in Single-phase AC.

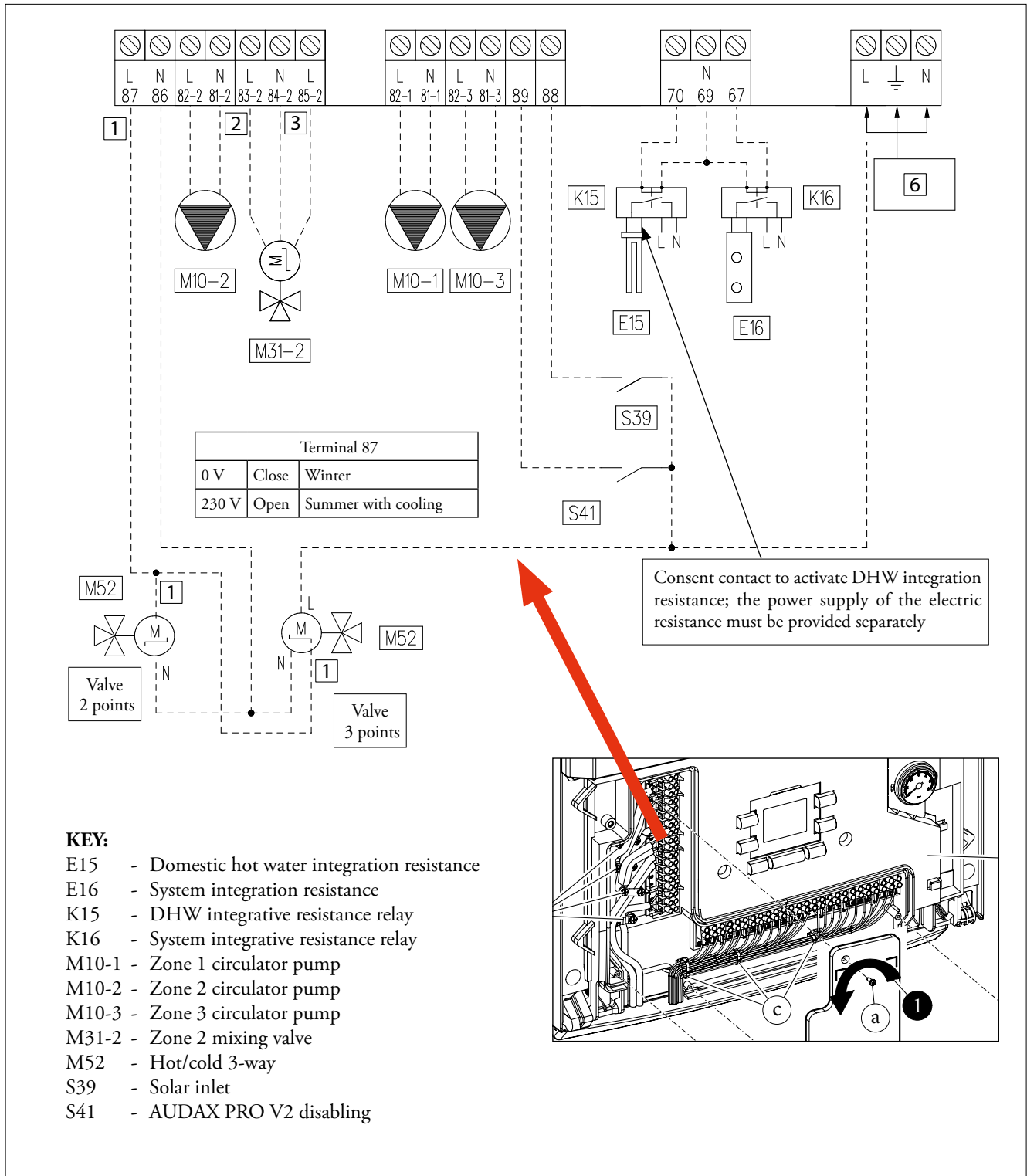


UE AUDAX PRO 12-14-16 V2 T - Power supply in Three-phase AC.



13

ELECTRICAL CONNECTIONS IN HIGH VOLTAGE INDOOR UNIT

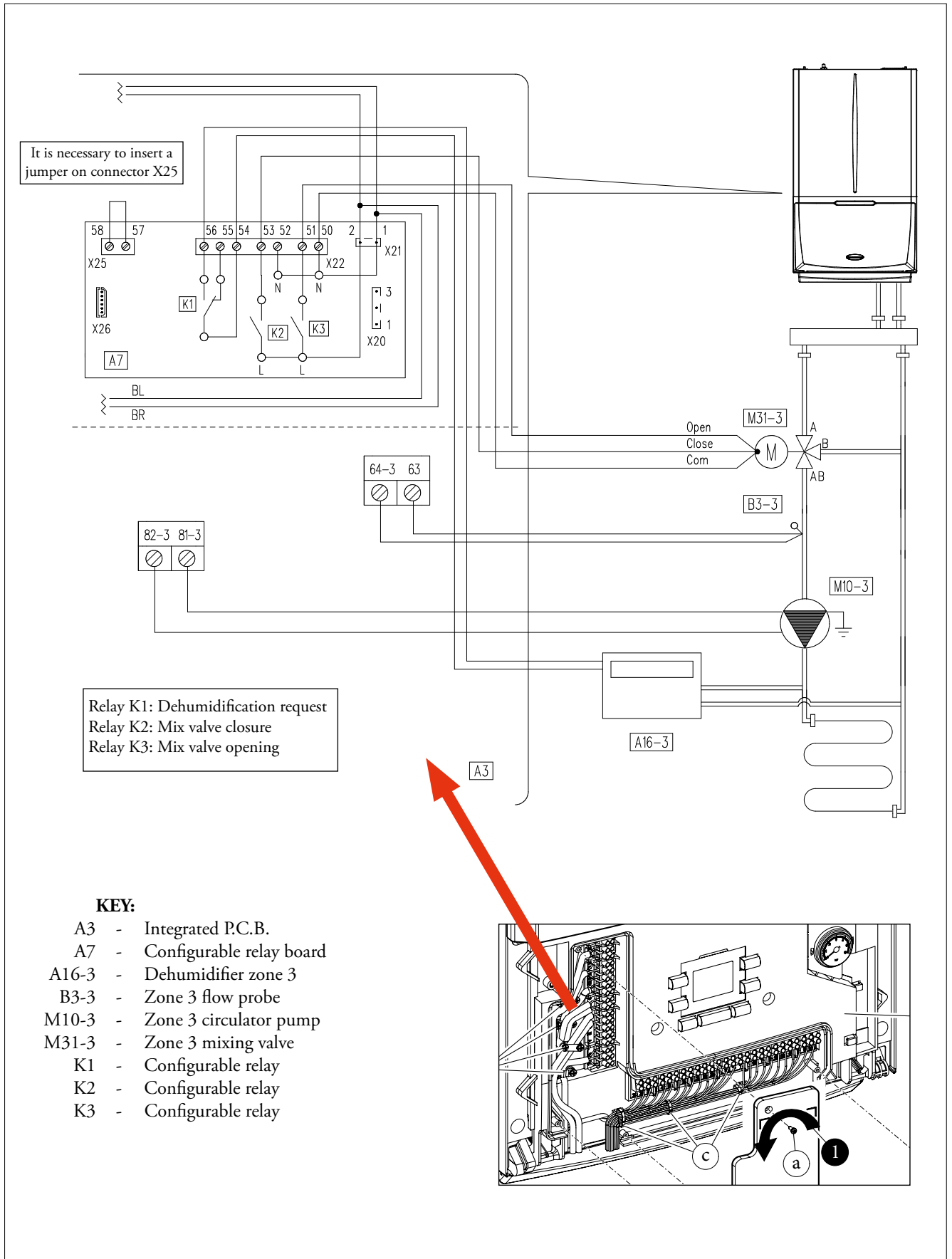


N.B.: To control the dehumidifiers, insert the relay board kit (optional) inside the MAGIS PRO V2 hydronic module, for the respective dehumidifiers of the 2 zones. The two relay board kit has only one contact for each zone and, therefore, allows the dehumidifier to work either in neutral air or in cooled air. For further information see the chapter on dehumidifiers. Through the configurable relay interface kit (optional) it is also

possible to manage a 3rd zone (mixed) on the system, the pump of zone 3 will need to be connected as shown in the diagram (M10-3). The zone 3 dehumidifier, if any, will be managed by means of the configurable relay interface kit, which the zone 3 mixer will also be connected to. **In this way 1 direct zone + 2 mixed zones can be controlled.**

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13.1 ELECTRICAL CONNECTIONS THIRD MIXED OR DIRECT ZONE



MAGIS PRO 12 V2

14

INSTALLING THE CHILLER LINES

The MAGIS PRO V2 cooling circuit uses the refrigerant R410A, therefore, it is necessary to take some measures for the proper operation of the machine:

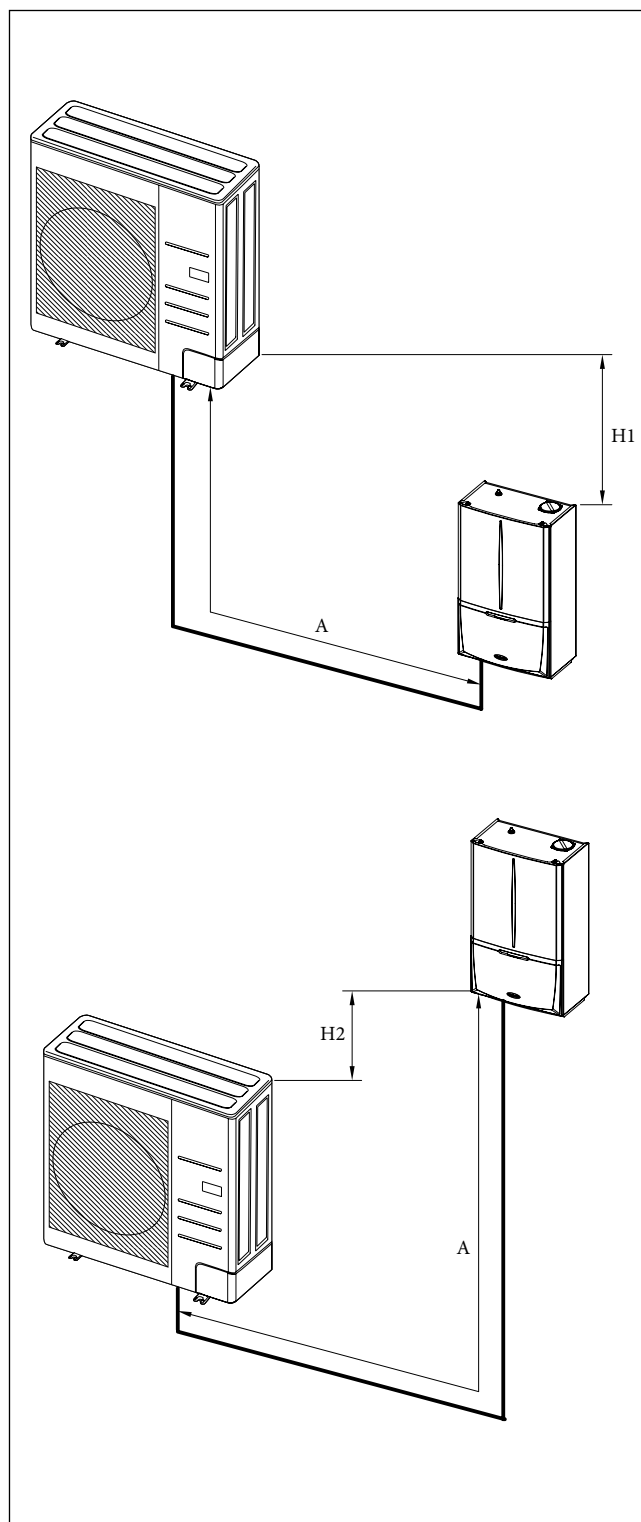
- The R410A is a high pressure refrigerant, the pipes and other parts subject to pressure must be compliant and suitable for the refrigerant itself. Therefore, the pipes must be certified for cooling and it is necessary to observe the methods of installation stated on the instruction manual supplied with the product.
- Only use clean pipes with no harmful elements, oxides, dust, traces of iron or moisture.
- The foreign materials inside the pipes (including manufacturing oil) must be $\leq 30\text{mg}/10\text{ m}$.
- Only use equipment and fittings for R410A.
- The length of the pipes between the outdoor and indoor units and the difference must not exceed the specified limits. The maximum lengths of the chiller lines are listed below, based on the condensing unit model and the type of installation:

	UE AUDAX PRO 12 - 14 - 16 V2
A	$\leq 50\text{ m}$
H1	$\leq 30\text{ m}$
H2	$\leq 15\text{ m}$

NOTE: it is recommendable to provide for a siphon in the immediate vicinity of the outdoor condensing unit on the gas line pipe (pipe with larger diameter).

If the length of the chiller line is greater than the one given in the machine pre-load, it is recommendable to provide for a siphon halfway.

A siphon is also recommendable in the event of installation with drops between the outdoor condensing unit and indoor unit.



Selecting chiller line insulation.

- The gas and liquid chiller lines must be insulated with materials selected based on their respective diameters.
- Standard insulation is required at a temperature of 30°C with 85% relative humidity. Should the thermal-hygrometric conditions of the air be harsher, you must use insulations that can be selected from the table below.

NOTE: The insulation cannot be interrupted and for this reason, its junctions must be sealed with adhesive to prevent moisture from getting in.

Should the insulation be exposed to sunlight, it must be protected by wrapping it with electrical tape or material suitable for this type of application.

The insulation must be laid without its thickness being reduced in the bends and supports of the pipes.

Line	Pipe diameter (mm)	Insulation thickness		Notes
		Standard conditions (Less than 30 °C, RH 85%)	High humidity conditions (Over 30 °C, RH 85%)	
		EPDM, NBR		
Liquid	Ø 6.35 - 19.05	9	9	The pre-selected material must be able to withstand temperatures exceeding 120°C
	Ø 12.70 - 19.05	13	13	
Gas	Ø 6.35	13	19	
	Ø 9.52	19	25	
	Ø 12.70			
	Ø 15.88			
Ø 19.05				

Topping up the coolant load.

Below is the default factory base load:

UE AUDAX PRO 12/14/16 V2 - UE AUDAX PRO 12/14/16 V2 T models with coolant gas R410A:

- UE AUDAX PRO 12 V2 / V2 T = 2.98 kg
- UE AUDAX PRO 14 V2 / V2 T = 2.98 kg
- UE AUDAX PRO 16 V2 / V2 T = 2.98 kg

If the used pipes are longer than stated below, the load must be topped-up in the manner and quantities described in the instruction manual supplied with the product (50 g/linear m).

