

GIWEE

A Carrier Company

Air Cooled Heat Pump Modular Chiller



Ver.QT.SS



Commercial air conditioning
division established

2004



Honored of "National high-
tech enterprises"

2012



Full DC inverter VRF
CMV-X series launched

2014



2002

Enter central air
conditioning industry



2011

CAC Company
Established



2013

New R&D office building and
VRF plant put into operation





About Giwee Company

Giwee is a global supplier with integrated advantages in R&D, production and sales in the HVAC field, brand name is GCHV. Giwee has been deeply involved in the air-conditioning field for more than ten years with a rich product lineup and excellent market competitiveness, mainly engaged in RAC, CAC, heat pump and ventilation systems. Giwee is a Carrier company, and Carrier is the leading global provider of innovative healthy, safe, sustainable and intelligent building and cold chain solutions.

Giwee covers an area of 167,000 square meters, with more than 120,000 square meters of plants and 17 modern first class production lines. Annual output exceeds 2.5 million sets, includes VRF, modular chiller, light commercial air conditioners, air source heat pumps and other products, products are in great demand on 100 more countries and regions and has accomplished thousands of reference projects worldwide.

Mechanical and Electrical
Installation Level 2 Qualification

2017



Giwee Company Established

2020



2015

Honored of "Provincial engineering
research and development center"

2018

2018 Russia World Cup HVAC Supplier
Test center certificated by CNAS

2021

Giwee company becomes a
subsidiary of Carrier Company





Quality Superiority



Giwee has established a strict and scientific quality management system with supplier quality assurance, incoming quality control, process quality control and final quality control to ensure the highest quality of the products.

The industry-leading testing center has been certified by CNAS in 2018, With a full range of professional incoming inspection labs, enthalpy difference labs, EMC labs, 27 national accredited labs for testing and verification.

Production Capacity

Giwee has 17 advanced production lines and an annual production capacity of over 2.5 million sets. Introduce lean production management, improve production efficiency. By the use of various robots, AGV system and other equipment, improving the online, offline process, optimizing the logistics distribution technology, improving product quality and production efficiency. Adopts MES system, it helps a lot in tracking production schedule, inventory status, work schedule and other operations management to improve product quality and productivity.

Robotic Assembly Arm



Automatic Packing Robot



AGV System



MES System



Certification

ISO9001 quality management system, ISO14001 environmental management system, OHSAS18001 occupational health and safety management system, QC080000 electronic and electrical components and products harmful substances process management system certification.

Main product certificated by CCC, energy-saving certification, ETL, AHRI, DOE, CE, CB, SASO, ESMA, MEW and others.



ISO9001



ISO14001



ISO45001



QC 080000



AEO



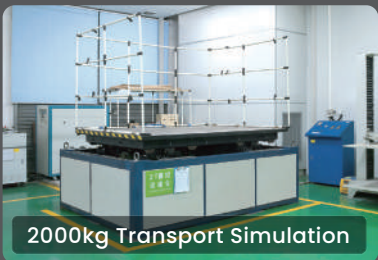


Enthalpy Difference Lab



Laboratory Control Room

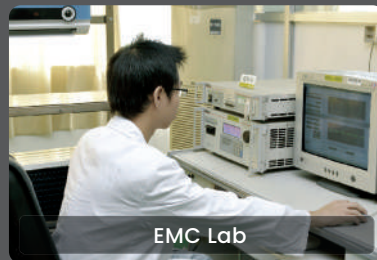
R&D Strength



2000kg Transport Simulation



Professional Engineers



EMC Lab



Noise Test Lab



200HP Long-term Running Lab



Modular Chiller Test Lab




Electromagnetic Vibration Lab

The R&D center of Giwee has more than 200 technical engineers, carry out technology collaboration and joint research with postdoctoral research workstations and Guangdong enterprise workstations, at the same time, introducing senior technical experts from Japan to join Giwee and served as senior technical consultants, Giwee pay great attention in R&D and invest 4.5% of annual income every year to develop new technology, by the continuous innovation, Giwee has established a solid development foundation and strength in performance, structure, electronic control, industrial design and other professional aspects.

The test center covers an area of more than 6,000 square meters. It has a series of industry-leading professional laboratories. In 2010, it passed the consistency check of the National Energy Efficiency Label Management Center and obtained certificate, in 2018, the test center obtained CNAS national certification.

