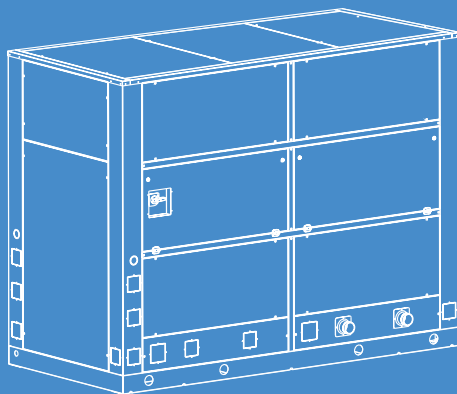


KELVIN **Clim A20 PF**

Cooling Capacity: 20 ~ 265 kW



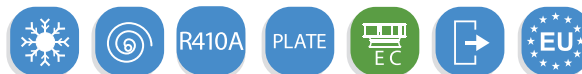
Air cooled liquid chillers with scroll compressors, plate heat exchangers and plug fans

KELVIN Clim A20 PF

KELVIN CLIM A20 PF : Air cooled liquid chillers for indoor installation, equipped with scroll compressors and plug fans
Cooling Capacity: 20 ~ 265 kW



KELVIN AIR CONDITIONING



MAIN FEATURES

- Air cooled liquid chiller.
- 29 models available, for a wide selection opportunity.
- Average step of 10kW.
- EER up to 2,73.
- ESEER up to 3,84.
- Scroll compressors.
- R410A Refrigerant charge.
- Single or double refrigerant circuit.
- Plate type heat exchangers.
- Plug fan EC.
- Single air circuit.
- Suitable for indoor installation.

MAIN BENEFITS

- Units with two scroll compressors for each refrigerant circuit to reach a high efficiency.
- Units with one or two refrigerant circuits.
- High ESEER.
- Availability of kit for the reduction of the noise.
- Availability of pumping groups.
- Availability of total or partial heat recovery system.
- Plug fan EC for a high efficiency.
- Easily of maintenance.
- Components dedicated to the safety of the unity.
- Eurovent Certification.(pending)

FANS WITH BRUSHLESS TYPE EC MOTOR

The fans electric motors are the brushless type with built-in electronic commutation system (EC) which yield high energy savings during operation in reduced air flow. These electric motors are ensuring high performances, minimum energy consumption and total absence of electromagnetic noise.

INDOOR INSTALLATION

The machines are designed for indoor installation and ducting for air suction and discharge. For outdoor installation the use of the dedicated optional kit is mandatory. The machine must be installed under a cover or anyway protected against atmospheric agent.

WORKING LIMITS IN COOLING MODE

Chilled water outlet temperature: -12~20°C
Ambient temperature: -10~45°C



MAIN COMPONENTS

FRAMEWORK

- Base, self supporting frame and panelling in steel plate with protective surfaces treatment in compliance with UNI ISO 9227/ASTMB117 and ISO 7253, and painted with epoxy powders.
- Colour: RAL 9002.

COMPRESSORS

- Orbiting spiral (SCROLL) hermetic compressors with spiral profile optimized for R410A refrigerant.
- ON / OFF capacity control (0 / 100% each compressor).
- 2-pole 3-phase electric motor with direct on line starting.
- Phase sequence electronic relay.
- Crankcase heater.
- Electric motor thermal protection via internal winding temperature sensors.
- Terminal box with IP54 enclosure class.
- Rubber supports.

EVAPORATOR

- Copper brazed plate type with cover plates, plates and connections in AISI 316 stainless steel:
 - With single refrigerant circuit for S version machines.
 - With double refrigerant circuit for D version machines.
- Anticondensate insulation made of polyurethane.
- Temperature sensors on water inlet and outlet.
- Differential water pressure switch for water flow control.
- Antifreeze heater.

CONDENSING COIL

- Heat exchanger coil with internally corrugated copper tubes and high efficiency aluminium fins, specifically developed to provide high heat transfer and lower pressure drops. The combination of two factors, special tubes and fins, allow to optimally combine the following aspects:
 - Maximum capacity relative to the size of the exchanger.
 - Minimum charge of refrigerant.
 - Reduction of the air flow required for the heat exchange.
- Sub-cooling circuit to allow a significant increase in cooling capacity.
- Frame in galvanized steel.

