



€ R 290

PURPLE HP

NATURAL SOLUTIONS



enerblue

INSPIRED BY NATURE

PURPLE HP

 R290



62° | 
Max WATER
temperature

-20° | 
Min. ext. AIR
temperature

NATURAL
REFRIGERANT

GWP=3

ODP=0

Air to water heat pumps with natural refrigerant gas R290. Extended working conditions and very high performances. Equipped with semihermetic reciprocating compressors, axial fan with phase-cut speed control, plates heat exchanger and Al/Cu minitubes coils.

The unit can be equipped with hydronic kit and buffer tank (except sizes 20.1-30.1). Low noise configuration is standard for all the series.

RANGE

Heating capacity (A7;W45) 26 ÷ 221 kW

Cooling capacity (A35;W7) 22 ÷ 181 kW



Reversible



Semi-hermetic
reciprocating
compressors



Axial fans

Highlights of our products



1



GAS LEAK DETECTOR

In case of refrigerant leak inside the compressor box:

- the power supply is disconnected
- the extraction fan (ATEX certified) is switched on to clean the compressor box.

2



ATEX

The ATEX certified extraction fan runs at nominal speed to clean the compressor box.

3



All the components inside the compressor box are ATEX certified: compressors, solenoid valves, EEV. The box is always insulated as standard.

4

Compliant with Ecodesign

TECHNICAL DATA

UNIT SIZE			8.1	10.1	12.1	15.1	20.1	22.1	25.1	30.1	32.1	35.1	40.1	50.1	
Heating (EN 14511 values) (A7;W45)															
Nominal heating capacity	(1), (7)	kW	26,8	30,2	34,2	39,8	46,9	49,7	59,7	66,1	75,0	82,6	97,4	110,9	
Total Power input in heating mode	(1), (2), (7)	kW	8,0	9,1	9,7	11,1	12,8	13,7	16,4	18,0	21,9	23,8	28,1	32,6	
COP	(1), (7)		3,33	3,34	3,55	3,59	3,66	3,63	3,64	3,67	3,42	3,46	3,46	3,40	
Energy Seasonal Index															
SCOP	(8)		2,85	2,85	2,88	2,90	2,95	2,94	2,93	3,02	2,84	2,84	2,84	2,84	
Seasonal Energy Efficiency hs	(8)	%	111,0	111,0	112,2	113,0	115,0	114,6	114,2	117,8	110,0	110,5	110,0	110,0	
Seasonal Efficiency class	(8)		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	
Cooling (EN 14511 values) (A35;W7)															
Nominal cooling capacity	(3), (7)	kW	22,0	25,9	29,3	33,1	38,7	31,6	49,9	55,5	58,2	66,2	76,4	88,0	
Total Power input in cooling mode	(3), (2), (7)	kW	7,4	8,8	9,8	11,2	12,5	12,1	16,4	18,8	20,9	23,0	29,0	34,3	
EER	(3), (7)		2,96	2,95	3,00	2,96	3,10	2,61	3,04	2,95	2,79	2,88	2,63	2,56	
Compressor															
Type			Reciprocating												
Quantity/Refrigerant circuits		n° / n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	
Capacity steps		n°	2	2	2	2	2	2	2	2	2	2	2	2	
Oil charge		kg	1,6	1,6	2,9	2,9	2,9	4,0	4,0	4,0	4	3,7	7,2	7,2	
Refrigerant charge per circuit		kg	2,4	2,5	2,6	2,8	3,6	3,6	4,4	4,6	5,9	5,6	7,6	7,7	
Axial Fans															
Quantity		n°	1	1	1	1	1	1	1	1	2	2	2	2	
Air flow		m3/h	17.991	17.991	17.419	18.508	22.383	22.383	22.142	22.142	43.633	43.476	42.716	42.628	
User Side exchanger															
Type			Plate exchanger												
Water flow rate (A7/W45)	(1)	l/h	4.643	5.239	5.927	6.898	8.126	8.611	10.340	11.460	13.030	14.640	17.080	19.590	
Pressure drop (A7/W45)	(1)	kPa	27	17	22	19	25	26	26	23	24	15	18	18	
Hydraulic module															
Pump model			P1	P1	P2	P2	P3	P3	P3	P3	P3	P3	P3		
Nominal Power input of pump		kW	0,5	0,5	0,9	0,9	1,1	1,1	1,1	1,1	1,4	1,4	2,5	2,5	
Available pressure head (A7/W45)	(1)	kPa	177	171	184	170	164	161	155	154	158	158	200	198	
Hydraulic connection															
Connection			1"1/4	1"1/4	1"1/4	1"1/4	1"1/2	1"1/2	1"1/2	1"1/2	1"1/2	1"1/2	2"	2"	2"
Sound data LN version															
Sound power level	(4), (6)	dB(A)	73	73	75	75	82	82	83	83	85	85	85	85	
Sound pressure level	(5), (6)	dB(A)	56	56	58	58	64	64	65	65	67	67	67	67	
Basic unit size and weights															
Width		mm	1.940	1.940	1.940	1.940	1.791	1.791	1.791	1.791	2.880	2.880	2.880	2.880	
Depth		mm	920	920	920	920	1.213	1.213	1.213	1.213	1.213	1.213	1.213	1.213	
Height		mm	2.000	2.000	2.000	2.000	2.388	2.388	2.388	2.388	2.388	2.388	2.388	2.388	
Delivery weight		kg	555	571	604	613	728	771	829	838	1.021	1.065	1.082	1.093	
Operating weight		kg	559	576	610	620	733	776	835	846	1.032	1.077	1.094	1.106	