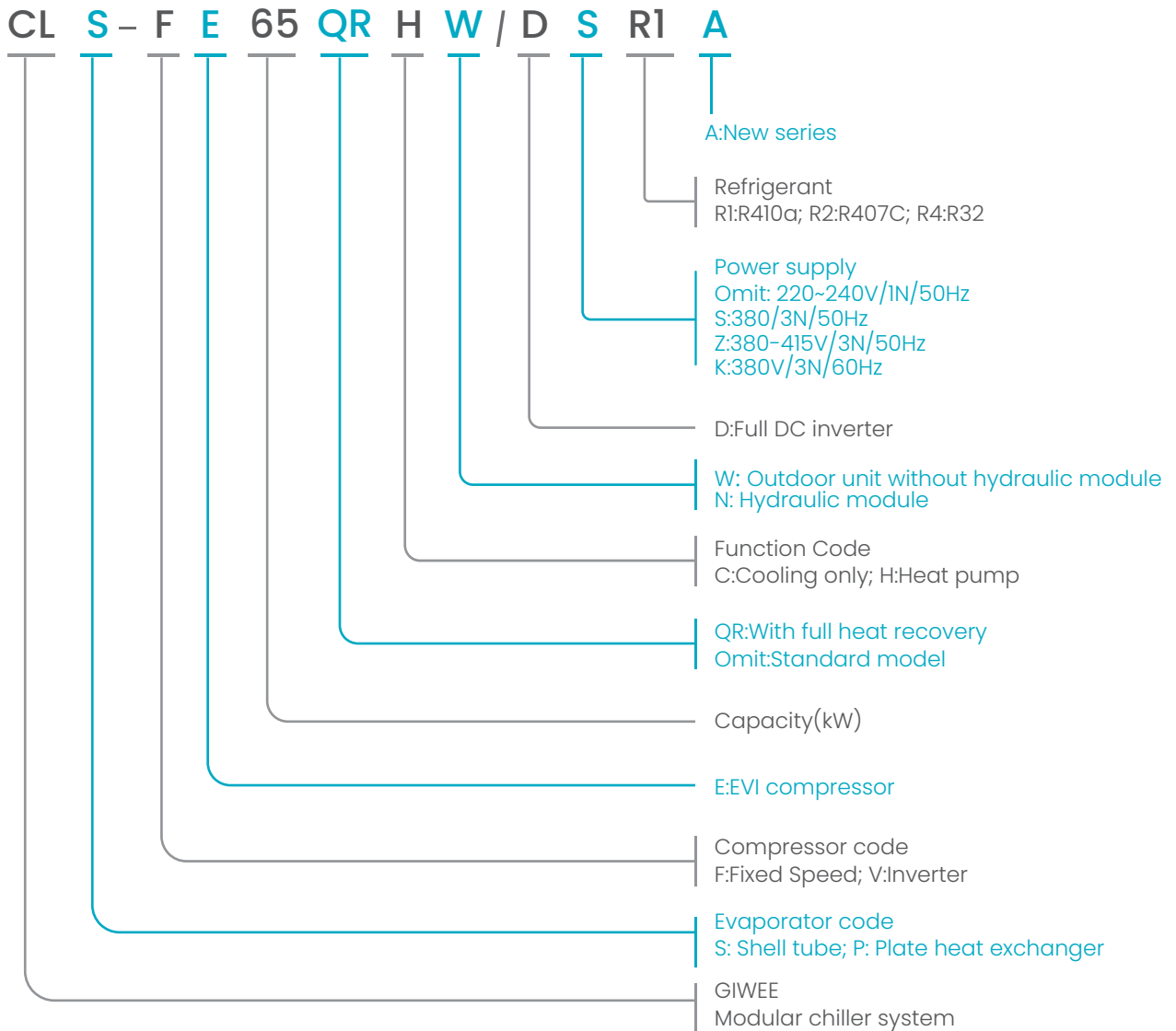


Directory

- 01 • How To Read The Model
 - 02 • R32 ATW Heat Pump
 - 05 • New Modular Chiller
 - 08 • EVI Modular Chiller
 - 11 • Modular Chiller With Heat Recovery
 - 15 • Fan Coil Unit
4-pipe Cassette
 - 17 • Fan Coil Unit
2-pipe Cassette
 - 19 • Accessories
 - 20 • Reference Projects
- 



How To Read The Model



R32 ATW Heat Pump



5kW/8kW



10kW/12kW



14kW/16kW

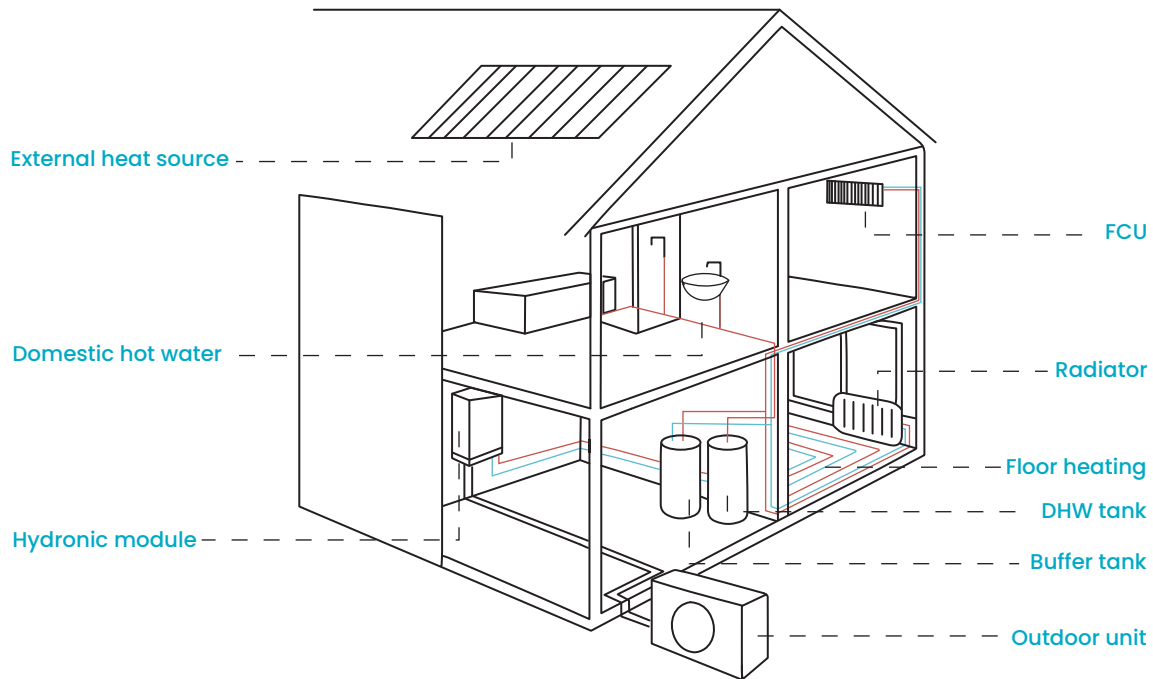


8kW/12kW/16kW
Hydronic module

Features

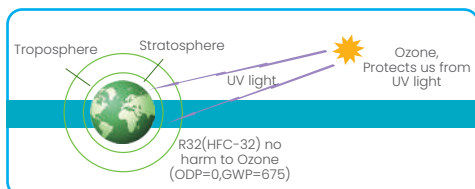
Multi Applications In One System

The system can realize heating in winter and cooling in summer, and can produce domestic hot water throughout the year. Various terminal equipment, floor heating, radiators and fan coils can be connected.



Eco Friendly

R32(HFC-32) is a highly environmentally friendly refrigerant, with 0 ODP and 675 GWP, low carbon footprint, no harm to the Ozone.



High Efficiency



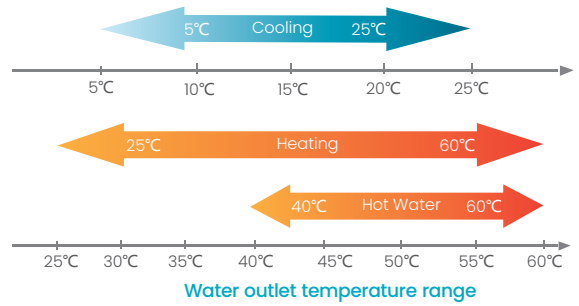
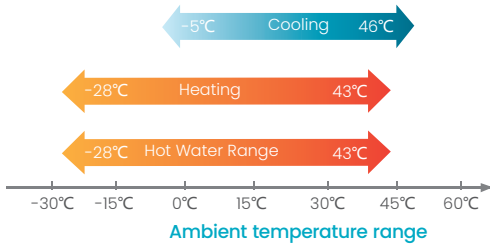
ATW heat pumps are relying on a renewable energy for their functioning, the increased use of renewable energy will also reduce our energy dependency.





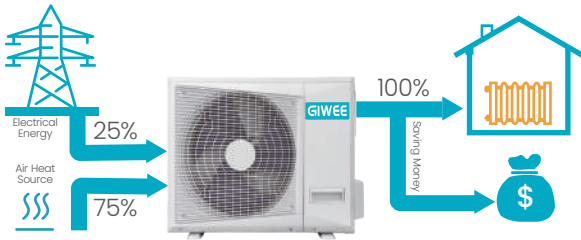
Wide Operation Range

- Cooling operating temperature is up to 46°C
- Heating operating temperature is down to -28°C
- The max. water outlet temperature is up to 60°C



Capture Energy From Ambient Air

Based on Air to Water heat pump technology, it captures heat energy from the ambient air and transfers it to heat the water that is used to warm your home and supply domestic hot water, it can even cool your home as required. Compared to other technologies, up to 75% of the heat energy required is taken from the ambient air.

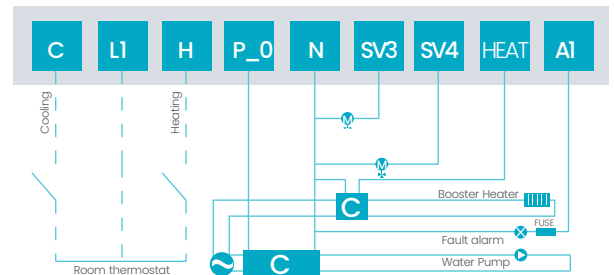


Hydronic Module Components



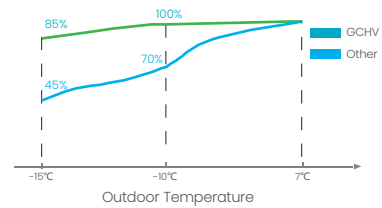
Variable Accessory Connection

- Connect to room thermostat
- Connect to 2-way valve and 3-way valve, to change the water flow direction
- Connect to booster heater to control the heater in DHW tank
- Connect to additional circulation water pump
- Alarm output



High Performance At Low Ambient Temperature

Thanks to the high compression ratio compressor, large heat exchanger and high-precision system control, it is able to maintain a high heat ty and even at -10°C and -15°C.



