



Refrigerant
R290 | GWP=3



Semi-hermetic
piston
compressor



Axial fan



Brazen plate
heat exchanger



SEPR

Solution

- B - Base
- I - Integrated

Version

- ST - Standard
- LN - Low noise

Equipment

- AS - Standard equipment
- DS - Desuperheater

Cooling Capacity 10,7 - 112,4 kW

Housing	Base and panels made of painted galvanised steel; panels mounted on aluminium profiles to ensure total weathering resistance. Panels are internally lined to reduce the noise level (LN Accessories only).
Compressor	Reciprocating semihermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater, integral electronic protection and inlet plus outlet valves; capacity control head (from model 251), flexible joints on suction and discharge. The compressor is mechanically optimized for use with Hydrocarbons and built in according to Directive ATEX 2014/34/EU for the safety requirements: Zone 2, Gas group IIB. Some components are ATEX certified.
Fan	Low speed, axial-flow fans fitted with accident-prevention protective grille; directly coupled motor with built-in thermal cutout and IP 54 protection degree; aerodynamic housing and wing profile blades increase efficiency and decrease noise level. The grille on the air-inlet side reduces the noise emissions and minimizes disturbing low frequency tones. (LN Accessory only)
Air heat exchanger	Finned coil made with copper pipes and aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazen plate-type heat exchanger, stainless steel AISI 316 made. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance. Heat exchangers that work at low temperature are thermally insulated with closed-cell neoprene anti-condensate material. Air vent valve included.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is completely made according to standards IEC 204-1/EN60204-1 and it is complete with contactor and protection for compressor and fans, main isolator switch and door interlock safety device. To ensure higher level of security the the panel is hung outside the unit, on one side of the machine.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, sight glass and liquid moisture, solenoid valve, shut-off valve on the liquid line, electronic expansion valve, safety pressure high / low switch, oil-pump differential pressure switch (from size 251). Some components are ATEX certified.
Additional safety device	To ensure high-safety-level the unit is equipped with a special gas detector for flammable gases, explosion-proof ATEX certified, with external dedicated power supply and Modbus output signal. The sensor is provided with an alarm level set at 10% of Lower Flammability Limit (LFL). This alarm activates a red LED status indicator on the control panel and is managed by microprocessor to activate a series of emergency provisions which ensure the highest possible safety level.
Water circuit	(Integrated): Water pressure gauge, safety valve, centrifugal pump suitable for glycol solutions up to 20%, manual air venting valve, water tank.

NOTE: in the integrated version of Propane chillers water pump is supplied separately from the machine; the price includes not only the pump itself but also the electrical control unit installed in the electrical panel of the chiller.

ACCESSORIES		
■ Spring vibration isolation	■ Max and min voltage relay	■ Open expansion tank
■ Rubber vibration isolation	■ Refrigerant gauges (standard)	■ Closed expansion tank with automatic filling valve
■ Modulating fan speed condensing control	■ Electromechanical flow switch	■ Wall mounted remote control panel
■ EC condensing Fans	■ Additional stand-by water pump	■ ModBus® (RS 485) interface
■ Part-winding soft start	■ Oversized pump water (5 Bars)	

EKO.E	21 S	31 S	51 S	81 S	121 S	151 S	201 S	251 S	301 S	351 S	401 S
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COOLING												
Cooling capacity (1)	kW	10,7	16,2	22	30,6	38,3	47,5	53,1	64,6	80,8	95,3	112,4
Cooling capacity (1) (EN 14511 VALUE)	kW	10,6	16	21,8	30,4	38	47,2	52,8	64,2	80,3	94,8	111,9
Total compressors power input (1)	kW	2,2	4,4	5,4	7,6	9	10,9	12,3	15,3	16,9	21,8	26,4
EER - Energy Efficiency Ratio	-	4,46	3,45	3,70	3,73	3,93	3,80	3,85	3,85	4,19	3,94	3,90
Saved CO2 equivalent Ton (*)	Ton	2130	4080	4790	6740	8870	9760	9760	14190	19510	20400	21290
Ecodesign compliance for process application (SEPR)	-	√	√	√	√	√	√	√	√	√	√	√

DESUPERHEATER (option)												
Heating capacity (2)	kW	2,7	4,1	5,5	7,7	9,6	11,9	13,3	16,2	20,3	23,9	28,2
Water flow	m3/h	0,5	0,7	1,0	1,3	1,7	2,1	2,3	2,8	3,5	4,2	4,9
Pressure drop	kPa	37	40	30	32	35	31	31	33	32	35	31

