



Delta InfraSuite Precision Cooling

RoomCool A series, 12kW to 100kW

Air-Cooled



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
- Optional Built-in drain pump unit

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 it 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

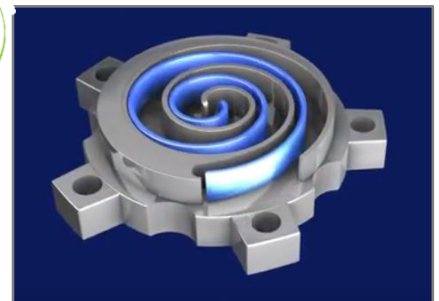
Compressor and all valves system located separately from other part made easy for maintenance and repair.



SCROLL COMPRESSOR FOR BEST EFFICIENCY

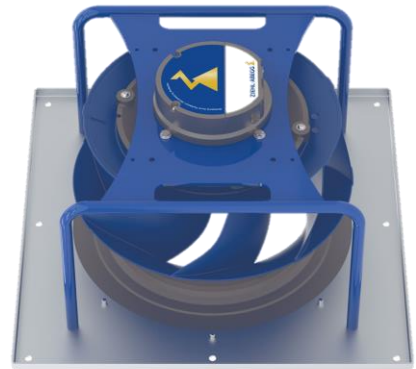
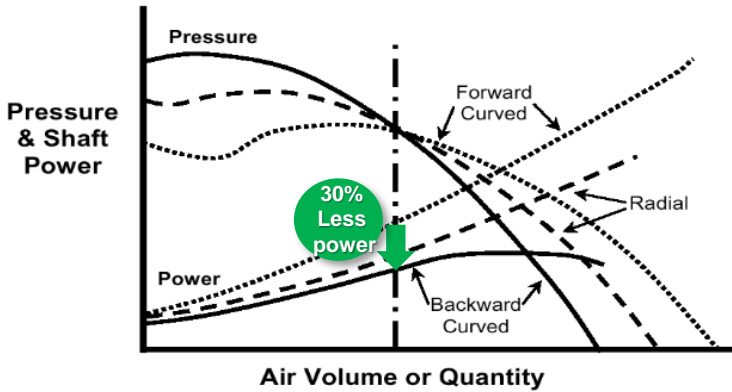
Scroll compressor technology obtains superior reliability with proven record in many application with highly efficient at full load and part load condition. Minimalist fewest moving parts results quiet operating noise and low vibration that might effect to IT Equipment insides datacentre room.

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

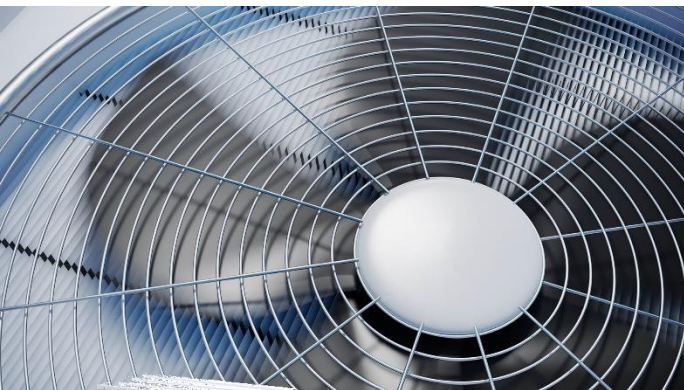


INDOOR UNIT WITH BACKWARD CURVED EC FAN

Indoor air supplier fan are EC motor type which allows system controller to electronically adjust 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.

