RENSA FILTRATION

The OEM's Guide to Custom Air Filters

Design the right OEM filter your way: Custom designed from scratch or configured fast from proven solutions, all under one roof.

ENGINEER TO ORDER

CONFIGURE TO ORDER

The OEM Reality:
Why Off-the-Shelf Filters Fall Short and Custom Designed Filters Win

In today's competitive OEM environment, building better products means looking beyond off-the-shelf filters. Demands on original equipment are higher than ever: customers expect longer lifespans, lower operating costs, and higher standards of air quality and safety. OEM teams face pressure from every direction—tight development timelines, complex compliance requirements, sustainability goals, and the realities of supply chain disruption.

Filters sit at the center of these challenges. When specified correctly, they protect equipment, reduce downtime, and safeguard end users. When overlooked, they can cause product failure, warranty claims, and brand damage.

For engineers and product managers, the question is now how to add filtration in a way that balances performance, manufacturability, and real-world application.

Off-the-shelf filters rarely provide the performance balance OEMs need, leaving them searching for tailored solutions.

That's why Rensa offers two flexible pathways for OEM partners:

ENGINEER TO ORDER

When no standard solution exists, we co-engineer a solution with you, delivering filters built precisely for your product.

- End-to-end design partnership with our engineering team
- Custom media configurations and unique geometries

CONFIGURE TO ORDER

For OEMs needing speed without sacrificing reliability, we adapt proven designs fast with our filter product range.

- Rapid customization of proven filter products across our Rensa product line
- Adjust size, media, packaging, or labeling to fit your needs

Both pathways are backed by the same foundation: structured rapid prototyping, rigorous testing in both in-house and third-party labs, and ISO-certified manufacturing processes. **By keeping design, testing, and production under one roof, Rensa gives OEMs a clear path forward—whether you need a ground-up innovation or a fast, reliable configuration.**

With these complexities in mind, you must navigate several challenges that impact your filtration needs:

Compliance & Testing Rigor

Can your partner design, test, and validate to strict regulatory requirements—all under one roof?

Prototype-to-Production Speed Demands

Can prototypes move to production in days, not weeks, with engineering and manufacturing under one roof?

The Limits of One-Size-Fits-All

Do standard filters fail to deliver the performance, durability, or longevity your equipment demands—and do you need designs adapted seamlessly from concept to production?

Odor & Gas Control & Removal

Does your application demand carbon or specialty media for gas phase filtration—and does your supplier have the right materials, formats, and testing capabilities to prove it works?

Energy Efficiency & Sustainability

Can your filters cut pressure drop, extend life, and meet environmental goals from the start?

Manufacturing & Supply Chain Integration

Can your supplier keep pace with just-in-time (JIT) schedules and streamline communication?

These challenges make one thing clear: OEMs need a filtration partner who can design, test, and manufacture custom solutions under one roof. The right partner meets requirements, streamlines production, accelerates timelines, and ensures quality. Yet not every supplier has the engineering depth or testing capabilities to deliver without delays.

This guide will help you identify what to look for in an OEM filtration partner and how to evaluate solutions. With the right approach, you can ensure performance, meet regulatory requirements, and reduce supply chain risks while keeping innovation on schedule.

The Top 5 Things to Consider When Choosing an Air Filtration Partner

Choosing the right air filtration partner is crucial to delivering high-quality, cost-effective solutions. The wrong partner can lead to performance issues and higher long-term costs, while the right one helps you deliver end products with confidence.

1. Custom Design Pathways: Engineer to Order vs. Configure to Order

Every OEM project has different demands. Some require an entirely new filter to be built from the ground up, while others need an existing platform adapted quickly to size, performance, or regulatory needs. With Rensa, that means choosing between Engineer to Order and Configure to Order, two proven approaches built to meet different OEM challenges.

Engineer to Order: Built from the Ground Up

When standard filters won't do, Engineer to Order delivers a complete design partnership. It's ideal for regulated, complex, or specialized applications where performance cannot be compromised.