(1) External air temperature 7°C BS, 6°C BU, Inlet-outlet water 40-45 °C

(2) Total power input is sum of compressors and fans power input and pump, according with EN 14511

(3) External air temperature 35°C, Inlet-outlet water 12-7°C .

(4) Sound power level calculated in compliance with ISO 3744

(5) Sound pressure level at 1m from the unit calculated in compliance with ISO 3744

(6) External air temperature 35°C, Inlet-outlet water 12-7°C.

(7) Values calculate in compliance with EN 14511

(8) According to European Regulation n° 813/2013 and EN14511 - EN14825 for Climate Average (Strasbourg), User Application: Medium temperature (55°C), Outlet temperature: Variable

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

UNIT SIZE			15.2	20.2	22.2	25.2	30.2	32.2	35.2	40.2	50.2
Heating (EN 14511 values) (A7;W45)											
Nominal heating capacity	(1), (7)	kW	83,8	93,8	100,6	119,5	131,9	149,8	166,9	194,9	221,7
Total Power input in heating mode	(1), (2), (7)	kW	23,1	25,7	27,3	32,8	36,0	43,1	47,5	56,5	65,7
COP	(1), (7)		3,63	3,65	3,68	3,64	3,66	3,47	3,52	3,45	3,38
Energy Seasonal Index											
SCOP	(8)		3,08	3,20	3,22	3,20	3,21	3,01	3,07	2,99	2,98
Seasonal Energy Efficiency hs	(8)	%	120,2	125,0	125,8	125,0	125,4	117,4	120,0	116,6	116,0
Seasonal Efficiency class	(8)		A+	A++	A++	A++ (9)	A++ (9)	A+ (9)	A+ (9)	A+ (9)	A+ (9)
Cooling (EN 14511 values) (A35;W7)											
Nominal cooling capacity	(3), (7)	kW	70,7	79,1	84,1	98,2	111,8	118,1	137,0	120,8	181,6
Total Power input in cooling mode	(3), (2), (7)	kW	22,2	25,3	27,5	33,2	37,6	42,0	45,6	52,0	69,7
EER	(3), (7)		3,18	3,13	3,05	2,96	2,97	2,82	3,01	2,32	2,60
Compressor											
Type			Reciprocating								
Quantity/Refrigerant circuits		n° / n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Capacity steps		n°	4	4	4	4	4	4	4	4	4
Oil charge		kg	2,9	2,9	4,0	4,0	4,0	4	3,7	7,2	7,2
Refrigerant charge per circuit		kg	3,9	3,9	4,0	4,3	4,5	5,9	5,1	7,1	7,2
Axial Fans											
Quantity		n°	2	2	2	2	2	4	4	4	4
Air flow		m3/h	44.766	44.766	44.765	44.285	44.284	87.456	85.989	85.444	85.254
User Side exchanger											
Type			Duble circuit Plate exchanger								
Water flow rate (A7/W45)	(1)	l/h	14.520	16.260	17.440	20.710	22.870	26.000	28.970	34.360	39.150
Pressure drops (A7/W45)	(1)	kPa	33	25	18	25	20	22	27	30	34
Hydraulic module											
Pump model			P4	P5	P5	P5	P5	P5	P6	P6	P6
Nominal Power input of pump		kW	1,7	2,5	2,5	2,5	2,5	2,5	3,0	3,0	3,0
Available pressure head (A7/W45)	(1)	kPa	174	186	191	171	163	177	193	184	171
Hydraulic connection											
Connection			2"	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	3"	3"
Sound data LN version											
Sound power level	(4), (6)	dB(A)	86	87	87	89	89	90	90	90	90
Sound pressure level	(5), (6)	dB(A)	67	68	68	70	70	70	70	70	70
Basic unit size and weights											
Width		mm	3.330	3.330	3.330	3.330	3.330	5.320	5.320	5.320	5.320
Depth		mm	1.213	1.213	1.213	1.213	1.213	1.213	1.213	1.213	1.213
Height		mm	2.388	2.388	2.388	2.388	2.388	2.388	2.388	2.388	2.388
Delivery weight		kg	1.150	1.162	1.180	1.438	1.476	1.758	1.826	1.863	1.908
Operating weight		kg	1.162	1.180	1.200	1.458	1.498	1.770	1.838	1.878	1.924

