



MAGIS COMBO 12-14-16 V2

MAGIS COMBO 12-14-16 PLUS V2

Compact reversible air-water hybrid systems with inverter (single and three-phase) for air conditioning and DHW production



MAGIS COMBO V2 / COMBO PLUS V2



“Split” inverter reversible air/water hybrid heat pumps, consisting of an outdoor unit plus an indoor unit (with hydronic unit and R410A/water heat exchanger separate from the outdoor unit + condensation unit). There are 6 instantaneous versions, 3 single and 3 three-phase versions, with nominal heat pump powers of 12, 14 and 16 kW. The central heating only versions, called PLUS, are also 6, 3 single-phase and 3 three-phase versions, with the same outdoor units indicated above. The water circuit is completely protected against frost if the indoor wall-mounted unit is placed inside the house; the connection with the outdoor unit always takes place with a pipe containing R410A fluorinated gas. MAGIS COMBO V2 is ideal for conditioning rooms in central heating mode (maximum flow temperature 80°C) in cooling mode, and can produce DHW instantaneously, or coupled with a separate storage tank (PLUS mod.).

The activation logic integrated in the system’s electronics is able to determine the most convenient source of energy at that time (heat pump/condensation unit) and - therefore - to choose the source to activate; allows simplifying the electrical connections (it is not usually required to provide heat adjustment outdoor control units for the “System Manager”, which is still available as optional to manage special systems, such as systems spread over more than 3 zones).

The indoor unit of the MAGIS COMBO V2 is approved for outdoor use in a partially protected environment and can also be installed inside the SOLAR or DOMUS CONTAINER frames for SUPER TRIO TOP, with SUPER TRIO TOP hydronic unit.

MAGIS COMBO 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. Ideal for large new residential constructions (especially the PLUS version, which uses part of the renewable source from the heat pump also for the production of DHW, in complete legal compliance), but also for the replacement of obsolete boilers in systems in which to encourage the use of renewable energy (in this case, the instant version is particularly suitable for the purpose).

It allows to achieve very high energy classes with the safety of continuous service, thanks to 2 generators (boiler and HP), even on systems operating at medium and high temperatures.

In the foreseen cases, for interventions on the existing one, the entire MAGIS COMBO V2 range can benefit from the tax concessions in force and the new Conte Termico 2.0, as well as the possibility of wall flue exhaust (ref. It.Leg. Decree 102/2014).

55 °C **A+**

MAGIS COMBO and
MAGIS COMBO PLUS
12 - 14 - 16 V2

35 °C **A+++**

MAGIS COMBO and
MAGIS COMBO PLUS
12 - 14 V2

35 °C **A++**

MAGIS COMBO and
MAGIS COMBO PLUS
16 V2

MAGIS COMBO V2 / COMBO PLUS V2

1 CHARACTERISTICS MAGIS COMBO 12-14-16 V2 / COMBO 12-14-16 PLUS V2 (SINGLE AND THREE-PHASE)

“Split” reversible single-phase or three-phase air/water hybrid heat pumps with inverters, consisting of an outdoor unit and an indoor hybrid unit of the wall-mounted type. The thrust integration of the generators (heat pump and condensation unit) provides advantages in terms of functions and installation while reducing overall dimensions with respect to “D.I.Y.” solutions.

A single “package” code identifies the complete system consisting of the following main components:

- **Outdoor unit** (UE AUDAX PRO V2 / UE AUDAX PRO V2 T) with 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;
- **Hybrid indoor unit** (UI MC AP / UI MCP AP), wall-mounted, which houses a series of components required to make the product ready for operation, without the need for additional external elements:
 - The hydraulic circuit components for connection to the system, as well as the related management and communication electronics with the outdoor unit; in particular, it is composed of 72-plate R410A/ water exchanger, 10-litre system expansion vessel, flow-meter, 24 Vdc power supply, management electronics;
 - Condensing unit with 32 kW nominal useful power (27.520 kcal/h) with total premixing combustion system with steel multigas cylindrical burner, complete with ignition electrode and ionisation control electrode and double shutter pneumatic gas valve, gas/water primary exchanger with composite casing and stainless steel internal coil; stainless steel combustion chamber internally insulated with ceramic panels, fan for flue gas evacuation at electronically variable speed, circuit for the disposal of condensate including siphon and flexible drain hose;
 - 18-plate stainless steel secondary water/water exchanger for the production of domestic hot water, D.H.W. flow switch for detection of withdrawal of D.H.W. (MAGIS COMBO V2 instant version);
 - Hydraulic unit consisting of 3-way electric valve, low consumption 7 m.c.a. circulation pump (associated with the condensation generator operation), low consumption 10 m.c.a. circulation pump (associated with cooling circuit operation), absolute pressure switch for the primary circuit, 3-bar primary circuit safety valve, system drain fitting and cock for system filling; in the MAGIS COMBO PLUS V2 there is an additional 3-way electric valve to manage the D.H.W. central heating with the heat pump circuit;
 - Control panel composed of central heating system pressure gauge, multifunction display and 7-digit keyboard for setting and adjusting the generator operating parameters: central heating/cooling flow temperature adjustment buttons, DHW temperature adjustment buttons, summer/winter mode button, reset button, menu button;
 - Self-diagnosis system with digital display of the functioning status and error codes;
 - Antifreeze protection system (up to -5°C as standard), anti-blocking function of the circulator and 3-way valve, chimney sweep functions, automatic vent and screed heater;
 - IPX4D Electrical insulation rating;
 - Solution designed for indoors, outdoors and in combination with the recessed SUPER TRIO TOP (with CONTAINER SUPER TRIO) or in cabinet (with DOMUS CONTAINER SUPER TRIO);
 - Possibility of coupling to the system for ducting of existing flues Ø 50 mm, Ø 60 mm and Ø 80 mm (for condensation units).
 - Hydraulically the indoor unit is set-up for connection to 1 central heating/cooling zone and for connection to the DHW storage tank (PLUS version) or to the D.H.W. circuit (instant); there are also the R410A connections to the outdoor unit;

- 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);
- The electronics of MAGIS COMBO 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 (optional) for both central heating and cooling operation; in this case MAGIS COMBO 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 of setting the climatic curves by hot and cold (for the 3 zones), on the electronics of the hydronic module, no need to provide for the system manager;
- Possibility to program each zone independently in hot, hot/cold or cold only (dehumidification included, with dew point calculation);
- 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 zone 3 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;
- It includes a 230 Vac output to control summer/winter diverter valves; switching occurs with the change of mode (summer/winter) from the control panel;
- The electronics allow activation of the “anti-legionella” function;
- Input to force activation with photovoltaic system that produces electricity;
- Possible connection to the System Manager (optional) to manage systems with more than 3 zones.

Supplied with sample points for combustion analysis, lower protection guard, connection group, cock with filter on system flow, cock on the system flow, gas interception cock and cold water cock.

Category II_{2H3/P}, II_{2HM3/P} appliance, functions with a natural gas, L.P.G. and propane air.

It is available in versions with instant DHW production:

- | | |
|------------------------------|----------------------|
| • MAGIS COMBO 12 V2 | code 3.030819 |
| • MAGIS COMBO 12 V2 T | code 3.030825 |
| • MAGIS COMBO 14 V2 | code 3.030820 |
| • MAGIS COMBO 14 V2 T | code 3.030826 |
| • MAGIS COMBO 16 V2 | code 3.030821 |
| • MAGIS COMBO 16 V2 T | code 3.030827 |

or central heating only for connection with separate storage tank unit:

- | | |
|-----------------------------------|----------------------|
| • MAGIS COMBO 12 PLUS V2 | code 3.030822 |
| • MAGIS COMBO 12 PLUS V2 T | code 3.030828 |
| • MAGIS COMBO 14 PLUS V2 | code 3.030823 |
| • MAGIS COMBO 14 PLUS V2 T | code 3.030829 |
| • MAGIS COMBO 16 PLUS V2 | code 3.030824 |
| • MAGIS COMBO 16 PLUS V2 T | code 3.030830 |

(for LPG versions, **LPG** must be added to the code above)

Installation template code 2.016891

EC declaration of conformity



The MAGIS COMBO 12-14-16 V2 and MAGIS COMBO 12-14-16 PLUS V2 hybrid heat pumps, developed entirely by Immergas S.p.A. allow the creation of technological systems for air conditioning and domestic hot water production for multi-family homes and large villas. They are available with single-phase and three-phase powered heat pumps.

These solutions, with higher power than the 4-6- and 9 kW versions, expand the range of one of the most flexible products of the hybrid systems proposed by Immergas.

Thanks to the versatility of MAGIS COMBO PLUS V2, multiple hybrid solutions can be created.

Not only wall-mounted for indoors or outdoor of the home in a partially protected environment, also inside the CONTAINER for SUPER TRIO TOP (external recess), or inside the aesthetic cabinet DOMUS CONTAINER SUPER TRIO TOP for installations in indoor areas of the home.

Thanks to the 32 kW heat generator and the 12, 14 or 16 kW split heat pumps, they are ideal products for large buildings potentially used for commercial applications, even in climate areas with cold winter temperatures.

For those who wish to minimise electricity consumption, MAGIS COMBO V2 and MAGIS COMBO PLUS V2 are designed to receive a contact from photovoltaic systems, which enable to minimise mains electricity consumption.

In fact, the heat pump can be operated at a higher rate when electricity is produced from a renewable source.

In this regard, Immergas provides 3 different photovoltaic solutions that ensure the highest efficiency and quality standards. The START solution, simple, reliable, safe that aims to keep energy costs low. With SMART and STORAGE, savings are further increased thanks to the use of solar optimisers and storage batteries.

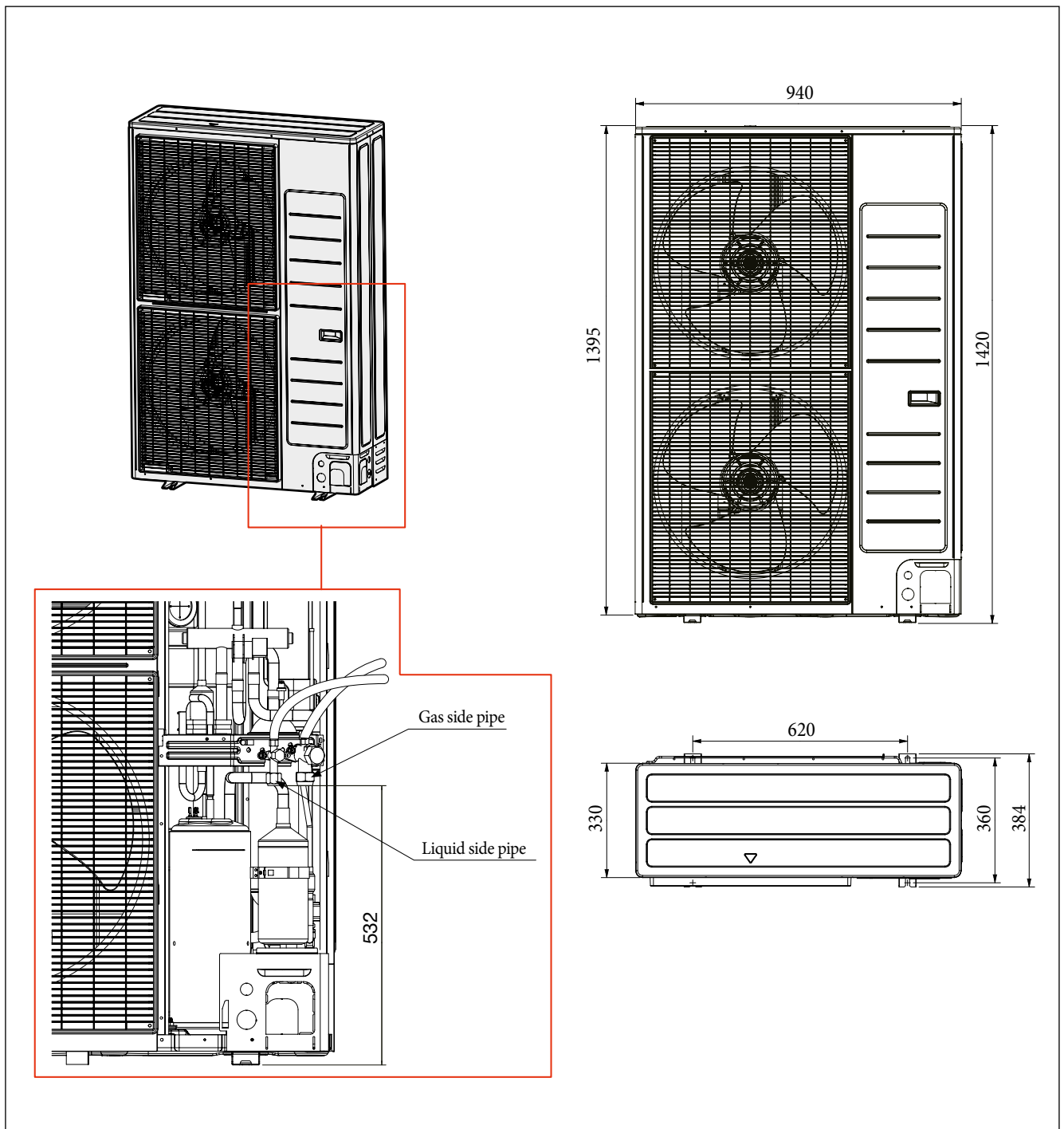
The management electronics are already present as standard in each product, therefore no remote management control units are required.

The climate curve can be set independently for each zone, giving the option of deciding whether central heating, cooling, or both services are required for that zone.

You can decide whether to use a standard pre-configured operation or set your own custom parameters.

UE MC-MCP AP OUTDOOR UNIT

3 AUDAX PRO 12-14-16 V2 DIMENSIONS AND CONNECTIONS (OUTDOOR UNIT)



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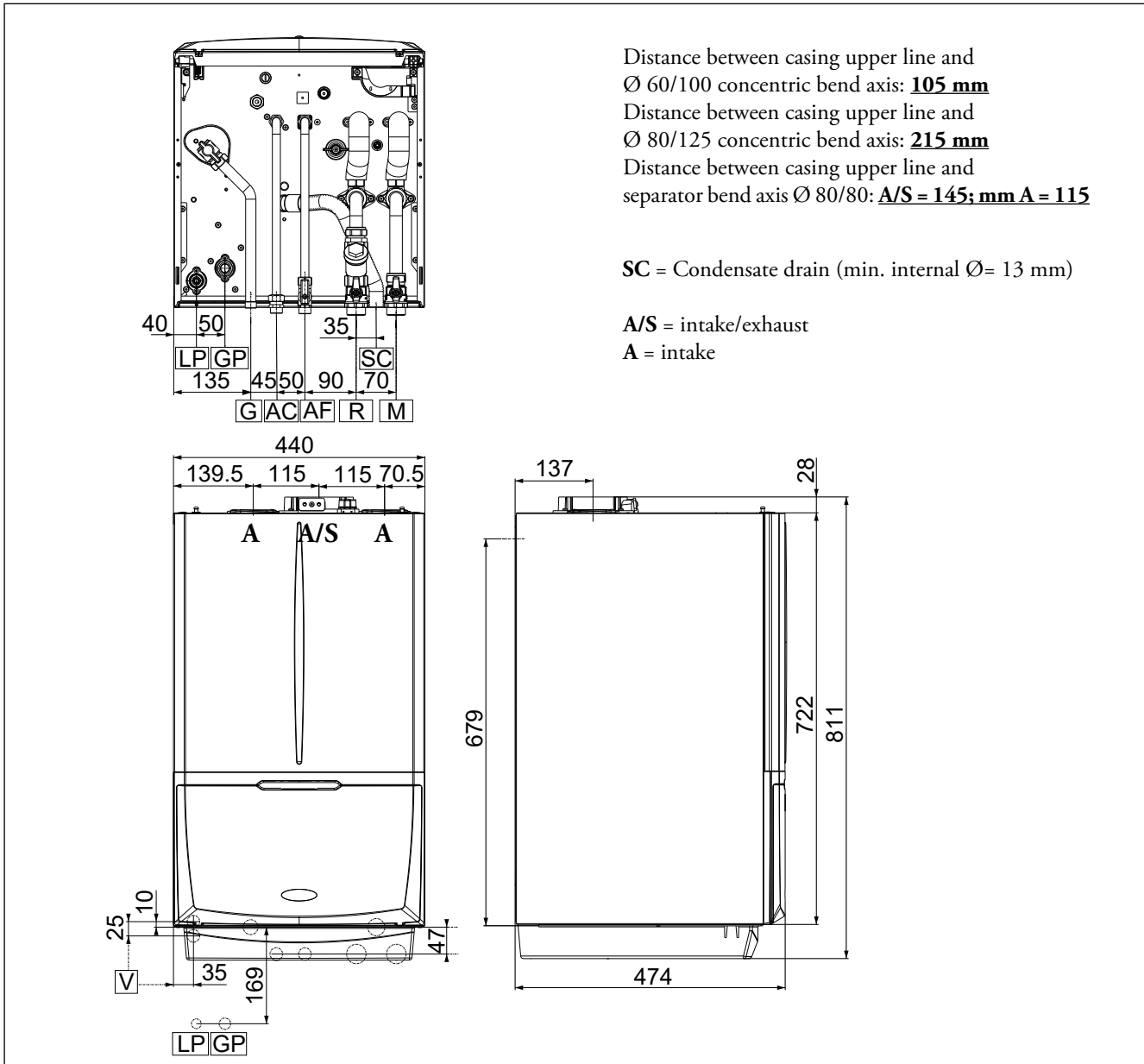
	R410A	
Model	LP (Cooling liquid)	GP (Gaseous liquid)
UE AUDAX PRO 12-14-16 V2	3/8" (9.52 mm)	5/8" (15.88 mm)
UE AUDAX PRO 12-14-16 V2 T	3/8" (9.52 mm)	5/8" (15.88 mm)

UI MC AP INDOOR UNIT

4 MAGIS COMBO 12-14-16 V2 MAIN DIMENSIONS

Model	Height mm	Width mm	Depth mm	Ø intake/exhaust mm
MAGIS COMBO V2	811	440	474	100/60 - 125/80 - 80/80

