



ULTRA LOW NOISE

PALLADIUM

NATURAL SOLUTIONS



enerblue

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# PALLADIUM

**R290**

**ULTRA LOW NOISE**



**70°** | Max WATER temperature  
**-20°** | Min. ext. AIR temperature

**NATURAL REFRIGERANT**

**GWP=3**

**ODP=0**

\* This picture represents the PALLADIUM unit complete with the optional "Aesthetic kit"

The range of PALLADIUM heat pumps has been designed to allow units to be used with R290 natural refrigerant even in applications where noise must be minimised. The perfect balance between sizing of the aeraulic section, soundproofing of the unit and the combination of top performance and operating limits stretched to the furthest possible point has resulted in a range of reversible heat pumps designed to meet the requirements of even the most challenging heating applications.

**Range**

Heating (A7; W35) 50 ÷ 164 kW  
 Cooling (A35; W7) 40 ÷ 135 kW



Reversible



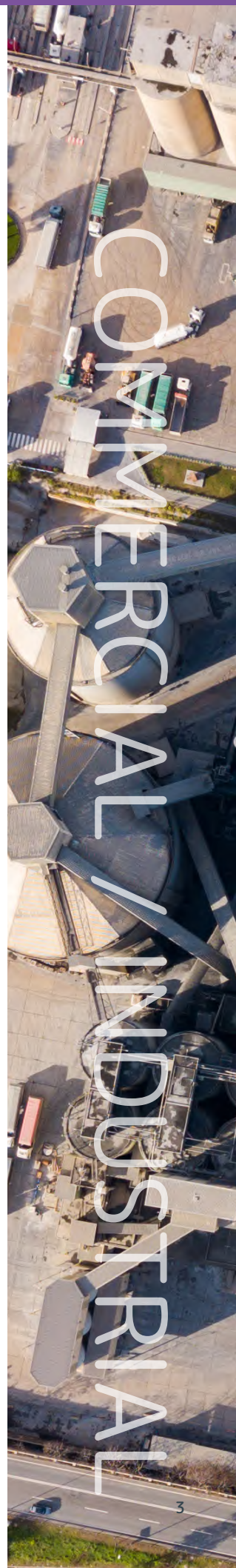
Scroll compressors



Axial fans



Ultra Low Noise



## Quality is in the details

① Fan with larger diameter and lower RPM.

② Microtube coils with large exchange surface to minimise the refrigerant charge and noise levels. Hydrophilic treatment always included.

③ Aesthetic kit or metallic protection mesh for coils.

④ Scroll compressors optimised for operation with R290 refrigerant.

⑤ Acoustically insulated compressor compartment to reduce noise emissions.





7 Threaded hydraulic connections flush with the metalwork.

6 Built-in ventilatic system . Leak safety devices installed inside the unit available on request.

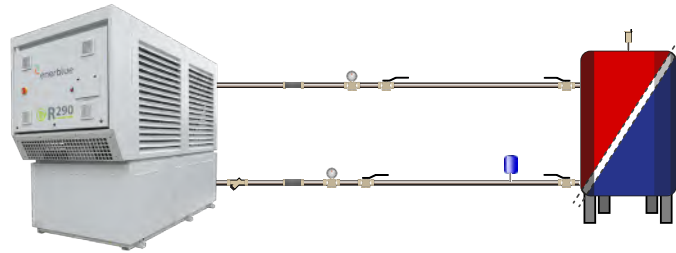
\* This picture represents the PALLADIUM unit complete with the optional "Aesthetic kit"

## AVAILABLE VERSIONS

### STANDARD

For dedicated 2-pipe systems for cooling and/or heating with temperatures up to 70°C.

