IMMERGAS

HEAT PUMPS

Enbloc solutions
Split type solutions
DHW solutions

IMMERGAS

WE ARE READY
TO DO OUR BIT
FOR THE ENVIRONMENT

We are talking about a very important European Union directive, an effective strategy that will drive to in reduced pollution and therefore improve the life of citizens all over Europe. The ErP directive (2009/125/CE) - the acronym stands for "**Energy Related Products**" - assesses very precise guidelines for design and the manufacturing of eco-compatible products and defines the minimum mandatory requirements for the efficiency and environmental performance of all power-consuming devices.

The goal is to reach the famous 20-20-20 by 2020. The repetition of the number 20 makes it easier to remember the **three key targets of the directive:**

• INCREASE THE EFFICIENCY OF ENERGY USING APPLIANCES BY **20%**

• REDUCE THE EMISSION OF CARBON DIOXIDE (CO_2) IN THE ATMOSPHERE BY **20%**

• RAISE THE PERCENTAGE OF RENEWABLE ENERGY ON FINAL CONSUMPTION TO **20%**

Two deadlines have been set to establish a road map for the adjustment.
Starting from **1 AUGUST 2015** it will be mandatory **to place on the market** appliances fitted with energy efficient circulators.

Starting from **26 SEPTEMBER 2015** the ErP and ELD Directives will enter into force requiring energy labelling of all the appliances **placed on the market**.

Placing on the market means the first time the product is invoiced by Immergas to the dealer. If an appliance is placed on the market before 1 August/26 September 2015, **it can be sold, installed and put into service without time limits**. The ErP and ELD regulations are not retroactive.
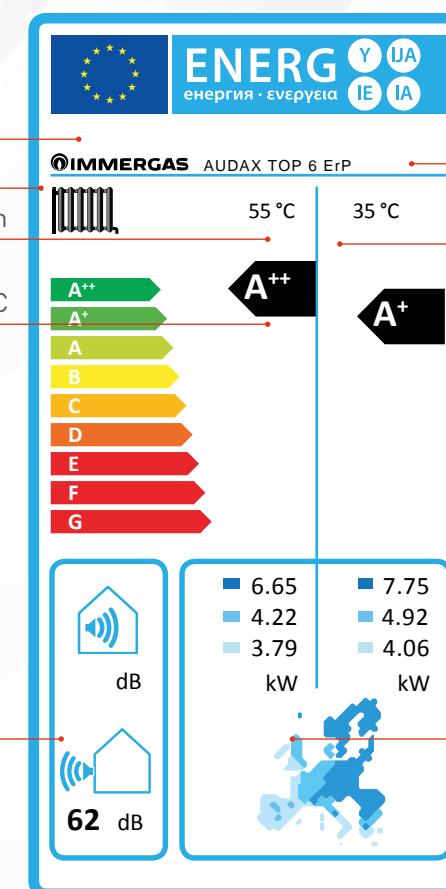
- Supplier indication
- Model indication
- Space heating function
- Medium temperature application
- Low temperature application
- Energy efficiency class related to space heating function 55 °C
- Energy efficiency class related to space heating function 35 °C
- Sound power level indoor (if applicable) and outdoor related to heating function
- European temperature map displaying three indicative temperature zones

IMMERGAS AUDAX TOP 6 ErP

55 °C   35 °C

A++   A+

6.65   7.75
4.22   4.92
3.79   4.06

dB   kW   kW

62 dB

ELD: EVERYTHING CLEAR IN THE LABEL
The European Union has made the new energy labelling system mandatory to enable consumers to see immediately the level of environmental compatibility of every single product. The Energy Labelling Directive (2010/30/CE) requires every product subject to the ErP Directive to bear a label highlighting not only the energy efficiency class but also other performance factors such as sound power level, use and power consumption.

IMMERGAS WELCOMES THESE ADJUSTMENTS WITH PARTICULAR CONVICTION, IN THE KNOWLEDGE THAT ONLY A MARKET THAT STIMULATES TECHNOLOGY WITH THE HIGHEST ENERGY EFFICIENCY CAN BE RESPECTFUL OF THE ENVIRONMENT.

HEAT PUMPS

New heat pump range
Clean, safe energy for heating and cooling

Heat pumps are one of the best environment-friendly solutions for housing and office buildings climatization, both in the summer and in the winter period.

The new Immergas range is **dedicated to professionals who are looking for renewable-energies-powered solutions and integrated or hybrid systems so as to achieve high quality in indoor living conditions while complying the new EU regulation provisions**.

Immergas offers a wide range of solutions for heating, cooling (both mono-bloc and split type air-to-water heat pumps) and for domestic hot water production (heat pump water heater).

AUDAX TOP ErP is the name of our **new mono-bloc type, air-to-water units, suitable for any system solutions.** The range includes:

- **3 single-phase versions**, designed for home applications (6, 8 or 12 kW)
- **1 three-phase version**, ideal for commercial facilities and offices (16 kW)

MAGIS PRO ErP is the name of the new-born split-type, reversible air-to-water heat pump products, including dedicated outdoor unit and an indoor hydronic unit, designed for housing solutions.

MAGIS PRO ErP can be also combined with electric resistance or a boiler for integrated systems.

RAPAX ErP, heat pump water heater, can eliminate gas consumption for the production of domestic hot water. RAPAX ErP range is especially indicated to realize heating systems in single houses.

AUDAX TOP ErP

Air/water inverter heat pumps

WIDE RANGE OF PRODUCTS

Heat pumps are among the best solutions for environment-friendly climate control in homes and offices, summer and winter. The new Immergas range **is dedicated to professionals who are looking for systems with a strong use of renewable energy, integrated or hybrid systems that can provide great comfort while complying with regulations**.

AUDAX TOP ErP is the name of our **new self-contained air/water units**. Inverter technology modulates power, reduces power absorption and delivers high performance. It features a low-consumption circulator and a control panel that can be installed inside the home to control the unit remotely. AUDAX TOP ErP units are **suitable for any system solution** and can be combined with a separate storage tank for production of domestic hot water. The range includes:

- **3 single-phase versions**, designed for home applications (6, 8 or 12 kW)
- **1 three-phase version**, ideal for commercial facilities and offices (16 kW)

OPTIMAL OPERATION WITH FAN COIL AND RADIANT PANELS

With primary heating flow up to 60 °C, AUDAX TOP ErP units can work on low or medium temperature heating systems; in the summer cooling phase, they are ideal combined with a fan coil or radiant panels in association with a dehumidifier (see page 15).

FAST, EASY INSTALLATION

Featuring standard low-consumption circulator, expansion vessel, vibration dampers, 1" Y-shaped water filter and condensate drain fitting, our AUDAX TOP ErP heat pumps are also easy to install.

LOW ABSORPTION AND REDUCED NOISE LEVEL

Thanks to the use of inverter technology, power consumption is lower but heating and cooling performance remain high, especially during the in-between seasons when the heat load is reduced. Thanks to special technical features, sound emissions have also been reduced.

USER-FRIENDLY INTERFACE

The standard control panel not only displays operation diagnostics but also serves as weekly thermostat for **managing heating/cooling** with room temperature/humidity sensor in stand-alone applications. Easy connections by only 2 BUS cables and 2 power supply cables to connect It at AUDAX TOP ErP. The control panel doesn't need battery.

The control panel lets you:
- set room temperature (comfort/economy)
- set time and climate curve (in heating and cooling mode)
- view error codes for the heat pump

INTEGRATED SYSTEMS

Air-water heat pumps can be used as single components but also in an **integrated system** (such as boiler - solar thermal - heat pumps): these system solutions allow obtaining the maximum benefit from the different energy production systems.

For a correct functioning of the entire system, Immergas proposes an "intelligent" **system controller, able to determine the more convenient energy source in that moment** and therefore choose the appliance to be activated.

Moreover, the system controller allows:
- **maintaining the system performance high** in any circumstances
- **containing to the maximum the pollutant emissions** in the atmosphere
- **managing all the technological system** with a single device
- **controlling up to 4 AUDAX TOP ErP** in cascade

MAIN FEATURES AUDAX TOP

- **Inverter twin-rotary** (PAM and PWM) for all models
- **R410A refrigerant gas**
- **Variable speed fan** (modulating) with low turbolence blades and **Low loss Front grill**
- **Water/gas** steel heat **exchanger**
- Electronic **expansion valve**
- Electronic expansion valve and 4 way valve (for **reversible operation**)
- **Hot/cold** (reversible) **functioning**
- **Outdoor** installation
- **Espansion vessel as standard**
- **Low consumption system circulation pump**
- Heat pump setting and regulation (stand alone) through **control panel**, autodiagnostic with error code visualization
- Possible installation at **D.H.W. storage tank**
- **External probe as standard**
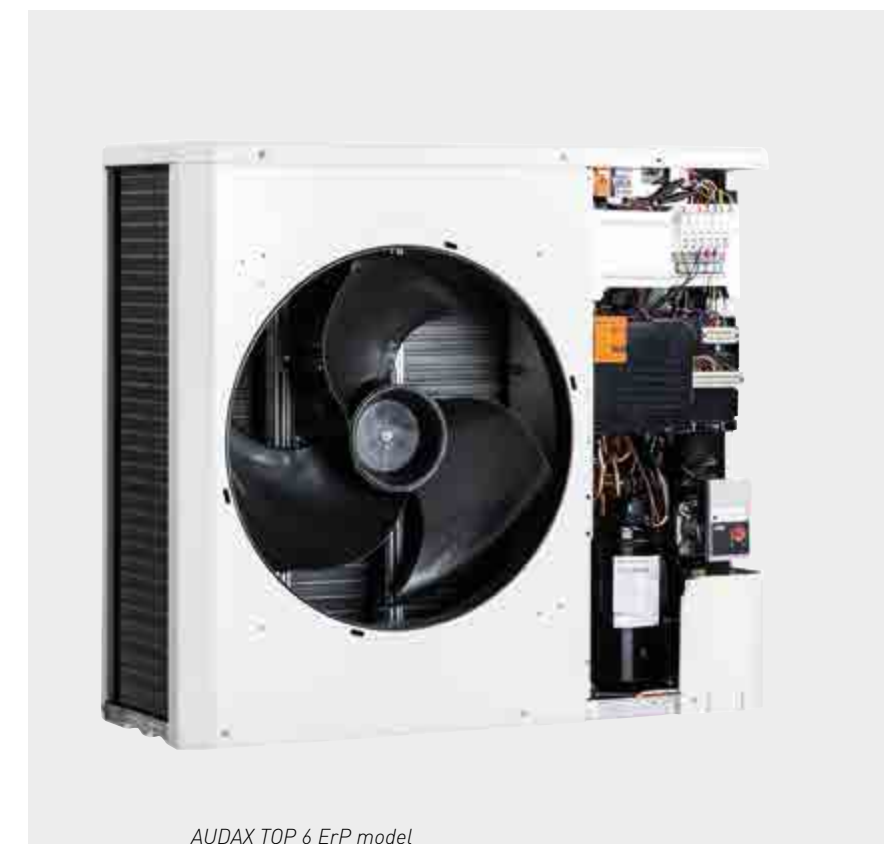
AUDAX TOP 6 ErP model

