

MAC-A R410A Series Air cooled Modular Chiller

Model: MAC210A5

Refrigerant: R410A

Cooling Capacity: 72kW



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COMERCIALES DE PRODUCTOS PARA EL CLIMA ACONDICIONADO



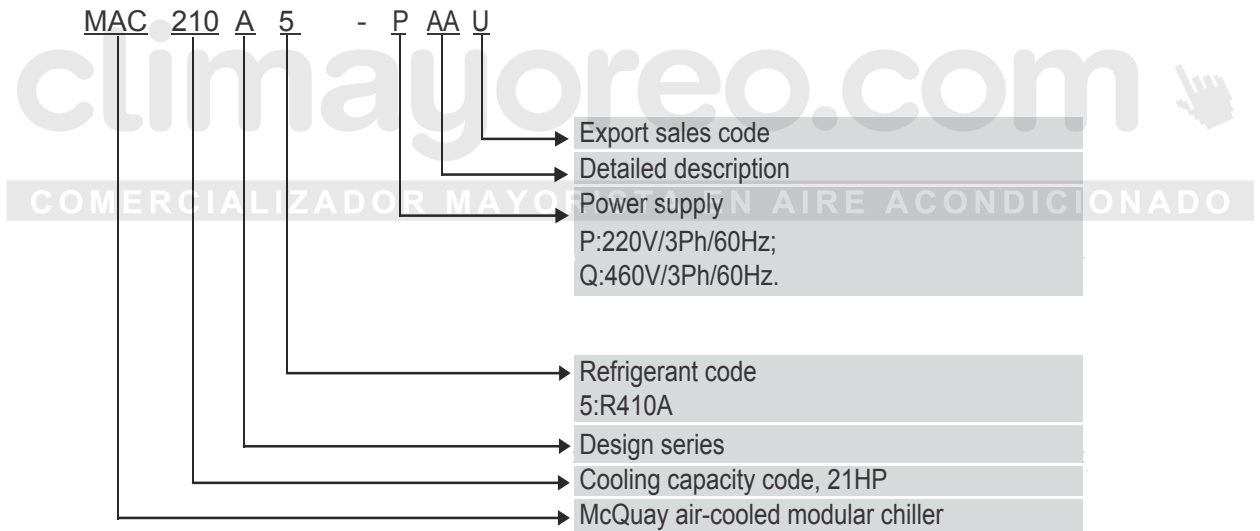


Overview

Based on the successful McQuay air-cooled modular chiller, McQuay MAC R410A series is a new generation of air-cooled chillers. They ideally combine the advanced and mature chiller technology with new type environment-friendly refrigerant. In addition, this series features outstanding performance, high capacity, low sound level, easy installation, and flexible system management, taking the lead in the global market.

ISO 9001 Certificate No. : 9601019 Quality Management System Certification	ISO 14001 Certificate No. : EMS 80362 Environment Management System Certification	BS - OHSAS 18001 Certificate No. : 7644	Test CNAS L0778 The test center is certified by China National Accreditation Service for Conformity Assessment	XK06-015-00378 China National Industrial Product Manufacture License

Nomenclature



European Manufacturing Base of McQuay Air-cooled Heat Pump in Cecchina Italy



McQuay Air Conditioning (Shenzhen) Co., Ltd. of McQuay China Asian Manufacturing Base of McQuay Air-cooled Heat Pump



