EN

Technical Catalogue EKS

SEPR SEER R410A

Multi-Scroll Air-Cooled Liquid Chillers

Nominal cooling capacity: 167-582 kW | 50 Hz

EUROKLIMAT
Cooling System Solutions

EKS/BS business

The picture refers to the model: EKS - BP / BS/AS 180-6-2

The competitive choice

Air cooled water chillers for outdoor installation designed for applications which require high performance, cost reduction and capability to operate in all conditions.
The units are equipped with efficient SCROLL compressors, "V" condensing shape and axial fans having aerofoil section, sickle-shaped blades.

AEROFOIL FANS

Aerofoil section, sickle-shaped blades, with serrated trailing edges and winglets based on bionic insights. Motor with AC (standard) or EC technology (option).

MAINTENANCE SIMPLICITY

The arrangement of the components has been studied in detail in order to allow any operation of maintenance in the simplest and safest way.

COMPACT FOOTPRINT

The size of the units has been optimized so as to minimize the space occupied, ensuring an easy accessibility to all the components.

MULTIPLE CONFIGURATIONS

The various configurations and the vast number of available accessories make these units virtually suitable for all applications and every kind of installation.

EKS/HE high efficiency

The picture refers to the model: EKS - BS / HE/SL/HR 090-4-2HE

Maximum energy savings

Air cooled water chillers for outdoor installation designed to reach the lowest energy consumption and highest efficiency.
The units are equipped with high-efficient SCROLL compressors, "V" condensing shape with increased surface and extremely efficient evaporator with low refrigerant charge and very stable operating performance due to excellent refrigerant distribution.

EUROVENT "A" Class

Eurovent Certification certifies the performance ratings of air-conditioning and refrigeration products according to European and international standards. Every model of eks-he range is under "A Class" based on Energy Classification.

PART-LOAD EFFICIENCY

Every refrigerant circuit is equipped with two or three Scroll compressors and during the part-load condition it's possible to reach the maximum efficiency and more capacity control steps.

EC FANS

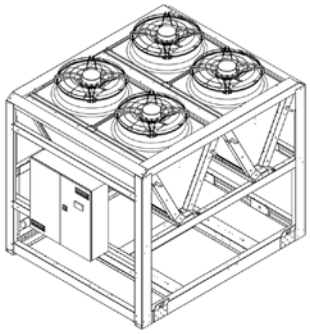
Electronically commutated axial fans give increased performance for reduced power input. Continuous speed control and outstanding efficiency, even in partial load operation.

LATEST TECHNOLOGY INSIDE

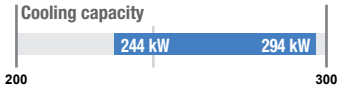
- Electronic Expansion Valve
- EC fans supplied as standard
- Microchannel coils

EKS range

EKS/BS business

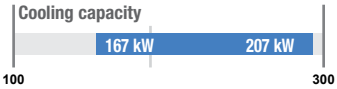


090-3-1 ⟷ 120-3-1

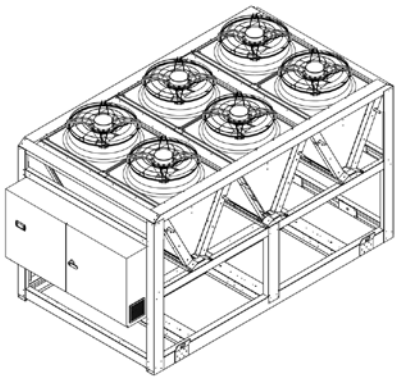


EKS/HE high efficiency

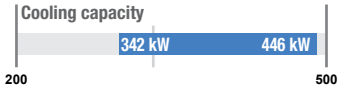
055-2-1HE ⟷ 070-2-1HE



EKS/BS business



120-4-2 ⟷ 180-6-2

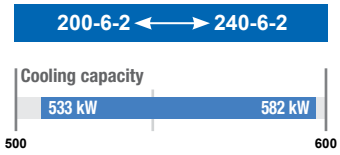


EKS/HE high efficiency

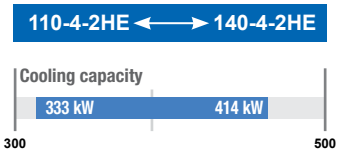
080-4-2HE ⟷ 100-4-2HE

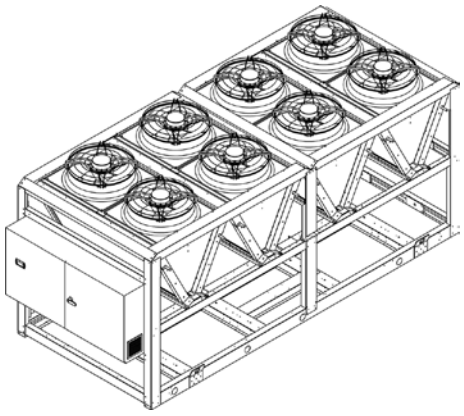
Select the unit optimized for efficiency or footprint

EKS/BS business

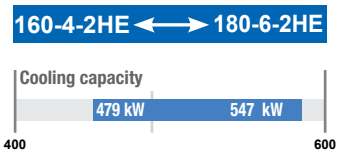


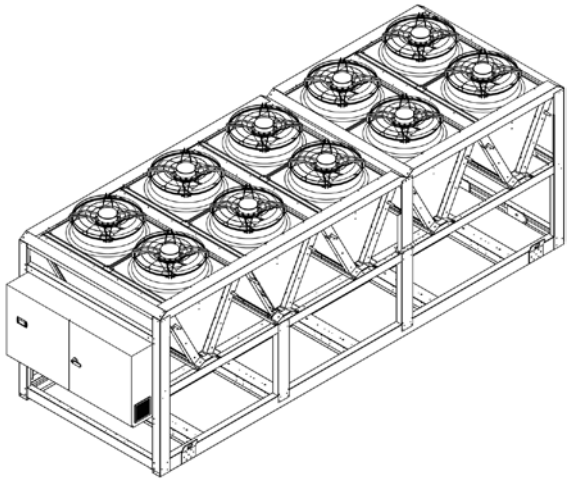
EKS/HE high efficiency





EKS/HE high efficiency

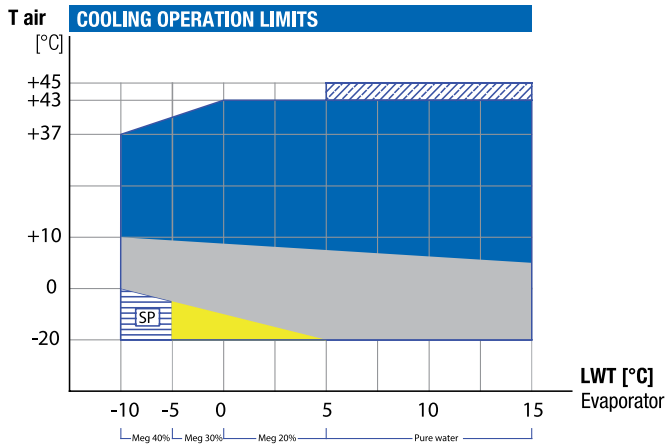




EKS operating limits

EKS/BS business

Number of models: **11** - Number of possible configurations: **1000+**



- Operating area
- Operating at partial load
- Operating area with modulating fan speed control (option)
- Operating area with EC Fans (option)
- SP - Special configuration available on request

T air: Outdoor air temperature [°C]
LWT: Evaporator outlet temperature [°C]
MEG: Mixture of ethylene glycol

EKS/HE high efficiency

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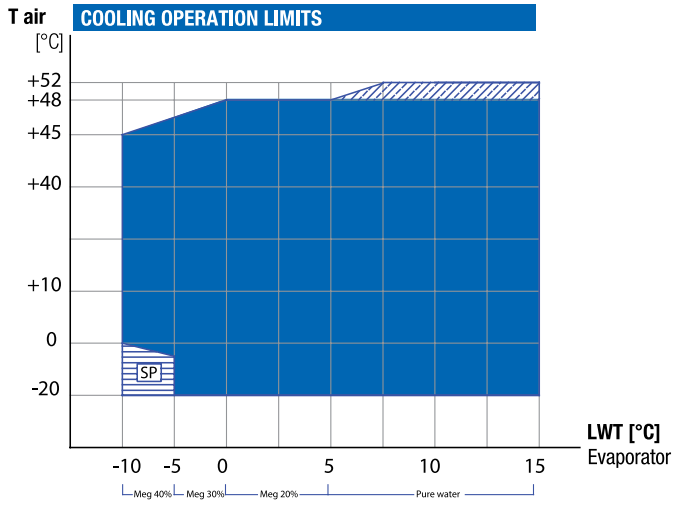

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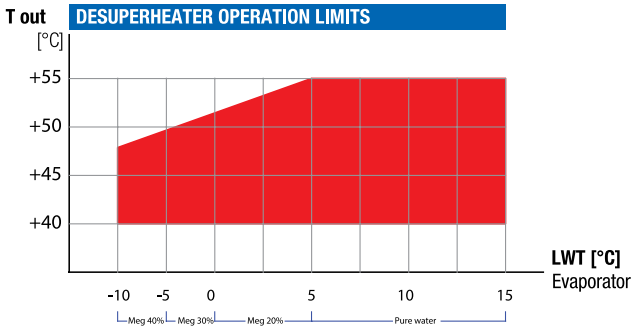
EKS/BS business • EKS/HE high efficiency

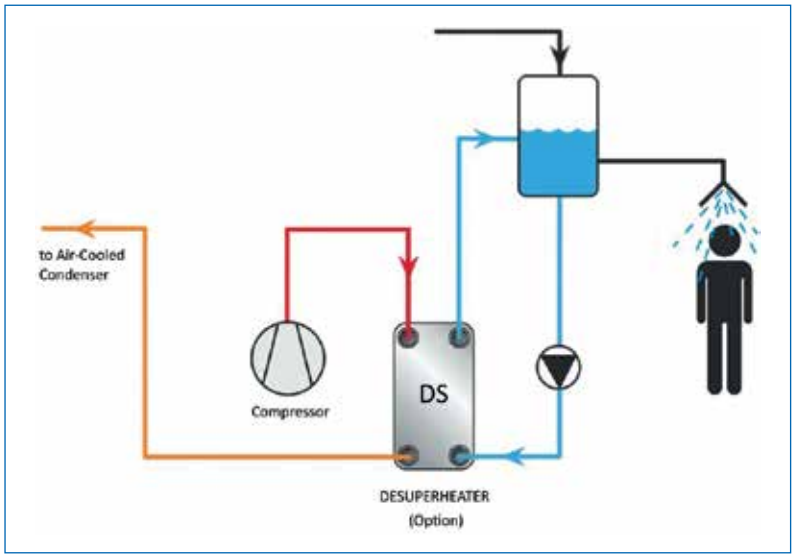


- Operating area with Desuperheater

Tout: Desuperheater exchanger outlet water temperature [°C]
LWT: Evaporator outlet temperature [°C]
MEG: Mixture of ethylene glycol

EKS energy saving
producing hot water

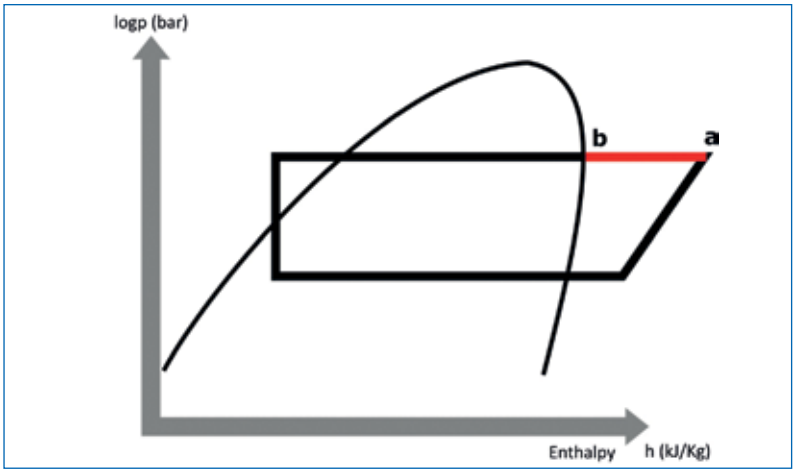
EKS HEAT RECLAIM (DS option)



In general, the practical use of waste energy is called heat recovery. Refrigeration plants with air-cooled condensers produce a lot of waste energy by dumping the condensation energy to the ambient air. By installing a BPHE desuperheater, a large proportion of this waste energy can be turned into hot water that may be used for many purposes such as:

- room heating
- sanitary hot water
- hot water for processes

Desuperheater option - HOW IT WORKS



An additional BPHE (brazed plate heat exchanger) is installed in series between the scroll compressor and "V-shaped" air-cooled condenser.
Depending on the temperature requirement for the hot water production this exchanger will act as to recover the heat up to 20% of the total heat.
As a desuperheater the sensible heat from the hot discharge gas will be recovered, while the latent heat exchange will occur in the air-cooled condenser; by this way the efficiency of the unit is sustained as condensing pressure can be reduced due to air-cooled condenser becoming oversized.
Hot water temperatures up to 55°C can be achieved.
The total amount of available superheating depends on the difference between the discharge temperature from the compressor (*point A in Figure*) and the condensing temperature of the refrigerant gas (*point B*).

