Klimallco®
climate experience

Air Cooled Packaged Units

KDP-**B** R407c
KDP-**C** R134a
KDP-**D** R410a

KDP

Klimallco sa Air Treatment Experts

Outdoor Installation

R407c — Cooling capacity : 18.5 kW - 246.3 kW
Heating capacity: 18.0 kW - 253.0 kW

R134a — Cooling capacity : 22.4 kW - 405.2 kW

R410a — Cooling capacity : 19.1 kW - 240.9 kW
Heating capacity: 19.2 kW - 250.3 kW

2019

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1. General Description

Air Cooled Packaged Units

The KDP air cooled condensing unit series is available in cooling only versions able to cover a wide capacity range with models from 18.5 up to 405.2 kW.

The Klimallco KDP series covers all the technological and high aisthetic demands of the market. The units are completely factory assembled, tested and ready for installation.

Operating up to 52°C ambient temperature (R134a).
Assembly: Fully bolted/welding free
Compressor: Scroll, Tandem Scroll and Screw
Safety and functional devices:
- high/low pressure manometers or pressure transmitters
- service valves - pressure switches
- TXV or electronic expansion valves
- phase sequence - phase failure - reverse phase and voltage - monitoring device
- contactors, relays, fuses for fans and compressors
- digital controller.

2. Technical Description

General

The KDP-R/H series of air-to-air packaged rooftop units contains a wide range of units from.
The new series fulfils both aesthetically and technically the latest market need for PACKAGED units .
The compact appearance of the units is the result of detailed study and design of Klimallco. These units thus offer

- Reduced external dimensions
- Simple construction method providing easy installation and access for maintenance
- Fittings to enable easy transport and on-site positioning

The units are constructed in two sections (evaporator – condenser), completely factory assembled, tested and ready for installation.

Casing

The evaporator casing frame is constructed of heavy extrude Aluminum profiles with Thermal bridging factor TB2, jointed together by means of special corner pieces made of solar radiation resistant glass reinforced polyamide, of excellent mechanical characteristics. The profiles are fixed on the corner pieces via galvanized allen head screws, that are completely hidden, thus creating an aesthetically perfect box. The profiles themselves are thermally insulated, built in two pieces join means of synthetic bars. Thus any metal contact and therefore heat transfer between the internal part of the unit and the environment is completely blocked.

Air tightness is ensured by a double gasket system. The internal gasket profile is inserted in the profile though a special slot and the internal part of the panels are thus completely isolated. Another external EPDM gasket is used where panels are fixed on the casing. This double gasket system has been designed for both positive and negative pressures in the unit. The internal surface of the unit is completely flat and easy to clean. There are no internal frames or other projections. The panels are of the double wall type. A special synthetic EPDM profile completely insulates the external and the internal panel walls, so that there is no metallic contact between them. This means that the internal panel wall cannot thermally affect the external wall. The insulation thickness is 50mm as standard. Thus perfect thermal and acoustical performance is achieved.

Standard panels are fabricated from heavy gauge galvanized steel sheets, with variable thickness 0.6, 0.8, 1.0mm upon request to ensure maximum rigidity that guarantees and preserves the units operation during the years. After fabric ally powder coated with an epoxy polyester RAL 7042 coating of thickness 60 μ. This coatiing is applied on external panel or upon request can be on both internal and external sides panels.

The panels are fixed on the profiles by sheet metal screws, inserted on predrilled holes. The screws are guided by means of a synthetic well and closed by removable synthetic caps which prevent the metallic contact between the screws and the panels.

In Klimallco Package units, 2 different types of insulation material can be provided. Injected and expanded polyurethane foam having a density of 40 to 42 kg/m³ made of environmentally friendly material is standard and upon request Mineral Wool having a density of 50 or 75 kg/ m³.

Base Frame

The base frame consist of heavy steel base electrostatically powder coated, 140-160mm height and is provided as standard to facilitate unit lifting, installation and leveling.

