

ACTIVEAIR™

Rack-Based Containment Cooling

Geist rack-based containment cooling stabilizes IT intake temperature to within a few degrees of the supply air temperature at the rack level. With the ActiveAir solution, a flexible cooling circuit is created with modular, intelligent containment.

More than Passive Containment

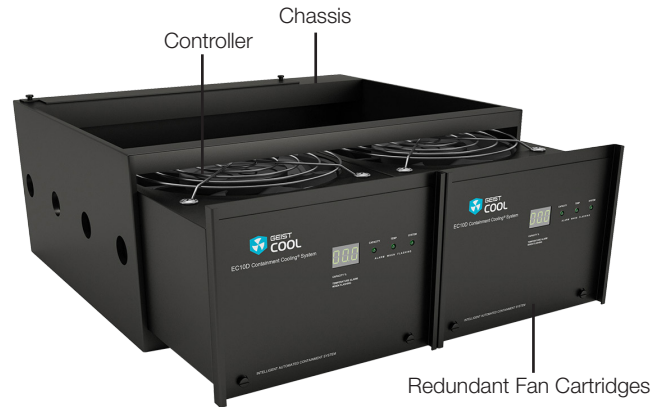
Geist uses cabinet containment, combined with active technology to automatically adjust fan speed dependent on the need for each single rack, shared rack, or row using an ActiveAir systems. Each system has temperature and air pressure sensors in place, which constantly provide accurate readings to the ActiveAir unit to ensure efficient function and consistent air temperature across all critical IT equipment within the rack and row.

Build with Confidence

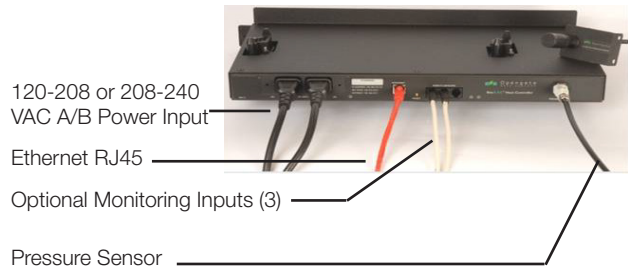
- Deploy critical IT infrastructure knowing proper cooling is available
- Maximize rack density through:
 - Zero-waste cooling
 - Elimination of heat issues

Simple, Flexible High Density Cooling

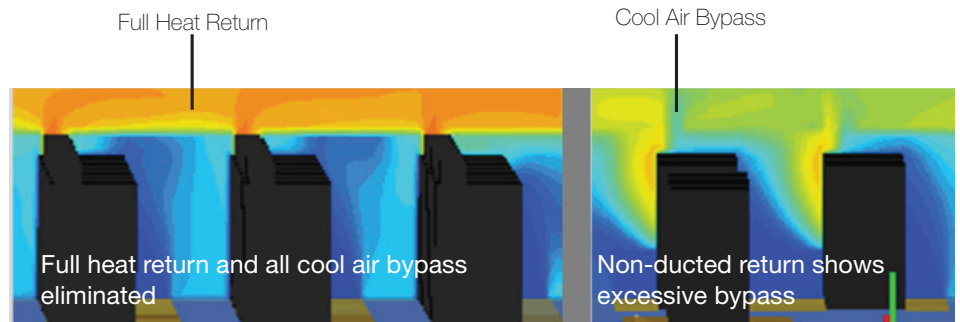
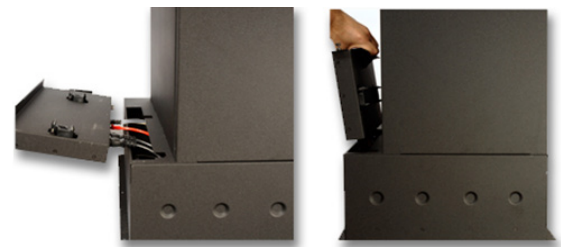
- Modular and redundant design
- Auto-function allows each ActiveAir deployment to function using factory-set parameters
- User-defined alarms and thresholds
- Designed for use with single or multiple systems



