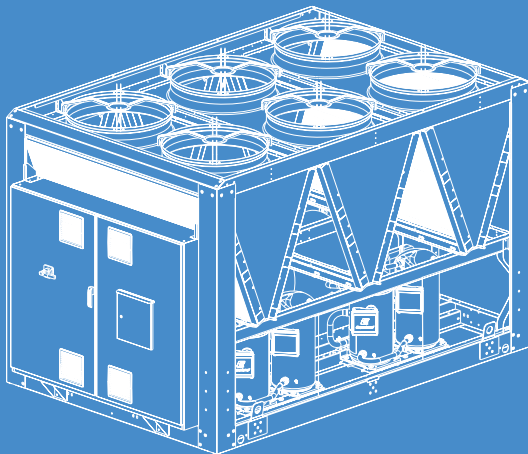


# KELVIN Clim **A119**

Cooling Capacity: 119 ~ 808 kW



Air cooled liquid chillers with scroll compressors, plate/Shell&Tube heat exchangers, AC axial fans and Microchannel condensing coils

# KELVIN Clim A119

**KELVIN CLIM A119 :** Air cooled liquid chillers for outdoor installation equipped with scroll compressors and microchannel condensing coils

Cooling Capacity: 119 ~ 808 kW



## KELVIN AIR CONDITIONING



### MAIN FEATURES

- Air cooled liquid chiller.
- 25 models available, for a wide selection opportunity.
- Average step of 25kW.
- EER up to 2,98.
- ESEER up to 4,35.
- Scroll compressors.
- R410A Refrigerant charge.
- Units with two, three or four refrigerant circuits.
- Plate type or shell and tube heat exchangers.
- AC Axial fans.
- Microchannel condensing coils.
- Electronic expansion valves.
- Units with two, three or four air circuits.
- Modular construction.
- Suitable for outdoor installation.

### MAIN BENEFITS

- Two scroll compressors for each refrigerant circuit to reach a high efficiency.
- Units with two, three or four refrigerant circuits.
- Microchannel condensing coils in aluminium.
- Low refrigerant charge.
- High ESEER.
- Availability of kit for the reduction and the extreme reduction of the noise.
- Availability of pumping groups with low, medium, high discharge head.
- Availability of total or partial heat recovery system.
- Availability of EC fans with available external static pressure.
- Extremely easily of maintenance.
- Complete set of components dedicated to the safety of the unity.
- Eurovent Certification.(pending)

### MICROCHANNEL CONDENSING COILS

The use of aluminium for the micro-channel condensers manufacture is able to offer the possibility for very light machinery: the coil weight is only 50% compared to traditional copper pipes and aluminium fins of the same capacity.

The reduced air resistance of the micro-channel coils allows to drastically reduce the fans motors electric energy consumption. At the same performances conditions, the micro-channels condensers require up-to less than 75% refrigerant when compared to the traditional heat exchangers.

### 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.
- Containing box for compressors, evaporator and electrical panel (for W cabinet only).
- Compartment for electrical panel on unit front for direct access to control and regulation devices.
- 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;
- Crankcase heater;
- Electric motor thermal protection via internal winding temperature sensors;
- Equalization system of the lubricant oil for units equipped with 2 compressors operating on the same refrigerating circuit.
- Rubber supports.

### EVAPORATOR

Up to model 410 P4 DVT3 included:

- AISI 316 stainless steel plates type, vacuum brazed using copper as brazing material:
  - With single hydraulic circuit for all machines;
  - With double refrigerant circuit for D version machines.
- Polyurethane insulation foam with closed cell.
- Temperature sensors on water inlet and outlet.
- Factory assembled differential water pressure switch for water flow control (size W).
- Paddle flow switch for water flow control, supplied in mounting kit (size VT).
- Antifreeze heater.
- Hydraulic piping insulated with closed cell elastomeric foam.
- Hydraulic connections with grooved end complete with flexible joint and adapter pipe for solder connection.
- The hydraulic connections are carried outside the unit (size W only).

From model 430 P6 T VT3 included:

- Shell and tube evaporator optimized for R410A refrigerant.
- Tubes with a helical rifled internal surface.
- Intermediate baffles positioned to ensure optimum speed of the fluid and low pressure drops.
- Refrigerant/Hydraulic circuit:
  - o Water side:
    - Single circuit
  - o Refrigerant side
    - Three circuits from 455 P6 T VT5 model to 646 P6 T VT6 model, both included,
    - Four circuits for the remaining models.
- Shell, header, tube sheets, made of carbon steel, tubes in Cu.
- Polyurethane insulation foam with closed cell.
- Hydraulic piping insulated with closed cell elastomeric foam.
- Temperature sensors on water inlet and outlet.
- Water flow switch for water flow control on water outlet towards the plant, not installed but supplied in kit.
- Hydraulic connections with grooved end complete with flexible joint and adapter pipe for solder connection.
- Antifreeze heater.