Controllers



Window design



Additional cover

- Window design, easy to operate and view
- Standard with touch screen wired controller, more functions can be realized and it is easier to operate.
- Controller can be took away from hydronic module, and an additional cover is provided



Touch Screen Wired Controller

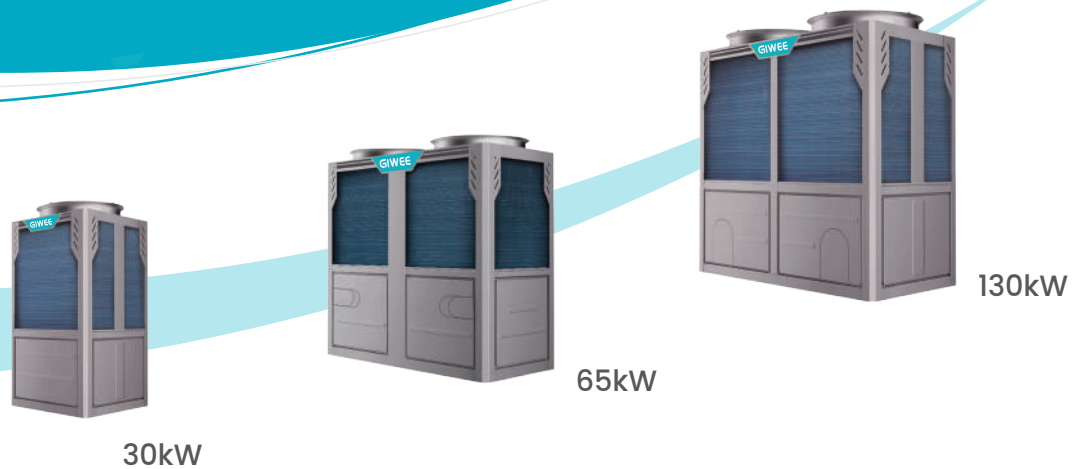
- Mode control
- Weekly timer function
- Electric heater
- Forced defrosting
- Sterilization
- Anti-freezing protection

Specification

Outdoor Unit		CLP-V5HW/DR4	CLP-V8HW/DR4	CLP-V10HW/DR4	CLP-V12HW/DR4	CLP-V14HW/DZR4	CLP-V16HW/DZR4
Indoor Unit		CLP-V8HN/DR4	CLP-V8HN/DR4	CLP-V12HN/DR4	CLP-V12HN/DR4	CLP-V16HN/DR4	CLP-V16HN/DR4
Performance Data							
Heating Capacity/COP(A7°C/W35°C)	kW/COP	5.29/3.67	8.26/3.61	10.8/3.84	12.84/3.80	15.26/3.65	17.28/3.64
Heating Capacity/COP(A7°C/W55°C)	kW/COP	3.90/2.47	6.14/2.42	9.6/2.74	11.4/2.71	13.58/2.61	15.36/2.6
Heating Capacity/COP(A-7°C/W35°C)	kW/COP	5.15/3.34	8.04/3.29	10.2/2.88	12.12/2.85	14.42/2.74	16.32/2.73
Heating Capacity/COP(A-7°C/W55°C)	kW/COP	3.95/2.17	6.20/2.13	7.11/1.73	8.42/1.70	11.2/1.83	12.64/1.82
Heating Capacity/COP(A-15°C/W35°C)	kW/COP	4.38/2.39	6.83/2.36	8.5/2.41	10.2/2.41	12.04/2.3	13.6/2.9
Heating Capacity/COP(A-15°C/W55°C)	kW/COP	2.86/1.79	4.49/1.76	6.75/1.63	7.99/1.61	10.64/1.73	12/1.72
Cooling Capacity/EER(A35°C/W7°C)	kW/EER	4.5/2.7	6.5/2.8	8.5/2.8	10/2.7	13.8/2.82	15.2/2.81
cooling Capacity/EER(A35°C/W18°C)	kW/EER	4.2/3.8	6.5/3.8	8.5/4.8	10/4.8	13.8/4.8	15.2/4.8
Seasonal Energy Efficiency(W35°C/W55°C)	SCOP(kW)	4.73/3.29	4.42/3.24	5.15/3.35	4.34/3.33	4.08/3.33	4.07/3.38
Heating Average Climate	ETA(%)	189.14/131.65	176.8/129.6	203/131.1	170.6/130.2	160.2/130.2	159.7/132.1
Seasonal Space Heating Energy eff.Class	35°C	A++	A++	A++	A++	A++	A++
(Average Climate General) Water Outlet	55°C	A++	A++	A++	A++	A++	A++
Hydronic Model							
Power Supply	V/N/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Sound Power Level	dB(A)	45	45	45	45	45	45
Dimension(WxHxD)	mm	490x910x340	490x910x340	490x910x340	490x910x340	490x910x340	490x910x340
Packing((WxHxD)	mm	620x1105x425	620x1105x425	620x1105x425	620x1105x425	620x1105x425	620x1105x425
Net/Gross Weight	kg	47/55	47/55	48/56	48/56	48/56	48/56
Water Pipe Connector(Inlet/Outlet)	mm	DN32/DN32	DN32/DN32	DN32/DN32	DN32/DN32	DN32/DN32	DN32/DN32
Water Pump		Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed
Capacity of Electric Heater	kW	3	3	3	3	3	3
Max.power Input	kW	3.6	3.6	3.6	3.6	3.6	3.6
Max.current Input	A	17	17	17	17	17	17
Outdoor Unit							
Power Supply	V/N/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50
Sound Power Level	dB(A)	64	66	68	68	70	70
Max.power Input	kW	2.86	4.2	5.0	5.0	5.5	6.4
Max.current Input	A	13	19	22	22	10.5	12.1
Dimension(WxHxD)	mm	935×702×382	935×702×382	1032x810x445	1032x810x445	1014x1430x450	1014x1430x450
Packing((WxHxD)	mm	975×770×435	975×770×435	1075x875x495	1075x875x495	1095x1545x485	1095x1545x485
Net/Gross Weight	kg	47/51	55/58	56.3/61	63.5/68	124/138	124/138
Air Flow	m³/h	3200	3200	4000	4000	6100	6100
Pipe Diameter	mm	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88	Φ9.52/Φ15.88
Max.piping Length/Height Difference	m	20/10	20/10	20/10	50/20	50/20	50/20
Refrigerant	Type/Quantity	kg	R32/1.1	R32/1.4	R32/3.0	R32/3.1	R32/3.6
	Additional Charge	g	(Total Pipe Length-5)m*30g/m				
Ambient Temperature Range	Cooling	°C	-5-46°C				
	Heating	°C	-28-43°C				
	Domestic Hot Water	°C	-28-43°C				
Water Temperature Range	Cooling	°C	5-25°C				
	Heating	°C	25-60°C				
	Domestic Hot Water	°C	40-60°C				

Note 1.Integrated value takes into consideration the capacity drop during frosting and defrosting periods. The capacity is tested in free frequency situation.
2.The above data may be changed without notice for future improvement on quality and performance.

