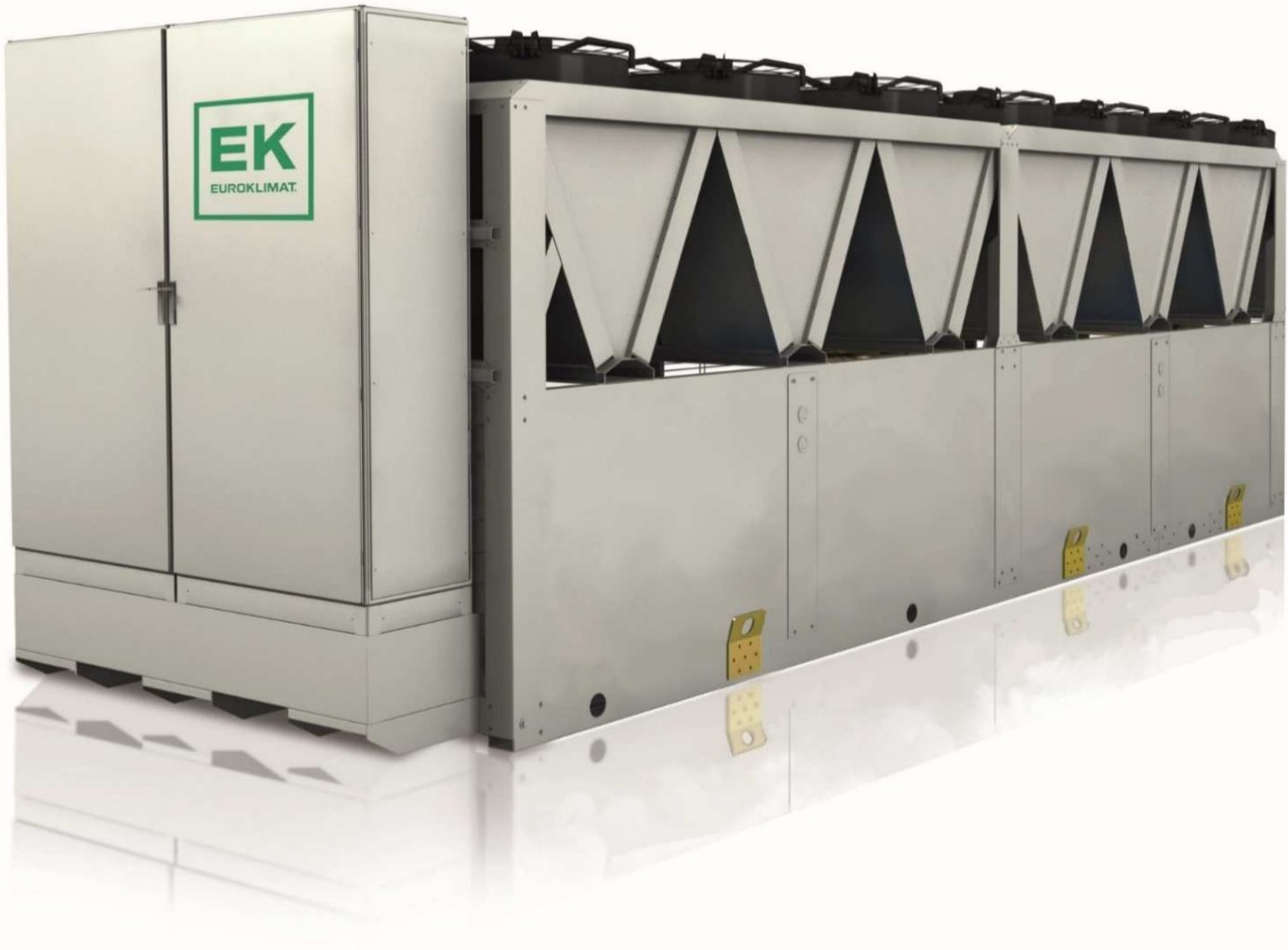
Technical Catalogue

CRIO.V

R290 SEPR

Air-Cooled Chiller for Medium Temperature application

Nominal Cooling Capacity: 211-860 kW



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JNC
J. Negre C., S.L.
Soluciones desde 1991

