INNOVATIVE AIR FILTRATION SOLUTIONS FOR DATA CENTERS

Safeguard critical equipment, reduce downtime, and lower energy costs with Parker.

Parker

ENGINEERING YOUR SUCCESS.

Optimizing Data Center Performance:
The Power of Advanced Air Filtration

In today's fast-paced digital world, data centers form the backbone of an ever-expanding technological infrastructure. As demand for continuous, high-speed data processing grows, maintaining peak performance of critical servers, storage, and networking equipment is essential. Advanced air filtration plays a crucial role in ensuring reliability and efficiency by protecting sensitive equipment from harmful contaminants while optimizing energy use.

The air filtration choices you make directly impact hardware reliability, longevity, and energy consumption – affecting operational efficiency, cooling performance, and overall maintenance costs.

Minimize Downtime and Maintenance Costs

Dust and pollutants can lead to costly downtime, system malfunctions, and frequent maintenance. Clean air is crucial for data center performance, and quality air filtration solutions help remove contaminants, preventing damage and reducing the risk of overheating and hardware failure.

Equipping HVAC systems with a range of filters for multi stage-systems and adhering to a regular maintenance schedule minimizes particle buildup. This reduces repairs and unplanned maintenance costs while maintaining optimal air quality and system performance.

By improving air quality and reducing the frequency of repairs and unplanned maintenance, businesses can lower costs, avoid disruptions, and maintain smooth, reliable operations.

EVERY MINUTE YOU'RE DOWN, REVENUE AND TRUST SLIP AWAY.

Hardware failure, including server malfunctions and network equipment failures, is a significant cause of data center downtime.

According to recent research, the average cost of downtime has reached $9,000 per minute and can eclipse millions in an hour in certain scenarios – and that's not including any potential fines or penalties.[1]

Extended or frequent downtime can tarnish a data center's reputation, impacting customer trust, contracts, and investor confidence.

Protect Sensitive Equipment

Servers and data center hardware generate significant heat, and efficient air filtration prevents dust and particulate matter from accumulating on sensitive components. Data centers can be susceptible to corrosive gases like sulfur dioxide and hydrogen sulfide, which can damage copper and silver components. Dust buildup can lead to overheating, reduced lifespan, and system failures. Additionally, prolonged exposure to dust and debris can cause corrosion and physical damage to electronics, leading to short circuits, equipment breakdowns, and costly maintenance.

High-quality filtration systems mitigate these risks, ensuring optimal performance and extending equipment lifespan.

Enhance Cooling Efficiency

Data centers rely on efficient cooling systems to manage the heat generated by thousands of servers. Optimized air filtration systems help maintain proper airflow by preventing blockages from dust and debris. This ensures effective temperature regulation across white spaces, electrical and mechanical rooms, data vaults, cooling rooms, network operations centers, storage areas, and offices.

As a result, enhanced cooling efficiency helps facilities reduce energy consumption and operational costs.

BOOST YOUR PUE WITH CLEANER AIR!

Power Usage Effectiveness (PUE) – is a standard metric for assessing data center energy efficiency. By reducing airborne contaminants with advanced air filtration, you can improve PUE scores.

Cleaner air reduces cooling system strain, lowering energy consumption and improving data center efficiency.

DATA CENTERS SET TO CONSUME MORE ENERGY.

Data center energy consumption is projected to rise, potentially reaching between 6.7% and 12% of total U.S. electricity consumption by 2028.[3]

Scale smarter with Parker's energy-efficient air filtration solutions.

[1] Flower, David. "The True Cost of Downtime (and How to Avoid It)." Forbes, Forbes Magazine, 13 Aug. 2024.

[2] Srivathsan, Bhargs, et al. "AI Power: Expanding Data Center Capacity to Meet Growing Demand." McKinsey & Company, McKinsey & Company, 29 Oct. 2024.

[3] DOE Releases New Report Evaluating Increase in Electricity Demand from Data Centers." Energy.Gov, 20 Dec. 2024.

Why Parker?

Setting industry standards for excellence with cutting-edge technology and decades of filtration innovation.

For over 50 years, Parker has been a global leader in air filtration, delivering trusted products that define excellence. Data centers worldwide rely on Parker as their single source for filtration, ensuring superior protection for critical equipment. Our deep industry expertise allows us to develop tailored filtration solutions that address the unique air quality challenges of data centers.