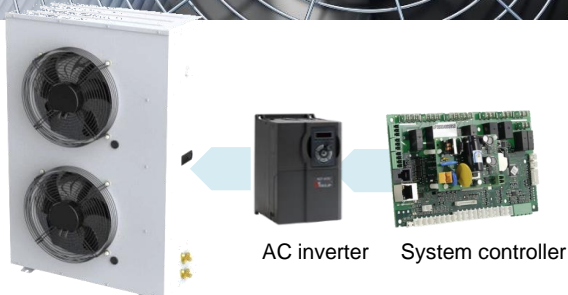


Backward centrifugal fan blade characterizes best P-Q performance at lowest power consumption among all other fan type. It keeps constant airflow volume and pressure to support heat removal needed for white space. Numbers of fans provides in system redundancy so that high availability of cooling system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



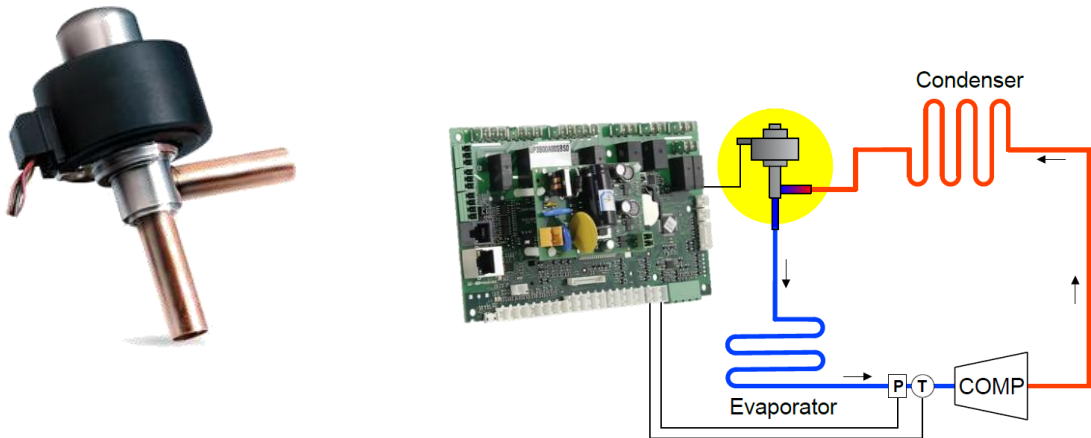
VARIABLE CONDENSER FAN SPEED CONTROL

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.

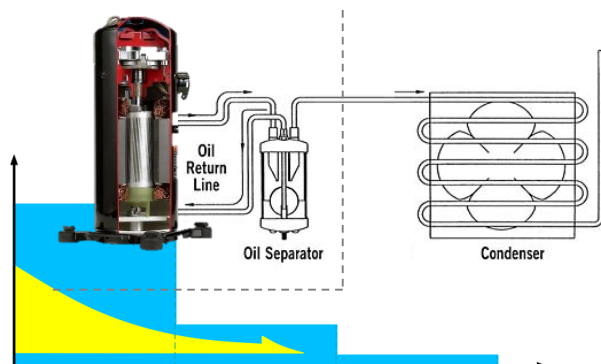


ELECTRONICALLY EXPANSION VALVE CONTROL

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.

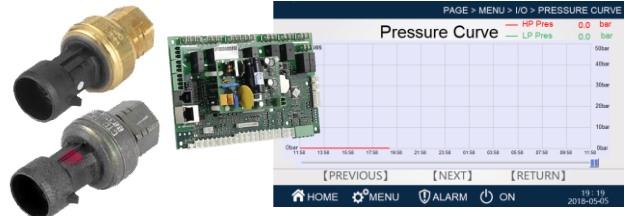


Built-in oil separator, the system can operate safely and reliably by the use of built-in oil-separator so that much less oil enters to refrigerant circuit. This could help to ensure lubricant oil is sufficient for compressor operation. Moreover, by this oil control technique, the RoomCool can support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