N.B.: To avoid breaking the compressor, do not top-up the coolant beyond the specified amount.

The top-up depends on the total length and diameter of the pipes. All the default factory loads are determined as follows, depending on the standard length of the pipes (see table below).

Model UE AUDAX PRO V2	Liquid line pipe external diameter (mm - inch)	Maximum length without base load top-up (liquid line pipe)	Top-up quantity for every additional metre of the liquid line pipe
UE AUDAX PRO 12 V2 UE AUDAX PRO 12 V2 T	Ø 9.52 - 3/8"	≤ 15 m	50 g/m
UE AUDAX PRO 14 V2 UE AUDAX PRO 14 V2 T	Ø 9.52 - 3/8	≤ 15 m	50 g/m
UE AUDAX PRO 16 V2 UE AUDAX PRO 16 V2 T	Ø 9.52 - 3/8	≤ 15 m	50 g/m

MAGIS PRO 12 V2

15 TECHNICAL DATA MAGIS PRO 12 - 14 - 16 V2 (SINGLE-PHASE)

	MAGIS PRO	12 V2	14 V2	16 V2
Central heating circuit				
Energy class in heating at water temp. 55/35 °C	-	A+/A+++	A+/A+++	A+/A++
Power in CH mode with water set at 35 °C ⁽¹⁾	kW	12.00	14.00	16.00
Power in CH mode with water set at 45 °C ⁽²⁾	kW	11.50	13.00	15.30
Power in CH mode with water set at 55 °C ⁽³⁾	kW	11.01	12.45	14.60
CH mode COP with water set at 35 °C ⁽¹⁾		4.63	4.44	4.26
CH mode COP with water set at 45 °C ⁽²⁾		3.56	3.47	3.37
CH mode COP with water set at 55 °C ⁽³⁾		2.87	2.80	2.74
Flow temperature range	°C	20 - 55	20 - 55	20 - 55
Outdoor temp. limits for Heating mode operation	°C	- 25 / 35	- 25 / 35	- 25 / 35
System integrative resistance absorption (optional)	kW	3 (each kit)	3 (each kit)	3 (each kit)
Maximum system operating pressure	°C	70	70	70
Cooling circuit				
Power in cooling mode with water set at 18 °C ⁽¹⁾	kW	12.00	14.00	15.00
Power in cooling mode with water set at 7 °C ⁽²⁾	kW	9.00	10.50	11.20
Cooling mode EER with water set at 18 °C ⁽¹⁾		3.87	3.68	3.62
Cooling mode EER with water set at 7 °C ⁽²⁾		2.90	2.80	2.80
Flow temperature range	°C	5 - 25	5 - 25	5 - 25
Outdoor temp. limits for Cooling mode operation	°C	10 / 46	10 / 46	10 / 46
DHW circuit				
Energy class in DHW	-	A	A	A
Domestic hot water adjustable temperature	°C	10 - 50	10 - 50	10 - 50
Domestic hot water adjustable temperature with DHW (Domestic hot water) integration resistance	°C	10 - 65	10 - 65	10 - 65
General data				
Refrigerant fluid load (R410A)	g	2980	2980	2980
Max. chiller line length with basic pre-charge	m	15	15	15
Quantity of coolant fluid for each additional metre	g/m	50	50	50
Maximum achievable length of the chiller line	m	50	50	50
Max hydraulic system operating	bar	3	3	3
System expansion vessel nominal (real) capacity	litres	10 (8.3)	10 (8.3)	10 (8.3)
Water circuit content	litres	6.5	6.5	6.5
C.H. sound power level	dB(A)	64	64	66
Electric protection rating	IP	X4D	X4D	X4D
Power supply (indoor unit)	V - Hz	230-50	230-50	230-50
Permitted voltage range	V	198-264	198-264	198-264
Maximum absorbed power (indoor unit)	W	150	150	150
Maximum absorbed power (outdoor unit)	W	6160	6930	8190
Maximum absorbed current in normal operation	A	28	30	32
Fuse required	A	35	40	40
Outdoor unit empty weight	kg	100	100	100
Indoor unit empty weight (full)	kg	38.5 (45)	38.5 (45)	38.5 (45)

THE REPORTED DATA REFERS TO THE FOLLOWING CONDITIONS (in compliance with EN 14511):

ROOM	HEATING PHASE (°C)	COOLING PHASE (°C)
Water TEMP. (F/R) ⁽¹⁾ - AIR (db/wb)	35/30 - 7/6	18/23 - 35 (bs)
Water TEMP. (F/R) ⁽²⁾ - AIR (db/wb)	45/40 - 7/6	7/12 - 35 (bs)
Water TEMP. (F/R) ⁽³⁾ - AIR (db/wb)	55/47 - 7/6	

15.1 TECHNICAL DATA MAGIS PRO 12 - 14 - 16 V2 T (THREE-PHASE)

	MAGIS PRO 12 V2 T	14 V2 T	16 V2 T
Central heating circuit			
Energy class in heating at water temp. 55/35 °C	-	A+/A+++	A+/A+++
Power in CH mode with water set at 35 °C ⁽¹⁾	kW	12.00	14.00
Power in CH mode with water set at 45 °C ⁽²⁾	kW	11.50	13.00
Power in CH mode with water set at 55 °C ⁽³⁾	kW	11.01	12.45
CH mode COP with water set at 35 °C ⁽¹⁾		4.63	4.44
CH mode COP with water set at 45 °C ⁽²⁾		3.56	3.47
CH mode COP with water set at 55 °C ⁽³⁾		2.87	2.80
Flow temperature range	°C	20 - 55	20 - 55
Outdoor temp. limits for Heating mode operation	°C	- 25 / 35	- 25 / 35
System integrative resistance absorption (optional)	kW	3 (each kit)	3 (each kit)
Maximum system operating pressure	°C	70	70
Cooling circuit			
Power in cooling mode with water set at 18 °C ⁽¹⁾	kW	12.00	14.00
Power in cooling mode with water set at 7 °C ⁽²⁾	kW	9.00	10.50
Cooling mode EER with water set at 18 °C ⁽¹⁾		3.87	3.68
Cooling mode EER with water set at 7 °C ⁽²⁾		2.90	2.80
Flow temperature range	°C	5 - 25	5 - 25
Outdoor temp. limits for Cooling mode operation	°C	10 / 46	10 / 46
DHW circuit			
Energy class in DHW	-	A	A
Domestic hot water adjustable temperature	°C	10 - 50	10 - 50
Domestic hot water adjustable temperature with DHW (Domestic hot water) integration resistance	°C	10 - 65	10 - 65
General data			
Refrigerant fluid load (R410A)	g	2980	2980
Max. chiller line length with basic pre-charge	m	15	15
Quantity of coolant fluid for each additional metre	g/m	50	50
Maximum achievable length of the chiller line	m	50	50
Max hydraulic system operating	bar	3	3
System expansion vessel nominal capacity (real)	litres	10 (8.3)	10 (8.3)
Water circuit content	litres	6.5	6.5
C.H. sound power level	dB(A)	64	64
Electric protection rating	IP	X4D	X4D
Power supply (indoor unit)	V - Hz	230-50	230-50
Power supply (outdoor unit)	V - Hz	380-50	380-50
Permitted voltage range (outdoor unit)	V	342-457	342-457
Maximum absorbed power (indoor unit)	W	150	150
Maximum absorbed power (outdoor unit)	W	6160	6930
Maximum absorbed current in normal operation	A	10	11
Fuse required	A	20	20
Outdoor unit empty weight	kg	100	100
Indoor unit empty weight (full)	kg	38.5 (45)	38.5 (45)

THE REPORTED DATA REFERS TO THE FOLLOWING CONDITIONS (in compliance with EN 14511):

ROOM	HEATING PHASE (°C)	COOLING PHASE (°C)
Water TEMP. (F/R) ⁽¹⁾ - AIR (db/wb)	35/30 - 7/6	18/23 - 35 (bs)
Water TEMP. (F/R) ⁽²⁾ - AIR (db/wb)	45/40 - 7/6	7/12 - 35 (bs)
Water TEMP. (F/R) ⁽³⁾ - AIR (db/wb)	55/47 - 7/6	

MAGIS PRO 12 V2

16 "POWER" AND "ABSORPTION" IN CENTRAL HEATING MODE MAGIS PRO 12 V2

MAGIS PRO 12 V2		Water flow temperature °C					
		25		30		35	
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)
-20	(-21)	9.67	3.19	9.40	3.42	8.95	3.84
-15	(-16)	11.01	3.37	10.71	3.61	10.20	4.06
-10	(-11)	12.70	3.55	12.35	3.81	11.76	4.28
-7	(-8)	12.20	3.40	11.87	3.65	11.30	4.10
-2	(-3)	12.04	3.01	11.71	3.23	11.15	3.63
2	(1)	11.88	2.62	11.55	2.81	11.00	3.16
7	(6)	12.96	2.15	12.60	2.31	12.00	2.59
10	(9)	14.16	2.17	13.76	2.33	13.11	2.61
15	(14)	16.15	2.20	15.70	2.36	14.95	2.65
20	(19)	18.14	2.23	17.64	2.39	16.80	2.69

MAGIS PRO 12 V2		Water flow temperature °C					
		40		45		50	
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)
-20	(-21)	8.61	4.10	8.26	4.52		
-15	(-16)	9.91	4.31	9.62	4.57	9.33	4.79
-10	(-11)	11.41	4.51	11.05	4.75	10.72	4.98
-7	(-8)	11.06	4.63	10.82	5.15	10.38	5.22
-2	(-3)	10.72	3.98	10.30	4.34	9.78	4.88
2	(1)	10.39	3.34	9.78	3.52	9.29	3.97
7	(6)	11.75	2.91	11.50	3.23	11.26	3.53
10	(9)	12.86	2.94	12.61	3.27	11.98	3.68
15	(14)	14.71	2.95	14.47	3.35	13.74	3.77
20	(19)	16.56	3.02	16.32	3.42	15.50	3.85

MAGIS PRO 12 V2		Water flow temperature °C	
		55	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)
-20	(-21)		
-15	(-16)		
-10	(-11)	9.95	5.46
-7	(-8)	9.95	5.30
-2	(-3)	9.27	5.42
2	(1)	8.80	4.41
7	(6)	11.01	3.83
10	(9)	11.35	4.09
15	(14)	13.02	4.18
20	(19)	14.69	4.28

- Correction factor stated DC = 0.9
- TOL = -25 °C

**16.1 “POWER” AND “ABSORPTION” IN COOLING MODE
MAGIS PRO 12 V2**

MAGIS PRO 12 V2	Water flow temperature °C					
	7		10		13	
Air temperature °C d.b.	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
10	11.95	1.85	12.77	1.86	13.58	1.87
20	10.77	2.33	11.59	2.35	12.40	2.36
30	9.59	2.81	10.41	2.82	11.23	2.84
35	9.00	3.05	9.82	3.06	10.64	3.08
46	7.70	3.58	8.52	3.59	9.34	3.61

MAGIS PRO 12 V2	Water flow temperature °C					
	15		18		25	
Air temperature °C d.b.	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
10	14.13	1.88	14.95	1.90	16.86	1.93
20	12.95	2.37	13.77	2.38	15.68	2.42
30	11.77	2.85	12.59	2.86	14.50	2.89
35	11.18	3.09	12.00	3.10	13.91	3.13
46	9.89	3.62	10.70	3.63	12.61	3.66

MAGIS PRO 14 V2

17 "POWER" AND "ABSORPTION" IN CENTRAL HEATING MODE MAGIS PRO 14 V2

MAGIS PRO 14 V2		Water flow temperature °C					
		25		30		35	
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)
-20	(-21)	10.93	3.69	10.62	3.96	10.12	4.45
-15	(-16)	12.45	3.90	12.10	4.19	11.52	4.70
-10	(-11)	14.29	4.11	13.89	4.40	13.23	4.95
-7	(-8)	13.50	3.82	13.13	4.09	12.50	4.60
-2	(-3)	13.28	3.39	12.92	3.63	12.30	4.08
2	(1)	13.07	2.95	12.71	3.17	12.10	3.56
7	(6)	15.12	2.61	14.70	2.80	14.00	3.15
10	(9)	16.52	2.64	16.06	2.83	15.29	3.18
15	(14)	18.84	2.68	18.32	2.87	17.45	3.22
20	(19)	21.17	2.71	20.58	2.91	19.60	3.27

MAGIS PRO 14 V2		Water flow temperature °C					
		40		45		50	
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)
-20	(-21)	9.73	4.75	9.34	5.24		
-15	(-16)	11.20	5.00	10.87	5.29	10.55	5.55
-10	(-11)	12.83	5.22	12.44	5.50	12.06	5.77
-7	(-8)	12.23	5.19	11.97	5.78	11.49	5.86
-2	(-3)	11.83	4.48	11.36	4.88	10.79	5.49
2	(1)	11.43	3.77	10.76	3.97	10.22	4.47
7	(6)	13.50	3.45	13.00	3.75	12.72	4.10
10	(9)	14.84	3.51	14.39	3.84	13.67	4.33
15	(14)	17.08	3.56	16.72	4.00	15.88	4.50
20	(19)	19.32	3.68	19.04	4.16	18.09	4.68

MAGIS PRO 14 V2		Water flow temperature °C	
		55	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)
-20	(-21)		
-15	(-16)		
-10	(-11)	11.19	6.32
-7	(-8)	11.01	5.94
-2	(-3)	10.23	6.10
2	(1)	9.68	4.96
7	(6)	12.45	4.44
10	(9)	12.95	4.81
15	(14)	15.05	5.00
20	(19)	17.14	5.20

- Correction factor stated DC = 0.9
- TOL = -25 °C

**17.1 “POWER” AND “ABSORPTION” IN COOLING MODE
MAGIS PRO 14 V2**

MAGIS PRO 14 V2	Water flow temperature °C					
	7		10		13	
Air temperature °C d.b.	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
10	14.09	2.39	15.04	2.40	15.99	2.42
20	12.65	2.93	13.61	2.95	14.56	2.96
30	11.22	3.48	12.17	3.49	13.13	3.51
35	10.50	3.75	11.45	3.76	12.41	3.78
46	8.92	4.35	9.88	4.36	10.83	4.38

MAGIS PRO 14 V2	Water flow temperature °C					
	15		18		25	
Air temperature °C d.b.	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
10	16.63	2.43	17.59	2.44	19.81	2.47
20	15.20	2.97	16.15	2.98	18.38	3.02
30	13.76	3.51	14.72	3.53	16.94	3.56
35	13.05	3.79	14.00	3.80	16.23	3.83
46	11.47	4.38	12.42	4.40	14.65	4.43

