RTU Range

Big Box Air Conditioners for Big Box Buildings

AIR CHANGE
DOAS & DEHUMIDIFICATION

Introduction

Big open indoor spaces that require temperature control like warehouses, shopping malls and supermarkets present unique and demanding HVAC challenges.

Buildings of this scale generate huge heating and cooling loads and their large single zones require high airflow volumes to ensure adequate distribution of the treated air to all parts of the building.

While chilled and hot water AHU systems are capable of meeting these demands, they are unnecessarily complex for this application requiring a large array of equipment including boilers, chillers, pumps, pipework etc.

Large evaporative cooling systems are another potential solution in the right climatic environment. In the wrong application, they provide lower control over room temperature and can raise indoor humidity to an uncomfortable and unacceptable level.

Air Change has developed its RTU range of rooftop packaged units to provide simple and reliable temperature control for big open indoor spaces.

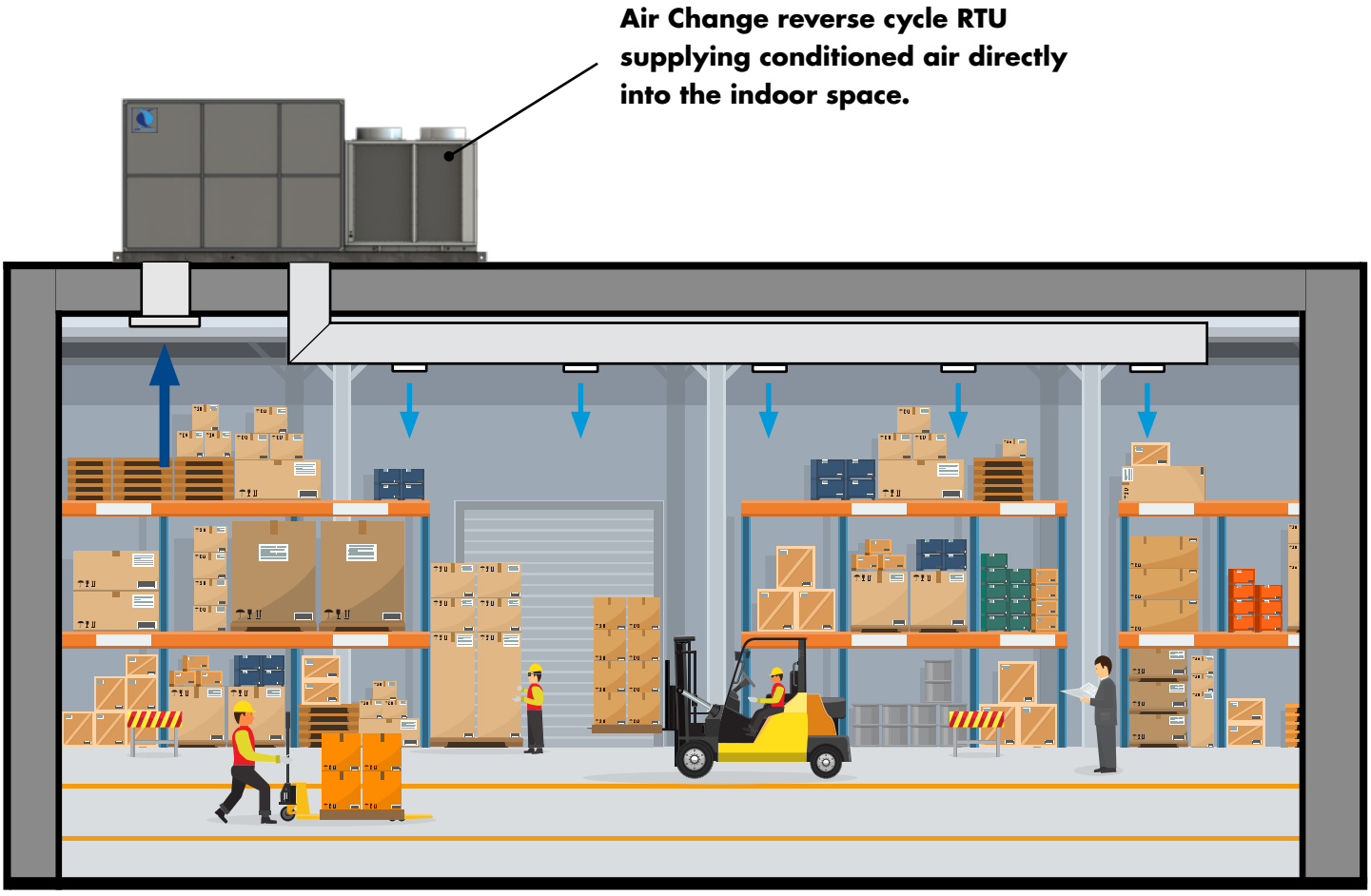
These large capacity 'Big Box' units are available in standard sizes up to 230kW cooling capacity and can be customised to increase this capacity if required.