4.1 MAGIS COMBO 12-14-16 V2 CONNECTIONS



MAGIS COMBO 12-14-16 V2

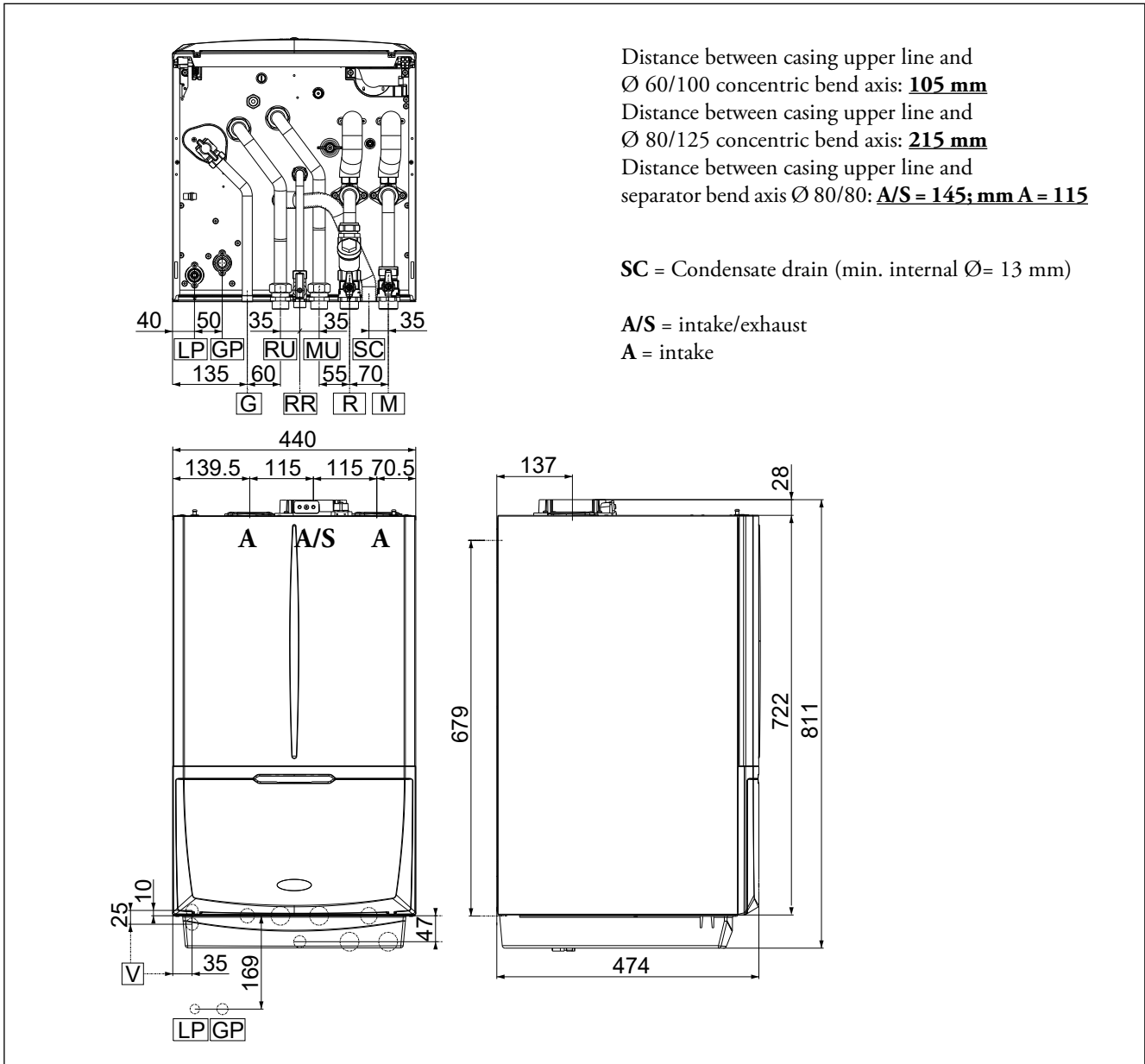
Flow System	Return system	Inlet Cold	Hot Outlet	R410A LP	R410A GP	Gas G	Expansion vessel Litres
M 1"	R 1"	AF 1/2"	AC 1/2"	3/8" (9.52 mm)	5/8" (15.88 mm)	3/4"	10 (real 8.3)

UI MCP AP INDOOR UNIT

5 MAGIS COMBO 12-14-16 PLUS V2 MAIN DIMENSIONS

Model	Height mm	Width mm	Depth mm	Ø intake/exhaust mm
MAGIS COMBO PLUS V2	811	440	474	100/60 - 125/80 - 80/80

5.1 MAGIS COMBO 12-14-16 PLUS V2 CONNECTIONS

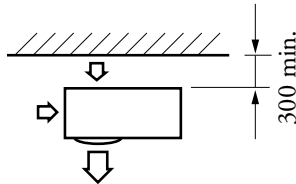


MAGIS COMBO 12-14-16 PLUS V2								
Flow System	Return System	System Filling	Storage tank Flow	Storage tank return	R410A LP	R410A GP	Gas G	Expansion vessel Litres
M	R	RR	MU	RU	3/8"	5/8"		
1"	1"	1/2"	1"	1"	(9.52 mm)	(15.88 mm)	3/4"	10 (real 8.3)

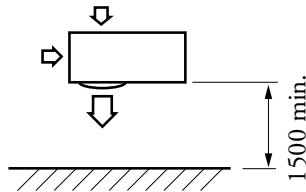
UE MC-MCP AP OUTDOOR UNIT

6 AUDAX PRO V2 MINIMUM INSTALLATION DISTANCES (SINGLE)

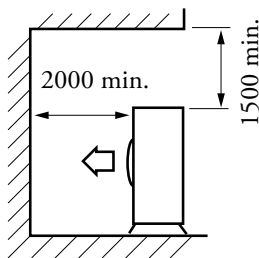
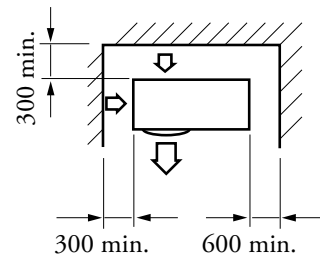
With the back side of the unit facing a wall



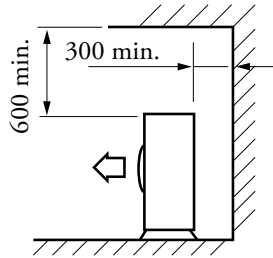
With the front side of the unit facing a wall



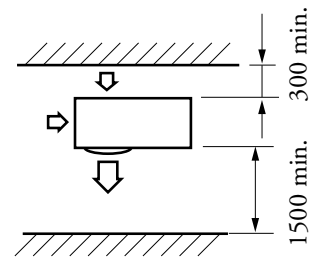
With three sides of the unit facing a wall



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

(mm)

Place of installation:

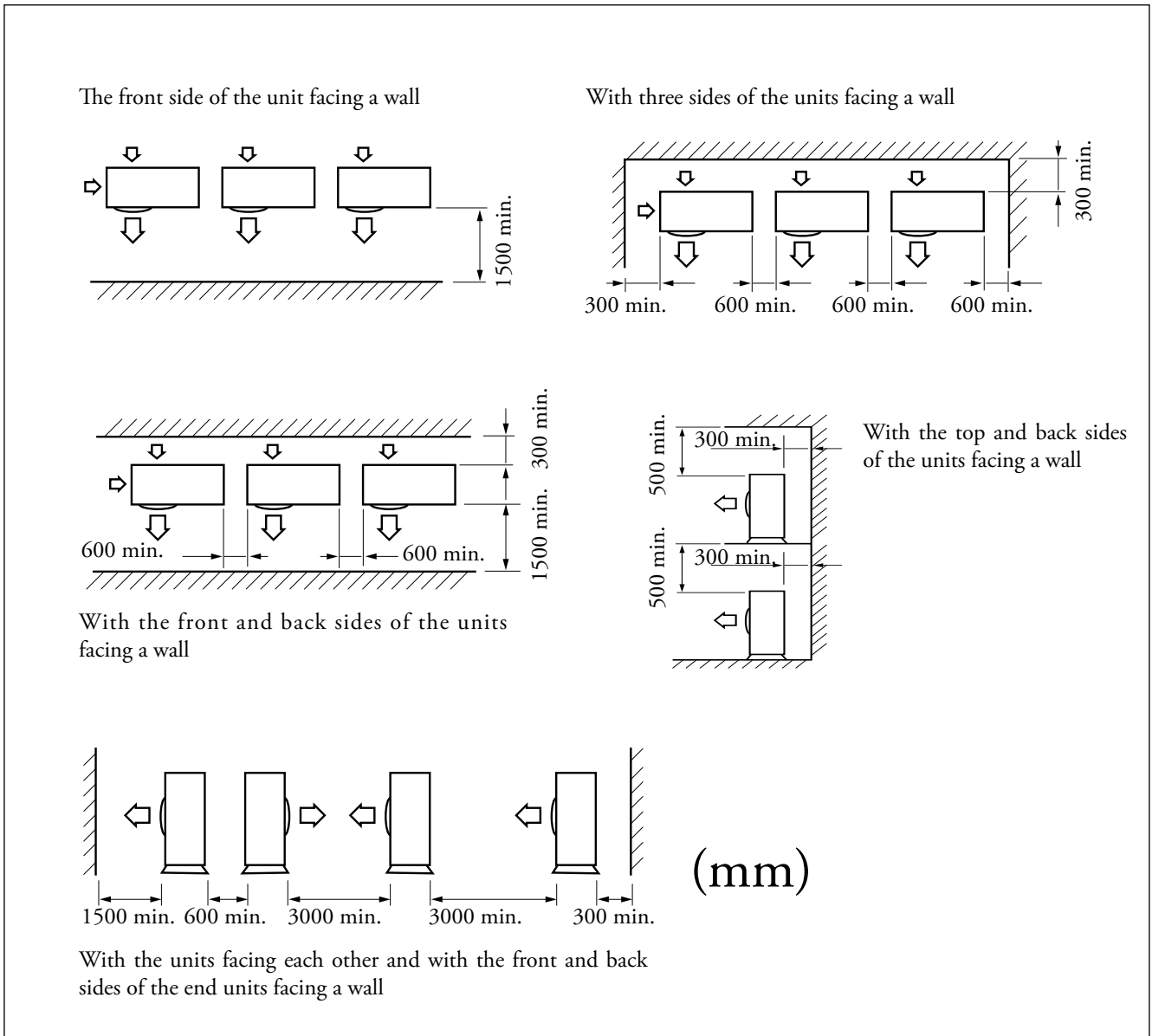
The place of installation is very important and must be established by the system's designer or by a specifically qualified person, and must consider the technical requirements, standards and laws in force.

- 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.

UE MC-MCP AP OUTDOOR UNIT

6.1 AUDAX PRO V2 MINIMUM INSTALLATION DISTANCES (SEVERAL APPLIANCES)



- 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).

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).

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

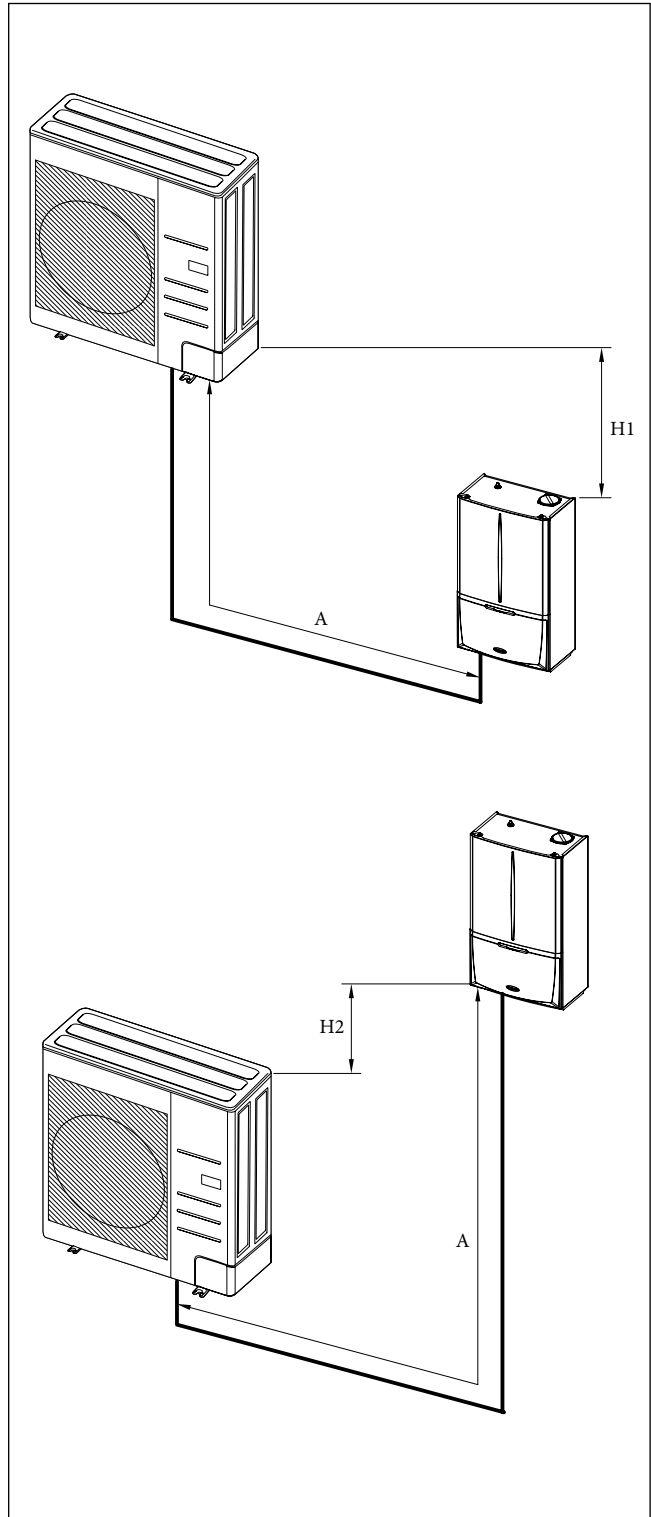
- The R410A is a high pressure refrigerant, the pipes and other parts subject to pressure must be compliant and suitable for the refrigerant itself. Therefore, the pipes must be certified for cooling and it is necessary to observe the methods of installation stated on the instruction manual supplied 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.



MAGIS COMBO V2 / COMBO PLUS V2

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 (Exceeding 30 °C, RH 85%)	
		EPDM, NBR		
Liquid	Ø 12.70 - 19.05	13	13	The pre-selected material must be able to withstand temperatures exceeding 120°C
Gas	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:

For all MAGIS COMBO 12-14-16 V2 and COMBO 12-14-16 PLUS V2 models with coolant gas R410A:

- AUDAX PRO 12-14-16 V2 = 2.98 kg

All the default factory loads are determined as follows, depending on the standard length of the pipes (see table below).

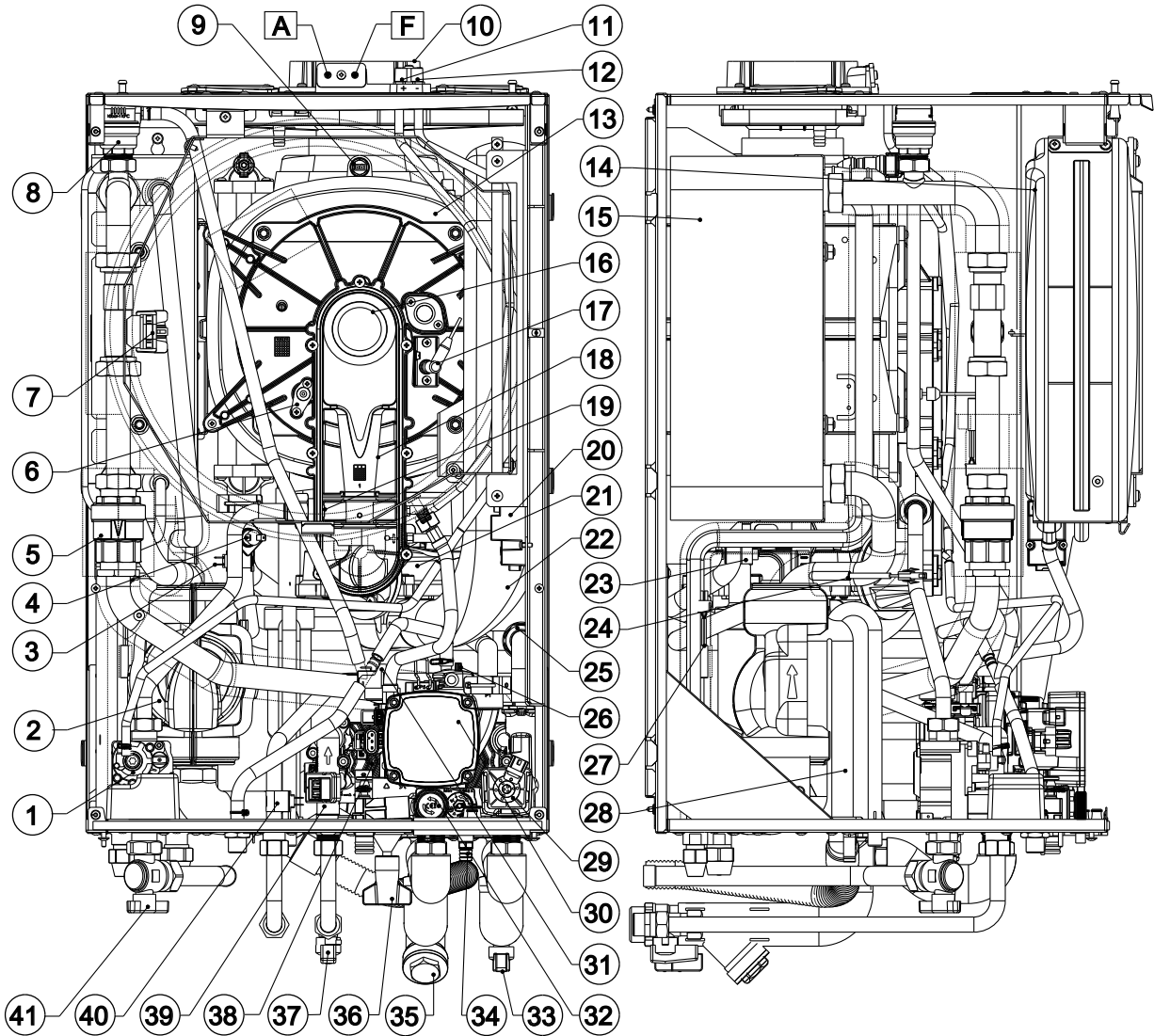
If the used pipes are longer than stated below, the load must be topped-up in the manner and quantities described in the instruction manual supplied with the product.