MAGIS PRO 16 V2

18 "POWER" AND "ABSORPTION" IN CENTRAL HEATING MODE MAGIS PRO 16 V2

MAGIS PRO 16 V2		Water flow temperature °C					
		25		30		35	
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)
-20	(-21)	12.58	4.43	12.33	4.75	11.65	5.34
-15	(-16)	14.33	4.68	13.93	5.02	13.27	5.64
-10	(-11)	16.51	4.96	16.05	5.32	15.29	5.98
-7	(-8)	14.90	4.52	14.49	4.85	13.80 *	5.45 *
-2	(-3)	14.85	4.00	14.44	4.29	13.75	4.83
2	(1)	14.80	3.49	14.39	3.74	13.70	4.20
7	(6)	17.28	3.12	16.80	3.35	16.00	3.76
10	(9)	18.88	3.15	18.35	3.38	17.48	3.79
15	(14)	21.53	3.19	20.94	3.42	19.94	3.85
20	(19)	24.19	3.24	23.52	3.47	22.40	3.90

MAGIS PRO 16 V2		Water flow temperature °C					
		40		45		50	
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)
-20	(-21)	11.20	5.69	10.75	6.28		
-15	(-16)	12.89	6.00	12.52	6.35	12.14	6.67
-10	(-11)	14.83	6.29	14.37	6.60	13.94	6.93
-7	(-8)	13.51	6.15	13.21	6.85	12.68	6.95
-2	(-3)	13.22	5.30	12.70	5.77	12.06	6.49
2	(1)	12.94	4.44	12.18	4.68	11.57	5.27
7	(6)	15.65	4.15	15.30	4.54	14.95	4.93
10	(9)	17.13	4.22	16.79	4.64	15.95	5.22
15	(14)	19.61	4.26	19.28	4.80	18.31	5.40
20	(19)	22.08	4.39	21.76	4.97	20.67	5.59

MAGIS PRO 16 V2		Water flow temperature °C	
		55	
Air temperature °C d.b.	(w.b.)	Max. output (kW)	Max. absorbed (kW)
-20	(-21)		
-15	(-16)		
-10	(-11)	12.93	7.59
-7	(-8)	12.15	7.04
-2	(-3)	11.43	7.21
2	(1)	10.96	5.86
7	(6)	14.60	5.32
10	(9)	15.11	5.80
15	(14)	17.35	6.00
20	(19)	19.58	6.21

(*) The working points shown in the table refer to peak values.

The nominal working point in the condition:

Temp. Water (M/R) - air (db/wb) = 35/30 - 7/6

Temp. Room = -7°C is:

- **Max. output = 12.50**

- **Max. absorbed = 4.60**

- **COP = 2.72**

- Correction factor stated DC = 0.9

- TOL = -25 °C

**18.1 “POWER” AND “ABSORPTION” IN COOLING MODE
MAGIS PRO 16 V2**

MAGIS PRO 16 V2	Water flow temperature °C					
	7		10		13	
Air temperature °C d.b.	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
10	14.74	2.73	15.77	2.77	16.81	2.81
20	13.20	3.24	14.36	3.28	15.39	3.32
30	11.91	3.75	12.94	3.79	13.98	3.82
35	11.20	4.00	12.24	4.04	13.27	4.08
46	9.64	4.56	10.68	4.59	11.72	4.36

MAGIS PRO 16 V2	Water flow temperature °C					
	15		18		25	
Air temperature °C d.b.	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)	Max. output (kW)	Max. absorbed (kW)
10	17.50	2.84	18.54	2.87	20.96	2.96
20	16.09	3.34	17.12	3.38	19.54	3.47
30	14.67	3.85	15.71	3.89	18.13	3.98
35	13.96	4.10	15.00	4.14	17.42	4.23
46	12.41	4.66	13.44	4.70	15.86	4.79

MAGIS PRO 12 - 14 - 16 V2

19 OPTIONAL FOR DIRECT COUPLING TO MAGIS PRO V2 (STAND ALONE)

TEMPERATURE CONTROL OPTIONALS	Code
Zone remote panel - (device class V* or VI)	3.030863
Temperature and humidity sensor kit ModBus - (device class V or VI*) - to make temperature requests, it is necessary to couple a chrono-thermostat code 3.021622 or 3.021624	3.030992
CRONO 7 (Digital weekly chrono-thermostat) - (device class IV* or VII)	3.021622
CRONO 7 WIRELESS - (device class IV* or VII)	3.021624
External probe - if the outdoor unit is installed under unfavourable conditions (device class II* or VI or VII)	3.015266
Room hygrostat kit - (operates on the dehumidifier according to the humidity detected in the room and according to what is set on the device)	3.023302
DOMINUS Interface board kit (for remote control via App)	3.026273
OTHER OPTIONALS	Code
2 zone kit (1 direct zone and 1 mixed zone) for MAGIS PRO 12-14-16 V2 coupling (wall-hung or recessed for mixed systems)	3.031695
Three-way deviator valve kit used as hot/cold system deviator	3.020632
3 kW integration electric resistance kit (to be inserted inside the hydronic module, 230 Vac power supply) - up to two can be installed	3.030991
Additional 2 kW resistance kit 200-300-500 INOXTOR and OMNISTORE	3.020861
Additional 5 kW resistance kit for 1000-1500 litre storage tanks	3.020862
Antifreeze protection kit -15 °C (for hydronic module protection)	3.017324
Dehumidifier kit - for recessed installation only	3.021529
Dehumidifier frame kit	3.022146
Dehumidifier grid kit	3.022147
2 relay board kit for MAGIS PRO V2 coupling (for dehumidifier control)	3.026302
Contact NTC probe kit for storage tank (can also be used to read the temperature of a possible Puffer)	3.019375
Configurable relay board kit (to manage 3 rd mixed zones and other features)	3.015350
Flow temperature probe kit (for managing the temperature of the 3 rd mixed zone)	3.030913
Low temperature safety kit	3.019229
Connection for R410 circuit kit (to allow easy connection of the cooling circuit also in case of pipes that arrive at the rear)	3.026089
75 litres Buffer tank (can be installed wall-hung vertically or on floor)	3.027288
Bracket kit for wall mounting 75 litres Buffer tank (for wall-hung installation)	3.027290
Wall installation brackets kit for outdoor condensing unit	3.034758
HYDRO 3 range Wall-hung hydronic split, HYDRO FS range floor standing hydronic fan coil, HYDRO IN range recessed hydronic fan coil	Codes various

*Device class (REF. Communication of the European Commission 2014/C 207/02) with factory settings.

Minimum water content is mainly important to provide proper execution of heat pump defrosting cycles.

In this regard, the minimum amount of water must be 30 litres for any type of system.

It is also important to check that the dehumidifier line has a minimum of **3 l/kW** of the machine (dehumidifier hydraulic circuit connection reference).

The flywheel naturally also guarantees normal operation of MAGIS COMBO V2 with systems divided into zones (therefore, with variable water content in circulation).

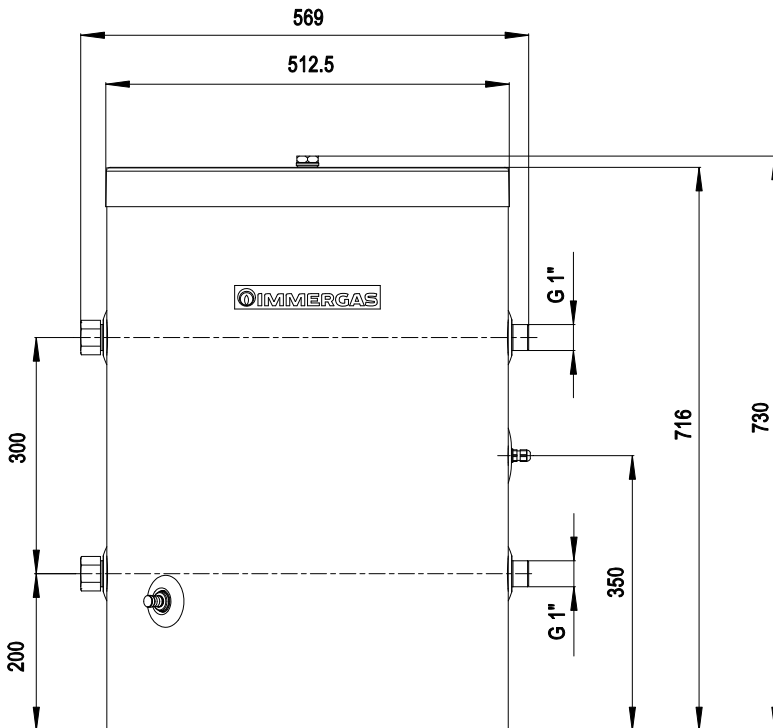
Improved operation with the thermal flywheel is obtained, for example, with fan coils used in cooling mode (a condition in which the flow temperature is very low and significant heat load changes vary according to the number of active fan coils).

MAIN FEATURES:

- Stainless steel cylindrical storage tank Ø 415 with 75-litre capacity;
- The inertial storage tanks are insulated with 50 mm thick insulating material, complete with on-view PVC coating;
- For practical connection, the inertial storage tank has 4 M connections of G 1" and two plugs for unused fittings;
- G 1/2" draining valve located at the bottom;
- G 1/2" fitting including cap on the top of the inertial storage tank for possible air vent;
- There is a probe point;
- A kit is available (optional) consisting of a bracket with 4 plugs to be able to hang it on the wall;
- Any check valves on other connections must be provided separately;
- Thanks to the 4 connections present, the storage tank can also be used as hydraulic separator, as well as thermal flywheel.

20.1

75-LITRE INERTIAL STORAGE TANK (Code 3.027288)



TECHNICAL DATA:

- Max. operating temperature = 90 °C
- Max. operating pressure = 3 bar
- Effective capacity = 77 litres
- Full weight = 95 kg
- Insulating thermal conductivity +20 °C = 0,038 W/(m•K)
- No.4 G 1" side connections

MAGIS PRO 12 - 14 - 16 V2

21 KIT 2 ZONES FOR COUPLING MAGIS PRO 12-14-16 V2 (CODE 3.031695)



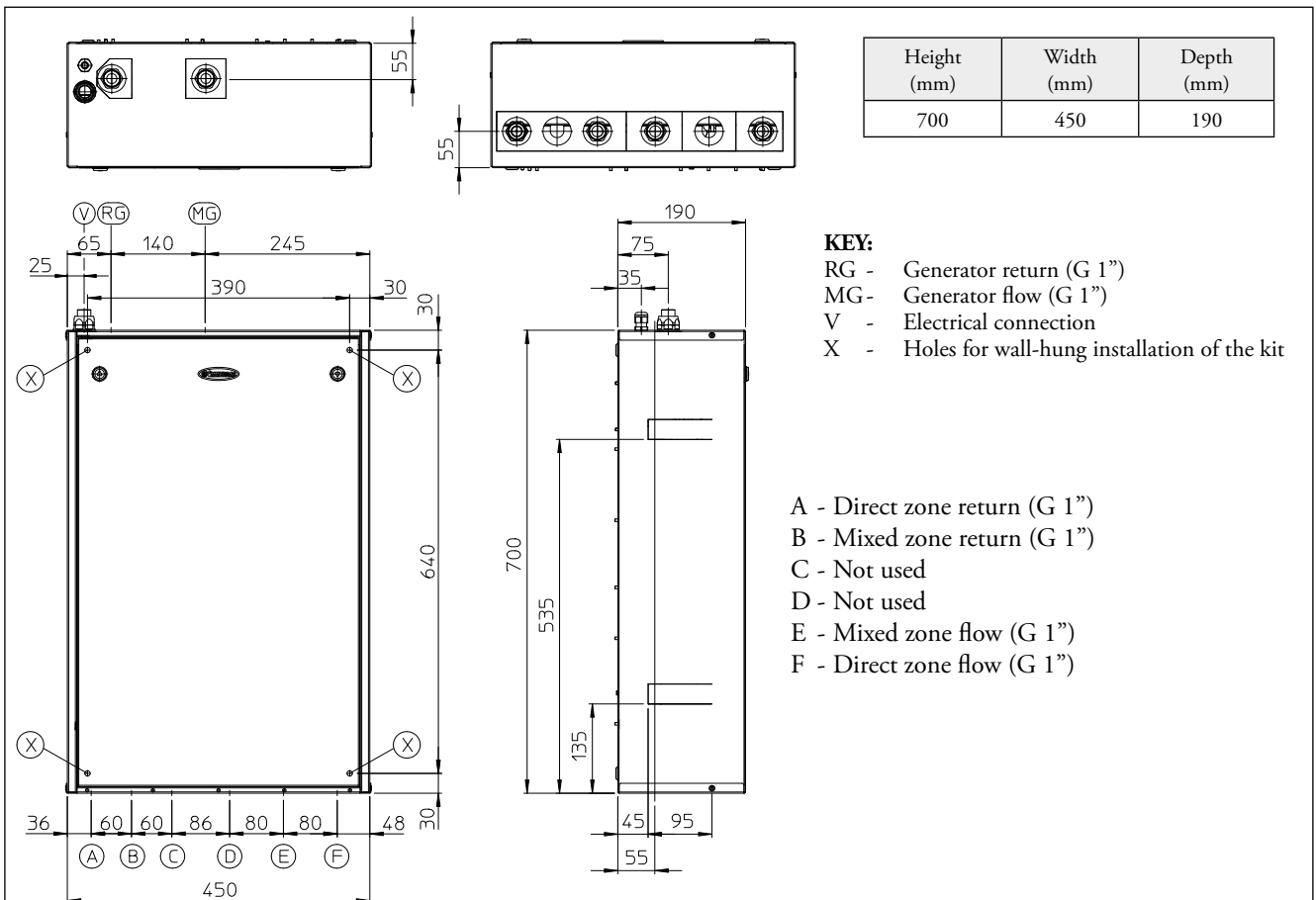
The 2 zone kit for coupling with MAGIS PRO 12-14-16 V2 is composed of a frame, open hydraulic manifold, low electric consumption solenoid valves, three-way mixing valve, hydraulic fitting and pipes and thermometers for temperature reading. The pumps included in the kit are distinguished for being very elastic, also thanks to the operating curves that can be pre-set. All components are already assembled and ready to operate. All electrical connections are to be taken to the MAGIS PRO V2 P.C.B.

This kit is to be used to control differential temperature systems and/or divided into two distinct zones.