- **Collaborative Engineering:** We partner with your team to turn requirements into seamless designs.
- **Custom Geometries & Media:** Designed to exact specs with the right media—HEPA, ULPA, carbon, synthetics, or specialty blends.
- **Prototyping & Iteration:** Rapid prototypes in days let you test and refine before scaling.
- **Application Focused:** Best for medical devices, industrial vacuums, cabin air, and other safety-critical equipment.

With Engineer to Order, you don't adapt your product to a filter—the filter is built for your product.

Configure to Order: Faster, Proven Solutions

When speed matters most, Configure to Order adapts proven Rensa filter products to your exact needs. You build on validated foundations—cutting development time without losing reliability.

- **Rapid Customization:** Adjust size, packaging, labeling, or media for seamless integration.
- **Proven Products:** Build on filter designs that have already been validated for airflow, performance, and durability.
- **Faster Turnaround:** Shorter lead times and lower upfront engineering speed your time to market.
- **Ideal Applications:** Best for commercial HVAC systems, equipment, and OEM systems where repeatability, reliability, and speed are critical.

With Configure to Order, you get custom-fit solutions—faster, smarter, and production-ready.

Under One Roof: A Shared Foundation

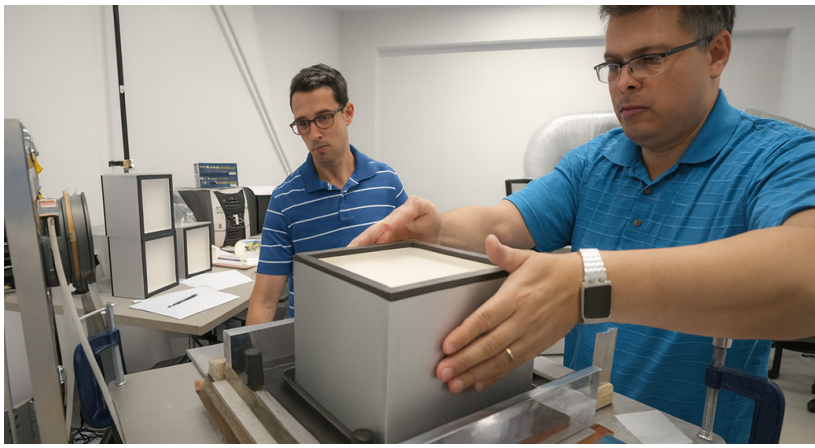
Whether through Engineer to Order or Configure to Order, both pathways share the same strengths: structured prototyping, in-house testing, and seamless communication between design and production. The result is fewer handoffs, fewer delays, and smoother collaboration from start to finish.

See What's Possible with Custom Design

Filters aren't limited to one format—and your partner shouldn't be either. With Rensa, OEMs can explore a wide range of materials, media, and configurations to match unique product requirements:

- **Materials**: From carbon and metal mesh to HEPA, ULPA, and advanced synthetics.
- **Configurations**: Panel, pleat, pocket, V-bank, cartridge, and more, with various frame options and dimensions.
- **Capabilities**: Washable, reusable, high-temperature, antimicrobial, corrosion-resistant, and more.
- **Applications**: Protect electronics from dust, capture VOCs and odors, or safeguard medical equipment against harmful particulates.

The right partner doesn't sell you a product; they deliver a design pathway aligned with your goals, with collaboration and open communication along the way.



2. Testing & Compliance: Data-Backed Performance

Meeting performance and regulatory standards isn't optional. Make sure your air filter partner can provide the following:

Verified Performance Ratings

Filters should reliably achieve MERV, HEPA, or ULPA targets without compromising airflow resistance.

Compliance with Industry Standards

Your filters should be designed and tested by experts with regulatory and compliance expertise, including FDA, UL, IOSO and more.

Real-World Testing

Performance must hold up under the same conditions your customers will face, in their environments.

Third-Party Validation

Independent lab testing adds credibility and reassurance for you and your customers.

Don't just take a manufacturer's word for it—demand data-backed proof that filters will perform in real-world conditions.