The top-up depends on the total length and diameter of the pipes.

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

MAGIS COMBO 12-14-16 V2 and COMBO 12-14-16 PLUS V2 (single and three-phase)	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 12-14-16 V2	Ø 9.52 - 3/8"	≤ 15 m	50 g/m

8 MAGIS COMBO 12-14-16 V2 MAIN COMPONENTS (INDOOR UNIT)

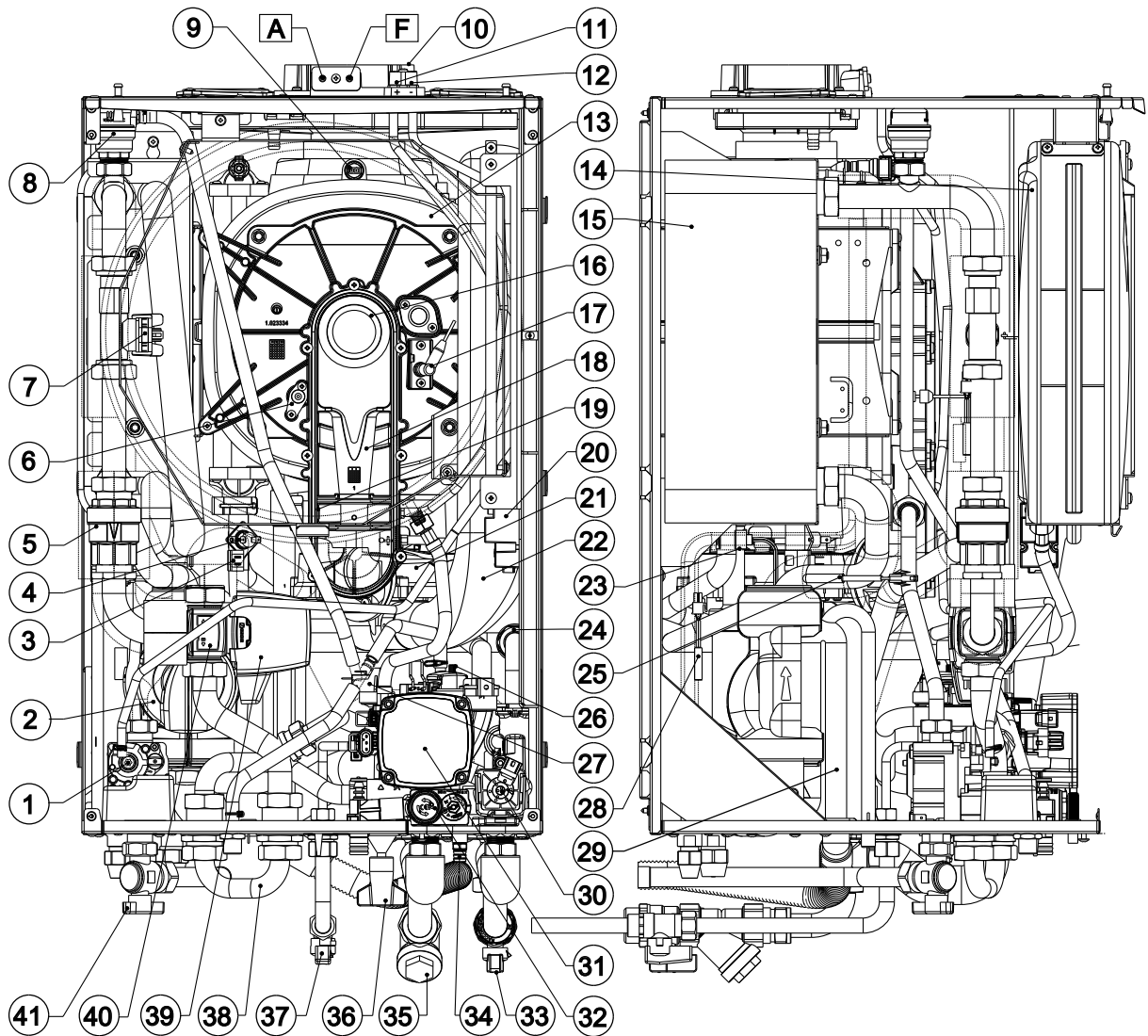


KEY:

- | | |
|-------------------------------------|------------------------------------|
| 1 - Gas valve | 20 - Igniter |
| 2 - Heat pump circulator | 21 - Fan |
| 3 - Heat pump flow probe | 22 - Air intake pipe |
| 4 - Safety thermostat | 23 - Liquid phase detection probe |
| 5 - Check valve | 24 - Storage tank probe |
| 6 - Detection electrode | 25 - Check valve |
| 7 - System flow-meter | 26 - Jolly valve |
| 8 - Air vent valve | 27 - DHW probe |
| 9 - Flue gas thermofuse | 28 - Condensate drain trap |
| 10 - Flange with sample points | 29 - Heat generator 3-way valve |
| 11 - Positive signal pressure point | 30 - Heat generator circulator |
| 12 - Negative signal pressure point | 31 - System pressure switch |
| 13 - Condensation module | 32 - 3 bar safety valve |
| 14 - System expansion vessel | 33 - Interception cock |
| 15 - Gas heat exchanger | 34 - System draining fitting |
| 16 - Burner | 35 - Sloped filter |
| 17 - Ignition glow plug | 36 - System filling cock |
| 18 - Venturi | 37 - Domestic hot water inlet cock |
| 19 - Gas nozzle | 38 - Water - gas plate exchanger |
| | 39 - D.H.W. flow switch |
| | 40 - DHW probe |
| | 41 - Gas cock |

UI MCP AP INDOOR UNIT

9 MAGIS COMBO 12-14-16 PLUS V2 MAIN COMPONENTS (INDOOR UNIT)

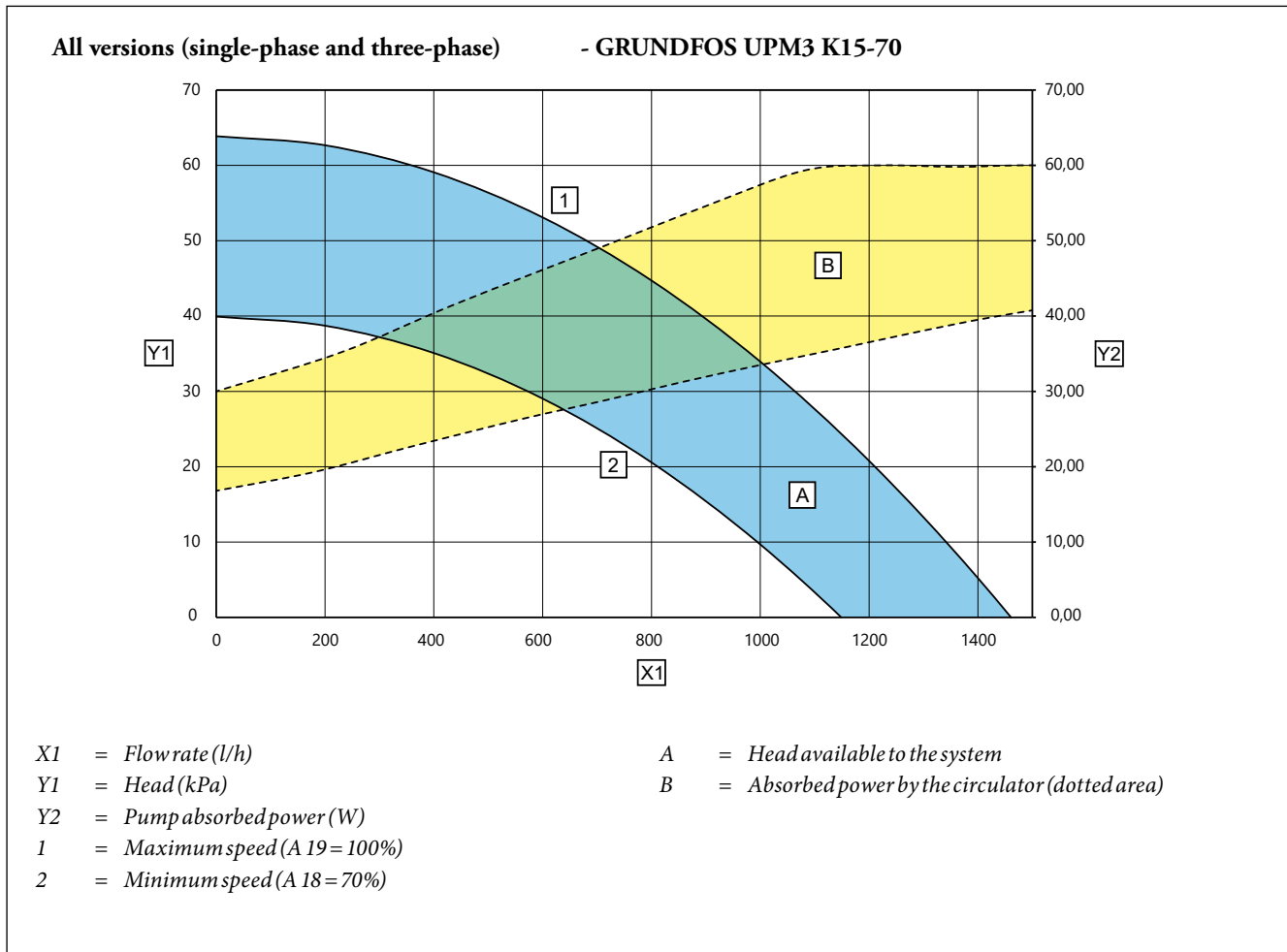


KEY:

- | | | | |
|----|----------------------------------|----|---------------------------------|
| 1 | - Gas valve | 21 | - Fan |
| 2 | - Heat pump circulator | 22 | - Air intake pipe |
| 3 | - Heat pump flow probe | 23 | - Liquid phase detection probe |
| 4 | - Safety thermostat | 24 | - Check valve |
| 5 | - Check valve | 25 | - Storage tank probe |
| 6 | - Detection electrode | 26 | - Jolly valve |
| 7 | - System flow-meter | 27 | - System pressure switch |
| 8 | - Air vent valve | 28 | - DHW probe |
| 9 | - Flue gas thermofuse | 29 | - Condensate drain trap |
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| 12 | - Negative signal pressure point | 32 | - 3 bar safety valve |
| 13 | - Condensation module | 33 | - Interception cock |
| 14 | - System expansion vessel | 34 | - System draining fitting |
| 15 | - Gas heat exchanger | 35 | - Sloped filter |
| 16 | - Burner | 36 | - System filling cock |
| 17 | - Ignition glow plug | 37 | - Domestic hot water inlet cock |
| 18 | - Venturi | 38 | - By-pass pipe |
| 19 | - Gas nozzle | 39 | - HP 3-way valve motor |
| 20 | - Igniter | 40 | - HP 3-way valve casing |
| | | 41 | - Gas cock |

10

GRAPH OF HEAT GENERATOR PUMP FLOW RATE/HEAD



10.1

INDOOR UNIT PUMP SETTINGS AND CONFIGURATIONS

The indoor units are equipped with low power consumption pumps with variable speed control, one for the heat generator and one for the heat pump.

The pump speed is set via the following parameters:

Fixed ("A 05" = 0): the speed of the heat pump circulator is fixed (parameter A 04), the speed of the condensation unit circulator is fixed (parameter A 19); these parameters can be set 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. By setting parameters "A 03 (heat pump) and A 18 (heat

generator)" the minimum speed will be selected, while by setting parameters "A 04 (heat pump) and A 19 (heat generator)" the maximum speed will be selected..

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

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:

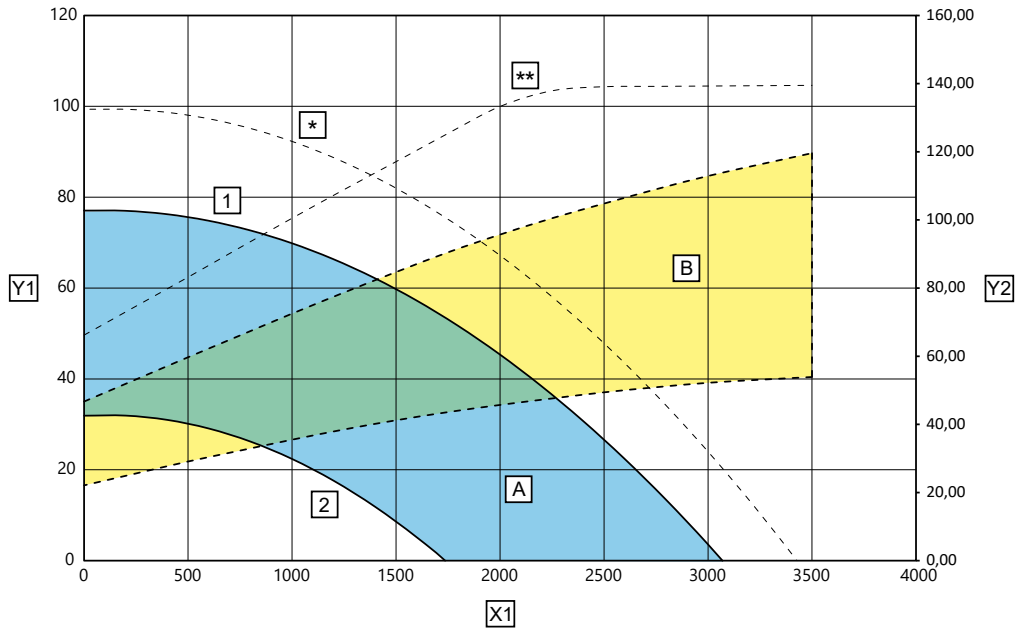
To facilitate proper execution of the heat pump defrost cycles, a minimum water content in the system is required, which must be **50 litres** for all kinds of system. So attention must be paid to the systems divided over several zones, where the water content available to the machine changes continuously. 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 l/kW** of the machine (dehumidifier hydraulic circuit connection).

UI MC-MCP AP INDOOR UNIT

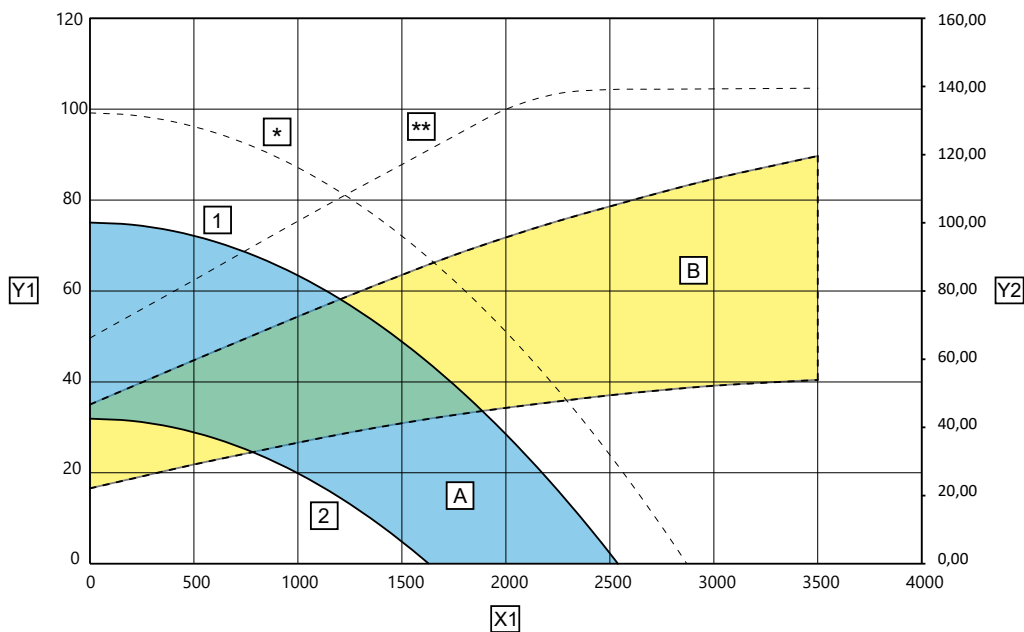
11

GRAPH OF HEAT PUMP FLOW RATE/HEAD

MAGIS COMBO 12 V2 (single-phase and three-phase) - GRUNDFOS UPML 15-105/130 PWM 9H



MAGIS COMBO PLUS 12 V2 (single-phase and three-phase) - GRUNDFOS UPML 15-105/130 PWM 9H



X1 = Flowrate (l/h)

Y1 = Head (kPa)

Y2 = Pump absorbed power (W)

1 = Maximum speed (A04 = 80%)

2 = Minimum speed (A03 = 55%)

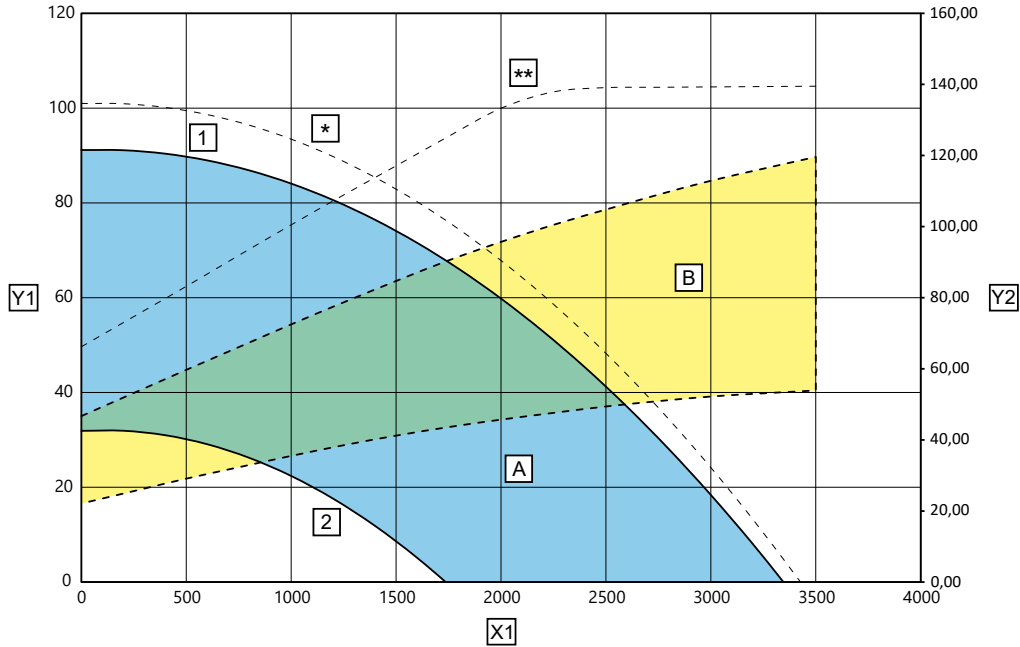
A = Head available to the system

B = Absorbed power by the circulator (dotted area)

