

THERMAL MANAGEMENT: CHIMNEY DUCTED SOLUTIONS



R. F. Mote Chimney Ducted cabinets are typically configured with perforated front door and solid rear door. Top duct work directs hot exhaust air either to the rooms drop ceiling, which acts like a hot plenum, or directly to HVAC ductwork that further directs the airflow to the intakes of the CRAC/CRAH units.

A clear airflow path for hot exhaust air is vital in ensuring that heat is removed from the cabinet. All empty RU spaces should be filled with blanking panels and additional front openings should be sealed with air stop kits.

The space behind installed network equipment should be free and clear of obstructions (cables, power cords, etc.) to avoid restricting hot exhaust air flows. Deeper and wider cabinets will provide more space behind the servers, supplying a sufficient exhaust area to remove the hot air.

Use caution when placing the deepest equipment near the top of the cabinet, as this arrangement can create choke points for the exhaust air.



Advantages of the Chimney Method:

- Many outside studies suggest that the chimney method lowers cooling system costs by at least 25 percent
- Low initial capital costs; no ongoing maintenance expenses
- The number of CRAC/CRAH units in the data center could be reduced or the future cooling capacities could be increased
- Cabinets do not have to be orientated in hot aisle/cold aisle configurations.
- Since these systems segregate and direct airflows, they improve efficiency and lower operations costs

PART NUMBER	CAT. PAGE#	DESCRIPTION
RFM-FORTRESS-xx	PAGE 1.1.1	PRE-CONFIGURED FORTRESS SERVER CABINET
RFM-30xxxx-US-19	PAGE 1.2.3	PRE-CONFIGURED 30 UNIVERSAL SERVER CABINET
RFM-24xxxx-US-19	PAGE 1.2.3	PRE-CONFIGURED 24 UNIVERSAL SERVER CABINET
RFM-EXFANDUCT series	PAGE 2.1.3	EXHAUST DUCT (ATTACHES TO TOP OF CABINET - ADJUSTABLE HEIGHT)
RFM-EXFANDUCT-8 series	PAGE 2.1.3	EXHAUST DUCT (ATTACHES TO TOP OF CABINET - SQUARE TO ROUND TRANSITION)
RFM-EXFAN series	PAGE 2.1.4	HIGH VOLUME EXHAUST FANS (FOR RFM SERIES 30, 24, & FORTRESS CABINETS)
RFM-ASK series	PAGE 2.1.5	AIR STOP KITS (FOR RFM SERIES 30, 24, & FORTRESS CABINETS)
RFM-BP series	PAGE 6.2.2	BLANK PLATES (STEEL OR COMPOSITE MATERIAL)