

EKS/HE

055-2-1 ↔ 180-6-2



Refrigerant
R410A | GWP=2.088



Scroll
Compressor



Shell & Tube
exchanger



Axial
fan



Braze plate
heat exchanger

MultiScroll Air-cooled liquid chillers
High efficiency



Solution

- B - Base
- I - Integrated

Version

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

Equipment

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

Cooling capacity 167 - 547 kW

EUROVENT "A" Class

Structure	Structure specifically designed for outdoor installation. Basement and frame in hot-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 IP54 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 (Integrated):	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)

eks/HE high efficiency 055-2-1HE 060-2-1HE 070-2-1HE 080-4-2HE 090-4-2HE 100-4-2HE 110-4-2HE 120-4-2HE 140-4-2HE 160-4-2HE 180-6-2HE

Cooling												
Cooling capacity (1) (EN 14511 VALUE)	[kW]	167	186	207	231	260	285	333	373	414	479	547
Compressors power input (1) (total)	[kW]	44,4	50,5	57,8	61,9	70,0	79,7	88,8	100,9	115,5	127,2	155,8
EER	-	3,25	3,19	3,09	3,20	3,18	3,12	3,25	3,19	3,09	3,24	3,06
ESEER	-	4,53	4,59	4,30	4,56	4,63	4,39	4,39	4,31	4,43	4,40	4,36
EUROVENT classification	-	A	A	A	A	A	A	A	A	A	A	A

Desuperheater (DS Equipment)												
Heating capacity (2)	[kW]	42	48	52	58	64	71	83	92	103	120	137
Exchanger water flow (2)	[m ³ /h]	7,2	8,3	8,9	9,9	11,0	12,3	14,3	15,8	17,8	20,6	23,5
Exchanger pressure drop (water side) - Plates	[kPa]	20	22	24	23	26	22	23	27	22	22	24

Total Heat Recovery (HR Equipment)												
Heating capacity (2)	[kW]	205	230	257	284	320	354	409	459	513	588	682
Exchanger water flow (2)	[m ³ /h]	35,2	39,5	44,2	48,8	55,1	60,9	70,4	79,0	88,3	101,2	117,3
Exchanger pressure drop (water side) - Plates	[kPa]	40	45	39	47	46	40	44	47	38	41	45

Refrigerant circuit												
Refrigerant	-	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Number of refrigerant circuits	[nr]	1	1	1	2	2	2	2	2	2	2	2
Compressor type	-	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL
Compressors quantity	-	2	2	2	4	4	4	4	4	4	4	6
Fans quantity / type	[-]	4/axial (AC)	4/axial (AC)	4/axial (AC)	6/axial (AC)	6/axial (AC)	6/axial (AC)	8/axial (AC)	8/axial (AC)	8/axial (AC)	10/axial (AC)	10/axial (AC)
Total air flow	[m ³ /h]	86.000	91.000	96.000	129.000	136.500	136.500	172.000	182.000	192.000	215.000	240.000
Evaporator water flow (1)	[m ³ /h]	28,6	32,1	35,6	39,7	44,7	49,1	57,3	64,1	71,2	82,4	94,1
Evaporator pressure drop (water side) - Plates	[kPa]	51	58	51	56	51	58	47	58	54	59	64
Evaporator pressure drop (water side) - Shell&Tubes	[kPa]	48	52	56	43	28	22	40	50	44	35	52

Hydronic kit - 100 kPa useful head (option)												
Buffer tank capacity	[L]	270	270	270	270	270	470	470	470	470	470	470
Pump type	-	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Pump motor nominal power	[kW]	2,2	2,2	2,2	2,2	4,0	4,0	4,0	4,0	5,5	5,5	5,5

Water connections												
Size	[inch]	3"	3"	3"	3"	4"	4"	4"	4"	5"	5"	5"
		DN80-PN16	DN80	DN80	DN80	DN100	DN100	DN100	DN100	DN125	DN125	DN125

