

Aqua Tempo Power Series



Product Lineup

Series	Power supply				
PS	380V/3N/50Hz	60kW	120kW	180kW	/
PS	220V/3N/60Hz	60kW	120kW	180kW	/
PS-LA	380V/3N/50Hz	/	/	/	200kW

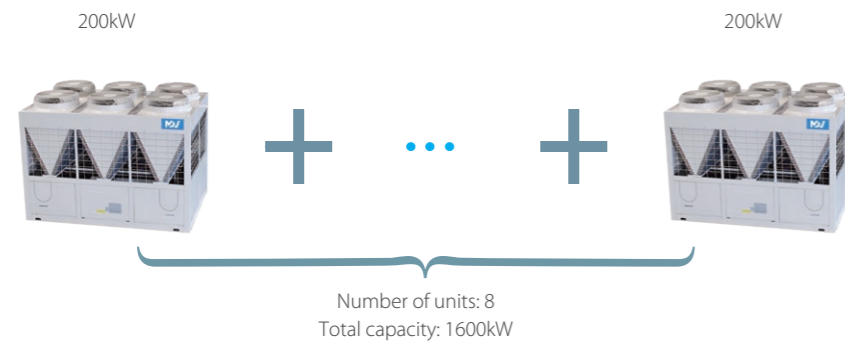
PS: Standard Power Series

PS-LA: Power Series with low ambient temperature cooling function

Features

Wide application range

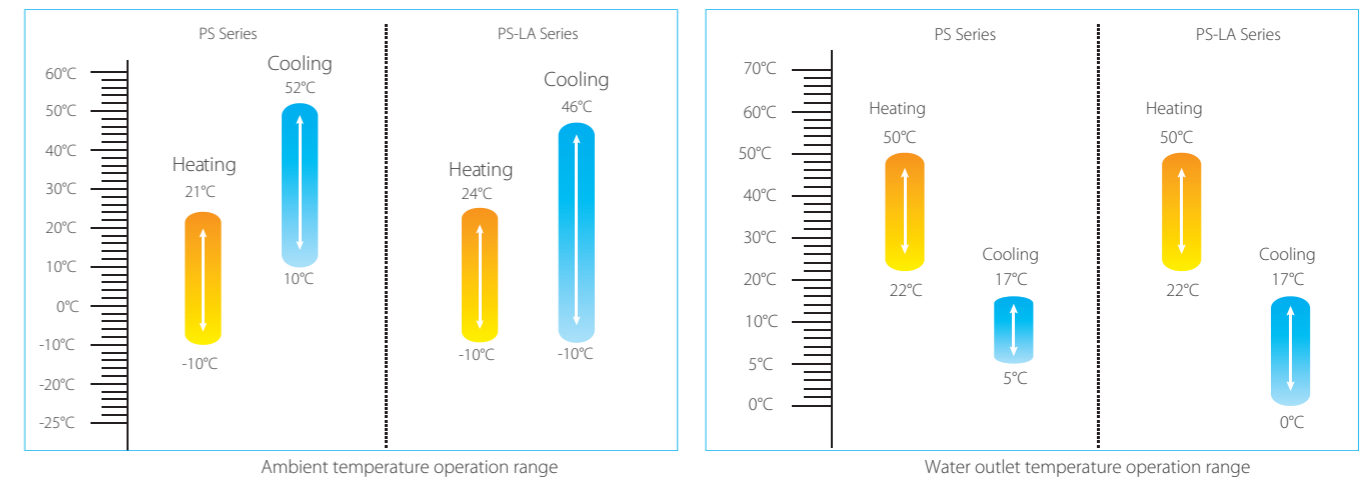
- Aqua Tempo Power Chillers with cooling capacity ranging from 60kW to 200kW, combination model's maximum capacity ups to 1600kW.



- Freely combine with fan coil units and air handling units. Project owners may choose the best types according to their design taste (for interior) or functional needs.



Wide ambient temperature and water outlet temperature operation ranges



Advanced technology

High performance heat exchanger

Enlarge heat-exchanging area



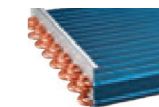
Fin

Enhance heat transfer



Inner-threaded pipe

High efficiency



Fin + inner-threaded pipes

Hydrophilic film fins and inner-threaded copper pipes optimize heat exchange efficiency. The specially coated blue fins enhance durability and protect against corrosion from air, water and other corrosive agents, assures a longer coil service life.