McQuay Auburn Factory, USA



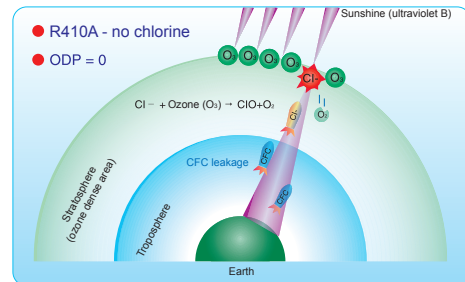
McQuay Cecchina Factory, Italy



Main Features

Environment-friendly Refrigerant

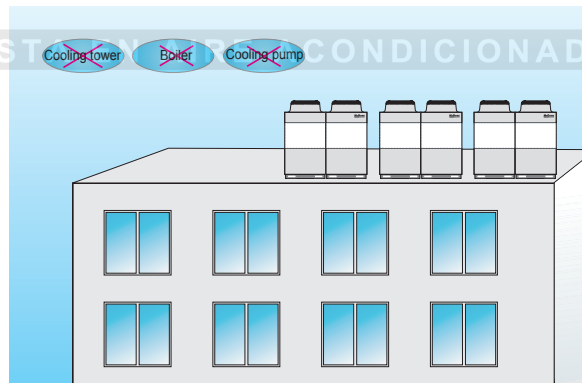
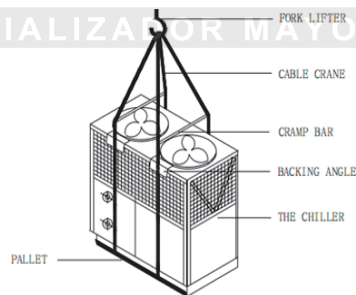
McQuay is committed to protecting the global ecosystem and has developed air-cooled chiller with R410A, a new type of environment-friendly refrigerant. Without chlorine, the environment-friendly R410A causes no harm to the ozonosphere (ODP=0).



Easy Installation

MAC R410A series is designed to best facilitate user installation. The refrigerant system is made hermetic in the factory. Customers do not need to connect any copper pipe or refill refrigerant or invest more money for complex water systems.

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Air-cooled modular chiller

Main Features

Outstanding Performance

MAC R410A series features leading-edge scroll technology and name-brand accessories which are strictly tested for high compatibility and reliability. Equipped with efficient scroll compressors and precise electronic expansion valves, these units feature high EER, especially at partial load.

Compact Size

Moreover, MAC R410A series features compact size. MAC R410A can be lifted without large lifting tools and located on the roof, balcony or any possible outdoor space.

Reliable Operation

MAC R410A series adapts modular design and one by one start, reducing the impact upon the grid when starting. All units have undergone strict and long-term test, ensuring reliable operation even under extreme cold conditions. Units themselves, moreover, have multiple protections. The security of units is maximally guaranteed.

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Low sound level

Thanks to the newly designed spiral blades, the outdoor units feature smooth air flow, significantly reducing the turbulence and lowering the air flow sound level. Unique compressor sound-insulation design and fully hermetic volute compressor minimizes the operation noise.



Control

Intelligent Control System

MAC R410A features user-friendly intelligent control system. Micro chip and large-scaled LCD display are employed to make the control swift and easy.

- Group control: One single controller can control a group made up by one master unit and maximum 15 slave units.
- BMS: MAC R410A provides interfaces for BMS. One serial port can support maximum 31 gateway and one gateway can support one master unit and maximum 15 slave units.



Basic Operating Mode

- Cooling

Parameter Setting

- Real time setting
- Weekly timing on/off (one on/off per day)
- Cooling water inlet temperature

Parameter Display

- Running status display
- Setted inlet water temperature
- Actual inlet water temperature
- Timing point

Fault alarm and protection

- 13 protections and fault alarm functions
- Indoor controller lock

Memory function

- Backup battery for realtime clock
- Customized parameters preservation after power failure

Other functions

- Error log inquiry
- Average compressor worn time
- Remote on/off
- Water system two-way valve control

Note:

- The length of communication wire between the master unit and the wired controller is 40m. The length of communication wire attached to the slave unit is 5m.
- The main board of the unit provides an interface for remote control. But remote controllers are not provided and should be installed on site.



