Filtration Systems Inc. manufactures a complete line of quality filter elements to handle every industrial application. Our patented “Swirl Flow” design is unique to the industry. Call one of our friendly customer service representatives today and experience the Filtration Systems difference!
DEPTH FILTERS
Our unique rolled and layered construction provides improved efficiency and service life. Our patented “Swirl Flow” design has low pressure drop and extraordinary dirt holding capacity. Replacements available for companies such as PECO, United Engine Life, and Nelson/Winslow.

PANEL AIR FILTERS
Our sturdy panel air filters are built to handle pulsation, vibration and deflection created by engine air-intake systems. Optimum pleat formation is maintained by our computer-controlled pleater. Also available with washable and/or flame retardant media. Interchanges are available for companies such as Air Refiner, Royal, Donaldson, Air Maze, and Nelson.

DUST COLLECTORS
Filtration Systems’ heavy-duty air filter cartridges feature an abrasion-resistant media that is blended with polyester fibers for high-efficiency and excellent dust-release properties. Spunbonded polyester and flame-retardant media are also available. Sized to fit standard housings such as Donaldson, Torit®, Farr, and American Air Filter.

FIBERGLASS GAS FILTERS
Natural gas is often dirty, wet and corrosive, and gas filters have to withstand liquid slugging and abrasion from pipe scale. Our cartridges use high efficiency seamless fiberglass tubes, reinforced with a spiral lock-seamed center tubes for high collapse strength. Cross references to PECO, Peerless, King Tool, Jonell, Flo-Line and Banner.

AIR FILTERS
Our engine air-intake filters are designed for low restriction and high dirt-holding capacity. The end caps can be either stamped metal or molded plastic. All come with resilient gaskets for positive seal to prevent leakage. Replaces Wix, Fram, NAPA, Baldwin, Nelson and Donaldson.

CARBON CANISTERS
Our activated carbon canisters use a dust-free granular (not reagglomerated) coal-based carbon, with optimum pore size and surface area to absorb foaming agents in amine and glycol systems. Replaces PECO, Natco, Nowata, Flo-Line, Jonell, and Banner.

FILTRATION VESSELS
Our filter vessels are designed to use our depth-type filters, for exceptional dirt-holding capacity and extended service intervals. Vessel designs are available for lube oil, diesel fuel and natural gas applications. The large sump capacity, coupled with the water-removal properties of our depth filters, helps to reduce oil acidification and enhance the life of the oil.

DEPT FILTERS
Filtration Systems manufactures a wide variety of canister-type oil and hydraulic filter elements, using either paper, polyester or fiberglass media. Absolute-rated and high-collapse configurations are also available. Direct replacements include: Facet, Nugent, Hilco, Refilco, Banner, and Kaydon.

RAILROAD LUBE FILTERS
“Swirl Flow” locomotive oil filters combine high efficiency and long-life with moisture removal to reduce acid and sludge build-up. 180-day service intervals increase productivity and reduce maintenance costs. Filtration Systems’ lube filters fit all standard EMD, Alco and G.E. locomotives.

COMPETITIVE TRADENAMES
Competitive tradenames are the property of their respective owners, and are used for comparative purposes only.
DEPTH FILTER ELEMENTS

Filtration Systems’ patented “Swirl Flow” technology is a breakthrough in depth filter design, providing exceptionally long life, high efficiency and low restriction to flow.

Depth filters have excellent temperature and fluid compatibility and are used in numerous gas processing, large engine and compressor applications. We manufacture thousands of depth filter elements every day with highly automated equipment for consistent product quality and unsurpassed value.

Cotton’s fine fiber diameter and oliophyllic properties make it an ideal medium for hydrocarbon filtration. We use only natural cotton fibers (not textile waste) in our products.

Wood absorbs water and acids (extending tube oil drain intervals) and improves the filter’s flow characteristics. Our wood is grown and processed here in Wisconsin for excellent cost control.

Spiral lockseamed center tubes have high collapse strength and good flow characteristics. Made in-house for improved availability and cost control.

Media is blended in-house and rolled with automated tensioning devices for a wide range of micron efficiency ratings.

Cotton or acrylic outer socks provide broad fluid compatibilities. Knitted in-house for consistent quality.