(1) External air temperature 7°C BS, 6°C BU, Inlet-outlet water 40-45 °C

(2) Total power input is sum of compressors and fans power input and pump, according with EN 14511

(3) External air temperature 35°C, Inlet-outlet water 12-7°C .

(4) Sound power level calculated in compliance with ISO 3744

(5) Sound pressure level at 1m from the unit calculated in compliance with ISO 3744

(6) External air temperature 35°C, Inlet-outlet water 12-7°C.

(7) Values calculate in compliance with EN 14511

(8) According to European Regulation n° 813/2013 and EN14511 - EN14825 for Climate Average (Strasbourg), User Application: Medium temperature (55°C), Outlet temperature: Variable

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

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

ELECTRICAL DATA

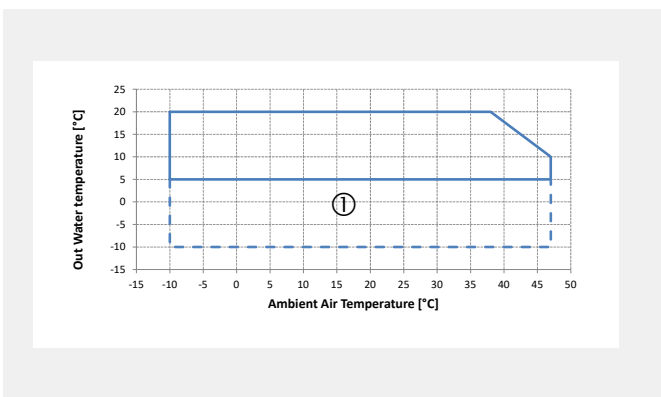
UNIT SIZE			8.1	10.1	12.1	15.1	20.1	22.1	25.1	30.1	32.1	35.1	40.1	50.1
Maximum absorbed power	(1), (3)	kW	13,7	13,5	14,6	17,2	19,7	18,3	21,9	26,0	29,2	33,9	38,8	46,3
			(14,23)	(14)	(15,87)	(18,47)	(21,03)	(19,62)	(23,2)	(27,35)	(30,55)	(35,25)	(41,25)	(48,75)
Maximum current	(2), (3)	A	91,7	91,7	63,5	79,2	91,9	111,0	122,7	137,0	153,0	153,0	168,0	197,0
			(95,17)	(95,17)	(65,88)	(81,58)	(94,36)	(113,5)	(125,2)	(139,5)	(156)	(156)	(173)	(202)
Maximum starting current	(4)	A	24,8	24,8	26,0	26,8	40,3	34,6	41,3	48,4	51,6	62,7	69,8	83,4
			(28,27)	(28,27)	(28,38)	(29,18)	(42,76)	(37,06)	(43,76)	(50,86)	(54,1)	(65,2)	(74,4)	(87,9)
Power supply		V/ph/Hz	400/3~/50 ±5%											
Auxiliary Power supply		V/ph/Hz	230/1~/50 ±5%											

UNIT SIZE			15.2	20.2	22.2	25.2	30.2	32.2	35.2	40.2	50.2
Maximum absorbed power	(1), (3)	kW	34,4	39,4	36,6	43,7	52,0	58,4	67,8	77,6	92,6
			(35,88)	(41,81)	(39)	(46,15)	(54,45)	(60,85)	(70,8)	(80,6)	(95,6)
Maximum current	(2), (3)	A	104,8	123,1	138,6	155,2	171,5	205,0	216,0	238,0	281,0
			(111,4)	(127,6)	(143,1)	(159,8)	(176)	(209)	(222)	(244)	(287)
Maximum starting current	(4)	A	53,6	80,6	69,2	82,6	96,8	103,0	125,0	140,0	167,0
			(60,22)	(85,15)	(73,75)	(87,15)	(101,4)	(108)	(132)	(146)	(173)
Power supply		V/ph/Hz	400/3~/50 ±5%								
Auxiliary Power supply		V/ph/Hz	230/1~/50 ±5%								

