

UNICO: Packaged air cooled liquid chillers
for outdoor installation, equipped with scroll compressors and axial fans
Cooling Capacity: 20 ÷ 260 kW



UNICO

rcgroupairconditioning



MAIN FEATURES

- Air cooled liquid chiller.
- 29 models available, for a wide selection opportunity.
- Average step of 10kW.
- EER up to 3,22.
- ESEER up to 4,18.
- Scroll compressors.
- R410A Refrigerant charge.
- Single or double refrigerant circuit.
- Plate type heat exchangers.
- EC Axial fans.
- Single air circuit.
- Suitable for outdoor 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 EER and ESEER.
- Availability of kit for the reduction and the extreme reduction of the noise.
- Availability of pumping groups.
- Availability of total or partial heat recovery system.
- EC Axial fans for a high efficiency.
- Easily of maintenance.
- Components dedicated to the safety of the unity.
- Eurovent Certification.

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

WORKING LIMITS IN COOLING MODE

Chilled water outlet temperature: $-12 \div 20^{\circ}\text{C}$

Ambient temperature: $-10 \div 45^{\circ}\text{C}$



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

- Axial fans with sickle-shaped blades, fan guard and optimized for low noise levels.
- 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 197 P2 S and 230 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, suitable for outdoor installation, 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

UNICO 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	•	•	•	•	•
151 - Kit ELN	•	•	•	•	•
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)	•	•	•	•	•
450 - Partial heat recovery	•	•	•	•	•
451 - 100% heat reclaim	•	•	•	•	•
251 - Coils protection nets	•	•	•	•	•
351 - Coils with pre-painted fins	•	•	•	•	•
Condensing coil in special execution	•	•	•	•	•
Silencing plenum on condensing air discharge	•	•	•	•	•
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 - RC-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	•	•	•	•	•
RC CLOUD PLATFORM	•	•	•	•	•