The units can be mounted anywhere but in most applications they will simply be mounted onto the roof to supply air directly into the indoor space for a fully integrated heating and cooling solution. An integrated economy cycle will deliver free cooling when ambient conditions permit.

Using Air Change's extensive experience with BLDC inverter compressors, the RTU delivers highly reliable, precise and efficient temperature control.

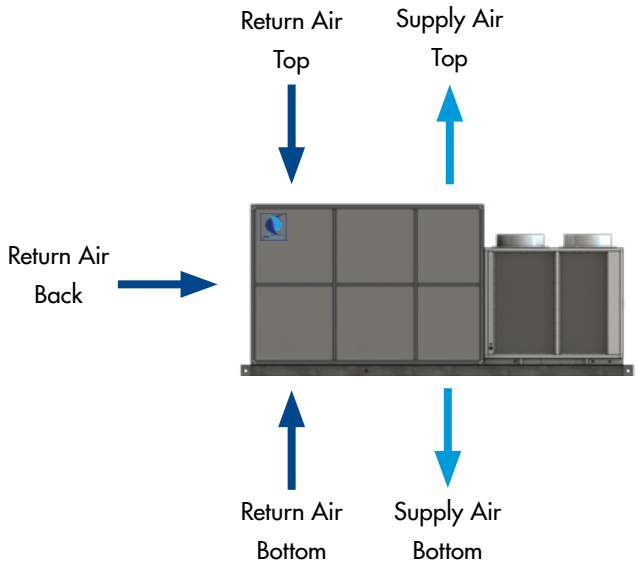
Contact your Air Change representative for a 'Big Box' unit selection!

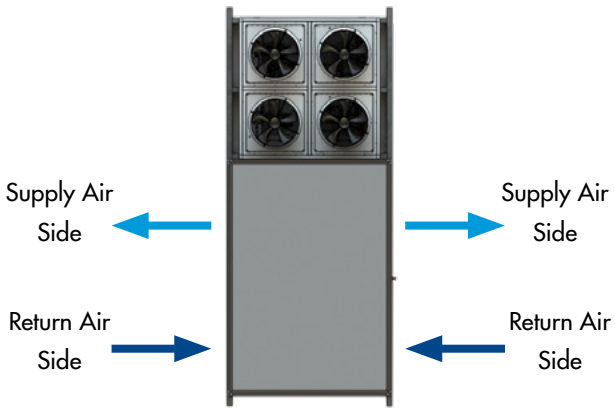
How it Works



‘Big Box’ AC units are the simplest and most reliable temperature control solution for big open indoor spaces.

