



SMART AIR HANDLING UNITS

EXPERIENCE A TRANSFORMATION
IN COOLING SYSTEMS

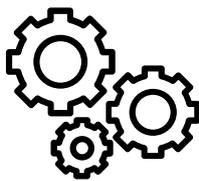




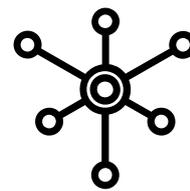
CARRIER INTERNATIONAL SDN BHD(CISB)

A state-of-the-art manufacturing facility, Carrier International Sdn Bhd (CISB) leverages best-in-class technologies to deliver comprehensive HVAC solutions for your spaces. CISB's factory presence extends beyond Malaysia, including the Asia Pacific and Middle East regions.

We are proud to say that our unwavering commitment to excellence and innovation has garnered multiple recognitions and accolades from across the industry.



Operations
Since 1962



Regional
Multi-purpose Training Hub
and Experience Centre



Eurovent Certification
AHU & FCU



AHRI Certification
AHU coils: AHRI 410

CARRIER SMART AHU AND ITS ADVANTAGES

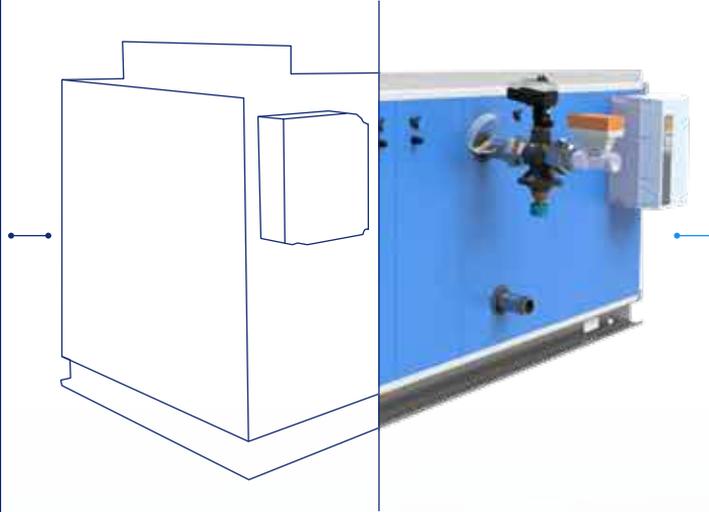
Open your spaces to our advanced air handling unit (AHU) designed to deliver easy integration and efficiency in operations. A smart building solution to conserve energy, uplift spaces, reduce operational costs and lessen the impact on the environment — with Carrier Smart AHUs, the future of efficiency is truly in your hands.

| PARAMETERS | NORMAL AHUs | CARRIER SMART AHUs |
|--|--|--|
|  Easy Setup | Increased setup time due to manual adjustments | Quick and efficient setup with user-friendly controls |
|  Smart Monitoring | Periodic manual checks leading to delay in issue identification | Close loop system with constant comparison of preset values with real-time data using sensors and feedback |
|  Temperature Control | Valves-based control | Inbuilt controller with control logic to actuate PICV valve and fan speed to meet supply air temperature |
|  Performance Validation | Relying on periodic manual performance validation | Real-time performance (KW/RT) |
|  Real-Time Display | Limited or no real-time data, requiring additional tools for assessment | Instant feedback on cooling capacity and system status to third party BMS |
|  Smart Service | Relying on periodic manual inspections, with potential delays in maintenance | Alerts and alarms for need-based predictive maintenance |

FAST-TRACKING SOLUTIONS FOR SITE CHALLENGES

Before

- Water carryover
- Airflow issue
- Cooling load issue
- Excessive noise and vibration
- Choked filters and coils
- High electricity bills



After

- Maintains design coil face velocity
- Auto regulate airflow via feedback
- Maintains temperature through closed loop operation
- Operates AHU in optimum condition
- Alerts and alarms for filters and coils cleaning
- Optimum operation with real-time display of energy efficiency (kW/RT)

THE FEATURES AND FUNCTIONALITY OF CARRIER SMART AHU

- Built-In Control Logic with Factory-Fitted/Supplied Controllers
- BMS Connectivity-Suited Sensors Package



- CO₂ Monitoring
- Demand-Based Ventilation



- Auto Commissioning Mode
- Purge Mode
- Normal Operation Mode
- Hand Mode

PLUG AND PLAY



EFFICIENT OPERATION (kW/RT)

- Real-Time Performance Optimization
- Efficiency Validation

IMPROVED IAQ



SMART SERVICE

- Fault Detection and Diagnosis
- Service Reminder: Filter and Coil Maintenance

4 OPERATING MODES



OPERATING MODES OF CARRIER SMART AHU

COMMISSIONING MODE BY COMMISSIONING TEAM

- Enter design parameters from data sheets
- Compare design value with actual condition value differences

