



HEAT PUMP
air-to-water monobloc heat pump in R290



HYDRO UNIT P



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INNOVATION AND ENVIRONMENTAL STEWARDSHIP, FOR UNCOMPROMISING EFFICIENCY

HYDRO UNIT P is the new range of Beretta monobloc air-to-water heat pumps in R290, the natural refrigerant, with GWP100 = 0,02*. A combination of innovation and environmental stewardship, with a high level of comfort in all

seasons, the HYDRO UNIT P range is made up of six single-phase and two three-phase models, from 4 to 14 kW, and provides heating, cooling and domestic hot water.

* According to Regulation (EU) 2024/573

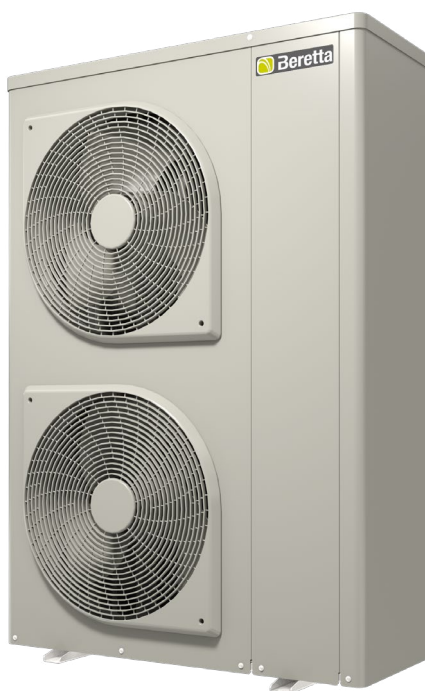
The product stands out on the market for its compact size and low weight (starting from 79,3 kg), which facilitates handling during installation. With its width of just 946 mm, HYDRO UNIT P can be easily installed even in small spaces, and meets the requirements for both new construction and renovations. With a flow temperature of 75°C, among the highest in the reference segment, HYDRO UNIT P allows for shorter domestic hot water (DHW) recovery times. It also allows DHW to be stored at a higher temperature, avoiding the

need for an electrical resistance to perform the anti-legionella cycle.

HYDRO UNIT P is characterised by a low sound pressure level, starting from just 24dB(A)*, for the lowest power model, perceived at a distance of 5m.

These and many other features and advantages of HYDRO UNIT P, which we invite you to discover on the following pages.

* Sound pressure measured at 5m distance (outside air +7°C, water +47-55°C), in compliance with EN 12102-1, under ErP conditions.



012-014



004-010

PRODUCT PROFILE AND USER BENEFITS



NATURAL REFRIGERANT

Using the natural refrigerant R290 (Propane), with GWP100 = 0,02, and offering high energy efficiency throughout the entire working range, HYDRO UNIT P is an environmentally stewardship heat pump.



REDUCED SIZE AND WEIGHT

Compact size and low weight are among the distinctive features of HYDRO UNIT P. With its width of just 946 mm, the heat pump can be installed in tight spaces..



INTEGRABLE INTO HYBRID SYSTEMS

HYDRO UNIT P can be integrated into factory-made hybrid systems with a condensing generator, for further energy efficiency.



CERTIFIED PERFORMANCE

HYDRO UNIT P has achieved HP KEYMARK certification.



ALL-SEASONS COMFORT

HYDRO UNIT P offers high comfort in a wide range of external air temperatures. The product, in fact, can operate in heating mode starting from -20°C of outdoor temperature and in cooling mode up to +46°C, producing domestic hot water from -20°C up to +40°C of outside air temperature.



HIGH EFFICIENCY

HYDRO UNIT P reaches the Energy Class A+++ (35°C)* and A++ (55°C)*, offering high efficiency while saving energy.



LOW NOISE OPERATION

HYDRO UNIT P is a silent product, with sound pressure starting from just 24db(A)**.



FLOW TEMPERATURE UP TO 75°C

HYDRO UNIT P is compatible with low, medium and high temperature terminals (fan coils, floor systems, radiators). The flow temperature of up to 75°C allows for shorter DHW recovery times. Furthermore, it allows DHW to be stored at a higher temperature, avoiding the need for an electrical resistance to perform the anti-legionella cycle.



* The range of the class energy efficiency of this product category ranges from D to A+++.