You can expect Parker to stay at the forefront of technological advancements, continuously innovating to deliver the highest levels of quality, efficiency, and value for our data center customers who provide the seamless storage, processing, and delivery of digital information that powers modern life.

Greater Energy Savings

Parker's high-efficiency air filters are engineered to optimize airflow while effectively trapping more contaminants, including dust and gases, thereby reducing the workload on HVAC systems. By preventing these particles from circulating in the air, our filters help improve energy efficiency, reducing energy consumption and lowering utility costs.

Longer Service Life

Meticulously crafted from high-quality media and complemented by durable construction, Parker HVAC filters withstand the rigorous demands of data center environments. Advanced, proprietary technology and continuous innovation make our filters superior by design, ensuring longer service life and reducing the frequency of filter replacements, maintenance costs, and downtime.

Ease of Installation

Parker's advanced air filters feature user-friendly features like intuitive mounting, slide-in designs, pre-installed gaskets, and clear labeling. Their lightweight and compact builds facilitate quick installation, making them easier to maneuver and fit into tight or elevated spaces. Each filter frame is precision-crafted, ensuring a snug fit and optimal performance once installed.

Unparalleled Support

With years of expertise in data center filtration, our team of experts possesses the specialized knowledge to provide unparalleled support every step of the way. Whether you have questions about filter specifications, need a customized filtration solution, or require technical assistance, we are committed to delivering personalized service and cutting-edge solutions to effectively address all your filtration challenges.

Finding the Right Balance:

Filtration Efficiency vs. Energy Consumption

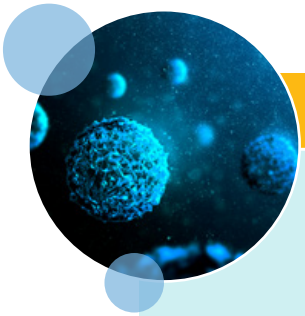
When selecting air filters, it's important to carefully evaluate the specific requirements of your data center. While high-efficiency filters can trap more contaminants and improve air quality, they often require more fan power to maintain adequate airflow. This added resistance can increase energy consumption and strain HVAC systems. Balancing filtration efficiency with energy requirements is crucial to optimize performance without inadvertently raising operational costs.

Choosing the Right Filter for Cleaner Air and Long-Term Savings

Selecting the right filter is essential for maintaining a healthy indoor environment, complying with regulations, optimizing HVAC system performance, reducing energy use, and managing costs effectively.

All of our products meet or exceed the latest ventilation standards for data center spaces, including: Mission Critical Facilities, Technology Spaces, and Electronic Equipment, which focuses on the design, operations, maintenance, and efficient energy usage of modern data centers and technology spaces.

Parker's air filtration specialists can provide clear guidance on selecting HVAC filters that meet your facility's needs.



Small Particles, Big Problems:

Why MERV Ratings Make a Difference

Minimum Efficiency Reporting Value (MERV) ratings measure an air filter's ability to capture airborne particles. The higher the MERV number, the higher the efficiency of that rated filter.

Higher MERV ratings indicate better filtration performance, critical in data centers to minimize dust and particulate buildup that can lead to overheating, hardware failure, and costly downtime.

Typical MERV Rating Performance

MERV Rating	Particle Size Captured	Typical Filtration Performance
MERV 8	3.0 - 10.0 microns	Captures dust, pollen, and mold spores
MERV 11	1.0 - 3.0 microns	Traps finer particles, including pet dander and smoke
MERV 13	0.3 - 1.0 microns	Removes bacteria, viruses, and fine dust
MERV 14	1.0 - 3.0 microns	Removes bacteria, viruses, mold spores and fine dust

Parker's Proven Air Filtration Solutions:

Parker DP® and Extreme Plus SSP® Filters

Sizes: Multiple nominal sizes available in 1", 2", and 4" depths.

DP Wireback
MERV 10/8A, MERV 13 Efficiency

These extended surface pleated filters feature 100% synthetic media that resists moisture, mold, and damage. They offer low pressure drop and high dust loading capability. Advanced technology ensures consistent pleat count, height, shape, and spacing, optimizing filtration performance and enhancing overall air quality. Additionally, Parker DP Wireback filters are available in two efficiencies.