Panels

For access to the internal components of the unit a door panel is provided. The construction is similar to the standard fixed panels. The doors are equipped with handles and hinges to permit quick opening and access. The handles are installed on the door panel and are functioning externally, by means of a special latch installed on the profiles. Thus the door panels are positively pressed on the frame and there is no piercing of the door that could create air leakages. The door handle is equipped with a key lock, thus avoiding interference with the internal parts of the units by unauthorized persons.

The handlers are made of nylon high quality handle, with or without key, suitable for external use, with die casted extruded epoxy coated aluminum base and latch to ensures superior corrosion resistance against the most aggressive ambient conditions. The hinges are made of die casted extruded aluminum epoxy coated to ensures superior corrosion resistance against the most aggressive ambient conditions.

Condenser

Condenser section is been manufactured by special designed metal parts joined together through connecting screws and all section is connected with the evaporator section in common heavy duty base frame.

Units are equipped with centrifugal fans of double width (DIDW). The centrifugal fans are low pressure type with forward blades. All centrifugal fans are selected according to the operation static pressure. All fans impellers are statically and dynamically balanced according to ISO1940, thus eliminating any possibility of vibration. All fans supplied in Klimallco series are tested in a registered laboratory in accordance with ANSI/AMCA 210 laboratory Methods of Testing Fans for Rating and AMCA 300 Reverberant Room Method for Sound Testing of Fans.

Transmission is effected via V belts and pulleys with taper lock bushing. The Fan/Motor assembly is elastically suspended inside the unit by RIS type vibration isolators, thus eliminating the need of external isolators. Different fan positions are available depend on the requirements. The fan outlet is connected to the unit panel by means of plasticized fabric, to avoid any transmission of vibration to the panel.

The coils for all series units are fabricated of 3/8' OD copper tubes internally smooth or inner grooved. Finned surface is available in either aluminum, epoxy coated aluminum, copper or treated with blygold paint and are louver type. All brazing joints are made using

high temperature alloys for extra reliability. All coils featuring the new corrugated finned surface have tubes mechanically expanded into continuous fins with results in positive fin and tube contact for maximum heat transfer.

The coil top-bottom casings as standard are made of galvanized steel. Side plates are of Aluminum. All coils are tested at 35 Bar. Evaporator coil is assembled on the drain pan, which is made of galvanized steel, electrostatically powder coated.

The unit evaporator inlet air section is equipped with a panel filter metal type frame work in flat arrangement, with face velocity equal to the coil velocity.

The standard filters are made of synthetic material with increased filter area found in the «W» patern. This extends the life of the filter and reduces resistance to air flow.

Optional filter frame can be electrostatically powder coated or of stainless steel SS304 or SS316. The filters are available in media class G2 Aluminum, G3 and G4. of synthetic media. The filters are of the cassette type, 48 mm depth disposable, medium efficiency, consisting of a pleated media pack enclosed in a metal frame.

A wire grid to maintain the uniform shape of the pleats, to ensure proper air flow and dust loading at rated filter velocity, supports the media. The media tested in accordance with ASHRAE Standards 52' 76 and have average arrestance of 85 to 90% or EN7179# DIN53438.

The fan motors are three phase 400V, asynchronous, totally enclosed fan cooled T.E.F.C type, foot mounted available with 4, and 6 poles. Their protection is IP55 and insulation class F. Standard are for 50 Hz frequency and are also available for 60 Hz All motors are supplied as standard with build in PTC safety device for thermal and overload protection. Upon request motors can be provided with variable frequency invertor. All motors comply with all relevant international standards as IEC. All motors are selected with safety margin more than the fan shaft absorber power.

All units use low-noise, maintenance free, Hermetic Scroll compressor with low vibration levels, specially optimized for use with all refrigerant, selected from world class suppliers. They are equipped with a crankcase electrical heater for the oil, and are internally protected against potential overloading or electrical spikes. The compressors are mounted on special anti-vibration rubber mounts to eliminate vibration to the unit's.

Each unit is equipped with one or two refrigerant circuits.

Each refrigerant circuit comprises of one or tandem scroll compressors.

Each circuit includes : filter dryer, sight glass, thermo-expansion valve, shut off valve, and solenoid valve. For heat pump units additional items are: suction accumulator, 4 way valve, check valves. Optional items are H.G.B.P with relative shut off valve and solenoid valve. Unit protection devices are Manual reset H.P.S & Auto reset L.P.S.

