Delta InfraSuite Precision Cooling

RoomCool A series, 12kW to 100kW

Air-Cooled

The power behind competitiveness

Delta Precision Room Cooling

Air-cool type, A series

Features

Highly Energy Efficient

- Scroll compressor with optional inverter driven
- EC Fan with backward curved blades for indoor unit
- Inverter driven fan for outdoor condensing unit
- Intelligent digital control to support wide temperature range

Safety and reliability features

- Service compartment separated design
- UL fire rated (UL94 HF-1) thermal insulation
- Safety rated powder coating chassis
- Dual circuit model available for higher reliability
- Optional Dual input power source available

Highly Manageability

- 7” Touch screen operation at front panel obtains all parameter monitoring. Multi language support.
- Remote monitoring via MODBUS or SNMP available
- Team mode and rotational mode control
- Down flow and Up flow model available to support various type of datacenter room design
- Long piping kit available
- Drainage pump kit available
- Remote temperature and humidity kit available

Datacenter Telecom Industrial Network Banking

Security Lab Medical Metro

The power behind competitiveness

SEPARATED ELECTRICAL COMPARTMENT
Electrical panel and control circuit located separately from air supplying compartment and far from liquid parts makes if easy to access for maintenance and more reliable

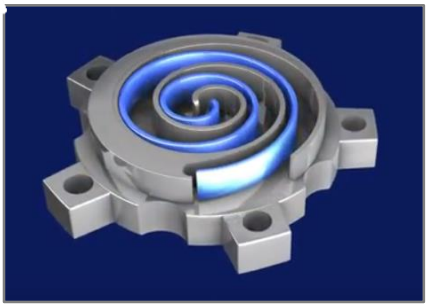
AIR FLOW COMPARTMENT
Separated airflow compartment yields more efficiency for heat exchange ratio, moreover no influence to airflow quality while maintenance the other parts

SEPARATED COMPRESSOR COMPARTMENT
Compressor and all valves system located separately from other part made easy for maintenance and repair.

SCROLL COMPRESSOR FOR BEST EFFICIENCY

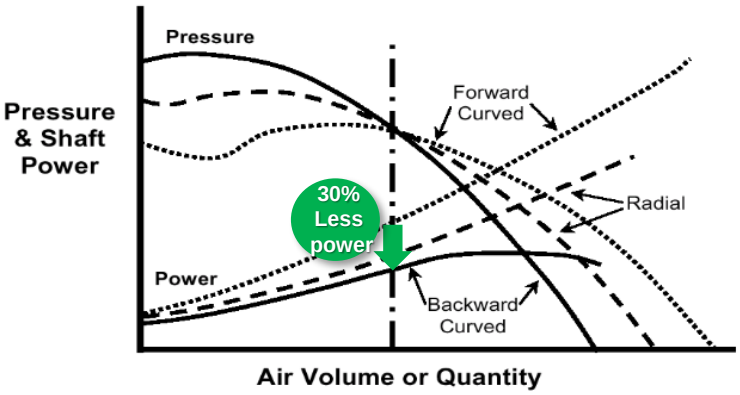
Scroll compressor technology obtains superior reliability with proven record in many application with highly efficient at full load and part load condition. Minimalist fewest moving parts results quiet operating noise and low vibration that might effect to IT Equipment insides datacentre room.

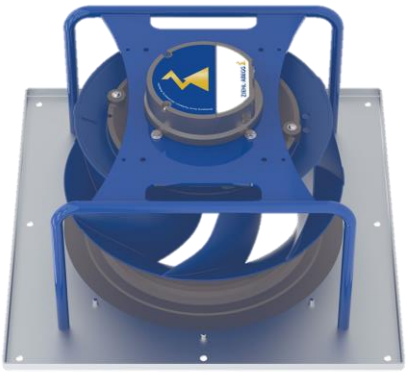
R-410A Refrigerant, environmental friendly, provides more stable operation over wide outdoor temperature range.



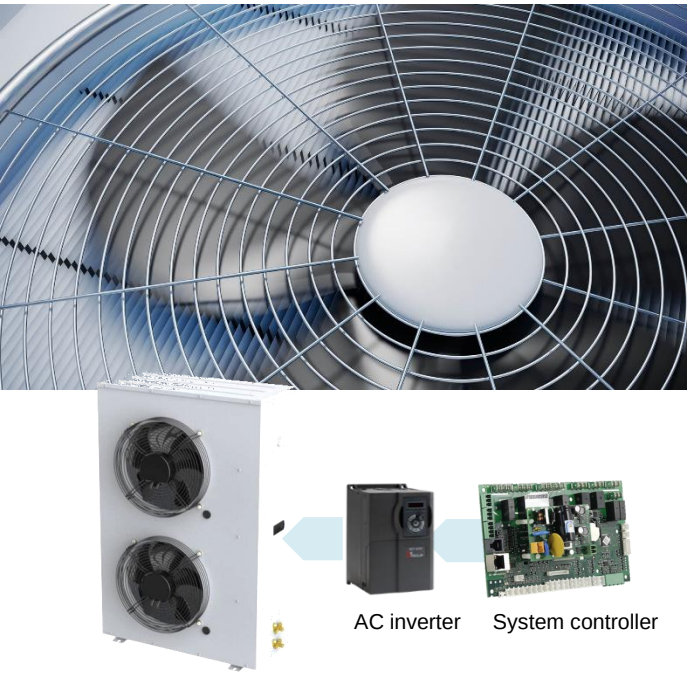
INDOOR UNIT WITH BACKWARD CURVED EC FAN

Indoor air supplier fan are EC motor type which allows system controller to electronically adjusts airflow from 0% to 100% according to capacity requirement of IT equipment in datacentre. Thanks to its variable speed technology, fans energy consumption can be reduced essentially obtaining best energy efficiency of datacentre.





Backward centrifugal fan blade characterizes best P-Q performance at lowest power consumption among all other fan type. It keeps constant airflow volume and pressure to support heat removal needed for white space. Numbers of fans provides in system redundancy so that high availability of cooling system is satisfied.

