

SILVER

Experience the coolest

Water chillers with screw compressors regulated by inverter
and R290 natural refrigerant (GWP = 3)



SILVER

WATER CHILLERS WITH SCREW COMPRESSORS REGULATED BY INVERTER
AND R290 NATURAL REFRIGERANT (GWP = 3)

SILVER



R290

GWP=3

APPLICATION
COMMERCIAL / INDUSTRIAL

SEPR HT compliant

SEER compliant

The SILVER range of chillers is Enerblue's latest evolution in the field of air conditioning and cooling of industrial processes with the use of R290 natural refrigerant. Our long-standing experience on application of propane as a refrigerant has helped us create a range of chillers with a reduced carbon footprint and top-class performance. SILVER chillers are air-cooled with semi-hermetic screw compressors and inverter regulation on one or two compressors (full inverter). The reduced noise levels and the largely configurable design make these chillers the right choice for all applications that require chilled water combined with high quality and reliability standards.

RANGE

Available in 11 sizes
Cooling (A35; W7) 308 ÷ 768 kW



COOL ONLY



AXIAL EC FANS

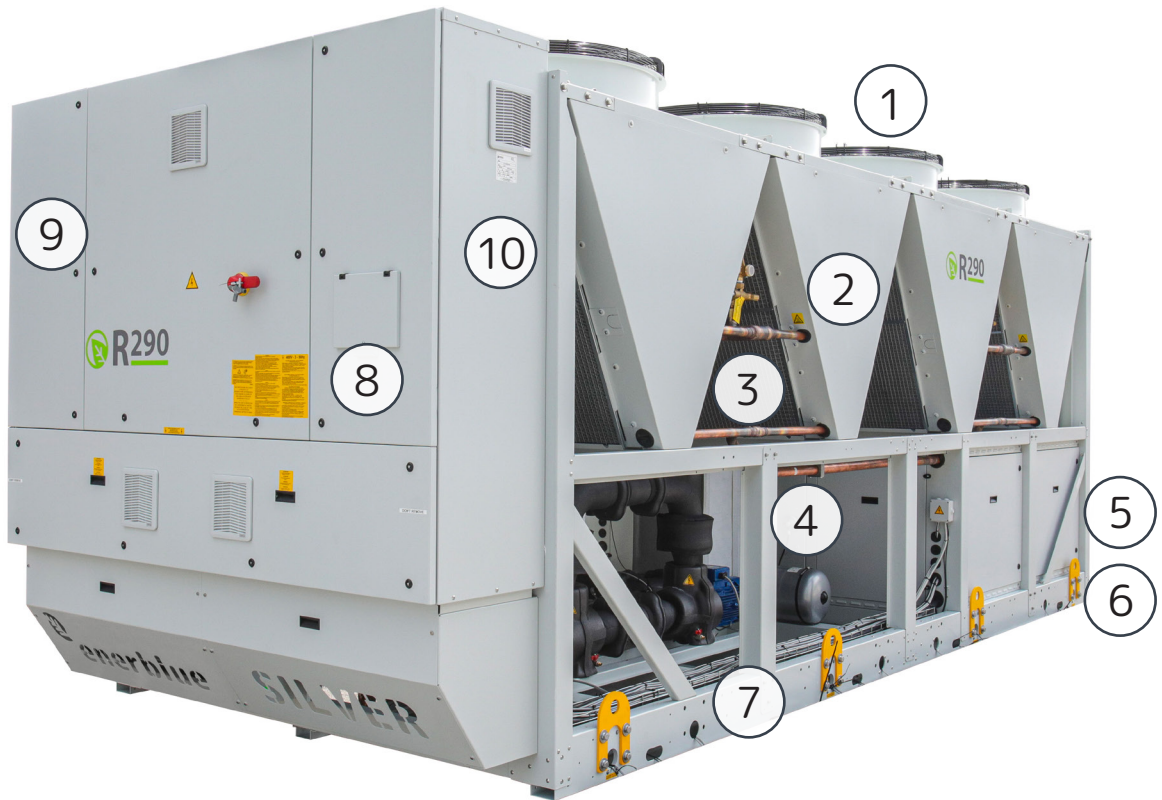


SCREW
COMPRESSORS



TOTAL HEAT RECOVERY
OR DESUPERHEATER

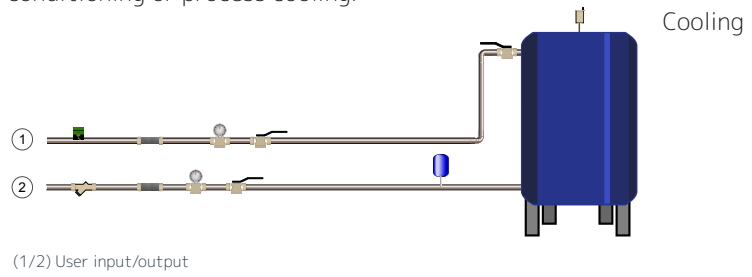
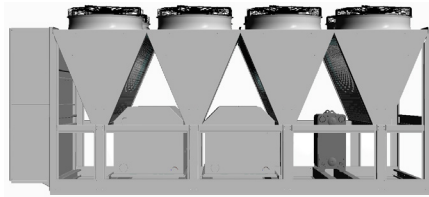
Quality is in the details



- ① EC fans with extra low noise shaped nozzles.
- ② Modular aeraulic section with coils arranged in a "V" shape to combine a large exchange surface and compact plan dimensions.
- ③ Microchannel coils with large exchange surface to minimise the refrigerant charge.
- ④ Hydraulic connections flush with the metalwork.
- ⑤ Semi-hermetic screw compressors optimised for operation with R290 refrigerant.
- ⑥ Compressor compartment insulated and equipped with a leak detection system pre-installed and calibrated at the factory.
- ⑦ Components always accessible and easy to inspect
- ⑧ Programmable microprocessor control with display unit.
- ⑨ IP54 electrical control panel with numbered cables and disconnecter.
- ⑩ Heavy duty and treated enclosure for outdoor installation.

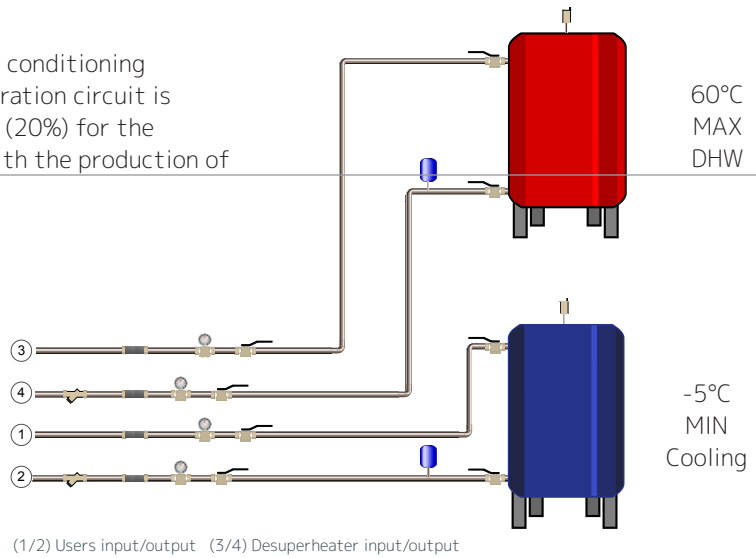
Available versions

Version for dedicated 2-pipe system for air conditioning or process cooling.