Specification

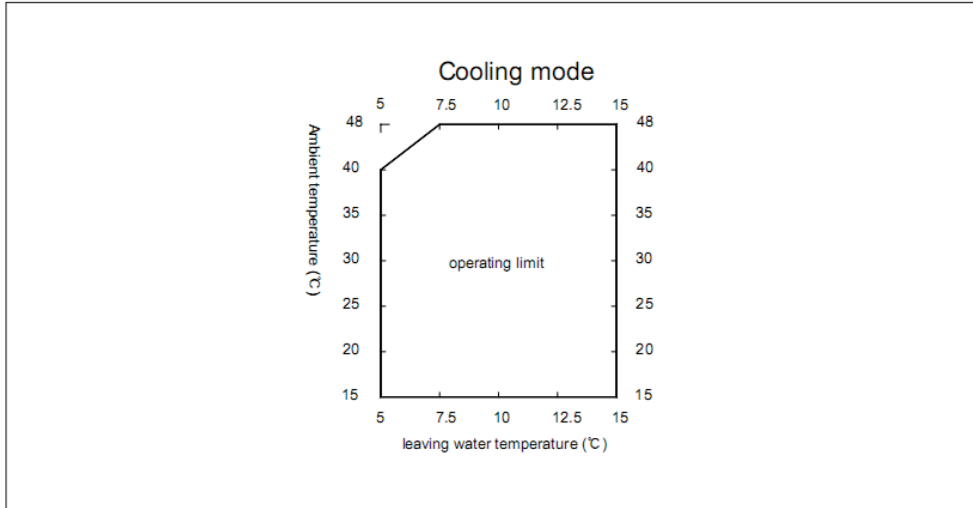
Model			MAC210A5-PAAU	MAC210A5-QAAU
Nominal cooling capacity	kW		72.0	72.0
	Btu/h		245734	245734
Rated input power	kW		25.0	25.0
Rated current	A		81.5	40.0
EER	Btu/h/W		9.83	9.83
Power supply			208~230V/3PH/60Hz	460V/3PH/60Hz
Throttling way			EEV	
Refrigerant			R410A	
Compressor	Type		Fully enclosed scroll type	
	Quantity		2	
Fan	Type		Efficient axial-flow type	
	Rated power	kW	1	
Heat exchanger	Type		High efficiency BPHE	
	Water flow	m ³ /h	11.1	11.1
Water resistance	Without water filter	kPa	43	43
	With water filter	kPa	72	72
Water connecting pipe size	inch		5	5
Unit Dimension(L×W×H)	mm		2056×1140×2193	2056×1140×2193
	inch		80.9×44.9×86.3	80.9×44.9×86.3
Packing Dimension(L×W×H)	mm		2060×1160×2200	2060×1160×2200
	inch		81.1×45.7×86.6	81.1×45.7×86.6
Net weight	kg/lb		730/1609	730/1609
Gross weight	kg/lb		731/1612	731/1612
Running weight	kg/lb		760/1675	760/1675

Note:

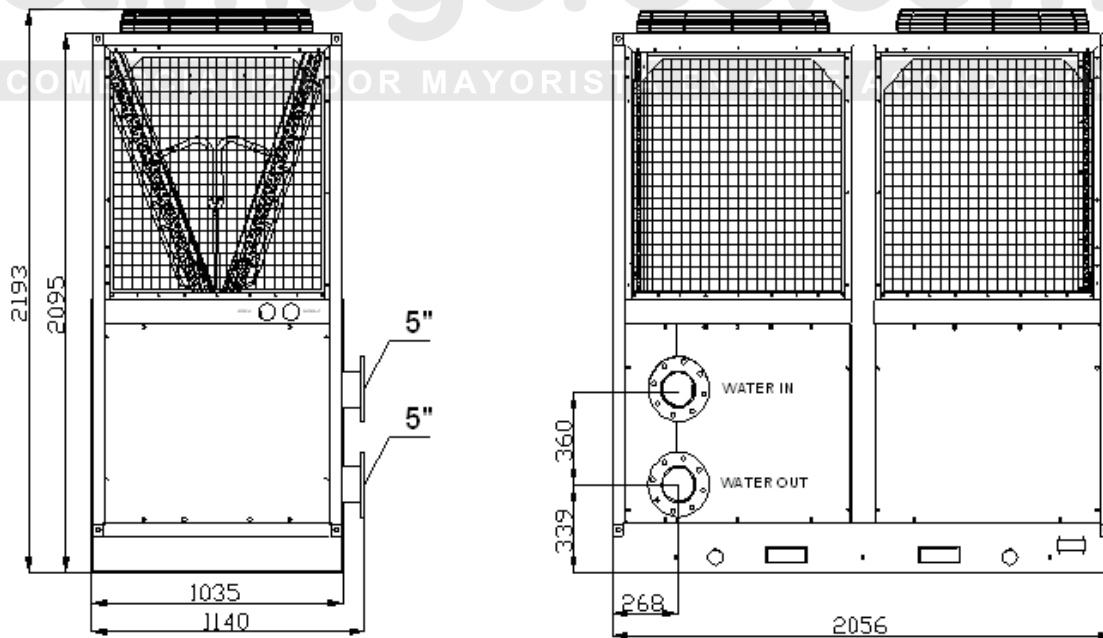
- All specifications are subjected to change by the manufacturer without prior notice.
- All units are tested and comply to iso 5151.
- Nominal cooling capacity is based on leaving water temperature 6.7°C, ambient temperature 35°C and 0.043 l/s per kW water flow.
- Recommended number of the units connected is 6. If you have to connect more units, please contact shenzhen mcquay.



