

R290



PURPLEI HP

NATURAL SOLUTIONS



enerblue

INSPIRED BY NATURE

PURPLEi HP

R290



62° | Max WATER temperature
 -20° | Min. ext. AIR temperature



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. Compressors feature inverter technology. In case of two compressor units, one compressor is inverter driven and one compressor is on/off. 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 ÷ 220 kW

Cooling capacity (A35;W7) 22 ÷ 176 kW



Reversible



Semi-hermetic reciprocating compressors



Axial fans

COMMERCIAL INDUSTRIAL

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	26,9	30,8	35,0	39,0	43,0	50,0	59,5	62,4	74,9	86,4	95,5	109,7
Total power input	(1), (2), (7)	kW	8,0	9,2	10,4	11,4	12,2	14,4	17,2	17,5	22,3	25,5	27,4	32,6
COP	(1), (7)		3,33	3,34	3,55	3,59	3,66	3,63	3,64	3,67	3,36	3,39	3,48	3,36
Energy Seasonal Index														
Fan type			AC											
SCOP LT	(11)		3,39	3,35	3,42	3,43	3,56	3,54	3,53	3,67	3,40	3,39	3,33	3,40
Seasonal Energy Efficiency η_{sh}	(11)	%	132,5	131,1	133,8	134,2	139,3	138,8	138,0	143,8	133,1	132,4	130,3	132,8
Seasonal Efficiency class	(11)		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Energy Seasonal Index														
SCOP MT	(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 η_{sh}	(8)	%	111	111	112,2	113	115	114,6	114,2	117,8	110	110,5	110	110
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	21,5	25,8	28,7	32,3	34,7	42,0	47,1	49,9	63,2	73,5	76,5	90,2
Total power input	(3), (2), (7)	kW	7,6	9,2	10,1	11,3	11,7	14,0	17,2	17,9	21,5	25,4	28,2	35,1
EER	(3), (7)		2,81	2,81	2,84	2,86	2,98	3,00	2,74	2,79	2,94	2,89	2,72	2,57
SEER	(10)		3,47	3,35	3,3	3,41	3,65	3,55	3,57	3,79	3,72	3,6	3,43	3,42
Seasonal Energy Efficiency η_{sh}		%	136	131	129	133	143	139	140	149	146	141	134	134
Energy Seasonal Index														
Fan type			EC											
SCOP LT	(11)		3,82	3,77	3,82	3,83	4,08	4,04	4,15	4,38	3,98	3,98	3,83	3,91
Seasonal Energy Efficiency η_{sh}	(11)	%	150	148	150	150	160	159	163	172	156	156	150	154
Seasonal Efficiency class	(11)		A+	A+	A+	A++	A++	A++	A++	A++	A++	A++	A++	A++
Energy Seasonal Index														
SCOP MT	(8)		3,2	3,2	3,22	3,24	3,35	3,33	3,44	3,58	3,3	3,3	3,25	3,25
Seasonal Energy Efficiency η_{sh}	(8)	%	125	125	126	126	131	130	135	140	129	129	127	127
Seasonal Efficiency class	(8)		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
Cooling (EN 14511 values) (A35;W7)														
SEER	(10)		4,02	3,81	3,77	3,85	4,06	3,88	3,88	4,06	4,13	3,97	3,75	3,64
Seasonal Energy Efficiency η_{sh}		%	158	149	148	151	159	152	152	159	162	156	147	143

(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

(10) Performance according to EN14511 - EN14825 for Climate Average (Strasbourg), User Application: Fan Coil (W7), Outlet water temperature: Variable

(11) According to European Regulation EN14511 - EN14825 for Climat Average (Strasbourg); User Application: Low temperature (35°C), Outlet temperature: Variable.