EKS/BS

090-3-1 ⟷ 240-6-2

R410A
Refrigerant
R410A | GWP=2.088

Scroll
Compressor

Shell & Tube
exchanger

Axial
fan

Brazed plate
heat exchanger

SEPR

SEER

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

Cooling capacity 244 - 582 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

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 24-25

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												
Cooling capacity (1)	[kW]	244	262	280	294	342	371	395	446	533	559	582
Cooling capacity (1) (EN 14511 VALUE)	[kW]	243	261	279	293	341	369	393	444	531	557	579
Compressors power input (1) (total)	[kW]	81,6	90,6	99,8	108,0	104,4	122,8	139,6	174,0	177,4	195,2	213,6
EER	-	2,79	2,71	2,65	2,58	3,01	2,81	2,66	2,44	2,81	2,70	2,58
ESEER	-	4,18	4,00	3,96	3,77	4,06	3,97	3,82	4,00	4,09	3,98	3,79
EUROVENT classification	-	D	D	E	E	C	D	D	E	D	D	E
"Ecodesign" compliance for process application (SEPR)	-	√	√	√	√	√	√	√	√	√	√	√
"Ecodesign" compliance for comfort application (SEER)	-	√	√	√	√	√	√	√	√	√	√	√
Desuperheater (option)												
Heating capacity (2)	[kW]	66	71	74	81	89	99	107	124	142	151	158
Exchanger water flow (2)	[m3/h]	11,4	12,1	12,7	13,9	15,3	17,0	18,3	21,3	24,4	26,0	27,2
Exchanger pressure drop (water side) - Plates	[kPa]	21	23	25	24	26	22	24	28	23	20	22
Refrigerant circuit												
Refrigerant	-	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Number of refrigerant circuits	[nr]	1	1	1	1	2	2	2	2	2	2	2
Compressor type	-	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL
Compressors quantity	-	3	3	3	3	4	4	4	6	6	6	6
Fans quantity / type	[-]	4/axial (AC)	4/axial (AC)	4/axial (AC)	4/axial (AC)	6/axial (AC)	6/axial (AC)	6/axial (AC)	6/axial (AC)	8/axial (AC)	8/axial (AC)	8/axial (AC)
Total air flow	[m3/h]	86.000	86.000	86.000	86.000	129.000	129.000	129.000	129.000	172.000	172.000	172.000
Evaporator water flow (1)	[m3/h]	42,0	45,1	48,1	50,5	58,9	63,8	67,9	76,7	91,7	96,1	100,1
Evaporator pressure drop (water side) - Plates	[kPa]	53	60	53	59	53	61	49	60	56	61	66
Evaporator pressure drop (water side) - Shell&Tubes	[kPa]	63	51	57	42	27	22	40	49	45	33	59
Hydronic kit - 100 kPa useful head (option)												
Buffer tank capacity	[L]	290	290	290	290	290	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" DN80-PN16	3" DN80-PN16	3" DN80-PN16	3" DN80-PN16	4" DN100-PN16	4" DN100-PN16	4" DN100-PN16	4" DN100-PN16	5" DN125-PN16	5" DN125-PN16	5" DN125-PN16
Electrical data												
Power supply	-	400V/3ph/50Hz										
Control power supply	-	24V-1ph-50Hz / 230V-1ph-50Hz										
Maximum absorbed power without pump	[kW]	116	125	134	143	156	174	191	228	250	267	285
Locked rotor current – LRA without pump	[A]	456	554	572	589	530	645	679	660	783	818	852
Maximum absorbed current (full load)	[A]	212	229	246	263	285	319	354	416	458	492	527
Noise levels (3)												
Total sound power (ST version)	[db(A)]	91	92	94	94	92	94	96	93	95	97	98
Total sound pressure (ST version)	[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)	[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)	[db(A)]	52	54	55	56	54	56	57	55	57	58	59
Dimensions and weights												
Lenght	[mm]	2.950	2.950	2.950	2.950	4.300	4.300	4.300	4.300	5.550	5.550	5.550
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]	1.780	1.800	1.815	1.825	2.610	2.635	2.680	2.985	3.470	3.495	3.520
Weigth BASE unit / BS (shell & tubes evaporator)	[Kg]	1.860	1.870	1.885	1.900	2.690	2.715	2.745	3.050	3.580	3.615	3.640
Weigth INTEGRATA unit / IP (brazed plates evaporator)	[Kg]	1.915	1.940	1.950	1.960	2.815	2.840	2.880	3.190	3.675	3.700	3.725
Weigth INTEGRATA unit / IS (shell & tubes evaporator)	[Kg]	2.000	2.010	2.020	2.040	2.915	2.940	2.970	3.275	3.770	3.805	3.830
Weigth BASE unit / BP (brazed plates evaporator) / Low Noise	[Kg]	1.855	1.875	1.890	1.900	2.750	2.780	2.820	3.175	3.660	3.685	3.710
Weigth BASE unit / BS (shell & tubes evaporator) / Low Noise	[Kg]	1.935	1.945	1.960	1.975	2.830	2.855	2.885	3.240	3.770	3.615	3.830
Weigth INTEGRATA unit / IP (brazed plates evaporator) / Low Noise	[Kg]	1.990	2.015	2.025	2.035	2.955	2.980	3.020	3.380	3.865	3.670	3.915
Weigth INTEGRATA unit / IS (shell & tubes evaporator) / Low Noise	[Kg]	2.070	2.085	2.100	2.110	3.055	3.080	3.110	3.465	3.960	3.805	4.020

Reference conditions:

(1) Condenser air intake temperature = 35°C - Evaporator water temperature IN/OUT = 12/7°C - Fluid: 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: 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

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**

EKS/BS business

performance tables by model

Model	LWT	Condenser air intake temperature [°C]								
		25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 090-3-1	5	246.6	67.3	237.7	73.8	228.5	80.7	219.4	87.9	Ethylene Glycol 5%
	6	254.6	67.7	245.4	74.2	235.9	81.1	226.4	88.4	
	7	263.5	68.2	253.9	74.7	**244.0**	**81.6**	234.1	88.9	Water
	8	270.4	68.9	260.4	75.4	250.1	82.4	239.9	89.7	
	9	277.4	69.6	266.9	76.2	256.2	83.2	245.7	90.6	
	10	284.5	70.3	273.6	76.9	262.5	84.0	251.6	91.5	
	12	299.0	71.7	287.2	78.5	275.3	85.7	263.7	93.3	
	15	321.5	73.9	308.4	81.0	295.2	88.4	282.5	96.2	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 100-3-1	5	265.8	75.4	255.9	82.2	245.7	89.6	235.6	97.6	Ethylene Glycol 5%
	6	274.2	75.8	264.0	82.6	253.5	90.1	243.0	98.1	
	7	283.6	76.2	272.9	83.1	**262.0**	**90.6**	251.2	98.7	Water
	8	290.8	76.9	279.7	83.8	268.4	91.5	257.2	99.6	
	9	298.1	77.6	286.6	84.6	274.8	92.3	263.3	100.6	
	10	305.5	78.3	293.6	85.4	281.4	93.2	269.5	101.6	
	12	320.7	79.7	307.9	87.0	294.8	95.0	282.2	103.6	
	15	344.3	82.0	330.1	89.6	315.7	97.9	302.0	106.8	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 110-3-1	5	285.4	83.4	274.3	90.6	263.1	98.8	251.9	107.6	Ethylene Glycol 5%
	6	294.2	83.8	282.8	91.1	271.1	99.3	259.6	108.2	
	7	304.0	84.2	292.1	91.6	**280.0**	**99.8**	268.1	108.8	Water
	8	311.4	84.9	299.2	92.4	286.6	100.7	274.4	109.9	
	9	319.0	85.6	306.3	93.2	293.3	101.7	280.8	111.0	
	10	326.7	86.3	313.6	94.0	300.1	102.7	287.2	112.1	
	12	342.5	87.8	328.4	95.7	314.1	104.6	300.5	114.4	
	15	367.1	90.1	351.5	98.4	336.0	107.8	320.9	117.9	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 120-3-1	5	300.7	90.5	288.7	98.1	276.5	106.9	264.5	116.6	Ethylene Glycol 5%
	6	309.8	90.9	297.5	98.6	284.8	107.4	272.5	117.3	
	7	319.9	91.3	307.1	99.1	**294.0**	**108.0**	281.3	117.9	Water
	8	327.6	92.0	314.4	99.9	300.8	109.0	287.8	119.1	
	9	335.4	92.7	321.7	100.8	307.8	110.0	294.3	120.3	
	10	343.3	93.4	329.2	101.7	314.8	111.1	301.0	121.5	
	12	359.6	94.9	344.5	103.5	329.3	113.2	314.5	124.1	
	15	385.0	97.3	368.3	106.3	351.9	116.6	335.5	128.0	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 120-4-2	5	344.6	86.2	332.6	94.5	320.3	103.2	307.9	112.4	Ethylene Glycol 5%
	6	355.9	86.8	343.5	95.0	330.7	103.8	317.7	113.0	
	7	368.3	87.4	355.3	95.6	**342.0**	**104.4**	328.5	113.6	Water
	8	377.9	88.2	364.4	96.6	350.6	105.4	336.6	114.7	
	9	387.7	89.1	373.6	97.5	359.2	106.5	344.8	115.9	
	10	397.6	90.0	383.0	98.5	368.0	107.5	353.1	117.0	
	12	418.0	91.9	402.2	100.5	386.0	109.7	370.1	119.4	
	15	449.6	94.8	432.0	103.7	413.9	113.1	396.6	123.1	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 140-4-2	5	375.8	102.8	362.2	111.7	348.2	121.5	334.1	132.2	Ethylene Glycol 5%
	6	387.6	103.3	373.5	112.3	359.0	122.1	344.5	132.9	
	7	400.7	103.9	386.0	112.9	**371.0**	**122.8**	355.9	133.6	Water
	8	410.7	104.7	395.5	113.9	379.9	123.9	364.4	134.9	
	9	420.9	105.6	405.2	114.9	389.0	125.1	373.0	136.2	
	10	431.3	106.5	415.0	115.9	398.2	126.3	381.7	137.6	
	12	452.6	108.4	435.0	118.0	417.0	128.7	399.5	140.3	
	15	485.7	111.3	466.2	121.4	446.3	132.5	427.4	144.6	