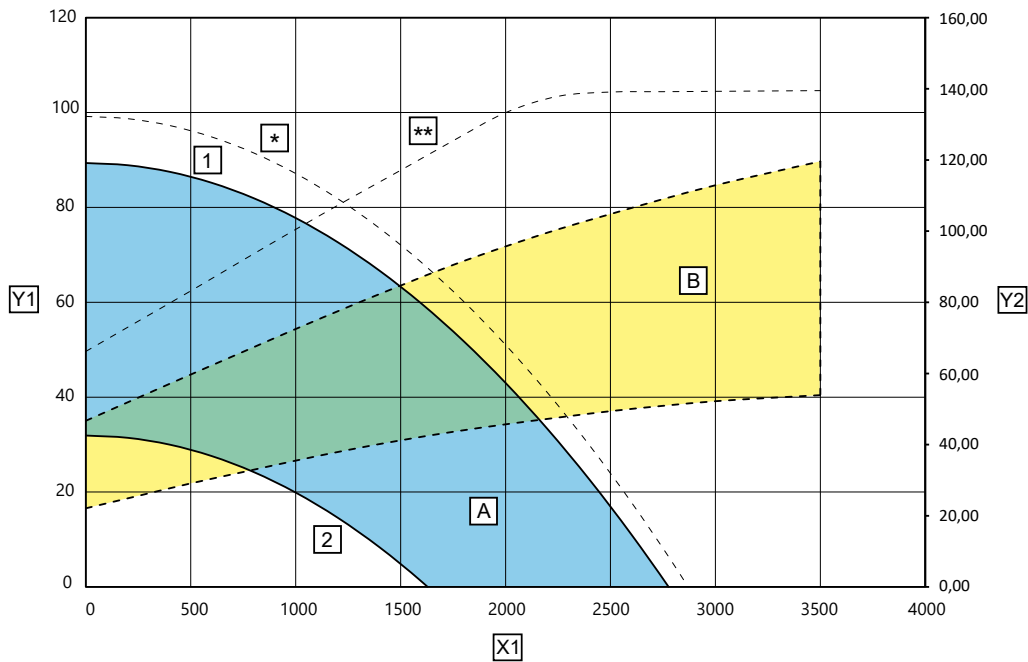
* = Maximum head supplied with A04 = 100%

** = Maximum power absorbed by the pump with A04 = 100%

MAGIS COMBO 14 V2 (single-phase and three-phase) - GRUNDFOS UPML 15-105/130 PWM 9H



MAGIS COMBO PLUS 14 V2 (single-phase and three-phase) - GRUNDFOS UPML 15-105/130 PWM 9H



X1 = Flowrate (l/h)

Y1 = Head (kPa)

Y2 = Pump absorbed power (W)

1 = Maximum speed (A 04 = 87%)

2 = Minimum speed (A 03 = 55%)

A = Head available to the system

B = Absorbed power by the circulator (dotted area)

* = Maximum head supplied with A04 = 100%

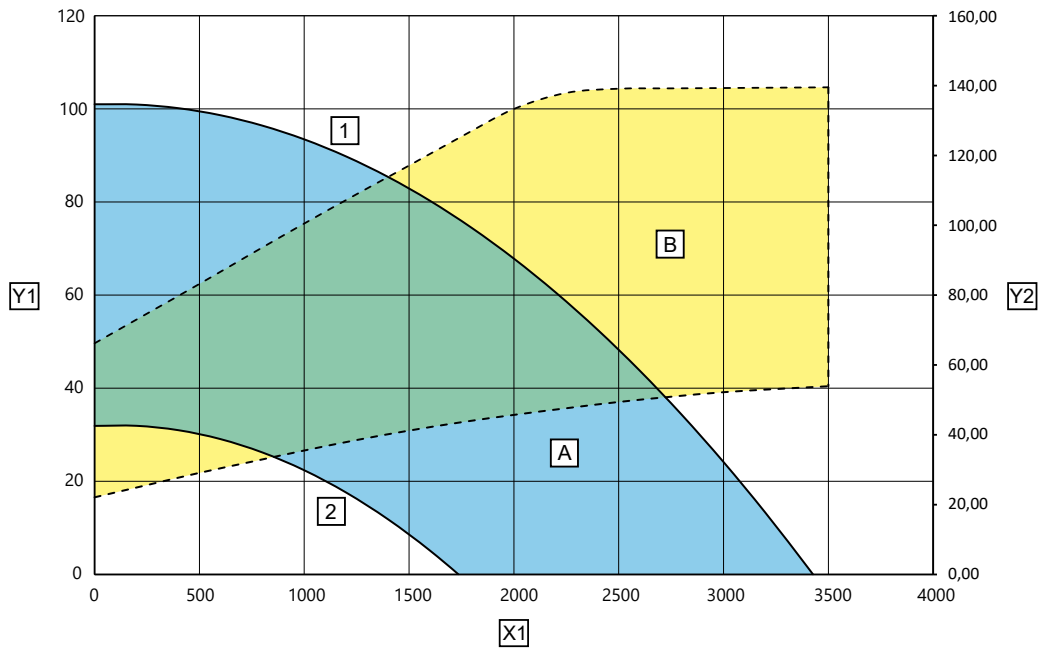
** = Maximum power absorbed by the pump with A04 = 100%

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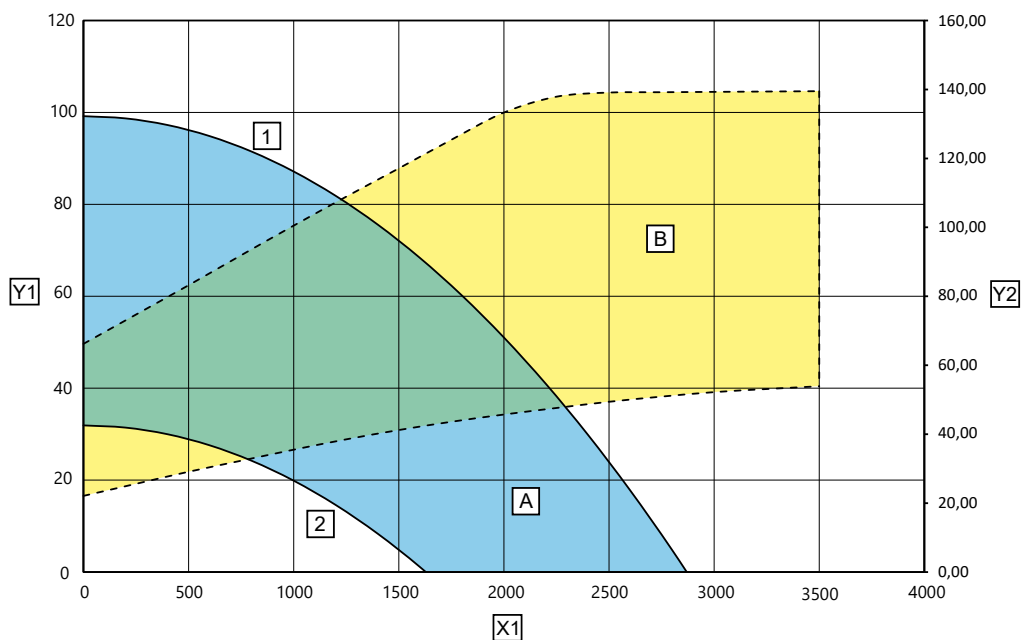
13

GRAPH OF HEAT PUMP FLOW RATE/HEAD

MAGIS COMBO 16 V2 (single-phase and three-phase) - GRUNDFOS UPML 15-105/130 PWM 9H



MAGIS COMBO PLUS 16 V2 (single-phase and three-phase) - GRUNDFOS UPML 15-105/130 PWM 9H



X1 = Flowrate (l/h)

Y1 = Head (kPa)

Y2 = Pump absorbed power (W)

1 = Maximum speed (A 04= 100%)

2 = Minimum speed (A 03= 55%)

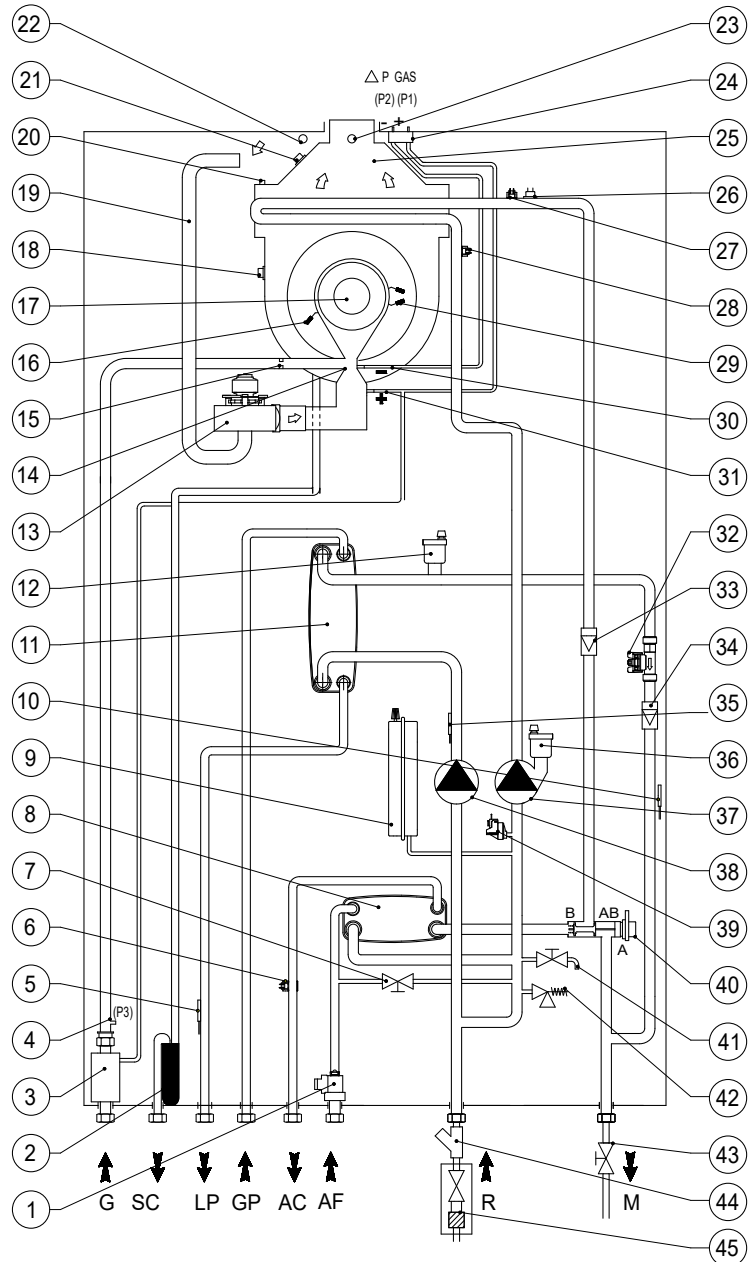
A = Head available to the system

B = Absorbed power by the circulator (dotted area)

14 HYDRAULIC DIAGRAM MAGIS COMBO 12-14-16 V2 (INDOOR UNIT)

KEY:

- 1 - D.H.W. flow switch
 - 2 - Condensate drain trap
 - 3 - Gas valve
 - 4 - Gas valve outlet pressure point (P3)
 - 5 - Liquid phase detection probe
 - 6 - DHW probe
 - 7 - System filling cock
 - 8 - DHW heat exchanger
 - 9 - System expansion vessel
 - 10 - Heat pump flow probe
 - 11 - Water/gas plate heat exchanger
 - 12 - Air vent valve
 - 13 - Fan
 - 14 - Air/gas Venturi manifold
 - 15 - Gas nozzle
 - 16 - Detection electrode
 - 17 - Burner
 - 18 - Flue gas thermofuse
 - 19 - Air intake pipe
 - 20 - Manual air vent valve
 - 21 - Heat exchanger safety thermofuse
 - 22 - Air sample point
 - 23 - Flue sample point
 - 24 - ΔP gas pressure point
 - 25 - Flue hood
 - 26 - Safety thermostat
 - 27 - Heat generator flow probe
 - 28 - Heat generator return probe
 - 29 - Ignition electrodes
 - 30 - Venturi negative signal (P2)
 - 31 - Venturi positive signal (P1)
 - 32 - System flow-meter
 - 33 - One-way valve
 - 34 - One-way valve
 - 35 - Heat pump return probe
 - 36 - Air vent valve
 - 37 - Heat generator circuit circulator
 - 38 - Heat pump circuit circulator
 - 39 - System pressure switch
 - 40 - Heat generator three-way valve
 - 41 - System draining cock
 - 42 - 3 bar safety valve
 - 43 - System shut-off cock
 - 44 - Y filter
 - 45 - System interception cock
-
- G - Gas supply
 - SC - Condensate drain
 - LP - Chiller line - liquid phase
 - GP - Chiller line - gaseous phase
 - AC - Domestic hot water outlet
 - AF - Domestic hot water inlet
 - R - System return
 - M - System flow



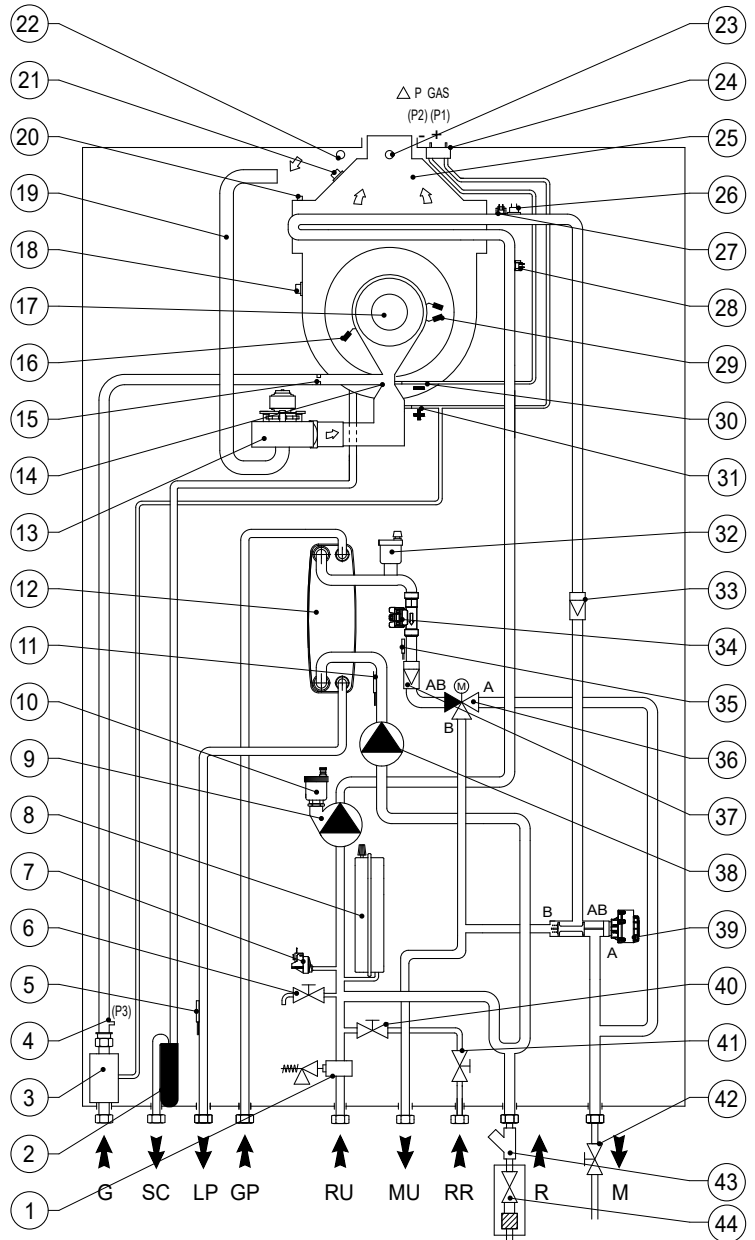
UI MCP AP INDOOR UNIT

15 HYDRAULIC DIAGRAM MAGIS COMBO 12-14-16 PLUS V2 (INDOOR UNIT)

KEY:

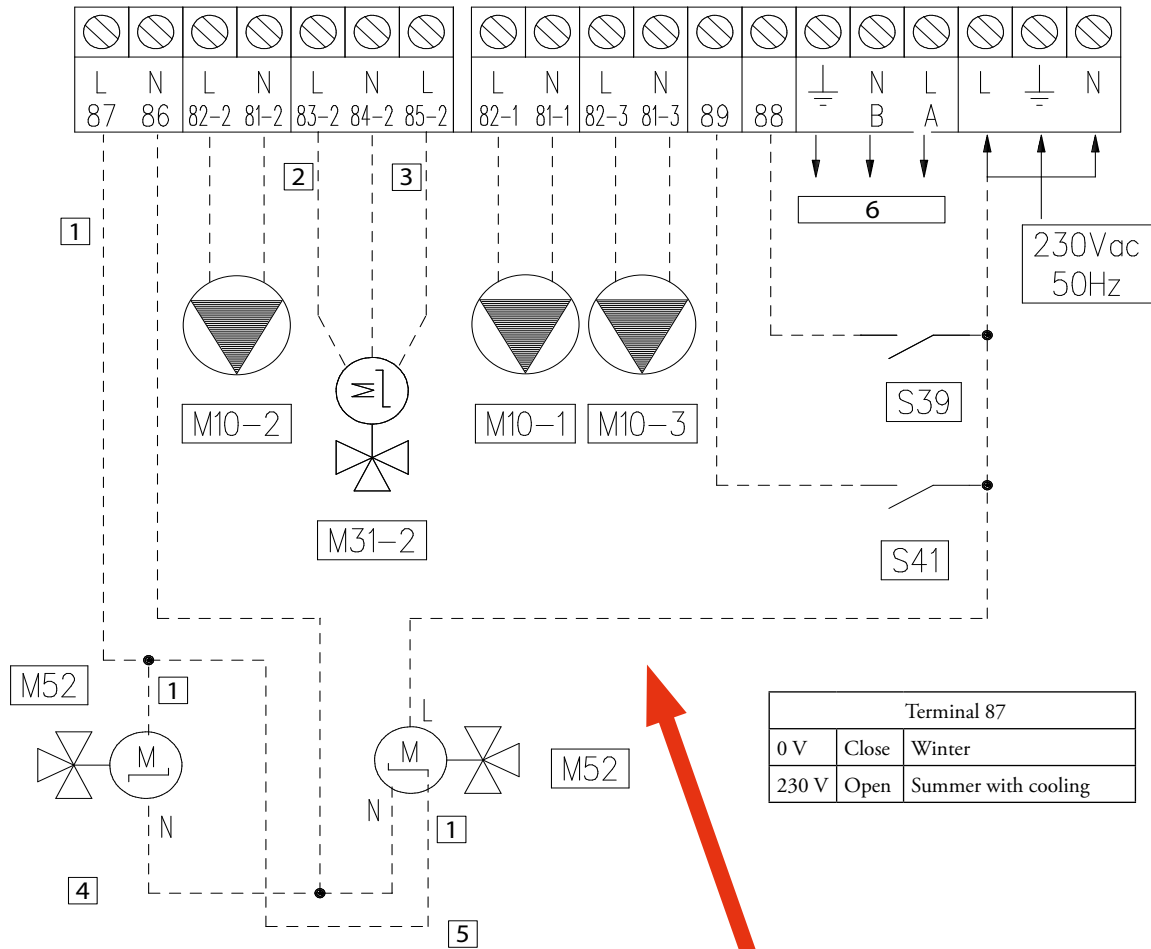
- 1 - 3 bar safety valve
- 2 - Condensate drain trap
- 3 - Gas valve
- 4 - Gas valve outlet pressure point (P3)
- 5 - Liquid phase detection probe
- 6 - System draining cock
- 7 - System pressure switch
- 8 - System expansion vessel
- 9 - Heat generator circuit circulator
- 10 - Air vent valve
- 11 - Heat pump return probe
- 12 - Water/gas plate heat exchanger
- 13 - Fan
- 14 - Air/gas Venturi manifold
- 15 - Gas nozzle
- 16 - Detection electrode
- 17 - Burner
- 18 - Flue gas thermofuse
- 19 - Air intake pipe
- 20 - Manual air vent valve
- 21 - Heat exchanger safety thermofuse
- 22 - Air sample point
- 23 - Flue sample point
- 24 - ΔP gas pressure point
- 25 - Flue hood
- 26 - Safety thermostat
- 27 - Heat generator flow probe
- 28 - Heat generator return probe
- 29 - Ignition electrodes
- 30 - Venturi negative signal (P2)
- 31 - Venturi positive signal (P1)
- 32 - Air vent valve
- 33 - One-way valve
- 34 - System flow-meter
- 35 - Heat pump flow probe
- 36 - Heat pump three-way valve
- 37 - One-way valve
- 38 - Heat pump circuit circulator
- 39 - Heat generator three-way valve
- 40 - System filling cock
- 41 - System filling
- 42 - System shut-off cock
- 43 - Y filter
- 44 - System interception cock

- G - Gas supply
- SC - Condensate drain
- LP - Chiller line - liquid phase
- GP - Chiller line - gaseous phase
- RU - Storage tank unit return
- MU - Storage tank unit flow
- RR - System filling
- R - System return
- M - System flow



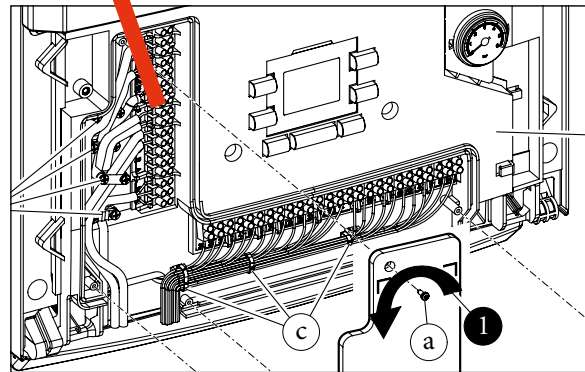
UI MC-MCP AP INDOOR UNIT

16 MAGIS COMBO V2 / COMBO PLUS V2 LIVE ELECTRICAL CONNECTIONS



KEY:

- 1 - Open / Close
- 2 - Close
- 3 - Open
- 4 - Valve with spring return
- 5 - 2-point valve
- 6 - Auxiliaries
- M10-1 - Zone 1 circulator pump
- M10-2 - Zone 2 circulator pump
- M10-3 - Zone 3 circulator pump
- M31-2 - Zone 2 mixing valve
- M52 - Hot/cold 3-way
- S39 - Solar inlet
- S41 - AUDAX PRO V2 disabling



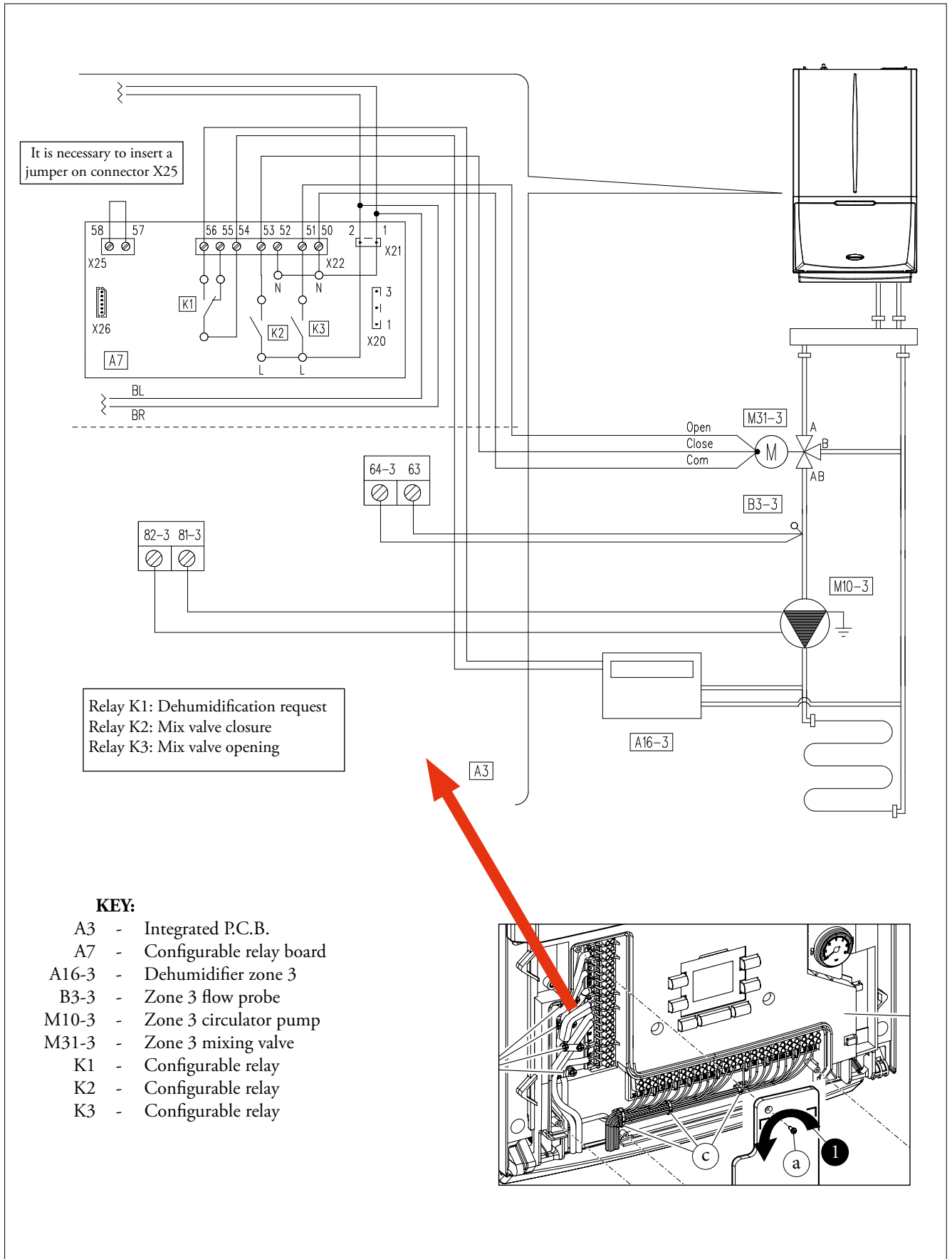
N.B.: To control the dehumidifiers, insert the 2 relay board kit (optional) inside the MAGIS COMBO V2 / COMBO PLUS V2 wall-hung indoor unit, for the respective dehumidifiers of the two zones. The relay board kit has only one contact for each zone and, therefore, allows the dehumidifier to work either 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 directly to the indoor unit electronics 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.

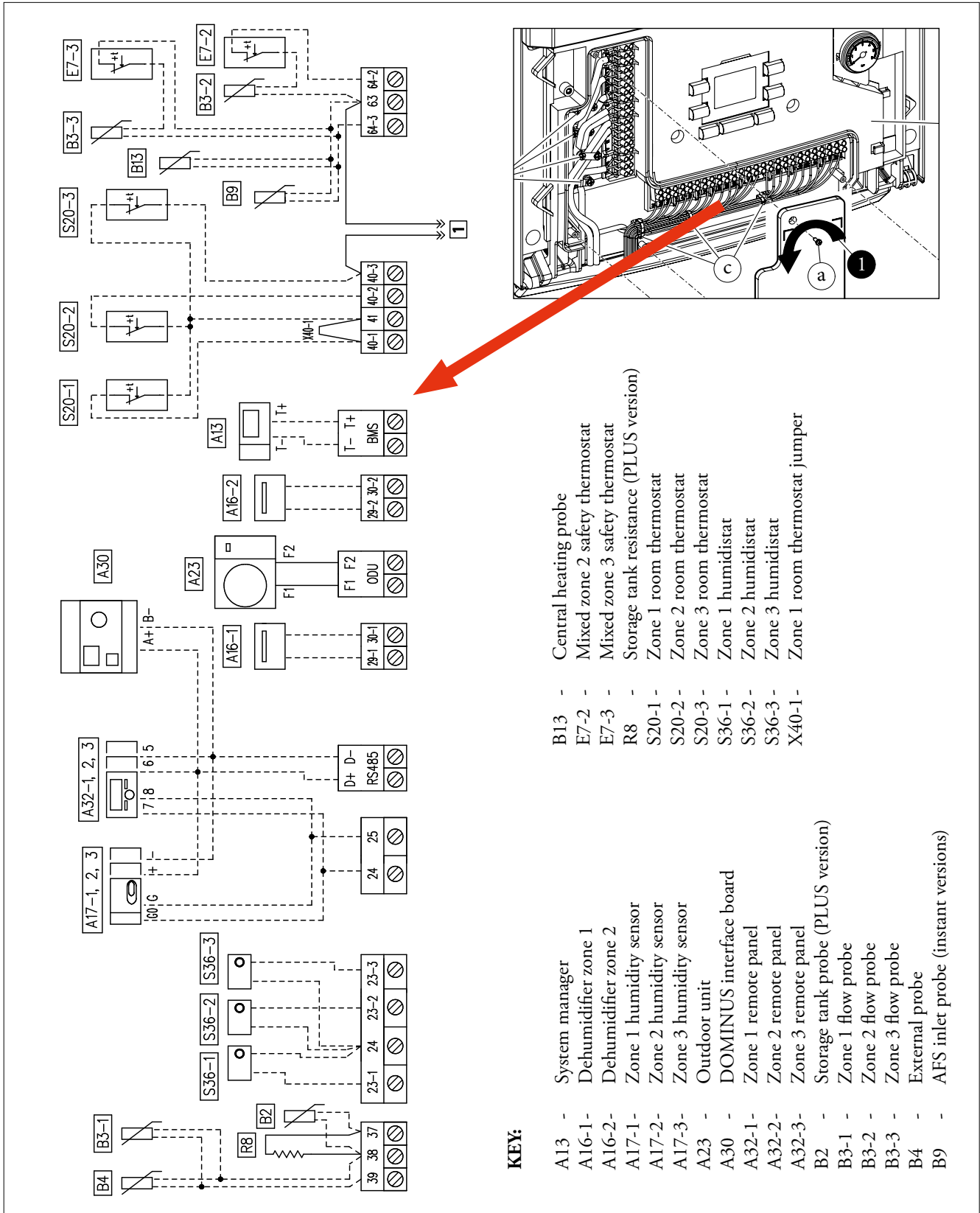
In this way 1 direct zone + 2 mixed zones can be controlled.

UI MC-MCP AP INDOOR UNIT

16.1 ELECTRICAL CONNECTIONS THIRD MIXED OR DIRECT ZONE



16.2 MAGIS COMBO V2 / COMBO PLUS V2 MANAGEMENT ELECTRICAL CONNECTIONS



NOTES: Eliminate the X40-1 jumper before connecting the S20-1 room thermostat. When the Zone 1 remote panel is connected, hold the X40-1 jumper.

If Zone 2 and 3 remote panel is also connected, make sure there is a jumper between clamps 41 and 40-2 and 40-3.

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17 MAGIS COMBO V2 / COMBO PLUS V2 TECHNICAL DATA (SINGLE-PHASE)

	MAGIS COMBO	12 V2	14 V2	16 V2
Central heating circuit				
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
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				
Domestic hot water adjustable temperature	°C	10 - 50	10 - 50	10 - 50
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 capacity (real)	litres	10 (8.3)	10 (8.3)	10 (8.3)
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
Power supply (outdoor 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

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	

UI MC-MCP AP INDOOR UNIT

17.1 MAGIS COMBO V2 T / COMBO PLUS V2 T TECHNICAL DATA (THREE-PHASE)

	MAGIS COMBO	12 V2 T	14 V2 T	16 V2 T
Central heating circuit				
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
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				
Domestic hot water adjustable temperature	°C	10 - 50	10 - 50	10 - 50
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 capacity (real)	litres	10 (8.3)	10 (8.3)	10 (8.3)
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
Power supply (outdoor unit)	V - Hz	380-50	380-50	380-50
Permitted voltage range (outdoor unit)	V	342-457	342-457	342-457
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	10	11	12
Fuse required	A	20	20	20
Outdoor unit empty weight	kg	100	100	100

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

ROOM	CENTRAL 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	

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18 MAGIS COMBO V2 / COMBO PLUS V2 (HEAT GENERATOR) TECHNICAL DATA

Domestic hot water maximum heating power		kW (kcal/h)	32.9 (28.256)
Central heating maximum heat input		kW (kcal/h)	32.9 (28.256)
DHW maximum useful heat output		kW (kcal/h)	32 (27.520)
CH maximum useful heat output		kW (kcal/h)	32 (27.520)
Minimum nominal heat input		kW (kcal/h)	5.5 (4.757)
Minimum nominal heat output		kW (kcal/h)	5.2 (4.472)
Efficiency at 100% Pn (80/60°C)		%	97.1
Efficiency reduced at 30% of the load (80/60°C)		%	100
Efficiency at 100% Pn (50/30°C)		%	105.5
Efficiency reduced at 30% of the load (50/30°C)		%	107.2
Efficiency at 100% Pn (40/30°C)		%	106.5
Efficiency reduced at 30% of the load (40/30°C)		%	107.2
Central heating circuit			
Adjustable central heating temperature (min. / max)		°C	20 ÷ 80
System max. working temperature		°C	83
System max. working pressure		bar	3
System expansion vessel nominal/(real) capacity		litres	10.0 / (8.3)
System expansion vessel factory-set pressure		bar	1.0
DHW circuit			
DHW adjustable temperature		°C	10 ÷ 65
Domestic hot water circuit / DHW Circuit max. pressure		bar	10
Domestic hot water circuit min. dynamic pressure		bar	0.3 (Instant version)
D.H.W. min. withdrawal		litres/min	2 (Instant version)
Flow rate in continuous service (ΔT 30°C)		litres/min	15.1 (Instant version)
Electric and gas supply			
Casing losses (burner)	ON - OFF	kW	0.06 - 0.117
Chimney losses (burner)	ON - OFF	kW	0.86 - 0.008
Dew temperature	(G20)	°C	57
Head available at fan	MIN - MAX	Pa	160 - 310
Electric power supply		V/Hz	230/50
Nominal power absorption		A	1.5
Installed electric power		W	220
Fan absorbed power		W	30
Power absorbed by the indoor unit pump		W	65
Power absorbed by the indoor unit in stand-by		W	10
Electric insulation rating		IP	X4D
Appliance water content		litres	3.8 (instant version)
Appliance water content		litres	4.1 (central heating only vers.)
Weight of empty generator		kg	60 (instant version)
Weight of empty generator		kg	61.8 (central heating only vers.)
Effective efficiency at 100% output			>93+2·log Pn

UI MC-MCP AP INDOOR UNIT

18-1 MAGIS COMBO V2 / COMBO PLUS V2 COMBUSTION FEATURES

Gastype		METHANE (G20)		PROPANE (G31)		PROPANE AIR (G230)	
POWER THERMAL	POWER THERMAL	MODULA- TION	GASFLOWRATE BURNER	MODULA- TION	GASFLOWRATE BURNER	MODULA- TION	GASFLOWRATE BURNER
(kW)	(kcal/h)	(%)	(m ³ /h)	(%)	(kg/h)	(%)	(m ³ /h)
32.0	27520	99	3.48	99	2.55	99	2.70
31.0	26660	96	3.38	96	2.48	96	2.62
30.0	25800	93	3.27	93	2.40	93	2.53
29.0	24940	90	3.16	90	2.32	90	2.45
28.0	24080	87	3.05	87	2.24	87	2.36
27.0	23220	84	2.94	84	2.16	84	2.28
26.7	22993	83	2.91	83	2.14	83	2.26
25.0	21500	77	2.72	77	2.00	77	2.11
24.0	20640	74	2.61	74	1.92	74	2.03
23.0	19780	71	2.50	71	1.84	71	1.94
22.0	18920	67	2.40	67	1.76	67	1.86
21.0	18060	64	2.29	64	1.68	64	1.77
20.0	17200	60	2.18	60	1.60	60	1.69
19.0	16340	57	2.07	57	1.52	57	1.61
18.0	15480	53	1.97	53	1.44	53	1.53
17.0	14620	50	1.86	50	1.37	50	1.44
16.0	13760	46	1.75	46	1.29	46	1.36
15.0	12900	42	1.65	42	1.21	42	1.28
14.0	12040	38	1.54	38	1.13	38	1.20
13.0	11180	34	1.43	34	1.05	34	1.11
12.0	10320	30	1.33	30	0.97	30	1.03
11.0	9460	26	1.22	26	0.89	26	0.95
10.0	8600	21	1.11	21	0.82	21	0.86
9.0	7740	17	1.00	17	0.74	17	0.78
8.0	6880	13	0.89	13	0.66	13	0.69
7.0	6020	8	0.78	8	0.58	8	0.61
6.0	5160	4	0.67	4	0.49	4	0.52
5.2	4472	1	0.59	1	0.43	1	0.45

Useful efficiency combustion parameters ($T_m/T_r = 80/60^\circ\text{C}$) measured at the R.temp reference conditions: 15°C

Gastype	Unit of measurement	G20	G31	G230
Supply pressure	mbar (mm c.a.)	20 (204)	37 (377)	20 (204)
Gas nozzle diameter	mm	5.6	4	6.25
Flue flow rate at nominal DHW output	kg/h (g/s)	52 (0)	54 (14.98)	60 (16.62)
Flue flow rate at nominal central heating output	kg/h (g/s)	52 (14.47)	54 (14.98)	60 (16.62)
Flue flow rate at min heat output	kg/h (g/s)	9 (2.63)	10 (2.69)	11 (3)
CO ₂ at Nominal Q.	%	9.4 (±0.2)	10.3 (±0.2)	10 (±0.2)
CO ₂ at Ignition Q.	%	8.6 (±0.2)	9.6 (±0.2)	9.2 (±0.2)
CO ₂ at Minimum Q.	%	8.6 (±0.2)	9.6 (±0.2)	9.2 (±0.2)
CO with 0% O ₂ at Nom./Min. Q.	ppm	165 / 1	182 / 3	150 / 3
NO _x a 0% of O ₂ at Q. Nom./Min.	mg/kWh	64 / 19	45 / 22	69 / 29
Flue temperature at nominal output	°C	116	115	109
Flue temperature at minimum output	°C	95	95	91

NOTE: The condensation heat generator can also work with propane air.

