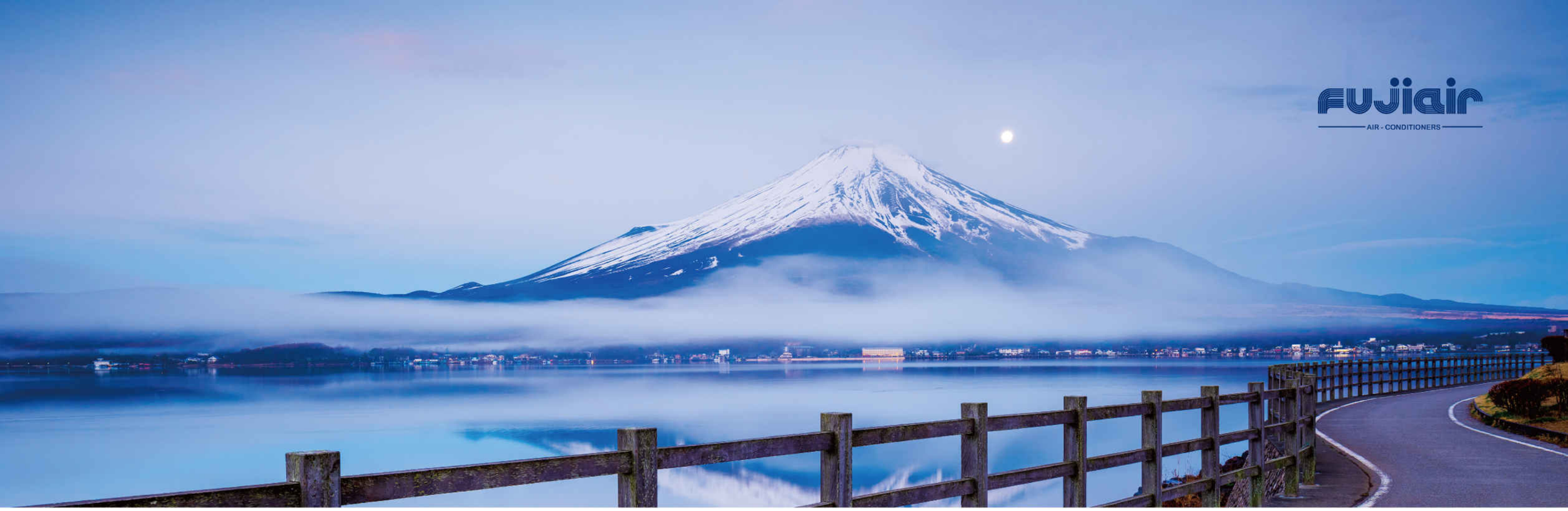
FUJIAIR

AIR - CONDITIONERS

Mini Type
Air Cooled Water Chiller



Mini Chiller (Inverter Type)

FUJIAIR DC Inverter Air-cooled Mini Chiller has unitary structure design and hydraulic module is built in the outdoor unit. It is air-cooled water heat pump chiller so there is no need of cooling water tower at the condensing side.
DC inverter Mini chillers' cooling capacity range is from 5kW to 18kW and it can freely combine with fan coil units and floor heating. These units are designed for residential applications or light commercial applications that require cold or hot water. They are silent and compact units, easy to install and maintain. All units' energy efficiency at part load is A^+ rated. Their high energy efficiency and high reliability ensure low running cost. So they are widely applied in apartments, villas, small business office buildings as well as restaurants, etc.

Mini Chiller (Fixed Type)

FUJIAIR Mini Chillers adopt unitary structure design. Hydraulic module is built in the outdoor unit. They are air-cooled water heat pump chiller, no need cooling water tower at the condensing side. Fixed Type Mini chillers' capacity range is from 5kW to 16kW and they can freely combine with fan coil units.
These units are designed for residential applications or light commercial applications that require cold or hot water. They are compact units equipped with axial fans, easy to install and maintain. So they are widely applied in small business office building, apartments, villas, as well as restaurants, etc.

