

PURPLE

HIGH EFFICIENCY AIR-WATER CHILLERS WITH AXIAL FANS AND NATURAL REFRIGERANTS R290



Standard version in 23 sizes
Cooling capacity (A35;W7) 28 ÷ 290 kW

INDUSTRIAL
APPLICATIONS



R290
NATURAL
REFRIGERANT



SUPER
SILENT



HORIZONTAL AIR
DISCHARGE



TWO
CIRCUITS

// MAIN POINTS

- > R290 refrigerant
- > Wide operating limits and power range
- > Modularity and full accessibility
- > SLN version - super silent
- > OD version - Horizontal Discharge

The technical documentation can be improved all the times. Enerblue can update, time by time, all technical data in order to improve all necessary information for the customer.

// TECHNICAL DATA

UNIT SIZE			12.1	15.1	20.1	22.1	25.1	30.1	32.1	34.1	35.1	40.1	45.1
Cooling (A35;W 12/7)													
Cooling capacity	(1)	kW	28,8	32,8	38,2	42,8	53,5	56,3	61,1	67,8	75,3	84,5	91,7
Total power input	(1)(2)	kW	9,6	10,8	12,4	13,7	17,1	19,5	21,0	23,2	25,9	30,4	32,7
Water Flow	(1)	m3/h	4,9	5,6	6,6	7,4	9,2	9,7	10,5	11,7	13,0	14,5	15,8
Water Flow	(1)	l/h	4949	5643	6574	7369	9195	9690	10514	11666	12960	14528	15765
EER	(1)		3,0	3,0	3,1	3,1	3,1	2,9	2,9	2,9	2,9	2,8	2,8
Compressor													
Type			semihermetic										
Quantity		n°	1	1	1	1	1	1	1	1	1	1	1
Refrigerant circuits		n°	1	1	1	1	1	1	1	1	1	1	1
Capacity steps		n°	1	1	1	1	1	2	2	2	2	2	2
Fans													
Type			axial										
Quantity		n°	2	2	2	2	2	1	1	1	1	2	2
Fans power input		kW	1,1	1,1	1,1	1,1	1,1	1,6	1,6	1,6	1,6	3,2	3,2
Fans current		A	4,8	4,8	4,8	4,8	4,8	3,4	3,4	3,4	3,4	6,8	6,8
Total air flow		m3/h	17000	17000	17000	17000	17000	21000	21000	21000	21000	42000	42000
User side exchanger													
type			plate										
Quantity		n°	1	1	1	1	1	1	1	1	1	1	1
Nominal water flow rate	(1)	m3/h	4,9	5,6	6,6	7,4	9,2	9,7	10,5	11,7	13,0	14,5	15,8
Pressure drop Water	(1)	kPa	32	29	29	31	32	27	28	26	29	26	29
Desuperheater (accessory)													
Type			plate										
Quantity		n°	1	1	1	1	1	1	1	1	1	1	1
Heat Capacity	(5)	kW	6,5	7,4	8,6	9,6	12,0	12,9	14,0	15,5	17,2	19,5	21,1
Water flow		m3/h	1,1	1,3	1,5	1,7	2,1	2,2	2,4	2,7	3,0	3,4	3,6
Pressure drop		kPa	22	23	21	23	22	23	21	22	20	23	22
Hydraulic module (version)													
Pump model			P1	P1	P1	P1	P1	P2	P2	P2	P3	P3	P3
Head ratings		kPa	187	177	164	152	127	154	151	147	141	177	169
Storage tank capacity		l	130	130	130	130	130	-	-	-	-	250	250
Acoustic data standard unit													
Sound power level	(3)	dBA	74	75	75	76	76	84	84	84	84	86	86
Noise pressure level (10 m)	(3)	dBA	46	47	47	48	48	56	56	56	56	58	58
Acoustic data LN (version)													
Sound power level	(3)	dBA	72	73	73	74	74	82	82	82	82	84	84
Noise pressure level (10 m)	(3)	dBA	44	45	45	46	46	54	54	54	54	56	56
Acoustic data SLN (version)													
Sound power level	(3) (4)	dBA	69	70	70	71	71	79	79	79	79	81	81
Noise pressure level (10 m)	(3) (4)	dBA	41	42	42	43	43	51	51	51	51	53	53
Dimension Data													
Lenght		mm	2162	2162	2162	2162	2162	1706	1706	1706	1706	3110	3110
Depth		mm	950	950	950	950	950	1208	1208	1208	1208	1208	1208
Height		mm	1935	1935	1935	1935	1935	2390	2390	2390	2390	2390	2390
Water fittings		"	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"
Weight		kg	480	490	520	530	550	680	810	990	1360	1620	1980

