COMMERCIAL AIR CONDITIONERS

Aqua Tempo Super Series

R410A air cooled scroll chiller 50Hz

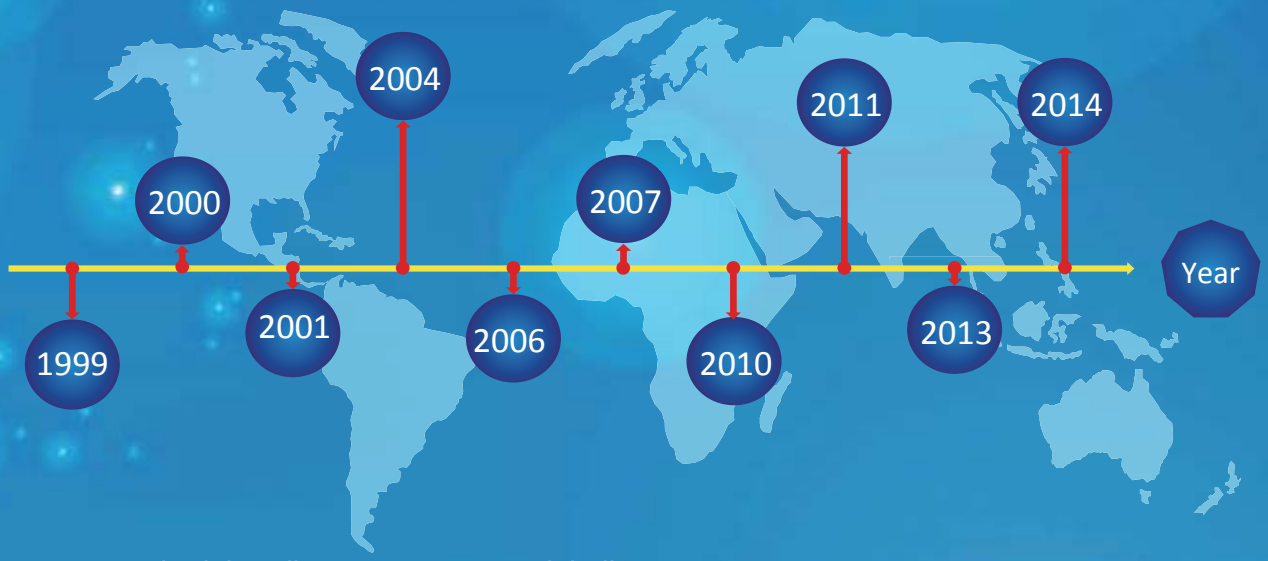

Factory
Testing room
Customer training
Reference project

Midea CAC (MCAC)

As a key subsidiary of Midea Group, the Midea Central Air Conditioner (MCAC) business unit has emerged as a leading supplier of commercial solutions. Since 1999 MCAC has contributed to the R&D and innovation of technologically-based commercial solutions. Cooperation with leading global enterprises coupled with independent R&D has enabled MCAC to implement thousands of commercial air-conditioning projects worldwide.

At present, MCAC is one of the globally leading product suppliers, underpinned by a mature marketing, sales, and project design framework.

There are three production bases in Shunde, Chongqing and Hefei.
MCAC Shunde: 38 product lines focusing on VRF (DC inverters and digital scroll products), split products, heat pump water heaters, and AHU/FCU.
MCAC Chongqing: 14 product lines focusing on water cooled centrifugal/screw/scroll chillers, air cooled screw/scroll chillers, and AHU/FCU.
MCAC Hefei: 11 product lines focusing on VRF, chillers, and heat pump water heaters.

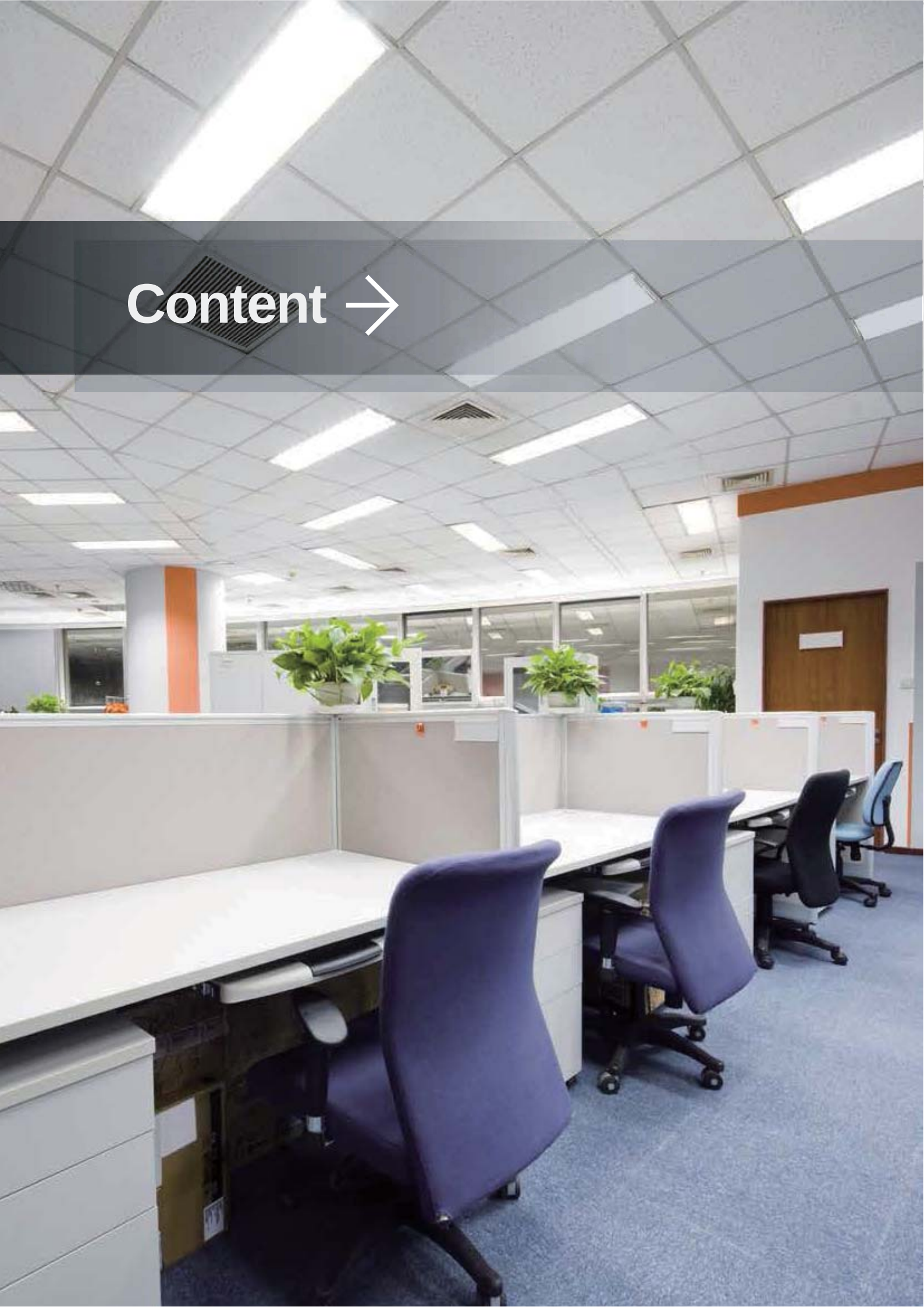


2014 Launched the All DC Inverter V5X globally
2013 Launched the super high efficiency centrifugal chiller with full falling film technology
2011 Launched the DC Inverter V4 Plus globally
2010 Built the 3rd manufacturing base in Hefei
2007 Won the first Midea centrifugal chiller project oversea
2006 Launched the first VSD centrifugal chiller
2004 Acquired MGRE entered the chiller industry
2001 Partnered with Copeland to develop the digital scroll VRF system
2000 Developed the first inverter VRF With Toshiba
1999 Entered the CAC field

Product introduction

Midea air-cooled scroll chiller adopts air as the cooling/heating source and water as the cooling/heating medium to cooling/heating the indoor ambient temperatures through the indoor terminal (AHU/FCU). Air cooled chiller typically have a lower initial investment and maintenance cost than water cooled system, it does not require a cooling tower, condenser water pump and associated condenser water chemical treatment system.

Modular design concept makes the application from single unit to multiple form systems to several thousand tons of installed capacity. Adopting high reliable and excellent efficiency system,Midea air cooled scroll chiller becomes one of the best choice for all kinds of air cooled projects. With the latest modular design technology, high efficiency H shape heat exchanger and precise gas flow control technology. Midea air cooled scroll chiller system always work at the most high efficiency stage. Modular and compressor operation are adjusted by the real load requirement intelligently to keep the most economical working status. They are widely applied in school, hospital, shopping mall, office as well as the factory and manufacturing processing area.



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Nomenclature

Working condition:
Omit for T1 condition
T: Tropical condition
L: Low ambient temp. cooling

Refrigerant type
N1:R410A Omit for R22

Power Supply
S: 380V, 50Hz, 3Ph
R: 380~415V, 50Hz, 3Ph

M: Built-in hydraulic module

Rated cooling capacity (kW)

Special function code
S: Standard, tube in tube or shell -tube heat exchanger and fixed compressor
P: Plate heat exchanger, fixed compressor

Series code
S: Super
P: Power
M: Maker

Chiller

Midea

Product lineup

25/35kW module

65/80kW module

130kW module

SP series:

No	Model	Heat exchanger type	Compressor quantity(pcs)		Electrical controller no.	Maximum combination quantity	Maximum capacity(kW)	Hydraulic module
			Digital	Fixed				
1	MC-SP25-RN1L	Plate	0	1	1	16	400	
2	MC-SP35-RN1L	Plate	0	1	1	16	560	
3	MC-SP65-RN1L	Plate	0	1	1	16	1040	
4	MC-SP25M-RN1L	Plate	0	1	1	1	25	Built-in
5	MC-SP35M-RN1L	Plate	0	1	1	1	35	Built-in
*6	MC-SP65M-RN1L	Plate	0	1	1	1	65	Built-in

Note: The model with "*" can be customized.

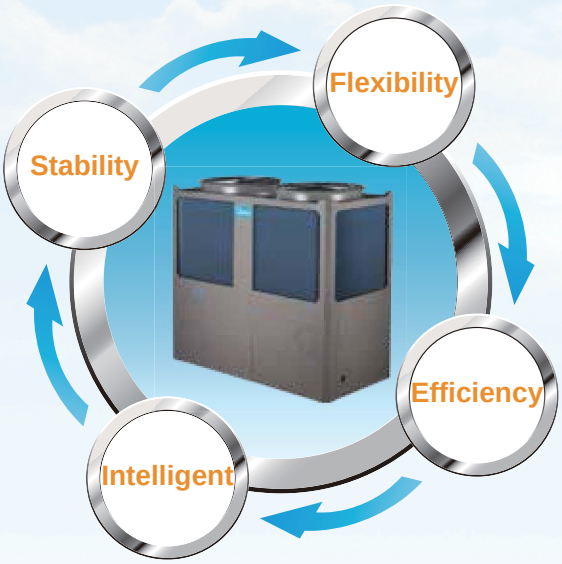
SS series:

No	Model	Heat exchanger type	Compressor quantity(pcs)		Electrical controller no.	Maximum combination quantity	Maximum capacity(kW)	Hydraulic module
			Digital	Fixed				
1	MC-SS35/RN1L	Double pipe	0	1	1	16	560	
2	MC-SS65/RN1L	Shell and tube	0	1	1	16	1040	
3	MC-SS80/RN1L	Shell and tube	0	2	1	16	1280	
4	MC-SS130/RN1	Shell and tube	0	2	1	16	2080	
5	MC-SS130/RN1L	Shell and tube	0	2	1	16	2080	

Feature

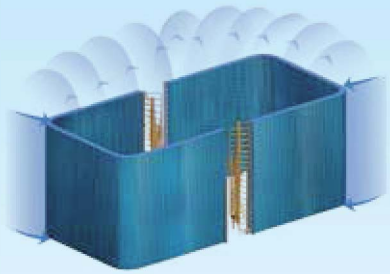
Advanced performance

- System reliability
- Redundancy and standby
- Installation cost saving
- Lower maintenance cost
- Low operation charge
- Future capacity add-on
- In stock availability
- Sound sensitive installations

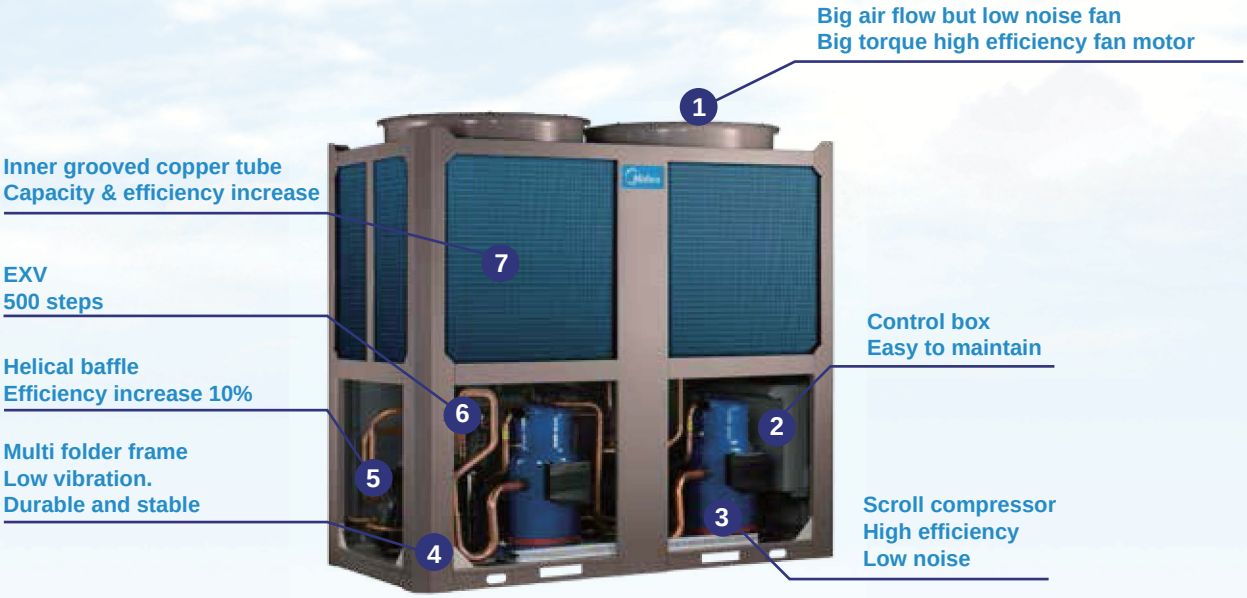


Newly design structure

The chillers adopt new structure design,H shape condenser,360˚ air intake, increase the heat exchanging area,efficiently enhance the heat exchange efficiency, and decrease the covering area.

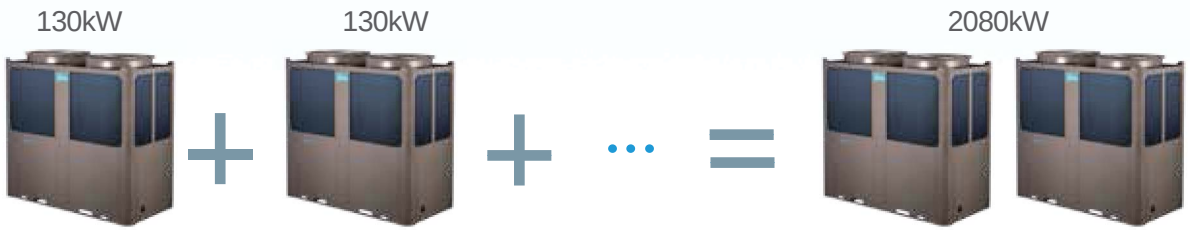


Complete improvements



Modular design

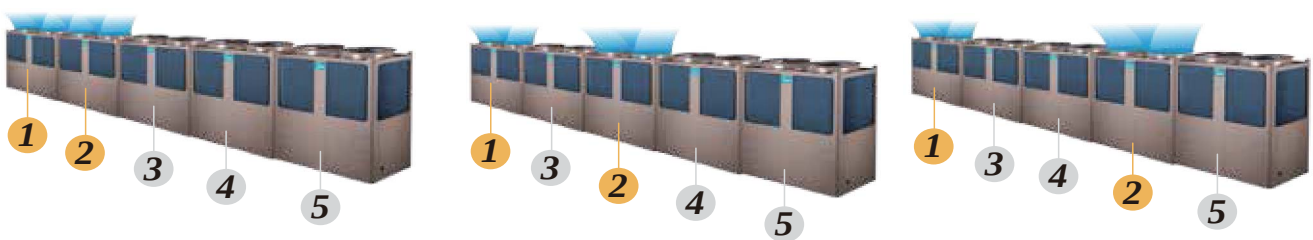
Modular design and mass production makes the stock possible to short the delivery time to the project.
Free capacity add-on in the future stage.
Whole system reliability by the backup modular.
Master controller oversees operation of all connected modules.
Low starting current without any inrush to the power supply.



Alternative cycle duty operation

In one combination, all slave units operate as alternative in cycle duty to keep equal running time, realize higher stability, better reliability and longer lifespan.

For example, five modules combination, no.1 is master unit, others are slave units.