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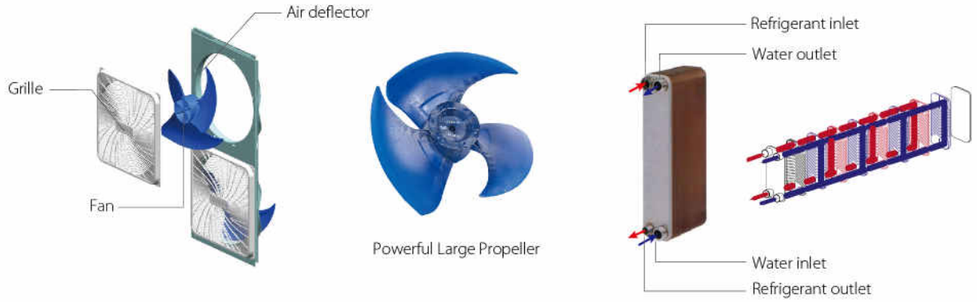
Features

Advanced technology

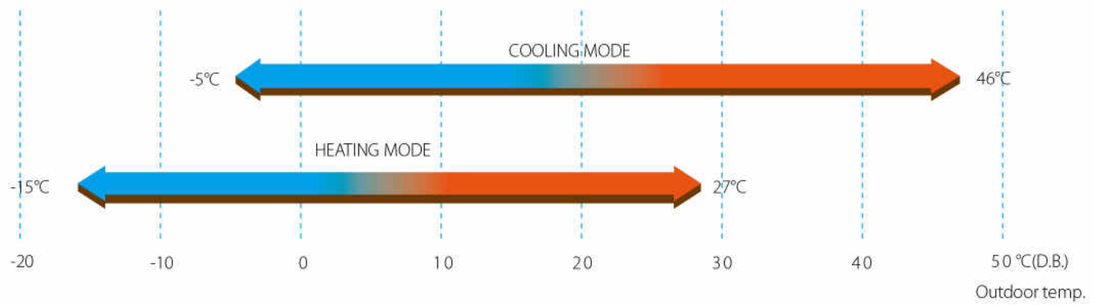
DC inverter technology, optimally designed fan shape and air discharge grille ensure low sound values.



- EXV is used for stable and accurate gas flow control.
- High efficiency plate heat exchanger
  Plate heat exchanger uses metal plates to transfer heat between refrigerant and water. The fluids are exposed to a much larger surface area because the fluids spread out over the plates, so both heat transfer efficiency and heat exchanger speed are greatly improved.
  Multi protections including voltage protection, current protection, anti-freezing protection and water flow protection ensure system safety running.
- High efficiency water pump
  The water pump used is compliance with Erp directive, which is A degrade efficiency standard.

Wide application range

- Nine models with cooling capacities from 5kW to 18kW and heating capacities from 5.5kW to 18.5kW.
  Multiple power supply options.
- Freely combine with fan coil units and floor coils. Home owners may choose the best types according to their design taste (for interior) or functional needs.
- Wide operation temperature range

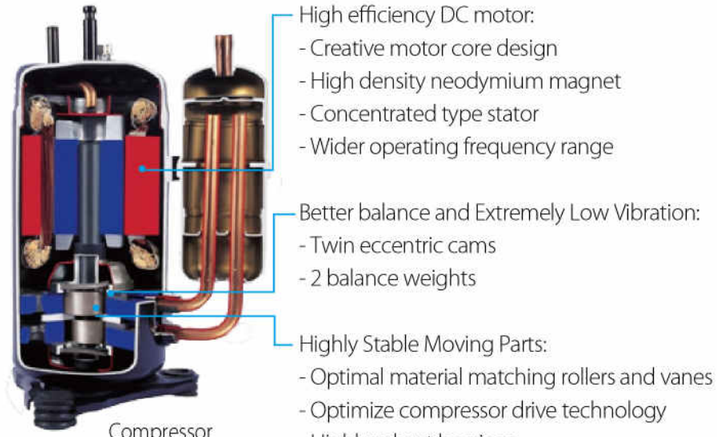


- Wide range of outlet water temperature The water outlet temperature is 4-55°C.

A⁺ rated energy efficiency at part load

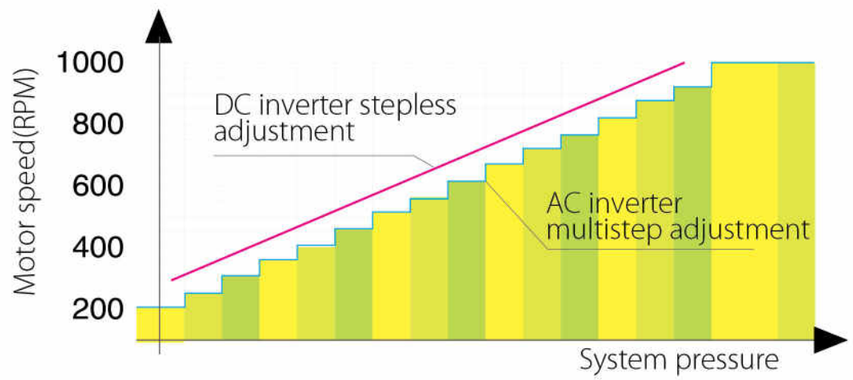
The DC inverter chiller integrates the latest technological innovations and ensures precise temperature regulation and highly efficient energy usage, making a significant contribution to the limiting the impact on the environment.