| Technical characteristics	Unit of measurement	AUDAX TOP 6 ErP	AUDAX TOP 8 ErP	AUDAX TOP 12 ErP	AUDAX TOP 16 ErP
Code heat pump		3.025557	3.025558	3.025560	3.025562
Refrigerant quantity (R410A)	g	1.350	1.810	2.450	3.385
Heating capacity (system water 35 °C)	kW	5,76	7,16	11,86	15,00
Heating capacity (system water 45 °C)	kW	5,76	7,36	12,91	14,50
Flow temperature range (CH)	°C	20 - 60	20 - 60	20 - 60	20 - 60
Outside air temperature range (CH)	°C	- 20/30	- 20/30	- 20/30	- 20/30
COP (system water 35 °C)		4,28	3,97	3,95	4,20
COP (system water 45 °C)		3,05	3,19	3,03	3,30
Heating min/max (system water 35 °C)	kW	1,08 / 6,14	1,34 / 8,00	3,61 / 15,45	3,44 / 17,41
Heating min/max (system water 45 °C)	kW	1,06 / 6,04	1,32 / 7,92	3,47 / 12,95	3,07 / 16,52
Cooling capacity (system water 18 °C)	kW	7,04	7,84	13,54	16,00
Cooling capacity (system water 7 °C)	kW	4,73	5,84	10,24	13,00
Flow temperature range (cooling)	°C	4 - 18	4 - 18	4 - 18	4 - 18
Outside air temperature range (cooling)	°C	46 - 5	46 - 0	46 - 0	46 - 0
EER (system water 18 °C)		3,70	3,99	3,66	3,81
EER (system water 7 °C)		3,00	2,98	2,96	2,91
Cooling min/max (system water 18 °C)	kW	1,20 / 7,49	0,97 / 8,44	5,88 / 16,12	5,72 / 17,31
Cooling min/max (system water 7 °C)	kW	0,73 / 5,33	0,50 / 5,80	3,83 / 11,67	3,75 / 13,55
System circuit max pressure	bar	3	3	3	3
Expansion vessel	l	2	2	3	3
Power supply	V - Hz	230 - 50	230 - 50	230 - 50	400 - 50
Maximum power absorbed	W	2.000	2.700	3.850	6.500
Nominal absorbed current	A	11	14,5	20,7	11,1
Electric protection index	IP	X4	X4	X4	X4
Weight	kg	61	69	104	116

Refer to the following conditions:
heating water/air temperature 30°-35°/7°-6 °C and 40°-45 °C/7°-6 °C
cooling water/air temperature 12°-7 °C/35 °C and 23°-18 °C/35 °C

In accordance with the ELD directive (in conformity with regulation 811/2013), we include the label of each heat pump to enable customers to evaluate the products. The labels are shown in the documentation accompanying the units as well as on the immergas.com website in each product's page.
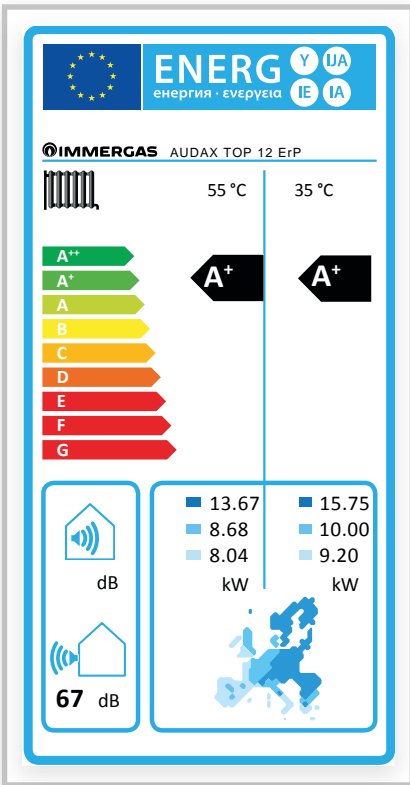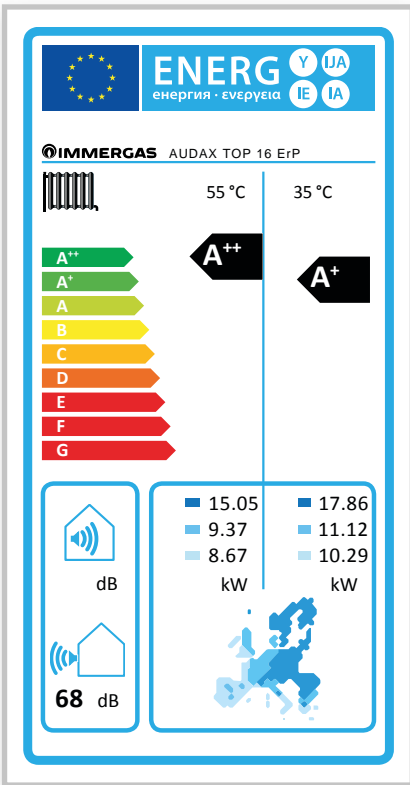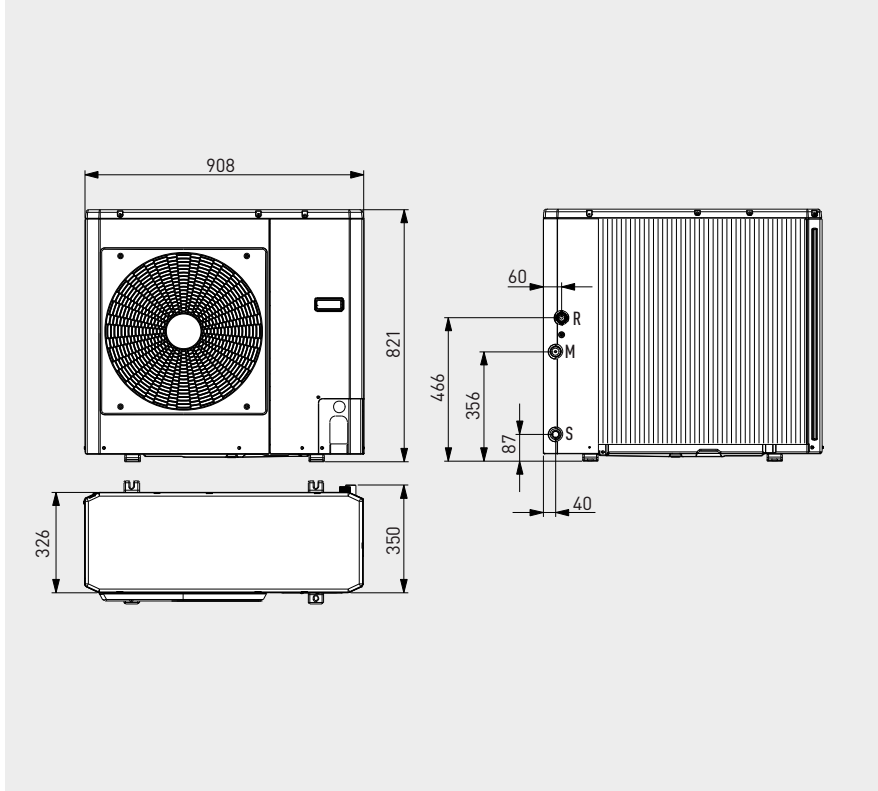
AUDAX TOP 6 ErP
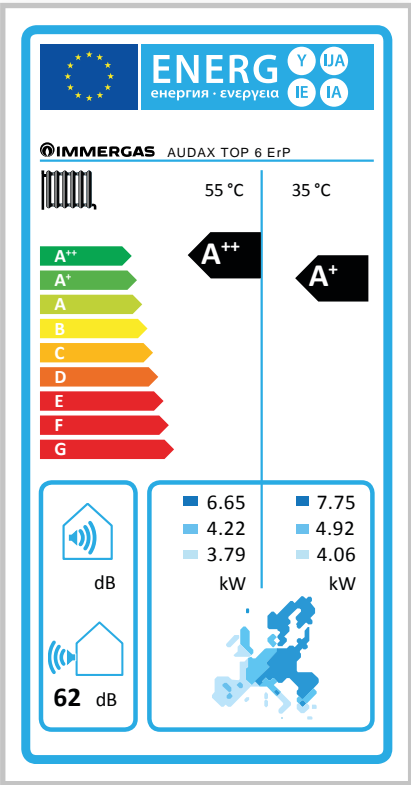
AUDAX TOP 8 ErP
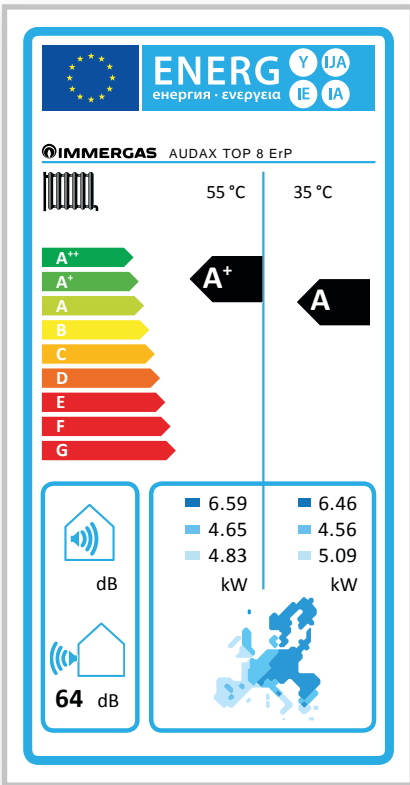
AUDAX TOP 12 ErP

AUDAX TOP 16 ErP

AUDAX TOP 6/8 ErP

Key

R	Water inlet
M	Water outlet
S	Water drain

Connections

Water inlet	Water outlet	Drain
R	M	S
1" M	1" M	16 mm

AUDAX TOP 12/16 ErP

Key

R	Water inlet
M	Water outlet
S	Water drain

Connections

Water inlet	Water outlet	Drain
R	M	S
1" M	1" M	16 mm

Flow rate/head graph AUDAX TOP 6 ErP

Flow rate/head graph AUDAX TOP 8 ErP

Flow rate/head graph AUDAX TOP 12/16 ErP

Available head in the system:

— minimum
— medium
— maximum
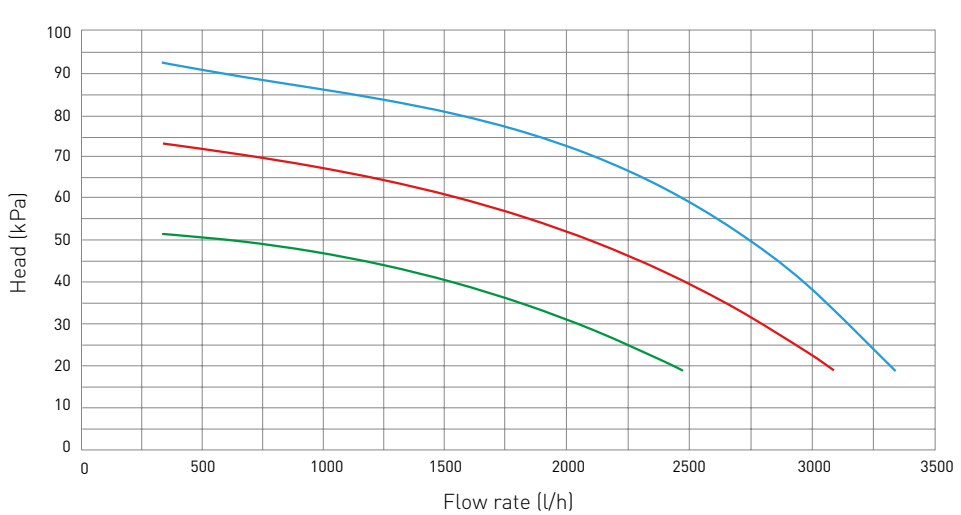
Minimum distances for AUDAX TOP ErP installation
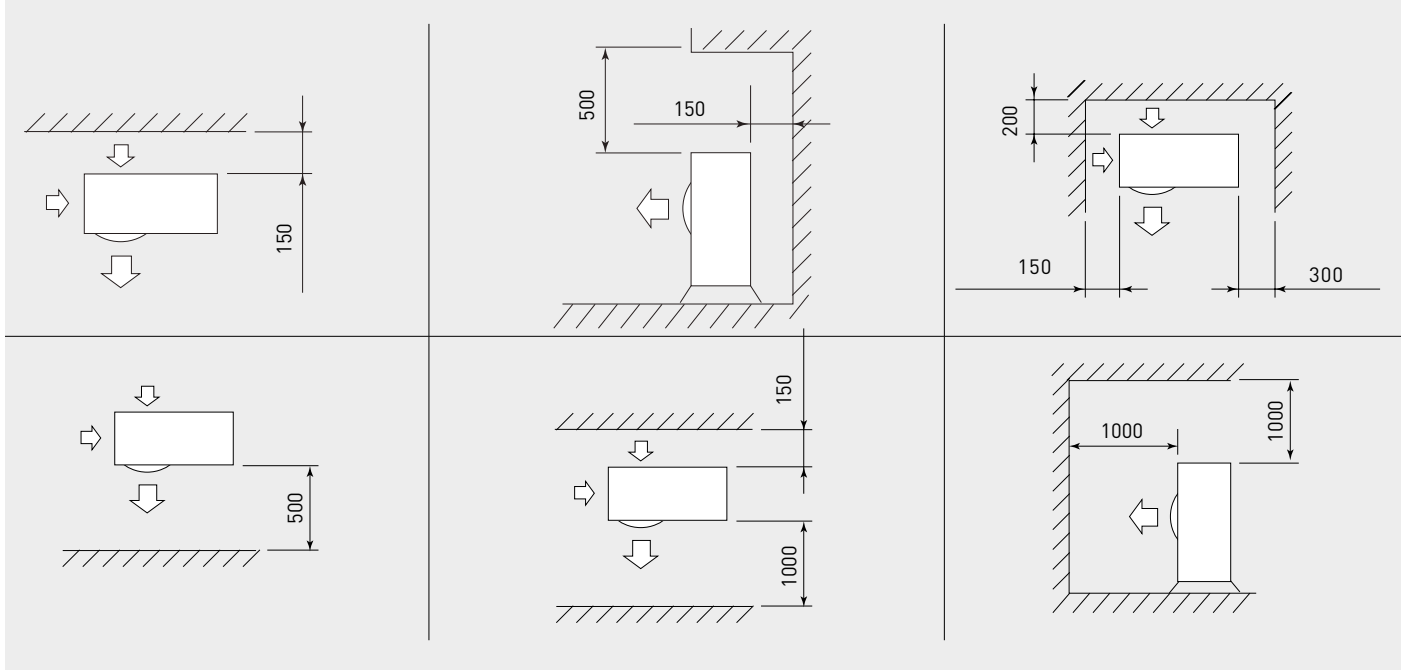
Minimum distances installation in cascade
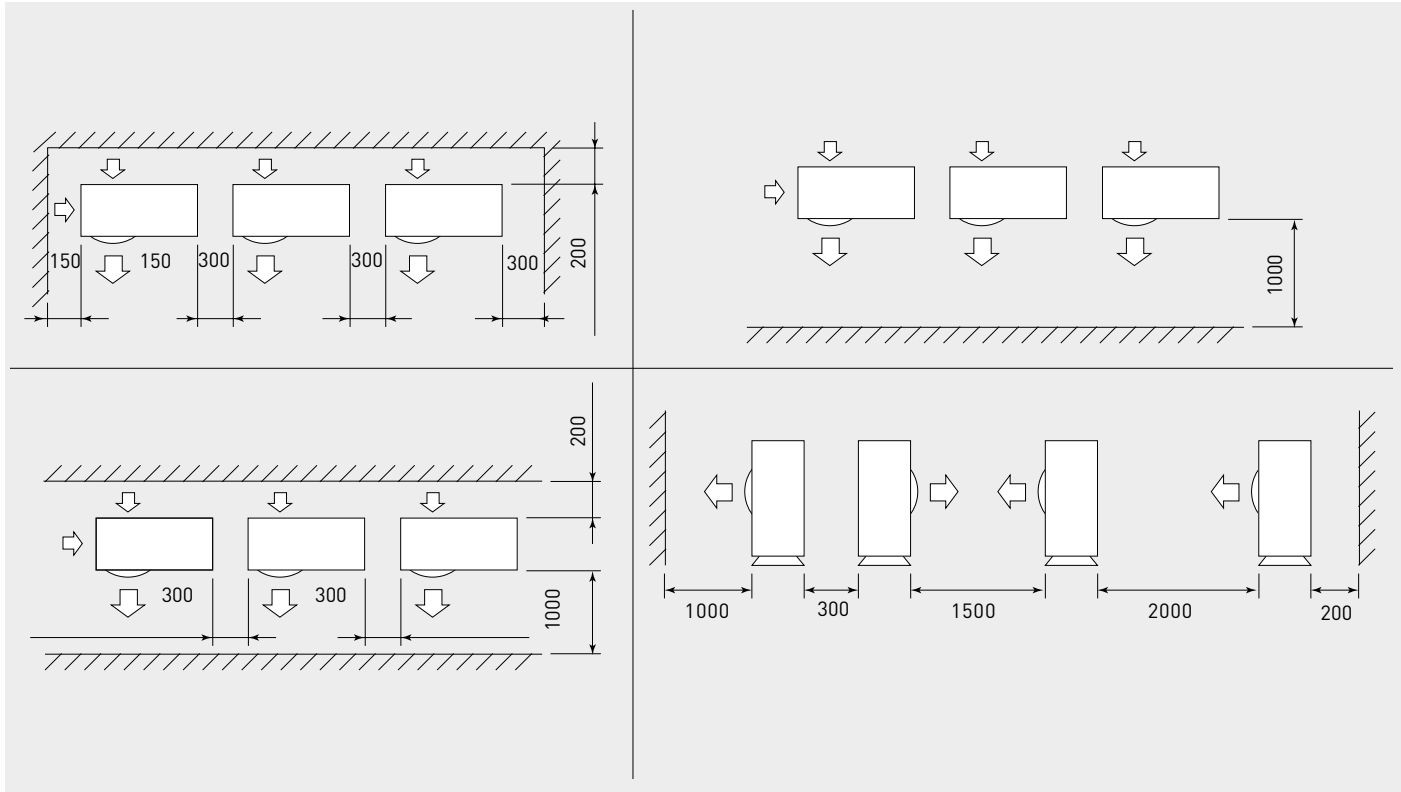
CLIMATIC REGULATION

Type	Code	See page
System controller	3.021522	33
System controller expansion kit *	3.021547	33
Remote control kit	3.023364	33
Temperature/humidity active sensor kit	3.021524	34
Room hygrostat**	3.023302	34
CRONO 7 (weekly digital chronothermostat)	3.021622	33
CRONO 7 WIRELESS (wireless weekly digital chronothermostat)	3.021624	33
Storage tank NTC probe *	3.019375	34
Solar collector probe	3.019374	34
EMR 12 VDC relay kit	3.023945	34
SSR 6 VDC relay kit	3.023946	34

Standard accessory in the hydraulic kits code 3.021527 and 3.021528.
** *To be used with radiant systems that also work in cooling mode.*

OPTION KITS

	Code	See page
Distribution manifold kit for 1 direct and 2 mixed temperature zones **	3.021527	35
Distribution manifold kit for 2 mixed temperature zones	3.021528	35
Safety thermostat kit for code 3.021527 and 3.021528	3.013794	34
Horizontal buffer tank with capacity of 25 litres	3.025061	37
Horizontal buffer tank with capacity of 75 litres	3.025062	37
Horizontal buffer tank with capacity of 100 litres	3.025063	37
Horizontal buffer tank with capacity of 200 litres	3.025064	37
Dehumidifier kit (only for recessed installation with codes 3.022146 and 3.022147)*	3.021529	37
Dehumidifier back frame kit*	3.022146	37
Dehumidifier front grille kit*	3.022147	37
Return temperature increase 3-way valve kit	3.020632	35
12 litres system expansion vessel kit	3.011679	35
Integration electric resistance kit 2, 4 or 6 kW for heating system	3.021525	36
Additional 5 kW electric resistance kit for UB 1000/1500 ErP and UB 750 ErP (Thermal solar system)	3.020862	36
Additional 2 kW electric resistance kit for UB 200/300/500 ErP and UB 550/750 ErP (Thermal solar system)	3.020861	36
Wall mounting brackets for AUDAX TOP 6/8 ErP	3.022154	36
Connection kit 1" with anti-vibration flexible pipes and shut-off knobs	3.025954	37

* *Useful for radiant systems that work also in cooling.*
**Direct zone means a zone operating at maximum temperature of AUDAX TOP ErP or MAGIS PRO ErP set.*

MAGIS PRO ErP

Split type reversible air/water heat pumps composed by an outdoor condensing unit and an indoor hydronic unit

NEW NEW NEW NEW NEW NEW

IDEAL SOLUTIONS FOR NEW HOME
The word "PRO" indicates that the device is for professional use i.e. for qualified installers (with F-GAS Certification) who will make the refrigerator connections between the 2 units. Available in **three versions (5, 8 and 10 kW)**, these system solutions **are ideal for new residential buildings with very high energy class even in areas with extremely low external temperature.**

IDEAL PROTECTION FROM FREEZING
The water circuit is completely protected from freezing, as it can be installed inside the building; MAGIS PRO ErP is the ideal application for very cold regions.

COMPACT SOLUTION
The separate hydronic module houses the main parts of the hydraulic system, such as: supplementary resistance kit for the system (optional), expansion vessel, 3-way diverter valve for DHW.

LOW AESTHETIC IMPACT
The external unit is smaller than regular hydronic heat pumps, providing greater installation flexibility outside the building or on a balcony.

EASY INSTALLATION
Designers can use MAGIS PRO ErP in stand-alone heating, cooling and DHW solutions or combined with a boiler for integrated systems.