HAND MODE BY SERVICE TEAM

- Manually control the AHU functions via AHU controller
- BMS override

NORMAL OPERATION MODE

Non-CO₂ operation mode

- Air dampers will actuate to meet the on-coil air temperature
- Water valve will actuate to meet the off-coil air temperature
- Unit will operate to meet desired airflow requirement

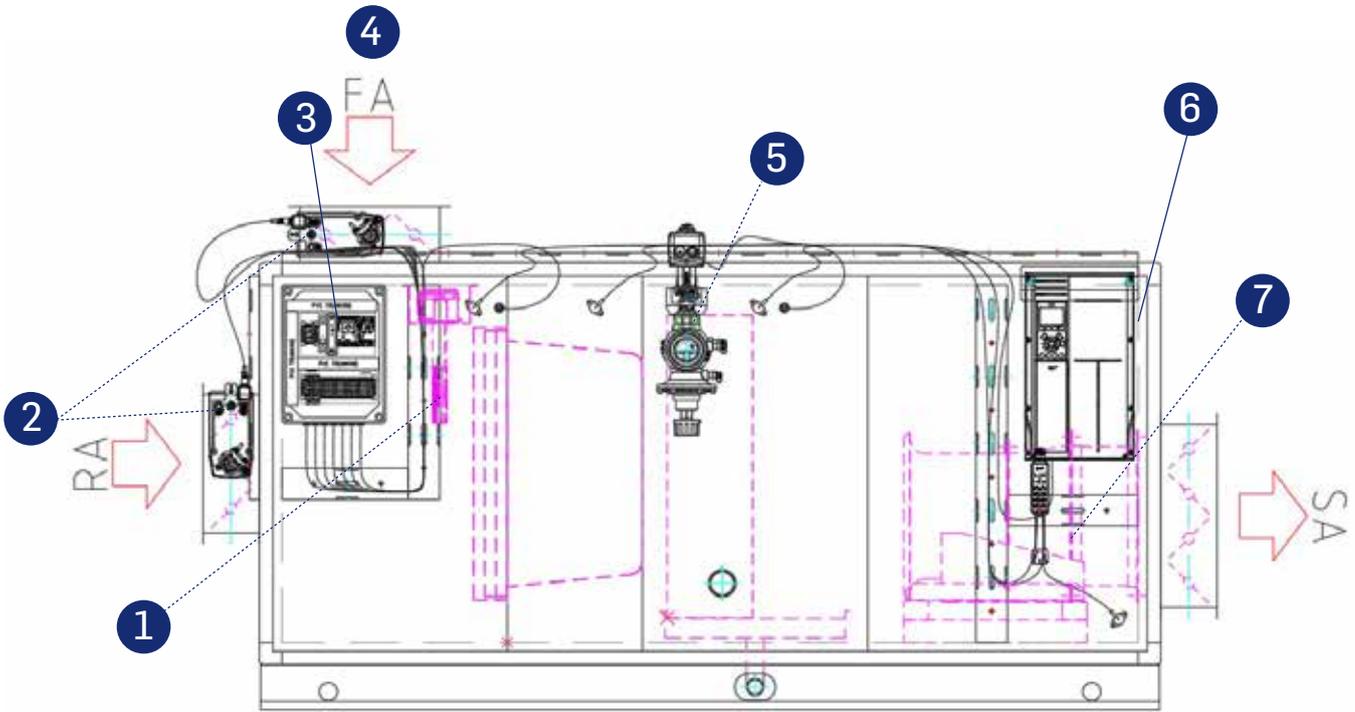
CO₂ operation mode

- Air dampers will actuate to meet desired CO₂ PPM
- Unit will operate to meet desired airflow
- Off-coil temperature requirement

PURGE MODE

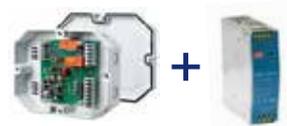
- AHU will expel ~3x air volume of the system by scheduled timetable
- Clears up the dirty ambient air/building construction debris
- Can be set to run at intermittent time

THE CARRIER SMART AHU CONTROLLER



1 
CO₂ Sensor

2 
Modulating
Damper Actuators

3  + 
• Analog I/O Modules
• MODBUS Connectivity

4 
Temperature
Sensor

5  + 
• Pressure Independent
Control Valve
• Flow Sensor

6  + 
• Drive
• Pressure Transmitter
• Control Card
• Interfaces with Software

7 

Fan options include:

- High-Efficiency Axial Fan (AC / PM Motor)
- Centrifugal Fan (AC Motor)
- Plenum Fan (AC Motor)

Please contact your regional Carrier Sales Representative for more information.



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