EK EUROKLIMAT
Cooling System Solutions

CRIO.V BS

260-1-1 ⟷ 860-2-2

R290 Refrigerant R290 | GWP=3

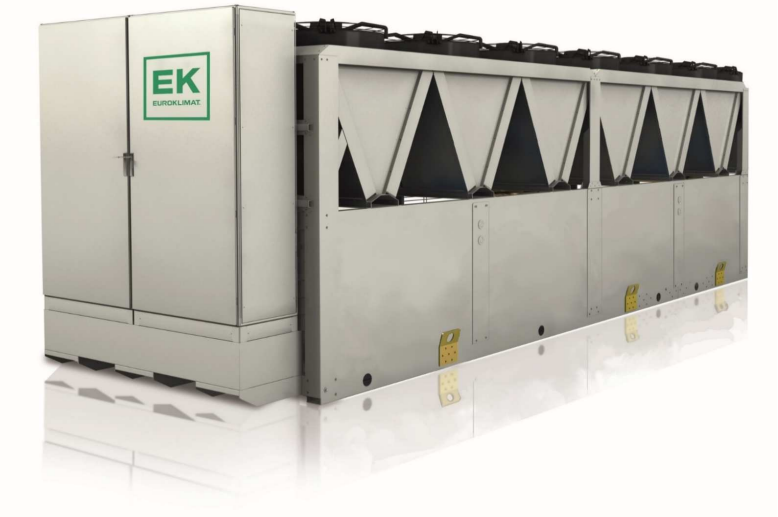
Shell & Tube exchanger

Screw Compressors

Inverter

Axial fan

Air to water chiller for medium temperature application



Solution

B - Base
P - Base with Pump

Version

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

Equipment

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

Cooling capacity 252 - 862 kW

Safety system	To ensure high-safety-level the unit is equipped with an **ATEX certified gas detector and an EC centrifugal extraction fan**. The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
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 with inverter	**Screw Compressor** Compact twin screw compressor specifically designed and optimized for operation with R290 refrigerant (propane). The sophisticated three-stage oil separation system minimises oil dragging towards the system. Fitted on rubber antivibration mounts and complete with oil charge.
EC Fan	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	**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.
Evaporator	**Shell & tubes evaporator** 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	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
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 drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Air heat exchanger with various coatings treatment
- Low pressure switch
- Low pressure safety valve
- Double safety valve
- Overpressure valve / automatic by-pass
- Double water pump (stand-by) - Standard/ High pressure

CRIO.V BS

Technical data

CRIO.V BS range		260-1-1	340-1-1	435-1-1	285-2-2	335-2-2
A BS/ST/AS/EC/II version						
Cooling capacity [(1)]	**[kW]**	**252**	**338**	**433**	**287**	**334**
Total power input [(1)]	[kW]	136	175	231	168	188
EER - Energy Efficiency Ratio [(1)]	-	1,85	1,93	1,87	1,71	1,78
Water flow [(1)]	[m^3/h]	62	83	106	70	82
User circuit pressure drop [(1)] - Base version	[kPa]	55	48	54	36	49
SEPR (Seasonal Energy Performance Ratio)						
Ecodesign compliance for process application	**[-]**	**3,202**	**3,434**	**3,303**	**2,963**	**3,049**

REFRIGERANT CIRCUIT						
Refrigerant	-	R290				
GWP	-	3				
Charge of refrigerant per circuit	[kg]	19	26	34	10	13
Independent gas circuits	[n°]	1			2	
Compressors type	-	Screw Compressor				
Compressor quantity	[n°]	1			2	
Condensing coil type	-	Microchannel coil				
Fans quantity / type	[n°]	6 / EC	8 / EC	10 / EC	6 / EC	8 / EC
Fans power input (total) [(1)]	[kW]	12	15	19	12	15
Total air flow [(1)]	[m3/h]	133700	178300	222700	133100	178200
Expansion valve type	-	Electronic				

DESUPERHEATER (option)						
Heating capacity [(2)]	**[kW]**	**67,9**	**83,7**	**115**	**93,3**	**96,7**
Water flow	[m^3/h]	11,8	14,5	19,9	16,1	16,7
User circuit pressure drop	[kPa]	5,8	6,0	7,6	9,4	9,8

HEAT RECOVERY (option)						
Heating capacity [(2)]	**[kW]**	**357**	**464**	**602**	**414**	**474**
Water flow	[m^3/h]	62,0	80,6	105,0	71,8	82,2
User circuit pressure drop	[kPa]	34,0	35,1	36,1	35,1	38,3

Electrical data						
Power supply	-	400/3/50				
Emergency power supply	-	230/1/50				
Maximum power input without pump	[kW]	135	200	257	188	218
Maximum absorbed current - MRA without pump	[A]	274	370	475	349	388
Locked rotor current – LRA without pump	[A]	274	370	475	349	388

SOLUTION BASE-P - with Hydronic Kit						
Pump type	-	Centrifugal				
Available Head level	-	LP (1,5 bar) - MP (3,0 bar) - HP (5,0 bar)				
Water connections dimension (nominal external diameter)	[DN]	100	100	125	100	100

