AEROSTAR

MULTI-ZONE SYSTEMS




AEROSTAR

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CRF SERIES HEAT RECOVERY

CHF SERIES



8~12HP



14~18HP



20~24HP



26~28HP



30~56HP



58~84HP



86~112HP

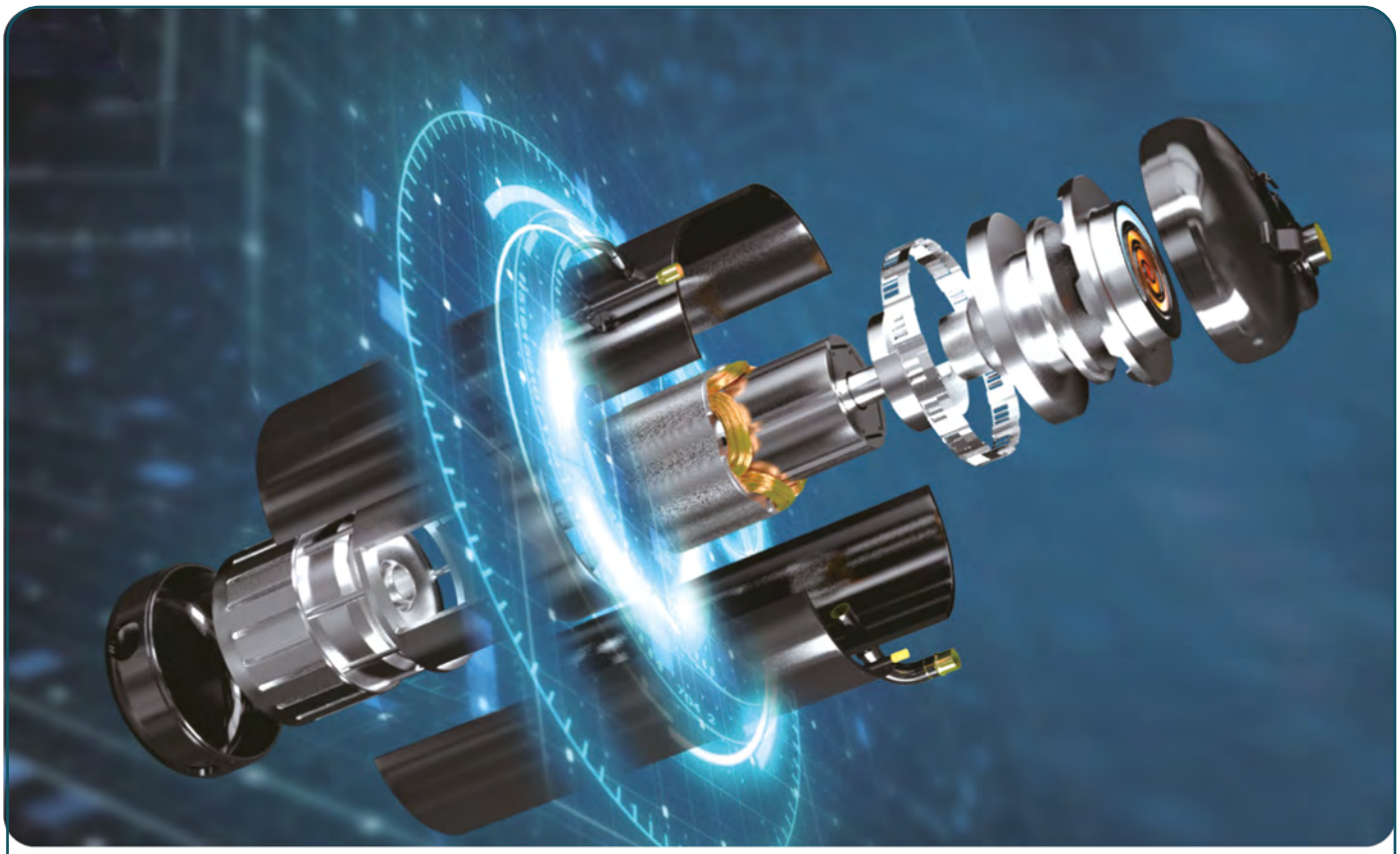
REF SERIES



4/5/6HP



8/10/12HP



REVOLUTIONARY HVAC COMPRESSOR

Vapour injection technology

New generation scroll compressor is now patented with higher performance capability vapour injection technology, increasing capacitay up to 25% compared to conventional scroll compressor with same amount of power consumed.



1 - Discharge

2 - Suction

3 - Vapour Injection

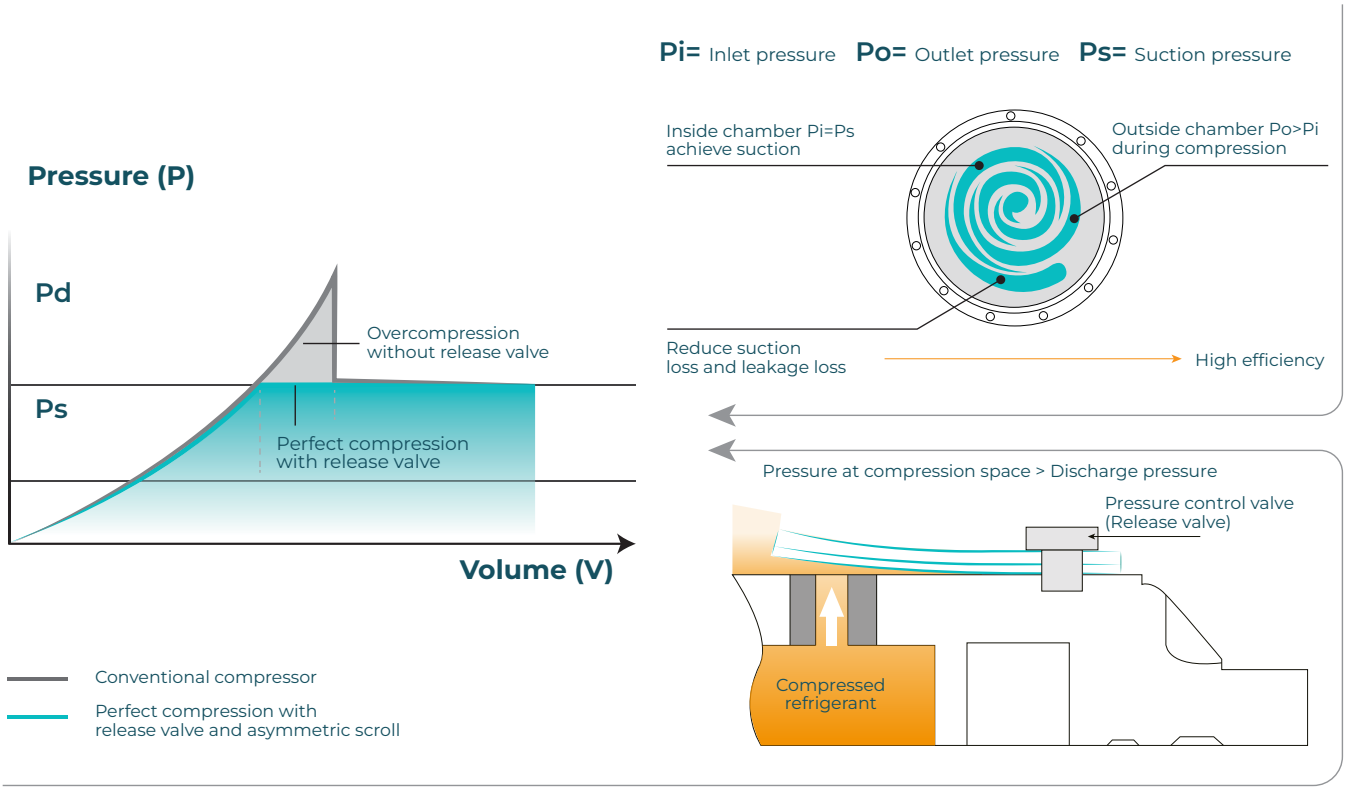
4 - Oil Supply

Notes:

Used in outdoor units
of the CRF series heat recovery

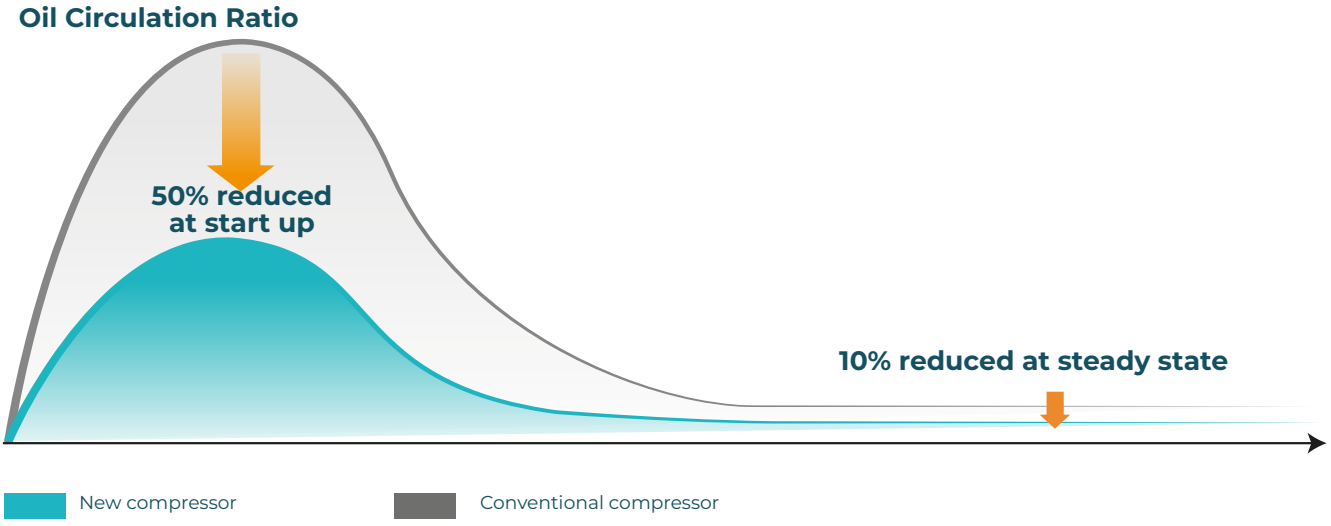
EFFICIENT ENERGY USAGE

Wasted power is reduced by minimizing leakage and anti-overcompression while compressing refrigerant gas with asymmetric scroll and patented release valves.



Enhanced oil level retaining capability

The new compressor has a greater improvement in reliability by enhancing the oil retaining capability with lower oil circulation ratio by 50%. The "oil cup" embedded in the compressor prevents compressor bearing failures due to lack of lubrication in the inner rotating components.

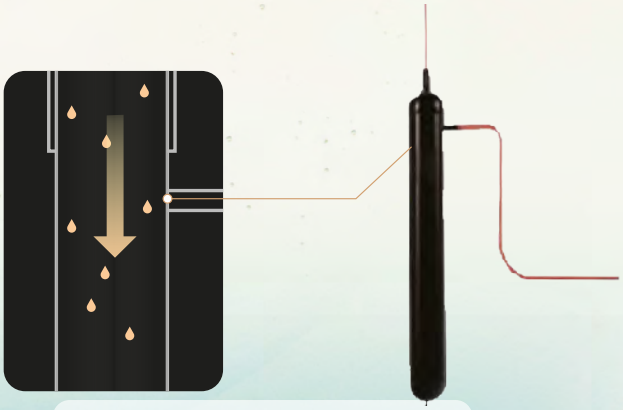


OIL SEPARATION AND OIL RETURN

OIL SEPARATION



First-stage Oil Separation

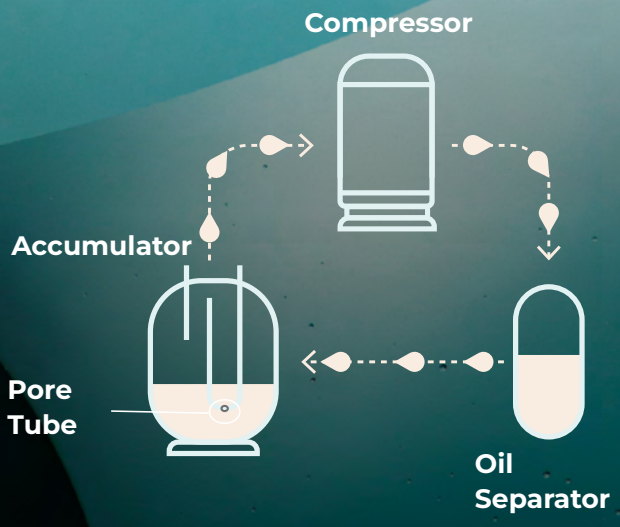


Second-stage Oil Separation

First-stage oil separation is realized through efficient oil separation structure inside the high-pressure-chamber compressor. Only a small amount of oil is brought out of the compressor.

During second-stage oil separation, the small amount of oil discharged from compressor is separated by a large-capacity high-efficiency centrifugal oil separator, with efficiency over 99%.

OIL RETURN



The accumulator adopts pore tube oil return technology with a built-in fine strainer, which not only ensures oil balance between compressors within one module, but also plays an important role in the oil balance between modules.
Besides this, the system implements oil-return function based on compressor frequency and corresponding operation time. The oil-return takes 60 seconds and can return to previous condition when it is finished.
In winter under heating mode, this operation is implemented without switching to cooling mode, which guarantees the heating performance.

ENHANCED ANTI-CORROSION SOLUTION

Aerostar`s complete corrosion-proof is a perfect solution in seaside and chemical factory applications (sulphide contamination occasion), providing ultimate comfort without sacrificing life span and reducing maintenance cost simultaneously.



