



Headline Filters Partner

"A leading worldwide supplier of high efficiency filters for a variety of industries and applications."

FILTER ELEMENT GUIDE

This element overview is designed to provide a brief snap shot of all our filter elements. Traditionally, UFS has supplied microfiber elements for high efficiency coalescing applications, and particulate elements for environmental instrumentation, and emission analyzer protection. The variety of our microfiber elements provides high efficiency solutions for a complete spectrum of applications.

In addition to our standard microfiber elements we offer Stainless Steel, PTFE, Polyethylene, Vapor Adsorption, Pleated MicroGlass, and Pleated Stainless Steel elements in a variety of micron sizes. This range is available across our complete housing catalog.

Features & Applications:

- High Efficiency Coalescing Filters
- CNG Coalescing Filters
- Reinforced Coalescing Disposable Elements
- Particulate Elements for Environmental Service
- Dual Pleated Coalescing Elements
- Five-Layer Stainless Steel Filters
- Sintered Polyethylene Elements
- Bulk SS Screens
- PTFE Elements for Corrosive Applications
- Emission Testing Elements
- Hydrocarbon Free Filter Elements
- Vapor Adsorption Cartridges
- Corrosive Gas Filtration
- High Flow Rates, Low Pressure
- Pleated Liquid & Pleated Stainless Steel Elements
- Pleated Microglass Elements



FILTER ELEMENT GUIDE

COALESCING ELEMENTS

Our coalescing filter is a completely disposable element, made entirely from borosilicate glass microfiber. The coalescing elements have a two-layer structure, an inner particle capture-layer and an outer drainage layer. Liquid droplets remain mobile once captured and travel through the fine-pored captured-layer, along the intersecting microfibers, growing in size as they progress. These coalesced droplets are transferred to the large-pored drainage layer from where they drain by gravity into the filter bowl. Coalescing elements should always flow from the inside to the outside of the element so that proper draining of liquids can occur. These elements will simultaneously collect particulates.

C Grade - Coalescing (Oil and Water Removal)

Elements are specifically designed for the removal of liquid aerosols and particulate from gases in both corrosive and non-corrosive applications. The C type element is constructed of two layers of borosilicate microfiber.

[Typically Used In Our Point-of-Use Filters](#)

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with PVDF Fluorocarbon Resin Binder
Type of Application:	Coalescing - Instrumentation
Maximum Temperature:	300°F
Appearance:	Off-White Toasted Color
Flow Direction:	Inside to Outside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
30C	40C	50C	60C	70C	80C

Our 70C is the recommended standard grade element that provides good coalescing efficiency with high flow rates and long element life.

CS Grade – Heavy Coalescing

Elements are designed for heavy coalescing, CNG, and vacuum pump exhaust. Good to 900°F.

[Typically Used with Our 3/4" NPT Filter Housings and Above.](#)

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with Silica Inorganic Resin
Type of Application:	Heavy Coalescing / CNG
Maximum Temperature:	900°F
Appearance:	White in Color
Flow Direction:	Inside to Outside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
30CS	40CS	50CS	60CS	70CS	80CS

Our 70CS is the recommended standard grade element that provides good coalescing efficiency with high flow rates and long element life.

The 50CS are recommended for the coalescing of oils on vacuum pump exhaust applications.

FILTER ELEMENT GUIDE

CSX3 Grade – Heavy Coalescing Caged For Added Burst Strength

Elements are designed for heavy coalescing typically in CNG applications where added strength is needed due to heavy particulate loading and extremely contaminated coalesced oil. Optional Exterior Cage only is designated by the suffix X1. Good to 900°F.

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with Silica Inorganic Resin with 304 SS Cage
Type of Application:	Heavy Coalescing / CNG
Maximum Temperature:	900°F
Appearance:	White in Color with SS Cage
Flow Direction:	Inside to Outside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
30CSX3	40CSX3	50CSX3	60CSX3	70CSX3	80CSX3

Our 70CSX3 is the recommended standard grade element that provides good coalescing efficiency with high flow rates and long element life.

All of our coalescing elements can be caged by adding suffix X3; including the C and RC Grades.