Flexible Airflow Configurations:





Features

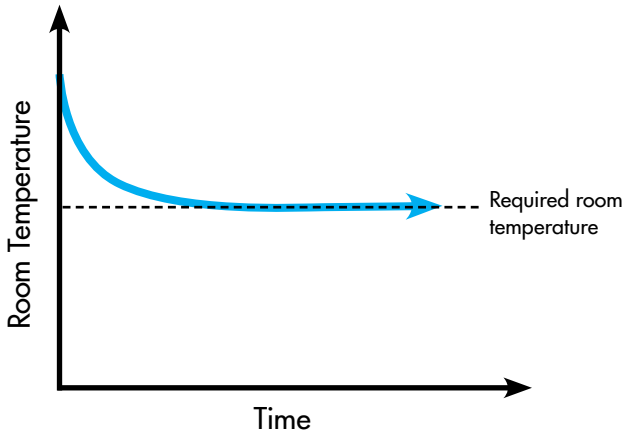
BLDC Inverter Compressors

The units are designed with two refrigeration circuits, one with fixed speed compressors and one with BLDC inverter compressors to provide a wide variable load capacity.

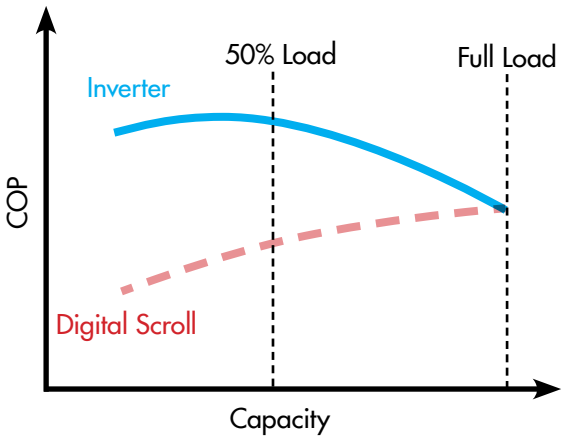
This variable capacity control offered by the inverter compressors allow the unit's cooling or heating output to precisely match the required heat load and avoid the start stop cycles associated with fixed speed compressors.

Inverter compressors offer enhanced energy efficiency when operating at part-load due to the reduced compressor "lift". As DX systems typically spend minimal time at full design load, this translates to significant seasonal energy savings.

Air Change have been using BLDC inverter compressors for over 5 years with high reliability and are now incorporated in approximately 80% of all DX units manufactured by the Air Change Group.



Smooth and steady control of room temperature achieved by inverter compressors.

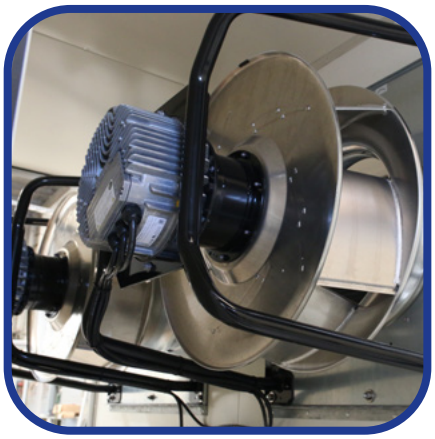


Indicative COP vs. capacity profiles of inverter and digital scroll compressors.

EC Supply and Condenser Fans

EC supply fans permit variable capacity airflow to the space when required offering optimal energy efficiency.

Variable capacity condenser fans provide head pressure control and increase the efficiency of the refrigeration circuit.