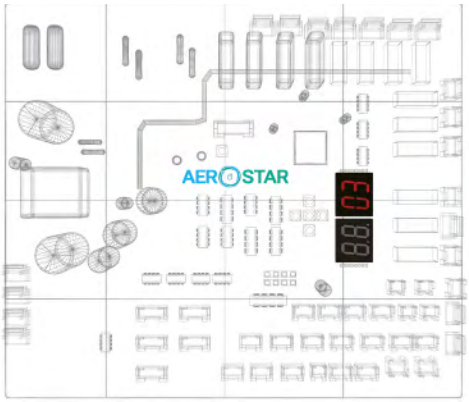
1	**Front Panel**	Galvanized steel treated with zirconium & 100μm ~ 180μm epoxy zinc rich primer + pure polyester paint coating.
2	**Heat Exchanger**	Black fin (with epoxy resin & hydrophilic film); Cooper fin.
3	**Electrical Box**	Galvanized steel treated with zirconium & 50μm~120μm pure polyester.
4	**Fan Motor**	Coated with 10μm ~ 30μm Acrylic Resin coating Thickness: 10μm ~30μm

5 Top Grill **6 Motor Bracket** **7 Protection Net**



SELF-DIAGNOSIS & SELF-PROTECTION MEASURES

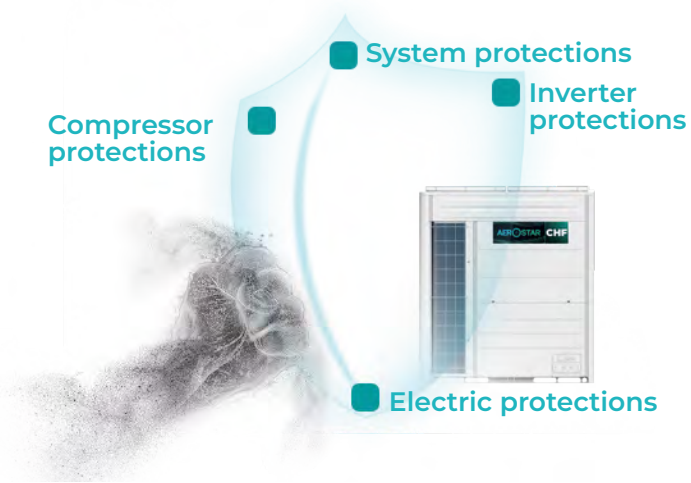
Self-diagnosis



Operation monitoring and maintenance are made simpler by having the AC unit tells you what and where is wrong with them. Alarm codes will be flashed out when an error or breakdown occurs. Extremely helpful for installers during test run and also end-users to understand what's going on. Besides alarm codes, operating status and parameters like history temperature, pressure, compressor frequency and etc are traceable on controllers and the outdoor unit, easing service maintenance and troubleshooting.

SELF-PROTECTION

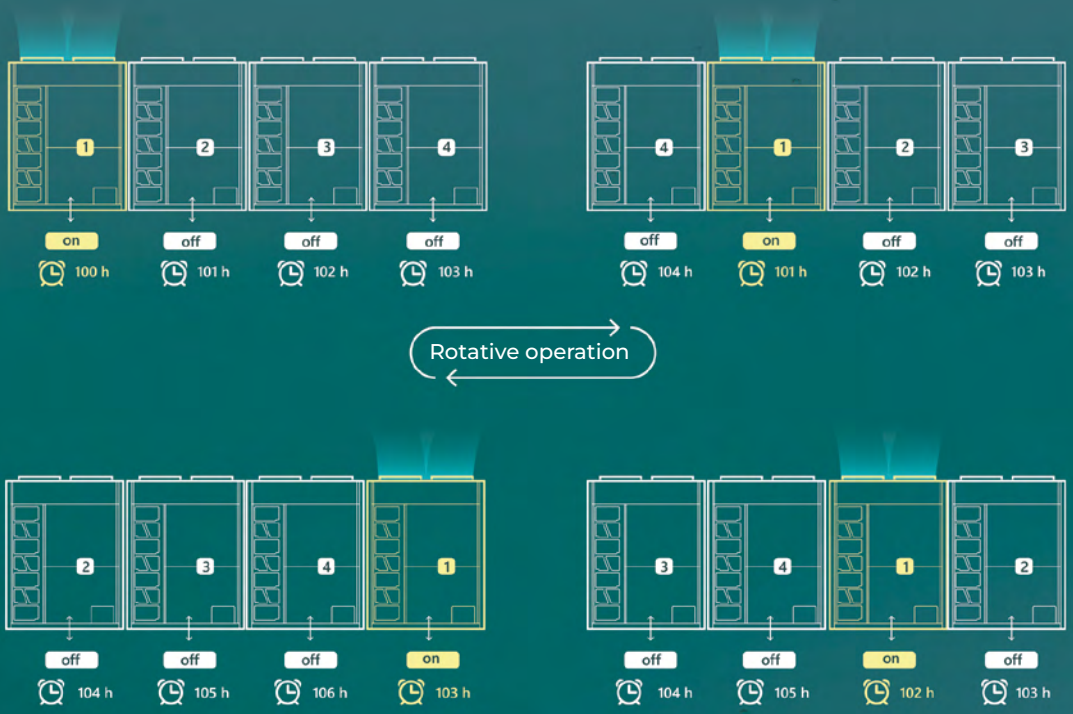
Aerostar VRF can protect itself with algorithms embedded to make necessary protective decisions and measures by different sensor readings and parameters, including compressor protections, system protections, inverter protections and electric protections.



SMART ROTATIVE OPERATION & TRIPLE BACKUP OPERATION

SMART ROTATIVE OPERATION

Operation duties are smartly balanced in higher capacity module combinations to prevent occurrence of individual unit overworked and hence extending the overall operating life of the overall system.



TRIPLE BACKUP OPERATION

Module backup operation

If one module in a combination system malfunctions, the other ones can still keep working to ensure an emergency operation until service and repair.



COMPRESSOR BACKUP OPERATION

In the single module system equipped with two compressors, if one compressor malfunctions, the other one can provide emergency operation. In the combined modules, if the compressor in one module goes wrong, the other modules can provide emergency operation.
Thus a stable and continuous operation can be ensured thanks to the backup of compressors.





Compressor Backup



Outdoor Unit Backup

FAN BACKUP OPERATION

For the module equipped with two fans, if one fan breaks down, the other one won't be influenced, the module can still keep working.



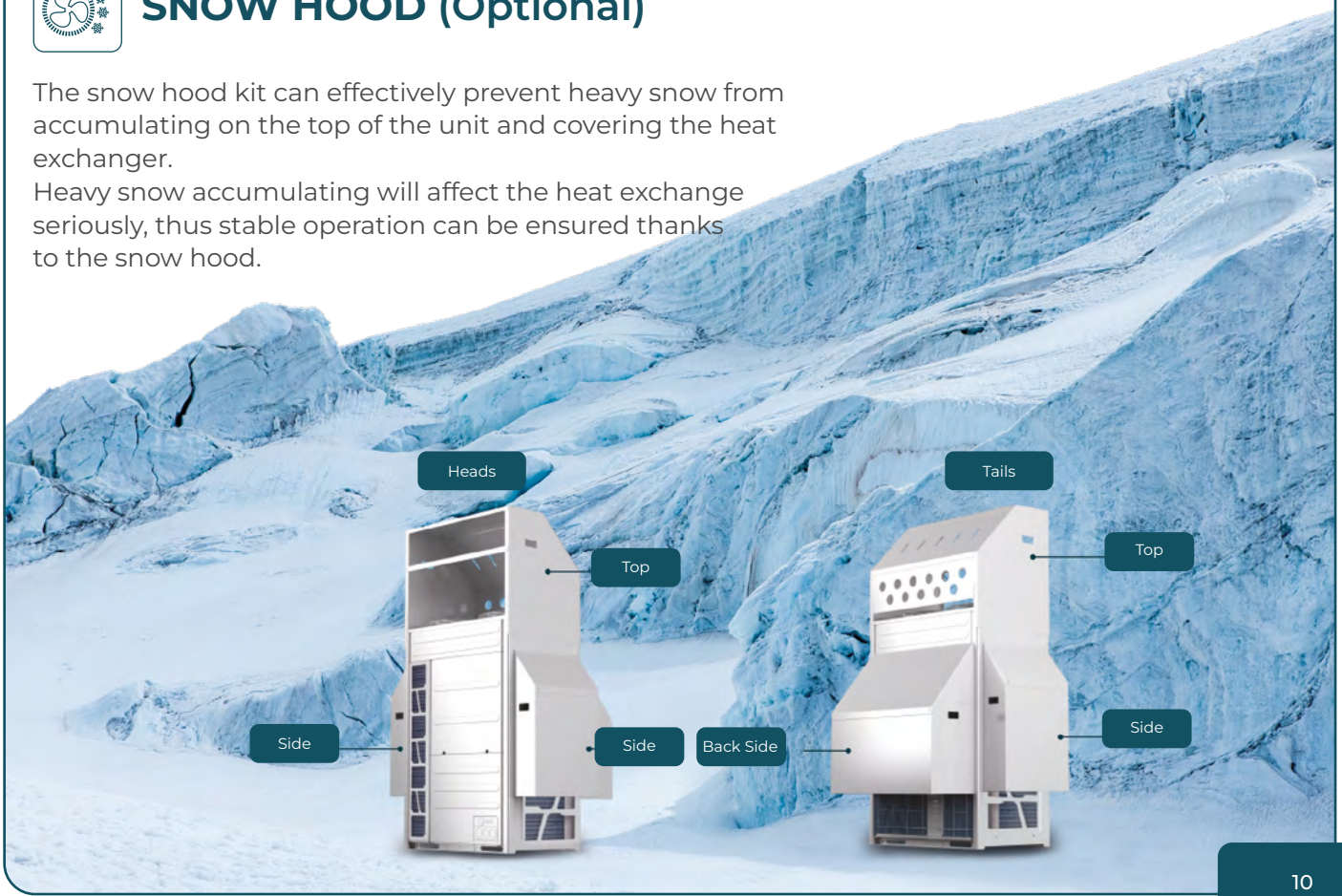
Single Module System



Combined Modules System

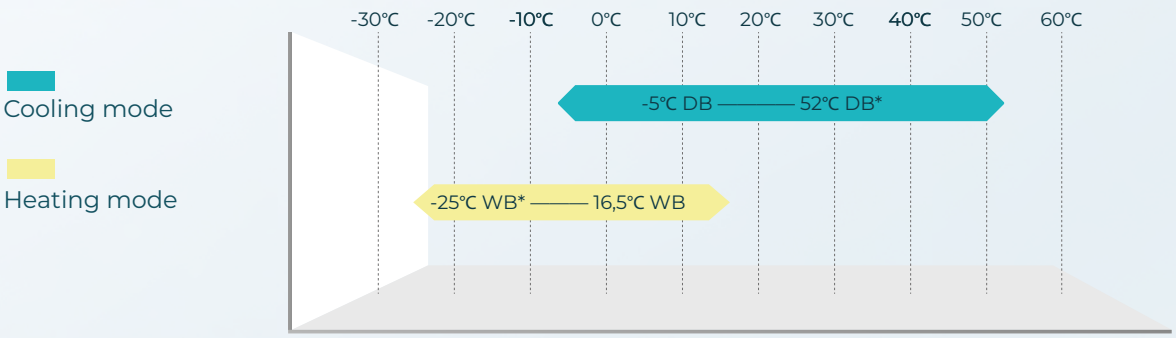
SNOW HOOD (Optional)

The snow hood kit can effectively prevent heavy snow from accumulating on the top of the unit and covering the heat exchanger.
Heavy snow accumulating will affect the heat exchange seriously, thus stable operation can be ensured thanks to the snow hood.



WIDER OPERATION RANGE

Extended operation range creates wider application potential, in cooling mode the operation range is from -5°C DB to 52°C DB and in heating mode the operation range is from -25°C WB to 16.5°C WB, which adapts to extreme conditions.



Note:

1. The dry temperature range of heating operation mode is from -25°C to 26°C.

2. When the temperature is in 48°C~52°C and -20°C~ -25°C, the module is in intermit tent operation.

3. Please refer to the specification table of each series for detailed operation range.

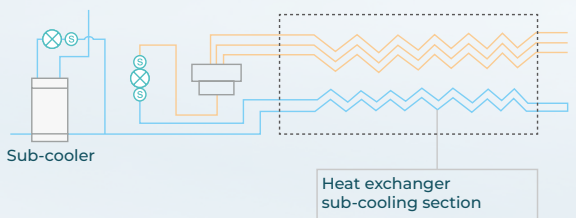
AUTOMATIC RESTART

Aerostar indoor units are capable to restart automatically to the previous state whenever the power supply is shut off suddenly and restores immediately. When there is long power shortage, the default setting is to keep all the indoor units off when the power restores. Also there are two other settings for users' choice, recovering to the state before power failure or restarting all the indoor units.

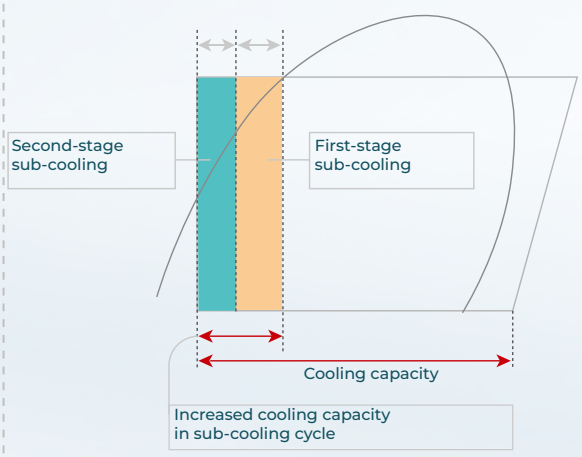
TWO-STAGE SUBCOOLING

For the conventional VRF systems without the sub-coolers, the subcooling temperature is about 12.5°C with one-stage subcooling. However, Aerostar VRF's 2-stage subcooling technology can realize the subcooling temperature up to 27°C, distinctly improving the cooling capacity by pushing refrigerant further beyond its condensing temperature.