RC Grade – Coalescing with High Differential Pressure

Elements are designed for high pressure coalescing and/or systems with high differential pressure caused by valve operations. These elements consist of a borosilicate glass inner layer sandwiched between two, rayon/phenolic layers. The reinforced inner/outer layers provide excellent strength.

[Typically Used in Extreme Coalescing Service.](#)

TECHNICAL INFORMATION	
Materials of Construction:	Microfiber Glass, Rayon/Phenolic
Type of Application:	High Differential Coalescing
Maximum Temperature:	250°F
Appearance:	Brown in Color
Flow Direction:	Inside to Outside



Efficiency at 0.3 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
N/A	N/A	N/A	N/A	RC	N/A

FILTER ELEMENT GUIDE

PARTICULATE ELEMENTS

We offer five types of particulate elements which provide the correct solution for your applications. For instrument air and gaseous service we provide pleated, five-layer stainless steel, stainless steel screen, and sintered polyethylene elements. For sample conditioning, emission testing and environmental service we offer a variety of disposable microfiber elements as well chemical resistance sintered PTFE elements.

Microglass Pleated – Heavy Particulate Filtration

Pleated elements are used as pre-filters for coalescers where solid containments are present. Our 3 micron pleated elements are recommended as post filters on desiccant type dryers to contain dust.

TECHNICAL INFORMATION	
Material of Construction:	MicroGlass, Epoxy Coated Steel, Nylon, Viton - Larger units contain 304SS Core
Type of Application:	Particulate Removal
Maximum Temperature:	212°F / 300°F (Dependent on Size)
Appearance:	Pleated White Microglass with Epoxy Coated Steel Screen
Flow Direction:	Outside to Inside
Micron Sizes:	03, 10, 25



Dual Pleated Coalescing Series

Our DPC series of elements incorporates an inner reinforced pleated microglass 3 micron pre-filter encapsulated with an outer microfiber glass coalescing layer. The pleats provide excellent dirt holding capacity thus protecting the coalescing layer allowing it to drain liquids efficiently. This cartridge combines the pleated and coalescing elements into one package. We typically recommend this on our larger vessels which hold 2" diameter elements; i.e. 51-230 & 51-476 sizes.

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with Silica Inorganic Resin MicroGlass, Epoxy Coated Steel
Type of Application:	Heavy Particulate and Coalescing
Maximum Temperature:	300°F
Appearance:	White In Color
Flow Direction:	Inside to Outside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
N/A	N/A	50DPC	N/A	70DPC	N/A

Our 70DPC is the recommended standard grade element that provides good coalescing efficiency with high flow rates and long element life.

FILTER ELEMENT GUIDE

Five-Layer Stainless Steel

Stainless Steel elements are recommended for filtration of heavily contaminated gases, liquids, polymers, and steam, since they are re-cleanable by back-flushing or ultrasonic cleaning. The elements consist of five layers of precision-woven 316L stainless steel mesh formed into cylinders and sintered together.

TECHNICAL INFORMATION

Material of Construction:	Five Layer 316L Stainless Steel with PTFE or Viton End Seals (Pictured with PTFE)
Type of Application:	Sample Conditioning, Fast Loop, Steam, and Liquid
Maximum Temperature:	1000°F (without seals)
Appearance:	316L Stainless Steel
Flow Direction:	Both
Micron Sizes:	01, 03, 10, 25, 50, 100, and 200



We offer seven standard grades of filtration, which fit our Headline Filters line of housings, as well as other proprietary brands. Micron Sizes: 0.5, 1, 3, 10, 25, 50, 100, 200 at 98% efficiency in gases and liquids. Grade 25 (25 micron) is widely used to protect pumps and valves while grade 03 (3 micron) is recommended for removal of pipe scale from steam. The SS Elements are environmentally friendly because they are durable and non-absorbent, they can be backwashed, cleaned and reused, thus eliminating a major disposal headache.