Heat exchanger aluminum foil

> Standard products:
200h of neutral salt mist

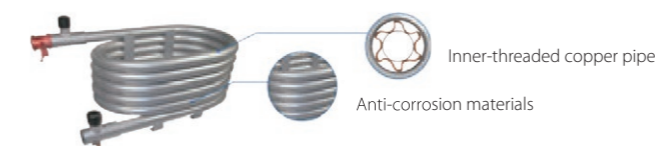
> Heavy anti-corrosion products:
1000h of neutral salt mist
140h of acid salt mis

Heat exchanger copper pipe

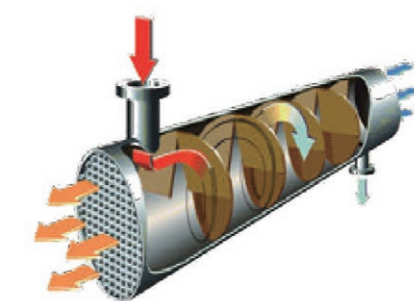
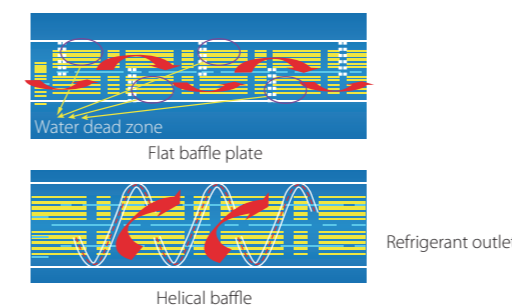
> Standard products:
24h of neutral salt mist

> Heavy anti-corrosion products:
150h of neutral salt mist

Tube-in-tube & shell-tube heat exchanger



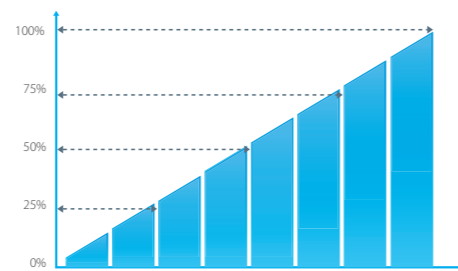
Inner grooved copper pipe, increase area of heat exchanger, improve efficient. Anti-corrosion shell increases the useful life of heat exchanger.



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.

• **EXV for more precise flow control**

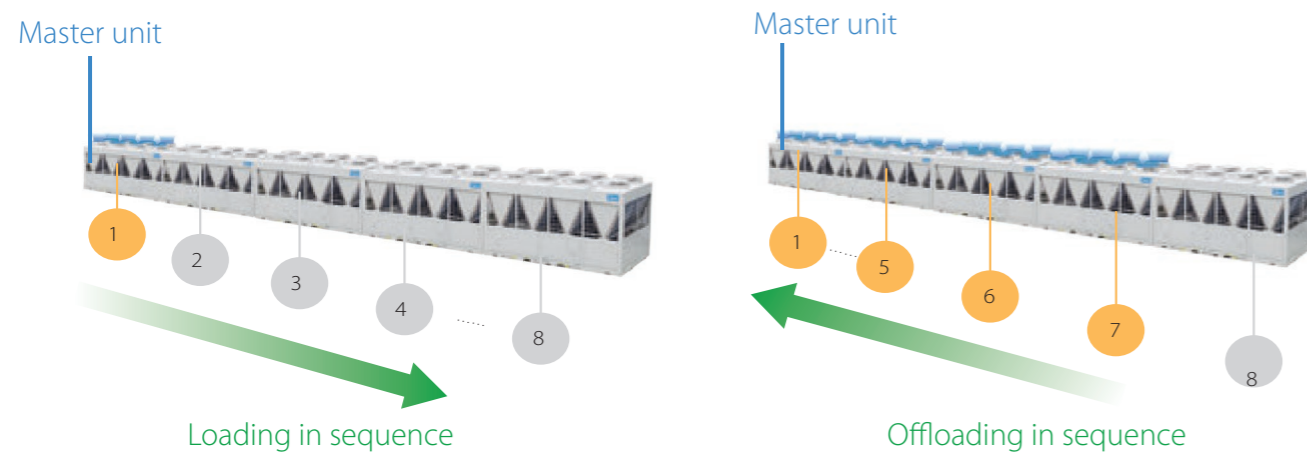
Patented liquid distribution components to maximize performance and minimize defrost impact. 500 steps EXV plus capillary for stable and accurate gas flow control. Fast response resulting in higher efficiency and improved reliability.