REFRIGERANT CIRCUIT												
Refrigerant	-	R290	R290	R290	R290	R290	R290	R290	R290	R290	R290	R290
Independent gas circuit	n°	1	1	1	1	1	1	1	1	1	1	1
Compressors type	-	Semihhermetic reciprocating										
Compressors quantity	n°	1	1	1	1	1	1	1	1	1	1	1
Fans type	-	Axial (AC)										
Fans quantity	n°	1	1	1	1	1	1	2	2	3	3	3
Total air flow	m3/h	3650	5200	6000	8600	11000	15500	22000	22000	31500	31500	29000
Fans power input (1)	kW	0,20	0,30	0,55	0,60	0,75	1,60	1,50	1,50	2,40	2,40	2,40
Evaporator water flow (1)	m3/h	1,8	2,8	3,8	5,3	6,6	8,2	9,1	11,1	13,9	16,4	19,3
Evaporator pressure drop (1)	kPa	37	47	48	47	43	41	37	40	47	39	40

HYDRONIC KIT - 300 kPa useful head (option)												
Buffer tank capacity	L	23	30	30	60	60	60	160	160	290	290	290
Pump type	-	Centrifugal										
Pump motor nominal power	kW	0,75	0,75	1,1	1,1	1,1	1,8	1,8	1,8	3	3	4

Electrical Data												
Power supply	V/ph/Hz+T	400/3/50 + 230/1/50 (for gas detector)										
Maximum power input without pump	kW	3,1	6,4	8,4	12	13,1	16,9	19,2	21,3	26,4	32	36,8
Locked rotor current – LRA without pump	A	36,6	52,7	64,6	88,6	104	121,1	139,7	206,5	229,2	244,2	278,2
Maximum absorbed current - FLA without pump	A	7	12,5	15,3	21,9	23,3	32,7	39,4	40,4	49,2	59,2	66,2

Noise levels (3)												
Total sound power - ST Version	dB(A)	85	86	87	85	85	89	89	89	91	91	91
Total sound pressure - ST Version	dB(A)	54	54	55	53	53	57	57	57	59	59	59
Total sound power - LN Version	dB(A)	82	83	84	82	82	86	86	86	88	88	88
Total sound pressure - LN Version	dB(A)	51	51	52	50	50	54	54	54	56	56	56

DIMENSIONS AND WEIGHT - Base Solution												
Length (L)	mm	1230	1380	1380	1680	1680	1680	2330	2330	3030	3030	3030
Depth (P)	mm	650	800	800	990	990	990	990	990	990	990	990
Height (H)	mm	1320	1785	1785	2055	2055	2075	2155	2155	2155	2155	2155
Shipping weight	Kg	190	280	300	520	550	560	830	850	1010	1120	1140

DIMENSIONS AND WEIGHT - Integrated Solution												
Length (L)	mm	1230	1380	1380	1680	1680	1680	2330	2330	3030	3030	3030
Depth (P)	mm	650	800	800	990	990	990	990	990	990	990	990
Height (H)	mm	1320	1785	1785	2055	2055	2075	2155	2155	2155	2155	2155
Shipping weight	Kg	200	290	310	540	570	580	870	890	1070	1180	1200

Note:
 (1) Condenser air intake temperature = 25°C - Evaporator water temperature IN/OUT = 20/15°C - Fluid: pure water - Condensing coil: Cu/Al
 (2) (2) Plate heat exchanger water temp. IN/OUT = 40/45°C - Condenser air intake temperature = 25°C - Evaporator water temperature IN/OUT = 20/15°C - Fluid: pure water - Condensing coil: Cu/Al
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level
 (*) CO2 equivalent tons saved to the Environment compared to the choice of an EUROKLIMAT unit with similar cooling capacity and HFC refrigerant

Compliance with "Eco-Design"

The units comply with the European Directive 2009/125/EU, the Commission Regulation (EU) 2016/2281 and with the Harmonized Directives.
 The relevant information related to each model (eg.: **SEER_{on}**, **Rated cooling capacity**, **Seasonal space cooling energy efficiency**, ...) are published on our website www.euroklimat.it



Euroklimat has developed an online software called "wEKool" that allows you to select the most suitable solution to meet the specific request and all the available accessories for each model. For more information, please contact your sales representative.