DIMENSIONS AND WEIGHTS - Standard unit						
Lenght	[mm]	4015	5135	6255	4015	5135
Width	[mm]	2280	2280	2280	2280	2280
Height (LN)	[mm]	2535	2535	2535	2535	2535
Height (SL)	[kg]	2560	2560	2560	2560	2560
Shipping weight	[kg]	3010	4240	4820	3450	4120

Noise levels [(3)]						
Total sound power (ST version)	[db(A)]	92	94	94	91	92
Total sound pressure (ST version) - at 1 m distance	[db(A)]	72	73	73	71	71
Total sound pressure (ST version) - at 10 m distance	[db(A)]	60	61	62	59	59
Total sound power (LN version)	[db(A)]	90	92	92	90	90
Total sound pressure (LN version) - at 1 m distance	[db(A)]	70	71	71	70	70
Total sound pressure (LN version) - at 10 m distance	[db(A)]	58	60	60	57	58
Total sound power (SL version)	[db(A)]	89	90	91	88	88
Total sound pressure (SL version) - at 1 m distance	[db(A)]	69	70	70	68	68
Total sound pressure (SL version) - at 10 m distance	[db(A)]	56	58	58	56	56

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Condensing coil: Cu/Al or microchannel according to models. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Recovery user temp. IN/OUT = 40/45 °C; Fluid: water - Condensing coil: Cu/Al or microchannel according to models. 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.

CRIO.V BS

Technical data

CRIO.V BS range		370-2-2 BS	420-2-2 BS	515-2-2 BS	585-2-2 BS
A BS/ST/AS/EC/II version					
Cooling capacity [1]	**[kW]**	**365**	**411**	**503**	**573**
Total power input [1]	[kW]	213	227	272	296
EER - Energy Efficiency Ratio [1]	-	1,71	1,81	1,85	1,94
Water flow [1]	[m^3/h]	89	101	123	140
User circuit pressure drop [1] - Base version	[kPa]	57	51	70	75
SEPR (Seasonal Energy Performance Ratio)					
Ecodesign compliance for process application	**[-]**	**3,047**	**3,115**	**3,234**	**3,297**

REFRIGERANT CIRCUIT					
Refrigerant	-	R290			
GWP	-	3			
Charge of refrigerant per circuit	[kg]	28	32	40	46
Independent gas circuits	[n°]	2			
Compressors type	-	Screw Compressor			
Compressor quantity	[n°]	2			
Condensing coil type	-	Microchannel coil			
Fans quantity / type	[n°]	8 / EC	10 / EC	12 / EC	14 / EC
Fans power input (total) [1]	[kW]	15	19	23	27
Total air flow [1]	[m3/h]	177700	222900	267400	312300
Expansion valve type	-	Electronic			

DESUPERHEATER (option)					
Heating capacity [2]	**[kW]**	**115**	**115**	**136**	**140**
Water flow	[m^3/h]	19,9	20,0	23,5	24,4
User circuit pressure drop	[kPa]	8,7	10,3	7,8	8,0

HEAT RECOVERY (option)					
Heating capacity [2]	**[kW]**	**532**	**586**	**714**	**798**
Water flow	[m^3/h]	92,3	102,0	124,0	139,0
User circuit pressure drop	[kPa]	35,3	38,2	35,9	36,4

Electrical data					
Power supply	-	400/3/50			
Emergency power supply	-	230/1/50			
Maximum power input without pump	[kW]	247	271	269	341
Maximum absorbed current - MRA without pump	[A]	428	484	548	631
Locked rotor current – LRA without pump	[A]	428	484	548	631

SOLUTION BASE-P - with Hydronic Kit					
Pump type	-	Centrifugal			
Available Head level	-	LP (1,5 bar) - MP (3,0 bar) - HP (5,0 bar)			
Water connections dimension (nominal external diameter)	[DN]	125	125	150	150

DIMENSIONS AND WEIGHTS - Standard unit					
Lenght	[mm]	5135	6255	7375	8495
Width	[mm]	2280	2280	2280	2280
Height (LN)	[mm]	2535	2535	2535	2535
Height (SL)	[kg]	2560	2560	2560	2560
Shipping weight	[kg]	4140	5220	5960	6480

Noise levels [3]					
Total sound power (ST version)	[db(A)]	94	94	95	97
Total sound pressure (ST version) - at 1 m distance	[db(A)]	73	73	74	75
Total sound pressure (ST version) - at 10 m distance	[db(A)]	61	62	63	64
Total sound power (LN version)	[db(A)]	92	93	93	95
Total sound pressure (LN version) - at 1 m distance	[db(A)]	71	72	72	73
Total sound pressure (LN version) - at 10 m distance	[db(A)]	59	60	61	62
Total sound power (SL version)	[db(A)]	90	91	92	93
Total sound pressure (SL version) - at 1 m distance	[db(A)]	70	70	70	71
Total sound pressure (SL version) - at 10 m distance	[db(A)]	58	58	59	60

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Condensing coil: Cu/Al or microchannel according to models. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Recovery user temp. IN/OUT = 40/45 °C; Fluid: water - Condensing coil: Cu/Al or microchannel according to models. 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.