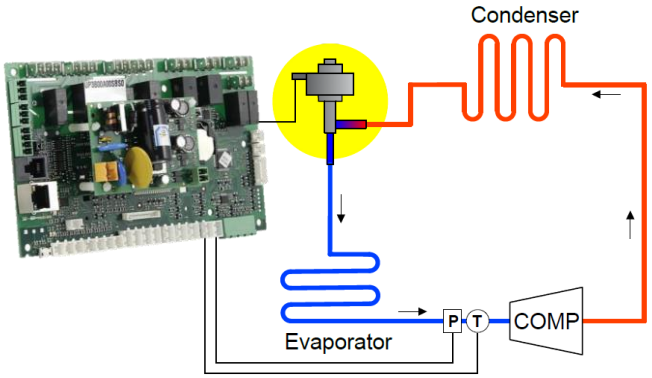


VARIABLE CONDESER FAN SPEED CONTROL

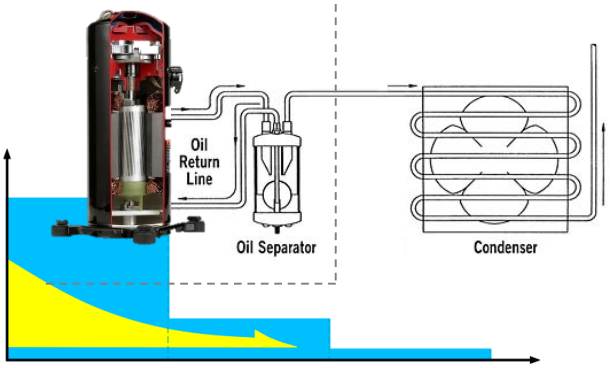
Condenser fan speed is controlled by system controller through AC inverter drive according to actual heat load. This technique helps fan to work at optimum speed all the time so that it is most energy efficient, longer life span and with minimum audible noise. By the variable fan speed technique, its outdoor ambient operating temperature can be increased as high as 40° C without derating. Not only by AC inverter driven fan for your choice, an EC type condensing fan is an optional for selection to boost further efficiency of your cooling system.

ELECTRONICALLY EXPANSION VALVE CONTROL

The electronic expansion valve (EEV) controls flow of refrigerant entering a direct expansion evaporator. The system controller unit send control signal to open valve pin at precise step. The valve pin opening mechanism allows accurate control amount of vaporization expansion of refrigerant liquid so that the evaporator temperature can be controlled according to capacity needed by heat load, as well as wider range of outdoor condenser can be achieved.

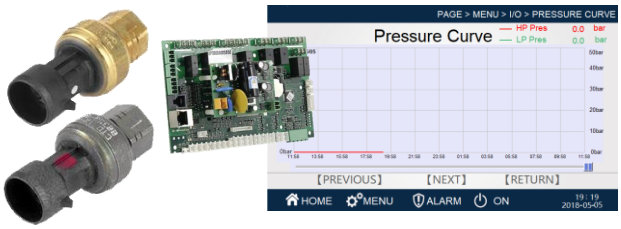


Built-in oil separator, the system can operate safely and reliably by the use of built-in oil-separator so that much less oil enters to refrigerant circuit. This could help to ensure lubricant oil is sufficient for compressor operation. Moreover, by this oil control technique, the RoomCool can support for both positive or negative condenser installation.

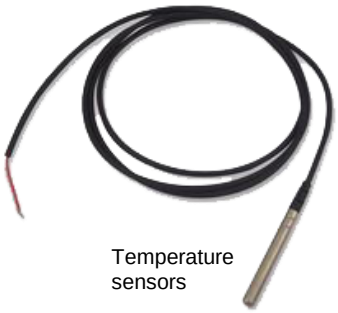


EQUIPS WITH INDUSTRIAL GRADE SENSORS

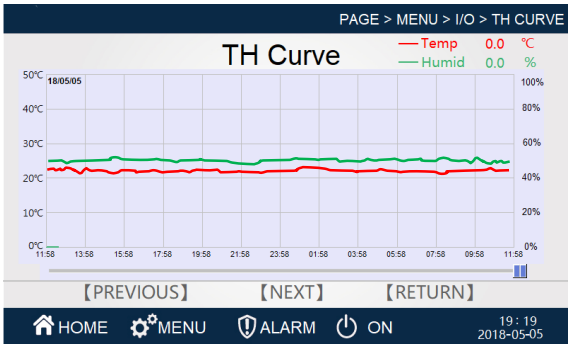
Pressure Sensors, On both high pressure check point and low pressure check point has been equipped with industrial grade pressure sensors and feeds signal to system control for real time monitoring on gas pipe and liquid pipe. By this real time data from the sensor, not just a switch, they help system controller to precisely control all key system components, for instance, DC compressor, EEV, outdoor condenser work synergizing with no compromise for best efficiency and yet provides most safety operation for the compressor achieving longer life span.