FANS SECTION

- Centrifugal fans with backward curved blades, single suction and with-out scroll housings (Plug-fan).
- Brushless type synchronous EC motor with integrated electronic commutated system and continuous variation of the rotation speed. The motor rotation control is obtained with the EC system (Electronic Commutation) that manage the motor according to the 0~10V proportional signal coming from the microprocessor control.
- Maintenance-free bearings.
- IP54 enclosure class.

REFRIGERANT CIRCUIT

Components for each refrigerant circuit:

- Thermostatic expansion valve.
- Electronic expansion valve for models 220 P2 S and 250 P3 S. The valve allows high performance and system efficiency thanks to a timely and accurate response to changes in temperature and pressure. The electronic expansion valve exclude the installation of the electromagnetic valve on liquid line.
 - Sight glass.
 - Electromagnetic valve on liquid line. The electromagnetic valve is not installed when the electronic expansion valve is present.
- Filter dryer on liquid line.
- Service valves on liquid line and gas discharge.
- Safety valve on low pressure side.
- Pressure transducers with indication, control and protection functions, on low and high refrigerant pressure.
- High pressure safety switch with manual reset.
- Refrigerant circuit with copper tubing with anticondensate insulation of the suction line.
- Plastic capillary hoses for pressure sensors connection.
- R410A refrigerant charge.

ELECTRICAL PANEL

In accordance with EN60204-1 norms complete with:

- Main switch with door lock safety.
- Magnetothermic switch or fuses for each compressor.
- Magnetothermic switches for fans or water pumps (if scheduled).
- Contactors for each load.
- Transformer for auxiliary circuit and microprocessor supply.
- Panel with machine controls.
- Power supply: 400/3/50.

CONTROL SYSTEM

- MP.COM microprocessor system with graphic display for control and monitor of operating and alarms status. The system includes:
 - Voltage free contact for remote general alarm.
 - Main components hour-meter.
 - Nonvolatile "Flash" memory for data storage.
 - Menu with protection password.
 - LAN connection.

OPTIONAL ACCESSORIES

KELVIN Clim A20 PF SIZE	C1	C2	C3	C4	C5
739 - Pumping group (1 pump)	•	•	•	•	•
740 - Pumping group (2 pumps)	-	-	•	•	•
756 - Pumping group LN (1 pump)	•	•	•	•	•
757 - Pumping group LN (2 pumps)	-	-	•	•	•
768 - Chilled water storage tank	•	•	•	•	•
150 - LNO kit (noise reduction)	•	•	•	•	•
170 - Spring antivibration holders (kit)	•	•	•	•	•
172 - Rubber support (kit)	•	•	•	•	•
118 - Kit brine A (for glycol solution production up to °6-C)	•	•	•	•	•
119 - Kit brine B (for glycol solution production up to °12-C)	•	•	•	•	•
460 - Kit for outdoor installation	•	•	•	•	•
450 - Desuperheater	•	•	•	•	•
%100 - 451 heat reclaim	•	•	•	•	•
251 - Coils protection nets	•	•	•	•	•
351 - Coils with pre-painted fins	•	•	•	•	•
Condensing coil in special execution	•	•	•	•	•
160 - Discharge air plenum with sound attenuators	•	•	•	•	•
731 - Safety water flow switch	•	•	•	•	•
605 - Compr. power factor capacitor - 0,9	•	•	•	•	•
Ambient temperature sensor	•	•	•	•	•
81 - Phases sequence control	•	•	•	•	•
83 - Compressor operation indicator	•	•	•	•	•
88 - Analog set point compensation	•	•	•	•	•
1002 - Soft Starter	•	•	•	•	•
1003 - Analogic flowmeter	•	•	•	•	•
1005 - Power supply analyzer	•	•	•	•	•
1009 - Multimeter kit	•	•	•	•	•
919 - Clock card	•	•	•	•	•
923 - KELVIN-Com MBUS/JBUS Serial board	•	•	•	•	•
926 - LON Serial board	•	•	•	•	•
931 - BACnet Ethernet - SNMP - TCP/IP Serial board	•	•	•	•	•
932 - BACnet MS/TP Serial board	•	•	•	•	•
942 - Serial card for GSM Modem	•	•	•	•	•
943 - Data Logger	•	•	•	•	•
934 - MP.COM expansion card	•	•	•	•	•
962 - Kit modem GSM	•	•	•	•	•
957 - Plantwatch without modem	•	•	•	•	•
930 - Remote graphic terminal kit	•	•	•	•	•
889 - Master plant SEQUENCER	•	•	•	•	•
KELVIN CLOUD PLATFORM	•	•	•	•	•

