



IRON

NATURAL SOLUTIONS



enerblue

INSPIRED BY NATURE

# IRON

**R290**



**62,5°** |   
Max WATER  
temperature

**-10°** |   
Min. ext. AIR  
temperature

**NATURAL  
REFRIGERANT**

**GWP=3**

**ODP=0**

Water to water heat pumps with natural refrigerant gas R290. Extended working conditions and very high performances. Equipped with semihermetic reciprocating compressors and plates heat exchangers. All the units are provided with an external electric safety board to manage all the installed safety devices and always ensure the maximum safety levels. IRON heat pumps range is reversible on water side.

Low noise configuration is available as an option.

The machine is suitable for both internal and external (outdoor) installation. Outdoor installation possible only with weather shelter.

## Range

Heating capacity (W7;W55) 104 ÷ 368 kW

Cooling capacity (W35;W7) 95 ÷ 309 kW



Reversible  
on water  
side



Semi-hermetic  
reciprocating  
compressors

COMMERCIAL INDUSTRIAL

## Highlights of the product



1



### ATEX

The ATEX certified extraction fan managed by the safety electric board ensure the safety of the installation for the outdoor version. (Option)

2



### ATEX

The ATEX certified ductable extraction fan managed by the safety electric board ensure the safety of the installation for the indoor version. (Option)

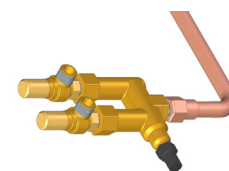
3

Models from 100.2 to 200.2 are suitable FOR installation in occupied space.  
Models from 240.2 to 350.2 are suitable for installation in machinery room.

5

### Compliant with Ecodesign

4



Double safety valve on high pressure side. (Option)

# TECHNICAL DATA

UNIT SIZE			100.2	120.2	140.2	150.2	170.2	200.2
<b>Heating (EN 14511 values) (W7;W55)</b>								
Nominal heating capacity (W7;W55)	(1), (7)	kW	104,0	124,0	145,0	156,0	183,0	216,0
Total Power input in heating mode	(1), (7)	kW	28,2	33,5	39,8	43,8	49,3	58,8
COP	(1), (7)		3,69	3,70	3,64	3,56	3,71	3,67
<b>Energy Seasonal Index</b>								
SCOP	(9)		4,66	4,72	4,72	4,48	4,57	4,52
Seasonal Energy Efficiency $\eta_s$	(9)	%	178,3	180,8	180,7	171,3	175,0	172,9
<b>Cooling (EN 14511 values) (W35;W7)</b>								
Nominal cooling capacity	(3), (7)	kW	95,2	114,0	132,0	134,0	159,0	194,0
Total Power input in cooling mode	(3), (7)	kW	22,5	26,6	30,2	33,1	37,5	45,0
EER	(3), (7)		4,23	4,29	4,37	4,05	4,24	4,31
<b>Compressor</b>								
Type			Reciprocating					
Quantity/Refrigerant circuits		n° / n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Capacity steps		n°	4	4	4	4	4	4
Circuit refrigerant charge		kg	2,7	3,3	3,7	3,7	4,2	5,1
<b>User Side exchanger Heating mode</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(1)	l/h	11330	13470	15740	16930	19910	23460
Pressure drop (W7/W55)	(1)	kPa	6,9	6,8	7,3	8,3	9,1	9,6
<b>Source Side exchanger Heating</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(1)	l/h	21830	25970	30190	32220	38490	45170
Pressure drop (W7/W55)	(1)	kPa	18,9	19,8	26,5	29,7	28,5	29,7
<b>User Side exchanger Chiller mode</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(3)	l/h	16380	19690	22680	23130	27440	33400
Pressure drop (W7/W55)	(3)	kPa	11,6	12,3	16,2	16,8	15,9	16,8
<b>Source Side exchanger Heating</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(3)	l/h	20300	24330	27940	28880	33940	41200
Pressure drop (W7/W55)	(3)	kPa	21,0	21,0	21,8	23,1	25,3	27,0
<b>Hydraulic connection</b>								
Connection			2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	3"
<b>Sound level STD version</b>								
Sound power value	(4), (1)	dB(A)	80	80	80	80	80	81
Sound pressure value	(5), (1)	dB(A)	63	63	63	63	63	64
<b>Sound level LN version</b>								
Sound power value	(4), (1)	dB(A)	78	78	78	78	78	79
Sound pressure value	(5), (1)	dB(A)	61	61	61	61	61	62
<b>Basic unit size and weights</b>								
Width		mm	1832	1832	1832	1832	1832	1832
Depth		mm	1200	1200	1200	1200	1200	1200
Height		mm	1800	1800	1800	1800	1800	1800

