

Product Catalog

SENDO



Rooftop Packaged Air Conditioners (EC Series)
Improved Energy Efficiency Through New Technology

Benefits

Improved energy efficiency through new technology

High efficiency EC fan technology

EC plug fans deliver exact airflow requirements while minimising power usage at the same time. In fact EC plug fan technology is up to 50% more efficient than traditional belt and pulley systems. This provides enhanced comfort and improved maintenance of system performance.



Key benefits include:

Program control feature for exact airflow requirements.

High static easily achieved.

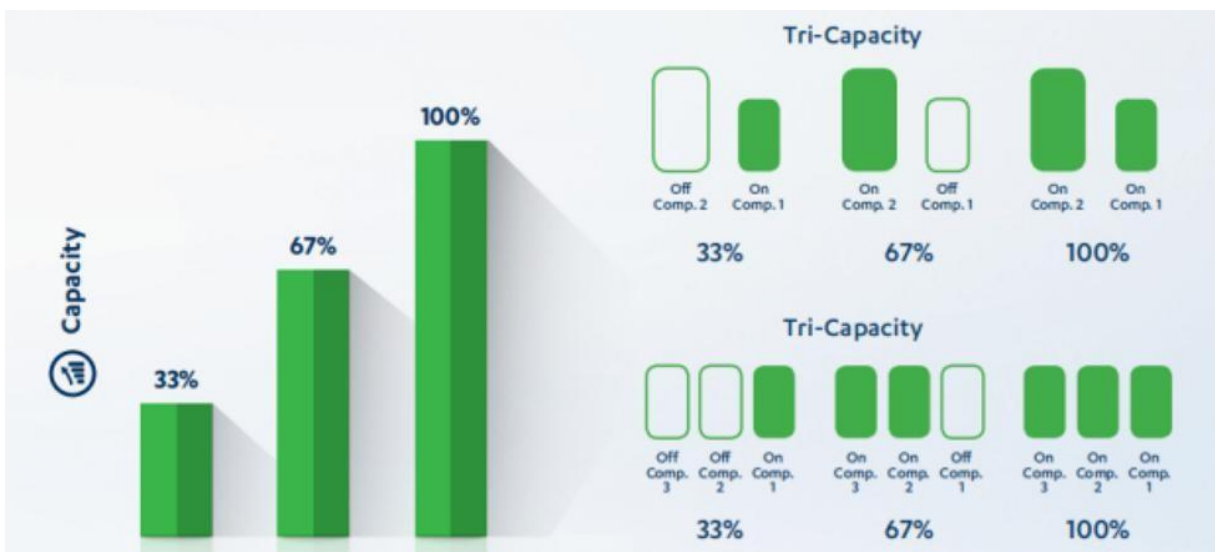
Eliminates belt dust and belt adjustment, providing a cleaner environment, and lowers operational maintenance cost.

Significant time saved for on-site commissioning.

Improved occupant comfort.

Unique compressor technology for some models - 3 stages for more savings

As its name indicates, Tri-Capacity offers a unique three steps capacity configuration of 33%, 67% and 100%. Tri-Capacity's unique compressor configuration also delivers improved seasonal energy efficiency through fewer adjustments, and also results in less cyclic degradation and more finely tuned occupant comfort.



Optional high efficiency DC Inverter compressor

Sendo Rooftop Packaged Air Conditioner achieves the industry's top class energy efficiency in cooling and heating by utilizing DC inverter compressor. The DC inverter compressor adopts innovative design and numerous high performance key parts which can reduce power consumption by 25%.

Features of DC Inverter compressor includes:

New structure enhances mid-frequency performance.

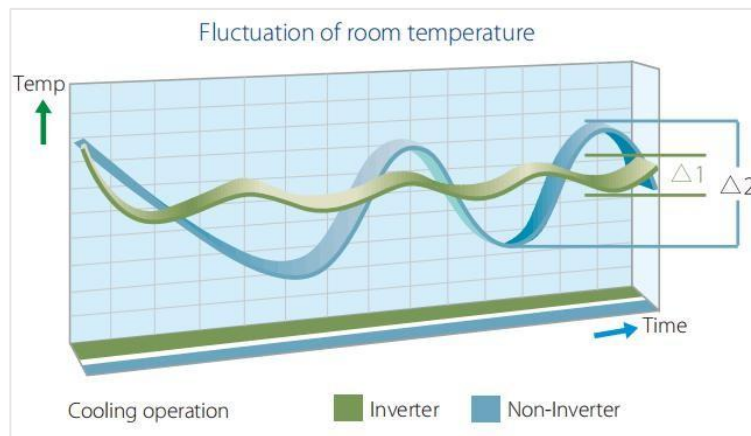
Specially designed scroll profile for R410A.

More compact, weight reduced by 50%.

Advanced permanent magnet DC motor improves low-frequency band performance.

Key benefits include:

Rapid warm up and cool down, the DC Inverter Compressor system reaches full load rapidly providing less temperature fluctuation and an improved living environment.



Optional free cooling technology

Buildings that comply with new thermal regulations have good insulation and require more cooling even when outside temperature is low. Thermodynamic cooling can be replaced by free cooling by introducing cool outside air into the building for best energy efficiency year round.

With Indoor air quality and running cost being more important, Sendo EC series Rooftops are supplied with economizer and fresh air hood as a optional feature to improve comfort through better fresh air management and allow energy savings with free cooling.

(Thermodynamic Cooling can be replaced by Free Cooling when outdoor temperature is below the building set point saving up to 15% on annual energy consumption)

Features

CASING / STRUCTURE

The casing is made of zinc coated galvanised steel sheets. It is further treated with an electrostatic powder coat then over baked to provide a weather resistant finish to suit the harsh climate. The screws are also zinc plated to improved product durability.