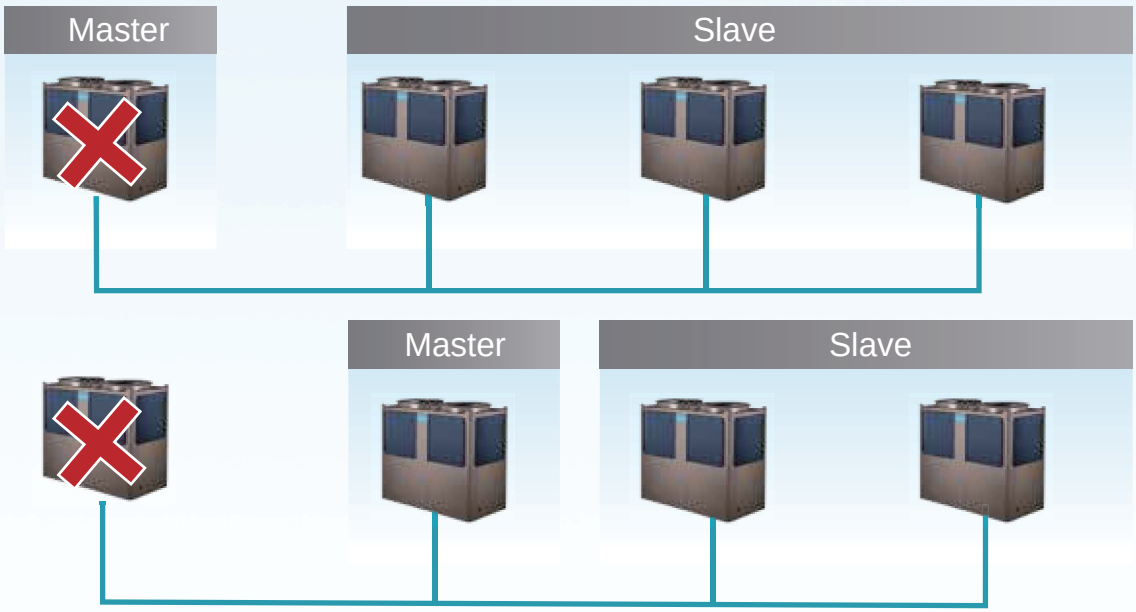
Strong backup functions

When unit is failed

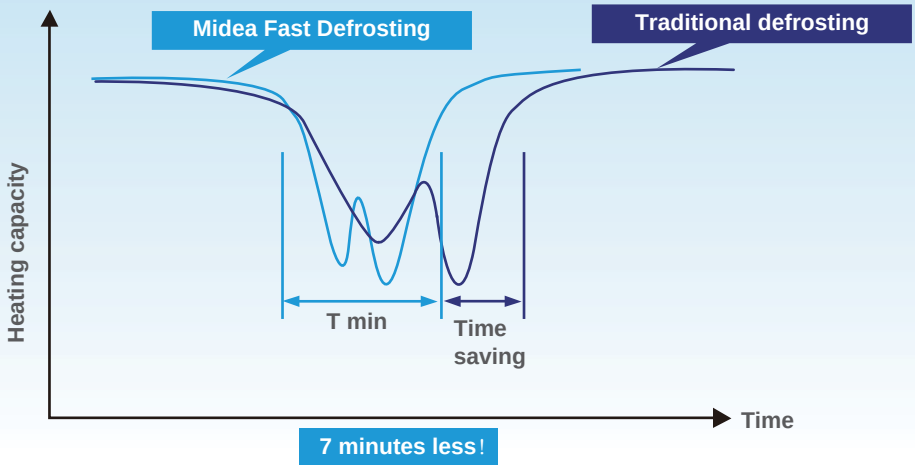
- If one slave unit fails, failed unit will stop but the others will keep running.
- If master unit fails, all the units will stop but any of the slave one can be set as the master unit by manual setting in a very short time.

When unit is under protection

- If master unit's protection happens, protected unit will stop but the others will keep running.
- If slave unit's protection happens, protected unit will stop but the others will keep running .
  Except PE, P9 protection happens.(PE： Low temperature protection of evaporator.
  P9： Outlet and inlet water temperature difference protection.)



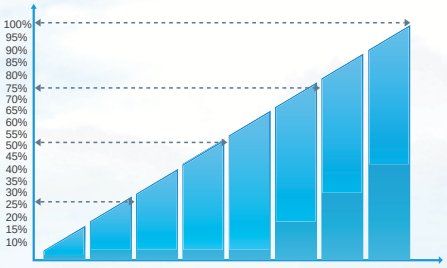
Intelligent defrosting technology



Model alternate defrosting, small fluctuation for water temperature
Manual defrosting program for service purpose (10S Pressing the check button)

EXV more precisely flow control

Patented liquid distribution components to maximize performance and minimize defrost impact.
500 steps EXV plus capillary for stable and accurate gas flow control.
Fast respond resulting in higher efficiency and improved reliability.



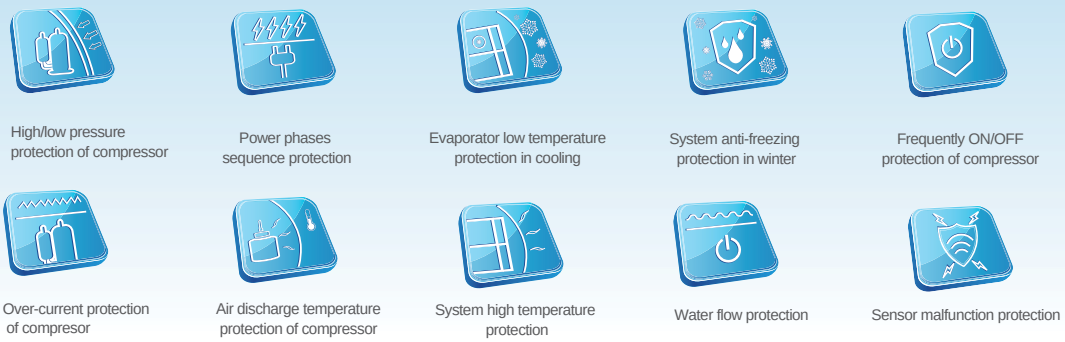
User friendly remote control

S7 address on PCB should be switched to ON to realize remote control, more simple and convenient control for customer:

- Remote ON/OFF.
- Remote mode selection for heating or cooling.
- Remote alarm.

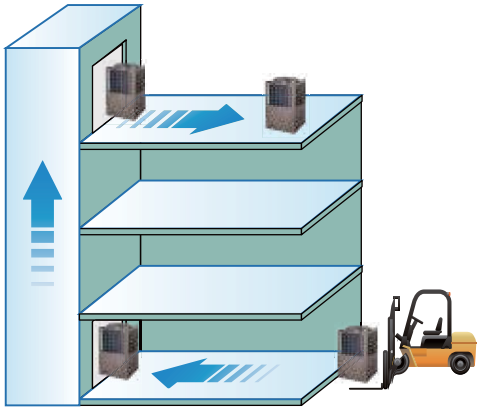
Reliable protections

It adopts multiple protections to ensure the unit stable running.



Easy transportation and installation

Air cooled scroll chiller structure is compact, light weight, easy transportation and installation, no need cooling water tower, significant cost-savings. As distributors stock all units, rapid delivery is guaranteed.



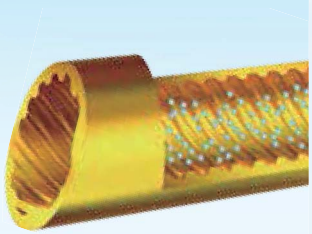
Easy to transport

No need cooling water tower

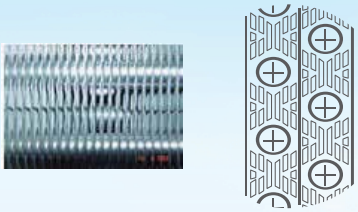
High efficiency heat exchange technoloty

The chiller adopts inner grooved copper tube and hydrophilic aluminum foil , greatly improve the heat exchange efficiency.

Inner grooved copper tube



Hydrophilic aluminum foil

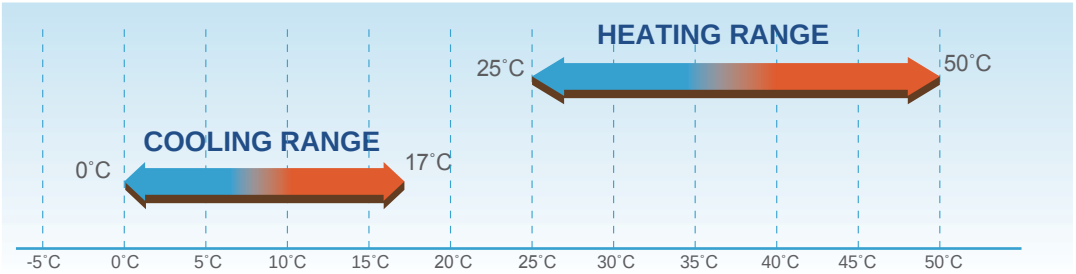


Wide range of ambient temperature

The ambient temperature is down to -10˚C and up to 46˚C in cooling mode, and down to -15˚C ambient in heating mode. Wide ambient temperature range is available to meet different conditions.

Wide range of outlet water temperature

- Cooling: 5~17˚C (7˚C is default,set in factory), 0~17˚C can be available by switch the S5 on PCB, the antifreeze must be put into pipeline.
- Heating: 40~50˚C (45˚C is default, set in factory), 25~50˚C can be available by switch the S4 on PCB.



Wide range of application

They are widely applied in school, hospital, shopping mall, office as well as the factory and manufacturing processing area.

School

Factory

Hotel

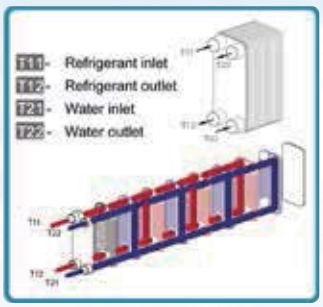
Hospital

Office

SP series

Plate heat exchanger

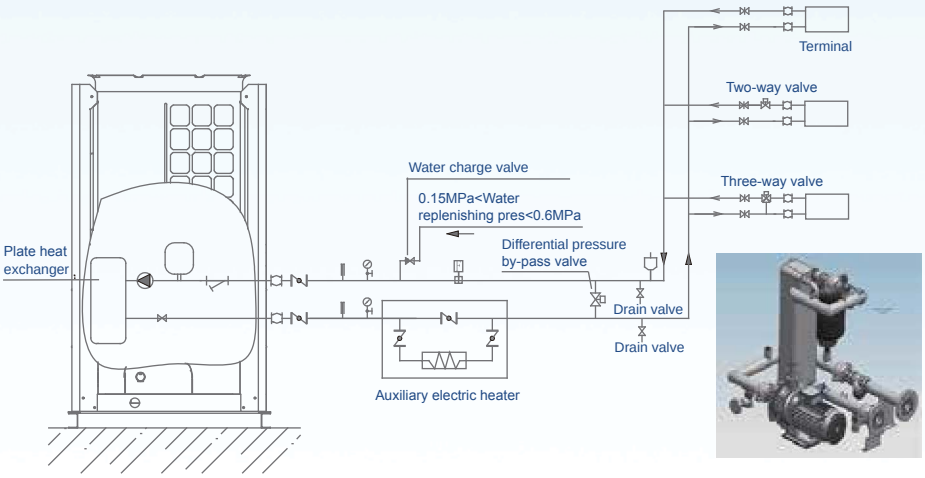
By adopting high efficiency plate heat exchanger, the energy consumption can be reduced.



- Metallic protective cabinet with rustproof plyester paint.
- Built-in with voltage protection, current protection, anti-freezing protection, water flow protection and etc., effectively guarantee the system to work safety.

Built-in hydraulic module

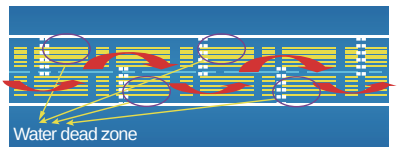
The modules are fully integrated and built-in hydraulic module, such as expansion tank, plate heat exchanger, water circulating pump, etc. It saves installation space and cost.



Stop valve	Pressure gauge	Water flow switch	Gate valve	Differential pressure by-pass valve
Y-shaped filter	Thermometer	Circulating pump	Check valve	Automatic discharge valve
Expansion vessel	Safety valve	Flexible joint		

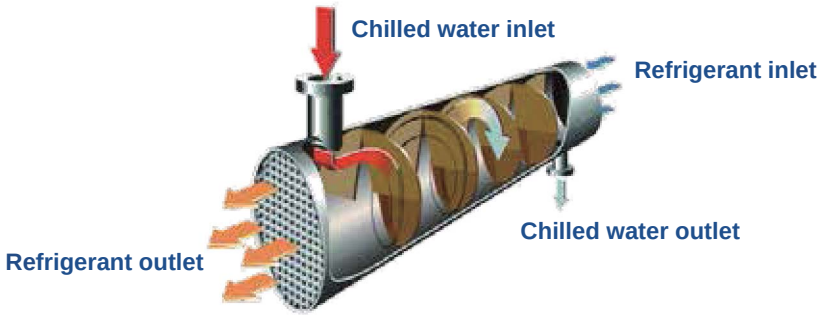
SS series

Double pipe&shell and tube heat exchanger



Flat baffle plate

Helical baffle

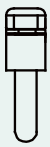


For shell-tube heat exchanger, the module adopts the new helical baffle design to avoid the rectangular place of water dead zone, greatly improve the heat exchange efficiency.

Standard features/options

Description	Standard features	Options
Hermetic scroll compressor	●	
Compressor crankcase heaters	●	
Compressor circuit breakers	●	
Compressor overload protection	●	
Condenser fan-direct drive, axial type	●	
Condenser fan(Metal)	●	
Condenser fan guard	●	
Condenser motor circuit breakers		●
Aluminum fins condenser coils	●	
Low pressure switch	●	
High pressure switch	●	
Wired controller KJRM-120D/BMK-E	●	
Wired controller KJR-120A/MBTE		●
BMS gateway(Lonworks)		●
MODBUS gateway		●
Remote control input	●	
Alarm signal output	●	
Anti-freezing protection	●	
Over-load protection	●	
Power phases sequence protection	●	
Anti-corrosion fins		●
Water flow switch		●
Three phase power protector		●
65kW hydraulic module		●
130kW hydraulic module		●

Accessories

Item	Name of accessory	Type	Qty	Shape	Usage
1	Installation and owner's manual	---	1		Installation and using instruction.
2	The total outlet water temperature test kit	LSQWRF65M/A-C.ZL.10	1		Inspection the temperature of total outlet water.
3	Wired controller	KJRM-120D/BMK-E	1		Control the system.

Specification

SP series

Model			MC-SP25-RN1L	MC-SP25M-RN1L	MC-SP35-RN1L
Cooling Capacity		kW	25	25	35
Heating Capacity		kW	26	26	37
Power input	Cooling	kW	8	8+1.2	11.5
	Cooling rated current	A	14.8	17	20.4
	Heating	kW	7.95	9.15	11.3
	Heating rated current	A	15	15.2	20.6
EER		kW / kW	3.13	2.72	3.04
COP		kW / kW	3.27	2.84	3.27
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50
Power supply	Manual switch	A	50	50	50
	Fuse	A	36	36	36
Compressor	Type		Scroll (fixed speed)	Scroll (fixed speed)	Scroll (fixed speed)
	Brand		Danfoss	Danfoss	Danfoss
	Model		HCJ106	HCJ106	SH140A4ALC
	Quantity	Pieces	1	1	1
	Refrigerant oil	ml	2460	2460	3300
Refrigerant	Type		R410A	R410A	R410A
	Refrigerant control		EXV+ capillary	EXV+ capillary	EXV+ capillary
	Weight	kg	3.1	3.1	5.4
Condenser (Air side)	Type		Fin-coil	Fin-coil	Fin-coil
	Number of rows		1	1	2
	Fan motor model		YDK550-6E	YDK550-6E	YDK550-6E
	Quantity of fan motor	Pieces	1	1	1
	Air flow	$\times 10^3 m^3/h$	13.5	13.5	13.5
	Fan motor rated current	A	3.7	3.7	3.7
	Fan motor power input	kW	0.8	0.8	0.8
Evaporator (Water side)	Type		Plate	Plate	Plate
	Water pressure drop	kPa	77	/	63
	Volume	L	1.89	1.89	2.77
	Water inlet/outlet pipeline inside normal diameter	mm	DN40	DN40	DN40
	Water flow	m^3/h	4.3	4.3	6
	Max. design pressure	MPa	1	1	1
	Water pipe connection type		Flexible joint	Flexible joint	Flexible joint
Dimension	Net(D×H×W)	mm	1020×1770×980	1020×1770×980	1020×1770×980
	Packing size(D×H×W)	mm	1070×1900×1030	1070×1900×1030	1070×1900×1030
Weight	Net weight	kg	276	313	304
	Operation weight	kg	286	323	314
Connection wiring	Power wire	mm^2	10×4+16×1	10×4+16×1	10×4+16×1
	Signal wire	mm^2	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding
Control type			Wired controller	Wired controller	Wired controller
Noise level		dB(A)	65	65	65
Operation water temp.		°C	Cooling：5～17 Heating：25～50		
Ambient temp.		°C	Cooling：-10～46 Heating：-15～24		

Note: Specifications are based on the following conditions:
- Cooling : chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 35°C DB.
- Heating : warm water inlet/outlet: 40°C / 45°C, and outdoor ambient temp. 7°CDB/6°CWB.
- Water side fouling factor: 0.086m2·°C/kW.
- 1m away in open field(sound pressure).

Model			MC-SP35M-RN1L	MC-SP65-RN1L	MC-SP65M-RN1L
Cooling Capacity		kW	35	65	65
Heating Capacity		kW	38	69	69
Power input	Cooling	kW	12.7	20.4	22.6
	Cooling rated current	A	22.5	36.5	41.4
	Heating	kW	12.5	21.5	23.7
	Heating rated current	A	20	37.2	42.1
EER		kW / kW	2.76	3.19	2.88
COP		kW / kW	3.04	3.21	2.91
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50
Power supply	Manual switch	A	50	125	125
	Fuse	A	36	100	100
Compressor	Type		Scroll (fixed speed)	Scroll (fixed speed)	Scroll (fixed speed)
	Brand		Danfoss	Danfoss	Danfoss
	Model		SH140A4ALC	CH290A4BBA	CH290A4BBA
	Quantity	Pieces	1	1	1
	Refrigerant oil	ml	3300	6700	6700
Refrigerant	Type		R410A	R410A	R410A
	Refrigerant control		EXV+ capillary	EXV+ capillary	EXV+ capillary
	Weight	kg	5.4	10	10
Condenser (Air side)	Type		Fin-coil	Fin-coil	Fin-coil
	Number of rows		2	2	2
	Fan motor model		YDK550-6E	YDK550-6E	YDK550-6E
	Quantity of fan motor	Pieces	1	2	2
	Air flow	$\times 10^3 m^3/h$	13.5	27	27
	Fan motor rated current	A	3.7	3.7×2	3.7×2
	Fan motor power input	kW	0.8	0.8×2	0.8×2
Evaporator (Water side)	Type		Plate	Plate	Plate
	Water pressure drop	kPa	/	55	/
	Volume	L	2.77	4.44	4.44
	Water inlet/outlet pipeline inside normal diameter	mm	DN40	DN50	DN50
	Water flow	m^3/h	6	11.2	11.2
	Max. design pressure	MPa	1	1	1
	Water pipe connection type		Flexible joint	Flexible joint	Flexible joint
Dimension	Net(D×H×W)	mm	1020×1770×980	2000×1770×960	2000×1770×960
	Packing size(D×H×W)	mm	1070×1900×1030	2090×1890×1030	2090×1890×1030
Weight	Net weight	kg	343	470	540
	Operation weight	kg	353	490	560
Connection wiring	Power wire	mm^2	10×4+16×1	25×4+16×1	25×4+16×1
	Signal wire	mm^2	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding
Control type			Wired controller	Wired controller	Wired controller
Noise level		dB(A)	65	67	67
Operation water temp.		°C	Cooling: 5～17 Heating: 25～50		
Ambient temp.		°C	Cooling: -10～46 Heating: -15～24		

Note: Specifications are based on the following conditions:
- Cooling : chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 35°C DB.
- Heating : warm water inlet/outlet: 40°C / 45°C, and outdoor ambient temp. 7°CDB/6°CWB.
- Water side fouling factor: 0.086m2·°C/kW.
- 1m away in open field(sound pressure).