MAIN FEATURES HYDRONIC UNIT

- 48 plates **R410A / water exchanger**
- 12 litres **expansion vessel**
- **Flowmeter and water manifold** prearranged for Additional 3 kW electric resistance kit (optional)
- **Hydraulic group - 7 mwc low consumption circulator**
- **3-ways diverte valve** for connection at DHW storage tank
- **PCB prearranged to manage 2 zones (without System controller)**, 1 direct and 1 mixed (heating and cooling)
- **System Controller** (optional) to manage an integrated system with a gas bolier
- Standard **shut off knobs with ¾" filter** for water circuit

Key

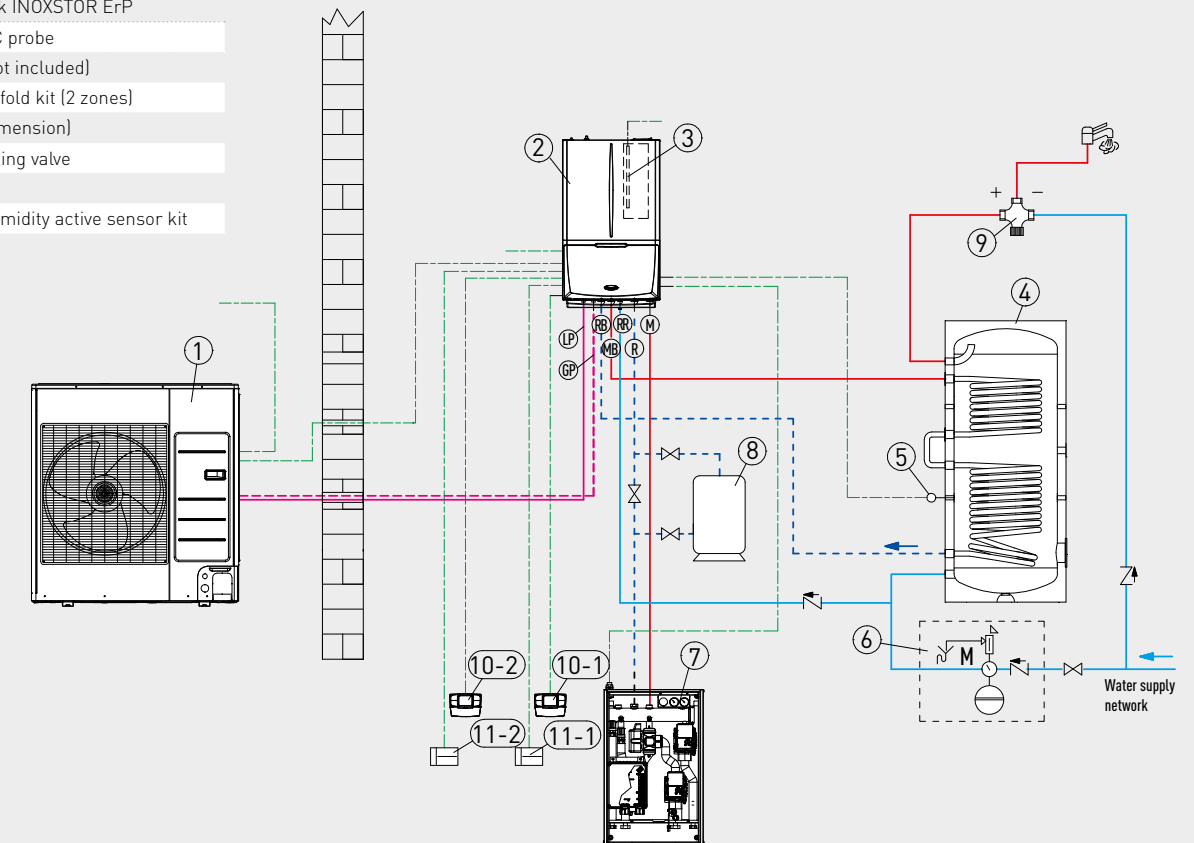|	
1	Condensing unit AUDAX PRO (external probe as standard)
2	Hydronic unit
3	Integration electric resistance kit (option)
4	DHW storage tank INOXSTOR ErP
5	Storage tank NTC probe
6	Safety inlet kit (not included)
7	Distribution manifold kit (2 zones)
8	Buffer tank (to dimension)
9	Thermostatic mixing valve
10	CAR^{V2}
11	Temperature / humidity active sensor kit

MAIN FEATURES OUTDOOR CONDENSING UNIT (AUDAX PRO)

- **Inverter technology rotative compressor** for all models
- Preloaded **refrigerant GAS R410A**
- **Shut off knobs R410A as standard**
- **Air finned heat exchanger** (with single fan)
- **Electronic lamination valve**
- 4-way **valve for cycle inversion**
- Reversible **heating and cooling function**
- Possible **installation outdoor without protection**

EXAMPLE OF CONFIGURATION FOR MAGIS PRO ErP WITH TWO RADIANT PANEL ZONES

Room heating mode
MAGIS PRO ErP is switched on by a request from one of the two system zones. If the time required to reach full capacity is longer than the set time, the 3 kW resistance in the water manifold will also be triggered.

Room cooling mode
MAGIS PRO ErP is switched on by a request from one of the two system zones. The dehumidifiers are switched on by the board kit with two relay board located inside the hydronic units.

Domestic hot water mode
When the water temperature drops below the set point, the 3-way diverter valve located in the hydronic module switches to the storage tank and MAGIS PRO ErP will start producing DHW; the supplementary electric resistance of the boiler is switched on only in anti-legionella bacteria mode or with temperature set points above 55 °C.

NOTE: The inclusion and sizing of buffer tank will have to be decided based on the quantity of water in the heating system.

Key

1	Condensing unit AUDAX PRO (external probe as standard)
2	Hydronic unit
3	VICTRIX MAIOR X TT ErP boiler
4	System controller
5	Solar pump station and safety valve
6	Solar expansion vessel
7	Flat-Plate solar collectors CP4 M
8	Solar collector probe
9	Thermostatic mixing valve
10	DHW storage tank INOXSTOR ErP
11	Storage tank NTC probe (upper part)
12	Storage tank NTC probe (lower part)
13	Safety inlet kit (not included)
14	Distribution manifold kit (2 mixed zones and 1 direct)
15	Remote control kit
16	CRONO 7 chronothermostat
17	Buffer tank (to dimension)

Water supply network
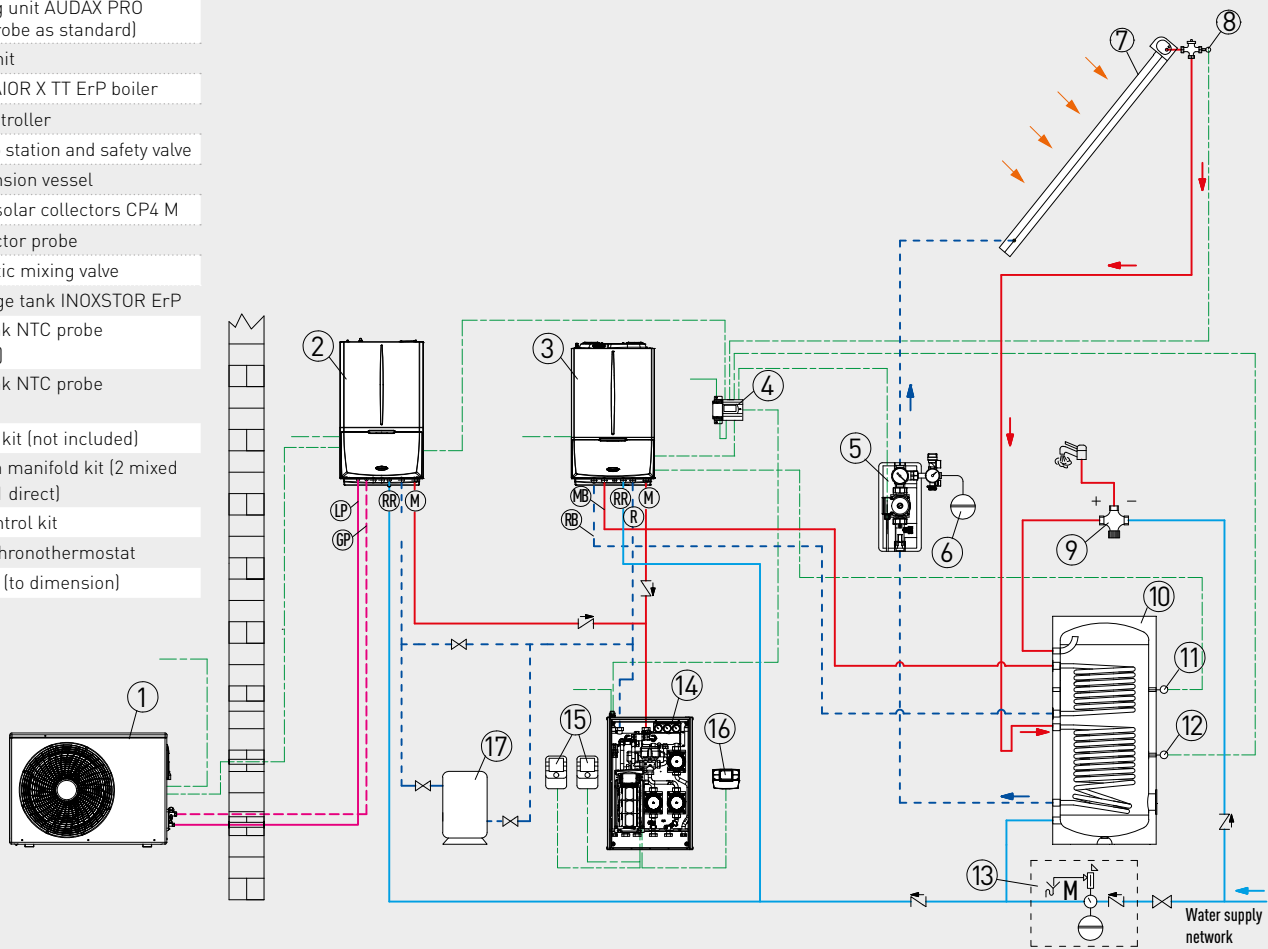
SYSTEM WITH MAGIS PRO ErP, VICTRIX MAIOR X TT ErP AND THERMAL SOLAR

Room heating mode
The system controller is triggered by one or more thermostats acting on the thermo heads of the radiating system and it switches on the MAGIS PRO ErP or the VICTRIX MAIOR X TT ErP depending on the COP calculated and on cost effectiveness. By means of an adequately system controller expansion kit, the system controller opens the 3-way diverte valve towards the radiant panel system.

Room cooling mode
The system controller is triggered by one or more thermostats acting on the thermo heads of the radiating system. For cooling systems with radiant panels, Immergas proposes dehumidifier systems (not shown in the system example) which keep the percentage of humidity in a room within comfort ranges.

Domestic hot water mode
For DHW production, the system controller only switches on the VICTRIX MAIOR X TT ErP and the thermal solar system.

NOTE: The inclusion and sizing of buffer tank will be decided based on the quantity of water in the heating system.