Sintered Polyethylene (PEL) - Particle or Coarse Coalescer

Compressed air/gas applications: The PEL elements may be utilized as pre-coalescers or initial coarse filters in heavily contaminated systems. The 75-micron grade is recommended for this task since it exhibits the best flow curves. PEL elements are a cost effective particle filter for point-of-use service. Since dirt particles on the white surface and they are able to handle a high differential before collapsing.

Liquid applications: Slight pressure will force liquid through the element while at the same time repelling any dirt "particulate" which is encapsulated in the water. The element uses two filtration techniques, surface area and depth. Typical flow direction is out to in, since dirt is visible on the outside surface area and the outer diameter is larger for increased surface filtration. The elements may be back flushed in place, or cleaned ultrasonically, however their low cost makes it economical to dispose of.

TECHNICAL INFORMATION

Material of Construction:	Virgin Polyethylene
Type of Application:	Particle Filtration in Liquid Coarse Coalescer
Maximum Temperature:	212°F
Appearance:	Bright White
Flow Direction:	Outside to Inside for Particulate Inside to Outside for Coalescing
Micron Sizes:	10, 25, 75, & 100



PEL filter elements are constructed from virgin polyethylene (H.D.P.E.). The material is in powdered/granular form and then compressed into a sintered tube. This process allows the filter element to be free from foreign binders. Thus, the only compatibility issue is with polyethylene. No end caps or gaskets are necessary to seal the element into place. Axial compression is used to create a seal on the flat surface of the element. The PEL elements are naturally hydrophobic.

FILTER ELEMENT GUIDE

Stainless Steel One Layer Screen

These Stainless Steel one layer mesh screens are ideal for the removal of bulk contamination in corrosive streams and desiccant powder after dryers. They are primarily used as pre-filters in both gaseous and liquid applications. The low cost allows them to be “disposable” in many corrosive or heavily contaminated operations.

TECHNICAL INFORMATION	
Material of Construction:	One Layer 304 Stainless Steel
Type of Application:	Pre-Filter for Particulate, Diffuser in Liquid Service
Maximum Temperature:	400°F
Appearance:	304 Stainless Steel
Flow Direction:	Outside to Inside
Micron Sizes:	10, 25, 50, 75, 100, 200, and 500 Other Sizes Available Upon Request



The LSS is a one layer precision woven screen that offers moderate filtration efficiency. Because of the small diameter and short length, these elements do not require a support core.

For Capillary Well Service our 50 and 100-micron SS filter screens offer exceptional filtration while still providing high flow rates for such a compact design. The element's small diameter eliminates the need for a collapse core thus increasing true filtration area and providing longer element life.

PTFE – Corrosive Service

PTFE filter elements are recommended for compressed gas and liquid filtration where our microfiber and stainless steel elements are unsuitable. The elements consist of pure PTFE sintered (under pressure) into cylinders. The “PT” elements have outstanding chemical compatibility and extreme hydrophobic characteristics, which make them ideal for liquid sampling applications. No end caps or gasket materials are required for a positive seal.

[Typically Used with Our PTFE & Kynar Housings.](#)

TECHNICAL INFORMATION	
Material of Construction:	PTFE
Type of Application:	Particulate Filtration in Corrosive Service
Maximum Temperature:	400°F
Appearance:	Pure White
Flow Direction:	Typically Outside to Inside
Micron Sizes:	03, 25



PTFE Elements are typically used to eliminate particulates, but also can remove small amounts of liquids, because of their pore structure.

FILTER ELEMENT GUIDE

PARTICULATE / EMISSIONS / SAMPLE CONDITIONING

Environmental, Emissions, and Sample Conditioning filtration presents unique challenges due to the corrosive service, temperature and the analyzers' need for a true, but clean stream. We offer the industry's widest variety of microfiber borosilicate glass filter elements with binders to suit specific applications.

Our high efficiency emission elements are 90% void space which provides greater surface area for particles to impinge on the individual fibers. This attribute is utilized throughout the depth of the filter, thus offering longer service life.

We have the ability to customize fiber size and binder blends to optimize filter performance for individual applications. Please consult our technical team with your specific needs so that we may suggest an optimal solution.