CRIO.V BS

Technical data

CRIO.V BS range		670-2-2 BS	730-2-2 BS	860-2-2 BS	665-4-4 BS
A BS/ST/AS/EC/II version					
Cooling capacity [1]	**[kW]**	**672**	**731**	**862**	**663**
Total power input [1]	[kW]	349	389	463	376
EER - Energy Efficiency Ratio [1]	-	1,93	1,88	1,86	1,76
Water flow [1]	[m^3/h]	164	179	211	162
User circuit pressure drop [1] - Base version	[kPa]	63	63	78	79
SEPR (Seasonal Energy Performance Ratio)					
Ecodesign compliance for process application	**[-]**	**3,462**	**3,209**	**3,310**	**3,077**

REFRIGERANT CIRCUIT					
Refrigerant	-	R290			
GWP	-	3			
Charge of refrigerant per circuit	[kg]	50	66	71	47
Independent gas circuits	[n°]	2			4
Compressors type	-	Screw Compressor			
Compressor quantity	[n°]	2			4
Condensing coil type	-	Microchannel coil			
Fans quantity / type	[n°]	16 / EC	18 / EC	20 / EC	16 / EC
Fans power input (total) [1]	[kW]	31	35	38	31
Total air flow [1]	[m3/h]	356700	401500	445400	356500
Expansion valve type	-	Electronic			

DESUPERHEATER (option)					
Heating capacity [2]	**[kW]**	**167**	**188**	**230**	**193**
Water flow	[m^3/h]	28,9	32,6	39,7	33,4
User circuit pressure drop	[kPa]	8,0	8,9	9,6	13,7

HEAT RECOVERY (option)					
Heating capacity [2]	**[kW]**	**926**	**1010**	**1200**	**942**
Water flow	[m^3/h]	161,0	175,0	209,0	163,0
User circuit pressure drop	[kPa]	36,9	38,5	37,9	42,0

Electrical data					
Power supply	-	400/3/50			
Emergency power supply	-	230/1/50			
Maximum power input without pump	[kW]	400	380	514	436
Maximum absorbed current - MRA without pump	[A]	741	836	950	777
Locked rotor current – LRA without pump	[A]	741	836	950	777

SOLUTION BASE-P - with Hydronic Kit					
Pump type	-	Centrifugal			
Available Head level	-	LP (1,5 bar) - MP (3,0 bar) - HP (5,0 bar)			
Water connections dimension (nominal external diameter)	[DN]	150	150	200	150

DIMENSIONS AND WEIGHTS - Standard unit					
Lenght	[mm]	9615	10735	11855	10015
Width	[mm]	2280	2280	2280	2280
Height (LN)	[mm]	2535	2535	2535	2535
Height (SL)	[kg]	2560	2560	2560	2560
Shipping weight	[kg]	8510	9010	9760	7980

Noise levels [3]					
Total sound power (ST version)	[db(A)]	97	97	97	95
Total sound pressure (ST version) - at 1 m distance	[db(A)]	75	75	74	73
Total sound pressure (ST version) - at 10 m distance	[db(A)]	64	64	64	62
Total sound power (LN version)	[db(A)]	95	95	95	93
Total sound pressure (LN version) - at 1 m distance	[db(A)]	73	73	73	71
Total sound pressure (LN version) - at 10 m distance	[db(A)]	62	62	62	60
Total sound power (SL version)	[db(A)]	93	94	94	91
Total sound pressure (SL version) - at 1 m distance	[db(A)]	71	71	71	69
Total sound pressure (SL version) - at 10 m distance	[db(A)]	60	60	61	59

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Condensing coil: Cu/Al or microchannel according to models. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Recovery user temp. IN/OUT = 40/45 °C; Fluid: water - Condensing coil: Cu/Al or microchannel according to models. 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.