COMPRESSOR

High efficiency scroll type compressor is hermetically sealed, quiet running and supported on rubber mounts to minimise vibration. All compressors are provided with an internal overload protection, and incorporate crankcase heater for smooth start-up under any conditions. Except unique three steps capacity configuration of 33%, 67% and 100%, some models feature the flexibility and economy of 2~4 stages operation.

CONDENSER AND EVAPORATOR

The condenser and evaporator coils are manufactured from seamless copper tubes mechanically bonded to blue hydrophilic aluminium fins to ensure optimum heat transfer.

The shoulder of each fin adjoins the shoulder of the adjacent fin, completely encasing the copper tubes for maximum heat transfer. The generously sized coils provide ample capacity under all normal operating conditions.

All coils are pressure tested to 450Psi at the factory to avoid leakage. To improve corrosion resistance, a hydrophilic Gold Fin is provided as optional.

CONDENSER FAN AND MOTOR

Direct driven propeller axial fans are used for maximum condensing efficiency.

EVAPORATOR FAN AND MOTOR

EC is fitted with a plug-fan ensuring that no belt particles can be carried away into the building, this ventilation system is compliant with EN13779 air quality norm. EC plug fans deliver exact airflow requirements while minimising power usage, and are up to 50% more efficient versus traditional belt and pulley systems.

INSULATION

Ripple type acoustic insulation for compressor section, low noise. To prevent the likelihood of condensation occurring the unit is equipped with 10mm Polyethylene panel insulation for coil & fan section.

SAFETY

Electric panel consists of breakers and contactors for compressors and fan motors, phase sequence relay and other necessary protection devices for the main components. All electric parts are Schneider Electric brand.

*SIEMENS PLC controller is optional.

*Main power supply breaker is optional.

EASY INSTALLATION AND MAINTENANCE

The base beams are fixed and provide a rigid foundation for the entire unit. The beam has forklift slots or rigging holes for easy handling.

To keep installation as hassle-free as possible, Sendo units are fully factory assembled, tested and charged with R410A refrigerant. Only ductwork and external wiring connections are required to make the units completely operable ensuring rapid, low-cost installation.

For ease of commissioning and maintenance, Sendo units include easy access to the electrical cabinet and major refrigeration components.

The unit provides external pressure gauge for convenient and fast checking system pressure without removing the panel. If the unit is in running with abnormal operation, the controller will show the error code for easy troubleshooting.

OPTIONAL ACCESSORIES

Tropical climate T3 application

Optional supply / return air configuration

Optional golden condenser & evaporator for some area need special anti-corrosion

Economizer/Free cooling

Additional water heating coil

Additional electric heater

Heat recovery

100% Full fresh air

Optional high level filter

Optional precision temperature & humidity control

Specifications

Model			SRT-CT1H45A1E	SRT-CT1H48A1E	SRT-CT1H55A1E
Cooling Capacity		kW	44.5	48.0	55.0
Cooling Power Input		kW	15.8	17.2	19.7
Heating Capacity		kW	48.7	49.0	56.1
Heating Power Input		kW	14.4	16.5	18.8
Compressor	Type	/	Scroll	Scroll	Scroll
	Quantity	Nos	2	2	2
Energy Adjustment		%	33%,67%,100%	33%,67%,100%	33%,67%,100%
Refrigerant	Type	/	R410A	R410A	R410A
	Charge	Kg	4.3+7.5	4.3+7.5	4.3+7.5
Condenser Fan	Quantity	Nos	2	2	2
	Type	/	Axial / Direct	Axial / Direct	Axial / Direct
	Motor Power	kW	0.55	0.55	0.75
	AirFlow	m ³ /h	16500	19000	21000
Evaporator Fan	Quantity	Nos	1	2	2
	SupplyAir	m ³ /h	8500	9000	10000
	Type	/	EC	EC	EC
	ESP	Pa	100~330	100~550	100~550
Filter	Type	/	Panel	Panel	Panel
	Level	/	G4	G4	G4
Sound Pressure Level		dB(A)	73	73	73
Dimension	L	mm	1940	1940	1940
	W	mm	1900	1900	1900
	H	mm	1178	1378	1378
Net Weight		Kg	730	750	750

* Performance values refer to the following conditions:

Cooling: room air temperature 27.0 °C DB RH 50%, ambient air temperature 35 °C;

Heating: room air temperature 21.0 °C DB, ambient air temperature 7 °C DB / 6 °C WB.

** Noise level measured by adopting average value in the noise lab with background noise of 25 dB(A), at a distance of 1.5m high fan speed.

***Specifications are subject to change without prior notice for SENDO product improvement.

Specifications

Model		SRT-CT1H60A1E		SRT-CT1H70A1E	
Cooling Capacity	kW		60		70
Cooling Power Input	kW		21.8		25.7
Heating Capacity	kW		64.0		75.4
Heating Power Input	kW		20.0		24.8
Compressor	Type	/	Scroll		Scroll
	Quantity	Nos	2		2
Energy Adjustment	%		50%,100%		50%,100%
Refrigerant	Type	/	R410A		R410A
	Charge	Kg	2x7.5		2x8.5
Condenser Fan	Quantity	Nos	2		2
	Type	/	Axial / Direct		Axial / Direct
	Motor Power	kW	0.75		0.90
	AirFlow	m ³ /h	24000		27000
Evaporator Fan	Quantity	Nos	2		2
	SupplyAir	m ³ /h	11200		13500
	Type	/	EC		EC
	ESP	Pa	100~550		100~450
Filter	Type	/	Panel		Panel
	Level	/	G4		G4
Sound Pressure Level	dB(A)		73		74
Dimension	L	mm	2390		2390
	W	mm	2050		2050
	H	mm	1565		1565
Net Weight	Kg		760		860

* Performance values refer to the following conditions:

Cooling: room air temperature 27.0 °C DB RH 50%, ambient air temperature 35 °C;

Heating: room air temperature 21.0 °C DB, ambient air temperature 7 °C DB / 6 °C WB.