HP & LP sensors



Temperature sensors

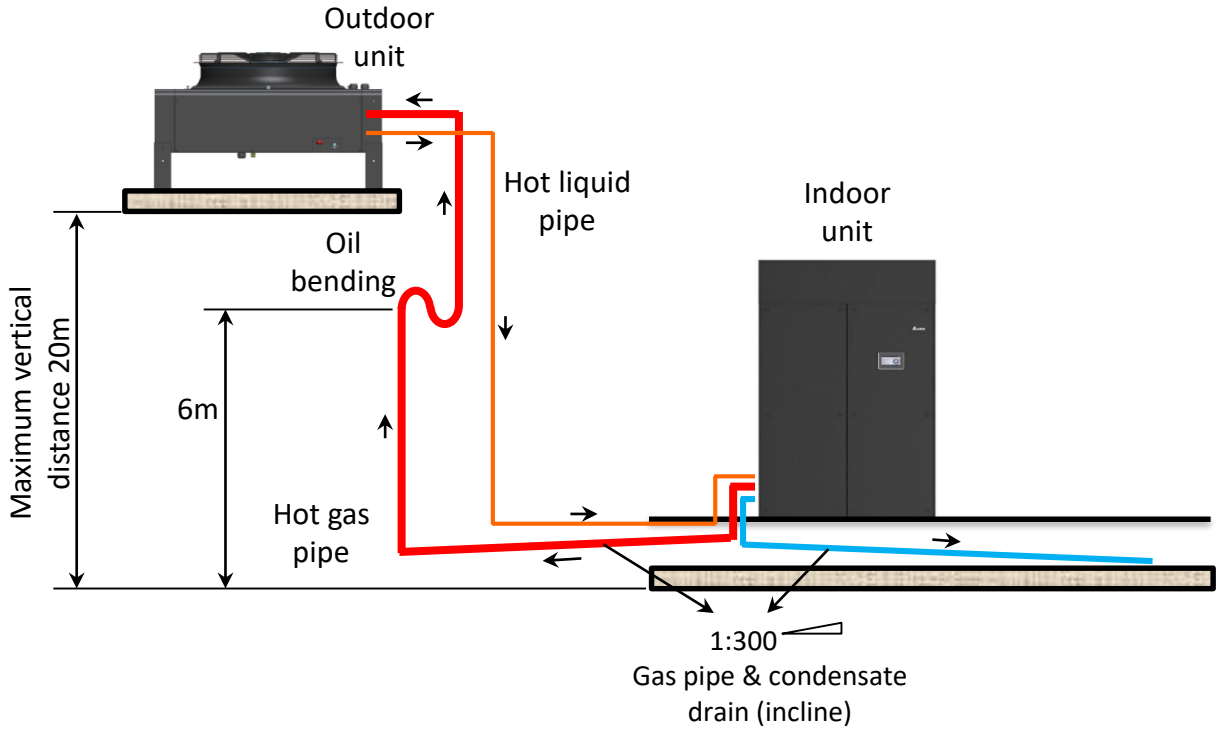


Air temperature and Humidity sensor

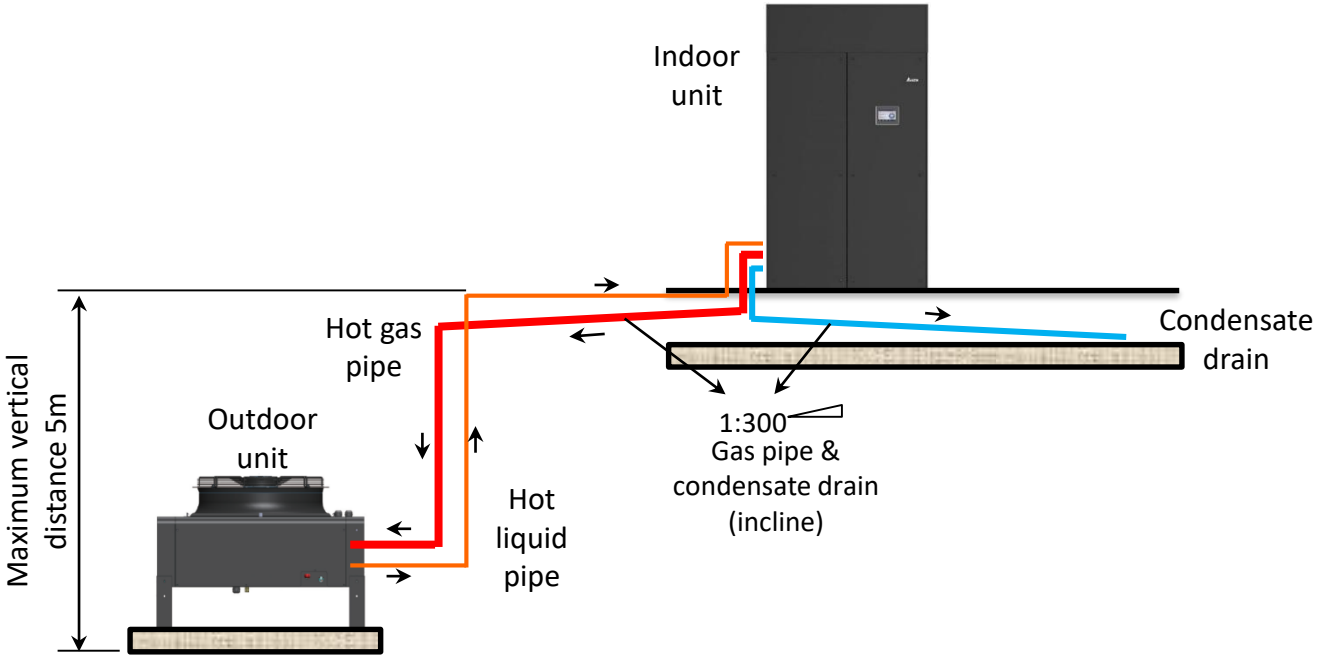
Dedicated Thermohygrometer and industrial grade sensors, The high accuracy Thermohygrometer is employed to monitor air quality to feedback to system controller. This professional sensing technique enhances the RowCool capability to supply best quality of air for IT equipment according to ASHRAE 2011 A1 guideline (18 C° to 27 C° and with humidity within range of of 20% to 70%). The simple but effective passive type Positive Temperature Coefficient (PTC) sensor, PT100, is employed for both supply air temperature. It is simple, accurate but reliable temperature sensing technique.