SS series

Model			MC-SS35/RN1L	MC-SS65/RN1L	MC-SS80/RN1L
Cooling Capacity		kW	35	65	80
Heating Capacity		kW	37	69	85
Power input	Cooling	kW	11.5	20.4	25.8
	Cooling rated current	A	19.0	36.5	43.8
	Heating	kW	11.3	21.5	26.5
	Heating rated current	A	20.0	37.2	40.0
EER		kW / kW	3.04	3.19	3.10
COP		kW / kW	3.27	3.21	3.21
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50
Power supply	Manual switch	A	50	125	150
	Fuse	A	36	100	100
Compressor	Type		Scroll (fixed speed)	Scroll (fixed speed)	Scroll (fixed speed)
	Brand		Danfoss	Danfoss	Danfoss
	Model		SH140A4ALC	CH290A4BBA	SH184A4ALC
	Quantity	Pieces	1	1	2
	Refrigerant oil	ml	3300	6700	3600
Refrigerant	Type		R410A	R410A	R410A
	Refrigerant control		EXV+ capillary	EXV+ capillary	EXV+ capillary
	Weight	kg	5.4	11.5	6.5×2
Condenser (Air side)	Type		Fin-coil	Fin-coil	Fin-coil
	Number of rows		2	2	2
	Fan motor model		YDK550-6E	YDK550-6E	YDK550-6E
	Quantity of fan motor	Pieces	1	2	2
	Air flow	$\times 10^3 m^3/h$	13.5	27	27
	Fan motor rated current	A	3.7	3.7×2	3.7×2
	Fan motor power input	kW	0.8	0.8×2	0.8×2
Evaporator (Water side)	Type		Double-pipe	Shell-tube	Shell-tube
	Water pressure drop	kPa	55	30	30
	Volume	L	10	35	47.5
	Water inlet/outlet pipeline inside normal diameter	mm	DN40	DN65	DN65
	Water flow	m^3/h	6	11.2	13.8
	Max. design pressure	MPa	1	1	1
	Water pipe connection type		Flexible joint	Flexible joint	Flexible joint
Dimension	Net(D×H×W)	mm	1020×1770×980	2000×1770×960	2000×1770×960
	Packing size(D×H×W)	mm	1070×1900×1030	2090×1890×1030	2090×1890×1030
Weight	Net weight	kg	320	530	645
	Operation weight	kg	330	590	710
Connection wiring	Power wire	mm^2	10×4+16×1	16×4+10×1	25×4+16×1
	Signal wire	mm^2	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding
Control type			Wired controller	Wired controller	Wired controller
Noise level		dB(A)	65	67	67
Operation water temp.		°C	Cooling：0～17(Less than 5°C must add antifreeze) Heating：25～50		
Ambient temp.		°C	Cooling：-10～46 Heating：-15～24		

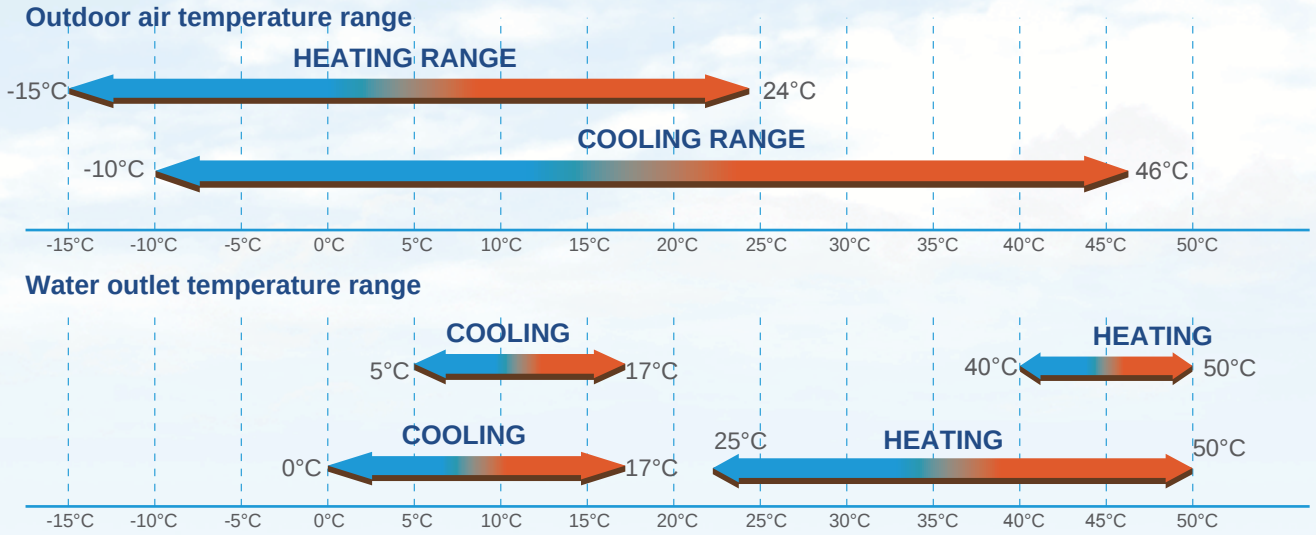
Note: Specifications are based on the following conditions:
- Cooling : chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 35°C DB.
- Heating : warm water inlet/outlet: 40°C / 45°C, and outdoor ambient temp. 7°CDB/6°CWB.
- Water side fouling factor: 0.086m2·°C/kW.
- 1m away in open field(sound pressure).

Model			MC-SS130/RN1L	MC-SS130/RN1
Cooling Capacity		kW	130	130
Heating Capacity		kW	138	138
Power input	Cooling	kW	42.3	42.3
	Cooling rated current	A	73	73
	Heating	kW	43	43
	Heating rated current	A	74.4	74.4
EER		kW / kW	3.07	3.07
COP		kW / kW	3.21	3.21
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50
Power supply	Manual switch	A	250	250
	Fuse	A	200	200
Compressor	Type		Scroll (fixed speed)	Scroll (fixed speed)
	Brand		Danfoss	Danfoss
	Model		CH290A4BBA	CH290A4BBA
	Quantity	Pieces	2	2
	Refrigerant oil	ml	6700	6700
Refrigerant	Type		R410A	R410A
	Refrigerant control		EXV+ capillary	EXV+ capillary
	Weight	kg	10.5×2	10.5×2
Condenser (Air side)	Type		Fin-coil	Fin-coil
	Number of rows		3	3
	Fan motor model		YS2000-6A/8A	YS2000-6A
	Quantity of fan motor	Pieces	2	2
	Air flow	$\times 10^3 m^3/h$	50	50
	Fan motor rated current	A	4.5×2	4.8×2
	Fan motor power input	kW	2.35×2	2.59×2
Evaporator (Water side)	Type		Shell-tube	Shell-tube
	Water pressure drop	kPa	40	40
	Volume	L	60	60
	Water inlet/outlet pipeline inside normal diameter	mm	DN65	DN65
	Water flow	m^3/h	22.4	22.4
	Max. design pressure	MPa	1	1
	Water pipe connection type		Flexible joint	Flexible joint
Dimension	Net(D×H×W)	mm	2200×2060×1120	2200×2060×1120
	Packing size(D×H×W)	mm	2250×2200×1180	2250×2200×1180
Weight	Net weight	kg	965	935
	Operation weight	kg	1035	1005
Connection wiring	Power wire	mm^2	35×4+16×1	35×4+16×1
	Signal wire	mm^2	0.75×3-core with shielding	0.75×3-core with shielding
Control type			Wired controller	Wired controller
Noise level		dB(A)	68	68
Operation water temp.		°C	Cooling：0～17(Less than 5°C must add antifreeze) Heating：25～50	
Ambient temp.		°C	Cooling：-10～46 Heating：-15～24	Cooling：15～46 Heating：-15～24

Note: Specifications are based on the following conditions:
- Cooling : chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 35°C DB.
- Heating : warm water inlet/outlet: 40°C / 45°C, and outdoor ambient temp. 7°CDB/6°CWB.
- Water side fouling factor: 0.086m2·°C/kW.
- 1m away in open field(sound pressure).

Application range

Operation temperature range



Mode	Ambient temp.	Outlet water temp.		Note
Cooling	-10~46°C	S5 address OFF, 'ON" is forbidding.	5~17°C (7°C is default)	SP series
		S5 address ON	0~17°C (The antifreeze must be added.)	SS series
Heating	-15~24°C	S4 address OFF	40~50°C (45°C is default)	
		S4 address ON	25~50°C (45°Cis default)	

Note: For MC-SS130RN1,the ambient temp. range is 15°C~46°C in cooling mode .

Electrical data

SP series

Model	power supply				Outdoor Unit		Compressor		OFM	
	Hz	Voltage	Min.	Max.	TOCA	MFA	LRA	RLA	kW	FLA
MC-SP25-RN1L	50	380-415	342	456	20.7	36	121.2	14.3	0.8	3.7
MC-SP35-RN1L	50	380-415	342	456	28.8	36	147	21.4	0.8	3.7
MC-SP65-RN1L	50	380-415	342	456	54.5	100	260	44.3	0.8(×2)	3.7(×2)
MC-SP25M-RN1L	50	380-415	342	456	24	36	121.2	14.3	0.8	3.7
MC-SP35M-RN1L	50	380-415	342	456	32.1	36	147	21.4	0.8	3.7
MC-SP65M-RN1L	50	380-415	342	456	60.4	100	260	44.3	0.8(×2)	3.7(×2)

SS series

Model	power supply				Outdoor Unit		Compressor		OFM	
	Hz	Voltage	Min.	Max.	TOCA	MFA	LRA	RLA	kW	FLA
MC-SS35/RN1L	50	380-415	342	456	27	36	147	21.4	0.8	3.7
MC-SS65/RN1L	50	380-415	342	456	54.5	100	260	44.3	0.8	3.7
MC-SS80/RN1L	50	380-415	342	456	65	100	197	27.6	0.8(×2)	3.7(×2)
MC-SS130/RN1	50	380-415	342	456	109	150	260	44.3	2.59(×2)	4.8(×2)
MC-SS130/RN1L	50	380-415	342	456	109	150	260	44.3	2.35(×2)	4.5(×2)

Remark:

TOCA: Total Over-current Amps. (A) RLA: Rated Locked Amps. (A) MFA: Max. Fuse Amps. (A) OFM: Outdoor Fan Motor.
LRA: Locked Rotor Amps. (A) FLA: Full Load Amps. (A) kW: Rated Motor Input (kW)

Glycol factors

A glycol solution is required when the unit with condition as mentioned. The use of glycol will reduce the performance of the unit depending on concentration.

Ethylene glycol

Quality of glycol%	Modification coefficient				Freezing point ° C
	Cooling capacity modification	Power modification	Water resistance	Water flow modification	
0	1.000	1.000	1.000	1.000	0
10	0.984	0.998	1.118	1.019	-4.000
20	0.973	0.995	1.268	1.051	-9.000
30	0.965	0.992	1.482	1.092	-16.000
40	0.960	0.989	1.791	1.145	-23.000
50	0.950	0.983	2.100	1.200	-37.000

Propylene glycol

Quality of glycol%	Modification coefficient				Freezing point ° C
	Cooling capacity modification	Power modification	Water resistance	Water flow modification	
0	1.000	1.000	1.000	1.000	0
10	0.976	0.996	1.071	1.000	-3.000
20	0.961	0.992	1.189	1.016	-7.000
30	0.948	0.988	1.380	1.034	-13.000
40	0.938	0.984	1.728	1.078	-22.000
50	0.925	0.975	2.150	1.125	-35.000

Units operating with glycol solutions are not included in the ARI Certification Program.

Fouling factor

ALTITUDE (m)	Difference of water inlet and outlet temp (℃)	Fouling Factor							
		0.018m² ℃ /kW		0.044m² ℃ /kW		0.086m² ℃ /kW		0.172m² ℃ /kW	
		C	P	C	P	C	P	C	P
Sea level	3	1.036	1.077	1.019	1.076	0.991	0.975	0.963	0.983
	4	1.039	1.101	1.022	1.080	0.994	0.996	0.971	0.984
	5	1.045	1.105	1.028	1.086	1.000	1.000	0.977	0.989
	6	1.051	1.109	1.034	1.093	1.006	1.004	0.983	0.994
600	3	1.024	1.087	1.008	1.064	0.980	0.984	0.951	0.991
	4	1.027	1.111	1.011	1.068	0.983	1.005	0.959	0.992
	5	1.034	1.115	1.017	1.074	0.989	1.009	0.965	0.997
	6	1.043	1.115	1.026	1.084	0.998	1.009	0.973	0.999
1200	3	1.013	1.117	0.996	1.052	0.969	1.011	0.942	1.002
	4	1.015	1.118	0.998	1.055	0.971	1.012	0.948	1.003
	5	1.023	1.122	1.006	1.063	0.979	1.015	0.955	1.005
	6	1.031	1.125	1.015	1.072	0.987	1.018	0.962	1.007
1800	3	1.002	1.128	0.986	1.042	0.959	1.021	0.935	1.007
	4	1.005	1.129	0.989	1.045	0.962	1.022	0.941	1.010
	5	1.012	1.132	0.995	1.051	0.968	1.024	0.945	1.012
	6	1.018	1.134	1.001	1.058	0.974	1.026	0.949	1.014