EKS/BS business
performance tables by model

Model	LWT	Condenser air intake temperature [°C]								
		25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 160-4-2	5	402.4	117.6	387.2	127.2	371.5	138.2	355.9	150.4	Ethylene Glycol 5%
	6	414.6	118.1	398.9	127.8	382.7	138.9	366.6	151.3	
	7	428.1	118.6	411.8	128.4	**395.0**	**139.6**	378.4	152.1	Water
	8	438.5	119.5	421.5	129.5	404.2	140.9	387.1	153.6	
	9	448.9	120.4	431.4	130.5	413.4	142.2	396.0	155.1	
	10	459.6	121.3	441.5	131.7	422.9	143.5	405.0	156.7	
	12	481.4	123.2	462.0	133.9	442.3	146.2	423.4	159.8	
	15	515.5	126.2	494.1	137.5	472.6	150.4	452.0	164.8	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 180-6-2	5	454.3	143.0	436.1	157.2	417.5	172.1	399.7	187.8	Ethylene Glycol 5%
	6	469.3	143.8	450.4	158.0	431.0	173.1	412.5	188.8	
	7	485.8	144.7	466.1	158.9	**446.0**	**174.0**	426.7	189.8	Water
	8	498.5	146.1	478.0	160.5	457.1	175.7	437.2	191.6	
	9	511.3	147.6	490.0	162.1	468.4	177.4	447.8	193.5	
	10	524.3	149.1	502.1	163.7	479.8	179.1	458.4	195.4	
	12	550.9	152.1	527.0	166.9	503.3	182.7	480.1	199.2	
	15	592.3	156.8	565.6	172.1	539.7	188.3	513.7	205.3	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 200-6-2	5	541.0	147.5	520.8	160.9	500.1	175.5	479.4	191.1	Ethylene Glycol 5%
	6	558.2	148.3	537.3	161.8	515.8	176.4	494.4	192.2	
	7	577.2	149.2	555.4	162.7	**533.0**	**177.4**	510.9	193.2	Water
	8	591.8	150.5	569.1	164.2	545.9	179.1	523.1	195.1	
	9	606.6	151.9	583.0	165.7	559.0	180.8	535.5	197.0	
	10	621.6	153.2	597.2	167.2	572.2	182.6	548.1	199.0	
	12	652.3	156.1	626.1	170.4	599.4	186.1	573.8	203.0	
	15	700.2	160.5	671.1	175.4	641.8	191.7	613.8	209.3	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 220-6-2	5	569.5	163.1	547.6	177.3	525.1	193.2	502.9	210.5	Ethylene Glycol 5%
	6	587.2	163.9	564.5	178.2	541.2	194.2	518.3	211.6	
	7	606.7	164.7	583.2	179.1	**559.0**	**195.2**	535.4	212.8	Water
	8	621.6	166.1	597.2	180.7	572.2	197.0	547.9	214.9	
	9	636.8	167.5	611.5	182.3	585.6	198.9	560.6	217.1	
	10	652.2	168.9	626.1	183.9	599.2	200.8	573.6	219.2	
	12	683.8	171.7	655.7	187.3	627.3	204.7	600.1	223.7	
	15	733.0	176.2	701.9	192.5	671.0	210.7	640.9	230.6	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/BS 240-6-2	5	595.1	178.9	571.5	194.1	547.2	211.4	523.5	230.6	Ethylene Glycol 5%
	6	613.2	179.7	588.9	195.0	563.7	212.5	539.3	231.9	
	7	633.3	180.5	608.0	196.0	**582.0**	**213.6**	556.8	233.2	Water
	8	648.5	181.9	622.4	197.6	595.5	215.6	569.7	235.6	
	9	664.0	183.3	636.9	199.3	609.3	217.6	582.7	238.0	
	10	679.7	184.8	651.7	201.1	623.3	219.7	596.0	240.4	
	12	712.0	187.7	682.0	204.7	651.9	224.0	622.7	245.3	
	15	762.2	192.4	729.2	210.2	696.7	230.6	664.4	253.0	

Notes:
Cc = Cooling capacity [kW]
Pi = Compressor(s) power input [kW]
LWT = Evaporator Leaving Water Temperature

ETHYLENE GLYCOL Mixture (Meg) **- Correction Factor**
If a Meg is used instead of water, it causes a variation in the performance of the unit.
For correct data please use the Correction Factor indicated in the following table:

	0 (water)	Meg 20%	Meg 30%	Meg 40% (1)
Freezing point	0°C	-8,9°C	-15,8°C	-24,8°C
CcCF	**1**	**0,980**	**0,974**	**0,965**

CcCF: Correction factor for cooling capacity
(1) For Meg = 40% and for data concerning other kind of anti-freeze solutions please contact our Sales Dept.

EKS/BS business

performance tables by temperature conditions

Model	Eg5% 10/5 air 25°C		Eg5% 10/5 air 30°C		Eg5% 10/5 air 35°C		Eg5% 10/5 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	246.6	67.3	237.7	73.8	228.5	80.7	219.4	87.9
EKS/BP/BS 100-3-1	265.8	75.4	255.9	82.2	245.7	89.6	235.6	97.6
EKS/BP/BS 110-3-1	285.4	83.4	274.3	90.6	263.1	98.8	251.9	107.6
EKS/BP/BS 120-3-1	300.7	90.5	288.7	98.1	276.5	106.9	264.5	116.6
EKS/BP/BS 120-4-2	344.6	86.2	332.6	94.5	320.3	103.2	307.9	112.4
EKS/BP/BS 140-4-2	375.8	102.8	362.2	111.7	348.2	121.5	334.1	132.2
EKS/BP/BS 160-4-2	402.4	117.6	387.2	127.2	371.5	138.2	355.9	150.4
EKS/BP/BS 180-6-2	454.3	143.0	436.1	157.2	417.5	172.1	399.7	187.8
EKS/BP/BS 200-6-2	541.0	147.5	520.8	160.9	500.1	175.5	479.4	191.1
EKS/BP/BS 220-6-2	569.5	163.1	547.6	177.3	525.1	193.2	502.9	210.5
EKS/BP/BS 240-6-2	595.1	178.9	571.5	194.1	547.2	211.4	523.5	230.6

Model	Eg5% 11/6 air 25°C		Eg5% 11/6 air 30°C		Eg5% 11/6 air 35°C		Eg5% 11/6 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	254.6	67.7	245.4	74.2	235.9	81.1	226.4	88.4
EKS/BP/BS 100-3-1	274.2	75.8	264.0	82.6	253.5	90.1	243.0	98.1
EKS/BP/BS 110-3-1	294.2	83.8	282.8	91.1	271.1	99.3	259.6	108.2
EKS/BP/BS 120-3-1	309.8	90.9	297.5	98.6	284.8	107.4	272.5	117.3
EKS/BP/BS 120-4-2	355.9	86.8	343.5	95.0	330.7	103.8	317.7	113.0
EKS/BP/BS 140-4-2	387.6	103.3	373.5	112.3	359.0	122.1	344.5	132.9
EKS/BP/BS 160-4-2	414.6	118.1	398.9	127.8	382.7	138.9	366.6	151.3
EKS/BP/BS 180-6-2	469.3	143.8	450.4	158.0	431.0	173.1	412.5	188.8
EKS/BP/BS 200-6-2	558.2	148.3	537.3	161.8	515.8	176.4	494.4	192.2
EKS/BP/BS 220-6-2	587.2	163.9	564.5	178.2	541.2	194.2	518.3	211.6
EKS/BP/BS 240-6-2	613.2	179.7	588.9	195.0	563.7	212.5	539.3	231.9

Model	Water 12/7 air 25°C		Water 12/7 air 30°C		Water 12/7 air 35°C		Water 12/7 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	263.5	68.2	253.9	74.7	244.0	81.6	234.1	88.9
EKS/BP/BS 100-3-1	283.6	76.2	272.9	83.1	262.0	90.6	251.2	98.7
EKS/BP/BS 110-3-1	304.0	84.2	292.1	91.6	280.0	99.8	268.1	108.8
EKS/BP/BS 120-3-1	319.9	91.3	307.1	99.1	294.0	108.0	281.3	117.9
EKS/BP/BS 120-4-2	368.3	87.4	355.3	95.6	342.0	104.4	328.5	113.6
EKS/BP/BS 140-4-2	400.7	103.9	386.0	112.9	371.0	122.8	355.9	133.6
EKS/BP/BS 160-4-2	428.1	118.6	411.8	128.4	395.0	139.6	378.4	152.1
EKS/BP/BS 180-6-2	485.8	144.7	466.1	158.9	446.0	174.0	426.7	189.8
EKS/BP/BS 200-6-2	577.2	149.2	555.4	162.7	533.0	177.4	510.9	193.2
EKS/BP/BS 220-6-2	606.7	164.7	583.2	179.1	559.0	195.2	535.4	212.8
EKS/BP/BS 240-6-2	633.3	180.5	608.0	196.0	582.0	213.6	556.8	233.2

Model	Water 13/8 air 25°C		Water 13/8 air 30°C		Water 13/8 air 35°C		Water 13/8 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	270.4	68.9	260.4	75.4	250.1	82.4	239.9	89.7
EKS/BP/BS 100-3-1	290.8	76.9	279.7	83.8	268.4	91.5	257.2	99.6
EKS/BP/BS 110-3-1	311.4	84.9	299.2	92.4	286.6	100.7	274.4	109.9
EKS/BP/BS 120-3-1	327.6	92.0	314.4	99.9	300.8	109.0	287.8	119.1
EKS/BP/BS 120-4-2	377.9	88.2	364.4	96.6	350.6	105.4	336.6	114.7
EKS/BP/BS 140-4-2	410.7	104.7	395.5	113.9	379.9	123.9	364.4	134.9
EKS/BP/BS 160-4-2	438.5	119.5	421.5	129.5	404.2	140.9	387.1	153.6
EKS/BP/BS 180-6-2	498.5	146.1	478.0	160.5	457.1	175.7	437.2	191.6
EKS/BP/BS 200-6-2	591.8	150.5	569.1	164.2	545.9	179.1	523.1	195.1
EKS/BP/BS 220-6-2	621.6	166.1	597.2	180.7	572.2	197.0	547.9	214.9
EKS/BP/BS 240-6-2	648.5	181.9	622.4	197.6	595.5	215.6	569.7	235.6

wEKool Web Product Selector

Euroklimat has developed an online software called "wEKool" that allows you to select the chiller model closest to the project conditions.
For more information, please contact your sales representative.

EKS/BS business

performance tables by temperature conditions

Model	Water 14/9 air 25°C		Water 14/9 air 30°C		Water 14/9 air 35°C		Water 14/9 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	277.4	69.6	266.9	76.2	256.2	83.2	245.7	90.6
EKS/BP/BS 100-3-1	298.1	77.6	286.6	84.6	274.8	92.3	263.3	100.6
EKS/BP/BS 110-3-1	319.0	85.6	306.3	93.2	293.3	101.7	280.8	111.0
EKS/BP/BS 120-3-1	335.4	92.7	321.7	100.8	307.8	110.0	294.3	120.3
EKS/BP/BS 120-4-2	387.7	89.1	373.6	97.5	359.2	106.5	344.8	115.9
EKS/BP/BS 140-4-2	420.9	105.6	405.2	114.9	389.0	125.1	373.0	136.2
EKS/BP/BS 160-4-2	448.9	120.4	431.4	130.5	413.4	142.2	396.0	155.1
EKS/BP/BS 180-6-2	511.3	147.6	490.0	162.1	468.4	177.4	447.8	193.5
EKS/BP/BS 200-6-2	606.6	151.9	583.0	165.7	559.0	180.8	535.5	197.0
EKS/BP/BS 220-6-2	636.8	167.5	611.5	182.3	585.6	198.9	560.6	217.1
EKS/BP/BS 240-6-2	664.0	183.3	636.9	199.3	609.3	217.6	582.7	238.0

Model	Water 15/10 air 25°C		Water 15/10 air 30°C		Water 15/10 air 35°C		Water 15/10 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	284.5	70.3	273.6	76.9	262.5	84.0	251.6	91.5
EKS/BP/BS 100-3-1	305.5	78.3	293.6	85.4	281.4	93.2	269.5	101.6
EKS/BP/BS 110-3-1	326.7	86.3	313.6	94.0	300.1	102.7	287.2	112.1
EKS/BP/BS 120-3-1	343.3	93.4	329.2	101.7	314.8	111.1	301.0	121.5
EKS/BP/BS 120-4-2	397.6	90.0	383.0	98.5	368.0	107.5	353.1	117.0
EKS/BP/BS 140-4-2	431.3	106.5	415.0	115.9	398.2	126.3	381.7	137.6
EKS/BP/BS 160-4-2	459.6	121.3	441.5	131.7	422.9	143.5	405.0	156.7
EKS/BP/BS 180-6-2	524.3	149.1	502.1	163.7	479.8	179.1	458.4	195.4
EKS/BP/BS 200-6-2	621.6	153.2	597.2	167.2	572.2	182.6	548.1	199.0
EKS/BP/BS 220-6-2	652.2	168.9	626.1	183.9	599.2	200.8	573.6	219.2
EKS/BP/BS 240-6-2	679.7	184.8	651.7	201.1	623.3	219.7	596.0	240.4