Optional unit can be supplied with H & L pressure transmitters.

Condenser Fans

All unit condensing fans are of the axial type, directly coupled to single phase electric motor with external rotor, 6 poles, internally protected against potential overheating, silent and suitable for outdoor installation. Due to the sophisticated aerodynamic design of the blades and inlet cones, as well as the perfect static and dynamic balancing, their operation is completely vibration-free. Condenser fan motors are of the external rotor type, aerodynamically shaped so as not to interfere with the airflow. They have permanently lubricated bearings that do not require servicing. Continuous linear fan speed regulation is achieved according to condenser coil temperature, or upon request according to condensing pressure, including fan silent mode operation. This standard future of Klimallco units saves energy optimizing capacity and reduces sound levels.

The unit electrical board is IP-65 and includes everything necessary for the control and protection.

Microprocessor description

All units are equipped with electronic programmable microprocessor control. This control ensures complete management of all the functions of the unit and also ensures protection of all the unit's basic components as well as full diagnostics so that all possible malfunctions become immediately obvious to the user. The most important features are listed below.

- Fully automatic functioning of the unit by means of compressor control via a special algorithm, using air return temperature as the controlled variable.
- Full featured protection by controlling high and low pressure and heat exchanger protection against freeze up.
- Sophisticated defrost control using time and temperature.
- Linear fan speed regulation according to coil temperature or pressure, including fan silent mode operation.
- Possibility for remote on-off
- Possibility for remote summer-winter
- Possibility for remote display alarm
- All above options are provided as standard. There are further features of the electronic control that can be supplied upon request. Below is a list of these options.
- Full featured remote keyboard, that can be easily connected to the unit by means of a special connector (supplied with the keyboard) and a 3 wire cable having a minimum wire cross-section of 0,5 mm. The maximum Cable length is 100m. See user interface section for connection details.
- Connection to building management systems via Modbus. As this involves a slightly different type of control it should be made known to the factory together with the order.

Dynamic mode set point. It is possible to program the unit so as to enable the dynamic set point feature. This can be programmed to operate either via a 4-20 mA proportional signal according to user setting or by means of an outdoor sensor. The special algorithm built into the control adjusts the unit set point according to the external request.

The unit control has more than 150 programmable parameters. All units are factory programmed and ready for operation. In case of accidental erasure of the unit's program for any reason, it can be easily reprogrammed by means of a special copy card that is connected to the control board. All parameters are instantly uploaded to the control from the copy card.