C--Cooling capacity P--Power

Performance data

SP series

Cooling

Chilled water outlet temp.(°C)	Model	Ambient temp.(°C)													
		-10		0		10		21		30		35		46	
		Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
5	25kW	33.90	6.43	31.75	6.63	29.78	6.83	27.99	7.05	24.86	7.49	23.50	7.72	20.26	8.51
	25(M)kW	33.90	7.40	31.75	7.62	29.78	7.86	27.99	8.10	24.86	8.61	23.50	8.88	20.26	9.79
	35kW	47.47	9.24	44.44	9.53	41.69	9.82	39.18	10.13	34.81	10.76	32.90	11.10	28.36	12.23
	35(M)kW	47.47	10.21	44.44	10.52	41.69	10.85	39.18	11.19	34.81	11.89	32.90	12.26	28.36	13.51
	65kW	88.15	16.40	82.54	16.91	77.43	17.43	72.77	17.97	64.64	19.10	61.10	19.69	52.67	21.70
	65(M)kW	88.15	18.17	82.54	18.73	77.43	19.31	72.77	20.52	64.64	21.15	61.10	21.81	52.67	24.04
6	25kW	35.15	6.53	32.88	6.73	30.81	6.94	28.93	7.16	25.65	7.60	24.23	7.84	20.93	8.64
	25(M)kW	35.15	7.51	32.88	7.74	30.81	7.98	28.93	8.23	25.65	8.75	24.23	9.02	20.93	9.94
	35kW	49.21	9.39	46.03	9.68	43.14	9.98	40.51	10.29	35.92	10.93	33.92	11.27	29.30	12.43
	35(M)kW	49.21	10.37	46.03	10.69	43.14	11.02	40.51	11.36	35.92	12.07	33.92	12.45	29.30	13.72
	65kW	91.38	16.65	85.49	17.17	80.12	17.70	75.23	18.25	66.70	19.39	62.99	19.99	54.41	22.04
	65(M)kW	91.38	18.45	85.49	19.02	80.12	19.61	75.23	20.84	66.70	21.48	62.99	22.15	54.41	24.42
7	25kW	36.48	6.66	34.09	6.87	31.92	7.08	29.94	7.30	26.50	7.76	25.00	8.00	21.64	8.82
	25(M)kW	36.48	7.66	34.09	7.90	31.92	8.14	29.94	8.40	26.50	8.92	25.00	9.20	21.64	10.14
	35kW	51.07	9.58	47.73	9.88	44.69	10.18	41.92	10.50	37.10	11.16	35.00	11.50	30.30	12.68
	35(M)kW	51.07	10.58	47.73	10.91	44.69	11.24	41.92	11.59	37.10	12.32	35.00	12.70	30.30	14.00
	65kW	94.84	16.99	88.64	17.52	82.99	18.06	77.85	18.62	68.90	19.79	65.00	20.40	56.27	22.49
	65(M)kW	94.84	18.83	88.64	19.41	82.99	20.01	77.85	21.26	68.90	21.92	65.00	22.60	56.27	24.92
8	25kW	37.71	6.86	35.21	7.08	32.94	7.29	30.87	7.52	27.27	7.99	25.70	8.24	22.30	9.08
	25(M)kW	37.71	7.89	35.21	8.14	32.94	8.39	30.87	8.65	27.27	9.19	25.70	9.48	22.30	10.45
	35kW	52.79	9.87	49.29	10.17	46.11	10.49	43.22	10.81	38.17	11.49	35.98	11.85	31.22	13.06
	35(M)kW	52.79	10.90	49.29	11.23	46.11	11.58	43.22	11.94	38.17	12.69	35.98	13.08	31.22	14.42
	65kW	98.05	17.50	91.55	18.04	85.64	18.60	80.26	19.18	70.90	20.38	66.82	21.01	57.97	23.17
	65(M)kW	98.05	19.39	91.55	19.99	85.64	20.61	80.26	21.90	70.90	22.58	66.82	23.28	57.97	25.66
9	25kW	38.88	6.93	36.27	7.14	33.90	7.37	31.74	7.59	27.98	8.07	26.35	8.32	22.91	9.17
	25(M)kW	38.88	7.97	36.27	8.22	33.90	8.47	31.74	8.73	27.98	9.28	26.35	9.57	22.91	10.55
	35kW	54.44	9.96	50.78	10.27	47.46	10.59	44.44	10.92	39.18	11.60	36.89	11.96	32.08	13.19
	35(M)kW	54.44	11.00	50.78	11.34	47.46	11.69	44.44	12.05	39.18	12.81	36.89	13.21	32.08	14.56
	65kW	101.09	17.67	94.30	18.22	88.14	18.78	82.52	19.36	72.76	20.58	68.51	21.22	59.57	23.39
	65(M)kW	101.09	19.58	94.30	20.18	88.14	20.81	82.52	22.11	72.76	22.80	68.51	23.50	59.57	25.91
10	25kW	40.47	7.03	37.72	7.25	35.22	7.48	32.94	7.71	28.99	8.19	27.27	8.44	23.76	9.31
	25(M)kW	40.47	8.09	37.72	8.34	35.22	8.60	32.94	8.86	28.99	9.42	27.27	9.71	23.76	10.71
	35kW	56.66	10.11	52.80	10.42	49.30	10.75	46.12	11.08	40.59	11.78	38.18	12.14	33.27	13.38
	35(M)kW	56.66	11.17	52.80	11.51	49.30	11.87	46.12	12.24	40.59	13.00	38.18	13.41	33.27	14.78
	65kW	105.22	17.94	98.06	18.49	91.56	19.06	85.65	19.65	75.38	20.89	70.91	21.53	61.79	23.74
	65(M)kW	105.22	19.87	98.06	20.49	91.56	21.12	85.65	22.45	75.38	23.14	70.91	23.86	61.79	26.30
11	25kW	41.72	7.10	38.84	7.32	36.23	7.55	33.86	7.78	29.74	8.27	27.95	8.53	24.41	9.40
	25(M)kW	41.72	8.17	38.84	8.42	36.23	8.68	33.86	8.95	29.74	9.51	27.95	9.81	24.41	10.81
	35kW	58.40	10.21	54.38	10.53	50.73	10.85	47.41	11.19	41.64	11.89	39.14	12.26	34.17	13.52
	35(M)kW	58.40	11.28	54.38	11.63	50.73	11.99	47.41	12.36	41.64	13.13	39.14	13.54	34.17	14.93
	65kW	108.46	18.11	100.99	18.67	94.20	19.25	88.04	19.85	77.33	21.09	72.68	21.75	63.47	23.98
	65(M)kW	108.46	20.07	100.99	20.69	94.20	21.33	88.04	22.67	77.33	23.37	72.68	24.09	63.47	26.56
12	25kW	42.79	7.21	39.80	7.43	37.10	7.66	34.64	7.90	30.37	8.39	28.51	8.65	24.95	9.54
	25(M)kW	42.79	8.29	39.80	8.55	37.10	8.81	34.64	9.08	30.37	9.65	28.51	9.95	24.95	10.97
	35kW	59.90	10.36	55.73	10.68	51.93	11.01	48.49	11.35	42.51	12.07	39.92	12.44	34.93	13.71
	35(M)kW	59.90	11.44	55.73	11.80	51.93	12.16	48.49	12.54	42.51	13.32	39.92	13.74	34.93	15.14
	65kW	111.25	18.38	103.49	18.95	96.45	19.53	90.06	20.14	78.95	21.40	74.13	22.06	64.87	24.33
	65(M)kW	111.25	20.36	103.49	20.99	96.45	21.64	90.06	23.00	78.95	23.71	74.13	24.44	64.87	26.95
13	25kW	43.68	7.27	40.59	7.49	37.79	7.72	35.26	7.96	30.85	8.46	28.94	8.72	25.38	9.62
	25(M)kW	43.68	8.35	40.59	8.61	37.79	8.88	35.26	9.15	30.85	9.73	28.94	10.03	25.38	11.06
	35kW	61.15	10.44	56.83	10.77	52.91	11.10	49.36	11.44	43.19	12.16	40.52	12.54	35.53	13.82
	35(M)kW	61.15	11.53	56.83	11.89	52.91	12.26	49.36	12.64	43.19	13.43	40.52	13.85	35.53	15.27
	65kW	113.56	18.53	105.53	19.10	98.26	19.69	91.66	20.30	80.21	21.57	75.25	22.24	65.99	24.52
	65(M)kW	113.56	20.52	105.53	21.16	98.26	21.81	91.66	23.18	80.21	23.90	75.25	24.64	65.99	27.17
14	25kW	44.89	7.32	41.68	7.54	38.77	7.78	36.13	8.02	31.56	8.52	29.58	8.78	25.99	9.68
	25(M)kW	44.89	8.41	41.68	8.67	38.77	8.94	36.13	9.22	31.56	9.80	29.58	10.10	25.99	11.14
	35kW	62.84	10.52	58.35	10.84	54.28	11.18	50.58	11.52	44.18	12.25	41.41	12.62	36.39	13.92
	35(M)kW	62.84	11.61	58.35	11.97	54.28	12.34	50.58	12.72	44.18	13.52	41.41	13.94	36.39	15.37
	65kW	116.71	18.65	108.36	19.23	100.80	19.83	93.94	20.44	82.05	21.72	76.90	22.40	67.58	24.69
	65(M)kW	116.71	20.67	108.36	21.31	100.80	21.96	93.94	23.34	82.05	24.07	76.90	24.81	67.58	27.35
15	25kW	45.59	7.35	42.29	7.58	39.30	7.81	36.60	8.06	31.90	8.56	29.87	8.83	26.31	9.73
	25(M)kW	45.59	8.45	42.29	8.72	39.30	8.99	36.60	9.26	31.90	9.85	29.87	10.15	26.31	11.19
	35kW	63.83	10.57	59.21	10.89	55.03	11.23	51.23	11.58	44.67	12.31	41.82	12.69	36.83	13.99
	35(M)kW	63.83	11.67	59.21	12.03	55.03	12.40	51.23	12.79	44.67	13.59	41.82	14.01	36.83	15.45
	65kW	118.53	18.75	109.96	19.33	102.19	19.92	95.15	20.54	82.95	21.83	77.67	22.51	68.41	24.81
	65(M)kW	118.53	20.77	109.96	21.41	102.19	22.07	95.15	23.46	82.95	24.19	77.67	24.93	68.41	27.49
16	25kW	46.85	7.43	43.42	7.66	40.32	7.89	37.51	8.14	32.64	8.65	30.53	8.91	26.95	9.83
	25(M)kW	46.85	8.54	43.42	8.80	40.32	9.08	37.51	9.36	32.64	9.94	30.53	10.25	26.95	11.30
	35kW	65.60	10.67	60.79	11.00	56.45	11.34	52.51	11.70	45.69	12.43	42.74	12.81	37.72	14.13
	35(M)kW	65.60	11.79	60.79	12.15	56.45	12.53	52.51	12.92	45.69	13.73	42.74	14.15	37.72	15.60
	65kW	121.82	18.93	112.90	19.52	104.83	20.12	97.52	20.75	84.86	22.05	79.38	22.73	70.06	25.06
	65(M)kW	121.82	20.98	112.90	21.63	104.83	22.29	97.52	23.69	84.86	24.43	79.38	25.18	70.06	27.76
17	25kW	47.59	7.46	44.06	7.69	40.87	7.93	37.99	8.18	32.99	8.69	30.84	8.96	27.27	9.88
	25(M)kW	47.59	8.58	44.06	8.85	40.87	9.12	37.99	9.40	32.99	9.99	30.84	10.30	27.27	11.36
	35kW	66.62	10.73	61.69	11.06	57.22	11.40	53.18	11.75	46.19	12.49	43.17	12.88	38.18	14.20
	35(M)kW	66.62	11.85	61.69	12.21	57.22	12.59	53.18	12.98	46.19	13.79	43.17	14.22	38.18	15.68
	65kW	123.73	19.03	114.56	19.62	106.27	20.22	98.77	20.85	85.79	22.16	80.17	22.84	70.91	25.18
	65(M)kW	123.73	21.08	114.56	21.73	106.27	22.40	98.77	23.81	85.79	24.55	80.17	25.31	70.91	27.90

Note: The inlet/outlet water temperature difference is 5°C.
The model with "M" stands for built-in hydraulic module.

Heating

Chilled water outlet temp.(°C)	Model	Ambient temp.(°C)													
		-10		-6		-2		2		7		10		13	
		Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	25kW	16.13	4.97	20.16	5.65	23.72	6.28	26.36	6.83	28.65	7.19	32.08	7.62	36.90	8.23
	25(M)kW	16.13	5.73	20.16	6.51	23.72	7.23	26.36	7.86	28.65	8.27	32.08	8.77	36.90	9.47
	35kW	22.95	7.07	28.69	8.03	33.75	8.93	37.51	9.70	40.77	10.21	45.66	10.83	52.51	11.69
	35(M)kW	23.57	7.82	29.47	8.89	34.67	9.88	38.52	10.73	41.87	11.30	46.89	11.98	53.93	12.94
	65kW	42.80	14.83	53.51	16.85	62.95	18.72	69.94	20.35	76.02	21.42	85.15	22.71	97.92	24.52
	65(M)kW	42.80	14.83	53.51	16.85	62.95	18.72	69.94	20.35	76.02	21.42	85.15	22.71	97.92	24.52
41	25kW	15.62	5.08	19.55	5.77	23.02	6.41	25.61	6.97	27.87	7.33	31.15	7.77	35.77	8.39
	25(M)kW	15.62	5.84	19.55	6.64	23.02	7.38	25.61	8.02	27.87	8.44	31.15	8.95	35.77	9.66
	35kW	22.23	7.21	27.82	8.20	32.76	9.11	36.44	9.90	39.66	10.42	44.34	11.05	50.90	11.93
	35(M)kW	22.83	7.98	28.57	9.07	33.65	10.08	37.43	10.95	40.73	11.53	45.53	12.22	52.27	13.20
	65kW	41.45	15.13	51.87	17.20	61.10	19.11	67.96	20.77	73.95	21.86	82.68	23.17	94.92	25.03
	65(M)kW	41.45	15.13	51.87	17.20	61.10	19.11	67.96	20.77	73.95	21.86	82.68	23.17	94.92	25.03
42	25kW	15.17	5.18	19.01	5.89	22.41	6.54	24.96	7.11	27.19	7.48	30.34	7.93	34.77	8.57
	25(M)kW	15.17	5.96	19.01	6.77	22.41	7.53	24.96	8.18	27.19	8.61	30.34	9.13	34.77	9.86
	35kW	21.58	7.36	27.05	8.37	31.89	9.30	35.52	10.10	38.69	10.64	43.18	11.27	49.48	12.18
	35(M)kW	22.17	8.14	27.78	9.25	32.76	10.28	36.48	11.18	39.73	11.76	44.34	12.47	50.82	13.47
	65kW	40.25	15.44	50.44	17.55	59.48	19.50	66.23	21.19	72.15	22.31	80.52	23.64	92.28	25.54
	65(M)kW	40.25	15.44	50.44	17.55	59.48	19.50	66.23	21.19	72.15	22.31	80.52	23.64	92.28	25.54
43	25kW	14.80	5.29	18.57	6.01	21.92	6.67	24.44	7.25	26.65	7.64	29.69	8.09	33.97	8.74
	25(M)kW	14.80	6.08	18.57	6.91	21.92	7.68	24.44	8.35	26.65	8.79	29.69	9.31	33.97	10.06
	35kW	21.06	7.51	26.43	8.54	31.20	9.49	34.78	10.31	37.93	10.85	42.25	11.50	48.34	12.42
	35(M)kW	21.63	8.31	27.14	9.44	32.04	10.49	35.72	11.40	38.96	12.01	43.40	12.73	49.65	13.74
	65kW	39.28	15.76	49.28	17.90	58.18	19.89	64.86	21.62	70.74	22.76	78.80	24.13	90.15	26.06
	65(M)kW	39.28	15.76	49.28	17.90	58.18	19.89	64.86	21.62	70.74	22.76	78.80	24.13	90.15	26.06
44	25kW	14.51	5.39	18.23	6.13	21.55	6.81	24.05	7.40	26.26	7.79	29.2	8.26	33.35	8.92
	25(M)kW	14.51	6.21	18.23	7.05	21.55	7.84	24.05	8.52	26.26	8.97	29.2	9.51	33.35	10.27
	35kW	20.65	7.67	25.95	8.71	30.67	9.68	34.23	10.52	37.37	11.07	41.56	11.74	47.46	12.68
	35(M)kW	21.21	8.48	26.65	9.64	31.50	10.71	35.16	11.64	38.38	12.25	42.68	12.99	48.74	14.02
	65kW	38.52	16.08	48.39	18.27	57.20	20.3	63.84	22.06	69.69	23.23	77.50	24.62	88.50	26.59
	65(M)kW	38.52	16.08	48.39	18.27	57.20	20.30	63.84	22.06	69.69	23.23	77.50	24.62	88.50	26.59
45	25kW	14.30	5.50	17.99	6.25	21.29	6.95	23.79	7.55	26.00	7.95	28.86	8.43	32.90	9.10
	25(M)kW	14.30	6.33	17.99	7.20	21.29	8.00	23.79	8.69	26.00	9.15	28.86	9.70	32.90	10.47
	35kW	20.35	7.82	25.60	8.89	30.30	9.88	33.86	10.74	37.00	11.30	41.07	11.98	46.82	12.94
	35(M)kW	20.91	8.65	26.30	9.83	31.12	10.93	34.77	11.88	38.00	12.50	42.18	13.25	48.09	14.31
	65kW	37.96	16.41	47.75	18.64	56.51	20.71	63.14	22.52	69.00	23.70	76.59	25.12	87.31	27.13
	65(M)kW	37.96	16.41	47.75	18.64	56.51	20.71	63.14	22.52	69.00	23.70	76.59	25.12	87.31	27.13
46	25kW	14.02	5.56	17.66	6.32	20.93	7.02	23.41	7.63	25.61	8.03	28.38	8.51	32.29	9.19
	25(M)kW	14.02	6.40	17.66	7.27	20.93	8.08	23.41	8.78	25.61	9.24	28.38	9.80	32.29	10.58
	35kW	19.96	7.90	25.13	8.98	29.78	9.97	33.31	10.84	36.45	11.41	40.38	12.10	45.95	13.07
	35(M)kW	20.5	8.74	25.81	9.93	30.58	11.03	34.21	11.99	37.43	12.63	41.47	13.38	47.20	14.45
	65kW	37.22	16.57	46.87	18.83	55.54	20.92	62.12	22.74	67.97	23.94	75.31	25.37	85.70	27.40
	65(M)kW	37.22	16.57	46.87	18.83	55.54	20.92	62.12	22.74	67.97	23.94	75.31	25.37	85.70	27.40
47	25kW	13.61	5.67	17.16	6.44	20.36	7.16	22.80	7.78	24.97	8.19	27.62	8.68	31.37	9.38
	25(M)kW	13.61	6.52	17.16	7.41	20.36	8.24	22.80	8.96	24.97	9.43	27.62	9.99	31.37	10.79
	35kW	19.37	8.06	24.42	9.16	28.97	10.17	32.44	11.06	35.53	11.64	39.30	12.34	44.65	13.33
	35(M)kW	19.89	8.91	25.08	10.13	29.75	11.25	33.32	12.23	36.49	12.88	40.36	13.65	45.85	14.74
	65kW	36.12	16.90	45.54	19.21	54.03	21.34	60.50	23.19	66.27	24.42	73.29	25.88	83.26	27.95
	65(M)kW	36.12	16.90	45.54	19.21	54.03	21.34	60.50	23.19	66.27	24.42	73.29	25.88	83.26	27.95
48	25kW	13.07	5.84	16.50	6.64	19.60	7.37	21.98	8.01	24.10	8.44	26.60	8.94	30.17	9.66
	25(M)kW	13.07	6.72	16.50	7.64	19.60	8.49	21.98	9.22	24.10	9.71	26.60	10.29	30.17	11.12
	35kW	18.60	8.30	23.49	9.43	27.90	10.48	31.27	11.39	34.29	11.99	37.86	12.71	42.93	13.73
	35(M)kW	19.11	9.18	24.12	10.43	28.65	11.59	32.12	12.60	35.22	13.26	38.88	14.06	44.09	15.18
	65kW	34.69	17.41	43.8	19.78	52.02	21.98	58.32	23.89	63.95	25.15	70.60	26.66	80.06	28.79
	65(M)kW	34.69	17.41	43.80	19.78	52.02	21.98	58.32	23.89	63.95	25.15	70.60	26.66	80.06	28.79
49	25kW	12.36	6.07	15.63	6.90	18.58	7.67	20.85	8.33	22.89	8.77	25.23	9.30	28.56	10.04
	25(M)kW	12.36	6.99	15.63	7.94	18.58	8.83	20.85	9.59	22.89	10.10	25.23	10.70	28.56	11.56
	35kW	17.59	8.63	22.24	9.81	26.44	10.90	29.68	11.85	32.58	12.47	35.90	13.22	40.64	14.28
	35(M)kW	18.07	9.55	22.84	10.85	27.16	12.06	30.48	13.10	33.46	13.79	36.87	14.62	41.74	15.79
	65kW	32.80	18.10	41.47	20.57	49.31	22.86	55.34	24.85	60.75	26.15	66.95	27.72	75.78	29.94
	65(M)kW	32.80	18.10	41.47	20.57	49.31	22.86	55.34	24.85	60.75	26.15	66.95	27.72	75.78	29.94
50	25kW	11.56	6.38	14.64	7.25	17.43	8.05	19.58	8.75	21.52	9.21	23.67	9.76	26.75	10.55
	25(M)kW	11.56	7.34	14.64	8.34	17.43	9.27	19.58	10.07	21.52	10.60	23.67	11.24	26.75	12.14
	35kW	16.46	9.06	20.83	10.30	24.80	11.44	27.87	12.44	30.62	13.09	33.68	13.88	38.06	14.99
	35(M)kW	16.90	10.03	21.40	11.39	25.47	12.66	28.62	13.76	31.45	14.48	34.59	15.35	39.09	16.58
	65kW	30.69	19.01	38.85	21.60	46.25	24.00	51.96	26.09	57.10	27.46	62.81	29.11	70.98	31.44
	65(M)kW	30.69	19.01	38.85	21.60	46.25	24.00	51.96	26.09	57.10	27.46	62.81	29.11	70.98	31.44

Note: The inlet/outlet water temperature difference is 5°C.
The model with "M" stands for built-in hydraulic module.