Model	Water 17/12 air 25°C		Water 17/12 air 30°C		Water 17/12 air 35°C		Water 17/12 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	299.0	71.7	287.2	78.5	275.3	85.7	263.7	93.3
EKS/BP/BS 100-3-1	320.7	79.7	307.9	87.0	294.8	95.0	282.2	103.6
EKS/BP/BS 110-3-1	342.5	87.8	328.4	95.7	314.1	104.6	300.5	114.4
EKS/BP/BS 120-3-1	359.6	94.9	344.5	103.5	329.3	113.2	314.5	124.1
EKS/BP/BS 120-4-2	418.0	91.9	402.2	100.5	386.0	109.7	370.1	119.4
EKS/BP/BS 140-4-2	452.6	108.4	435.0	118.0	417.0	128.7	399.5	140.3
EKS/BP/BS 160-4-2	481.4	123.2	462.0	133.9	442.3	146.2	423.4	159.8
EKS/BP/BS 180-6-2	550.9	152.1	527.0	166.9	503.3	182.7	480.1	199.2
EKS/BP/BS 200-6-2	652.3	156.1	626.1	170.4	599.4	186.1	573.8	203.0
EKS/BP/BS 220-6-2	683.8	171.7	655.7	187.3	627.3	204.7	600.1	223.7
EKS/BP/BS 240-6-2	712.0	187.7	682.0	204.7	651.9	224.0	622.7	245.3

Model	Water 20/15 air 25°C		Water 20/15 air 30°C		Water 20/15 air 35°C		Water 20/15 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/BS 090-3-1	321.5	73.9	308.4	81.0	295.2	88.4	282.5	96.2
EKS/BP/BS 100-3-1	344.3	82.0	330.1	89.6	315.7	97.9	302.0	106.8
EKS/BP/BS 110-3-1	367.1	90.1	351.5	98.4	336.0	107.8	320.9	117.9
EKS/BP/BS 120-3-1	385.0	97.3	368.3	106.3	351.9	116.6	335.5	128.0
EKS/BP/BS 120-4-2	449.6	94.8	432.0	103.7	413.9	113.1	396.6	123.1
EKS/BP/BS 140-4-2	485.7	111.3	466.2	121.4	446.3	132.5	427.4	144.6
EKS/BP/BS 160-4-2	515.5	126.2	494.1	137.5	472.6	150.4	452.0	164.8
EKS/BP/BS 180-6-2	592.3	156.8	565.6	172.1	539.7	188.3	513.7	205.3
EKS/BP/BS 200-6-2	700.2	160.5	671.1	175.4	641.8	191.7	613.8	209.3
EKS/BP/BS 220-6-2	733.0	176.2	701.9	192.5	671.0	210.7	640.9	230.6
EKS/BP/BS 240-6-2	762.2	192.4	729.2	210.2	696.7	230.6	664.4	253.0

wEKool Web Product Selector

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EKS/HE

055-2-1 ⟷ 180-6-2

R410A
Refrigerant
R410A | GWP=2.088

Scroll
Compressor

Shell & Tube
exchanger

Axial
fan

Brazed 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

Cooling capacity 167 - 547 kW

EUROVENT "A" Class

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 24-25

EKS/HE high efficiency

Technical data

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)	[kW]	167	186	207	231	260	285	333	373	414	479	547
Cooling capacity (1) (EN 14511 VALUE)	[kW]	166	185	206	230	259	284	332	371	412	477	544
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	-	3,29	3,21	3,11	3,23	3,20	3,13	3,27	3,22	3,12	3,27	3,08
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
"Ecodesign" compliance for process application (SEPR)	-	√	√	√	√	√	√	√	√	√	√	√
"Ecodesign" compliance for comfort application (SEER)	-	√	√	√	√	√	√	√	√	√	√	√
Desuperheater (option)												
Heating capacity (2)	[kW]	42	48	52	58	64	71	83	92	103	120	137
Exchanger water flow (2)	[m3/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
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	[m3/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)	[m3/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]	290	290	290	290	290	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" DN80-PN16	3" DN80-PN16	3" DN80-PN16	3" DN80-PN16	4" DN100-PN16	4" DN100-PN16	4" DN100-PN16	4" DN100-PN16	5" DN125-PN16	5" DN125-PN16	5" DN125-PN16
Electrical data												
Power supply	-	400V/3ph/50Hz										
Control Power supply	-	24V-1ph-50Hz / 230V-1ph-50Hz										
Maximum absorbed power without pump	[kW]	70	80	90	102	113	123	141	159	180	199	238
Locked rotor current – LRA without pump	[A]	368	387	487	360	418	435	492	529	648	685	670
Maximum absorbed current (full load)	[A]	124	142	161	175	194	211	248	285	323	360	426
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)]	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)	[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)	[db(A)]	54	54	55	55	56	56	57	57	58	60	58
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]	1.465	1.480	1.505	2.280	2.320	2.380	2.815	2.850	2.875	3.325	3.630
Weigth BASE unit / BS (shell & tubes evaporator)	[Kg]	1.545	1.560	1.575	2.315	2.400	2.440	2.865	2.900	2.985	3.490	3.795
Weigth INTEGRATA unit / IP (brazed plates evaporator)	[Kg]	1.585	1.600	1.640	2.215	2.490	2.550	2.970	3.040	3.065	3.515	3.825
Weigth INTEGRATA unit / IS (shell & tubes evaporator)	[Kg]	1.665	1.685	1.710	2.270	2.590	2.630	3.005	3.075	3.160	3.645	3.950
Weigth BASE unit / BP (brazed plates evaporator) / Low Noise	[Kg]	1.535	1.550	1.575	2.420	2.460	2.520	2.995	2.990	3.015	3.465	3.820
Weigth BASE unit / BS (shell & tubes evaporator) / Low Noise	[Kg]	1.615	1.630	1.645	2.455	2.540	2.580	3.005	3.040	3.125	3.630	3.985
Weigth INTEGRATA unit / IP (brazed plates evaporator) / Low Noise	[Kg]	1.655	1.670	1.710	2.355	2.630	2.690	3.110	3.180	3.205	3.655	4.015
Weigth INTEGRATA unit / IS (shell & tubes evaporator) / Low Noise	[Kg]	1.735	1.755	1.780	2.410	2.730	2.770	3.145	3.215	3.300	3.880	4.140

Reference conditions:

(1) Condenser air intake temperature = 35°C - Evaporator water temperature IN/OUT = 12/7°C - Fluid: 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: 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

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**

EKS/HE high efficiency

performance tables by model

Model	LWT	Condenser air intake temperature [°C]								
		25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 055-2-1	5	166.9	36.8	161.8	40.2	156.6	43.9	151.3	47.7	Ethylene Glycol 5%
	6	172.3	37.1	167.0	40.5	161.6	44.1	156.1	47.9	
	7	178.1	37.3	172.6	40.8	**167.0**	**44.4**	161.2	48.2	Water
	8	182.7	37.7	177.0	41.2	171.2	44.8	165.2	48.7	
	9	187.4	38.1	181.5	41.6	175.4	45.3	169.2	49.2	
	10	192.1	38.5	186.0	42.0	179.7	45.7	173.3	49.6	
	12	201.8	39.3	195.2	42.9	188.5	46.7	181.5	50.6	
	15	217.0	40.5	209.6	44.2	202.1	48.1	194.4	52.2	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 060-2-1	5	186.5	41.9	180.4	45.8	174.3	49.9	168.1	54.2	Ethylene Glycol 5%
	6	192.5	42.1	186.3	46.0	179.9	50.2	173.4	54.5	
	7	199.2	42.4	192.7	46.3	**186.0**	**50.5**	179.3	54.9	Water
	8	204.3	42.9	197.6	46.8	190.7	51.0	183.7	55.4	
	9	209.6	43.3	202.6	47.3	195.4	51.5	188.1	56.0	
	10	215.0	43.7	207.7	47.8	200.2	52.0	192.6	56.5	
	12	225.9	44.7	218.1	48.8	210.0	53.1	201.9	57.7	
	15	243.0	46.1	234.2	50.3	225.3	54.8	216.3	59.5	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 070-2-1	5	208.4	48.8	201.6	52.8	194.5	57.2	187.4	62.0	Ethylene Glycol 5%
	6	214.9	49.1	207.8	53.1	200.5	57.5	193.1	62.3	
	7	222.0	49.4	214.6	53.4	**207.0**	**57.8**	199.3	62.7	Water
	8	227.5	49.8	219.8	53.8	212.0	58.3	204.0	63.2	
	9	233.1	50.2	225.2	54.3	217.0	58.9	208.8	63.9	
	10	238.8	50.6	230.6	54.8	222.2	59.4	213.6	64.5	
	12	250.5	51.5	241.7	55.7	232.6	60.5	223.5	65.7	
	15	268.8	52.8	258.9	57.3	248.9	62.3	239.0	67.7	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 080-4-2	5	232.6	51.7	224.4	56.2	216.5	61.1	208.6	66.3	Ethylene Glycol 5%
	6	240.1	52.0	231.7	56.6	223.4	61.5	215.3	66.7	
	7	248.2	52.4	239.5	57.0	**231.0**	**61.9**	222.6	67.2	Water
	8	254.6	52.9	245.6	57.5	236.8	62.5	228.1	67.8	
	9	261.1	53.4	251.8	58.1	242.7	63.2	233.7	68.5	
	10	267.6	53.9	258.1	58.7	248.7	63.8	239.4	69.2	
	12	281.1	55.0	270.9	59.9	260.9	65.1	251.1	70.7	
	15	302.0	56.7	290.9	61.7	279.9	67.1	269.1	72.9	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 090-4-2	5	260.3	58.1	251.9	63.5	243.6	69.2	235.3	75.1	Ethylene Glycol 5%
	6	268.7	58.5	260.0	63.9	251.5	69.6	242.8	75.6	
	7	277.8	58.9	268.9	64.3	**260.0**	**70.0**	251.0	76.0	Water
	8	285.0	59.5	275.8	64.9	266.5	70.7	257.2	76.7	
	9	292.2	60.1	282.7	65.6	273.2	71.4	263.6	77.5	
	10	299.6	60.7	289.8	66.2	279.9	72.1	270.0	78.3	
	12	314.8	62.0	304.3	67.6	293.7	73.5	283.0	79.8	
	15	338.4	63.9	326.8	69.6	315.1	75.7	303.3	82.2	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 100-4-2	5	284.4	66.0	275.9	72.2	267.2	78.8	258.2	85.6	Ethylene Glycol 5%
	6	293.5	66.4	284.7	72.7	275.7	79.2	266.4	86.1	
	7	303.3	66.8	294.2	73.1	**284.9**	**79.7**	275.3	86.6	Water
	8	311.1	67.5	301.7	73.8	292.0	80.5	282.0	87.4	
	9	319.0	68.2	309.3	74.6	299.2	81.3	288.8	88.2	
	10	327.0	68.9	316.9	75.3	306.5	82.0	295.8	89.1	
	12	343.5	70.4	332.7	76.8	321.5	83.6	309.8	90.8	
	15	369.2	72.6	357.1	79.1	344.6	86.1	331.8	93.4	

