

R134a
R513A



BLACK HT WW

HIGH TEMPERATURE HEAT PUMPS



enerblue

INSPIRED BY NATURE



BLACK HT WW



80°

Max WATER
temperature

 R134a
 R513A

Very high temperature reversible heat pump with R134a refrigerant or R513A. Single or double circuits according to the compressors number, equipped with semihermetic reciprocating compressors with liquid injection to ensure hot water production up to 80°C and plates heat exchanger.

Suitable for heating and cooling applications that use high temperature water such as radiators or process applications. The unit can be equipped with hydraulic kit. The management of domestic hot water through a 3-way-valve is available as an option.

Range

Heating capacity (W7;W55) 36 ÷ 277 kW

Cooling capacity (W35;W7) 31 ÷ 241 kW



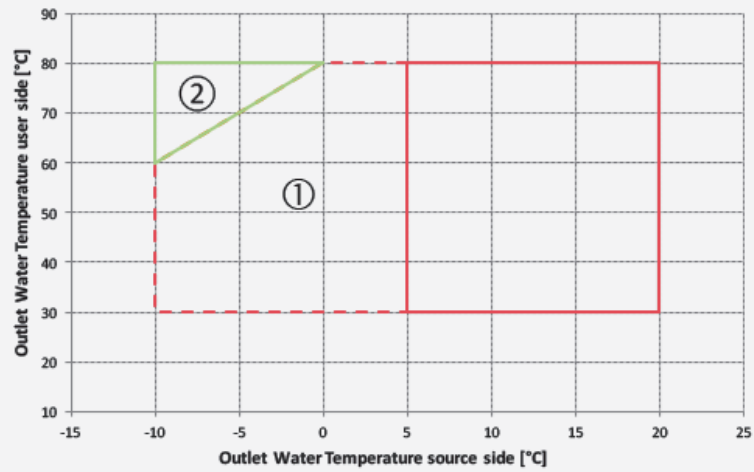
Reversible



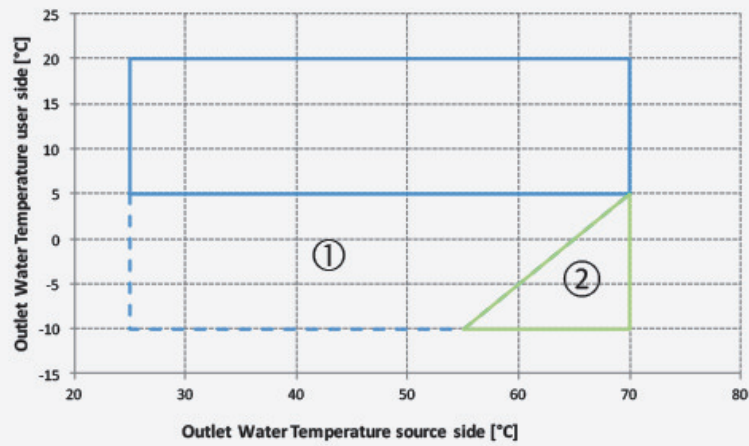
Semi-hermetic
reciprocating compressors

OPERATING LIMITS

HEATING



COOLING



Notes

- The maximum thermal drop in the source side exchange must be 7 °C
- ① in this area the unit can only work with evaporator side glycol water
- ② in this area the unit can only work with Low temperature configuration

