Vertiv™ Liebert® CW440 Chilled Water Unit

Benefits

High Efficiency

- EC fans reduce overall operating costs by reducing input power consumption
- Optimized coil design for higher entering fluid temperature provides increased chiller efficiency and reduced chiller power consumption

Greater Capacity Per Square Foot

The Liebert® CW 440 provides larger capacity building blocks that reduce the amount of floor space needed for cooling equipment.

- 440 kW (75°F Return Air Temperature 50°F EWT / 62°F LWT)
- Up to 750 kW at higher Return Air temps
- 45,000 – 60,000 CFM

Liebert® CW 440kW

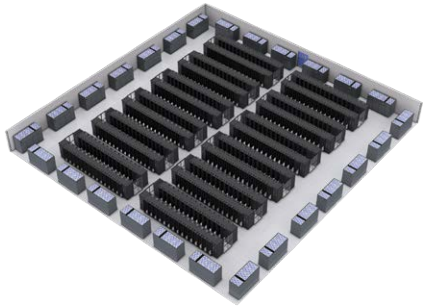
Introducing the Liebert® CW440

The Liebert® CW solution is the world's most innovative and efficient chilled water system for raised floor data centers, delivering the highest protection, efficiency and design flexibility with the lowest cost of deployment.

The 440kW capacity significantly reduces the cost of deployment and maintenance while improving energy efficiency through an optimized chilled water coil design that can utilize higher entering water temperature (EWT).

Lower Cost Deployment & Energy Savings (5MW Data Center)

Using Traditional 180kW Chilled Water Systems



Using Liebert® CW 440kW

	Using Traditional 180 kW Chilled Water Systems	Using Liebert® CW System 440 kW Units	Savings from 440 kW Units
Unit Quantity	26	10	62%
Installation and Startup	$13,000	$5,000	$8,000
Annual Maintenance	$39,000	$15,000	$24,000
Annual Energy	$600,000	$442,000	26%
Footprint	1,035	741	29%

Assumptions:

Installation and Start-up Time: 5 hours/unit

Labor Costs: $100/hour

Annual Maintenance: $1500/unit

Vertiv™ Liebert® CW440 Chilled Water Unit

World's Highest Protection and Efficiency

The Liebert® CW™ system combines the latest innovations in coil, valve and controls technologies for optimal protection and efficiency.

Simple Deployment Through Advanced Design

- Capacities from 26kW to 440kW
- Flexible piping connections
- Automated staging
- Fan deployment

Uptime and Reliability

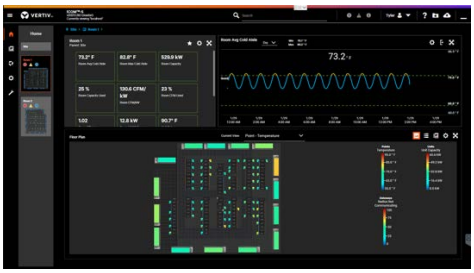
- Proven - industry's most widely used data center chilled water system
- Quality construction
- Industry-leading service and support

Liebert® iCOM™ Controls for Protection, Efficiency and Insight

- World's most advanced CRAC unit-level controller
- Monitors overall unit-level operation & performance of internal components
- Fail-safe teamwork modes:
  - Optional Cascade based on fanspeed or cooling requirements
  - Unit-to-unit coordination versus stand-alone operation
- Adaptive PID for valve tuning
  - Remove complexity from unit setup & tuning
  - 15% increase in efficiency
- Responsive touchscreen display w/ intuitive user interface navigation

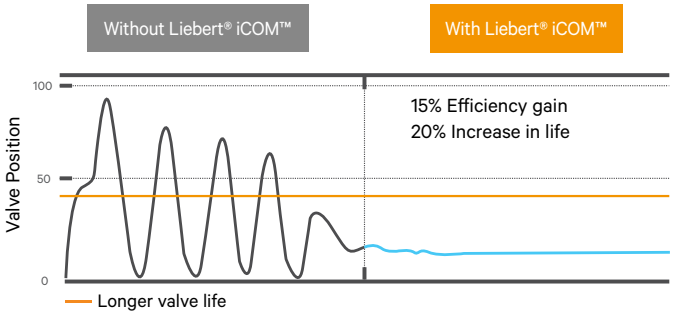
Liebert® CW Feature	Benefit
Optimized Coil	Utilize higher entering water temperature to save energy
Liebert® iCOM™ Controls	Intelligence for optimized operation, unit-level controller networking & teamwork modes, embedded monitoring capability for integration into BMS, support for multiple temperature/humidity sensor styles for monitoring / control-use
Control Valves with Optional Auto-tuning	Precise flow control at less cost
Liebert® EC Fans	Varaible speed fans for up to 20% higher efficiency

Liebert® iCOM™ Control



Liebert® iCOM-S™

Optional Adaptive PID



Unstable unit operation causes wasted energy, poor temperature output and increase wear on components

Adaptive PID control-type provided by the Liebert® ICOM™ controller increases valve life expectancy by only moving the valve in increments that actually result in a change of water flow. Valve position adjustments are made based on historical valve position data, current & past temperatures sensed by controlling sensors. The goal of the routine is to provide smooth, stable supply air temperatures with limited oscillations as the unit responds to the heat load. This eliminates valve backlash and valve gear wear.

Vertiv.com | **Vertiv Headquarters,** 505 N Cleveland Ave, Westerville, OH 43082, USA

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