SS series

Cooling

Chilled water outlet	Model	Ambient temp.(°C)											
		21		25		30		35		40		46	
		Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power
(°C)		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
5	35kW	39.18	10.13	36.90	10.44	34.81	10.76	32.90	11.10	30.83	11.65	28.36	12.23
	65kW	72.77	17.97	68.52	18.52	64.64	19.10	61.10	19.69	57.25	20.67	52.67	21.70
	80kW	89.56	22.72	84.34	23.43	79.56	24.15	75.20	24.90	70.46	26.14	64.83	27.45
	130kW	145.54	37.25	137.04	38.41	129.29	39.59	122.20	40.82	114.50	42.86	105.34	45.00
6	35kW	40.51	10.29	38.11	10.60	35.92	10.93	33.92	11.27	31.81	11.83	29.30	12.43
	65kW	75.23	18.25	70.77	18.81	66.70	19.39	62.99	19.99	59.08	20.99	54.41	22.04
	80kW	92.59	23.08	87.10	23.79	82.09	24.53	77.52	25.28	72.71	26.55	66.97	27.88
	130kW	150.46	37.83	141.54	39.00	133.40	40.21	125.97	41.45	118.16	43.53	108.83	45.70
7	35kW	41.92	10.50	39.40	10.82	37.10	11.16	35.00	11.50	32.87	12.08	30.30	12.68
	65kW	77.85	18.62	73.17	19.19	68.90	19.79	65.00	20.40	61.04	21.42	56.27	22.49
	80kW	95.82	23.55	90.06	24.28	84.80	25.03	80.00	25.80	75.12	27.09	69.26	28.44
	130kW	155.71	38.61	146.34	39.80	137.80	41.03	130.00	42.30	122.07	44.42	112.55	46.64
8	35kW	43.22	10.81	40.58	11.14	38.17	11.49	35.98	11.85	33.82	12.44	31.22	13.06
	65kW	80.26	19.18	75.36	19.77	70.90	20.38	66.82	21.01	62.81	22.06	57.97	23.17
	80kW	98.78	24.25	92.75	25.00	87.26	25.78	82.24	26.57	77.31	27.90	71.35	29.30
	130kW	160.52	39.76	150.72	40.99	141.79	42.26	133.64	43.57	125.62	45.75	115.95	48.03
9	35kW	44.44	10.92	41.68	11.25	39.18	11.60	36.89	11.96	34.71	12.56	32.08	13.19
	65kW	82.52	19.36	77.41	19.96	72.76	20.58	68.51	21.22	64.47	22.28	59.57	23.39
	80kW	101.57	24.49	95.28	25.25	89.55	26.03	84.32	26.83	79.35	28.17	73.31	29.58
	130kW	165.05	40.15	154.83	41.39	145.52	42.67	137.02	43.99	128.94	46.19	119.14	48.50
10	35kW	46.12	11.08	43.22	11.42	40.59	11.78	38.18	12.14	35.97	12.75	33.27	13.38
	65kW	85.65	19.65	80.27	20.26	75.38	20.89	70.91	21.53	66.80	22.61	61.79	23.74
	80kW	105.42	24.86	98.80	25.62	92.77	26.42	87.27	27.23	82.21	28.60	76.04	30.03
	130kW	171.31	40.75	160.55	42.01	150.75	43.31	141.82	44.65	133.59	46.88	123.57	49.23
11	35kW	47.41	11.19	44.39	11.53	41.64	11.89	39.14	12.26	36.90	12.87	34.17	13.52
	65kW	88.04	19.85	82.44	20.46	77.33	21.09	72.68	21.75	68.54	22.83	63.47	23.98
	80kW	108.36	25.10	101.46	25.88	95.18	26.68	89.45	27.50	84.35	28.88	78.11	30.32
	130kW	176.08	41.15	164.87	42.43	154.66	43.74	145.36	45.09	137.08	47.35	126.93	49.71
12	35kW	48.49	11.35	45.36	11.70	42.51	12.07	39.92	12.44	37.68	13.06	34.93	13.71
	65kW	90.06	20.14	84.24	20.76	78.95	21.40	74.13	22.06	69.98	23.17	64.87	24.33
	80kW	110.84	25.47	103.68	26.26	97.17	27.07	91.24	27.91	86.13	29.30	79.84	30.77
	130kW	180.11	41.76	168.49	43.05	157.91	44.38	148.27	45.75	139.97	48.04	129.75	50.44
13	35kW	49.36	11.44	46.13	11.80	43.19	12.16	40.52	12.54	38.29	13.16	35.53	13.82
	65kW	91.66	20.30	85.67	20.93	80.21	21.57	75.25	22.24	71.11	23.35	65.99	24.52
	80kW	112.82	25.67	105.44	26.47	98.72	27.28	92.61	28.13	87.52	29.53	81.22	31.01
	130kW	183.33	42.09	171.33	43.39	160.42	44.73	150.49	46.12	142.22	48.42	131.98	50.84
14	35kW	50.58	11.52	47.23	11.88	44.18	12.25	41.41	12.62	39.17	13.26	36.39	13.92
	65kW	93.94	20.44	87.72	21.07	82.05	21.72	76.90	22.40	72.75	23.52	67.58	24.69
	80kW	115.62	25.85	107.96	26.65	100.99	27.47	94.65	28.32	89.54	29.74	83.18	31.23
	130kW	187.89	42.38	175.43	43.69	164.11	45.04	153.80	46.44	145.50	48.76	135.17	51.20
15	35kW	51.23	11.58	47.79	11.94	44.67	12.31	41.82	12.69	39.61	13.32	36.83	13.99
	65kW	95.15	20.54	88.76	21.18	82.95	21.83	77.67	22.51	73.55	23.63	68.41	24.81
	80kW	117.11	25.98	109.24	26.78	102.10	27.61	95.59	28.46	90.53	29.89	84.19	31.38
	130kW	190.30	42.59	177.52	43.91	165.90	45.27	155.34	46.67	147.11	49.00	136.81	51.45
16	35kW	52.51	11.70	48.94	12.06	45.69	12.43	42.74	12.81	40.52	13.46	37.72	14.13
	65kW	97.52	20.75	90.88	21.39	84.86	22.05	79.38	22.73	75.25	23.87	70.06	25.06
	80kW	120.02	26.24	111.85	27.05	104.44	27.89	97.70	28.75	92.62	30.19	86.23	31.70
	130kW	195.03	43.02	181.76	44.35	169.71	45.72	158.76	47.13	150.50	49.49	140.12	51.97
17	35kW	53.18	11.75	49.52	12.12	46.19	12.49	43.17	12.88	40.97	13.52	38.18	14.20
	65kW	98.77	20.85	91.96	21.49	85.79	22.16	80.17	22.84	76.08	23.99	70.91	25.18
	80kW	121.56	26.37	113.18	27.18	105.58	28.02	98.67	28.89	93.64	30.33	87.27	31.85
	130kW	197.53	43.23	183.92	44.57	171.57	45.95	160.35	47.37	152.17	49.74	141.82	52.22

Note: The inlet/outlet water temperature difference is 5°C.

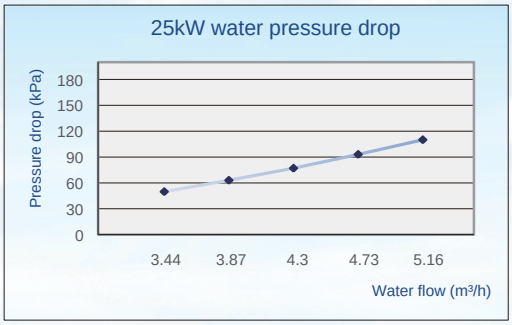
Heating

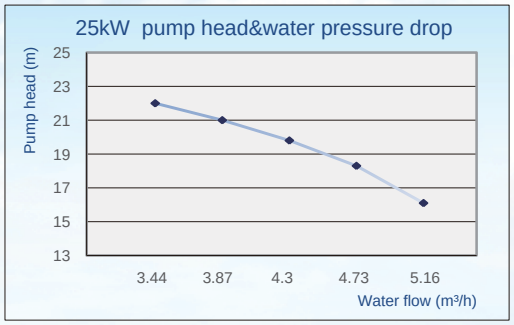
Chilled water outlet	Model	Ambient temp.(℃)													
		-10		-6		-2		2		7		10		13	
		Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power
(℃)		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40	35kW	22.95	7.07	28.69	8.03	33.75	8.93	37.51	9.70	40.77	10.21	45.66	10.83	52.51	11.69
	65kW	42.80	13.45	53.51	15.29	62.95	16.99	69.94	18.46	76.02	19.43	85.15	20.60	97.92	22.25
	80kW	52.73	16.58	65.91	18.84	77.55	20.94	86.16	22.76	93.65	23.95	104.89	25.39	120.63	27.42
	130kW	85.61	26.91	107.01	30.57	125.90	33.97	139.89	36.93	152.05	38.87	170.29	41.20	195.84	44.50
41	35kW	22.23	7.21	27.82	8.20	32.76	9.11	36.44	9.90	39.66	10.42	44.34	11.05	50.90	11.93
	65kW	41.45	13.73	51.87	15.60	61.10	17.33	67.96	18.84	73.95	19.83	82.68	21.02	94.92	22.70
	80kW	51.06	16.92	63.90	19.23	75.27	21.36	83.72	23.22	91.10	24.44	101.85	25.91	116.93	27.98
	130kW	82.89	27.45	103.75	31.20	122.20	34.66	135.93	37.68	147.91	39.66	165.36	42.04	189.83	45.40
42	35kW	21.58	7.36	27.05	8.37	31.89	9.30	35.52	10.10	38.69	10.64	43.18	11.27	49.48	12.18
	65kW	40.25	14.01	50.44	15.92	59.48	17.69	66.23	19.22	72.15	20.24	80.52	21.45	92.28	23.17
	80kW	49.58	17.26	62.13	19.62	73.27	21.80	81.59	23.69	88.88	24.94	99.19	26.44	113.67	28.55
	130kW	80.50	28.01	100.87	31.83	118.96	35.37	132.47	38.45	144.30	40.47	161.04	42.90	184.55	46.33
43	35kW	21.06	7.51	26.43	8.54	31.20	9.49	34.78	10.31	37.93	10.85	42.25	11.50	48.34	12.42
	65kW	39.28	14.29	49.28	16.24	58.18	18.05	64.86	19.62	70.74	20.65	78.80	21.89	90.15	23.64
	80kW	48.38	17.62	60.71	20.02	71.68	22.24	79.91	24.18	87.14	25.45	97.07	26.98	111.05	29.14
	130kW	78.55	28.59	98.56	32.48	116.37	36.09	129.73	39.23	141.47	41.30	157.60	43.78	180.29	47.28
44	35kW	20.65	7.67	25.95	8.71	30.67	9.68	34.23	10.52	37.37	11.07	41.56	11.74	47.46	12.68
	65kW	38.52	14.58	48.39	16.57	57.20	18.42	63.84	20.02	69.69	21.07	77.50	22.33	88.50	24.12
	80kW	47.45	17.98	59.61	20.43	70.46	22.70	78.64	24.67	85.85	25.97	95.47	27.53	109.02	29.73
	130kW	77.03	29.17	96.78	33.15	114.39	36.83	127.67	40.03	139.38	42.14	154.99	44.67	177.00	48.24
45	35kW	20.35	7.82	25.60	8.89	30.30	9.88	33.86	10.74	37.00	11.30	41.07	11.98	46.82	12.94
	65kW	37.96	14.88	47.75	16.91	56.51	18.79	63.14	20.43	69.00	21.50	76.59	22.79	87.31	24.61
	80kW	46.76	18.34	58.82	20.84	69.61	23.16	77.78	25.18	85.00	26.50	94.35	28.09	107.56	30.34
	130kW	75.92	29.76	95.49	33.82	113.01	37.58	126.27	40.85	138.00	43.00	153.18	45.58	174.63	49.23
46	35kW	19.96	7.90	25.13	8.98	29.78	9.97	33.31	10.84	36.45	11.41	40.38	12.10	45.95	13.07
	65kW	37.22	15.03	46.87	17.08	55.54	18.98	62.12	20.63	67.97	21.72	75.31	23.02	85.70	24.86
	80kW	45.85	18.53	57.74	21.05	68.41	23.39	76.52	25.43	83.73	26.77	92.77	28.37	105.57	30.64
	130kW	74.43	30.06	93.74	34.16	111.07	37.96	124.24	41.26	135.93	43.43	150.61	46.04	171.39	49.72
47	35kW	19.37	8.06	24.42	9.16	28.97	10.17	32.44	11.06	35.53	11.64	39.30	12.34	44.65	13.33
	65kW	36.12	15.33	45.54	17.42	54.03	19.36	60.50	21.04	66.27	22.15	73.29	23.48	83.26	25.36
	80kW	44.49	18.90	56.11	21.47	66.56	23.86	74.53	25.94	81.63	27.30	90.28	28.94	102.56	31.25
	130kW	72.23	30.66	91.09	34.85	108.05	38.72	121.00	42.08	132.53	44.30	146.58	46.96	166.52	50.71
48	35kW	18.60	8.30	23.49	9.43	27.90	10.48	31.27	11.39	34.29	11.99	37.86	12.71	42.93	13.73
	65kW	34.69	15.79	43.80	17.95	52.02	19.94	58.32	21.67	63.95	22.81	70.60	24.18	80.06	26.12
	80kW	42.74	19.46	53.96	22.12	64.08	24.58	71.84	26.71	78.77	28.12	86.97	29.81	98.62	32.19
	130kW	69.38	31.58	87.60	35.89	104.04	39.88	116.64	43.35	127.89	45.63	141.19	48.37	160.11	52.23
49	35kW	17.59	8.63	22.24	9.81	26.44	10.90	29.68	11.85	32.58	12.47	35.90	13.22	40.64	14.28
	65kW	32.80	16.42	41.47	18.66	49.31	20.74	55.34	22.54	60.75	23.73	66.95	25.15	75.78	27.16
	80kW	40.41	20.24	51.09	23.00	60.74	25.56	68.18	27.78	74.84	29.24	82.47	31.00	93.36	33.48
	130kW	65.61	32.85	82.94	37.33	98.62	41.47	110.69	45.08	121.50	47.45	133.89	50.30	151.56	54.32
50	35kW	16.46	9.06	20.83	10.30	24.80	11.44	27.87	12.44	30.62	13.09	33.68	13.88	38.06	14.99
	65kW	30.69	17.24	38.85	19.60	46.25	21.77	51.96	23.67	57.10	24.91	62.81	26.41	70.98	28.52
	80kW	37.81	21.26	47.86	24.15	56.97	26.84	64.01	29.17	70.35	30.71	77.38	32.55	87.44	35.15
	130kW	61.38	34.49	77.70	39.19	92.50	43.55	103.93	47.33	114.21	49.83	125.63	52.81	141.96	57.04

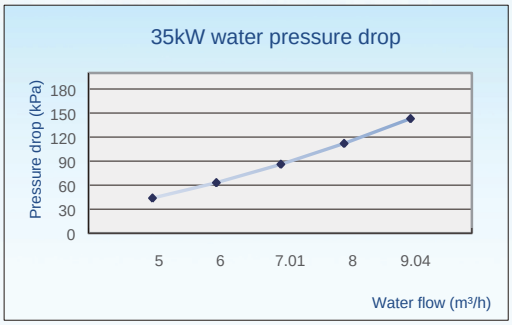
Note: The inlet/outlet water temperature difference is 5°C.