** Noise level measured by adopting average value in the noise lab with background noise of 25 dB(A), at a distance of 1.5m high fan speed.

***Specifications are subject to change without prior notice for SENDO product improvement.

Specifications

Model		SRT-CT1H80A1E	SRT-CT1H90A1E	SRT-CT1H105A1E
Cooling Capacity	kW	81	90	105
Cooling Power Input	kW	27.3	31.9	35.6
Heating Capacity	kW	85.5	96.2	112
Heating Power Input	kW	25.6	29.4	32.9
Compressor	Type	/	Scroll	Scroll
	Quantity	Nos	2	3
Energy Adjustment	%	33%,67%,100%	33%,67%,100%	33%,67%,100%
Refrigerant	Type	/	R410A	R410A
	Quantity	Nos	2	2
Condenser Fan	Type	/	Axial / Direct	Axial / Direct
	Motor Power	kW	1.1	1.1
	AirFlow	m ³ /h	33000	33000
	Quantity	Nos	2	2
Evaporator Fan	SupplyAir	m ³ /h	14600	16000
	Type	/	EC	EC
	ESP	Pa	100~380	100~350
	Quantity	Nos	2	2
Filter	Type	/	Panel	Panel
	Level	/	G4	G4
Sound Pressure Level	dB(A)	74	74	74
Dimension	L	mm	2500	2500
	W	mm	2200	2200
	H	mm	1865	1865
Net Weight	Kg	1130	1160	1250

* Performance values refer to the following conditions:

Cooling: room air temperature 27.0 °C DB RH 50%, ambient air temperature 35 °C;

Heating: room air temperature 21.0 °C DB, ambient air temperature 7 °C DB / 6 °C WB.

** Noise level measured by adopting average value in the noise lab with background noise of 25 dB(A), at a distance of 1.5m high fan speed.

***Specifications are subject to change without prior notice for SENDO product improvement.

Specifications

Model		SRT-CT1H120A1E	SRT-CT1H145A1E
Cooling Capacity	kW	120	149
Cooling Power Input	kW	44	52
Heating Capacity	kW	128.3	159.2
Heating Power Input	kW	39.7	48.5
Compressor	Type	/	Scroll
	Quantity	Nos	4
Energy Adjustment	%	25%,50%,75%,100%	50%,100%
Refrigerant	Type	/	R410A
	Quantity	Nos	2
Condenser Fan	Type	/	Axial / Direct
	Motor Power	kW	1.5
	AirFlow	m ³ /h	42000
	Quantity	Nos	3
Evaporator Fan	SupplyAir	m ³ /h	23000
	Type	/	EC
	ESP	Pa	100~370
Filter	Type	/	Panel
	Level	/	G4
Sound Pressure Level	dB(A)	80	82
Dimension	L	mm	3400
	W	mm	2200
	H	mm	1810
Net Weight	Kg	1710	1850

* Performance values refer to the following conditions:

Cooling: room air temperature 27.0 °C DB RH 50%, ambient air temperature 35 °C;

Heating: room air temperature 21.0 °C DB, ambient air temperature 7 °C DB / 6 °C WB.

** Noise level measured by adopting average value in the noise lab with background noise of 25 dB(A), at a distance of 1.5m high fan speed.

***Specifications are subject to change without prior notice for SENDO product improvement.

Specifications

Model		SRT-CT1H185A1E	SRT-CT1H225A1E
Cooling Capacity	kW	189	225
Cooling Power Input	kW	66.9	78.2
Heating Capacity	kW	196.1	238.5
Heating Power Input	kW	64.8	77
Compressor	Type	/	Scroll
	Quantity	Nos	3
Energy Adjustment	%	20%,40%,60%,80%,100%	33%,67%,100%
Refrigerant	Type	/	R410A
	Quantity	Nos	4
Condenser Fan	Type	/	Axial / Direct
	Motor Power	kW	4x1.5
	AirFlow	m ³ /h	84000
Evaporator Fan	Quantity	Nos	4
	SupplyAir	m ³ /h	35000
	Type	/	EC
	ESP	Pa	100~400
Filter	Type	/	Panel
	Level	/	G4
Sound Pressure Level	dB(A)	82	82
Dimension	L	mm	4840
	W	mm	2200
	H	mm	2122
Net Weight	Kg	2200	2520

* Performance values refer to the following conditions:-

Cooling: room air temperature 27.0 °C DB RH 50%, ambient air temperature 35 °C;

Heating: room air temperature 21.0 °C DB, ambient air temperature 7 °C DB / 6 °C WB.

