www.climasarefrigeracion.com

Series CLB

HVAC units for Heating, Ventilation, and Air Conditioning

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ATEX

Compact HVAC units for the air conditioning of Control Rooms installed in hazardous areas with explosion risk located in Refineries, Chemical, and Petrochemical plants.

The easy-to-install air conditioner is installed on the exterior of the Control Room to be conditioned. It has air inlet and outlet ducts to the Control Room with a finish for mounting grilles or installing ducts for better interior air distribution (recommended when rooms are longer than 6 meters).

The air conditioning units of the "**CLB-B**" y "**CLB-C**" " series are suitable for maintaining a constant temperature inside the Control Room in both summer and winter; the units are available in versions for "ventilation-pressurization", "cooling only", and "cooling-heating" depending on the installation needs; the entire range of HVAC units incorporates electronic temperature control for installation inside the Control Room.

The HVAC units incorporate a double ventilation-pressurization system as standard, which ensures positive pressure inside the Control Room with continuous operation of the HVAC unit. The backup fan starts automatically in case of failure of the main fan, sending an alarm to the supervision system for repair. It is not necessary to stop the HVAC unit as it has independent sealed zones, every 24 hours, according to programming, the fan rotation is automatically changed.

All components incorporated in the HVAC units have "Ex-d (ia)" protection, making them suitable for installations in zones 1 and 2, designed according to standards:

- EN-80079-36:2017
- EN-80079-37:2018
- EN-14986:2017
- EN-60079-0:2021
- EN-60079-1:2015
- EN-60079-7:2016
- EN-60079-11:2013
- EN-60079-18:2016

Custom design according to customer needs, built as standard in AISI-304 quality stainless steel, the units are completely autonomous, only requiring three-phase electrical power supply for their operation.

TECHNICAL CHARACTERISTICS

ATEX II2G Ex dc (ia) – IIB/IIC - T3

	U.	CLB-60	CLB-75	CLB-90	CLB-110	CLB-125	CLB-160
Cooling Capacity.	W.	3.800	4.900	5.840	6.870	8.080	9.970
Heating Capacity.	W.	2.000	3.000	4.000	4.000	4.000	4.000
Indoor air flow rate.	$m^3/h.$	600	750	1.000	1.200	1.400	1.650
Pressurization air flow rate.	$m^3/h.$	75	100	125	150	175	200
Power consumption.	Kw.	2.49	3.71	4.95	5.85	5.95	7.35
Electrical intensity. *(400V.)*	Amp.	7.21	8.24	9.46	10.81	11.01	14.71
Recommended fuse.	Amp.	10	10	16	16	16	20
Voltage 50Hz. *(Standard)*	V.	380-420	380-420	380-420	380-420	380-420	380-420
Voltage 60Hz. *(upon request)*	V.	440-480	440-480	440-480	440-480	440-480	440-480
Electrical panel protection	IP	IP-66	IP-66	IP-66	IP-66	IP-66	IP-66
Ecological refrigerant.	R	R-407-C	R-407-C	R-407-C	R-407-C	R-407-C	R-407-C
Indoor temperature range	°C.	+20 / +35	+20 / +35	+20 / +35	+20 / +35	+20 / +35	+20 / +35
Ambient temperature range	°C.	-20 / +50	-20 / +50	-20 / +50	-20 / +50	-20 / +50	-20 / +50
Sound level (at 1m.)	dB(A)	71	71	75	75	75	75