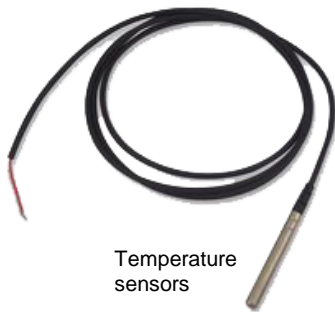


EQUIPS WITH INDUSTRIAL GRADE SENSORS

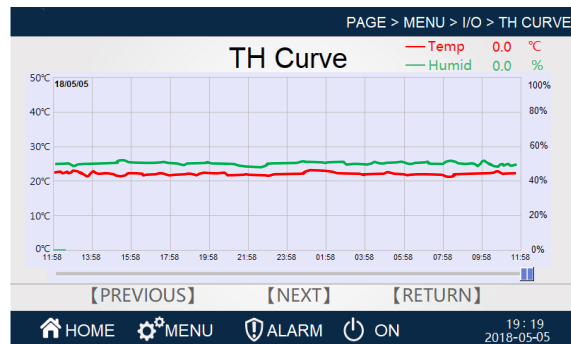
Pressure Sensors, On both high pressure check point and low pressure check point has been equipped with industrial grade pressure sensors and feeds signal to system control for real time monitoring on gas pipe and liquid pipe. By this real time data from the sensor, not just a switch, they help system 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