- DC inverter compressor
  Twin rotary DC inverter compressor is used. The output of the outdoor unit can be adjusted precisely according to the energy demanded.

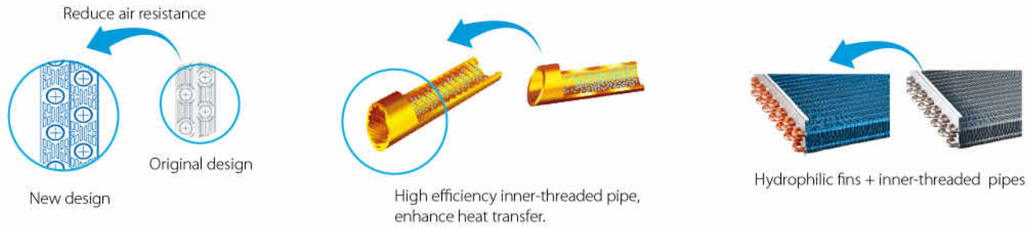


Compressor
(Twin Rotary) structure

- DC fan motor
  High efficiency DC fan motor saved power up to 50%.



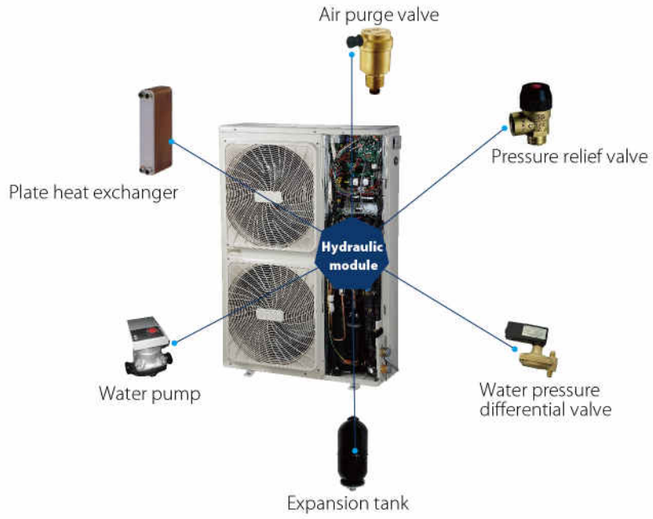
❖ High performance heat exchanger



The new designed window fins enlarge the heat-exchanging area, decrease the air resistance, save more power and enhance heat exchange performance.
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.

Easy installation

- ❖ Compact structure design and leak-tight refrigerant circuit save you much installation labor.
- ❖ The chillers are equipped with a hydronic module integrated into the unit chassis, limiting the installation to straight-forward operations like connection of the power supply, the water supply and the air distribution FCUs.
- ❖ The units are equipped with axial fans so they can be installed directly outdoors.



Easy control

- ❖ Remote ON/OFF and remote cool/heat functions.
- ❖ Controller built-in in unit panel used to perform all related operations as the user interface as well as fast diagnosis of possible incidents and their history.

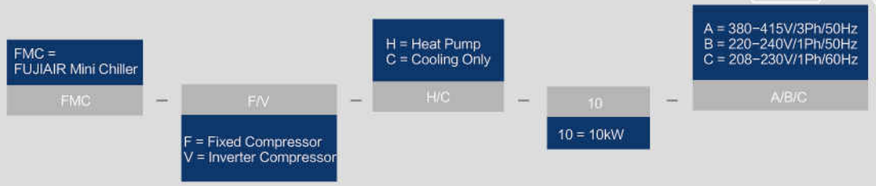
- ON/OFF & Mode selection
- Temperature adjust
- Timer setting
- Fast diagnosis

❖ Optional wired controller for easy operation.

- Touch key operation
- LCD displays operation parameters
- Multiple timers
- Real-time clock

Note: When the wired controller is connected, the built-in controller is only for display, check and diagnosis functions.