Resistance to Flow

Initial Efficiency

Acid Control

Water Removal

Depth elements extend oil drain intervals by reducing acidification

Depth elements remove water from oil, reducing acid, varnish and sludge formation

High-strength center tube
NOMENCLATURE CHART

**PFS-536-V-03-F-CE**

**MEDIA TYPE**
- PP: Pleated Paper
- PPF: Pld. Paper + Fiberglass
- PPS: Pld. Paper + Screen
- PFS: Pld. Fiberglass + Screen

**DIAMETER**
- 2: 2.5" O.D.
- 3: 3.82" O.D.
- 4: 4.67" O.D.*
- 5: 5.5" O.D.**
- 6: 6.0" O.D.

**LENGTH**
- 03: 12"
- 04: 24"
- 05: 29"
- 06: 36"
- 07: 72"

**MICRON RATING**
- 03: .3μ, Absolute
- 01: 1μ, Absolute

**SPECIAL CONSTRUCTION**
- CE: Closed End w/bolt hole
- EXT: Extension, one end
- BR: Bridge on one end

**OUTER WRAP**
- ---: Cotton Sock
- F: Polyester Felt

**GASKETS**
- B: Nitrile
- V: Fluorocarbon

Visit our website at www.filtersys.com or email us at sales@filtersys.com

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Filtration SYSTEMS INC.

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Phone: 262.548.6210 • FAX: 262.548.6239

Visit our website at www.filtersys.com or email us at sales@filtersys.com

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**PLEATED COALESCERS**

Filtration Systems makes a wide range of fiberglass filter coalescers for natural gas purification. The microfiberglass media is pleated for extended surface area and reinforced to withstand rigorous use.

These filters are designed for inside-out flow, which enhances the coalescing process via velocity-reduction. The pleat pack is secured with a steel outer cage to prevent rupture.

A polyester felt outer drainage layer prevents reintrainment of the liquid droplets.

- A Buna-N or Viton gaskets provide positive seals against leakage.
- B Welded steel cages prevent rupture.
- C Polyester felt provides liquid drainage.
- D Optional center tubes for added strength.
- E Multi-layered microfiberglass and synthetic media remove both solid and liquid contaminants.

**MICROFIBERGLASS MEDIA**

Filtration Systems’ microfiberglass pleated media is designed for optimum performance for natural gas filtration. Its fine fiber diameters provide for high flow rates and excellent particulate removal efficiencies.

Microfiberglass is also an excellent coalescing medium for removing water and liquid hydrocarbons from natural gas. The glass fibers have high surface charges, which capture the liquids from the gas stream. These charges, along with its “wettability” provide for the proper contact angles in the fiber matrix, allowing meniscus-formation and droplet enlargement - “coalescence.”

**Flow Rates vs. Working Pressure**

**Efficiency Ratings**

**End Configurations**
Nomenclature Chart:

FS-536-FG-5-EXT

FILTRATION SYSTEMS

DIAMETER
--- 3.62" O.D.
3 4.67" O.D.
5 5.49" O.D.

SPECIAL CONSTRUCTION
(can use more than one)
CE Closed End w/bolt hole
EXT Extension, one end
OP Outer Perf. Wrap
V Viton Gaskets

MICRON RATING
--- 1-Micron (# Density)
5 5-Micron (# Density)

LENGTH
12"
24"
36"
72"

MEDIA
FG Molded Fiberglass, 1μ
FGA Glass + Membrane, 3μ

ISO 9001:2000

LOCAL DISTRIBUTOR:

ISO 9001:2000

FIBERGLASS FILTERS

Printed in USA
FIBERGLASS FILTERS

Filtration Systems makes a wide range of fiberglass filter elements for natural gas purification. Our media is molded into seamless tubes and reinforced with phenolic resin (a distinct improvement over some competitor’s “pipe insulation”).

Since these filters are often installed ahead of large compressors, they must be designed to withstand vibration, pulsation, and abrasion from pipe scale and liquid slugging.

Our center tubes feature a spiral-lockseam construction for high collapse strength, and the metal is plated for corrosion resistance. The end caps are bonded to the media and center tube with a high-strength adhesive.

We use a polyester core-wrap to prevent media migration, as fiberglass fibers are very abrasive. Regrettably, some of our competitors don’t use core wrap!