** Sound pressure measured at 5m distance (outside air +7°C, water +47-55°C), in compliance with EN 12102-1, under ErP conditions.

INNOVATION AND ATTENTION TO THE ENVIRONMENT

The orientation towards innovation, demonstrated by Beretta since its origins, translates today more and more in an eco-sustainable way, with a vision of excellence and cutting-edge technology.

In this sense, HYDRO UNIT P represents the most advanced solution, with natural refrigerant R290, with almost zero environmental impact (GWP100 = 0,02) and high energy efficiency across the entire working range.

FEATURES OF THE NATURAL REFRIGERANT R290 (PROPANE)

- R290 refrigerant boasts a very low global warming potential (GWP100 = 0,02) which currently places it at the top of the refrigerant category in terms of respect for the environment.
- It is a highly energy efficient refrigerant, which means less energy is used to achieve the same cooling or heating capacity compared to other refrigerants.
- R290 reduces CO₂ equivalents by 99,999% when compared to R410A gas.
- The required charge of R290 refrigerant is significantly lower than other traditional gases, e.g., R410A or R32.
- Its ODP (Ozone Depletion Potential) index is zero, meaning it has no impact on the ozone layer.
- It is projected into the future, as it already complies with the European F-gas Directive on the reduction of fluorine-containing gases.



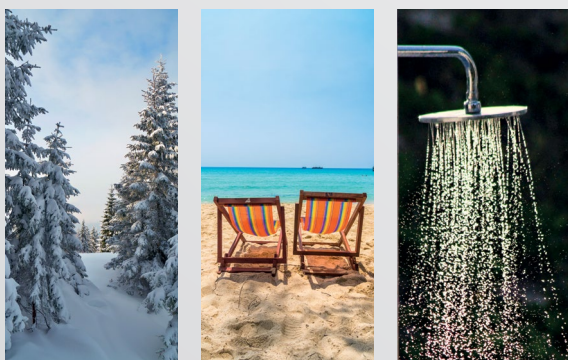
A EUROPEAN PRODUCT

The HYDRO UNIT P range is designed and manufactured in Europe by Carrier. During the production stages, each unit is subjected to multiple tests, to offer excellent levels of quality and reliability.

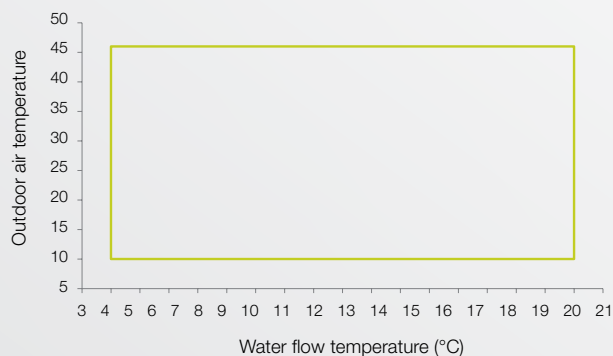


ALL-SEASONS COMFORT

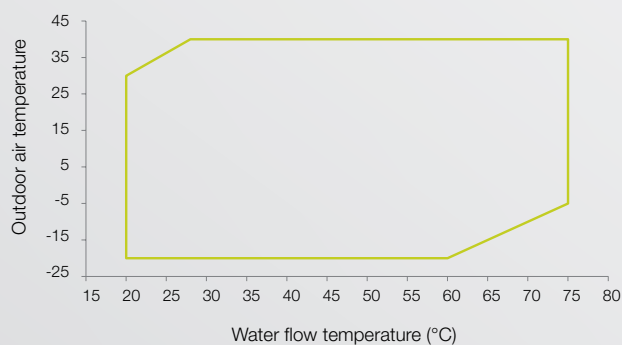
As the graphs shown here highlight, HYDRO UNIT P offers high comfort over a wide operating range. In fact, the product can operate in heating mode from -20°C outdoor temperature; in cooling mode up to +46°C; and in sanitary mode from -20°C up to +40°C outdoor air temperature.



