

EKS BS

090-3-1 ↔ 240-6-2



Refrigerant
R410A | GWP=1.924



Scroll
Compressor



Shell & Tube
exchanger



Axial
fan



Braze plate
heat exchanger



*Only until size 160-4-2

MultiScroll Air-cooled liquid chillers

Standard efficiency



Solution

B - Base
I - Integrata

Version

ST - Standard
LN - Low Noise
SL - Super Low Noise

Equipment

AS - Standard equipment
DS - Desuperheater
HR - Total Heat Recovery

Cooling capacity 241 - 587 kW

Structure

Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request).

Compressor

Hermetic scroll compressor complete with motor over-temperature and over-current devices and protection against excessive gas discharge temperature. Fitted on rubber antivibration mounts and complete with oil charge.

Fan

Low speed, axial-flow fans fitted with accident-prevention protective grille; directly coupled motor with built-in thermal cut-out and IP 54 protection degree; aerodynamic housing and wing profile blades increase efficiency and decrease noise level.

Air heat exchanger

Microchannel

Microchannel technology increases the primary to secondary surface area ratio and reduces the tube's air shadow to provide maximum heat exchange through our condensers. Due to their small hydraulic diameter, microchannel aluminium tubes transfer heat more efficiently than the traditional round copper tubes.

Water heat exchanger

Plate-type

Made of AISI 316 steel complete with water differential pressure switch. Shell covered with closed-cell neoprene anti-condensate material.

Shell & tubes

All extremely efficient with low refrigerant charge and very stable operating performance due to excellent refrigerant distribution, thermally insulated by vapour-proof closed cell.

Electrical board

Switchboard made according to standards IEC 204-1/EN60204-1, complete with contactor and protection for compressor and fans. Main isolator and door interlock safety device.

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 dryer, moisture-liquid sight glass, electronic expansion valve, HP and LP pressure sensors and safety valve.

Water circuit (Integrata)

Automatic charging cock with gauge, safety valve, expansion tank, water pump(s), water tank.

ACCESSORI PRINCIPALI

- Spring vibration isolation
- Modulating fan speed condensing control (phase-cut)
- Soft start
- Compressor suction/discharge intercepting valve
- Remote control panel
- Max and min voltage relay
- Refrigerant gas HP and LP pressure gauges
- Electromechanical flow switch
- Pumping group, 1 pump
- Additional stand-by water pump
- Automatic water filling valve (closed circuit)

