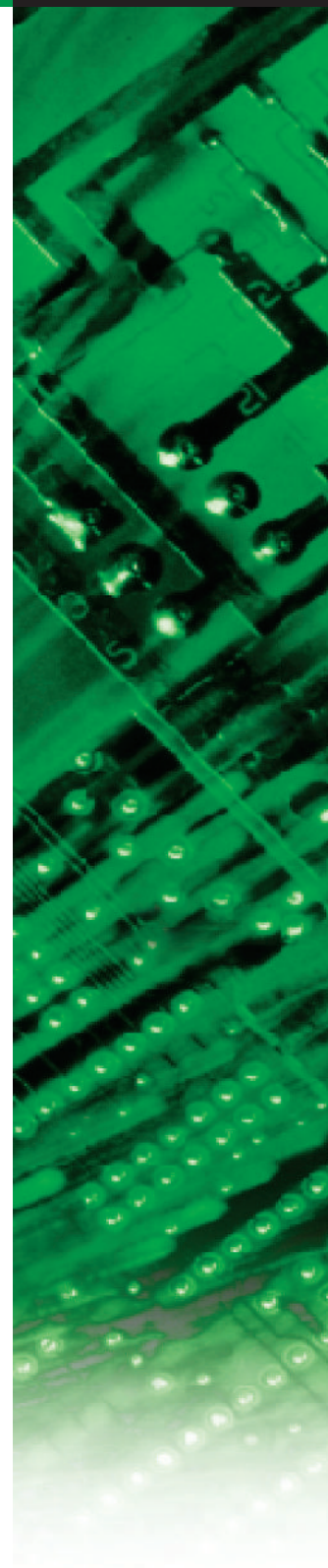


## AIR COOLED MINI CHILLER

MODEL:                   MAC060D4  
                              MAC090D4  
                              MAC120D4  
COOLING CAPACITY: 17.5~33.5KW



For More Than a Century, McQuay has been Devoted to

# Different Buildings



Global headquarters of McQuay (Minneapolis, USA)



McQuay Staunton Factory, USA



McQuay Auburn Factory, USA



McQuay Cecchina Factory, Italy



McQuay Shenzhen Factory, China



Workshop of McQuay Shenzhen Factory, China



Test center of McQuay Shenzhen Factory, China



Sound test room of McQuay Shenzhen Factory, China





## Main Features

### Engineered for Flexibility and Performance

McQuay delivers engineered, flexible solutions for commercial, industrial and institutional HVAC requirements with reliable products, knowledgeable applications expertise and responsive support.

McQuay's part suppliers are of worldwide reputation. All parts for McQuay's products are strictly selected and tested, including fan, motor, compressor, pump, etc. Their performances are tested in McQuay's national authorized laboratory under ARI standard. All of these ensure a safe, high efficient and reliable product.

### Various Types of Terminal Equipments

There are various types of terminal equipment, which are of quiet and reliable performance, for end users with different application requirements. They are fan coil units, air handling unit, etc.

### Flexible System Design and Installation

The chiller is standard with a hydraulic kit for an easy and convenience installation on site, including safety devices such as water tank, expansion water tank and safety valve. The product is charged in factory already. Service personnel only need to connect the water pipe and power cable, then unit can start without the pipe length and height limit. Chillers can be installed on the roof or balcony. No need for a special equipment room. Installation and maintenance is very easy.



### Safety Running and GreenWay HVAC System Solutions

The chiller can run within a wide ambient range, R407C system design. We have fresh air terminal equipment to obtain a high IAQ.

The chiller has many self-protections for a reliable performance.

Pressure differential switch is installed to avoid lack of water flow.

From the feedback of the LWT, the chiller can be OFF according to protect the BPHE against freezing.

### Convenience and Intelligent Control

The chiller is equipped with large PLC screen, realizing many functions. Various types of FCU thermostats are available to accord with your indoor decoration culture. The chillers system also can be central controlled by a MC302 controller. We offer Modbus protocol for BMS system.