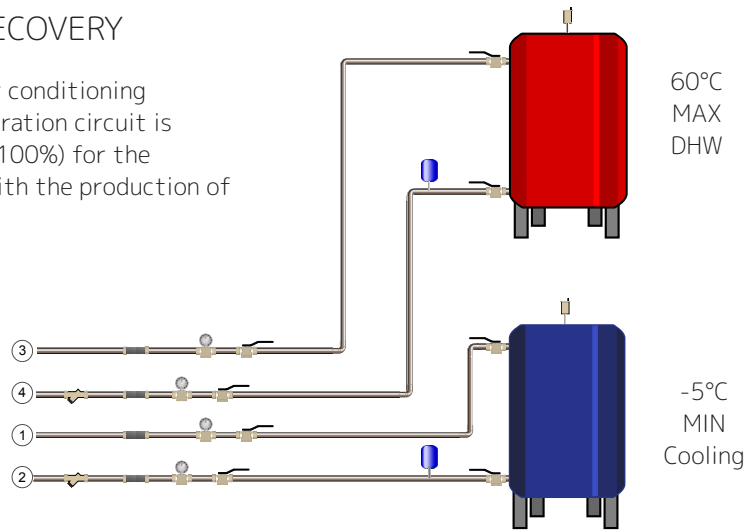
DS - UNIT WITH DESUPERHEATER

Version for dedicated 2-pipe system for air conditioning or process cooling. In addition, each refrigeration circuit is equipped with a partial recovery exchanger (20%) for the production of hot water (simultaneously with the production of chilled water).



DC - UNITS WITH TOTAL HEAT RECOVERY

Version for dedicated 2-pipe system for air conditioning or process cooling. In addition, each refrigeration circuit is equipped with a total recovery exchanger (100%) for the production of hot water (simultaneously with the production of chilled water).



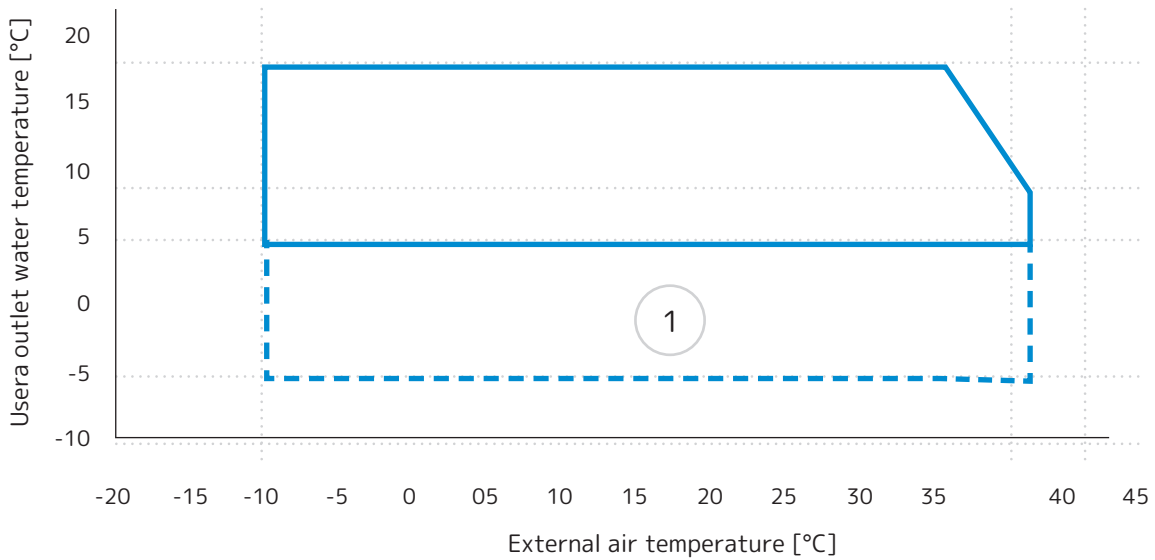
(1/2) Users input/output (3/4) Desuperheater input/output