For applications where iron sulfide is a problem, we offer a polyester membrane core wrap, for unsurpassed corrosion control.

- **A** Tin-plated metal end caps are bonded to the center tube for added strength. Choice of Buna-N or Viton gaskets.
- **B** Double-louvered center tubes provide low flow restriction. Made in-house for excellent availability and cost control.
- **C** Spun-bonded polyester core wrap prevents media migration. Available membrane wrap provides .3-micron protection.
- **D** Molded seamless 6# fiberglass media removes particulates >1u and coalesces liquids for clean, dry natural gas.

FIBERGLASS MEDIA

Fiberglass media was considered a breakthrough in filtration technology when it was first introduced, because of its unique combination of high removal efficiencies and high permeability. Microglass fibers have very fine diameters, resulting in more void space, thus providing greater dirt-holding capacity and increased flow rates.

The fibers also have high surface charges, enabling them to attract polar compounds, such as water, out of hydrocarbon process streams. This “wettability” makes fiberglass filters effective coalescers, removing water and other liquids from refined product and natural gas.

Our fiberglass gas filters have extensive use in such diverse applications as gas gathering, dehydration units, sweetening plants, tail-gas treaters, industrial gas separation, sewage, landfill and digester gas, and cogeneration facilities.

Flow Rates vs Working Pressure

![Flow Rates vs Working Pressure Graph](image)

End Configurations

![End Configurations Images](image)
CARBON CANISTERS

Filtration Systems makes a wide variety of activated carbon canisters for amine and glycol process purification. Our carbon grades have been specifically formulated to provide long service life and excellent solvent purification.

Both radial and vertical flow models are available in a variety of sizes to fit all popular housings. Our canisters are solidly constructed, with cable-steel handles and thick gaskets.

The carbon is sealed in a jersey-knit sock to prevent media migration, and the center tube ends are sealed to prevent bypass, all of which helps to assure trouble-free performance in your process units.

ACTIVATED CARBON

Filtration Systems has developed proprietary grades of activated carbon that are specifically suited for amine and glycol purification. Our activated carbon is coal-based for maximum hardness to reduce dust. It has an optimum ratio of micropores to mesopores to remove dissolved organics, acidic degradation by-products and heat stable salt precursors.

Our carbon is water-rinsed to reduce leachable metals and it has a high percentage of mesopores to enhance removal of liquid hydrocarbons from the process chemicals.

We also offer a larger 4 x 10 granule size to extend service life in units with high solids loading.

When used together with our high efficiency depth filters, your gas processing units will run cleaner, with less sulfide build-up, corrosion, carry-over or upsets, for lower operating costs and improved gas quality.

**Specifications**

<table>
<thead>
<tr>
<th>Mesh Size</th>
<th>8 x 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine No.</td>
<td>&gt;850</td>
</tr>
<tr>
<td>Molasses No.</td>
<td>230</td>
</tr>
<tr>
<td>Total Surface Area</td>
<td>704 m²/g</td>
</tr>
</tbody>
</table>

**Phenol Adsorption**

**Adsorption & Desorption Isotherms**

**Pore Volume**

**Carbon Media (500x)**
DCP-1226-O/CB-FR-NS

OUTSIDE DIAMETER

<table>
<thead>
<tr>
<th>Length</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08</td>
<td>7.90&quot; Dia.</td>
</tr>
<tr>
<td>09</td>
<td>6.00&quot; Dia.</td>
</tr>
<tr>
<td>12</td>
<td>12.75&quot; Dia.</td>
</tr>
<tr>
<td>14</td>
<td>13.64&quot; Dia.</td>
</tr>
<tr>
<td>16</td>
<td>16.05&quot; Dia.</td>
</tr>
<tr>
<td>18</td>
<td>17.60&quot; Dia.</td>
</tr>
</tbody>
</table>

END CAPS

- O: Open End
- C: Closed End
- CB: Closed with Bolt Hole

SPECIAL CONSTRUCTION

- 1: 1.19" Center Hole
- FR: Flame Retardant
- NS: No Outer Screen
- GB: Glue Beads
- 10K: Fan Style
- WS: Wheeslbarrow Style
- CONE: Conical Shape

LOCAL DISTRIBUTOR:

ISO 9001:2000

PRINTED IN USA
Filtration Systems makes a wide range of dust collector cartridges to fit all popular makes and models of equipment. The cartridges feature heavy-duty construction to withstand rigorous use.