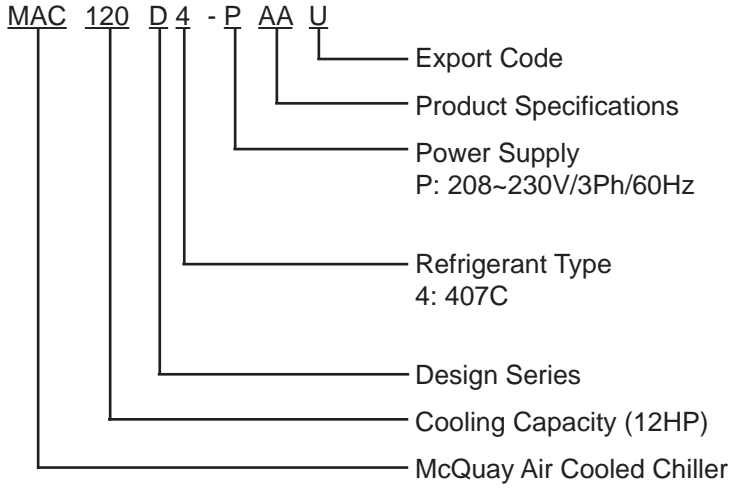
### Quiet Operation

Both the air cooled chiller and terminal equipment runs under low noise. The chiller is a cabinet design. We select hermetic compressor and low noise fan to ensure a quiet performance.

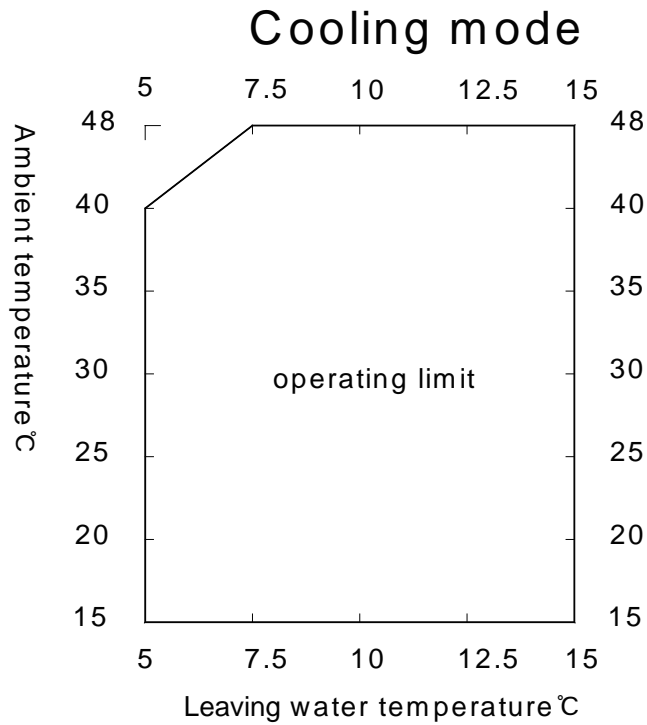
The fan coil units are equipped with quiet large wheels centrifugal fan, insulation material to eliminate the noise and vibration spreading.. The noise of FCUs is as low as 31dB(A).



## Nomenclature



## Operating Limit





## Intelligent control

The unit operation can be dynamically monitored to ensure the safe operation. The controller will rapidly and accurately display the error code in case of any fault and assist to eliminate the fault. The unit can control the chilled water pump, and the automatic operation mode is available. Besides, the unit can be set to run automatically each day at an interval of one week to ensure normal unattended operation.



### Unit alarm and protection functions

- 13 protection and alarm functions
- Controller keypad lock function

### Intelligent output control function

- Chilled water pump output control function
- Chilled water output cut-off/control function
- Auxiliary heater output control function

### Parameter setting function

- Real-time time setting
- Weekly timing ON/OFF
- EWT setting
- LWT review
- Anti-freezing temperature

### Parameter display function

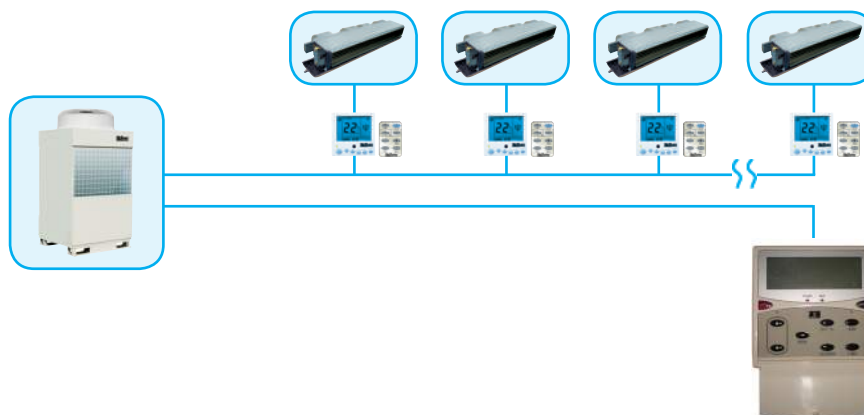
- Unit operation status display
- Inlet water temperature display
- Outlet water temperature display
- Unit timer setting; anti-freezing temperature in cooling mode