Delta InfraSuite Precision Cooling

Positive condenser unit positioning



Negative condenser unit positioning

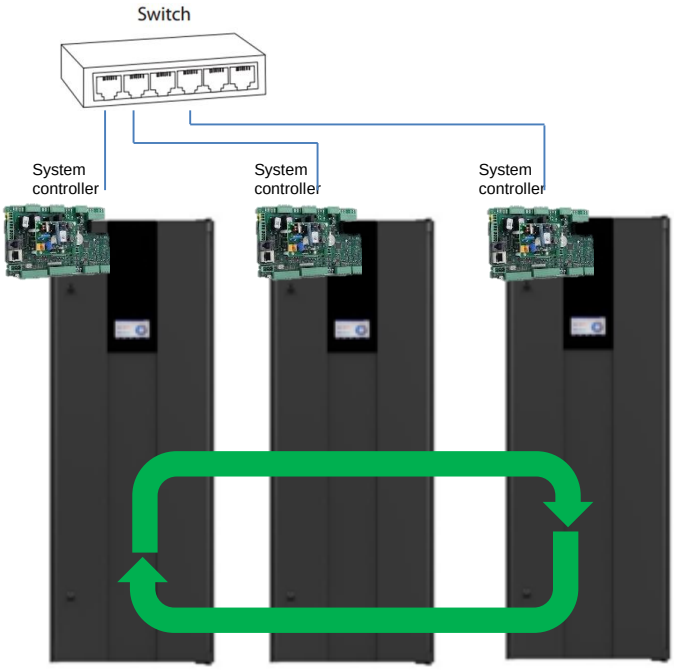


DISCRATE SYSTEM CONTROLLER UNIT

Discrete system controller, the heart of Delta RoomCool product is a specific cooling system controller from world class cooling system components manufacturer. It helps to simplify all system design with best reliability supporting the RoomCool to perform best accuracy on both temperature and humidity so that your Datacenter could be maximized its performance. DINRAIL mount platform obtains easy maintenance, shortest MTTR if there is any incident happening.

Ready networks connection and built-in WEB server function makes you convenient to whether monitor or control via Ethernet network from anywhere you are. All parameter displays on the WEB is simultaneously reporting the same value with front display of the RoomCool unit.

MULTI UNIT AND MULTI GROUP OPERATION

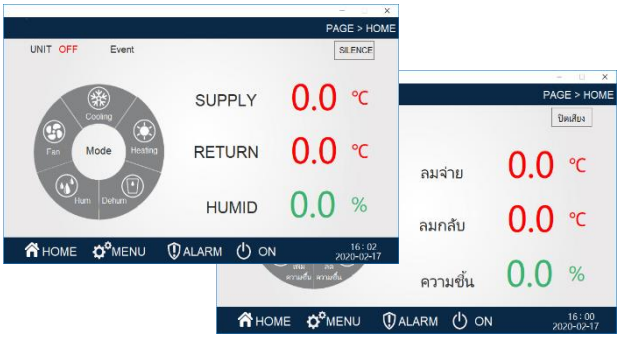


Team mode features support group control for redundancy and rotational operation. Remote display for the master RoomCool in the group to the slave units can be archived via Ethernet network connection so that each user for no needing to walk to every cooling units in Datacenter room.

USER FRIENDLY CONTROL PANEL

7” MULTI COLOR TOUCH PANEL

Comprehensive parameter and detail monitoring even down to sub cool and super heat parameter via touch screen display eases for maintenance, tool less and quickly identify in case of emergency incident. It support multi language for user interface up to 8 languages.

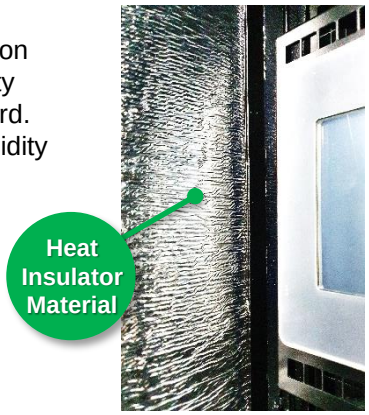


ACCESS AND SECURITY CONTROL

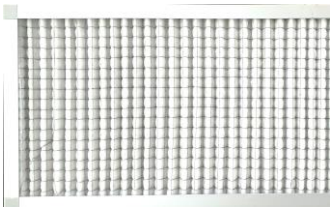
Delta RoomCool has security and access control of machine monitoring, maintenance and setup. This provides high security compliance to international datacentre standard.

INDUSTRIAL GRADE MATERIAL

Fire retardant heat insulation, Delta RoomCool adapted industrial UL fire rated (UL94 HF-1) insulation foam with mold resistant feature. The material guarantees safety compliance of the cooling unit with international building standard. Mold resistant foil helps to prevent fungal and smell due to humidity from supply air, keeping cleanliness for Datacenter.

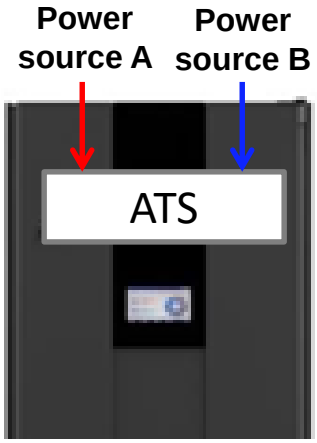


G4/MERV8 AIR FILTER, Delta RoomCool employed industrial grade G4/MERV8 for high efficiency air flow, yet filter out all unwanted particle not to go through IT equipment. Aluminum frame straighten against force of air to reduce audible noise while air flow through.



HI-GRADE POWDER COATING, the body and structure made of galvanized steel has been additionally surfaced by industrial grade powder coating ensuring protection all surface from rust over its life time,

FULL SAFETY AND SHORT CIRCUIT PROTECTION, All electronics or electrical parts are protected by dedicated circuit breaker. This contributes for best safety protection during operation and maintenance as well as while repairing the unit. Optional ATS input switch is available to support 2N input feeders fulfilling high Tier level of Datacenter design requirement.