COOLING MODE



HEATING AND DHW MODE

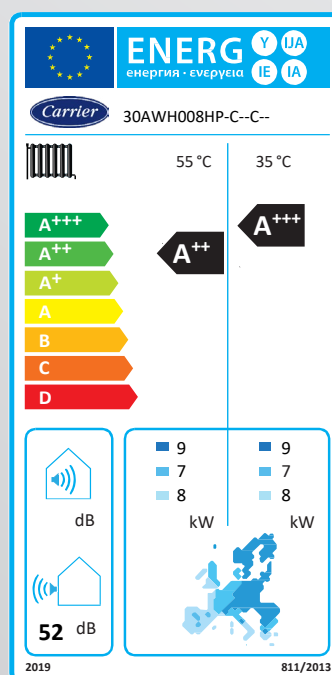


EFFICIENCY AND ENERGY SAVING

The new HYDRO UNIT P range features high energy efficiency, which translates into energy savings for the benefit of the environment and the user:

- All sizes in the range reach Energy Class A+++ (35°C)* and A++ (55°C)*;
- High SCOP (up to 4,82) and SEER (up to 5,34), thanks to the natural refrigerant R290.

* The range of the class energy efficiency of this product category ranges from D to A+++.

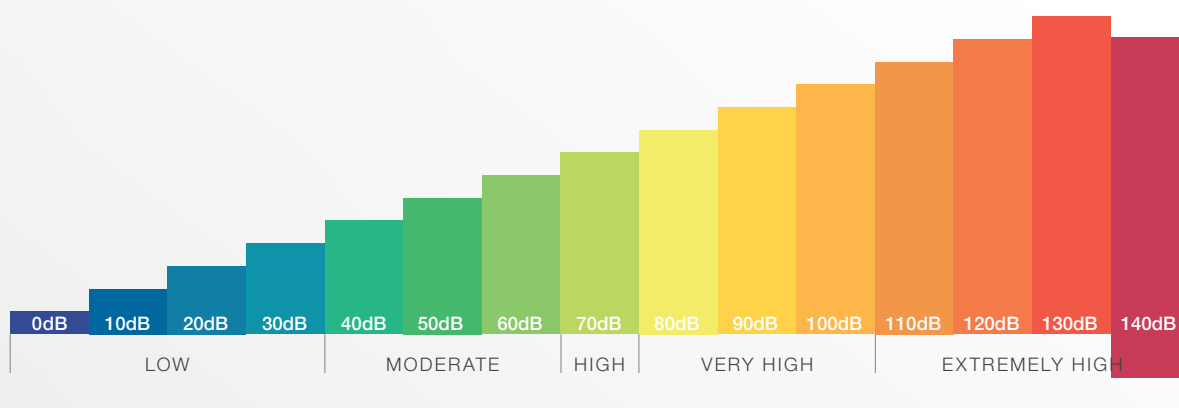


LOW NOISE

HYDRO UNIT P stands out on the market for its low noise of operation.

In fact, HYDRO UNIT P boasts a sound pressure starting from just 24dB(A)*, for the lowest power model.

SCALE OF PERCEIVED NOISE EMISSIONS IN dB WITH EXAMPLES OF LEVELS BETWEEN 0 AND 140 dB

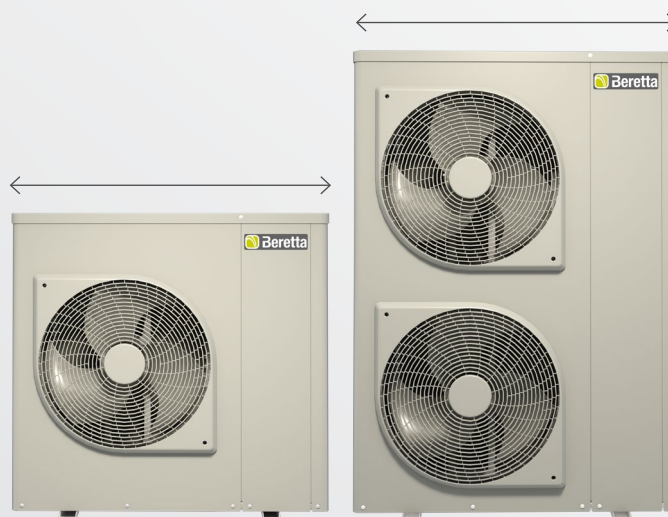


* Sound pressure measured at 5m of distance from the product in operation (outside air +7°C, water +47-55°C), in accordance with the standard EN 12102-1, under ErP conditions.

ALSO INSTALLABLE IN SMALL SPACES

HYDRO UNIT P stands out on the market for its compactness and low weight. With a width of less than 1 m, which facilitates its installation even in small spaces, together with its low weight starting from 79,3 kg), HYDRO UNIT P is at the top of its reference category.