CRIO.V HE

230-1-1 ⟷ 755-4-4

R290 Refrigerant R290 | GWP=3

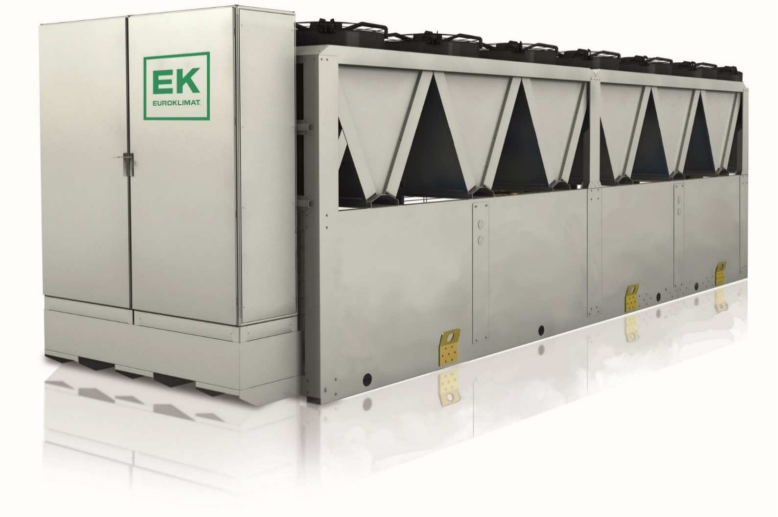
Shell & Tube exchanger

Screw Compressors

Inverter

Axial fan

Air to water chiller for medium temperature application



Solution

B - Base
P - Base with Pump

Version

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

Equipment

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

Cooling capacity 211 - 706 kW

Safety system	To ensure high-safety-level the unit is equipped with an **ATEX certified gas detector and an EC centrifugal extraction fan**. The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
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 with inverter	**Screw Compressor** Compact twin screw compressor specifically designed and optimized for operation with R290 refrigerant (propane). The sophisticated three-stage oil separation system minimises oil dragging towards the system. Fitted on rubber antivibration mounts and complete with oil charge.
EC Fan	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	**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.
Evaporator	**Shell & tubes evaporator** 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	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
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 drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Air heat exchanger with various coatings treatment
- Low pressure switch
- Low pressure safety valve
- Double safety valve
- Overpressure valve / automatic by-pass
- Double water pump (stand-by) - Standard/ High pressure

CRIO.V HE

Technical data

CRIO.V HE range		225-1-1 HE	275-1-1 HE	315-1-1 HE	365-1-1 HE	390-1-1 HE
A BS/ST/AS/EC/II version						
Cooling capacity [1]	**[kW]**	**211**	**256**	**293**	**347**	**371**
Total power input [1]	[kW]	113	132	147	172	194
EER - Energy Efficiency Ratio [1]	-	1,87	1,94	1,99	2,02	1,91
Water flow [1]	[m^3/h]	51,7	62,7	71,6	84,8	90,9
User circuit pressure drop [1] - Base version	[kPa]	56,6	56,9	58,0	54,7	61,5
SEPR (Seasonal Energy Performance Ratio)						
Ecodesign compliance for process application	**[-]**	**3,227**	**3,324**	**3,407**	**3,567**	**3,259**

REFRIGERANT CIRCUIT						
Refrigerant	-	R290				
GWP	-	3				
Charge of refrigerant per circuit	[kg]	21	23	24	29	32
Independent gas circuits	[n°]	1				
Compressors type	-	Screw Compressor				
Compressor quantity	[n°]	1				
Condensing coil type	-	Microchannel coil				
Fans quantity / type	[n°]	6 / EC	8 / EC		10 / EC	
Fans power input (total) [1]	[kW]	11	13	15	17	19
Total air flow [1]	[m3/h]	129300	167400	174700	214300	219900
Expansion valve type	-	Electronic				

DESUPERHEATER (option)						
Heating capacity [2]	**[kW]**	**54,1**	**61,6**	**66,7**	**76,9**	**90,4**
Water flow	[m^3/h]	9,4	10,7	11,6	13,3	15,7
User circuit pressure drop	[kPa]	7,6	5,1	5,6	5,5	6,6

HEAT RECOVERY (option)						
Heating capacity [2]	**[kW]**	**296**	**357**	**403**	**469**	**509**
Water flow	[m^3/h]	51,3	62,0	69,9	81,3	88,3
User circuit pressure drop	[kPa]	36,9	34,0	35,0	35,6	36,9

Electrical data						
Power supply	-	400/3/50				
Emergency power supply	-	230/1/50				
Maximum power input without pump	[kW]	139	141	174	206	193
Maximum absorbed current - MRA without pump	[A]	247	283	320	380	423
Locked rotor current – LRA without pump	[A]	247	283	320	380	423