Modular Air Compartment design

DOWN FLOW UP RETURN MODELS

1 BAY

1.5 BAY

2.5 BAY

UP FLOW FRONT RETURN MODELS

1 BAY

1.5 BAY

2.5 BAY

OUTDOOR CONDENSING UNITS

Various size of outdoor condensing units for best performance optimization

Technical specification

Single Circuit Model – Outdoor ambient temperature 35 ^{0}C

Indoor Unit

Model			HCD-A012U/D	HCD-A017U/D	HCD-A020U/D	HCD-A025U/D	HCD-A030U/D	HCD-A035U/D	HCD-A040U/D	HCD-A050U/D
Power	Input Voltage	V	380-415V, 3P, 4W+G							
	Input Frequency	Hz	50 (Optional Inverter for 60Hz)							
	Number of source		1 input source (Optional ATS for dual source)							
FLA-A	Full-load Ampare	A	19.2	23.4	28.5	32.2	35.5	36.3	46	49.6
Capacity	Air flow type		Up-flow front return, Down-flow top return							
	Cooling Capacity	kW	12.5	17.5	21.2	27.5	32.5	37.7	41.8	50
	Sensible heat ratio	%	90.4	90.9	90.1	90.9	90.2	90.2	91.1	90.0
Compressor	Type		Fix speed Scroll Compressor (Optional Inverter Driven)							
	Quantity		1							
Refrigerant	Type		R-410A							
	Charge (Piping length ≤ 10 m.)	kg	4.5	7		8	9.5	12.7	14.5	17
Fan	Type		EC fan backward curve blade (Centrifugal)							
	Quantity	n.	1							
	Air Volume	m^3/h	2,850	5,000	6,200	6,700	8,325	8,620	10,500	12,400
Controller	Setting Temperature	℃	18 to 27							
	Temperature Accuracy	%	+/- 1°C							
	Setting Humidity	% RH	20 to 80							
	Control Type		PID control							
	Control Scheme		Supply Air Control / Return Air Control							
Filter	Type		G4							
	Quantity		2							
Heater	Type		Electric Heater (PTC)							
	Capacity	kW	4	6					9	
Humidifier	Type	Type	Electrode Boiler							
	Capacity	kg/h	4	4.5	4.5	5	8		10	
Interface	User Interface		7" touch screen							
	Communication		MODBUS RS-485, Optional SNMP							
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68	68
Dimension	Width	mm	650	750		850	990		990	
	Dept	mm	550	700		700	1126		1326	
	Height	mm	1,850	1,900		1,900	1,975		1975	
	Weight	kg	178	300	318	338	433	438	468	528
Piping size	Refrigerant (liquid/gas)	mm	12/16	12/16	12/19	12/22	12/22	12/22	16/22	16/25
	Drainage	mm	20	20	20	20	20	20	20	20
	Water In		3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Water Drainage	Standard		Gravity Drainage							
	Optional		Water Pump Drainage							

Outdoor Unit

Model			HSF-A018	HSF-A024	HSF-A032	HSF-A032	HSF-A038	HSF-A042	HSF-A052	HSF-A062
Power	Input Voltage	V	220-240 , 1P 2W+G	380-415V, 3P 4W+G						
	Input Frequency	Hz	50Hz							
FLA-A	Full-load Ampare	A	3.0	2.0	2.0	2.0	2.8	2.8	2.8	4.0
Dimension	Width (L)	mm	800	1407			1407	1607		1907
	Dept (H)	mm	420	990			990	1273		1273
	Height (W)	mm	1240	689			695	695		689
	Feet Height	mm	-	450	450	450	450	450	450	450
	Weight	kg	67	105	110	110	120	130	140	150
Aubible Noise	At 1m distance	dB	44	55	54	54	45	66	66	64
Fan	Type		EC Fan (Axial)	Inverter Fan (Axial)						
	Quantity	n.	2	1						2
	Air Volume	m^3/h	8,400	13,600	8150	8,150	15,800	14,000	14,000	25,600
Piping size	Refrigerant (liquid/gas)	mm	10/16	16/22	16/22	16/22	16/22	22/28	22/28	22/28

Notes:

1. Capacity based on 24℃/50%RH return air conditions, and 35℃ condensing temperature.
2. The standard ESP 20Pa. Higher application shall refer to technical department for confirmation.
3. Full load current parameters of the indoor unit includes the outdoor unit of full load current.
4. Standard air-cooled outdoor unit operating temperature range-15℃ above, optional operating temperature range of the components-35℃ with low temperature kit.
5. Rights reserved to change parameters without prior notification.

Technical specification

Dual Circuit Model – Outdoor ambient temperature 35 ^{0}C

Indoor Unit

Model			HCD-A045U/D	HCD-A055U/D	HCD-A065U/D	HCD-A070U/D	HCD-A080U/D	HCD-A090U/D	HCD-A100U/D
Power	Input Voltage	V	380-415V, 3P, 4W+G						
	Input Frequency	Hz	50 Hz (Optional Inverter for 60Hz)						
	Number of source		1 input source (Optional ATS for dual source)						
FLA-A	Full-load Ampare	A	48.2	53.8	66.4	67.2	83	86.6	90.2
Capacity	Air flow type		Up-flow front return, Down-flow top return						
	Cooling Capacity	kW	43.5	53.1	65.1	71.1	83.6	92.1	100.9
	Sensible heat ratio	%	90.1	90.0	90.3	90.0	90.1	90.8	90.3
Compressor	Type		Fix speed Scroll Compressor (Optional Inverter Driven)						
	Quantity		2						
Refrigerant	Type		R-410A						
	Charge (Piping length ≤ 10 m.)	kg	15.8	17.8	25	31	32	34	36
Fan	Type		EC fan backward curve blade (Centrifugal)						
	Quantity	n.	1		2				
	Air Volume	m^3/h	10,500	12,400	16,650	17,240	21,000	22,600	24,800
Controller	Setting Temperature	℃	18 to 27						
	Temperature Accuracy	%	+/- 1°C						
	Setting Humidity	% RH	20 to 80						
	Control Type		PID control						
	Control Scheme		Supply Air Control / Return Air Control						
Filter	Type		G4						
	Quantity		2						
Heater	Type		Electric Heater (PTC)						
	Capacity	kW	9				12		
Humidifier	Type	Type	Electrode Boiler						
	Capacity	kg/h	10				12		
Interface	User Interface		7" touch screen						
	Communication		MODBUS RS-485, Optional SNMP						
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68
Dimension	Width	mm	990		990		990	990	990
	Dept	mm	1326		1826		2026	2226	2226
	Height	mm	1975		1975		1975	1975	1975
	Weight	kg	478	568	688	718	768	866	888
Piping size	Refrigerant (liquid/gas)	mm	12/19	12/22	12/22	12/22	16/22	16/22	16/25
	Drainage	mm	20	20	20	20	20	20	20
	Water In		3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Water Drainage	Standard		Gravity Drainage						
	Optional		Water Pump Drainage						