Two-stage sub-cooling cycle diagram



Two-stage sub-cooling pressure enthalpy diagram

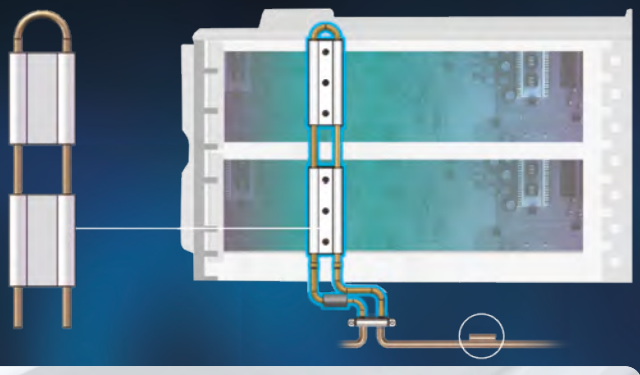


PATENTED 360°FITTED REFRIGERANT COOLING TECHNOLOGY

Aerostar VRF uses refrigerant cooling technology to cool the electrical control box. It overcomes the poor heat dissipation and high ambient temperature issues to maintain efficient operation even at harsh environment.

Compared with air-cooled technology, the temperature inside the electrical box can be reduced by up to 20%*.

Moreover, the refrigerant cooling kit adds a temperature sensor, which could be more precise to control the refrigerant cooling temperature and ensure the whole reliability.



Note:

1. The data is based on the CHF unit under low fan speed operation.*
2. Temperature sensor is only available for CHF series.

QUALITY ELECTRICAL & MAGNETISM PRECAUTION MEASURE

Air-conditioning unit produced by Aerostar VRF requires strict electromagnetic protection and preventive quality assurance to not allow electromagnetic wave from other devices surrounding the unit to interfere the normal operation and function of our unit and vice versa onto other equipment. Another typical damage causes of electronic and electrical failure is sudden high external power source exerted into the electronic compositions like thunder strike during a storm. As to overcome such inevitable natural phenomenon to cause damage, 4000V sudden high voltage test is infused into the long list of electromagnetism quality test in our internationally qualified test lab.

INSECT PROTECTION DESIGN

Special design nettings are placed on insect easy-entry openings, effectively preventing unnecessary electrical component damages.

VOLTAGE PROTECTOR RESERVED (optional)

Too low or too high voltage can easily damage the electronic components. The new generation of top flow unit has reserved the space for assembling the voltage protector, which can be an effective solution to protect outdoor units from any voltage spikes.

The power supply of outdoor unit will be automatically cut off when there is abnormal voltage, and will be restored when power supply returns to normal after 30s.

Meanwhile, it's helpful for checking the phase sequence error or phase loss according to the indicator lights, convenient for commission and maintenance.



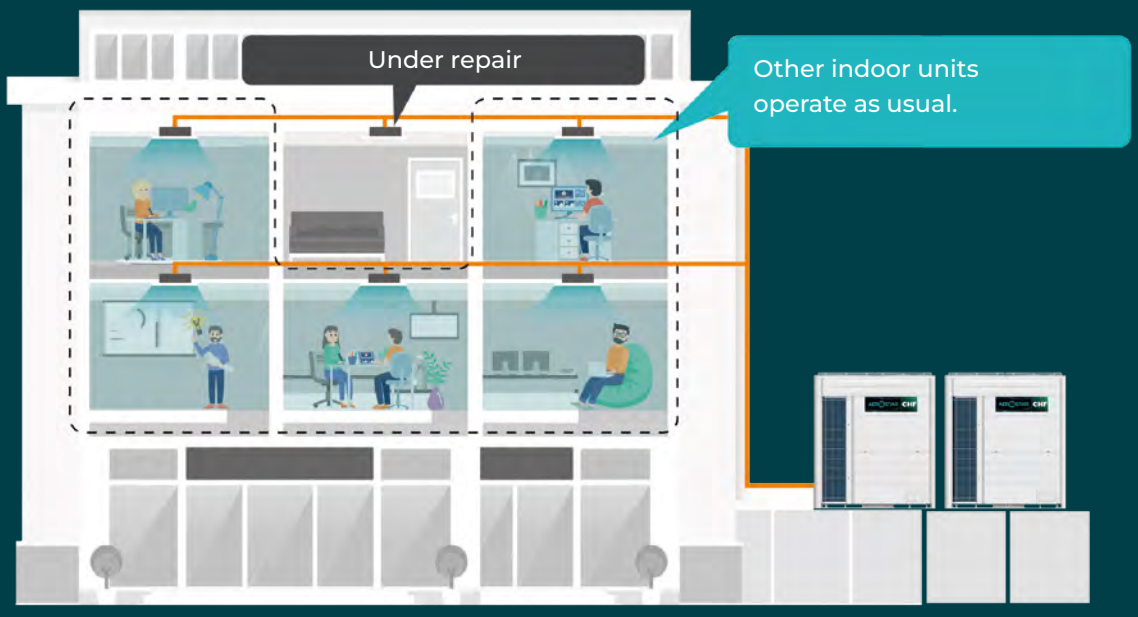
Can bear
15000 times actions

Can be installed in the factory or on site



INDEPENDENT MAINTENANCE OF INDOOR UNIT

To maintain the whole system's continuous operation even when there is a breakdown occurring within the system, Aerostar VRF is capable to isolate the faulty unit from the others while conducting restoration and maintaining continuous operation of other units simultaneously. It's especially practical for retail shops or offices where multiple indoor units share the same system.



*Preliminary setting is unnecessary

Transparent drain pipe

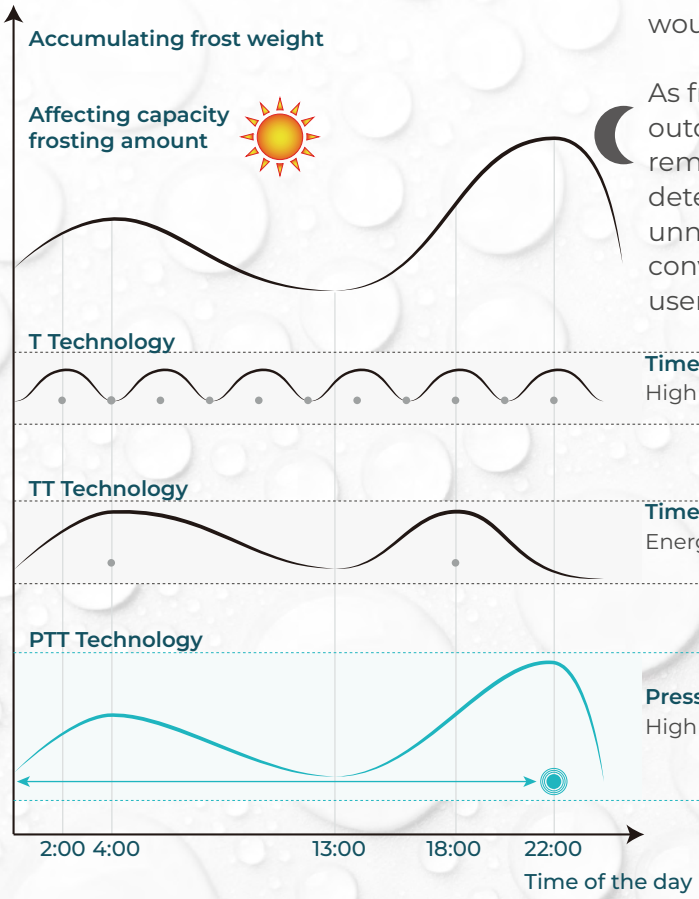
To ease drainage inspection, Aerostar indoor units adopt transparent drain hose connection.

It enhances installation and maintenance, making sure drain hoses are connected securely and make blockage inspections much easier.

PTT DEFROSTING MODE

During cold freezing days where temperature is low and humid, water vapour in the air would solidifies into frost and any object under such environment would accumulate frost.

As frosts pile up on the heat exchanger of an outdoor unit, it would need to be liquified and removed. An Intelligent Defrosting Logic could determine the perfect timing to defrost, saving unnecessary energy usage compare to conventional defrost measures, maximizing users' comfort indoors.



Time defrosting
High energy wastage and causing low indoor comfort

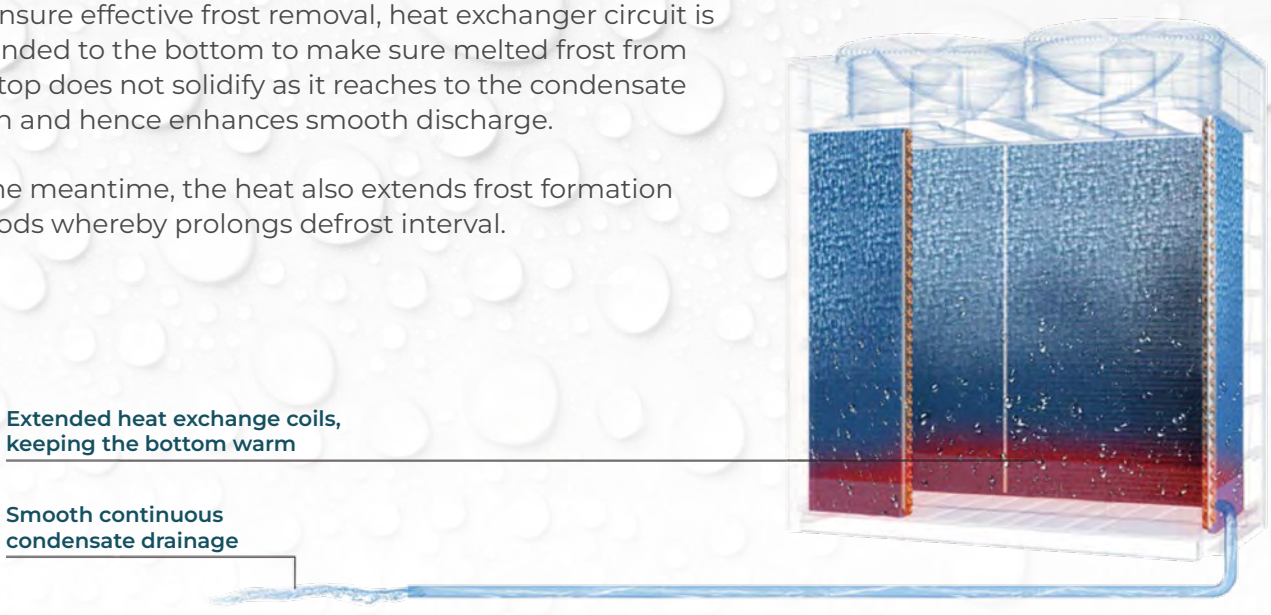
Time and temperature defrosting
Energy wastage and might not defrosting at accurate time

Pressure, time and temperature defrosting
High energy saving and efficient use of energy

Bottom anti-frosting structure

To ensure effective frost removal, heat exchanger circuit is extended to the bottom to make sure melted frost from the top does not solidify as it reaches to the condensate drain and hence enhances smooth discharge.

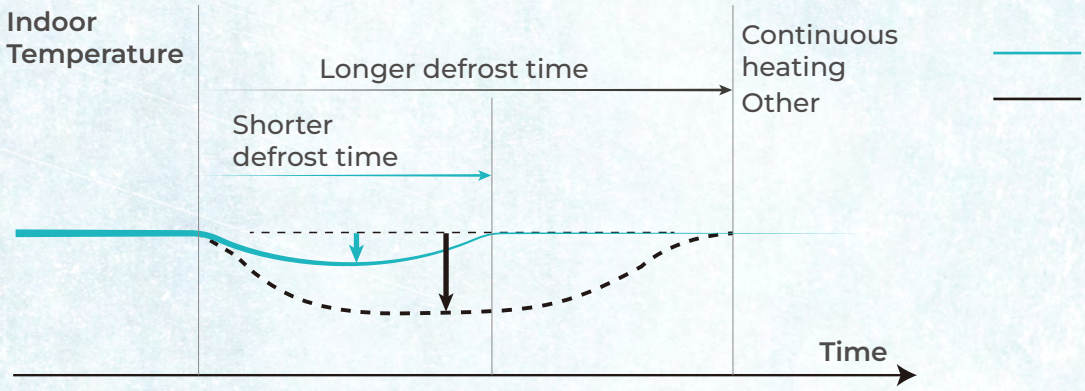
In the meantime, the heat also extends frost formation periods whereby prolongs defrost interval.

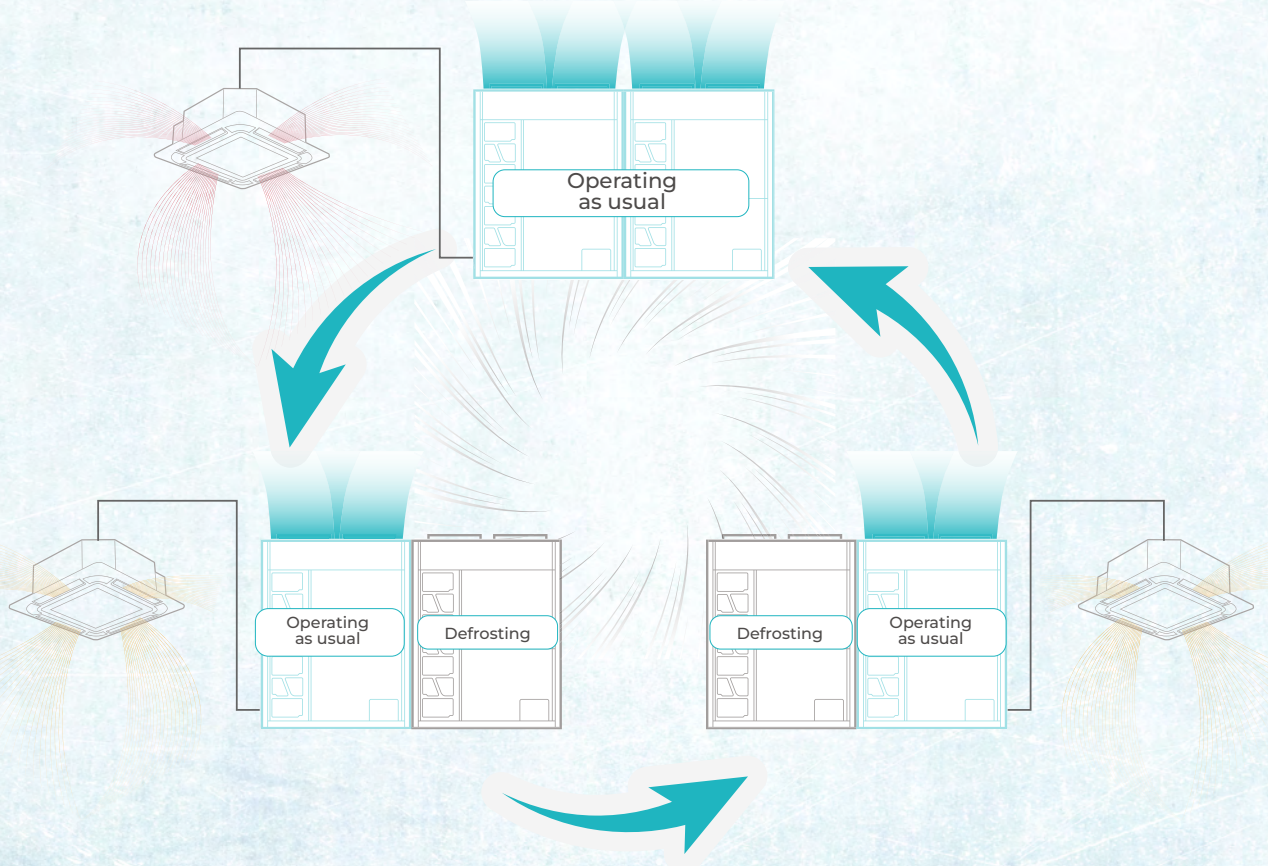


CONTINUOUS HEATING DURING DEFROST

The module combination design can achieve rotation defrosting among modules for decreasing indoor temperature fluctuation, so as to improve users' comfort.