	U.	CLB-190	CLB-215	CLB-255	CLB-315	CLB-380	CLB-475
Cooling Capacity.	W.	12.070	14.300	16.780	20.320	24.130	30.310
Heating Capacity.	W.	4.000	4.000	4.000	4.000	6.000	6.000
Indoor air flow.	$m^3/h.$	2.000	2.500	2.900	3.500	4.000	4.500
Pressurization air flow.	$m^3/h.$	250	300	350	450	550	650
Power consumed.	Kw.	9.0	9.4	11.6	13.0	17.7	21.2
Electric current. *(400V.)*	Amp.	17.43	18.63	22.73	26.43	33.36	45.26
Recommended fuse.	Amp.	25	25	32	32	40	50
Voltage 50Hz. *(Standard)*	V.	380-420	380-420	380-420	380-420	380-420	380-420
Voltage 60Hz. *(on request)*	V.	440-480	440-480	440-480	440-480	440-480	440-480
Electrical panel protection	IP	IP-66	IP-66	IP-66	IP-66	IP-66	IP-66
Ecological refrigerant.	R	R-407-C	R-407-C	R-407-C	R-407-C	R-407-C	R-407-C
Indoor temperature range	°C.	+20 / +35	+20 / +35	+20 / +35	+20 / +35	+20 / +35	+20 / +35
Ambient temperature range	°C.	-20 / +50	-20 / +50	-20 / +50	-20 / +50	-20 / +50	-20 / +50
Sound level (at 1m.)	dB(A)	76	76	80	80	80	80

	U.	CLB-565	CLB-665	CLB-770	CLB-850	CLB-995	CLB-1155
Cooling Capacity.	W.	36.630	43.090	49.380	56.690	64.500	73.680
Heating Capacity.	W.	10.000	12.000	12.000	16.000	16.000	20.000
Indoor air flow.	$m^3/h.$	5.200	5.800	6.300	7.000	7.500	8.200
Pressurization air flow.	$m^3/h.$	750	900	1.100	1.200	1.300	1.400
Power consumed.	Kw.	23.4	28.6	34.9	37.8	38.3	46.4
Electric current. *(400V.)*	Amp.	52.26	56.46	69.37	81.37	81.37	89.92
Recommended fuse.	Amp.	63	63	80	100	100	125
Voltage 50Hz. *(Standard)*	V.	380-420	380-420	380-420	380-420	380-420	380-420
Voltage 60Hz. *(on request)*	V.	440-480	440-480	440-480	440-480	440-480	440-480
Electrical panel protection	IP	IP-66	IP-66	IP-66	IP-66	IP-66	IP-66
Ecological refrigerant.	R	R-407-C	R-407-C	R-407-C	R-407-C	R-407-C	R-407-C
Indoor temperature range	°C.	+20 / +35	+20 / +35	+20 / +35	+20 / +35	+20 / +35	+20 / +35
Ambient temperature range	°C.	-20 / +50	-20 / +50	-20 / +50	-20 / +50	-20 / +50	-20 / +50
Sound level (at 1m.)	dB(A)	81	81	84	84	84	85

ATEX II2G Ex dc (ia) – IIB/IIC - T3

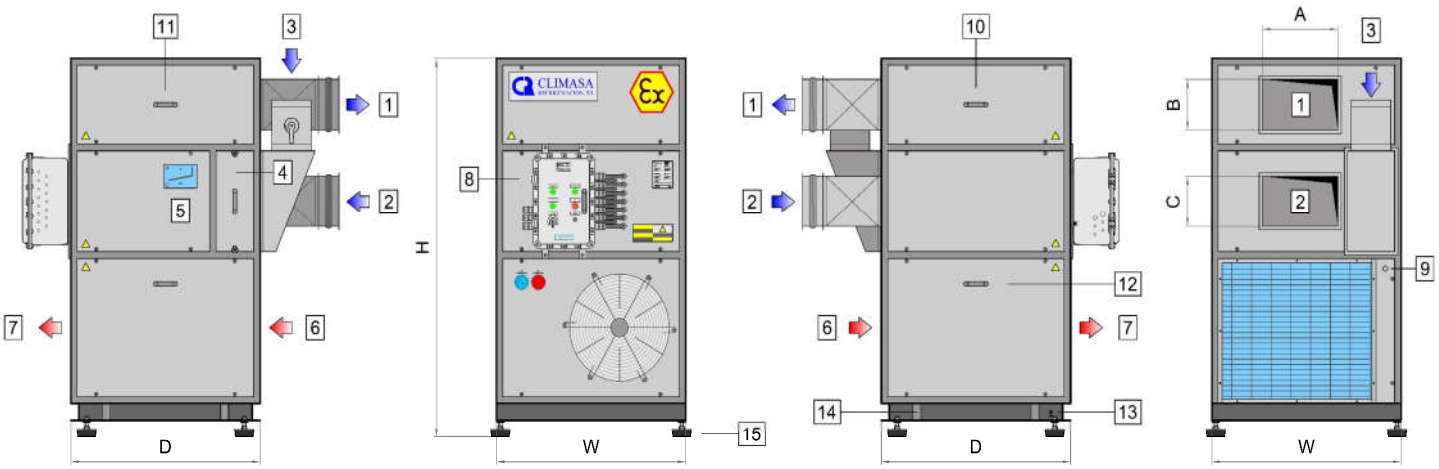
GENERAL CHARACTERISTICS:

- ATEX certification, zone 1 & 2; II 2G Ex dc (ia) IIC T3 / IIB+H_2 / IIB
- Power supply voltage 380-420VAC/3F/50Hz.
- Ambient temperature -20ºC to +40ºC.
- Eco-friendly refrigerant gas R-407C ó R-134a.
- Casing in SS304 of great thickness, internally finished with thermal insulation of 15 mm thickness, fire-resistant M1 (self-extinguishing), with the unit HVAC prepared to work in aggressive outdoor environments.
- The heat exchange coils (refrigerant gas-air) of high efficiency are constructed with copper tube and aluminum fins, with a minimum minimum fin spacing of 2.1mm., condensate drain for the evaporator coil in stainless steel.
- Heating system by ATEX certified electric heaters with stainless steel heating elements.
- Air filters ATEX certified located inside the HVAC unit for filtering recirculated air and high-efficiency pressurization air (G4). Guide type mounting guide allowing easy access and filter replacement with filter saturation indicator.
- Compressor type semi-hermetic of direct drive ATEX certified.
- Refrigeration pipes in copper.
- Supply fans, centrifugal type, constructed with copper sides (spark-proof),belt drive anti-static y explosion-proof motor Exd., redundant system 2 x 100% of supply airflow.
- Condensing fan of helical type (spark-proof) and Exd explosion-proof motor with variable speed drive to allow condensation temperature control in cold climatic conditions.
- Explosion-proof Exd power and control electrical panel constructed in low-copper aluminum alloy with stainless steel hinges and screws, finished with RAL 7035 polyester paint, includes signaling lights, function selector, reset button, control PLC and protections for each motor, IP66 protection rating, installation with armored cables with IP66 / IP68 cable glands.
  The unit incorporates a flashing light system to indicate the type of fault that has occurred.
- Control of supply air fans switching by electronic differential pressure switch with display ATEX certified, located inside the HVAC unit.
- Manual damper for pressurization air regulation.
- Control of Control Room temperature by electronic thermostat with display ATEX certified, zones 1, 2, 21 and 22 to be located inside the Control Room.
- ATEX certified high and low pressure refrigerant transmitters for compressor control.
- Refrigerant high and low pressure gauges located on the exterior of the HVAC unit.
- ATEX certified high pressure refrigerant gas safety valve.
- Thermostatic expansion valve.
- Welded HVAC unit ground connection on the structure.

