

Summary - Vertical Exhaust Duct (VED) for NetShelter® SX



- *VED for NetShelter SX increases the efficiency of attached cooling systems and provides an alternative low-cost cooling option*
- *Easy-to-install system that maintains the NetShelter design and compatibility while offering support for overhead cable management systems*

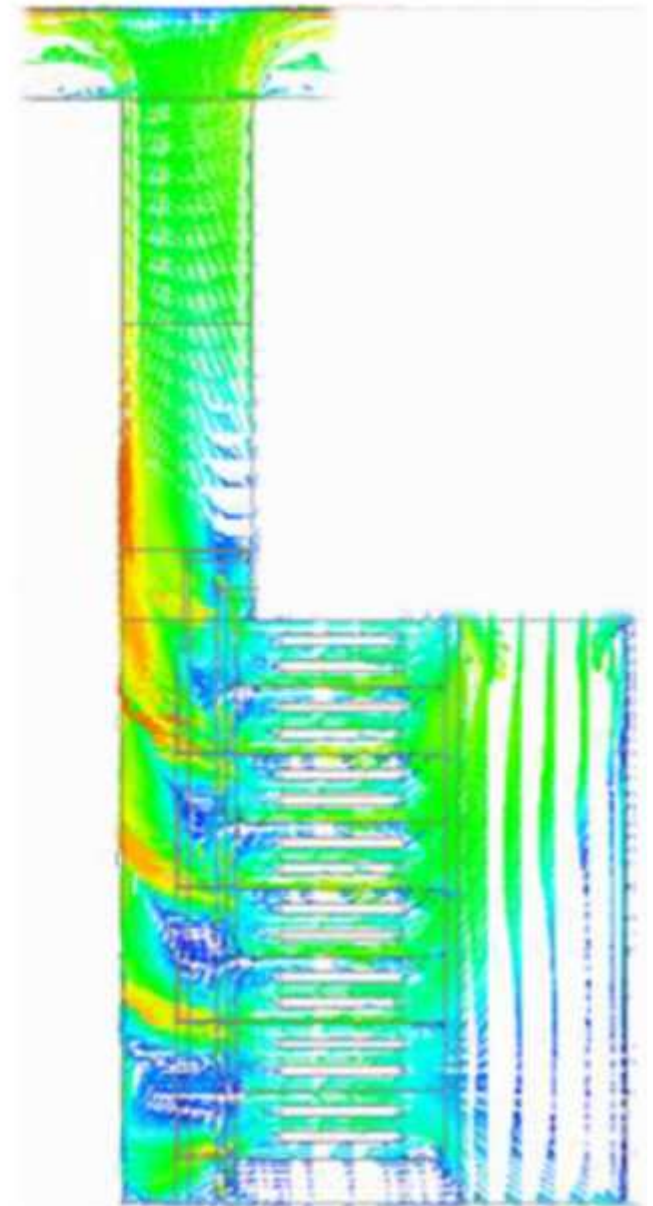
Overview

- Customers are increasingly interested in a ducted return system for their data center enclosures in order to improve cooling efficiency for their CRAC based cooling systems. An exhaust duct or "chimney" can be added to the top, rear of 1200mm deep rack to assist in evacuating the hot air from the back of the rack in a high density application.

- APC's Solution...

Easy to install system that looks clean, supports overhead cabling, and is adjustable to multiple heights

Add-on solution to existing enclosures with ducted return kit.



VED Features



- Telescoping ducts available in 2 height ranges
- Cable access roof with shallow design to provide unobstructed airflow path to the duct
- Optional with overhead cable extension for cable troughs and cable trays - competitors do not offer similar product
- Designed for easy assembly and adjustability
- Air block panels quickly mount to rear doors creating "solid" doors to block airflow
- Rack base air isolation panels for blocking air in the bottom of the enclosure
- Sealing components around doors and top edges of duct
- Environmental sensor mounting bracket inside duct. Also includes grounding location to ground the duct to the rack frame
- Joining bracket included to join the duct to an adjacent duct



Duct height adjustable range

- Top duct fits around bottom duct, captive channels and thumbscrews allow top duct to slide up and down.
- Adjust the assembly with ease to desired height and then tighten.