### CONDENSING COIL

- Microchannel condensing coil in aluminium and they are perfectly suitable for the civil and industrial applications cooling, while the protection function of the oxide layer allows an optimum resistance to corrosion also in case of aggressive ambient conditions.
- Extremely light construction. The coil weight is only 50% compared to traditional copper pipes and aluminum fins of the same capacity.
- Low air side pressure drop and consequentially drastic reduction of the fans motors electric energy consumption.
- Reduced internal volume capable of reducing the total refrigerant charge. At the same performances conditions, the micro-channels condensers require up-to less than 75% refrigerant when compared to the traditional heat exchangers.

- High heat exchange efficiency.
- Double air circuit for machine version D.
- Triple air circuit for machine version T.
- Quadruple air circuit for machine version Q.
- Frame in painted galvanized steel.

### FANS SECTION

- Axial fans with sickle-shaped blades, fan guard and optimized for low noise levels;
- External rotor AC type electric motor with stepless variable speed for condensing pressure control.
- IP54 enclosure class.

### REFRIGERANT CIRCUIT

Components for each refrigerant circuit:

- Electronic expansion valve. The valve allows high performance and system efficiency thanks to a timely and accurate response to changes in temperature and pressure;
- Electronic expansion valve energy reserve module to allow the closure of the valve in the event of lack of power supply.
- Sight glass.
- Filter dryer on liquid line.
- Service valves on liquid line and gas discharge.
- Safety valves on high and 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 insulation of the suction line.
- Plastic capillary hoses for pressure sensors connection.
- R410A refrigerant charge.

### ELECTRICAL PANEL

In accordance with EN60204-1 norms, suitable for outdoor installation, complete with:

- Main switch with door lock safety on frontal panel.
- Magnetothermic switches or fuses for each compressor.
- Magnetothermic switches for each fan motor and water pump (if scheduled).
- Contactors for each compressor motor.
- Transformer for auxiliary circuit and microprocessor supply.
- Machine operating mode selector "Loc - Off - Remote":
  - Loc position: Machine is active;
  - Off position: Machine is deactivated;
  - Remote position: The machine is remotely controlled with a command by the Customer. Electric connections in the terminal.
- Terminals:

### OUTLETS

- Voltage free deviating contact for General Alarm 1.

### INLETS

- External enabling (from timer, etc. At Customer care);
- Remote control (from operating mode selector. At Customer care);
- Emergency unit stop with signalling on display (external alarm. At Customer care).
- Panel with machine controls.
- Power supply:
  - 400V / 3Ph / 50Hz + N for machine size W,
  - 400V / 3Ph / 50Hz for machine size VT.

### CONTROL SYSTEM

- Microprocessor control system with graphic display for control and monitor of operating and alarms status. 6 keys terminal. The system includes:
  - Clock card for alarms date and time displaying and storing;
  - Predisposition for the memorization of the intervened alarms;
  - Predisposition for connectivity board housing (KELVIN Com MBUS/JBUS, LON, BACnet for Ethernet (SNMP- TCP/IP), BACnet for MS/TP).
- The electronic cards are optional accessories;
  - Main components hour-meter;
  - Non-volatile "Flash" memory for data storage in case of power supply faulty;
  - Analogue set point compensation (0~1 Vdc) according to an external analogue signal at Customer care;
  - Menu with protection password;
  - LAN connection.