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(1) Air temperature 35°; Evaporator water temperature IN/OUT 12/7°C

(2) The total power is given by the sum of the power absorbed by the compressors and by the fans

(3) Lw: sound power values in free field calculated in compliance with ISO 3744. Chiller working conditions (A35;W7)

(3) Sound pressure levels detected at 10/5/1 m from electrical panel, not channelled in free field, in compliance with ISO 3744. Chiller working conditions (A35;W7)

(4) SLN version have different dimension.

(5) Evaporatore water 12/7°- Desuperheater 40/45°C

// TECHNICAL DATA

UNIT SIZE			50.1	55.1	60.1	75.1	35.2	40.2	45.2	50.2	55.2	60.2	75.2	80.2
Cooling (A35;W 12/7)														
Cooling capacity	(1)	kW	101,7	107,9	120,9	133,2	150,7	168,9	183,3	203,3	215,7	241,8	266,4	291,0
Total power input	(1)(2)	kW	35,9	38,3	42,6	46,6	51,7	59,2	63,8	70,3	75,0	85,1	93,2	101,2
Water Flow	(1)	m ³ /h	17,5	18,6	20,8	22,9	25,9	29,1	31,5	35,0	37,1	41,6	45,8	50,1
Water Flow	(1)	l/h	17484	18551	20797	22913	25920	29057	31530	34968	37103	41594	45826	50059
EER	(1)		2,8	2,8	2,8	2,9	2,9	2,9	2,9	2,9	2,9	2,8	2,9	2,9
Compressor														
Type			semihermetic											
Quantity		n°	1	1	1	1	2	2	2	2	2	2	2	2
Refrigerant circuits		n°	1	1	1	1	2	2	2	2	2	2	2	2
Capacity steps		n°	2	2	2	2	4	4	4	4	4	4	4	4
Fans														
Type			axial											
Quantity		n°	2	2	2	2	2	3	3	3	3	4	4	4
Fans power input		kW	3,2	3,2	3,2	3,2	3,2	4,8	4,8	4,8	4,8	6,4	6,4	6,4
Fans current		A	6,8	6,8	6,8	6,8	6,8	10,2	10,2	10,2	10,2	13,6	13,6	13,6
Total air flow		m ³ /h	42000	42000	42000	42000	42000	63000	63000	63000	63000	84000	84000	84000
User side exchanger														
Type			plate											
Quantity		n°	1	1	1	1	1	1	1	1	1	1	1	1
Nominal water flow rate	(1)	m ³ /h	17,5	18,6	20,8	22,9	25,9	29,1	31,5	35,0	37,1	41,6	45,8	50,1
Pressure drop Water	(1)	kPa	29	30	31	29	33	31	32	31	30	29	32	33
Desuperheater (accessory)														
Type			plate											
Quantity		n°	1	1	1	1	2	2	2	2	2	2	2	2
Heat Capacity	(5)	kW	23,4	24,8	27,8	30,6	34,4	38,8	42,0	46,5	49,4	55,6	61,1	66,7
Water flow		m ³ /h	4,0	4,3	4,8	5,3	5,9	6,7	7,2	8,0	8,5	9,6	10,5	11,5
Pressure drop		kPa	24	21	25	23	25	23	24	25	21	25	26	27
Hydraulic module (version)														
Pump model			P4	P4	P4	P5	P5	P6	P6	P6	P6	P6	P7	P7
Head ratings		kPa	154	173	164	153	166	155	145	184	171	140	181	147
Storage tank capacity		l	250	250	250	250	250	500	500	500	500	500	500	500
Acoustic data standard unit														
Sound power level	(3)	dBA	86	86	88	88	88	90	90	90	90	92	92	92
Noise pressure level (10 m)	(3)	dBA	58	58	60	60	60	62	62	62	62	64	64	64
Acoustic data LN (version)														
Sound power level	(3)	dBA	84	84	86	86	86	88	88	88	88	90	90	90
Noise pressure level (10 m)	(3)	dBA	56	56	58	58	58	60	60	60	60	62	62	62
Acoustic data SLN (version)														
Sound power level	(3) (4)	dBA	81	81	83	83	83	85	85	85	85	-	-	-
Noise pressure level (10 m)	(3) (4)	dBA	53	53	55	55	55	57	57	57	57	-	-	-
Dimension Data														
Lenght		mm	3110	3110	3110	3110	3110	4510	4510	4510	4510	5910	5910	5910
Depth		mm	1208	1208	1208	1208	1208	1208	1208	1208	1208	1208	1208	1208
Height		mm	2390	2390	2390	2390	2390	2390	2390	2390	2390	2390	2390	2390
Water fittings		"	2"	2"	2"	3"	3"	3"	3"	3"	3"	3"	3"	4"
Weight		kg	2060	2206	2180	2290	2360	2390	2470	2480	2580	2690	2760	2980