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

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
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°	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100
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	2,7	2,8	3,6	3,6	3,8	4,0	6,0	6,1	8,1	7,7
Axial Fans														
Quantity		n°	1	1	1	1	1	1	1	1	2	2	2	2
Air flow		m3/h	17.676	17.628	16.982	18.025	21.745	21.763	21.388	21.365	43.041	43.344	42.488	42.281
User Side exchanger														
Type			Plate exchanger											
Water flow rate (A7/W45)	(1)	l/h	4.659	5.337	6.058	6.754	7.450	8.653	10.310	10.810	12.980	14.980	16.560	19.030
Pressure drop (A7/W45)	(1)	kPa	26	17	23	34	28	27	27	21	24	15	17	18
Hydraulic module														
Pump model			P1	P1	P2	P2	P3	P3	P3	P3	P3	P3	P5	P5
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	45,4	51,0
Available pump pressure (A7/W45)	(1)	kPa	184,1	167,5	181,8	161,6	163,2	160,8	153,6	158,2	136,2	133,2	185,8	171,6
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	2"	2"	2"
Sound level STD version														
Sound power value	(4), (6)	dB(A)	73	73	75	75	82	82	83	83	85	85	85	85
Sound pressure value	(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	1.885	1.885	1.885	1.885	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
Operating weight		kg	559	576	705	706	712	729	792	811	1.032	1.077	1.094	1.106

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

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	10 (10,9)	12 (12,2)	14 (15,38)	14 (15,26)	16 (17,25)	20 (21,24)	21 (22,15)	22 (23,35)	29 (30,55)	36 (37,65)	43 (45,35)	49 (50,95)
Maximum current	(2),(3)	A	18 (21,6)	21 (24,7)	25 (27,4)	25 (27,2)	27 (29,3)	37 (39,3)	43 (45,3)	40 (42,2)	52 (54,8)	62 (64,4)	70 (74,4)	81 (85,2)
Maximum starting current	(4)	A	18 (21,6)	21 (24,7)	25 (27,4)	25 (27,2)	27 (29,3)	37 (39,3)	43 (45,3)	40 (42,2)	52 (54,8)	62 (64,4)	70 (74,4)	81 (85,2)
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)

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	84,6	91,8	99,8	117,7	136,8	144,2	163,3	184,8	220,6
Total power input	(1), (2), (7)	kW	24,2	25,8	28,1	33,4	38,2	40,1	45,6	52,4	64,4
COP	(1), (7)		3,63	3,65	3,68	3,64	3,66	3,59	3,59	3,53	3,42
Energy Seasonal Index											
Fan type			AC								
SCOP LT	(8)		3,66	3,82	3,88	3,82	3,83	3,59	3,61	3,53	3,53
Seasonal Energy Efficiency η_s	(8)	%	143,3	149,8	152,3	149,6	150,3	140,7	141,2	138,4	138,3
Seasonal Efficiency class	(8)		A+	A+	A++	A+	A++	A+	A+	A+	A+
Energy Seasonal Index											
SCOP MT	(8)		3,08	3,20	3,22	3,20	3,21	3,01	3,07	2,99	2,98
Seasonal Energy Efficiency η_s	(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	70,5	73,5	82,8	94,7	110,0	116,3	133,3	148,0	176,6
Total Power input	(3), (2), (7)	kW	22,6	24,4	28,1	33,4	39,9	42,2	49,6	59,4	75,8
EER	(3), (7)		3,12	3,01	2,95	2,84	2,76	2,75	2,69	2,49	2,33
SEER	(10)		3,83	3,85	3,84	3,84	3,84	3,48	3,47	3,27	3,12
Seasonal Energy Efficiency η_{sh}		%	150,2	151,0	150,6	150,6	150,6	136,2	135,8	127,8	121,8
Energy Seasonal Index											
Fan type			EC								
SCOP LT	(11)		4,07	4,17	4,22	4,29	4,36	3,92	3,92	3,81	3,79
Seasonal Energy Efficiency η_s	(11)	%	160	164	166	169	171	154	154	150	149
Seasonal Efficiency class	(11)		A++	A++	A++	A++	A++	A++	A++	A+	A+
Energy Seasonal Index											
SCOP MT	(8)		3,4	3,47	3,5	3,58	3,63	3,26	3,31	3,21	3,20
Seasonal Energy Efficiency η_s	(8)	%	133	136	137	140	142	128	129	126	125
Seasonal Efficiency class	(8)		A++	A++	A++	A++	A++	A++	A++	A++	A++
Cooling (EN 14511 values) (A35;W7)											
SEER	(10)		4,21	4,21	4,14	4,16	4	3,73	3,63	3,4	3,22
Seasonal Energy Efficiency η_{sh}		%	165	165	163	163	157	146	142	133	126