OPTIONAL ACCESSORIES

KELVIN Clim A119	120 P4	140 P4	160 P4	180 P4	203 P4	215 P4	235 P4	255 P4	285 P4	305 P4	340 P4	380 P4
VERSION	D	D	D	D	D	D	D	D	D	D	D	D
SIZE	WL	WL	WL	WH	WH	VT2	VT2	VT2	VT2	VT3	VT3	VT3
722 - Low discharge head single pump	•	•	•	•	•	•	•	•	•	•	•	•
723 - Low discharge head twin pump	•	•	•	•	•	•	•	•	•	•	•	•
720 - Medium discharge head single pump	•	•	•	•	•	•	•	•	•	•	•	•
721 - Medium discharge head twin pump	•	•	•	•	•	•	•	•	•	•	•	•
720 - High discharge head single pump	•	•	•	•	•	•	•	•	•	•	•	•
721 - High discharge head twin pump	•	•	•	•	•	•	•	•	•	•	•	•
727 - Water tank+ 1 pump with low discharge head	•	•	•	•	•	•	•	•	•	•	•	•
728 - Water tank2+ pumps with low discharge head	•	•	•	•	•	•	•	•	•	•	•	•
725 - Water tank1+ pump with medium discharge head	•	•	•	•	•	•	•	•	•	•	•	•
726 - Water tank2+ pumps medium discharge head	•	•	•	•	•	•	•	•	•	•	•	•
729 - Water tank1+ pump with high discharge head	•	•	•	•	•	•	•	•	•	•	•	•
730 - Water tank2+ pumps with high discharge head	•	•	•	•	•	•	•	•	•	•	•	•
1004 - Antifreezing heater for pumping group	•	•	•	•	•	•	•	•	•	•	•	•
150 - LNO kit (noise reduction)	•	•	•	•	•	•	•	•	•	•	•	•
151 - ELN kit (extremely noise reduction)	•	•	•	•	•	•	•	•	•	•	•	•
610 - Noise deadening cup on compressor	•	•	•	•	•	•	•	•	•	•	•	•
170 - Spring antivibration holders (kit)	-	-	-	-	-	•	•	•	•	•	•	•
171 - Rubber antivibration holders (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)	•	•	•	•	•	•	•	•	•	•	•	•
79 - Electrical panel heating system	•	•	•	•	•	•	•	•	•	•	•	•
101 - EC fan	•	•	•	•	•	•	•	•	•	•	•	•
450 - Partial heat recovery	•	•	•	•	•	•	•	•	•	•	•	•
449 - Voltage free contact for partial heat recovery water pump activation	•	•	•	•	•	•	•	•	•	•	•	•
%100 - 451 heat recovery	•	•	•	•	•	•	•	•	•	•	•	•
454 - Voltage free contact for total heat recovery water pump activation	•	•	•	•	•	•	•	•	•	•	•	•
459 - Shell and tube evaporator	-	-	-	-	-	•	•	•	•	•	•	•
460 - Shell and tube evaporator for low temperature	-	-	-	-	-	•	•	•	•	•	•	•
350 -Kit TK PRO corrosion resistant painting treatment	•	•	•	•	•	•	•	•	•	•	•	•
252 - Anti-intrusion net	-	-	-	-	-	•	•	•	•	•	•	•
605 - Compr. power factor capacitor - 0,9	•	•	•	•	•	•	•	•	•	•	•	•
1002 - Soft Starter	•	•	•	•	•	•	•	•	•	•	•	•
83 - Compressor operation indicator	•	•	•	•	•	•	•	•	•	•	•	•
82 - Magnetothermic switch for each compressor	-	-	-	-	-	-	-	•	•	•	•	•
Service valve on compressor group suction	•	•	•	•	•	•	•	•	•	•	•	•
88 - Analog set point compensation	•	•	•	•	•	•	•	•	•	•	•	•
217 - Double safety valve	•	•	•	•	•	•	•	•	•	•	•	•
224 - Pressure gauge on high and low pressure	•	•	•	•	•	•	•	•	•	•	•	•
Ambient temperature sensor	•	•	•	•	•	•	•	•	•	•	•	•
85 - Demand limit	•	•	•	•	•	•	•	•	•	•	•	•
81 - Phases sequence control	•	•	•	•	•	•	•	•	•	•	•	•
651 - Special power supply 50/3/230 Hz	•	•	•	-	-	-	-	-	-	-	-	-
1003 - Analogic flowmeter	•	•	•	•	•	•	•	•	•	•	•	•
1005 - Power supply analyzer	•	•	•	•	•	•	•	•	•	•	•	•
1009 - Multimeter kit	•	•	•	•	•	•	•	•	•	•	•	•
84 - Additional external alarm	•	•	•	•	•	•	•	•	•	•	•	•
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	•	•	•	•	•	•	•	•	•	•	•	•
Expansion card 1	•	•	•	•	•	•	•	•	•	•	•	•
Expansion card 2	•	•	•	•	•	•	•	•	•	•	•	•
930 - Remote graphic terminal kit	•	•	•	•	•	•	•	•	•	•	•	•
962 - Kit modem GSM	•	•	•	•	•	•	•	•	•	•	•	•
957 - Plantwatch without modem	•	•	•	•	•	•	•	•	•	•	•	•
889 - Master plant SEQUENCER	•	•	•	•	•	•	•	•	•	•	•	•
KELVIN CLOUD PLATFORM	•	•	•	•	•	•	•	•	•	•	•	•