Nomenclature



Specifications

220-240V/1Ph/50Hz

Model			FMC-VH5B	FMC-VH7B	FMC-VH10B	FMC-VH12B
Power supply		V/Ph/Hz	220-240/1/50			
Cooling[1]	Capacity	kW	5.0(1.9-5.8)	7.0(2.1-7.8)	10.0(2.9-10.5)	11.2(3.1-12.0)
	Rated input	kW	1.55	2.26	3.03	3.50
	Rated current	A	6.8	9.9	13.0	15.4
	EER		3.23	3.10	3.30	3.20
	SEER		4.22	3.76	3.89	4.09
Cooling[2]	Capacity	kW	5.6	8.0	10.6	12.2
	Rated current	kW	11.5	18.5	23.0	26.5
	EER		4.87	4.32	4.24	4.60
Heating[3]	Capacity	kW	6.2(2.1-7.0)	8.0(2.3-9.0)	11.0(3.2-12.0)	12.3(3.3-13.2)
	Rated input	kW	1.90	2.54	3.24	3.78
	Rated current	A	8.3	11.0	13.8	16.6
	COP		3.26	3.15	3.4	3.25
Heating[4]	Capacity	kW	6.2	8.6	11.5	13.0
	Rated current	kW	1.35	2.10	2.65	2.92
	COP		4.60	4.10	4.34	4.45
	SCOP		3.55	3.46	3.34	3.46
Seasonal space heating energy efficiency (ηs)			138.9%	135.3%	130.7%	135.4%
Seasonal space heating energy efficiency class			A+	A+	A+	A+
Max. input current		A	11.4	13.7	25	19.1
Compressor	Type		Rotary			
Outdoor fan	Motor type		DC Motor			
	Air flow	m³/h	5,100	5,100	7,000	7,000
Air heat exchanger	Type		Fin-coil			
Water heat exchanger	Type		Plate heat exchanger			
	Water volume	L	0.53	0.53	0.7	0.78
	Water flow	m³/h	0.86	1.20	1.72	1.92
	Water pressure drop	kPa	15	15	18	18
Water pump	Pump head	m	5.5	5.5	8.5	8.5
	Water volume	L/min	4	4	4	4
Expansion tank volume		L	2	2	3	3
Refrigerant	Type		R410A			
	Charged volume	kg	2.5	2.5	2.8	2.8
Throttle type			Electronic expansion valve			
Sound power level		dB(A)	63	66	68	68
Sound pressure level[5]		dB(A)	58	58	59	59
Unit net dimension (WxHxD)		mm	990x966x354	990x966x354	970x1,327x400	970x1,327x400
Packing dimension (WxHxD)		mm	1,120x1,100x435	1,120x1,100x435	1,082x1,456x435	1,082x1,456x435
Net/ Gross weight		kg	81/91	81/91	110/121	110/121
The Max. and Min. wate rinlet pressure[6]		kPa	500/150			
Pipe connections	Water inlet/outlet	inch	1"	1"	1-1/4"	1-1/4"
Controller			Electronic controller (standard), wired controller (optional)			
Ambient temperature range	Cooling	℃	-5-46			
	Heating	℃	-15-27			
Water outlet temperature range	Cooling	℃	4-20			
	Heating	℃	30-55			

380-415V/3Ph/50Hz

Model			FMC-VH12A	FMC-VH14A	FMC-VH16A
Power supply		V/Ph/Hz	380-415/ 3/50		
Cooling[1]	Capacity	kW	11.2(3.1-12.0)	12.5(3.3-14.0)	14.5(3.5-15.5)
	Rated input	kW	3.38	3.91	4.68
	Rated current	A	5.5	6.4	7.7
	EER		3.31	3.20	3.10
	SEER		4.16	4.27	4.38
Cooling[2]	Capacity	kW	12.2	14.2	15.6
	Rated input	W	2.60	3.10	3.60
	EER		4.70	4.58	4.33
Heating[3]	Capacity	kW	12.3(3.3-13.2)	13.8(3.5-15.4)	16.0(3.7-17.0)
	Rated input	kW	3.72	4.25	4.85
	Rated current	A	6.1	7.0	8.0
	COP		3.31	3.25	3.30
Heating[4]	Capacity	kW	13.0	15.1	16.5
	Rated input	kW	2850	3350	3920
	COP		4.56	4.51	4.21
	SCOP		3.66	3.78	3.39
Seasonal space heating energy efficiency (ηs)			143.5%	148.3%	132.6%
Seasonal space heating energy efficiency class			A+	A+	A+
Max. input current		A	8.9	9.6	10.1
Compressor	Type		Rotary		
Outdoor fan	Motor type		DC motor		
	Air flow	m³/h	7,000	7,000	7,000
Air heat exchanger	Type		Fin-coil		
Water heat exchanger	Type		Plate		
	Water volume	L	0.78	0.78	1.06
	Water flow	m³/h	1.92	2.15	2.49
	Water pressure drop	kPa	18	18	19
Water pump	Pump head	m	8.5	8.5	8.5
	Water volume	L/min	4	4	4
Expansion tank volume		L	3	3	3
Refrigerant	Type		R410A		
	Charged volume	kg	2.8	2.9	3.2
Throttle type			Electronic expansion valve		
Sound power level		dB(A)	68	70	72
Sound pressure level[5]		dB(A)	62	62	62
Unit net dimension (WxHxD)		mm	970x1,327x400		
Packing dimension (WxHxD)		mm	1,082x1,456x435		
Net/ Gross weight		kg	110/121	111/122	111/122
The Max. and Min. water inlet pressure[6]		kPa	500/150		
Pipe connections	Water inlet/outlet	inch	1-1/4"		
Controller			Electronic controller (standard), wired controller (optional)		
Ambient temperature range	Cooling	℃	-5-46		
	Heating	℃	-15-27		
Water outlet temperature range	Cooling	℃	4-20		
	Heating	℃	30-55		