ONLY 946 mm wide!



FOR RETROFITTING AND NEW BUILDING

FLOW TEMPERATURE UP TO 75°C

One of the most interesting features of HYDRO UNIT P, which makes it suitable for both redevelopment and new construction, is the flow temperature, which can reach up to 75°C. The new range therefore offers high performance in combination with the various terminal units for low, medium and high temperatures: from underfloor heating to fan coils to radiators (even pre-existing ones) and mixed systems. Furthermore, the high flow temperature allows HYDRO UNIT P to deliver and store a greater quantity of hot water more quickly, avoiding the need for electrical resistance to sterilize the water, protecting against legionella.



TERMINAL UNITS

compatible for
low, medium and high temperatures



fan coils



floor system



radiators

HI, COMFORT T300

Hi Comfort T300 is an advanced room control, featuring a stylish and modern design, that thanks to the built-in gateway allows the remote management of home comfort via Hi, Comfort App. **Hi, Comfort T300 can operate as a true System Manager for the heating and cooling generation system** (intuitive management of the heat pump and full-electric system operation, as well as hybrid distribution, where it can manage multiple energy sources, controlling boilers, heat pumps and solar thermal). Its screen graphics are easy to read and contain self-explanatory icons allowing an intuitive use.



TECHNOLOGICAL INNOVATION

› EXCHANGE COIL

consisting of a coil-wound circular tube, with hydrophilic and anti-corrosive Blue-Fin treatment, to promote product longevity and efficiency

› ACOUSTICALLY INSULATED METAL PANELS

to reduce noise levels

› ELECTRONIC CONTROL BOARD

easy to access

› TWIN ROTARY DC INVERTER COMPRESSOR

with wide operating range

› PRESSURE SENSOR

with R290 gas leak detection function and alarm code activation on the control

› FAN WITH DC MOTOR

and speed control to optimize energy efficiency

› VARIABLE SPEED CIRCULATOR

at high efficiency

› GAS SEPARATOR

Installed on the outlet water pipe, further prevents any potential gas leakage from being released into the house

› PLATE HEAT EXCHANGER

optimised for HYDRO UNIT P



HYDRO UNIT P 004 ÷ 010 KW

BENEFITS FOR THE INSTALLER



WIDE RANGE

The HYDRO UNIT P range consists of 6 single-phase and 2 three-phase models, from 4 kW to 14 kW, to satisfy different application needs.



EASY INSTALLATION

The layout and structure of the product are optimized to allow quick and easy connections and easy access to components.



CASCADE APPLICATION

HYDRO UNIT P can be applied in cascade up to 4 units, even of different sizes, to meet light commercial needs.



EASY HANDLING

Thanks to its compactness and low weight for the reference segment, the handling and movement of the HYDRO UNIT P are facilitated.



RELIABILITY AND SAFETY

- The low refrigerant charge, together with its hermetically sealed circuit, help to minimize the potential for leaks. Thanks to its monobloc design, the system does not require opening the refrigerant circuit to be put into operation.
- The robust design of the components offers maximum protection and prevention against any risk of R290 gas leaks.
- In the extremely unlikely event of a refrigerant leak, the fluid pressure sensor immediately detects the problem and displays an alarm code on the wired control.
- And It is possible to install HYDRO UNIT P at a distance of just 1 metre from any triggers (e.g. electrical outlets).
- An external gas separator is installed in the water outlet pipe which further prevents any gas leaks inside the house.

