LIEBERT® DIRECT EXPANSION AIR HANDLERS

What's Cool in the Data Center

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BENEFITS

Highly Efficient

- Mechanical PUE less than 1.3

- Variable speed fans, drives and compressors for lower energy usage

- Evaporative condensing or outside air economization

- Self-optimizing controls reduce over-cooling and under-cooling

Greater Protection

- Less risk of hot spots, through advanced controls and rack inlet sensors

- Advanced monitoring and event notification

- Finely tuned controls for more consistent unit supply air temperature and minimized swings across component ranges
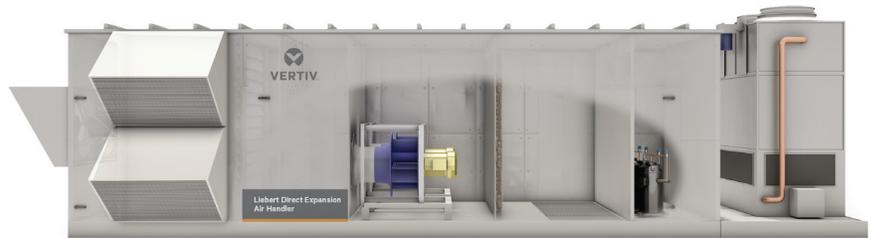
Lower Installation & Maintenance Costs

- Flexible deployment options enable external installation for space-restricted environments

- Controls require little if any customization

Insight for Action

- Simplified access to real-time data and trending

- Faster and easier system diagnostics

More efficiency. More choices. More experience.

Custom, Precision Air Handling Units

Our mission-critical air handlers with Liebert® iCOM™ controls deliver efficient, reliable and cost-effective management of heat in large data centers.

We offer the largest selection of air handling solutions, combined with the expert guidance to help you select, implement and maintain the right technology to ensure **delivered performance for the lifetime of your data center.**

Liebert Direct Expansion Air Handlers

Liebert Direct Expansion Air Handler Unit offerings deliver highly-efficient thermal management with the flexibility for modular data center build outs.

Higher Efficiency Designs. Take advantage of multiple available configurations that include outside air economizers, evaporative condensing and evaporative cooling to reduce energy consumption and increase efficiency. Full component redundancy within a single unit can ensure availability and avoid unplanned downtime or accidental damage.

Intelligent Controls. The Liebert Direct Expansion Air Handler features integrated Liebert iCOM unit controls to maximize data center protection, efficiency and insight. Its advanced controls prevent over-cooling and under-cooling by self-optimizing thermal system operations using machine-to-machine communications and advanced algorithms. Teamwork modes harmonize the multiple cooling units for higher efficiency and protection.

Local Service and Support. All of our solutions are backed by local customer engineers with decades of data center experience and a network of factory-trained service technicians.
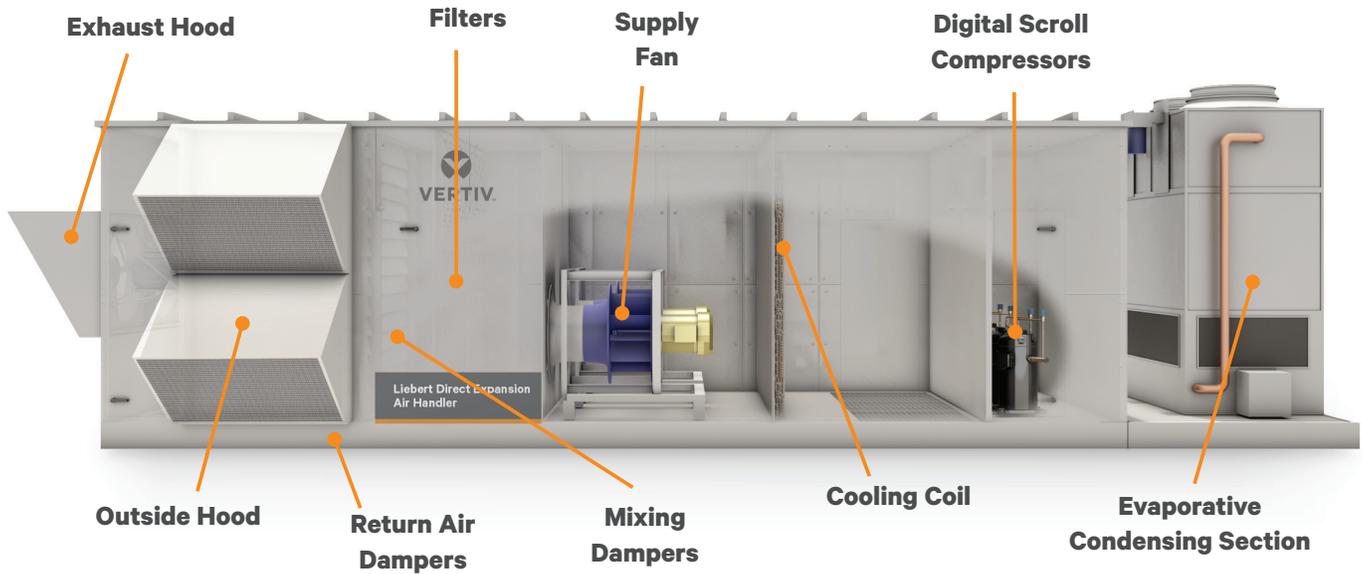
Key Attributes

- Easily accomodates modular build outs

- Evaporative condensing with outside air can result in very efficiency systems

Typical Deployments

- Roof mounted units in single or two story buildings

- Often requires supply and/or return ductwork for air distribution

Advanced Controls For Efficiency, Protection and Insight

Exhaust Hood — Filters — Supply Fan — Digital Scroll Compressors — Outside Hood — Return Air Dampers — Mixing Dampers — Cooling Coil — Evaporative Condensing Section

UNIT CONTROL STRATEGIES

- Unit capacity controlled to supply air setpoint

- Unit controlling economizer based on supply temp and enthalpy

- Fan speed controlled by pressure setpoint in space or supply plenum

SYSTEM CONTROL STRATEGIES

- Rack inlet sensors used to verify fan airflow volume

- Coordinate units for standby operation to prevent fighting

- Return air pressure monitored for proper space pressure control

Liebert® Direct Expansion Air Handlers offer a complete data center cooling system in a single package that requires no space within the building. The unit components are selected for high efficiency for today's data center designs and rigorous 24/7 data center where down time is not an option. Liebert iCOM™ control algorithms continuously process readings from the rack inlet sensors to ensure optimal air flow through the system while supply air sensors are used to control the unit cooling capacity. Dampers or exhaust fans are automatically adjusted by the Liebert iCOM unit control, which also harmonizes the operation of multiple air handling units to eliminate conflicts in temperature, airflow, and humidity.