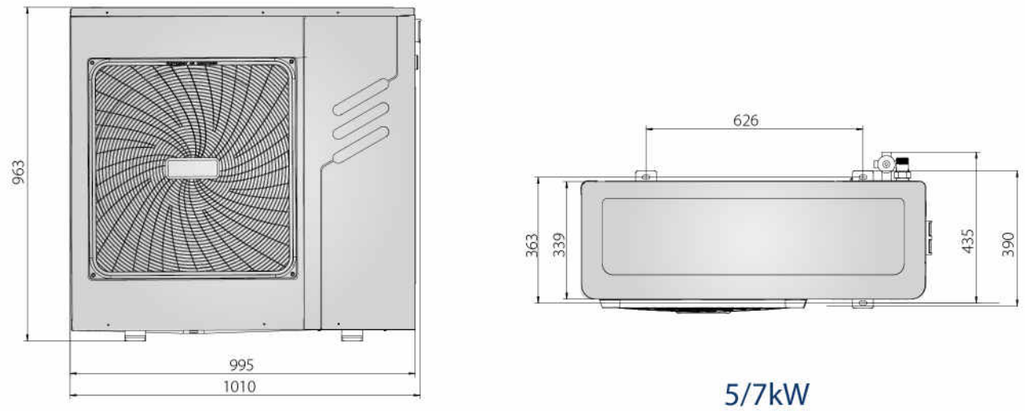
Nominal capacity is based on the following conditions:
1. Condenser air in 35℃. Evaporator water in/out 12/7℃
2. Condenser air in 35℃. Evaporator water in/out23/18℃
3. Evaporator air in 7℃ ℃85% R.H., Condenser water in/out 40/45℃
4. Evaporator air in 7℃ ℃85% R.H., Condenser water in/out 30/35℃
5. At 1m in open field fan side (sound pressure)
6. The maximum and minimum operating pressure values refer to the activation of the pressure switches
7. The above data test reference standard EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU)No:811:2013; (EU)No:813:2013; OJ 2014/C 207/02:2014

Dimensions (mm)

