

1U Rack Server

Description

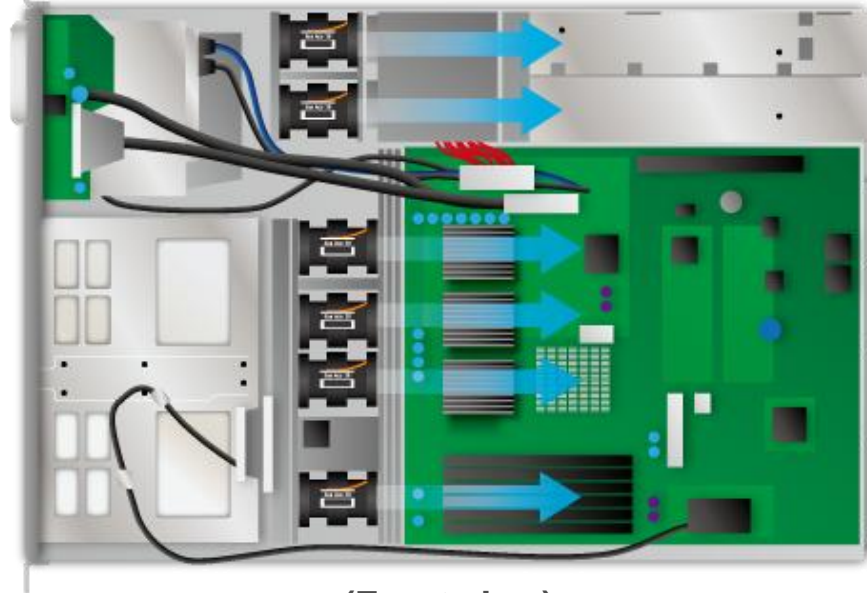
A rack server, also referred to as a rack-mount server, is the standard size server used for mounting inside a datacenter server cabinet or rack frame infrastructure. The EIA (Electronic Industries Alliance) standard server rack has a width of 19 inches (482.6 mm). One rack unit is 1.75 inches (44.5 mm) high.

The size of a piece of rack-mounted equipment is frequently described by a number and "U". For example, one rack unit is often referred to as "1U", two rack units as "2U" and so on. A typical full size rack is 42U, which means it can hold just over six feet (1.8 m) of closely stacked equipment.



Counter Rotating Fan
San Ace 40
9CRB type

(Sectional view from above)



(Front view)



Compatible
with 1.75"
racks

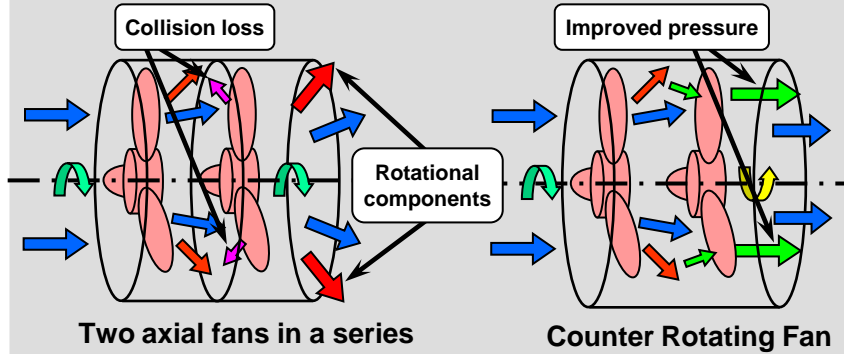
SANYO DENKI Proposal

- **9CRB0412P5S201 / Counter Rotating Fan / 40 x 40 x 56 mm / 12 V / PWM control function**
30,000 hours @ 60°C / 6 units
Purpose: Used for cooling the heat sinks and other heat generating parts using high static pressure.
- **Proposed fan specifications:** Maximum rotational speed: 22,000 min⁻¹(inlet) 19,700 min⁻¹ (outlet)
Maximum airflow: 0.90 m³/min / Maximum static pressure: 1045 Pa / Sound pressure level: 68 dB(A)

Features

■ Structure

This fan features **high airflow and high static pressure** making it suitable for high system impedance machines such as servers.



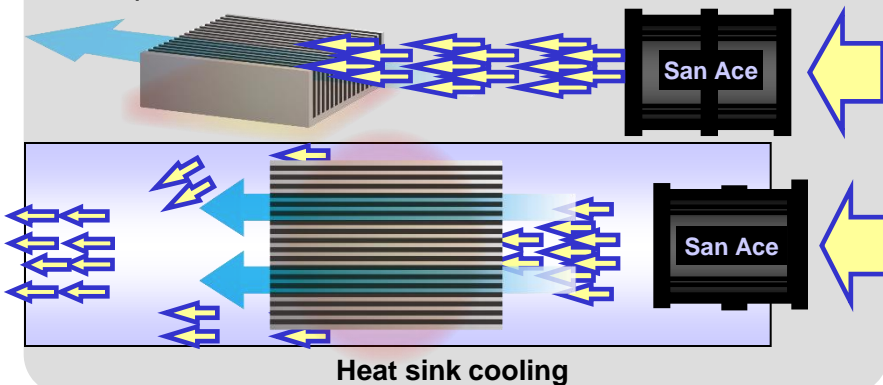
Two axial fans in a series

Counter Rotating Fan

The front and back blades rotate in opposite directions **converting the rotational components into static pressure** exiting the fan in a linear direction. Loss that occurs when two axial fans are in a series is reduced, and airflow and static pressure are increased.

■ High static pressure

Two blades rotate in opposite directions to deliver high static pressure.



Heat sink cooling

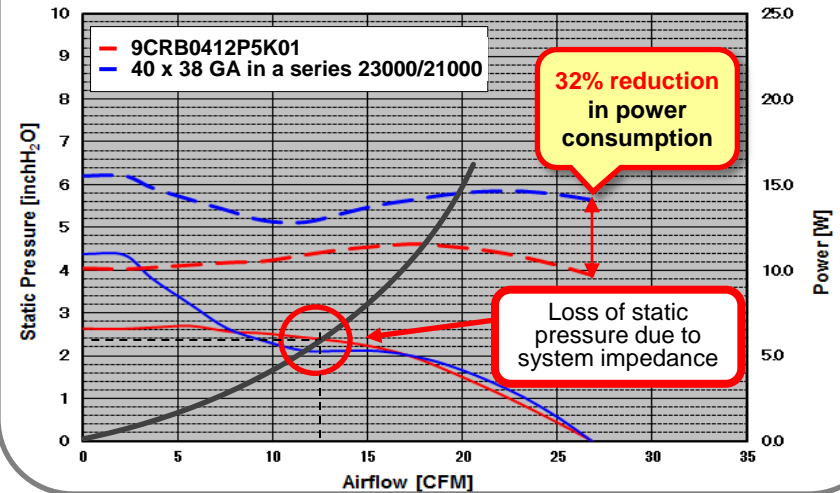
Merits

■ Issue

1U rack servers are high-density devices with limited space. Also, installing multiple fans increases powers consumption.

■ Solution

Compared with two axial fans in a series, the 9CRB type has higher static pressure at the operation point. It also consumes approximately 32% less power.



■ Improved vibration

Fan vibration within 1U rack servers may cause hard disk read errors so the low vibration 9CRV type is also recommended.