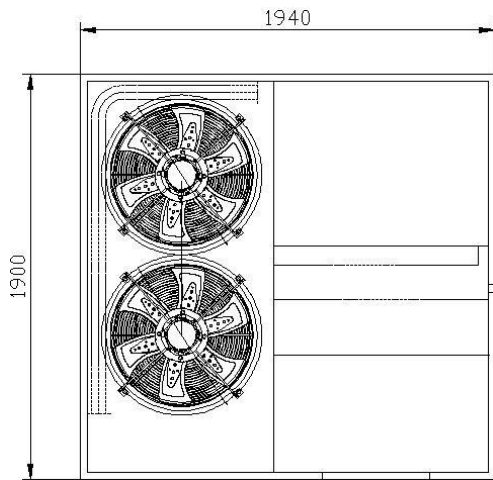
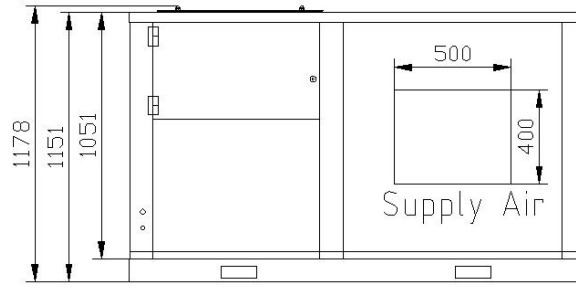
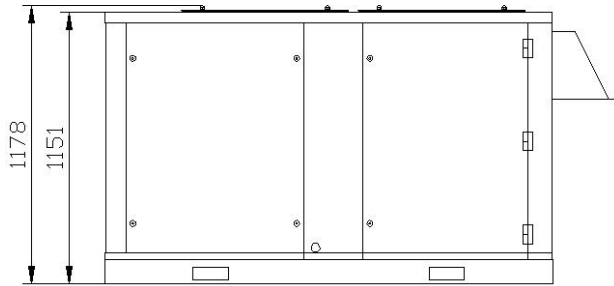
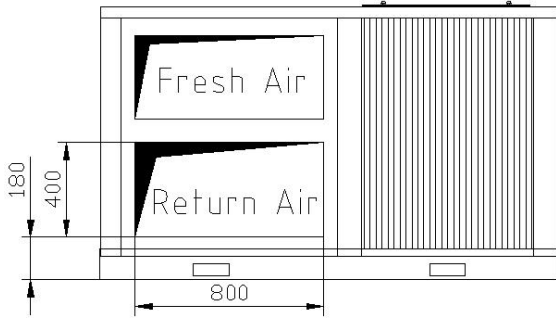
** Noise level measured by adopting average value in the noise lab with background noise of 25 dB(A), at a distance of 1.5m high fan speed.

***Specifications are subject to change without prior notice for SENDO product improvement.

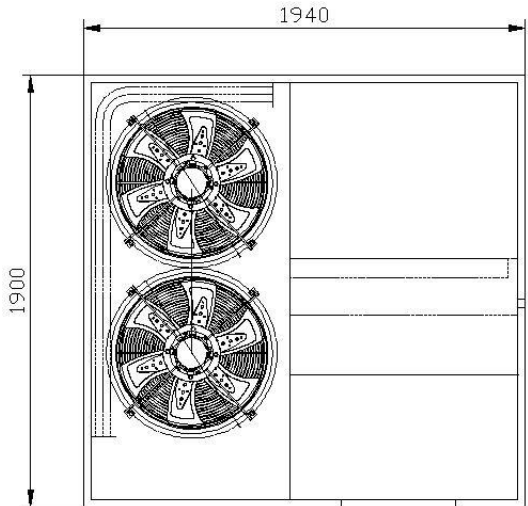
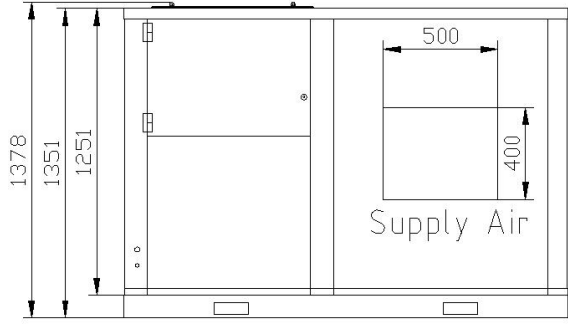
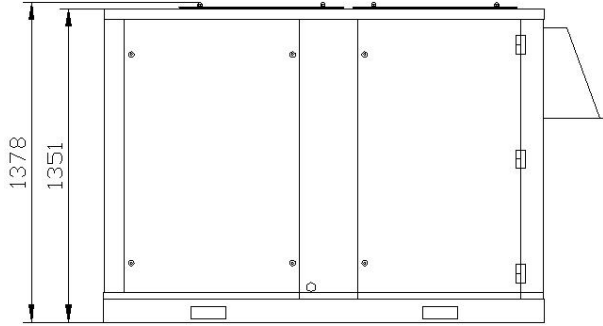
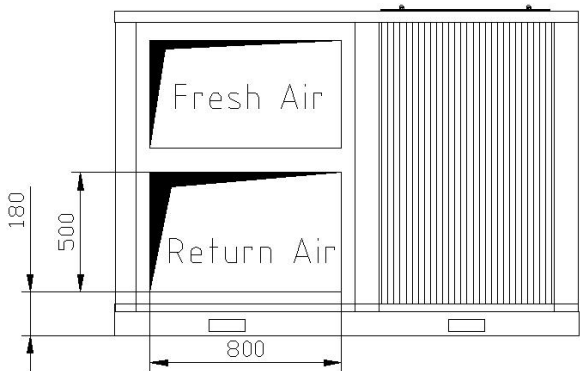
Dimensional Data