OPTIONAL:

- Electrical supply voltage 440-480VAC/3PH/60Hz.
- Ambient temperature extreme from -40ºC to +55ºC.
- Environmentally friendly refrigerants (Hydrocarbons): R-290; R-1270.
- Cooling system 2 x 100% - 2 x 50%.
- Electric heating system 2 x 100% - 2 x 50%
- SS316 casing.
- Coil evaporator / condenser with copper tubes and fins, stainless steel tubes and aluminum fins, stainless steel tubes and fins.
- Anticorrosive treatment of coils with Blygold.
- Low pressure steam heating system.
- F7 filtration system, E10, E11, with ATEX certification.
- Activated carbon filter.
- Compressor with oil heater for low ambient temperatures, ATEX certified.
- Refrigeration piping in stainless steel.
- Power and control electrical panel in AISI-316L stainless steel, IP66 protection rating.
- Remote control panel in painted aluminum ó in stainless steel.
- Control HMI integrated into the HVAC unit ó remote within the Analyzer Shelter, options available for zone 1 and for zone 2.
- Serial port RS-485 / Ethernet communication dialogue.
- Software update of the HVAC unit by our technicians via micro SD card to be installed in the unit's PLC.
- Electronic temperature transmitter with display indicator ATEX certified, zones 1, 2, 21 & 22, painted aluminum housing ó in stainless steel, IP66 protection rating.
- Humidity control electronic with display indicator ATEX certified, zones 1, 2, 21 & 22, painted aluminum housing ó in stainless steel, IP66 protection rating.
- Differential air transmitter for automatic switching of air supply fans with display indicator ATEX certified, zones 1, 2, 21 & 22, painted aluminum housing ó in stainless steel, IP66 protection rating.
- Differential air pressure switch to control pressurization in the Analyzer Shelter with display indicator of pressure, ATEX certified, zones 1, 2, 21 & 22, painted aluminum housing ó in stainless steel, IP66 protection rating.
- Thermal dispersion air flow detector (FCI), for control of pressurization air inlet, ATEX certified, zones 1 and 2, IP66 protection rating.
- Shut-off damper motorized electric or pneumatic pressurization outside air damper, spring-loaded safety closure in case of power or compressed air supply interruption, ATEX certified for zones 1 and 2.
- Fire dampers 120 minutes protection for installation in the supply y Analyzer Room air return and outside air pressurization inlet, motorized electric or pneumatic, spring-loaded safety closure in case of power or compressed air supply interruption, ATEX certified for zones 1 and 2.

DIMENSIONS:



LEGEND:

1. Impulsión air.
2. Return air.
3. Pressurization outside air.
4. Air filter.
5. Dirty filter indicator.
6. Condensation air inlet.
7. Condensation air oultet.
8. Control panel.
9. Drain water outlet.
10. Fan turbine 1 access.
11. Fan turbine 2 access.
12. Refrigeration compressor access.
13. Equipotential earth point.
14. Lifting rings.
15. Adjustable vibration absorvers.

	W (mm)	D (mm)	H (mm)	A (mm)	B (mm)	C (mm)	Weight (Kg.)
CLB-60	1.000	1.000	2.250	400	250	300	520
CLB-75	1.000	1.000	2.250	400	250	300	530
CLB-90	1.000	1.000	2.250	400	250	300	550
CLB-110	1.200	1.200	2.250	400	250	300	670
CLB-125	1.200	1.200	2.250	400	300	400	690
CLB-160	1.200	1.200	2.250	500	300	400	720
CLB-190	1.200	1.200	2.250	500	300	400	740
CLB-215	1.200	1.200	2.250	600	300	400	760
CLB-255	1.200	1.200	2.250	600	300	400	780
CLB-315	1.500	1.200	2.250	600	300	400	960
CLB-380	1.500	1.200	2.250	800	300	400	1.020
CLB-475	1.900	1.200	2.250	800	300	400	1.070
CLB-565	1.900	1.200	2.250	800	300	400	1.130
CLB-665	1.900	1.200	2.350	800	300	400	1.160
CLB-770	2.500	1.200	2.350	800	300	400	1.350
CLB-850	2.500	1.200	2.350	1.400	300	400	1.390
CLB-995	2.500	1.200	2.450	1.400	300	400	1.460
CLB-1155	3.200	1.200	2.450	1.400	300	400	1.620

Climasa Refrigeración, S.L., reserves the right to make changes without prior notice.

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