Cabinet and Rack Installation

Cabinet and Rack Requirements

This section provides the Cisco MDS 9000 Series switches requirements for the following types of cabinets and racks in an external ambient air temperature range of 0 to 40°C. If you are selecting an enclosed cabinet, we recommend that you choose one of these thermally validated types:

- Standard perforated cabinets
- Solid-walled cabinets with a roof fan tray (bottom-to-top cooling)

General Requirements for Cabinets and Racks

A cabinet or rack must belong to one of the following types:

- Standard 19-in. four-post EIA cabinet or rack, with mounting posts that conform to English universal hole spacing per section 1 of ANSI/EIA-310-D-1992. See Requirements Specific to Perforated Cabinets and Requirements Specific to Solid-Walled Cabinets.
- Standard two-post telco rack, with mounting posts that conform to English universal hole spacing per section 1 of ANSI/EIA-310-D-1992.

The cabinet or rack must also meet the following requirements:

- The minimum vertical rack space per chassis should be 1 RU, equal to 1.75 in. (4.4 cm).
- The width between the inside edges of the mounting posts must be at least 17.75 in. (45.1 cm). This is the distance between the two front posts of the four-post EIA racks.
- The minimum rack-load ratings per RU are listed in the following table:

Rack Type	MDS 9132T
EIA (4 post)	7.5 lb (3.4 kg)
Telco (2 post)	15 lb (6.8 kg)

- For four-post EIA cabinets (perforated or solid-walled):

- The minimum spacing for bend radius for fiber-optic cables should have the front mounting posts of the cabinet offset from the front door by a minimum of 3 in. (7.6 cm).
- The distance between the outside face of the front mounting post and the outside face of the back mounting post should be 26 to 32 in. (66 to 81 cm) to allow for rear-bracket installation.
- The distance between the rear of the chassis and the perforated rear door of the cabinet (required for airflow in the cabinet, if used) should be 3.0 in. (7.6 cm).
- No clearance is required between the chassis and the sides of the rack or cabinet (no side airflow).

Note

- Optional jumper power cords are available for use in a cabinet. See Jumper Power Cord.
- Cisco MDS 9132T switches are compatible with Cisco racks (such as Cisco R42612) and PDUs.

Requirements Specific to Perforated Cabinets

In addition to the requirements listed in the "General Requirements for Cabinets and Racks" section, perforated cabinets must meet the following requirements:

- The front and rear doors must have at least a 60 percent open area perforation pattern, with at least 15 sq. in. (96.7 sq cm) of open area per rack unit of door height.
- We recommend that the roof be perforated with at least 20 percent open area, unless the cabinet only contains Cisco MDS 9132T switch, in which case the roof does not have to be perforated.
- We recommend an open or perforated cabinet floor to enhance cooling but it is not required.

Reference Perforated Cabinet

A perforated cabinet that conforms to the above requirements is available from Rittal Corporation:

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Rittal Corporation
One Rittal Place
Springfield, OH 45504
Phone: (800) 477-4000
Cabinet P/N: Rittal 9969427
Cabinet description: PS-DK/OEM Cabinet Assembly, 1998 x 600 x 1000 (H x W x D)
(42U)
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Requirements Specific to Solid-Walled Cabinets

In addition to the requirements listed in the "General Requirements for Cabinets and Racks" section, solid-walled cabinets must meet the following requirements:

- A roof-mounted fan tray and an air-cooling scheme in which the fan tray pulls air in at the bottom of the cabinet and sends it out from the top, with a minimum of 849.5 m^3/h of airflow exiting the cabinet roof through the fan tray, should be available.

- Nonperforated (solid and sealed) front and back doors and side panels should be present so that air travels predictably from bottom to top.
- The overall cabinet depth should be 36 to 42 in. (91.4 to 106.7 cm) to allow the doors to close and to facilitate adequate airflow.
- A minimum of 150 sq. in. (968 sq. cm) of open area should be available at the floor air intake of the cabinet.
- The lowest piece of equipment should be installed at a minimum of 1.75 in. (4.4 cm) above the floor openings to prevent blockage of the floor intake.