NetShelter™CX Ventilation Info

The Netshelter CX is a soundproofed 'Server Room in a Box' which allows for IT deployment wherever and whenever it is needed, saving space, cost and deployment time.

Here's an introduction to how it achieves its unique front-to-back breathing, allowing IT equipment to live quietly and comfortably in the open office space.

1. Ambient office air is pulled into the enclosure via egress ports at ground level (coolest place in the room) and in the case of the 38U Cabinet also on top of the roof.
2. This cool ambient air is drawn in via acoustic 'Sidepods' on either side of the Netshelter CX. These allow air in to the enclosure, while preventing noise from escaping.
3. This air is introduced to the front of rack via large vertical vents behind the front doors. Sidepod internal architecture ensures even distribution of air top to bottom.
4. IT equipment in the rack, aided by the fans in the rear of the enclosure, channel the cool air through the equipment. The effect here is like putting the equipment in a wind-tunnel. The onboard fans are greatly assisted, lowering workloads.
5. The fast-flowing exhaust air is then ejected back into the office environment by the CXs own ventilation 'Fan Modules', via side facing vents in the very rear of the unit.

The Fan Modules in the rear are each capable of processing the thermal energy created by 1.2kw of power rated IT equipment, effectively exchanging the air inside the Cabinet approx. 4-8 times per minute depending on equipment density.

Putting IT equipment in this fast-moving front-to-back flow of ambient air, ensures Servers and other IT devices benefit from 'assisted-ventilation' and operate at temperatures proven conducive to long life.

Note how the servers are distributed evenly throughout the enclosure and between the Fan Modules. This is essential to ensure a balanced distribution of the thermal load.





In this example:

Model: AR4024i

Physical capacity: **24 rack spaces**
Integrated APC PDU: **13 IEC outlets**
Max thermal load: **3.6 kW**
Noise reduction: **18.5 dB**
Power consumption: **68 watts**
Cable access**: Bottom rear**

For user guides, brochures, testimonials and other product information visit www.apc.com

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Tips for best ventilation performance:

- Spread the Servers around the enclosure
- Use the Cabinet for a mix of equipment
- Leave 6” of space on either side of the CX.
- Put in air-conditioned office or large well ventilated space.

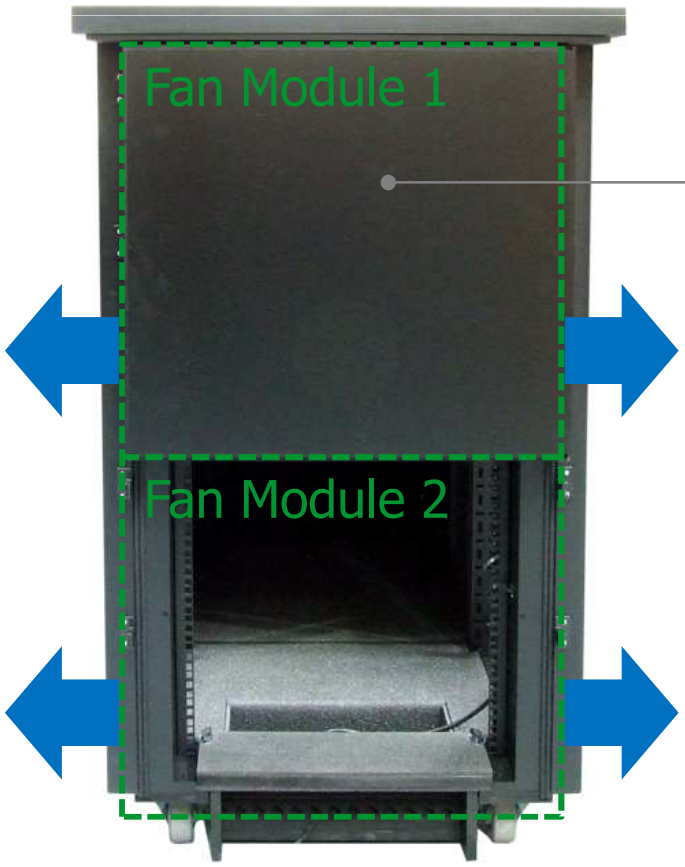
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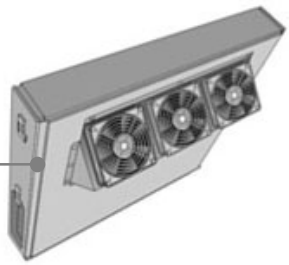
- The exhaust air is ejected into the open office space. Customer testimonials & Case Studies have shown this to have little or no effect on office air-conditioning systems when guidelines are followed.
- The rear vents are positioned sideward so the Cabinet can be pushed back against a wall.

Remote `Monitoring

Users who wish to monitor the thermal performance of the CX can do so by utilizing the features of the APC Network Management Card for Smart UPS or Switched PDU. This set-up will allow temperature monitoring and other functionality ideal for utilizing the CX as a ‘Remote IT Hub’ application for branch offices.

With APC environmental management solutions, the integrated devices can be programmed to monitor & report on temperatures, humidity, device status, security issues such as access, and can be used to monitor and control power to the IT equipment inside, enhancing the reliability & usefulness of the solution.





This is the hot-swappable NetShelter CX Fan Module, each one capable of handing IT equipment rated to 1.2kw. The 12 & 18U Cabinets have 1 of these, the 24U has 2 and the 38U has 3.

The fan Module exhausts sideward, as shown by these blue arrows.

The Netshelter CX has been designed from first principles to balance ventilation with soundproofing. It achieves a harmony between keeping IT equipment appropriately ventilated and preventing their noise from escaping. The NetShelter CX has been doing this successfully for customers in your area since 2004.

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