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// ELECTRICAL DATA

UNIT SIZE			12.1	15.1	20.1	22.1	25.1	30.1	32.1	34.1	35.1	40.1	45.1
Max. absorbed power	(1)	kW	11,0	12,4	14,2	15,8	19,6	22,3	24,1	26,5	29,5	34,5	37,2
Max. absorbed power (with pump)	(2)	kW	12,3	13,6	15,5	17,1	20,9	23,7	25,4	27,9	30,9	36,3	38,9
Max. absorbed current	(3)	A	32,8	38,8	42,8	49,8	52,8	59,4	63,4	63,4	69,4	81,9	90,9
Max. absorbed current (with pump)	(2)(3)	A	35,2	42,2	47,2	55,2	59,2	65,8	69,8	69,8	75,8	88,3	97,3
Max. starting current		A	140	176	182	208	208	248	263	263	263	297	330
Max. starting current with soft-starter		A	84	105	109	125	125	149	158	158	158	178	198
Max. starting current (with pump)	(2)	A	142	179	186	213	214	255	270	270	270	303	336
Max. starting current with pump and soft-starter	(2)	A	145	183	191	219	221	261	276	276	276	310	343
Fan rated power		kW	0,6	0,6	0,6	0,6	0,6	1,6	1,6	1,6	1,6	1,6	1,6
Fan rated current		A	2,4	2,4	2,4	2,4	2,4	3,4	3,4	3,4	3,4	3,4	3,4
Pump rated power		kW	1,3	1,3	1,3	1,3	1,3	1,4	1,4	1,4	1,4	1,7	1,7
Pump rated current		A	2,4	3,4	4,4	5,4	6,4	6,4	6,4	6,4	6,4	6,4	6,4
Electric power supply		V/ph/Hz	400/3~/50 ± 5%										
Control power supply		V/ph/Hz	230-24/1~/50 ± 5%										

UNIT SIZE			50.1	55.1	60.1	75.1	35.2	40.2	45.2	50.2	55.2	60.2	75.2	80.2
Max. absorbed power	(1)	kW	40,9	43,5	48,3	52,9	59,1	67,5	72,8	80,2	85,3	96,6	105,8	115,0
Max. absorbed power (with pump)	(2)	kW	42,7	45,9	50,8	55,4	61,3	69,7	75,0	83,2	88,3	99,6	109,8	119,0
Max. absorbed current	(3)	A	99,9	111,9	126,9	154,9	138,9	160,3	178,3	196,3	220,3	253,8	309,8	309,8
Max. absorbed current (with pump)	(2)(3)	A	106,3	118,3	133,3	161,3	145,3	166,7	184,7	202,7	226,7	260,1	316,1	316,1
Max. starting current		A	365	462	551	591	593	665	740	819	1025	1222	1330	1330
Max. starting current with soft-starter		A	219	277	331	355	356	399	444	492	615	733	798	798
Max. starting current (with pump)	(2)	A	371	468	557	597	599	672	747	826	1032	1228	1336	1336
Max. starting current with pump and soft-starter	(2)	A	378	475	564	604	606	678	753	832	1038	1235	1343	1343
Fan rated power		kW	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6
Fan rated current		A	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4
Pump rated power		kW	1,7	2,5	2,5	2,5	2,2	2,2	2,2	3,0	3,0	3,0	4,0	4,0
Pump rated current		A	6,4	6,4	6,4	6,4	6,4	6,4	6,4	6,4	6,4	6,4	6,4	6,4
Electric power supply		V/ph/Hz	400/3~/50 ± 5%											
Control power supply		V/ph/Hz	230-24/1~/50 ± 5%											