Electrical data												
Power supply	-	400V/3ph/50Hz										
Total installed power compressors	[kW]	64,1	72,2	81,1	92,0	102,0	112,0	128,2	144,4	162,2	180,0	216,6
Maximum absorbed current compressors	[A]	113,9	130,8	148,0	160,0	177,0	194,0	227,8	261,6	296,0	330,4	392,4
Fans power input (total)	[kW]	6,4	7,5	8,7	9,7	11,2	11,2	12,9	15,0	17,4	19,3	21,8
Fan absorbed current (total)	[A]	9,8	11,6	13,4	14,8	17,3	17,3	19,7	23,1	26,7	29,5	33,4
Total installed power	[kW]	70,5	79,7	89,8	101,7	113,2	123,2	141,1	159,4	179,6	199,3	238,4
Maximum absorbed current (full load)	[A]	123,7	142,4	161,4	174,8	194,3	211,3	247,5	284,7	322,7	359,9	425,8

Noise levels (3)												
Total sound power (ST version)	[db(A)]	93	93	94	94	94	95	96	96	97	98	97
Total sound pressure (ST version)	[db(A)]	59	60	61	62	60	62	63	61	63	64	65
Total sound power (LN version)	[db(A)]	89	89	90	90	90	91	92	92	93	94	93
Total sound pressure (LN version)	[db(A)]	55	56	57	58	56	58	59	57	59	60	61
Total sound power (SL version)	[db(A)]	87	87	88	88	88	89	90	90	91	92	91
Total sound pressure (SL version)	[db(A)]	53	54	55	56	54	56	58	55	57	58	59

Dimensions and weights												
Lenght	[mm]	2.950	2.950	2.950	4.300	4.300	4.300	5.550	5.550	5.550	6.800	6.800
Width	[mm]	2.345	2.345	2.345	2.345	2.345	2.345	2.345	2.345	2.345	2.345	2.345
Height (ST - LN/SL)	[mm]	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525	2.465-2.525
Weigth BASE unit / BP (brazed plates evaporator)	[Kg]	1.570	1.590	1.610	2.450	2.490	2.550	3.020	3.050	3.080	3.600	3.910
Weigth BASE unit / BS (shell & tubes evaporator)	[Kg]	1.650	1.670	1.680	2.220	2.580	2.620	3.070	3.110	3.190	3.720	4.030
Weigth INTEGRATED unit / IP (brazed plates evaporator)	[Kg]	1.700	1.720	1.740	2.650	2.720	2.760	3.260	3.270	3.290	3.830	4.170
Weigth INTEGRATED unit / IS (shell & tubes evaporator)	[Kg]	1.780	1.800	1.810	2.390	2.770	2.800	3.280	3.300	3.380	3.940	4.240
Weigth BASE unit / BP (brazed plates evaporator) / Low Noise	[Kg]	1.650	1.670	1.690	2.530	2.650	2.710	3.180	3.210	3.240	3.760	4.070
Weigth BASE unit / BS (shell & tubes evaporator) / Low Noise	[Kg]	1.730	1.750	1.760	2.300	2.740	2.780	3.230	3.270	3.350	3.880	4.190
Weigth INTEGRATED unit / IP (brazed plates evaporator) / Low Noise	[Kg]	1.910	1.930	1.950	2.910	3.080	3.120	3.660	3.690	3.710	4.230	4.580
Weigth INTEGRATED unit / IS (shell & tubes evaporator) / Low Noise	[Kg]	1.990	2.010	2.020	2.630	3.120	3.140	3.650	3.660	3.720	4.310	4.610

Reference conditions:

- (1) Performance based on EN 14511-3:2013. Condenser air intake temperature = 35°C - Evaporator water temperature IN/OUT = 12/7°C - Fluid: pure water - Condensing coil: Microchannel
- (2) Plate heat exchanger water temp. IN/OUT = 40/45°C - Condenser air intake temperature = 35°C - Evaporator water temperature IN/OUT = 12/7°C - Fluid: pure water - Condensing coil: Microchannel
- (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