Endustra’s Tri-Vent® Series Intake Filters and Filter Silencers set new benchmarks for the industry: The Future of Filtration is here, inside this catalog.

Built on the unmatched platform of the Endustra Venturi Outlet Design, called “the first truly innovative design improvement in air intake filter housings for nearly half a century,” the Tri-Vent® pays for itself with energy savings in less than a year (“Boosting Blower Performance,” Water & Wastes Digest, October 2008).

We realize that performance is only the first step. Our future as an American manufacturer relies on our customers’ ability to meet the demands of the global marketplace. Competitive pricing and exclusive features such as Enduralast® Synthetic Media, No-Tools element changes, powder coating, and a 100% satisfaction guarantee provides the second step: quality and value for the long term.

For Endustra, The Future of Filtration is not a slogan. We are 100% family owned and operated, manufacturing our products in small town America. We couple high-tech design with old-fashioned commitment to employees as people, and to customers as partners, and we won’t operate any other way.

Endustra wants your business. Call our friendly, professional staff at 800-521-1008, or visit our website www.endustrafilters.com.
Tri-Vent® Technology Advantages

- 30-50% lower initial restriction
- Energy savings = 100% cost recovery in less than a year
- Cost-effective efficiency
- Lightweight, compact design
- No-Tools element changes
- Enduralast® Synthetic Media for consistent, all weather performance
- Powder coating

Options

- 3-6" NPT connections
- Wire Mesh Medium, 60% eff. @ ISO Fine Dust
- Stainless steel or aluminum
- Custom fittings
- Special coatings
- FDA/USDA standards
- HEPA/ULPA
- Over 75 media types
No Compromise

For a generation, everyone assumed that high-efficiency filters increased maintenance costs, and the only way to make a filter element last longer was to allow more dirt to pass through. This is known as “the filtration compromise.”

Tri-Vent® technology makes no compromise. Our high-efficiency filters reduce energy consumption, and our exclusive Enduralast® Synthetic Media provide optimal filter element life in the harshest environments.

Reduce cost, reduce weight, and reduce maintenance. Don’t compromise.

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**Tri-Vent® Series P09**

**Intake Filter Silencers**

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**TYPICAL NOISE ATTENUATION**

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**RATED FLOW COMPARISON**

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**Options**

- 3-6" NPT connections
- Wire Mesh Medium, 60% eff. @ ISO Fine Dust
- Stainless steel or aluminum
- Custom fittings
- Special coatings
- FDA/USDA standards
- HEPA/ULPA
- Over 75 media types

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Simple Solution
Ladders are the number one cause of work place injuries in the US (Bureau of Labor Statistics, 2004), yet old-fashioned, leaky, multi-stage panel filter housings often rise 15 feet above grade.

"Why not hang the filters upside down" we asked, "and cut energy consumption in half?"

Enter Tri-Vent® Technology.

The Series TM09 allows a single operator to change elements while standing on firm ground. And our largest element weighs only 24 pounds.

<table>
<thead>
<tr>
<th>Model #</th>
<th>Enduralast® Element Number</th>
<th>FLG Size</th>
<th>Nominal Dimensions</th>
<th>Rated Flow/SCFM</th>
<th>Weight</th>
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Options
- Wire Mesh Medium, 60% eff. @ ISO Fine Dust
- Stainless steel or aluminum
- Custom fittings
- Special coatings
- FDA/USDA standards
- HEPA/ULPA
- Over 75 media types
No-Tools! No Ladders!

Series T209 Side-Outlet Intake Filter Silencers eliminate ladder hazards and platform costs.

Why compromise?

No-Tools, no ladders, and a first year payback in power savings.

Patented Tri-Vent® Technology, only from Endustra.

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**Tri-Vent® Series T209**

Side-Outlet Intake Filter Silencers

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**FLOW CURVE**

% OF RATED FLOW

0 1 2 3 4 5 6 7

PRESSURE DROP - INCHES H₂O

- Hi-Flow/Wire Mesh
- Ultra

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**TYPICAL NOISE ATTENUATION**

Octave Band Center Frequency (HZ)

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**Model**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Enduralast® Element Number</th>
<th>FLG Size</th>
<th>Nominal Dimensions</th>
<th>Rated Flow (SCFM)</th>
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**Options**

- Wire Mesh Medium, 60% eff. @ ISO Fine Dust
- Stainless steel or aluminum
- Custom fittings
- Special coatings
- FDA/USDA standards
Air Inlet and Vacuum Filters

Cut the footprint, weight, and system pressure loss by half with the Tri-Vent® Series P08. Available with NPT or flanged connections, the P08 offers standard No-Tools element changes in most sizes. Change elements safely on the ground and draw air from a clean, remote source, or prevent costly environmental hazards in vacuum or dust-collection applications.