Dimensional Data

Model SRT-CT1H45A1E



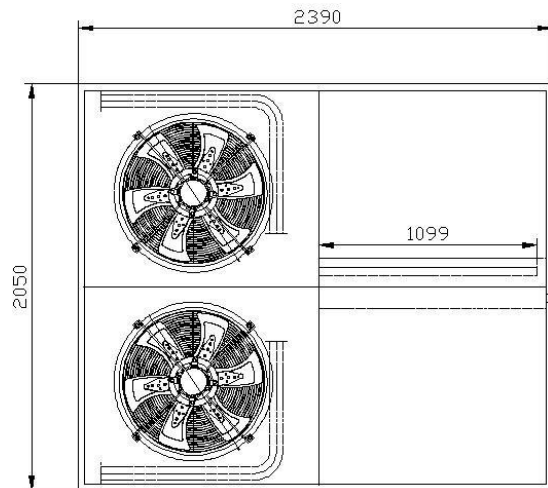
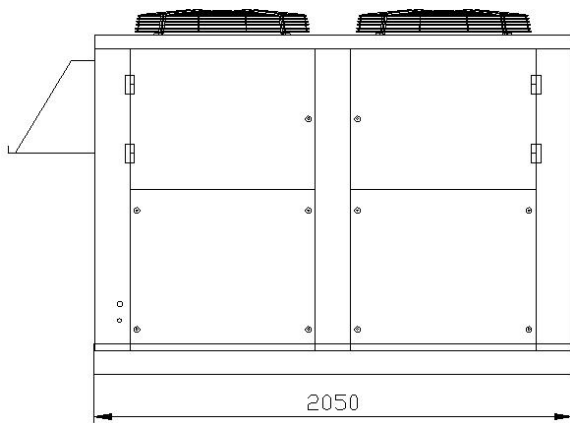
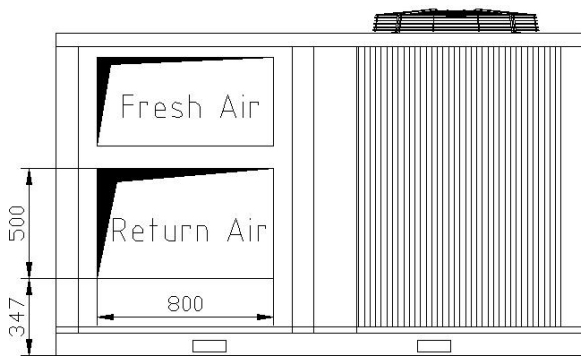
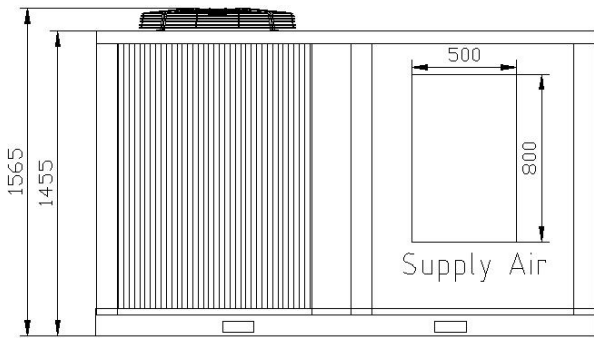
Model	SRT-CT1H48A1E	SRT-CT1H55A1E
-------	---------------	---------------



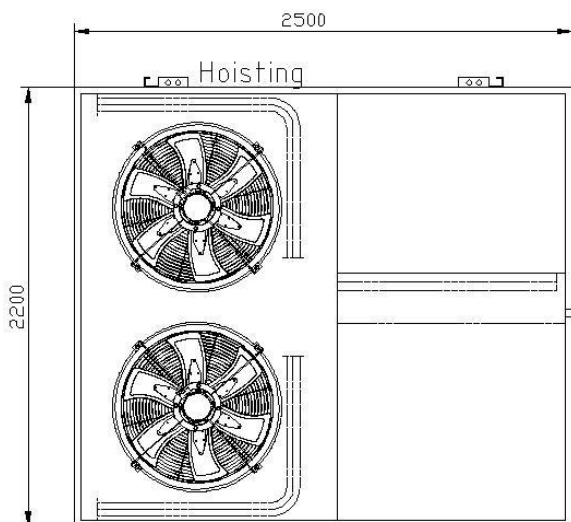
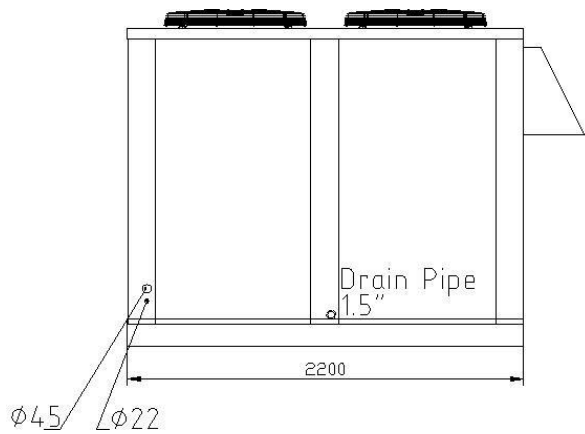
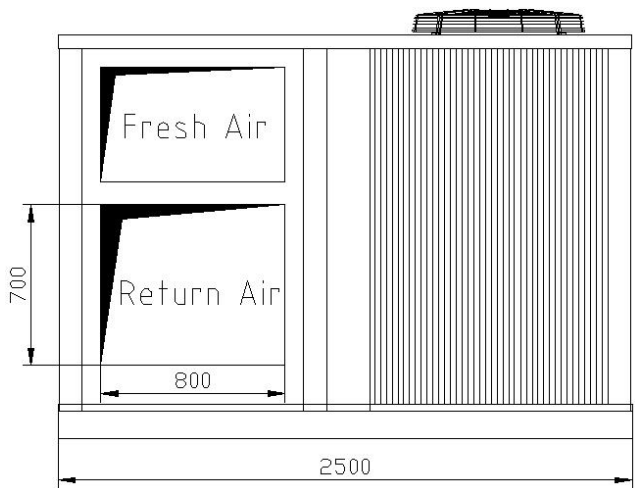
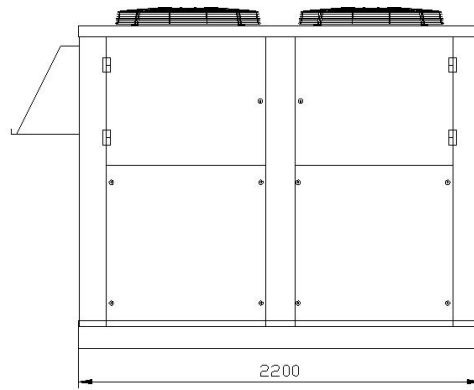
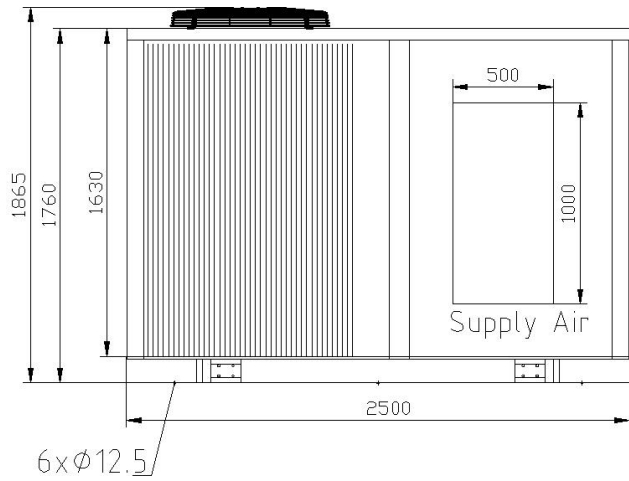
Model