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

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

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

(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			240.2	270.2	300.2	330.2	350.2	
<b>Heating (EN 14511 values) (W7;W55)</b>								
Nominal heating capacity (W7;W55)	(1), (7)	kW	255,0	284,0	322,0	346,0	368,0	
Total Power input in heating mode	(1), (7)	kW	71,0	79,9	92,3	98,6	106,0	
COP	(1), (7)		3,59	3,55	3,49	3,51	3,47	
<b>Energy Seasonal Index</b>								
SCOP	(9)		4,47	4,11	4,11	4,09	4,03	
Seasonal Energy Efficiency $\eta_s$	(9)	%	170,7	156,2	156,6	155,7	153,1	
<b>Cooling (EN 14511 values) (W35;W7)</b>								
Nominal cooling capacity	(3), (7)	kW	221,0	236,0	265,0	287,0	309,0	
Total Power input in cooling mode	(3), (7)	kW	53,4	65,2	71,4	78,4	87,1	
EER	(3), (7)		4,14	3,62	3,71	3,66	3,55	
<b>Compressor</b>								
Type			Reciprocating					
Quantity/Refrigerant circuits		n° / n°	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	
Capacity steps		n°	4	4	4	4	4	
Circuit refrigerant charge		kg	6,1	6,6	7,5	8,1	8,1	
<b>User Side exchanger Heating mode</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(1)	l/h	27740	30870	35060	37570	39980	
Pressure drop (W7/W55)	(1)	kPa	10,5	11,7	12,5	12,5	13,9	
<b>Source Side exchanger Heating</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(1)	l/h	52990	58750	66320	71200	75450	
Pressure drop (W7/W55)	(1)	kPa	36,1	43,2	47,3	55,1	61,1	
<b>User Side exchanger Chiller mode</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(3)	l/h	38100	40670	45550	49300	53080	
Pressure drop (W7/W55)	(3)	kPa	20,5	22,9	24,7	29,2	33,3	
<b>Source Side exchanger Heating</b>								
Type			Plate exchanger					
Water flow rate (W7/W55)	(3)	l/h	47350	51910	57900	62850	68100	
Pressure drop (W7/W55)	(3)	kPa	29,3	31,7	33,0	33,6	38,7	
<b>Hydraulic connection</b>								
Connection			3"	3"	4"	4"	4"	
<b>Sound level STD version</b>								
Sound power value	(4), (1)	dB(A)	81	81	81	81	81	
Sound pressure value	(5), (1)	dB(A)	64	64	64	64	64	
<b>Sound level LN version</b>								
Sound power value	(4), (1)	dB(A)	79	79	79	79	79	
Sound pressure value	(5), (1)	dB(A)	62	62	62	62	62	
<b>Basic unit size and weights</b>								
Width		mm	1832	1832	1832	1832	1832	
Depth		mm	1200	1200	1200	1200	1200	
Height		mm	1800	1800	1800	1800	1800	

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

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

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

(8) Not subject to Regulation EU No. 811/2013, rated heat output &gt; 70 kW

(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

## ELECTRICAL DATA

UNIT SIZE			100.2	120.2	140.2	150.2	170.2	200.2
Maximum absorbed power	(1)	kW	31,9	39,1	47,4	49,2	58,6	68,4
Maximum starting current	(2)	A	137,0	155,0	177,0	187,0	198,0	220,0
Full load current	(4)	A	60,4	73,8	88,0	85,6	108,0	122,0
Power supply		V/ph/Hz	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%

UNIT SIZE			240.2	270.2	300.2	330.2	350.2
Maximum absorbed power	(1)	kW	83,4	88,8	113,0	111,0	121,0
Maximum starting current	(2)	A	263,0	347,0	426,0	493,0	525,0
Full load current	(4)	A	149,0	179,0	200,0	207,0	216,0
Power supply		V/ph/Hz	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%	400/3/50 ±5%