3. Technical Specifications

R407c

KDP-**B**

TYPE		20	30	42	48	58	66	82	100	115	135	165	195	250
Nominal Cooling Capacity	kw	**18,5**	**28,7**	**41,0**	**50,1**	**55,9**	**65,5**	**82,0**	**95,7**	**111,7**	**131,0**	**163,9**	**191,3**	**246,3**
	RT	5,3	8,2	11,6	14,2	15,9	18,6	23,3	27,2	31,7	37,2	46,6	54,4	70,0
	BTU/H	63.000	97.875	139.708	170.714	190.411	223.241	279.416	326.107	380.823	446.482	558.832	652.214	839.564
Nominal Heating Capacity	kw	**18**	**28**	**39**	**49**	**55**	**65**	**79**	**95**	**111**	**129**	**158**	**190**	**253**
	kcal/h	15.561	23.810	33.934	42.558	47.620	55.682	67.868	81.554	95.240	111.363	135.736	163.108	217.852
Construction	Material	Galvanized steel												
	Color	Grey (RAL 7042)												
Panels insulation material (Evaporator side)		50mm injected polyurethane - double wall panels - Aluminium frames												
Compressor type		SCROLL												
Quantity		1	1	1	2	2	2	2	2	4	4	4	4	4
Capacity steps		1	1	1	2	2	2	2	2	4	4	4	4	4
Absorbed power (Cooling/Heating)	kW	4,7/5,2	6,9/7,7	10,4/11,6	12,6/14,4	13,8/15,4	16,0/18,0	20,8/23,2	24,8/27,6	27,6/30,8	32,0/36,0	41,6/46,4	49,6/55,2	65,2/72,0
Nominal operating current	A	8,4/9,2	12,9/13,9	19,0/20,7	24,0/26,0	25,8/27,8	29,6/32,4	38,0/41,4	49,8/53,2	51,6/55,6	59,2/64,8	76,0/82,8	99,6/106,4	111,0/121,2
Maximum operating current	A	12,1	20	27	34	40	44	54	64	80	88	108	128	160
Crankcase heaters power	W	70	70	70	140	140	140	140	140	280	280	280	280	280
Electrical characteristics		400-3-50												
Condenser	`	High capacity cross finned coil with internally finned tubes and louver fins												
Condenser fan type		Axial												
Quantity		1	1	1	2	2	2	4	4	4	6	6	6	8
Nominal air flow	m^3/h	9.500	9.500	9.500	19.000	19.000	19.000	38.000	38.000	38.000	57.000	57.000	57.000	76.000
Speed	RPM	860	861	862	863	864	865	866	867	868	869	870	871	872
Absorbed power	kW	0,60	0,60	0,60	1,20	1,20	1,20	2,40	2,40	2,40	3,60	3,60	3,60	4,80
Nominal operating current	A	2,60	2,60	2,60	5,20	5,20	5,20	10,40	10,40	10,40	15,60	15,60	15,60	20,80
Electrical characteristics		240-1-50												
Evaporator type		Cross finned coil - Copper tubes / Aluminum fins												
Face area	m^2	0,450	0,670	0,865	1,070	1,310	1,400	1,800	2,150	2,510	2,780	3,310	3,580	3,580
Rows		4	4	4	4	4	4	4	4	4	4	4	4	6
Evaporator fan type		Centrifugal double inlet - forward curved												
No of fans		1	2	2	2	2	2	2	2	2	2	1	1	1
Discharge air direction														
Nominal air flow	m^3/h	3.300	5.800	7.700	9.100	11.250	12.800	15.500	19.400	22.340	26.200	30.000	34.000	38.000
Speed	RPM	1.014	867	714	732	611	621	750	637	641	655	668	640	684
Absorbed power	kW	0,70	1,20	1,90	2,00	2,40	3,20	3,30	4,30	4,5	6,1	6,20	7,60	9,10
Available external static pressure	pa	100												
Type of drive		Tappered bush pulleys - V belts												
Fan motor type		Squirrel case TEFC - insulation class F / IP-55												
Installed power	kW	1,10	2,20	3,00	3,00	4,00	4,00	4,00	5,50	5,5	7,5	7,50	11,00	11,00
Speed	RPM	1.430	1.430	1.430	1.430	1.430	1.425	1.425	1.425	1.425	1430,0	1.450	1.450	1.450
Nominal operating current	A	1,6	3,3	3,4	3,5	5,7	5,7	5,7	7,8	7,8	10,4	10,4	14,5	14,5
Maximum operating current	A	2,3	4,7	6,3	6,3	8,2	8,2	8,2	11,1	11,1	14,9	14,9	20,7	20,7
Electrical characteristics		400-3-50												
Total absorbed power (Cooling/Heating)	kW	6,4/6,9	9,7/10,5	14,0/15,2	16,8/18,6	19,0/20,6	21,2/23,2	27,2/29,6	32,7/35,5	35,5/38,7	43,1/47,1	52,7/57,5	64,2/69,8	81,0/87,8
Total nominal operating current	A	12,6/13,4	18,8/19,8	25,0/26,7	32,7/34,7	36,7/38,7	40,5/43,3	54,1/57,5	68,0/71,4	69,8/73,8	85,2/90,8	102,0/108,8	129,7/36,5	146,3/156,5
Total maximum operating current	A	17	27	36	46	53	57	73	86	102	119	139	164	202
Power cable cross section	mm^2	6	10	16	16	16	25	25	35	50	70	95	120	150
Fuses	A	3x25	3x32	3x40	3x50	3x63	3x63	3x80	3x100	3x125	3x125	3x160	3x200	3x250
Voltage limits	V	350-450 V												
Refrigerant circuit														
Expansion device		Thermo expansion valves												
Refrigerant type		R407c												
Air filters		Media pleated EU-4 50mm												
Noise level at 3m	**dbA**	57	59	59	62	62	62	66	66	66	68	68	68	70
Dimensions	Width mm	1.324	1.324	1.630	1.936	1.936	1.936	1.936	2.089	2.089	2.089	2.089	2.089	2.089
	Length mm	2.189	2.189	2.342	2.495	2.495	2.648	3.107	3.260	3.260	4.331	5.096	5.096	6.014
	Height mm	1.464	1.464	1.464	1.617	1.923	1.923	1.923	2.149	2.149	2.402	2.249	2.402	2.402
Shipping weight	**kg**	685	685	750	800	900	1.100	1.370	1.600	1.915	2.230	2470	2.770	3.100