### Basic operation function

- Cooling mode

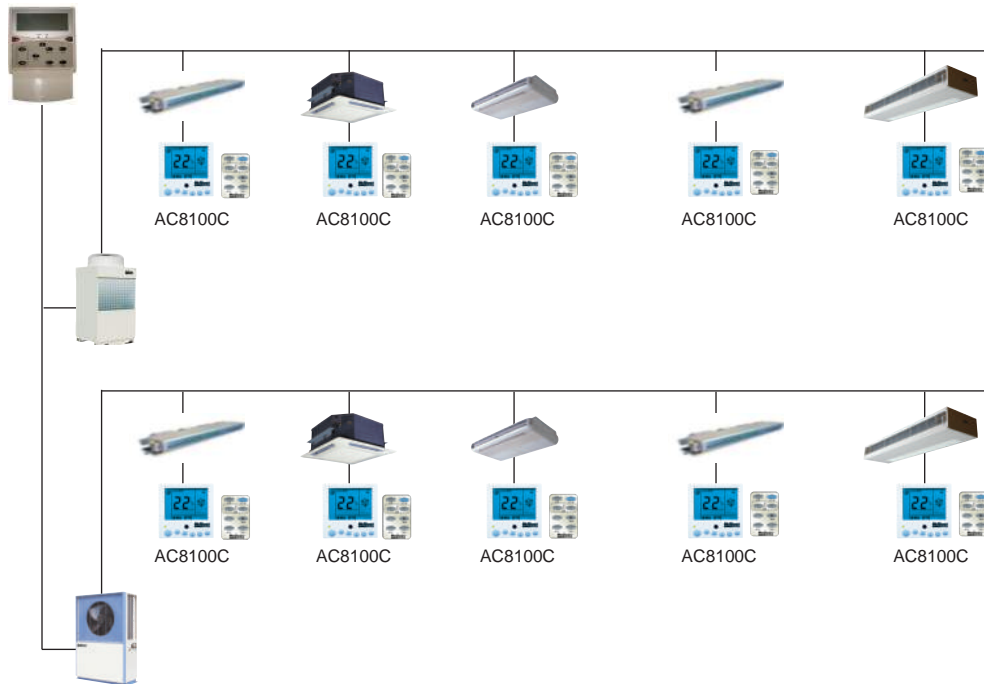
### Other functions

- Fault history inquiry function
- Compressor balance operation function
- Remote startup/shutdown function



## Central Control (Option)

MAC-D chillers can be central controlled by a wired controller maximum 16 pcs, realizing function setting, parameters review, group control, etc. Chillers and terminal equipments are inter-locked. If there is capacity inquiry, chiller will start up.





## Specifications

Model		MAC060D	MAC090D	MAC120D	
Cooling Capacity	kW	17.5	30	33.5	
Cooling Power Input	kW	6.0	10.1	10.6	
Power Supply	V/Ph/Hz	208-230/3/60			
Refrigerant	Type	R407C			
	Control Type	EXV			
Evaporator	Type	BPHE			
	Water Flow	m <sup>3</sup> /h	2.71	4.65	5.19
		L/s	0.75	1.29	1.44
	Circuit	1			
Connection	inch	Rc1	Rc1 1/2	Rc1 1/2	
Compressor	Type	Hermetic Scroll			
	Qty.	1	2		
Fan	Type	High Efficiency Propeller Type			
	Qty.	1			
	Air Flow	m <sup>3</sup> /h	8000	13000	13000
Motor	Type	Asynchronous Type			
	Qty.	1			
	Power	360	1000	1000	
Pump	Type	Horizontal Centrifugal			
	Power Supply	V/Ph/Hz	208-230/3/60		
	Rated Power Input	W	1410	1410	1410
	Head	m	20	16.5	14
Dimensions (L*W*H)	Unit	mm	1212*502*1700	990*840*1840	1290*840*1840
	c/w Package	mm	1340*650*1930	1030*890*2010	1330*890*2010
Weight	Net Weight	kg	215	270	312
Hydraulic Kit	Components	40L stainless steel water storage tank, 8L water expansion chamber, safety valve, dirt drainage valve, auto air vent valve			
	Model		MAC-S1	MAC-S4	MAC-S4
	Connection	inch	R1	R2	R2
	Dimensions	mm	816*400*500		
	Packing Dimensions	mm	923*505*574		

