Smart Air Handling Unit

Meet the Smart AHU, a next-generation Air Handling Unit engineered for precision, efficiency, and intelligence. Designed to meet the growing demand for smart building infrastructure, Smart AHU merges advanced HVAC technology with integrated IoT capabilities.

Features

- Integrated Smart Controls IoT Connectivity
- Energy Optimization
- Sensor-Driven Operation
- Predictive Maintenance
- User-Friendly Interface
- Data Logging & Reports
- BMS Integration
- Flexible Operation Modes

Benefits

- Enhanced Energy Efficiency
- Improved Indoor Air Quality
- Remote Monitoring & Control
- Predictive Maintenance
- Optimized Comfort
- Operational Transparency   .
- Reduced Maintenance Costs
- Quick Integration
- Sustainability Compliance
- Future-Proof Performance

Product Technical Specifications - Product Range

1. Airflow Capacity:

- Ranges from 1,000 CFM to 60,000+ CFM
- Scalable based on application (offices, hospitals, malls, etc.)

2. Fan System:

- EC or VFD-controlled centrifugal fans
- Direct or belt-driven, with real-time speed modulation

3. Filter Section:
- G4/MERV 8 pre-filters standard
- Optional FIne, HEPA, or carbon filters
- Pressure sensors for filter status monitoring

4. Cooling/Heating Coils:
- Chilled water, DX, hot water, or electric heater
- Copper tubes with aluminum fins
- Multiple rows for high efficiency
- Pressure sensors for coil status monitoring

5. Smart Controls:
- PLC or microcontroller with touchscreen HMI
- Wireless/Bluetooth, Ethernet, or GSM connectivity
- Remote access via mobile app or web dashboard

6. Power Supply:
- 230V/1Ph/50Hz or 400V/3Ph/50Hz
- Integrated power and control panel with safety features

7. BMS Compatibility:
- Supports BACnet, Modbus RTU/TCP, KNX, and other open protocols
- Seamless integration with centralized building automation systems

8. Data & Reporting:
- Continuous data logging
- Customizable energy, IAQ, and runtime reports
- OTA firmware updates and diagnostic logs

Product Construction Details

1. Casing/Frame:
- Rigid, galvanized or powder-coated steel Stainless Steel, Aluminium
- Modular, double & single skin panel construction
- Extruded Aluminium Profile Frame Work (Thermal break & Non-Thermal break)

2. Insulation:
- 25 mm to 50 mm thick insulation (Density-40 kg/m3 (48 kg/m3, 64 kg/m3, 96 kg/m3 - Optional) (PUF, Glasswool, Rockwool, PIR)
- Provides thermal insulation and acoustic insulation

3. Base Frame:
- Heavy-duty steel or aluminum base
- Designed for floor mounting and vibration isolation

4. Panels:
- Removable or hinged access doors
- Inner skin: galvanized steel (pre-coated or powder coated), stainless steel, aluminium
- Outer skin: pre-coated, powder-coated steel, stainless steel, aluminium

5. Drain Pan:
- Sloped stainless steel design
- Anti-corrosive and insulated to prevent condensation buildup

6. Fan Section:
- EC or VFD-driven centrifugal fans
- Mounted on vibration-absorbing platforms
- Dynamically balanced for low-noise, high-efficiency airflow

7. Coil Section:

- Copper tubes with aluminum fins
- Housed in corrosion-resistant frames with drain connections

8. Filter Section:

- Pre-filters in slide-in frames
- Fine filters, HEPA filters, Carbon filters, Chemical Filters, Electronic Air Cleaner
- Easy access for replacement

9. Electrical & Controls Compartment:

- Sealed section with microcontroller or PLC-based smart controller
- Pre-wired for power, sensors, and communication protocols (Modbus, BACnet)

7. Sensor Integration:

- Embedded temperature, humidity, CO_2, VOC, airflow, and pressure sensors
- Real-time data collection for intelligent control

8. Connectivity Interface:

- Includes ports or modules for Wi-Fi, Ethernet, GSM, or Bluetooth
- Supports remote access, monitoring, and firmware updates.

Product Certifications

1. Eurovent Certified : (Standard EN 13053 & EN 1886)

- Casing strength class : D1
- Casing air leakage class at -400 Pa : L1
- Casing air leakage at +700 Pa : L1
- Filter bypass leakage class : F9
- Thermal transmittance class : T2
- Thermal bridging factor class : TB2

2. AHRI Certified : Standard 1350

- Casing Deflection Rating Class (Positive) : CD4
- Casing Deflection Rating Class (Negative) : CD4
- Casing Air Leakage Class (Positive) : CL2
- Casing Air Leakage Class (Negative) : CL2
- Thermal Transmittance Class With Leakage : CT2
- Thermal Transmittance Class Without Leakage : CT2
- Thermal Bridging Class : CB2

3. CE Certified : (EN ISO 12100:2010, EN 60204-1:2018)

4. ISO Certified : (ISO 9001:2015)

5. AHRI Certified Chilled Water Coils : AHRI Standard 410

6. AHRI Certified Hot Water Coils : AHRI Standard 410

Applications

- Healthcare / Hospitals
- Hospitals (OTs, ICUs, Isolation Rooms)
- Food & Beverage Processing Areas
- Smart Buildings / Green-Certified Offices
- Educational Institutions (Auditoriums, Lecture Halls)