\* This picture represents the PALLADIUM unit complete with the optional "Aesthetic kit"



WATER  
temperature limits

70°C  
MAX heating

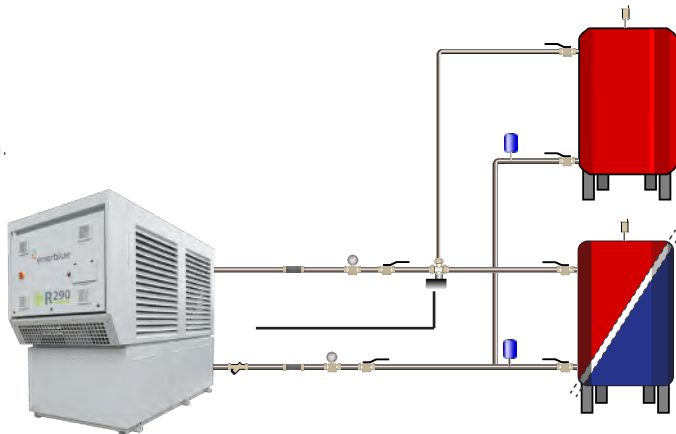
-10°C  
MIN cooling

### AUTOMATIC MANAGEMENT OF DOMESTIC HOT WATER

For dedicated 2-pipe systems for cooling and/or heating designed to manage DHW production. Maximum water outlet temperature 70°C.

Available only with ACS option included.

\* This picture represents the PALLADIUM unit complete with the optional "Aesthetic kit"



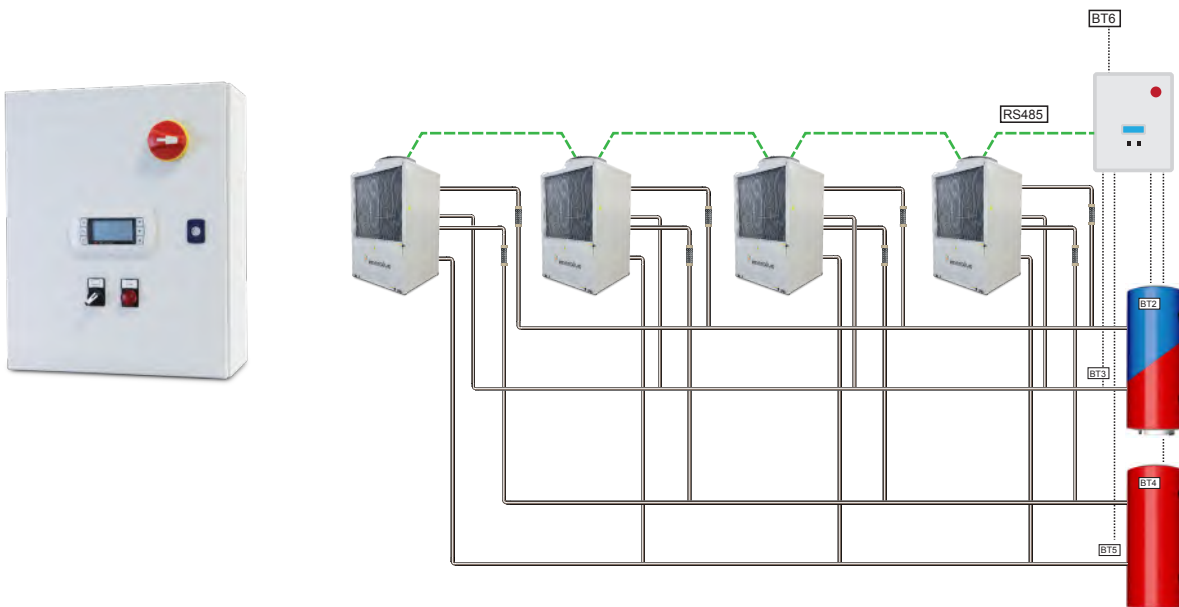
70°C  
MAX DHW

70°C  
MAX heating

-10°C  
MIN cooling

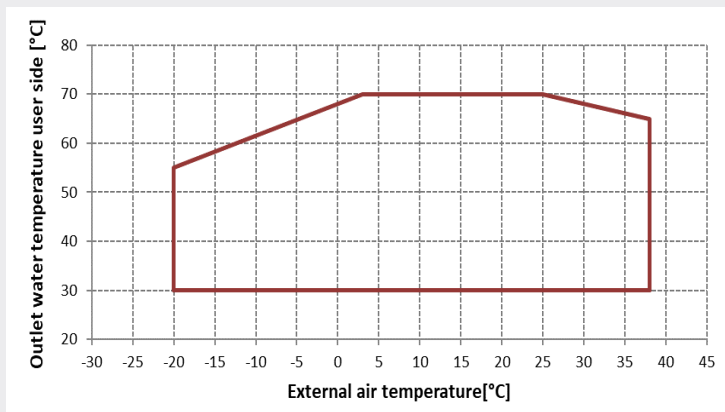
### CASCADE INSTALLATION WITH MANAGER Pro