• available accessory; - not available accessory

OPTIONAL ACCESSORIES

KELVIN Clim A119	410 P4	430 P6	470 P6	500 P6	540 P6	560 P6	610 P6	630 P6	680 P8	720 P8	750 P8	800 P8	830 P8
VERSION	D	T	T	T	T	T	T	T	Q	Q	Q	Q	Q
SIZE	VT3	VT3	VT4	VT4	VT4	VT5	VT5	VT5	VT6	VT6	VT6	VT6	VT6
722 - Low discharge head single pump	•	•	•	•	•	•	•	•	•	•	•	•	•
723 - Low discharge head twin pump	•	•	•	•	•	•	•	•	•	•	•	•	•
720 - Medium discharge head single pump	•	•	•	•	•	•	•	•	•	•	•	•	•
721 - Medium discharge head twin pump	•	•	•	•	•	•	•	•	•	•	•	•	•
720 - High discharge head single pump	•	•	•	•	•	•	•	•	•	•	•	•	•
721 - High discharge head twin pump	•	•	•	•	•	•	•	•	•	•	•	•	•
727 - Water tank+ 1 pump with low discharge head	•	-	-	-	-	-	-	-	-	-	-	-	-
728 - Water tank2+ pumps with low discharge head	•	-	-	-	-	-	-	-	-	-	-	-	-
725 - Water tank1+ pump with medium discharge head	•	-	-	-	-	-	-	-	-	-	-	-	-
726 - Water tank2+ pumps medium discharge head	•	-	-	-	-	-	-	-	-	-	-	-	-
729 - Water tank1+ pump with high discharge head	•	-	-	-	-	-	-	-	-	-	-	-	-
730 - Water tank2+ pumps with high discharge head	•	-	-	-	-	-	-	-	-	-	-	-	-
1004 - Antifreezing heater for pumping group	•	•	•	•	•	•	•	•	•	•	•	•	•
150 - LNO kit (noise reduction)	•	•	•	•	•	•	•	•	•	•	•	•	•
151 - ELN kit (extremely noise reduction)	•	•	•	•	•	•	•	•	•	•	•	•	•
610 - Noise deadening cup on compressor	•	•	•	•	•	•	•	•	•	•	•	•	•
170 - Spring antivibration holders (kit)	•	•	•	•	•	•	•	•	•	•	•	•	•
171 - Rubber antivibration holders (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)	•	•	•	•	•	•	•	•	•	•	•	•	•
79 - Electrical panel heating system	•	•	•	•	•	•	•	•	•	•	•	•	•
101 - EC fan	•	•	•	•	•	•	•	•	•	•	•	•	•
450 - Partial heat recovery	•	•	•	•	•	•	•	•	•	•	•	•	•
449 - Voltage free contact for partial heat recovery water pump activation	•	•	•	•	•	•	•	•	•	•	•	•	•
%100 - 451 heat recovery	•	-	-	-	-	-	-	-	-	-	-	-	-
454 - Voltage free contact for total heat recovery water pump activation	•	-	-	-	-	-	-	-	-	-	-	-	-
459 - Shell and tube evaporator	•	-	-	-	-	-	-	-	-	-	-	-	-
460 - Shell and tube evaporator for low temperature	•	-	-	-	-	-	-	-	-	-	-	-	-
350 -Kit TK PRO corrosion resistant painting treatment	•	•	•	•	•	•	•	•	•	•	•	•	•
252 - Anti-intrusion net	•	•	•	•	•	•	•	•	•	•	•	•	•
605 - Compr. power factor capacitor - 0,9	•	•	•	•	•	•	•	•	•	•	•	•	•
1002 - Soft Starter	•	-	-	-	-	-	-	-	-	-	-	-	-
83 - Compressor operation indicator	•	•	•	•	•	•	•	•	•	•	•	•	•
82 - Magnetothermic switch for each compressor	•	•	•	•	•	•	•	•	•	•	•	•	•
Service valve on compressor group suction	•	•	•	•	•	•	•	•	•	•	•	•	•
88 - Analog set point compensation	•	•	•	•	•	•	•	•	•	•	•	•	•
217 - Double safety valve	•	•	•	•	•	•	•	•	•	•	•	•	•
224 - Pressure gauge on high and low pressure	•	•	•	•	•	•	•	•	•	•	•	•	•
Ambient temperature sensor	•	•	•	•	•	•	•	•	•	•	•	•	•
85 - Demand limit	•	•	•	•	•	•	•	•	•	•	•	•	•
81 - Phases sequence control	•	•	•	•	•	•	•	•	•	•	•	•	•
651 - Special power supply 50/3/230 Hz	-	-	-	-	-	-	-	-	-	-	-	-	-
1003 - Analogic flowmeter	•	•	•	•	•	•	•	•	•	•	•	•	•
1005 - Power supply analyzer	•	•	•	•	•	•	•	•	•	•	•	•	•
1009 - Multimeter kit	•	•	•	•	•	•	•	•	•	•	•	•	•
84 - Additional external alarm	•	•	•	•	•	•	•	•	•	•	•	•	•
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	•	•	•	•	•	•	•	•	•	•	•	•	•
Expansion card 1	•	•	•	•	•	•	•	•	•	•	•	•	•
Expansion card 2	•	•	•	•	•	•	•	•	•	•	•	•	•
930 - Remote graphic terminal kit	•	•	•	•	•	•	•	•	•	•	•	•	•
962 - Kit modem GSM	•	•	•	•	•	•	•	•	•	•	•	•	•
957 - Plantwatch without modem	•	•	•	•	•	•	•	•	•	•	•	•	•
889 - Master plant SEQUENCER	•	•	•	•	•	•	•	•	•	•	•	•	•
KELVIN CLOUD PLATFORM	•	•	•	•	•	•	•	•	•	•	•	•	•