We offer three grades of media, to match your application requirements.

Our standard media is an 80:20 Blend of cellulose and synthetic fibers, with a hydrophobic binder, for excellent moisture resistance. There is also a flame-retardant version available.

Our Spunbonded Polyester media has unsurpassed strength, making it an excellent choice for back-pulse applications, such as powder-coating, etc. Also available with an aluminized coating.

Our Nanofiber Laminate is rated at MERV 14, right out of the box, making it an ideal media for gas turbine filtration units.

INDEPENDENT TEST DATA
Tests run per ASHRAE 52.1-1992 on a DC-1226-O/O taken at random from stock
PLEATED PAPER FILTERS

Filtration Systems’ pleated paper filter elements are used in several industrial applications to purify a wide variety of liquids. Our selection of four efficiency ratings and four gasket compounds, plus a variety of sizes and design options allows you to select the right filter for your particular installation requirements.

Our pleated paper filter elements are available in several standard lengths and I.D.’s, with or without bail handles or outer wraps. Buna-N gaskets and tin-plated perforated steel covers are our standard construction. Our new pleated synthetic media offers better throughput, higher dirt-holding capacity and longer service life.

These cartridges interchange with all popular models, including Hilco, Facet, Refilco, Parker, Nugent, Peco, Murphy, Velcon, Kaydon, Luberfiner and Royal, with the best pricing in the industry.

CELLULOSIC MEDIA

Filtration Systems uses four distinct grades of cellulose media in its pleated paper element line. The more efficient grades are cellulose/synthetic blends for longer life and lower pressure drop.

The fibers are bonded with inert binders which are thermoset during our pleating operation for good pleat definition even under high-flow conditions at elevated temperatures.

Cellulosic media is used extensively in liquid filtration applications because of its good flow characteristics, broad fluid compatibility and unsurpassed value.

A Optional bail handle makes removal easier.

B Four different gasket compounds for broad fluid compatibility.

C Your choice of steel or paperboard outer wrap (or no outer wrap at all).

D High-strength spiral lockseamed tin-plated center tubes.

E High surface area pleated media in 1, 5, 10 and 25μ efficiencies.

High Strength Center Tube

Our Computer-Controlled Pleater makes uniform sharp straight pleats

FLOW CURVES

MULTIPASS PERFORMANCE
PANEL AIR FILTERS

Filtration Systems makes a wide range of panel air filters for engine air intake and operator/cab applications.

The large engine panels are reinforced for heavy duty use. They feature a washable media and a resilient “Poron” gasket for extended service life. Flame-retardant, high flow and water-repellant media are available, to fit your specific requirements.

Each filter is heat-cured in automated pneumatic presses to produce perfectly square, rigid panels. Our frames are formed in-house from coil stock for good availability and cost-control.

Our cab panels have a specially-designed media for high efficiency and low restriction to flow. All Filtration Systems panel filters have pleat packs made on our new computer-controlled pleaters producing sharp pleats for optimum performance.

“Tongue-in-Groove” corner construction for rigid, square frames with a smooth gasket sealing surface.

Pleated media is washable for repeated use. Our computer-controlled machines assure uniform pleat spacing for optimum performance.

Corrosion-resistant expanded metal screen protects the media. Large engine panels also have reinforcing strips for added strength.

AIR FILTER MEDIA

Filtration Systems has several grades of air filter media, from cellulose-paper to synthetics and our new nano-fiber laminates. All are washable, for extended service life.