Notes

1. Validity of above capacities : Summer 27 °C db / 19 °C wb on coil / 35 °C ambient, Winter 20 °C on coil 7 °C db / 80% rh ambient
2. Limits of operation Ambient -5 °C / 45 °C. Nominal air flow +- 10% .
3. Given cables cross sections are only indicative and have been calculated for 40°C ambient. Always consult local regulations.
4. Units are shipped factory wired, charged and run tested.
5. All units are microprocessor controlled. Optional connection interface for BMS via modbus protocol is available.
6. Leave at least 1,5 m of distance from condenser inlet(s) and 2 m above condenser fans discharge
7. Do not install ducts and/or air silencers on condenser fans discharge.
8. Options like mixing boxes, return fans, hot water or electric heating coils are not included in the standard version. Always consult the manufacturer for such options, including external static other than 100 pa

KDP-**C**

SXOD		20	30	42	48	58	66	82	100	115	135	165	195	250	265	320	340	400
Nominal Cooling Capacity	kw	**22,4**	**27,9**	**33,3**	**44,7**	**55,7**	**66,5**	**85,1**	**106,1**	**111,5**	**131,5**	**151,6**	**170,2**	**212,1**	**261,4**	**333,1**	**343,0**	**405,2**
	RT	6,4	7,9	9,5	12,7	15,8	18,9	24,2	30,1	31,7	37,4	43,1	48,4	60,3	74,3	94,6	97,5	115,1
	BTU/H	76.214	94.991	113.400	152.427	189.982	226.800	290.127	361.555	379.964	448.445	516.927	580.255	723.109	891.238	1.135.776	1.169.657	1.381.787
Construction	Material	Galv anized steel																
	Color	Grey (RAL 7042)																
Panels insulation material	Du` onạ snọ side	50mm injected polyurethane - double wall panels - Aluminium frames																
Compressor type		SCROLL													SEMIHERMETIC SCREW			
Quantity			1				2			4	2		4			2		
Capacity steps			1				2			4	2		4			25/50-100% STEPLESS		
Absorbed power KW		15,3	8,6	10,88	14	17,2	22,4	27,6	33,6	34,4	44,8	50	55,2	67,2	66,8	85,6	87,8	100,4
Nominal operating current	A	15,3	21,4	23,2	30,6	42,8	45,8	55,4	61,6	85,6	91,6	101,2	110,8	123,2	108,8	140,2	143,6	165,2
Maximum operating current	A	19	28	34	38	56	68	82	104	112	125	150	164	208	196	234	262	294
Crankcase heaters power	W	70	70	70	140	140	140	140	170	280	190	320	340	380	2x300			
Electrical characteristics		400-3-50																
Condenser		High capacity cross finned coil with internally finned tubes and louv er fins																
Condenser fan type		Axial																
Quantity		1	1	1	2	2	2	4	4	4	6	6	6	8	6	6	6	8
Nominal air flow	m^3/h	9.500	9.500	9.500	19.000	19.000	19.000	38.000	38.000	38.000	57.000	57.000	57.000	76.000	114000	114000	114000	152000
Speed	RPM	860													900			
Absorbed power	kW	0,60	0,60	0,60	1,20	1,20	1,20	2,40	2,40	2,40	3,60	3,60	3,60	4,80	9	9	9	12
Nominal operating current	A	2,6	2,6	2,6	5,2	5,2	5,2	10,4	10,4	10,4	15,6	15,6	15,6	20,8	31,5	31,5	31,5	42