• available accessory; - not available accessory

TECHNICAL DATA UNICO

UNICO		21 P1	24 P1	28 P1	30 P1	34 P1	40 P1	50 P1	52 P2
SIZE		S C1	S C1	S C1	S C1	S C2	S C2	S C2	S C2
STANDARD	Cooling capacity (1)	kW	19,8	22,4	26,5	29,2	34,0	39,0	50,5
	Unit power input	kW	6,6	7,7	9,2	10,7	10,9	13,4	18,7
	Evaporator water flow rate	m³/h	3,4	3,9	4,6	5,0	5,8	6,7	8,7
	Evaporator pressure drop	kPa	28	36	38	29	38	39	36
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll
	Quantity	n.	1	1	1	1	1	1	2
	Capacity steps	n.	1	1	1	1	1	1	2
	Axial fans EC	n.	1	1	1	1	2	2	2
	Total air flow	m³/h	8500	8500	11000	11000	13000	15000	20500
	Air circuits	n.	1	1	1	1	1	1	1
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A
	Total refrigerant charge (optional excluded)	kg	5,3	5,3	5,3	5,5	7,7	7,7	12,9
	Gas circuits	n.	1	1	1	1	1	1	1
	Power supply	V/Ph/Hz	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	18,5	23,7	24,8	27,9	35,9	39,1	49,7
	Unit starting current (LRA)	A	96,6	112,6	119,6	119,6	143,2	177,2	143,3
	EER - Eurovent standard (1)	kW/kW	3,00	2,90	2,87	2,74	3,12	2,92	2,70
	ESEER		3,59	3,50	3,56	3,45	3,80	3,50	3,91
	Sound power level [Lw] (2)	dB(A)	81,1	81,5	82,2	81,4	82,2	84,9	86,1
	Average sound pressure level [LPm] (3)	dB(A)	64,6	64,9	65,6	64,8	64,9	67,7	68,9
	Net weight	kg	350	350	360	360	520	520	590
OPTIONAL	Hydraulic connections								
	Evaporator IN/OUT - ISO 7/1 - R	Ø	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"
	Evaporator IN/OUT - OD (4)	Ø mm	--	--	--	--	--	--	--
	Partial heat recovery-Heating Capacity (5)	kW	7,3	8,2	9,7	10,7	12,5	14,3	18,5
	Total heat recovery-Heating capacity (6)	kW	27,1	31,4	36,8	39,9	51,6	52,0	68,1
	Pumping group								
	1 pump - 2 poles electric motor	kW	0,75	0,75	0,75	0,75	1,5	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	0,55	0,55	0,55
	2 pump - 4 poles electric motor	kW	--	--	--	--	--	--	--
	Water tank - volume	l	130	130	130	130	210	210	210
	Cooling capacity (1)	kW	19,8	22,4	26,5	29,2	34,0	39,0	50,5
	Unit power input	kW	6,7	7,8	9,2	10,7	11,0	13,5	18,7
	Total air flow	m³/h	8500	8500	11000	11000	13000	15000	20500
	EER - Eurovent standard (1)	kW/kW	2,95	2,86	2,87	2,74	3,09	2,88	2,77
	Sound power level [Lw] (2)	dB(A)	80,7	80,8	81,6	80,7	81,2	84,3	85,8
	Average sound pressure level [LPm] (3)	dB(A)	64,1	64,2	65,0	64,1	64,0	67,1	70,2
	Cooling capacity (1)	kW	19,4	21,9	25,9	28,4	33,2	38,1	49,3
	Unit power input	kW	6,7	7,9	9,2	10,8	11,2	13,6	18,7
	Total air flow	m³/h	7225	7225	9350	9350	11050	12750	17425
	EER - Eurovent standard (1)	kW/kW	2,89	2,77	2,81	2,63	2,96	2,80	2,72
ELN KIT	Sound power level [Lw] (2)	dB(A)	77,0	77,2	78,0	77,2	77,8	80,7	82,1
	Average sound pressure level [LPm] (3)	dB(A)	60,4	60,7	61,4	60,6	60,6	63,5	67,2
	Cooling capacity (1)	kW	18,9	21,1	25,0	27,3	32,0	36,8	47,5
	Unit power input	kW	6,9	8,1	9,4	11,1	11,6	14,0	19,2
	Total air flow	m³/h	5950	5950	7700	7700	9100	10500	14350
	EER - Eurovent standard (1)	kW/kW	2,75	2,59	2,65	2,47	2,77	2,63	2,47
	Sound power level [Lw] (2)	dB(A)	73,1	73,6	74,2	73,5	74,4	76,9	81,7
	Average sound pressure level [LPm] (3)	dB(A)	56,5	57,0	57,7	57,0	57,2	59,7	60,7

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 flexible 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 UNICO