SOLUTION BASE-P - with Hydronic Kit						
Pump type	-	Centrifugal				
Available Head level	-	LP (1,5 bar) - MP (3,0 bar) - HP (5,0 bar)				
Water connections dimension (nominal external diameter)	[DN]	80	100	100	100	125

DIMENSIONS AND WEIGHTS - Standard unit						
Lenght	[mm]	4015	5135	5135	6255	6255
Width	[mm]	2280	2280	2280	2280	2280
Height (LN)	[mm]	2535	2535	2535	2535	2535
Height (SL)	[kg]	2560	2560	2560	2560	2560
Shipping weight	[kg]	3180	3760	3830	5080	5110

Noise levels [3]						
Total sound power (ST version)	[db(A)]	91	92	94	94	94
Total sound pressure (ST version) - at 1 m distance	[db(A)]	72	72	73	73	73
Total sound pressure (ST version) - at 10 m distance	[db(A)]	59	60	61	61	62
Total sound power (LN version)	[db(A)]	90	91	92	92	92
Total sound pressure (LN version) - at 1 m distance	[db(A)]	70	70	71	71	71
Total sound pressure (LN version) - at 10 m distance	[db(A)]	57	58	59	59	60
Total sound power (SL version)	[db(A)]	88	89	90	90	91
Total sound pressure (SL version) - at 1 m distance	[db(A)]	68	68	70	69	70
Total sound pressure (SL version) - at 10 m distance	[db(A)]	56	56	58	58	58

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Condensing coil: Cu/Al or microchannel according to models. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Recovery user temp. IN/OUT = 40/45 °C; Fluid: water - Condensing coil: Cu/Al or microchannel according to models. 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.

CRIO.V HE

Technical data

CRIO.V HE range		460-1-1 HE	310-2-2 HE	360-2-2 HE	405-2-2 HE	445-2-2 HE
A BS/ST/AS/EC/II version						
Cooling capacity [(1)]	**[kW]**	**439**	**297**	**344**	**378**	**417**
Total power input [(1)]	[kW]	226	165	185	209	224
EER - Energy Efficiency Ratio [(1)]	-	1,94	1,80	1,86	1,81	1,86
Water flow [(1)]	[m^3/h]	107,0	72,6	84,3	92,5	102,0
User circuit pressure drop [(1)] - Base version	[kPa]	55,1	61,3	56,1	65,4	52,6
SEPR (Seasonal Energy Performance Ratio)						
Ecodesign compliance for process application	**[-]**	**3,393**	**3,094**	**3,165**	**3,166**	**3,176**

REFRIGERANT CIRCUIT						
Refrigerant	-	R290				
GWP	-	3				
Charge of refrigerant per circuit	[kg]	38	24	29	31	36
Independent gas circuits	[n°]	1	2			
Compressors type	-	Screw Compressor				
Compressor quantity	[n°]	1	2			
Condensing coil type	-	Microchannel coil				
Fans quantity / type	[n°]	12 / EC	8 / EC	10 / EC		12 / EC
Fans power input (total) [(1)]	[kW]	22	15	17	19	21
Total air flow [(1)]	[m3/h]	260500	175800	219200	221100	257200
Expansion valve type	-	Electronic				

DESUPERHEATER (option)						
Heating capacity [(2)]	**[kW]**	**107**	**83**	**90**	**105**	**108**
Water flow	[m^3/h]	18,5	14,4	15,6	18,2	18,8
User circuit pressure drop	[kPa]	6,9	8,4	9,1	8,0	9,6

HEAT RECOVERY (option)						
Heating capacity [(2)]	**[kW]**	**603**	**417**	**479**	**538**	**587**
Water flow	[m^3/h]	105,0	72,3	83,0	93,3	102,0
User circuit pressure drop	[kPa]	36,1	35,4	38,9	36,1	38,3

Electrical data						
Power supply	-	400/3/50				
Emergency power supply	-	230/1/50				
Maximum power input without pump	[kW]	263	194	224	253	277
Maximum absorbed current - MRA without pump	[A]	485	358	398	438	494
Locked rotor current – LRA without pump	[A]	485	358	398	438	494

SOLUTION BASE-P - with Hydronic Kit						
Pump type	-	Centrifugal				
Available Head level	-	LP (1,5 bar) - MP (3,0 bar) - HP (5,0 bar)				
Water connections dimension (nominal external diameter)	[DN]	125	100	100	125	125

DIMENSIONS AND WEIGHTS - Standard unit						
Lenght	[mm]	7375	5135	6255	6255	7375
Width	[mm]	2280	2280	2280	2280	2280
Height (LN)	[mm]	2535	2535	2535	2535	2535
Height (SL)	[kg]	2560	2560	2560	2560	2560
Shipping weight	[kg]	5750	4250	4990	5010	6170