EKS/HE high efficiency
performance tables by model

Model	LWT	Condenser air intake temperature [°C]								
		25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 110-4-2	5	332.9	73.6	322.6	80.5	312.2	87.8	301.6	95.3	Ethylene Glycol 5%
	6	343.6	74.1	332.9	81.0	322.2	88.3	311.2	95.9	
	7	355.2	74.6	344.1	81.5	**333.0**	**88.8**	321.5	96.4	Water
	8	364.3	75.4	352.9	82.4	341.3	89.7	329.4	97.4	
	9	373.6	76.2	361.8	83.2	349.7	90.6	337.4	98.3	
	10	383.1	77.0	370.9	84.0	358.3	91.5	345.5	99.3	
	12	402.5	78.6	389.3	85.7	375.8	93.3	362.0	101.3	
	15	432.8	81.1	418.1	88.4	402.9	96.2	387.6	104.4	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 120-4-2	5	374.0	83.6	361.9	91.4	349.6	99.7	337.1	108.4	Ethylene Glycol 5%
	6	386.1	84.2	373.6	92.0	360.8	100.3	347.8	109.0	
	7	399.4	84.8	386.3	92.6	**373.0**	**100.9**	359.5	109.6	Water
	8	409.8	85.6	396.2	93.5	382.3	101.9	368.3	110.7	
	9	420.3	86.5	406.3	94.5	391.8	102.9	377.2	111.8	
	10	431.1	87.4	416.5	95.4	401.5	104.0	386.3	112.9	
	12	453.0	89.2	437.3	97.4	421.2	106.1	404.8	115.3	
	15	487.3	92.0	469.8	100.5	451.7	109.4	433.7	118.9	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 140-4-2	5	416.3	97.7	402.6	105.5	388.7	114.3	374.6	123.8	Ethylene Glycol 5%
	6	429.4	98.1	415.2	106.1	400.8	114.9	386.1	124.5	
	7	443.7	98.7	429.0	106.6	**414.0**	**115.5**	398.8	125.2	Water
	8	454.8	99.5	439.6	107.6	424.0	116.5	408.2	126.4	
	9	466.1	100.3	450.4	108.5	434.2	117.6	417.8	127.6	
	10	477.6	101.1	461.3	109.4	444.6	118.7	427.6	128.8	
	12	501.2	102.8	483.7	111.4	465.7	120.9	447.5	131.3	
	15	538.1	105.5	518.6	114.4	498.6	124.4	478.8	135.2	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 160-4-2	5	483.0	109.3	467.1	117.0	450.9	126.0	434.5	136.2	Ethylene Glycol 5%
	6	497.5	109.7	481.2	117.5	464.4	126.6	447.4	136.9	
	7	513.3	110.1	496.4	118.0	**479.0**	**127.2**	461.4	137.6	Water
	8	525.7	110.9	508.1	118.9	490.2	128.3	471.9	138.8	
	9	538.2	111.6	520.1	119.8	501.5	129.3	482.7	140.1	
	10	551.0	112.4	532.2	120.7	513.0	130.4	493.5	141.4	
	12	577.2	114.0	557.1	122.6	536.6	132.7	515.8	144.0	
	15	618.1	116.5	595.9	125.6	573.2	136.2	550.7	148.2	

Model	LWT	25		30		35		40		
	°C	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi	
EKS/BP/HE 180-6-2	5	550.1	129.0	531.7	141.1	512.9	153.9	493.7	167.4	Ethylene Glycol 5%
	6	568.0	129.8	548.8	142.0	529.2	154.8	509.3	168.4	
	7	587.3	130.7	567.4	142.9	**547.0**	**155.8**	526.3	169.4	Water
	8	602.5	132.1	581.8	144.3	560.6	157.4	539.1	171.0	
	9	617.8	133.4	596.4	145.8	574.4	158.9	552.0	172.8	
	10	633.6	134.8	611.3	147.3	588.4	160.6	565.2	174.5	
	12	665.6	137.6	641.6	150.3	616.9	163.8	592.3	178.1	
	15	715.7	141.9	688.8	155.0	661.3	169.0	634.3	183.7	

Notes:
Cc = Cooling capacity [kW]
Pi = Compressor(s) power input [kW]
LWT = Evaporator Leaving Water Temperature

ETHYLENE GLYCOL Mixture (Meg) **- Correction Factor**
If a Meg is used instead of water, it causes a variation in the performance of the unit.
For correct data please use the Correction Factor indicated in the following table:

	0 (water)	Meg 20%	Meg 30%	Meg 40% (1)
Freezing point	0°C	-8,9°C	-15,8°C	-24,8°C
CcCF	**1**	**0,980**	**0,974**	**0,965**

CcCF: Correction factor for cooling capacity
(1) For Meg = 40% and for data concerning other kind of anti-freeze solutions please contact our Sales Dept.

EKS/HE high efficiency

performance tables by temperature conditions

Model	Eg5% 10/5 air 25°C		Eg5% 10/5 air 30°C		Eg5% 10/5 air 35°C		Eg5% 10/5 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	166.9	36.8	161.8	40.2	156.6	43.9	151.3	47.7
EKS/BP/HE 060-2-1	186.5	41.9	180.4	45.8	174.3	49.9	168.1	54.2
EKS/BP/HE 070-2-1	208.4	48.8	201.6	52.8	194.5	57.2	187.4	62.0
EKS/BP/HE 080-4-2	232.6	51.7	224.4	56.2	216.5	61.1	208.6	66.3
EKS/BP/HE 090-4-2	260.3	58.1	251.9	63.5	243.6	69.2	235.3	75.1
EKS/BP/HE 100-4-2	284.4	66.0	275.9	72.2	267.2	78.8	258.2	85.6
EKS/BP/HE 110-4-2	332.9	73.6	322.6	80.5	312.2	87.8	301.6	95.3
EKS/BP/HE 120-4-2	374.0	83.6	361.9	91.4	349.6	99.7	337.1	108.4
EKS/BP/HE 140-4-2	416.3	97.7	402.6	105.5	388.7	114.3	374.6	123.8
EKS/BP/HE 160-4-2	483.0	109.3	467.1	117.0	450.9	126.0	434.5	136.2
EKS/BP/HE 180-6-2	550.1	129.0	531.7	141.1	512.9	153.9	493.7	167.4

Model	Eg5% 11/6 air 25°C		Eg5% 11/6 air 30°C		Eg5% 11/6 air 35°C		Eg5% 11/6 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	172.3	37.1	167.0	40.5	161.6	44.1	156.1	47.9
EKS/BP/HE 060-2-1	192.5	42.1	186.3	46.0	179.9	50.2	173.4	54.5
EKS/BP/HE 070-2-1	214.9	49.1	207.8	53.1	200.5	57.5	193.1	62.3
EKS/BP/HE 080-4-2	240.1	52.0	231.7	56.6	223.4	61.5	215.3	66.7
EKS/BP/HE 090-4-2	268.7	58.5	260.0	63.9	251.5	69.6	242.8	75.6
EKS/BP/HE 100-4-2	293.5	66.4	284.7	72.7	275.7	79.2	266.4	86.1
EKS/BP/HE 110-4-2	343.6	74.1	332.9	81.0	322.2	88.3	311.2	95.9
EKS/BP/HE 120-4-2	386.1	84.2	373.6	92.0	360.8	100.3	347.8	109.0
EKS/BP/HE 140-4-2	429.4	98.1	415.2	106.1	400.8	114.9	386.1	124.5
EKS/BP/HE 160-4-2	497.5	109.7	481.2	117.5	464.4	126.6	447.4	136.9
EKS/BP/HE 180-6-2	568.0	129.8	548.8	142.0	529.2	154.8	509.3	168.4

Model	Water 12/7 air 25°C		Water 12/7 air 30°C		Water 12/7 air 35°C		Water 12/7 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	178.1	37.3	172.6	40.8	167.0	44.4	161.2	48.2
EKS/BP/HE 060-2-1	199.2	42.4	192.7	46.3	186.0	50.5	179.3	54.9
EKS/BP/HE 070-2-1	222.0	49.4	214.6	53.4	207.0	57.8	199.3	62.7
EKS/BP/HE 080-4-2	248.2	52.4	239.5	57.0	231.0	61.9	222.6	67.2
EKS/BP/HE 090-4-2	277.8	58.9	268.9	64.3	260.0	70.0	251.0	76.0
EKS/BP/HE 100-4-2	303.3	66.8	294.2	73.1	284.9	79.7	275.3	86.6
EKS/BP/HE 110-4-2	355.2	74.6	344.1	81.5	333.0	88.8	321.5	96.4
EKS/BP/HE 120-4-2	399.4	84.8	386.3	92.6	373.0	100.9	359.5	109.6
EKS/BP/HE 140-4-2	443.7	98.7	429.0	106.6	414.0	115.5	398.8	125.2
EKS/BP/HE 160-4-2	513.3	110.1	496.4	118.0	479.0	127.2	461.4	137.6
EKS/BP/HE 180-6-2	587.3	130.7	567.4	142.9	547.0	155.8	526.3	169.4

Model	Water 13/8 air 25°C		Water 13/8 air 30°C		Water 13/8 air 35°C		Water 13/8 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	182.7	37.7	177.0	41.2	171.2	44.8	165.2	48.7
EKS/BP/HE 060-2-1	204.3	42.9	197.6	46.8	190.7	51.0	183.7	55.4
EKS/BP/HE 070-2-1	227.5	49.8	219.8	53.8	212.0	58.3	204.0	63.2
EKS/BP/HE 080-4-2	254.6	52.9	245.6	57.5	236.8	62.5	228.1	67.8
EKS/BP/HE 090-4-2	285.0	59.5	275.8	64.9	266.5	70.7	257.2	76.7
EKS/BP/HE 100-4-2	311.1	67.5	301.7	73.8	292.0	80.5	282.0	87.4
EKS/BP/HE 110-4-2	364.3	75.4	352.9	82.4	341.3	89.7	329.4	97.4
EKS/BP/HE 120-4-2	409.8	85.6	396.2	93.5	382.3	101.9	368.3	110.7
EKS/BP/HE 140-4-2	454.8	99.5	439.6	107.6	424.0	116.5	408.2	126.4
EKS/BP/HE 160-4-2	525.7	110.9	508.1	118.9	490.2	128.3	471.9	138.8
EKS/BP/HE 180-6-2	602.5	132.1	581.8	144.3	560.6	157.4	539.1	171.0

wEKool Web Product Selector

Euroklimat has developed an online software called "wEKool" that allows you to select the chiller model closest to the project conditions.
For more information, please contact your sales representative.