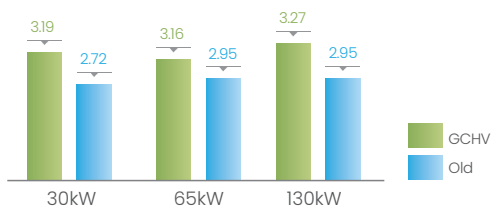
New Modular Chiller



Features

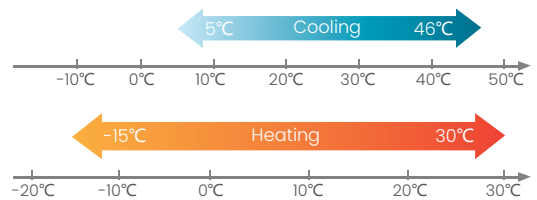
ErP High Cooling Performance

Meet ERP Standard, EER improved greatly compared with previous generation.



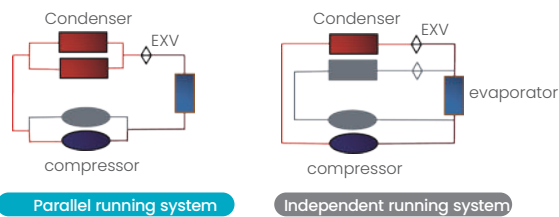
Wide Operation Range

Operate from -15°C to 46°C without failure.



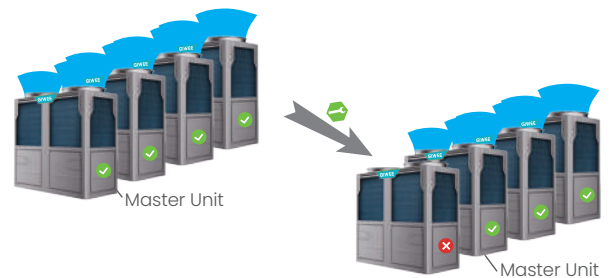
Parallel Running System

- Efficiency will increase 12% when one compressor full load running because the condenser area is 2 times than independent running system.
- Refrigerant circuit will be simpler and running condition will be more stable.



Unit Back-up Function

If master unit fails, all the units will stop and any of the slave units can be set as master unit manually. If one slave unit fails, this unit will stop but others keep running.



Modular Design Concept

Max. 32 units can be combined in one group (16 units for 130kW units), max. capacity can be up to 2080kW.



Unique Control Logic

For example, when a system with four 65kW units running at part load and 4 compressors are needed, in ordinary control logic two units will run at full load but in Giwee new control logic, four compressors in four units will run to make full use of all condensers, so the efficiency improves a lot.





Space Saving

Occupied area is decreased by 30% compare with last generation, suitable for projects with narrow installation area.



Built-in Water Flow Switch

Standard with high quality water flow switch. Convenient for installation, no need to install water flow switch in water system on site. The water flow control will be more precisely.



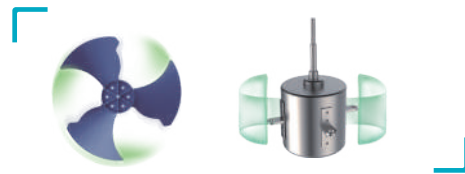
High Efficiency Shell & Tube Heat Exchanger

Shell&tube heat exchanger uses spiral turn-back design and high heat transfer efficiency copper pipes, to avoid rectangular place of dead heat, decrease water pressure drop, and improve heat exchange efficiency.



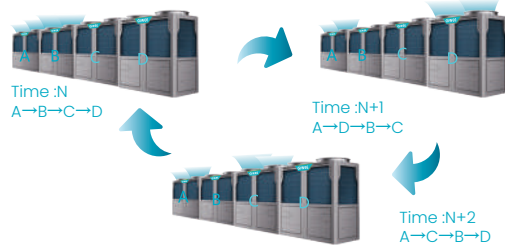
Smart Motor Speed Control

- Two-speed control independently guarantees the best condenser condition and low consumption.
- In part load running condition, the motor will run in low speed and with low consumption.



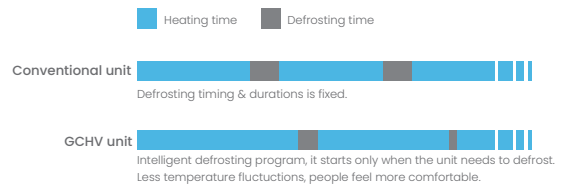
Cycle Operation

In one combination system, according to the accumulated operation time, all slaver units operates as alternative in cycle, which increases reliability and balances units lifespan.

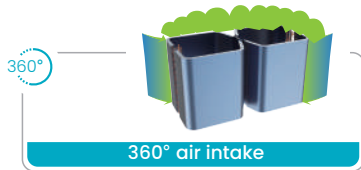


Intelligent Defrosting Program

Defrosting starts only when the unit needs to, which decrease defrosting time and water temperature fluctuation.



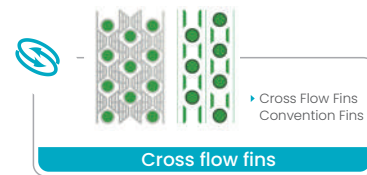
Round-designed Condenser



The airflow is evener and heat exchange is more sufficient.



Higher thermometric conductivity and increases heat-exchanging efficiency.



Low air resistance and great heat transfer coefficient, and frosting improves a lot.



Multiple Protections

- Power phase sequence protection
- Compressor ON/OFF frequently protection
- Low pressure protection of compressor
- Power-off memory function
- High temperature protection of condenser
- Over-current protection of compressor
- Water outlet temperature protection
- Compressor high pressure/overload protection
- Anti-ice protection in winter
- Insufficient water flow switch

Specification

Heat pump unit

Model			CLS-F30HW/ZR1B	CLS-F65HW/ZR1B	CLS-F130HW/ZR1B
Power			380-415V/3N/50Hz	380-415V/3N/50Hz	380-415V/3N/50Hz
Capacity	Cooling	kW	30	65	130
	Heating	kW	35	70	132
Rated Power Input	Cooling	kW	9.4	20.6	39.8
Rated Current	Cooling	A	18	38	78
Rated Power Input	heating	kW	9.8	21.3	40.8
Rated Current	heating	A	19	39	80
Max. Power Input		kW	15	28	60
Max. Current		A	30	51	106
EER			3.18	3.16	3.26
Refrigerant	Type		R410A	R410A	R410A
	Charge	kg	7.3	13.5	15x2
Water Flow		m ³ /h	5.16	11.18	22.36
Pressure Drop		kPa	30	30	40
Max. Pressure		Mpa	1.0	1.0	1.0
Water Inlet/Outlet Diameter		mm	DN40	DN65	DN65
Connection type		m ³ /h	12000	24000	48000
Air Flow			1 1/2" inch Male Connection	Flange connection	Flange connection
Acoustic pressure (1m)		dB(A)	62	64	65
Dimension(WxHxD)	Net	mm	1160x1920x900	2000x1920x900	2200x2220x1100
	Packing	mm	1240x2060x950	2080x2060x950	2280x2360x1140
Weight	Net	kg	320	610	1010
	Packing	kg	350	630	1060
Ambient Temperature	Cooling	°C	5-46(-15-46 for 65kW)		
	Heating	°C	-15-30		
Inlet Water	Cooling	°C	9-25		
	Heating	°C	26-48		