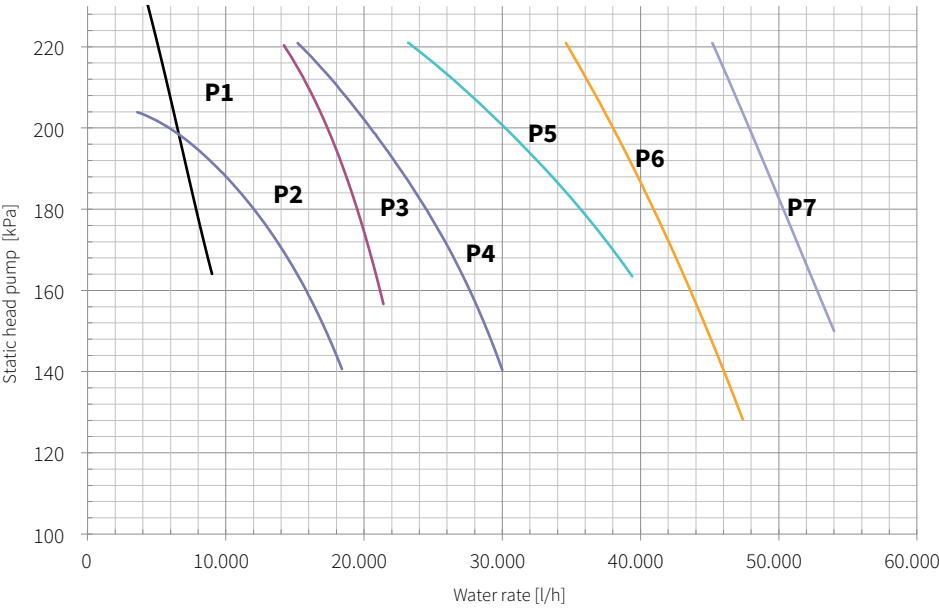
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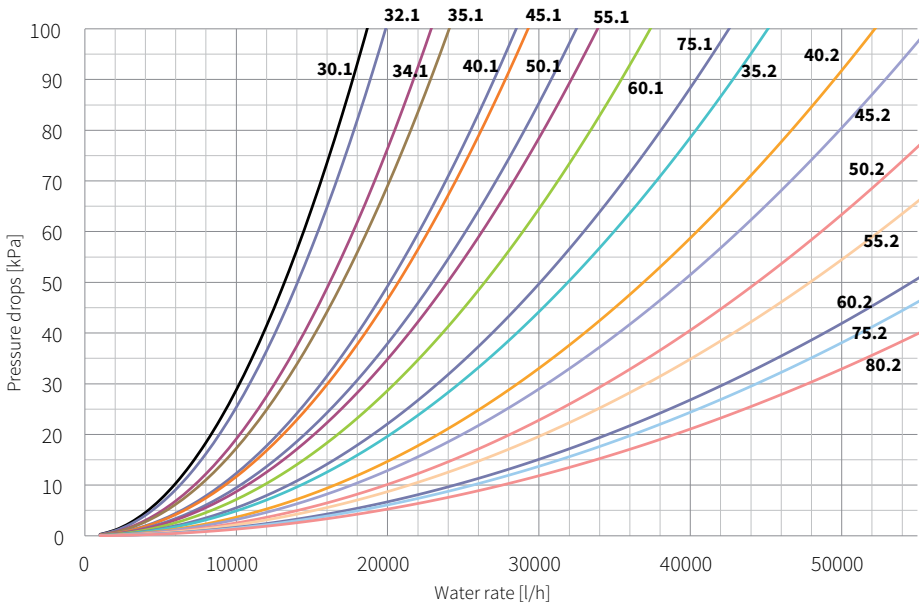
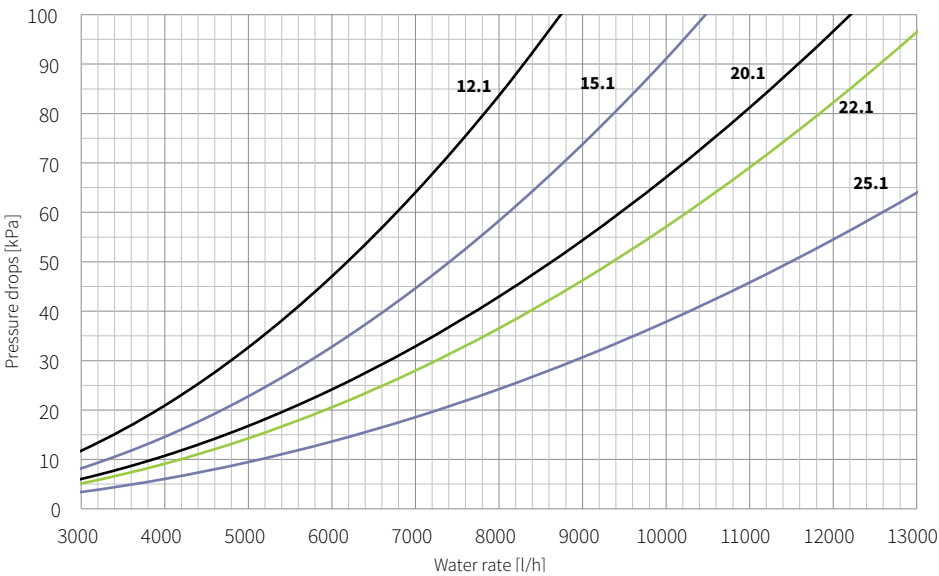
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- (1) Mains power supply to allow unit operation
- (2) Units with storage tank and pumps or units with exclusively pumps
- (3) Maximum current before safety cut-outs stop the unit. This value is never exceeded and must be used to size the electrical 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, fans)

