

EKE New Gen

21 ↔ 1404



Refrigerant
R454B | GWP=467



Scroll
Compressor



Axial
fan



Braze plate
heat exchanger



No Frost
evaporator



SEPR

Air to water chillers for high temperature applications



Solution

B - Base
I - Integrata

Version

ST - Standard
LN - Low Noise

Equipment

AS - Standard equipment
DS - Desuperheater

Cooling capacity 9 - 311 kW

MAIN FEATURES

Structure	Structure specifically designed and built to guarantee total resistance to atmospheric agents and corrosion. Base made of galvanized steel sheet, ovenpainted with polyurethane powders. Frame made of anodized aluminum profiles, with aluminum alloy corner joints. Paneling made of galvanized steel, externally coated with plastic film (PVC). LN: Low Noise version has panels lined inside with sound-absorbing material, to contain the sound levels of noisier components, such as the compressor.
Compressor	Hermetic rotary 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.
AC Fan (standard)	Low speed, axial-flow fans fitted with accident-prevention protective grille on air inlet; directly coupled motor with built-in thermal cut-out. Aerodynamic housing and the profile of blades increase efficiency and decrease noise level. Protection degree IP 54.
EC Fan (optional)	Premium-Axial-Fans with bionic 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	Finned coil made with copper pipes arranged on staggered rows, mechanically expanded inside a pack of aluminium fins offering a high exchange surface area.
Water heat exchanger	Base Braze plate-type heat exchanger, made of AISI 316 steel complete with water differential pressure switch. Shell covered with closed-cell neoprene anticondensate material. Integrata No Frost evaporator with copper tubes fitted into a carbon steel tank (under request stainless steel is available) with shell covered with closed-cell neoprene anti-condensate material; complete with water differential pressure switch.
Electrical board	Switchboard made according to standards IEC 204-1/EN60204-1, complete with main isolator switch, door interlock safety device, contactor and protection (fuse) for compressor(s), fan(s) and pump (if present) (overload switch standard for units 21, 31 and 51) and phase monitoring sequence relay. Power supply without neutral.
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	Circuit's main components are: filter drier, moisture-liquid sight glass, safety valve (if applicable), thermostatic expansion valve, HP and LP pressure safety switch. The refrigerant circuit is realized in compliance with PED Directive (2014/68/EU).
Water circuit	Base Interface to the plant that includes the water fittings of the evaporator only. Integrata This solution already mounts most of the water circuit components such as: discharge water valve, water gauge, safety valve water side, water tank, manual by pass valve, manual air venting valve, differential pressure switch, centrifugal pump for circulation of the water and electrical equipment for water pump.

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Air heat exchanger protection panel or filter
- Air heat exchanger with various coatings treatment
- Phase-cut modulating fan speed controller - CPC
- EC Fans (brushless motor)
- Refrigerant gas HP and LP pressure gauges
- Compressor crankcase oil heater
- Electromechanical/electronic water flow switch
- Overpressure valve / automatic by-pass
- Double water pump (stand-by)
- Open or Closed expansion vessel
- Min./max. voltage relay
- Advanced control c.pCo