High reliability

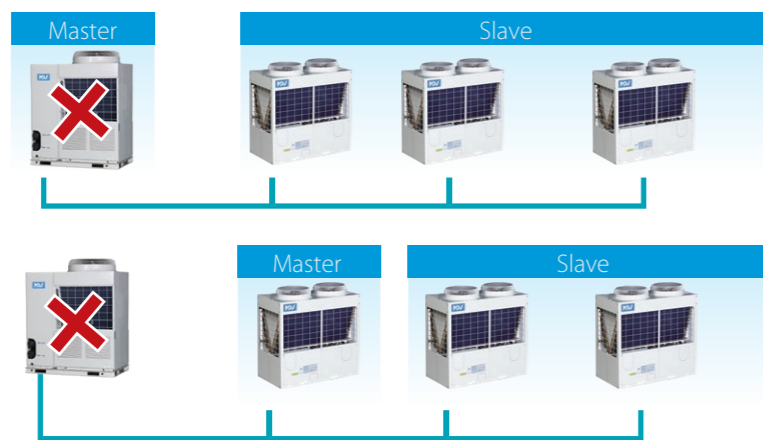
• **Alternative cycle duty operation**

In one combination module, 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.



• **Back-up functions**

In a combination system, if one module fails, other modules can be used as backup and continue the operation.



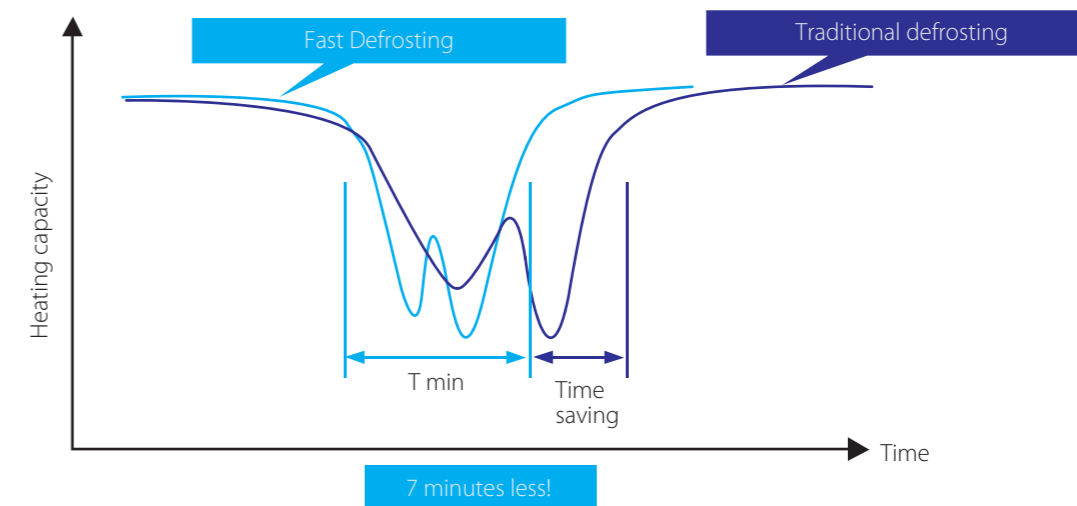
• **Reliable protections**

Multiple protections are adopted to ensure system stable running.

High/low pressure protection of compressor	Power phases sequence protection	Evaporator low temperature protection in cooling	System anti-freezing protection in winter	Frequent compressor ON/OFF protection
Over-current protection of compressor	Air discharge temperature protection of compressor	System high temperature protection	Water flow protection	Sensor malfunction protection

• **Intelligent defrosting technology**

Model alternative defrosting technology ensures little fluctuation on water temperature. Manual defrosting program is available for service purpose.

