

RLAC-S
Chiller Scroll
Air Condensing

klimatix







klimatix

Klimatix is the Air Conditioning product brand of Mecalor Group, including the manufacture of fluid chillers and precision air conditioners to serve data centers, industries, commercial buildings, shopping centers and hospitals.

A brand with global reach that is born with the tradition of more than 60 years in thermal engineering.

This Klimatix's business division has the mission of bringing knowledge, technical competence, and technological innovation to the air conditioning market, with products of great costbenefit, extraordinary after-sales service and application engineering capable of understanding the needs of designers, installers and customers.

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Chilled Water Stations

Chiller Scroll for Air Conditioning

RLAC-S

Capacity of 25 to 220 TR



Application

Air conditioning for thermal comfort, air treatment and air conditioning for industrial processes.

Benefits

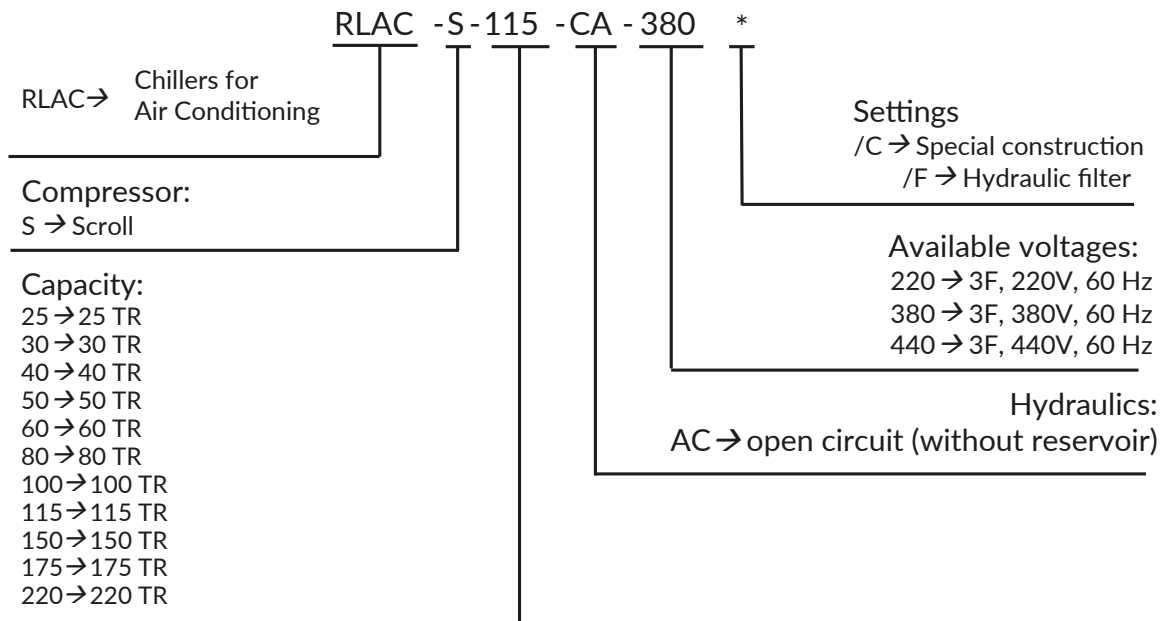
- Easy installation and low maintenance
- Low noise
- High availability rates (uptime)
- Robust construction
- Maximum energy efficiency
- Highly reliable components
- Operational flexibility
- Footprint adaptive



Air conditioning solutions



Nomenclature - RLAC-S



Technical Specification

The fluid chillers of the RLAC-S line are equipment intended for application in central HVAC systems for comfort and process.

Designed for continuous operation is produced with high quality components and mounted on a robust structure.

Components sized and optimized to ensure high performance with low power consumption.

Two independent refrigeration circuits with multiple compressors provide high efficiency in partial loads.



• Features

The RLAC-S line of fluid chillers with air condensation and direct expansion consists of 11 models.

Nominal capacities:

- 25, 30, 40, 50, 60, 80, 100, 115, 150, 175 and 220 TR

Operating conditions:

- Ambient temperature from 10 to 42°C
- Chilled water temperature from 5 to 15°C

Efficiency according to AHRI 551/591:

- IPLV from 3.53 to 4.19 kW/kW
- COP from 2.84 to 2.98 to dimensional

• Refrigeration

Expansion with air and refrigerant condensation R410A.

Two independent refrigeration circuits.

Scroll compressor with high compression efficiency and high-performance electric motor provide high energy efficiency of the refrigeration system.



Multiple compressors per circuit adjust the capacity of the equipment in cases of partial thermal load ensuring high energy efficiency values.

Micro-channel heat exchanger (MCHE) made entirely of aluminum ensuring greater protection against galvanic corrosion.



Flat pipes with multiple holes and coarse louvers result in high rates of heat transmission and reduced refrigerant charge

Refrigeration circuit with piping manufactured using copper or AISI 304 stainless steel pipes, electronic or thermostatic expansion valve, liquid display, and dryer filter.