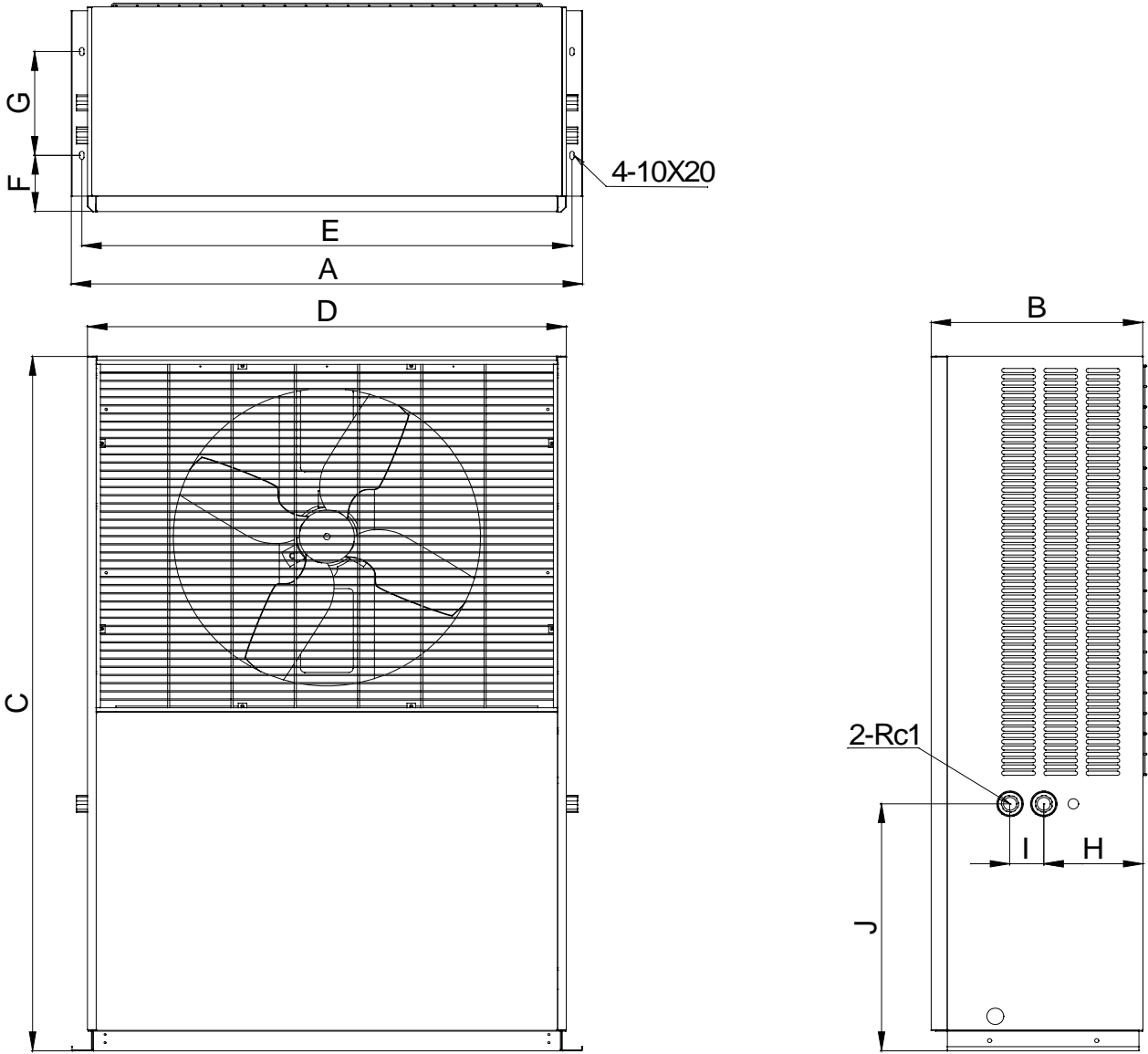
### Notes:

