

EKS HE

055-2-1 ↔ 180-6-2



Refrigerant
R410A | GWP= 1.924



Scroll
Compressor



Shell & Tube
exchanger



Axial
fan



Brazen plate
heat exchanger



SEPR



SEER

MultiScroll Air-cooled liquid chillers

High 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 153 - 516 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.
EC-Fan	Premium-Axial-Fans with bionical shaped blades and high efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP 54 and thermal class THCL 155. The motor efficiency class complies with IE4.
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.

MAIN ACCESSORIES

- 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 HE High Efficiency

Technical data

EKS HE High Efficiency		055-2-1	060-2-1	070-2-1	080-4-2	090-4-2	100-4-2	110-4-2	120-4-2	140-4-2	160-4-2	180-6-2	
Cooling mode (*P/ST/**/EC/OO configuration)													
Cooling capacity (1)	[kW]	159,0	177,0	199,0	224,0	248,0	274,0	319,0	355,0	397,0	449,0	516,0	
Compressors power input (total) (1)	[kW]	47,9	54,8	62,2	65,1	74,0	82,8	95,8	109,0	124,0	139,0	164,0	
EER (1)	-	3,32	3,23	3,20	3,44	3,35	3,31	3,33	3,26	3,20	3,23	3,15	
SEER - ns.c	[- %]	4,762 - 187,4	4,372 - 171,9	4,496 - 176,4	4,819 - 189,7	4,818 - 189,7	4,592 - 180,7	4,955 - 195,2	4,601 - 181,2	4,614 - 181,6	4,555 - 179,2	4,625 - 182,2	
Cooling mode (*P/LN-SL/**/EC/OO configuration)													
Cooling capacity (1)	[kW]	158,0	176,0	198,0	223,0	247,0	273,0	318,0	354,0	394,0	445,0	512,0	
Compressors power input (total) (1)	[kW]	46,8	53,5	61,1	63,3	72,3	81,0	93,7	107,0	122,0	136,0	162,0	
EER (1)	-	3,38	3,29	3,24	3,52	3,42	3,37	3,39	3,31	3,23	3,27	3,16	
SEER - ns.c	[- %]	4,81 - 189,4	4,404 - 173,2	4,525 - 178,4	4,887 - 192,5	4,874 - 192,5	4,655 - 183,3	5,005 - 197,2	4,637 - 182,2	4,646 - 182,4	4,556 - 179,2	4,658 - 183,3	
Cooling mode (*S/ST/**/EC/OO configuration)													
Cooling capacity (1)	[kW]	154,0	171,0	191,0	212,0	239,0	264,0	305,0	339,0	384,0	434,0	496,0	
Compressors power input (total) (1)	[kW]	47,4	54,2	61,5	64,1	73,3	82,0	94,7	109,0	123,0	137,0	162,0	
EER (1)	-	3,25	3,15	3,11	3,31	3,26	3,22	3,22	3,11	3,12	3,17	3,06	
SEER - ns.c	[- %]	4,725 - 186,4	4,308 - 169,3	4,371 - 171,9	4,637 - 182,5	4,806 - 189,2	4,581 - 180,2	4,801 - 189,1	4,443 - 174,2	4,594 - 180,8	4,555 - 179,2	4,554 - 179,2	
Cooling mode (*S/LN-SL/**/EC/OO configuration)													
Cooling capacity (1)	[kW]	153,0	170,0	189,0	211,0	238,0	263,0	304,0	337,0	381,0	431,0	493,0	
Compressors power input (total) (1)	[kW]	46,4	52,9	60,4	62,7	71,3	80,3	92,6	106,0	121,0	134,0	160,0	
EER (1)	-	3,30	3,21	3,13	3,37	3,34	3,28	3,28	3,18	3,15	3,22	3,08	
SEER - ns.c	[- %]	4,759 - 187,4	4,333 - 170,3	4,395 - 172,4	4,699 - 185,4	4,866 - 191,6	4,64 - 182,6	4,857 - 191,3	4,465 - 175,6	4,629 - 182,2	4,554 - 179,2	4,614 - 181,6	
Desuperheater (optional - *P/ST/DS/EC/OO configuration)													
Heating capacity (2)	[kW]	28,4	33,1	39,5	37,3	44,7	51,5	56,9	65,7	79,0	82,4	108,8	
Heat exchanger water flow (2)	[m ³ /h]	4,9	5,7	6,9	6,5	7,7	9,0	9,9	11,4	13,7	14,3	18,9	
Heat exchanger pressure drop (water side) (2)	[kPa]	7	10	13	5	6	8	7	10	13	14	8	
Total Heat Recovery (optional - *P/ST/HR/EC/OO configuration)													
Heating capacity (3)	[kW]	194,8	219,2	249,1	269,9	303,8	338,4	389,9	438,6	495,7	553,9	650,6	