Features

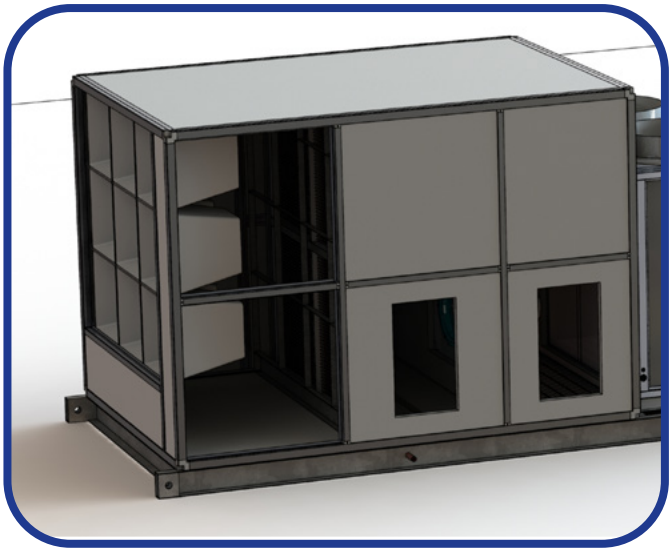
Double skin PIR Panel & Pentapost Construction

The units are manufactured with a 50mm PIR panel & thermally broken pentapost construction which provides:

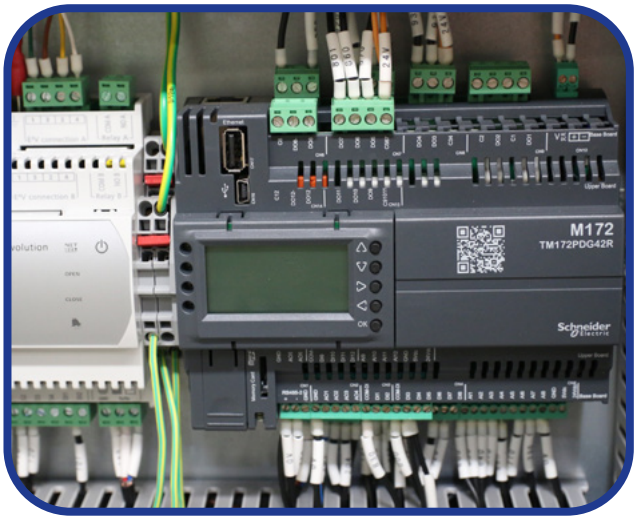
- Low thermal conductivity.
- Neat inspection door access.
- Panel removal capability if required for large access openings.
- Design flexibility.

Integrated Bag Filters (Optional)

Bag filters can be incorporated inside the unit if required.



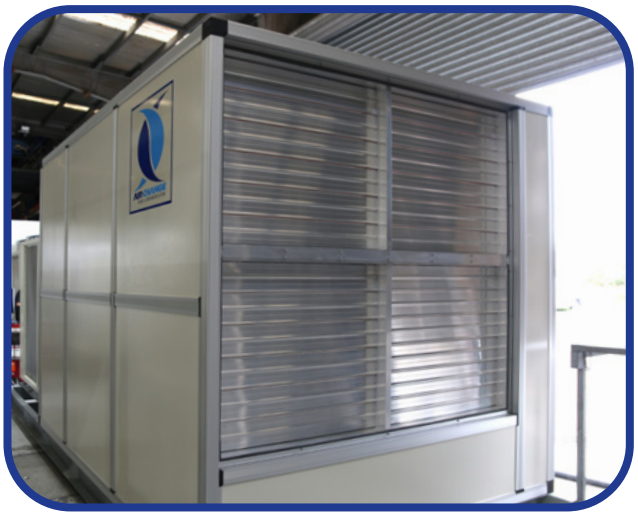
Features



Integrated Control System

As standard, a supervisory control system is included to ensure safe and proper operation of the unit. BMS communication is achieved via low level control signals or BACnet.

Optional upgrade to the Air Change ClimaSync Control System is available. This controls package is programmed to manage all functions of the unit and to meet the requirements of any project.



Economy Cycle Dampers

Dampers can be integrated into the unit for the control of the required outside air and to provide free cooling for an Economy Cycle Mode when ambient conditions are suitable.

Internal return air relief dampers are available if required.

High Efficiency

A lot of confusing efficiency acronyms get thrown around these days - COP, IEER, SEER etc.