UNICO		52 P2	58 P2	58 P2	62 P1	65 P2	65 P2	76 P2	76 P2
		D	S	D	S	S	D	S	D
SIZE		C2	C3	C3	C3	C3	C3	C3	C3
STANDARD	Cooling capacity (1)	kW	50,5	57,7	60,8	61,2	64,8	64,7	75,4
	Unit power input	kW	18,3	20,0	18,7	21,5	22,6	22,5	27,8
	Evaporator water flow rate	m³/h	8,7	9,9	10,5	10,5	11,1	11,1	13,0
	Evaporator pressure drop	kPa	21	36	19	30	35	21	37
	Compressors		scroll	scroll	scroll	scroll	scroll	scroll	scroll
	Quantity	n.	2	2	2	1	2	2	2
	Capacity steps	n.	2	2	2	1	2	2	2
	Axial fans EC	n.	2	3	3	3	3	3	3
	Total air flow	m³/h	20500	22000	22000	23000	24000	24000	30000
	Air circuits	n.	1	1	1	1	1	1	1
	Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A
	Total refrigerant charge (optional excluded)	kg	9,3	9,0	12,7	12,4	13,1	12,7	13,6
	Gas circuits	n.	2	1	2	1	1	2	1
	Power supply	V/Ph/Hz	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	49,7	57,4	57,4	55,9	70,0	70,0	76,5
	Unit starting current (LRA)	A	143,3	147,7	147,7	276,7	175,7	175,7	212,9
	EER (1)	kW/kW	2,76	2,89	3,25	2,85	2,87	2,87	2,71
	ESEER		3,57	4,18	4,16	3,47	4,08	3,65	3,78
	Sound power level [Lw] (2)	dB(A)	86,1	85,9	85,9	91,6	85,7	85,7	86,1
	Average sound pressure level [Lp _m] (3)	dB(A)	68,9	68,0	68,0	73,8	67,8	67,8	68,2
	Net weight	kg	590	810	810	850	820	820	840
OPTIONAL	Hydraulic connections								
	Evaporator IN/OUT - ISO 7/1 - R	Ø	2"	--	--	--	--	--	--
	Evaporator IN/OUT - OD (4)	Ø mm	--	76,1	76,1	76,1	76,1	76,1	76,1
	Partial heat recovery-Heating Capacity (5)	kW	18,5	21,2	22,3	22,4	23,8	23,7	27,7
	Total heat recovery-Heating capacity (6)	kW	68,5	77,0	77,9	82,4	101,0	101,0	102,0
	Pumping group								
	1 pump - 2 poles electric motor	kW	1,5	2,2	2,2	2,2	2,2	2,2	2,2
	2 pump - 2 poles electric motor	kW	--	2,2	2,2	2,2	2,2	2,2	2,2
	1 pump - 4 poles electric motor	kW	0,55	1,5	1,5	1,5	1,5	1,5	1,5
	2 pump - 4 poles electric motor	kW	--	1,5	1,5	1,5	1,5	1,5	1,5
	Water tank - volume	l	210	360	360	360	360	360	360
LNO KIT 100%	Cooling capacity (1)	kW	50,5	57,7	60,8	61,2	64,8	64,7	75,4
	Unit power input	kW	18,3	20,2	18,9	21,7	22,8	22,8	27,8
	Total air flow	m³/h	20500	22000	22000	23000	24000	24000	30000
	EER (1)	kW/kW	2,76	2,86	3,22	2,82	2,84	2,84	2,71
	Sound power level [Lw] (2)	dB(A)	85,8	85,5	85,5	89,4	85,4	85,4	85,7
LNO KIT 85%	Average sound pressure level [Lp _m] (3)	dB(A)	68,6	67,6	67,6	71,6	67,5	67,5	67,8
	Cooling capacity (1)	kW	49,2	56,3	59,3	59,7	63,1	62,9	73,7
	Unit power input	kW	18,4	20,5	19,1	21,9	23,1	23,0	27,8
	Total air flow	m³/h	17425	18700	18700	19550	20400	20400	25500
	EER (1)	kW/kW	2,68	2,75	3,10	2,73	2,73	2,73	2,65
ELN KIT	Sound power level [Lw] (2)	dB(A)	82,1	81,8	81,8	86,8	81,7	81,7	82,0
	Average sound pressure level [Lp _m] (3)	dB(A)	64,9	63,9	63,9	68,9	63,8	63,8	64,1
	Cooling capacity (1)	kW	47,4	54,1	57,0	57,6	60,6	60,4	71,1
	Unit power input	kW	18,8	21,3	19,9	22,5	23,9	23,8	28,2
	Total air flow	m³/h	14350	15400	15400	16100	16800	16800	21000
ELN KIT	EER (1)	kW/kW	2,52	2,54	2,86	2,56	2,54	2,54	2,52
	Sound power level [Lw] (2)	dB(A)	78,0	77,8	77,8	84,6	77,6	77,6	77,9
	Average sound pressure level [Lp _m] (3)	dB(A)	60,7	59,9	59,9	66,8	59,7	59,7	60,0

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 flexible 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 UNICO