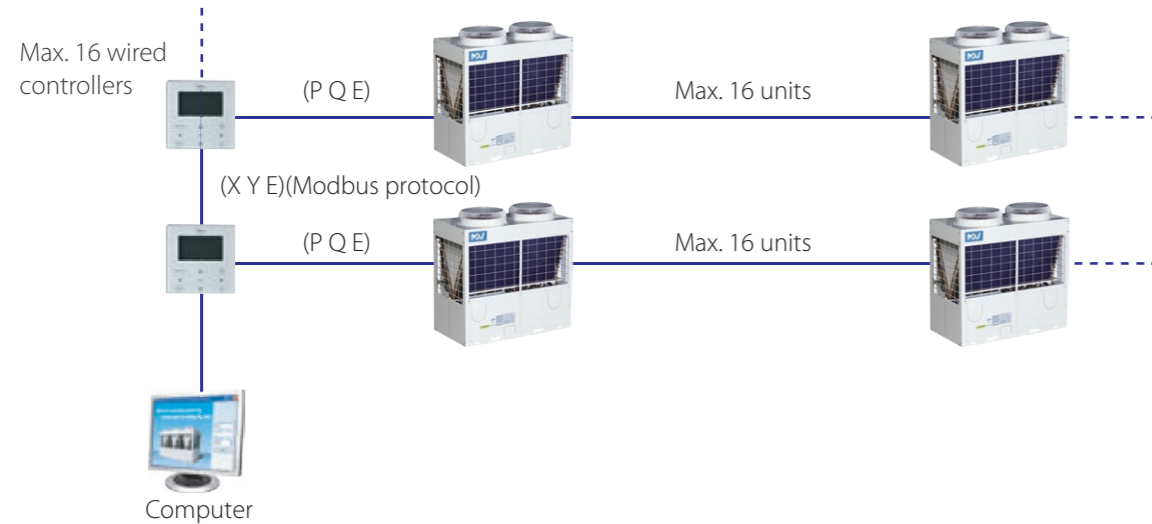


Easy control

Model	KJRM-120D/BMK-E(standard)	KJR-120A/MBTE(optional)
Appearance		
Main Functions	Touch key operation Parameter setting and LCD display Real time clock control. Multiple timer Power-off memory function Modbus(Customized) Address setting Parallel function	Mechanical button Parameter setting and LCD display Real time clock control. Multiple timer Power-off memory function Address setting Parallel function Weekly timing function
Max. connection PCBs	16	16

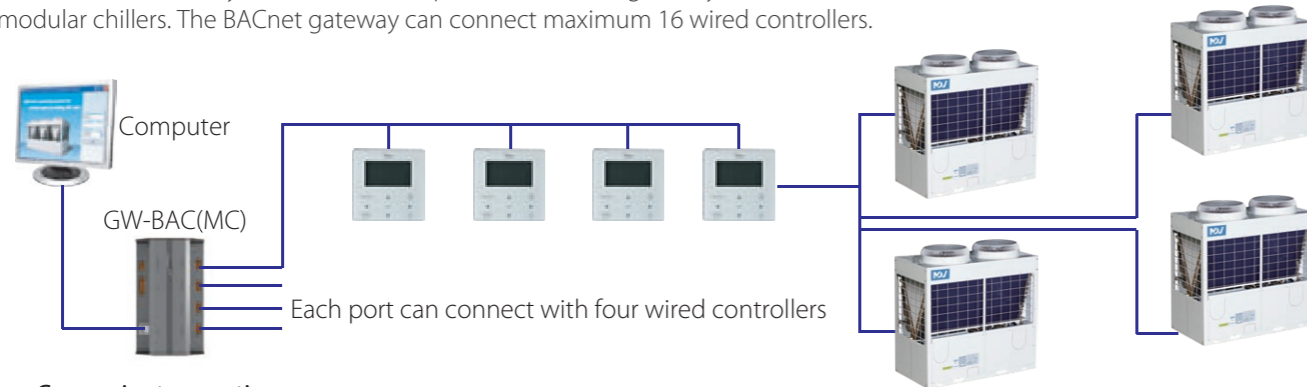
• **Modbus function**

Modbus is an open protocol that is widely used, especially in BMS building control systems. Modbus function can be customized by adding X, Y, E ports on wired controller KJRM-120D/BMK-E. It can connect Max. 16 wired controllers and each controller can control Max. 16 units.