EKS/HE high efficiency
performance tables by temperature conditions

Model	Water 14/9 air 25°C		Water 14/9 air 30°C		Water 14/9 air 35°C		Water 14/9 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	187.4	38.1	181.5	41.6	175.4	45.3	169.2	49.2
EKS/BP/HE 060-2-1	209.6	43.3	202.6	47.3	195.4	51.5	188.1	56.0
EKS/BP/HE 070-2-1	233.1	50.2	225.2	54.3	217.0	58.9	208.8	63.9
EKS/BP/HE 080-4-2	261.1	53.4	251.8	58.1	242.7	63.2	233.7	68.5
EKS/BP/HE 090-4-2	292.2	60.1	282.7	65.6	273.2	71.4	263.6	77.5
EKS/BP/HE 100-4-2	319.0	68.2	309.3	74.6	299.2	81.3	288.8	88.2
EKS/BP/HE 110-4-2	373.6	76.2	361.8	83.2	349.7	90.6	337.4	98.3
EKS/BP/HE 120-4-2	420.3	86.5	406.3	94.5	391.8	102.9	377.2	111.8
EKS/BP/HE 140-4-2	466.1	100.3	450.4	108.5	434.2	117.6	417.8	127.6
EKS/BP/HE 160-4-2	538.2	111.6	520.1	119.8	501.5	129.3	482.7	140.1
EKS/BP/HE 180-6-2	617.8	133.4	596.4	145.8	574.4	158.9	552.0	172.8

Model	Water 15/10 air 25°C		Water 15/10 air 30°C		Water 15/10 air 35°C		Water 15/10 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	192.1	38.5	186.0	42.0	179.7	45.7	173.3	49.6
EKS/BP/HE 060-2-1	215.0	43.7	207.7	47.8	200.2	52.0	192.6	56.5
EKS/BP/HE 070-2-1	238.8	50.6	230.6	54.8	222.2	59.4	213.6	64.5
EKS/BP/HE 080-4-2	267.6	53.9	258.1	58.7	248.7	63.8	239.4	69.2
EKS/BP/HE 090-4-2	299.6	60.7	289.8	66.2	279.9	72.1	270.0	78.3
EKS/BP/HE 100-4-2	327.0	68.9	316.9	75.3	306.5	82.0	295.8	89.1
EKS/BP/HE 110-4-2	383.1	77.0	370.9	84.0	358.3	91.5	345.5	99.3
EKS/BP/HE 120-4-2	431.1	87.4	416.5	95.4	401.5	104.0	386.3	112.9
EKS/BP/HE 140-4-2	477.6	101.1	461.3	109.4	444.6	118.7	427.6	128.8
EKS/BP/HE 160-4-2	551.0	112.4	532.2	120.7	513.0	130.4	493.5	141.4
EKS/BP/HE 180-6-2	633.6	134.8	611.3	147.3	588.4	160.6	565.2	174.5

Model	Water 17/12 air 25°C		Water 17/12 air 30°C		Water 17/12 air 35°C		Water 17/12 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	201.8	39.3	195.2	42.9	188.5	46.7	181.5	50.6
EKS/BP/HE 060-2-1	225.9	44.7	218.1	48.8	210.0	53.1	201.9	57.7
EKS/BP/HE 070-2-1	250.5	51.5	241.7	55.7	232.6	60.5	223.5	65.7
EKS/BP/HE 080-4-2	281.1	55.0	270.9	59.9	260.9	65.1	251.1	70.7
EKS/BP/HE 090-4-2	314.8	62.0	304.3	67.6	293.7	73.5	283.0	79.8
EKS/BP/HE 100-4-2	343.5	70.4	332.7	76.8	321.5	83.6	309.8	90.8
EKS/BP/HE 110-4-2	402.5	78.6	389.3	85.7	375.8	93.3	362.0	101.3
EKS/BP/HE 120-4-2	453.0	89.2	437.3	97.4	421.2	106.1	404.8	115.3
EKS/BP/HE 140-4-2	501.2	102.8	483.7	111.4	465.7	120.9	447.5	131.3
EKS/BP/HE 160-4-2	577.2	114.0	557.1	122.6	536.6	132.7	515.8	144.0
EKS/BP/HE 180-6-2	665.6	137.6	641.6	150.3	616.9	163.8	592.3	178.1

Model	Water 20/15 air 25°C		Water 20/15 air 30°C		Water 20/15 air 35°C		Water 20/15 air 40°C	
	Cc	Pi	Cc	Pi	Cc	Pi	Cc	Pi
EKS/BP/HE 055-2-1	217.0	40.5	209.6	44.2	202.1	48.1	194.4	52.2
EKS/BP/HE 060-2-1	243.0	46.1	234.2	50.3	225.3	54.8	216.3	59.5
EKS/BP/HE 070-2-1	268.8	52.8	258.9	57.3	248.9	62.3	239.0	67.7
EKS/BP/HE 080-4-2	302.0	56.7	290.9	61.7	279.9	67.1	269.1	72.9
EKS/BP/HE 090-4-2	338.4	63.9	326.8	69.6	315.1	75.7	303.3	82.2
EKS/BP/HE 100-4-2	369.2	72.6	357.1	79.1	344.6	86.1	331.8	93.4
EKS/BP/HE 110-4-2	432.8	81.1	418.1	88.4	402.9	96.2	387.6	104.4
EKS/BP/HE 120-4-2	487.3	92.0	469.8	100.5	451.7	109.4	433.7	118.9
EKS/BP/HE 140-4-2	538.1	105.5	518.6	114.4	498.6	124.4	478.8	135.2
EKS/BP/HE 160-4-2	618.1	116.5	595.9	125.6	573.2	136.2	550.7	148.2
EKS/BP/HE 180-6-2	715.7	141.9	688.8	155.0	661.3	169.0	634.3	183.7

wEKool Web Product Selector

Euroklimat has developed an online software called "wEKool" that allows you to select the chiller model closest to the project conditions.
For more information, please contact your sales representative.

Connected controller

Thanks to a Multitasking Operating System and to the adoption of standard protocols, local and remote connectivity the controller used in eks chillers is the most advanced technology available.

NEW OPERATING SYSTEM

New Multitasking Operating System ensures optimal system resource usage, extended datatypes for user application (32bit floating point numbers) application speed increase and independent protocol engines.

CONNECTIVITY

The controller has two integrated Ethernet interfaces, three serial interfaces and two USB ports.
A great choice of communication protocols is possible (Modbus, Carel, BACNet, LON, Konnex, TCP/IP, HTTP, FTP, DHCP, DNS, NTP, SNMP and many others).

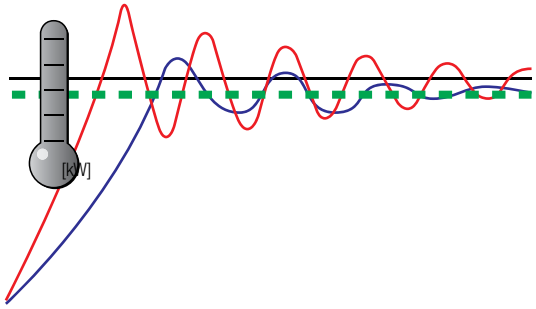
CLOUD SERVICE

Plug & Play solution for tERA platform connection. All tERA services are available just connecting the Ethernet plug to your home or office network, without the need for an external connection box.

Application software **ek**apt

The application software "**ek**apt" developed for **eks** chillers allows an easy access to the machine configuration and management parameters with the menu system organised by device. There are three password levels to allow three different access modes to the parameters (read only for assistance, edit for servicing, total access for the manufacturer). The main screen gives quick access to the user functions without a password (information on the status of the machine components, On-Off and machine operating mode, set points).

PID control

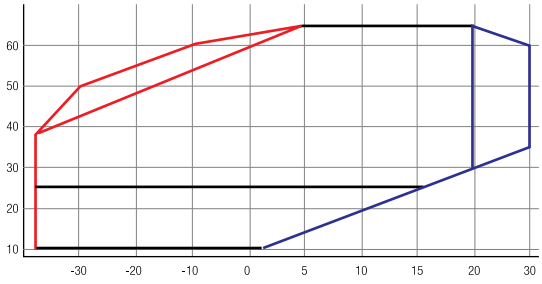


There are two types of PID control:
- PID control on start-up
- PID control during operation

The start-up control must prevent an excess of requested power.
Since at start-up the status of the load is not known but only the temperature is, the power must be entered little by little, waiting for the reaction of the system.

The control during operation must be quick in order to follow any load variations and maintain the water temperature as close to the set-point value as possible.

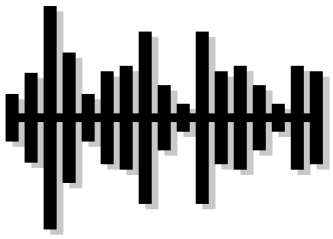
Compressor's envelope management



The operating limits (hereafter defined as envelope) of the compressors are controlled.

This control cannot be disabled in order to prevent the compressor from working outside of the safety limits dictated by the manufacturer. All of the compressors inserted thus contain the envelope data. When the operating condition is outside of the envelope, the alarm delay starts counting: if the operating condition remains outside of the envelope when the delay has elapsed, a specific alarm is activated, which stops the compressor; if, on the other hand, the operating condition returns within the envelope limits, the alarm delay counter is reset.

Compressors power distribution



"**ek**apt" application software provides management of the power distributed to the compressors in the best way possible to increase the efficiency of the unit.

The behaviour of power distribution changes depending on the configuration, 1 or 2 circuits and the power ratio between compressors. In the event of an alarm for one compressor, the next available compressor will be turned on as a replacement if the request is high enough. For units with two circuits and prevention active in one circuit, the rotation will compensate for the limited circuit by increasing the request on the available circuit.

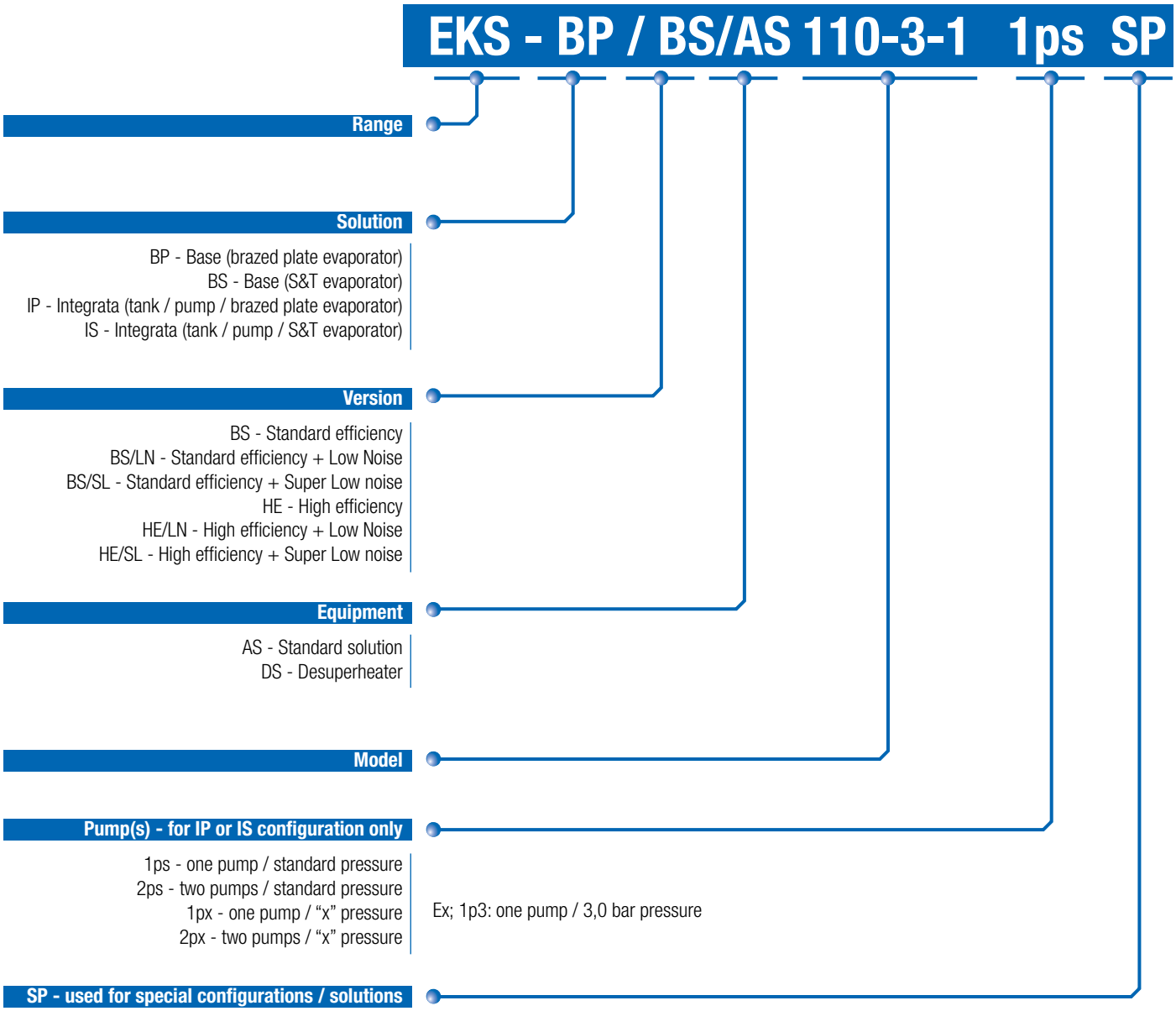
Web commissioning tool

Trought internet browser, inserting the IP address of the control card, it will be possible to access the "**ek**apt" application in order to see and edit service parameters.

The application is divided in:
Main: in which are shown the main status parameter of the unit;
Synoptic: main unit parameters, according to the circuit number and Unit live trend available.
Parameters: it is necessary to be logged-in to open the Parameter menu. It is necessary to be, at least, Service user to be able to edit all the parameters.
Alarms List: alarms list, with start and end period of the alarm.

