

# LIEBERT® DSE™ DA050

Thermal Management System



## BENEFITS

### Reliable, Low-Maintenance Pumped Refrigerant Economization Operation

- No water usage.
- No water treatment.
- No outside air contamination.
- No dampers and louvers to maintain.
- Automatic switchover to maximize economizer usage.
- Lower refrigerant charge than traditional DX systems.



## A Highly Efficient, Self-Optimizing Solution for Thermal Management

The Liebert® DSE™ provides industry-leading thermal management efficiency, protection and insight. It uses no water for economization and its innovative design makes it up to 50% more efficient than legacy solutions. Designed with unparalleled expertise, it is part of Vertiv's Thermal Management solutions that make your data center as dynamic as your business.

### The New Liebert DSE DA050 System

The new DA050 model is designed for fast and lower cost deployment, with these special features:

- Single-circuit , single fan design.
- Ideal for infrastructure/support rooms.
- Small footprint: 77" L x 35" D.

DA050 CAPACITIES		
95°F DB, 52.3 DP	Total Capacity kW (net)	55
	Sensible Capacity kW (net)	55
	Full-Load SCOP @ 95°F ambient	2.9
	SCOP @ 35F ambient (kW/kW)	10.1
85°F DB, 52.3 DP	Total Capacity kW (net)	50
	Sensible Capacity kW (net)	50
	Full-Load SCOP @ 95°F ambient	2.7
	SCOP @ 35F ambient (kW/kW)	8.6

### The Liebert DSE solution lets you simplify every aspect of thermal management.

1. **Add Capacity Efficiently** with a modular, scalable design and no need for additional chillers, cooling towers or ductwork.
2. **Economize Easily** with automatic switchover.
3. **Operate Hassel-Free** with advanced controls and no water usage.
4. **Optimize Intelligently** with Liebert iCOM™ advanced thermal management system.
5. **Streamline Maintenance** with use of water, outside air, or manual adjustments.

ANNUAL ENERGY USAGE					
City	Typical DX System	Liebert DSE System	Liebert DSE System Savings	Chilled Water System	Liebert DSE System Savings
Columbus	\$340,860	\$117,606	65%	\$294,220	60%
San Francisco	\$334,057	\$114,293	66%	\$189,221	40%
Phoenix	\$380,544	\$179,544	53%	\$213,015	16%

Water Conservation: Compared to a chilled water economization system, the Liebert DSE system can reduce water usage in a typical data center by 4 million gallons annually.

1,000 kW Load, \$0.10 per kWhr, 70% load

## The World's Most Efficient DX System

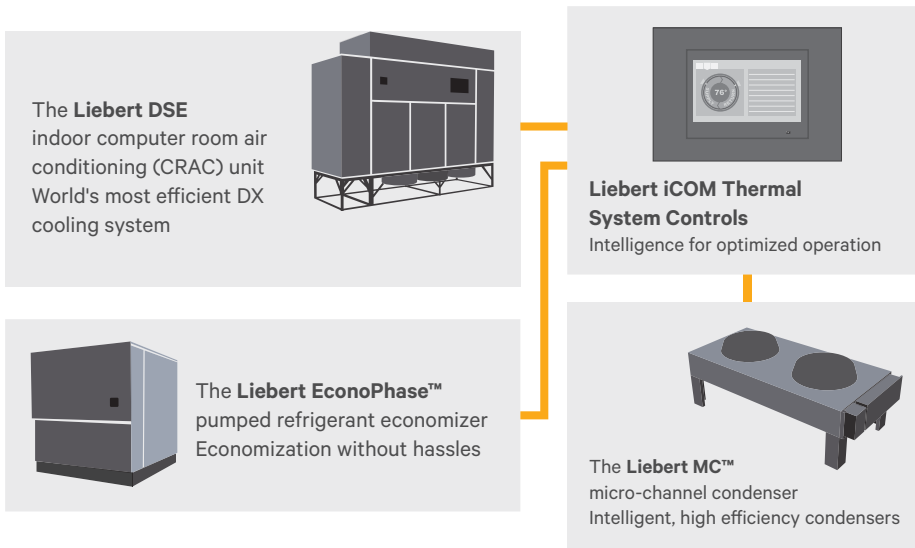
The air-cooled Liebert® DSE™ offers water-free economization, a rapidly deployable configuration and advanced Liebert iCOM™ thermal controls that let you optimize each unit and harmonize the operation of multiple units for temperature and airflow. A highly scalable and modular solution, it easily accommodates changing IT loads and is ideal for upgrading outdated or inefficient cooling systems.

## Optimization Through Intelligent Controls

The Liebert DSE system has four components that work together to optimize the use of ambient temperatures for higher efficiency and to ensure higher protection of the thermal system. It provides fail-safe economization with full DX backup.

The hardware components are managed by the Liebert iCOM unit control which is integrated into the CRAC unit.

An optional capacitive buffer provides continuous control operation during power outages of up to 3 minutes. Continuous operation of controls allows for monitoring systems to remain active, and allows for faster restart times after power is restored.



## QUICK SPECS

**Mechanical pue:** 1.3 - 1.05

**Capacity:** 55kW, 80kW, 85kW, 125kW, 150kW, 165kW

**Footprint:** 55-85kW: 24 ft²; 125-165kW: 47 ft²

## Liebert Indoor Unit

- Industry-best efficiency.
- Digital scroll compressors match cooling to IT load.
- EC plug fans match airflow to IT server needs.
- Electronic expansion valves.

## Liebert MC Condenser

- Most efficient air-cooled condenser for data centers.
- Fan/Coil operating strategy increases part load efficiency.
- Each fan is variable speed.

## Liebert iCOM Controls

- Protection from adverse events and system wear and tear.
- Higher efficiency across the thermal system – up to 50% energy savings.
- Insight for action into real-time data and trends for performance optimization.

## Liebert EconoPhase

- Integrated economizer control with automatic diagnostics.
- Liebert iCOM monitoring of pump operation.
- Automatic changeover on loss of free cooling.
- Pump serviceable without loss of cooling.