Noise levels [(3)]						
Total sound power (ST version)	[db(A)]	94	91	92	94	94
Total sound pressure (ST version) - at 1 m distance	[db(A)]	73	71	71	73	73
Total sound pressure (ST version) - at 10 m distance	[db(A)]	62	59	59	61	62
Total sound power (LN version)	[db(A)]	92	90	90	92	93
Total sound pressure (LN version) - at 1 m distance	[db(A)]	71	69	69	71	71
Total sound pressure (LN version) - at 10 m distance	[db(A)]	60	57	58	59	60
Total sound power (SL version)	[db(A)]	91	88	89	90	91
Total sound pressure (SL version) - at 1 m distance	[db(A)]	69	68	68	69	70
Total sound pressure (SL version) - at 10 m distance	[db(A)]	58	56	56	58	58

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Condensing coil: Cu/Al or microchannel according to models. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Recovery user temp. IN/OUT = 40/45 °C; Fluid: water - Condensing coil: Cu/Al or microchannel according to models. 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.

CRIO.V HE

Technical data

CRIO.V HE range		545-2-2 HE	620-2-2 HE	710-2-2 HE	770-2-2 HE	755-4-4 HE
A BS/ST/AS/EC/II version						
Cooling capacity [(1)]	**[kW]**	**509**	**578**	**677**	**740**	**706**
Total power input [(1)]	[kW]	268	293	347	387	388
EER - Energy Efficiency Ratio [(1)]	-	1,90	1,97	1,95	1,91	1,82
Water flow [(1)]	[m^3/h]	124	141	166	181	173
User circuit pressure drop [(1)] - Base version	[kPa]	70,8	76,2	63,9	66,2	58,8
SEPR (Seasonal Energy Performance Ratio)						
Ecodesign compliance for process application	**[-]**	**3,307**	**3,351**	**3,533**	**3,312**	**3,176**

REFRIGERANT CIRCUIT						
Refrigerant	-	R290				
GWP	-	3				
Charge of refrigerant per circuit	[kg]	44	50	54	71	56
Independent gas circuits	[n°]	2				4
Compressors type	-	Screw Compressor				
Compressor quantity	[n°]	2				4
Condensing coil type	-	Microchannel coil				
Fans quantity / type	[n°]	14 / EC	16 / EC	18 / EC	20 / EC	
Fans power input (total) [(1)]	[kW]	26	29	34	37	35
Total air flow [(1)]	[m3/h]	305900	347300	399900	438600	431900
Expansion valve type	-	Electronic				

DESUPERHEATER (option)						
Heating capacity [(2)]	**[kW]**	**128**	**133**	**159**	**181**	**194**
Water flow	[m^3/h]	22,2	23,1	27,5	31,4	33,7
User circuit pressure drop	[kPa]	7,4	7,6	7,6	8,6	12,6

HEAT RECOVERY (option)						
Heating capacity [(2)]	**[kW]**	**714**	**799**	**926**	**1020**	**1000**
Water flow	[m^3/h]	124,0	139,0	161,0	176,0	174,0
User circuit pressure drop	[kPa]	35,9	36,4	36,9	38,7	39,1

Electrical data						
Power supply	-	400/3/50				
Emergency power supply	-	230/1/50				
Maximum power input without pump	[kW]	275	348	406	386	410
Maximum absorbed current - MRA without pump	[A]	557	641	750	846	832
Locked rotor current – LRA without pump	[A]	557	641	750	846	832

SOLUTION BASE-P - with Hydronic Kit						
Pump type	-	Centrifugal				
Available Head level	-	LP (1,5 bar) - MP (3,0 bar) - HP (5,0 bar)				
Water connections dimension (nominal external diameter)	[DN]	125	150	150	150	150

DIMENSIONS AND WEIGHTS - Standard unit						
Lenght	[mm]	8495	9615	10735	11855	12255
Width	[mm]	2280	2280	2280	2280	2280
Height (LN)	[mm]	2535	2535	2535	2535	2535
Height (SL)	[kg]	2560	2560	2560	2560	2560
Shipping weight	[kg]	6970	7550	9650	10370	10580