3. Prototype-to-Production Speed

OEM teams don't have the luxury of time. Development cycles are shorter, competition is fierce, and delays in launching a new product can cost millions. Filters, though small, are often the last piece that must be validated before equipment can ship. A strong partner understands this urgency and delivers prototypes quickly—while still ensuring they're tested and compliant. By streamlining the handoff from prototype to production, they help you avoid bottlenecks and hit your deadlines with confidence.

Why Prototyping Matters

- **Prove it before you scale it:** Lock in performance early so you can launch on time and on spec.
- **Reduce risk:** Catch design unknowns before they become costly problems.
- **Keep compliance moving:** Generate the test data regulators demand—FDA, ISO, and more—without slowing your launch.
- **Validate in the real world:** See how filters perform not just in the lab, but on your equipment in actual environments.

Our Prototyping Process

From digital modeling to field validation, every prototype ties into the same process that carries your filter through testing, compliance, and into production:

Virtual Simulation: CAD and Excel-based models predict airflow, efficiency, and pressure drop before any cut is made.

Build the Prototype: Quick-turn 3D prints, laser cuts, or production-grade builds let you check fit and function in days.

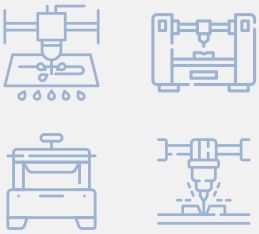
Internal Testing: In-house labs validate airflow, pressure drop, and leak integrity so designs are proven before production.

Field Testing: Prototypes are run in real equipment and environments to capture insights lab tests can't.

Production Part Approval (PPAP): For regulated industries, we build limited release batches under full production conditions to confirm repeatability and compliance.

Prototype Like It's Already Production

With water jets, pleaters, CNC lines, and plasma cutters in-house, Rensa builds prototypes that mirror full-scale production—so what you test is what you'll launch.



Rensa's rapid prototyping isn't a side service—it's a fully integrated, design-to-production process that gives OEMs speed and confidence to launch without compromise.

4. Manufacturing Integration & Supply Chain Reliability

Even the best-designed filter fails if it can't be produced consistently, on time, and at scale. OEMs rely on lean manufacturing and just-in-time (JIT) supply chains, where even minor delays can idle production lines, miss launch windows, and drive up costs. Beyond timing, inconsistent quality or misaligned communication between engineering, testing, and manufacturing can result in costly rework or uneven performance across product runs.

That's why choosing a partner with fully integrated capabilities under one roof is essential. When design, prototyping, and production are all aligned, OEMs gain confidence that the filters they specify are the filters they'll receive—every time.