K Grade – Non-Reactive PVDF Binder

Elements are specified for particulate removal where corrosive gases are to be filtered as they have excellent chemical resistance. They are also used when highly reactive gases are being analyzed since they exhibit very low levels of adsorption. The borosilicate microfiber provides relatively high flow rates with low pressure drops which is critical in any analytical application. The PVDF binder creates a non-reactive surface which allows accurate sample analysis.

[Typically Used with Our SS, PTFE & Kynar Sample Conditioning Products.](#)

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with PVDF Fluorocarbon Resin Binder
Type of Application:	Particulate Analytical, Emission Testing, Sample conditioning
Maximum Temperature:	300°F
Appearance:	Off White Toasted Color
Flow Direction:	Typically Outside to Inside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
30K	40K	50K	60K	70K	80K

Our 70K is the recommended standard grade element that provides good particulate efficiency with high flow rates and long element life.

K Grade elements can be used for Selective Catalytic Reduction (SCR). By processing these elements in a special Acid Wash (AW) the elements can capture the excess ammonia that is introduced into the emission stream. This scrubbing is done by a chemical bond between the ammonia (NH₃) and the acid washed (Phosphoric) filter elements, thus protecting sensitive equipment.

FILTER ELEMENT GUIDE

S Grade – High Temperature Silica Inorganic Resin

S Grade elements are completely inorganic and specifically designed to be used in automotive and diesel particulate filter applications where sampling is above 300°F (150°C). These elements have the ability to function up to 900°F (480°C). [Typically Used with Our SS Sample Conditioning Filters and H Series Heatable Housings.](#)

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with Silica Inorganic Resin Binder
Type of Application:	Emissions / Stack Gas
Maximum Temperature:	900°F
Appearance:	White in Color
Flow Direction:	Typically Outside to Inside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
30S	40S	50S	60S	70S	80S

Our 70S is the recommended standard grade element that provides good particulate efficiency with high flow rates and long element life.

S Grade elements can be used for Selective Catalytic Reduction (SCR). By processing these elements in a special Acid Wash (AW) the elements can capture the excess ammonia that is introduced into the emission stream. This scrubbing is done by a chemical bond between the ammonia (NH₃) and the acid washed (Phosphoric) filter elements, thus protecting sensitive equipment.

ET Grade – PVDF Proprietary for Automotive Emission Testing

These elements are hydrocarbon-free filters developed to remove particulate for automotive/diesel emission testing up to 400°F.

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with PVDF Proprietary
Type of Application:	Automotive Emission Testing
Maximum Temperature:	400°F
Appearance:	Off-White Toasted Color
Flow Direction:	Typically Outside to Inside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
30ET	40ET	50ET	60ET	70ET	80ET

Our 70ET is the recommended standard grade element that provides good particulate efficiency with high flow rates and long element life.

FILTER ELEMENT GUIDE

RPT Grade – Hydrocarbon Free Emission Test Filters

RPT Grade elements are constructed of a proprietary blend of microfiber glass and resin binders which virtually eliminate initial hydrocarbon content. This feature provides fast initial response times for emission analysis. These elements have the ability to function up to 650°F (342°C).

Typically Used with Our [SS Sample Conditioning Filters](#) and [H Series Heatable Housings](#).

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with proprietary resin blend
Type of Application:	Automotive/Diesel Emissions
Maximum Temperature:	650°F
Appearance:	White in Color
Flow Direction:	Typically Outside to Inside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.99999%	+99.99%	+99.5%	+95%	+75%
N/A	N/A	50RPT	60RPT	70RPT	N/A

Our 70RPT is the recommended standard grade element that provides good particulate efficiency with high flow rates and long element life.

S21-R Grade – Diesel Emissions with Heavy Particulate

The **S21-R Type** elements are constructed with a loose inner layer designed to provide more surface area thus capturing diesel particles without blinding off the element. The final stage of filtration is accomplished by the outside layer of the element.

Typically Used with Our [H Series Tie Rod Heatable Housings](#).