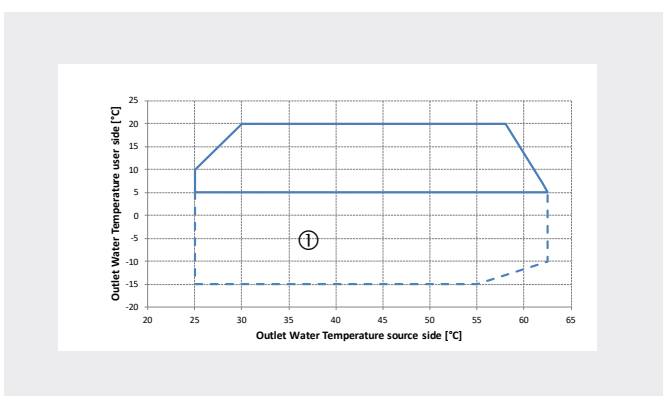
(1) Mains power supply to allow unit operation

(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).

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

## OPERATING LIMITS

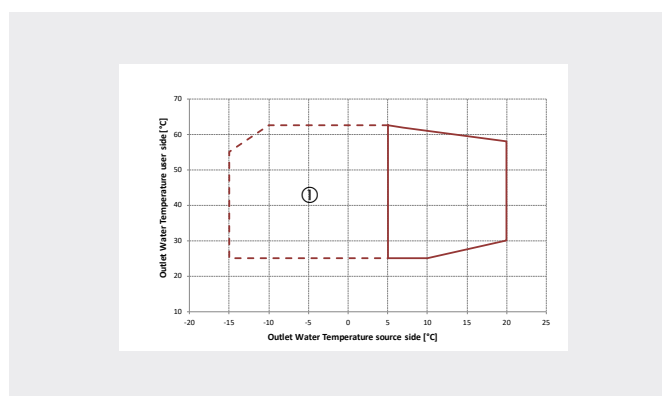
### COOLING



#### 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 glycolated water

### HEATING

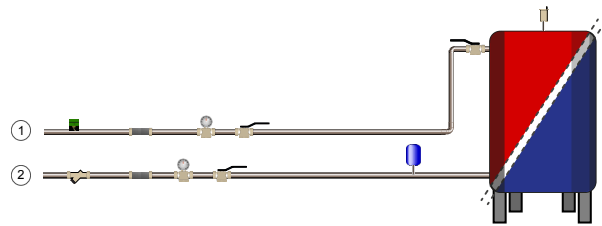
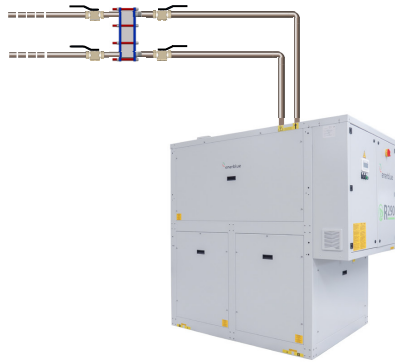


# AVAILABLE VERSIONS

## STANDARD

Reversible heat pump for 2-pipe-systems for cooling and heating up to 62,5°C.

 WATER temperature limits

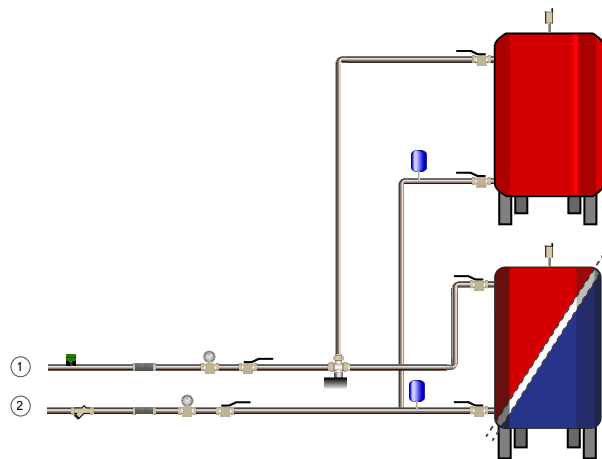


**62,5°C**  
MAX heating

(1/2) In/out user side

## AUTOMATIC MANAGEMENT OF SANITARY WATER

Automatic management of sanitary water trough  
3 way valve managed directly by the controller.



**62,5°C**  
MAX DHW

**62,5°C**  
MAX heating

(1/2) In/out user side



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