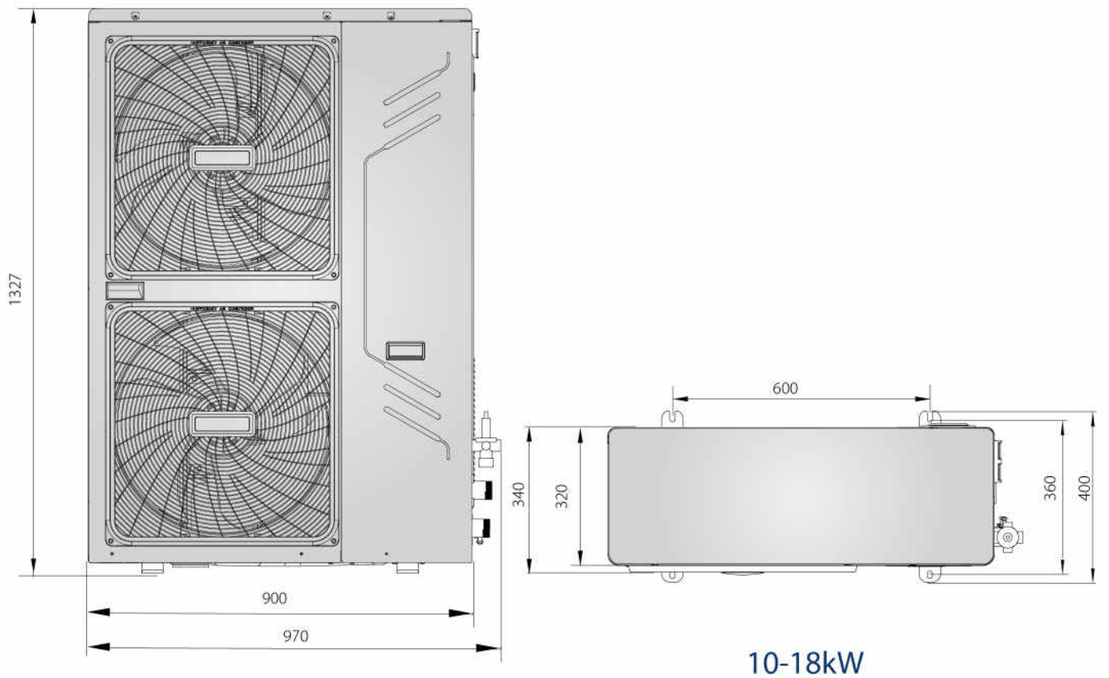
208-230V/1Ph/60Hz

Model			FMC-VH10C	FMC-VH18C
Power supply		V/Ph/Hz	208-230/1/60	
Cooling	Capacity	kBtu/h	36.0(10.0-37.0)	58.0(13.0-62.0)
		kW	10.0(2.9-10.5)	17.0(3.8-18.0)
	Input	kW	3.11	5.60
	EER		3.39	3.10
Heating	Capacity	kBtu/h	38.0(11.0 -41.0)	63.0(14.0-65.0)
		kW	11.0(3.2-12.0)	18.5(4.0-19.0)
	Input	kW	3.14	5.78
	COP		3.50	3.20
Max input current		A	8.9	9.6
Compressor	Type		Rotary	
Outdoor fan	Motor type		DC motor	
	Air flow	CFM(m^3/h)	4,120(7,000)	4,120(7,000)
Air heat exchanger	Type		Fin-coil	
Water heat exchanger	Type		Plate	
	Water volume	L	0.7	1.06
	Water flow	CFM(m^3/h)	1.01(1.72)	1.72(2.92)
	Water pressure drop	kPa	18	23
Water pump	Pump head	m	8	8
	Water volume	L/min	4	4
Expansion tank volume		L	3	3
Refrigerant	Type		R410A	
	Charged volume	lbs/kg	6.2/2.8	7.5/3.4
Throttle type			Electronic expansion valve	
Sound pressure level[3]		dB(A)	56	60
Unit net dimension (WxHxD)		inch	38-3/16x52-1/4x31-1/2	
		mm	970x1,327x400	
Packing dimension (WxHxD)		inch	42-19/32x57-21/64x17-1/8	
		mm	1,082x1,456x435	
Net/ Gross weight		lbs	243/267	247/271
		kg	110/121	112/123
The Max and Min. wate rinlet pressure[4]		kPa	500/150	
Pipe connections	Water inlet/outlet	inch	1-1/4"	
Controller			Electronic controller (standard), wired controller (optional)	
Ambient temperature range	Cooling	℃	-5-46	
	Heating	℃	-15-27	
Water outlet temperature range	Cooling	℃	4-20	
	Heating	℃	30-55	

1. Cooling: Chilled water inlet/outlet temperature: 12/7℃,outdoor ambient temperature 35℃ DB.
2. Heating: Warm water inlet/outlet temperature: 40/45℃,outdoor ambient temperature 7℃ DB/6℃ WB .
3. At 1m in open field fan side (sound pressure)
4. The maximum and minimum operating pressure values refer to the activation of the pressure switches



5/7kW

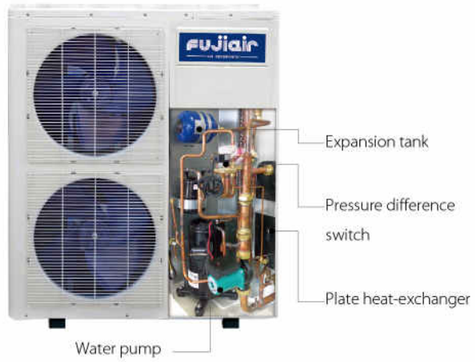


10-18kW

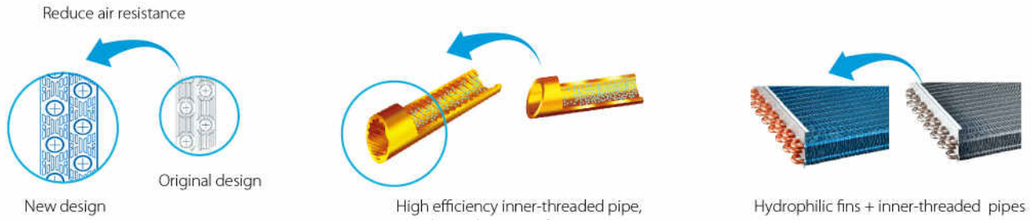
Features (Fixed Type)

Easy installation

Compact structure design saves you much installation space.
Air Cooled Mini Chillers are equipped with axial fans that can be installed directly outdoors.
Hydronic module is built-in the outdoor unit, which is including water pump, expansion tank and plate heat-exchanger.