Outdoor Unit

Outdoor Model			HSF-A032	HSF-A032	HSF-A038	HSF-A042	HSF-A052	HSF-A062	HSF-A062
Power	Input Voltage	V	380-415V, 3P 4W+G						
	Input Frequency	Hz	50Hz						
FLA-A	Full-load Ampare	A	2	2	2.8	2.8	2.8	4	4
Dimension	Width (L)	mm	1407	1407	1407	1607		1907	
	Dept (H)	mm	990	990	990	1273		1273	
	Height (W)	mm	689	689	695	695		689	
	Feet Height	mm	450	450	450	450	450	450	450
	Weight	kg	110	110	120	130	140	150	150
Aubible Noise	At 1m distance	dB	54	54	45	66	66	64	64
Fan	Type		Inverter Fan (Axial)						
	Quantity	n.	1	1	1	1		2	
	Air Volume	m^3/h	8150	8150	15,800	14,000	14,000	25,600	25,600
Piping size	Refrigerant (liquid/gas)	mm	16/22	16/22	16/22	16/22	16/22	22/28	22/28

Notes:

1. Capacity based on 24℃/50%RH return air conditions, and 35℃ condensing temperature.
2. The standard ESP 20Pa. Higher application shall refer to technical department for confirmation.
3. Full load current parameters of the indoor unit includes the outdoor unit of full load current.
4. Standard air-cooled outdoor unit operating temperature range-15℃ above, optional operating temperature range of the components-35℃ with low temperature kit.
5. Rights reserved to change parameters without prior notification.

Technical specification

Single Circuit Model – Outdoor ambient temperature 40 ^{0}C

Indoor Unit

Model			HCD-A012U/D	HCD-A017U/D	HCD-A020U/D	HCD-A025U/D	HCD-A030U/D	HCD-A035U/D	HCD-A040U/D	HCD-A050U/D
Power	Input Voltage	V	380-415V, 3P, 4W+G							
	Input Frequency	Hz	50 (Optional Inverter for 60Hz)							
	Number of source		1 input source (Optional ATS for dual source)							
FLA-A	Full-load Ampare	A	19.2	23.4	28.5	32.2	35.5	36.3	46	49.6
Capacity	Air flow type		Up-flow front return, Down-flow top return							
	Cooling Capacity	kW	11.8	16.6	20	23.8	31	35	40.4	47.7
	Sensible heat ratio	%	95.8	90.4	90.5	90.0	90.0	90.0	90.1	89.9
Compressor	Type		Fix speed Scroll Compressor (Optional Inverter Driven)							
	Quantity		1							
Refrigerant	Type		R-410A							
	Charge (Piping length ≤ 10 m.)	kg	4.5	7		8	9.5	12.7	14.5	17
Fan	Type		EC fan backward curve blade (Centrifugal)							
	Quantity	n.	1							
	Air Volume	m^3/h	2,850	5,000	6,200	6,700	8,325	8,620	10,500	12,400
Controller	Setting Temperature	℃	18 to 27							
	Temperature Accuracy	%	+/- 1℃							
	Setting Humidity	% RH	20 to 80							
	Control Type		PID control							
	Control Scheme		Supply Air Control / Return Air Control							
Filter	Type		G4							
	Quantity		2							
Heater	Type		Electric Heater (PTC)							
	Capacity	kW	4	6					9	
Humidifier	Type	Type	Electrode Boiler							
	Capacity	kg/h	4	4.5	4.5	5	8		10	
Interface	User Interface		7" touch screen							
	Communication		MODBUS RS-485, Optional SNMP							
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68	68
Dimension	Width	mm	650	750		850	990		990	
	Dept	mm	550	700		700	1126		1326	
	Height	mm	1,850	1,900		1,900	1,975		1975	
	Weight	kg	178	300	318	338	433	438	468	528
Piping size	Refrigerant (liquid/gas)	mm	12/16	12/16	12/19	12/22	12/22	12/22	16/22	16/25
	Drainage	mm	20	20	20	20	20	20	20	20
	Water In		3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Water Drainage	Standard		Gravity Drainage							
	Optional		Water Pump Drainage							

Outdoor Unit

Model			HSF-A018	HSF-A024	HSF-A032	HSF-A032	HSF-A042	HSF-A052	HSF-A062	HSF-A076
Power	Input Voltage	V	220-240 , 1P 2W+G	380-415V, 3P 4W+G						
	Input Frequency	Hz	50Hz							
FLA-A	Full-load Ampare	A	3.0	2.0	2.0	2.0	2.8	2.8	4.0	5.6
Dimension	Width (L)	mm	800	1407			1607	1607	1907	2407
	Dept (H)	mm	420	990			1273	1273	1273	1273
	Height (W)	mm	1240	689			695	695	689	695
	Feet Height	mm	-	450	450	450	450	450	450	450
	Weight	kg	67	105	110	110	130	140	150	220
Aubible Noise	At 1m distance	dB	44	55	54	54	66	66	64	68
Fan	Type		EC Fan (Axial)	Inverter Fan (Axial)						
	Quantity	n.	2	1					2	
	Air Volume	m^3/h	8,400	13,600	8150	8,150	14,000	14,000	25,600	31,600
Piping size	Refrigerant (liquid/gas)	mm	10/16	16/22	16/22	16/22	16/22	22/28	22/28	22/28

Notes:

1. Capacity based on 24℃/50%RH return air conditions, and 40℃ condensing temperature.
2. The standard ESP 20Pa. Higher application shall refer to technical department for confirmation.
3. Full load current parameters of the indoor unit includes the outdoor unit of full load current.
4. Standard air-cooled outdoor unit operating temperature range-15℃ above, optional operating temperature range of the components-35℃ with low temperature kit.
5. Rights reserved to change parameters without prior notification.