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Technical data

EKE New Gen R454B		21	31	51	81	101	121
COOLING - A IN/ST/AS/**/OO version							
Cooling capacity ⁽¹⁾	[kW]	9,00	12,5	18,9	23,7	27,0	28,8
Total power input ⁽¹⁾	[kW]	3,29	3,9	5,9	7,5	8,9	8,2
EER - Energy Efficiency Ratio	-	2,73	3,25	3,20	3,17	3,03	3,50
"Ecodesign" compliance for process application (SEPR)	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
REFRIGERANT CIRCUIT							
Refrigerant	-	R454B					
GWP	-	467					
Charge of refrigerant - Base unit	[kg]	5,5	7,5	9,5	10,5	11,5	17,0
Number of refrigerant circuits	[n°]	1					
Compressors type	-	Scroll					
Compressors quantity	[n°]	1					
Condensing coils type	-	Cu/Al					
Fans type	-	Axial					
Fans quantity	[n°]	1					
Fans power input ⁽¹⁾ (total)	[kW]	0,24	0,48	0,5	0,85	0,88	0,88
Total air flow	[m ³ /h]	3.100	5.750	5.400	11.500	11.400	10.800
Expansion valve type	-	Electronic					
Main user fluid flow ⁽¹⁾	[m ³ /h]	1,6	2,2	3,3	4,1	4,7	5,0
Pressure drop (main user side) ⁽¹⁾	[kPa]	25,6	26,5	27,4	32,1	39,5	30,7
DESUPERHEATER (option) - A IN/ST/DS/**/OO							
Heating capacity ⁽²⁾	[kW]	4,16	4,1	6,6	7,4	9,2	8,4
Recover user fluid flow ⁽²⁾	[m ³ /h]	0,7	0,7	1,2	1,3	1,6	1,5
Pressure drop (recover user side) ⁽²⁾	[kPa]	13,6	13,4	9,7	11,3	15,9	10,4
Electrical data							
Power supply	-	400/3/50					
Maximum power input without pump	[kW]	4,8	6,0	9,0	11,9	14,0	14,0
Locked rotor current – LRA without pump	[A]	8,2	10,0	14,0	19,8	21,8	21,8
Maximum absorbed current - FLA without pump	[A]	42,0	51	73	101	112	112
Solution INTEGRATA							
Buffer tank capacity	[L]	30	60	60	160	160	160
Pump type	-	Centrifugal					
Standard pump							
Motor Efficiency	-	IE3					
Pump motor nominal power	[kW]	0,6	0,75	0,75	0,9	0,9	1,5
Pump motor nominal current	[A]	2,1	2	2	2,5	2,5	4,1
Standard pump							
Motor Efficiency	-	IE3					
Pump motor nominal power	[kW]	1,1	1,1	1,5	1,5	1,5	2,2
Pump motor nominal current	[A]	3,3	3,3	4,5	4,5	4,5	4,7
Water connections							
Dimension (nominal external diameter)	[inch/DN]	1/2" (DN15)	3/4" (DN20)	3/4" (DN20)	1" (DN 25)	1" (DN 25)	1" 1/4 (DN 32)
Noise levels ⁽³⁾							
Total sound power (ST version)	[db(A)]	82	76	76	77	77	78
Total sound pressure (ST version) - at 1 m distance	[db(A)]	67	60	60	60	60	61
Total sound pressure (ST version) - at 10 m distance	[db(A)]	51	45	45	45	45	46
Total sound power (LN version)	[db(A)]	79	73	73	74	74	75
Total sound pressure (LN version) - at 1 m distance	[db(A)]	64	57	57	57	57	58
Total sound pressure (LN version) - at 10 m distance	[db(A)]	48	42	42	42	42	43
Dimensions and weights							
Lenght	[mm]	980	980	980	1280	1280	1280
Width	[mm]	795	795	795	990	990	990
Height	[mm]	1820	1820	1820	2090	2090	2090
Weight BASE unit (brazed plates evaporator)	[kg]	215	240	250	400	415	420
Weight BASE unit (brazed plates evaporator) / LN low noise	[kg]	217	243	253	404	419	424
Weight INTEGRATA unit (No-Frost evaporator)	[kg]	230	265	275	460	480	485
Weight INTEGRATA unit (No-Frost evaporator) / LN low noise	[kg]	232	268	278	464	484	489

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temp. IN/OUT = 20/15 °C - Fluid: water - Condensing coil: Cu/Al. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temp. IN/OUT = 20/15 °C - Recovery user temp. IN/OUT = 40/45 °C - Fluid: water - Condensing coil: Cu/Al. Results according to UNI EN 14511-2022.

(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.