For all the projects where a cascade installation is required, the MANAGER Pro cascade controller is able to manage up to 6 units for space heating or cooling. Equipped with Electrical panel IP 55 + RS485 serial connection card - Modbus RTU+ Router UMTS configured with SIM card allows the access via private VPN.



# OPERATION LIMITS

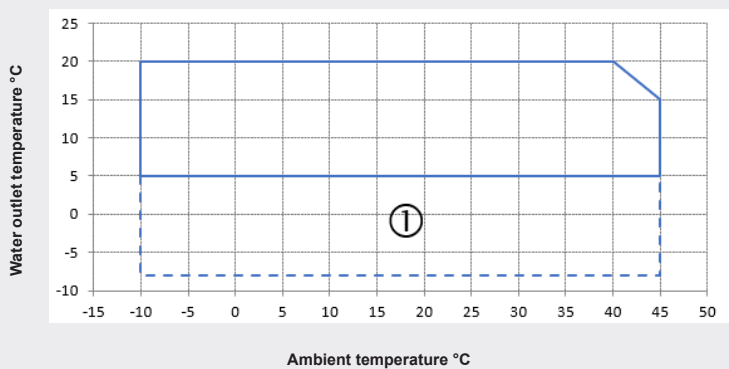
## HEATING



**Notes**

- The temperature difference at the exchanger on user side must be between 3°C and 8°C
- The water inlet temperature at the exchanger on user side cannot be lower than 25°C
- Within the operating limits, the fan section can be subject to modulation

## COOLING



**Notes**

- The temperature difference at the exchanger on user side must be between 3°C and 8°C
- ① The unit can only operate in this area with evaporator side glycol water
- Within the operating limits, the fan section can be subject to modulation

# TECHNICAL SPECIFICATIONS - PRELIMINARY

MODEL			50.2	60.2	75.2	85.2	100.4	120.4	150.4	170.4
<b>Heating (EN14511 values) (A7;W35)</b>										
Rated heating capacity	(1), (7)	kW	50,2	61,4	75,0	81,9	101,0	123,0	151,0	164,0
Total absorbed capacity during heating	(1), (7)	kW	12,4	14,4	17,6	19,8	24,5	28,8	34,6	39,7
COP	(1), (7)		4,05	4,26	4,26	4,14	4,12	4,27	4,36	4,1
<b>Heating (EN14511 values) (A7;W55)</b>										
Rated heating capacity	(2), (7)	kW	47,2	57,3	69,4	76,4	94,5	114,0	139,0	153,0
Total absorbed capacity during heating	(2), (7)	kW	16,5	19,0	23,1	25,6	32,7	38,0	45,5	51,2
COP	(2), (7)		2,86	3,02	3,00	2,98	2,89	3,00	3,05	3,0
<b>Energy Seasonal Index</b>										
SCOP	(8)		3,13	3,41	3,13	3,24	3,31	3,58	3,31	3,39
Seasonal energy efficiency $\eta_s$	(8)	%	122	134	122	127	129	140	130	133
Seasonal Efficiency class	(8)		A+	A++	A+	A++	A++ (9)	A++ (9)	A++ (9)	A++ (9)
<b>Cooling (EN14511 values) (A35;W7)</b>										
Rated cooling capacity	(3), (7)	kW	40,0	47,4	61,1	67,1	80,4	93,9	122,0	135,0
Total absorbed capacity during cooling	(3), (7)	kW	15,6	18,7	21,0	24,7	31,1	37,1	41,7	49,5
EER	(3), (7)		2,56	2,53	2,91	2,72	2,59	2,53	2,93	2,73