- Retail Stores & Shopping Malls
- Data Centers & Server Rooms
- Industrial Plants & Manufacturing Units
- Hotels & Hospitality (Banquet Halls, Kitchens)

Gurgaon

Delhi

Bahadurgarh,
Haryana

Lucknow

Jaipur

Ahmedabad

Kolkata

Lahe,
Maharashtra

Hyderabad

Mumbai

Pune

Malur Unit I & II,
Karnataka

Chennai

Bengaluru

Production Site

Sales & support offices
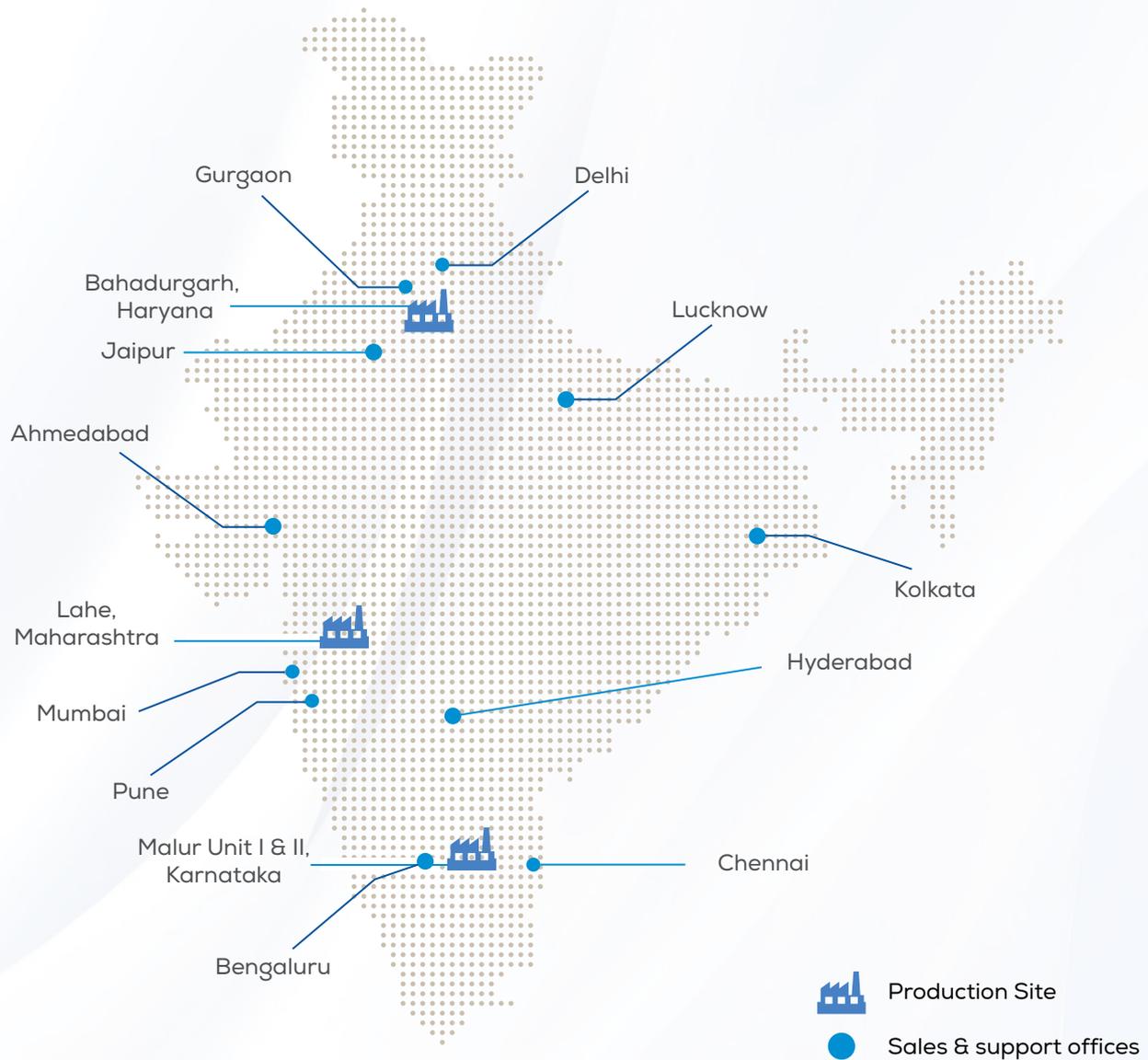
Sales & Support Offices

Ahmedabad | Bengaluru | Chennai | Delhi | Gurugram | Hyderabad | Jaipur | Kanpur | Kolkata | Mumbai | Pune

Corporate Office

Gurugram

DLF Corporate Greens,
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122004, Haryana

Manufacturing Facilities

Haryana

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Haryana, India

Maharashtra

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Taluka Shahpur,
Thane - 421603

Karnataka

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