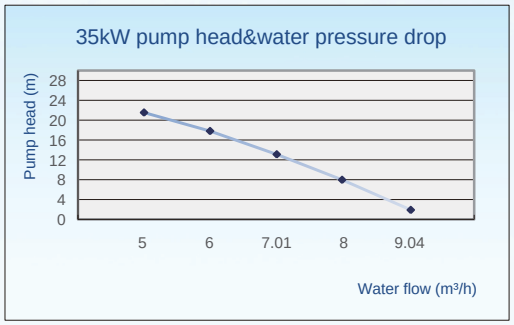
Water pressure drop

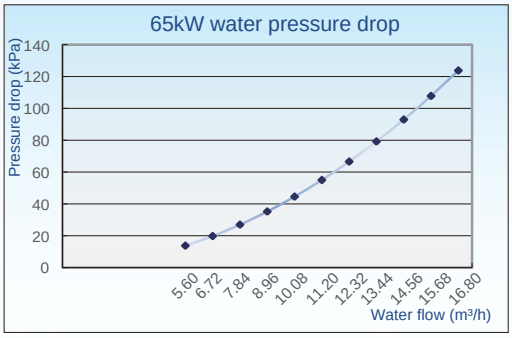
SP series

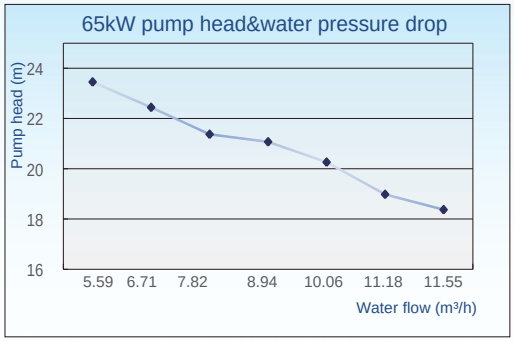




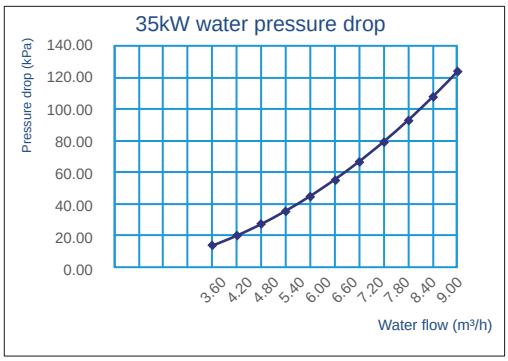


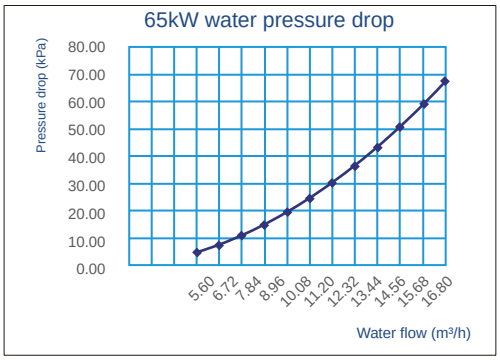


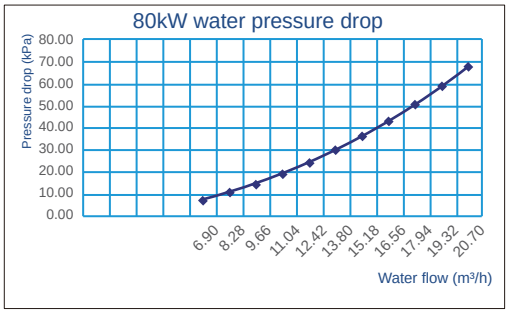


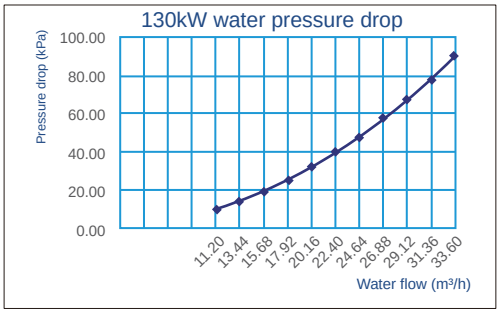


SS series



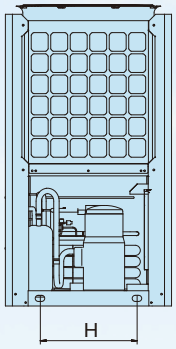




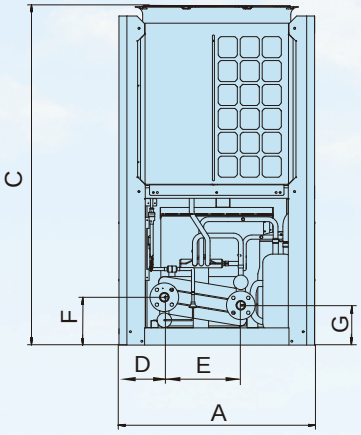


Dimensions

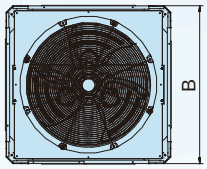
25/35kW module



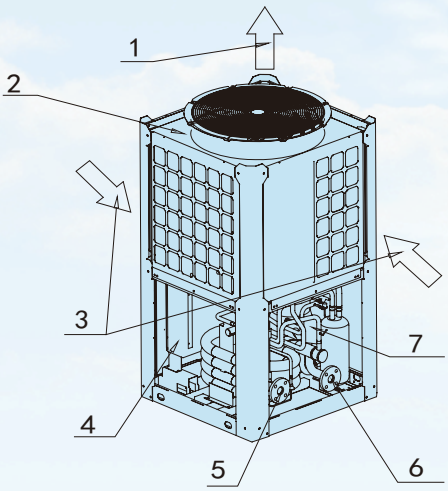
Left view



Front view



Top view



1.Air outlet

2.Top cover

3.Air inlet

4.Electric control box

5.Water outlet

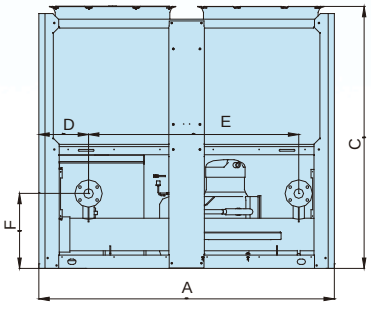
6.Water inlet

7.Compressor

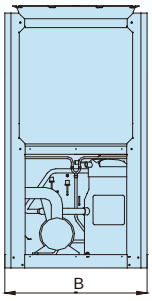
Unit: mm

Model	A	B	C	D	E	F	G	H
MC-SP25/RN1L MC-SP25MRN1L MC-SP35/RN1L MC-SP35M/RN1L MC-SS35/RN1L	1020	980	1770	237	400	250	210	570

65/80kW module



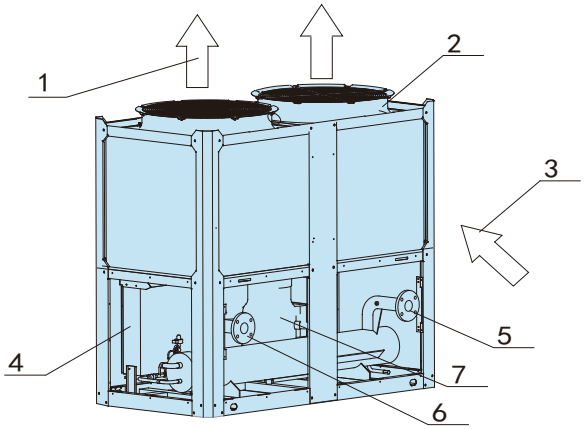
Front view



Left view

Unit: mm

Model	A	B	C	D	E	F	G	H
MC-SP65/RN1L MC-SP65M/RN1L MC-SS65/RN1L MC-SS80/RN1L	2000	960	1770	336	1420	506	1460	862



1.Air outlet

2.Top cover

3.Air inlet

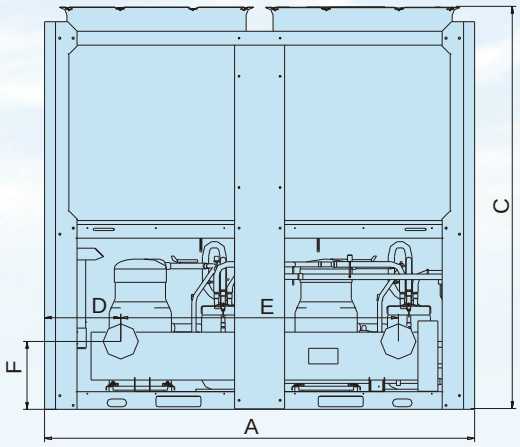
4.Electric control box

5.Water outlet

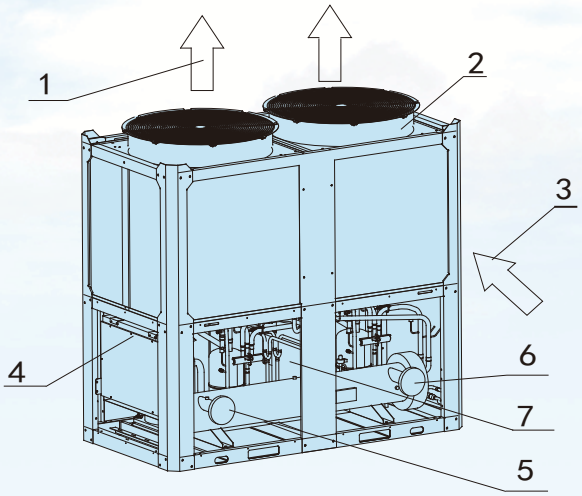
6.Water inlet

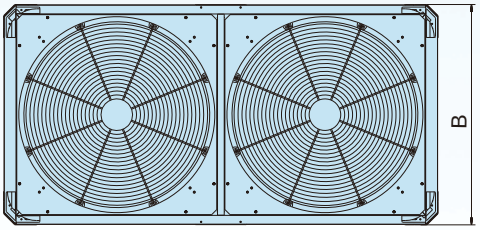
7.Compressor

130kW module



Front view





Top view

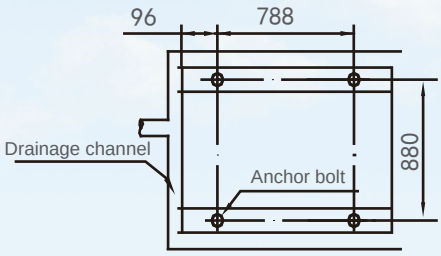
1.Air outlet
2.Top cover
3.Air inlet
4.Electric control box
5.Water outlet
6.Water inlet
7.Compressor

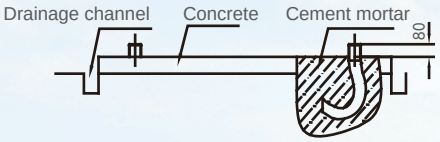
Unit: mm

Model	A	B	C	D	E	F	G	H
MC-SS130/RN1 MC-SS130/RN1L	2200	1120	2060	390	1420	347	1460	1017

Mounting location

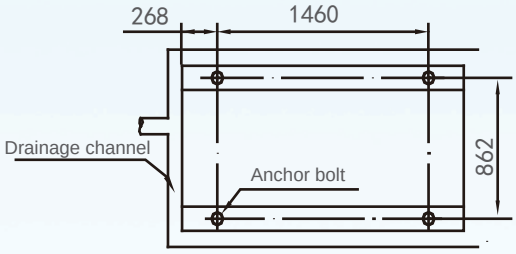
25/35kW module

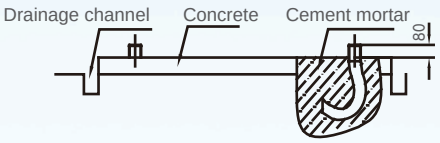




Schematic diagram of installation dimension of MC-SS35/RN1L

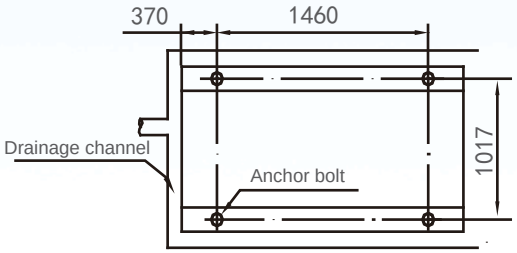
65/80kW module

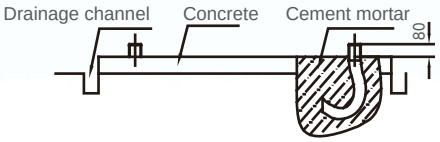




Schematic diagram of installation dimension of MC-SS65/RN1L

130kW module

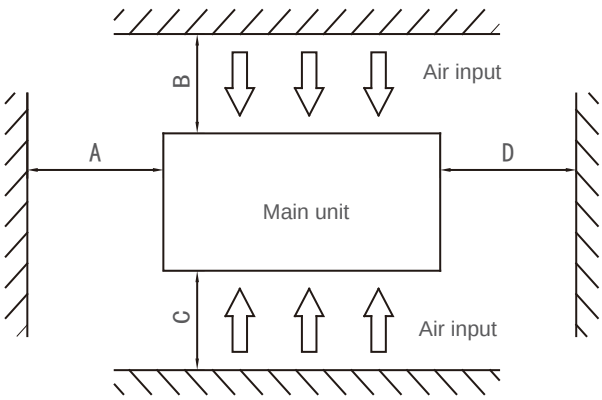


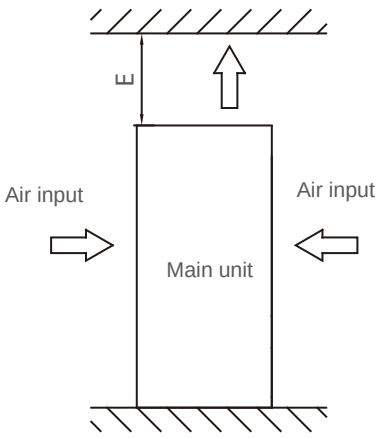


Schematic diagram of installation dimension of MC-SS130/RN1

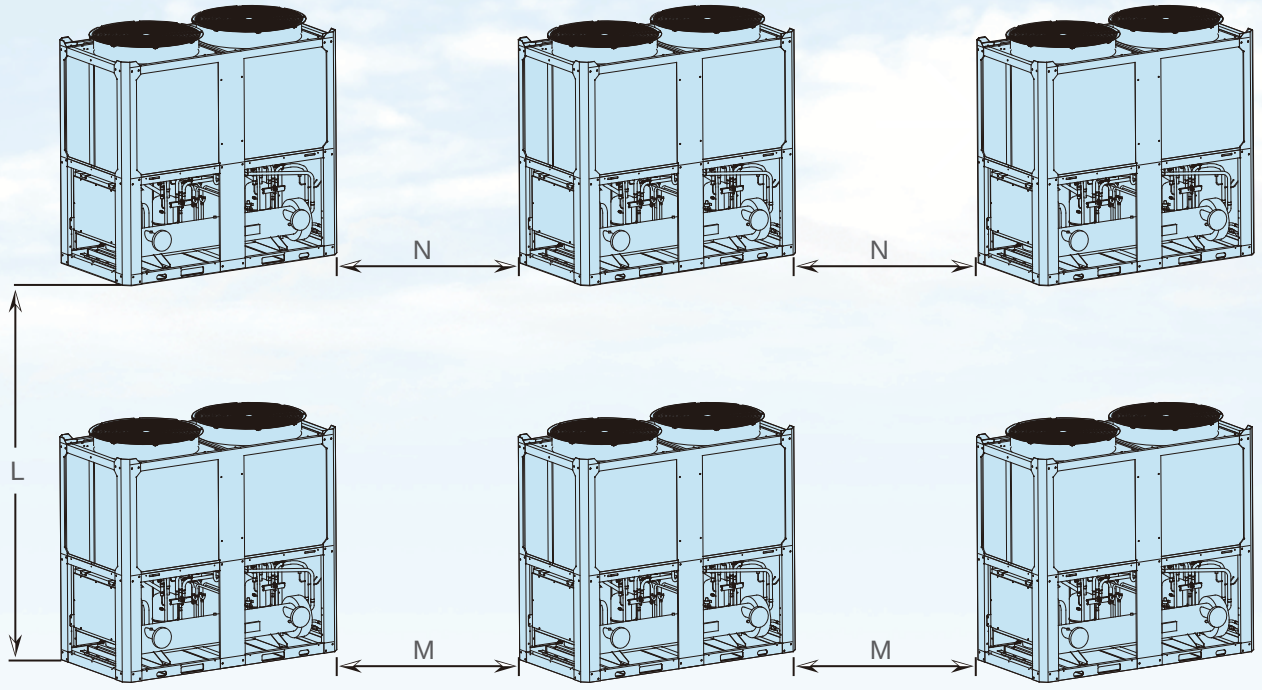
Installation clearance

25/35/65/80/130/kW module





Modules combination



The recommend space parameter:

Unit: mm

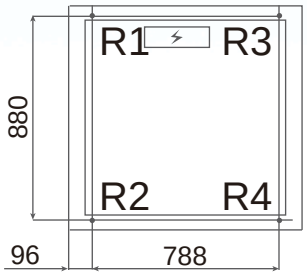
No		Model	Max unit combined quantity	A	B	C	D	E	L	M	N
SS series	1	MC-SS35/RN1L	16	≥1500	≥2000	≥2000	≥1500	≥800	≥600	≥300	≥300
	2	MC-SS65/RN1L	16								
	3	MC-SS80/RN1L	16								
	4	MC-SS130/RN1	16								
	5	MC-SS130/RN1L	16								
SP series	6	MC-SP25-RN1L	16								
	7	MC-SP35-RN1L	16								
	8	MC-SP65-RN1L	16								
	9	MC-SP25M-RN1L	1								
	10	MC-SP35M-RN1L	1								
	11	MC-SP65M-RN1L	1								

Load distribution

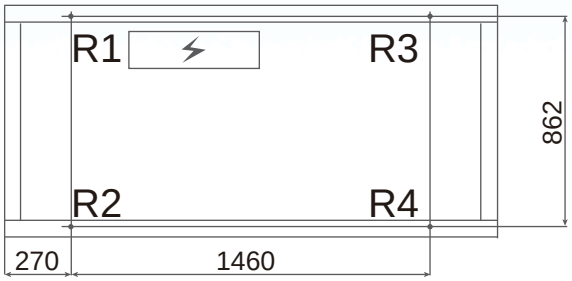
Unit:kg

	No	Model	R1	R2	R3	R4
SS series	1	MC-SS35/RN1L	81	81	89	89
	2	MC-SS65/RN1L	140	130	170	150
	3	MC-SS80/RN1L	170	210	170	160
	4	MC-SS130/RN1	200	320	230	370
	5	MC-SS130/RN1L	200	320	230	370
SP series	6	MC-SP25-RN1L	62	70	67	75
	7	MC-SP35-RN1L	74	78	78	84
	8	MC-SP65-RN1L	140	160	100	120
	9	MC-SP25M-RN1L	76	82	78	87
	10	MC-SP35M-RN1L	83	90	85	95
	11	MC-SP65M-RN1L	130	160	130	140

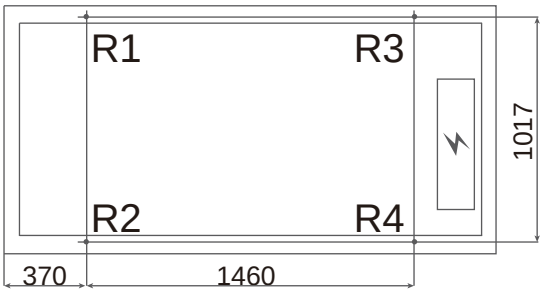
Dimension unit: mm



25/35kW



65/80kW



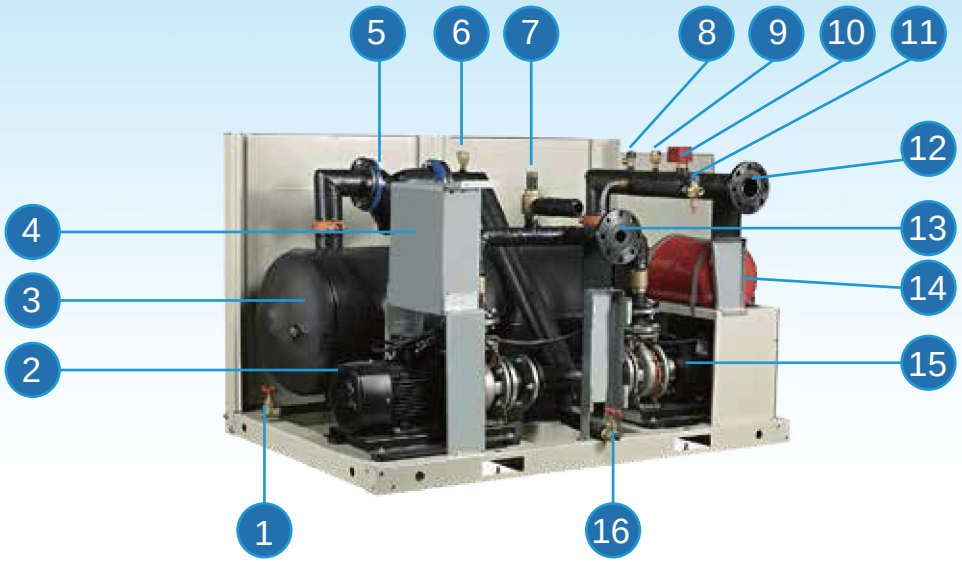
130kW

Hydraulic module

HM/II-65S
HM/II-130S

Feature

■ Highly reliable quality
Whole stainless steel or metal with special coating and anti-rust treatment. High-class main component, dustproof and waterproof.
■ Good performance, stable and reliable
Built-in two pumps, one is backup to ensure the system uninterrupted operation.
■ Intelligent control, energy security
■ Easy installation, low malfunction
Integrated design, much faster and easier to finish the installation, the installation quality is much better than traditional machine.
■ Save the installation space and cost
Compact design, it will reduce 80% labor cost and 40% material contrasted with other same grade system.
■ Wide range of ambient temperature, from -15˚C to 46˚C.