Technical characteristics	Unit of measurement	MAGIS PRO 5 ErP	MAGIS PRO 8 ErP	MAGIS PRO 10 ErP
Code		3.025694	3.025695	3.025696
Refrigerant quantity (R410A)	g	1.200	2.000	2.000
Liquid connection pipes R410A	mm-inch	6,35 - 1/4"	9,52-3/8"	9,52-3/8"
Gas connection pipes R410A	mm-inch	15,88 - 5/8"	15,88 - 5/8"	15,88 - 5/8"
Max length refrigerant pipes*	m	30	50	50
Max difference in height**	m	20	30	30
Heating capacity (system water 35 °C)	kW	5,80	7,71	9,70
Heating capacity (system water 45 °C)	kW	5,30	7,26	9,27
Heating capacity (system water 55 °C)	kW	4,80	6,17	8,45
Flow temperature range (CH)	°C	25-55	25-55	25-55
Outside air temperature range (CH)	°C	-20/35	-20/35	-20/35
COP (system water 35 °C)		4,53	4,08	4,09
COP (system water 45 °C)		3,42	3,13	3,11
COP (system water 55 °C)		2,64	2,34	2,35
Cooling capacity (system water 18 °C)	kW	6,03	7,58	7,58
Cooling capacity (system water 7 °C)	kW	4,90	5,33	7,31
Flow temperature range (cooling)	°C	7 - 25	7 - 25	7 - 25
Outside air temperature range (cooling)	°C	10 - 46	10 - 46	10 - 46
EER (system water 18 °C)		3,61	3,77	3,77
EER (system water 7 °C)		2,62	2,41	2,38
Maximum power absorbed condensate unit + Hydronic unit	kW	3,20	4,13	5,20
Power supply	V – Hz	230 - 50	230 - 50	230 - 50
Condensing unit weight (empty)	kg	47,5	74,0	74,0
HYDRONIC UNIT TECHNICAL DATA				
Expansion vessel	l		12	
System circuit max pressure	bar		3	
Electric protection index	IP		X4D	
DHW range temperature (with resistance optional)	°C		10 - 50 (10 - 65)	
Weight (empty)	kg		33,50	

* If the distances are longer than 5 m (MAGIS PRO 5 ErP) or 15 m (MAGIS PRO 8 and 10 ErP), R410A have to be added.
** Data concerned the hydronic unit bottom compared to the condensate unit.

Refer to the following conditions :

Environment	Heating (°C)	Cooling (°C)
T system water (R/M) - air (bs/bu)	30/35 - 7/6	23/18 - 35 (bs)
T system water (R/M) - air (bs/bu)	40/45 - 7/6	12/7 - 35 (bs)

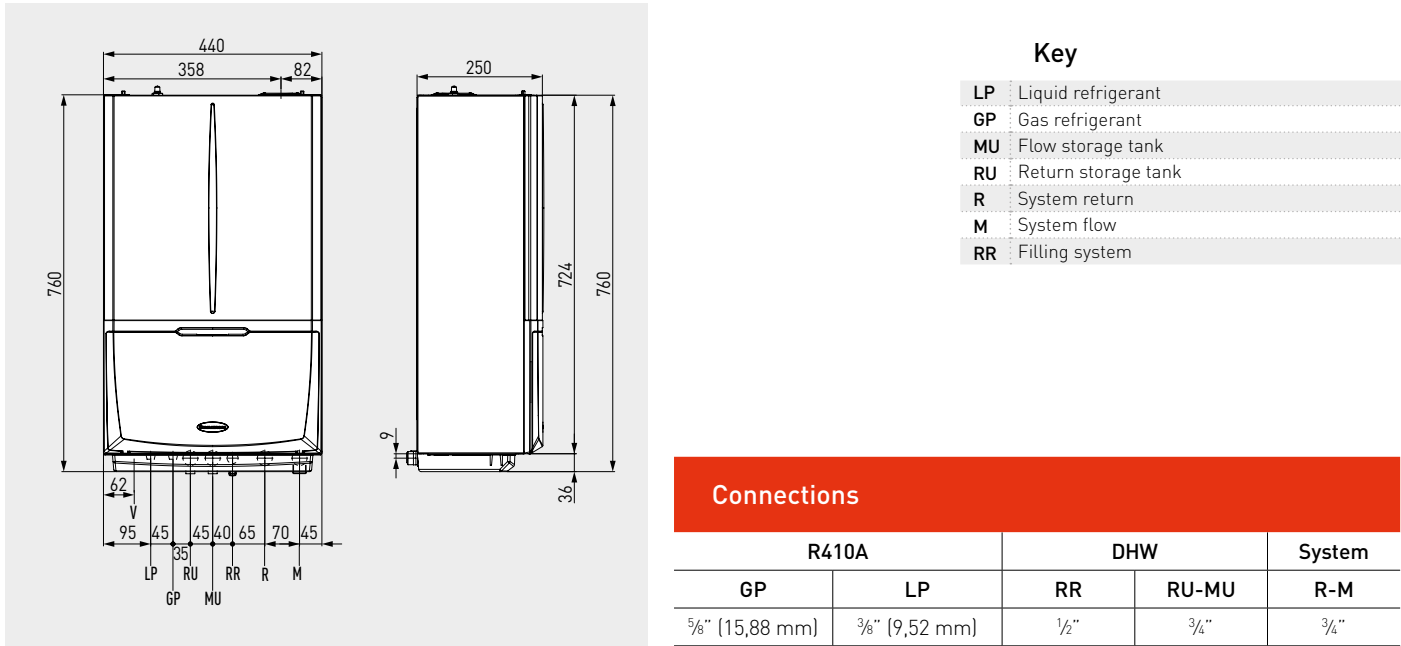### Internal unit circulator flow rate/head graph
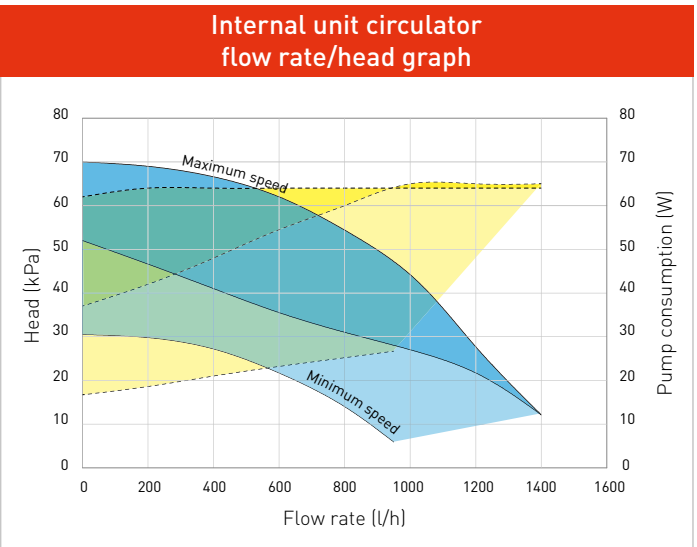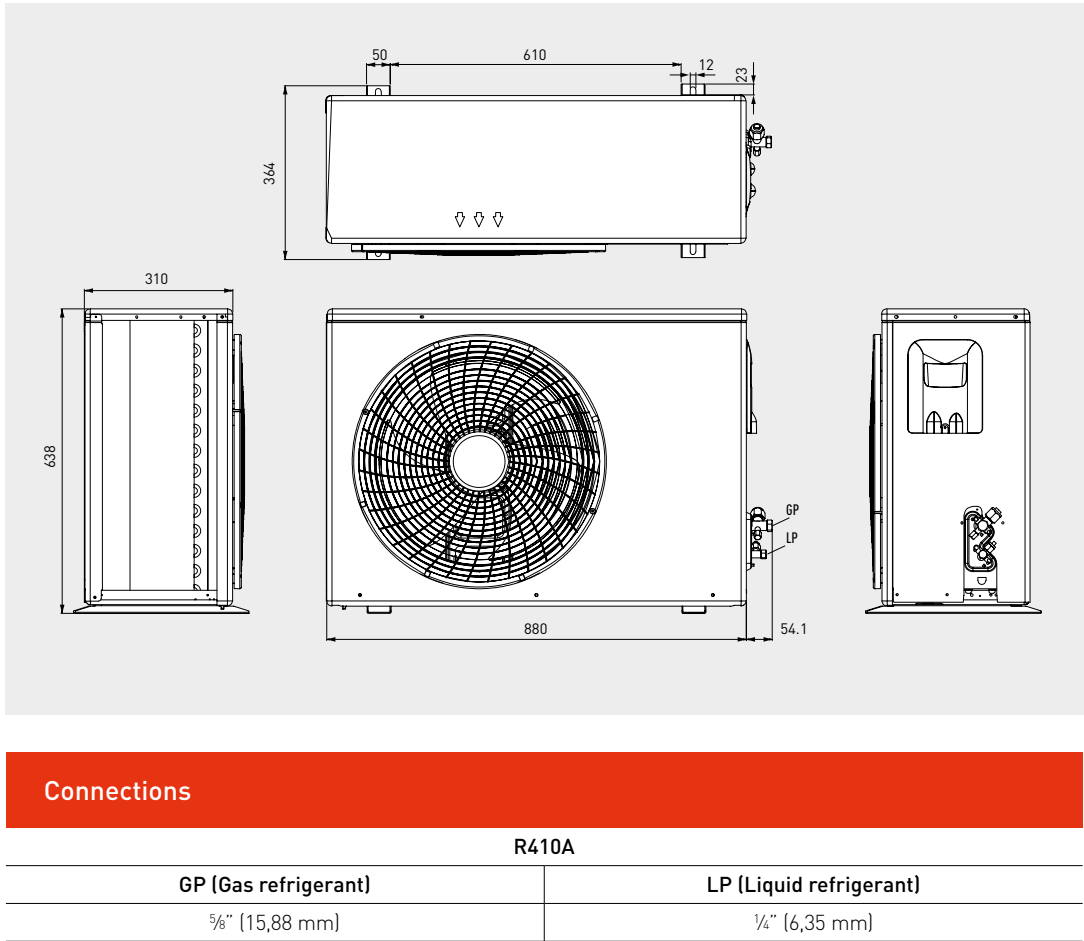