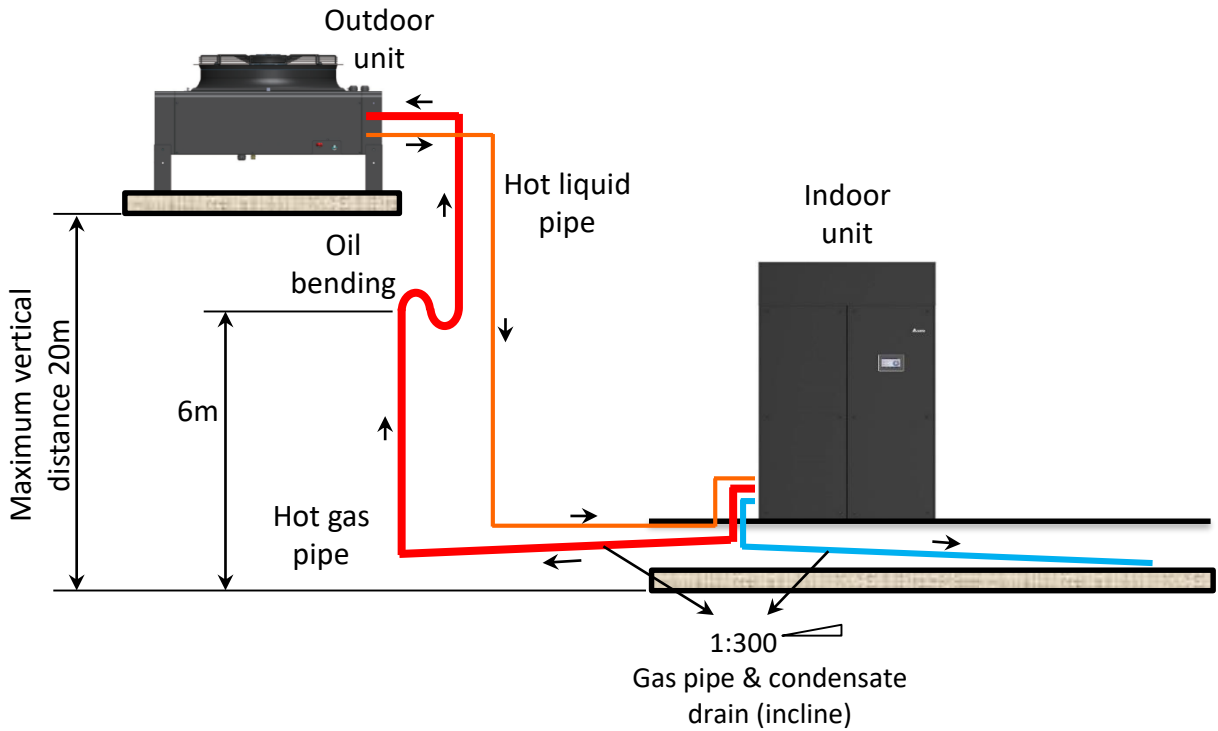
Air temperature and Humidity sensor

Dedicated Thermohygrometer and industrial grade sensors,

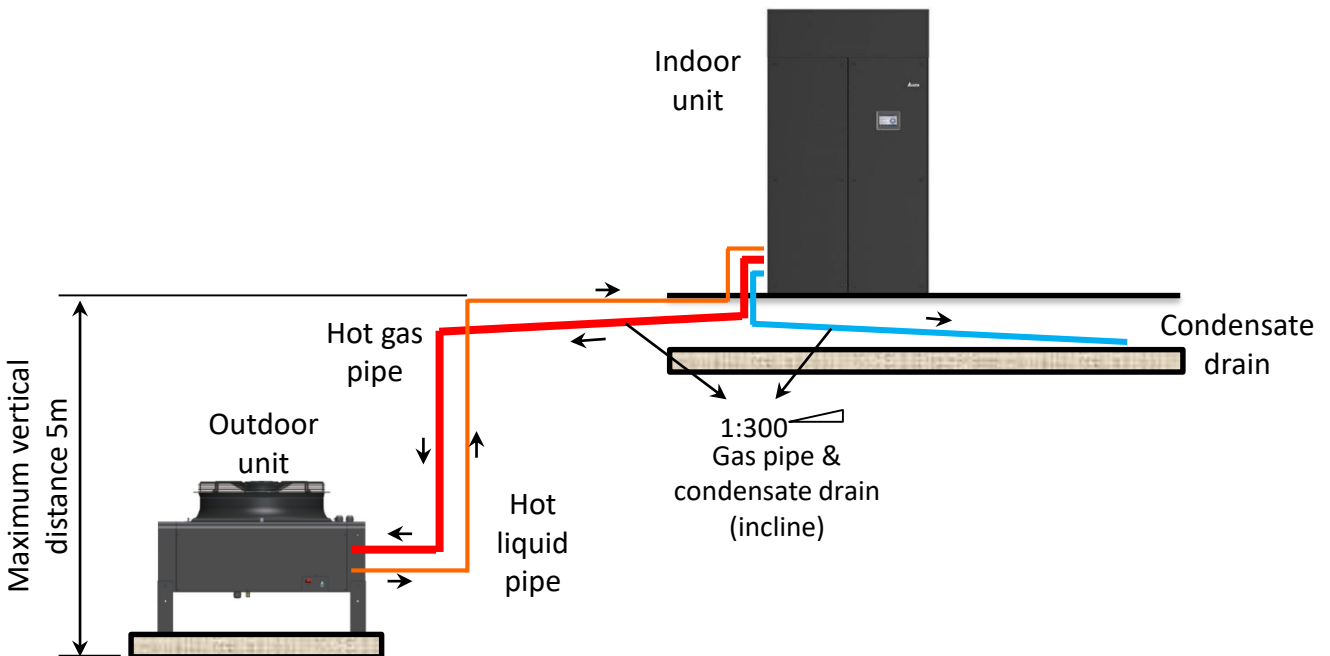
The high accuracy Thermohygrometer is employed to monitor air quality to feedback to system controller. This professional sensing technique enhances the RowCool capability to supply best quality of air for IT equipment according to ASHRAE 2011 A1 guideline (18 C° to 27 C° and with humidity within range 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