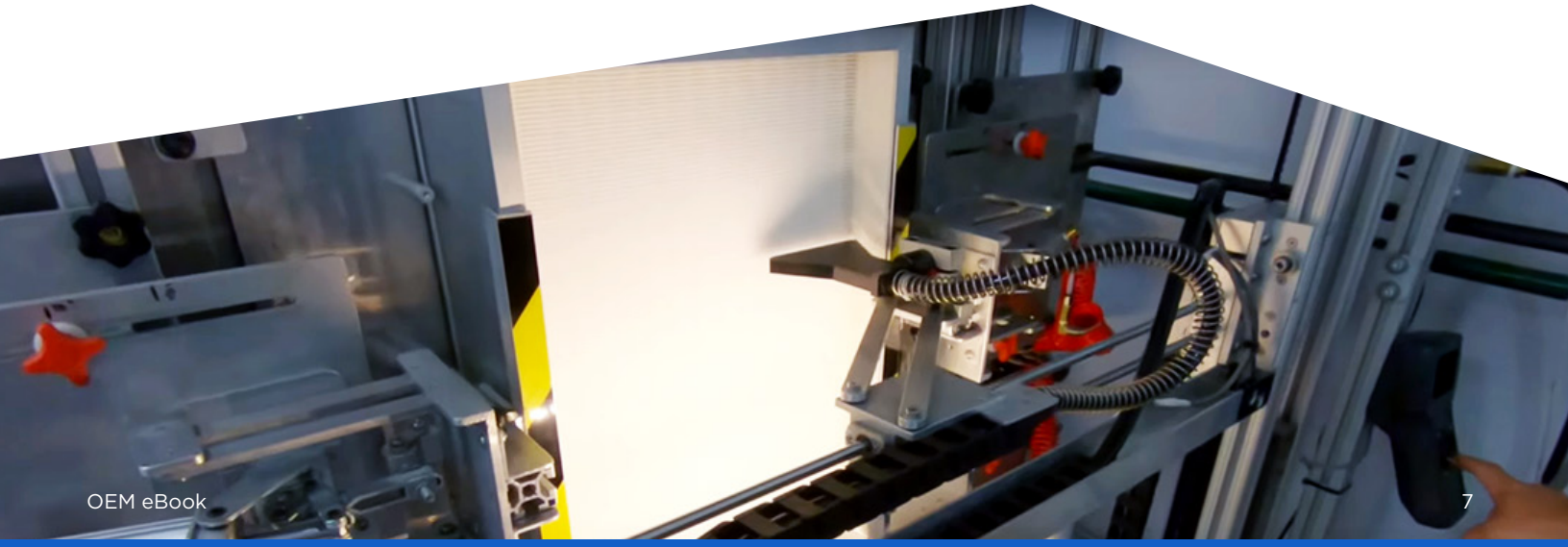
- **JIT Alignment**
  Filters should arrive exactly when needed, supporting your just-in-time schedules without creating excess inventory or supply gaps. A reliable partner helps you reduce warehouse costs while keeping your production lines moving.

- **Scalable Production**
  The right supplier can deliver both small pilot runs for validation and large-scale manufacturing without sacrificing consistency. This flexibility means you can validate early, ramp up quickly, and meet customer demand smoothly.

- **Cross-Team Communication**
  With engineering and production under one roof, communication is streamlined, reducing errors, delays, and back-and-forth between teams. What you approve in design is carried through directly into manufacturing.

- **Consistency**
  Every batch should meet the same standards as the last. Filters must hold tolerances, performance specs, and durability expectations across all production runs — no surprises for you or your customers.

A true filtration partner integrates seamlessly into your supply chain, ensuring products launch on time, perform consistently, and protect your brand from costly disruptions.



5. Reliability & Long-Term Performance

Your product is only as reliable as its weakest component, and for many OEM applications, that's the filter. A filter failure doesn't just cause airflow issues—it can lead to equipment downtime, warranty claims, or even safety risks. Customers notice when performance slips, and their perception of your brand is directly tied to whether your equipment runs as expected.

That's why long-term reliability isn't optional. It must be designed, tested, and proven before your product ever reaches the field.

Consistent Performance
High-quality filters maintain airflow and efficiency across their full service life, not just on day one. This ensures your customers get the same performance at the end of a cycle as they do at installation.

Component Protection
Effective filtration prevents dust, particulates, and corrosive gases from reaching sensitive electronics, motors, or medical components. Protecting these systems reduces downtime, extends product life, and avoids costly failures.

Durability
OEM filters must withstand the realities of operation—vibration, humidity, chemicals, and extreme temperatures. Filters designed for rugged conditions ensure your equipment delivers every time.

Brand Protection
A failed filter isn't just a maintenance problem. It's a visible customer experience issue that reflects directly on your brand. Reliability in filtration helps you avoid warranty claims and safeguard your reputation in the market.

Reliable, long-lasting filters protect your equipment, extend product lifespans, and give your customers lasting confidence in your brand.

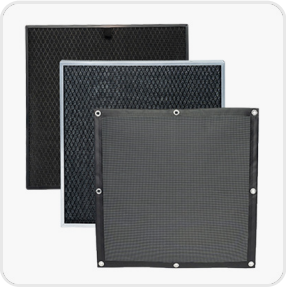
See What's Possible with our Custom Filter Design

When standard filters won't do, OEMs need freedom to design without compromise. At Rensa, we offer unmatched flexibility in materials, media, and configurations, giving you the tools to engineer filters that fit your equipment precisely and perform in the toughest conditions.

