

# How to Find the Right Rack Size

Data centers require a large amount of technology to operate, all of which must be organized and easy to access. Data center racks come in various sizes to protect and consolidate all your equipment, no matter how big or small your facility is. However, it can be difficult to know which size rack you need, especially when planning for your current and future needs. Use these steps to determine what size rack is the perfect fit.

## 1. Identify Devices

First, determine what devices must be stored together. Depending on the size of your facility you may need one or multiple servers to keep operations running. The more equipment you have, the more likely more than one rack will be necessary. After you gather measurements, you can decide if one larger rack will do or multiple will work better.

## 2. Calculate Height

Height, or the “U-space” is the main way racks are classified. One rack unit or U equals 1.75 inches. If your devices’ manuals don’t list their heights, you can measure this yourself. Just remember to convert the inches to rack units. Add the height of each device together to get the internal height of your rack.

## 3. Calculate Width

Your devices’ measurements can’t exceed the rack you choose, otherwise they won’t fit. If your devices are too thin to mount, you can use rack ears to ensure everything fits together well. Now, just like how you measure each device’s height, you need to do the same with its width. Most equipment is 19 inches, but no matter how wide your rack gets the rail width will stay the same. To account for this and ensure you have enough space for cable management and airflow, include an extra 1-2 inches of space in your width measurements.

## 4. Calculate Depth

Measure each device from front to back to determine rack depth. Keep in mind that a deeper rack won’t typically have deeper rails, so the equipment may stick out further. If installed properly, this shouldn’t put your devices at risk. Measuring depth is mainly to ensure you have enough room for cable management and airflow.

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## 5. Calculate Weight

Every device's weight should be listed on the product's technical specifications, if you cannot find this it is best to call the manufacturer for this information. Add each device's weight together to determine how strong a rack you need.

## 6. Determine External Measurements

The previous steps revealed how large your rack needs to be on the inside, but you still need to account for the outer shell and doors. Remember, you need a space for your rack, areas for you to access the front and back of it, and room for its doors to open and close. Measure the height, width, and depth of the area where your new rack will go to ensure there's enough room to store and work on it.

Don't forget to measure any doorways the rack would need to go through to get to its permanent location. You'll also want to make sure your rack's new location has enough room for you to easily install the servers. Even if the rack fits in a small closet, you need to leave plenty of room around it to prevent the server from hitting the wall when trying to slide it in.

## Tips for Positioning Your New Rack

Once you have determined what size rack you need, you need to make sure you are installing the devices in it effectively. For example:

- Place frequently used devices at or above eye level for easy access.
- Install heat-sensitive devices at the bottom of a server rack to keep them cool.
- Use cable management panels, racks, or trays to reduce clutter and improve airflow.