EKE New Gen

Technical data

EKE New Gen R454B		151	201	302	352	402	502	
COOLING - A IN/ST/AS/**/OO version								
Cooling capacity ⁽¹⁾	[kW]	31,9	47,7	65,0	82,1	92,8	109,0	
Total power input ⁽¹⁾	[kW]	8,86	13,5	18,3	23,8	28,9	31,5	
EER - Energy Efficiency Ratio	-	3,60	3,53	3,55	3,45	3,21	3,46	
"Ecodesign" compliance for process application (SEPR)	-	5,10	5,05	5,62	5,02	5,04	5,08	
REFRIGERANT CIRCUIT								
Refrigerant	-	R454B						
GWP	-	467						
Charge of refrigerant - Base unit	[kg]	5,5	7,5	9,5	10,5	11,5	17,0	
Number of refrigerant circuits	[n°]	1					2	
Compressors type	-	Scroll						
Compressors quantity	[n°]	1			2			
Condensing coils type	-	Cu/Al						
Fans type	-	Axial						
Fans quantity	[n°]	1	2				3	
Fans power input ⁽¹⁾ (total)	[kW]	0,92	1,6	1,6	3,8	4	2,5	
Total air flow	[m ³ /h]	10.800	21.650	23.800	30.400	30.200	33.360	
Expansion valve type	-	Electronic						
Main user fluid flow ⁽¹⁾	[m ³ /h]	5,5	8,2	11,2	14,2	16,0	18,9	
Pressure drop (main user side) ⁽¹⁾	[kPa]	39,6	12,3	28	41,1	50,4	28,9	
DESUPERHEATER (option) - A IN/ST/DS/**/OO								
Heating capacity ⁽²⁾	[kW]	9,59	14,6	21,5	24,6	32,5	35,9	
Recover user fluid flow ⁽²⁾	[m ³ /h]	1,7	2,5	3,7	4,3	5,6	6,2	
Pressure drop (recover user side) ⁽²⁾	[kPa]	16,2	26,3	47,7	56,3	45,5	40,1	
Electrical data								
Power supply	-	400/3/50						
Maximum power input without pump	[kW]	13,2	19,8	26,5	34,8	39,6	44,7	
Locked rotor current – LRA without pump	[A]	23,1	33,7	46,1	59,2	68,2	76,8	
Maximum absorbed current - FLA without pump	[A]	124,8	176	148	179	210	246	
Solution INTEGRATA								
Buffer tank capacity	[L]	160	270	390	390	390	490	
Pump type	-	Centrifugal						
Standard pump								
Motor Efficiency	-	IE3						
Pump motor nominal power	[kW]	1,5	1,5	2,2	2,2	2,2	4	
Pump motor nominal current	[A]	4,1	4,1	4,7	4,7	4,7	8,7	
Standard pump								
Motor Efficiency	-	IE3						
Pump motor nominal power	[kW]	2,2	2,2	4	4	4	7,5	
Pump motor nominal current	[A]	4,7	6,4	8,7	8,7	8,7	13,6	
Water connections								
Dimension (nominal external diameter)	[inch/DN]	1" 1/4 (DN 32)	1" 1/4 (DN 32)	1" 1/2 (DN 40)	2" (DN 50)	2" (DN 50)	2" (DN 50)	
Noise levels ⁽³⁾								
Total sound power (ST version)	[db(A)]	78	80	89	89	89	90	
Total sound pressure (ST version) - at 1 m distance	[db(A)]	61	63	71	71	71	72	
Total sound pressure (ST version) - at 10 m distance	[db(A)]	46	48	57	57	57	58	
Total sound power (LN version)	[db(A)]	75	77	86	86	86	87	
Total sound pressure (LN version) - at 1 m distance	[db(A)]	58	60	68	68	68	69	
Total sound pressure (LN version) - at 10 m distance	[db(A)]	43	45	54	54	54	55	
Dimensions and weights								
Length	[mm]	1280	1930	2580	2580	2580	3520	
Width	[mm]	990	990	990	990	990	990	
Height	[mm]	2090	2190	2268	2268	2268	2250	
Weight BASE unit (brazed plates evaporator)	[kg]	430	565	885	960	985	1140	
Weight BASE unit (brazed plates evaporator) / LN low noise	[kg]	434	570	892	967	992	1150	
Weight INTEGRATA unit (No-Frost evaporator)	[kg]	495	660	995	1100	1120	1320	
Weight INTEGRATA unit (No-Frost evaporator) / LN low noise	[kg]	499	665	1002	1107	1127	1330	

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temp. IN/OUT = 20/15 °C - Fluid: water - Condensing coil: Cu/Al. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temp. IN/OUT = 20/15 °C - Recovery user temp. IN/OUT = 40/45 °C - Fluid: water - Condensing coil: Cu/Al. Results according to UNI EN 14511-2022.

(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.