(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

(10) Performance according to EN14511 - EN14825 for Climate Average (Strasbourg), User Application: Fan Coil (W7), Outlet water temperature: Variable

(11) According to European Regulation EN14511 - EN14825 for Climat Average (Strasbourg); User Application: Low temperature (35°C), Outlet temperature: Variable.

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

UNIT SIZE			15.2	20.2	22.2	25.2	30.2	32.2	35.2	40.2	50.2
Compressor											
Type											
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°	25/100	25/100	25/100	25/100	25/100	25/100	25/100	25/100	25/100
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	3.9/3.9	4.0/4.0	4.1/4.1	4.5/4.5	5.5/5.5	5/5	7.1/7.1	7.2/7.2
Axial Fans											
Quantity		n°	2	2	2	2	2	4	4	4	4
Air flow		m3/h	43.677	43.508	43.513	42.789	42.592	43.951	43.714	43.092	42.667
User Side exchanger											
Type			Double circuit Plate exchanger								
Water flow rate (A7/W45)	(1)	l/h	14.650	15.910	17.310	20.410	23.720	25.000	28.300	32.030	38.240
Pressure drop (A7/W45)	(1)	kPa	32	23	18	25	21	21	26	26	32
Hydraulic module											
Pump model			P4	P5	P5	P5	P5	P5	P6	P6	P6
Nominal Power input of pump		kW	34,6	38,0	40,6	45,1	55,4	56,3	68,6	73,5	93,2
Available pump pressure (A7/W45)	(1)	kPa	175,2	190,4	190,6	169,9	156,9	139,7	175,5	169,2	147,2
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 level STD version											
Sound power value	(4), (6)	dB(A)	86	87	86	89	89	90	90	90	90
Sound pressure value	(5), (6)	dB(A)	67	68	68	70	70	70	70	70	70
Basic unit size and weights											
Width		mm	3.330	3.330	2.890	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
Operating weight		kg	1.227	1.238	1.249	1.390	1.412	1.770	1.838	1.878	1.924

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

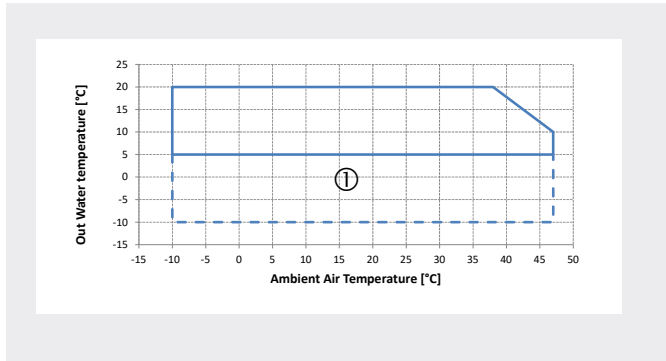
ELECTRICAL DATA

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	33	36	38	43	53	54	66	71	90
			(34,59)	(38,03)	(40,61)	(45,1)	(55,35)	(56,25)	(68,6)	(73,5)	(93,2)
Maximum current	(2),(3)	A	54	67	71	84	96	95	116	123	155
			(56,8)	(71,7)	(76)	(88,6)	(101)	(99,6)	(122)	(129)	(162)
Maximum starting current	(4)	A	106	119	148	166	185	197	206	221	269
			(109)	(123)	(152)	(170)	(189)	(201)	(213)	(227)	(276)
Power supply		V/ph/Hz	400/3~/50 ±5%								
Auxiliary Power supply		V/ph/Hz	230/1~/50 ±5%								