SIMPLE AND INTUITIVE COMFORT MANAGEMENT

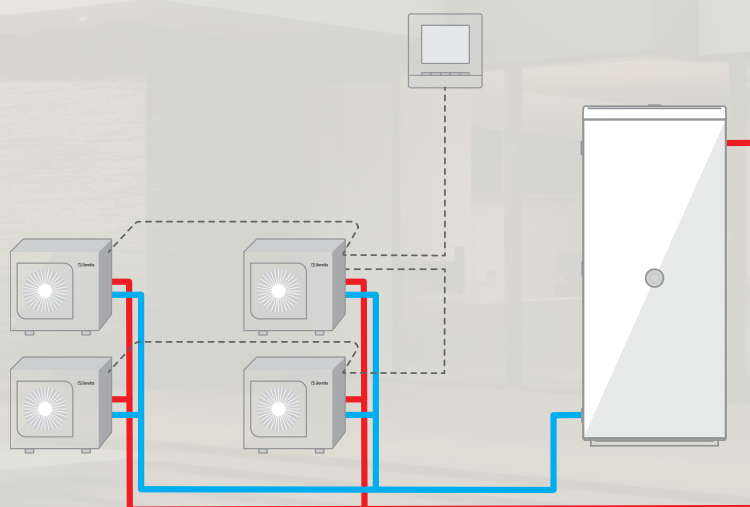
HYDRO UNIT P is equipped with a multifunction wired control, WUI, which allows complete management of the heating/cooling and domestic hot water system. The main features and functions are as follows:

- control provided as standard, for immediate startup and use of the unit itself;
- intuitive icons to avoid language barriers;
- selectable use mode (Home, Night, Holiday);
- simple and intuitive control of comfort by setting the air or water temperature, depending on the system configuration;
- weekly timer;
- two access levels: user and technician;
- **management of a cascade system of up to 4 units even of different sizes.**

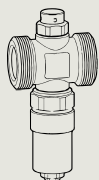


HYDRO UNIT P IN CASCADE

The new HYDRO UNIT P heat pump can be installed in cascade up to 4 units, even of different sizes, for heating, the cooling and hot water sanitation in light commercial applications.



WIDE RANGE OF ACCESSORIES



ANTIFREEZE VALVE

The antifreeze valve is designed to drain water by preventing ice formation in the heat pump circuit due to unexpected interruption of the power supply.



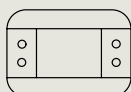
Y-FILTER

Y water filter to retain circuit impurities in the water that could damage the heat exchanger.



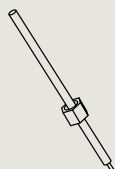
ANTI-VIBRATION KIT

Anti-vibration kit, for installation under the unit, to reduce vibration transmission.



T300 CONTROL

For complete management of residential full-electric and hybrid systems.



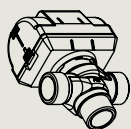
PRIMARY/SECONDARY PROBE FOR CASCADE SYSTEM

Additional water flow temperature probe kit for operation primary/secondary of up to 4 units, connected in a cascade system.



EXPANSION VESSEL

External expansion vessel to maintain the right level of pressure in the heating system.



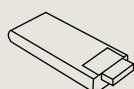
1" 3-WAY BYPASS VALVE AND STORAGE TANK PROBE

Also available in the storage tank resistance kit.



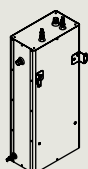
PROBE

Outdoor temperature probe to better read the outside air temperature.



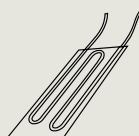
SERVICE KEY

Service Key for BluEdge Comfort Service App.



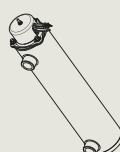
INERTIAL STORAGE TANK OF 50 L AND 100 L

Designed for installation with HYDRO UNIT P heat pump.



DRAIN PAN RESISTANCE

Electrical resistance to prevent condensate freezing (base panel and drain duct) for cold climate.