### Model # | Enduralast® Element Number | Nominal Dimensions | Rated Flow | Weight
--- | --- | --- | --- | ---
P08RGG- | E045773 E047933 | FLG | 600 | 50
P08RHH- | E045773 E047933 | 4" | 900 | 50
P08RRR- | E045773 E047933 | 6" | 1100 | 50
P08RII- | E045773 E047933 | 8" | 1350 | 50
P08RII- | E045774 E047934 | 6" | 2000 | 75
P08RII- | E045775 E047935 | 6" | 2250 | 85
P08RII- | E045776 E047936 | 8" | 2500 | 85
P08RKK- | E045774 E047933 | 10" | 2750 | 90
P08RKK- | E045775 E047935 | 10" | 3000 | 95
P08RKK- | E045776 E047936 | 10" | 3300 | 125
P08RLL- | E045777 E047937 | 12" | 3750 | 125
P08RLL- | E045777 E047937 | 14" | 4250 | 135
P08RLL- | E045777 E047937 | 16" | 4750 | 150
P08RSS- | E045777 E047937 | 18" | 5250 | 155
P08RSS- | E045777 E047937 | 20" | 5800 | 155
P08RSS- | E045777 E047937 | 22" | 6350 | 155
P08RSS- | E045777 E047937 | 24" | 6900 | 155
P08RSS- | E045777 E047937 | 26" | 7450 | 155
P08RSS- | E045777 E047937 | 28" | 8000 | 155
P08RSS- | E045777 E047937 | 30" | 8550 | 155
P08RSS- | E045777 E047937 | 32" | 9100 | 155
P08RSS- | E045777 E047937 | 34" | 9650 | 155
P08RSS- | E045777 E047937 | 36" | 10200 | 155
P08RSS- | E045777 E047937 | 38" | 10750 | 155
P08RSS- | E045777 E047937 | 40" | 11300 | 155
P08RSS- | E045777 E047937 | 42" | 11850 | 155
P08RSS- | E045777 E047937 | 44" | 12400 | 155
P08RSS- | E045777 E047937 | 46" | 12950 | 155
P08RSS- | E045777 E047937 | 48" | 13500 | 155
P08RSS- | E045777 E047937 | 50" | 14050 | 155
P08RSS- | E045777 E047937 | 52" | 14600 | 155
P08RSS- | E045777 E047937 | 54" | 15150 | 155
P08RSS- | E045777 E047937 | 56" | 15700 | 155
P08RSS- | E045777 E047937 | 58" | 16250 | 155
P08RSS- | E045777 E047937 | 60" | 16800 | 155

Options
• 3-6" NPT connections
• Wire Mesh Medium, 60% eff. @ ISO Fine Dust
• Stainless steel or aluminum
• Custom fittings
• Special coatings
• FDA/USDA standards
• HEPA/ULPA
• Over 75 media types.

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No-Tools!
We created the Series K08 with maintenance in mind.

Our ergonomic, No-Tools design, combined with lightweight Enduralast® Synthetic elements, allows a single technician to service the K08 in minutes.

Tri-Vent® Technology reduces energy consumption, element change frequency, and maintenance costs.

Draw fresh air from a clean, remote source and make filter element changes easy. Switch to the Tri-Vent® Series K08.

Options
- Wire Mesh Medium, 60% eff. @ ISO Fine Dust
- Stainless steel or aluminum
- Custom fittings
- Special coatings
- FDA/USDA standards
- HEPA/ULPA
- Over 75 media types.

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High Capacity, Low Restriction, No-Tools, No Problem!

Panel filters historically offered one advantage over cartridges: high capacity in a compact space. Not anymore. The Series TK reduces initial restriction and power consumption by 30 to 50 percent, and each Enduralast® Synthetic cartridge replaces up to eight panel filter elements. Available in bottom-, side-, and top-outlet single- and multi-stage configurations from 20” through 36” flanged connections, the Tri-Vent® Series TK changes everything.

High Capacity, Low Restriction, No-Tools, No Problem!

Enduralast® Synthetic cartridge replaces up to eight panel filter elements. Available in bottom-, side-, and top-outlet single- and multi-stage configurations from 20” through 36” flanged connections, the Tri-Vent® Series TK changes everything.

<table>
<thead>
<tr>
<th>Model #</th>
<th>Enduralast® Element</th>
<th>FLG Size</th>
<th>Rated Flow SCFM</th>
<th>Weight</th>
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<tbody>
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<td>Side</td>
<td>Top</td>
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<td>Hi-Flow</td>
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<td>TKZRO-2</td>
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<td>TKZREE-4</td>
<td>TKMRREE-4</td>
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</tbody>
</table>

We will build your Series TK manifold to fit your application. Call for sizing and submittal drawings.
Custom Engineering and Design

We can help.
Endustra manufactures Tri-Vent® Filters and Filter Silencers in Schererville, Indiana, and on every product we print “Made in USA.” Our American workforce proudly builds a quality product, and Endustra takes pride in benefitting our community and our country.

