Retro-Fit Kits are available

The benefits of accelerated ambient cooling are also possible by retro-fitting an LE “Kit” into an ES Series enclosure. The Lake Effect Retro-Fit Kit (LE-RFK) consists of the Plexi Contour Door with lower bottom mesh & locking easy latch handle, the patented Lake Effect Fan Box Kit and the patented Lake Effect Plenum Kit.

Call us about Retro-Fit Kits for other enclosures **1-416-486-2005.**

For more information on the Lake Effect Enclosure, visit Karis Technologies on the web at www.karistech.com

Accessories

Other Optional Accessories

Rear Doors
- KT-8403E-SF29 Split Fan Mesh Door
- KT-8402E-29SM Split Mesh Door

Door Handles
- Electronic Handle
- KT-CH-02 Three Digit Combination
- KT-CH-03 Pad Lock Handle w/key

Removable Top Panels
- KT-TPES-29P Vented
- KT-TPES-29F10 550CFM Fan
- KT-TPES-292F10 1100 CFM Total Fan
- KT-TPES-29F 225 CFM Total Fans

Power Distribution Units

P.O. Box 45, Mid-Yonge
Toronto, Ontario M4P 3E3

karis technologies

the Lake Effect enclosure

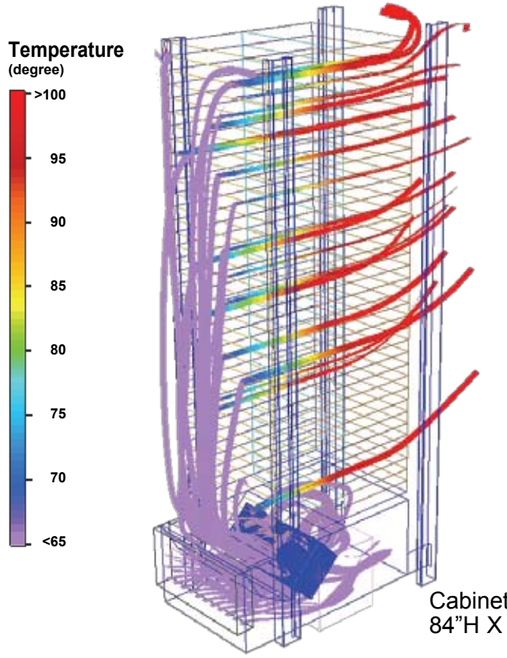
A “Cool” (and environmentally responsible) Solution for Your Data Center

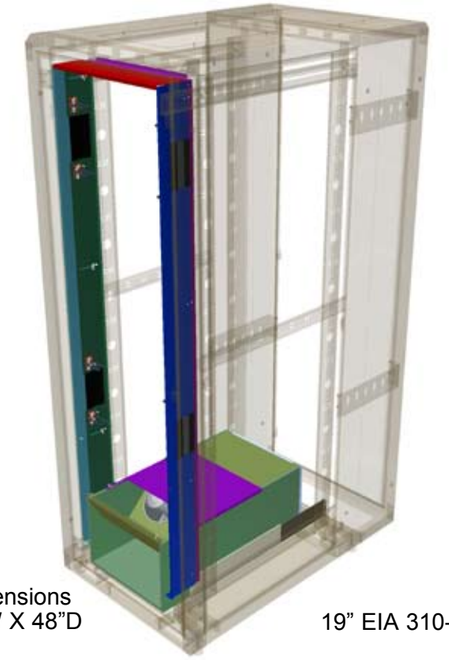
the LE enclosure

*According to **The Weather Channel**, "Lake effect snows occur when a mass of sufficiently cold air moves over a body of warmer water, creating an unstable temperature profile in the atmosphere." This unstable temperature profile maximizes the effect of the difference in temperature between the cold-air and the warm water.*

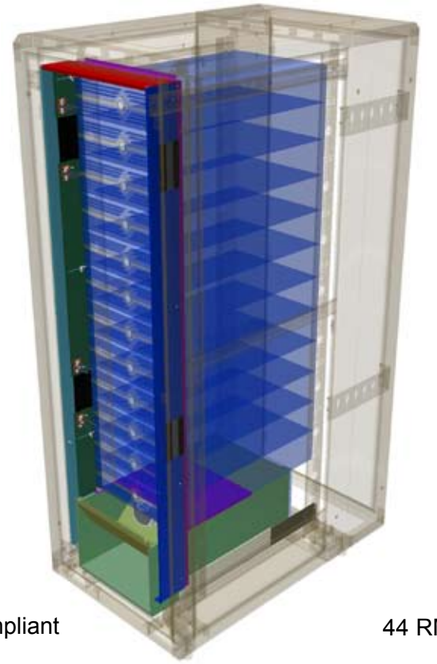
While there is no water or moisture in the data center, this localized meteorological phenomenon in which air flow helps to maximize the concentrated effect of accelerated temperature differences is the basis for The Lake Effect Thermal Enclosure.

The Lake Effect (LE) Enclosure provides an even flow of low temperature air to the front intake face of the servers and electrical equipment mounted inside the cabinet. The intake fans accelerate the air at its lowest (and traditionally its coldest) point in the data center and direct it within a pressurized plenum chamber to the equipment and their internal fans in order to more efficiently cool the equipment.