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“POWER” AND “ABSORPTION” IN CENTRAL HEATING MODE MAGIS COMBO 12 V2 / COMBO 12 PLUS V2 (SINGLE-PHASE AND THREE-PHASE)

MAGIS COMBO 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 COMBO 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 COMBO 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

UE MC-MCP AP OUTDOOR UNIT

19.1

“POWER” AND “ABSORPTION” IN COOLING MODE MAGIS COMBO 12 V2 / COMBO 12 PLUS V2 (SINGLE-PHASE AND THREE-PHASE)

MAGIS COMBO 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 COMBO 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

UE MC-MCP AP OUTDOOR UNIT

20

“POWER” AND “ABSORPTION” IN CENTRAL HEATING MODE
MAGIS COMBO 14 V2 / COMBO 14 PLUS V2 (SINGLE-PHASE AND THREE-PHASE)

MAGIS COMBO 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 COMBO 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 COMBO 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

UE MC-MCP AP OUTDOOR UNIT

20.1

“POWER” AND “ABSORPTION” IN COOLING MODE MAGIS COMBO 14 V2 / COMBO 14 PLUS V2 (SINGLE-PHASE AND THREE-PHASE)

MAGIS COMBO 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 COMBO 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

UE MC-MCP AP OUTDOOR UNIT

21 "POWER" AND "ABSORPTION" IN CENTRAL HEATING MODE MAGIS COMBO 16 V2 / COMBO 16 PLUS V2 (SINGLE-PHASE AND THREE-PHASE)

MAGIS COMBO 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 COMBO 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 COMBO 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

UE MC-MCP AP OUTDOOR UNIT

21.1

“POWER” AND “ABSORPTION” IN COOLING MODE MAGIS COMBO 16 V2 / COMBO 16 PLUS V2 (SINGLE-PHASE AND THREE-PHASE)

MAGIS COMBO 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 COMBO 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 COMBO V2 / COMBO PLUS V2

22

OPERATING PRINCIPLE: ACTIVATION LOGIC

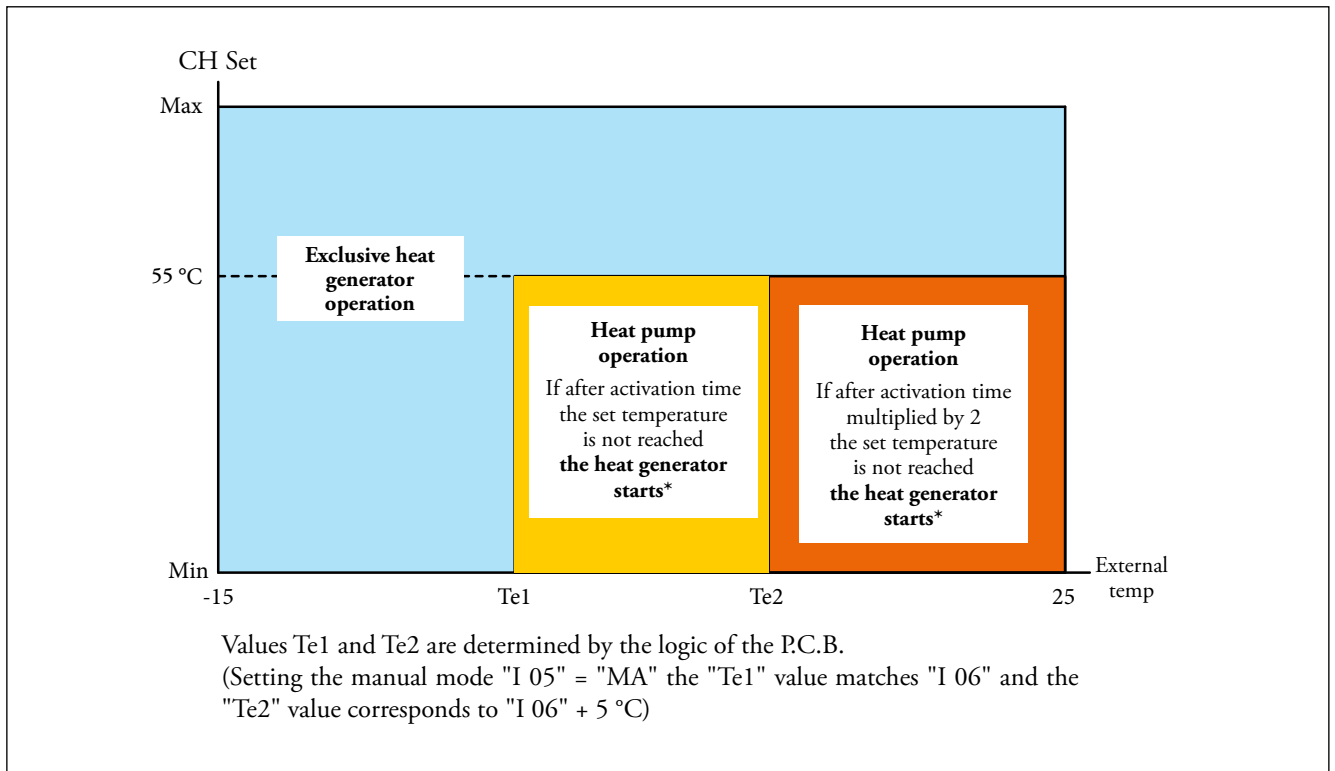
OPERATION IN ROOM CENTRAL HEATING MODE:

Following a request during room central heating mode, the electronics preconfigured by Immergas S.p.A. decide, according to the external and flow temperature of the thermal system, whether to activate the heat pump, or (with cold temperatures) the condensation generator.

NOTE:

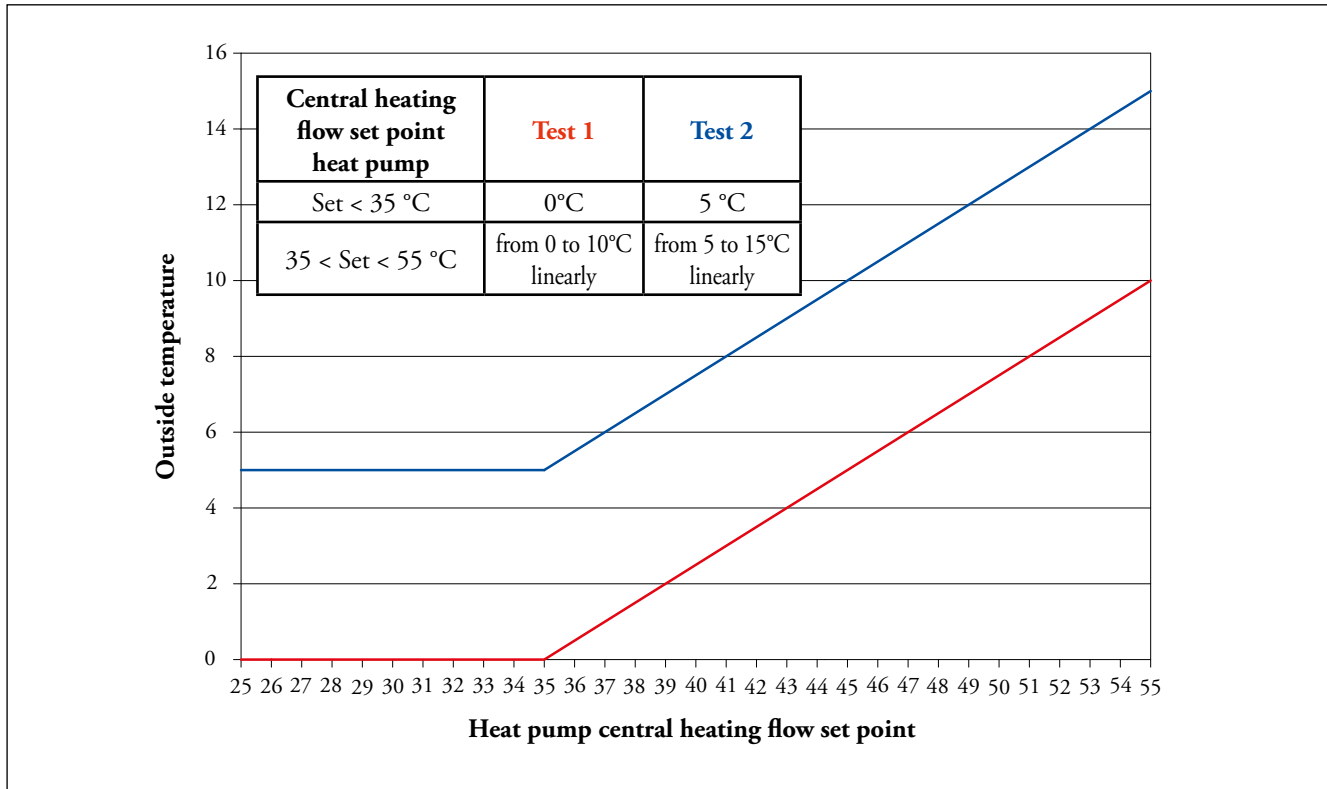
Based on the outdoor temperature, if MAGIS COMBO V2 requires a flow temperature higher than 55 °C, the condensation generator is directly activated.

* The heat pump will then restart, thereby creating an alternating mechanism between the two generators.



MAGIS COMBO V2 / COMBO PLUS V2

Outdoor temperatures that determine the activation logic of the generators (AUTO mode).



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

INTEGRATION MENU			
Id	Parameter	Range	Default
I 02	System integration enabling	OFF - AL	AL
I 04	Central heating max. wait time	1 - 255 minutes (1 minute steps)	30
I 05	Integration activation mode	AU - MA	AU
I 06	Manual activation temperature	-15 ÷ +35 °C	2
I 07	Activation band	0 - 10 °C	4
I 08	Simultaneous D.H.W.	OFF - ON	ON

PAR. I 02 - System integration enabling - (settable AL - OFF; default value AL). Using this function, you can enable the condensation generator operation (A) to integrate thermal system central heating.

N.B.: With OFF Mode, always and only the Heat Pump will run, even in case of Heat Pump block, the condensation generator does NEVER activates for system integration.

PAR. I 04 - Central heating max. wait time - (settable from 1 - 255 minutes, default value 30 minutes). Establishes the reference time of the activation and deactivation timing of the central heating integration.

PAR. I 05 - Integration activation mode - (AU - MA settable, default value AU). Establishes when to activate the condensation generator, in "MA" mode (manual) it is activated an a fixed external temperature and is equivalent to the value set with parameter "I 06", in "AU" mode (automatic) the condensation generator is activated according to the operating conditions.

PAR. I 06 - Manual activation temperature - (settable from -15°C ÷ +35°C, default value -2°C). Establishes the outdoor temperature under which the central heating condensation generator is enabled.

PAR. I 07 - Activation band - (settable from 0°C ÷ 10°C, default value 4°C). It is a hysteresis that is used to establish the achievement of the heating set-point, avoiding the activation of the condensation generator.

PAR. I 08 - Simultaneous D.H.W. (settable ON - OFF; default value ON).

Enables the simultaneous operation in D.H.W. mode and room air conditioning mode. For instant MAGIS COMBO V2 the simultaneousness is always guaranteed regardless of what is set.

It is possible to also use MAGIC COMBO V2 only as heat generator (if AUDAX PRO V2 is installed at a later time), setting the "A11" parameter at OFF. The management logic now becomes totally similar to that of a "normal" condensation generator.

MAGIS COMBO V2 / COMBO PLUS V2

23 OPTIONAL FOR DIRECT COUPLING TO MAGIS COMBO V2 / COMBO PLUS V2

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 - (device class II* or VI or VII)	3.015266
Room hygrostat - (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 COMBO V2 coupling (wall-hung or recessed for mixed systems)	3.031695
Three-way deviator valve kit used as hot/cold system deviator	3.020632
Antifreeze kit up to -15 °C (for heat generator protection)	3.031804
2 relay board kit for MAGIS COMBO V2 coupling (for dehumidifier control)	3.026302
Dehumidifier kit - for recessed installation only	3.021529
Dehumidifier frame kit	3.022146
Dehumidifier grid kit	3.022147
Polyphosphate dispenser kit (indoor only)	3.017323
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 3rd mixed zones and other features)	3.015350
Safety marker thermostat kit	3.019229
NTC flow system probe kit	3.030913
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
Inertial 50-litre recessed storage tank kit	3.027709
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	3.022154
Solar inlet probe kit (only for instant MAGIS COMBO V2)	3.021452
Cover kit B₂₃ MAGIS COMBO V2	3.031977
Condensate neutraliser kit	3.019857
Compact condensate drain pump kit	3.026374
Propane air kit	3.027664
HYDRO 3 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

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

MAGIS COMBO V2 / COMBO PLUS V2

23.1 ELECTRONIC OPTIONAL COMPONENTS 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
Room hygrostat - (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
Expansion kit to manage zone or for auxiliaries	3.021547
Low temperature safety kit for low temperature systems and system distribution kit	3.013794
Relay kit for dehumidifier cooling request (EMR 12 Vdc)	3.023945
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

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

MAGIS COMBO V2 / COMBO PLUS V2

24

KIT 2 ZONES FOR COUPLING MAGIS COMBO V2 / COMBO PLUS V2



The 2 zone kit for coupling with MAGIS COMBO 12-14-16 V2 and a MAGIS COMBO 12-14-16 PLUS 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 COMBO V2 / COMBO PLUS 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 COMBO V2 / COMBO PLUS 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).

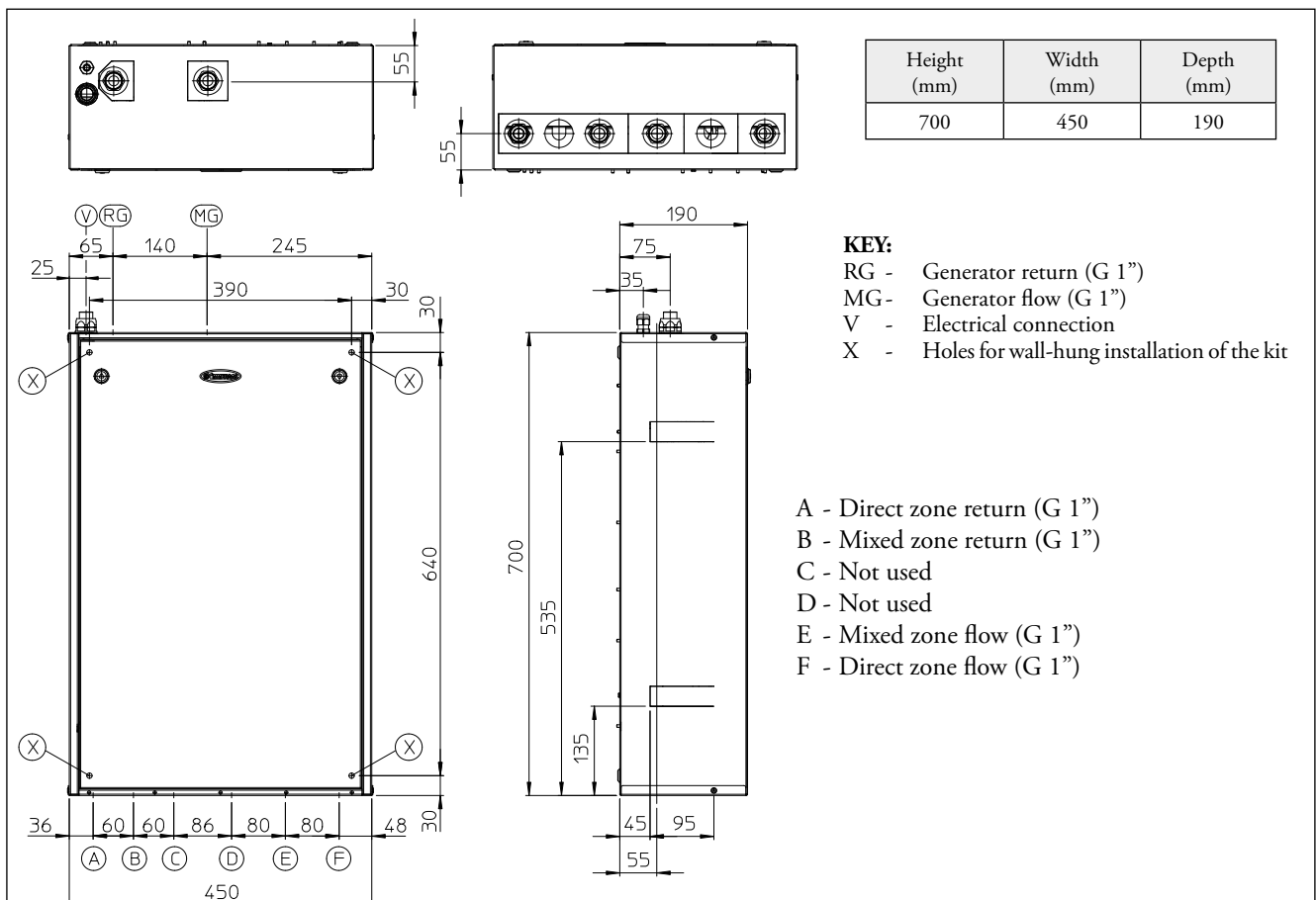
Inserting these kits into the technological system enhance overall comfort and energy savings.