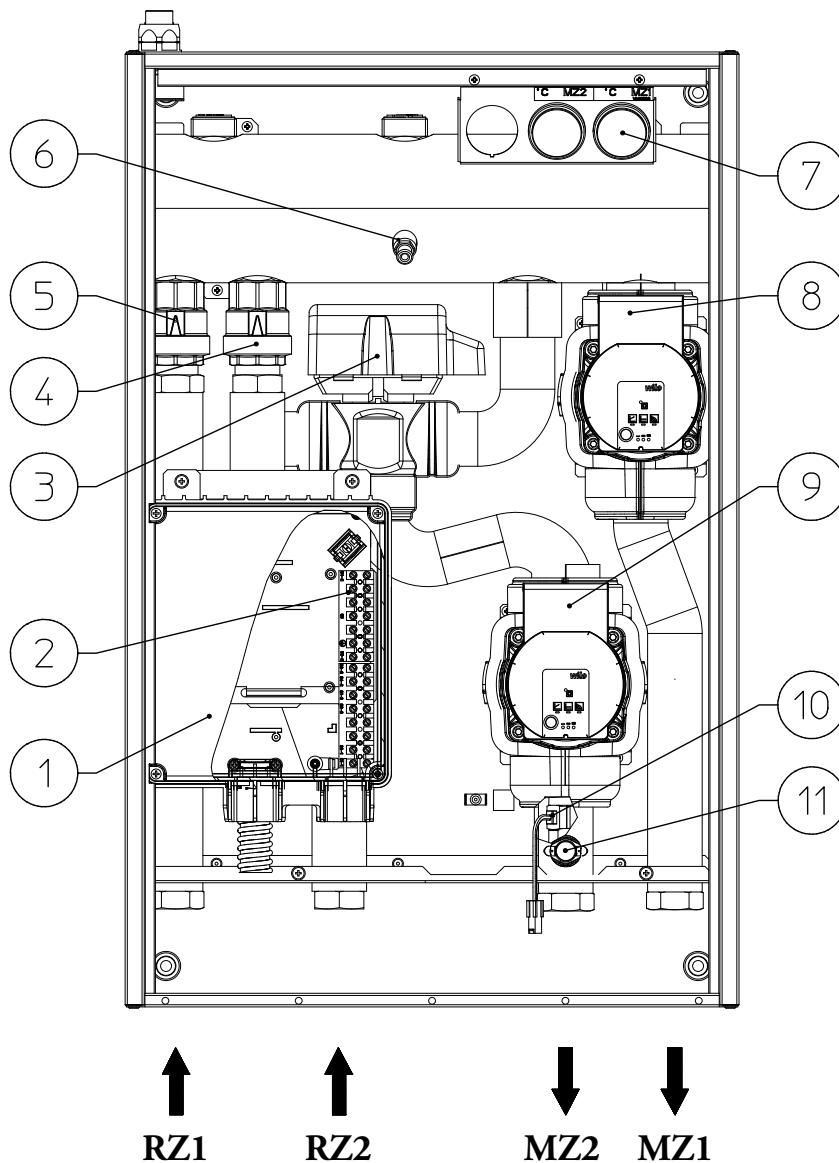
With the acquisition of the outdoor temperature, the MAGIS PRO V2 electronics enables you to select independent flow temperature curves for each of the 2 zones of the system (both with C.H. and cooling).

Inserting these kits into the technological system enhance overall comfort and energy savings.

21.1 DIMENSIONS AND CONNECTIONS



21.2 MAIN COMPONENTS KIT 2 ZONES FOR COUPLING MAGIS PRO V2



KEY:

- 1 - Connections box
- 2 - Connections terminal board
- 3 - Mixing valve
- 4 - Mixed zone return circuit "Europa" one-way valve
- 5 - Direct zone return circuit "Europa" one-way valve
- 6 - Drain fitting
- 7 - Flow temperature thermometers
- 8 - Direct zone pump
- 9 - Mixed zone pump
- 10 - Mixed zone flow probe
- 11 - Safety thermostat mixed zone

MAGIS PRO 12 - 14 - 16 V2

21.3 CHART OF THE HEAD FLOW RATE AVAILABLE TO THE DIRECT ZONE

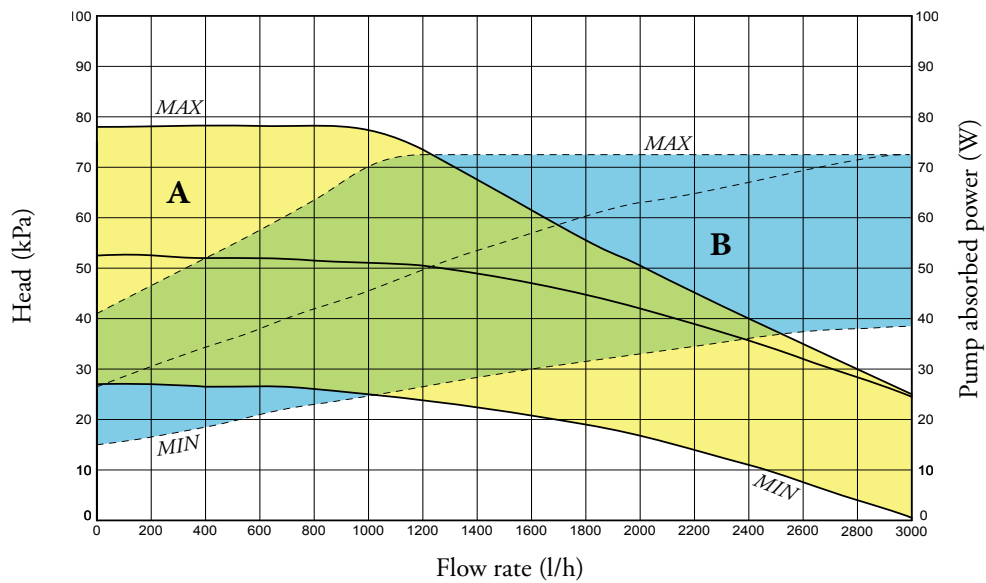
The kit contains an electronic low consumption circulation pump, whose flow rate/head features are shown in the graph below.

The circulator pumps control the room heating or cooling requests downstream of the hydraulic manifold.

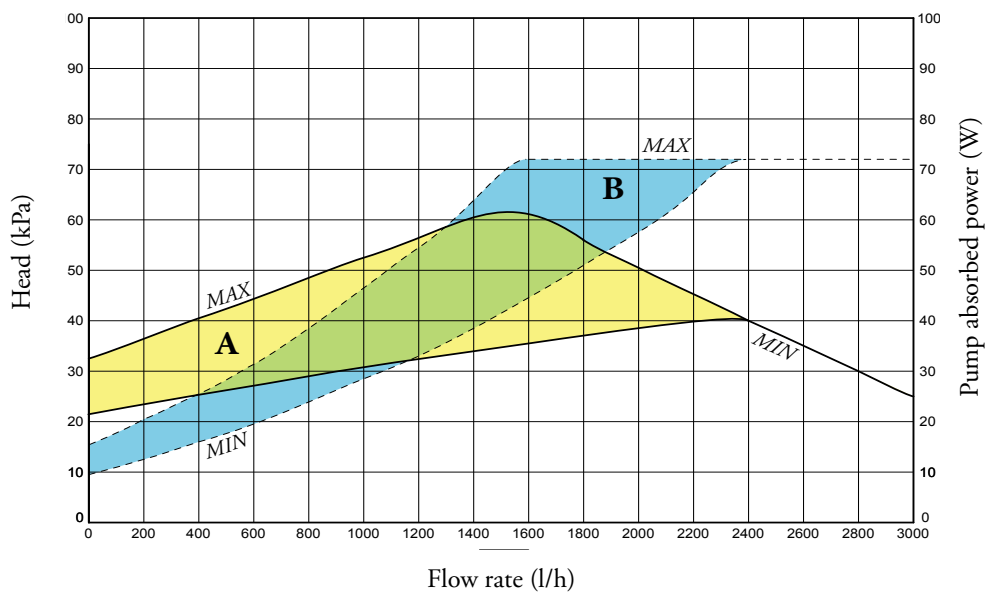
The 2 zone kit is designed for the creation of mixed systems with differentiated temperature (e.g.: one zone with fan coils plus one zone at low temperature with radiant floor panels).

WILO PARA 15-8 CM 130

Fixed speed head.



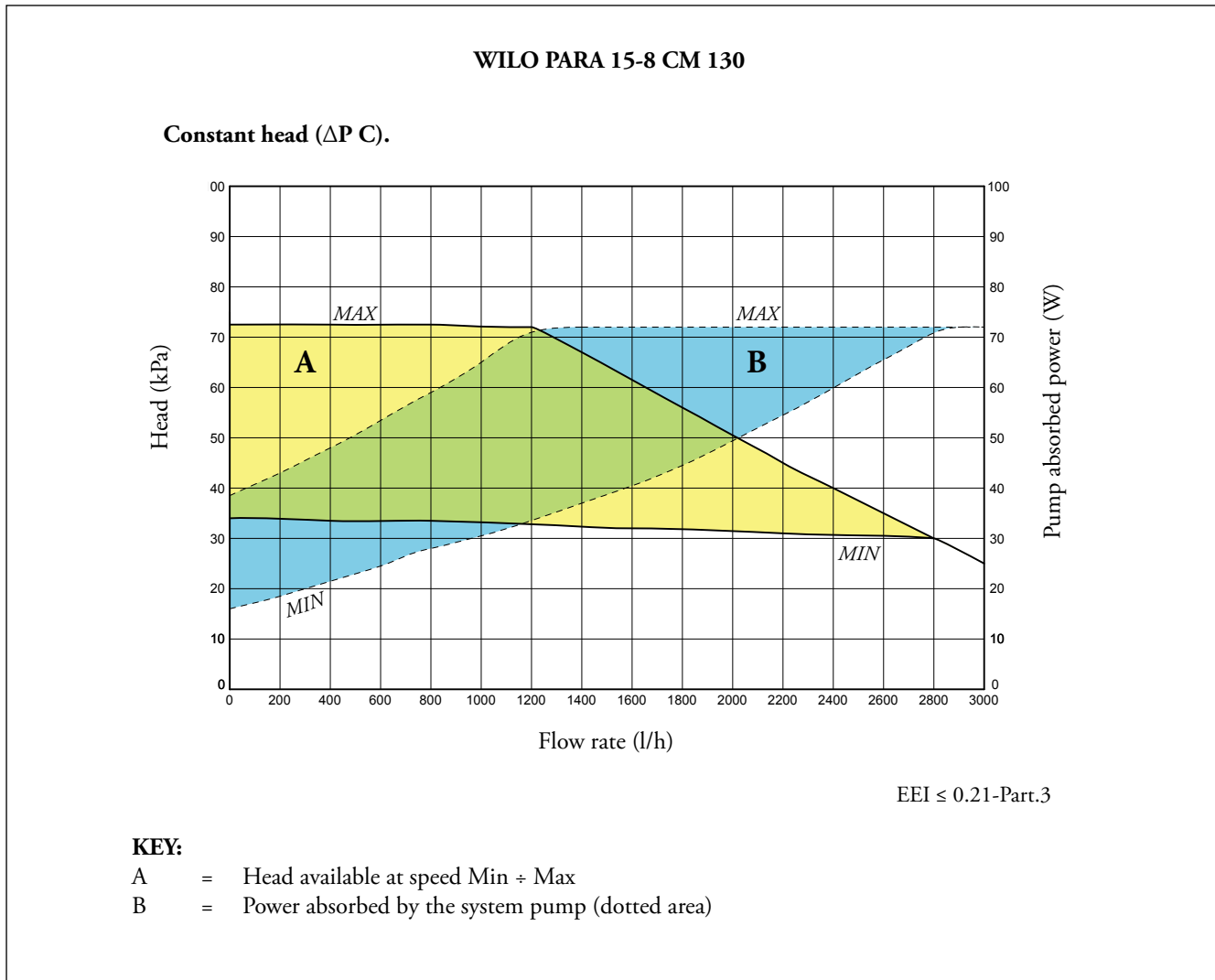
Proportional head ($\Delta P V$).



KEY:

- A = Head available at speed Min ÷ Max
- B = Power absorbed by the system pump (dotted area)

EEl ≤ 0.21-Part.3



21.4 DIRECT ZONE CIRCULATOR PUMP SETTINGS AND CONFIGURATIONS

The circulator pumps control the room heating or cooling requests downstream of the hydraulic manifold.

In fact, the circulator pumps are equipped with electronic control that allows to set advanced functions.

For proper use one must select the most suitable type of operation for the system.

By rotation, it is possible to select the following pump control mode:

Fixed speed I, II, III.

Proportional head I, II, III.

Constant head I, II, III.

- Fixed speed

Adjusts the pump speed in fixed mode.

It is possible to set 3 different speeds:

I: Minimum Speed.

II: Intermediate speed.

III: Maximum speed (factory set speed).

- Proportional head ($\Delta P-V$)

This allows the pressure level (head) to be proportionally reduced as the system heat demand decreases (flow rate reduction).

Thanks to this function, the electric power consumption of the circulator pump is reduced further: the energy (power) used by the pump decreases according to the pressure level and flow rate.

With this setting, the pump guarantees optimal performance in most heating systems, proving particularly suitable in single-pipe and two-pipe installations.

Any noise originating from the water flow in the pipes, valves and radiators is eliminated by reducing the head. Optimal conditions for thermal comfort and acoustic well-being.

Optimal conditions for thermal comfort and acoustic well-being.

Optimal conditions for thermal comfort and acoustic well-being.

- Constant head ($\Delta P-C$)

The circulator pump maintains the pressure level (head) constant as the system heat demand decreases (flow rate reduction).

With these settings, the circulator pump is suitable for all floor systems where all the circuits must be balanced for the same drop in head.

MAGIS PRO 12 - 14 - 16 V2

21.5 CHART OF THE HEAD FLOW RATE AVAILABLE TO THE MIXED ZONE

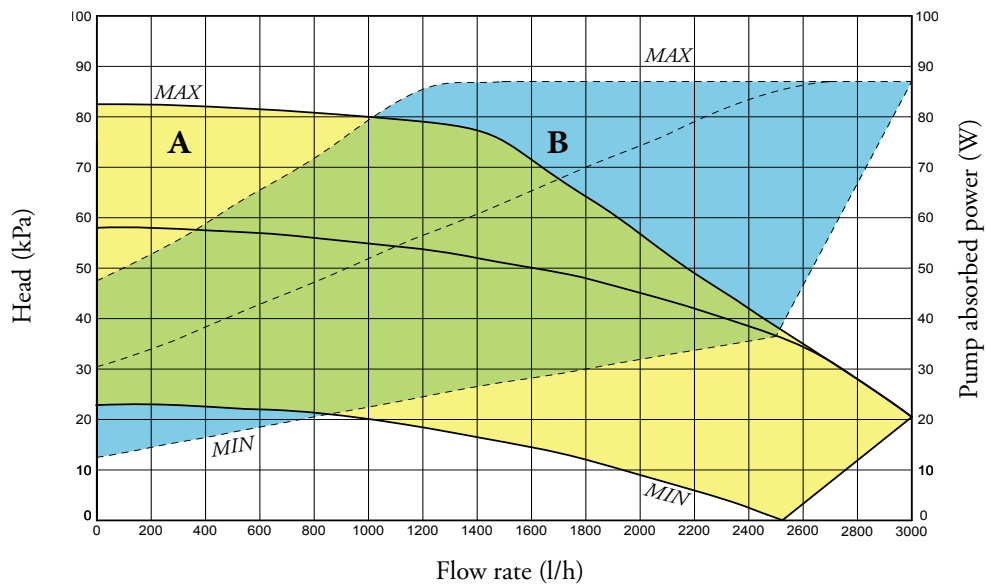
The kit contains an electronic low consumption circulation pump, whose flow rate/head features are shown in the graph below.