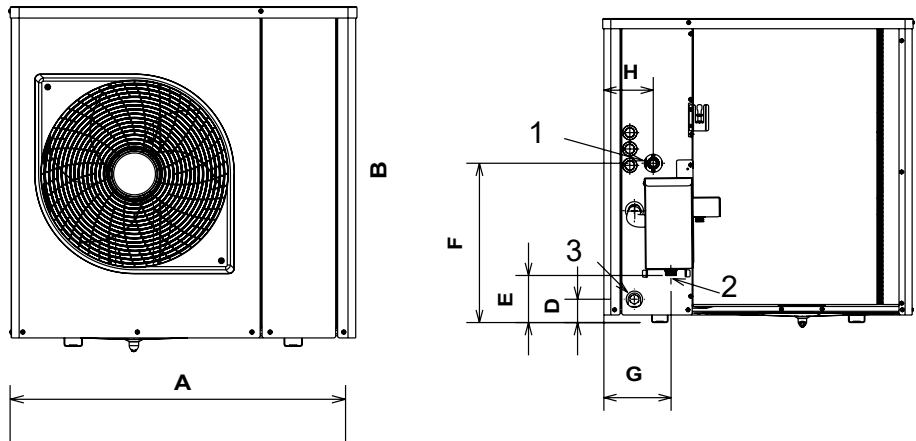


BACK-UP RESISTANCE

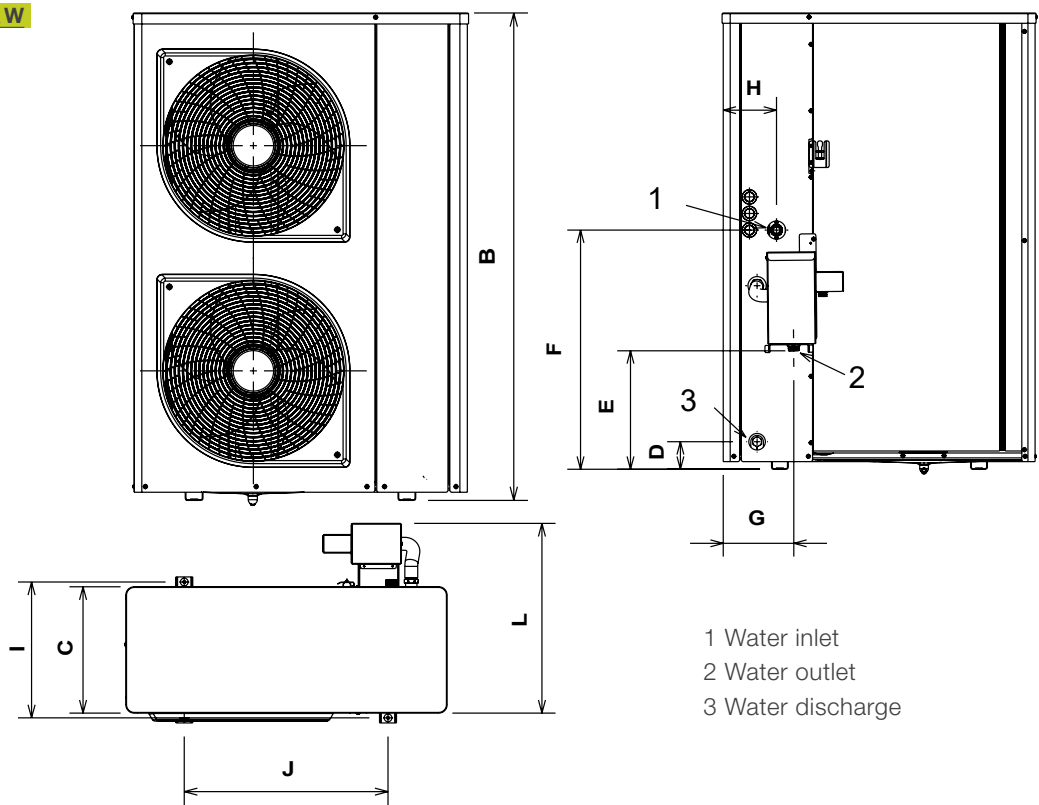
External electrical back-up resistance (configurable for 2, 4 or 6 kW) to provide supplementary heating capacity for cold climate.

TECHNICAL DRAWINGS

004 ÷ 010 KW



012 - 014 KW



- 1 Water inlet
- 2 Water outlet
- 3 Water discharge

MODEL	UoM	A	B	C	D	E	F	G	H	I	J	L
004	mm	946	927	372	71	143	485	201	150	400	600	560
006	mm	946	927	372	71	143	485	201	150	400	600	560
008	mm	946	927	372	71	143	485	201	150	400	600	560
010	mm	946	927	372	71	143	485	201	150	400	600	560
012	mm	946	1375	372	83	357	720	210	160	400	600	560
014	mm	946	1375	372	83	357	720	210	160	400	600	560