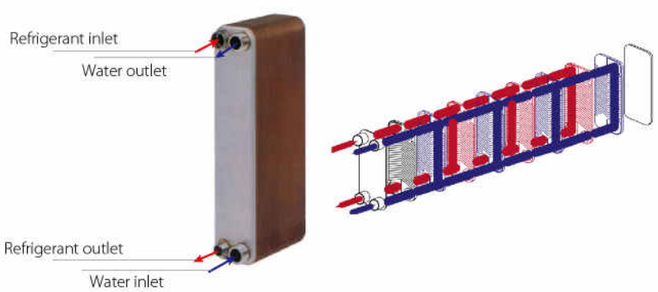
High performance heat exchanger



- The new designed window fins enlarge the heat-exchanging area, decrease the air resistance, save more power and enhance heat exchange performance.
- 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.

High efficiency plate heat exchanger

- Plate heat exchanger uses metal plates to transfer heat between refrigerant and water. The fluids are exposed to a much larger surface area because the fluids spread out over the plates, so both heat transfer efficiency and heat exchanger speed are greatly improved.
- Multi protections including voltage protection, current protection, anti-freezing protection and water flow protection ensure system safety running.



Easy control

- User-friendly electronic controller is built in the outdoor unit.
- LCD remote controller is optional.
- Auto-restart function.
- Emergency switch and water pressure gauge are equipped with to ensure system safety.

Specifications

220~240V-1Ph-50Hz

Model			FMC-FH5B	FMC-FH7B	FMC-FH10B
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50
Cooling[1]	Capacity	kW	5.0	7.2	10.5
	Input	kW	1.9	2.8	3.6
Heating[2]	Capacity	kW	5.5	7.7	12.0
	Input	kW	2.0	2.8	4.0
Max input current		A	11.7	16.7	25.7
Compressor	Type		Rotary	Rotary	Fixed Scroll
	Quantity	Pieces	1	1	1
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor
	Quantity of fan motor	Pieces	1	1	2
	Air flow	m^3/h	5,563	5,624	6,500
Water side heat exchanger	Type		Plate type	Plate type	Plate type
	Water flow	m^3/h	0.86	1.24	1.74
	Water pressure drop	kPa	21	35	44
Water pump	Pump head	m	6	6	8
	Water volume	L/min	4	4	7.5
Expansion tank volume		L	2	2	3
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	kg	1.6	2.1	3.0
	Throttle type		Capillary	Capillary	Capillary
Sound pressure level[3]		dB(A)	55	56	60
Unit net dimension (WxHxD)		mm	990x966x354	990x966x354	940x1245x360
Packing dimension (WxHxD)		mm	1,120x1,100x435	1,120x1,100x435	1,058x1,300x438
Net/ Gross weight		kg	83/89	94/100	138/145
The Max and Min. wate rinlet pressure		kPa	500/150	500/150	500/150
Pipe connections	Water inlet/outlet	mm	DN25	DN25	DN32
Controller			Electronic controller (standard), remote controller (optional)		
Ambient temperature range	Cooling	℃	10~43	10~43	10~43
	Heating	℃	-15-24	-15-24	-15-24
Water outlet temperature range	Cooling	℃	10~20	10~20	10~20
	Heating	℃	30~50	30~50	30~50

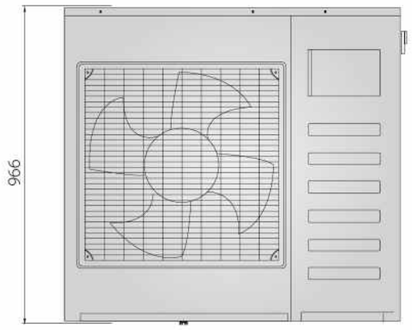
1. Cooling: Chilled water inlet/outlet temperature: 12/7°C,outdoor ambient temperature 35°C DB.
2. Heating: Warm water inlet/outlet temperature: 40/45°C,outdoor ambient temperature 7°C DB/6°C WB.
3. 1m away in semi-anechonic room.