Cooling only unit

Model			CLS-F30CW/ZR1	CLS-F65CW/ZR1	CLS-F130CW/ZR1
Power			380-415V/3N/50Hz	380-415V/3N/50Hz	380-415V/3N/50Hz
Capacity	Cooling	kW	33.15	65	130
Rated Power Input	Cooling	kW	10.1	19.2	38.4
Rated Current	Cooling	A	18	36	76
Max. Power Input		kW	32	32	64
Max. Current		A	30	59	120
EER			3.26	3.38	3.38
Refrigerant	Type		R410A	R410A	R410A
	Weight	kg	7.3	13.0	12x2
Water Flow		m ³ /h	5.16	11.18	22.36
Pressure Drop		kPa	30	30	30
Operation pressure		MPa	4.5	4.5	4.5
Water Inlet/Outlet Diameter		mm	DN40	DN65	DN65
Air Flow		m ³ /h	12000	24000	48000
Noise		dB(A)	62	64	68
Dimension(WxHxD)	Net	mm	1160x1920x900	2000x1920x900	2200x2280x1100
	Packing	mm	1240x2060x950	2080x2060x920	2280x2420x1140
Weight	Net	kg	320	500	1010
	Packing	kg	350	520	1060
Ambient Temperature	Cooling	°C	15-48(5-48 for 65kW)		
Inlet Water	Cooling	°C	9-25		

Note

1. Cooling: water inlet/outlet: 12 °C/7°C, outdoor ambient temperature:35°C DB.
2. Heating: water inlet/outlet: 40°C/45°C, outdoor ambient temperature: 7°C DB/6°C WB
3. Water side fouling factor: 0.086m²°C /kW.
4. The above data may be changed without notice for future improvement on quality and performance.

• EVI Modular Chiller

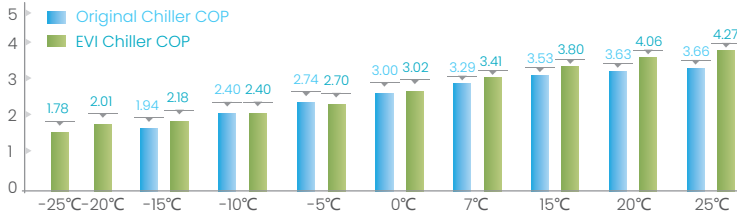


Features



High Heating Performance

Low temperature heat pump unit adopts EVI technology. Two-stage compression improves heating capacity and efficiency in low ambient temperature.



EVI Compressor

Low-temperature heat pump unit adopts EVI (Enhanced Vapor Injection) compressor. A part of drawn intermediate pressure gas refrigerant is mixed and compressed with compressed refrigerant, which realizes two-stage compression in one compressor, increases compression efficiency and improves the heating performance in low temperature.



Wide Operation Range

- Cooling operating temperature is up to 46°C
- Heating operating temperature is down to -30°C

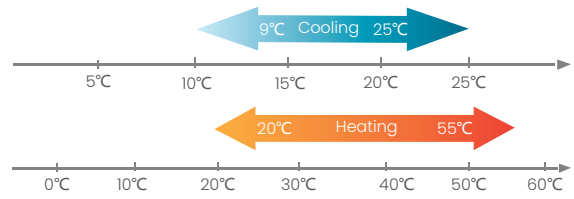
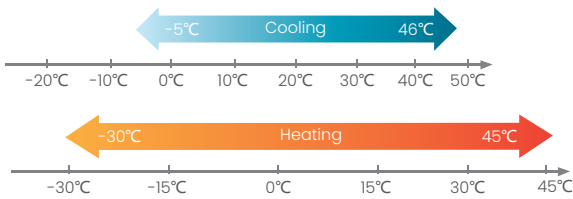
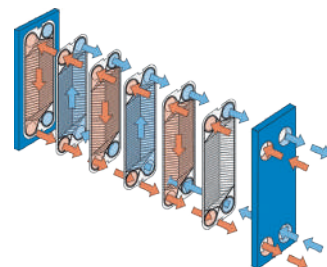
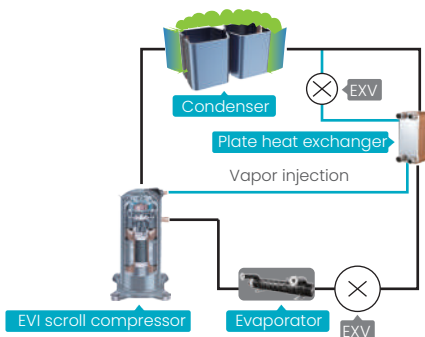


Plate Heat Exchanger

Plate heat exchanger plays an important role in EVI heat pump unit. Sub-cool the refrigerant before throttling in primary loop, increase enthalpy difference. Preheat the throttled refrigerant in auxiliary loop, supply gas refrigerant to compressor for secondary compression.



Specification

Model			CLS-FE35HW/ZR1A	CLS-FE75HW/ZR1A	CLS-FE155HW/ZR1A
Power			380~415V/3N/50Hz		
Rated heating (A7°C/W45°C)	Capacity	kW	36	77	155
	Power input	kW	10.3	22.6	43
	Current input	A	19	40	82
	COP	W/W	3.49	3.41	3.6
Nominal heating (A-12°C/W41°C)	Capacity	kW	24	50	100
	Power input	kW	9.8	20	39.4
	Current input	A	18	37	74
	COP	W/W	2.45	2.5	2.54
	IPLV(H))		2.82	2.82	2.93
Rated Cooling (A35°C/W7°C)	Capacity	kW	30	60	138
	Power input	kW	9.5	20.7	43.1
	Current input	A	18	38	78
	EER	W/W	3.16	2.9	3.2
	IPLV(C)		3.42	3.22	3.5
Max. current		A	34	72	125
Max. power input		kW	15	34	70
Basic parameter			∨	∨	∨
Refrigerant	Type		R410A	R410A	R410A
	Refrigerant control		EXV	EXV	EXV
	Weight	kg	7.5	6.5x2	12.0x2
Water side heat exchanger	Type		Shell tube heat exchanger		
	Max. pressure	MPa	1	1	1
	Water flow	m ³ /h	6.2	13.2	23.7
	Pressure drop	kPa	30	30	55
	Water inlet diameter	mm	DN40	DN65	DN65
	Water outlet diameter	mm	DN40	DN65	DN65
	Joint Type		1 1/2" Male connection	Flange joint	Flange joint
Waterproof grade			IPX4	IPX4	IPX4
Air flow		m ² /h	12000	24000	48000
Noise		dB(A)	62	64	69
Dimension (WxHxD)	Net	mm	1160x1920x900	2000x1920x900	2200x2280x1100
	packing	mm	1240x2060x950	2080x2060x950	2280x2300x1120
Weight	Net	kg	320	635	1010
	Packing	kg	350	650	1020
Operation Range			∨	∨	∨
Ambient Temperature	Cooling	°C	5~46	5~46	5~43
	Heating	°C	-30~45	-30~45	-30~45
Water Inlet Temperature	Cooling	°C	9~25	9~25	9~25
	Heating	°C	20~55	20~55	20~55
Water Outlet Temperature	Cooling	°C	5~20	5~20	5~20
	Heating	°C	25~60	25~60	25~60