The NCC 2019 section J5.11(b) calls for a minimum EER of 2.9 for air-cooled packaged air-conditioning equipment, and Air Change RTUs are designed to exceed this.

NCC Compliant

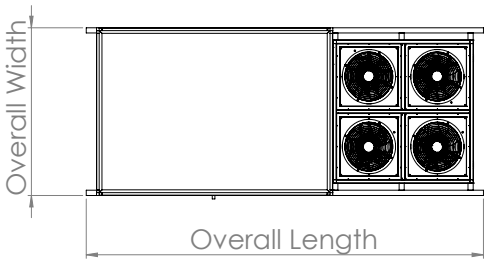
Technical Data

Model Number:	RTU 110	RTU 140	RTU 170	RTU 200
Capacity				
Max Cooling (kW)	110	140	170	200
Min Cooling (kW)	20	20	25	30
Max Heating (kW)	125	155	185	210
Airflow				
Max (l/s)	6500	9000	10500	11500
Min (l/s)	2500	3000	3000	3000
Power				
Power Supply (V/Ph/Hz)	415/3/50	415/3/50	415/3/50	415/3/50
Compressors				
Compressor Type	1x Inverter + 1x Fixed	2x Inverter + 1x Fixed	2x Inverter + 1x Fixed	2x Inverter + 1x Fixed
Refrigerant	R410A	R410A	R410A	R410A
Fans				
Indoor Type	EC Plug	EC Plug	EC Plug	EC Plug
Outdoor Type	EC Axial	EC Axial	EC Axial	EC Axial
Overall Dimensions				
Length (mm)	5200	5300	5300	5300
Width (mm)	2400	2400	2400	2400
Height (mm)	1800	2600	2750	2750
Approx. Weight (kg)	2600	2750	2900	2950

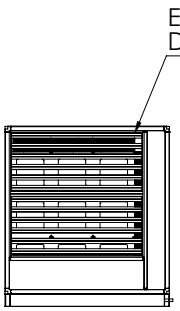
Notes:

-Specifications are subject to change. Refer to project certified documentation for finalised details.

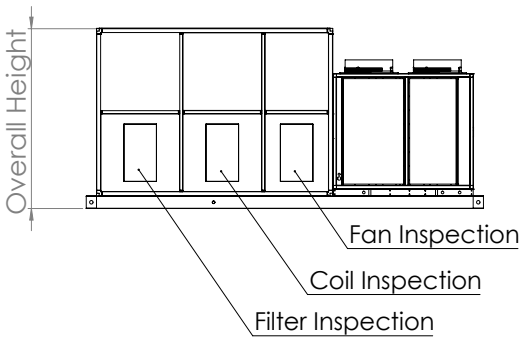
-Cooling capacity based on: OA 35/24°C, RA 27/19°C. Heating capacity based on: OA 7°C, RA 20°C.



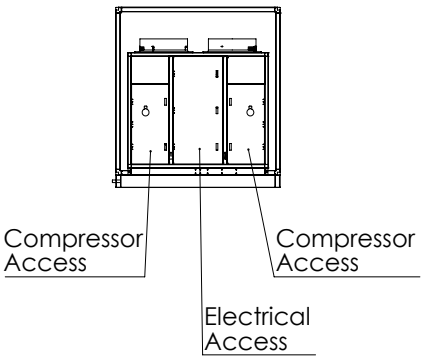
Plan View



Back View



Side View



Front View

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AIR CHANGE
DOAS & DEHUMIDIFICATION

For more than 20 years, Air Change has provided unique equipment and engineering solutions for local and international clients using our internationally patented heat and energy recovery technology. During that time, we have developed a comprehensive range of energy efficient products to deliver controlled indoor climate conditions satisfying the requirements of all project stakeholders: the developer, the design engineer, and the building's owner and occupants.

www.airchange.com.au

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Multi Award Winning Technology

ARBS Industry Awards "Product Excellence" Winner 2018
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