Vertiv™ Liebert® DM

22 & 27 kW

Thermal Management Solution for Small Technological Rooms

About Vertiv™

Vertiv brings together hardware, software, analytics and ongoing services to ensure its customers' vital applications run continuously, perform optimally and grow with their business needs. Vertiv solves the most important challenges facing today's data centers, communication networks and commercial and industrial facilities with a portfolio of power, cooling, and IT infrastructure solutions and services that extends from the cloud to the edge of the network. Headquartered in Columbus, Ohio, USA, Vertiv employs around 20,000 people and does business in more than 130 countries. For more information, and for the latest news and content from Vertiv, visit Vertiv.com.

OUR PURPOSE

We believe there is a better way to meet the world's accelerating demand for data - one driven by passion and innovation.

OUR PRESENCE

GLOBAL PRESENCE
Manuf. and Assembly Locations **19**
Service Centers **270+**
Service Field Engineers **2,700+**
Technical Support/Response **330+**
Customer Experience Centers/Labs **17**

US AND CANADA
Manuf. and Assembly Locations **7**
Service Centers **120+**
Service Field Engineers **850+**
Technical Support/Response **120+**
Customer Experience Centers/Labs **4**

LATIN AMERICA
Manuf. and Assembly Locations **1**
Service Centers **20+**
Service Field Engineers **300+**
Technical Support/Response **25+**
Customer Experience Centers/Labs **2**

EUROPE, MIDDLE EAST AND AFRICA
Manuf. and Assembly Locations **5**
Service Centers **70+**
Service Field Engineers **600+**
Technical Support/Response **95+**
Customer Experience Centers/Labs **6**

ASIA PACIFIC
Manuf. and Assembly Locations **6**
Service Centers **60+**
Service Field Engineers **950+**
Technical Support/Response **90+**
Customer Experience Centers/Labs **5**

Equipment Room Cooling: Needs & Concerns

Green & Energy Efficient Systems that provide huge savings on utility bills.

Cooling solution must be **self-managed** and able to assist in troubleshooting.

Thermal Management system that is designed to **operate 24 X7 X 365**

Thermal Management solutions must have **low TCO** to facilitate **faster ROI**

***Liebert® DM** delivers enterprise-level thermal management to small computer rooms and network closets. It is designed for year-round temperature and humidity control for IT applications across the critical infrastructure.*

Liebert® DM variants:

Air Cooled 22 kW & 27 kW

It is a perfect thermal management solution for small computer rooms where uninterruptible (24 X 7 X 365 basis) thermal management is focus of attention.

Applicable for following market segments

Airports

Railway

E-commerce (BFSI)

Mobile Base Station

Manufacturing

Healthcare

Satellite Earth Station

Network Management

Liebert® DM: System Architecture

Indoor Unit:

Scroll Compressor : High energy efficiency; features with low vibration, low noise, and high reliability.

Centrifugal Fan: Features with large airflow, long blowing distance, direct driving and easy maintenance. Fan orientation within unit changes as per configurations (up flow & down flow), EC fan is available upon request.

Expansion Valve: Collects temperature and pressure signals at the same time to regulate the refrigerant flow accurately.

Infrared Humidifier: This humidifier consists of an infrared humidifying lamp, a water injection valve, a humidifying water pan, a temperature alarm protection device, and a water level warning device.

PTC Heater: It is safe and reliable. When the surface temperature is too high, it will reduce the heating power to avoid danger caused by over-temperature.

Highly Efficient Refrigerant (R410A) is used.

Filter: Washable nylon filters ensure that room conditions are kept clean.

Compressor

Centrifugal Fan

Expansion Valve

PTC Heater

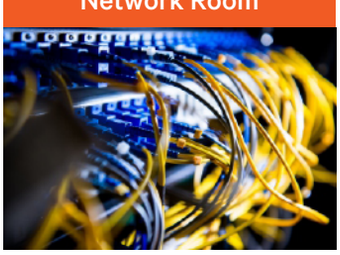
Outdoor Unit:

- Fan motor: Continuously on Variable Transmission
- Energy Saving
- Anti-corrosion, heavy duty
- Easy installation
- Small size & light weight
- Low noise