Technical specification

Dual Circuit Model – Outdoor ambient temperature 40 ^{0}C

Indoor Unit

Model			HCD-A045U/D	HCD-A055U/D	HCD-A065U/D	HCD-A070U/D	HCD-A080U/D	HCD-A090U/D	HCD-A100U/D
Power	Input Voltage	V	380-415V, 3P, 4W+G						
	Input Frequency	Hz	50 Hz (Optional Inverter for 60Hz)						
	Number of source		1 input source (Optional ATS for dual source)						
FLA-A	Full-load Ampare	A	48.2	53.8	66.4	67.2	83	86.6	90.2
Capacity	Air flow type		Up-flow front return, Down-flow top return						
	Cooling Capacity	kW	41.2	47.6	64.2	70	80.8	88	95.4
	Sensible heat ratio	%	89.8	90.0	89.9	90.0	90.0	90.0	90.0
Compressor	Type		Fix speed Scroll Compressor (Optional Inverter Driven)						
	Quantity		2						
Refrigerant	Type		R-410A						
	Charge (Piping length ≤ 10 m.)	kg	15.8	17.8	25	31	32	34	36
Fan	Type		EC fan backward curve blade (Centrifugal)						
	Quantity	n.	1		2				
	Air Volume	m^3/h	10,500	12,400	16,650	17,240	21,000	22,600	24,800
Controller	Setting Temperature	℃	18 to 27						
	Temperature Accuracy	%	+/- 1°C						
	Setting Humidity	% RH	20 to 80						
	Control Type		PID control						
	Control Scheme		Supply Air Control / Return Air Control						
Filter	Type		G4						
	Quantity		2						
Heater	Type		Electric Heater (PTC)						
	Capacity	kW	9				12		
Humidifier	Type	Type	Electrode Boiler						
	Capacity	kg/h	10				12		
Interface	User Interface		7" touch screen						
	Communication		MODBUS RS-485, Optional SNMP						
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68
Dimension	Width	mm	990		990		990	990	990
	Dept	mm	1326		1826		2026	2226	2226
	Height	mm	1975		1975		1975	1975	1975
	Weight	kg	478	568	688	718	768	866	888
Piping size	Refrigerant (liquid/gas)	mm	12/19	12/22	12/22	12/22	16/22	16/22	16/25
	Drainage	mm	20	20	20	20	20	20	20
	Water In		3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Water Drainage	Standard		Gravity Drainage						
	Optional		Water Pump Drainage						

Outdoor Unit

Outdoor Model			HSF-A032	HSF-A038	HSF-A042	HSF-A052	HSF-A062	HSF-A062	HSF-A076
Power	Input Voltage	V	380-415V, 3P 4W+G						
	Input Frequency	Hz	50Hz						
FLA-A	Full-load Ampare	A	2	2.8	2.8	2.8	4	4	5.6
Dimension	Width (L)	mm	1407	1407	1607	1607	1907	1907	2407
	Dept (H)	mm	990	990	1273	1273	1273	1273	1273
	Height (W)	mm	689	695	695	695	689	689	695
	Feet Height	mm	450	450	450	450	450	450	450
	Weight	kg	110	120	130	140	150	150	220
Aubible Noise	At 1m distance	dB	54	45	66	66	64	64	68
Fan	Type		Inverter Fan (Axial)						
	Quantity	n.	1	1	1	1	2		
	Air Volume	m^3/h	8150	15,800	14,000	14,000	25,600	25,600	31,600
Piping size	Refrigerant (liquid/gas)	mm	16/22	16/22	16/22	16/22	22/28	22/28	22/28

Notes:

1. Capacity based on 24℃/50%RH return air conditions, and 40℃ condensing temperature.
2. The standard ESP 20Pa. Higher application shall refer to technical department for confirmation.
3. Full load current parameters of the indoor unit includes the outdoor unit of full load current.
4. Standard air-cooled outdoor unit operating temperature range-15℃ above, optional operating temperature range of the components-35℃ with low temperature kit.
5. Rights reserved to change parameters without prior notification.

Technical specification

Single Circuit Model – Outdoor ambient temperature 45 ^{0}C

Indoor Unit

Model			HCD-A012U/D	HCD-A017U/D	HCD-A020U/D	HCD-A025U/D	HCD-A030U/D	HCD-A035U/D	HCD-A040U/D	HCD-A050U/D
Power	Input Voltage	V	380-415V, 3P, 4W+G							
	Input Frequency	Hz	50 (Optional Inverter for 60Hz)							
	Number of source		1 input source (Optional ATS for dual source)							
FLA-A	Full-load Ampare	A	19.2	23.4	28.5	32.2	35.5	36.3	46	49.6
Capacity	Air flow type		Up-flow front return, Down-flow top return							
	Cooling Capacity	kW	11.2	15.8	18.9	23	29.5	33.7	39.1	46.2
	Sensible heat ratio	%	91.1	90.0	89.9	95.0	90.2	90.0	90.0	90.0
Compressor	Type		Fix speed Scroll Compressor (Optional Inverter Driven)							
	Quantity		1							
Refrigerant	Type		R-410A							
	Charge (Piping length ≤ 10 m.)	kg	4.5	7		8	9.5	12.7	14.5	17
Fan	Type		EC fan backward curve blade (Centrifugal)							
	Quantity	n.	1							
	Air Volume	m^3/h	2,850	5,000	6,200	6,700	8,325	8,620	10,500	12,400
Controller	Setting Temperature	℃	18 to 27							
	Temperature Accuracy	%	+/- 1°C							
	Setting Humidity	% RH	20 to 80							
	Control Type		PID control							
	Control Scheme		Supply Air Control / Return Air Control							
Filter	Type		G4							
	Quantity		2							
Heater	Type		Electric Heater (PTC)							
	Capacity	kW	4	6					9	
Humidifier	Type	Type	Electrode Boiler							
	Capacity	kg/h	4	4.5	4.5	5	8		10	
Interface	User Interface		7" touch screen							
	Communication		MODBUS RS-485, Optional SNMP							
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68	68
Dimension	Width	mm	650	750		850	990		990	
	Dept	mm	550	700		700	1126		1326	
	Height	mm	1,850	1,900		1,900	1,975		1975	
	Weight	kg	178	300	318	338	433	438	468	528
Piping size	Refrigerant (liquid/gas)	mm	12/16	12/16	12/19	12/22	12/22	12/22	16/22	16/25
	Drainage	mm	20	20	20	20	20	20	20	20
	Water In		3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Water Drainage	Standard		Gravity Drainage							
	Optional		Water Pump Drainage							