SRT-CT1H60A1E

SRT-CT1H70A1E

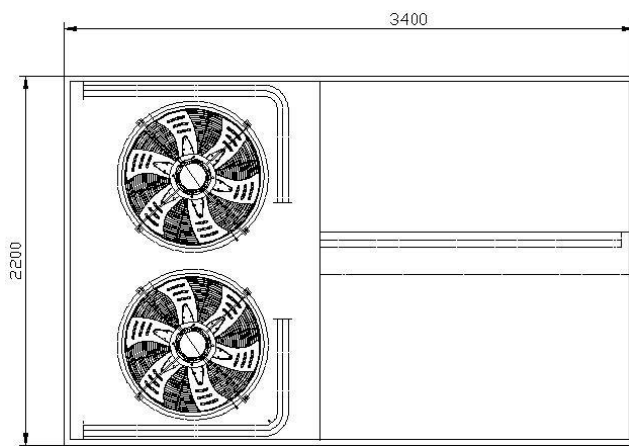
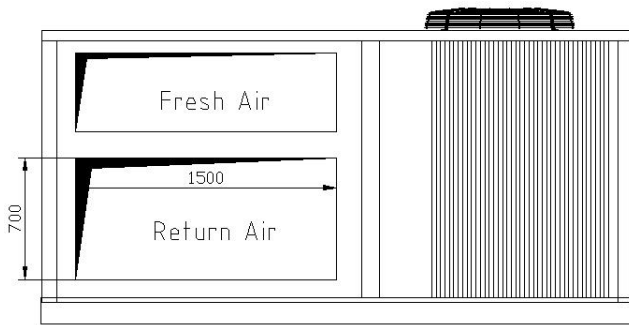
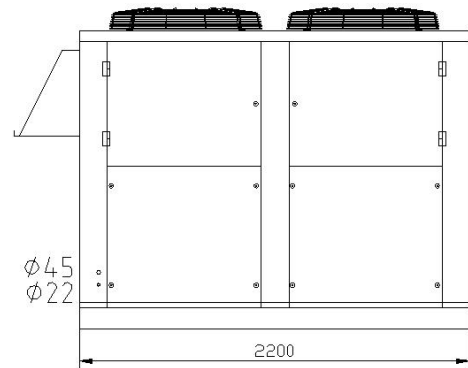
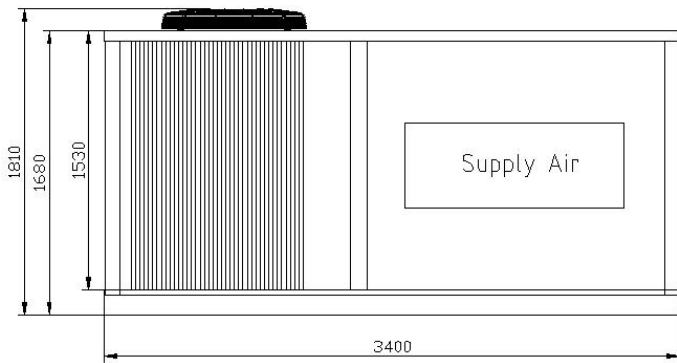