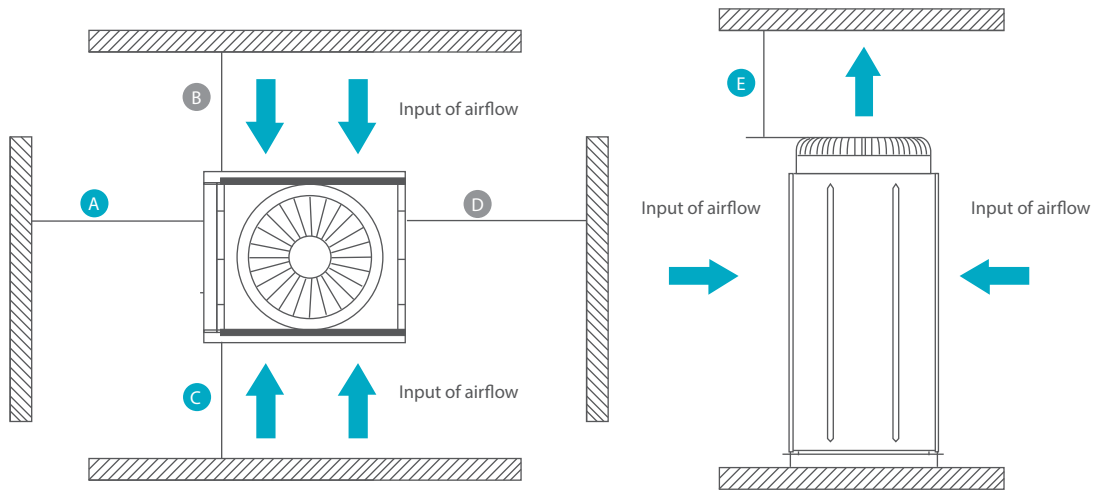
Note

1. The rated cooling conditions: water flow 0.172m³/(h·kW), ambient temperature 35°C DB, water outlet temperature 7°C
2. The rated heating conditions: water flow 0.172m³/(h·kW), ambient temperature 7°C DB, water outlet temperature 45°C
3. The nominal heating conditions: water flow 0.172m³/(h·kW), ambient temperature -12°C DB, indoor side water outlet temperature 41°C
4. The above data may be changed without notice for future improvement on quality and performance.

Installation



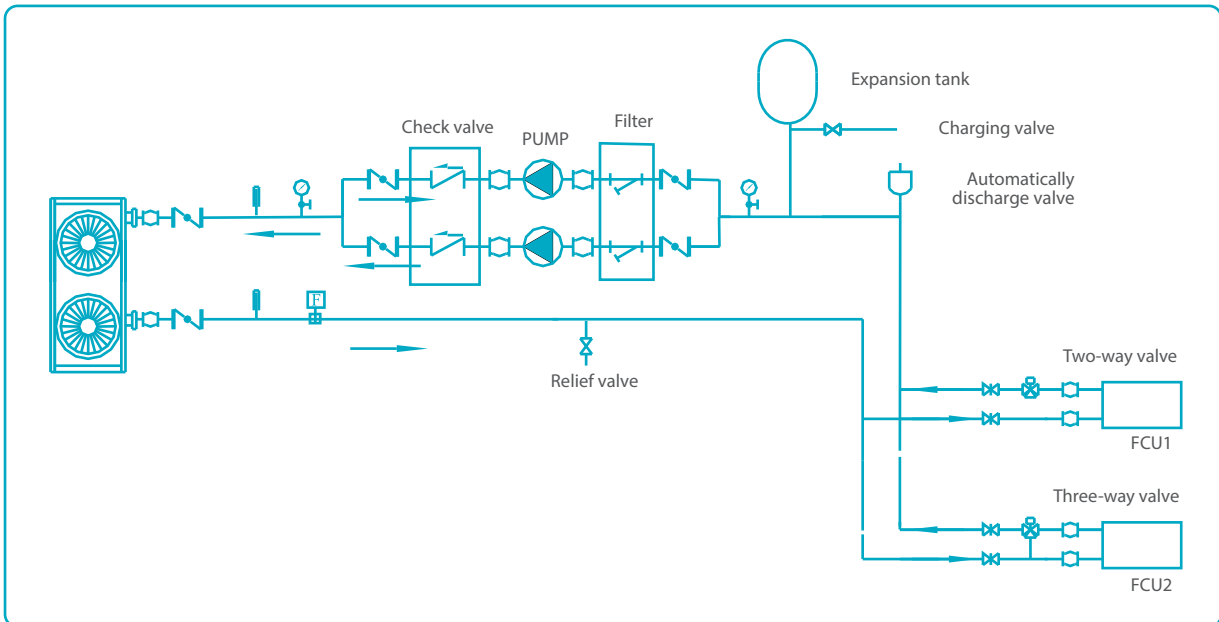
Installation space requirement



A	B	C	D	E
≥1500mm	≥2000mm	≥2000mm	≥1500mm	≥8000mm



Connection of pipeline system



- | | | | | |
|-------------------|------------------|--------------------|------------------|---------------------------------|
| > Stop valve | > Pressure gauge | > Gate valve | > Flexible joint | > Water flow switch |
| > Y-shaped filter | > Thermometer | > Circulation Pump | > Check Valve | > Automatically discharge valve |

Fan Coil Unit

4-pipe Cassette



Round Flow Cassette
600-1000CFM



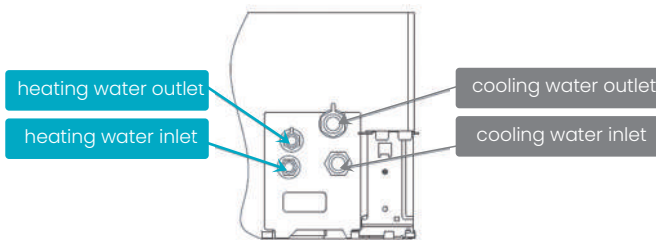
Compact 4-way Cassette
300~470CFM

Features



4-Pipe Design

The 4-pipe unit consists of two separate cooling and heating water coils. Each coil has its own dedicated set of pipes (supply and return) and valve. This type of fan coil can cool and heat at the same time and is not dependent of the actual mode of the building.



360° Round Panel

For big cassette type unit, 360° panel is standard. The cold or warm air can reach each corner of the room, providing a stable and comfortable environment. For compact cassette, 4-way panel is standard.



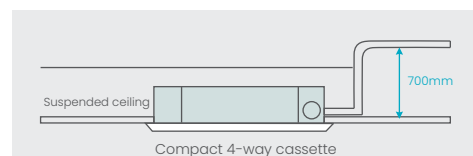
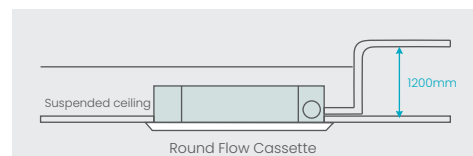
Various Selections

Digital display board, wired controller, different wired controllers are optional.



Built-in With Drainage Pump

Built-in with low noise and long life drainage pump. The pump head is 1200mm for big cassette and 700mm for compact cassette, flexible for drainage pipe design.