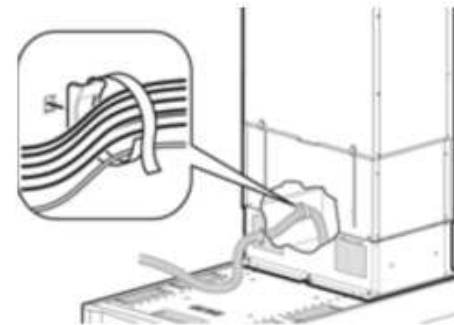


2 ranges of adjustability:

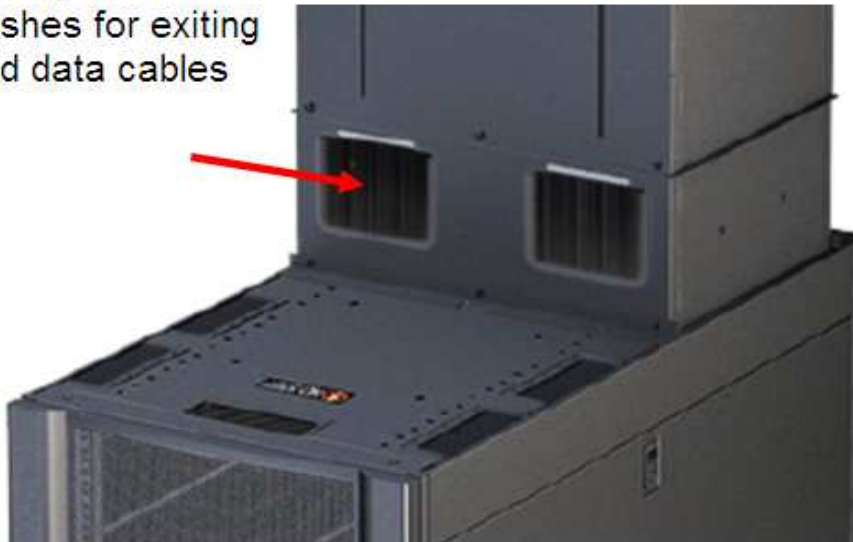
- 20 – 33 in (508 – 838 mm)
- 33 – 60 in (838 – 1524 mm)
- Add 8.5 in (215 mm) if using optional Overhead Cable Extension

Overhead Cable Extension

- Allows cables to be routed overhead without interfering with valuable U-space
- Mounts under duct, can be reversed for front or back cable exit
- Attachment points for securing cables to side and out of airflow path with hook-and-loop cable managers (AR8621)



Pass-through windows with brushes for exiting PDU and data cables



Shown with optional Trough and Partitions



Environmental sensors and grounding

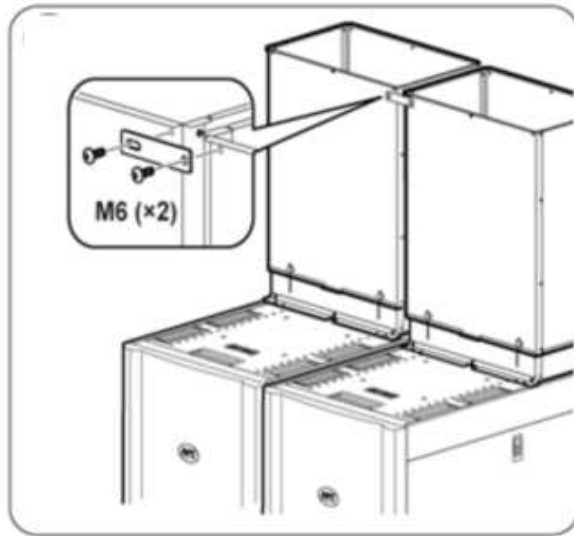
- Provisions for attaching NetBotz environmental smoke & temp/hum sensors
- Grounding location available for grounding the duct to the enclosure