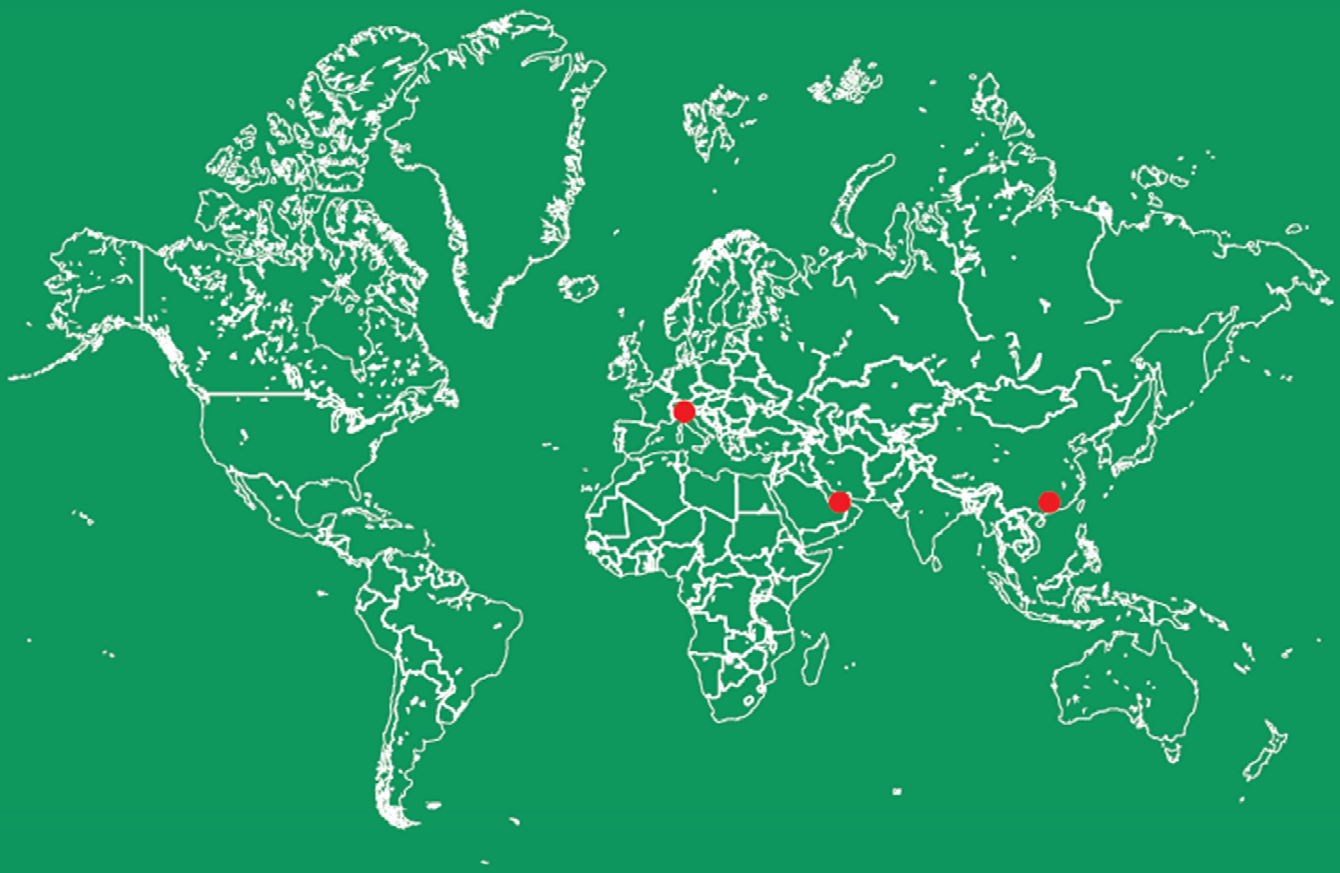
Noise levels [(3)]						
Total sound power (ST version)	[db(A)]	95	97	97	97	95
Total sound pressure (ST version) - at 1 m distance	[db(A)]	74	74	74	74	73
Total sound pressure (ST version) - at 10 m distance	[db(A)]	62	64	64	64	62
Total sound power (LN version)	[db(A)]	93	95	95	95	94
Total sound pressure (LN version) - at 1 m distance	[db(A)]	72	73	73	73	71
Total sound pressure (LN version) - at 10 m distance	[db(A)]	61	62	62	62	61
Total sound power (SL version)	[db(A)]	92	93	93	94	92
Total sound pressure (SL version) - at 1 m distance	[db(A)]	70	71	71	71	69
Total sound pressure (SL version) - at 10 m distance	[db(A)]	59	60	60	60	59

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Condensing coil: Cu/Al or microchannel according to models. Results according to UNI EN 14511-2022.

(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = -4/-8 °C; Fluid: MEG 35% - Recovery user temp. IN/OUT = 40/45 °C; Fluid: water - Condensing coil: Cu/Al or microchannel according to models. 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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green cooling initiative