The circulator pumps control the room heating or cooling requests downstream of the hydraulic manifold.

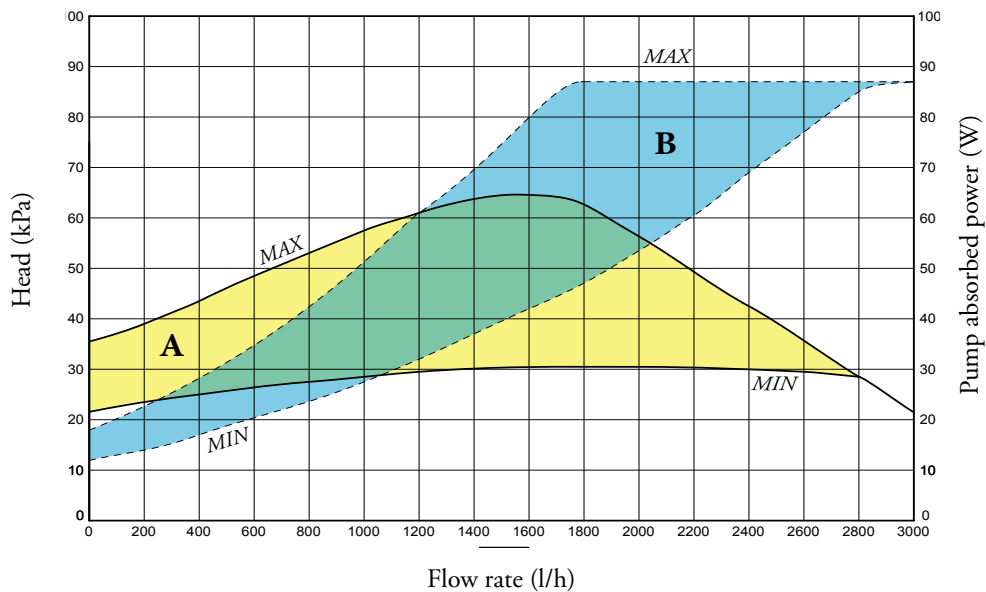
The 2 zone kit is designed for the creation of mixed systems with differentiated temperature (e.g.: one zone with fan coils plus one zone at low temperature with radiant floor panels).

WILO PARA 15-9 CM 130

Fixed speed head.



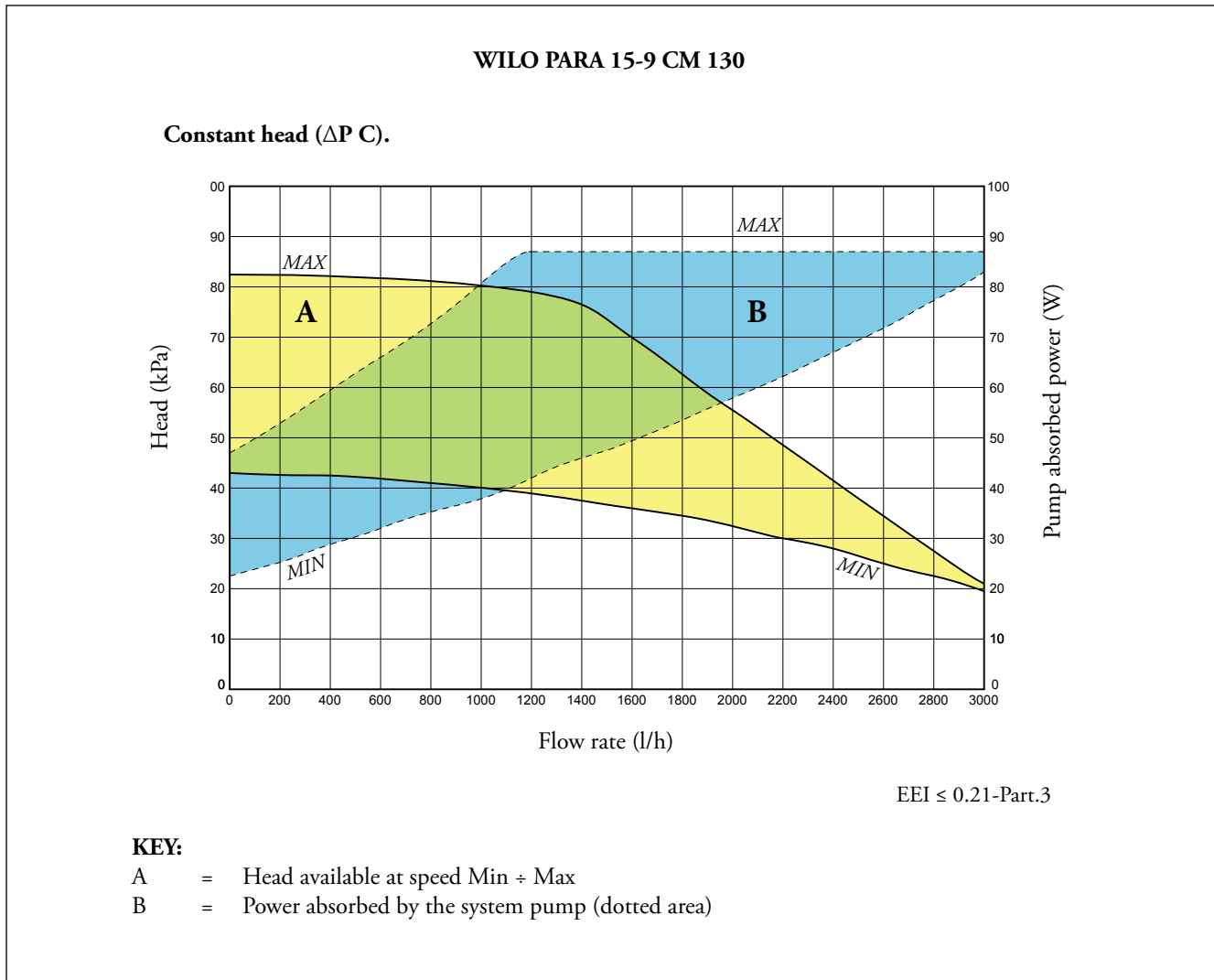
Proportional head ($\Delta P V$).



KEY:

- A = Head available at speed Min ÷ Max
- B = Power absorbed by the system pump (dotted area)

EEI ≤ 0.21-Part.3



21.6 MIXED ZONE CIRCULATOR PUMP SETTINGS AND CONFIGURATIONS

The circulator pumps control the room heating or cooling requests downstream of the hydraulic manifold.

In fact, the circulator pumps are equipped with electronic control that allows to set advanced functions.

For proper use one must select the most suitable type of operation for the system.

By rotation, it is possible to select the following pump control mode:

Fixed speed I, II, III.

Proportional head I, II, III.

Constant head I, II, III.

- Fixed speed

Adjusts the pump speed in fixed mode.

It is possible to set 3 different speeds:

I: Minimum Speed.

II: Intermediate speed.

III: Maximum speed (factory set speed).

- Proportional head ($\Delta P-V$)

This allows the pressure level (head) to be proportionally reduced as the system heat demand decreases (flow rate reduction).

Thanks to this function, the electric power consumption of the circulator pump is reduced further: the energy (power) used by the pump decreases according to the pressure level and flow rate.

With this setting, the pump guarantees optimal performance in most heating systems, proving particularly suitable in single-pipe and two-pipe installations.

Any noise originating from the water flow in the pipes, valves and radiators is eliminated by reducing the head.

Optimal conditions for thermal comfort and acoustic well-being.

- Constant head ($\Delta P-C$)

The circulator pump maintains the pressure level (head) constant as the system heat demand decreases (flow rate reduction).

With these settings, the circulator pump is suitable for all floor systems where all the circuits must be balanced for the same drop in head.

MAGIS PRO 12 - 14 - 16 V2

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OPTIONAL IN THE PRESENCE OF SYSTEM MANAGER

TEMPERATURE CONTROL OPTIONALS	Code
System manager kit - (device class V* or VIII)	3.021522
Zone remote panel - (device class V* or VI)	3.030863
CRONO 7 (Digital weekly chrono-thermostat) - (device class IV* or VII)	3.021622
CRONO 7 WIRELESS - (device class IV* or VII)	3.021624
Zone remote control kit - (device class V or VI*)	3.023364
Humidistat kit - (operates on the Dehumidifier according to the humidity detected in the room and according to what is set on the device)	3.023302
Temperature and humidity sensor kit - (device class V or VI*)	3.021524
OTHER OPTIONALS	Code
Expansion kit to manage zone or for auxiliaries	3.021547
Three-way deviator valve kit used as DHW priority or hot/cold system deviator	3.020632
2 kW additional resistance kit for INOXSTOR V2 and OMNISTOR	3.020861
5 kW integrative resistance kit for 750-1000-1500-2000 litre storage tanks	3.020862
Antifreeze kit up to -15 °C (for hydronic module protection)	3.017324
Dehumidifier kit - for recessed installation only	3.021529
Dehumidifier frame kit	3.022146
Dehumidifier grid kit	3.022147
Probe kit for solar collector temperature (coupled with a system manager)	3.019374
Contact NTC probe kit for storage tank (can also be used to read the flow temperature on the system zones)	3.019375
Relay kit to enable the DHW integrative resistance kit or for dehumidifier cooling request (EMR 12 Vdc)	3.023945
Connection kit for circuit R410A (to allow easy connection of the cooling circuit also in case of pipes that arrive at the rear)	3.026089
50-Litre recessed inertial storage kit	3.027709
50 litre vertical inertial storage tank	3.027539
Inertial 75-Litre storage tank kit (can be installed wall-hung vertically or on floor)	3.027288
Bracket kit for wall mounting	
Inertial storage tank (for wall-hung installation)	3.027290
Wall installation brackets kit for outdoor condensing unit for entire range	3.034758
HYDRO V2 range Wall-hung hydronic split, HYDRO FS range floor standing hydronic fan coil, HYDRO IN range recessed hydronic fan coil	Codes various
ZENITAIR-MONO (punctual controlled mechanical ventilation)	3.030601
External terminal kit with soundproofing for ZENITAIR	3.030636

23 INTRODUCTION WITH COMMENTARY TO THE DIAGRAMS: OPERATING PRINCIPLES

Chap.15: Diagram with MAGIS PRO V2 and 2 zone kit for coupling to MAGIS PRO V2 + Integrative resistance for the heating system+DHW Integrative resistance.

Description of winter functioning:

- **CH phase active:** The Remote zone panel placed in the room activates consent in the winter phase; in this diagram MAGIS PRO V2 is integrated through the 3 kW electric resistance(s) (optional), to be inserted in the central heating manifold. The logic plans to activate the integrative resistance(s) if I do not reach the temperature set within the maximum waiting time (settable via parameters), or below a certain outdoor temperature (again settable via parameters) I can immediately activate the system electrical resistance.

By setting the specific parameter, the Heat pump and the system integrative resistance(s) can activate simultaneously or alternately with each other.

- **D.H.W. phase:** The MAGIS PRO V2 electronics constantly monitor the DHW temperature set (probe located in the storage tank), activating MAGIS PRO V2.

The logic plans to activate the integrative resistance if I do not reach the setting set within the maximum waiting time (settable via parameters), or below a certain outdoor temperature (again settable via parameters) I can immediately activate the DHW electrical resistance activation.

By setting the specific parameter, the Heat pump and the DHW integrative resistance can activate simultaneously or alternately with each other.

N.B.: In case of production from photovoltaic (contact closure "S 39"), the DHW (Domestic hot water) storage tank is heated to a maximum storage temperature exclusively by the heat pump. Any solar system must be managed by a solar control unit, to be purchased separately.

The MAGIS PRO V2 menu contains - among others - the INTEGRATION MENU with the following parameters:

INTEGRATION MENU			
Id	Parameter	Range	Default
I 01	DHW integration enabling	OFF - AL	OFF
I 02	System integration enabling	OFF - AL - CO	OFF
I 03	DHW max. wait time	1 - 255 minutes (1 minute steps)	240
I 04	Central heating max. wait time	1 - 255 minutes (1 minute steps)	120
I 09	DHW (Domestic hot water) activation temperature	-25 - +35 °C	-15
I 10	System activation temperature	-25 - +35 °C	-15

PAR. I 01 - DHW (Domestic hot water) integration enabling - (settable OFF - AL, default value OFF). Using this function, you can enable an alternative (AL) power source, e.g. electrical resistance (if any), to integrate the heating of the domestic hot water.

N.B.: With OFF mode only the Heat pump will always be activated, even if the Heat pump blocks, the integrative electrical resistance (if any) will NEVER activate to integrate the domestic hot water.

PAR. I 02 - System integration enabling - (settable OFF - AL - CO, default value OFF). Using this function, you can enable the electrical resistance(s) operation (AL) to integrate heating system central heating.

N.B.: With OFF mode only the Heat pump will always be activated, even if the Heat pump blocks, the integrative electrical resistance (if any) will NEVER activate for system integration.

PAR. I 03 - DHW (Domestic hot water) max. wait time - (settable from 1 - 255 minutes, default value 240 minutes). It establishes the reference time of the activation or deactivation timing of the electrical integration on DHW (Domestic hot water) (if any).

PAR. I 04 - Central heating max. wait time - (settable from 1 - 255 minutes, default value 120 minutes). It establishes the reference time of the activation or deactivation timing of the electrical integration on central heating (if any).

PAR. I 09 - DHW (Domestic hot water) activation temperature - (settable from -25°C - +35°C, default value -15°C). It establishes the outdoor temperature under which DHW integration is enabled.

PAR. I 10 - System activation temperature - (settable from -25°C - +35°C, default value -15°C). It establishes the outdoor temperature under which system integration is enabled.

Chap.16: Diagram with MAGIS PRO V2 (air conditioning only) + boiler PLUS + solar thermal for DHW + System manager.