Fan Controller Connections



Fan Controller Placement in Chassis

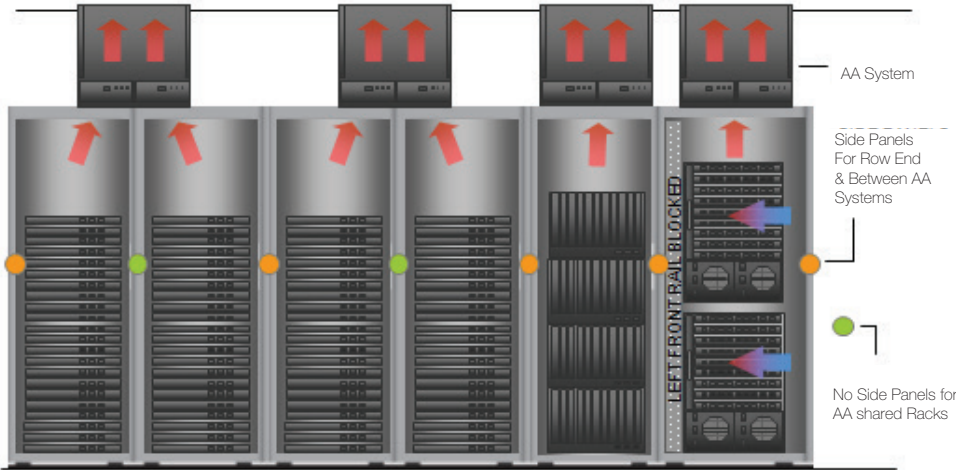


ACTIVEAIR™ CONFIGURATIONS



Single Rack and Multi-Rack Application

Configuring the rack(s) for ActiveAir containment cooling requires side panels for each deployed AA unit. A single rack, using one ActiveAir unit, will require both side panels to maintain the integrity of the containment. Multiple racks, sharing one single ActiveAir unit, will require one set of side panels with the middle of the racks open to each other.



AC Unit or Fan Reduction Power Settings

Typical Data Center Over-Provisioning of Cool Air 2-2.5 X Cool Air Over-Supply Based on Updated Uptime Institute Studies

Typical AC Unit Fan Energy Waste 7-10 kW Fan Energy Wasted for 100 kW of IT Load

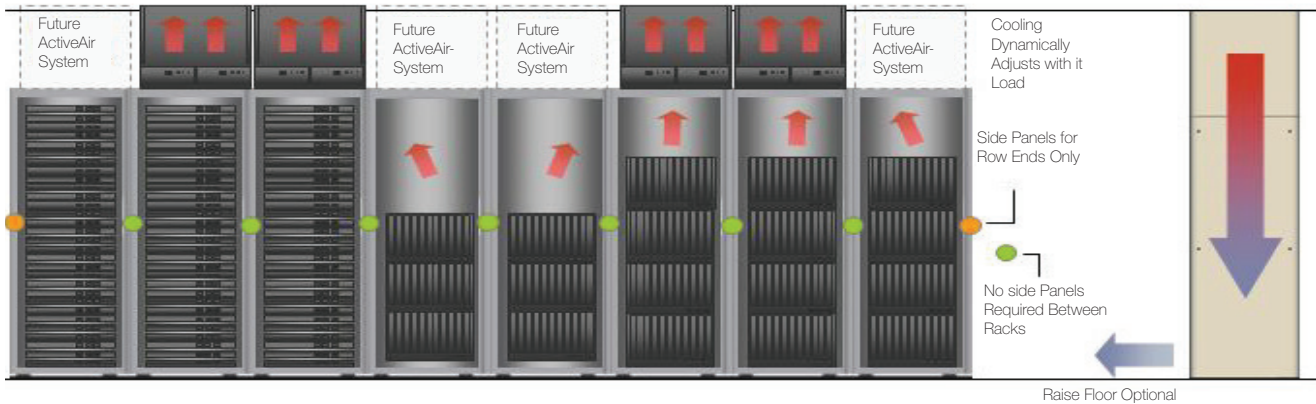
Geist System Fan Energy for 100 kW of IT Load 700 W of Fan Energy Used

Fan Energy Savings with Geist System 6-9 kW per 100 kW of IT Load

Greater fan energy is achieved through speed control using CRAC/CRAH units with variable speed fans. Fans in cooling units follow a cube fan law consuming approximately half power when running at 75 percent and 1/6th power when running at 50 percent airflow output.

Row-Based Configuration

Configuring the row for ActiveAir containment cooling requires side panels only at row ends. As seen in the diagram below, the racks within the row are void of side panels, allowing for the air to be shared.



Award-Winning Solution



“Containment Cooling enabled AAFC to quickly meet aggressive growth demands on data center services.”

— Eric Swanson, Agriculture & Agri-Food Canada

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