

IBM Rear Door Heat eXchanger



IBM Rear Door Heat eXchanger for IBM Enterprise Racks

- **Designed to help increase computer capacity in your data center without increasing AC**
- **Engineered to fit any IBM Enterprise 42U rack**
- **Simple to install since it is compatible with existing IBM specified water supplies**
- **Helps you maximize the usable storage space in your data center**

The IBM Rear Door Heat eXchanger for IBM Enterprise Racks helps keep your growing data center at a safer temperature without adding AC units. This unobtrusive solution brings more cooling capacity to areas where the heat is greatest—around racks of servers with more powerful and multiple processors.

Design simplicity delivers chilling results

The size and appearance of the IBM Rear Door Heat eXchanger is similar to a standard rack acoustical 26" wide door and adds a mere 4" to the depth of a rack, yet a single door may remove up to 50,000 Btu of heat. The door is designed to attach to a 42U High IBM Enterprise rack and swings wide to provide unrestricted access to electrical components. Sealed coils, filled with above-dew-point, chilled water passively remove up to 55% of the heat generated in a fully populated rack. This cooling efficiency may help eliminate the need for additional AC power and the associated construction cost.

The IBM Rear Door Heat eXchanger has no moving parts to service and is designed to be priced less than a five ton AC unit capable of removing a similar amount of heat. When compared capacity-to-capacity the IBM Rear Door Heat eXchanger helps provide more advantages than other available thermal environment solutions, usually at a fraction of the cost.

Comfortable environment

The installation of an IBM Rear Door Heat Exchanger helps eliminate heat buildup by removing heat before it invades your data center's hot aisle. As a result, electronic equipment may be better protected and the work environment for the IT staff may be improved.

Freezing data center cooling cost

The IBM Rear Door Heat eXchanger solution can help you maximize the space of your current data center and unburden your AC equipment—often at a fraction of the cost of data center construction or renovation. For example, the cost of adding a new AC unit to your data center might be over \$15,000 (including installation), while adding a Rear Door Heat eXchanger capable of handling a similar heat load would generally be a fraction of that amount. Early test results show one IBM Rear Door Heat eXchanger may remove up to 50,000 Btus of heat coming out of the back rack or up to 15,000 watts of component killing heat. In the real world this means one IBM Rear Door Heat eXchanger may remove up to 55% of the heat generated by a rack fully populated with high density servers¹.

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Technical specifications



Model	IBM Rear Door Heat eXchanger for IBM Enterprise Racks
Part number	32R0712
Water connections	Standard 3/4 inch off-the-shelf, internal 3/4 inch threads
Water capacity	Approx. 6 gallon (22.7 liters)
Water flow rate	8-10 gal. (30-38 liters) per minute
Water temperature	18° C
Cooling System	Open to external water
Fans	None required
Heat removal rate	12-15kVa (50,000 BTU)
Dimensions	42U x 26" x 4"
Limited warranty ²	1-year limited warranty, or 3-year limited warranty when installed on IBM Enterprise Rack.

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¹ Real world testing, IBM test labs, 01/2005.

² Warranty Information: For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept. JDJA/B203.

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The IBM Rear Door Heat eXchanger advantages:

- The IBM Rear Door Heat eXchanger may dramatically unburden existing AC units by cooling the air before it exhausts from the electronics into the hot aisle. Preliminary lab tests have shown that up to 55% of the heat in a rack may be removed as air is moved through the rack and past the door's coils.
- Lower temperatures may result in lower demands on your current AC units, which may help improve their effectiveness and lifespan.
- The depth measurement of the IBM Rear Door Heat eXchanger (about 4") is approximately the same as a standard rack acoustical door. Because improved cooling may help allow individual racks to be fully populated, fewer racks may be required in your data center, which might ultimately free valuable floor space.
- Simple to install—because the unit weighs approximately 70 lbs (filled with water). The Door assembly may be installed as one piece, or separated into two pieces.
- Because the IBM Rear Door Heat eXchanger uses above-dew-point chilled water no condensation should occur on the unit and no drain facilities should be required.
- Because there are no moving or electrical parts—reliability should be increased.
- A cooler working environment may improve the comfort level of IT staff working in the data center.
- Customer installable—IBM Rear Door Heat Exchanger is a "hang, plug and run" design so the units may be added quickly.

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