Description of winter functioning:

- **Central heating mode active:** The remote zone panel located in the room activates the winter mode consent, the system Manager, according to the outdoor temperature detected and the room temperature set above the pre-set climatic curve, activates MAGIS PRO V2 or the boiler according to the COP calculated (if > the minimum economical convenience value - use of MAGIS PRO V2 is approved), or according to T_{minimum} integration (cut off) set in the System Manager.

Remember that also times for making the system operational can vary the boiler insertion mode.

- **Domestic hot water phase:** this system was designed to privilege DHW operation of the boiler only, obviously in addition to the solar thermal system (governed by the System Manager). During the summer cooling phase, the inversion of the MAGIS PRO V2 functioning cycle is also prevented (from chiller to heat pump).

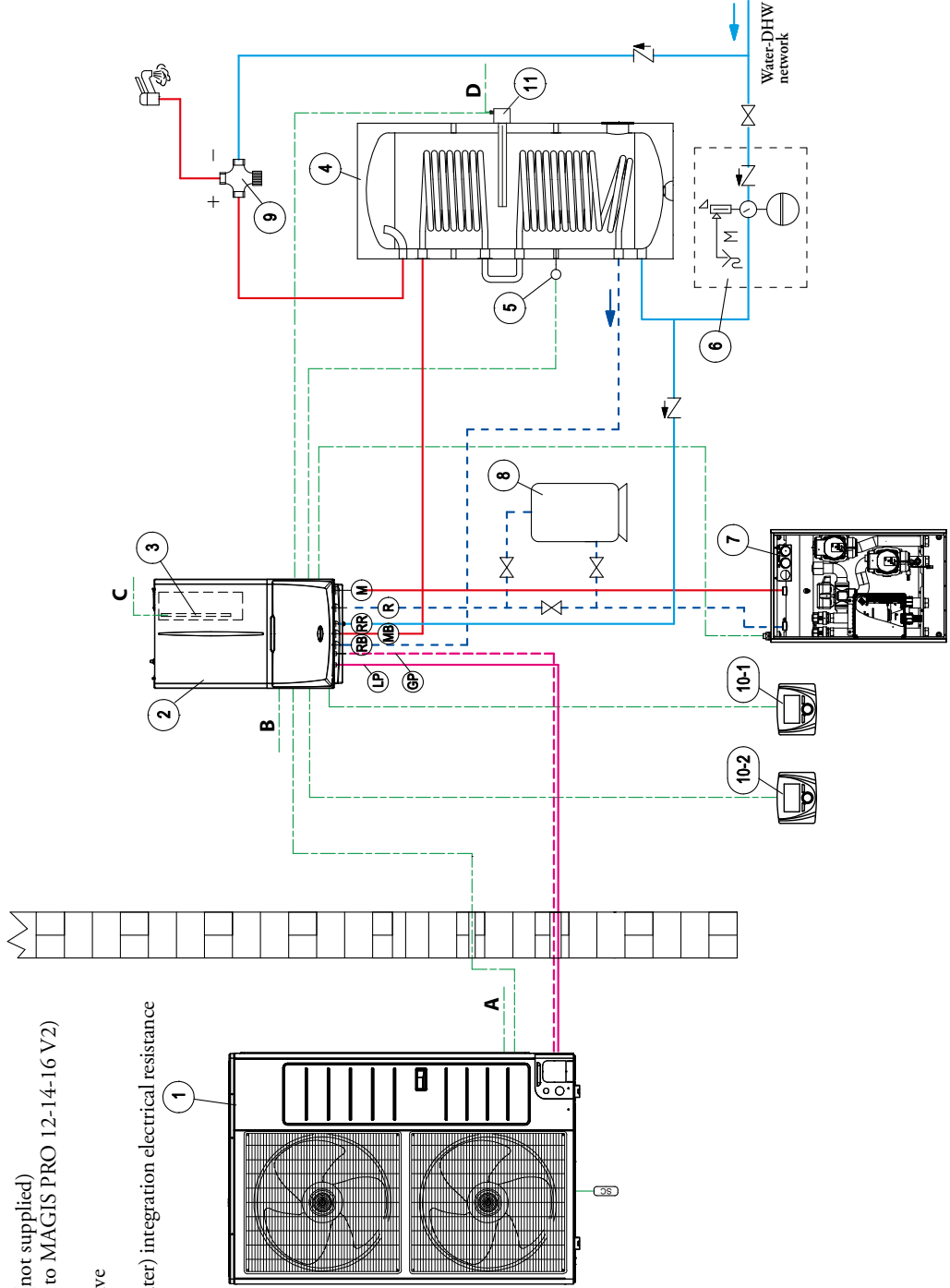
MAGIS PRO 12 - 14 - 16 V2

24 HYDRAULIC DIAGRAM: MAGIS PRO V2 + KIT 2 ZONES (1 DIRECT AND 1 MIXED) + INTEGRATIVE RESISTANCE FOR HEATING SYSTEM AND DHW

KEY:

- 1 - UE AUDAX PRO V2 outdoor unit (inclusive of external probe)
- 2 - UI MAGIS PRO V2 Indoor unit
- 3 - Heating system integrative electric resistance (optional)
- 4 - INOXSTOR V2 storage tank unit
- 5 - Storage tank probe
- 6 - DHW inlet safety unit (not supplied)
- 7 - 2-zone kit (for coupling to MAGIS PRO 12-14-16 V2)
- 8 - Inertial storage (to size)
- 9 - Thermostatic mixing valve
- 10 - Remote zone panel
- 11- DHW (Domestic hot water) integration electrical resistance

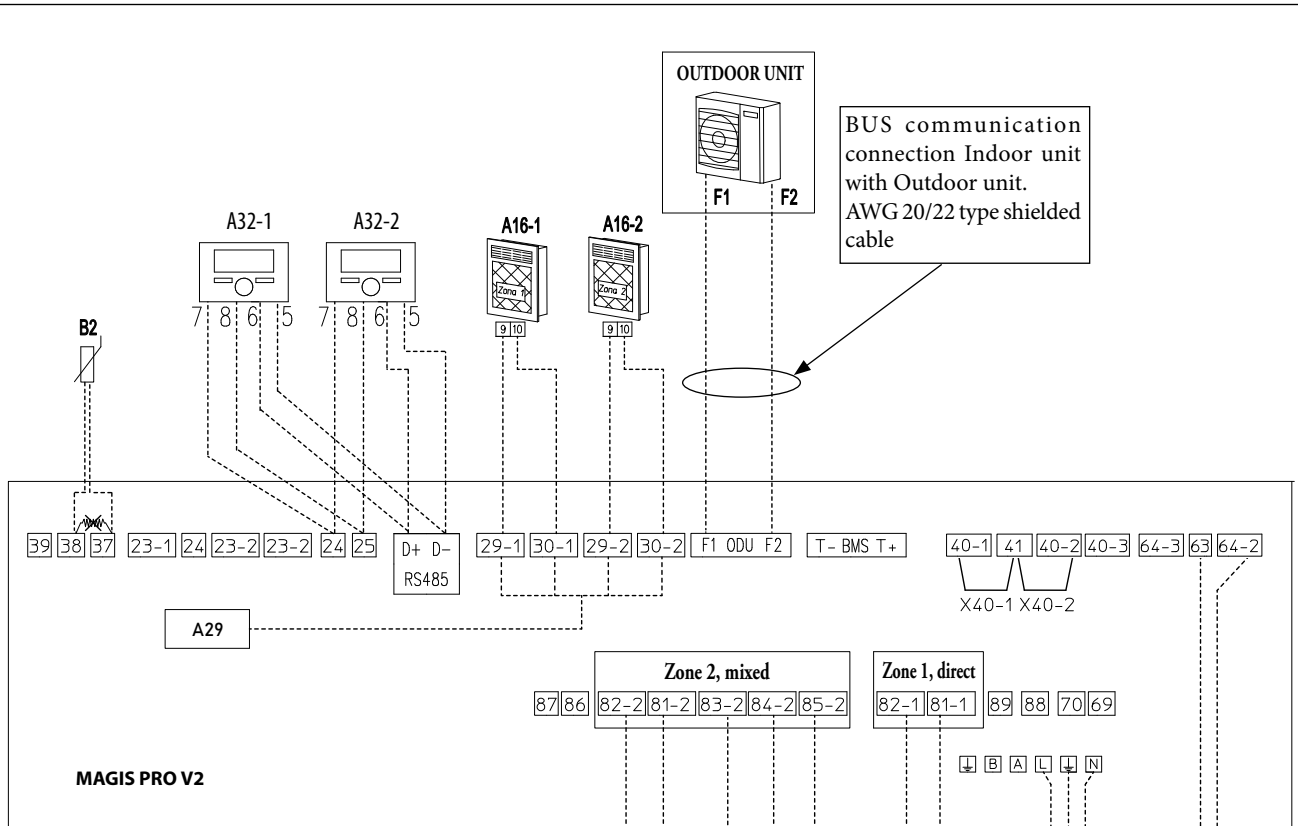
- A - Outdoor unit supply voltage
- B - Hydronic module supply voltage
- C - Heating system integrative electric resistance supply voltage
- D - DHW (Domestic hot water) integrative electrical resistance power supply



NOTE: this diagram is an example. It is also required to convey the heat pump's condensate drain. In order to guarantee proper Heat Pump operation, each system must consider inserting a bypass to guarantee a minimum flow rate of 750 l/h. In this diagram, the bypass is already installed in the zones kit (7).

MAGIS PRO 12 - 14 - 16 V2

24.1 WIRING DIAGRAM: MAGIS PRO V2 + KIT 2 ZONES (1 DIRECT AND 1 MIXED) + INTEGRATIVE RESISTANCE FOR HEAT SYSTEM



KEY:

- A32-1 - Remote zone 1 control
- A32-2 - Remote zone 2 control
- A16-1 - Dehumidifier zone 1
- A16-2 - Dehumidifier zone 2
- A29 - 2-relay board (optional)
- B2 - Storage tank temperature probe
- B3-2 - Zone 2 mixed flow probe
- M10-1 - Zone 1 circulator
- M10-2 - Zone 2 circulator
- M31-2 - Zone 2 mixing valve
- F1/F2 (ODU) - AUDAX PRO V2 communication bus

NOTE: please note that, in a setting without room thermostats, in order to meet the requirements coming from Zone remote panel, it is necessary to keep the jumper [X40-1] on terminals 40-1 and 41 and jumper [X40-2] terminals 40-2 and 41.

NOTE: To control the 2 dehumidifiers provide the 2-relay board kit (A29) for dehumidifiers management (optional) code 3.026302.

When using the ModBus temperature and humidity sensor kit (code 3.030992), in order to make temperature requests it is necessary to match a room thermostat in the zone as it is not possible to set the room set directly from the control panel.

To electrically connect the CH electric resistance, see the corresponding instruction sheet.

You can provide a further integration resistance inside the DHW storage tank.

MAGIS PRO 12 - 14 - 16 V2

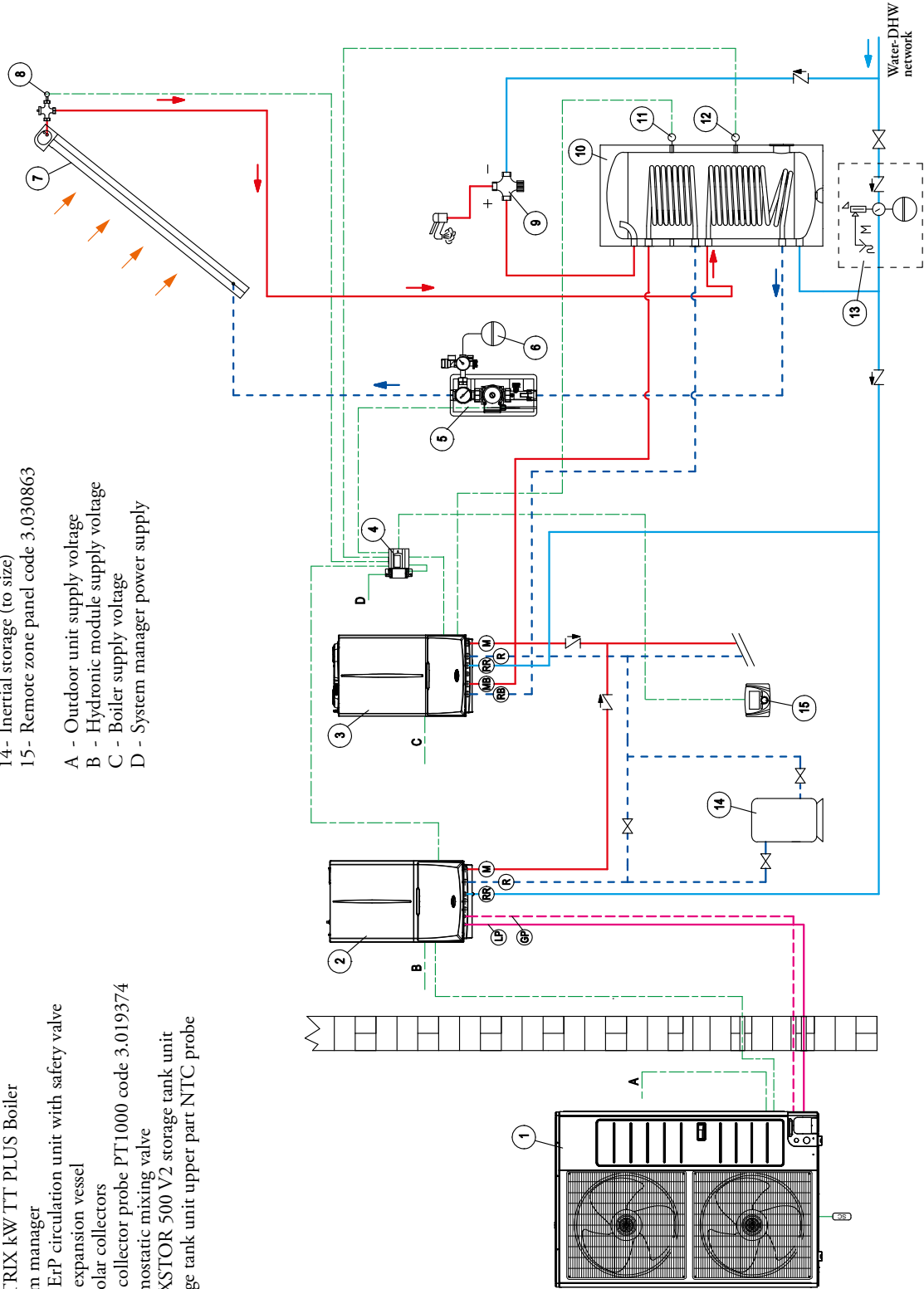
25 HYDRAULIC DIAGRAM: MAGIS PRO V2 (AIR CONDITIONING ONLY) + BOILER PLUS + SOLAR THERMAL FOR DHW + SYSTEM MANAGER