• available accessory; - not available accessory

TECHNICAL DATA KELVIN Clim A20 PF

KELVIN Clim A20 PF		22 P1	24 P1	28 P1	32 P1	36 P1	42 P1	53 P1	67 P1		
SIZE		S C1	S C1	S C1	S C1	S C1	S C1	S C2	S C2		
STANDARD	Cooling capacity (1)	kW	19,6	22,3	26,0	29,4	32,5	37,3	48,1	60,3	
	Unit power input	kW	7,2	8,4	10,2	11,4	13,0	15,9	19,2	24,9	
	Evaporator water flow rate	m ³ /h	3,4	3,8	4,5	5,1	5,6	6,4	8,3	10,4	
	Evaporator pressure drop	kPa	27	35	37	29	36	36	33	29	
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	
	Quantity	n.	1	1	1	1	1	1	1	1	
	Capacity steps	n.	1	1	1	1	1	1	1	1	
	Centrifugal fans EC	n.	1	1	1	1	1	1	2	2	
	Total air flow	m ³ /h	6500	7000	8500	10000	11000	12000	16000	21000	
	External static pressure	Pa	50	50	50	50	50	50	50	50	
	Air circuits	n.	1	1	1	1	1	1	1	1	
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	
	Total refrigerant charge (optional excluded)	kg	5,3	5,3	5,3	5,5	5,6	5,6	9,0	9,5	
	Gas circuits	n.	1	1	1	1	1	1	1	1	
	Power supply	V/Ph/Hz	50/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/400	
	Max unit operating current (FLA)	A	21,3	26,6	27,6	31,4	37,7	40,8	51,0	59,7	
	Unit starting current (LRA)	A	99,3	115,3	122,3	122,9	144,9	178,9	233,6	280,4	
	EER (1)	kW/kW	2,73	2,65	2,56	2,57	2,50	2,35	2,51	2,42	
	ESEER		3,34	3,27	3,19	3,23	3,09	2,85	3,09	3,75	
	Sound power level [Lw] (2)	dB(A)	87,1	88,7	92,9	92,1	94,2	96,0	94,8	96,7	
	Average sound pressure level [Lpm] (3)	dB(A)	70,6	72,1	76,3	75,6	77,6	79,4	77,6	79,5	
	Net weight	kg	370	370	380	390	390	400	630	670	
	Hydraulic connections										
	Evaporator IN/OUT - ISO 1/7 - R	Ø	2	"2	"2/1 1	"2/1 1	"2/1 1	"2/1 1	"2/1 1	"2/1 1"	
	Evaporator IN/OUT - OD (4)	Ø mm	--	--	--	--	--	--	--	--	
	OPTIONAL	Partial heat recovery-Heating capacity (5)	kW	7,2	8,2	9,5	10,8	11,9	13,7	17,6	22,1
Total heat recovery-Heating capacity (6)		kW	26,6	30,5	35,8	40,6	45,6	53,3	66,3	84,0	
Pumping group											
1 pump - 2 poles electric motor		kW	0,75	0,75	0,75	0,75	0,75	0,75	1,5	1,5	
2 pump - 2 poles electric motor		kW	--	--	--	--	--	--	--	--	
1 pump - 4 poles electric motor		kW	0,37	0,37	0,37	0,37	0,37	0,37	0,55	0,55	
2 pump - 4 poles electric motor		kW	--	--	--	--	--	--	--	--	
Water tank - volume		l	370	370	380	390	390	400	630	670	
LNO KIT %100		Cooling capacity (1)	kW	19,6	22,3	26,0	29,4	32,5	37,3	48,1	60,3
		Unit power input	kW	7,2	8,4	10,2	11,4	13,0	15,9	19,2	24,9
	Total air flow	m ³ /h	6500	7000	8500	10000	11000	12000	16000	21000	
	External static pressure	Pa	50	50	50	50	50	50	50	50	
	EER (1)	kW/kW	2,73	2,65	2,56	2,57	2,50	2,35	2,51	2,42	
	Sound power level [Lw] (2)	dB(A)	87,1	88,7	92,9	92,1	94,1	96,0	94,6	96,4	
	Average sound pressure level [Lpm] (3)	dB(A)	70,5	72,1	76,2	75,5	77,5	79,4	77,4	79,2	
	LNO KIT %85	Cooling capacity (1)	kW	19,0	21,6	25,2	28,5	31,5	36,2	46,7	58,7
		Unit power input	kW	7,3	8,5	10,1	11,4	12,9	15,6	19,1	25,3
		Total air flow	m ³ /h	5525	5950	7225	8500	9350	10200	13600	17850
External static pressure		Pa	36	36	36	36	36	36	36	36	
EER (1)		kW/kW	2,62	2,55	2,50	2,50	2,45	2,32	2,45	2,32	
Sound power level [Lw] (2)		dB(A)	83,6	85,2	89,3	88,6	90,6	92,5	91,2	93,0	
Average sound pressure level [Lpm] (3)		dB(A)	67,0	68,6	72,7	72,0	74,0	75,9	74,0	75,8	
LNO KIT %70		Cooling capacity (1)	kW	18,3	20,7	24,1	27,3	30,1	34,5	44,9	56,4
		Unit power input	kW	7,5	8,8	10,4	11,8	13,1	15,8	19,6	25,8
		Total air flow	m ³ /h	4550	4900	5950	7000	7700	8400	11200	14700
	External static pressure	Pa	25	25	25	25	25	25	25	25	
	EER (1)	kW/kW	2,43	2,35	2,32	2,32	2,29	2,18	2,29	2,19	
	Sound power level [Lw] (2)	dB(A)	80,4	82,0	86,1	85,4	87,4	89,3	88,2	90,1	
	Average sound pressure level [Lpm] (3)	dB(A)	63,8	65,4	69,5	68,8	70,8	72,7	71,0	72,9	

1. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C. Fouling factor of the exchangers 0,043 m²K/kW.
2. Sound power level [Lw] according to ISO EN 9614 – 2.
3. Average sound pressure level [Lpm] 1m far according to ISO EN 3744.
4. Hydraulic connection with grooved end complete with fl exible joint and adapter pipe for solder connection.
5. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C; water temperature heat recovery 40/45°C – 0% glycol solution.
Fouling factor of the exchangers 0,043 m²K/kW.
6. Referred to chilled water temperature 12/7°C – 0% glycol solution; water temperature heat recovery 40/45°C – 0% glycol solution; Fouling factor of the exchangers 0,043 m²K/kW.

TECHNICAL DATA KELVIN Clim A20 PF

KELVIN Clim A20 PF		55 P2	55 P2	62 P2	62 P2	71 P2	71 P2	85 P2	85 P2		
SIZE		S	D	S	D	S	D	S	D		
		C2	C2	C2	C2	C2	C2	C3	C3		
STANDARD	Cooling capacity (1)	kW	50,7	50,8	57,0	56,9	59,1	63,4	75,6	75,2	
	Unit power input	kW	19,7	19,6	22,3	22,1	24,8	25,3	28,9	28,8	
	Evaporator water flow rate	m³/h	8,7	8,7	9,8	9,8	10,2	10,9	13,0	12,9	
	Evaporator pressure drop	kPa	36	21	35	18	35	20	37	23	
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	
	Quantity	n.	2	2	2	2	2	2	2	2	
	Capacity steps	n.	2	2	2	2	2	2	2	2	
	Centrifugal fans EC	n.	2	2	2	2	2	2	3	3	
	Total air flow	m³/h	18000	18000	20500	20500	23000	23000	25500	25500	
	External static pressure	Pa	50	50	50	50	50	50	50	50	
	Air circuits	n.	1	1	1	1	1	1	1	1	
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	
	Total refrigerant charge (optional excluded)	kg	9,3	9,0	9,3	9,0	9,7	9,3	13,7	13,5	
	Gas circuits	n.	1	2	1	2	1	2	1	2	
	Power supply	V/Ph/Hz	50/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/400	
	Max unit operating current (FLA)	A	56,5	56,5	61,3	61,3	73,9	73,9	86,8	86,8	
	Unit starting current (LRA)	A	149,8	149,8	151,4	151,4	179,4	179,4	222,7	222,7	
	EER (1)	kW/kW	2,57	2,59	2,56	2,57	2,38	2,51	2,62	2,61	
	ESEER		3,36	3,78	3,36	3,00	3,42	3,23	3,70	3,28	
	Sound power level [Lw] (2)	dB(A)	93,1	93,1	86,8	86,8	89,2	89,2	93,9	93,9	
Average sound pressure level [Lp _m] (3)	dB(A)	75,9	75,9	69,6	69,6	72	72	76	76		
Net weight	kg	630	630	690	700	700	710	890	890		
Hydraulic connections											
Evaporator IN/OUT - ISO 1/7 - R	Ø	2	"2	"2	"2	"2	"2"	--	--		
Evaporator IN/OUT - OD (4)	Ø mm	--	--	--	--	--	76,1	76,1	--		