<b>Compressor</b>										
Type			Scroll							
Quantity/Refrigeration circuits		no./no.	2/1	2/1	2/1	2/1	4/2	4/2	4/2	4/2
Partial load steps		no.	2	2	2	2	4	4	4	4
Oil charge per circuit			6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5
Refrigerant charge per circuit		kg	4,0	5,0	6,1	7,7	3,8	4,8	5,9	7,5
<b>Axial fans</b>										
Quantity		no.	1	1	2	2	2	2	4	4
Air flow		m <sup>3</sup> /h	13.825	13.488	27.602	26.642	27.644	26.985	55.215	53.292
<b>Heat exchanger at user end</b>										
Type			Braze welded plates							
Water flow rate (A7/W35)	(1)	l/h	9	11	13	14	17	21	26	28
Pressure drop (A7/W35)	(1)	kPa	29	21	25	14	20	18	23	23
<b>Hydraulic module</b>										
Pump Rated Power		kW	1,3	1,3	1,3	1,3	2,4	2,4	2,5	3
Pump working head (A7/W35)	(1)	kPa	159	187	181	183	217	214	206	206
<b>Hydraulic connections</b>										
Connections			1"1/2	1"1/2	2"	2"	2"1/2	2"1/2	2"1/2	2"1/2
<b>Base unit noise</b>										
Sound power level	(4), (6)	dB(A)	70	70	73	73	73	73	76	76
Sound pressure level	(5), (6)	dB(A)	52	52	55	55	54	54	56	56
<b>Base unit dimensions and weights</b>										
Length		mm	2.090	2.090	3.100	3.100	3.785	3.785	5.810	5.810
Depth		mm	1.322	1.322	1.322	1.322	1.322	1.322	1.322	1.322
Height		mm	2.395	2.395	2.395	2.395	2.395	2.395	2.395	2.395

(1) Outdoor air temperature 7°C DB, 6°C WB; condenser inlet-outlet water temperature 30-35°C

(2) Outdoor air temperature 7°C DB, 6°C WB; condenser inlet-outlet water temperature 47-55 °C

(3) Outdoor air temperature 35°C; evaporator inlet-outlet water temperature 12-7°C

(4) Sound power levels calculated according to ISO 3744

(5) Sound pressure levels referred to a 1 m distance from the unit in free field

(6) Sound levels referred to chiller operation conditions, water 12°/7°C, outdoor air 35°C.

(7) Values in compliance with standard EN 14511-3

(8) In accordance with European directive no.813/2013 and EN14511 - EN14825 For Temperate Climate (Strasbourg) User Application Average temperature (55°C) Variable outlet temperature

(9) Not subject to EU Regulation No. 811/2013, rated heating capacity > 70 kW



## ELECTRICAL DATA - PRELIMINARY

MODEL			50.2	60.2	75.2	85.2	100.4	120.4	150.4	170.4
Max absorbed power	(1),(3)	kW	23,8	28,7	35,2	39,9	47,6	57,4	70,3	79,7
			(25,1)	(30)	(36,5)	(41,2)	(50)	(59,8)	(72,8)	(82,7)
Max absorbed current	(2),(3)	A	43	52	62,4	68,4	86	104	125	137
			(45,4)	(54,4)	(64,8)	(70,9)	(90,5)	(109)	(129)	(143)
Max inrush current	(4)	A	169	174	173	221	212	226	236	290
			(172)	(176)	(176)	(224)	(217)	(230)	(240)	(296)
Electrical power supply		V/ph/Hz	400/3~/50 ±5%							
Auxiliary power supply		V/ph/Hz	230/1~/50 ±5%							

(1) Electric power that must be available from the mains for unit operation

(2) Current at which the unit internal protection devices are triggered. It is the maximum current absorbed by the unit. This value is never exceeded and must be used for sizing the line and related protection devices (please refer to the wiring diagram supplied with the units.)

(3) The values in brackets refer to the units in the version with pump.

(4) Maximum inrush current calculated considering the compressor starting at the highest power value and the maximum current absorption by all the other devices

**Notes**

Voltage unbalance: max 2%






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