Key

- Available head in the system with escluded by-pass
- Available head in the system with inserted by-pass
- Pump consumption with escluded by-pass
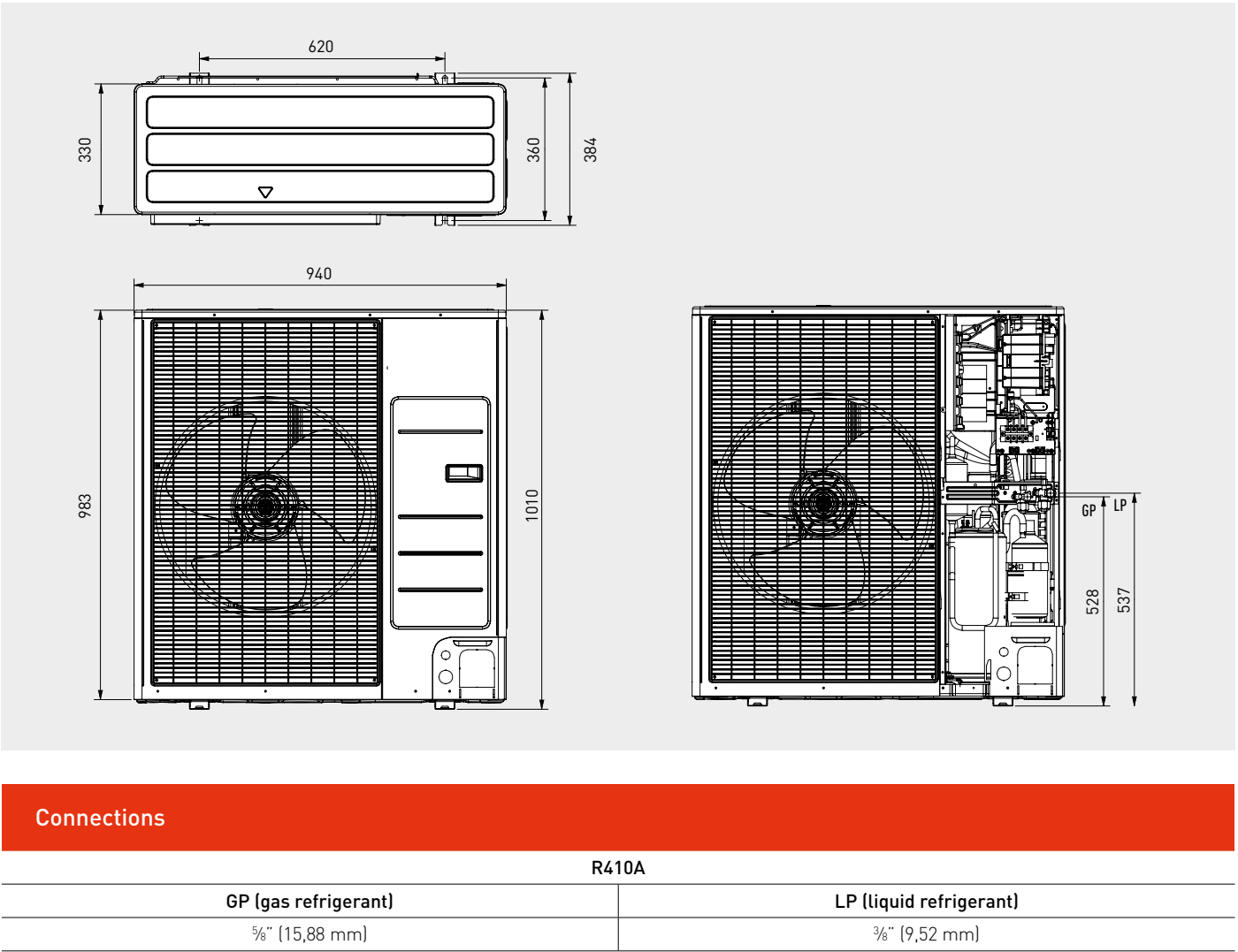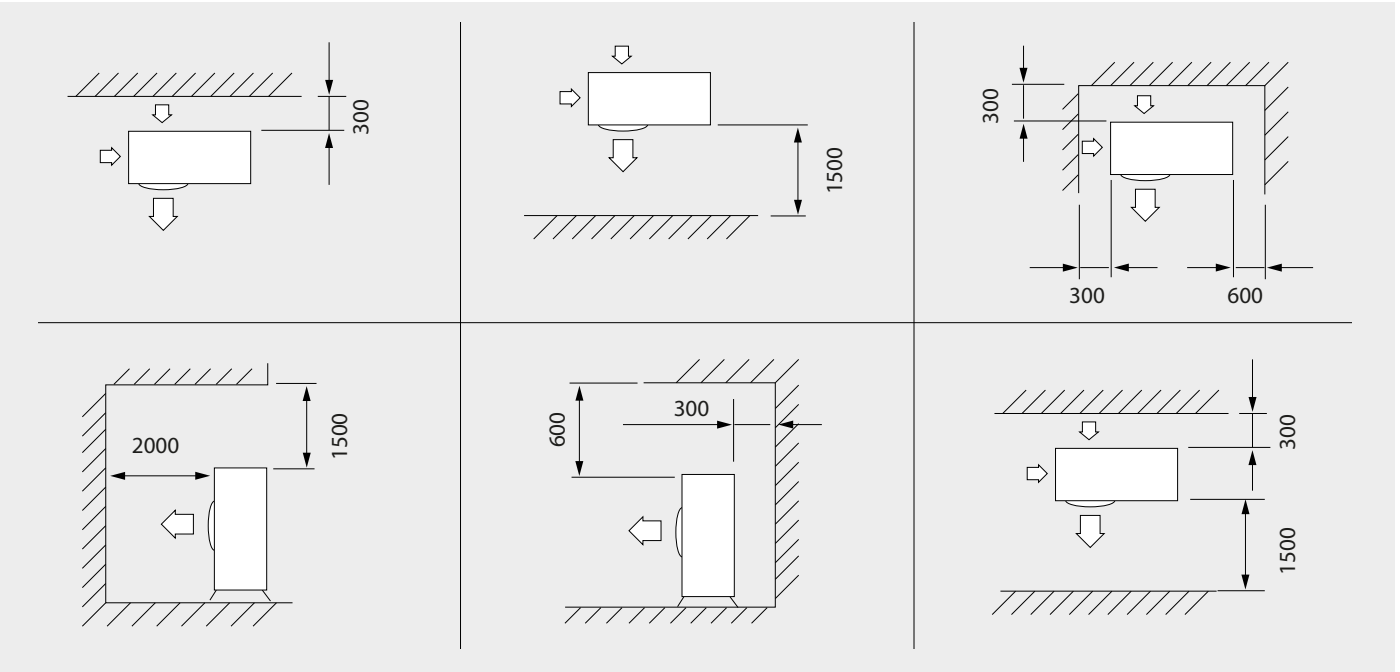- Pump consumption with inserted by-pass

Hydronic unit

Key

LP	Liquid refrigerant
GP	Gas refrigerant
MU	Flow storage tank
RU	Return storage tank
R	System return
M	System flow
RR	Filling system

Connections

R410A		DHW		System
GP	LP	RR	RU-MU	R-M
⅝" (15,88 mm)	⅜" (9,52 mm)	½"	¾"	¾"

Condensing unit AUDAX PRO 5

Connections

R410A	
GP (Gas refrigerant)	LP (Liquid refrigerant)
⅝" (15,88 mm)	¼" (6,35 mm)

Condensing unit AUDAX PRO 8/10

Connections

R410A	
GP (gas refrigerant)	LP (liquid refrigerant)
⅝" (15,88 mm)	⅜" (9,52 mm)

Minimum distances for AUDAX PRO installation
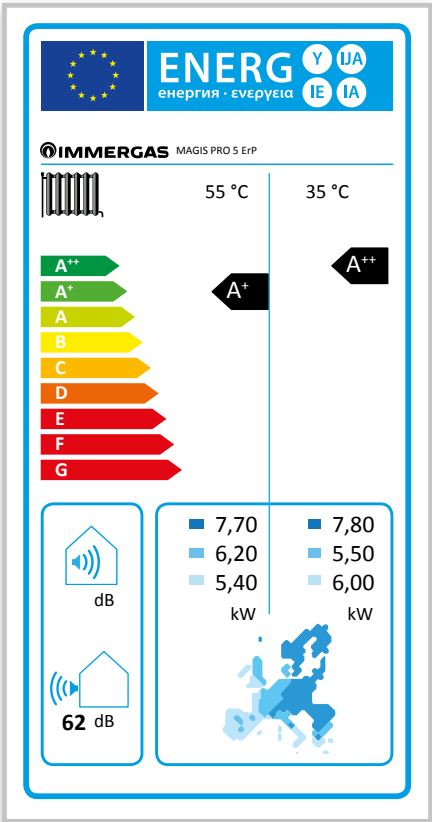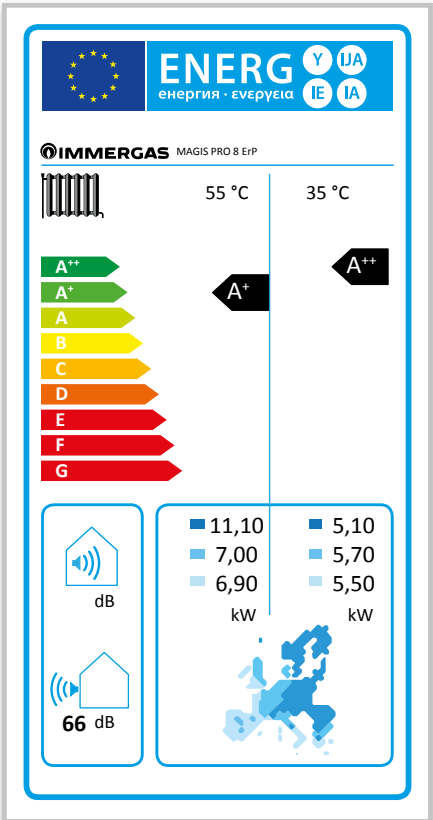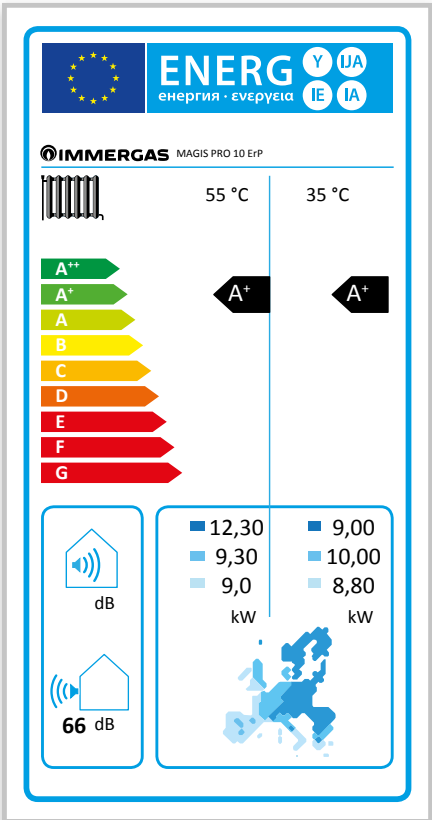
In accordance with the ELD directive (in conformity with regulation 811/2013), we include the label of each heat pump to enable customers to evaluate the products. The labels are shown in the documentation accompanying the units as well as on the immergas.com website in each product's page.

MAGIS PRO 5 ErP

MAGIS PRO 8 ErP

MAGIS PRO 10 ErP

CLIMATIC REGULATION

Type	Code	See page
System controller	3.021522	33
System controller expansion kit*	3.021547	33
Remote control kit	3.023364	33
Temperature/humidity active sensor kit**	3.021524	34
Room hygrostat	3.023302	34
CAR^{V2} (modulating remote control)	3.021395	34
CRONO 7 (weekly digital chronothermostat)	3.021622	33
CRONO 7 WIRELESS (wireless weekly digital chronothermostat)	3.021624	33
Storage tank NTC probe *	3.019375	34
Solar collector probe	3.019374	34
EMR 12 VDC relay kit	3.023945	34
SSR 6 VDC relay kit	3.023946	34
2 relays board kit to manage the dehumidifiers NEW	3.026302	34
Safety thermostat kit for kit 3.021527 and 3.021528	3.013794	34

Standard accessory in the hydraulic kits code 3.021527 and 3.021528.
*** To be used with radiant systems that also work in cooling mode.*

OPTION KITS

	Code	See page
Distribution manifold kit for 1 direct and 2 mixed temperature zones (with system controller)*	3.021527	35
Distribution manifold kit for 2 mixed temperature zones (with system controller)	3.021528	35
Distribution manifold kit for 1 direct and 1 mixed temperature zones (direct connection) NEW	3.026301	35
Connection kit for R410A circuit NEW	3.026089	36
Dehumidifier kit**	3.021529	37
Dehumidifier back frame kit**	3.022146	37
Dehumidifier front grille kit**	3.022147	37
Return temperature increase 3-way valve kit	3.020632	35
12 litres expansion vessel kit	3.011679	35
3 kW integration electric resistance kit (for stand alone system)	3.026300	36
Additional 5 kW electric resistance kit for UB 1000/1500 ErP and UB 750 ErP	3.020862	36
Additional 2 kW electric resistance kit for INOXSTOR 200/300/500 ErP and UB 550/750 ErP	3.020861	36
Anti freeze protection kit -15 °C	3.017324	36

** To be used with radiant systems that also work in cooling mode.*
*** Only for recessed installation with codes 3.022146 and 3.022147.*

RAPAX ErP
Heat pump water heaters

DOMESTIC HOT WATER WITH RENEVABLE ENERGY SOURCES
The RAPAX ErP range is ideal when renovating and creating heating systems in detached houses to produce domestic hot water with renewable energy sources. It is an excellent alternative to solar energy and can be used in systems designed for operation without gas for the production of domestic hot water and, combined with a heat pump, to provide air conditioning. All RAPAX ErP are equipped with specific features to enhance performance of the photovoltaic system and, in the RAPAX 300 SOL ErP version, the combination with solar heating systems.