Outdoor Unit

Model			HSF-A024	HSF-A032	HSF-A042	HSF-A042	HSF-A052	HSF-A062	HSF-A076	HSF-A076
Power	Input Voltage	V	380-415V, 3P 4W+G							
	Input Frequency	Hz	50Hz							
FLA-A	Full-load Ampare	A	2.0	2.0	2.8		2.8	4.0	5.6	5.6
Dimension	Width (L)	mm	1407	1407	1607		1607	1907	2407	2407
	Dept (H)	mm	990	990	1273		1273	1273	1273	1273
	Height (W)	mm	689	689	695		695	689	695	695
	Feet Height	mm	-	450	450		450	450	450	450
	Weight	kg	105	110	130		140	150	220	220
Aubible Noise	At 1m distance	dB	55	54	66		66	64	68	68
Fan	Type		EC Fan (Axial)	Inverter Fan (Axial)						
	Quantity	n.	1					2		
	Air Volume	m^3/h	13,600	8150	14,000		14,000	25,600	31,600	31,600
Piping size	Refrigerant (liquid/gas)	mm	16/22	16/22	16/22		22/28	22/28	22/28	22/28

Notes:

1. Capacity based on 24℃/50%RH return air conditions, and 45℃ condensing temperature.
2. The standard ESP 20Pa. Higher application shall refer to technical department for confirmation.
3. Full load current parameters of the indoor unit includes the outdoor unit of full load current.
4. Standard air-cooled outdoor unit operating temperature range-15℃ above, optional operating temperature range of the components-35℃ with low temperature kit.
5. Rights reserved to change parameters without prior notification.

Technical specification

Dual Circuit Model – Outdoor ambient temperature 45 ^{0}C

Indoor Unit

Model			HCD-A045U/D	HCD-A055U/D	HCD-A065U/D	HCD-A070U/D	HCD-A080U/D	HCD-A090U/D	HCD-A100U/D
Power	Input Voltage	V	380-415V, 3P, 4W+G						
	Input Frequency	Hz	50 Hz (Optional Inverter for 60Hz)						
	Number of source		1 input source (Optional ATS for dual source)						
FLA-A	Full-load Ampare	A	48.2	53.8	66.4	67.2	83	86.6	90.2
Capacity	Air flow type		Up-flow front return, Down-flow top return						
	Cooling Capacity	kW	40	46	62.2	68.2	78.2	85.2	92.4
	Sensible heat ratio	%	90.0	90.0	90.0	90.0	90.0	90.0	90.0
Compressor	Type		Fix speed Scroll Compressor (Optional Inverter Driven)						
	Quantity		2						
Refrigerant	Type		R-410A						
	Charge (Piping length ≤ 10 m.)	kg	15.8	17.8	25	31	32	34	36
Fan	Type		EC fan backward curve blade (Centrifugal)						
	Quantity	n.	1		2				
	Air Volume	m^3/h	10,500	12,400	16,650	17,240	21,000	22,600	24,800
Controller	Setting Temperature	℃	18 to 27						
	Temperature Accuracy	%	+/- 1°C						
	Setting Humidity	% RH	20 to 80						
	Control Type		PID control						
	Control Scheme		Supply Air Control / Return Air Control						
Filter	Type		G4						
	Quantity		2						
Heater	Type		Electric Heater (PTC)						
	Capacity	kW	9				12		
Humidifier	Type	Type	Electrode Boiler						
	Capacity	kg/h	10				12		
Interface	User Interface		7" touch screen						
	Communication		MODBUS RS-485, Optional SNMP						
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68
Dimension	Width	mm	990		990		990	990	990
	Dept	mm	1326		1826		2026	2226	2226
	Height	mm	1975		1975		1975	1975	1975
	Weight	kg	478	568	688	718	768	866	888
Piping size	Refrigerant (liquid/gas)	mm	12/19	12/22	12/22	12/22	16/22	16/22	16/25
	Drainage	mm	20	20	20	20	20	20	20
	Water In		3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Water Drainage	Standard		Gravity Drainage						
	Optional		Water Pump Drainage						

Outdoor Unit

Outdoor Model			HSF-A038	HSF-A042	HSF-A052	HSF-A062	HSF-A076	HSF-A076	HSF-A076
Power	Input Voltage	V	380-415V, 3P 4W+G						
	Input Frequency	Hz	50Hz						
FLA-A	Full-load Ampare	A	2.8	2.8	2.8	4	5.6	5.6	5.6
Dimension	Width (L)	mm	1407	1607	1607	1907	2407	2407	2407
	Dept (H)	mm	990	1273	1273	1273	1273	1273	1273
	Height (W)	mm	695	695	695	689	695	695	695
	Feet Height	mm	450	450	450	450	450	450	450
	Weight	kg	120	130	140	150	220	220	220
Aubible Noise	At 1m distance	dB	45	66	66	64	68	68	68
Fan	Type		Inverter Fan (Axial)						
	Quantity	n.	1	1	1	1	2		
	Air Volume	m^3/h	15,800	14,000	14,000	25,600	31,600	31,600	31,600
Piping size	Refrigerant (liquid/gas)	mm	16/22	16/22	16/22	22/28	22/28	22/28	22/28

Notes:

1. Capacity based on 24℃/50%RH return air conditions, and 45℃ condensing temperature.
2. The standard ESP 20Pa. Higher application shall refer to technical department for confirmation.
3. Full load current parameters of the indoor unit includes the outdoor unit of full load current.
4. Standard air-cooled outdoor unit operating temperature range-15℃ above, optional operating temperature range of the components-35℃ with low temperature kit.
5. Rights reserved to change parameters without prior notification.

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More Information