EKO.E

302 S ↔ 1602 S

Air cooled water chillers



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SEPR

Solution

- B - Base
- I - Integrated

Version

- ST - Standard
- LN - Low noise

Equipment

- AS - Standard equipment
- DS - Desuperheater
- FC - Free Cooling

Cooling Capacity 95,8 - 421,1 kW

Housing	Base and panels made of painted galvanised steel; panels mounted on aluminium profiles to ensure total weathering resistance. Panels are internally lined to reduce the noise level (LN Accessories only).
Compressor	Reciprocating semihermetic type, fixed on anti-vibration system and complete with pressure lubrication system; oil crankcase heater, integral electronic protection and inlet plus outlet valves; capacity control head (from model 502), flexible joints on suction and discharge. The compressor is mechanically optimized for use with Hydrocarbons and built in according to Directive ATEX 2014/34/EU for the safety requirements: Zone 2, Gas group IIB. Some components are ATEX certified.
Fan	Low speed, axial-flow fans fitted with accident-prevention protective grille; directly coupled motor with built-in thermal cutout and IP 54 protection degree; aerodynamic housing and wing profile blades increase efficiency and decrease noise level. The grille on the air-inlet side reduces the noise emissions and minimizes disturbing low frequency tones. (LN Accessory only)
Air heat exchanger	Finned coil made with copper pipes and aluminium fins offering a high exchange surface area.
Water heat exchanger	Brazen plate-type heat exchanger, stainless steel AISI 316 made. The heat exchanger design provides high thermal exchange and high performance results, furthermore it guarantees small dimensions and easy installation and maintenance. Heat exchangers that work at low temperature are thermally insulated with closed-cell neoprene anti-condensate material. Air vent valve included.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is completely made according to standards IEC 204-1/EN60204-1 and it is complete with contactor and protection for compressor and fans, main isolator switch and door interlock safety device. To ensure higher level of security the panel is hung outside the unit, on one side of the machine.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, sight glass and liquid moisture, solenoid valve, shut-off valve on the liquid line, electronic expansion valve, safety pressure high / low switch, oil-pump differential pressure switch (from size 502). Some components are ATEX certified.
Additional safety device	To ensure high-safety-level the unit is equipped with a special gas detector for flammable gases, explosion-proof ATEX certified, with external dedicated power supply and Modbus output signal. The sensor is provided with an alarm level set at 10% of Lower Flammability Limit (LFL). This alarm activates a red LED status indicator on the control panel and is managed by microprocessor to activate a series of emergency provisions which ensure the highest possible safety level.
Water circuit	(Integrated): Water pressure gauge, safety valve, centrifugal pump suitable for glycol solutions up to 20%, manual air venting valve, water tank.

NOTE: in the integrated version of Propane chillers water pump is supplied separately from the machine; the price includes not only the pump itself but also the electrical control unit installed in the electrical panel of the chiller.

ACCESSORIES		
■ Spring vibration isolation	■ Max and min voltage relay	■ Open expansion tank
■ Rubber vibration isolation	■ Refrigerant gauges (standard)	■ Closed expansion tank with automatic filling valve
■ Modulating fan speed condensing control	■ Electromechanical flow switch	■ Wall mounted remote control panel
■ EC condensing Fans	■ Additional stand-by water pump	■ ModBus® (RS 485) interface
■ Part-winding soft start	■ Oversized pump water (5 Bars)	

EKO.E	302 S	402 S	502 S	602 S	702 S	802 S	1002 S	1102 S	1202 S	1402 S	1502 S	1602 S
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COOLING													
Cooling capacity (1)	kW	95,8	103,6	134,5	153,1	191,6	224,8	270,2	295,9	336,3	375,2	403,9	421,1
Cooling capacity (1) (EN 14511 VALUE)	kW	95,3	103,2	133,9	152,4	190,8	223,9	268,9	294,5	335,0	373,5	402,3	419,3
Total compressors power input (1)	kW	21,5	25,4	29,7	36	44	53,3	62,9	69,4	83,5	84,3	92,3	96,1
EER - Energy Efficiency Ratio	-	4,01	3,73	4,09	3,91	4,09	3,86	3,89	3,80	3,66	3,97	3,94	3,96
Saved CO2 equivalent Ton (*)	Ton	20400	21290	40800	44350	60320	70960	78060	81600	83380	106440	111760	117080
Ecodesign compliance for process application (SEPR)	-	√	√	√	√	√	√	√	√	√	√	√	√