Specification

FCU type			Round Flow Cassette			
Model			CSQ-600R-F	CSQ-760R-F	CSQ-880R-F	CSQ-1000R-F
Power supply		V/N/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Capacity						
Air flow volume	Hi/Med/Lo	CFM	600/500/410	760/700/530	880/790/645	1000/880/700
		m ³ /h	1000/850/700	1300/1200/900	1500/1350/1100	1700/1500/1200
Cooling capacity	Hi/Med/Lo	kW	4.5/4.0/3.5	4.8/4.3/3.8	5.5/5.0/4.5	5.8/5.3/4.8
Heating capacity	Hi/Med/Lo	kW	8.5/7.6/6.0	10.5/9.6/8.0	12.5/11.0/9.5	13.0/11.5/10.0
Physical data						
Rated power input		W	127	127	130	134
Noise level(high speed)		dB(A)	40-49	40-49	40-49	40-49
Water flow volume	Cooling	m ³ /h	0.72	0.79	0.86	0.95
	Heating	m ³ /h	0.73	0.90	1.07	1.12
Water pressure drop	Cooling	kPa	32	35	24	26
	Heating	kPa	43	46	40	42
Waterproof grade			IP24	IP24	IP24	IP24
Indoor unit	Dimension(WxHxD)	mm	840x230x840	840x230x840	840x285x840	840x285x840
	Packing(WxHxD)	mm	920x265x920	920x265x920	920x310x920	920x310x920
	Net/Gross weight	kg	23.6/27.7	23.6/27.7	28.2/32.6	28.2/32.6
Panel	Dimension(WxHxD)	mm	950x50x950	950x50x950	950x50x950	950x50x950
	Packing(WxHxD)	mm	1030x100x1030	1030x100x1030	1030x100x1030	1030x100x1030
	Net/Gross weight	kg	6.5/9.5	6.5/9.5	6.5/9.5	6.5/9.5
Pipe	Cooling water-inlet pipe	mm	DN20	DN20	DN20	DN20
	Cooling water-outlet pipe	mm	DN20	DN20	DN20	DN20
	Heating water-inlet pipe	mm	DN15	DN15	DN15	DN15
	Heating water-outlet pipe	mm	DN15	DN15	DN15	DN15
	Drainage pipe	mm	DN25	DN25	DN25	DN25
Controller			Remote controller(standard), wired controller(optional)			

FCU type			Compact 4-way Cassette		
Model			CSQ4-300R-F	CSQ4-350R-F	CSQ4-470R-F
Power supply		V/N/Hz	220-240/1/50	220-240/1/50	220-240/1/50
Capacity					
Air flow volume	Hi/Med/Lo	CFM	295/220/175	350/280/235	470/320/245
		m ³ /h	500/380/300	600/480/400	800/550/420
Cooling capacity	Hi/Med/Lo	kW	1.90/1.7/1.5	2.1/1.85/1.6	2.4/2.05/1.7
Heating capacity	Hi/Med/Lo	kW	4.4/3.45/2.5	4.8/3.55/2.9	5.5/4.5/3.2
Physical data					
Rated power input		W	48	58	65
Noise level(high speed)		dB(A)	43	43	43
Water flow volume	Cooling	m ³ /h	0.33	0.38	0.45
	Heating	m ³ /h	0.38	0.41	0.47
Water pressure drop	Cooling	kPa	15	15	20
	Heating	kPa	15	15	20
Waterproof grade			IP24	IP24	IP24
Indoor unit	Dimension(WxHxD)	mm	580x260x580	580x260x580	580x260x580
	Packing(WxHxD)	mm	745x375x675	745x375x675	745x375x675
	Net/Gross weight	kg	16.5/22	16.5/22	16.5/22
Panel	Dimension(WxHxD)	mm	650x30x650	650x30x650	650x30x650
	Packing(WxHxD)	mm	750x95x750	750x95x750	750x95x750
	Net/Gross weight	kg	2.7/4.0	2.7/4.0	2.7/4.0
Pipe	Cooling water-inlet pipe	mm	DN20	DN20	DN20
	Cooling water-outlet pipe	mm	DN20	DN20	DN20
	Heating water-inlet pipe	mm	DN15	DN15	DN15
	Heating water-outlet pipe	mm	DN15	DN15	DN15
	Drainage pipe	mm	DN25	DN25	DN25
Controller			Remote controller(standard), wired controller(optional)		

Remarks

1. Cooling capacity test condition: air side temperature:27DB°C/19WB°C, water inlet temperature 7°C, water temperature difference 5°C.
2. Heating capacity test condition: air side temperature:21DB°C, water inlet temperature 65°C, water temperature difference 10°C.
3. The above data may be changed without notice for future improvement on quality and performance.

Fan Coil Unit

2-pipe Cassette



4-way Cassette
600-1000CFM



Compact 4-way Cassette
300~470CFM

Features



Low Operation Noise

- Streamline plate ensures quietness.
- Creating natural and comfortable environment.



Optimized Structure

Optimized structure enhances air volume and capacity greatly.



3D Centrifugal Fan

- Adopting the most advanced 3D centrifugal fan.
- Reduce air resistance and smooth air flow.
- Making air flow distributed uniformly to the heat exchanger.



Easy Installation And Maintenance

- There are several improvements for easy installation and maintenance:
- Less space is required for installation in the shallow ceiling.
 - Thanks to the compactness and weight reduction, all models can be installed without hoists.



Full Series Of Controllers

Full series of controllers offer the most suitable solution according to different requirements of different customers.



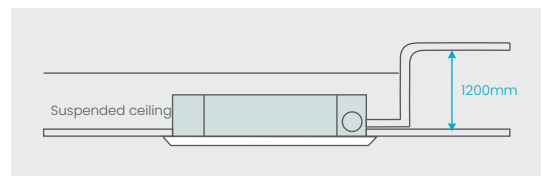
Built-in Drainage Pump

With the help of built-in drainage pump, the pump lift can reach to 1200mm.



Optional Controllers

For standard cassette, wired controller and digital display panel are optional.



Specification

FCU type			Compact 4-way Cassette		
Model			CSQ4-300R-A	CSQ4-350R-A	CSQ4-470R-A
Power supply	V/N/Hz		220-240/1/150	220-240/1/50	220-240/1/150
Capacity					
Air flow volume	Hi/Med/Lo	CFM	295	350	440
		m ³ /h	500/340/260	600/420/330	750/560/420
Cooling capacity	Hi/Med/Lo	kW	2.5/2.2/1.8	3.5/3.0/2.3	4.5/3.9/2.9
Heating capacity	Hi/Med/Lo	kW	3/2.6/2.0	4/3.2/2.4	5.2/4.2/3.3
Physical data					
Noise level(High-speed)	dB(A)		40	42	44
Water flow volume	m ³ /h		0.43	0.60	0.78
Water pressure drop	kPa		25	28	30
Indoor coil	Number of Rows		1	2	2
	Max.Pressure	Mpa	1.0	1.0	1.0
	Fin type		copper tube, aluminum fin		
Fan motor	Quantity	pcs	1	1	1
	Power Input	W	55	58	90
Indoor unit	Dimension(WxHxD)	mm	580x260x580	580x260x580	580x260x580
	Packing(WxHxD)	mm	745x375x675	745x375x675	745x375x675
	Net/Gross weight	kg	16/21.5	17/22.5	17/22.5
Panel	Dimension(WxHxD)	mm	650x30x650	650x30x650	650x30x650
	Packing(WxHxD)	mm	750x95x750	750x95x750	750x95x750
	Net/Gross weight	kg	2.7/4.0	2.7/4.0	2.7/4.0
Pipe	Water inlet pipe	mm	DN20	DN20	DN20
	Water outlet pipe	mm	DN20	DN20	DN20
	Drainage pipe	mm	DN25	DN25	DN25
Controller			remote controller(standard)		