Indoor temperature fluctuation curve





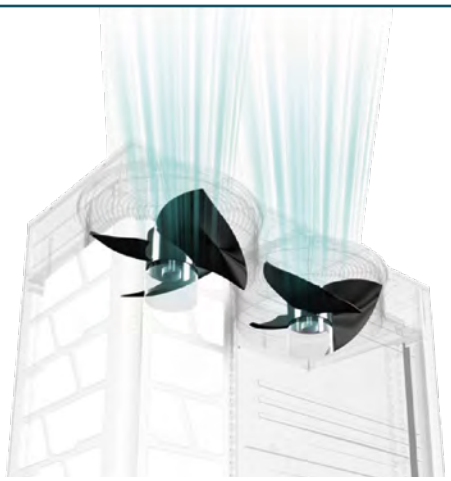
Note:

Only available for module combinations of CRF series.

STEPLESS-SMOOTH FAN SPEED CONTROL

Inverter fan motors are now commonly used, where efficiency increase by 40%.

Whereas in Aerostar VRF, brushless DC fan motors are used, as it could further reduces power consumption and noise production than normal inverter motors.



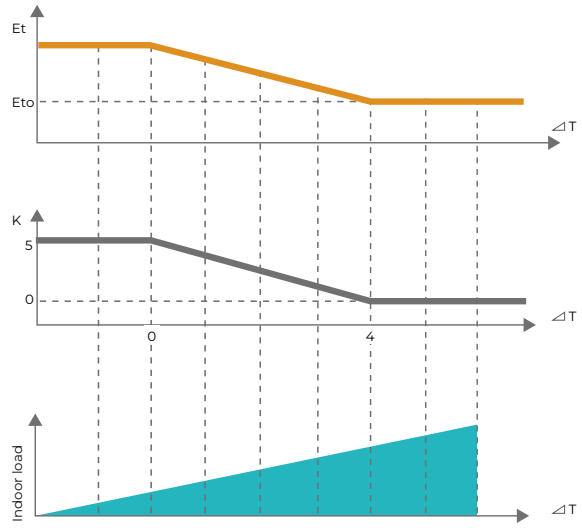
Efficient axial fan

Auto Refrigerant Temperature Control (ART)

Aerostar VRF system featured with ART technology can meet the indoor loads more accurately at a higher efficiency.
The system adjusts the evaporating temperature (Et) according to actual indoor loads automatically in a wide range. The Et is raised to minimize the difference with the condensing temperature when the air-conditioning load is low, thus further improving the energy efficiency.

Features:

1. *Energy efficiency is improved without sacrificing comfort.*
2. *ART is particularly efficient under low-load operation.*
3. *The initial evaporation temperature can be adjusted between 2-11°C, which is the widest in the market.*
4. *Realize rapid cooling with lower evaporating temperature.*
5. *Avoiding cold draft with higher evaporating temperature.*



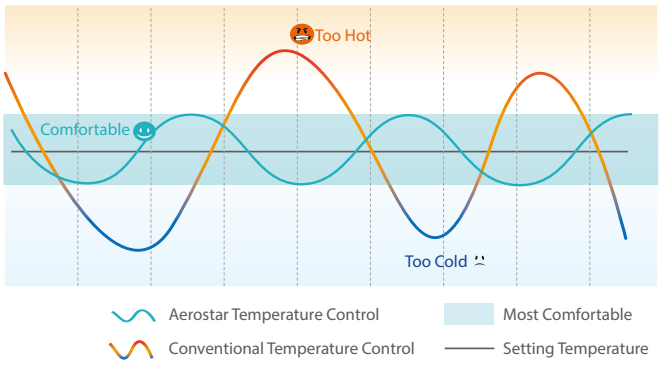
Et=Eto+K
Et: Evaporation temperature
Eto: The initial evaporation temperature
Δ T: The temperature difference between air inlet and the setting temperature

PRECISE TEMPERATURE CONTROL



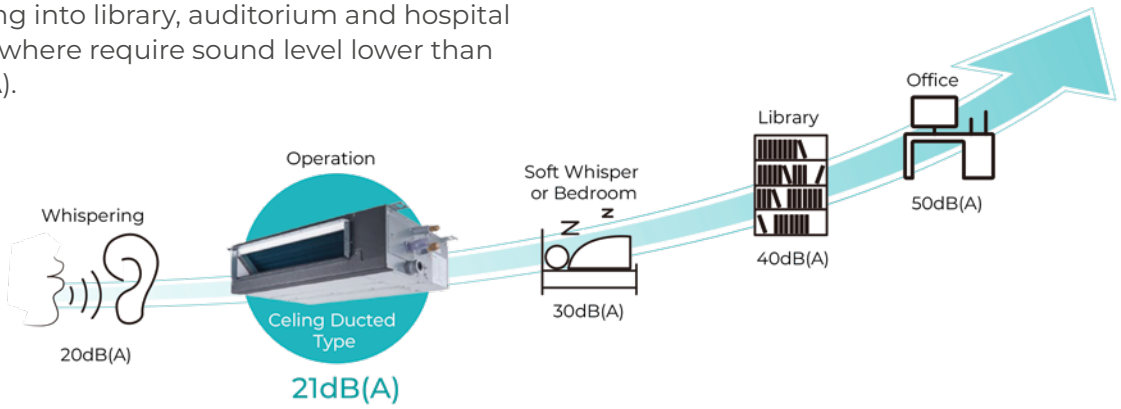
2000-step EEV

There are multiple temperature sensors equipped in the system, which will be very helpful to judge the indoor load more accurately. Also the 2000-step EEV is specially adopted to ensure
precise refrigerant flow adjustment according to the actual load of indoor units, achieving a more comfortable indoor environment with small temperature fluctuation.



LOWER NOISE FOR INDOOR UNITS

Aerostar VRF offers indoor units with sound pressure level as low as 19dB(A), perfectly blending into library, auditorium and hospital rooms where require sound level lower than 25dB(A).

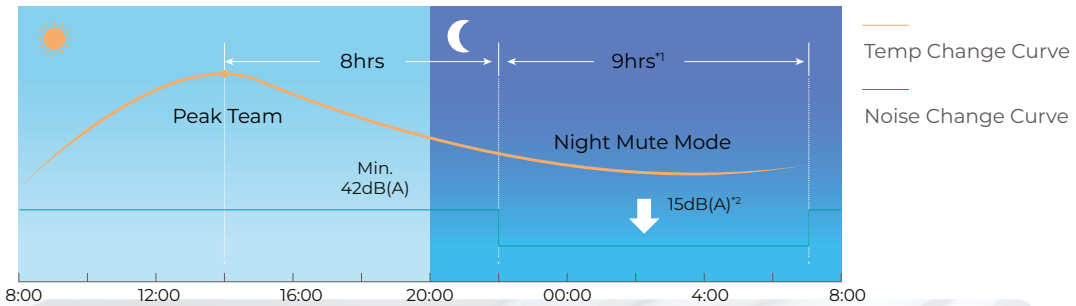


The DC ceiling ducted type (AER-CS15DLDC) can achieve the 21 dB(A) under the standard test condition.

OUTDOOR UNIT NOISE CONTROL

Auto night quiet mode

When outdoor conditions call for special low noise requirements, like in cases where outdoor units are installed in indoor equipment rooms with poor soundproof walls or continuous night operating conditions. The night mode reduces sound pressure levels upto 30% routinely with flexible time intervals to meet different customer needs.



Note:

1. The night mute mode can last for 8hrs, 9hrs or 10hrs according to the setting.
2. Take the unit AER-CS280CHOU CHF series as an example.

Low noise mode

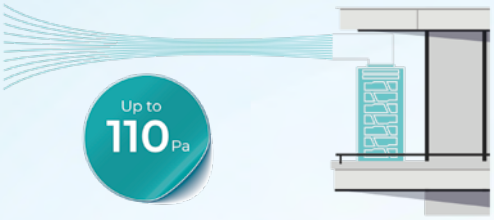
Low noise mode can be set by operating the DIP in the PCB.
There are multiple levels by set different frequencies of compressor and fan motor speed.
What's more, the low noise mode can be achieved by external input signal. The noise can be reduced by up to 14dB(A)

VIP Mode

Aerostar VRF offers VIP mode to give priority to the specific room, keeping them comfortable and satisfied as fast as possible and 5 indoor units can be set as VIP mode at the same time. Such function is exclusively practical for hotel application, where AC unit in the presidential suite is often set to VIP mode.



Adaptive fan static pressure technology



The initial setting is 80Pa. Can be set to 110Pa from the PCB on site.

External static pressure is essential to determine the air discharge and duct connection distance.

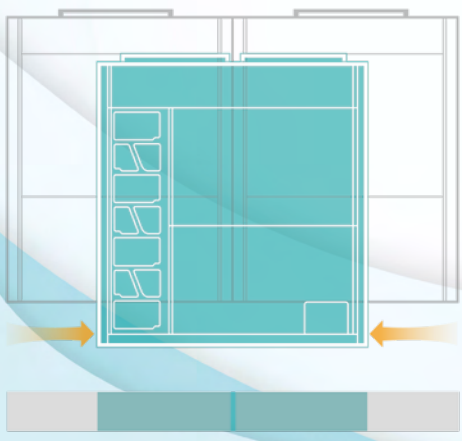
Aerostar VRF's outdoor unit external static pressure is reachable upto 110Pa compare to the conventional 80Pa.

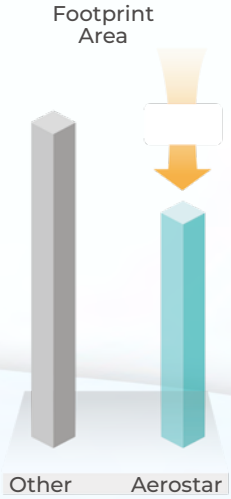
Allowing longer ducting connection for better air discharge when are installed in the equipment platform that is not easy to exhaust.

LARGER CAPACITY, MINIMIZING FOOTPRINT AREA

Aerostar VRF outdoor units now possess larger capacity per single module unit. Reducing the installation floor space significantly also eliminates the necessity of modules for bigger capacity.

Despite the beneficial space saving properties, same goes to the unit's weight per capacity too. Hence, offering more design and installation flexibility even in limited spaces.







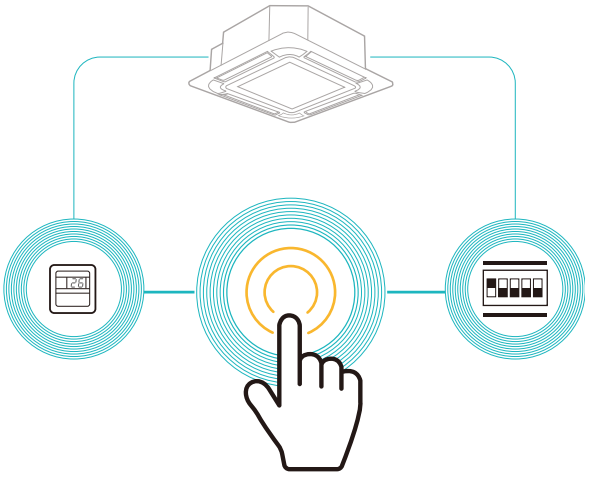
COMPACT AND LIGHT-WEIGHT

With larger capacity per unit, Aerostar VRF outdoor units are more compact in size with the largest capacity of 28HP single module, leading capacity of a single module in the market.
Compact yet reduced overall weight makes transportation much convenient and even fit into elevators.

ONE-TOUCH TEST RUN

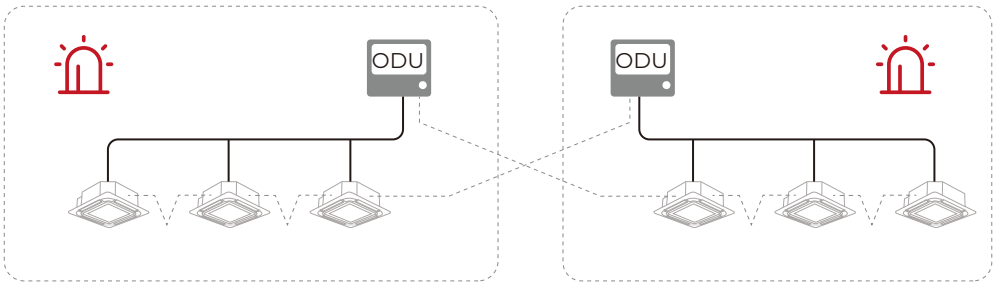
Test run is one of the essential part in testing and commissioning to make sure the HVAC system in a building works steadily and safely before hand over or soft opening.
To make test run as simple as possible, Aerostar VRF systems are capable to conduct test runs with just a button away wherever installers are, both indoors and outdoors.





