

Liebert XD™ CoolFrame™

Fully Integrated Cooling Solution For The Egenera® BladeFrame® EX System

Working Together To Meet The Challenges Of Today's Data Centers

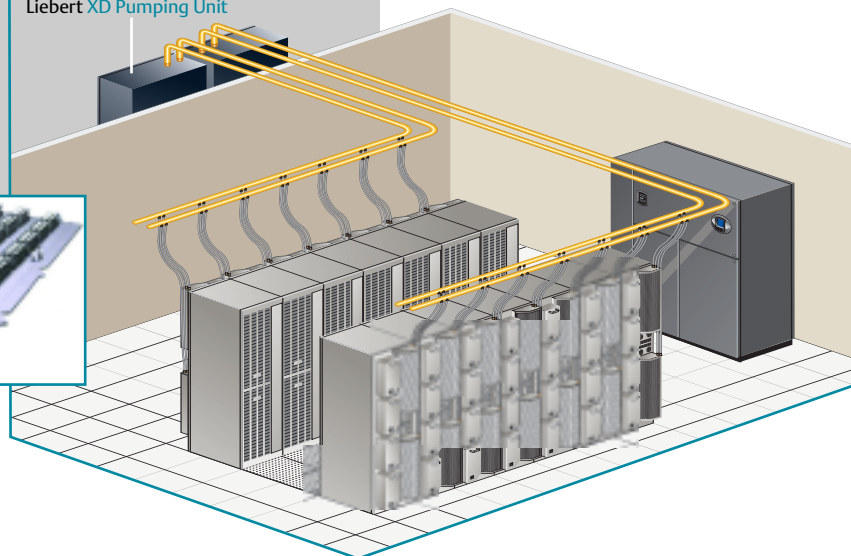
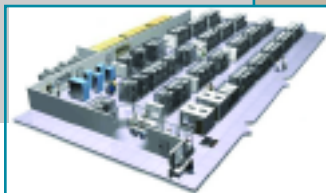
Egenera and Liebert have recognized that many customers are concerned with rising heat loads in their facilities and wanted to provide a flexible, cost-effective solution to reduce the stress on existing cooling systems as additional computing capacity is installed.

The Liebert XD CoolFrame allows the BladeFrame EX to be placed in a data center environment around other heat-generating equipment without adding to the heat load in the room. Use of the Liebert XD CoolFrame also enables users to place more BladeFrame EX systems into the data center than would otherwise be possible without it.



Liebert XD CoolFrame

Liebert XD Pumping Unit



A Cooling Solution For Your Egenera BladeFrame EX System From The Leader In High Density Heat Removal

The Liebert XD Solution

Liebert XD Cooling Solutions: An Adaptive Mission-Critical Cooling Architecture That Accommodates Changes

Tighter spacing of racks and higher component density within each rack can require a level of cooling that is much greater than traditional computer room air conditioning systems can effectively handle. The number of cooling units needed and the energy required to operate them make this arrangement extremely inefficient. The Liebert XD CoolFrame allows a higher density of BladeFrame EX systems within the data center than is possible with standard computer room cooling solutions.

Adding targeted supplemental cooling is much more cost-efficient than trying to lower the temperature of localized hot spots by increasing the overall room air conditioning capacity. Liebert X-treme Density mission-critical cooling systems are specifically designed to address the higher heat loads generated by tightly packed electronic rack enclosures. Individual systems can cool hot air ejected from the enclosure or cool hot spots or zones near the racks.

Liebert XD Waterless Coolant —This unique application of an off-the-shelf product makes the Liebert XD solution very energy efficient. The XD Coolant operates at low pressure and becomes a gas at room temperatures, making it ideal for use around electronic equipment.

There are two reasons the Liebert XD system uses a waterless refrigerant. First, many data center managers are reluctant to re-introduce water into their facilities because of the possibility of equipment damage from leakage. Secondly, the refrigerant used in the Liebert XD system is more efficient than water and has advantages in system design and reducing energy costs associated with cooling.

Liebert XDC—A Coolant Chiller Designed For Direct System Configurations

The Liebert XDC Coolant Chiller is a specially designed indoor unit that connects directly to the Liebert XD CoolFrame modules and provides XD Coolant circulation and control. It ensures that the coolant is constantly above the dew point in the room, eliminating concern for condensation. Available with several heat rejection options.