OPTIONAL	Partial heat recovery-Heating capacity (5)	kW	18,6	18,6	20,9	20,9	21,7	23,3	27,7	27,6	
	Total heat recovery-Heating capacity (6)	kW	69,3	69,8	78,4	79,4	89,0	89,4	104,0	104,0	
	Pumping group										
	1 pump - 2 poles electric motor	kW	1,5	1,5	1,5	1,5	1,5	1,5	2,2	2,2	
	2 pump - 2 poles electric motor	kW	--	--	--	--	--	2,2	2,2	--	
	1 pump - 4 poles electric motor	kW	0,55	0,55	0,55	0,55	0,55	0,55	1,5	1,5	
	2 pump - 4 poles electric motor	kW	--	--	--	--	--	1,5	1,5	--	
	Water tank - volume	l	630	630	690	700	700	710	890	890	
	LNO KIT %100	Cooling capacity (1)	kW	50,7	50,8	57,0	56,9	59,1	63,4	75,6	75,2
		Unit power input	kW	19,7	19,6	22,3	22,1	24,8	25,3	28,9	28,8
Total air flow		m³/h	18000	18000	20500	20500	23000	23000	25500	25500	
External static pressure		Pa	50	50	50	50	50	50	50	50	
EER (1)		kW/kW	2,57	2,59	2,56	2,57	2,38	2,51	2,62	2,61	
Sound power level [Lw] (2)		dB(A)	93,1	93,1	86,8	86,8	89,0	89,0	93,7	93,7	
LNO KIT %85	Cooling capacity (1)	kW	49,3	49,4	55,4	55,3	57,4	61,5	73,6	73,2	
	Unit power input	kW	19,6	19,5	22,3	22,2	24,6	25,0	28,9	28,8	
	Total air flow	m³/h	15300	15300	17425	17425	19550	19550	21675	21675	
	External static pressure	Pa	36	36	36	36	36	36	36	36	
LNO KIT %70	Cooling capacity (1)	kW	47,3	47,3	52,9	52,9	54,9	58,9	70,5	70,3	
	Unit power input	kW	20,3	20,1	22,9	22,9	25,1	25,5	29,5	29,5	
	Total air flow	m³/h	12600	12600	14350	14350	16100	16100	17850	17850	
	External static pressure	Pa	25	25	25	25	25	25	25	25	
LNO KIT %70	EER (1)	kW/kW	2,33	2,35	2,31	2,31	2,19	2,31	2,39	2,38	
	Sound power level [Lw] (2)	dB(A)	86,4	86,4	80,2	80,2	82,5	82,5	87,2	87,2	
	Average sound pressure level [Lp _m] (3)	dB(A)	69,2	69,2	63,0	63,0	65,3	65,3	69,3	69,3	

1. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C. Fouling factor of the exchangers 0,043 m²K/kW.
2. Sound power level [Lw] according to ISO EN 9614 – 2.
3. Average sound pressure level [Lp_m] 1m far according to ISO EN 3744.
4. Hydraulic connection with grooved end complete with fl exible joint and adapter pipe for solder connection.
5. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C; water temperature heat recovery 40/45°C – 0% glycol solution.
Fouling factor of the exchangers 0,043 m²K/kW.
6. Referred to chilled water temperature 12/7°C – 0% glycol solution; water temperature heat recovery 40/45°C – 0% glycol solution; Fouling factor of the exchangers 0,043 m²K/kW.