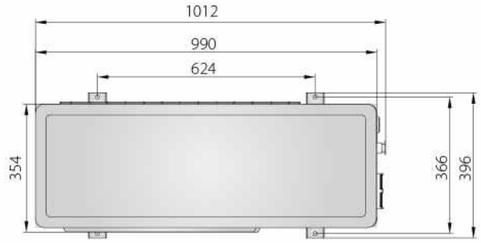
380~415V-3Ph-50Hz

Model			FMC-FH10A	FMC-FH12A	FMC-FH14A	FMC-FH16A
Power supply		V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
Cooling[1]	Capacity	kW	10.5	12.0	14.0	16.0
	Input	kW	3.9	4.4	4.9	6.4
Heating[2]	Capacity	kW	12.0	14.0	16.1	18.0
	Input	kW	4.2	4.6	5.2	6.4
Max input current		A	8.3	9.1	10.5	14.3
Compressor	Type		Fixed Scroll	Fixed Scroll	Fixed Scroll	Fixed Scroll
	Quantity	Pieces	1	1	1	1
Air side heat exchanger	Type		Fin-coil	Fin-coil	Fin-coil	Fin-coil
	Fan motor type		AC Motor	AC Motor	AC Motor	AC Motor
	Quantity of fan motor	Pieces	2	2	2	2
	Air flow	m³/h	7,000	7,000	7,000	7,000
Water heat exchanger	Type		Plate type	Plate type	Plate type	Plate type
	Water flow	m³/h	1.72	2	2.4	2.8
	Water pressure drop	kPa	44	40	34	38
Water pump	Pump head	m	8	8	8	8
	Water volume	L/min	7.5	7.5	7.5	7.5
Expansion tank volume		L	3	3	3	3
Refrigerant	Type		R410A	R410A	R410A	R410A
	Charged volume	kg	2.7	3.0	3.6	4.2
	Throttle type		Capillary	Capillary	Capillary	Capillary
Sound pressure level[3]		dB(A)	58	59	60	60
Unit net dimension (WxHxD)		mm	940×1,245×360	1,070×1,249×420	1,070×1,249×420	1,070×1,249×420
Packing dimension (WxHxD)		mm	1,058×1,300×438	1,188×1,385×498	1,188×1,385×498	1,188×1,385×498
Net/Gross weight		kg	131/139	137/145	145/160	151/165
The Max and Min. wate rinlet pressure		kPa	500/150	500/150	500/150	500/150
Pipe connections	Water inlet/outlet	mm	DN32	DN32	DN32	DN32
Controller			Electronic controller (standard), remote controller (optional)			
Ambient temperature range	Cooling	℃	10~43	10~43	10~43	10~43
	Heating	℃	-15-24	-15-24	-15-24	-15-24
Water outlet temperaturet range	Cooling	℃	10~20	10~20	10~20	10~20
	Heating	℃	30~50	30~50	30~50	30~50

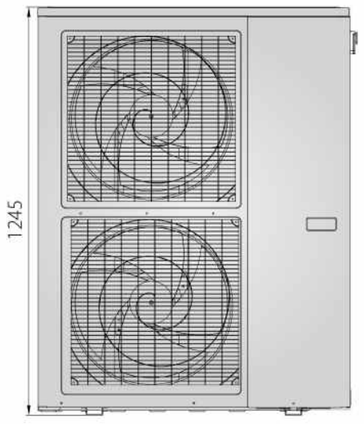
1. Cooling: Chilled water inlet/outlet temperature: 12/7℃,outdoor ambient temperature 35℃ DB.
2. Heating: Warm water inlet/outlet temperature: 40/45℃,outdoor ambient temperature 7℃ DB/6℃ WB.
3. 1m away in semi-anechonic room.

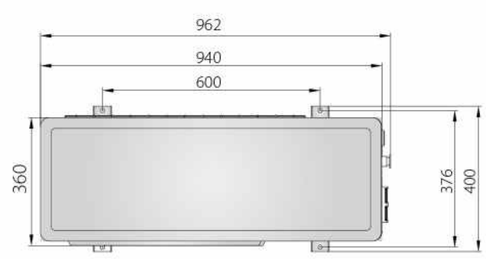
Dimensions (mm)



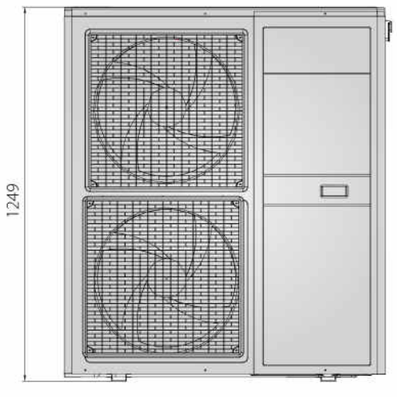


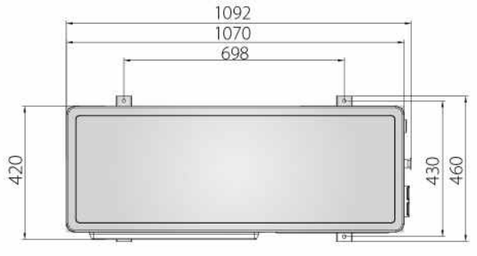
FMC-FH5B FMC-FH7B





FMC-FH10B FMC-FH10A





FMC-FH12A FMC-FH14A FMC-FH16A

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