

UPS CAPACITOR & FAN REPLACEMENT

Maintenance Services



Extend the Lifetime of UPS Equipment

Replacement of capacitors and fans is a best practice in order to **ensure the reliability and availability** of your critical system.

Vertiv™ offers a **proactive and programmed service replacement** of capacitor and fan components, **ensuring extension of UPS unit life** and **protection of your business critical systems**.

Capacitors are UPS components that operate steadily in a circuit, where electrical and environmental factors slowly lead to characteristic changes, gradually increasing the probability of a capacitor failure.

This process is known as capacitor aging and can be identified as a gradual capacitance decrease with simultaneous resistance increase, taking place on both UPS capacitor types: DC (electrolytic) as well as AC (polymeric).

Aging of fans may lead to overheating and cause the load to be transferred to bypass, leaving it unprotected.

Ensure the Reliability and Availability of your Critical System

Vertiv's comprehensive Service portfolio is designed to maximize the availability, reliability and efficiency of your critical infrastructure. Our approach to service covers all aspects of performance, from single units to entire mission critical systems.

UPS Capacitor and Fan Replacement

UPS capacitor and fan replacement form part of our maintenance programs and are designed to ensure optimum operation of your UPS and prevent the aging of these components.

Accurate planning of these maintenance activities protects your system from ever changing environmental conditions and ensures that it is in the best health to operate.



BENEFITS OF REPLACEMENT

- Ensuring uptime and reliability of your critical system
- Extend UPS unit lifetime
- Planned maintenance service program
- Accurate long-term budget allocation for maintenance programs.

Ensure the Highest Power Quality

A proactive maintenance approach aims to **prevent** the **component aging** process and **protects your critical load** from potential issues.

UPS systems deliver **high quality power** using large AC and DC capacitor banks, which both degrade under operating conditions. Operating AC and DC capacitors after they have sustained a large degree of deterioration, exposes the UPS system to a risk of failure. Fans are also part of a set of components which need to be serviced and replaced in order to achieve the expected life for a UPS system. Adequate maintenance programs prevent from overheating and consequently protect downstream loads. Varying conditions within the data center influence performance and life of UPS capacitors and fans.

Over time internal chemical reactions, heat and leakage current slowly lead to electrical characteristic changes, gradually increasing the probability of a failure.

Furthermore, the aging process deteriorates the capacitors slowly over time and impact the rate at which their life span is reached.

How Replacement Works

Our service maintenance program provides a reliable approach to ensuring a **long service life for your UPS**, without encountering uncontrolled downtime.

Our approach to **safely scheduling capacitor replacement** consists of replacing the bank of AC and DC capacitors before they age to the point where there is a significant probability of a capacitor short circuit.

A replacement program to reduce the risk of failure based on years of field data analysis recommends on average cooling fans replacement after 5 years (40,000 - 45,000 hours) and AC & DC capacitors replacement after 6 years (45,000 - 50,000 hours).

Tailored replacement programs are designed based on the equipment model and application.

Proactive Maintenance Services

Our replacement program for capacitors and fans is based on **years of field data analysis and experience**, thus representing the best method to achieve the highest reliability of your business critical systems.

Vertiv's certified Customer Engineers perform on-site component analysis in order to verify their health status.

Gathering data on data center electrical and environmental conditions, and combining them with expected components lifetime, allows to design a tailored maintenance to:

- Enhance system's **efficiency** by reducing downtime risks
- Ensure system's **safety and security**.

FUTURE-PROOFING YOUR EQUIPMENT

You'll also benefit from a preventive service program that **safeguards from unexpected future costs**. Planning these activities with our experts allows a more **precise long-term budget allocation** for maintenance programs.