UNICO		98 P2	98 P2	124 P2	124 P2	158 P2	158 P2	180 P2	180 P2	
SIZE		S C4	D C4	S C4	D C4	S C4	D C4	S C5	D C5	
STANDARD	Cooling capacity (1)	kW	97,3	96,1	123,0	120,0	155,0	157,0	177,0	178,0
	Unit power input	kW	34,6	34,3	44,4	44,0	60,3	60,4	64,6	64,7
	Evaporator water flow rate	m³/h	16,7	16,5	21,1	20,5	26,6	27,0	30,3	30,6
	Evaporator pressure drop	kPa	36	27	38	31	32	28	34	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
	Axial fans EC	n.	4	4	4	4	4	4	5	5
	Total air flow	m³/h	40000	40000	46000	46000	55800	55800	60000	60000
	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	18,9	19,3	23,5	24,1	24,6	24,9	47,4	47,8
	Gas circuits	n.	1	2	1	2	1	2	1	2
	Power supply	V/Ph/Hz	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	90,8	90,8	113,8	113,8	149,3	149,3	169,8	169,8
	Unit starting current (LRA)	A	271,5	271,5	331,9	331,9	386,8	386,8	453,7	453,7
	EER (1)	kW/kW	2,81	2,80	2,77	2,73	2,57	2,60	2,74	2,75
	ESEER		3,93	3,52	3,86	3,42	3,62	3,27	3,92	3,47
	Sound power level [Lw] (2)	dB(A)	84,2	84,2	88,1	88,1	90,6	90,6	88,6	88,6
	Average sound pressure level [LPm] (3)	dB(A)	65,6	65,6	69,5	69,5	72,0	72,0	69,3	69,3
	Net weight	kg	1310	1310	1380	1380	1410	1410	1860	1860
Hydraulic connections										
Evaporator IN/OUT - ISO 7/1 – R	Ø	--	--	--	--	--	--	--	--	
Evaporator IN/OUT - OD (4)	Ø mm	88,9	88,9	88,9	88,9	88,9	88,9	88,9	88,9	
OPTIONAL	Partial heat recovery-Heating Capacity (5)	kW	35,7	35,3	45,0	43,9	56,9	57,7	64,8	65,3
	Total heat recovery-Heating capacity (6)	kW	130,0	129,0	165,0	162,0	213,0	217,0	241,0	243,0
	Pumping group									
	1 pump - 2 poles electric motor	kW	2,2	2,2	2,2	2,2	2,2	2,2	4,0	4,0
	2 pump - 2 poles electric motor	kW	3,0	3,0	3,0	3,0	3,0	3,0	5,5	5,5
	1 pump - 4 poles electric motor	kW	3,0	3,0	3,0	3,0	3,0	3,0	4,0	4,0
	2 pump - 4 poles electric motor	kW	3,0	3,0	3,0	3,0	3,0	3,0	4,0	4,0
Water tank - volume	l	520	520	520	520	520	520	720	720	
LNO KIT 100%	Cooling capacity (1)	kW	97,3	96,1	123,0	120,0	155,0	157,0	177,0	178,0
	Unit power input	kW	34,6	34,3	44,4	44,0	60,3	60,4	64,6	64,7
	Total air flow	m³/h	40000	40000	46000	46000	55800	55800	60000	60000
	EER (1)	kW/kW	2,81	2,80	2,77	2,73	2,57	2,60	2,74	2,75
	Sound power level [Lw] (2)	dB(A)	83,2	83,2	87,3	87,3	90,3	90,3	88,0	88,0
	Average sound pressure level [LPm] (3)	dB(A)	64,6	64,6	68,7	68,7	71,7	71,7	68,7	68,7
LNO KIT 85%	Cooling capacity (1)	kW	95,2	94,0	120,0	117,0	151,0	153,0	172,0	173,0
	Unit power input	kW	34,7	34,6	44,3	44,0	59,7	59,8	65,2	65,3
	Total air flow	m³/h	34000	34000	39100	39100	47430	47430	51000	51000
	EER (1)	kW/kW	2,74	2,72	2,71	2,66	2,53	2,56	2,64	2,65
	Sound power level [Lw] (2)	dB(A)	79,9	79,9	83,8	83,8	86,6	86,6	84,4	84,4
	Average sound pressure level [LPm] (3)	dB(A)	61,3	61,3	65,2	65,2	68,0	68,0	65,1	65,1
ELN KIT	Cooling capacity (1)	kW	92,1	91,2	116,0	113,0	145,0	147,0	165,0	166,0
	Unit power input	kW	35,6	35,3	45,5	45,0	60,9	61,0	67,3	67,5
	Total air flow	m³/h	28000	28000	32200	32200	39060	39060	42000	42000
	EER (1)	kW/kW	2,59	2,58	2,55	2,51	2,38	2,41	2,45	2,46
	Sound power level [Lw] (2)	dB(A)	76,6	76,6	80,3	80,3	82,4	82,4	80,7	80,7
	Average sound pressure level [LPm] (3)	dB(A)	58,0	58,0	61,7	61,7	63,8	63,8	61,4	61,4