Operating Limit



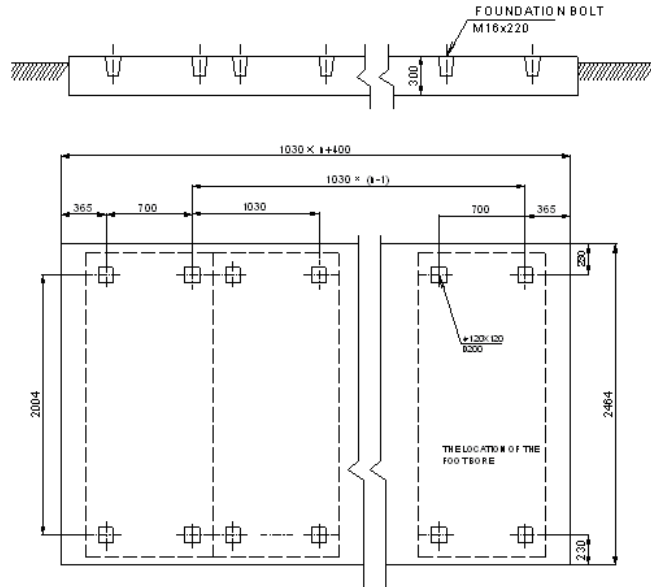
Dimensions



Unit: mm



Installation Illustration

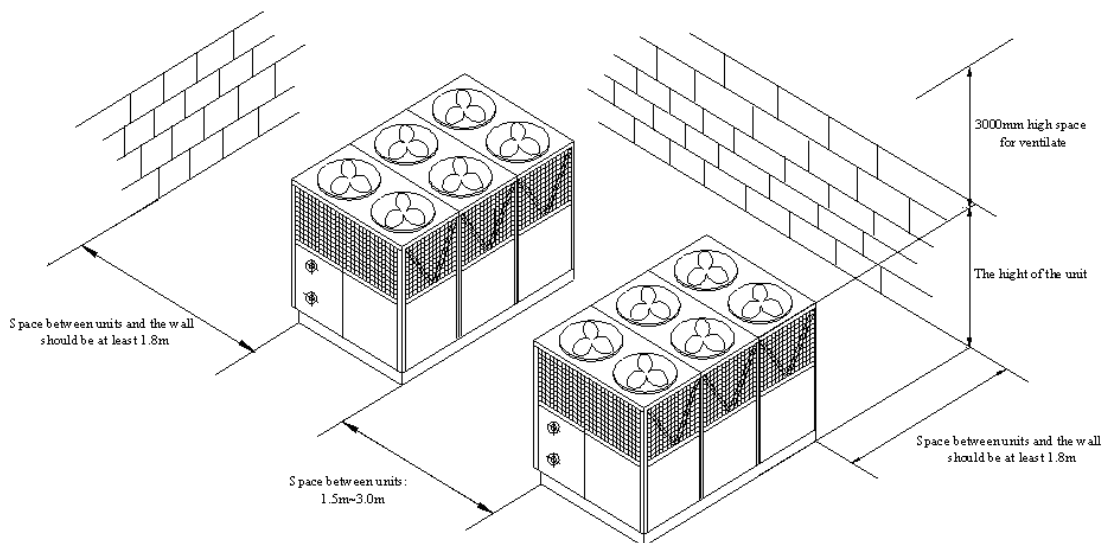


Note:

- Foundation is concrete construction or channel structure, foundation must be smooth.
- 20mm thickness rubber shock pad is needed between the foundation and the frame.
- 4M 16 bolt fix one unit.

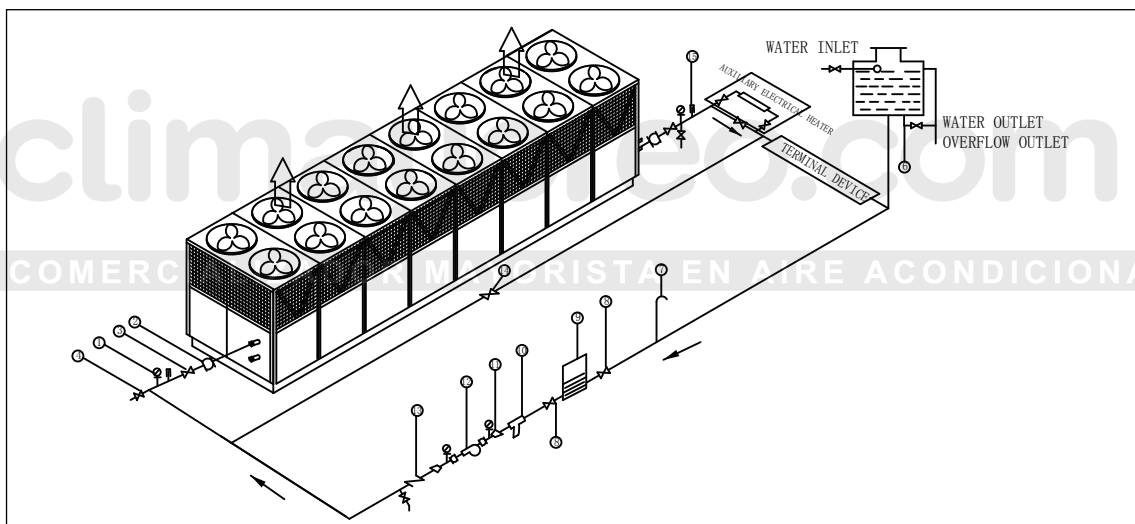
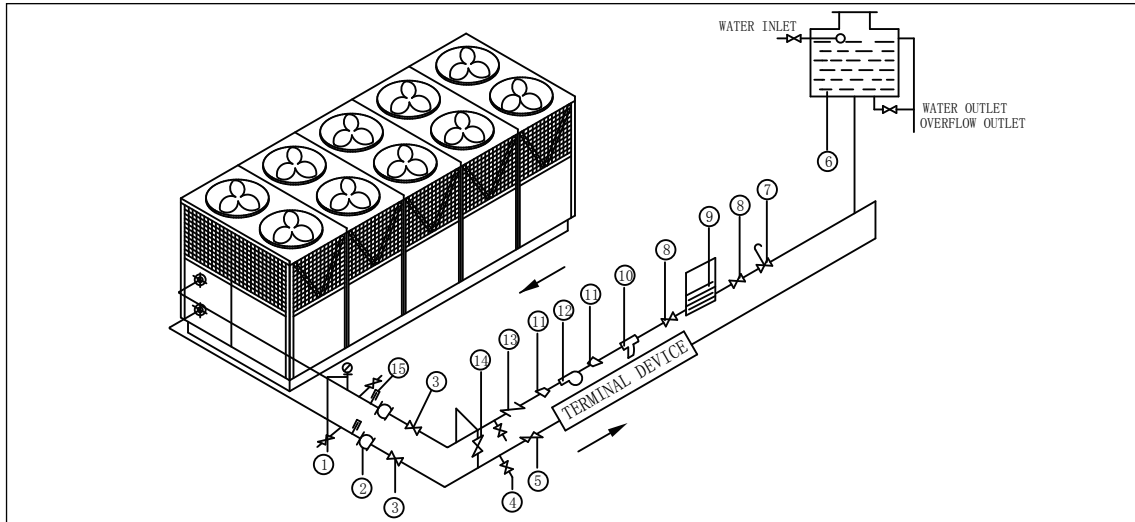
■ "n" is the total modular unit. R MAYORISTA EN AIRE ACONDICIONADO Unit: mm