Operation limits



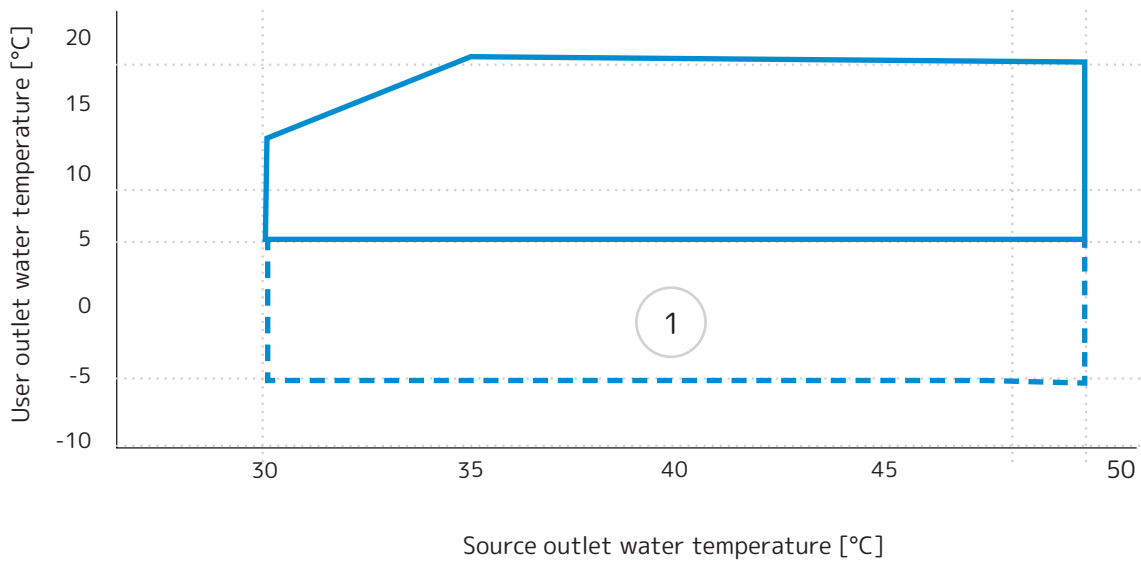
COOLING



Notes

- The delta T value between the evaporator inlet and outlet must be between 3°C and 5°C
- ① The unit can operate in this area of the envelope only after the addition to the hydraulic circuit of anti-freeze additives in suitable amounts.

 COOLING + TOTAL HEATING RECOVERY



Notes

- The delta T value to the user side exchanger must be between 3°C and 5°C
- The delta T value to the source side exchanger must be between 3°C and 5°C
- ① The unit can operate in this area of the envelope only after the addition to the hydraulic circuit of anti-freeze additives in suitable amounts.