Electrical characteristics		240-1-50													400-3-50			
Evaporator type		Cross finned coil - Copper tubes / Aluninum fins																
Face area	m^2	0,45	0,67	0,86	1,07	1,31	1,40	1,80	2,15	2,51	2,78	3,31	3,58	3,58	4,20	5,40	6,00	6,80
Rows		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Evaporator fan type		Centrifugal double inlet - forward curv ed																
No of fans		1	2	2	2	2	2	2	2	2	2	1	1	1	2	3	3	3
Discharge air direction		Front										Top			Front			
Nominal air flow	m^3/h	3.300	5.800	7.700	9.100	11.250	12.800	15.500	19.400	22.340	26.200	30.000	34.000	36.000	44.000	55.000	58.000	68.000
Spped	RPM	1.250	1.400	1.350	1.200	1.050	1.070	950	760	820	850	485	495	510	900	1060	1090	930
Absorbed power	kW	0,70	1,20	1,90	2,00	2,40	3,20	3,30	4,30	4,5	6,1	6,20	7,60	9,10	2x8,2	3x7,5	3x8,5	3x8,8
Av ailable external static pressure	pa	100													150			
Type of driv e		Tappered bush pulleys - V belts																
Fan motor type		Squirrel case TEFC - insulation class F / IP-55																
Installed power	kW	1,10	2,20	3,00	3,00	4,00	4,00	4,00	5,50	5,5	7,5	7,50	11,00	11,00	2x11	3x11	3x11	3x11
Speed	RPM	1.450																
Nominal operating current	A	1,6	3,3	3,4	3,5	5,7	5,7	5,7	7,8	7,8	10,4	10,4	14,5	14,5	2x15,5	3x14,2	3x16	3x16,5
Maximum operating current	A	2,3	4,7	6,3	6,3	8,2	8,2	8,2	11,1	11,1	14,9	14,9	20,7	20,7	2x20,7	3x20,7	3x20,7	3x20,7
Electrical characteristics		400-3-50																
Total absorbed power	kW	17,0	11,4	14,5	18,2	22,4	27,6	34,0	41,5	42,3	55,9	61,1	69,8	83,0	122,1	151,9	154,1	177,8
Total nominal operating current	A	19,5	27,3	29,2	39,3	53,7	56,7	71,5	79,8	103,8	117,6	127,2	140,9	158,5	171,2	214,0	223,1	256,9
Total maximum operating current	A	24	35	43	50	69	81	101	126	134	156	181	200	250	253	311	339	377
Power cable cross section	mm^2	6	10	16	16	25	25	50	70	95	95	120	150	240	240	2x120	2x120	2x150
Fuses	A	3x32	3x50	3x50	3x63	3x100	3x100	3x125	3x160	3x160	3x200	3x200	3x250	3x300	3x300	3x400	3x400	3x400
Voltage limits	V	360-450 V																
Refrigerant circuit		1			2													
Expansion dev ice		Thermo expansion v alv es													Electronic expansion v alv es			
Refrigerant type		R134A																
Air filters		Media pleated EU-4 48mm																
Noise level at 3m	**dbA**	57	59	59	62	62	62	66	66	66	68	68	68	68	72	72	73	75
Dimensions	Width mm	1.324	1.324	1.630	1.936	1.936	1.936	1.936	2.089	2.089	2.089	2.089	2.089	2.089	2200	2200	2200	2200
	Length mm	2.189	2.189	2.342	2.495	2.495	2.648	3.107	3.260	3.260	4.331	5.096	5.096	5.708	6748	7360	7666	9425
	Height mm	1.464	1.464	1.464	1.617	1.923	1.923	1.923	2.149	2.149	2.402	2.249	2.402	2.402	2460	2460	2460	2500
Shipping weight	**kg**	720	740	790	840	950	1.160	1.450	1.690	2.050	2.380	2.650	3.050	3.400	5600	6100	6600	7300