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with Silica Inorganic Resin Binder
Type of Application:	Heavy Diesel Emissions
Maximum Temperature:	900°F
Appearance:	White in Color
Flow Direction:	Inside to Outside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.99999%	+99.99%	+99.5%	+95%	+75%
N/A	N/A	50S21-R	60S21-R	70S21-R	80S21-R

Our 70S21-R is the recommended standard grade element that provides good particulate efficiency with high flow rates and long element life.

FILTER ELEMENT GUIDE

R Grade – Heavy Particulate Filtration

Elements are designed for heavy loading particulate filtration. They are typically used in remote compressed gas service since they are able to handle a higher differential pressure than other disposable elements. These elements are constructed of wrapped rayon fibers with a phenolic resin binder.

[Typically Used in Extreme Particulate Service.](#)

TECHNICAL INFORMATION	
Materials of Construction:	Rayon/Phenolic
Type of Application:	High Differential Particulate
Maximum Temperature:	250°F
Appearance:	Brown in Color
Flow Direction:	Outside to Inside



Efficiency at 0.3 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
N/A	N/A	N/A	N/A	R	N/A

Standard Grade – OEM Particulate Filtration

These elements are suitable for all particulate removal applications in non-corrosive gases. These are the most economical particulate filters we offer and are typically utilized in OEM applications.

[Typically Used in OEM Applications.](#)

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with Epoxy Ester Resin
Type of Application:	Particulate Only
Maximum Temperature:	300°F
Appearance:	Light Manilla Color
Flow Direction:	Outside to Inside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95%	+75%
30	40	50	60	70	80

Our 70 is the recommended standard grade element that provides good particulate efficiency with high flow rates and long element life.

FILTER ELEMENT GUIDE

L Grade – Sterile Air

These elements are bonded with a hydrophobic binder making them ideal for use where steam sterilization is required. The silicone binder prevents the pores from being filled with condensate, which can encourage bacterial growth. Maximum recommended steam pressure is 60 PSIG.

TECHNICAL INFORMATION	
Binder Type:	Borosilicate Microfiber Glass with Silicone Resin
Type of Application:	Sterile Air Applications
Maximum Temperature:	300°F
Appearance:	White in Color
Flow Direction:	Outside to Inside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95% *	+75%
N/A	40L	N/A	N/A	N/A	N/A

In air applications the 40L element must be protected by two coalescing (70C and 50C) pre-filters, which remove solids, and any liquids within the system. The 40L element remains dry. The 40L element can be independently steam sterilized in an air system to discourage bacterial growth.

STEAM ELEMENTS

We offer two basic types of Steam Elements; Disposable Coalescing Borosilicate Microfiber and Five-Layered Stainless Steel elements for particulate and bulk liquid removal. Both types of elements are available in sizes to fit OEM steam sterilizer filter systems. It is important to have a condensate drain to immediately evacuate any collective liquids.

Disposable Steam Elements – Grade ZZ

Our 51-460-70ZZ OEM retro-fit steam elements are constructed of 100% borosilicate microfiber providing up to 95% efficiency against 0.01 microns. We utilize a PVDF binder which allows the element to function at temperatures up to 300°F (150°C). It is important to note that the 70ZZ elements should be changed-out every six weeks, and that solid particles will shorten their service life by reducing surface area which is needed to remove liquid droplets. A condensate drain is a mandatory accessory on a steam filter, ensuring immediate liquid removal. Every application is unique and must be monitored to ensure proper change out frequency. The particles will also increase the pressure drop, which can lead to element rupture. For added security, the element can be caged with inner and outer stainless steel support cores designated by a suffix of "X3".

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass with PVDF Resin Binder
Type of Application:	Sterile Air Applications
Maximum Temperature:	300°F
Appearance:	White in Color
Flow Direction:	Inside to Outside



Efficiency at 0.01 microns. Suffix Grade designation:					
99.99998%	99.9999%	+99.99%	+99.5%	+95% *	+75%
N/A	N/A	N/A	N/A	70ZZ	N/A

FILTER ELEMENT GUIDE

Five-Layer Stainless Steel for Steam Filtration

Stainless Steel elements are ideal for removing particulate from steam and can be used as a bulk liquid knockout. The elements' five layers act as a coarse "coalescing" filter. We recommend the 3 micron as a good starting point for steam filtration and our SS-51-460-03T element retro fits into OEM housings.

