



# Cabinet and Rack Installation

---

This appendix provides the requirements for cabinet and rack installation and includes the following sections:

- [Cabinet and Rack Requirements, page A-1](#)
- [Cable Management Guidelines, page A-3](#)

## Cabinet and Rack Requirements

This section provides the requirements for the following types of cabinets and racks, assuming an external ambient air temperature range of 0 to 104°F (0 to 40°C):

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



Note

---

If you are selecting an enclosed cabinet, we recommend one of the thermally validated types, either standard perforated or solid-walled with a fan tray.

---



Note

---

Do not use racks that have obstructions (such as power strips), because the obstructions could impair access to field-replaceable units (FRUs).

---

This section includes the following topics:

- [General Requirements for Cabinets and Racks, page A-1](#)
- [Requirements Specific to Perforated Cabinets, page A-2](#)
- [Requirements Specific to Standard Open Racks, page A-2](#)

## General Requirements for Cabinets and Racks

The cabinet or rack must be one of the following types:

- Standard 19-in. (48.3 cm) (four-post EIA cabinet or rack, with mounting rails that conform to English universal hole spacing per section 1 of ANSI/EIA-310-D-1992). See the [“Requirements Specific to Perforated Cabinets”](#) section on page A-2.

The cabinet or rack must also meet the following requirements:

- The minimum vertical rack space per Cisco Nexus 2000 Series FEX chassis or Cisco Nexus 2300 Series FEX chassis must be one RU (rack units), equal to 1.75 inches (4.4 cm).
- The width between the rack-mounting rails must be at least 17.75 inches (45.0 cm) if the rear of the device is not attached to the rack. For four-post EIA racks, this measurement is the distance between the two port side exhaust rails.
- For four-post EIA cabinets (perforated or solid-walled), the requirements are as follows:
  - The minimum spacing for the bend radius for fiber-optic cables should have the port side exhaust-mounting rails of the cabinet offset from the port side exhaust door by a minimum of 3 inches (7.6 cm).
  - The distance between the outside face of the port side exhaust mounting rail and the outside face of the back mounting rail should be 23.0 to 30.0 inches (58.4 to 76.2 cm) to allow for rear-bracket installation.
  - A minimum of 2.5 inches (6.4 cm) of clear space should exist between the side edge of the chassis and the side wall of the cabinet. No sizable flow obstructions should be immediately in the way of chassis air intake or exhaust vents.



---

**Note** Optional jumper power cords are available for use in a cabinet. See the [“Jumper Power Cord” section on page C-9](#).

---

## Requirements Specific to Perforated Cabinets

A perforated cabinet is defined as a cabinet with perforated port side exhaust and rear doors and solid side walls. In addition to the requirements listed in the [“General Requirements for Cabinets and Racks” section on page A-1](#), perforated cabinets must meet the following requirements:

- The port side exhaust and rear doors must have at least a 60 percent open area perforation pattern with at least 15 square inches (96.774 square cm) of open area per rack unit of door height.
- The roof should be perforated with at least a 20 percent open area.
- The cabinet floor should be open or perforated to enhance cooling.

The Cisco R Series rack conforms to these requirements.

## Requirements Specific to Standard Open Racks

In addition to the requirements listed in the [“General Requirements for Cabinets and Racks” section on page A-1](#), if mounting the chassis in an open rack (no side panels or doors), ensure that the rack meets the following requirements:

- The minimum vertical rack space per chassis must be two rack units (RU), equal to 3.47 inches (8.8 cm).
- The horizontal distance between the chassis and any adjacent chassis should be 6 inches (15.2 cm), and the distance between the chassis air vents and any walls should be 2.5 inches (6.4 cm).

# Cable Management Guidelines

To help with cable management, you might want to allow additional space in the rack above and below the chassis to make it easier to route as many as 56 fiber or copper cables through the rack.