• available accessory; - not available accessory

TECHNICAL DATA KELVIN Clim A119

KELVIN Clim A119		120 P4	140 P4	160 P4	180 P4	203 P4	215 P4	235 P4	255 P4			
SIZE		D WL	D WL	D WL	D WH	D WH	D VT2	D VT2	D VT2			
STANDARD	Cooling capacity (1)	kW	119	135	156	178	200	209	228	250		
	Unit power input	kW	41,5	45,8	55,9	63,1	74,1	72,3	81,1	91,9		
	Evaporator water flow rate	m³/h	20,4	23,2	26,8	30,6	34,4	36,0	39,2	42,9		
	Evaporator pressure drop	kPa	42	52	51	53	50	54	54	54		
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll		
	Quantity	n.	4	4	4	4	4	4	4	4		
	Capacity steps	n.	4	4	4	4	4	4	4	4		
	Axial fans	n.	4	6	6	6	6	4	4	4		
	Total air flow	m³/h	38940	53340	53340	59300	59300	84720	84720	84720		
	Air circuits	n.	2	2	2	2	2	2	2	2		
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A		
	Total refrigerant charge (optional excluded)	kg	12,0	12,1	13,5	23,1	24,6	19,3	19,6	19,9		
	Gas circuits	n.	2	2	2	2	2	2	2	2		
	Power supply	V/Ph/Hz	+50/3/400N	+50/3/400N	+50/3/400N	+50/3/400N	+50/3/400N	50/3/50	400/3/50	400/3/400		
	Max unit operating current (FLA)	A	113,3	138,5	151,1	163,7	181,5	189,6	202,2	220,1		
	Unit starting current (LRA)	A	200,9	240,9	283,9	340,9	396,9	404,6	416,6	433,6		
	EER (1)	kW/kW	2,87	2,95	2,79	2,82	2,70	2,89	2,81	2,72		
	ESEER		3,38	3,50	3,29	3,35	3,19	3,42	3,32	3,21		
	Sound power level [Lw] (2)	dB(A)	82,0	83,0	84,0	86,0	87,0	97,0	98,0	99,0		
	Average sound pressure level [Lp] (3)	dB(A)	66,8	66,8	67,8	67,4	68,4	76,2	75,7	77,9		
	Net weight	kg	1250	1320	1330	1370	1400	1938	2132	2182		
	Hydraulic connections											
	Evaporator IN/OUT - OD (4)	Ø mm	76,1	76,1	76,1	76,1	76,1	88,9	88,9	88,9		
	OPTIONAL	Partial heat recovery-Heating capacity(5)	kW	43,6	49,7	57,1	65,4	73,3	76,8	83,8	91,6	
		Total heat recovery - Heating capacity (6)	kW	156	174	205	234	269	269	298	332	
		EC axial fans										
		Power input	kW	1,6	2,3	2,3	2,3	2,3	5,1	5,1	5,1	
		Max external static pressure	Pa	0	0	0	0	0	80	80	80	
		Pumping group										
		Low discharge head - Power input	kW	1,5	1,5	1,5	1,5	1,5	3,0	3,0	3,0	
		Medium discharge head - Power input	kW	2,2	2,2	2,2	2,2	2,2	4,0	4,0	4,0	
		High discharge head - Power input	kW	3,0	3,0	3,0	3,0	3,0	5,5	5,5	5,5	
		Water tank - volume	l	200	200	200	200	200	130	130	130	
		LNO KIT %100	Cooling capacity (1)	kW	119	135	156	178	200	209	228	250
			Unit power input	kW	41,5	45,8	55,9	63,1	74,1	72,3	81,1	91,9
Total air flow			m³/h	38940	53340	53340	59300	59300	84720	84720	84720	
EER (1)			kW/kW	2,87	2,95	2,79	2,82	2,70	2,89	2,81	2,72	
Sound power level [Lw] (2)			dB(A)	79,2	79,3	80,2	79,8	80,6	80,9	79,9	81,6	
Average sound pressure level [Lp] (3)	dB(A)	61,1	61,1	62,0	61,2	62,0	62,1	61,1	62,8			
LNO KIT %85	Cooling capacity (1)	kW	115	133	152	174	194	206	224	244		
	Unit power input	kW	42,9	46,8	57,4	64,7	76,7	73,3	82,7	94,2		
	Total air flow	m³/h	33099	45339	45339	50405	50405	72012	72012	72012		
	EER (1)	kW/kW	2,68	2,84	2,65	2,69	2,53	2,81	2,71	2,59		
	Sound power level [Lw] (2)	dB(A)	77,0	77,0	78,1	78,4	79,6	79,3	78,6	80,5		
Average sound pressure level [Lp] (3)	dB(A)	58,8	58,8	59,9	59,8	61,1	60,5	59,7	61,7			
LNO KIT %70	Cooling capacity (1)	kW	111	129	147	168	186	200	217	235		
	Unit power input	kW	45,1	48,3	59,5	67,7	80,5	75,5	85,4	97,9		
	Total air flow	m³/h	27258	37338	37338	41510	41510	59304	59304	59304		
	EER (1)	kW/kW	2,46	2,67	2,47	2,48	2,31	2,65	2,54	2,40		
	Sound power level [Lw] (2)	dB(A)	75,3	75,3	76,7	77,6	79,1	78,4	77,8	79,9		
Average sound pressure level [Lp] (3)	dB(A)	57,2	57,1	58,5	59,0	60,5	59,6	59,0	61,1			
ELN KIT	Cooling capacity (1)	kW	111	129	147	168	186	200	217	235		
	Unit power input	kW	45,1	48,3	59,5	67,7	80,5	75,5	85,4	97,9		
	Total air flow	m³/h	27258	37338	37338	41510	41510	59304	59304	59304		
	EER (1)	kW/kW	2,46	2,67	2,47	2,48	2,31	2,65	2,54	2,40		
	Sound power level [Lw] (2)	dB(A)	73,3	73,3	74,7	75,6	77,1	76,4	75,8	77,9		
Average sound pressure level [Lp] (3)	dB(A)	55,2	55,1	56,5	57,0	58,5	57,6	57,0	59,1			