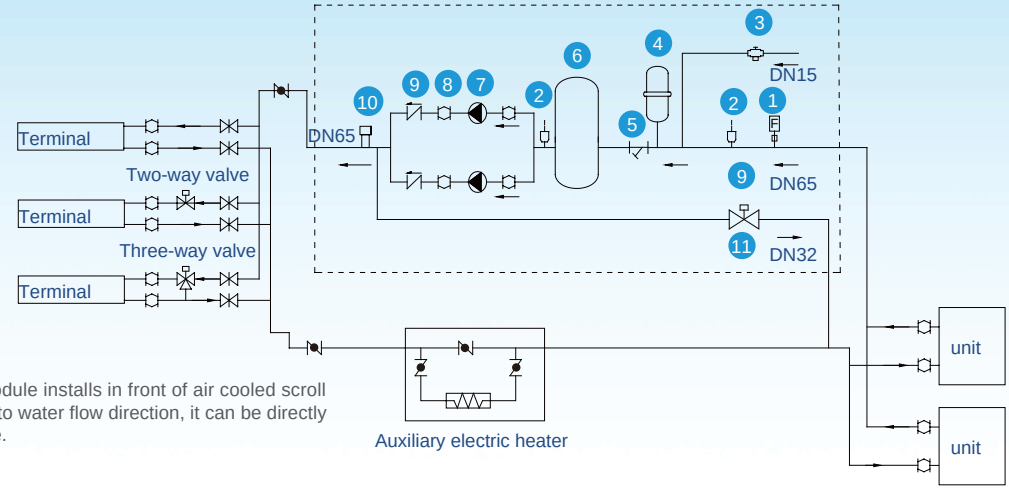
No.	Name	No.	Name
1	Pumping rod type brass gate valves	9	Exhaust valve
2	Pump	10	Water flow switch
3	Water tank	11	Water replenishing valve
4	Electrical box	12	Water inlet assembly
5	Y-shape filter	13	Water outlet assembly
6	Exhaust valve	14	Expa nsion tank
7	Pressure different by-pass valve	15	Pump
8	Safety valve(There is change,goods in kind prevail.)	16	Pumping rod type brass gate valves

Specification

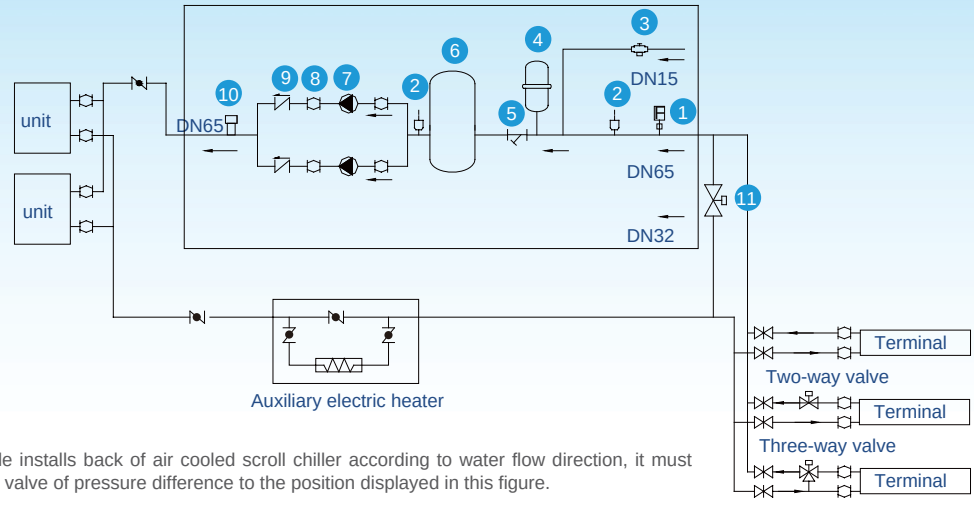
Model			HM/II-65S	HM/II-130S
Cooling capacity		kW	(65)	(130)
Electrical data				
Voltage, frequency, phase		V/Hz/Ph	380/50/3	380/50/3
Performance				
Motor power input		kW	1.8	3.5
Water pump head		m	16	17
Water flow		m^3/h	11	22
Water pressure drop		kPa	16	17
Safety valve return pressure		kPa	600	600
Protection class			IP24	IP24
Electric shock protection class			F	F
Noise level		dB(A)	68	68
Dimension & weight				
Water inlet&outlet pipe diameter		mm	DN65	DN65
Net dimension	D×H×W	mm	1615×990×965	1705×1120×1050
Packing size	D×H×W	mm	1640×1026×1120	1721×1160×1225
Net weight		kg	290	400
Operation weight		kg	310	420

Note:Specifications are based on the following conditions: Water side fouling factor: 0.086m2˚C /kW.

System Pipeline Installation



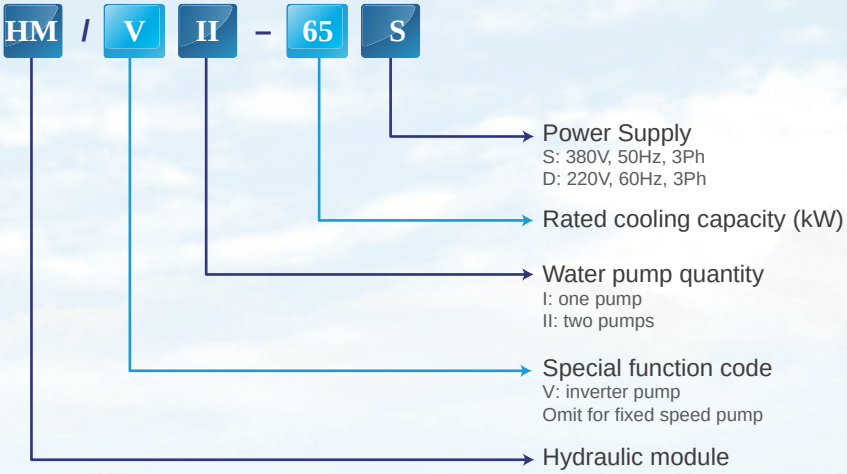
The hydraulic module installs in front of air cooled scroll chiller according to water flow direction, it can be directly used in this figure.



The hydaulic module installs back of air cooled scroll chiller according to water flow direction, it must change the by-pass valve of pressure difference to the position displayed in this figure.

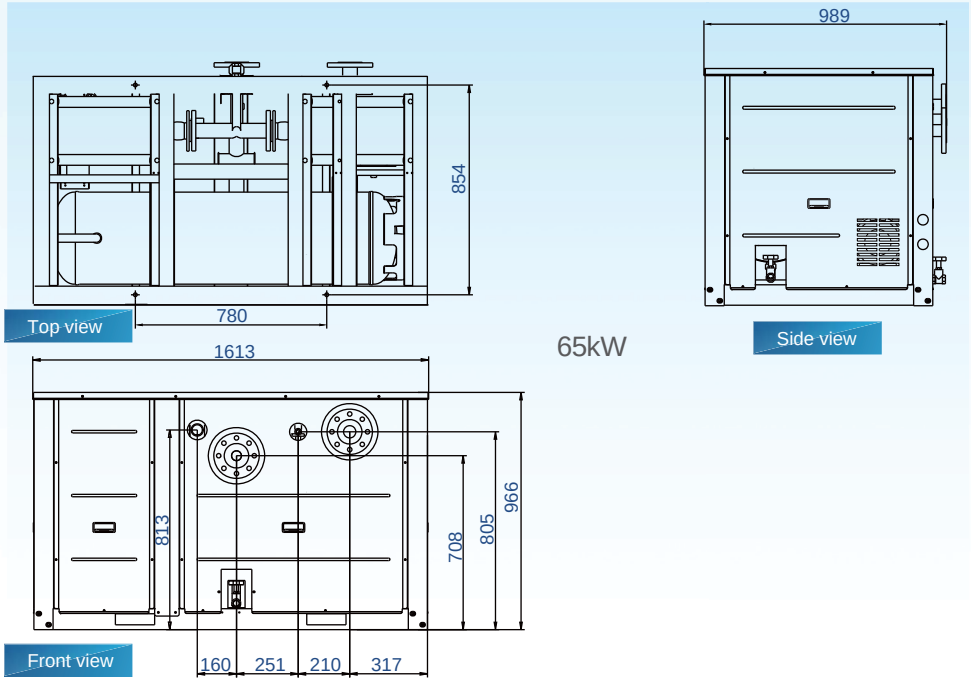
No.	Name	No.	Name	No.	Name
1	Water flow switch	5	Y-shape filter	9	Check valve
2	Automatic discharge valve	6	Water storage tank	10	Pressure relief valve
3	Water replenishment valve	7	Circulating pump	11	Pressure different by-pass valve
4	Expansion tank	8	Flexible joint		

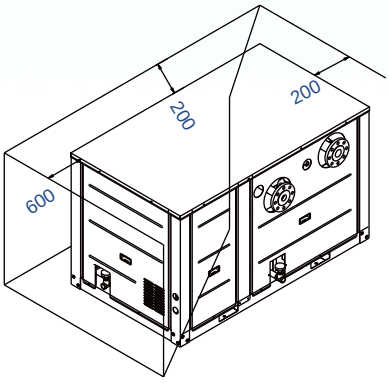
Nomenclature



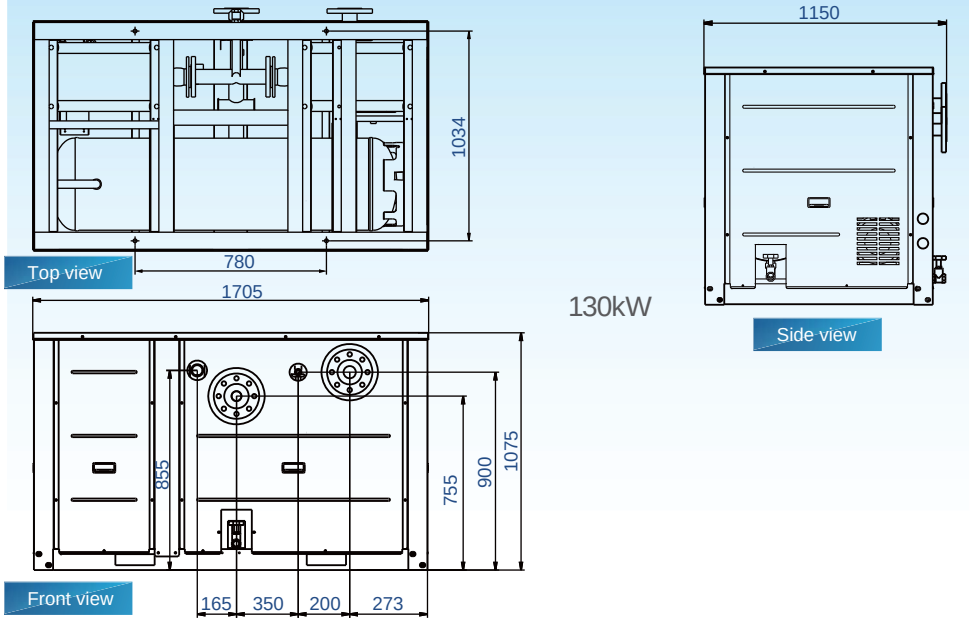
Installation dimension

65kW





130kW



Control system

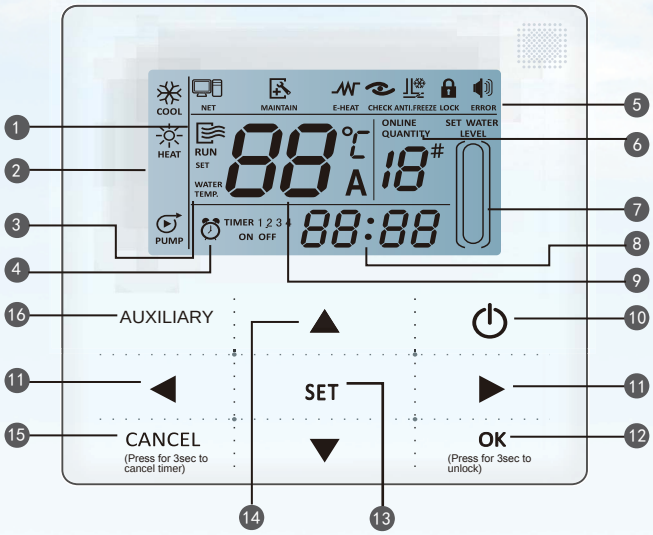
Control system

Control Devices

Type		Function Descriptions
Wired Controller	 KJRM-120D/BMK-E	(Standard) ■ Parameter setting and display. ■ Real time clock control. ■ Malfunction manual reset. ■Hysteresis temp. setting. ■Touch key operation It can connect max. 16PCBs. MCODBUS gateway is available by communication port X Y E in wired controller,it can be customized.
	 KJR-120A/MBTE	(Optional) ■ Parameter setting and display. ■ Real time clock control. ■ Malfunction manual reset. ■Hysteresis temp. setting. ■ Weekly timing fucntion. It can connect max. 16PCBs.
LONWORKS Gateway		(Optional) ■ Operation mode setting. ■ Outlet water temperature setting. ■ Hysteresis setting. ■ Alarm clear setting. It can connect max. 16PCBs.
MODBUS Gateway		(Optional) ■ Parameter setting and display. ■ Real time clock control. ■ Malfunction manual reset. ■Hysteresis temp. setting. ■Touch key operation One system can connect max. 16C Modbus gateway, each gateway can connect max. 16PCBs.It can be customized.
Network control software		(Optional) ■ Control operation mode in the refrigeration system. ■ Query real-time operating parameter in the main system and subsystem. ■ Set up the weekly timing that could realizes the schedule management for the refrigeration system. ■ Record refrigeration system error.It can connect max.16 wired controllers by ars485/232 converter, each wired controller can connect max. 16 PCBs.

Wired controller KJRM-120D/BMK-E

Wired controller is a human-machine interaction(HMI) used for the communication between chiller operator and main board on the chiller itself. The setting and operation order can be send to the main board through the wired controller and the running condition can be displayed by the wired controller.



1. Operation icon
2. Mode area
3. Setting temperature
4. Timing On/Off
5. Function Icon
6. On-line Unit Qty. Indication
7. Reserved
8. Clock
9. Water temp.
10. ON/OFF Key
11. Right, Left Key
12. OK key
13. Setting key
14. Add, Reduce key
15. Cancel key
16. Reserved. key

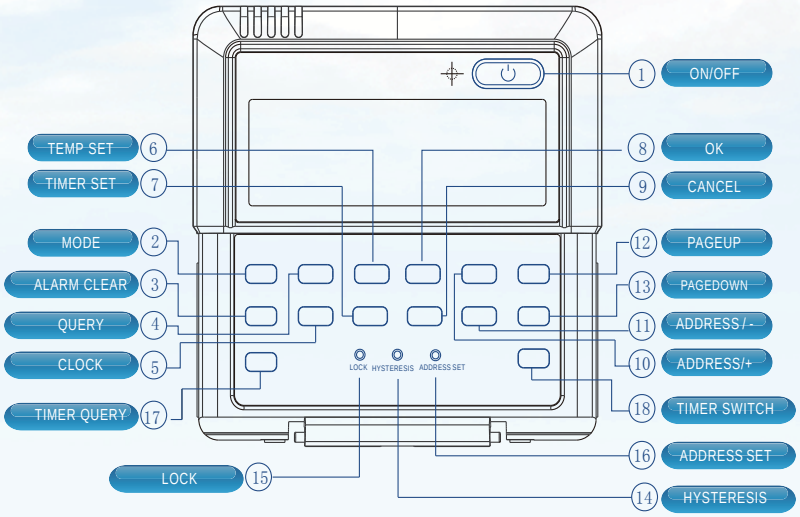
Function comparison of wired controller:

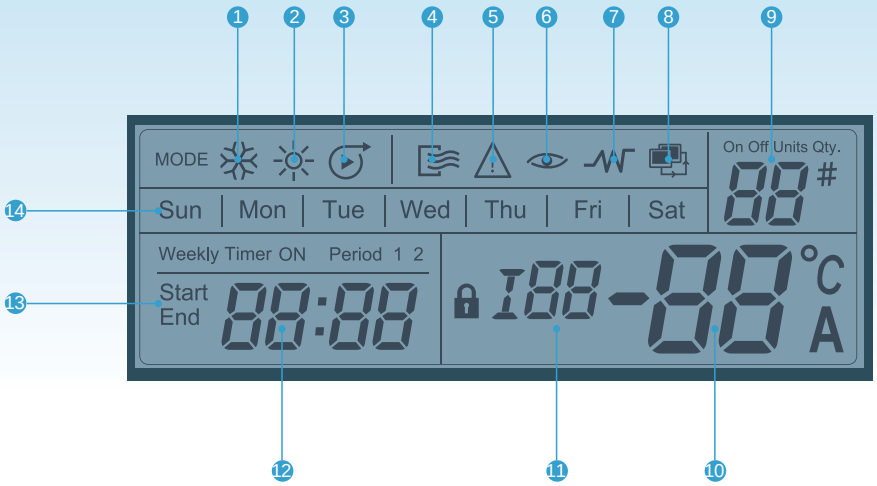
Function \ Wired controller	KJR-120A/MBTE	KJRM-120D/BMK-E
Parameter setting and display	●	●
Real time clock control	●	●
Malfunction manual reset	●	●
Long-distance control icon display	●	●
Weekly timer function	●	
Hysteresis temp. setting	●	●
Touch key operation		●
Network control software	●	
MODBUS gateway		●
LONWORKS gateway	●	●

Wired controller KJR-120A/MBTE(Weekly timer)

The wired controller KJR-120A/MBTE is functional design to add the timing startup function based on KJR-120A/MBE.It will replace the KJR-120A/MBE for function except BMS gateway, it is available for all Midea air cooled scroll chiller, it can automatically adjust the module which is new or old to execute the related indicator.The wired controller provides the following new functions based on KJR-120A/MBE..