KEY:

- 1 - UE AUDAX PRO V2 outdoor unit (inclusive of external probe)
- 2 - UI MAGIS PRO V2 Indoor unit
- 3 - VICTRIX kW TT PLUS Boiler
- 4 - System manager
- 5 - Solar ErP circulation unit with safety valve
- 6 - Solar expansion vessel
- 7 - Flat solar collectors
- 8 - Solar collector probe PT1000 code 3.019374
- 9 - Thermostatic mixing valve
- 10 - INOXSTOR 500 V2 storage tank unit
- 11 - Storage tank unit upper part NTC probe

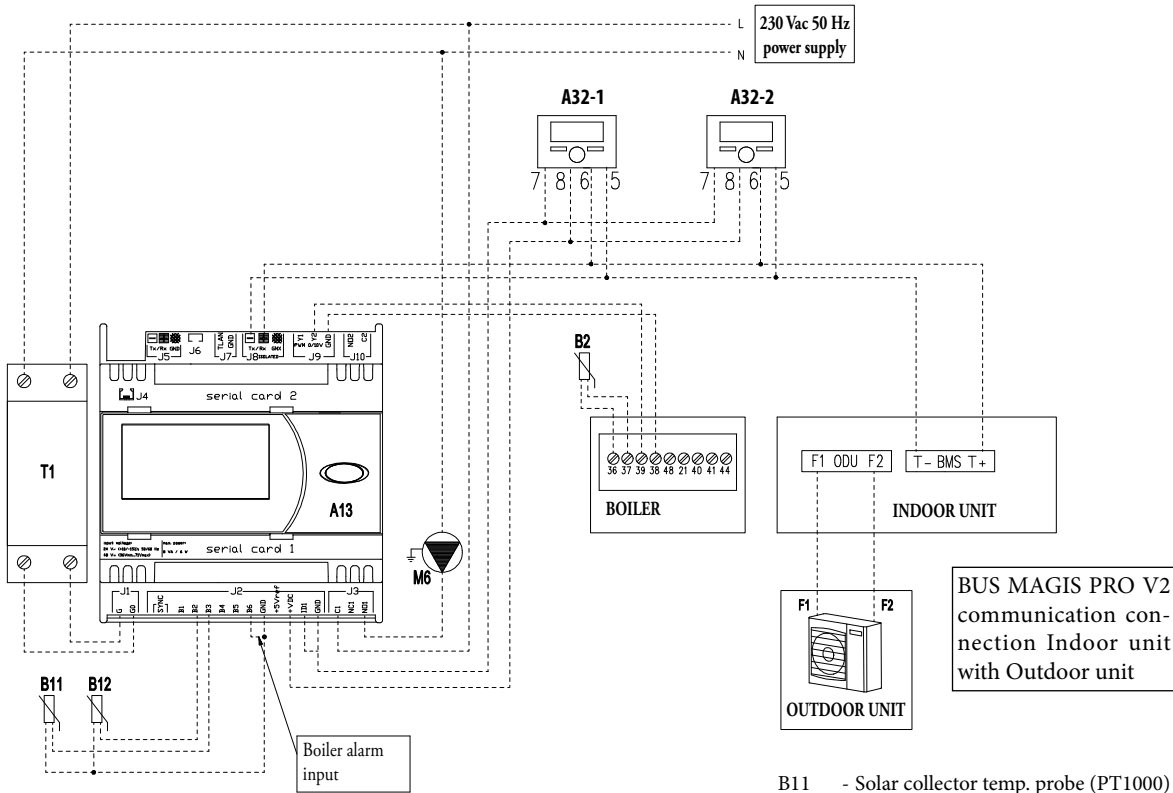
- 12 - NTC probe for storage tank unit bottom part
- 13 - DHW inlet safety unit (not supplied)
- 14 - Inertial storage (to size)
- 15 - Remote zone panel code 3.030863

- A - Outdoor unit supply voltage
- B - Hydronic module supply voltage
- C - Boiler supply voltage
- D - System manager power supply



NOTE: this diagram is an example. It is also required to convey the condensate drain of the heat pump and boiler. In order to guarantee proper Heat Pump operation, each system must consider inserting a bypass to guarantee a minimum flow rate of 750 l/h.

25.1 WIRING DIAGRAM: MAGIS PRO V2 (AIR CONDITIONING ONLY) + BOILER PLUS + SYSTEM DISTRIBUTION KIT + SOLAR HEATING FOR DHW + SYSTEM MANAGER

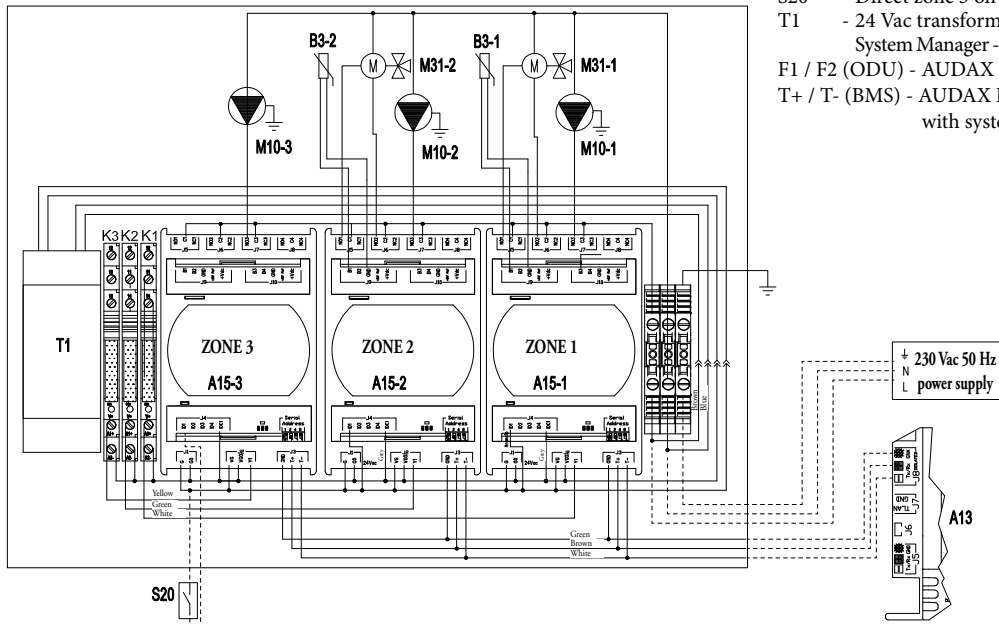


KEY:

- A13 - System manager
- A15-1 - Mixed zone 1 expansion
- A15-2 - Mixed zone 2 expansion
- A15-3 - Direct zone 3 expansion
- A32-1 - Mixed zone 1 remote panel
- A32-2 - Mixed zone 2 remote panel
- B2 - Storage tank upper part temp. probe (NTC)

- B11 - Solar collector temp. probe (PT1000)
- B12 - Storage tank lower part temp. probe (NTC)
- M6 - Solar ErP circulation group
- B3-1 - Zone 1 flow temperature probe
- B3-2 - Zone 2 flow temperature probe
- K1 - Zone 1 cooling enabling
- K2 - Zone 2 cooling enabling
- K3 - Zone 3 cooling enabling
- M10-1 - Zone 1 circulator
- M10-2 - Zone 2 circulator
- M10-3 - Zone 3 circulator pump
- M31-1 - Mixer zone 1
- M31-2 - Mixer zone 2
- S20 - Direct zone 3 on-off thermostat
- T1 - 24 Vac transformer (not supplied with the System Manager - standard with the distribution kit)
- F1 / F2 (ODU) - AUDAX PRO V2 communication BUS
- T+ / T- (BMS) - AUDAX PRO V2 communication BUS with system manager

KIT 2 ZONES MIXED AND 1 DIRECT



SUPER TRIO TOP WITH MAGIS PRO 12-14-16 V2

26

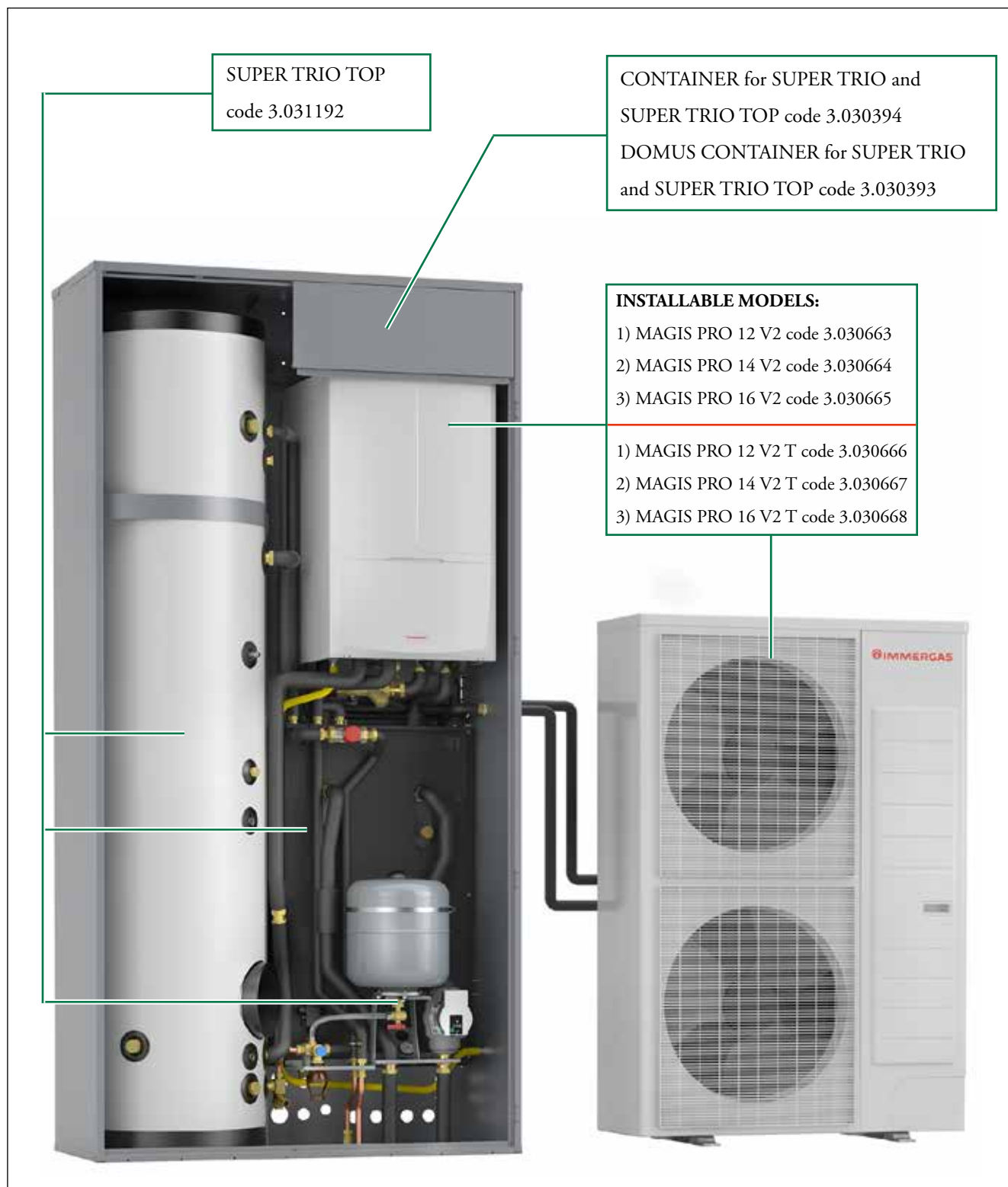
MAGIS PRO12-14-16 V2 WITH SUPER TRIO TOP (SINGLE-PHASE AND THREE-PHASE)

This system enables to create systems for air conditioning and the production of domestic hot water in multi-family homes and large villas.

SUPER TRIO TOP enables to develop multiple only with "HEAT PUMP" solutions; inside the CONTAINER for SUPER TRIO TOP (external recess, shown in the image below), or inside the aesthetic cabinet DOMUS CONTAINER for SUPER TRIO

TOP for installations in indoor areas of the home.

All components of the main system are placed inside a special container, thus allowing to reduce the overall dimensions and improve aesthetics. Hydraulic installation is also easier and faster compared to traditional systems that require special rooms that reduce the habitability of the building.



SUPER TRIO TOP WITH MAGIS PRO 12-14-16 V2

26.1**SUPER TRIO TOP (CODE 3.031192)**

Hydronic unit for built-in installation or in a technical cabinet, designed for the management of a direct zone (second zone optional), consisting of:

- 250 litre high-stratification stainless steel DHW storage tank, including side inspection flange, insulation with 2 vacuum plates and additional insulating material total thickness 30 mm near the hydraulic connections that place the boiler in class "C", single coil in Stainless steel, 2 magnesium anodes and inlet and outlet connections for any solar kit (optional);
- anti-freeze protection unit including heating cable (50 W absorption);
- hydraulic distribution unit including:
 - 1 low consumption modulating pump for heating and cooling systems;
 - 16 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;
- 45 litre stainless steel inertial storage tank, operating as a hydraulic separator (rectangular section, placed behind the hydraulic distribution unit);
- accessories for coupling with MAGIS PRO 12-14-16 V2 heat pumps including connection piping, hydraulic and refrigerant gas fittings, wall-mounted support bracket inside the recessed frame, DHW probe;
- electrical wiring.

Among others, shown in the specific technical data sheet, there is the possibility of combining additional exclusive options:

- Additional 2nd mixed zone kit code 3.031186;
- DHW recirculation kit (does not include pump) code 3.031205, any clock/timer to activate the pump is to be provided separately;
- Vertical 1-2 zone connection unit kit code 3.031193;
- Horizontal 1-2 zone connection unit kit code 3.031194;
- Rear 1-2 zone connection unit kit code 3.031195.

The above kits are the main ones; additional accessories are available to complete the installation (see section on optional kits).