Our in-house capabilities mean you can explore options, refine designs, and move confidently from prototype to production—all under one roof.

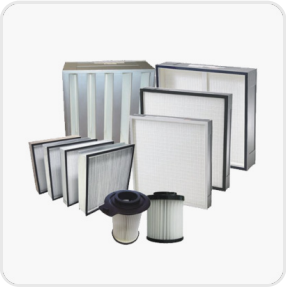
Products

Pleats

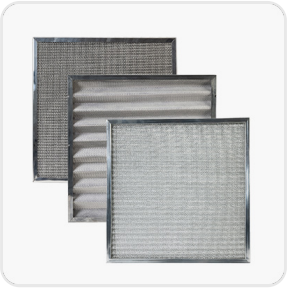


Air Intake Filters

Molecular Filtration



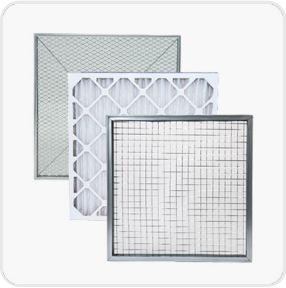
HEPAs & ULPAs



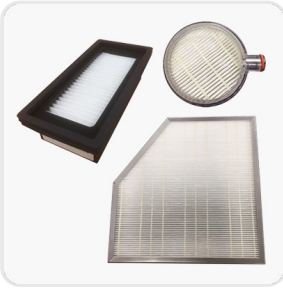
Metal Filters

Cloth Bags

Capabilities



Filter Frames



Filter Media

Ultrasonic Welding

Plastic Molding

Geometry, Size, Configurations

Start your Custom Filter Design with us →

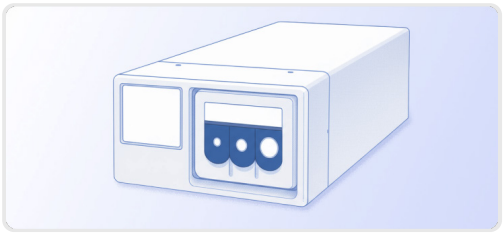
Real-World Applications for Custom OEM Filtration

Custom-designed filters aren't limited to one format or one industry. They're engineered to solve specific challenges—from protecting sensitive equipment to ensuring user safety—while fitting seamlessly into the way your products are built and used.

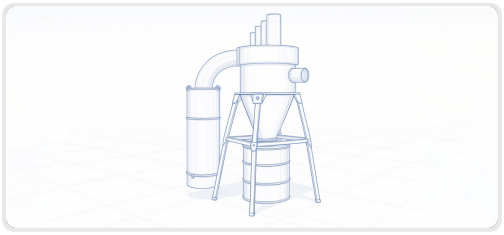
These are a few of many applications that show how custom-designed filters integrate seamlessly into products and applications of every kind.