Our hometown team also benefits our customers: Endustra can easily modify Tri-Vent® designs to suit virtually any application-specific variable. Our in-house engineering team will apply flexible Tri-Vent® technology to meet your needs.

Whether your intake filter requirements include simple modifications or one-of-a-kind designs, same-day submittal drawings, short lead times, and competitive pricing transforms costly customizations into economical solutions.

Standard options include stainless steel and aluminum, special connections, custom colors, corrosion-resistant coatings for marine or harsh chemical environments, food grade compatibility, and high temperature construction.

Put our more than fifty years of design experience to work for you.
All-Weather Capacity

Another Tri-Vent® exclusive: proprietary Enduralast® Synthetic Media resist moisture and humidity for consistent performance in all climates.

Enduralast®’s low pressure drops and high dust-holding capacities combined with the superior flow characteristics of a conical element outperform standard paper and polyester.

Hydrophobic, oil-resistant, 99.97% efficient @ 1-micron (nom) Ultra Synthetic replaces old-fashioned paper. For extended life in severe environments, 98% efficient @ 10-micron (nom) Hi-Flow Synthetic can double the capacity of standard polyester.

Tri-Vent® elements are also available in wire mesh, HEPA/ULPA, and over seventy-five different medium types.

Metal end caps reinforce elements for leak-proof structural integrity.

Galvanized expanded metal cores and liners protect Tri-Vent® elements.

Proprietary Enduralast® Synthetic Media: all-weather protection with high dust-holding capacities.

Tight process control and final inspection on 100% of Tri-Vent® elements ensures quality.
Boosting Blower Performance

The Onondaga County Department of Water Environment Protection’s Wastewater Treatment Plant (WWTP) features 32 multistage centrifugal blowers which supply air to eight 1.4 million gallon aeration tanks at the heart of a facility serving the 270,000 residents of Syracuse, NY, and much of Onondaga County. Employing state of the art engineering, the plant design features energy efficiency, equipment redundancy and flexible process capacities. In order to realize energy efficiency, the plant design included a new air intake filter specification which called for a cartridge-style 8” outlet intake filter silencer that would show just 2” W.G. initial restriction at 3,300 SCFM.

The original filters were not provided as specified and “Right away, we started having problems with the filters,” reports Maintenance Superintendent Jim Renk. “The high pressure drop was tripping alarms and collapsing filters.” Thirty-two blowers added up to more than 250 replacements every year, plus weekly cleanings, and every time an element had to be cleaned or changed, the job required two people. “The filter lids weighed in excess of 100 lbs, and each element weighed nearly 60 lbs. We were cleaning filters all the time,” Renk recalls, “and that was a safety issue because of the excessive weight.”

Ross Sanford, Crew Leader and lead supervisor for the Predictive Maintenance Group at the plant, learned initial restrictions across clean filter elements were in the 4.0-4.5” range—double the design specifications. Vibration analysis and laser alignment further suggested that the filters were causing undue strain on the blowers, and high amp draws confirmed that problem.

Endustra designed an element to withstand the differential pressures, and recommended the County purchase a single Endustra P09 Intake Filter Silencer to conduct a cost-benefit analysis by recording gauge and amp-volt readings every month for one year. The Endustra housing was installed alongside an existing filter, and the testing began. Endustra’s initial restriction was 0.8” W.G., and amp draws were 4.5 amps lower. “We had learned that increased surface area would mean the filters would last longer, but it turns out that the design of the filter housing has a lot to do with blower performance as well,” says Renk.

Based on estimated energy savings of $2136.00 per filter per year, plus maintenance and labor savings, Sanford determined that the payback for retrofitting all 32 blowers would be approximately one year, and the entire aeration system was retrofitted.

Four years after the installation of all 32 Endustra Tri-Vent® P09s, Onondaga County has saved hundreds of thousands of dollars in energy bills. Further, no one cleans filters anymore. “The elements last so long that filter cleaning is no longer cost-effective,” reports Renk. “We just wait until the delta-P gets too high. The life on these elements is excellent.”

When it is time to change filters, the job requires only one person and eliminates many safety concerns because the Endustra hood and element each weigh only twenty pounds.

Since the founding of Endustra Filter Manufacturers in 1971, a company philosophy has developed. We believe it can be expressed with four words.

**Reliability**
**Quality**
**Pride**
**Dedication**

Reliability is inherent not only in our products, but in our high standard of business ethics.

Our goal to continually improve the quality of our service and products is with the hope that by doing so, we will improve the quality of life for all those with whom we deal.

We are proud of our company, our products and our employees, and we take pride in knowing that over the years we have been of benefit to our customers and suppliers, who in turn have contributed to our success.

We dedicate ourselves to the continued growth and prosperity of our company, our customers, our suppliers, our community and our country.