EKS how to select

The below legend allows you to easily select the proper configuration of eks chiller.

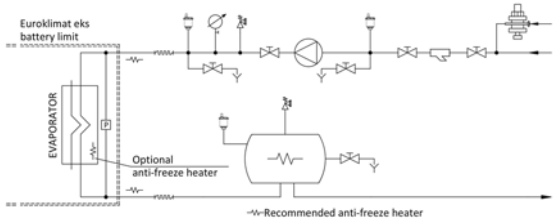


Some of the special "SP" configuration / solutions that Euroklimat offers are:

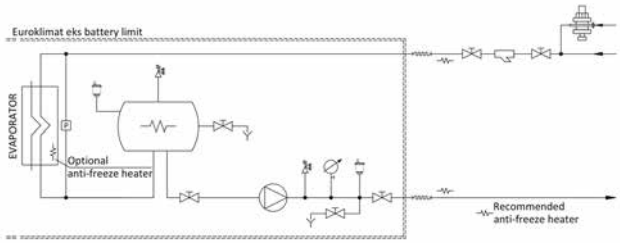
- EKS with recirculating water pump + user pump
- EKS with recirculating water pump + buffer tank
- EKS with recirculating water pump + buffer tank + additional heat exchanger

EKS configuration and solutions

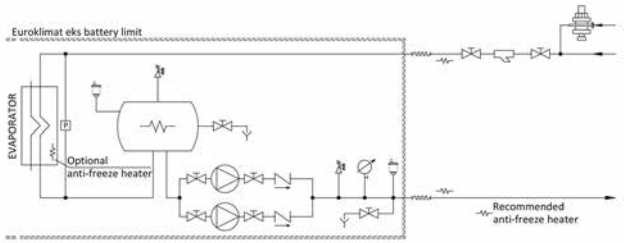
TYPICAL UNIT CONNECTION



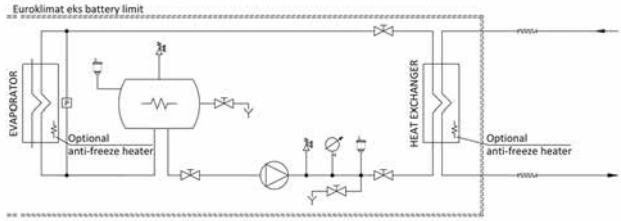
TYPICAL UNIT CONNECTION WITH PUMP + BUFFER TANK



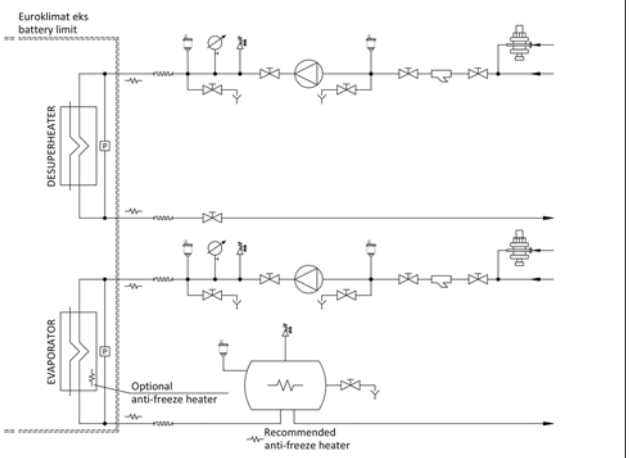
TYPICAL UNIT CONNECTION WITH PUMP + RESERVE PUMP + BUFFER TANK



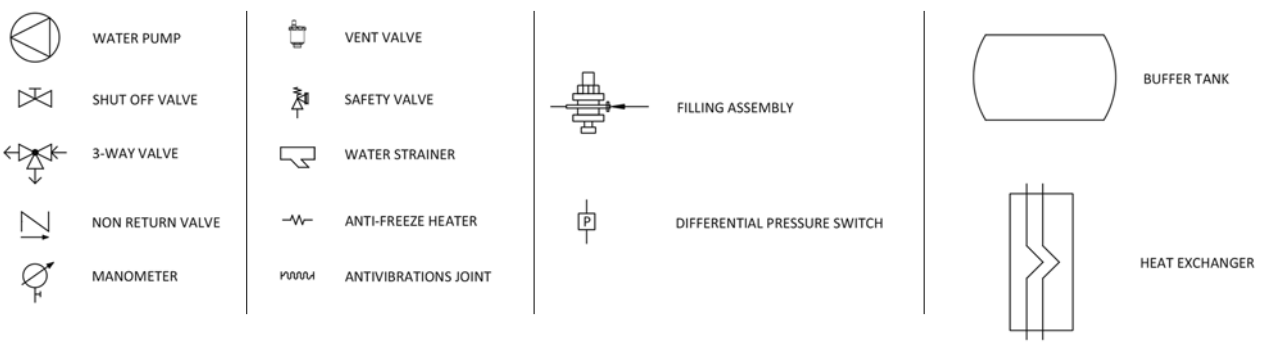
TYPICAL UNIT CONNECTION WITH PUMP + BUFFER TANK + ADDITIONAL HEAT EXCHANGER



TYPICAL UNIT CONNECTION WITH DESUPERHEATER



LEGEND



EKS
standard equipment and accessories

General	Business	High Efficiency
Anti-vibration spring mounts	○	○
Anti-vibration seismic spring mounts	○	○
Standard painting, color RAL 7035	●	●
Standard paint, RAL on request	○	○
Condensing coils protection grills	○	○
Anti-intrusion grills - upper part	○	○
Anti-intrusion grills - lower part	○	○
System of blocks for long-distance transport	○	○
Condensing section	**Business**	**High Efficiency**
On/Off condensing pressure control (step)	● (excluded for LN and SL)	-
Phase-cut modulating fan speed controller - CPC	○ (excluded for LN and SL)	-
EC Fans (brushless motor)	○	●
EC Fans (brushless motor) with diffuser kit	○ (standard for LN and SL)	○ (standard for LN and SL)
Microchannel condensing coil made of aluminum	●	●
Microchannel condensing coil made of aluminum with ElectroFin® treatment	○	○
Cu/Al condensing coil	○	○
Cu/Al condensing coil with ElectroFin® treatment	○	○
Cu/Cu condensing coil	○	○
Refrigerant circuit section	**Business**	**High Efficiency**
Compliance with PED Directive (2014/68/EU)	●	●
Low pressure transducer	●	●
High pressure transducer	○ (included with CPC)	●
Refrigerant leak detector	○	○
High & Low pressure manometers	○	○
Compressor suction valve (rotalock)	○	○
Compressor discharge valve (rotalock)	○	○
Compressor crankcase oil heater	○	○
Electronic expansion valve	●	●
Oil level management with equalizer tube	●	●
Intelligent oil management “Traxoil®” with additional oil separator	*	*
** available for some models only. Ask to Euroklimat for more information.*		
Water circuit section	**Business**	**High Efficiency**
Differential pressure switch	● (exluded ver. with S&T)	● (exluded ver. with S&T)
Electromechanical water flow switch (supplied separately)	○	○
Electronic water flow switch (supplied separately)	○	○
Air vent valve (manual)	●	●
Air vent valve (automatic)	○	○
Thermal insulation - thickness 9 mm	●	●
Increased thermal insulation - thickness 19 mm	○	○
Water filter 200 microns (supplied separately)	○	○
Water pipes with trace heating	○	○
Victaulic® type water connections	○	○

EKS
standard equipment and accessories

Electric cabinet section	Business	High Efficiency
Forced air cooling system with filter	●	●
Forced air cooling system with filter - plus version for hot climates	○	○
Anti-condensation heater with thermostat	○	○
Device locking doors windproof cabinet	●	●
Cabinet minimum protection rating IP 54	●	●
Power supply without neutral	●	●
Phase monitoring sequence relay	●	●
Power factor correction capacitors for compressors	○	○
Min./max. voltage relay	○	○
Compressors soft-starter	○	○
Signaling contacts of compressor operation	○	○
LED cabinet lighting	○	○
Service socket 230VAC - max. 150 Watt	○	○
Emergency power electronic expansion valve (Ultracap module)	○	○
Device for measuring the electric energy consumed (Energy Meter)	○	○
Control section	**Business**	**High Efficiency**
Integrated Electronic Security module on-board compressor	●	●
Backlit display	●	●
Remote control panel	○	○
Integrated control of the electronic expansion valve	●	●
Operating hour meter	●	●
Prevent compressor operating limits (envelope control)	●	●
Prevent Antifreeze evaporator function	●	●
Alarm history up to 64 events (data logger function)	●	●
Second set-point from digital input	○	○
Remote On/Off digital input	●	●
Set point compensation by outside temperature	○	○
ModBus® interface (RS 485)	●	●
LonWorks® interface (RS 485)	○	○
BACnet® MS/TP interface	○	○
BACnet® TCP/IP interface	○	○
Software updates via USB key	●	●
Update with transferring files via FTP	○	○
Update via tERA cloud service	○	○

● *standard equipment* | ○ *optional* | - *not available*

EKS

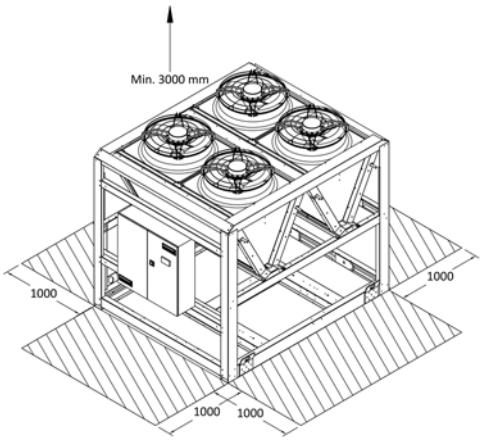
dimensions and operating spaces

EKS/BS business

090-3-1 ⟷ 120-3-1

EKS/HE high efficiency

055-2-1HE ⟷ 070-2-1HE



Minimum operating space [mm]

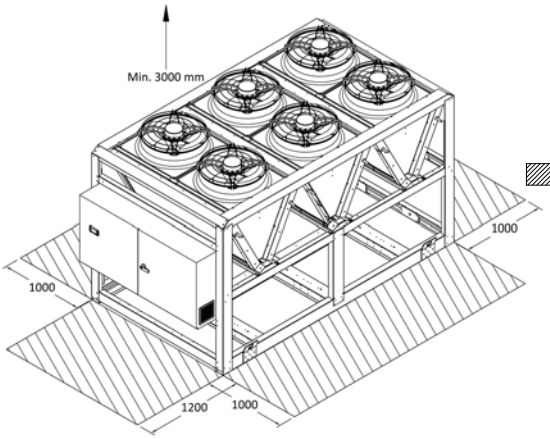
		EKS/BS **business**				EKS/HE **high efficiency**		
EKS range		**090-3-1**	**100-3-1**	**110-3-1**	**120-3-1**	**055-2-1HE**	**060-2-1HE**	**070-2-1HE**
Dimensions								
Lenght	mm	2.950				2.950		
Width	mm	2.345				2.345		
Height (ST - LN/SL)	mm	2.465 - 2.525				2.465 - 2.525		
Weights								
BASE unit / BP (brazed plates evaporator)	Kg	1.780	1.800	1.815	1.825	1.465	1.480	1.505
BASE unit / BS (shell & tubes evaporator)	Kg	1.860	1.870	1.885	1.900	1.545	1.560	1.575
INTEGRATA unit / IP (brazed plates evaporator)	Kg	1.915	1.940	1.950	1.960	1.585	1.600	1.640
INTEGRATA unit / IS (shell & tubes evaporator)	Kg	2.000	2.010	2.020	2.040	1.665	1.685	1.710
BASE unit / BP (brazed plates evaporator) / Low Noise	Kg	1.855	1.875	1.890	1.900	1.535	1.550	1.575
BASE unit / BS (shell & tubes evaporator) / Low Noise	Kg	1.935	1.945	1.960	1.975	1.615	1.630	1.645
INTEGRATA unit / IP (brazed plates evaporator) / Low Noise	Kg	1.990	2.015	2.025	2.035	1.655	1.670	1.710
INTEGRATA unit / IS (shell & tubes evaporator) / Low Noise	Kg	2.070	2.085	2.100	2.110	1.735	1.755	1.780