Our cab panel media is designed for low flow restriction, while our turbine engine media is blended for high efficiencies and rupture strength. Our reciprocating-engine media is available with a flame-retardant treatment and water-repellant media is also offered for humid outdoor installations.
<table>
<thead>
<tr>
<th>Component</th>
<th>Part No.</th>
<th>Part No.</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Filter</td>
<td>G81012</td>
<td>G81016</td>
<td>G81018</td>
</tr>
<tr>
<td>Lube Filter</td>
<td>L81012</td>
<td>L81016</td>
<td>L81018</td>
</tr>
<tr>
<td>Fuel Filter</td>
<td>F81012</td>
<td>F81016</td>
<td>F81018</td>
</tr>
<tr>
<td>By-pass Filter</td>
<td>B81012</td>
<td>B81016</td>
<td>B81018</td>
</tr>
<tr>
<td>Overall Ht. (A)</td>
<td>45.15&quot;</td>
<td>45.56&quot;</td>
<td>45.56&quot;</td>
</tr>
<tr>
<td>Outside Diameter (B)</td>
<td>16.0&quot;</td>
<td>19.88&quot;</td>
<td>21.25&quot;</td>
</tr>
<tr>
<td>Shell Diameter (C)</td>
<td>12.0&quot;</td>
<td>16.0&quot;</td>
<td>18.0&quot;</td>
</tr>
<tr>
<td>Inlet/Outlet</td>
<td>1.5&quot; x 150 R.F.</td>
<td>2.0&quot; x 150 R.F.</td>
<td>2.0&quot; x 150 R.F.</td>
</tr>
<tr>
<td>Drain Size</td>
<td>1&quot; NPT</td>
<td>1&quot; NPT</td>
<td>1&quot; NPT</td>
</tr>
<tr>
<td>No. of Elements</td>
<td>Four</td>
<td>Seven</td>
<td>Ten</td>
</tr>
<tr>
<td>Element Part No.</td>
<td>61013</td>
<td>61013</td>
<td>61013</td>
</tr>
<tr>
<td>Dry Weight</td>
<td>180 lbs.</td>
<td>200 lbs.</td>
<td>250 lbs.</td>
</tr>
<tr>
<td>Proof Pressure</td>
<td>150 psig</td>
<td>150 psig</td>
<td>150 psig</td>
</tr>
<tr>
<td>Design Pressure</td>
<td>100 psig</td>
<td>100 psig</td>
<td>100 psig</td>
</tr>
</tbody>
</table>
LUBE OIL, FUEL AND DIGESTER GAS FILTERS

Filtration Systems manufactures a complete line of filter vessels for lube, fuel and gas applications. They are available in 12", 16" and 18" diameters, for flow rates up to 300 GPM (liquid) and 32 SCFM (gas).

FILTER ELEMENTS

Filtration Systems makes a wide variety of filter elements for use in these pressure vessels. The most commonly used elements are the depth-type sock filters, which use a combination of wood and cotton fibers, in a rolled configuration. Depth filters are particularly effective in lube oil service, for removal of sludge, varnish and combustion by-products.

Special chemically treated depth elements are available for sour-gas applications. These filters neutralize the acids in problem fuels, reducing engine wear and corrosion.

Pleated filters are also available, in a variety of media and micron ratings. Pleated elements have extended surface area for long life and low pressure drops.

For installations where used-filter disposal is a concern, Filtration Systems has developed an all-plastic element that can be incinerated. Internal adapters eliminate the need for metal components in the replacement filter elements.

A wide variety of replacement filter elements and gasket materials are available for different fluids, applications and operating conditions.

Filtration Systems’ by-pass valve is unique in the industry. It features a “soft seat” O-Ring piston that does not leak below cracking pressure.

Filter vessels are fabricated out of carbon steel in accordance with ASME Codes. Internal surfaces are coated for corrosion resistance before shipment.

OIL FILTERS

Filtration Systems’ lube oil filters are designed with an anti-drainback feature to maintain proper oil levels in the engine crankcase sump.

These filter vessels also have upstream and downstream pressure gauge taps, drains and a vent. Lightweight covers eliminate the need for cover lifting devices.

Filtration Systems’ depth-type sock filters provide efficient particulate removal, long service life and low cost. Depth media also remove sludge, varnish and water (from combustion and/or condensation) to help extend oil drain intervals. Pleated paper, pleated synthetic and our new coreless filter elements that can be incinerated, can also be used in these housings.

Bypass (slipstream) and diesel fuel versions of these filters are also available. Please call factory for sizing recommendations.

FUEL GAS FILTERS

Filtration System’s fuel filters are used on stationary gas-fired engines to condition the fuel and protect the upper engine from corrosive compounds.

These vessels have 1.5” or 2.0” flanged connections, capable of flowing up to 32 SCFM of digester or sour gas at low pressures. The housing internals are epoxy-coated for corrosion resistance. Multiple vessel configurations are also available.

The chart below can be used for sizing purposes.