Model	SRT-CT1H80A1E	SRT-CT1H90A1E	SRT-CT1H105A1E
-------	---------------	---------------	----------------



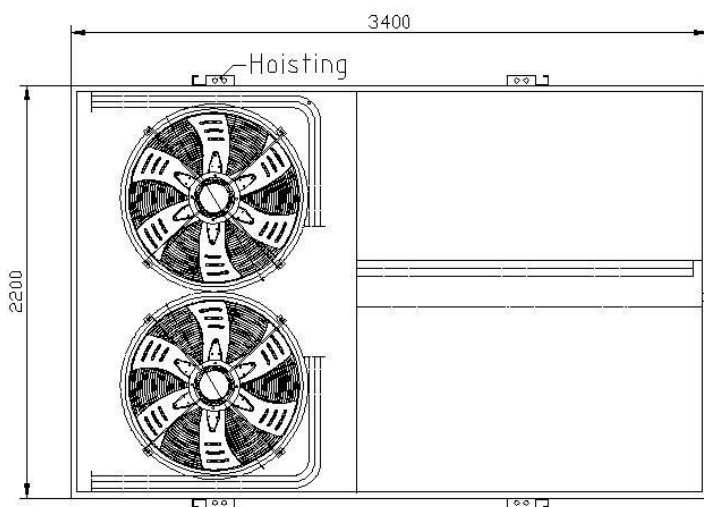
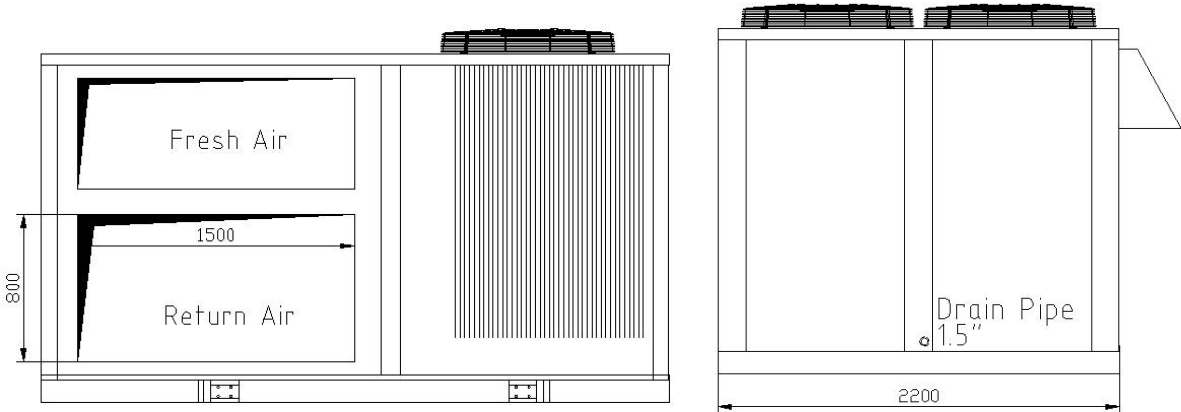
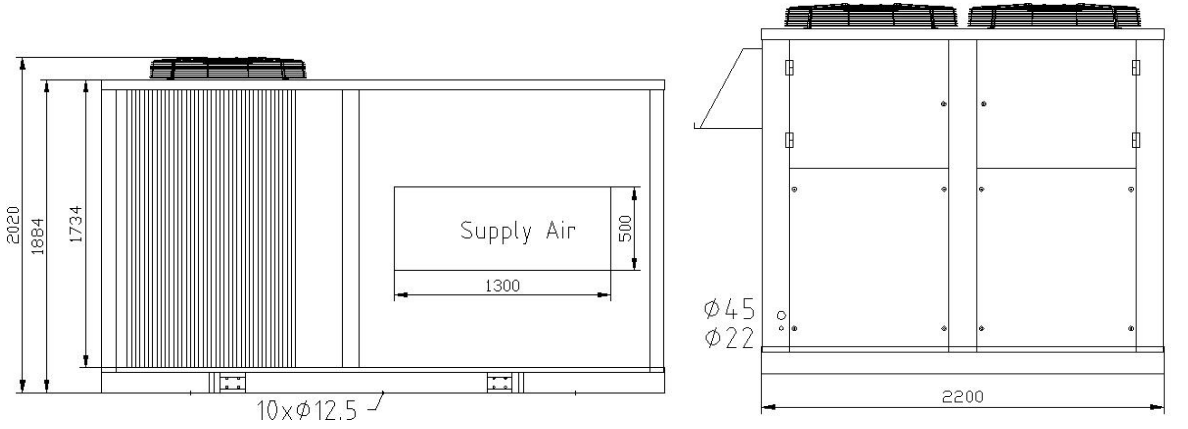
Model

SRT-CT1H120A1E



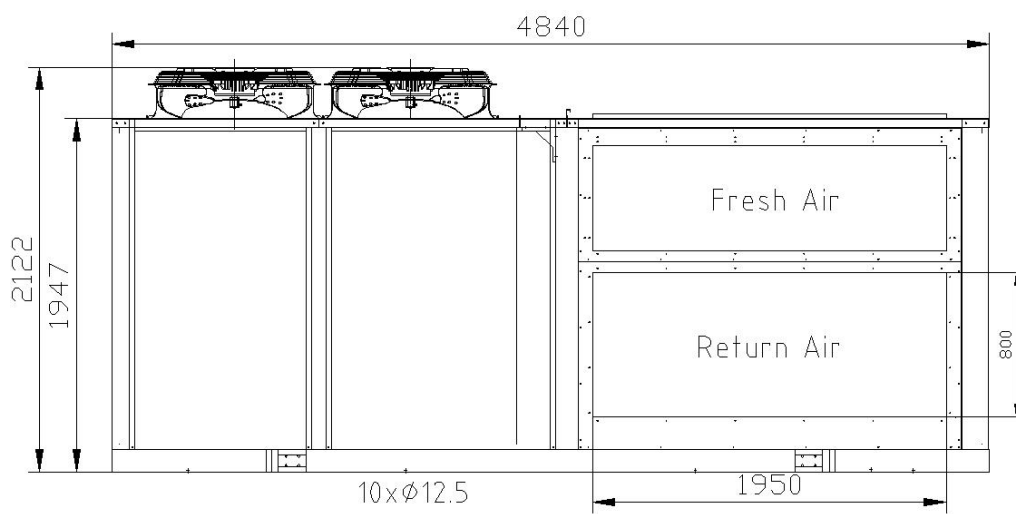
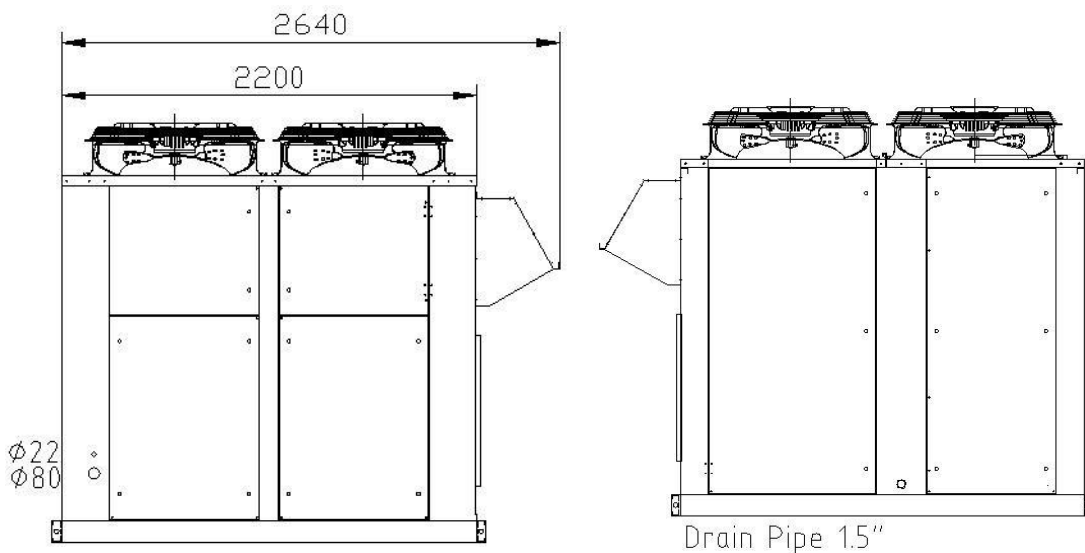
Model