TECHNICAL DATA

			HYDRO UNIT P							
	Notes	UoM	004	006	008	010	012	014	012T(**)	014T(**)
HEATING PERFORMANCE DATA										
HEATING PERFORMANCE (A7°C DB; W35°C)										
Nominal heat output	1	kW	3,95	5,80	7,60	9,60	11,40	13,80	11,40	13,80
COP	1	kW/kW	4,90	4,90	4,80	4,35	4,55	4,30	4,65	4,40
SCOP	2	kW/kW	4,70	4,82	4,72	4,69	4,48	4,48	4,48	4,48
ηs	2	%	185	190	185	185	176	176	176	176
Energy efficiency class	2	D → A+++ (*)	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
HEATING PERFORMANCE (A7°C DB; W45°C)										
Nominal heat output	3	kW	3,85	5,50	7,80	9,50	10,80	13,60	10,80	13,60
COP	3	kW/kW	3,65	3,65	3,75	3,55	3,65	3,40	3,75	3,50
HEATING PERFORMANCE (A7°C DB; W55°C)										
Nominal heat output	4	kW	3,75	5,25	7,55	9,40	10,95	13,25	10,95	13,25
COP	4	kW/kW	2,95	2,95	3,15	2,95	3,10	2,90	3,15	2,95
SCOP	5	kW/kW	3,34	3,34	3,6	3,34	3,67	3,67	3,67	3,67
ηs	5	%	131	131	141	131	144	144	144	144
Energy efficiency class	6	D → A+++ (*)	A++	A++	A++	A++	A++	A++	A++	A++
COOLING PERFORMANCE DATA										
COOLING PERFORMANCE (A35°C; W18°C)										
Nominal cooling output	7	kW	4,00	6,15	8,00	8,90	12,00	14,50	12,00	14,50
EER	7	kW/kW	4,15	3,90	4,00	3,70	4,30	3,70	4,35	3,75
COOLING PERFORMANCE DATA (A35°C; W7°C)										
Nominal cooling output	8	kW	3,35	4,60	6,50	7,40	9,70	10,70	9,70	10,70
EER	8	kW/kW	3,15	3,15	3,05	2,90	3,05	2,95	3,10	3,00
SEER	9	kW/kW	4,93	5,34	5,27	5,14	5,33	5,16	5,33	5,16
ηs	9	%	194	211	208	203	210	203	210	203
SOUND LEVELS										
Sound power level, ErP condition A7°C/W55°C	10	dB(A)	49	50	52	51	54	54	54	54
Sound pressure level at 5 m, ErP condition A7°C/W55°C	11	dB(A)	24	25	26	26	28	28	28	28
NET WEIGHT										
Standard unit without gas separator		kg	78	84	91	93	126	126	128	128
Standard unit with gas separator		kg	79,3	85,3	92,3	94,3	127,3	127,3	129,3	129,3
REFRIGERANT										
Type of refrigerant			R290 (GWP100=0.02)							
Refrigerant charge		Kg	0,39	0,58	0,76	0,76	1,07	1,07	1,07	1,07
ELECTRICAL DATA										
Electrical supply		V/ph/Hz	230/1+N/50						400/3+N/50	

(*) The energy efficiency class range of this product category is from D up to A+++.

(1) Outdoor air DB +7°C/ WB +6°C, water 30-35°C. Values compliant with EN 14511-3:2022

(2) Value referred to the average climate profile for a flow temperature of 35°C. Values compliant with the EN 14825:2022 standard

(3) Outdoor air DB +7°C/ WB +6°C, water 40-45°C. Values compliant with EN 14511-3:2022

(4) Outdoor air DB +7°C/ WB +6°C, water 47-55°C. Values compliant with EN 14511-3:2022

(5) Value referred to the average climate profile for a flow temperature of 55°C. Values compliant with Ecodesign regulation (EU) no. 813/2013 for heating application

(6) Value referred to the average climate profile for a flow temperature of 55°C. Values compliant with the EN 14825:2022 standard

(7) Outdoor air DB +35°C/ WB +24°C, water 23-18°C. Values in accordance with EN 14511-3:2022

(8) Outdoor air DB +35°C/ WB +24°C, water 12-7°C. Values compliant with EN 14511-3:2022

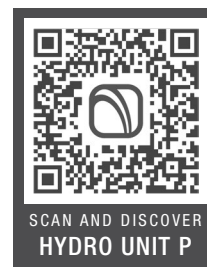
(9) Value referred to the average climate profile for a flow temperature of 7°C. Values compliant with the EN 14825:2022 standard

(10) Declared value in accordance with EN 12102-1 (with an associated uncertainty of +/-2dB(A)), as required by the Ecodesign standard. Measured in accordance with ISO 9614-1

(11) Value calculated from the sound power level Lw(A). Declared value in accordance with EN 12102-1, (with an associated uncertainty of +/-2dB(A)), under ErP conditions.



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