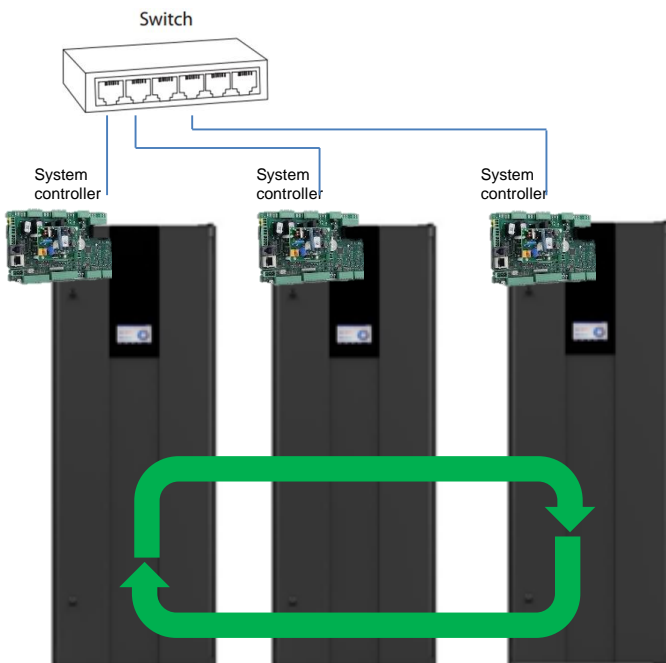


Discrete system controller, the heart of Delta RoomCool product is a specific cooling system controller from world class cooling system components manufacturer. It helps to simplify all system design with best reliability supporting the RoomCool to perform best accuracy on both temperature and humidity 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.

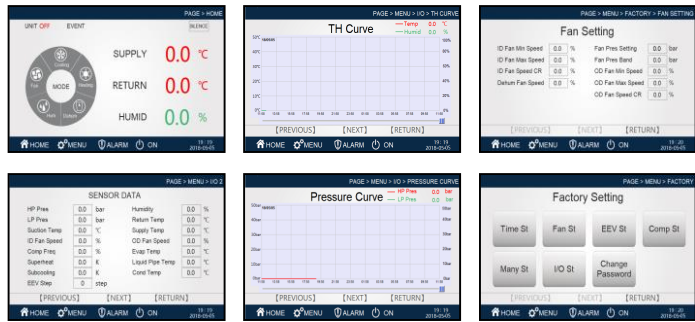


MULTI UNIT AND MULTI GROUP OPERATION



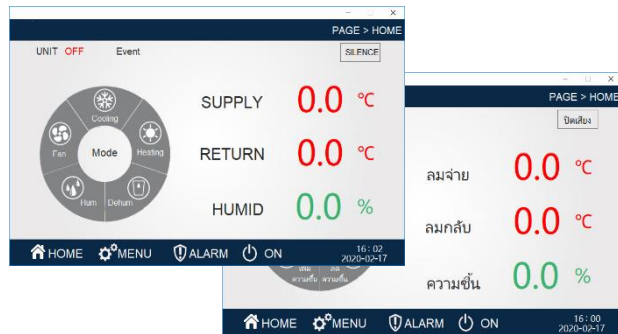
Team mode features support group control for redundancy and rotational operation. Remote display for the master RoomCool in the group to the slave units can be archived via Ethernet network connection so that each user for no needing to walk to every cooling units in Datacenter room.

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.



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INDUSTRIAL GRADE MATERIAL

Fire retardant heat insulation, Delta

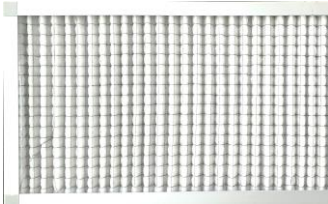
RoomCool adapted industrial UL fire rated (UL94 HF-1) insulation foam with mold resistant feature. The material guarantees safety compliance of the cooling unit with international building standard. Mold resistant foil helps to prevent fungal and smell due to humidity from supply air, keeping cleanliness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



Heat Insulator Material

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,

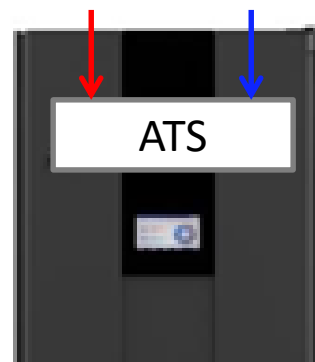


FULL SAFETY AND SHORT CIRCUIT PROTECTION, All

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.