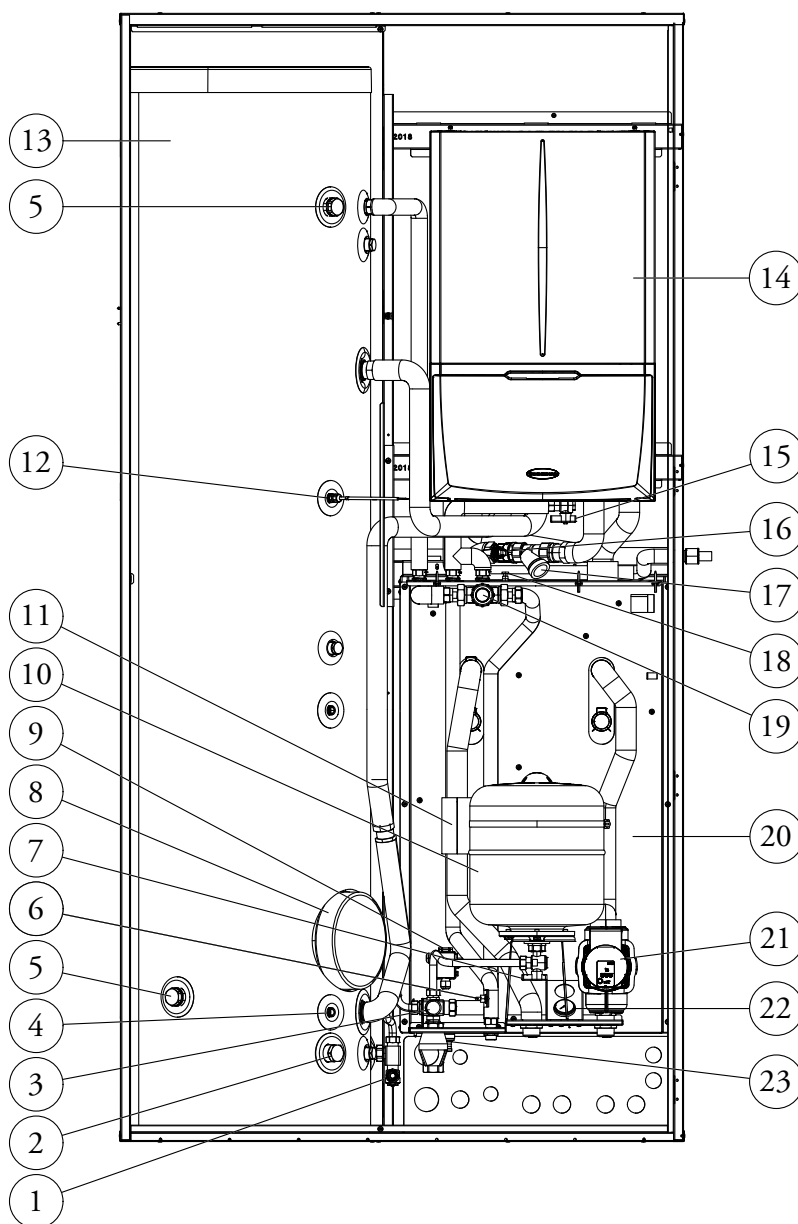
**• SUPER TRIO TOP****code 3.031192**

All components are insulated and made available in a single code.

SUPER TRIO TOP WITH MAGIS PRO 12-14-16 V2

26.2

MAGIS PRO V2 WITH SUPER TRIO TOP MAIN COMPONENTS



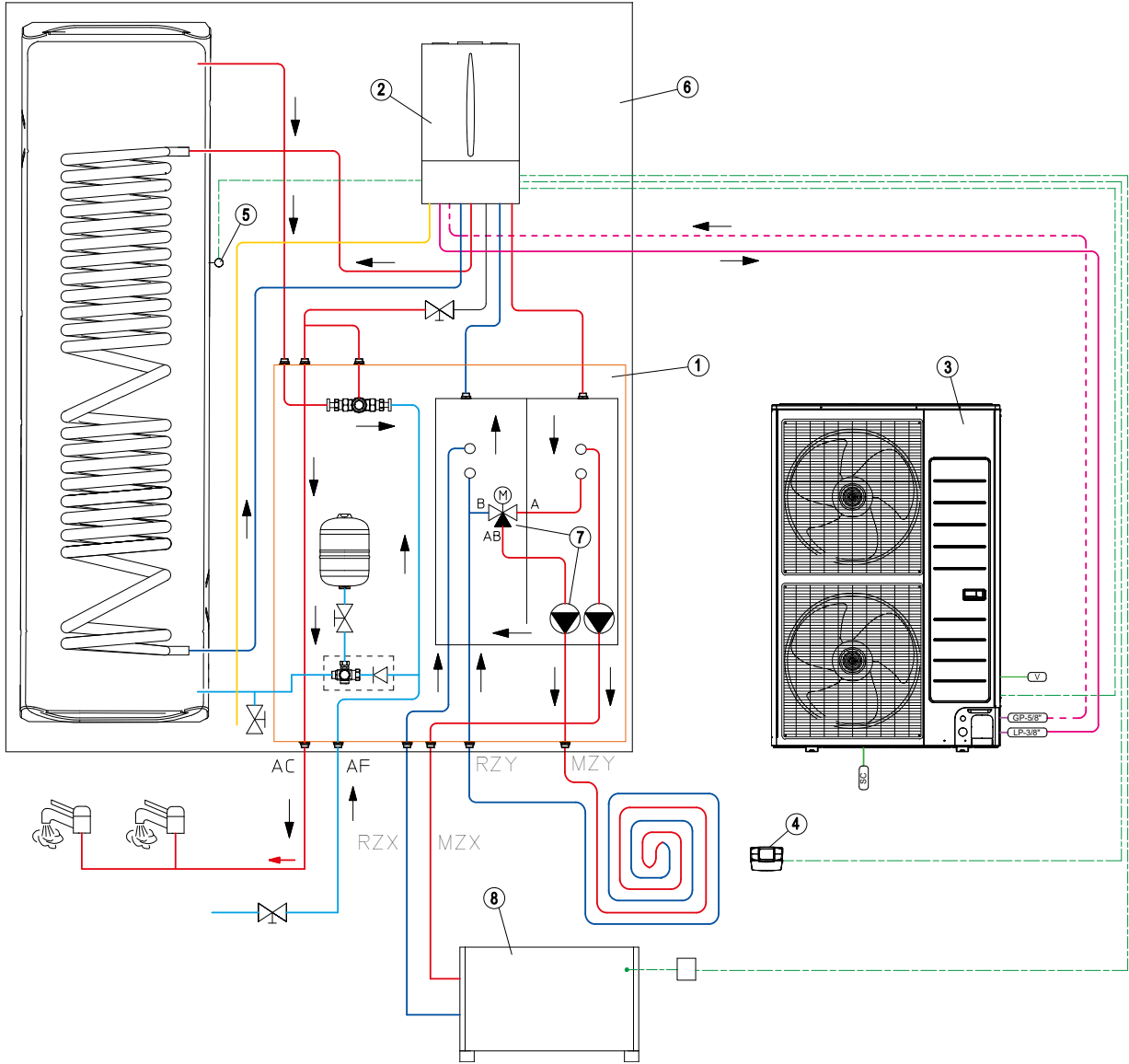
LEGENDA:

- | | |
|---|---|
| 1 - Storage tank unit draining tap | 13 - Storage tank unit |
| 2 - DHW Integrative resistance | 14 - MAGIS PRO 12-14-16 V2 ndoor unit |
| 3 - 8 bar safety valve | 15 - System filling valve |
| 4 - Solar probe (optional) | 16 - System return cock |
| 5 - Sacrificial anodes | 17 - Inspectionable filte |
| 6 - Antifreeze thermostat | 18 - Air vent valve |
| 7 - Domestic hot water vessel shut-off cock | 19 - DHW circuit mixing valve |
| 8 - Storage tank unit flange | 20 - Inertial storage tank |
| 9 - Antifreeze kit connection box | 21 - Direct zone pump |
| 10 - DHW (Domestic hot water) 16 l expansion vessel | 22 - Zone 1 flow temperature thermometer (direct) |
| 11 - One way valve | 23 - System draining cock |
| 12 - DHW probe | |

SUPER TRIO TOP WITH MAGIS PRO 12-14-16 V2

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MAGIS PRO V2 WITH SUPER TRIO TOP SYSTEM FUNCTIONAL DIAGRAM: SYSTEMS WITH A HEATING AND COOLING ZONE WITH FAN COILS + A RADIANT PANEL ZONE



NOTE: also remember to realise the condensate drain circuits

KEY:

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|--|---|
| <p>1 - SUPER TRIO TOP system consisting of:</p> <ul style="list-style-type: none"> • 250-Litre single coil storage tank • Hydronic unit with direct pump • DHW vessel • 45-Litre inertial storage tank <p>2 - MAGIS PRO V2 indoor unit</p> | <p>3 - AUDAX PRO 12-14-16 V2 Outdoor unit</p> <p>4 - CHRONO 7</p> <p>5 - DHW probe</p> <p>6 - CONTAINER for SUPER TRIO / TRIO TOP</p> <p>7 - Second mixed zone kit</p> <p>8 - HYDRO FS fan coil</p> |
|--|---|

SUPER TRIO TOP WITH MAGIS PRO 12-14-16 V2

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SUPER TRIO TOP OPTIONALS

OPTIONAL components but necessary to complete the SUPER TRIO TOP SYSTEM	Code
SUPER TRIO TOP	3.031192
CONTAINER for SUPER TRIO	3.030394
DOMUS CONTAINER for SUPER TRIO	3.030393
Top guard kit for DOMUS CONTAINER for SUPER TRIO	3.030484
SUPER TRIO TOP SYSTEM with MAGIS PRO 12-14-16 V2 optional components	Code
3 kW thermal system integrative electric resistance kit code	3.030991
Anti-freeze resistance kit down to -15 °C for MAGIS PRO V2	3.017324
1.5 kW system electric resistance kit for DHW storage tank code	3.029927
OPTIONAL components available for all SUPER TRIO TOP systems	Code
Zone remote panel - (device class V* or VI)	3.030863
Temperature and humidity sensor kit ModBus - (device class V or VI*) - to make temperature requests, it is necessary to couple a chrono-thermostat code 3.021622 or 3.021624	3.030992
CRONO 7 (Digital weekly chrono-thermostat) - (device class IV* or VII)	3.021622
CRONO 7 WIRELESS (device class IV* or VII)	3.021624
External probe - if the outdoor unit is installed under unfavourable conditions (device class II* or VI or VII)	3.015266
Humidistat kit	3.023302
Additional 2nd mixed zone kit	3.031186
Vertical 1-2 zone connection unit kit (G1)	3.031193
Horizontal 1-2 zone connection unit kit (G1)	3.031194
Rear 1-2 zone connection unit kit (G1)	3.031195
Polyphosphate dispenser kit ⁽¹⁾ (for indoor installations only)	3.020628
Three-way deviator valve kit used as hot/cold system deviator	3.020632
Configurable relay interface kit	3.015350
Two relay board kit (for dehumidifier management)	3.026302
Dehumidifier kit - for recessed installation only	3.021529
Dehumidifier frame kit	3.022146
Dehumidifier grid kit	3.022147
DHW recirculation kit ⁽¹⁾ (including circulator pump)	3.031205
Safety marker thermostat kit	3.019229
DOMINUS Interface board kit	3.026273
Wall installation brackets kit for outdoor condensing unit for entire range	3.034758
ZENITAIR-MONO (punctual controlled mechanical ventilation)	3.030601
External terminal kit with soundproofing for ZENITAIR	3.030636
HYDRO V2 range Wall-hung hydronic split, HYDRO FS range floor standing hydronic fan coil, HYDRO IN range recessed hydronic fan coil	Codes various
Solar thermal system coupling kit **: consisting of a single solar circulation unit, solar control unit, 16-plate heat exchanger, connection tubes, 18-litre solar expansion vessel and temperature sensors (for storage tank and solar collector)	3.031189

*Device class (REF. Communication of the European Commission 2014/C 207/02) with factory settings.

** In case of application with solar heating, as well as Kit code 3.031189, the solar heating components on the list are available. We recommend using 2 flat solar manifolds at most.

(1) The kits: DHW recirculation and polyphosphate dispenser, CANNOT coexist inside the 2 CONTAINERS for SUPER TRIO.

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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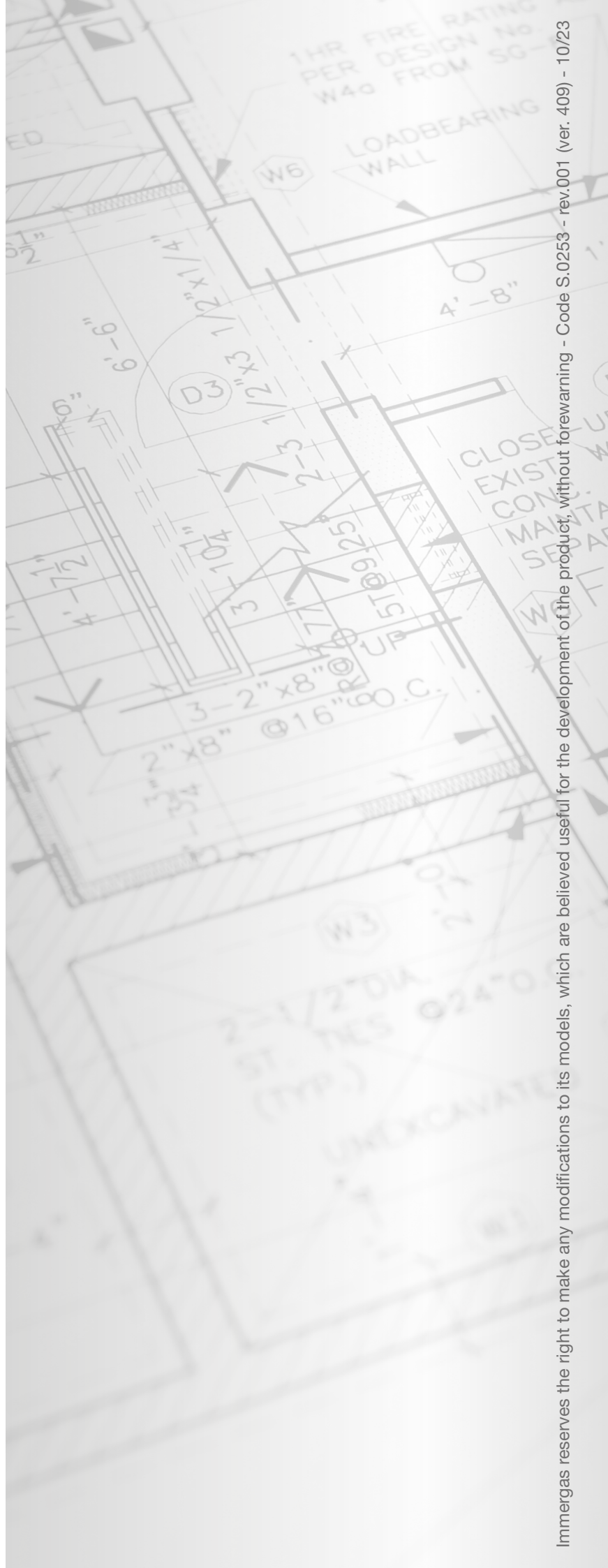
To request further specific details, sector Professionals can also use the following e-mail address:
consulenza@immergas.com

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



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