FCU type			4-way Cassette			
Model			CSQ-600R	CSQ-760R	CSQ-880R	CSQ-1000R
Power supply	V/N/Hz		220-240/1/150	220-240/1/150	220-240/1/150	220-240/1/150
Capacity						
Air flow volume	Hi/Med/Lo	CFM	600/510/360	760/646/456	880/748/528	1000/850/600
		m ³ /h	1000/867/612	1300/1098/775	1500/1272/898	1700/1445/1020
Cooling capacity	Hi/Med/Lo	kW	5.3/4.6/3.4	7.2/6.3/4.7	8.5/7.4/5.5	10.0/8.7/6.5
Heating capacity	Hi/Med/Lo	kW	8.0/7.0/5.2	10.8/9.4/7.0	12.8/11.1/8.3	15.0/13.1/9.8
Physical data						
Noise level(High-speed)	dB(A)		43-48	44-48	45-52	45-53
Water flow volume	m ³ /h		1.10	1.24	1.46	1.55
Water pressure drop	kPa		36	36	38	40
Indoor coil	Number of Rows		2	2	2	2
	Fin type		Copper tube,aluminum fin			
Fan motor	Quantity	pcs	1	1	1	1
	Power Input	W	140	150	160	180
Indoor unit	Dimension(WxHxD)	mm	840x230x840	840x230x840	840x285x840	840x285x840
	Packing(WxHxD)	mm	920x265x920	920x265x920	920x310x920	920x310x920
	Net/Gross weight	kg	23/28	23/28	26/31.5	28/33.5
Panel	Dimension(WxHxD)	mm	950x50x950	950x50x950	950x50x950	950x50x950
	Packing(WxHxD)	mm	1030x105x1030	1030x105x1030	1030x105x1030	1030x105x1030
	Net/Gross weight	kg	5.4/8.0	5.4/8.0	5.4/8.0	5.4/8.0
Pipe	Water inlet pipe	mm	DN20	DN20	DN20	DN20
	Water outlet pipe	mm	DN20	DN20	DN20	DN20
	Drainage pipe	mm	DN25	DN25	DN25	DN25
Controller			Remote controller(standard),wired controller(optional)			

Remarks

- Cooling capacity test condition: air side temperature:27DB°C/19WB°C, water inlet temperature7°C, water temperature difference 5°C.
- Heating capacity test condition: air side temperature:21DB°C, water inlet temperature 45°C, water temperature difference 5°C.
- The above data may be changed without notice for future improvement on quality and performance.

Accessories

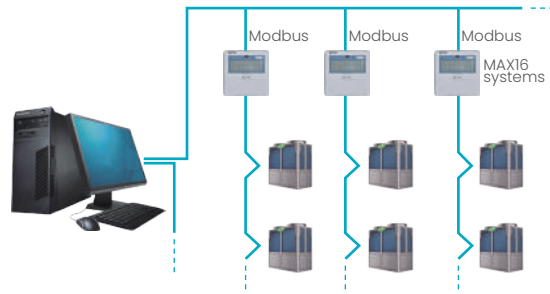


Wireless Controller (In Package Of Cassette FCUs)

- Wireless 8m transmission
- 5 operation mode: Auto, Cooling, Dehumidification, Heating, Fan
- Timer ON/OFF setting up to 24Hr
- Temperature control range 16-32°C
- Three fan speed selection

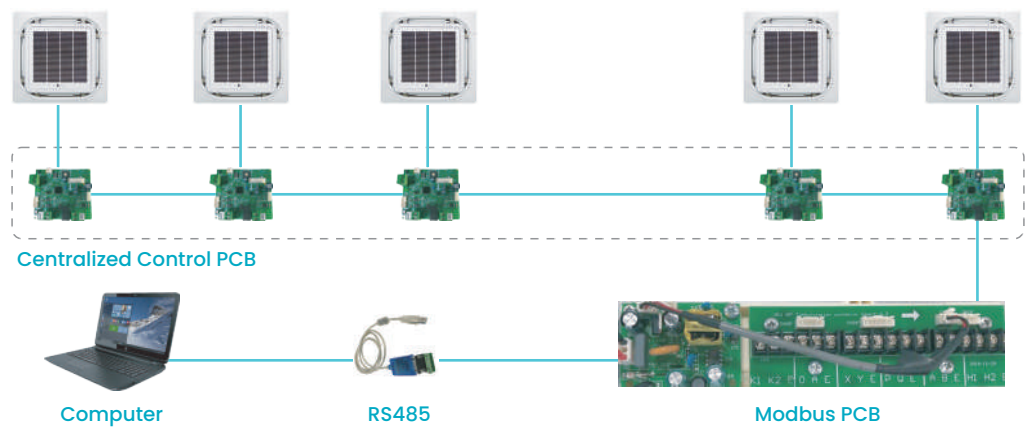
Wired Controller

- 2 operation mode
- Timer function
- Operation and error information inquiry
- Forced defrosting operation
- Button lock
- MODBUS function



Centralized Control & BMS Control

- Add centralized control PCB to cassette type FCU, to realize centralized control.
- Can connect with Modbus PCB.
- Max. 64 FCUs can be controlled together.



FCU Selection Software



Project Information

Project name	Project1
Room name	
Room area	
Room height	
Room volume	
Room temperature	
Room humidity	
Room air change	
Room air flow	
Room air speed	
Room air pressure	
Room air density	
Room air mass	
Room air weight	
Room air volume	
Room air mass flow	
Room air weight flow	
Room air volume flow	
Room air mass flow rate	
Room air weight flow rate	
Room air volume flow rate	

Equipment List

Model	Picture	Remark
NT-03		

Additional Accessories List

Model	Picture	Remark
NT-03		

FCU Calculation and Selection Result Table

Model	Capacity (kW)	Capacity (kWh)	Max Volume (m³)	Power (kW)	Cooling Rate (m³/h)	Dehumidifying Rate (g/h)	Water and Dehumidifying (g/h)
NT-03	2.0	4.0	100	100	100	100	100
NT-04	3.0	6.0	150	150	150	150	150
NT-05	4.0	8.0	200	200	200	200	200
NT-06	5.0	10.0	250	250	250	250	250
NT-07	6.0	12.0	300	300	300	300	300
NT-08	7.0	14.0	350	350	350	350	350
NT-09	8.0	16.0	400	400	400	400	400
NT-10	9.0	18.0	450	450	450	450	450
NT-11	10.0	20.0	500	500	500	500	500
NT-12	11.0	22.0	550	550	550	550	550
NT-13	12.0	24.0	600	600	600	600	600
NT-14	13.0	26.0	650	650	650	650	650
NT-15	14.0	28.0	700	700	700	700	700
NT-16	15.0	30.0	750	750	750	750	750
NT-17	16.0	32.0	800	800	800	800	800
NT-18	17.0	34.0	850	850	850	850	850
NT-19	18.0	36.0	900	900	900	900	900
NT-20	19.0	38.0	950	950	950	950	950
NT-21	20.0	40.0	1000	1000	1000	1000	1000

Reference Projects



Government building in Inner Mongolia, China.



Office building in Istanbul, Turkey.



Production hall in Zarnovica, Slovakia.



University of Mitrovica, Kosovo



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Note: The specifications of this catalogue may change for further improvement on quality and performance without prior notice to allow us to incorporate the latest innovations for its customers. The information contained in this catalogue is merely informative.