Heat exchanger water flow (3)	[m ³ /h]	33,8	38,0	43,2	46,8	52,7	58,7	67,6	76,1	86,0	96,1	112,9	
Heat exchanger pressure drop (water side) (3)	[kPa]	33	33	42	45	36	38	41	45	50	56	50	
Refrigerant circuit													
Refrigerant - GWP	-	R410A - 1924											
Number of refrigerant circuits	N°	1					2						
Compressor type - quantity	- / N°	SCROLL - 2					SCROLL - 4						SCROLL - 6
Fans type - quantity	- / N°	Axial (EC) - 4				Axial (EC) - 6			Axial (EC) - 8			Axial (EC) - 10	
Total air flow (1)	[m ³ /h]	87.700	91.600	91.600	132.900	136.100	134.000	175.900	178.800	178.200	223.400	222.500	
Evaporator water flow(1)	[m ³ /h]	27,4	30,4	34,2	38,5	42,8	47,2	54,9	61,1	68,3	77,3	88,8	
Evaporator pressure drop (water side) (1)	[kPa]	35	42	37	31	37	34	31	38	46	50	53	
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]	75,6	84,6	93,5	103,8	115,4	127,0	151,2	169,2	187,0	211,0	247,6	
Maximum absorbed current (full load)	[A]	133	150	167,2	181,6	202,4	223,2	266,4	300	334,4	378,4	440,4	
Locked rotor current - LRA without pump	[A]	378	395	493	384	441	462	511	545	660	704	685	
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]	1,5	1,5	2,2	2,2	2,2	2,2	2,2	4	4	4	4	
Water connections													
Size	[pollici]	3"	3"	3"	3"	4"	4"	4"	4"	4"	5"	5"	
Sound level (4)													
Total sound power (ST version)	[db(A)]	93	93	94	94	94	95	96	96	97	98	97	
Total sound pressure (ST version) - at a distance of 10 m	[db(A)]	60	60	61	61	62	62	63	63	64	66	64	
Total sound power (LN version)	[db(A)]	89	89	90	90	90	91	92	92	93	94	93	
Total sound pressure (LN version) - at a distance of 10 m	[db(A)]	56	56	57	57	58	58	59	59	60	62	60	
Total sound power (SL version)	[db(A)]	87	87	88	88	88	89	90	90	91	92	91	
Total sound pressure (SL version) - at a distance of 10 m	[db(A)]	54	54	55	55	56	56	57	57	58	60	58	
Dimensions and weights													
Length	[mm]	2.895	2.895	2.895	4.015	4.015	4.015	5.135	5.135	5.135	6.255	6.255	
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/EC version	[Kg]	1.405	1.490	1.515	2.110	2.110	2.130	2.715	2.890	2.915	3.360	3.665	
Operating weight - BS/ST/AS/EC version	[Kg]	1.535	1.620	1.630	2.175	2.255	2.255	2.820	2.995	3.120	3.620	3.925	
Operating weight - IP/ST/AS/EC version	[Kg]	1.795	1.885	1.925	2.750	2.750	2.770	3.340	3.545	3.570	4.025	4.330	
Operating weight - IS/ST/AS/EC version	[Kg]	1.925	2.015	2.040	2.835	2.915	2.915	3.430	3.635	3.765	4.245	4.550	
Operating weight - BP/LN-SL/AS/EC version	[Kg]	1.475	1.560	1.585	2.250	2.250	2.270	2.855	3.030	3.055	3.500	3.855	
Operating weight - BS/LN-SL/AS/EC version	[Kg]	1.605	1.690	1.700	2.315	2.395	2.395	2.960	3.135	3.260	3.760	4.115	
Operating weight - IP/LN-SL/AS/EC version	[Kg]	1.865	1.955	1.995	2.890	2.890	2.910	3.480	3.685	3.710	4.165	4.520	
Operating weight - IS/LN-SL/AS/EC version	[Kg]	1.995	2.085	2.110	2.975	3.055	3.055	3.570	3.775	3.905	4.385	4.740	

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator user fluid temperature IN/OUT = 12/7 °C - User fluid: water - Condensing coil: Microchannel - Results according to UNI EN 14511-2022

(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 - Results according to UNI EN 14511-2022

(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.