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] 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 A119

KELVIN Clim A119		285 P4	305 P4	340 P4	380 P4	410 P4	430 P6	470 P6	500 P6	
SIZE		D VT2	D VT3	D VT3	D VT3	D VT3	T VT3	T VT4	T VT4	
STANDARD	Cooling capacity (1)	kW	281	302	332	369	404	422	455	496
	Unit power input	kW	107,3	101,3	115,3	133,7	152,5	159,8	159,6	179,1
	Evaporator water flow rate	m <sup>3</sup> /h	48,3	51,8	57,1	63,4	69,4	72,7	78,2	85,3
	Evaporator pressure drop	kPa	53	52	53	51	52	32	37	43
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
	Quantity	n.	4	4	4	4	4	6	6	6
	Capacity steps	n.	4	4	4	4	4	6	6	6
	Axial fans	n.	4	6	6	6	6	6	8	8
	Total air flow	m <sup>3</sup> /h	84720	127080	127080	127080	127080	127080	169440	169440
	Air circuits	n.	2	2	2	2	2	3	3	3
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
	Total refrigerant charge (optional excluded)	kg	19,9	27,6	28,1	28,3	28,3	29,9	38,6	38,6
	Gas circuits	n.	2	2	2	2	2	3	3	3
	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	255,8	264,0	299,7	335,4	371,1	383,7	409,7	445,4
	Unit starting current (LRA)	A	487,6	495,4	529,4	644,4	679,4	609,4	634,2	749,2
	EER (1)	kW/kW	2,62	2,98	2,88	2,76	2,65	2,64	2,85	2,77
	ESEER		3,08	3,51	3,42	3,32	3,21	3,08	3,51	3,79
	Sound power level [Lw] (2)	dB(A)	99,0	100,0	100,0	102,0	104,0	101,0	102,0	103,0
	Average sound pressure level [Lpm] (3)	dB(A)	79,0	80,3	80,2	80,3	82,1	83,1	83,3	84,1
Net weight	kg	2225	2671	2697	2749	2800	3379	3860	3913	
Hydraulic connections										
	Evaporator IN/OUT - OD (4)	Ø mm	88,9	88,9	88,9	88,9	88,9	168,3	168,3	168,3
OPTIONAL	Partial heat recovery-Heating capacity(5)	kW	103,0	111,0	122,0	135,0	148,0	155,0	167,0	182,0
	Total heat recovery - Heating capacity (6)	kW	-	-	-383	385	431	489	547	
	EC axial fans									
	Power input	kW	5,1	7,7	7,7	7,7	7,7	7,7	10,2	10,2
	Max external static pressure	Pa	80	80	80	80	80	80	80	80
	Pumping group									
	Low discharge head - Power input	kW	3,0	3,0	3,0	4,0	4,0	4,0	4,0	4,0
	Medium discharge head - Power input	kW	4,0	4,0	4,0	5,5	5,5	5,5	5,5	5,5
	High discharge head - Power input	kW	5,5	5,5	5,5	7,5	7,5	7,5	7,5	7,5
	Water tank - volume	l	130	190	190	190	190	-	-	-
LNO KIT %100	Cooling capacity (1)	kW	281	302	332	369	404	422	455	496
	Unit power input	kW	107,3	101,3	115,3	133,7	152,5	159,8	159,6	179,1
	Total air flow	m <sup>3</sup> /h	84720	127080	127080	127080	127080	127080	169440	169440
	EER (1)	kW/kW	2,62	2,98	2,88	2,76	2,65	2,64	2,85	2,77
	Average sound pressure level [Lpm] (3)	dB(A)	63,9	65,2	65,6	64,8	66,2	67,8	68,2	68,5
LNO KIT %85	Cooling capacity (1)	kW	273	296	326	360	393	411	446	485
	Unit power input	kW	111,0	102,8	116,8	136,9	157,2	164,4	162,2	183,0
	Total air flow	m <sup>3</sup> /h	72012	108018	108018	108018	108018	108018	144024	144024
	EER (1)	kW/kW	2,46	2,88	2,79	2,63	2,50	2,50	2,75	2,65
	Average sound pressure level [Lpm] (3)	dB(A)	62,8	64,1	64,2	63,9	65,5	66,8	67,1	67,7
LNO KIT %70	Cooling capacity (1)	kW	261	289	316	348	377	393	433	468
	Unit power input	kW	116,0	105,1	120,2	141,5	163,9	173,1	167,2	189,5
	Total air flow	m <sup>3</sup> /h	59304	88956	88956	88956	88956	88956	118608	118608
	EER (1)	kW/kW	2,25	2,75	2,63	2,46	2,30	2,27	2,59	2,47
	Average sound pressure level [Lpm] (3)	dB(A)	62,2	63,5	63,5	63,4	65,2	66,3	66,5	67,2
ELN KIT	Cooling capacity (1)	kW	261	289	316	348	377	393	433	468
	Unit power input	kW	116,0	105,1	120,2	141,5	163,9	173,1	167,2	189,5
	Total air flow	m <sup>3</sup> /h	59304	88956	88956	88956	88956	88956	118608	118608
	EER (1)	kW/kW	2,25	2,75	2,63	2,46	2,30	2,27	2,59	2,47
	Average sound pressure level [Lpm] (3)	dB(A)	60,2	61,5	61,5	61,4	63,2	64,3	64,5	65,2