TECHNICAL DATA

UNIT SIZE			40.1	45.1	55.1	65.1	75.1	90.1	70.2
Heating (EN 14511 values) (W7;W55)									
Nominal heating capacity (W7;W55)	(1), (7)	kW	36,0	42,5	53,7	62,2	73,6	88,6	71,2
Total Power input in heating mode	(1), (7)	kW	10,0	13,2	16,4	17,3	21,4	26,4	19,3
COP	(1), (7)		3,60	3,22	3,27	3,60	3,44	3,36	3,69
Heating (EN 14511 values) (W7;W70)									
Nominal heating capacity	(2), (7)	kW	30,7	36,1	44,9	53,6	63,4	75,2	61,0
Total Power input in heating mode	(2), (7)	kW	10,9	14,2	17,3	19,2	23,6	28,9	21,4
COP	(2), (7)		2,82	2,54	2,60	2,79	2,69	2,60	2,85
Energy Seasonal Index									
SCOP	(9)		4,44	4,01	4,09	4,29	4,11	4,03	4,75
Seasonal Energy Efficiency hs	(9)	%	169,7	152,4	155,5	163,5	156,4	153,1	182,0
Seasonal Efficiency class	(9)		A+++	A+++	A+++	A+++	A+++ (6)	A+++ (6)	A+++ (6)
Cooling (EN 14511 values) (W35;W7)									
Nominal cooling capacity	(3), (7)	kW	31,6	38,9	49,2	58,1	69,0	83,1	67,3
Total Power input in cooling mode	(3), (7)	kW	8,2	11,2	14,4	14,0	17,5	21,7	16,2
EER	(3), (7)		3,85	3,47	3,42	4,15	3,94	3,83	4,15
Compressor									
Type			Reciprocating						
Quantity/Refrigerant circuits		n° / n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 2
Capacity steps		n°	2	2	2	2	2	2	4
Circuit refrigerant charge		kg	4,0	4,3	5,8	6,6	9,4	4,2	7,4
User Side exchanger									
Type			Plate exchanger						
Water flow rate (W7/W55)	(1)	l/h	3912	4614	5841	6761	7996	9631	7736
Pressure drop (W7/W55)	(1)	kPa	8,0	9,4	10,8	11,2	13,0	8,8	6,4
Minimum Water flow rate		l/h	1885	2093	2813	3288	3697	4436	4640
Source Side exchanger									
Type			Plate exchanger						
Water flow rate (W7/W55)	(1)	l/h	7499	8433	10770	12950	15060	17890	14900
Pressure drop (W7/W55)	(1)	kPa	30,0	32,1	34,2	41,1	42,5	29,7	22,1
Hydraulic module User Side									
Nominal Power input of pump		kW	0,55	0,55	1,4	1,4	1,4	1,4	1,4
Available pump pressure (W7/W55)	(1)	kPa	168,5	158,0	182,7	179,2	172,8	170,2	180,5
Hydraulic module Source Side									
Nominal Power input of pump		kW	1,3	1,3	1,4	1,4	1,4	1,5	1,4
Available pump pressure (W7/W55)	(1)	kPa	140,9	117,5	137,7	117,9	102,4	135,3	124,0
Hydraulic connection									
Connection			1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"	2"

(1) Inlet-outlet Source water temperature 10-7°C , User water 47-55 °C

(2) Inlet-outlet Source water temperature 12-7°C , User water 65-70 °C

(3) Inlet-outlet Source water temperature 30-35°C , User water 12-7 °C

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

(5) Sound pressure level calculate in compliance with ISO 3744

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

(7) Values calculate in compliance with EN 14511-2018

(8) External air temperature 7°C BS, 6°C BU, Inlet-outlet water 65-70 °C

(9) According to European Regulation n° 813/2013 and EN14511 - EN14825 for Climat Average(Strasbourg) User Application Medium temperature (55°C) Outlet temperature Variable Bivalente Temp. -5°C

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

UNIT SIZE			40.1	45.1	55.1	65.1	75.1	90.1	70.2
Sound level STD version									
Sound power value	(4), (1)	dB(A)	76	77	78	78	80	80	79
Sound pressure value	(5), (1)	dB(A)	60	61	62	62	64	63	63
Sound level LN version									
Sound power value	(4), (1)	dB(A)	74	75	76	76	78	78	77
Sound pressure value	(5), (1)	dB(A)	58	59	60	60	62	61	61
Basic unit size and weights									
Width		mm	1210	1210	1210	1210	1210	1210	1832
Depth		mm	950	950	950	950	950	950	1200
Height		mm	1700	1700	1700	1700	1700	1700	1800
Operating weight		kg	0	0	0	0	0	0	0

ELECTRICAL DATA

UNIT SIZE			40.1	45.1	55.1	65.1	75	90	70
Maximum absorbed power	(1),(3)	kW	14,0	18,0	21,5	25,0	30,4	36,5	28,0
			(16,1)	(20,1)	(24,2)	(27,7)	(33,1)	(39,7)	(30,7)
Maximum starting current	(4),(3)	A	107,0	118,0	144,0	144,0	159,0	189,0	142,0
			(111)	(122)	(149)	(149)	(164)	(195)	(147)
Full load current	(2),(3)	A	35,3	43,5	53,1	60,2	71,9	90,4	70,6
			(39,2)	(47,4)	(58)	(65,1)	(76,8)	(96,8)	(75,5)
Power supply		V/ph/Hz	400/3/50 ±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 pumps)

(4) Maximum starting current calculated considering the bigger size compressor starting current plus the maximum absorbed power of the other electrical devices (pumps, ..)