FLEXIBLE CONNECTION

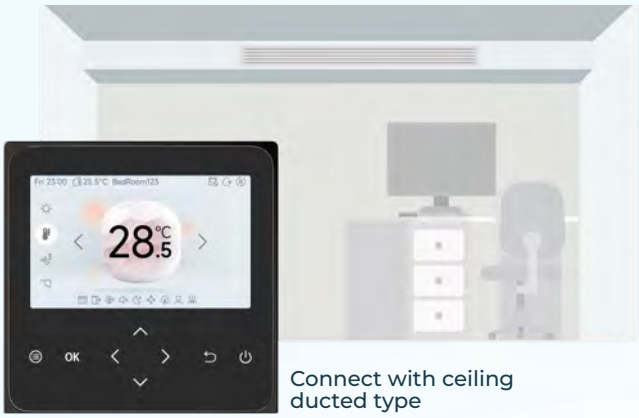
Communication line connections between outdoor unit to indoor units might be confusing when comes to long cables from the outdoors to the indoors and vise versa. It is often incorrectly connected and caused various errors affecting the end user's comfort levels. Despite of Aerostar VRF's simple wiring connection ports, the outdoor unit itself could also check on the connections and display warnings when the connections are improper.



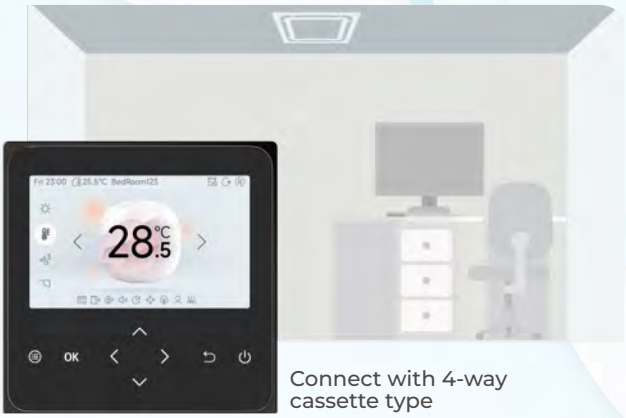
Indoor units from different systems are connected to the incorrect outdoor unit, alarm codes flashes out warning installers to make proper corrections.

INTELLIGENT MATCHING IDUS

Match all kinds of Aerostar indoor units. If each air deflector can be controlled independently, the key will light. On the contrary, the key will dim and you can not click.



Connect with ceiling ducted type



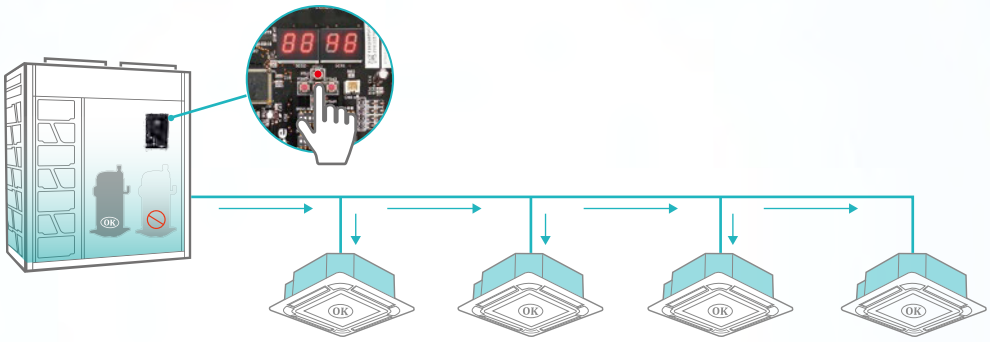
Connect with 4-way cassette type

ONE-TOUCH REFRIGERANT RECYCLE

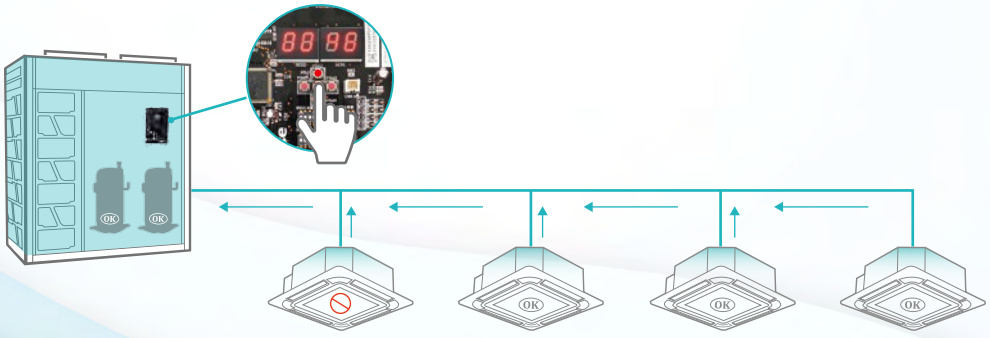
Aerostar VRF has one-touch refrigerant recycle function.

Just with a press of the button on the PCB, the refrigerant can be recycled directly, it is very helpful and convenient when the indoor units or the compressor are under repair.

Replacing Compressor

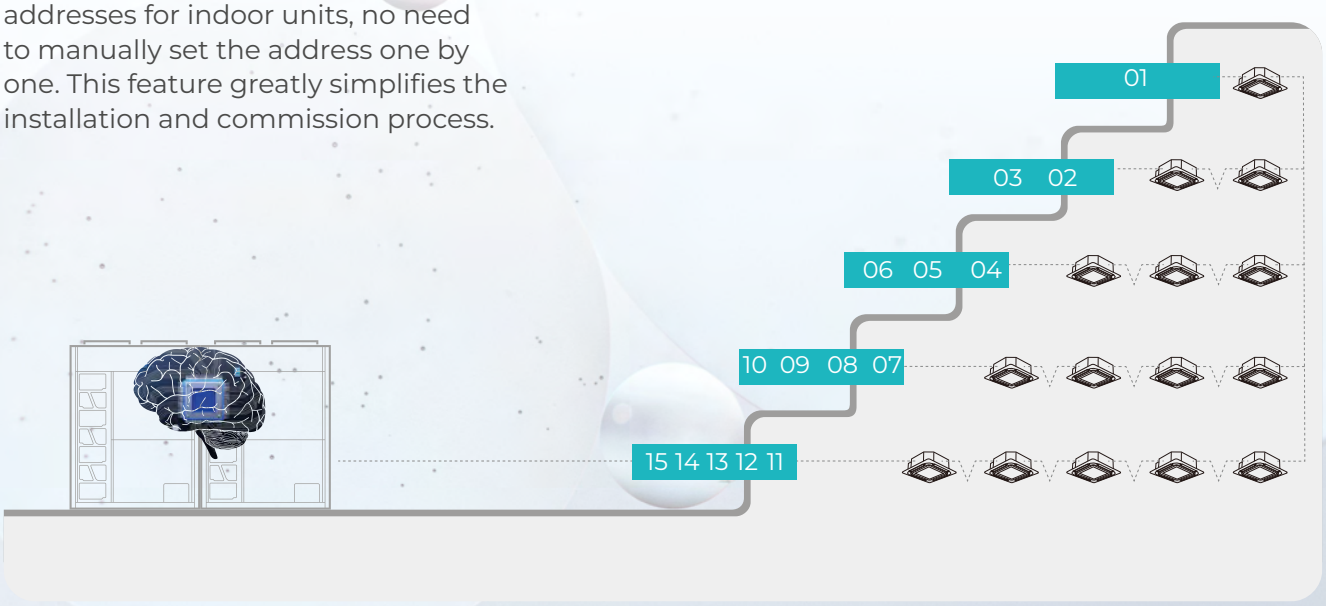


Replacing Indoor Unit



AUTOMATIC ADDRESS DISTRIBUTION

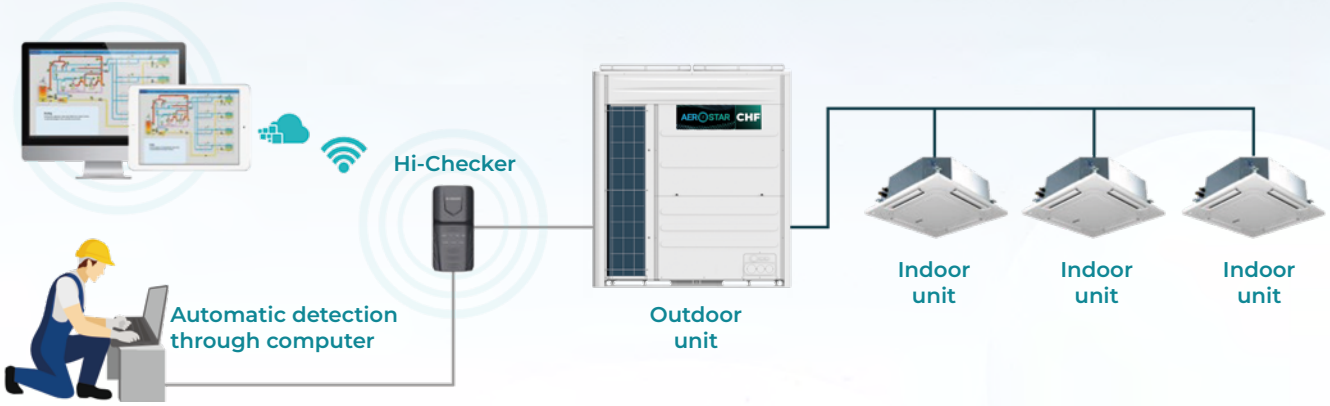
The system can automatically distribute addresses for indoor units, no need to manually set the address one by one. This feature greatly simplifies the installation and commission process.



ACCURATE INTELLIGENT SYSTEM DIAGNOSIS

Exclusive Hi-Checker is a super intelligent service tool for system diagnosis, which can provides easy access to service parameters.

Detail operation status and recent error history can be checked and analyzed by using Hi-Checker.



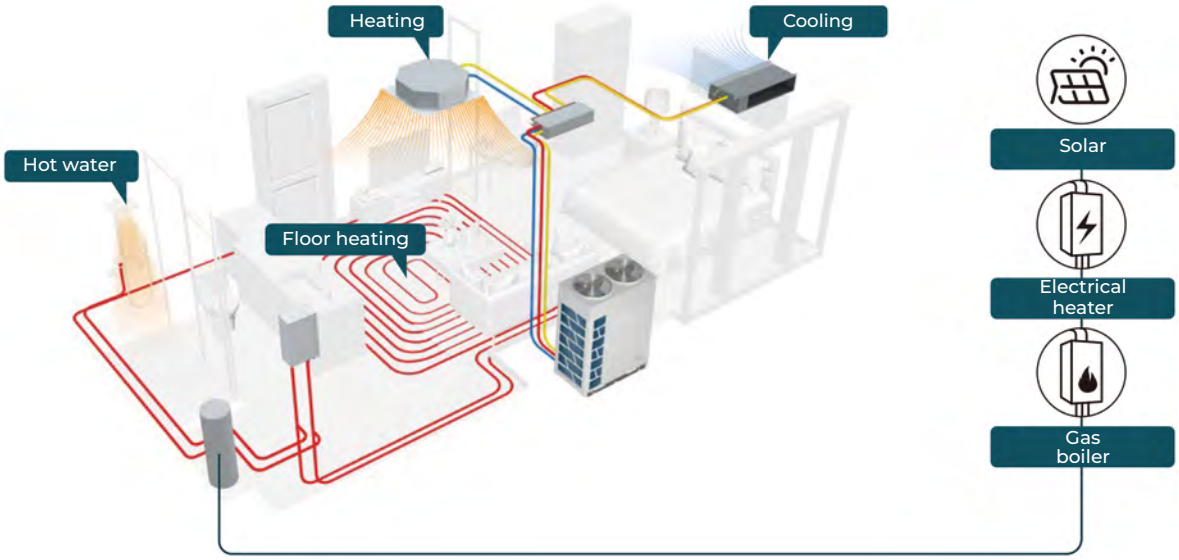
AEROSTAR

CRF
HEAT RECOVERY SERIES



ALL IN ONE RENEWABLE ENERGY SOLUTION

With CRF heat recovery series, cooling and heating of air can be realised simultaneously including water. During summer, it serves cool indoor rooms and warm water supply for night showers. With the same system, floor heating and fan coil unit heating and cooling can be done during season transition periods.



200% CONNECTION RATIO

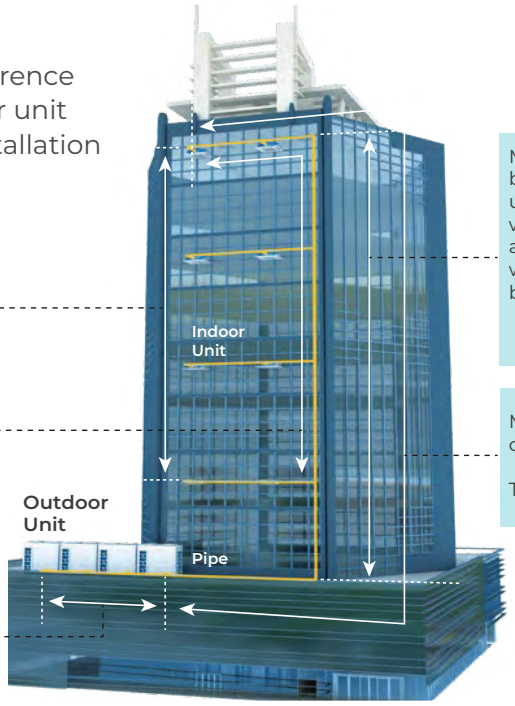
The powerful CRF heat recovery series outdoor units are connectable to indoor units up to 2 times of its own capacity with ratio of 200% for a more efficient and cost saving system.

EXTERNAL STATIC PRESSURE

External static pressure is reachable up to 110Pa, allowing better air discharge when are installed indoors with ducting or even outdoors in poor air ventilation spaces.

PIPING LENGTH

With extra long pipe, the height difference between the indoor unit and outdoor unit is up to 90 meters*, which makes installation more flexible.