» For the complete list of accessories please see pages 18-19-20

EKS BS Business

Technical data

EKS BS Business		090-3-1	100-3-1	110-3-1	120-3-1	120-4-2	140-4-2	160-4-2	180-6-2	200-6-2	220-6-2	240-6-2	
Cooling mode (*S/ST/**/OO/OO configuration)													
Cooling capacity (1)	[kW]	241,3	258,7	275,1	294,0	328,5	364,7	399,1	450,7	517,9	554,8	586,5	
Compressors power input (total) (1)	[kW]	76,8	85,3	94,3	103,6	99,0	115,5	132,6	166,1	170,0	188,1	206,0	
EER (1)	-	2,90	2,82	2,73	2,68	3,02	2,92	2,81	2,57	2,83	2,76	2,68	
SEPR	-	5,26	5,16	5,05	5,00	5,37	5,18	5,00	-	-	-	-	
Compliance with Regulation 2016/2281 implementig Directive 2009/125/EC													
"Ecodesign" compliance for process applications (SEPR)	-	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗	
"Ecodesign" compliance for comfort applications (SEER)	-	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	
Desuperheater (optional - S/ST/DS/AC configuration)													
Heating capacity (2)	[kW]	64,3	73,1	82,6	90,6	80,5	95,7	108,5	153,4	144,8	163,1	181,0	
Heat exchanger water flow (2)	[m ³ /h]	11,1	12,6	14,2	15,7	13,9	16,6	18,6	26,6	25,3	28,3	31,1	
Heat exchanger pressure drop (water side) (2)	[kPa]	11	13	17	20	14	19	24	15	14	16	19	
Total Heat Recovery (optional - *S/ST/HR/EC/OO configuration)													
Heating capacity (3)	[kW]	327,5	356,2	387,6	415,8	441,5	496,9	526,3	647,3	713,9	769,2	825,8	
Heat exchanger water flow (3)	[m ³ /h]	56,8	61,8	67,2	72,1	76,5	86,2	91,3	112,2	123,7	133,3	143,1	
Heat exchanger pressure drop (water side) (3)	[kPa]	44	39	45	47	46	51	57	67	59	67	56	
Refrigerant circuit													
Refrigerant - GWP	-	R410A - 1924											
Number of refrigerant circuits	N°	1				2							
Compressor type - quantity	- / N°	SCROLL - 3				SCROLL - 4				SCROLL - 6			
Fans type - quantity	- / N°	Axial - 4				Axial - 6				Axial - 8			
Total air flow (1)	[m ³ /h]	79.000	79.000	79.000	79.000	119.000	119.000	119.000	119.000	158.000	158.000	158.000	
Evaporator water flow(1)	[m ³ /h]	41,5	44,5	47,4	50,6	56,5	62,7	68,7	77,6	89,1	95,4	100,9	
Evaporator pressure drop (water side) (1)	[kPa]	57	65	72	63	37	33	62	76	56	43	47	
Expansion valve type	-	Electronic											
Electrical data													
Power supply (main - auxiliary services)	-	400/3/50 - 24/1/50 and 230/1/50											
Maximum absorbed power without pump	[kW]	117,5	126,4	135,3	144,2	158,2	176,0	193,8	230,4	252,8	270,6	288,4	
Maximum absorbed current (full load)	[A]	215	231,8	249	266,2	289,2	323,6	358	420	463,6	498	532,4	
Locked rotor current – LRA without pump	[A]	459	557	574	592	534	649	683	665	789	823	857,8	
Hydronic kit - 100 kPa useful head (optional)													
Buffer tank capacity	[L]	290	290	290	290	470	470	470	470	470	470	470	
Pump type	-	Centrifugal											
Pump motor nominal power	[kW]	2,2	2,2	2,2	2,2	4	4	4	4	5,5	5,5	5,5	
Water connections													
Size	[pollici]	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"	5"	
Sound level (4)													
Total sound power (ST version)	[db(A)]	91	92	94	94	92	94	96	93	95	97	98	
Total sound pressure (ST version) - at a distance of 10 m	[db(A)]	58	60	61	62	60	62	63	61	63	64	65	
Total sound power (LN version)	[db(A)]	87	88	90	90	88	90	92	89	91	93	94	
Total sound pressure (LN version) - at a distance of 10 m	[db(A)]	54	56	57	58	56	58	59	57	59	60	61	
Total sound power (SL version)	[db(A)]	85	86	88	88	86	88	90	87	89	91	92	
Total sound pressure (SL version) - at a distance of 10 m	[db(A)]	52	54	55	56	54	56	57	55	57	58	59	
Dimensions and weights													
Length	[mm]	2.895	2.895	2.895	2.895	4.015	4.015	4.015	4.015	5.135	5.135	5.135	
Width	[mm]	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	2.280	
Height (versions ST - LN/SL)	[mm]	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	2.535 - 2.560	
Operating weight - BP/ST/AS/** version	[Kg]	1.670	1.695	1.705	1.720	2.455	2.480	2.525	2.835	3.270	3.295	3.320	
Operating weight - BS/ST/AS/** version	[Kg]	1.795	1.810	1.820	1.835	2.605	2.630	2.655	2.965	3.480	3.505	3.530	
Operating weight - IP/ST/AS/** version	[Kg]	2.075	2.100	2.115	2.125	3.130	3.155	3.200	3.510	3.940	3.965	3.990	
Operating weight - IS/ST/AS/** version	[Kg]	2.205	2.220	2.230	2.245	3.300	3.325	3.350	3.660	4.140	4.165	4.190	
Operating weight - BP/LN-SL/AS/EC version	[Kg]	1.745	1.770	1.780	1.795	2.595	2.620	2.665	3.025	3.460	3.485	3.510	
Operating weight - BS/LN-SL/AS/EC version	[Kg]	1.870	1.885	1.895	1.910	2.745	2.770	2.795	3.155	3.670	3.695	3.720	
Operating weight - IP/LN-SL/AS/EC version	[Kg]	2.150	2.175	2.190	2.200	3.270	3.295	3.340	3.700	4.130	3.965	4.180	
Operating weight - IS/LN-SL/AS/EC version	[Kg]	2.280	2.295	2.305	2.320	3.440	3.465	3.490	3.850	4.330	4.165	4.380	

Reference conditions:

- (1) Condenser air intake temperature = 35 °C - Evaporator user fluid temperature IN/OUT = 12/7 °C - User fluid: water - Condensing coil: Microchannel
- (2) and (3) Plate heat exchanger user fluid temperature IN/OUT = 40/45 °C - Condenser air intake temperature = 35 °C - Evaporator user fluid temperature IN/OUT = 12/7 °C - User fluid: water - Condensing coil: Microchannel
- (4) 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.

Compliance with "EcoDesign"

The units indicated with ✓ comply with the Commission Regulation (EU) 2016/2281 implementing the European Directive 2009/125/EC. Important information relating to each model are published on our website www.euroklimat.it