REDUCED CONSUMPTION AND RESPECT FOR THE ENVIRONMENT
RAPAX ErP range water heaters significantly reduce polluting emissions compared to traditional gas water heaters. Thanks to a heat pump, they use the heat in the air as a source of free, renewable energy for heating water. Through an electrical contact, they can also store the heat produced with the photovoltaic system in the boiler. The RAPAX 300 SOL ErP version can be combined with a forced-circulation solar heating system to further reduce power consumption.

SILENT OPERATION
RAPAX ErP have the lowest sound impact in the field so they are suitable for installation in living areas.

EASY INSTALLATION AND SIMPLICITY OF USE WITH STANDARD RADIO CONTROL
These water heaters can also be installed in non-heated areas such as a garage, laundry or storeroom; they do not require extensive work apart from holes for air discharge in solutions that call for suction and external exhaustion of air.

COMFORT
Ideal for families with 2 to 6 people, thanks to the 270 litre hot water tank and to the possibility of setting water temperature up to 62 °C.

.01

.02

.01 STANDARD RADIO CONTROL

Thanks to wireless transmission, the radio control can be installed either in its compartment in the RAPAX ErP or **anywhere else in the home**. The control lets you view measured temperature, operation times of heat pump or electrical supplement, activation of the solar heating circuit (only in the RAPAX 300 SOL ErP version) as well as setting of anti-legionella function.

Operation modes	Description
AUTO	Heat pump operation has priority; in case of problems/error signal or temperature outside the normal range (5 - 43 °C), the electrical resistance is switched on (adjustment range 50 - 62 °C)
ECO	The water setpoint is automatically lowered to 45 °C. Heat pump operation has priority; in case of problems/error signal or temperature outside the normal range (5 - 43 °C), the electrical resistance is switched on (adjustment range 40 - 55 °C).
BOOST	This mode allows the user to force start the heat pump and electrical supplement simultaneously when hot domestic water requirement increases significantly. In BOOST mode, temperature setting is fixed at 62 °C.

.02 SOLAR HEATING COMBINATION

The RAPAX 300 SOL ErP version has been designed to supplement DHW production with a forced-circulation solar heating system* connected to the special fittings of the bottom coil**. The solar heating system is completed by addition of:

- Flat Plate Collector CP4 M or CP4 XL
- Connection kit for Flat Plate Collector (including vent kit and fittings)
- Frame and brackets for Flat Plate Collector
- Glycol and connections pipes storage tank and Flat Plate Collector
- Central solar unit and Solar pump station
- Solar expansion vessel

It is available a specific documentation for solar thermal solutions.

*** Alternative at the solar heating system, it is possible to connect a boiler. For more information contact the presales-dept.*

.03 INSTALLATION WITHOUT DUCTS IN UNHEATED SPACES (volume > 20 m^3)

Very useful in a laundry, garage or utility room. In the laundry the advantage is the room dehumidification and the recovery of the wasted heat from washing machines and dryers.

.03
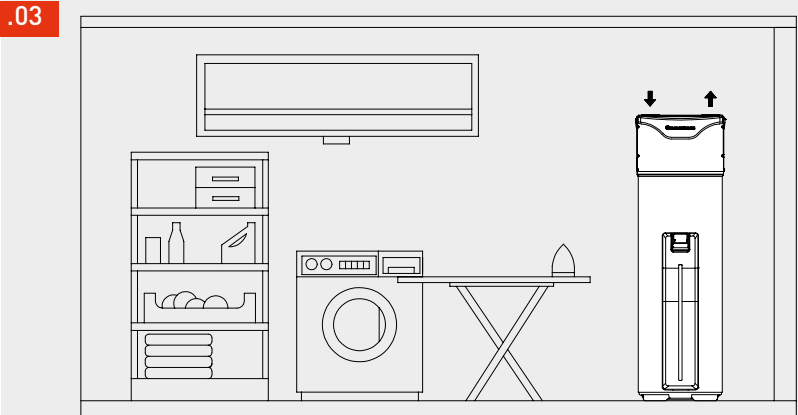
.04 INSTALLATION IN UNHEATED SPACES (volume > 20 m^3), WITH 1 EXPULSION DUCT

In this case, a ventilation opening must be done.

.04
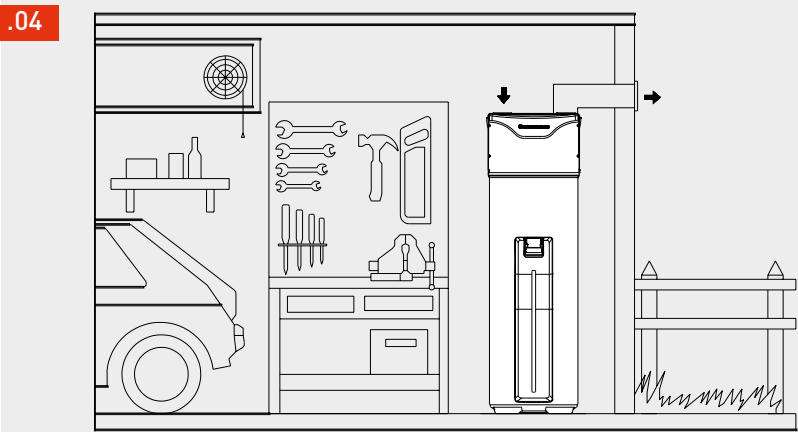
.05 INSTALLATION IN HEATED OR UNHEATED ROOMS, WITH 2 DUCTS FOR THE AIR (INTAKE AND EXPULSION)

Comply the maximum ducts lengths (rif. Instruction manual). It's important to use insulated ducts, Ø 160 mm to avoid condense in a wet room and use grilles on air-intake and expulsion in order to avoid the entry of foreign bodies.

.05
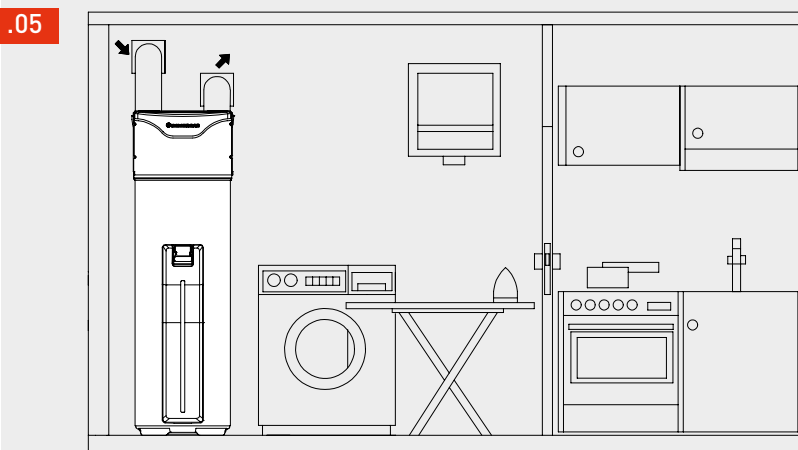
The installation of the heat pump water heater requires a omni-polar circuit-breaker of 16 A and a earth leakage trip of 30 mA not given as standard with RAPAX ErP.

Technical characteristics	Unit of measurment	RAPAX 300 ErP	RAPAX 300 SOL ErP
Code		**3.025625**	**3.025626**
Declaration of conformity		**050614**	**050614**
Dry lift weight	kg	92,8	108
Enamelled steel storage tank capacity	l	270	270
Polyurethan insulation tickness	mm	38	38
Heat loss (air temperature 7 °C)	kW	0,039	0,039
Domestic hot and cold water hydraulic connections		¾" M	¾" M
Bottom coil exchange surface	m^2		1,2
COP (air temperature 15 °C)*		3,73	3,73
COP (air temperature 7 °C)**		2,72	2,72
Mixing water maximum quantity (heating pump 62 °C)	l	520	520
Mixing water maximum quantity (electrical delivery 62 °C)	l	440	440
Anticorrosion protection		Magnesium anode	Magnesium anode
Water max pressure	bar	8	8
Electrical power supply	V/Hz	230/50	230/50
Electrical power consumption - maximum	W	2465	2465
Heating pump medium electrical power consumption	W	525	525
Heating pump maximum electrical power consumption	W	665	665
Electrical resistance power consumption	W	1800	1800
Domestic hot water range by heating pump (52 °C default value)	°C	from 40 to 62	from 40 to 62
Heating pump air temperature working range	°C	from + 5 to + 43	froom + 5 to + 43
Heating pump nominal power output (nominal condition 15 °C)	W	1650	1650
Air flow (no air ducting) Speed 1 Speed 2	m^3/h m^3/h	300 390	300 390
Maximum head losses ventilation circuit, without decrease performance	Pa	25	25
Refrigerant gas		R134A	R134A
Gas refrigerant weight	kg	1,25	1,25
Sound pressure at 2 m (no air ducting)	dB(A)	37	37
Heating time with heat pump (from 15°C to 51°C - air temperature 15°C)		7h 32'	7h 32'

RAPAX ErP is keeping with 2004/108/CEE electromagnetic compatibility directive and 2006/95/CEE low tension directive.