Technical specifications

MODEL			300.1	340.1	350.2	370.2	410.2	460.2	540.2	600.2	650.2	710.2	770.2
COOLING (A35;W7)													
Cooling capacity	(1) (5)	kW	308	343	353	373	409	458	538	597	651	712,0	768
Total absorbed capacity	(1) (5)	kW	100	116	111	119	127	150	174	189	213	245	261
EER	(1) (5)		3,08	2,96	3,18	3,13	3,22	3,05	3,09	3,16	3,06	2,91	2,94
ENERGY SEASONAL INDEX 1 INVERTER VERSION													
SEER	(4)		-	-	4,16	4,26	4,65	4,61	4,90	4,78	4,73	4,82	4,84
Seasonal energy efficiency η_{sc}	(4)	%	-	-	163,5	167,4	183,0	181,4	193,0	188,2	186,2	190,0	190,5
SEPR HT	(4)		-	-	5,40	5,27	5,67	5,52	5,53	5,59	5,55	5,50	5,52
ENERGY SEASONAL INDEX FULL INVERTER VERSION													
SEER	(4)		4,41	4,22	4,35	4,44	4,70	4,70	4,95	4,97	4,90	4,95	4,90
Seasonal energy efficiency η_{sc}	(4)	%	173,3	165,8	171,0	174,6	185,0	185,0	195,0	195,8	193,0	195,0	193,0
SEPR HT	(4)		5,30	5,53	5,83	5,45	5,89	5,81	5,91	5,95	5,76	5,82	5,78
COOLING + HEATING (EN 14511 VALUES) (W7;W45) DS VERSION (DESUPERHEATER)													
Nominal heating capacity	(7)	kW	54,8	62,2	59,6	62,7	68,1	88,3	98,0	101,0	112,0	132,0	145,0
Nominal cooling capacity	(7)	kW	309,0	344,0	354,0	374,0	410,0	462,0	542,0	599,0	655,0	716,0	773,0
Total Power input	(7)	kW	101,0	115,0	112,0	119,0	127,0	150,0	174,0	190,0	213,0	244,0	260,0
TER	(7)		3,60	3,53	3,69	3,67	3,76	3,67	3,68	3,68	3,60	3,48	3,53
COOLING + HEATING (EN 14511 VALUES) (W7;W45) DC VERSION (TOTAL RECOVERY)													
Nominal heating capacity	(8)	KW	394,0	445,0	442,0	470,0	512,0	587,0	688,0	747,0	821,0	939,0	1000,0
Nominal cooling capacity	(8)	KW	298,0	335,0	337,0	358,0	393,0	447,0	526,0	565,0	616,0	713,0	762,0
Total Power input	(8)	KW	97,1	112,0	106,0	114,0	119,0	141,0	164,0	184,0	207,0	228,0	242,0
TER	(8)		7,13	6,96	7,35	7,26	7,61	7,33	7,40	7,13	6,94	7,25	7,28
COMPRESSOR													
Type	Semi-hermetic screw												
Quantity/Refrigeration circuits	no.		1/1	1/1	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Capacity regulation (min/max)	%		50/100	50/100	25/100	25/100	25/100	25/100	25/100	25/100	25/100	25/100	25/100
Refrigerant charge per circuit	kg		20,8	20,8	13,0	13,0	13,9	13,9	19,5/14,7	19,9	19,9	20,9	20,9
FANS													
Type	Axial EC												
Quantity	no.		6	6	8	8	8	8	10	12	12	12	12
Total air flow rate	m ³ /h		147.688	147.259	197.665	197.438	197.076	196.425	245.956	295.734	295.067	294.162	293.663
HEAT EXCHANGER AT USER END													
Type	Braze welded plates												
Water flow rate (A7;W35)	(1)	m ³ /h	52,9	58,9	60,7	64,1	70,3	78,8	92,6	102,6	112,0	122,3	132,0
Pressure drop (A7;W35)	(1)	kPa	8,1	9,8	20,7	22,9	16,3	20,0	21,0	19,8	22,9	20,1	22,3

(1) External air temperature 35°C, Inlet-outlet water 12-7°C .
 (2) Sound power level calculate in compliance with ISO 3744
 (3) Sound pressure level at 1m from the unit calculate in compliance with ISO 3744
 (4) External air temperature 35°C, Inlet-outlet water 12-7°C.
 (5) Values calculate in compliance with EN 14511-3:2022
 (6) Performance according to EN14511 - EN14825 for Climat Average(Strasbourg) User Application Fan Coil (W7) Outlet temperature Variable
 (7) IN/OUT evaporator water temperature 12-7°C, IN/OUT desuperheater water temperature 40-45 °C
 (8) IN/OUT evaporator water temperature 12-7°C, IN/OUT condenser water temperature 40-45 °C
 This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation

MODEL		300.1	340.1	350.2	370.2	410.2	460.2	540.2	600.2	650.2	710.2	770.2
RECOVERY SIDE EXCHANGER - DS VERSION												
Type		Braze welded plates										
Quantity	n°	1	1	2	2	2	2	2	2	2	2	2
Water flow rate (A7/W35)	(7) m ³ /h	9,4	10,7	10,3	10,9	11,7	15,2	16,8	17,3	19,2	22,7	24,9
Pressure drop (A7/W35)	(7) kPa	8,1	9,8	20,7	22,9	16,3	20,0	21,0	19,8	22,9	20,1	22,3
RECOVERY SIDE EXCHANGER - DC VERSION												
Type		Braze welded plates										
Quantity	n°	1	1	1	1	1	1	1	1	1	1	1
Water flow rate (A7/W35)	(8) m ³ /h	68,4	77,2	76,8	81,6	88,8	102,0	119,0	130,0	142,0	163,0	174,0
Pressure drop (A7/W35)	(8) kPa	34	42	23	26	19	24	22	24	28	29	33
HYDRAULIC MODULE (VERSION)												
Pump available working pressure	kPa	147,0	131	115	103	95	155	169	174	159	144	129
Pump Rated Power	kW	3,6	3,7	3,7	3,8	3,8	5,1	6,6	6,7	6,9	7,1	7,1
HYDRAULIC CONNECTION												
User side Connection		4"	4"	4"	4"	4"	4"	5"	5"	5"	6"	6"
Recovery side Connection - DS version		2"	2"	2"	2"	2"	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2
Recovery side Connection - DC version		5"	5"	5"	5"	5"	5"	6"	6"	6"	6"	6"
ACOUSTIC DATA LN VERSION												
Sound power level	(2) dB(A)	92	92	92	92	93	93	94	95	95	96	96
Sound pressure level	(3) dB(A)	60	60	59	59	60	60	61	62	62	63	63
BASE UNIT DIMENSIONS AND WEIGHTS												
Length	mm	4.547	4.547	5.842	5.842	5.842	5.842	7.157	8.469	8.469	8.469	8.469
Depth	mm	2.384	2.384	2.384	2.384	2.384	2.384	2.384	2.384	2.384	2.384	2.384
Height	mm	2.540	2.540	2.540	2.540	2.540	2.540	2.540	2.540	2.540	2.540	2.540
Delivery weight	kg	3.395	3.500	4.528	4.540	4.604	4.864	5.600	6.198	6.332	6.532	6.665
Operating weight	kg	3.473	3.580	4.608	4.620	4.704	4.964	5.695	6.329	6.465	6.669	6.805

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

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

(3) Sound pressure level at 10 m from the unit calculate in compliance with ISO 3744

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

(5) Values calculate in compliance with EN 14511-3:2022

(6) Performance according to EN14511 - EN14825 for Climat Average(Strasbourg) User Application Fan Coil (W7) Outlet temperature Variable

(7) IN/OUT evaporator water temperature 12-7°C, IN/OUT desuperheater water temperature 40-45 °C

(8) IN/OUT evaporator water temperature 12-7°C, IN/OUT condenser water temperature 40-45 °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 1 inverter version

MODEL		300.1	340.1	350.2	370.2	410.2	460.2	540.2	600.2	650.2	710.2	770.2
ENERGY SEASONAL INDEX 1 INVERTER VERSION												
Max absorbed power	(1)	171	197	181	191	199	223	291	333	359	369	395
Max absorbed power (with pump)	(1) (2)	175	201	185	195	203	229	298	340	366	376	402
Max absorbed current	(3)	277	327	295	311	329	370	469	541	591	605	655
Max absorbed current (with pump)	(2) (3)	285	335	303	319	337	381	484	555	605	619	669
Max inrush current	(4)	277	327	501	517	590	705	805	960	1010	1074	1102
Max inrush current (with pump)	(2) (4)	285	335	509	525	598	716	819	974	1024	1088	1116
Electrical power supply		400/3~/50 ± 5%										
Auxiliary power supply		230/1~/50 ± 5%										

Electrical data full inverter version

MODEL		300.1	340.1	350.2	370.2	410.2	460.2	540.2	600.2	650.2	710.2	770.2
ENERGY SEASONAL INDEX 1 INVERTER VERSION												
Max absorbed power	(1)	171	197	171	181	191	207	275	343	395	395	395
Max absorbed power (with pump)	(1) (2)	175	201	175	185	195	213	282	350	402	402	402
Max absorbed current	(3)	277	327	279	295	311	347	451	555	655	655	655
Max absorbed current (with pump)	(2) (3)	285	335	287,3	303	319,3	358,3	466	568,9	669	669	669
Max inrush current	(4)	277	327	279	295	311	347	451	555	655	655	655
Max inrush current (with pump)	(2) (4)	285	335	287,3	303	319,3	358,3	466	568,9	669	669	669
Electrical power supply		400/3~/50 ± 5%										
Auxiliary power supply		230/1~/50 ± 5%										

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

(2) Current value 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 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



ENERBLUE SRL

30010 Cantarana di Cona

Venice - ITALY

T. +39.0426.302051

F. +39.0426.840000

info@enerblue.it

www.enerblue.it

CCVG000001_00

We reserve the right to make changes to the information in this document at any time without notice.