Brazed plate heat exchanger (BPHE) made of AISI316 stainless steel with dual refrigeration circuit, well for temperature measurement and Victaulic connection.



Temperature sensors, pressure transducers, pressure switches and water flow sensor protect the refrigeration system in cases of operation outside the operating limits ensuring the safety of the equipment and users.

Axial fan and electric motor with external rotor are mounted on an air diffuser that ensures high efficiency with low noise level.



• Electrical and control

Electrical components for sectioning, protecting, and driving motors mounted according to NBR5410 on a plate made of galvanized carbon steel.

Communication using Modbus TCP/IP and Modbus RTU protocols that allows remote access to operating conditions, activation, parameterization, and verification of the operating history.

PLC-integrated primary pumping system drive, protection, and control functions.

Rotary switch with three positions to remotely turn the equipment on, off and on. Signal light for fault indication.

Cabinet made of galvanized carbon steel and finished with electrostatic painting in green color RAL 6005.

Fixing elements in stainless steel.

Inversion and phase failure relay

Control panel with 4.3" touch MMI that allows the visualization of the conditions of operations and parameterization of the control variables.



Monitoring of operating conditions and parameterization via web.

Communication and operation management of up to five networked devices.

Pressure transducer in the chilled water line at the inlet of the equipment with indication on the MMI.

Water inlet and outlet pipe made of AISI 304 stainless steel with pipe connections with BSPT thread for the 25 and 30 TR models and Victaulic connections for the other models.

Design and manufacture according to NR-10 and NR-12 standards.



Optional Settings

| | |
|--|--|
| INVERTER COMPRESSOR Inverter compressor with variable capacity between 30 to 100% and permanent magnet electric motor. | VARIABLE COMPRESSOR Fix scroll compressor with inverter frequency with proportional capacity control between 50 to 100%. |
| PRIMARY CIRCUIT PUMP Centrifugal pump integrated into the equipment. | HYDRAULIC CIRCUIT FILTER Filter with filtrating element of grooved discs in polypropylene or tainless-steel mesh. |
| EC CONDENSER FAN Variable speed fans and EC type electric motor. | CAPACITY CONTROL Hot Gas capacity control. |
| PROTECTION IN THE CONDENSER Surface treatment with e-coating painting for marine environments. | COMMUNICATIONS Protocols, SNMP, BACNET MS/TP, BACNET IP, others on request. |



Technical Data

| | Description | Unit | Model | | | | | | |
|--------------------|-------------------------------|-------------------|---|-----------|-------|-------|-------|-------|--|
| | RLCA-S Line | | 25-CA | 30-CA | 40-CA | 50-CA | 60-CA | 80-CA | |
| Basic Information | Capacity (1) | kW | 83 | 98 | 123 | 163 | 205 | 269 | |
| | | TR | 24 | 28 | 35 | 46 | 58 | 76 | |
| | Total consumed power (1) | kW | 29,3 | 33,7 | 41,2 | 51,9 | 72,3 | 95,1 | |
| | COP (1) | kW/kW | 2,842 | 2,920 | 2,984 | 3,142 | 2,839 | 2,828 | |
| | IPLV (1) | kW/kW | 3,546 | 3,532 | 3,773 | 3,638 | 3,509 | 4,095 | |
| Refrigeration | Condensation | - | Air | | | | | | |
| | Refrigeration circuits | - | 2 | | | | | | |
| | Refrigerant fluid | - | R410a | | | | | | |
| | Compressors | - | Scroll | | | | | | |
| | Number of compressors | - | 2 | 2 | 2 | 2 | 2 | 4 | |
| | Condensers | - | Micro-channel | | | | | | |
| | Fans | - | Axial | | | | | | |
| | Evaporator | - | Brazed plates | | | | | | |
| | Expansion valve (2) | - | VET | | | VEE | | | |
| Hydraulic circuit | Flow (1) | m ³ /h | 14,3 | 16,9 | 21,1 | 28,0 | 35,3 | 46,2 | |
| | Loss of Load | kPa | 22 | 30 | 27 | 30 | 33 | 42 | |
| | Connection type (3) | - | Thread | Victaulic | | | | | |
| | Inlet connections | inch | 2 | 3 | 3 | 3 | 3 | 4 | |
| | Outlet connections | inch | 2 | 3 | 3 | 3 | 3 | 4 | |
| Electrical | Power supply (4) | - | 3Ph/220V/60Hz - 3Ph/380V/60Hz - 3Ph/440V/60Hz | | | | | | |
| | HMI | - | 4.3 inches Touch Screen Graphics | | | | | | |
| | Communications | - | RTU or TCP/IP Modbus | | | | | | |
| | Master switch | - | Yes | | | | | | |
| | Activation | - | Three-position button (on, off and remote activation) | | | | | | |
| | Light signaling | - | Fault summary | | | | | | |
| | Sequence and phase failure | - | | | | | | | |
| Temperature Sensor | Sound signaling | - | Yes | | | | | | |
| | Water outlet | - | Yes | | | | | | |
| | Water inlet | - | Yes | | | | | | |
| | Evaporator anti freezing | - | Yes | | | | | | |
| | Ambient air | - | Yes | | | | | | |
| | Evaporator refrigerant outlet | - | No | | | Yes | | | |
| Sensors | Condenser refrigerant outlet | - | No | | | Yes | | | |
| | Low pressure (5) | - | No | | | Yes | | | |
| | High pressure (5) | - | No | | | Yes | | | |
| | Water pressure (6) | - | Yes | | | | | | |
| | Water flow | - | Yes | | | | | | |
| Details | Width | mm | 825 | 825 | 1125 | 1760 | 1760 | 2395 | |
| | Length | mm | 2225 | 2505 | 2605 | 2505 | 2505 | 2575 | |
| | Height | mm | 1945 | 2235 | 2620 | 2280 | 2280 | 2760 | |
| | Operating weight | kg | 400 | 500 | 850 | 1350 | 1350 | 1300 | |