Joining bracket

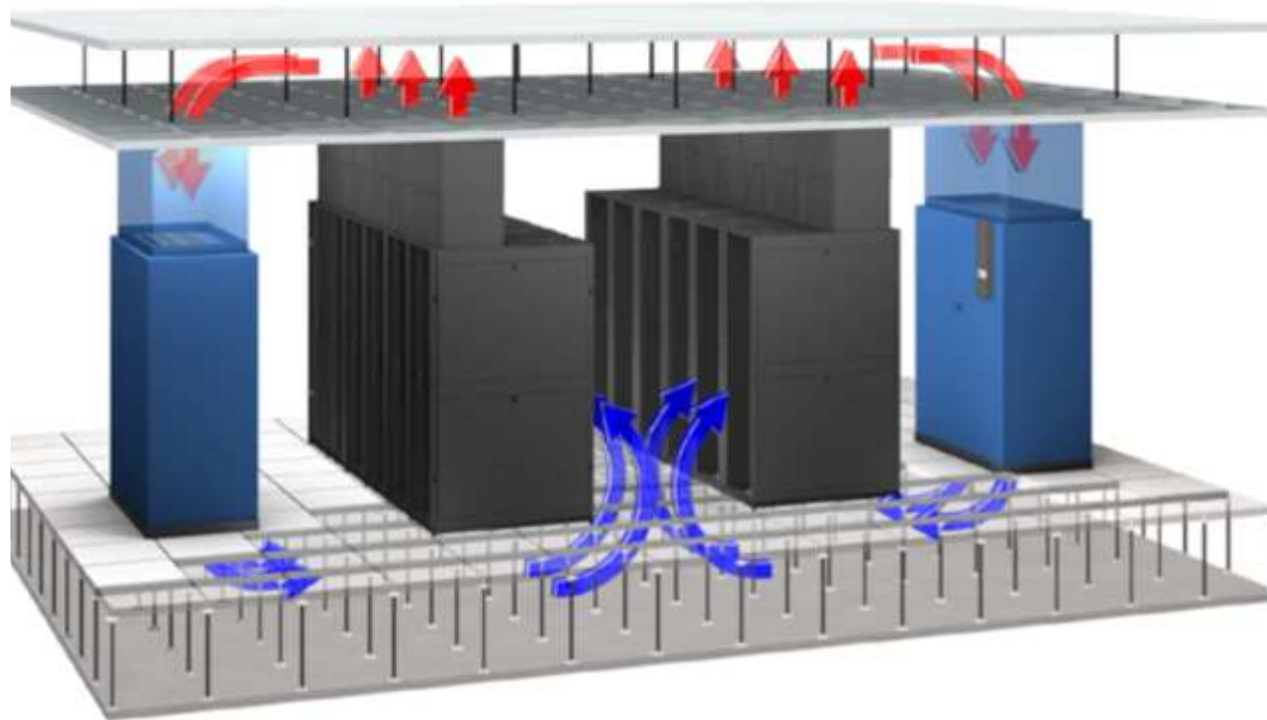
Joining bracket

- Attach duct assembly to adjacent duct
- For alignment of ducts in row



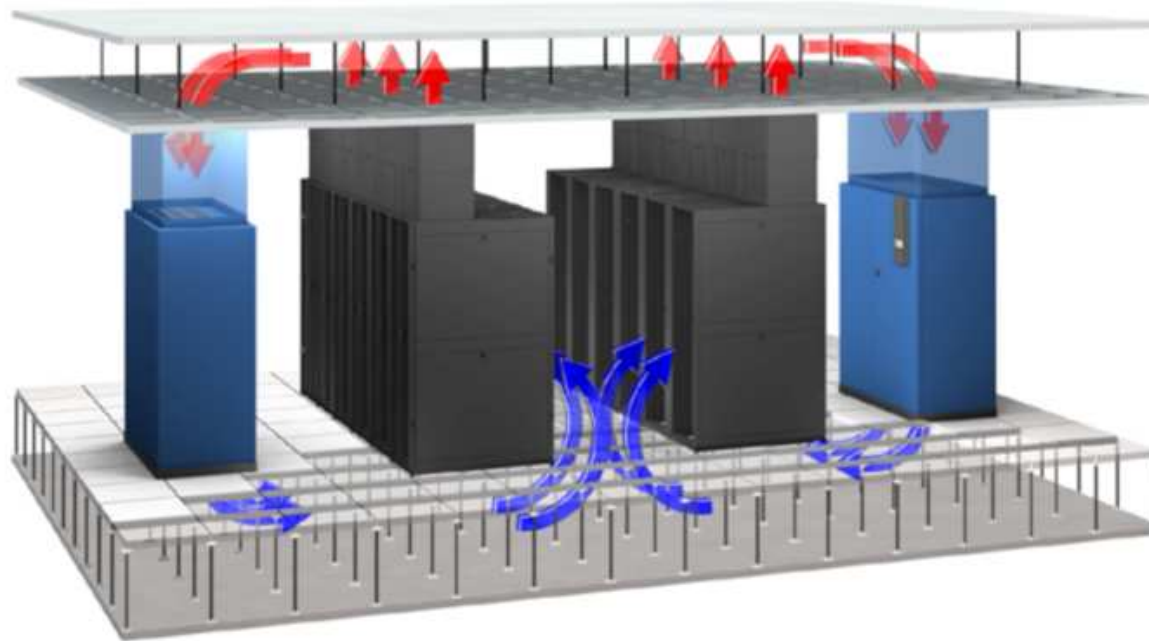
Applications – Perimeter Cooling

1. *Hot air from the servers is controlled through ducting connected to the racks (VED)*
2. *The hot air rises to the ceiling plenum*
3. *The IT air is fed to the perimeter units cooled and supplied back to the data center through the raised floor*