Custom Engineered

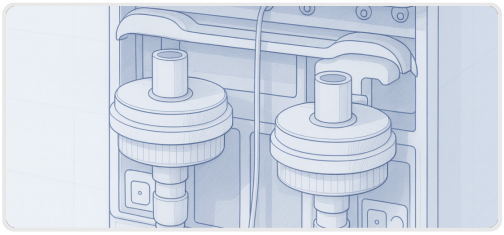
Medical Smoke Evacuator



Industrial Dust Collector



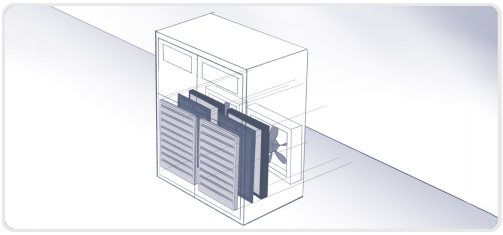
Ventilator



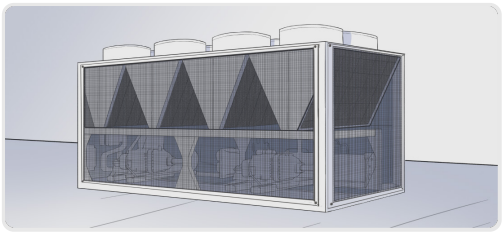
Industrial Fume Extractor

Custom Configured

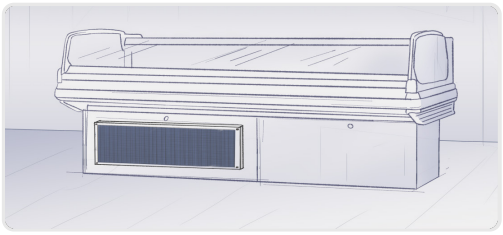
EV Charging Utility Enclosure



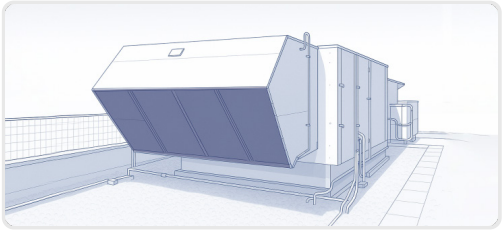
Chiller



Grocery Display Case



Make-Up Air Unit



Custom Filters for Every Industry

Different industries demand different solutions — and one filter can't do it all.
That's why we design OEM filters tailored to the environments and equipment that matter most to you.

Pick your OEM Filter Design

Full Custom or Custom Fit

From concept to production, we make custom design simple. Our Engineer to Order and Configure to Order pathways give you the flexibility to build exactly what your equipment demands.

Engineer to Order

End-to-end design support for filters built from concept to production, tailored to your specs.

Configure to Order

Adapt proven filter designs with custom sizing, formats, and media, to match your application.

What our OEMs are Saying

> “We were struggling with airflow issues and rising costs in our industrial vacuums. Rensa’s engineering team partnered with us early, refining the design with prototypes and adjustments until everything performed as needed. Their U.S.-based production gave us consistency we can rely on, and the process was smoother and faster than previous suppliers."
>
> **- Industrial Vacuum OEM**

> "We had a tight timeline for antimicrobial ULPA filters in hospital patient warmers. Rensa delivered in under three weeks with proven performance. The filters passed testing, captured microbes effectively, and gave us confidence they would meet critical healthcare standards."
>
> **- Medical Device OEM**

> "I sincerely feel that each company should install a high-quality filter on every piece of equipment that could benefit from it. I have recommended their products to many other industries I deal with. Rensa’s filters can save industries thousands of dollars in repairs and replacement costs—and prevent lengthy and costly system downtime."
>
> **- Siemens OEM**

> "Our vacuums needed a motor exhaust filter to capture fine dust and carbon without choking airflow. Rensa engineered a custom HEPA solution that maintained performance and worked across multiple motor platforms, simplifying production and service.”
>
> **- Commercial Cleaning OEM**

> "Some of our customers replaced their original equipment air filters with look-alike filters that harmed equipment performance. I asked if Rensa could put branded labels with part numbers on all our filters. The project was big, but the changes were completed quickly and seamlessly thanks to an awesome communication flow. Now, our customers can easily differentiate between original and non-original equipment air filters. Because the branded air filters come prepackaged from their facility, our dock-to-stock time improved by over a week."
>
> **- Commercial Refrigeration OEM**

Partner with us at Rensa

AIR FILTER SOLUTIONS FOR OEM EFFICIENCY

Finding the right air filters for your OEM products isn't just about meeting specifications —it's about optimizing performance, reducing maintenance, and delivering long-term value.

With a wide product range from leading brands and custom-engineered solutions, we can ensure that every filter meets your exact needs. Whether you require specific material, precise dimensions, or enhanced capabilities, we can build a solution just for you.

Email
sales@rensafiltration.com

Website
rensafiltration.com/customdesign

Let's find the right air filter solution for your application.
Contact us for expert recommendations or for a consultation.

RENSA FILTRATION