* According to EN 255-3, water from 15 to 51 °C
*** According to EN 16147, water from 10 to 52,5 °C*

LEFT LATERAL VIEW
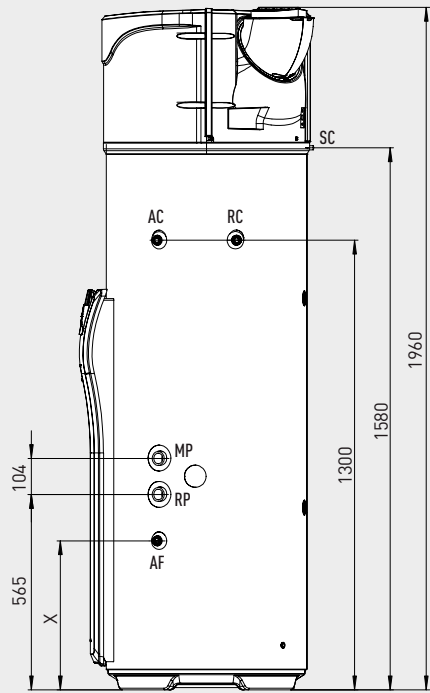
Key

AC	Domestic hot water outlet ¾" M
AF	Domestic cold water inlet ¾" M
MP	Delivery solar collector (only RAPAX 300 SOL ErP) 1" F
RP	Return solar collector (only RAPAX 300 SOL ErP) 1" F
SC	Condensate drain Ø 20
RC	Recirculation ¾" M (only RAPAX 300 SOL ErP)
X	268 mm RAPAX 300 ErP; 445 mm RAPAX 300 SOL ErP

The use of RAPAX ErP involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply (Immergas supplies a specific kit optional).
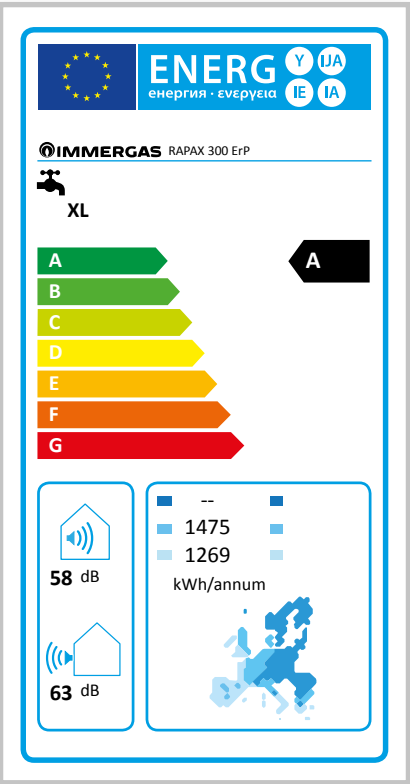
TOP VIEW

air intake   air expulsion
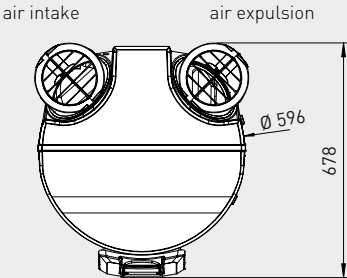
OPTION KITS

| Type	Code
Safety valve 7 bar and 12 litres expansion vessel kit	3.025231
Duct adapter* Ø 160	3.025232
Extension pipe kit Ø 160 0,5 m long *	3.024659
Extension pipe kit Ø 160 1 m long*	3.024516
87° bend kit Ø 160*	3.024517
2 x 45° bend kit Ø 160*	3.024518

* The ducts are required to intake and espulxion air on external. Its are not insulated.

In accordance with the ELD directive (in conformity with regulation 811/2013), we include the label of each water heater to enable customers to evaluate the products. The labels are shown in the documentation accompanying the units as well as on the immergas.com website in each product's page.

RAPAX 300 ErP

RAPAX 300 SOL ErP
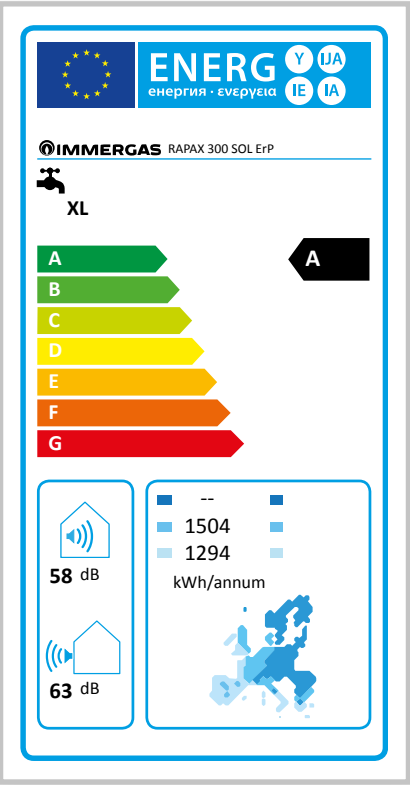
Combining the AUDAX TOP ErP and MAGIS PRO ErP range with a heat regulation device is an excellent investment because it improves the seasonal energy efficiency of the heating system. For each of the following heat regulation devices we therefore indicate a class, which gives you the percentage value of increased efficiency.

System controller

Type		Code
Electronic control with microprocessor for integrated systems management. It manages complex systems, for example a boiler, an heat pump and a solar thermal system. Temperature control class VI* o VIII Contribution to seasonal space heating energy efficiency 4%* or 5%	Dimensions (H x W x D) mm 110 x 105 x 60	3.021522

System controller expansion kit

Connected to system controller, It manages pumps, three way valve, dehumidifier etc. This kit is standard on kit code 3.021527 and 3.021528	Dimensions (H x L x D) mm 110 x 70 x 60	3.021547

Remote control kit

Connected to system controller, It manages temperature, humidity and set time. Temperature control class V* o VI Contribution to seasonal space heating energy efficiency 3%* or 4%	Dimensions (H x W x D) mm 143 x 86 x 36	3.023364

CRONO 7

Weekly digital chronotermostat Temperature control class IV* or VII Contribution to seasonal space heating energy efficiency 2%* or 3,5%	Dimensions (H x W x D) mm 103 x 142 x 31	3.021622

CRONO 7 WIRELESS

Wireless weekly digital chronotermostat Temperature control class IV* or VII Contribution to seasonal space heating energy efficiency 2%* or 3,5%	Dimensions (H x W x D) mm 103 x 142 x 31 Dimensions (H x W x D) mm 82 x 105 x 26	3.021624

* Temperature control class with default settings. Some heat regulation device can change class depending on the settings and operation modes that can be changed, for example Modulating or ON/OFF. The use of these devices contributes, in percentage, to the seasonal energy efficiency of the heating system.

Temperature/humidity active sensor kit

Type		Code
Connected to system controller, It manages temperature and humidity. Temperature control class V* o VI Contribution to seasonal space heating energy efficiency 3%* or 4%	Dimensions (H x W x D) mm 127 x 80 x 30	3.021524

Room hygrostat

It manages humidity in radiant panel's system	Dimensions (H x W x D) mm 70 x 115 x 40	3.023302

CAR^{V2} (modulating remote control)

Modulating thermostat back-light with remote MAGIS PRO ErP controls; can be used also to manage the 2nd zone) Temperature control class V* or VI Contribution to seasonal space heating energy efficiency 3%* or 4%	Dimensions (H x W x D) mm 103 x 142 x 31	3.021395

EMR 12 VDC relay kit

Useful to the system controller, to connect resistance/manage boiler or to activate dehumidifier.		3.023945

SSR 6 VDC relay kit

Useful to the system controller, to connect resistance		3.023946

Storage tank NTC probe

Connected to system controller, It manages single zone's flow temperature, and D.H.W. storage tank's temperature. This kit is standard on kit code 3.021527 and 3.021528		3.019375

Solar collector probe

Connected to system controller, It manages solar system		3.019374

Safety thermostat kit

Safety thermostat kit for kit 3.021527 and 3.021528		3.013794

2 Relays board kit

To manage (without system controller) the dehumidifier NEW		3.026302

* Temperature control class with default settings. Some heat regulation device can change class depending on the settings and operation modes that can be changed, for example Modulating or ON/OFF. The use of these devices contributes, in percentage, to the seasonal energy efficiency of the heating system.

Inside the various range of options it is possible to find out complementary accessories for installing AUDAX TOP ErP, MAGIS PRO ErP and RAPAX ErP.
The use of original kits enhances quality and reliability of the products.

Zones kit

Type		Code
Distribution manifold kit for 1 direct and 2 mixed temperature zones* (the kit includes an expansion for the system controller for each zone, a 24 vac transformer and an NTC probe for each mixed delivery). Wall-hung or recessed installation		3.021527
Distribution manifold kit for 2 mixed temperature zones (the kit includes an expansion for the system controller for each zone, a 24 Vac transformer and an NTC probe for each delivery. Wall-hung or recessed installation		3.021528
Distribution manifold kit for 1 direct and 1 mixed temperature zones for MAGIS PRO ErP (direct connection, without system controller) NEW		3.026301

Return temperature increase 3-way valve kit

For system where is necessary to change function (DHW, Heating, etc.)		3.020632

Expansion vessel kit

12 litres capacity		3.011679

Connection kit 1"

Connection kit 1" with anti-vibration flexible pipes and shut-off knobs, only for AUDAX TOP ErP		3.025954

* Direct zone means a zone operating at maximum temperature of AUDAX TOP ErP or MAGIS PRO ErP set.

Safety valve 7 bar and 12 litres expansion vessel kit

Type		Code
Safety valve 7 bar and 12 litres expansion vessel to complete the installation of RAPAX ErP and to manage the safety of DHW.		3.025231

Integration electric resistance kit for heating system

Integration electric resistance kit 2/4/6 kW for heating system stand alone with AUDAX TOP ErP, adjustable on 2, 4 or 6 kW. (only for internal installation). Power supply 230 or 400 Vac		3.021525
Integration electric resistance kit 3 kW for heating system stand alone with MAGIS PRO ErP. (only to put inside the MAGIS PRO ErP Hydronic unit) Power supply 230 or 400 Vac NEW		3.026300

Additional sanitary electric resistance

Additional sanitary electric resistance 5 kW for UB 1000/1500 ErP and UB 750 ErP for stand alone system with AUDAX TOP ErP or MAGIS PRO ErP Power supply 230 or 400 Vac		3.020862
Additional sanitary electric resistance 2 kW for INOXSTOR 200/300/500 ErP and UB 550/750 ErP for stand alone system with AUDAX TOP ErP or MAGIS PRO ErP Power supply 230 or 400 Vac		3.020861

Wall mounting brackets

For AUDAX TOP 6/8 ErP		3.022154

Anti freeze protection kit -15 °C

To protect hydronic unit MAGIS PRO ErP NEW		3.017324

Connection kit for R410A circuit

The purpose of this kit is to allow an easy connection of the refrigerant circuit, even in the case of pipes coming out from the wall on the hydronic unit MAGIS PRO ErP NEW		3.026089

Duct adapter* ø 160

Type		Code
For extension pipe kit Ø 160 to intake and espulxion air RAPAX ErP*		3.025232

* For extension pipe to intake and espulxion air contact presales dept. Immergas.

Buffer tank

The minimum water volume is important mostly for correct defrost cycle functioning.For this reason, the minimum water volumes to ensure are: AUDAX TOP ErP 6 l/kW and MAGIS PRO ErP 7 l/kW for all heating systems. Furthermore it is good to check that the dehumidifiers have at least 3 l/kW (water content in the dehumidifier system circuit).

Horizontal buffer tank with capacity of 25 litres**		3.025061
Horizontal buffer tank with capacity of 75 litres**		3.025062
Horizontal buffer tank with capacity of 100 litres**		3.025063
Horizontal buffer tank with capacity of 200 litres**		3.025064

** Is pre-arranged for AUDAX TOP ErP installation on the top of the casing.

Dehumidifier kit

Dehumidifier kit* (only for recessed installation with codes 3.022146 and 3.022147)		3.021529
Dehumidifier back frame kit*		3.022146
Dehumidifier front grille kit*		3.022147

* Useful for radiant systems that work also in cooling.

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TÜV SÜD

IMMERGAS
IMMERGAS SPA - ITALY
CERTIFIED COMPANY
UNI EN ISO 9001:2008

Design, manufacture and post-sale assistance of gas boilers, gas water heaters and related accessories