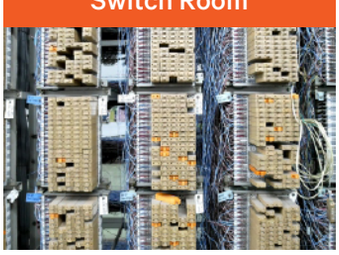
IT'S ABOUT CHOOSING THE RIGHT COOLING SYSTEM FOR YOUR EQUIPMENT ROOM APPLICATIONS

Rack Room

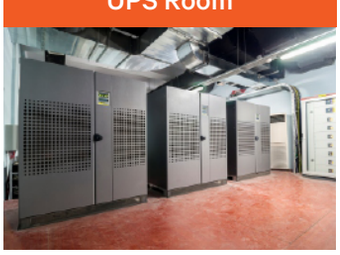
Network Room



Switch Room



UPS Room



Battery Room

Electrical Room

Control Room

Hub Room

Liebert® DM: Advanced Controller for the most intelligent solution

Every Liebert® DM comes as standard with one of the most advanced controller in the segment.

The clear and easy to read controller offers simple and convenient unit management.

7” large touch screen color display standard in bracket

Advanced algorithms helps the unit to run efficiently.

Alarms can be clearly and easily viewed on the screen

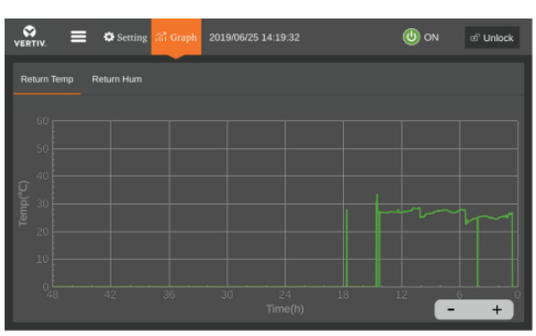
Thermal group control distinctly helps to cool the room as the units work together

Round the clock monitoring of common problems and solutions

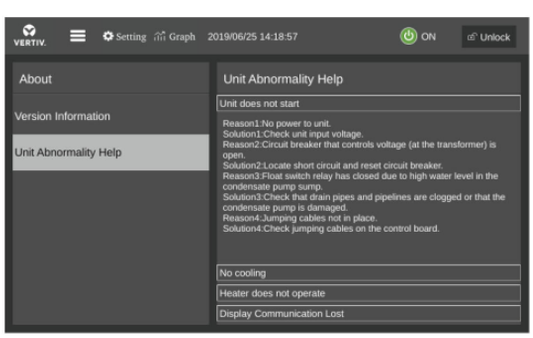
Shows the unit abnormality help function