1. All specifications are subjected to change by the manufacturer without prior notice.
2. Nominal cooling parameters are based on leaving water temperature 6.7°C, ambient temperature 35°C and 0.043 l/s per kW water flow.
3. Rated cooling power input doesn't include the pump consumption.
4. Power Input is tested under 220V/3Ph/60Hz

## Dimensions

Unit: mm

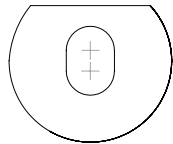
MAC060D4



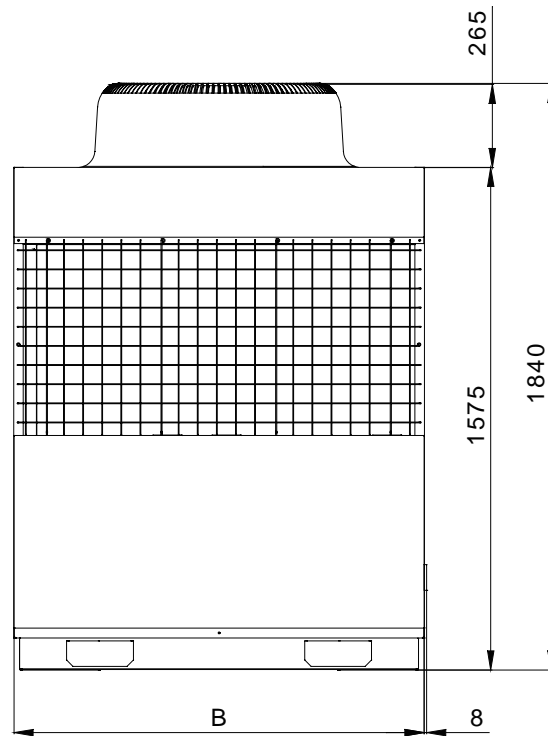
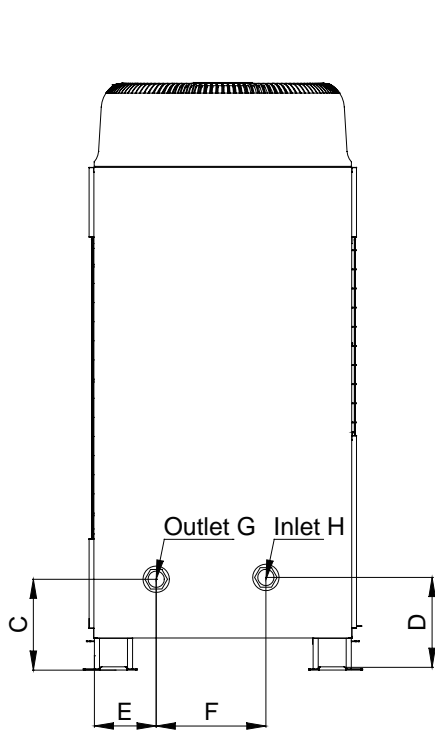
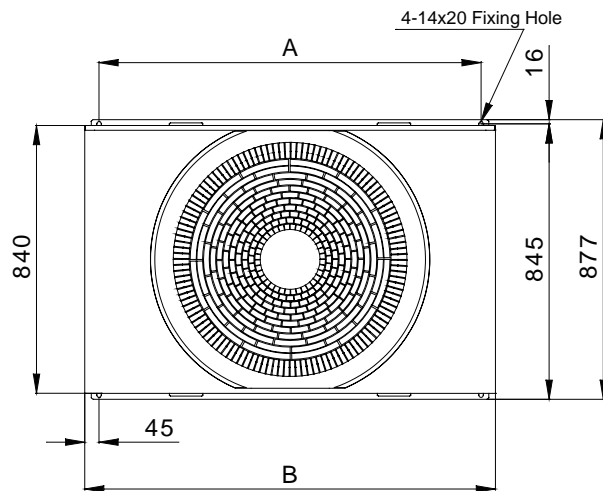
Unit:mm