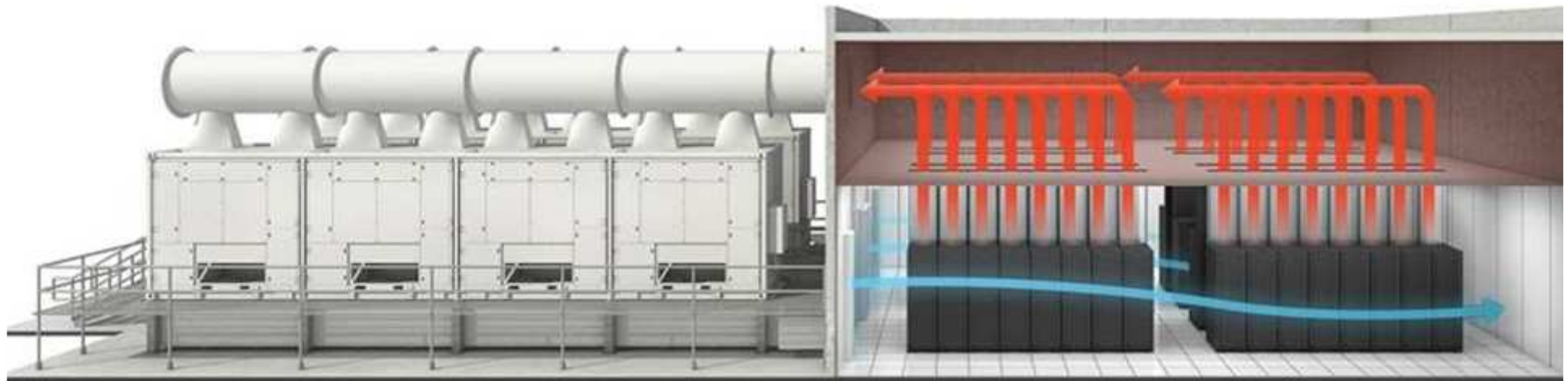
Product Messaging

- APC by Schneider electric now offers a **Vertical Exhaust Duct (VED)** to isolate hot air exhaust from the room by ducting it back to the perimeter Cooling System (DX, Chilled Water, Economizer)
- Increase the efficiency of the perimeter Cooling Systems and allow for greater capacity realization of the system



Applications- EcoBreeze & Cold Air Flooded Room (containment)

1. *Hot air from the servers is controlled through ducting connected to the rack (VED)*
2. *The hot air then rises to the ceiling plenum and feeds into the return ducting of the EcoBreeze*
3. *The IT air is then cooled and supplied back to the data center through cold aisle diffusers. The diffusers have a bowling alley type discharge that send the air down the cold aisle*



Product SKUs

- Available in two widths and two heights
- VED kit includes: Ducts, new roof, air block panels for rear doors, air block skirts, enclosure sealing components

Item	Part #	Description
Side Airflow Expansion Kit		
1	AR7751	VED System for 600mm Wide Enclosures – Short Range
2	AR7752	VED System for 600mm Wide Enclosures – Tall Range
3	AR7753	VED System for 750mm Wide Enclosures – Short Range
4	AR7754	VED System for 750mm Wide Enclosures – Tall Range
5	AR7755	Overhead Cable Extension 600mm Wide
6	AR7756	Overhead Cable Extension 750mm Wide
Recommended Enclosures*		
7	AR3300/07	NetShelter SX 42 or 48U 600mm Wide x 1200mm Deep Enclosure with Sides
8	AR3350/57	NetShelter SX 42 or 48U 750mm Wide x 1200mm Deep Enclosure with Sides
9	AR3340/47	NetShelter SX 42 or 48U 750mm Wide x 1200mm Deep Networking Enclosures with Sides

*48 in (1200mm) enclosures are recommended to achieve the greatest capacity realization, although, 42 in (1070mm) deep enclosures do include provisions for installing the VED there will be a loss in capacity.