PUMP DIAGRAMS



EXCHANGER DIAGRAMS



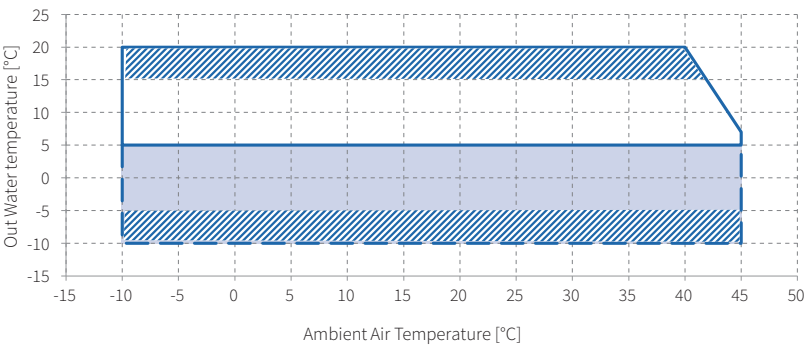
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// OPERATION LIMITS

COOLING



NOTES

- > The thermal gradient to the utility side exchanger must be between 3°C and 6°C
- >  The unit can only operate in this area with evaporator side glycol water
- >  To operate in this area, contact the sales office

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// CORRECTION FACTOR FOR ANTIFREEZE SOLUTIONS

% ETHYLENE GLYCOL BY WEIGHT			5%	10%	15%	20%	25%	30%	35%	40%
Freezing temperature		°C	-2,0	-3,9	-6,5	-8,9	-11,8	-15,6	-19,0	-23,4
Safety temperature		°C	3,0	1,0	-1,0	-4,0	-6,0	-10,0	-14,0	-19,0
Cooling Capacity Factor		nr	0,995	0,990	0,985	0,981	0,977	0,974	0,971	0,968
Compressor Input Factor		nr	0,997	0,993	0,990	0,988	0,986	0,984	0,982	0,981
Internal exchanger Glycol solution flow Factor		nr	1,003	1,010	1,020	1,033	1,050	1,072	1,095	1,124
Pressure drop Factor		nr	1,029	1,060	1,090	1,118	1,149	1,182	1,211	1,243

The correction factors shown refer to water and glycol ethylene mixes used to prevent the formation of frost on the exchangers in the water circuit during inactivity in winter,