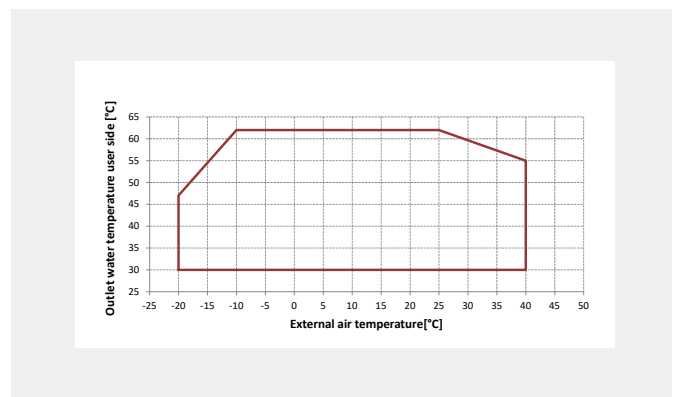
- (1) Mains power supply to allow unit operation
- (2) Maximum current before safety cut-outs stop the unit. This value is never exceeded and must be used to size the electrical supply cables and relevant safety devices (refer to electrical wiring diagram supplied with the unit).
- (3) Values in brackets refer to ST version units (units with storage tank and pumps or units with exclusively pumps)
- (4) Maximum starting current calculated considering the bigger size compressor starting current plus the maximum absorbed power of the other electrical devices (pumps, fans)

OPERATING LIMITS

COOLING



HEATING



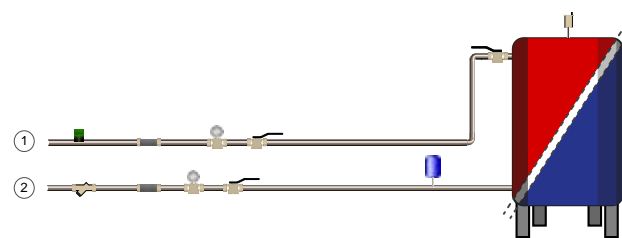
Notes

- The delta T to the user side exchanger must be between 3°C and 6°C
- ① The unit can only operate in this area with a water/glycol mixture
- Operating outside the operating limits may cause the safety devices to intervene or serious malfunctions
- The temperature of inlet water to utility side exchanger cannot be less than 25°C
- ■ The unit can work within this field but NOT CONTINUOUSLY
- Within the operating limits, the fan section may be subject to modulation
- Within the operating limits, to limit the outlet water temperature, the unit may be subject to partialization

AVAILABLE VERSIONS

STANDARD

Reversible heat pump for 2-pipe-systems for cooling and heating up to 62°C.



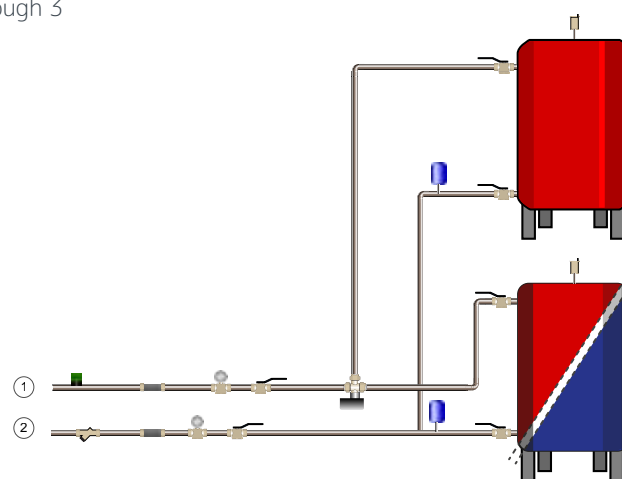
(1/2) In/out user side

WATER
temperature limits

62°C
MAX heating

AUTOMATIC MANAGEMENT OF DOMESTIC HOT WATER

Automatic management of domestic hot water through 3 way valve managed directly by the controller.



(1/2) In/out user side

62°C
MAX DHW

62°C
MAX heating

*The buffer tank and pump showed on pictures are available as option.

CONFIGURATIONS

LN Low noise:

Standard

SLN Super Low noise:

The unit is provided with the following modifications:

- oversized heat exchanger (evaporation/condensation coil)
- low rpm EC fans
- complete compressor compartment soundproofing
- low noise setting of the fan regulation

NB: in some sizes the dimensions of SLN version could be different from standard one



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