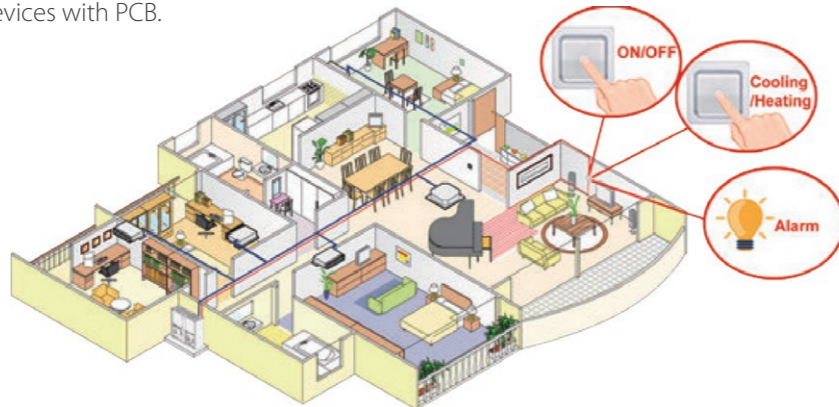
• **Bacnet gateway**

The modular chiller system can be composed of BACnet gateways GW-BAC(MC), wired controller KJRM-120D/BMK-E and modular chillers. The BACnet gateway can connect maximum 16 wired controllers.



• **Convenient operation**

Remote on/off function, remote heating/cooling function and alarm function can be easily realized by connecting switches or light/sound devices with PCB.



- Note:
1. When use remote function, KJRM-120D/BMK-E should not be connected to the unit and water setting temperature is default. If water temperature setting is needed, KJR-120A/MBTE wired controller can be used to connect to the unit.
 2. Remote on/off function, remote heating/cooling function are standard for MGBT-F250W/RN1, MDVM-200BR1-P, MDVM-250BR1-P models while they are customized for other models.
 3. Alarm function are customized for all models. Please note that once the alarm function is customized, the backup heater(field supplied) for enhancing heating capacity can not be controlled by modular chiller.

Specifications

PS-LA series

Model		MDVM-200BR1-P	
Power supply	V/Ph/Hz	380-415/3/50	
Cooling ¹	Capacity	kW	185
	Input	kW	63.0
	EER	2.94	
Heating ²	Capacity	kW	200
	Input	kW	61.0
	COP	3.28	
Compressor	Type	Fixed Scroll	
	Quantity	Pieces	6
Air side heat exchanger	Type	Fin-coil	
	Fan motor type	AC Motor	
	Quantity of fan motor	Pieces	6
Water side heat exchanger	Type	Shell-tube	
Refrigerant	Type	R410A	
	Charged volume	kg	42.0
Throttle type	EXV		
Sound pressure level ³	dB(A)	74	
Unit net dimension(DxHxW)	mm	2,850x2,110x2,000	
Packing dimension(DxHxW)	mm	2,980x2,260x2,135	
Net/ Gross weight	kg	1730/1870	
Water piping connection	mm	DN80	
Maximum combinations	8		
Ambient temperature range	Cooling	°C	-10~46
	Heating	°C	-10~24
LWT setting range	Cooling	°C	5~17
	Heating	°C	40~50
LWT setting range ⁴	Cooling	°C	0~17
	Heating	°C	22~50

- Notes:
1. Water inlet/outlet temperature: 12/7°C; Outdoor ambient temperature 35°C DB.
 2. Water inlet/outlet temperature: 40/45°C; Outdoor ambient temperature 7°C DB/6°C WB.
 3. 1m away in open field.
 4. The data is for low water outlet temperature function. Under the using condition of this function, the system must be added antifreeze agent.

50Hz PS series

Model			MDVM-60BR1-PT	MDVM-120BR1-PT	MDVM-180BR1-PT
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50
Cooling ¹	Capacity	kW	60	120	180
	Input	kW	19.3	38.5	57.9
	EER			3.11	3.12
Cooling ²	Capacity	kW	52	104	156
	Input	kW	22.1	43.0	64.5
	EER			2.35	2.42
Heating ³	Capacity	kW	64	128	195
	Input	kW	19.8	41.5	59.4
	COP			3.23	3.08
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	2	4	6
Air side heat exchanger	Type		Finned tube	Finned tube	Finned tube
	Fan motor type		AC Motor	AC Motor	AC Motor
	Quality of fan motor	Pieces	2	4	6
Water side heat exchanger	Type		Shell-tube	Shell-tube	Shell-tube
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	kg	12.0	26.0	39.0
Throttle type			EXV	EXV	EXV
Sound pressurer level ⁴		dB(A)	67	70	74
Unit net dimension(DxHxW)		mm	2,000x1,880x900	2,000x2,090x1,685	2,850x2,110x2,000
Packing dimension(DxHxW)		mm	2,090x2,095x985	2,080x2,240x1,755	2,980x2,260x2,135
Net/ Gross weight		kg	580/650	1,090/1,270	1,730/2,000
Water piping connection		mm	DN100	DN65	DN80
Maximum combinations			16	8	5
Ambient temperature range	Cooling	°C	10~52	10~52	10~52
	Heating	°C	-10~21	-10~21	-10~21
LWT setting range	Cooling	°C	5~17	5~17	5~17
	Heating	°C	45~50	45~50	45~50
LWT setting range ⁵	Cooling	°C	5~17	5~17	5~17
	Heating	°C	22~50(customized)	22~50(customized)	22~50(customized)