Notes

1. Validity of above capacities : Summer 27 °C db / 19 °C wb on coil / 35 °C ambient, Winter 20 °C on coil 7 °C db / 80% rh ambient
2. Limits of operation Ambient +10 °C / +52 °C. Nominal air flow +- 10% .
3. Given cables cross sections are only indicative and have been calculated for 40°C ambient. Always consult local regulations.
4. Units are shipped factory wired, charged and run tested.
5. All units are microprocessor controlled. Optional connection interface for BMS via modbus protocol is available.
6. Leave at least 1,5 m of distance from condenser inlet(s) and 2 m above condenser fans discharge
7. Do not install ducts and/or air silencers on condenser fans discharge.
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KDP-**D**

TYPE		20	30	42	48	58	66	82	100	115	135	165	195	250
Nominal Cooling Capacity	kw	**19,1**	**28,5**	**40,4**	**47,1**	**55,4**	**64,8**	**80,9**	**95,2**	**110,9**	**129,7**	**161,8**	**190,5**	**240,9**
	RT	5,4	8,1	11,5	13,4	15,7	18,4	23,0	27,1	31,5	36,8	46,0	54,1	68,4
	BTU/H	65.250	97.125	137.884	160.500	188.952	221.052	275.768	324.648	377.905	442.105	551.536	649.295	821.127
Nominal Heating Capacity	kw	**19,2**	**28,1**	**41,0**	**47,9**	**56,3**	**65,9**	**82,1**	**96,6**	**112,6**	**131,8**	**164,1**	**193,3**	**250,3**
	kcal/h	16.477	24.202	35.287	41.219	48.404	56.673	70.573	83.102	96.809	113.346	141.147	166.204	215.228
Construction	Material	Galvanized steel												
	Color	Grey (RAL 7042)												
Panels insulation material (Evaporator side)		50mm injected polyurethane - double wall panels - Aluminium frames												
Compressor type		SCROLL												
Quantity		1	1	1	2	2	2	2	2	4	4	4	4	4
Capacity steps		1	1	1	2	2	2	2	2	4	4	4	4	4
Absorbed power (Cooling/Heating)	kW	5,1/5,7	7,1/7,9	10,5/11,6	12,4/13,7	14,2/15,9	16,6/18,5	21,0/23,2	24,6/27,1	28,4/31,8	33,2/37,0	42,0/46,4	49,2/54,2	64,0/70,6
Nominal operating current	A	8,9/9,8	13,6/14,6	18,2/19,8	22,0/22,3	27,2/29,2	32,0/34,3	36,4/39,5	46,6/51,8	54,4/58,5	64,0/68,5	72,8/79,1	93,2/100,0	111,2/120,8
Maximum operating current	A	15	18,2	31	32,4	36,4	43,2	62	68	72,8	86,4	124	136	160
Crankcase heaters power	W	70	70	70	140	140	140	140	140	280	280	280	280	280
Electrical characteristics		400-3-50												
Condenser	`	High capacity cross finned coil with internally finned tubes and louver fins												
Condenser fan type		Axial												
Quantity		1	1	1	2	2	2	4	4	4	6	6	6	8
Nominal air flow	m^3/h	9.500	9.500	9.500	19.000	19.000	19.000	38.000	38.000	38.000	57.000	57.000	57.000	76.000
Speed	RPM	860	860	860	860	860	860	860	860	860	860	860	860	860
Absorbed power	kW	0,60	0,60	0,60	1,20	1,20	1,20	2,40	2,40	2,40	3,60	3,60	3,60	4,80
Nominal operating current	A	2,6	2,6	2,6	5,2	5,2	5,2	10,4	10,4	10,4	15,6	15,6	15,6	20,8
Electrical characteristics		240-1-50												
Evaporator type		Cross finned coil - Copper tubes / Aluninum fins												
Face area	m^2	0,450	0,670	0,865	1,070	1,310	1,400	1,800	2,150	2,510	2,780	3,310	3,580	3,580
Rows		4	4	4	4	4	4	4	4	4	4	4	4	6