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Technical data

EKE New Gen R454B		602	702	804	1004	1204	1404
COOLING - A IN/ST/AS/**/OO version							
Cooling capacity ⁽¹⁾	[kW]	123	134	193	242	287	311
Total power input ⁽¹⁾	[kW]	38,4	44,3	56,3	75,7	84,1	95,2
EER - Energy Efficiency Ratio	-	3,20	3,02	3,43	3,20	3,41	3,27
"Ecodesign" compliance for process application (SEPR)	-	5,00	5,01	5,18	5,08	5,38	5,26
REFRIGERANT CIRCUIT							
Refrigerant	-	R454B					
GWP	-	467					
Charge of refrigerant - Base unit	[kg]	19,0	22,0	30,0	40,0	54,0	58,0
Number of refrigerant circuits	[n°]	2					
Compressors type	-	Scroll					
Compressors quantity	[n°]	2			4		
Condensing coils type	-	Cu/Al					
Fans type	-	Axial					
Fans quantity	[n°]	3			4		6
Fans power input ⁽¹⁾ (total)	[kW]	5,8	5,9	7,5	8,5	10,7	11
Total air flow	[m ³ /h]	44.200	44.100	75.500	71.350	114.900	114.600
Expansion valve type	-	Electronic					
Main user fluid flow ⁽¹⁾	[m ³ /h]	21,3	23,2	33,4	41,8	49,5	53,7
Pressure drop (main user side) ⁽¹⁾	[kPa]	34,5	39,3	72,3	105,3	58,6	66,8
DESUPERHEATER (option) - A IN/ST/DS/**/OO							
Heating capacity ⁽²⁾	[kW]	40,3	49,0	62,5	86,2	91,9	108,0
Recover user fluid flow ⁽²⁾	[m ³ /h]	7,0	8,4	10,8	14,9	15,9	18,7
Pressure drop (recover user side) ⁽²⁾	[kPa]	45,4	58,7	45,6	33,3	36,2	46,4
Electrical data							
Power supply	-	400/3/50					
Maximum power input without pump	[kW]	53,7	61,7	79,2	104	123	139
Locked rotor current – LRA without pump	[A]	94,3	106	136	181	212	235
Maximum absorbed current - FLA without pump	[A]	264	276	278	351	382	392
Solution INTEGRATA							
Buffer tank capacity	[L]	490	490	470	470	470	470
Pump type	-	Centrifugal					
Standard pump							
Motor Efficiency	-	IE3					
Pump motor nominal power	[kW]	4	4	4	7,5	7,5	7,5
Pump motor nominal current	[A]	8,7	8,7	8,7	13,6	13,6	13,6
Standard pump							
Motor Efficiency	-	IE3					
Pump motor nominal power	[kW]	7,5	7,5	7,5	11	11	11
Pump motor nominal current	[A]	13,6	13,6	13,6	21,3	21,3	21,3
Water connections							
Dimension (nominal external diameter)	[inch/DN]	2" 1/2 (DN 65)	2" 1/2 (DN 65)	3" (DN 80)	3" (DN 80)	4" (DN 100)	4" (DN 100)
Noise levels ⁽³⁾							
Total sound power (ST version)	[dB(A)]	91	91	91	93	93	94
Total sound pressure (ST version) - at 1 m distance	[dB(A)]	72	73	72	74	73	74
Total sound pressure (ST version) - at 10 m distance	[dB(A)]	59	59	59	61	61	61
Total sound power (LN version)	[dB(A)]	88	88	88	90	90	91
Total sound pressure (LN version) - at 1 m distance	[dB(A)]	69	70	69	71	70	71
Total sound pressure (LN version) - at 10 m distance	[dB(A)]	56	56	56	58	58	58
Dimensions and weights							
Length	[mm]	3520	3520	3900	3900	5000	5000
Width	[mm]	990	990	2000	2000	2000	2000
Height	[mm]	2328	2328	1946	1946	2245	2245
Weight BASE unit (brazed plates evaporator)	[kg]	1200	1220	2040	2065	2260	2380
Weight BASE unit (brazed plates evaporator) / LN low noise	[kg]	1210	1230	2048	2073	2270	2390
Weight INTEGRATA unit (No-Frost evaporator)	[kg]	1380	1400	2280	2300	2590	2700
Weight INTEGRATA unit (No-Frost evaporator) / LN low noise	[kg]	1390	1410	2288	2308	2600	2710

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temp. IN/OUT = 20/15 °C - Fluid: water - Condensing coil: Cu/Al. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temp. IN/OUT = 20/15 °C - Recovery user temp. IN/OUT = 40/45 °C - Fluid: water - Condensing coil: Cu/Al. Results according to UNI EN 14511-2022.

(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.