EKS/BS business

120-4-2 ⟷ 180-6-2

EKS/HE high efficiency

080-4-2HE ⟷ 100-4-2HE



Minimum operating space [mm]

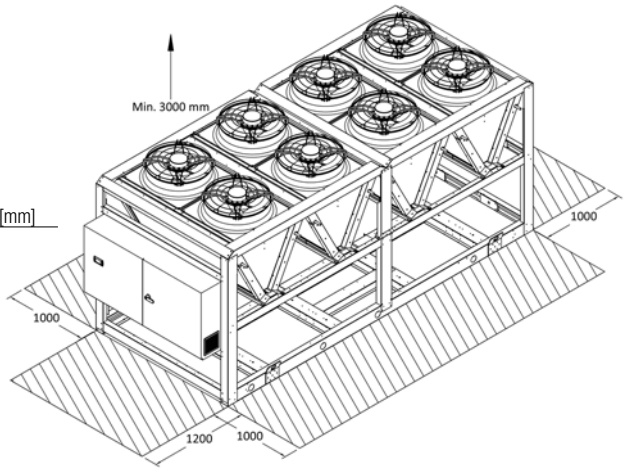
		EKS/BS **business**				EKS/HE **high efficiency**		
EKS range		**120-4-2**	**140-4-2**	**160-4-2**	**180-6-2**	**080-4-2HE**	**090-4-2HE**	**100-4-2HE**
Dimensions								
Lenght	mm	4.300				4.300		
Width	mm	2.345				2.345		
Height (ST - LN/SL)	mm	2.465 - 2.525				2.465 - 2.525		
Weights								
BASE unit / BP (brazed plates evaporator)	Kg	2.610	2.635	2.680	2.985	2.280	2.320	2.380
BASE unit / BS (shell & tubes evaporator)	Kg	2.690	2.715	2.745	3.050	2.315	2.400	2.440
INTEGRATA unit / IP (brazed plates evaporator)	Kg	2.815	2.840	2.880	3.190	2.215	2.490	2.550
INTEGRATA unit / IS (shell & tubes evaporator)	Kg	2.915	2.940	2.970	3.275	2.270	2.590	2.630
BASE unit / BP (brazed plates evaporator) / Low Noise	Kg	2.750	2.780	2.820	3.175	2.420	2.460	2.520
BASE unit / BS (shell & tubes evaporator) / Low Noise	Kg	2.830	2.855	2.885	3.240	2.455	2.540	2.580
INTEGRATA unit / IP (brazed plates evaporator) / Low Noise	Kg	2.955	2.980	3.020	3.380	2.355	2.630	2.690
INTEGRATA unit / IS (shell & tubes evaporator) / Low Noise	Kg	3.055	3.080	3.110	3.465	2.410	2.730	2.770

EKS
dimensions and operating spaces

EKS/BS business
200-6-2 ⟷ 240-6-2

EKS/HE high efficiency
110-4-2HE ⟷ 140-4-2HE

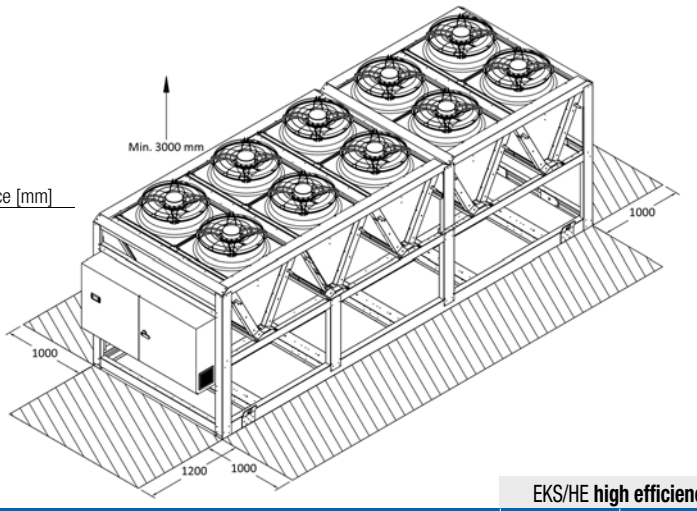
Minimum operating space [mm]



		EKS/BS **business**			EKS/HE **high efficiency**		
EKS range		**200-6-2**	**220-6-2**	**240-6-2**	**110-4-2HE**	**120-4-2HE**	**140-4-2HE**
Dimensions							
Lenght	mm	5.550			5.550		
Width	mm	2.345			2.345		
Height (ST - LN/SL)	mm	2.465 - 2.525			2.465 - 2.525		
Weights							
BASE unit / BP (brazed plates evaporator)	Kg	3.470	3.495	3.520	2.815	2.850	2.875
BASE unit / BS (shell & tubes evaporator)	Kg	3.580	3.615	3.640	2.865	2.900	2.985
INTEGRATA unit / IP (brazed plates evaporator)	Kg	3.675	3.700	3.725	2.970	3.040	3.065
INTEGRATA unit / IS (shell & tubes evaporator)	Kg	3.770	3.805	3.830	3.005	3.075	3.160
BASE unit / BP (brazed plates evaporator) / Low Noise	Kg	3.660	3.685	3.710	2.995	2.990	3.015
BASE unit / BS (shell & tubes evaporator) / Low Noise	Kg	3.770	3.615	3.830	3.005	3.040	3.125
INTEGRATA unit / IP (brazed plates evaporator) / Low Noise	Kg	3.865	3.670	3.915	3.110	3.180	3.205
INTEGRATA unit / IS (shell & tubes evaporator) / Low Noise	Kg	3.960	3.805	4.020	3.145	3.215	3.300

EKS/HE high efficiency
160-4-2HE ⟷ 180-6-2HE

Minimum operating space [mm]



		EKS/HE **high efficiency**	
EKS range		**160-4-2HE**	**180-6-2HE**
Dimensions			
Lenght	mm	6.800	
Width	mm	2.345	
Height (ST - LN/SL)	mm	2.465 - 2.525	
Weights			
BASE unit / BP (brazed plates evaporator)	Kg	3.325	3.630
BASE unit / BS (shell & tubes evaporator)	Kg	3.490	3.795
INTEGRATA unit / IP (brazed plates evaporator)	Kg	3.515	3.825
INTEGRATA unit / IS (shell & tubes evaporator)	Kg	3.645	3.950
BASE unit / BP (brazed plates evaporator) / Low Noise	Kg	3.465	3.820
BASE unit / BS (shell & tubes evaporator) / Low Noise	Kg	3.630	3.985
INTEGRATA unit / IP (brazed plates evaporator) / Low Noise	Kg	3.655	4.015
INTEGRATA unit / IS (shell & tubes evaporator) / Low Noise	Kg	3.880	4.140

Our plants
and quality management

Over 50 years of business
Since we set up business in 1963, the company's head offices have always been in Italy, near Milan. Today, our aim is to be a market leader in chillers with natural refrigerant (propane): by doing this, we are helping the industry to become more efficient, preserving natural resources and protecting the environment.

Organization in Italy
At our Italian plant spread over an area of 6,000 square metres, with a work force of 60 people, Euroklimat designs and produces refrigeration units, heat pumps and precision air conditioners that can be used both in industrial processes and traditional comfort applications.

Infinite quality
Euroklimat firmly believes that Customer Satisfaction is an indispensable factor for success. A priority objective to achieve this result is the constant improvement of our products, services and the relative production processes.
This objective means involving all of the company's resources with planned, systematic activities for Quality; for this reason, our system complies with the international standard UNI EN ISO 9001:2015.

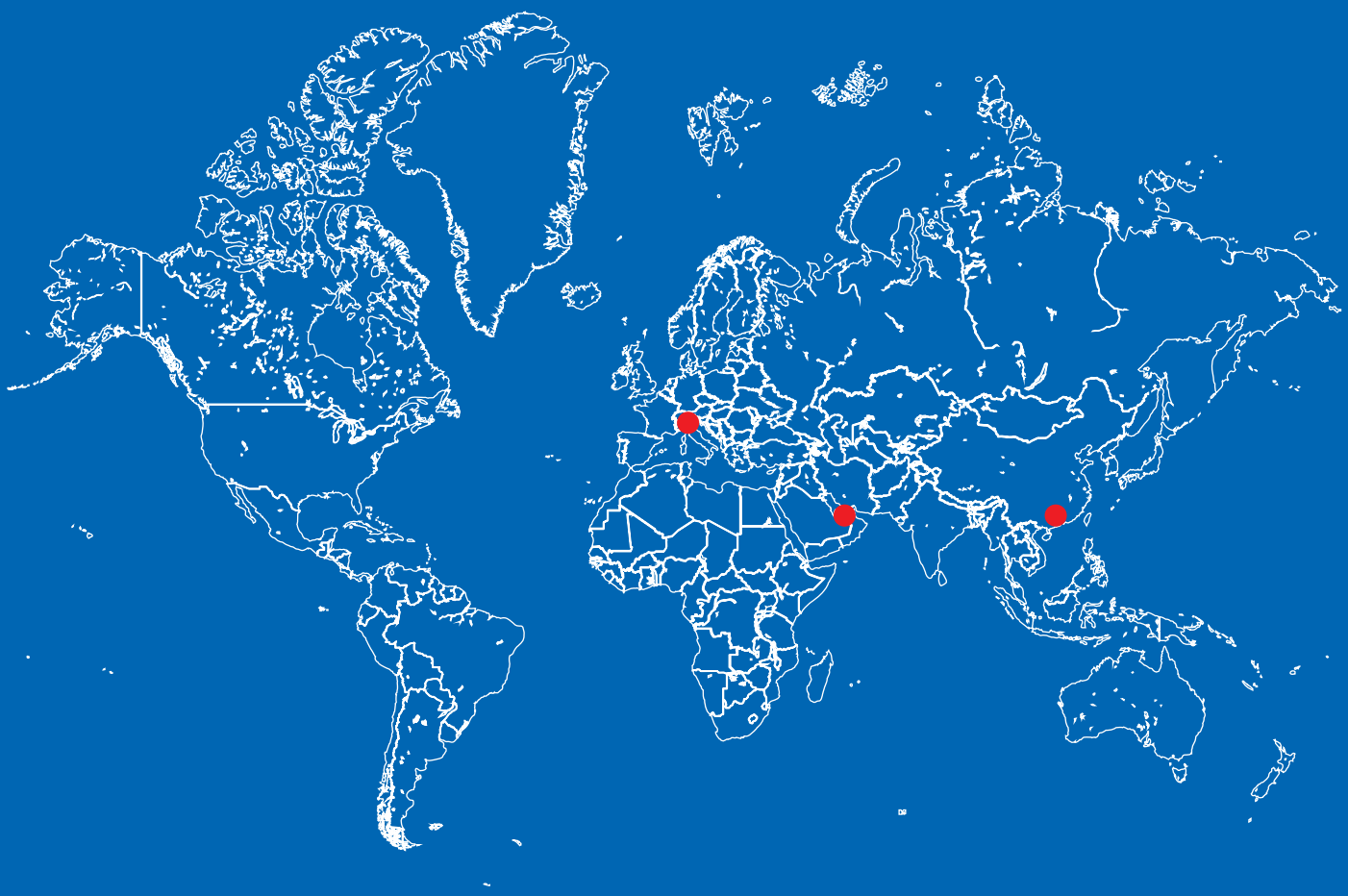
Organization in China
Our plant covers a surface of approximately 100,000 square metres, with over 1,000 people and includes a large test chamber and a sophisticated R&D laboratory, in addition to real production departments, where the performance of the units is measured before being placed on the market.

QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =


Factory Italy • Siziano - Italy


Factory China • Huangjiang, Dongguan, Guangdong



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HYDRO CARBONS 21

green cooling initiative

MV|Design

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