Liebert XDP—Pumping Unit Designed For Indirect System Configurations

When a building chilled water system is available, the Liebert XDP Pumping Unit serves as an intermediary to isolate the building chilled water circuit from the XD Coolant circuit. It circulates coolant to the Liebert XD CoolFrame at a temperature always above the dew point to prevent condensation.



An Innovative Cooling Solution For An Innovative Computing System



Liebert XD CoolFrame modules attach directly to the rear of the Egenera BladeFrame EX system. Heat removal is provided by either the Liebert XDC Coolant Chiller or a Liebert XDP Pumping Unit used in conjunction with an existing chilled water circuit.

Use of the Liebert XD CoolFrame solution with the BladeFrame EX system can promote efficient expansion of data center capacity with a minimal impact on your data center infrastructure. This provides data center managers with the potential to increase processing capacity while maintaining maximum usage of floor space.

Liebert XD CoolFrame retains same depth and footprint as BladeFrame EX.



Liebert XD™ CoolFrame

Features Include:

Reliability:

Maintains all BladeFrame functionality — BladeFrame EX renowned serviceability features are unaffected. Efficient cable management is preserved.

Liebert quality — Your assurance of reliability and worldwide support.

Flexibility:

Easy to install — Simple mechanical attachment to the BladeFrame EX.

Liebert XD System Compatibility — Fully compatible with Liebert XDP and XDC units.

Everything you need — No additional air movers are required for the BladeFrame EX system. No additional power is required for Liebert XD CoolFrame.

Low total cost of ownership:

Saves on cooling costs — Saves 23% of typical data center cooling energy cost.

Takes up no additional floor space — BladeFrame EX retains same footprint, even with the Liebert XD CoolFrame modules attached.

We Can Take The Heat...Away

For more information on how the Liebert XD CoolFrame solution can expand the cooling options available for your Egenera BladeFrame EX system, talk to your local Liebert Representative. We have the product technology, application expertise and service support to keep your systems operating flawlessly around the clock.

Specifications

Compatibility

| Product | Model Number |
|--|----------------------|
| Egenera BladeFrame EX | BC 100101, BC 100102 |
| Liebert XD CoolFrame Module | XD-CF-10-XX |
| Liebert XDP | XDP160RXXXX |
| Liebert XDC | XDC160AXXXX |
| Liebert XD Field Piping Kits and Liebert XD Connection Port Kits | |

Technical Data

Liebert XD CoolFrame Module

| | |
|------------------|--|
| Nominal Capacity | 10 kW (2.8 tons) |
| Height | 30-1/4" (768mm) |
| Width | 12-1/4" (311mm) |
| Depth | 6-1/2" (165mm) |
| Weight, empty | 18 lbs (8kg) |
| Flex-Pipe Length | Top Module 6' (1.8m) Bottom Module 10' (3m) |

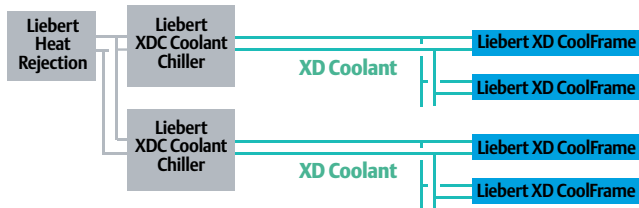
Liebert XDP

| | |
|--|--|
| Nominal Capacity | 160 kW (46 Ton), 60Hz 140 kW (40 Ton), 50Hz |
| Height x Width x Depth | 76"x37"x30" (1930mm x 940mm x 762mm) |
| Minimum Number of Liebert XD CoolFrame modules | 4 |

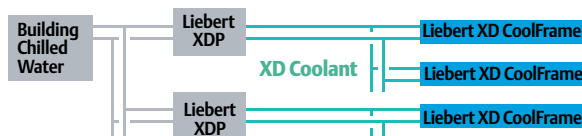
Liebert XDC

| | |
|--|--|
| Nominal Capacity | 160 kW (46 Ton), 60Hz 130 kW (37 Ton), 50Hz |
| Height x Width x Depth | 78"x74"x34" (1981mm x 1879mm x 863mm) |
| Minimum Number of Liebert XD CoolFrame modules | 7 |

DIRECT SYSTEM CONFIGURATION



INDIRECT SYSTEM CONFIGURATION



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