(1) Operating conditions as per AHRI 551/591; Ambient temperature 35°C; Water inlet temperature 12°C

Water outlet temperature 7°C; Atmospheric pressure 101 kpa.

(2) TXV thermostatic expansion valve EEV electronic expansion valve

(3) BSP internal thread connection and grooved Victaulic included in the equipment

(4) Check availability of power supply by product model.

(5) Pressure transducers installed in refrigeration circuits in the suction and discharge of compressors.

(6) Inlet of chilled water piping

Technical Data

| | Description | Unit | Model | | | | |
|--------------------|-------------------------------|-------------------|---|--------|--------|--------|--------|
| | RLCA-S Line | | 100-CA | 115-CA | 150-CA | 175-CA | 220-CA |
| Basic Information | Capacity (1) | kW | 359 | 394 | 491 | 605 | 751 |
| | | TR | 102 | 112 | 140 | 172 | 214 |
| | Total consumed power (1) | kW | 126,3 | 144,9 | 178,0 | 213,2 | 274,8 |
| | COP (1) | kW/kW | 2,845 | 2,720 | 2,758 | 2,837 | 2,734 |
| | IPLV (1) | kW/kW | 4,068 | 4,110 | 4,022 | 4,193 | 4,136 |
| Refrigeration | Condensation | - | Air | | | | |
| | Refrigeration circuits | - | 2 | | | | |
| | Refrigerant fluid | - | R410a | | | | |
| | Compressors | - | Scroll | | | | |
| | Number of compressors | - | 4 | 4 | 4 | 6 | 6 |
| | Condensers | - | Micro-channel | | | | |
| | Fans | - | Axial | | | | |
| | Evaporator | - | Brazen plates | | | | |
| | Expansion valve (2) | - | VEE | | | | |
| Hydraulic circuit | Flow (1) | m ³ /h | 61,7 | 67,7 | 84,3 | 103,8 | 129,0 |
| | Loss of Load | kPa | 52 | 38 | 47 | 47 | 36 |
| | Connection type (3) | - | Victaulic | | | | |
| | Inlet connections | inch | 4 | 4 | 6 | 6 | 6 |
| | Outlet connections | inch | 4 | 4 | 6 | 6 | 6 |
| Electrical | Power supply (4) | - | 3Ph/220V/60Hz - 3Ph/380V/60Hz - 3Ph/440V/60Hz | | | | |
| | HMI | - | 4.3 inches Touch Screen Graphics | | | | |
| | Communications | - | RTU or TCP/IP Modbus | | | | |
| | Master switch | - | Sim | | | | |
| | Activation | - | Three-position button (on, off and remote activation) | | | | |
| | Light signaling | - | Fault summary | | | | |
| | Sequence and phase failure | - | Yes | | | | |
| Temperature Sensor | Water outlet | - | Yes | | | | |
| | Water inlet | - | Yes | | | | |
| | Evaporator anti freezing | - | Yes | | | | |
| | Ambient air | - | Yes | | | | |
| | Evaporator refrigerant outlet | - | Yes | | | | |
| | Condenser refrigerant outlet | - | Yes | | | | |
| Sensors | Low pressure (5) | - | Yes | | | | |
| | High pressure (5) | - | Yes | | | | |
| | Water pressure (6) | - | Yes | | | | |
| | Water flow | - | Yes | | | | |
| Details | Width | mm | 2395 | 2395 | 2395 | 2395 | 2395 |
| | Length | mm | 3740 | 3740 | 5070 | 6235 | 7420 |
| | Height | mm | 2760 | 2760 | 2760 | 2760 | 2760 |
| | Operating weight | kg | 1650 | 1750 | 1950 | 2600 | 3750 |

(1) Operating conditions as per AHRI 551/591; Ambient temperature 35°C; Water inlet temperature 12°C

Water outlet temperature 7°C; Atmospheric pressure 101 kpa.

(2) TXV thermostatic expansion valve EEV electronic expansion valve

(3) BSP internal thread connection and grooved Victaulic included in the equipment

(4) Check availability of power supply by product model.

(5) Pressure transducers installed in refrigeration circuits in the suction and discharge of compressors.

(6) Inlet of chilled water piping

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