Model	A	B	C	D	E	F	G	H	I	J
MAC060D4	1212	502	1700	1135	1162	132	254	235	80	604.5

MAC090/120D4

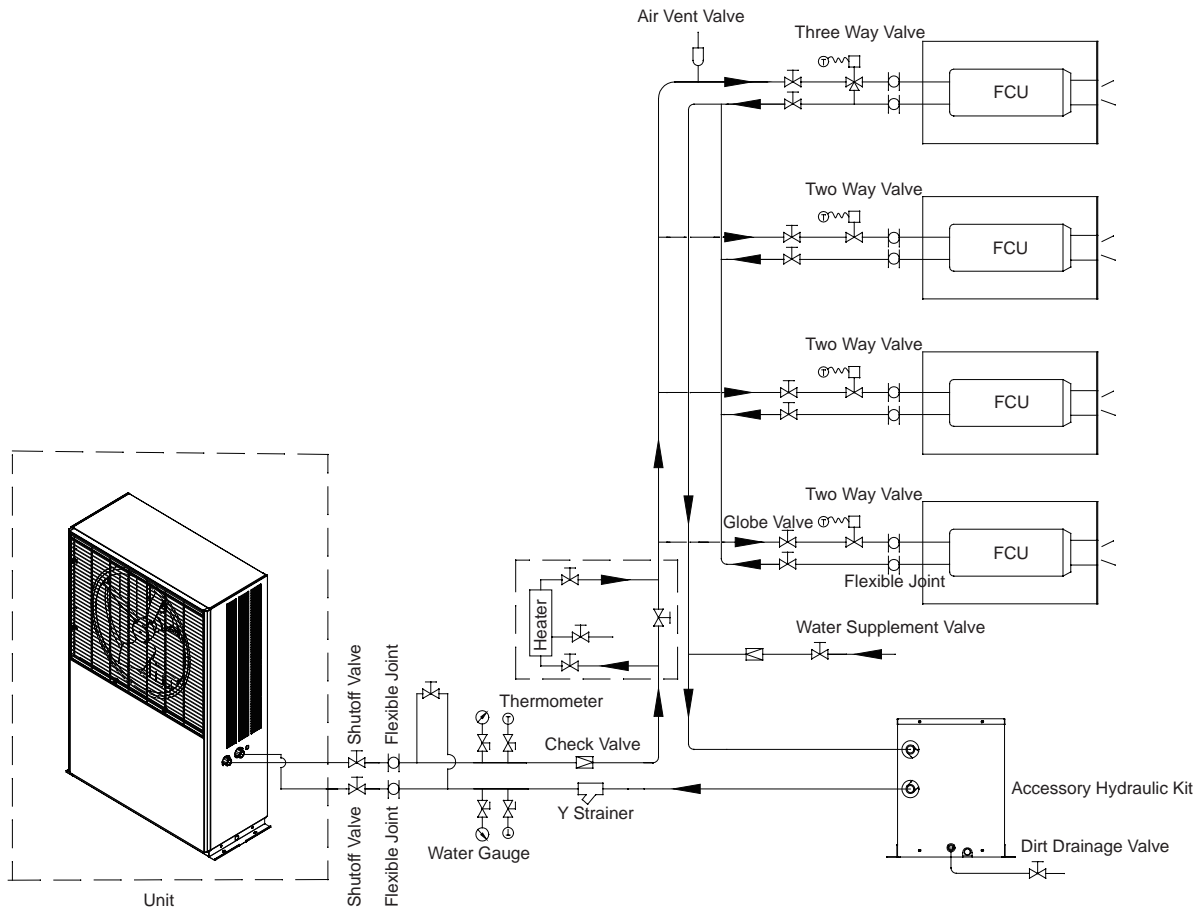


4-14x20 Fixing Hole Zoom



Model	A	B	C	D	E	F	G	H
MAC090D4	900	990	180	215	285	271	Rc1-1/2	Rc1-1/2
MAC120D4	1200	1290	180	215	285	267	Rc1-1/2	Rc1-1/2

## Hydraulic Schematics



**Notes:**

If the watersystem is for the first operation, close the inlet/outlet valve, open the bypass. After the pump runs for a period, clean the strainer. Make sure the water is clean without dirt or blocks. Then open the valve, close the by-pass. The chiller can be put into operation.