• 2 ZONE KIT (1 mixed and 1 direct)

code 3.031695

24.1

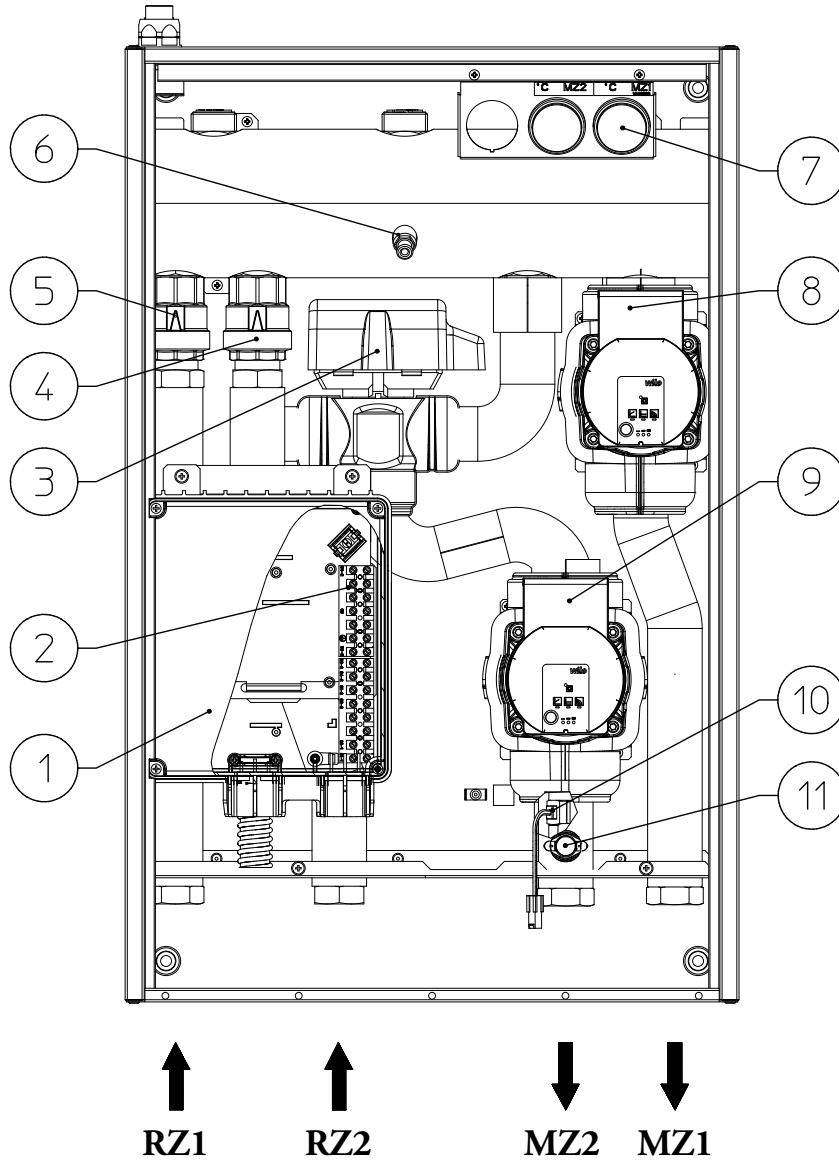
DIMENSIONS AND CONNECTIONS



MAGIS COMBO V2 / COMBO PLUS V2

24.2

MAIN COMPONENTS 2 ZONE KIT ONE DIRECT AND ONE MIXED



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 COMBO V2 / COMBO PLUS V2

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

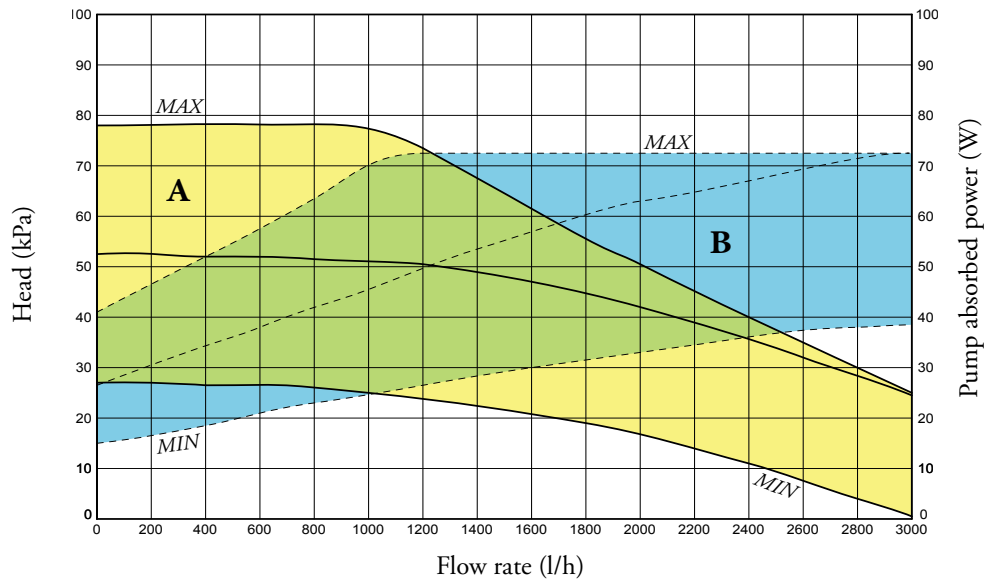
The kit contains an electronic low consumption circulation pump, whose flow rate/head features are shown in the graph below.

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

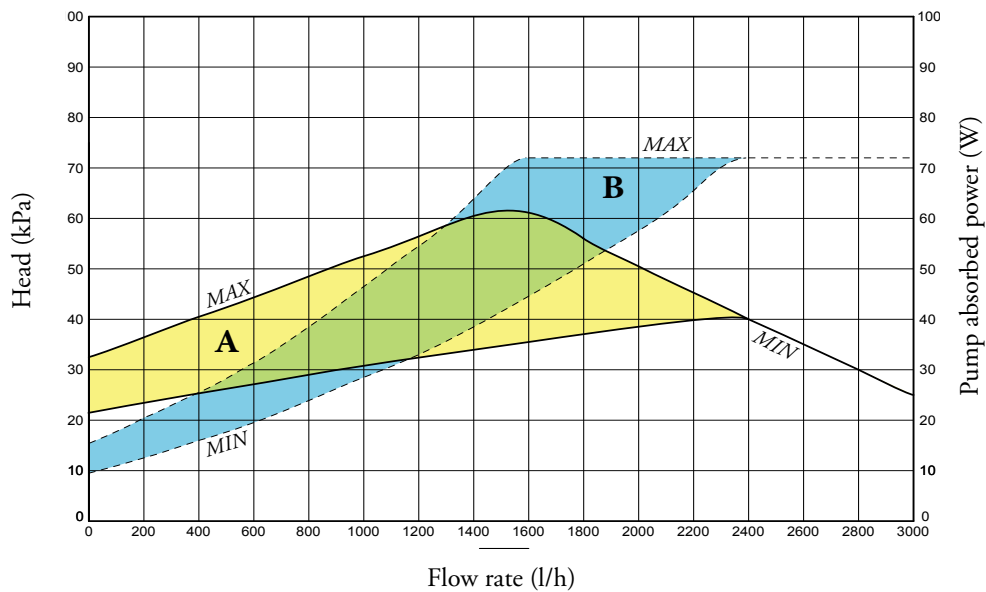
The 2 zone kit is designed for the creation of mixed systems with differentiated temperature (e.g.: one zone with fan coils plus one zone at low temperature with radiant floor panels).

WILO PARA 15-8 CM 130

Fixed speed head.



Proportional head ($\Delta P V$).

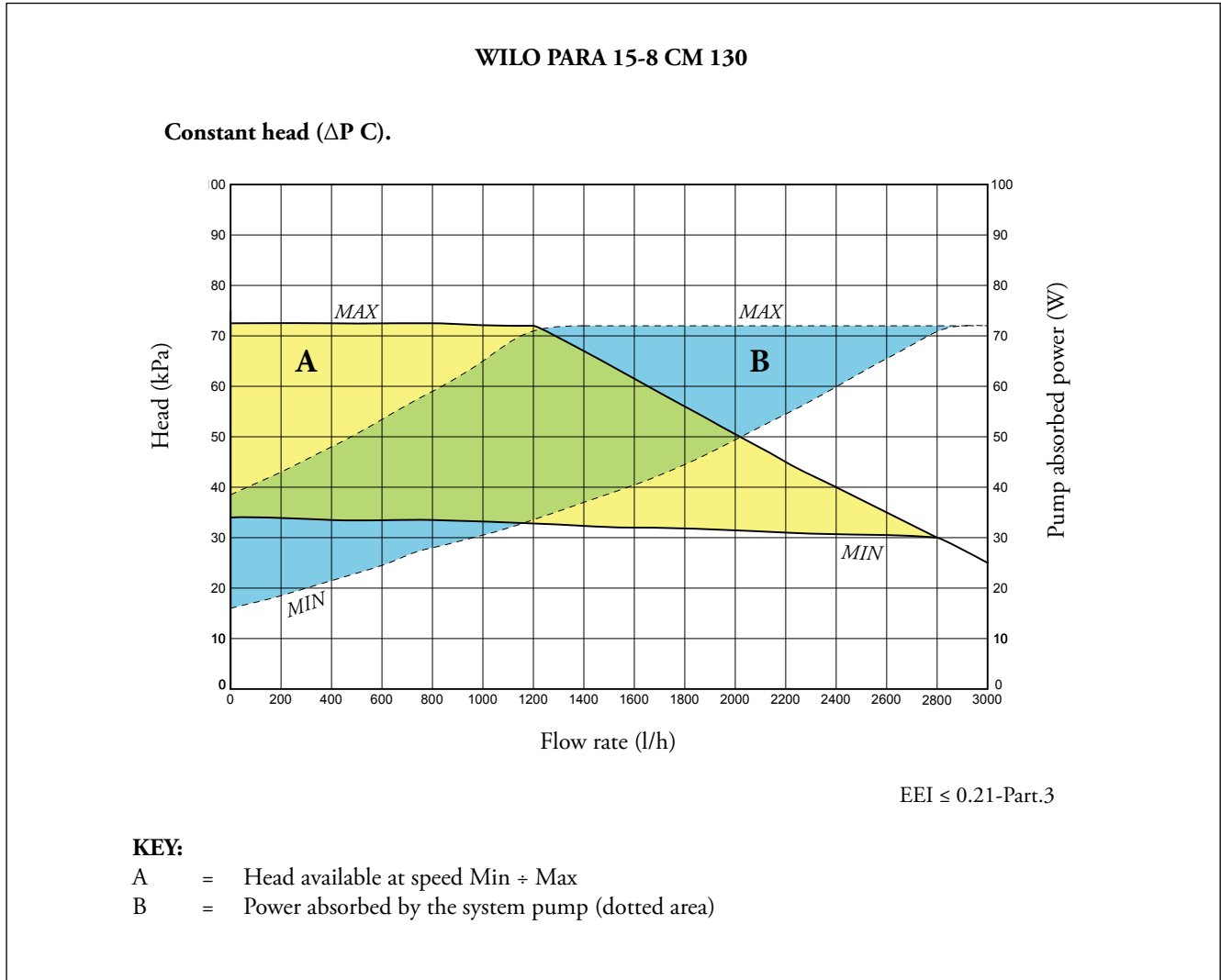


KEY:

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

EEl ≤ 0.21-Part.3

MAGIS COMBO V2 / COMBO PLUS V2



24.4 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.

- 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 COMBO V2 / COMBO PLUS V2

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

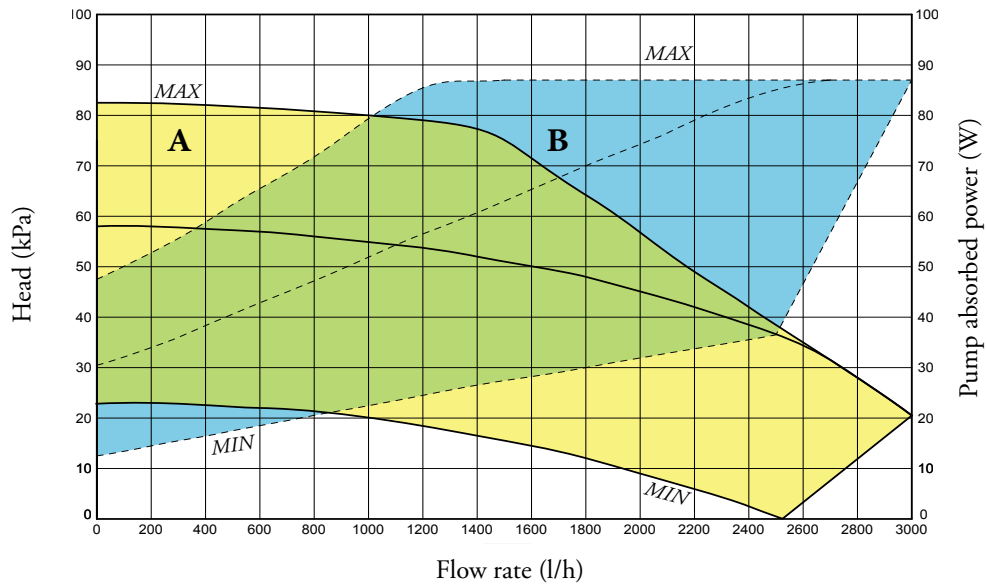
The kit contains an electronic low consumption circulation pump, whose flow rate/head features are shown in the graph below.

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

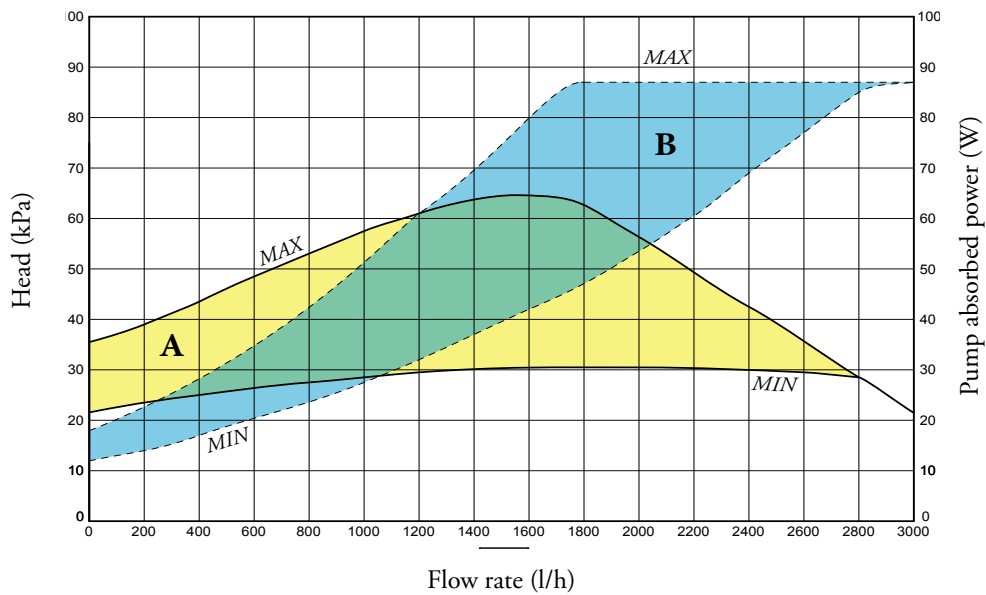
The 2 zone kit is designed for the creation of mixed systems with differentiated temperature (e.g.: one zone with fan coils plus one zone at low temperature with radiant floor panels).

WILO PARA 15-9 CM 130

Fixed speed head.



Proportional head ($\Delta P V$).