- Notes:
1. Water inlet/outlet: 12°C/ 7°C; Outdoor ambient temp. of 35°C DB.
 2. Water inlet/outlet: 12°C / 7°C; Outdoor ambient temp. of 46°C DB.
 3. Water inlet/outlet: 40°C/ 45°C; Outdoor ambient temp. 7°C DB/6°C WB.
 4. 1m away in open field.
 5. The data is for low water outlet temperature function. Under the using condition of this function, the system must be added antifreeze agent.

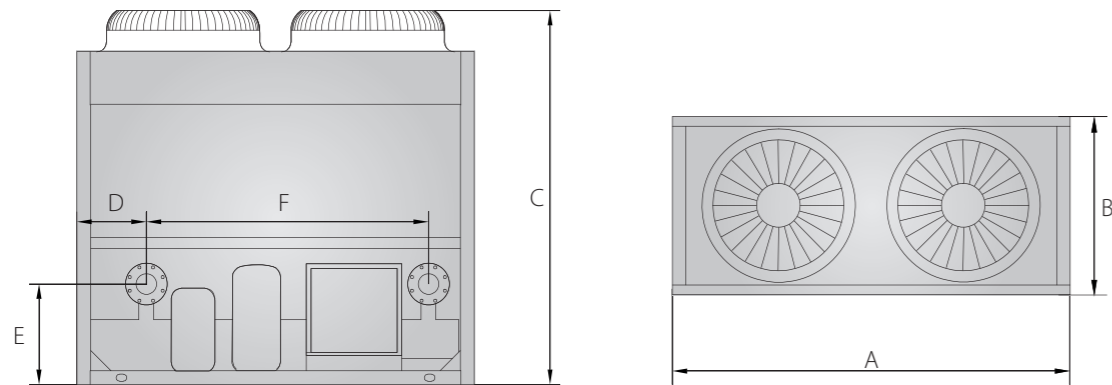
60Hz PS series

Model			MDVM-60GR1-PT	MDVM-120GR1-PT	MDVM-180GR1-PT
Power supply		V/Ph/Hz	220/3/60	220/3/60	220/3/60
Cooling1	Capacity	kW	60	120	180
	Input	kW	19.5	39.0	58.5
	EER			3.08	3.08
Cooling2	Capacity	kW	52	104	156
	Input	kW	22.1	43.0	64.5
	EER			2.35	2.42
Heating3	Capacity	kW	65	130	195
	Input	kW	20.0	40.0	60.0
	COP			3.25	3.25
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	2	4	6
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor
	Quality of fan motor	Pieces	2	4	6
Water side heat exchanger	Type		Shell-tube	Shell-tube	Shell-tube
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	kg	13	26	42
Throttle type			EXV	EXV	EXV
Sound pressurer level ⁴		dB(A)	67	70	74
Unit net dimension(DxHxW)		mm	2,000x1,880x900	2,000x2,080x1,685	2,850x2,110x2,000
Packing dimension(DxHxW)		mm	2,090x2,055x985	2,080x2,240x1,755	2,980x2,260x2,135
Net/ Gross weight		kg	580/650	1,180/1,300	1730/2,000
Pipe connections		mm	DN100	DN65	DN80
Maximum combinations			16	8	5
Ambient temperature range	Cooling	°C	10~52	10~52	10~52
	Heating	°C	-10~21	-10~21	-10~21
LWT setting range	Cooling	°C	5~17	5~17	5~17
	Heating	°C	45~50	45~50	45~50
LWT setting range ⁵	Cooling	°C	5~17	5~17	5~17
	Heating	°C	22~50(customized)	22~50(customized)	22~50(customized)