DESUPERHEATER (option)													
Heating capacity (2)	kW	24	26	33,7	38,4	48,1	56,4	67,2	74,6	84,4	94,1	101,3	105,6
Water flow	m3/h	4,2	4,5	5,9	6,7	8,4	9,8	11,7	13	14,7	16,4	17,6	18,4
Pressure drop	kPa	30	32	26	28	27	23	25	30	29	31	35	24

REFRIGERANT CIRCUIT													
Refrigerant	-	R290	R290	R290	R290	R290	R290	R290	R290	R290	R290	R290	R290
Independent gas circuit	n°	2	2	2	2	2	2	2	2	2	2	2	2
Compressors type	-	Semihhermetic reciprocating											
Compressors quantity	n°	2	2	2	2	2	2	2	2	2	2	2	2
Fans type	-	Axial (AC)											
Fans quantity	n°	3	3	4	4	4	3	4	5	5	6	6	6
Total air flow	m3/h	28500	28500	40000	40000	48000	58500	80000	92000	92000	114000	114000	114000
Fans power input (1)	kW	2,40	2,40	3,20	3,20	2,80	4,95	6,60	8,50	8,50	10,20	10,20	10,20
Evaporator water flow (1)	m3/h	16,5	17,8	23,2	26,4	33	38,7	46,5	50,9	57,9	64,6	69,5	72,5
Evaporator pressure drop (1)	kPa	38	27	43	39	43	46	55	56	46	56	48	52

HYDRONIC KIT - 300 kPa useful head (option)													
Buffer tank capacity	L	160	160	290	290	290	460	460	460	460	460	460	460
Pump type	-	Centrifugal											
Pump motor nominal power	kW	3	4	4	4	7,5	7,5	7,5	7,5	9,2	11	11	11

Electrical Data													
Power supply	V/ph/Hz+T	400/3/50 + 230/1/50 (for gas detector)											
Maximum power input without pump	kW	32,4	37,6	42,6	51	62,2	74,4	91,4	99	123,4	123	134	135,4
Locked rotor current – LRA without pump	A	151	177,3	246,9	275	300	346	412	476,3	575	675	716	719,2
Maximum absorbed current - FLA without pump	A	62,6	77	80,8	95	115	134	166	198,6	220	230	240	246,4

Noise levels (3)													
Total sound power - ST Version	dB(A)	93	93	95	95	95	97	98	100	101	102	102	102
Total sound pressure - ST Version	dB(A)	61	61	63	63	63	65	66	68	69	69	69	69
Total sound power - LN Version	dB(A)	90	90	92	92	93	95	95	97	98	99	99	100
Total sound pressure - LN Version	dB(A)	58	58	60	60	60	62	63	65	66	66	66	67

DIMENSIONS AND WEIGHT - Base Solution													
Length (L)	mm	3030	3030	3970	3970	4250	4250	5450	5450	5450	5250	5250	5250
Depth (P)	mm	990	990	990	990	1150	1150	1500	1500	1500	2000	2000	2000
Height (H)	mm	2155	2155	2215	2215	2135	2250	2300	2300	2300	2250	2250	2250
Shipping weight	Kg	1200	1250	1800	1900	2000	2050	2300	2350	2400	2700	2750	2800

DIMENSIONS AND WEIGHT - Integrated Solution													
Length (L)	mm	3030	3030	3970	3970	5050	5050	5450	5450	5450	5250	5250	5250
Depth (P)	mm	990	990	990	990	1150	1150	1500	1500	1500	2000	2000	2000
Height (H)	mm	2155	2155	2215	2215	2135	2250	2300	2300	2300	2250	2250	2250
Shipping weight	Kg	1260	1310	1890	1990	2200	2250	2400	2460	2510	2820	2870	2920

Note:
 (1) Condenser air intake temperature = 25°C - Evaporator water temperature IN/OUT = 20/15°C - Fluid: pure water - Condensing coil: Cu/Al
 (2) Plate heat exchanger water temp. IN/OUT = 40/45°C - Condenser air intake temperature = 25°C - Evaporator water temperature IN/OUT = 20/15°C - Fluid: pure water - Condensing coil: Cu/Al
 (3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level
 (*) CO2 equivalent tons saved to the Environment compared to the choice of an EUROKLIMAT unit with similar cooling capacity and HFC refrigerant

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