Evaporator fan type		Centrifugal double inlet - forward curved												
No of fans		1	2	2	2	2	2	2	2	2	2	1	1	1
Discharge air direction		Front											Top	
Nominal air flow	m^3/h	3.300	5.800	7.700	9.100	11.250	12.800	15.500	19.400	22.340	26.200	30.000	34.000	38.000
Speed	RPM	1.250	1.400	1.350	1.200	1.050	1.070	950	760	820	850	485	495	510
Absorbed power	kW	0,70	1,20	1,90	2,00	2,40	3,20	3,30	4,30	4,5	6,1	6,20	7,60	9,10
Available external static pressure	pa	100												
Type of drive		Tappered bush pulleys - V belts												
Fan motor type		Squirrel case TEFC - insulation class F / IP-55												
Installed power	kW	1,10	2,20	3,00	3,00	4,00	4,00	4,00	5,50	5,5	7,5	7,50	11,00	11,00
Speed	RPM	1.430	1.430	1.430	1.430	1.430	1.425	1.425	1.425	1.425	1430,0	1.450	1.450	1.450
Nominal operating current	A	1,6	3,3	3,4	3,5	5,7	5,7	5,7	7,8	7,8	10,4	10,4	14,5	14,5
Maximum operating current	A	2,3	4,7	6,3	6,3	8,2	8,2	8,2	11,1	11,1	14,9	14,9	20,7	20,7
Electrical characteristics		400-3-50												
Total absorbed power (Cooling/Heating)	kW	6,8/7,4	9,9/10,7	13,6/5,2	16,2/7,9	19,2/11,1	21,2/13,7	27,4/9,6	31,9/15,0	35,9/9,7	44,1/18,1	53,1/17,5	63,6/18,8	79,8/16,4
Total nominal operating current	A	13,1/14,0	18,9/10,5	24,0/15,8	30,7/11,0	37,9/20,1	42,9/15,2	52,1/25,6	64,2/20,0	72,2/26,7	90,0/34,5	98,0/35,1	123,1/30,1	146,3/36,1
Total maximum operating current	A	20	26	40	44	50	57	81	90	94	117	155	172	202
Power cable cross section	mm^2	6	10	16	16	16	25	25	35	50	70	95	120	150
Fuses	A	3x25	3x32	3x50	3x50	3x63	3x63	3x100	3x100	3x125	3x125	3x200	3x200	3x250
Voltage limits	V	360-450 V												
Refrigerant circuit		1			2									
Expansion device		Thermo expansion valves												
Refrigerant type		R410A												
Air filters		Media pleated EU-4 48mm												
Noise level at 3m	**dbA**	57	59	59	62	62	62	66	66	66	68	68	68	70
Dimensions	Width mm	1.324	1.324	1.630	1.936	1.936	1.936	1.936	2.089	2.089	2.089	2.089	2.089	2.089
	Length mm	2.189	2.189	2.342	2.495	2.495	2.648	3.107	3.260	3.260	4.331	5.096	5.096	6.014
	Height mm	1.464	1.464	1.464	1.617	1.923	1.923	1.923	2.149	2.149	2.402	2.249	2.402	2.402
Shipping weight	**kg**	685	685	750	800	900	1.100	1.370	1.600	1.915	2.230	2470	2.770	3.100

Notes

1. Validity of above capacities : Summer 27 °C db / 19 °C wb on coil / 35 °C ambient, Winter 20 °C on coil 7 °C db / 80% rh ambient
2. Limits of operation Ambient -5 °C / 45 °C. Nominal air flow +- 10% .
3. Given cables cross sections are only indicative and have been calculated for 40°C ambient. Always consult local regulations.
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Klimallco®
climate experience

KLIMALLCO's units comply with the European regulations, that guarantee the safety of the product.

KDP

klimallco sa Air Treatment Experts

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CERTIFIED LR
ISO 9001 · ISO 14001

KLIMALLCO's quality management system is certified according to **ISO 9001:2015** and **ISO 14001:2015** for:
Design, manufacturing and trading of air conditioning equipment.

Technical Data
2019