Maximum height difference of indoor units: 15m(30m*)

Maximum length from the first branch pipe to the farthest indoor unit: 90m

Largest pipe length between outdoor units: 10m

Maximum height difference between indoor and outdoor units:
when the outdoor unit is above: 50m(90m*)
when the outdoor unit is below: 40m(90m*)

Maximun actural length of a single pipe: 165m

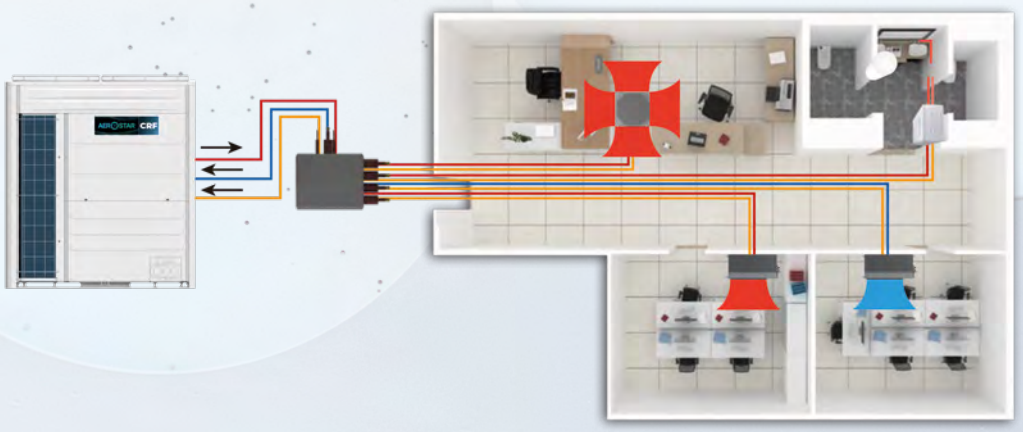
Total length of pipes: 1000m

Note:
For detailed information, please contact Aerostar's technical staff.

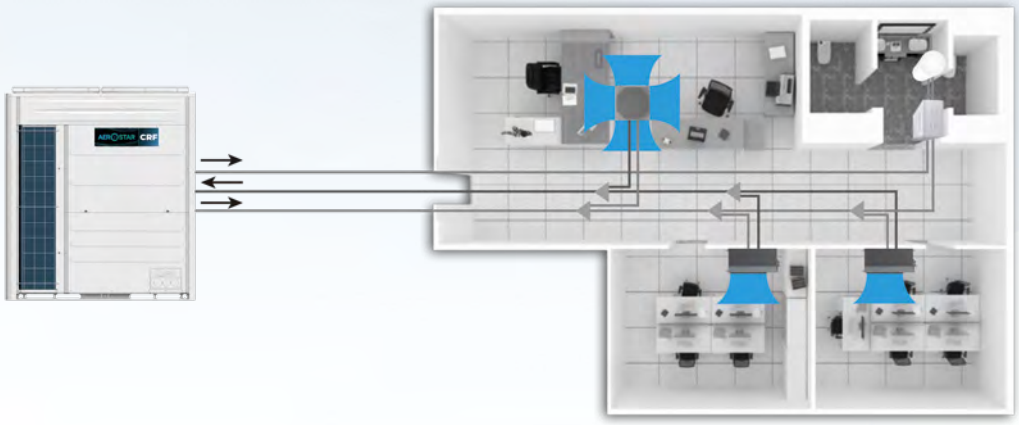
SWITCH BOX

Блок дає змогу спростити 3-трубну систему з рекуперацією тепла за рахунок меншої кількості з'єднань і трубопроводів. Потужності до 85 кВт для більших систем і до 16 портів для під'єднання внутрішніх блоків.

3 Pipes Without Switch Box



3 Pipes Without Switch Box





CRF
Heat Recovery

HP			8HP	10HP	12HP	14HP	16HP	18HP
Model	Model		AER-CS224CROU	AER-CS280CROU	AER-CS335CROU	AER-CS400CROU	AER-CS450CROU	AER-CS500CROU
	Modules		——	——	——	——	——	——
	Power Supply		AC 3Φ, 380-415V/50/60Hz					
Cooling	Capacity	kW	22.4	28.0	33.5	40.0	45.0	50.0
	Power Input	kW	4.87	6.75	8.09	10.26	12.16	14.04
	EER	kW / kW	4.60	4.15	4.14	3.90	3.70	3.56
Heating	Capacity (Max/ Nom)	kW	25.0 / 22.4	31.5 / 28.0	37.5 / 33.5	45.0 / 40.0	50.0 / 45.0	56.0 / 50.0
	Power Input (Max/ Nom)	kW	5.20 / 4.36	6.77 / 5.63	9.17 / 7.70	10.82 / 8.89	12.14 / 10.32	14.74 / 12.02
	COP (Max)	kW / kW	4.81	4.65	4.09	4.16	4.12	3.80
Ventilation	Air Flow Rate	m^3/min	183	183	183	200	200	200
	Fan Quantity		1	1	1	2	2	2
	Static Pressure	Pa	110	110	110	110	110	110
Sound	Sound Pressure Level	dB(A)	59	60	62	62	62	62
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor					
	Compressor Quantity	pcs	1	1	1	1	1	2
Refrigerant	Type	-	R410A					
	Pre-charged Quantity	kg	5.60	5.90	6.00	8.80	8.80	9.20
Weight	Net Weight	kg	226	227	246	289	290	349
	Gross Weight	kg	246	247	266	311	312	371
Dimensions	External (HxWxD)	mm	1730x950x750	1730x950x750	1730x950x750	1730x1210x750	1730x1210x750	1730x1210x750
	Packing (HxWxD)	mm	1930x1015x790	1930x1015x790	1930x1015x790	1930x1275x790	1930x1275x790	1930x1275x790
Cabinet Color			Слонова кістка	Слонова кістка	Слонова кістка	Слонова кістка	Слонова кістка	Слонова кістка
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ19.05(3/4)	Φ22.20(7/8)	Φ25.40(1)	Φ25.40(1)	Φ28.60(1-1/8)	Φ28.60(1-1/8)
	High/Low Pressure Gas Line	mm(in.)	Φ15.88(5/8)	Φ19.05(3/4)	Φ22.2(7/8)	Φ22.2(7/8)	Φ22.2(7/8)	Φ22.2(7/8)
	Liquid Line	mm(in.)	Φ9.53(3/8)	Φ9.53(3/8)	Φ12.70(1/2)	Φ12.70(1/2)	Φ12.70(1/2)	Φ15.88(5/8)
Heat Pump Operation System	Gas Line	mm(in.)	Φ19.05(3/4)	Φ22.20(7/8)	Φ25.40(1)	Φ25.40(1)	Φ28.60(1-1/8)	Φ28.60(1-1/8)
	Liquid Line	mm(in.)	Φ9.53(3/8)	Φ9.53(3/8)	Φ12.70(1/2)	Φ12.70(1/2)	Φ12.70(1/2)	Φ15.88(5/8)
Connectable Indoor Units	Quantity	pcs	13	16	19	23	26	29
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)	15(30**2)	15(30*2)
	Max. Piping Length	m	165	165	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			20HP	22HP	24HP	26HP	28HP
Model	Model		AER-CS560CROU	AER-CS615CROU	AER-CS680CROU	AER-CS725CROU	AER-CS800CROU
	Modules		——	——	——	——	——
	Power Supply		AC 3Φ, 380-415V/50/60Hz				
Cooling	Capacity	kW	56.0	61.5	68.0	72.5	80.0
	Power Input	kW	15.60	18.04	20.61	21.90	24.24
	EER	kW / kW	3.59	3.41	3.30	3.31	3.20
Heating	Capacity (Max/ Nom)	kW	63.0 / 56.0	69.0 / 61.5	75.0 / 68.0	80.0 / 72.5	90.0 / 80.0
	Power Input (Max/ Nom)	kW	16.54 / 13.56	18.80/ 15.89	21.43 / 18.38	22.35 / 19.23	26.01 / 21.92
	COP (Max)	kW / kW	3.81	3.67	3.50	3.58	3.46
Ventilation	Air Flow Rate	m³/min	267	296	296	350	350
	Fan Quantity		2	2	2	2	2
	Static Pressure	Pa	110	110	110	110	110
Sound	Sound Pressure Level	dB(A)	63	64	66	67	67
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor				
	Compressor Quantity	pcs	2	2	2	2	2
Refrigerant	Type	-	R410A				
	Pre-charged Quantity	kg	9.80	10.60	10.60	11.50	11.50
Weight	Net Weight	kg	369	377	378	400	401
	Gross Weight	kg	393	401	402	426	427
Dimensions	External (HxWxD)	mm	1730x1350x750	1730x1350x750	1730x1350x750	1730x1600x750	1730x1600x750
	Packing (HxWxD)	mm	1930x1420x790	1930x1420x790	1930x1420x790	1930x1665x790	1930x1665x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ28.60(1-1/8)	Φ28.60(1-1/8)	Φ28.60(1-1/8)	Φ31.75(1-1/4)	Φ31.75(1-1/4)
	High/Low Pressure Gas Line	mm(in.)	Φ22.2(7/8)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ28.6(1-1/8)
	Liquid Line	mm(in.)	Φ15.88(5/8)	Φ15.88(5/8)	Φ15.88(5/8)	Φ19.05(3/4)	Φ19.05(3/4)
Heat Pump Operation System	Gas Line	mm(in.)	Φ28.60(1-1/8)	Φ28.60(1-1/8)	Φ28.60(1-1/8)	Φ31.75(1-1/4)	Φ31.75(1-1/4)
	Liquid Line	mm(in.)	Φ15.88(5/8)	Φ15.88(5/8)	Φ15.88(5/8)	Φ19.05(3/4)	Φ19.05(3/4)
Connectable Indoor Units	Quantity	pcs	33	36	40	43	47
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			30HP	32HP	34HP	36HP	38HP
Model	Model		AER-CS850CROU	AER-CS900CROU	AER-CS950CROU	AER-CS1000CROU	AER-CS1060CROU
	Modules		AER-CS450CROU AER-CS400CROU	AER-CS450CROU AER-CS450CROU	AER-CS500CROU AER-CS450CROU	AER-CS500CROU AER-CS500CROU	AER-CS560CROU AER-CS500CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz				
Cooling	Capacity	кВт	85.0	90.0	95.0	101.0	106.0
	Power Input	кВт	22.41	24.32	26.20	27.75	29.64
	EER	кВт / кВт	3.79	3.70	3.63	3.64	3.58
Heating	Capacity (Max/ Nom)	кВт	95.0 / 85.0	100.0 / 90.0	106.0 / 95.0	113.0 / 101.0	119.0 / 106.0
	Power Input (Max/ Nom)	кВт	22.95 / 19.21	24.27/ 20.64	26.82 / 22.33	28.62 / 23.86	31.27 / 25.58
	COP (Max)	кВт / кВт	4.14	4.12	3.95	3.95	3.81
Ventilation	Air Flow Rate	м³/хв	400	400	400	467	467
	Fan Quantity		4	4	4	4	4
	Static Pressure	Па	110	110	110	110	110
Sound	Sound Pressure Level	dB(A)	67	67	67	67	67
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor				
	Compressor Quantity	шт	2	2	3	3	4
Refrigerant	Type	-	R410A				
	Pre-charged Quantity	кг	8.80+8.80	8.80+8.80	8.80+9.20	8.80+9.80	9.20+9.80
Weight	Net Weight	кг	289+290	290+290	290+349	290+369	349+369
	Gross Weight	кг	311+312	312+312	312+371	312+393	371+393
Dimensions	External (HxWxD)	мм	1730x (1210+1210) x750	1730x (1210+1210) x750	1730x (1210+1210) x750	1730x (1210+1350) x750	1730x (1210+1350) x750
	Packing (HxWxD)	мм	1930x (1275+1275) x790	1930x (1275+1275) x790	1930x (1275+1275) x790	1930x (1275+1420) x790	1930x (1275+1420) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	мм(дюйм)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ38.1(1-1/2)	Φ38.1(1-1/2)
	High/Low Pressure Gas Line	мм(дюйм)	Φ28.6(1-1/8)	Φ28.6(1-1/8)	Φ28.6(1-1/8)	Φ28.6(1-1/8)	Φ31.75(1-1/4)
	Liquid Line	мм(дюйм)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)
Heat Pump Operation System	Gas Line	мм(дюйм)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ38.1(1-1/2)	Φ38.1(1-1/2)
	Liquid Line	мм(дюйм)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)
Connectable Indoor Units	Quantity	шт	50	53	56	59	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	м (вище)	50(90*2)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		м (нижче)	40(90*2)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	м	15(30*2)	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	м	165	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			40HP	42HP	44HP	46HP	48HP
Model	Model		AER-CS1120CROU	AER-CS1180CROU	AER-CS1240CROU	AER-CS1295CROU	AER-CS1360CROU
	Modules		AER-CS560CROU AER-CS560CROU	AER-CS680CROU AER-CS500CROU	AER-CS680CROU AER-CS560CROU	AER-CS680CROU AER-CS615CROU	AER-CS680CROU AER-CS680CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz				
Cooling	Capacity	kW	112.0	118.0	124.0	129.5	136.0
	Power Input	kW	31.20	34.60	36.15	38.63	41.21
	EER	kW / kW	3.59	3.41	3.43	3.35	3.30
Heating	Capacity (Max/ Nom)	kW	126.0 / 112.0	131.0 / 118.0	138.0 / 124.0	144.0 / 129.5	150.0 / 136.0
	Power Input (Max/ Nom)	kW	33.07 / 27.12	36.12/ 30.30	37.92 / 31.85	40.21 / 34.25	42.86 / 36.76
	COP (Max)	kW / kW	3.81	3.63	3.64	3.58	3.50
Ventilation	Air Flow Rate	m^3/min	534	496	563	592	592
	Fan Quantity		4	4	4	4	4
	Static Pressure	Pa	110	110	110	110	110
Sound	Sound Pressure Level	dB(A)	67	67	68	68	69
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor				
	Compressor Quantity	pcs	4	4	4	4	4
Refrigerant	Type	-	R410A				
	Pre-charged Quantity	kg	9.80+9.80	9.20+10.60	9.80+10.60	10.60+10.60	10.60+10.60
Weight	Net Weight	kg	369+369	349+378	369+378	377+378	378+378
	Gross Weight	kg	393+393	371+402	393+402	401+402	402+402
Dimensions	External (HxWxD)	mm	1730x (1350+1350) x750	1730x (1210+1350) x750	1730x (1350+1350) x750	1730x (1350+1350) x750	1730x (1350+1350) x750
	Packing (HxWxD)	mm	1930x (1420+1420) x790	1930x (1275+1420) x790	1930x (1420+1420) x790	1930x (1420+1420) x790	1930x (1420+1420) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)
	High/Low Pressure Gas Line	mm(in.)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ31.75(1-1/4)
	Liquid Line	mm(in.)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)
Heat Pump Operation System	Gas Line	mm(in.)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)
	Liquid Line	mm(in.)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)
Connectable Indoor Units	Quantity	pcs	64	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			50HP	52HP	54HP	56HP
Model	Model		AER-CS1405CROU	AER-CS1480CROU	AER-CS1525CROU	AER-CS1600CROU
	Modules		AER-CS725CROU AER-CS680CROU	AER-CS800CROU AER-CS680CROU	AER-CS800CROU AER-CS725CROU	AER-CS800CROU AER-CS800CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz			
Cooling	Capacity	kW	140.5	148.0	152.5	160.0
	Power Input	kW	42.51	44.85	46.15	48.48
	EER	kW / kW	3.31	3.30	3.30	3.30
Heating	Capacity (Max/ Nom)	kW	155.0 / 140.5	165.0 / 148.0	170.0 / 152.5	180.0 / 160.0
	Power Input (Max/ Nom)	kW	43.77 / 37.60	47.44/ 40.29	48.33 / 41.13	52.02 / 43.84
	COP (Max)	kW / kW	3.54	3.48	3.52	3.46
Ventilation	Air Flow Rate	m^3/min	646	646	700	700
	Fan Quantity		4	4	4	4
	Static Pressure	Pa	110	110	110	110
Sound	Sound Pressure Level	dB(A)	70	70	70	70
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor			
	Compressor Quantity	pcs	4	4	4	4
Refrigerant	Type	-	R410A			
	Pre-charged Quantity	kg	10.60+11.50	10.60+11.50	11.50+11.50	11.50+11.50
Weight	Net Weight	kg	378+400	378+401	400+401	401+401
	Gross Weight	kg	402+426	402+427	426+427	427+427
Dimensions	External (HxWxD)	mm	1730x (1350+1600) x750	1730x (1350+1600) x750	1730x (1600+1600) x750	1730x (1600+1600) x750
	Packing (HxWxD)	mm	1930x (1420+1665) x790	1930x (1420+1665) x790	1930x (1665+1665) x790	1930x (1665+1665) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ41.3(1-5/8)
	High/Low Pressure Gas Line	mm(in.)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ31.75(1-1/4)	Φ38.1(1-1/2)
	Liquid Line	mm(in.)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ22.2(7/8)
Heat Pump Operation System	Gas Line	mm(in.)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ38.1(1-1/2)	Φ41.3(1-5/8)
	Liquid Line	mm(in.)	Φ19.05(3/4)	Φ19.05(3/4)	Φ19.05(3/4)	Φ22.2(7/8)
Connectable Indoor Units	Quantity	pcs	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