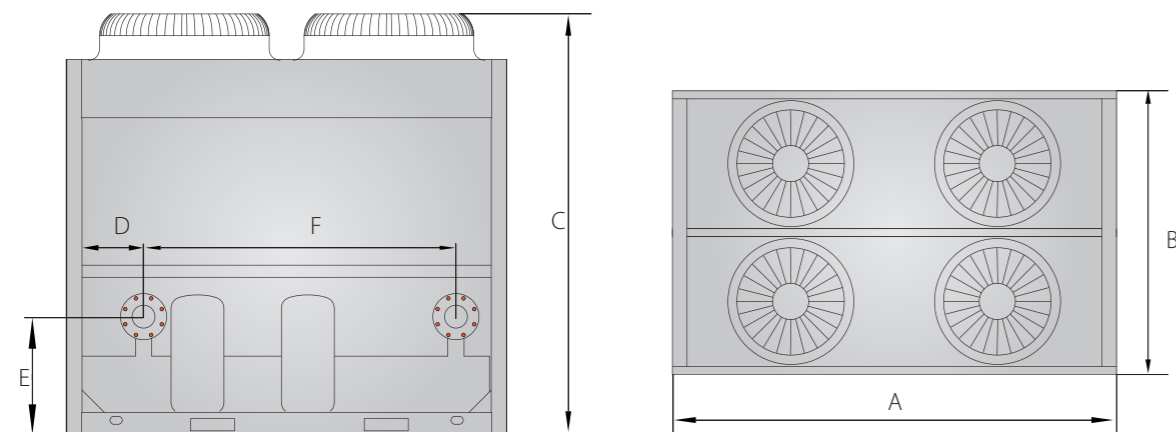
- Notes:
1. Water inlet/outlet: 12°C/ 7°C; Outdoor ambient temp. of 35°C DB.
 2. Water inlet/outlet: 12°C / 7°C; Outdoor ambient temp. of 46°C DB.
 3. Water inlet/outlet: 40°C/ 45°C; Outdoor ambient temp. 7°C DB/6°C WB.
 4. 1m away in open field.
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Dimensions (Unit:mm)

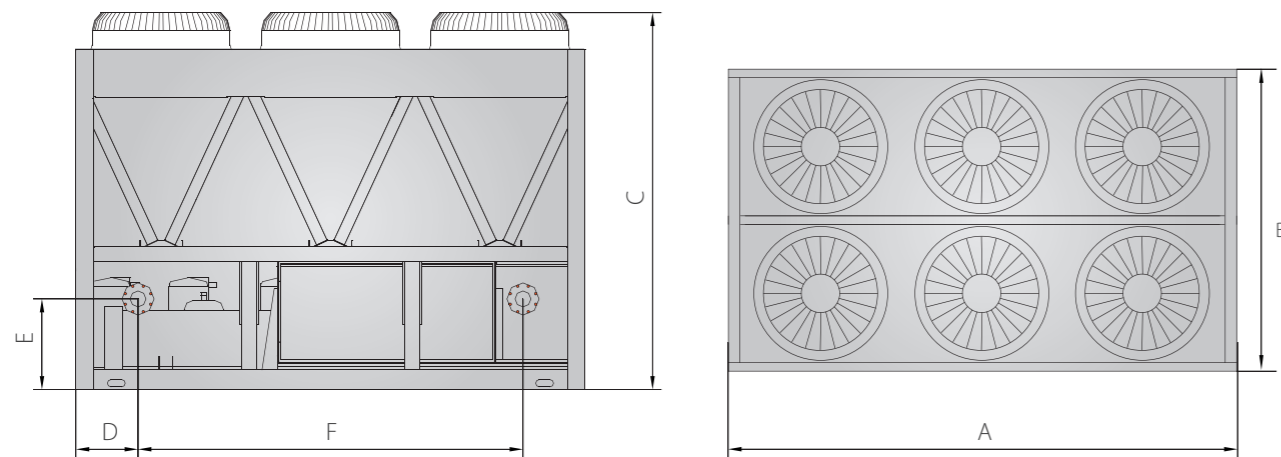
60kW module



120kW module



180/200kW module



Model	A	B	C	D	E	F
MDVM-60BR1-PT MDVM-60GR1-PT	2000	900	1880	350	506	1420
MDVM-120BR1-PT MDVM-120GR1-PT	2000	1685	2080	350	506	1420
MDVM-180BR1-PT MDVM-180GR1-PT	2850	2000	2110	347	506	2156
MDVM-200BR1-P	2850	2000	2110	347	506	2156