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 flexible 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 UNICO

UNICO		197 P2	197 P2	230 P3	240 P4	260 P4	
		S	D	S	D	D	
SIZE		C5	C5	C5	C5	C5	
STANDARD	Cooling capacity (1)	kW	194,0	197,0	227,0	234,0	260,0
	Unit power input	kW	74,0	74,1	89,0	94,7	111,1
	Evaporator water flow rate	m³/h	33,4	33,9	39,0	40,3	44,7
	Evaporator pressure drop	kPa	41	35	41	40	36
	Compressors		scroll	scroll	scroll	scroll	scroll
	Quantity	n.	2	2	3	4	4
	Capacity steps	n.	2	2	3	4	4
	Axial fans EC	n.	5	5	5	5	5
	Total air flow	m³/h	66000	66000	69000	69000	69000
	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	60,6
	Gas circuits	n.	1	2	1	2	2
	Power supply	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
	Max unit operating current (FLA)	A	187,2	187,2	221,0	218,7	324,6
	Unit starting current (LRA)	A	470,3	470,3	455,1	431,8	601,1
	EER (1)	kW/kW	2,62	2,66	2,55	2,47	2,34
	ESEER		3,74	3,35	3,97	3,82	3,80
	Sound power level [Lw] (2)	dB(A)	90,4	90,4	91,2	92,9	93,0
	Average sound pressure level [LPm] (3)	dB(A)	71,1	71,1	71,9	73,6	73,8
	Net weight	kg	1870	1870	2020	2130	2170
Hydraulic connections							
Evaporator IN/OUT - ISO 7/1 – 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	71,2	72,3	83,2	85,9	95,3
	Total heat recovery-Heating capacity (6)	kW	268,0	273,0	316,0	331,0	379,0
	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	194,0	197,0	227,0	234,0	260,0
	Unit power input	kW	74,0	74,1	89,0	94,7	111,1
	Total air flow	m³/h	66000	66000	69000	69000	69000
	EER (1)	kW/kW	2,62	2,66	2,55	2,47	2,34
	Sound power level [Lw] (2)	dB(A)	90,0	90,0	90,8	92,5	92,6
Average sound pressure level [LPm] (3)	dB(A)	70,7	70,7	71,6	73,3	73,3	
LNO KIT 85%	Cooling capacity (1)	kW	189,0	192,0	220,0	227,0	250,0
	Unit power input	kW	74,4	74,4	89,8	95,0	113,1
	Total air flow	m³/h	56100	56100	58650	58650	58650
	EER (1)	kW/kW	2,54	2,58	2,45	2,39	2,21
	Sound power level [Lw] (2)	dB(A)	86,3	86,3	87,1	88,8	88,9
Average sound pressure level [LPm] (3)	dB(A)	67,0	67,0	67,9	69,6	69,7	
ELN KIT	Cooling capacity (1)	kW	181,0	184,0	210,0	216,0	235,0
	Unit power input	kW	76,7	77,0	92,9	98,6	118,7
	Total air flow	m³/h	46200	46200	48300	48300	48300
	EER (1)	kW/kW	2,36	2,39	2,26	2,19	1,98
	Sound power level [Lw] (2)	dB(A)	82,3	82,3	83,0	84,7	85,0
Average sound pressure level [LPm] (3)	dB(A)	63,0	63,0	63,7	65,4	65,7	

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.
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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)

SIZE C			
	a	b	c
C1	1250	890	2010
C2	1800	1040	2060
C3	2600	1200	2060
C4	3700	1260	2050
C5	4950	1260	2090