TECHNICAL DATA KELVIN Clim A20 PF

KELVIN Clim A20 PF		107 P2	107 P2	135 P2	135 P2	170 P2	170 P2	195 P2	195 P2		
		S	D	S	D	S	D	S	D		
SIZE		C3	C3	C4	C4	C4	C4	C4	C4		
STANDARD	Cooling capacity (1)	kW	96,8	95,7	120,0	118,0	156,0	154,0	176,0	173,0	
	Unit power input	kW	38,6	38,3	46,7	46,6	61,9	61,6	71,8	72,4	
	Evaporator water flow rate	m³/h	16,7	16,4	20,6	20,3	26,8	26,4	30,3	29,8	
	Evaporator pressure drop	kPa	36	26	37	30	36	33	42	36	
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	
	Quantity	n.	2	2	2	2	2	2	2	2	
	Capacity steps	n.	2	2	2	2	2	2	2	2	
	Centrifugal fans EC	n.	3	3	4	4	4	4	4	4	
	Total air flow	m³/h	32000	32000	40000	40000	52000	52000	54000	54000	
	External static pressure	Pa	50	50	50	50	50	50	50	50	
	Air circuits	n.	1	1	1	1	1	1	1	1	
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	
	Total refrigerant charge (optional excluded)	kg	16,9	17,3	20,1	20,6	24,6	24,6	25,7	26,0	
	Gas circuits	n.	1	2	1	2	1	2	1	2	
	Power supply	V/Ph/Hz	50/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/400	
	Max unit operating current (FLA)	A	99,4	99,4	119,5	119,5	155,0	155,0	172,4	172,4	
	Unit starting current (LRA)	A	279,7	279,7	337,3	337,3	392,2	392,2	456,2	456,2	
	EER (1)	kW/kW	2,51	2,50	2,57	2,53	2,52	2,50	2,45	2,39	
	ESEER		3,47	3,15	3,72	3,22	3,52	3,15	3,50	3,03	
	Sound power level [Lw] (2)	dB(A)	98,7	98,7	92,6	92,6	95,9	95,9	96,6	96,6	
	Average sound pressure level [Lpm] (3)	dB(A)	80,8	80,8	74	74	77,3	77,3	78	78	
	Net weight	kg	1080	1080	1460	1460	1550	1550	1600	1600	
	Hydraulic connections										
	Evaporator IN/OUT - ISO 1/7 - R	Ø	--	--	--	--	--	--	--	--	
	Evaporator IN/OUT - OD (4)	Ø mm	76,1	76,1	88,9	88,9	88,9	88,9	88,9	88,9	
OPTIONAL	Partial heat recovery-Heating capacity (5)	kW	35,5	35,1	43,9	43,2	57,2	56,3	64,5	63,6	
	Total heat recovery-Heating capacity (6)	kW	132,0	132,0	166,0	165,0	214,0	212,0	243,0	247,0	
	Pumping group										
	1 pump - 2 poles electric motor	kW	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	
	2 pump - 2 poles electric motor	kW	2,2	2,2	3,0	3,0	2,2	3,0	3,0	3,0	
	1 pump - 4 poles electric motor	kW	1,5	1,5	3,0	3,0	3,0	3,0	3,0	3,0	
	2 pump - 4 poles electric motor	kW	1,5	1,5	3,0	3,0	3,0	3,0	3,0	3,0	
	Water tank - volume	l	1080	1080	520	520	520	520	520	520	
	LNO KIT %100	Cooling capacity (1)	kW	96,8	95,7	120,0	118,0	156,0	154,0	176,0	173,0
		Unit power input	kW	38,6	38,3	46,7	46,6	61,9	61,6	71,8	72,4
Total air flow		m³/h	32000	32000	40000	40000	52000	52000	54000	54000	
External static pressure		Pa	50	50	50	50	50	50	50	50	
EER (1)		kW/kW	2,51	2,50	2,57	2,53	2,52	2,50	2,45	2,39	
Sound power level [Lw] (2)		dB(A)	98,5	98,5	90,2	90,2	95,0	95,0	95,7	95,7	
Average sound pressure level [Lpm] (3)	dB(A)	80,6	80,6	71,6	71,6	76,4	76,4	77,1	77,1		
LNO KIT %85	Cooling capacity (1)	kW	94,3	93,2	116,0	115,0	152,0	150,0	171,0	168,0	
	Unit power input	kW	38,0	37,7	47,0	46,9	61,3	61,0	71,5	71,8	
	Total air flow	m³/h	27200	27200	34000	34000	44200	44200	45900	45900	
	External static pressure	Pa	36	36	36	36	36	36	36	36	
	EER (1)	kW/kW	2,48	2,47	2,47	2,45	2,48	2,46	2,39	2,34	
	Sound power level [Lw] (2)	dB(A)	95,1	95,1	87,8	87,8	91,9	91,9	92,6	92,6	
Average sound pressure level [Lpm] (3)	dB(A)	77,2	77,2	69,2	69,2	73,3	73,3	74,0	74,0		
LNO KIT %70	Cooling capacity (1)	kW	90,6	89,7	111,0	110,0	146,0	144,0	163,0	160,0	
	Unit power input	kW	38,7	38,5	48,5	48,5	62,4	62,1	73,4	74,1	
	Total air flow	m³/h	22400	22400	28000	28000	36400	36400	37800	37800	
	External static pressure	Pa	25	25	25	25	25	25	25	25	
	EER (1)	kW/kW	2,34	2,33	2,29	2,27	2,34	2,32	2,22	2,16	
	Sound power level [Lw] (2)	dB(A)	92,0	92,0	86,9	86,9	89,7	89,7	90,3	90,3	
Average sound pressure level [Lpm] (3)	dB(A)	74,1	74,1	68,3	68,3	71,1	71,1	71,7	71,7		

1. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C. Fouling factor of the exchangers 0,043 m²K/kW.
2. Sound power level [Lw] according to ISO EN 9614 – 2.
3. Average sound pressure level [Lpm] 1m far according to ISO EN 3744.
4. Hydraulic connection with grooved end complete with fl exible joint and adapter pipe for solder connection.
5. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C; water temperature heat recovery 40/45°C – 0% glycol solution.
Fouling factor of the exchangers 0,043 m²K/kW.
6. Referred to chilled water temperature 12/7°C – 0% glycol solution; water temperature heat recovery 40/45°C – 0% glycol solution; Fouling factor of the exchangers 0,043 m²K/kW.

TECHNICAL DATA KELVIN Clim A20 PF

KELVIN Clim A20 PF		220 P2	220 P2	250 P3	265 P4	290 P4		
SIZE		S	D	S	D	D		
		C5	C5	C5	C5	C5		
STANDARD	Cooling capacity (1)	kW	202,0	199,0	227,0	239,0	264,0	
	Unit power input	kW	76,8	76,8	93,8	97,6	113,3	
	Evaporator water flow rate	m ³ /h	34,8	34,2	39,0	41,1	45,4	
	Evaporator pressure drop	kPa	43	37	41	41	45	
	Compressors		scroll	scroll	scroll	scroll	scroll	
	Quantity	n.	2	2	3	4	4	
	Capacity steps	n.	2	2	3	4	4	
	Centrifugal fans EC	n.	5	5	5	5	5	
	Total air flow	m ³ /h	62500	62500	64000	66000	66000	
	External static pressure	Pa	50	50	50	50	50	
	Air circuits	n.	1	1	1	1	1	
	Refrigerant		R410A	R410A	R410A	R410A	R410A	
	Total refrigerant charge (optional excluded)	kg	49,3	49,6	49,9	60,8	60,7	
	Gas circuits	n.	1	2	1	2	2	
	Power supply	V/Ph/Hz	50/3/50	400/3/50	400/3/50	400/3/50	400/3/400	
	Max unit operating current (FLA)	A	194,3	194,3	228,1	225,8	331,6	
	Unit starting current (LRA)	A	477,0	477,0	461,8	438,5	607,8	
	EER (1)	kW/kW	2,63	2,59	2,42	2,45	2,33	
	ESEER		3,71	3,26	3,84	3,75	3,74	
	Sound power level [Lw] (2)	dB(A)	96,6	96,6	96,9	97,4	97,4	
Average sound pressure level [Lp _m] (3)	dB(A)	77,3	77,3	77,7	78,1	78,1		
Net weight	kg	1970	1970	2140	2290	2340		
Hydraulic connections								
Evaporator IN/OUT - ISO 1/7 - R	Ø	-	--	-	-	-		
Evaporator IN/OUT - OD (4)	Ø mm	88,9	88,9	88,9	88,9	88,9		
OPTIONAL	Partial heat recovery-Heating capacity (5)	kW	74,2	73,1	83,2	87,7	96,7	
	Total heat recovery-Heating capacity (6)	kW	272,0	277,0	322,0	337,0	383,0	
	Pumping group							
	1 pump - 2 poles electric motor	kW	4,0	4,0	4,0	4,0	4,0	