## Water quality requirements

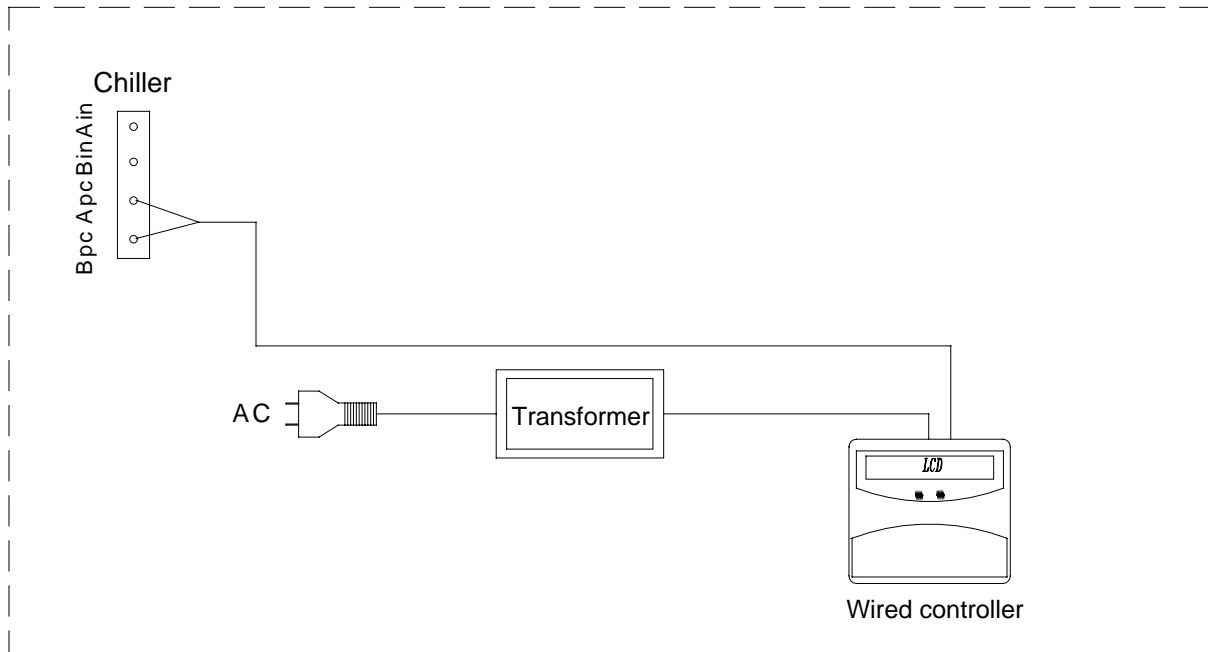
- It is recommended to check the water system every half a month;
- The water supply safety valve should be equipped;
- The proper water drainage valve should be set up at the lowest point of the chilled water system;
- The circulating water should be softened water. See the water quality requirements in table below;
- By-pass unit should be set up for the water system of the unit; make sure the water system has been completely cleaned before infusing water and starting operation;
- After cleaning and debugging the unit, please replace or clean the filter valve of the Y-type filter;

**Circulating water quality requirements**

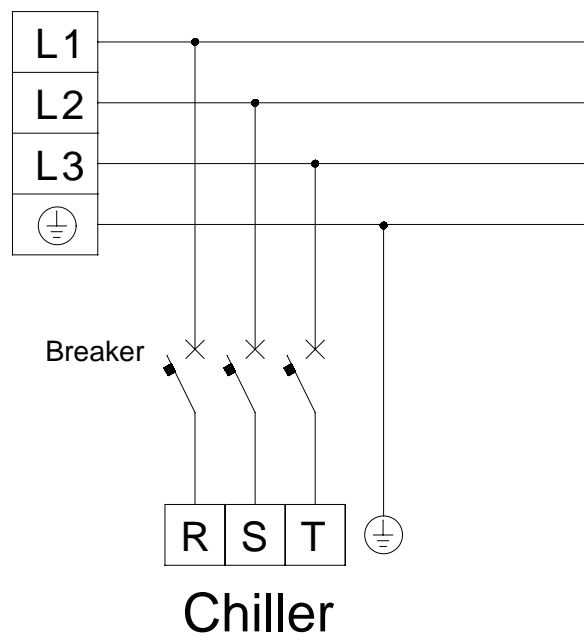
Reference items	Item	Unit	Reference value	Reference items	Item	Unit	Reference value
		pH (25°C)			6.5~8.0		Fe
	Conductivity (25°C)	°S/cm	<800		S <sup>2-</sup>	mg(S <sup>2-</sup> )/L	Not detected
	Cl <sup>-</sup>	mg (Cl <sup>-</sup> )/L	<200		NH <sup>+</sup>	mg(NH <sup>+</sup> )/L	<1.0
	SO <sup>2-</sup>	mg (SO <sup>2-</sup> )/L	<200		SiO <sub>2</sub>	mg(SiO <sub>2</sub> )/L	<50
	Acid consumption (pH=4.8)	mg (CaCO <sub>3</sub> )/L	<100				
	Full hardness	mg (CaCO <sub>3</sub> )/L	<200				