Power source A Power source B



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 °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				380-415V, 3P, 4W+G			
	Input Frequency	Hz	50 (Optional Inverter for 60Hz)				50 (Optional Inverter for 60Hz)			
	Number of source		1 input source (Optional ATS for dual source)				1 input source (Optional ATS for dual source)			
FLA-A	Full-load Ampere	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				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)				Fix speed Scroll Compressor (Optional Inverter Driven)			
	Quantity		1				1			
Refrigerant	Type		R-410A				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)				EC fan backward curve blade (Centrifugal)			
	Quantity	n.	1				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	°C	18 to 27				18 to 27			
	Temperature Accuracy	%	+/- 1°C				+/- 1°C			
	Setting Humidity	% RH	20 to 80				20 to 80			
	Control Type		PID control				PID control			
Filter	Type		G4				G4			
	Quantity		2				2			
Heater	Type		Electric Heater (PTC)				Electric Heater (PTC)			
	Capacity	kW	4	6			6		9	
Humidifier	Type	Type	Electrode Boiler				Electrode Boiler			
	Capacity	kg/h	4	4.5	4.5	5	8		10	
Interface	User Interface		7" touch screen				7" touch screen			
	Communication		MODBUS RS-485, Optional SNMP				MODBUS RS-485, Optional SNMP			
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68	68
Dimension	Depth	mm	650	750		850	990		990	
	Width	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	3/4" G
Water Drainage	Standard		Gravity Drainage				Gravity Drainage			
	Optional		Water Pump Drainage				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 Ampere	A	3	2	2	2	2.8	2.8	2.8	4
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
Audible Noise	At 1m distance	dB	44	55	54	54	45	66	66	64
Fan	Type		EC Fan (Axial)		Inverter Fan (Axial)					
	Quantity	n.	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:

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

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Technical specification

Dual Circuit Model – Outdoor ambient temperature 35 °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	°C	18 to 27							
	Temperature Accuracy	%	±1 °C							
	Setting Humidity	% RH	20 to 80							
	Control Type		PID 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	Depth	mm	990			990		990	990	990
	Width	mm	1326			1826		2026	2226	2226
	Height	mm	1975			1975		1975	1975	1975
Piping size	Weight	kg	478	568	688	718	768	866	888	
	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
Audible 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:

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

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Technical specification

Single Circuit Model – Outdoor ambient temperature 40 °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				380-415V, 3P, 4W+G					
	Input Frequency	Hz 50 (Optional Inverter for 60Hz)				50 (Optional Inverter for 60Hz)					
	Number of source	1 input source (Optional ATS for dual source)				1 input source (Optional ATS for dual source)					
FLA-A	Full-load Ampere	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				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)				Fix speed Scroll Compressor (Optional Inverter Driven)					
	Quantity	1				1					
Refrigerant	Type	R-410A				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)				EC fan backward curve blade (Centrifugal)					
	Quantity	n. 1				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	°C 18 to 27				18 to 27					
	Temperature Accuracy	% +/- 1°C				+/- 1°C					
	Setting Humidity	% RH 20 to 80				20 to 80					
	Control Type	PID control				PID control					
	Control Scheme	Supply Air Control / Return Air Control				Supply Air Control / Return Air Control					
Filter	Type	G4				G4					
	Quantity	2				2					
Heater	Type	Electric Heater (PTC)				Electric Heater (PTC)					
	Capacity	kW 4		6		6		9			
Humidifier	Type	Electrode Boiler				Electrode Boiler					
	Capacity	kg/h 4		4.5	4.5	5	8	10			
Interface	User Interface	7" touch screen				7" touch screen					
	Communication	MODBUS RS-485, Optional SNMP				MODBUS RS-485, Optional SNMP					
Audible Noise	Sound level at 1m	dB 68		68	68	68	68	68	68		
	Depth	mm 650		750		850		990		990	
Dimension	Width	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	
	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				Gravity Drainage					
	Optional	Water Pump Drainage				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								
	Input Frequency	Hz 50Hz								
FLA-A	Full-load Ampere	A 3	2	2	2	2.8	2.8	4	5.6	
Dimension	Width (L)	mm 800		1407		1607		1607	1907	2407
	Depth (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
Audible Noise	At 1m distance	dB 44		55	54	54	66	66	64	68
	Type	EC Fan (Axial)				Inverter Fan (Axial)				
Fan	Quantity	n. 2				1				
	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:

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

Technical specification

Dual Circuit Model – Outdoor ambient temperature 40 °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 Ampere	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	°C	18 to 27							
	Temperature Accuracy	%	±1 °C							
	Setting Humidity	% RH	20 to 80							
	Control Type		PID control							
Filter	Type		G4							
	Quantity		2							
Heater	Type		Electric Heater (PTC)							
	Capacity	kW	9				12			
Humidifier	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	Depth	mm	990			990		990	990	990
	Width	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 Ampere	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
Audible 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°C/50%RH return air conditions, and 40°C 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°C above, optional operating temperature range of the components-35°C with low temperature kit.
5. Rights reserved to change parameters without prior notification.