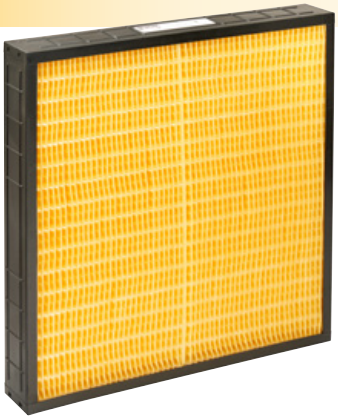
DP HD
MERV 9 Efficiency

The Parker DP® HD filter is the most durable pleated filter in the industry, outperforming alternatives in efficiency, capacity, and durability. Designed to withstand the most demanding HVAC filtration environments, this extended surface, heavy-duty filter lasts up to four times longer than standard commercial high-capacity pleated filters. DP® HD achieves MERV-9 efficiency throughout the life of the filter.

Extreme Plus SSP
MERV 8 Efficiency

Designed with extreme durability in mind, XTREME+Plus® MERV 8 standard and high-capacity filters offer the best self-supported pleat (SSP) performance on the market. XTREME+Plus achieves extremely low pressure drop and industry-leading dust holding capacity for maximum performance and energy savings. With no metal that can warp or deform, a moisture-resistant beverage board frame, and 100% synthetic media, XTREME+Plus filters maintain their integrity even in wet or humid conditions.

LoadTECH®



Extended Surface Rigid Cell Filters
MERV 8, 11, and 14 Efficiencies

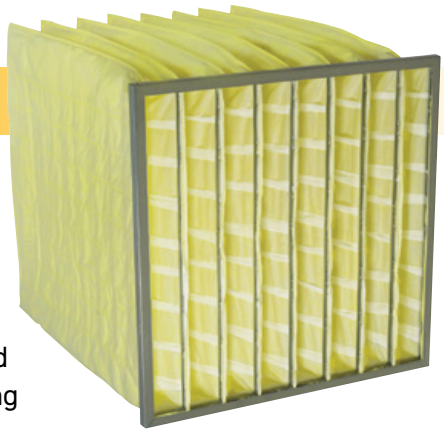
Parker's LoadTECH® Extended Surface Rigid Cell Filters feature our proprietary E-Pleat® media technology, which molds filtration media into a series of pre-formed channels that direct air smoothly through the filter, allowing for even loading and complete media utilization. The filters are completely incinerable and ideal for use in variable air volume (VAV) systems. MERV 14 and 11 efficiencies are available in box and single header construction in both 4-inch and 12-inch depths. MERV 8 is available in 4-inch box frame construction.

Sizes: Multiple nominal sizes available in 4" and 12" depths.

Additional advantages:

- Exclusive gold synthetic media with embossed design holds two times more dust
- Media resists tearing, damage, moisture, and microbial growth
- 4" design offers the same filtration performance as the traditional commercial rigid 12" filter, but in a much smaller envelope, resulting in simplified handling, reduced storage space, and lower shipping costs
- Offers longer filter life and fewer filter change-outs with high dust holding capacity
- Low pressure energy drop delivers proven energy savings
- Rugged high-impact polystyrene (HIPS) frame resists cracking

Clean-Pak™



High-Efficiency Synthetic Bag Filters
MERV 12, 15, and 16 Efficiencies

Parker's Clean-Pak™ bag filters provide the best value in medium to high-efficiency filtration. A triple-layer of high-loft 100% synthetic media delivers maximum dirt holding capacity with low resistance. The media is unaffected by moisture or humidity, and pocket integrity is maintained through a sealing process that allows air to flow smoothly through the filter.

Sizes: Available in a range of sizes and pocket counts in varying efficiencies.

Additional advantages:

- High efficiency with low initial resistance and long service life
- All pocket edges bonded with a high-integrity, sonic weld seal design to maintain structural integrity
- Fabric ribbon separators welded inside the pockets create aerodynamic channels for smooth airflow and low resistance
- Rugged construction reduces filter damage during transport and installation.

Filter with confidence.

Partner with Parker today to achieve clean air and optimize data center performance.

Reach out to Parker today to learn how our advanced filters can improve air quality and protect your data center from costly downtime.

We are here to help! **1 866 247 4827**

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