Installation Space





Water System



1	Pressure Gauge (0-1MPa)	7	Auto Air Vent Valve	13	Check Valve
2	Flexible Joint	9	Expansion Tank	14	Bypass Valve
3,5,8	Gate Valve	10	Y-strainer	15	Thermometer(0-100 °C)
4	Drain Valve	11	Reducer		
6	Expansion Tank	12	Pump		

Note:

Both system 1 and system 2 are used on less than 6 units connection (Inc. 6 units). System 2 is most used on more than 6 units connection.

This is helpful for balance of the hydraulic system.

Prior to starting up the unit, flushing of the water system is required:

- Shut off the inlet and outlet valves and turn on the bypass valve.
- Run the pump to circulate the water in the system for a while.
- Open up the strainer to inspect the filter.
- Clean the filter if necessary to ensure no debris trap in the piping system.
- Shut off the bypass valve and turn on inlet and outlet valves.
- System is ready for operation.



Requirements on Water Supply

- Circulatory water must be softened.
- A relief valve must be installed for the water supply system.
- Water flow must not be lower than rated.
- An air outlet valve must be installed at the highest point in the water system.
- A suitable water discharge valve must be installed at the lowest point in the water system.
- It is recommended that an adiabatic tank with a proper volume be installed to avoid frequent startup in the case of low workload.
- An expansion water tank must be installed to accommodate water volume variations due to thermal expansion and contraction.
- A bypass must be installed for the water circuit. The water system must be fully cleaned before water infusion and system startup.
- Please replace the attached water filter after cleaning the system and pilot run.
- It is recommended that customers check the water system twice a month.

Water Quality Requirements	
Item	Requirement
pH	Between 7 and 9
Suspended matter	Suspended material concentration <15mg / l
DH	CaO content <200mg / l
Solid impurity	Solid impurities size <1mm
Mineralization	Open circle: water mineralization <350mg / l
Corrosivity	Cl ⁻ , CO ₂ and other corrosive substances <100mg / l

Literature No.: CA-MAC R410A 1105-60Hz

Supersedes: N/A

Part No.: M08039130022

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ISO 9001
Certificate No. : 9601019



ISO 14001
Certificate No. : EMS 80362



BS - OHSAS 18001
Certificate No. : 7644



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Details of specifications and equipment are also subject to change to suit local conditions and requirements and not all models are available in every market.