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 m<sup>2</sup>K/kW.
2. Sound power level [Lw] according to ISO EN 9614 – 2.
3. Average sound pressure level [Lpm] 1 m 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 m<sup>2</sup>K/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 m<sup>2</sup>K/kW.

TECHNICAL DATA KELVIN Clim A119

KELVIN Clim A119		540 P6	560 P6	610 P6	630 P6	680 P8	720 P8	750 P8	800 P8	830 P8			
		T	T	T	T	Q	Q	Q	Q	Q			
SIZE		VT4	VT5	VT5	VT5	VT6	VT6	VT6	VT6	VT6			
STANDARD	Cooling capacity (1)	kW	526	547	603	615	666	701	729	775	808		
	Unit power input	kW	197,0	199,6	230,2	221,2	224,2	243,4	262,2	280,8	299,3		
	Evaporator water flow rate	m³/h	90,4	94,0	104,0	106,0	114,0	120,0	125,0	133,0	139,0		
	Evaporator pressure drop	kPa	48	51	82	60	67	74	81	87	55		
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll		
	Quantity	n.	6	6	6	6	8	8	8	8	8		
	Capacity steps	n.	6	6	6	6	8	8	8	8	8		
	Axial fans	n.	8	9	9	10	12	12	12	12	12		
	Total air flow	m³/h	169440	190620	190620	211800	254160	254160	254160	254160	254160		
	Air circuits	n.	3	3	3	3	4	4	4	4	4		
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A		
	Total refrigerant charge (optional excluded)	kg	38,6	42,4	42,6	46,4	56,3	56,6	56,6	56,6	56,7		
	Gas circuits	n.	3	3	3	3	4	4	4	4	4		
	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	400/3/50	400/3/50		
	Max unit operating current (FLA)	A	481,1	503,1	557,7	561,8	598,3	635,0	670,7	706,4	743,2		
	Unit starting current (LRA)	A	784,2	804,1	856,1	860,0	912,8	929,8	963,8	998,8	1032,8		
	EER (1)	kW/kW	2,67	2,74	2,62	2,78	2,97	2,88	2,78	2,76	2,70		
	ESEER		3,64	3,78	3,62	4,22	4,35	4,27	4,17	4,19	4,23		
	Sound power level [Lw] (2)	dB(A)	105,0	105,0	106,0	106,0	104,2	105,2	106,0	106,4	107,1		
	Average sound pressure level [Lp] (3)	dB(A)	82,5	82,0	82,9	82,9	83,3	84,2	85,1	85,5	86,2		
	Net weight	kg	3951	4434	4671	4671	5502	5567	5605	5643	5721		
	Hydraulic connections												
	Evaporator IN/OUT - OD (4)	Ø mm	168,3	168,3	219,1	219,1	219,1	219,1	219,1	219,1	219,1		
	OPTIONAL	Partial heat recovery-Heating capacity(5)	kW	193,0	201,0	221,0	226,0	244,0	257,0	267,0	284,0	296,0	
		Total heat recovery - Heating capacity (6)	kW	-	-	-	-	-	-	-	-	-	
		EC axial fans											
		Power input	kW	10,2	11,5	11,5	12,8	15,4	15,4	15,4	15,4	15,4	
		Max external static pressure	Pa	80	80	80	80	80	80	80	80	80	