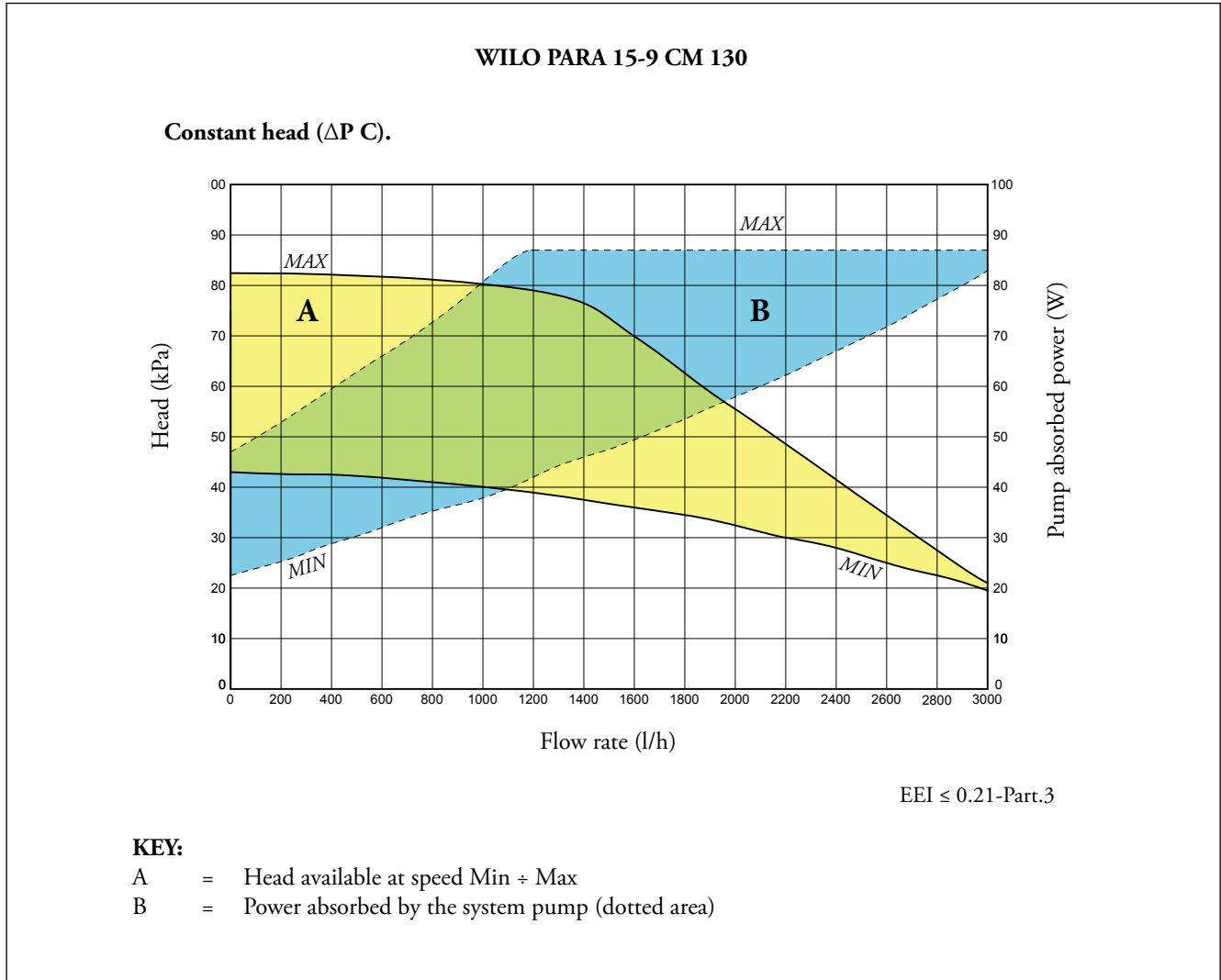


KEY:

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

EEI ≤ 0.21-Part.3

MAGIS COMBO V2 / COMBO PLUS V2



24.6 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 COMBO V2 / COMBO PLUS V2

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HYDRAULIC DIAGRAM: MAGIS COMBO V2 + 2 ZONE KIT (1 DIRECT AND 1 MIXED) + SOLAR THERMAL FOR DHW IN PRE-HEATING

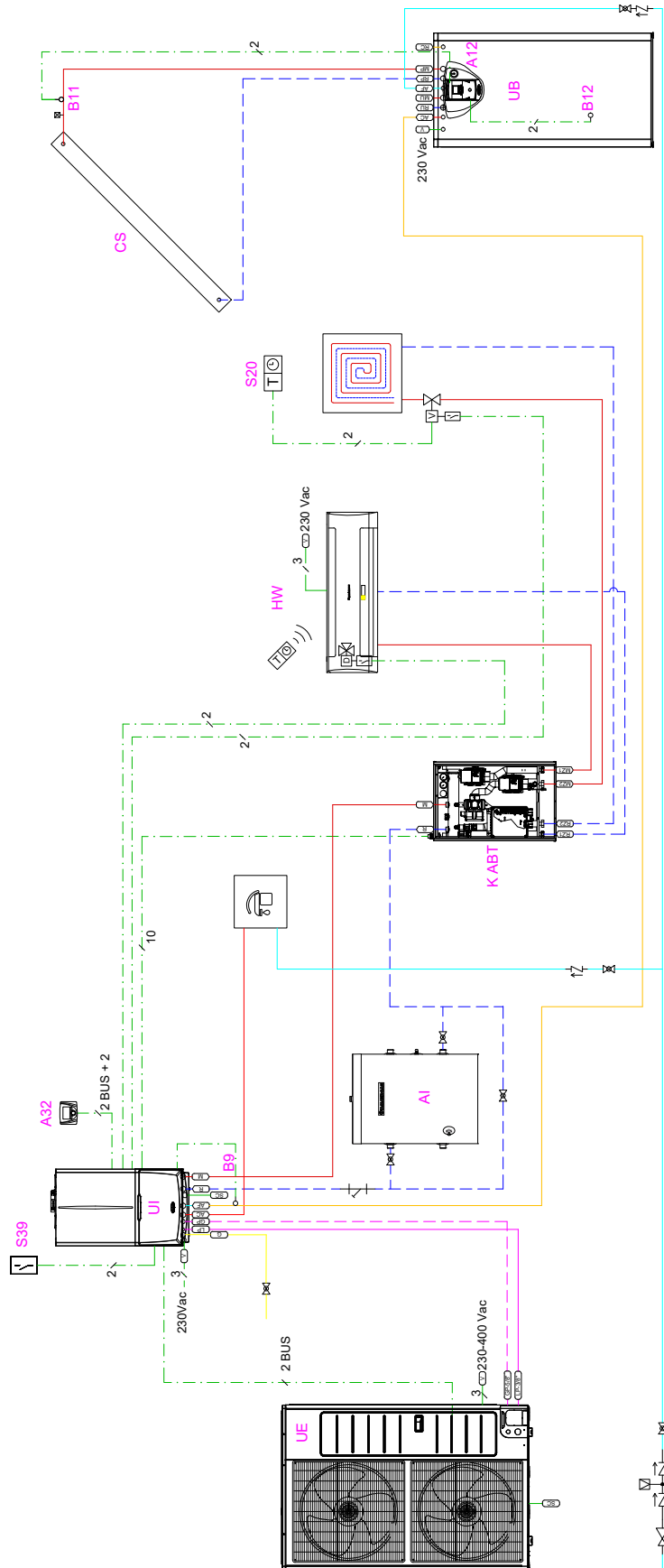
KEY:

- AI 75 L INERTIAL STORAGE TANK
- AI2 SOLAR CONTROL UNIT
- A32 REMOTE ZONE PANEL
- B9 SOLAR INLET PROBE
- B11 SOLAR COLLECTOR PROBE
- B12 SOLAR STORAGE TANK PROBE
- CS SOLAR COLLECTOR

- HW HYDRO FAN COILS
- K.ABT 2 ZONE KIT (1DIR+1MIX)
- UI INDOOR UNIT
- UE OUTDOOR UNIT
- UB UB INOX SOLAR 200 V2
- S 39 PHOTOVOLTAIC SYSTEM CLEAN CONTACT
- S20-1 ZONE 1 ROOM THERMOSTAT

NOTES:

- 1- remember to install the condensate drain circuits;
- 2- for the sections of the electrical connections it is recommended to check the instructions provided in the instruction booklets of the individual components.



NOTE: this diagram is an example. It is also required to convey the condensate drain of the heat pump and condensation generator. In order to guarantee proper Heat Pump operation, each system must consider inserting a bypass to guarantee a minimum flow rate of 500 l/h.

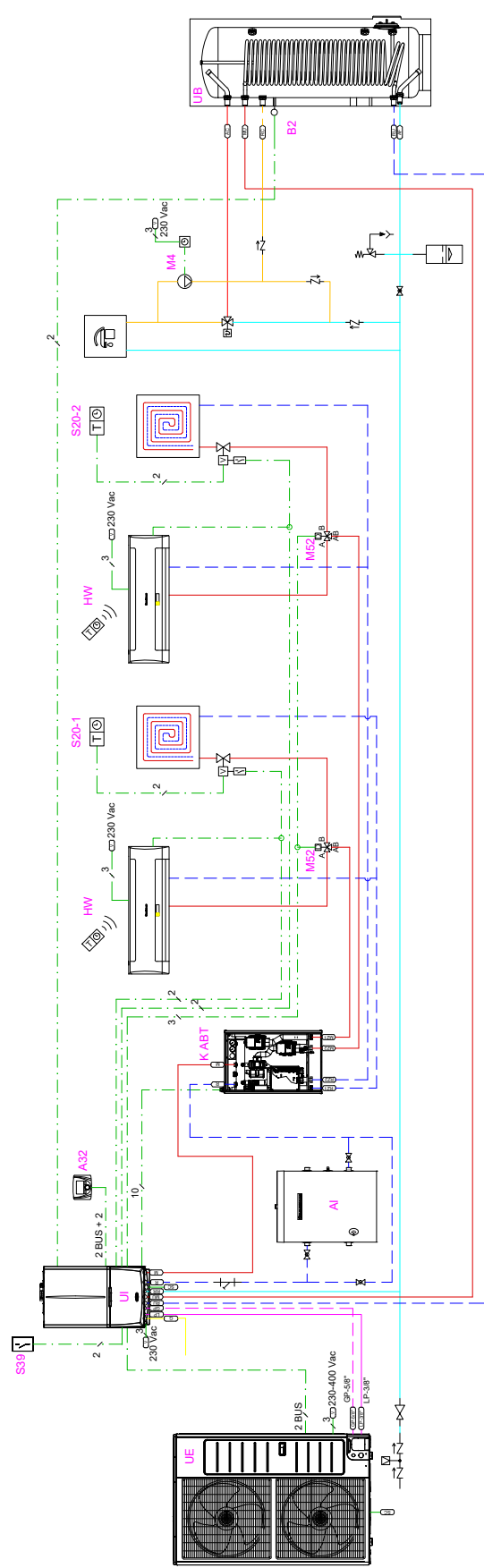
MAGIS COMBO V2 / COMBO PLUS V2

26

HYDRAULIC DIAGRAM: MAGIS COMBO PLUS V2 + OMNISTOR + 2 ZONE KIT (1 DIRECT AND 1 MIXED) + SUMMER/WINTER DIVERTERS

- KEY:**
- AI 75 L INERTIAL STORAGE TANK
 - A32 REMOTE ZONE PANEL
 - B2 STORAGE TANK PROBE
 - HW HYDRO FAN COILS
 - K ABT 2 ZONE KIT (1DIR+1MIX)
 - M4 DOMESTIC HOT WATER RECIRCULATION PUMP
 - M52 SUMMER/WINTER THREE-WAY VALVE
 - UI INDOOR UNIT
 - UE OUTDOOR UNIT
 - UB OMNISTOR
 - S 39 PHOTOVOLTAIC SYSTEM CLEAN CONTACT
 - S20-1 ZONE 1 ROOM THERMOSTAT
 - S20-2 ZONE 2 ROOM THERMOSTAT

- NOTES:**
- 1- remember to install the condensate drain circuits;
 - 2- for the sections of the electrical connections it is recommended to check the instructions provided in the instruction booklets of the individual components.



NOTE: this diagram is an example. It is also required to convey the condensate drain of the heat pump and condensation generator. In order to guarantee proper Heat Pump operation, each system must consider inserting a bypass to guarantee a minimum flow rate of 500 l/h.

SUPER TRIO TOP WITH MAGIS COMBO PLUS V2

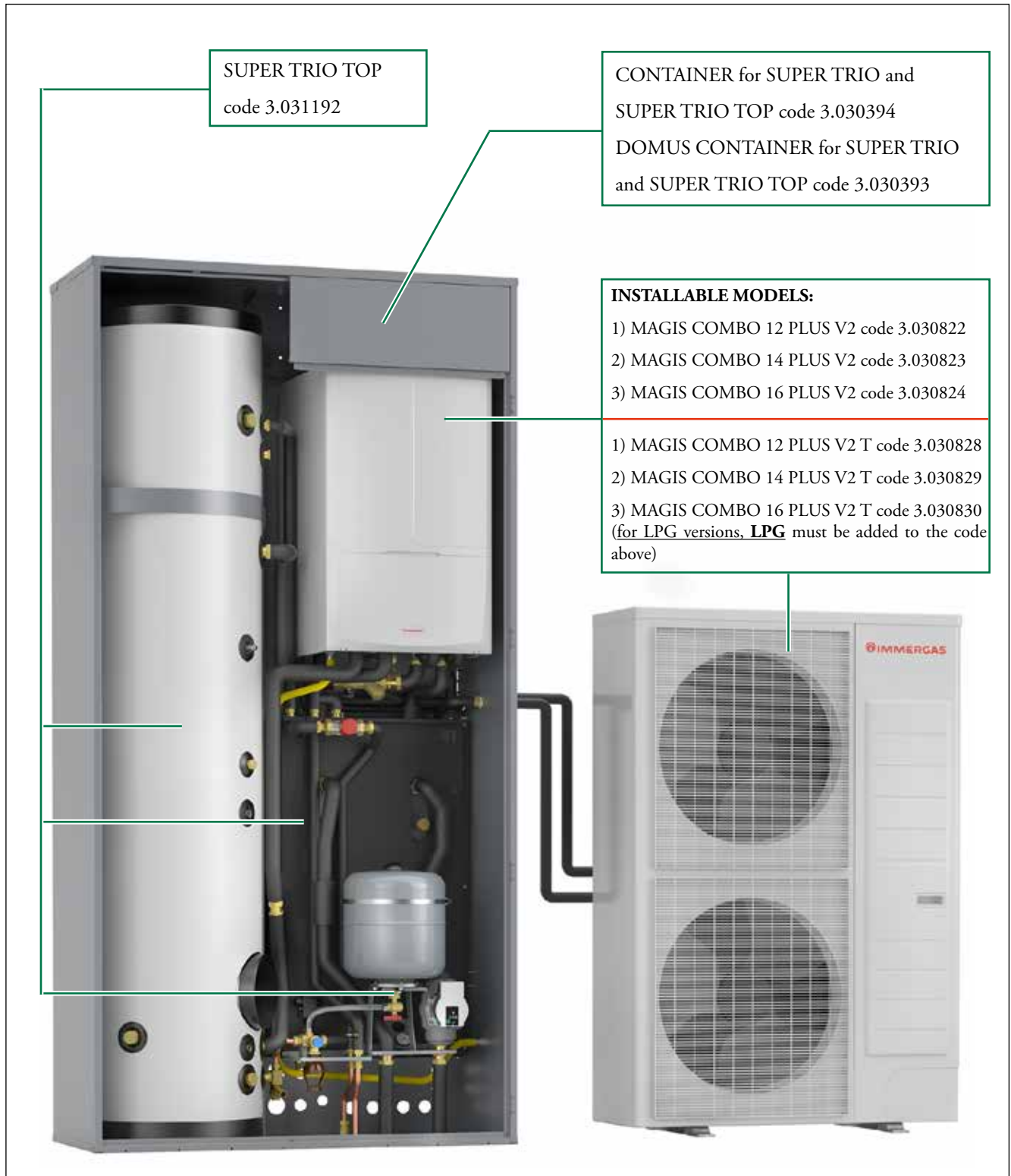
27 SUPER TRIO TOP WITH MAGIS COMBO 12-14-16 PLUS V2 (SINGLE-PHASE AND THREE-PHASE)

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 “HYBRID” 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 COMBO PLUS V2

27.1

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.



• **SUPER TRIO TOP**

code 3.031192

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

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).

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.



Immergas TOOLBOX

The App designed by Immergas for professionals



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

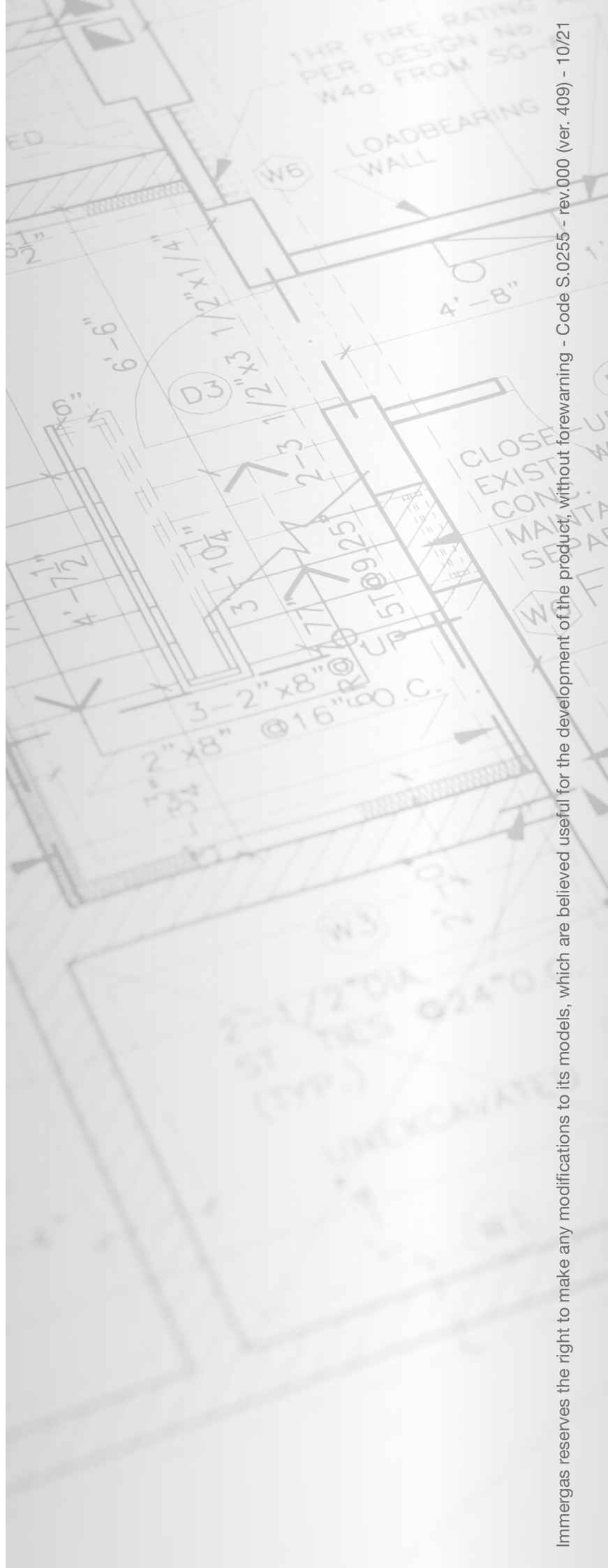
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IMMERGAS
UNI EN ISO 9001:2015
CERTIFIED
QUALITY SYSTEM

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



Immergas reserves the right to make any modifications to its models, which are believed useful for the development of the product, without forewarning - Code S.0255 - rev.000 (ver. 409) - 10/21