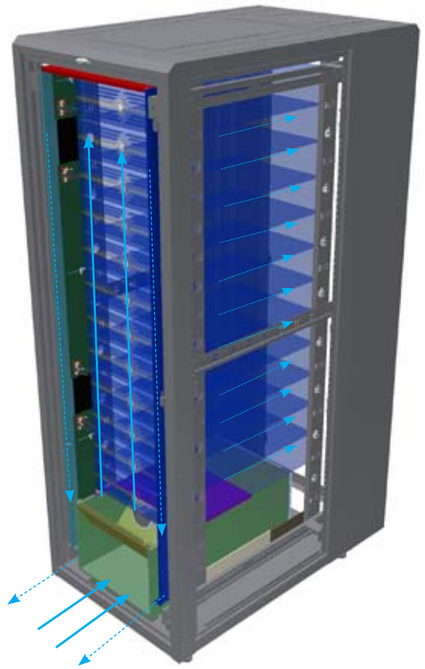




Cabinet dimensions
84"H X 30"W X 48"D



19" EIA 310-D Compliant



44 RMU

The **Lake Effect Thermal Enclosure** utilizes the proprietary concept of **accelerated ambient cooling** to provide an even flow of low temperature air to the front intake face of the servers inside. This air is used by the computer's internal fans to cool the equipment. The number of servers that can be placed in an enclosed cabinet is directly related to the amount of air available to cool the equipment. *The temperature available at the base on the fan box is limited to the ambient temperature associated with CRAC output or base room temperature.*

3D Computational Thermal Analysis was independently tested and verified by Flomerics Using Flotherm Software. Computer models were coupled with powerful fluid dynamic software that predicts airflow and heat transfer in and around electronic equipment. Model includes thirty-six 1RMU servers dissipating 10,000 watts total, 10KW equipment load, even temperature across equipment intakes, intake ambient air: 65°F, 1224 CFM @ 1/8" in H_2O static pressure.

An Environmentally Responsible Approach

- **The LE requires no infrastructure changes to implement**
- **No water or refrigerants are introduced into the data center**
- **There is no additional piping, duct work or floor modifications**
- **Does not invade under floor static pressure**
- **Moves cool aisle into front of cabinet**
- **Can be placed, configured & become operational, immediately**
- **Maximizes available ambient air, conditioned or not**

The LE works in any setting, raised floor or not

The Lake Effect makes the most of its environment. It does not require any water, refrigerants, piping , duct work or floor modifications. The enclosure can be placed on an existing data center floor, ready to be configured with servers and can be operational immediately!

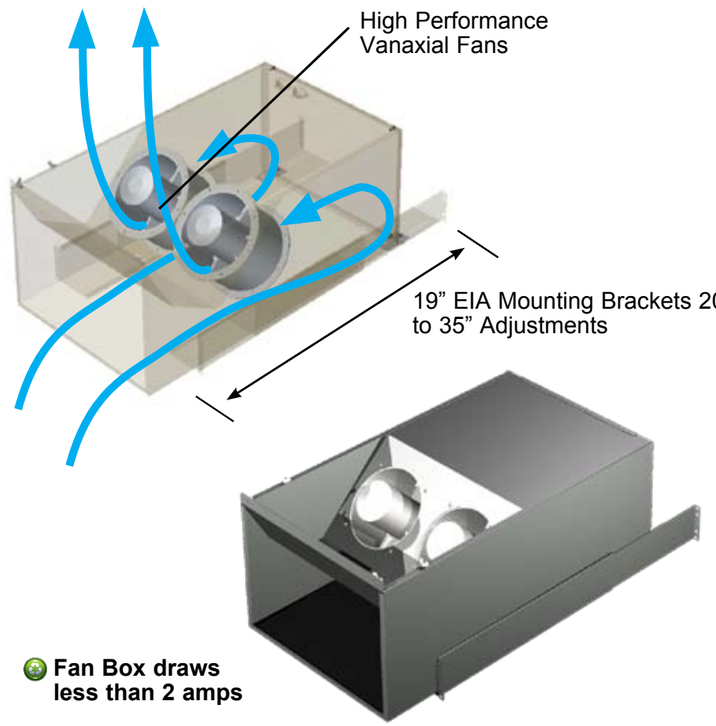
The high-performance vanaxial fans in the patented front-mounted fan box will accelerate air at the lowest point in data center or area in which the enclosure is located.

If in a raised floor environment, the air will be taken in at the lowest temperature and the highest pressure point, maximizing the cooling effect within the cabinet and within the data center. In any other environment, cold air will seek its lowest point and the fan box will accelerate that air to maximize its cooling potential.

The Fan Box

Our technology achieves a positive air pressure environment, created by a patented 7 RMU fan box and a patented 3 sided adjustable depth plenum both sealed to the front door. The servers/ filler panels form the rear surface which yields a consistent temperature curtain at the front of the cabinet providing an environment that is the right temperature, the right air quality, delivering to the face of every computer in the cabinet.

The Lake Effect server enclosure utilizes high performance vanaxial fans. These highly sophisticated fans were originally designed for the aerospace industry, which demand maximum performance combined with minimum size and weight. These fans generate much more horsepower than standard muffin fans, and allow the Lake Effect Enclosure to create a Usable Air Environment.



Fan Box draws less than 2 amps