EUROVENT CERTIFIED PERFORMANCE
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HP			58HP	60HP	62HP	64HP
Model	Model		AER-CS1615CROU	AER-CS1680CROU	AER-CS1740CROU	AER-CS1800CROU
	Modules		AER-CS615CROU AER-CS500CROU AER-CS500CROU	AER-CS680CROU AER-CS500CROU AER-CS500CROU	AER-CS680CROU AER-CS560CROU AER-CS500CROU	AER-CS680CROU AER-CS560CROU AER-CS560CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz			
Cooling	Capacity	kW	161.5	168.0	174.0	180.0
	Power Input	kW	46.11	46.80	50.18	51.72
	EER	kW / kW	3.50	3.59	3.47	3.48
Heating	Capacity (Max/ Nom)	kW	181.0 / 161.5	189.0 / 168.0	194.0 / 174.0	201.0 / 180.0
	Power Input (Max/ Nom)	kW	48.27 / 39.89	49.61/ 40.68	52.64 / 43.83	54.43 / 45.37
	COP (Max)	kW / kW	3.75	3.81	3.69	3.69
Ventilation	Air Flow Rate	m^3/min	696	801	763	830
	Fan Quantity		6	6	6	6
	Static Pressure	Pa	110	110	110	110
Sound	Sound Pressure Level	dB(A)	70	70	70	70
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor			
	Compressor Quantity	pcs	6	6	6	6
Refrigerant	Type	-	R410A			
	Pre-charged Quantity	kg	9.20+9.20+10.60	9.80+9.80+9.80	9.20+9.80+10.60	9.80+9.80+10.60
Weight	Net Weight	kg	349+349+377	369+369+369	349+369+378	369+369+378
	Gross Weight	kg	371+371+401	393+393+393	371+393+402	393+393+402
Dimensions	External (HxWxD)	mm	1730x (1210+1210+1350) x750	1730x (1350+1350+1350) x750	1730x (1210+1350+1350) x750	1730x (1350+1350+1350) x750
	Packing (HxWxD)	mm	1930x (1275+1275+1420) x790	1930x (1420+1420+1420) x790	1930x (1275+1420+1420) x790	1930x (1420+1420+1420) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	High/Low Pressure Gas Line	mm(in.)	Φ41.3(1-5/8)	Φ41.3(1-5/8)	Φ41.3(1-5/8)	Φ41.3(1-5/8)
	Liquid Line	mm(in.)	Φ22.2(7/8)	Φ22.2(7/8)	Φ22.2(7/8)	Φ22.2(7/8)
Heat Pump Operation System	Gas Line	mm(in.)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	Liquid Line	mm(in.)	Φ22.2(7/8)	Φ22.2(7/8)	Φ22.2(7/8)	Φ22.2(7/8)
Connectable Indoor Units	Quantity	pcs	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			66HP	68HP	70HP	72HP
Модель	Модель		AER-CS1860CROU	AER-CS1920CROU	AER-CS1975CROU	AER-CS2040CROU
	Комбінація модулів		AER-CS680CROU AER-CS680CROU AER-CS500CROU	AER-CS680CROU AER-CS680CROU AER-CS560CROU	AER-CS680CROU AER-CS680CROU AER-CS615CROU	AER-CS680CROU AER-CS680CROU AER-CS680CROU
	Живлення		AC 3Φ, 380-415V/50/60Hz			
Охолодження	Потужність	кВт	185.5	192.0	197.5	204.0
	Споживча потужність	кВт	54.18	56.73	59.23	61.82
	EER	кВт / кВт	3.42	3.38	3.33	3.30
Нагрів	Потужність (Макс./ Номінальна)	кВт	207.0 / 185.5	213.0 / 192.0	219.0 / 197.5	225.0 / 204.0
	Споживана потужність (Макс./Номінальна)	кВт	56.72 / 47.74	59.33 / 50.20	61.63 / 52.62	64.29 / 55.14
	COP (Макс.)	кВт / кВт	3.65	3.59	3.55	3.50
Вентилятор	Витрата повітря	м³/хв	859	859	888	888
	Кількість		6	6	6	6
	Статичний тиск	Па	110	110	110	110
Звук	Рівень звукового тиску	дБ(А)	70	70	70	71
Компресор	Тип	-	EVI спіральний компресор			
	Кількість	шт	6	6	6	6
Холодоагент	Тип	-	R410A			
	Заправлена к-сть.	кг	9.80+10.60+10.60	9.80+10.60+10.60	10.60+10.60+10.60	10.60+10.60+10.60
Вага	Нетто	кг	369+377+378	369+378+378	377+378+378	378+378+378
	Брутто	кг	393+401+402	393+402+402	401+402+402	402+402+402
Розміри	Габаритні (ВхШхГ)	мм	1730x (1350+1350+1350) x750	1730x (1350+1350+1350) x750	1730x (1350+1350+1350) x750	1730x (1350+1350+1350) x750
	Упаковка (ВхШхГ)	мм	1930x (1420+1420+1420) x790	1930x (1420+1420+1420) x790	1930x (1420+1420+1420) x790	1930x (1420+1420+1420) x790
Колір корпусу			Слонова кістка	Слонова кістка	Слонова кістка	Слонова кістка
Система рекуперації тепла	Газ низького тиску	мм(дюйм)	Φ44.5(1-3/4)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	Газ високого / низького тиску	мм(дюйм)	Φ41.3(1-5/8)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	Лінія рідини	мм(дюйм)	Φ22.2(7/8)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Система теплового насоса	Лінія подачі газу	мм(дюйм)	Φ44.5(1-3/4)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	Лінія рідини	мм(дюйм)	Φ22.2(7/8)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Кількість вн. блоків, що підкл.	Кількість	шт	64	64	64	64
	Коефіцієнт підключення	-	200%*1	200%*1	200%*1	200%*1
Проектування трубопроводів	Перепад висот між зовн. і внутр. блоками	м (вище)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		м (нижче)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	Перепад висот між внутрішніми блоками	м	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Макс. довжина трубопроводів	м	165	165	165	165
Робочий діапазон	Охолодження	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Нагрів	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			74HP	76HP	78HP	80HP
Model	Model		AER-CS2085CROU	AER-CS2130CROU	AER-CS2205CROU	AER-CS2280CROU
	Modules		AER-CS725CROU AER-CS680CROU AER-CS680CROU	AER-CS725CROU AER-CS725CROU AER-CS680CROU	AER-CS800CROU AER-CS725CROU AER-CS680CROU	AER-CS800CROU AER-CS800CROU AER-CS680CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz			
Cooling	Capacity	kW	208.5	213.0	220.5	228.0
	Power Input	kW	63.11	64.41	66.75	69.09
	EER	kW / kW	3.30	3.31	3.30	3.30
Heating	Capacity (Max/ Nom)	kW	230.0 / 208.5	235.0 / 213.0	245.0 / 220.5	255.0 / 228.0
	Power Input (Max/ Nom)	kW	65.19 / 55.98	66.11 / 56.83	69.76 / 59.51	73.45 / 62.21
	COP (Max)	kW / kW	3.53	3.55	3.51	3.47
Ventilation	Air Flow Rate	m^3/min	942	996	996	996
	Fan Quantity		6	6	6	6
	Static Pressure	Pa	110	110	110	110
Sound	Sound Pressure Level	dB(A)	71	71	71	71
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor			
	Compressor Quantity	pcs	6	6	6	6
Refrigerant	Type	-	R410A			
	Pre-charged Quantity	kg	10.60+10.60+11.50	10.60+11.50+11.50	10.60+11.50+11.50	10.60+11.50+11.50
Weight	Net Weight	kg	378+378+400	378+400+400	378+400+401	378+401+401
	Gross Weight	kg	402+402+426	402+426+426	402+426+427	402+427+427
Dimensions	External (HxWxD)	mm	1730x (1350+1350+1600) x750	1730x (1350+1600+1600) x750	1730x (1350+1600+1600) x750	1730x (1350+1600+1600) x750
	Packing (HxWxD)	mm	1930x (1420+1420+1665) x790	1930x (1420+1665+1665) x790	1930x (1420+1665+1665) x790	1930x (1420+1665+1665) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	High/Low Pressure Gas Line	mm(in.)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Heat Pump Operation System	Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Connectable Indoor Units	Quantity	pcs	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			82HP	84HP	86HP	88HP
Model	Model		AER-CS2325CROU	AER-CS2400CROU	AER-CS2415CROU	AER-CS2480CROU
	Modules		AER-CS800CROU AER-CS800CROU AER-CS725CROU	AER-CS800CROU AER-CS800CROU AER-CS800CROU	AER-CS680CROU AER-CS615CROU AER-CS560CROU AER-CS560CROU	AER-CS680CROU AER-CS680CROU AER-CS560CROU AER-CS560CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz			
Cooling	Capacity	kW	232.5	240.0	241.5	248.0
	Power Input	kW	70.39	72.73	69.76	72.29
	EER	kW / kW	3.30	3.30	3.46	3.43
Heating	Capacity (Max/ Nom)	kW	260.0 / 232.5	270.0 / 240.0	270.0 / 241.5	276.0 / 248.0
	Power Input (Max/ Nom)	kW	74.33 / 63.05	78.03 / 65.75	73.24 / 61.26	75.83 / 63.69
	COP (Max)	kW / kW	3.50	3.46	3.69	3.64
Ventilation	Air Flow Rate	m^3/min	1050	1050	1126	1126
	Fan Quantity		6	6	8	8
	Static Pressure	Pa	110	110	110	110
Sound	Sound Pressure Level	dB(A)	72	72	72	72
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor			
	Compressor Quantity	pcs	6	6	8	8
Refrigerant	Type	-	R410A			
	Pre-charged Quantity	kg	11.50+11.50+11.50	11.50+11.50+11.50	9.80+9.80+10.60+10.60	9.80+9.80+10.60+10.60
Weight	Net Weight	kg	400+401+401	401+401+401	369+369+377+378	369+369+378+378
	Gross Weight	kg	426+427+427	427+427+427	393+393+401+402	393+393+402+402
Dimensions	External (HxWxD)	mm	1730x (1600+1600+1600) x750	1730x (1600+1600+1600) x750	1730x (1350+1350+1350+1350) x750	1730x (1350+1350+1350+1350) x750
	Packing (HxWxD)	mm	1930x (1665+1665+1665) x790	1930x (1665+1665+1665) x790	1930x (1420+1420+1420+1420) x790	1930x (1420+1420+1420+1420) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	High/Low Pressure Gas Line	mm(in.)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Heat Pump Operation System	Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Connectable Indoor Units	Quantity	pcs	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			90HP	92HP	94HP	96HP
Model	Model		AER-CS2535CROU	AER-CS2600CROU	AER-CS2655CROU	AER-CS2720CROU
	Modules		AER-CS680CROU AER-CS680CROU AER-CS615CROU AER-CS560CROU	AER-CS680CROU AER-CS680CROU AER-CS680CROU AER-CS560CROU	AER-CS680CROU AER-CS680CROU AER-CS680CROU AER-CS615CROU	AER-CS680CROU AER-CS680CROU AER-CS680CROU AER-CS680CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz			
Cooling	Capacity	kW	253.5	260.0	265.5	272.0
	Power Input	kW	74.77	77.33	79.83	82.42
	EER	kW / kW	3.39	3.36	3.33	3.30
Heating	Capacity (Max/ Nom)	kW	282.0 / 253.5	288.0 / 260.0	294.0 / 265.5	300.0 / 272.0
	Power Input (Max/ Nom)	kW	78.12 / 66.09	80.75 / 68.56	83.06 / 71.00	85.71 / 73.51
	COP (Max)	kW / kW	3.61	3.57	3.54	3.50
Ventilation	Air Flow Rate	m^3/min	1155	1155	1184	1184
	Fan Quantity		8	8	8	8
	Static Pressure	Pa	110	110	110	110
Sound	Sound Pressure Level	dB(A)	72	72	72	72
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor			
	Compressor Quantity	pcs	8	8	8	8
Refrigerant	Type	-	R410A			
	Pre-charged Quantity	kg	9.80+10.60+10.60+10.60	9.80+10.60+10.60+10.60	10.60+10.60+10.60+10.60	10.60+10.60+10.60+10.60
Weight	Net Weight	kg	369+377+378+378	369+378+378+378	377+378+378+378	378+378+378+378
	Gross Weight	kg	393+401+402+402	393+402+402+402	401+401+402+402	402+402+402+402
Dimensions	External (HxWxD)	mm	1730x (1350+1350+1350+1350) x750	1730x (1350+1350+1350+1350) x750	1730x (1350+1350+1350+1350) x750	1730x (1350+1350+1350+1350) x750
	Packing (HxWxD)	mm	1930x (1420+1420+1420+1420) x790	1930x (1420+1420+1420+1420) x790	1930x (1420+1420+1420+1420) x790	1930x (1420+1420+1420+1420) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	High/Low Pressure Gas Line	mm(in.)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Heat Pump Operation System	Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Connectable Indoor Units	Quantity	pcs	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			98HP	100HP	102HP	104HP
Model	Model		AER-CS2765CROU	AER-CS2840CROU	AER-CS2885CROU	AER-CS2960CROU
	Modules		AER-CS725CROU AER-CS680CROU AER-CS680CROU AER-CS680CROU	AER-CS800CROU AER-CS680CROU AER-CS680CROU AER-CS680CROU	AER-CS800CROU AER-CS725CROU AER-CS680CROU AER-CS680CROU	AER-CS800CROU AER-CS800CROU AER-CS680CROU AER-CS680CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz			
Cooling	Capacity	kW	276.5	284.0	289.5	296.0
	Power Input	kW	83.72	86.06	87.10	89.70
	EER	kW / kW	3.30	3.30	3.32	3.30
Heating	Capacity (Max/ Nom)	kW	305.0 / 276.5	315.0 / 284.0	324.0 / 289.5	330.0 / 296.0
	Power Input (Max/ Nom)	kW	86.62 / 74.36	90.29 / 77.05	92.19 / 78.05	94.87 / 80.59
	COP (Max)	kW / kW	3.52	3.49	3.51	3.48
Ventilation	Air Flow Rate	m^3/min	1238	1238	1292	1292
	Fan Quantity		8	8	8	8
	Static Pressure	Pa	110	110	110	110
Sound	Sound Pressure Level	dB(A)	72	72	72	73
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor			
	Compressor Quantity	pcs	8	8	8	8
Refrigerant	Type	-	R410A			
	Pre-charged Quantity	kg	10.60+10.60+10.60+11.50	10.60+10.60+10.60+11.50	10.60+10.60+11.50+11.50	10.60+10.60+11.50+11.50
Weight	Net Weight	kg	378+378+378+400	378+378+378+401	377+378+401+401	378+378+401+401
	Gross Weight	kg	402+402+402+426	402+402+402+427	401+402+427+427	402+402+427+427
Dimensions	External (HxWxD)	mm	1730x (1350+1350+1350+1600) x750	1730x (1350+1350+1350+1600) x750	1730x (1350+1350+1600+1600) x750	1730x (1350+1350+1600+1600) x750
	Packing (HxWxD)	mm	1930x (1420+1420+1420+1665) x790	1930x (1420+1420+1420+1665) x790	1930x (1420+1420+1665+1665) x790	1930x (1420+1420+1665+1665) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	High/Low Pressure Gas Line	mm(in.)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Heat Pump Operation System	Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Connectable Indoor Units	Quantity	pcs	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