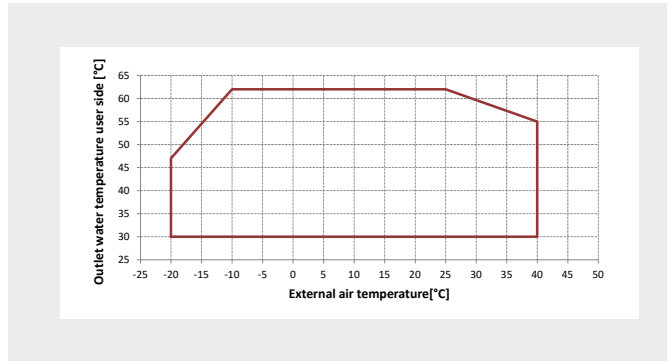
(1) Mains power supply to allow unit operation
 (2) Maximum current before safety cut-outs stop the unit. This value is never exceeded and must be used to size the electrical supply cables and relevant safety devices (refer to electrical wiring diagram supplied with the unit).
 (3) Values in brackets 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

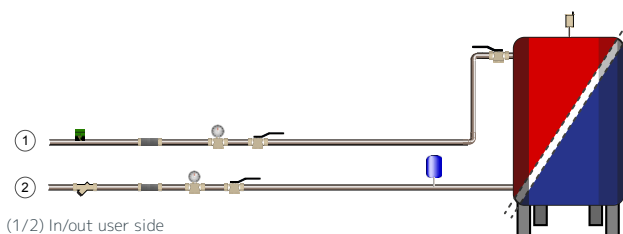
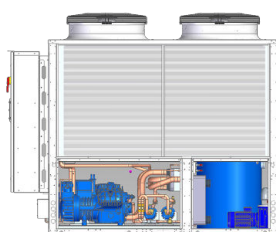
- The delta T to the user side exchanger must be between 3°C and 6°C
- ① The unit can only operate in this area with a water/glycol mixture
- Operating outside the operating limits may cause the safety devices to intervene or serious malfunctions
- The temperature of inlet water to user side exchanger cannot be less than 25°C
- 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.

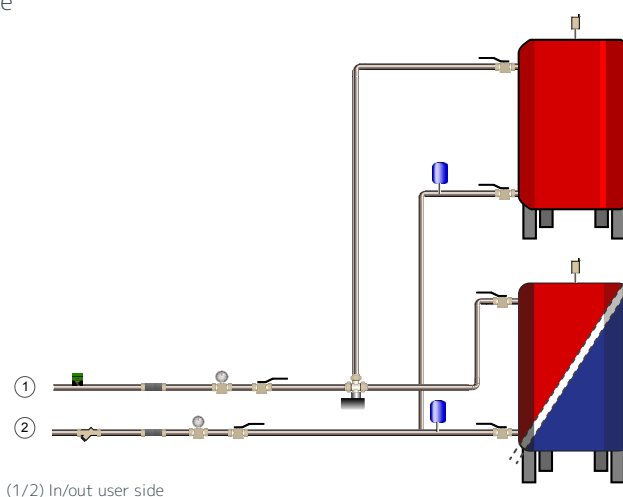
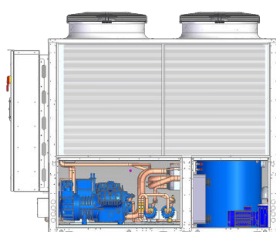
WATER
temperature limits



62°C
MAX heating

AUTOMATIC MANAGEMENT OF DOMESTIC HOT WATER

Automatic management of DHW through 3 way valve managed directly by the controller.



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



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