	2 pump - 2 poles electric motor	kW	5,5	5,5	5,5	5,5	5,5	
	1 pump - 4 poles electric motor	kW	4,0	4,0	4,0	4,0	4,0	
	2 pump - 4 poles electric motor	kW	4,0	4,0	4,0	4,0	4,0	
	Water tank - volume	l	720	720	720	720	720	
	LNO KIT %100	Cooling capacity (1)	kW	202,0	199,0	227,0	239,0	264,0
		Unit power input	kW	76,8	76,8	93,8	97,6	113,3
Total air flow		m ³ /h	62500	62500	64000	66000	66000	
External static pressure		Pa	50	50	50	50	50	
EER (1)		kW/kW	2,63	2,59	2,42	2,45	2,33	
Sound power level [Lw] (2)		dB(A)	95,3	95,3	95,8	96,4	96,4	
Average sound pressure level [Lp _m] (3)	dB(A)	76,1	76,1	76,5	77,1	77,1		
LNO KIT %85	Cooling capacity (1)	kW	197,0	194,0	219,0	231,0	254,0	
	Unit power input	kW	76,4	76,7	94,4	97,5	115,5	
	Total air flow	m ³ /h	53125	53125	54400	56100	56100	
	External static pressure	Pa	36	36	36	36	36	
	EER (1)	kW/kW	2,58	2,53	2,32	2,37	2,20	
	Sound power level [Lw] (2)	dB(A)	92,4	92,4	92,8	93,3	93,3	
Average sound pressure level [Lp _m] (3)	dB(A)	73,1	73,1	73,5	74,0	74,0		
LNO KIT %70	Cooling capacity (1)	kW	189,0	186,0	208,0	220,0	239,0	
	Unit power input	kW	78,8	78,8	98,1	100,9	120,7	
	Total air flow	m ³ /h	43750	43750	44800	46200	46200	
	External static pressure	Pa	25	25	25	25	25	
	EER (1)	kW/kW	2,40	2,36	2,12	2,18	1,98	
	Sound power level [Lw] (2)	dB(A)	90,5	90,5	90,8	91,2	91,2	
Average sound pressure level [Lp _m] (3)	dB(A)	71,2	71,2	71,5	71,9	71,9		

1. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C. Fouling factor of the exchangers 0,043 m²K/kW.
2. Sound power level [Lw] according to ISO EN 9614 – 2.
3. Average sound pressure level [Lp_m] 1m far according to ISO EN 3744.
4. Hydraulic connection with grooved end complete with fl exible joint and adapter pipe for solder connection.
5. Referred to chilled water temperature 12/7°C – 0% glycol solution; air temperature to the condenser 35°C; water temperature heat recovery 40/45°C – 0% glycol solution.
Fouling factor of the exchangers 0,043 m²K/kW.
6. Referred to chilled water temperature 12/7°C – 0% glycol solution; water temperature heat recovery 40/45°C – 0% glycol solution; Fouling factor of the exchangers 0,043 m²K/kW.

DIMENSIONS (mm)

KELVIN Clim A20 PF

SIZE C			
	a	b	c
C1	1250	890	1950
C2	1800	1040	2000
C3	2600	1200	2000
C4	3700	1260	2000
C5	4950	1260	2040