■ Provide the timing startup function.

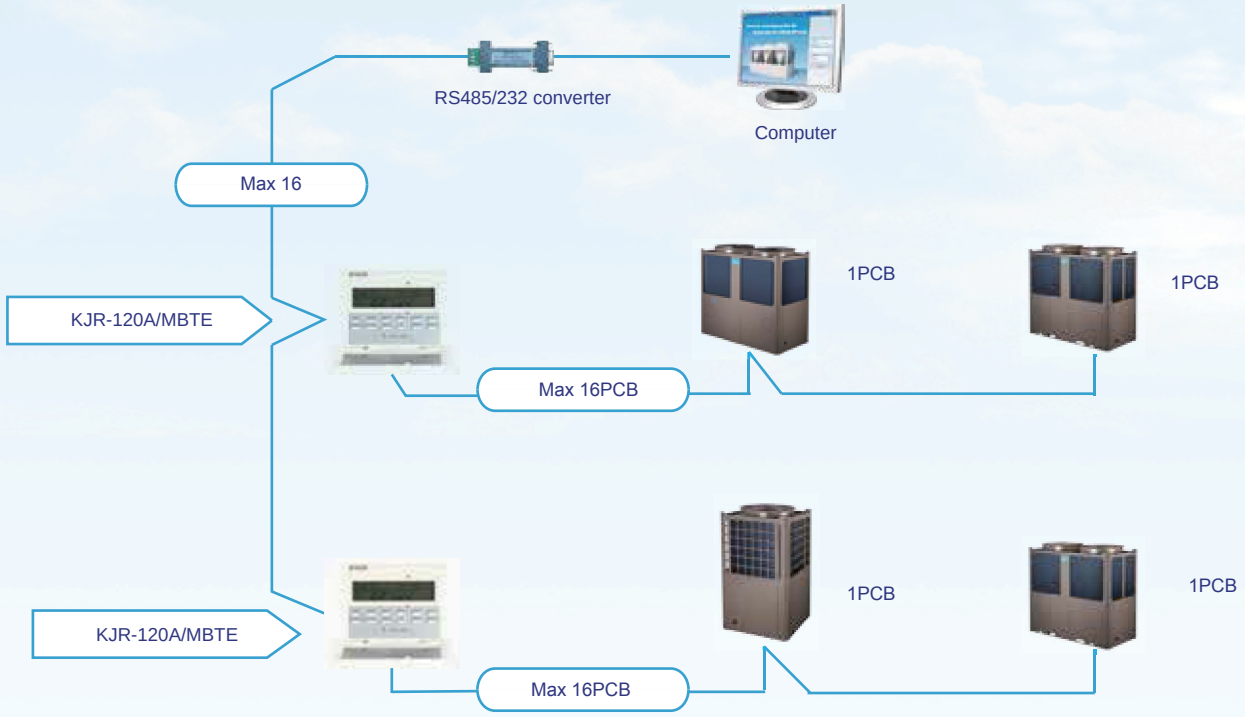




Item	Description	Item	Description
1	Cooling mode.	8	Remote control is on or off.
2	Heating mode.	9	Display the units quantity on line/ON,OFF state.
3	Pump mode.	10	Display temp.,current,error codes,protection codes.
4	Normal running, the light is on.	11	Display the checking parameters(IA/IB/T3A/T3B).
5	The unit has error, the light is on.	12	Real time display./Week timing check and query display.
6	When querying, the light is on.	13	Display the week timing state. / The week timing set period display.
7	The electric heater works, the light is on.	14	Set week timing.

Network control system

The intelligent network control system of the Midea air-cooled scroll chiller mainly comprises the RS485/232 converter, which can connect max. 16 wired controllers, each wired controller can control max. 16 PCBs.



Main functions:

Controls the refrigeration system's operating mode.

Queries operation parameters in the main and subsystems in real time.

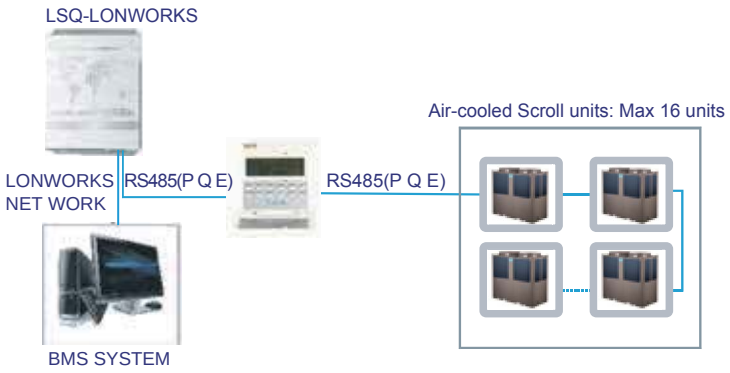
Provides a weekly timer for managing the refrigeration system.

Records refrigeration system errors.

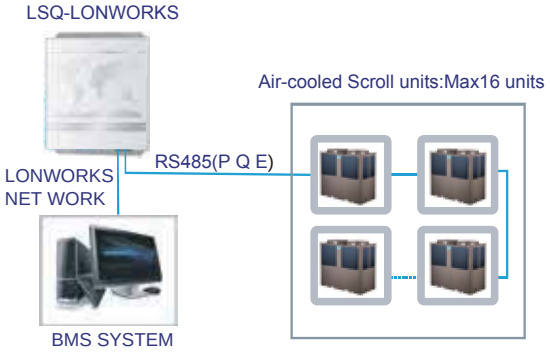
LONWORKS gateway

The unit's LONWORKS gateway controls the central A/C to facilitate the building management system (BMS). LONWORKS provides four settings to control the air-cooled chillers: Operation Mode, Outlet Water Temperature, Hysteresis, and Clear Alarm.

Connection 1

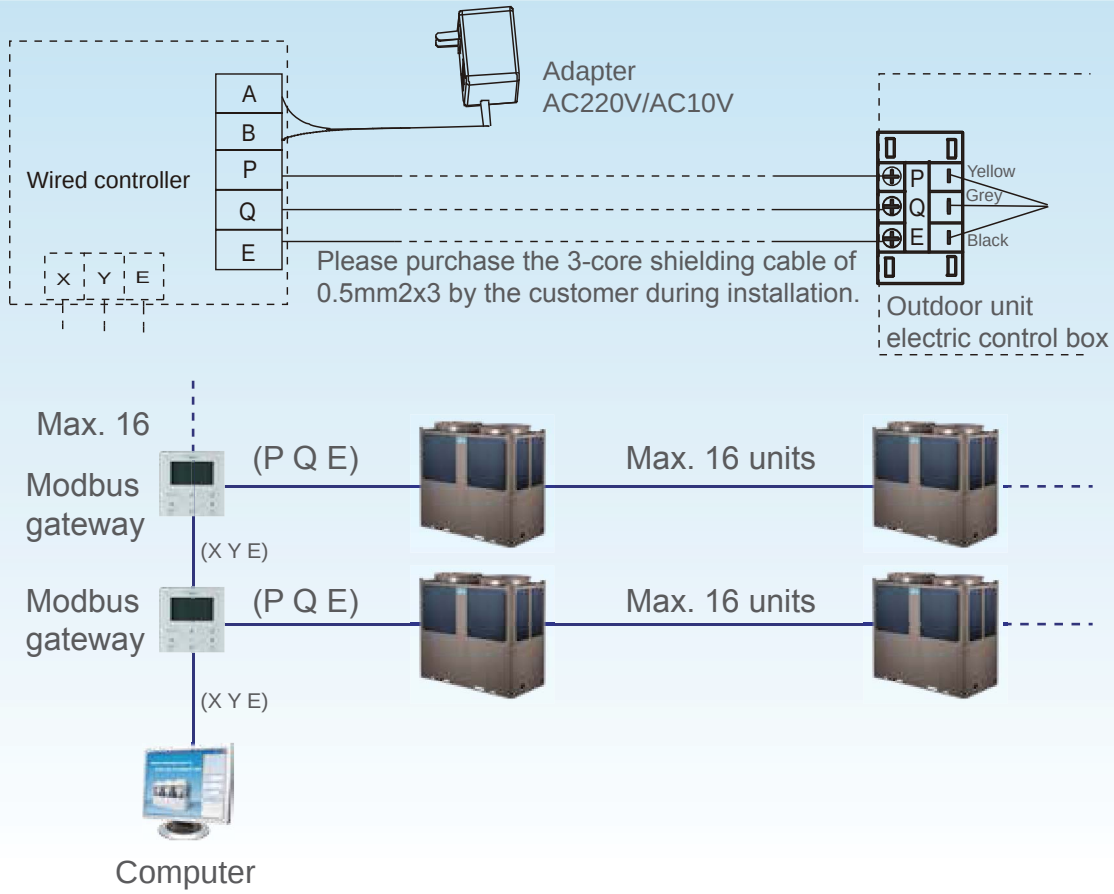


Connection 2



MODBUS gateway

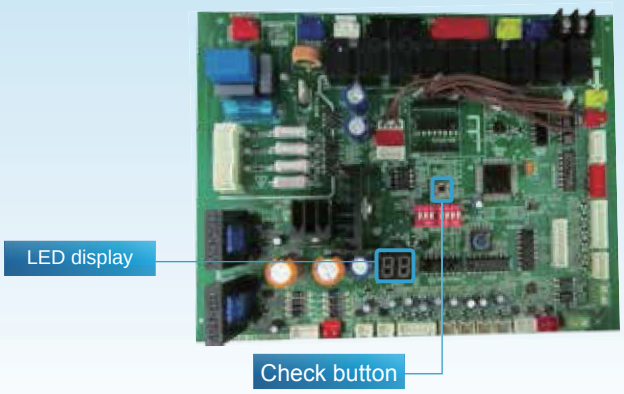
The Modbus gateway can be customized, it realizes intelligent network control by X Y E ports. It can connect max. 16 wired controllers, each wired controller can control max.16 PCBs.



Protection

The main board's LED shows all alarm and protection information. The chiller controller continually performs self-diagnostic checks; monitors the system's temperature, pressure and protection devices; it will automatically shut down faulty compressors, refrigerant circuits or the entire unit if a fault occurs.

- Users can press Check on the LED to display the system's operational status.
- The LED displays protection or error codes if either condition occurs.

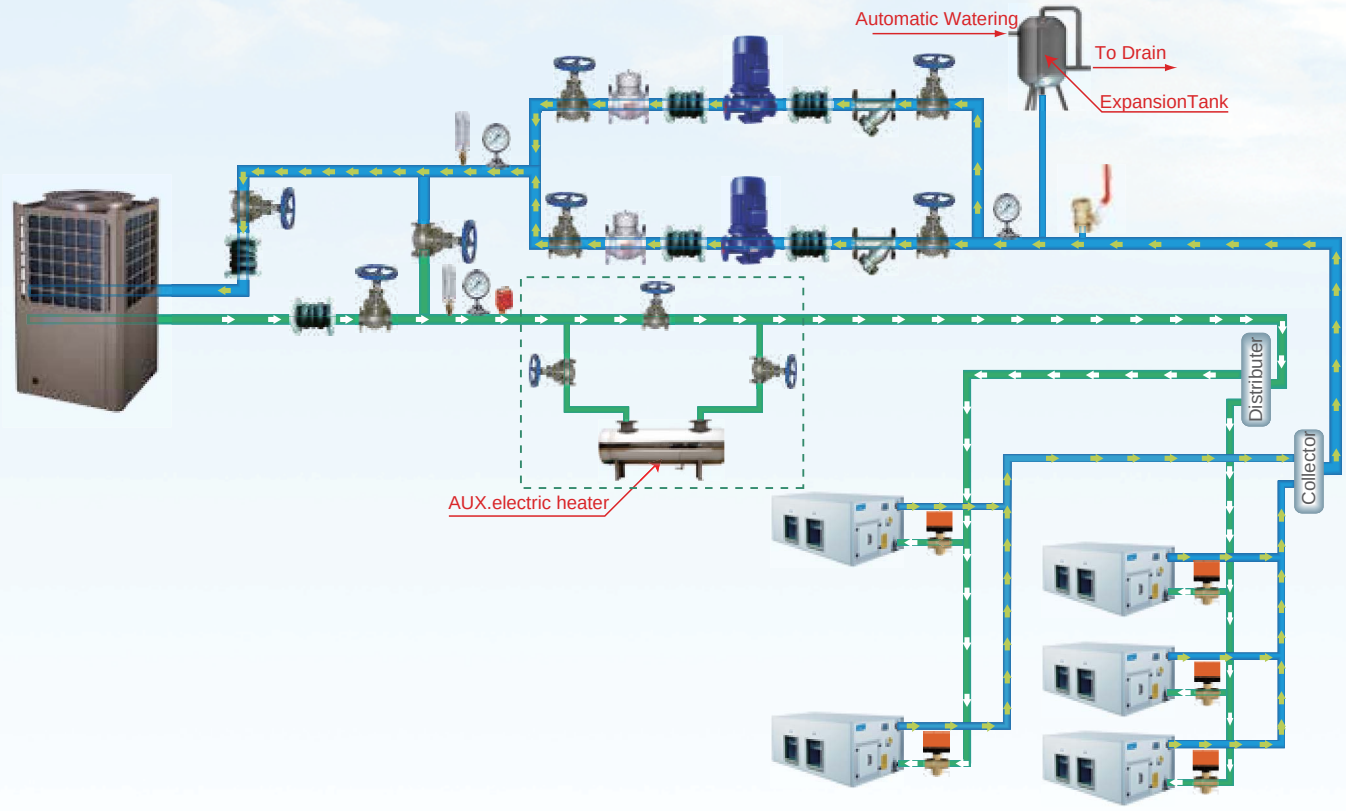


Compressor current protection

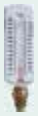
Phase protection

Typical piping

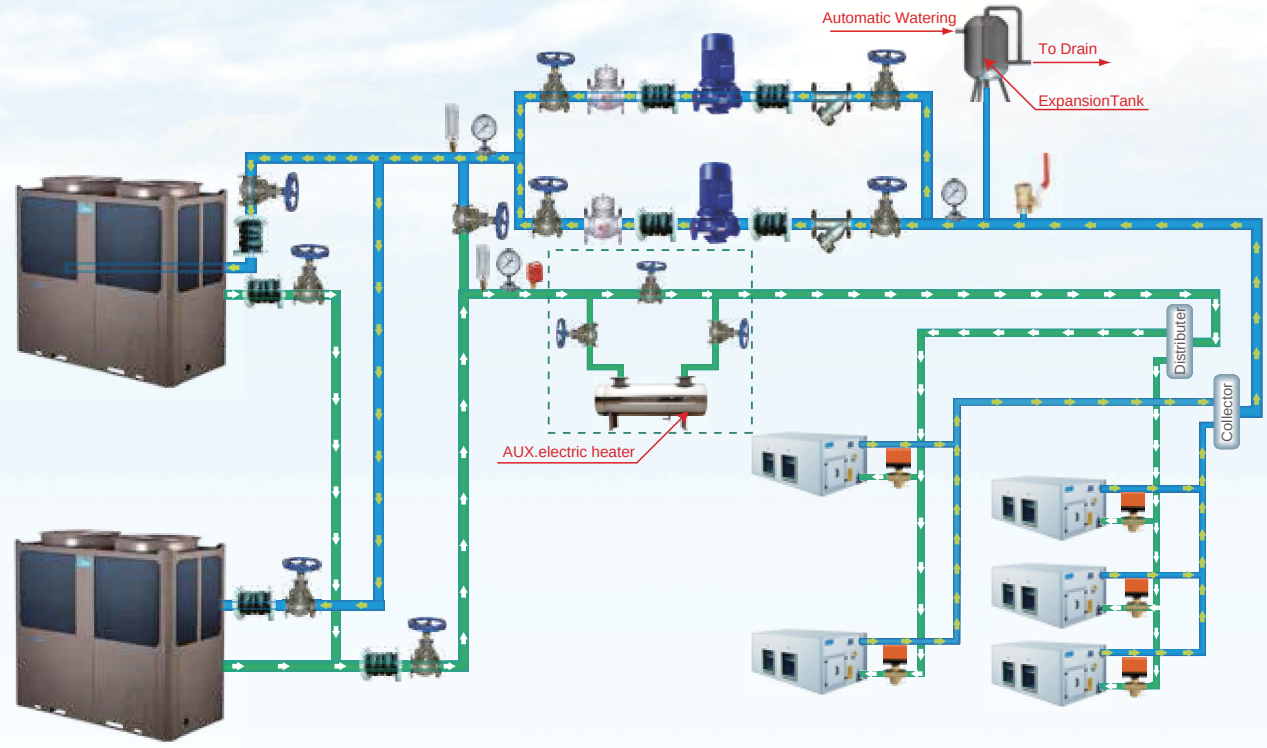
25kW module water pipeline sketch drawing



The table below describes the symbols.

Symbol	Symbol Explanation	Symbol	Symbol explanation
	Stop Valve		Y-Shaped Filter
	Pressure Gauge		Thermometer
	Water Flow Switch		Water Pump
	3-Way Valve		Check Valve
	Soft Joint		Air Vent

130kW module water pipeline sketch drawing



The table below describes the symbols.

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	Pressure Gauge		Thermometer
	Water Flow Switch		Water Pump
	3-Way Valve		Check Valve
	Soft Joint		Air Vent

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Note: The data in this book may be changed without notice for further improvement on quality and performance.

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