

HOW TO PICK AN IT RACK

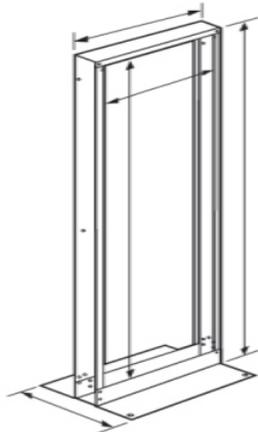
A rack is any freestanding frame that doesn't have doors or sides. If you need frequent access to all sides of the equipment and cabling, an open rack is more convenient than a cabinet. If your equipment needs ventilation, a rack offers more air circulation than cabinets. With the open design, racks are a good choice in areas where security isn't a concern, or inside data centers and closets with locked doors. And racks typically cost less than cabinets. There are several things you should consider when choosing a rack.

Types of racks.

The best place to start when picking a rack is to ask yourself: Where will it be located and what equipment will be in it? This will help you determine if you need a wallmount or a floor-mount model and whether you need a 2-post or 4-post rack.

You have a number of options depending on the type of equipment you need to house. If you're installing patch panels, a two-post rack with some cable management is the right choice. But if you have a mix of networking equipment, servers, and patch panels, then a 4-post rack makes more sense because it provides more stable, 4-point mounting for deep equipment. Accessories are available which allow you to mount both standard and extra-deep equipment.

Rack widths.



The main component of a rack is a set of vertical rails with mounting holes to which you attach your equipment or shelves. Most racks come in rails spaced at the standard 19" with hole-to-hole centers measuring 18.3". To rackmount smaller equipment, add rackmount adapter brackets. For mounting older legacy equipment, there are 23" wide racks.

Two-post racks typically have threaded 12-24 or 10-32 holes for quick installation of patch panels, and 4-post racks usually have M6 square mounting holes for mounting servers.

Rack heights.

Height, or rack units, is one of the most important specifications in choosing a rack. One rack unit (1U) is 1.75" of usable space. So, for example, a rackmount device that's 2U high takes up 3.5" of rack space. Most freestanding racks come in a standard 45U height, which is 6.5 feet high, so they fit rooms with standard ceilings. But there are other height options— from smaller 10U-high wallmount models all the way up 58U-high units. These tall racks, towering up to 9 feet, allow for an extremely dense installation of equipment while saving floor space.

Wallmount racks.

Wallmount-style racks save floor space, too. They're very convenient for installing in cramped wiring closets or narrow hallways. Some even swing out for easy equipment installation and cable connections. Other low-profile racks enable you to flushmount equipment vertically against a wall to further reduce the amount of space they take up.

Wallmount racks are typically designed to be installed on 16-inch-on-center studs or on backing boards attached to the wall.

To determine which wall rack is best for your application, measure the deepest piece of equipment and cable(s) out of the back end to be sure they will fit. Then verify the weight capacity needed.

Powering your equipment.

Now that you've chosen a rack, you'll need to get power to equipment. Rackmount power strips come in versions that mount either vertically or horizontally. Some have outlets that are spaced widely to accommodate transformer blocks.

Cable management.

Next you need to select the appropriate accessories. The first, and most important, is cable management. Many racks have built-in cable management troughs and cable rings for routing

cable. If your rack doesn't have these, consider adding managers for neatly routing cable. Vertical managers are great for organizing cable runs top to bottom. Horizontal managers are designed to guide cables and hold them precisely at the same level as mounted equipment. You can also add inexpensive hook-and-loop cable ties to hold and bundle cable securely. For high-density applications, there are specially designed cable managers that handle large amounts of cables. These systems have oversized channels with molded fingers that guide wiring to mounted devices at precise increments while maintaining the proper bend radius for the cable. They also have covers that you can remove completely for faster cable installation.

The extras.

Consider shelving for your rack. The type you choose depends on the equipment you plan to mount. You can choose from solid or vented shelves, stationary or pull-out shelves. There are shelves built to hold specific pieces of equipment such as servers, monitors, and keyboards. You can place small devices on a cantilevered shelf. Larger, heavier items, such as monitors, should be put on a center-weight shelf. There are even panels designed to hold flat-screen monitors.

Other accessories include rackmount fan trays and filler panels, which can be vented or nonvented. Also, don't forget grounding bars to ground the rack and the equipment in it.

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