SRT-CT1H145A1E

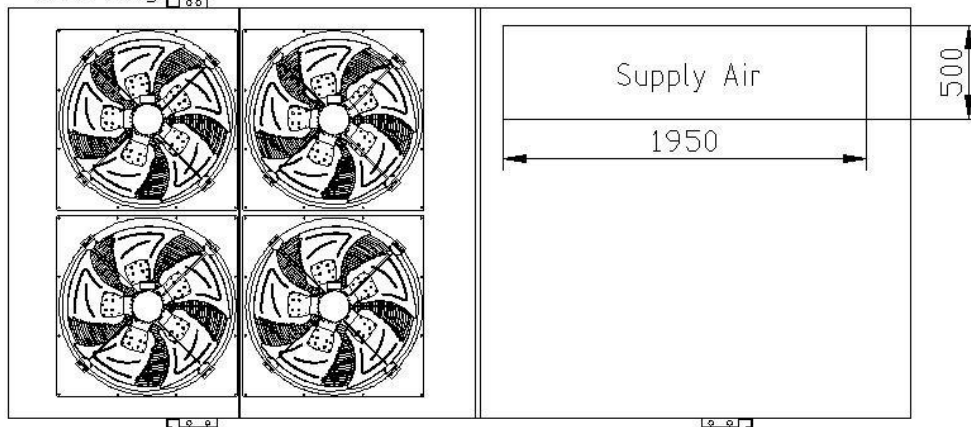


Model

SRT-CT1H185A1E

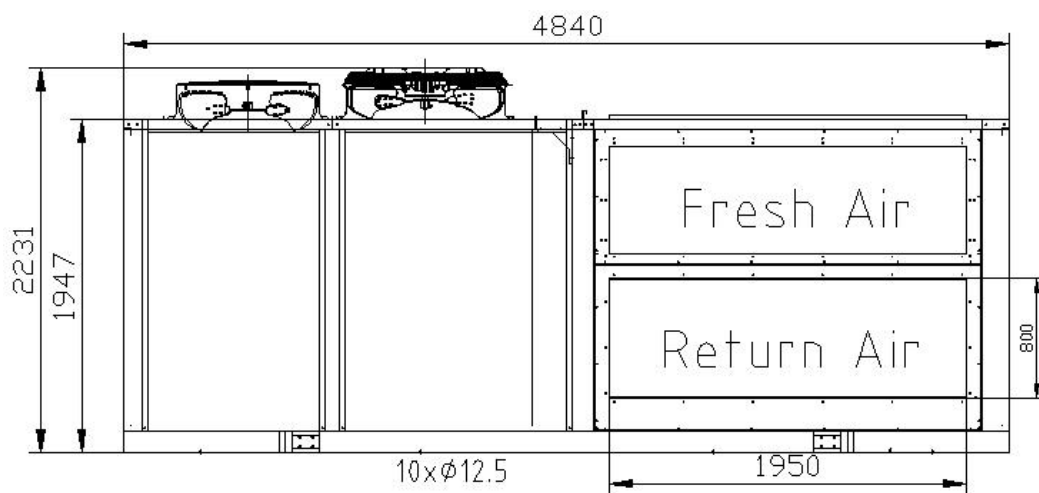
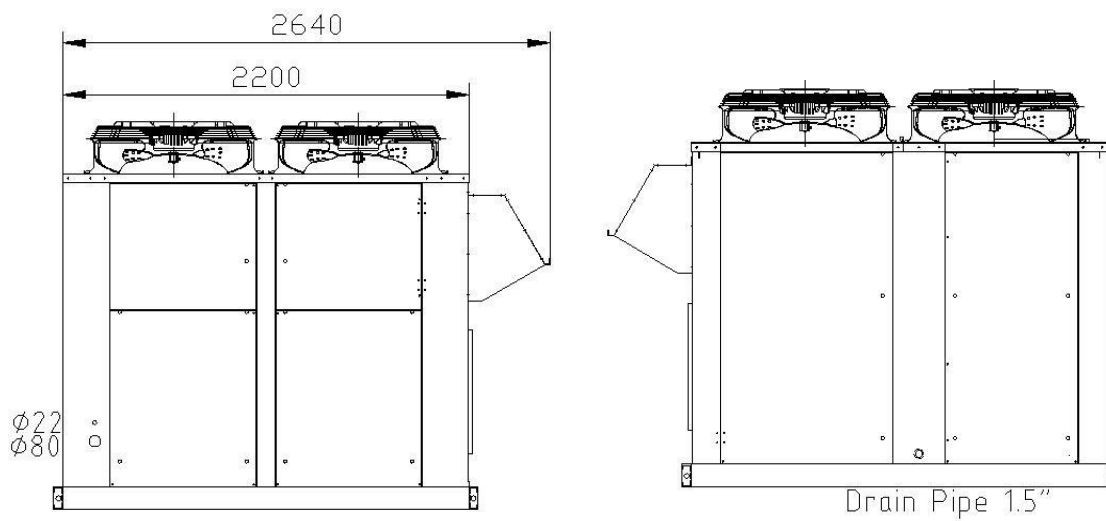


Hoisting



Model

SRT-CT1H225A1E



Hoisting