Optional SIC Card enables SNMP with SMS and email notifications

Main page for the display



Temperature and Humidity Graph

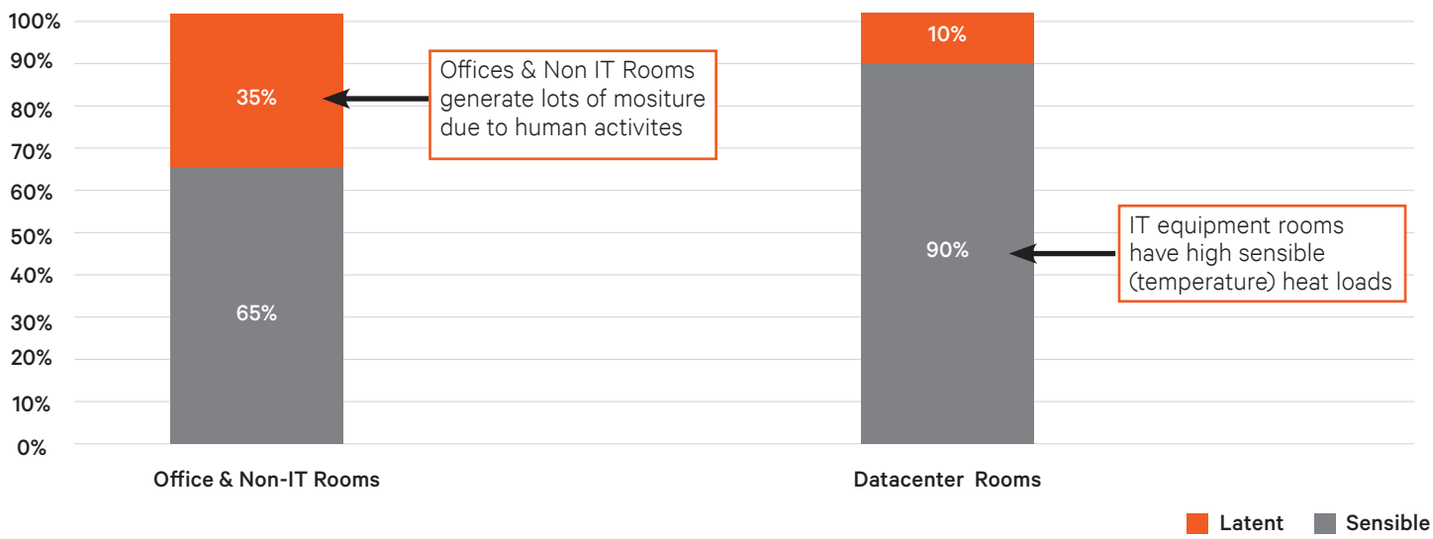


Unit Abnormality Help

Liebert® DM: Return On Investment (ROI)

Machine Cooling VS. Comfort Cooling

Computers Generate Heat, But Not Humidity



Operation Analysis for 1 year

Description	Comfort Air Cooling (20 kW Capacity)	Comfort Air Cooling (25 kW Capacity)
Sensible Cooling Capacity (kW)	18	18
Total Cooling Capacity (kW)	**20 (18 sensible + 2 latent)**	**25 (18 sensible + 7 latent)**
Unit EER	3	3
Input power (kW)	20/3=6.6	25/3=8.3
Re-humidification (kW)	0	5
Total Input Power (kW)	6.6	13.3
Cost/yr @ $0.15/kW-hr	16.6 kW x $ 0.15 / kW-hr x 8760hr = $ 8,672	13.3 kW x $ 0.15 / kW-hr x 8760hr = $ 17,476
Savings	**Savings = $ 8,804 by Precision AC**	

Specification	Precision System	Comfort System	Benefits	Remarks
Temperature Control	+ / - 1 °C	+/- 3 °C	Stable temperature ensures operational integrity and reliability of IT equipment	Wide temperature fluctuations shorten operational life of IT equipments and will increase the risk of catastrophic failure
Humidity Control	+ / - 5%RH	>= / -15% RH	Only thermal management units can control room humidity	High humidity can lead to condensation and corrosion, low humidity increases the risk of electrostatic discharge; both are major threat to IT equipments
Reliability and Warranty for 24 x 7 operation	YES	NO	Liebert® DM thermal management is designed to run effortlessly in emerging IT environments.	Domestic air conditioning warranty only covers applications for human comfort and explicitly not for the climatic control of electronic equipments

Technical Specifications

Liebert DM - Air Cooled	DM22	DM27
Net Cooling Capacity (kW)[1]	22.0	28.1
Available Configuration	Up flow & Down flow	
Indoor Unit Power Supply	380 V to 415 V / 3 ph / 50 Hz	
Condenser Type	Outdoor Condenser	
Refrigerant	R410A	
Infrared Humidifier (kg/hr) [1]	3 (optional)	
Electric Heater Power, kW	6.0 (optional)	
No. of Fans	1	
Air Volume (m^3/hr)	6200	7300
Indoor Unit Dimension (H x W x D), mm	1975 x 800 x765	1975 x 850 x835
Outdoor Unit Dimension (H x W x D), mm	1323 x 1133 x 520	1491 x 1293 x 520
Indoor Net Weight, kg	284	283
Outdoor Net Weight, kg	104	120
FLA[2],A	26.8	30.3
Outdoor Net Weight, kg	40	

***** *1. Capacity rated at RAT 24 deg C & 50% RH & 45 deg C condensing temperature.*
2. FLA is Full Load Ampere; the maximum full load current value of the air conditioner is not the sum of rated maximum full load current of all components. It is the sum of rated maximum full load current value of the operating components, which may operate at the same time on the Maximum work load condition.
3. 60 Hz unit is available on request.

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