		Pumping group											
		Low discharge head - Power input	kW	4,0	4,0	4,0	5,5	5,5	5,5	5,5	5,5	5,5	
		Medium discharge head - Power input	kW	5,5	5,5	5,5	11,0	11,0	11,0	11,0	11,0	11,0	
		High discharge head - Power input	kW	7,5	7,5	7,5	15,0	15,0	15,0	15,0	15,0	15,0	
		Water tank - volume	l	--	--	--	--	--	--	--	--	--	
		LNO KIT %100	Cooling capacity (1)	kW	526	547	603	615	666	701	729	775	808
			Unit power input	kW	197,0	199,6	230,2	221,2	224,2	243,4	262,2	280,8	299,3
Total air flow	m³/h		169440	190620	190620	211800	254160	254160	254160	254160	254160		
EER (1)	kW/kW		2,67	2,74	2,62	2,78	2,97	2,88	2,78	2,76	2,70		
Average sound pressure level [Lp] (3)	dB(A)		66,5	66,3	66,8	66,8	67,9	68,5	69,1	69,3	69,9		
LNO KIT %85	Cooling capacity (1)	kW	513	535	588	601	653	686	712	756	789		
	Unit power input	kW	202,0	203,4	236,1	225,9	228,3	248,6	268,7	287,5	307,0		
	Total air flow	m³/h	144024	162027	162027	180030	216036	216036	216036	216036	216036		
	EER (1)	kW/kW	2,54	2,63	2,49	2,66	2,86	2,76	2,65	2,63	2,57		
	Average sound pressure level [Lp] (3)	dB(A)	65,9	65,5	66,2	66,2	66,9	67,7	68,5	68,8	69,5		
LNO KIT %70	Cooling capacity (1)	kW	494	517	565	581	635	667	688	728	760		
	Unit power input	kW	211,1	211,0	245,7	233,3	235,2	256,5	277,4	298,4	320,7		
	Total air flow	m³/h	118608	133434	133434	148260	177912	177912	177912	177912	177912		
	EER (1)	kW/kW	2,34	2,45	2,30	2,49	2,70	2,60	2,48	2,44	2,37		
	Average sound pressure level [Lp] (3)	dB(A)	65,6	65,1	65,9	65,9	66,4	67,3	68,1	68,6	69,3		
ELN KIT	Cooling capacity (1)	kW	494	517	565	581	635	667	688	728	760		
	Unit power input	kW	211,1	211,0	245,7	233,3	235,2	256,5	277,4	298,4	320,7		
	Total air flow	m³/h	118608	133434	133434	148260	177912	177912	177912	177912	177912		
	EER (1)	kW/kW	2,34	2,45	2,30	2,49	2,70	2,60	2,48	2,44	2,37		
	Average sound pressure level [Lp] (3)	dB(A)	63,6	63,1	63,9	63,9	64,4	65,3	66,1	66,6	67,3		

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] 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.

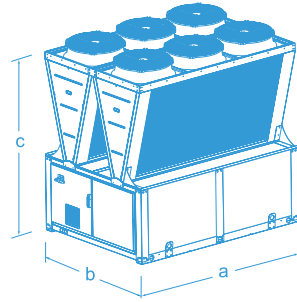


DIMENSIONS (mm)

KELVIN Clim A119

SIZE W

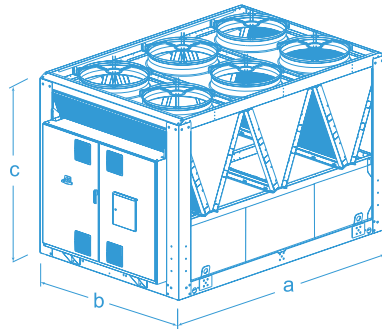
	a	b	c
WL	2565	1794	2110
WH	2565	1794	2410



KELVIN Clim A119

SIZE VT

	a	b	c
VT2	2480	2260	2305
VT3	3600	2260	2305
VT4	4716	2260	2305
VT5	5830	2260	2305
VT6	6955	2260	2305





- Note

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