## Communication Wiring Connection



## Power Wiring



## Accessories List

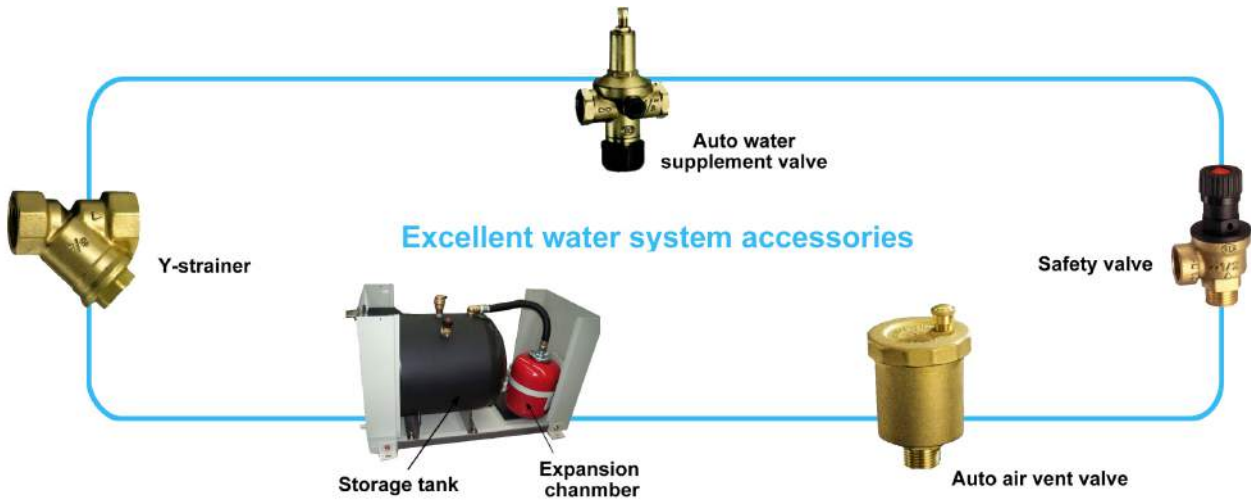
Accessories Kit	40L stainless steel water storage tank	Standard
	8L water expansion chamber	
	safety valve	
	dirt drainage valve	
	auto air vent valve	
	Y-strainer	Standard
auto water supplement valve		

**Notes:**

Y-strainer and auto water supplement valve is in an accessory package, not installed in the unit nor hydraulic kit.

Water pump and pressure differential switch is installed in the chiller.

Please inspect the accessory package before you install the unit.



## Fan Coil Unit

Ceiling Concealed Unit

**MCW-C/F/H**



Model	MCW200-1200C/F/H
Air Flow	180 -2040m <sup>3</sup> /h
ESP	0,30,60,80Pa
Cooling Capacity	2130 -10700W

## Air Handling Unit

Single Skin

MHW



Model	MHW015A-MHW050A
Air Flow	1500 - 5000m <sup>3</sup> /h
ESP	70 - 150Pa
Cooling Capacity	6000 - 87000W

Single Skin

MSW



Model	MSW020H-MSW150H MSW040V-MSW250V
Air Flow	2000 - 25000m <sup>3</sup> /h
ESP	80 - 300Pa
Cooling Capacity	12000 - 450000W

Double Skin

MDW



Model	MDW020H-MSW250H MDW040V-MSW250V
Air Flow	2000 - 25000m <sup>3</sup> /h
ESP	80 - 300Pa
Cooling Capacity	12000 - 450000W

Double Skin

MDM



Model	MDM0304-MDM1826
Air Flow	2000 - 100000m <sup>3</sup> /h
ESP	80 - 1000Pa
Cooling Capacity	14000 - 700000W

**Literature No.:** CA-MAC(D)-1201A  
**Supersedes:** CA-MAC(D)-1101A  
**Part No.:** M08039130013



ISO 9001  
Certificate NO.: 9601019



ISO 9001  
Certificate NO.: 7644



ISO 14001  
Certificate NO.: EMS 80362



CNAS L0778

©2012 McQuay International +1 (800) 432-1342 [www.mcquay.com](http://www.mcquay.com)

While utmost care is taken in ensuring that all details in the publication are correct at the time of going to press, we are constantly striving for improvement and therefore reserve the right to alter model specifications and equipment without notice.

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.