HP			106HP	108HP	110HP	112HP
Model	Model		AER-CS3005CROU	AER-CS3080CROU	AER-CS3125CROU	AER-CS3200CROU
	Modules		AER-CS800CROU AER-CS800CROU AER-CS725CROU AER-CS680CROU	AER-CS800CROU AER-CS800CROU AER-CS800CROU AER-CS680CROU	AER-CS800CROU AER-CS800CROU AER-CS800CROU AER-CS725CROU	AER-CS800CROU AER-CS800CROU AER-CS800CROU AER-CS800CROU
	Power Supply		AC 3Φ, 380-415V/50/60Hz			
Cooling	Capacity	kW	300.5	308.0	312.5	320.0
	Power Input	kW	90.99	93.33	94.63	96.97
	EER	kW / kW	3.30	3.30	3.30	3.30
Heating	Capacity (Max/ Nom)	kW	335.0 / 300.5	345.0 / 308.0	350.0 / 312.5	360.0 / 320.0
	Power Input (Max/ Nom)	kW	95.76 / 81.42	99.46 / 84.13	100.34 / 84.96	104.05 / 87.67
	COP (Max)	kW / kW	3.50	3.47	3.49	3.46
Ventilation	Air Flow Rate	m^3/min	1346	1346	1400	1400
	Fan Quantity		8	8	8	8
	Static Pressure	Pa	110	110	110	110
Sound	Sound Pressure Level	dB(A)	73	73	73	73
Compressor	Type	-	Enhanced Vapor Injection Scroll Compressor			
	Compressor Quantity	pcs	8	8	8	8
Refrigerant	Type	-	R410A			
	Pre-charged Quantity	kg	10.60+11.50+11.50+11.50	10.60+11.50+11.50+11.50	11.50+11.50+11.50+11.50	11.50+11.50+11.50+11.50
Weight	Net Weight	kg	378+400+401+401	378+401+401+401	400+401+401+401	401+401+401+401
	Gross Weight	kg	402+426+427+427	402+427+427+427	426+427+427+427	427+427+427+427
Dimensions	External (HxWxD)	mm	1730x (1350+1600+1600+1600) x750	1730x (1350+1600+1600+1600) x750	1730x (1600+1600+1600+1600) x750	1730x (1600+1600+1600+1600) x750
	Packing (HxWxD)	mm	1930x (1420+1665+1665+1665) x790	1930x (1420+1665+1665+1665) x790	1930x (1665+1665+1665+1665) x790	1930x (1665+1665+1665+1665) x790
Cabinet Color			Ivory White	Ivory White	Ivory White	Ivory White
Heat Recovery Operation System	Low Pressure Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	High/Low Pressure Gas Line	mm(in.)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)	Φ44.5(1-3/4)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Heat Pump Operation System	Gas Line	mm(in.)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)	Φ50.8(2)
	Liquid Line	mm(in.)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)	Φ25.4(1)
Connectable Indoor Units	Quantity	pcs	64	64	64	64
	Total Capacity	-	200%*1	200%*1	200%*1	200%*1
Piping Design	Low pressure Gas Line	m (above)	50(90*2)	50(90*2)	50(90*2)	50(90*2)
		m (below)	40(90*2)	40(90*2)	40(90*2)	40(90*2)
	High Difference Between ODU & IDU	m	15(30*2)	15(30*2)	15(30*2)	15(30*2)
	Max. Piping Length	m	165	165	165	165
Operating Range	Cooling	DB	-10°C~52°C	-10°C~52°C	-10°C~52°C	-10°C~52°C
	Heating	WB	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C	-25°C~16.5°C



CRF
Heat Recovery

Notes::
1. Rated cooling capacity and rated heating capacity are tested in the following conditions:
Cooling conditions: indoor air inlet temperature: 27°C DB 19°C WB, outdoor air inlet temperature: 35°C DB, pipe length: 7.5m, pipe height difference: 0m.
Heating conditions: indoor air inlet temperature: 20°C DB, outdoor air inlet temperature: 7°C DB 6°C WB, pipe length: 7.5m, pipe height difference: 0m.

2. The above noise values are measured in the anechoic chamber without reflected echo, therefore the impact of the reflected echo must be included at the scene.

3. The final appearance of outdoor units is subject to the actual products.

**1: If you have any questions,please contact our professional engineer.*

**2: For detailed information, please contact with Aerostar technical service.*

SWITCH BOX

Used for heat recovery systems to achieve simultaneous cooling and heating in a system, it is very important to realize installation flexibility and reduce costs.

Other



Advantage:

- Enrich the products (1,4,8,12,16) .
- Maximize capacity to 16kW or more.
- Require no drain pipes or drainage connections.
- Combine between single branch and multi-branch
- flexibility.
- Enable fewer connections, hooks and service parts for easy installation.

Switch BoxAerostar



Model				Single Branch		Multi Branch			
				HRB-N06XA	HRB-N10XA	HRBM-N04XA	HRBM-N08XA	HRBM-N12XA	HRBM-N16XA
Appearance									
Electrical		Power Supply	-	AC 1Φ, 220-240V/50/60Hz					
		Power Input	W	5	5	11.2	22.4	33.6	44.8
Maximum Total Capacity Index			kW	16	28	44.8	85	85	85
Number of Branches			-	1	1	4	8	12	16
Maximum Capacity Index per Branch			kW	-	-	16	16	16	16
Maximum Connectable Indoor Units per Branch			pcs	8	8	8	8	6	6
Dimmensions (H x W x D)			mm	191×301×214	191×301×214	260×303×352	260×543×352	260×783×352	260×1023×352
Refrigerant			-	R410A					
Refrigerant Piping	Outdoor Unit Side	Gas Line (High and Low Pressure Side)	mm (in.)	Φ15.88(5/8)	Φ15.88(5/8)	Φ22.20(7/8)	Φ22.20(7/8)	Φ25.40(1)	Φ28.58(1-1/8)
		Gas Line (Suction Gas)	mm (in.)	Φ19.05(3/4)	Φ19.05(3/4)	Φ25.40(1)	Φ28.58(1-1/8)	Φ28.58(1-1/8)	Φ31.75(1-1/4)
		Liquid Line	mm (in.)	Не передбачено	Не передбачено	Φ12.70(1/2)	Φ12.70(1/2)	Φ15.88(5/8)	Φ19.05(3/4)
	Indoor Unit Side	Gas Line	mm (in.)	Φ15.88(5/8)	Φ19.05(3/4)	Φ15.88(5/8)	Φ15.88(5/8)	Φ15.88(5/8)	Φ15.88(5/8)
		Liquid Line	mm (in.)	Не передбачено	Не передбачено	Φ9.52(3/8)	Φ9.52(3/8)	Φ9.52(3/8)	Φ9.52(3/8)
Net Weight			kg	6.3	6.4	14.1	25.2	35.5	46.7
Noise Level		Sound Pressure Level	dB (A)	33	33	31	31	34	34
		Max Sound	dB (A)	46	46	43	46	48	49

HYDRO BOX

SPECIFICATION FOR HYDRO BOX

Model			AER-CS80HB	AER-CS160HB
Power Supply			AC 1Φ, 220~ 240V/50Hz AC 1Φ, 220V/60Hz	
Cooling Capacity (A 35/24°C /W 12-7°C)			7.5	12.5
Heating Capacity (A 7/6°C /W 30-35°C)		kW	8	16
Power Input		kW	0.08(3.08)	0.14(3.14)
Dimensions	H×W×D	mm	890×520×320	890×520×320
Packing Dimensions	H×W×D	mm	1120×595×462	1120×595×462
Weight	Нетто	kg	55	58
	Брутто	kg	72	75
Heat Exchanger			Plate Heat Exchanger	
Water Production	Heating	°C	20 to 55	20 to 55
	DHW(with electric heater)	°C	35 to 75	35 to 75
	Cooling	°C	5 to 20	5 to 20
Sound Pressure		dB(A)	33	33
Sound Power		dB(A)	46	46
Piping Connections	Gas	mm	Φ15.88	Φ15.88
	Liquid	mm	Φ9.53	Φ9.53
Water Pump	Type		DC	
	Speed		Inverter Control	
	Pumping Head	m	12.5	12.5
	Pumping Head for Water Circuit		5	5
	Power Input	W	100	160
Booster Heating		kW	3	3
Water Filter	Diameter Perforations	mm	0.85	0.85
	Material		Hpb59-1	Hpb59-1
Water Circuit	Piping Connections Diameter	mm	G1-1/4"	G1-1/4"
	Shut off Valve		+	+
	Drain Valve		+	+
	Safety Valve	Bar	3	3
	Air Purge Valve		+	+
Nominal Water		m^3/h	1.38	2.75
Expansion Vessel	Volume	L	8	8
	Max. Water Pressure	Бар	3	3

OPERATION RANGE

Indoor Unit Cooling

	Maximum	Minimum
Indoor	32°C DB / 23°C WB	21°C DB / 15°C WB
Outdoor	52°C DB*	-10°C DB

Indoor Unit Heating

	Maximum	Minimum
Indoor	27°C DB	15°C DB
Outdoor	16.5°C WB	-25°C WB**

Hydro Box Cooling

	Maximum	Minimum
Inlet Water	25°C	10°C
Outdoor	48°C DB	10°C DB

Hydro Box Heating

	Maximum	Minimum
Inlet Water	54°C	10°C
Outdoor	16.5°C WB	-25°C WB**

Hydro Box Heating (DHW)

	Maximum	Minimum
Inlet Water	54°C	10°C
Outdoor	43°C WB	-25°C WB**

DB: Dry Bulb
WB: т Wet Bulb

(*) 48°C DB ~ 52°C DB, Operation Control Range
(**) -20°C WB ~ -25°C WB, Operation Control Range