TECHNICAL DATA

UNIT SIZE			85.2	105.2	125.2	145.2	180.2	200.2	235.2
Heating (EN 14511 values) (W7;W55)									
Nominal heating capacity (W7;W55)	(1), (7)	kW	85,0	109,3	125,4	145,2	176,6	216,0	277,2
Total Power input in heating mode	(1), (7)	kW	25,6	32,2	33,8	40,4	51,8	60,8	76,7
COP	(1), (7)		3,32	3,39	3,71	3,59	3,41	3,55	3,61
Heating (EN 14511 values) (W7;W70)									
Nominal heating capacity	(2), (7)	kW	72,9	91,5	108,5	125,9	150,5	185,5	236,8
Total Power input in heating mode	(2), (7)	kW	28,0	34,4	38,0	45,1	57,0	67,3	85,0
COP	(2), (7)		2,60	2,66	2,86	2,79	2,64	2,76	2,79
Energy Seasonal Index									
SCOP	(9)		4,26	4,36	4,70	4,55	4,32	4,55	4,64
Seasonal Energy Efficiency hs	(9)	%	162,2	166,5	179,8	174,0	164,7	173,9	177,6
Seasonal Efficiency class	(9)		A+++ (6)	A+++ (6)	A+++ (6)	A+++ (6)	A+++ (6)	A+++ (6)	A+++ (6)
Cooling (EN 14511 values) (W35;W7)									
Nominal cooling capacity	(3), (7)	kW	79,4	100,8	116,7	136,5	165,3	195,9	241,4
Total Power input in cooling mode	(3), (7)	kW	22,2	27,8	27,7	34,3	42,7	51,7	61,1
EER	(3), (7)		3,58	3,63	4,21	3,98	3,87	3,79	3,95
Compressor									
Type			Reciprocating						
Quantity/Refrigerant circuits		n° / n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Capacity steps		n°	4	4	4	4	4	4	4
Circuit refrigerant charge		kg	3,3	5,6	6,2	6,8	8,2	9,1	11,1
User Side exchanger									
Type			Plate exchanger						
Water flow rate (W7/W55)	(1)	l/h	9244	11880	13640	15790	19200	23480	30130
Pressure drop (W7/W55)	(1)	kPa	6,0	5,9	6,7	7,6	8,5	10,3	16,7
Minimum Water flow rate		l/h	5474	7502	8093	8979	10773	11979	14572
Source Side exchanger									
Type			Plate exchanger						
Water flow rate (W7/W55)	(1)	l/h	17060	22150	26330	30160	35890	44660	57890
Pressure drop (W7/W55)	(1)	kPa	19,0	19,3	22,0	25,6	26,0	32,2	62,6
Hydraulic module User Side									
Nominal Power input of pump		kW	1,4	1,5	2,5	2,5	2,2	3,0	3,0
Available pump pressure (W7/W55)	(1)	kPa	174,7	179,1	207,4	199,6	169,7	199,2	179,5
Hydraulic module Source Side									
Nominal Power input of pump		kW	1,5	1,5	2,5	2,2	3,0	3,0	4,0
Available pump pressure (W7/W55)	(1)	kPa	149,9	122,0	130,1	127,8	161,8	127,7	86,0
Hydraulic connection									
Connection			2"	2"	2" 1/2	2" 1/2	2" 1/2	3"	3"

(1) Inlet-outlet Source water temperature 10-7°C , User water 47-55 °C

(2) Inlet-outlet Source water temperature 12-7°C , User water 65-70 °C

(3) Inlet-outlet Source water temperature 30-35°C , User water 12-7 °C

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

(5) Sound pressure level calculate in compliance with ISO 3744

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

(7) Values calculate in compliance with EN 14511-2018

(8) External air temperature 7°C BS, 6°C BU, Inlet-outlet water 65-70 °C

(9) According to European Regulation n° 813/2013 and EN14511 - EN14825 for Climat Average(Strasbourg) User Application Medium temperature (55°C) Outlet temperature Variable Bivalente Temp. -5°C

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

UNIT SIZE			85.2	105.2	125.2	145.2	180.2	200.2	235.2
Sound level STD version									
Sound power value	(4), (1)	dB(A)	80	81	81	81	82	82	82
Sound pressure value	(5), (1)	dB(A)	63	64	64	64	65	65	65
Sound level LN version									
Sound power value	(4), (1)	dB(A)	78	79	79	79	80	80	80
Sound pressure value	(5), (1)	dB(A)	61	62	62	62	63	63	63
Basic unit size and weights									
Width		mm	1832	1832	1832	1832	1832	1832	1832
Depth		mm	1200	1200	1200	1200	1200	1200	1200
Height		mm	1800	1800	1800	1800	1800	1800	1800
Operating weight		kg	0	0	0	0	0	0	0

ELECTRICAL DATA

UNIT SIZE			85	105	125	145	180	200	235
Maximum absorbed power	(1),(3)	kW	36,0	42,9	50,0	60,7	72,9	83,2	107,0
			(39,2)	(46,6)	(54,9)	(65,4)	(78,1)	(89,2)	(114)
Maximum starting current	(4),(3)	A	162,0	198,0	205,0	231,0	279,0	430,0	545,0
			(168)	(205)	(214)	(240)	(290)	(442)	(559)
Full load current	(2),(3)	A	87,0	106,0	120,0	144,0	181,0	207,0	257,0
			(93,4)	(114)	(129)	(153)	(192)	(220)	(271)
Power supply		V/ph/Hz	400/3/50 ±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 pumps)

(4) Maximum starting current calculated considering the bigger size compressor starting current plus the maximum absorbed power of the other electrical devices (pumps, ..)



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