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Technical specification

Single Circuit Model – Outdoor ambient temperature 45 °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				380-415V, 3P, 4W+G			
	Input Frequency	Hz	50 (Optional Inverter for 60Hz)				50 (Optional Inverter for 60Hz)			
	Number of source		1 input source (Optional ATS for dual 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				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)				Fix speed Scroll Compressor (Optional Inverter Driven)			
	Quantity		1				1			
Refrigerant	Type		R-410A				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)				EC fan backward curve blade (Centrifugal)			
	Quantity	n.	1				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	°C	18 to 27				18 to 27			
	Temperature Accuracy	%	+/- 1°C				+/- 1°C			
	Setting Humidity	% RH	20 to 80				20 to 80			
	Control Type		PID control				PID control			
Filter	Type		G4				G4			
	Quantity		2				2			
Heater	Type		Electric Heater (PTC)				Electric Heater (PTC)			
	Capacity	kW	4	6		6	6	9		
Humidifier	Type	Type	Electrode Boiler				Electrode Boiler			
	Capacity	kg/h	4	4.5	4.5	5	8		10	
Interface	User Interface		7" touch screen				7" touch screen			
	Communication		MODBUS RS-485, Optional SNMP				MODBUS RS-485, Optional SNMP			
Audible Noise	Sound level at 1m	dB	68	68	68	68	68	68	68	68
Dimension	Depth	mm	650	750		850	990		990	
	Width	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				Gravity Drainage			
	Optional		Water Pump Drainage				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	2	2.8	2.8	4	5.6	5.6	5.6
Dimension	Width (L)	mm	1407	1407	1607	1607	1907	2407	2407	2407
	Dept (H)	mm	990	990	1273	1273	1273	1273	1273	1273
	Height (W)	mm	689	689	695	695	689	695	695	695
	Feet Height	mm	-	450	450	450	450	450	450	450
	Weight	kg	105	110	130	140	150	220	220	220
Audible Noise	At 1m distance	dB	55	54	66	66	64	68	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:

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

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Technical specification

Dual Circuit Model – Outdoor ambient temperature 45 °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 Ampere	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	°C	18 to 27						
	Temperature Accuracy	%	±/- 1°C						
	Setting Humidity	% RH	20 to 80						
	Control Type		PID control						
Filter	Type		Supply Air Control / Return Air Control						
	Quantity		G4						
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	Depth	mm	990			990		990	
	Width	mm	1326			1826		2026	
	Height	mm	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
	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 Ampere	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
Audible Noise	At 1m distance	dB	45	66	66	64	68	68	68
Fan	Type		Inverter Fan (Axial)						
	Quantity	n.	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:

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



Delta Electronics (Thailand) PCL

909 Moo 4, E.P.Z., Bangpoo Industrial Estate
Phraksa, Muang, Samutprakarn 10280,
THAILAND
TEL: +66-2-709-2800
ups.thailand@deltaww.com

Delta Green Industrial (Thailand) Co., Ltd.

111 Moo 9, Wellgrow Industrial Estate
Bangwua, Bangpakong, Chachoengsao 24180,
THAILAND
TEL: +66-2-709-2800
ups.thailand@deltaww.com

Delta Energy Systems (Singapore) Pte Ltd.

4 Kaki Bukit Ave 1, #05-04,
SINGAPORE 417939
TEL: +65-6747-5155
ups.singapore@deltaww.com

Delta Energy Systems Australia Pty Ltd.

20-21/45 Normanby Road Notting Hill,
VIC 3168, Australia
TEL: +61-3-9543-3720
ups.australia@deltaww.com



More Information