TECHNICAL INFORMATION

Material of Construction:	Five Layer 316L Stainless Steel with PTFE
Type of Application:	Steam
Maximum Temperature:	1000°F (without seals)
Appearance:	316L Stainless Steel
Flow Direction:	Both
Micron Sizes:	01, 03, 10, 25, 50, 100, and 200



The 3 micron is recommended for removal of pipe scale from steam. The SS Elements are environmentally friendly because they are durable and non-absorbent, they can be backwashed, cleaned and reused, thus eliminating a major disposal headache.

Membrane Separator

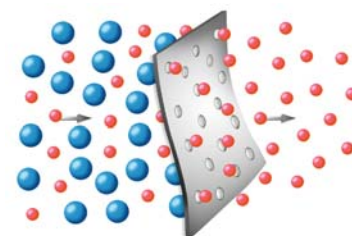
The ultimate filter for removing liquids is a PTFE based membrane. These membranes allow gases to pass while blocking larger liquid molecules. We offer a comprehensive line of membrane separator holders that are used to protect analyzers. We recommend that a coalescing filter be installed upstream of a membrane to protect it from particulates and flooding.

Guardian Membrane Filters

For absolute liquid removal in extremely low flow applications we recommend our Guardian Membrane Separators. These units are designed for critical point-of-use service. The actual membrane is a flat disc that is sandwiched between two plates. The gas flow permeates the membrane while liquid is blocked and runs off into a drain. Our membranes are interchangeable with other proprietary brands.

TECHNICAL INFORMATION

Material of Construction:	PTFE Membrane
Type of Application:	Analyzer Protection
Maximum Temperature:	300°F
Appearance:	White Disc
Maximum Flow Rate:	18 LPM
Micron Sizes:	0.1 Absolute (Low Flow) & 0.8 Absolute (High Flow)



PTFE Membranes are solely utilized in our GMS Series of Filters. We do not offer sizes to fit our complete filter housing range. Maximum flow rate on our largest membrane is 18 LPM.

FILTER ELEMENT GUIDE

VAPOR ADSORPTION CARTRIDGES

Vapor Adsorption Cartridges are designed to selectively remove vapors from air and other gases by passing the stream through a bed of adsorbent granules. The most common applications are activated carbon (CC) for hydrocarbon removal and silica gel (SG) for water vapor removal. These are considered polishing or final trace filters and are typically only specified in the most critical applications.

Adsorption Elements

Vapor Adsorption cartridges come in two basic formats both utilizing a high efficiency borosilicate microfiber disposable element which will capture any adsorbent material thus protecting the downstream system. It is important to protect the adsorption cartridge with pre-filters so that the granules have full contact with the vapors that need to be extracted. Contact time is also critical so that the flow rate should be minimal.

TECHNICAL INFORMATION	
Materials of Construction:	Borosilicate Microfiber Glass Element with Black Nylon End Caps
Type of Application:	Vapor Adsorption
Maximum Temperature:	212°F
Appearance:	Black Nylon End Caps with a White Outer Element
Flow Direction:	Both



Adsorption Cartridges are designed to fit all standard size housings. Our Stainless Steel housings accept cartridges designated with the suffix "TS" (i.e. 25-64-CC-TS) and our Aluminum and Plastic series accept cartridges designated with the prefix "TRE" (i.e. TRE25-64-CC).

Adsorbent	Code	Principles
Activated Carbon	CC*	Adsorption of hydrocarbons and other organic vapors Zero Air Calibration
Silica Gel	SG	Adsorption of water vapor
Drierite™ - Anhydrous Calcium Sulfate	DR	Adsorption of water vapor
Molecular Sieve 4A	4A	Adsorption of CO ₂ , NH ₃ , H ₂ S, SO _x
Molecular Sieve 13X	13X	Adsorption of CO ₂ , NH ₃ , H ₂ S, SO _x , aromatics, amines
Mixed Bases	MB	Removal of acidic gases, CO ₂ , SO _x , NO _x , HCl
Potassium Permanganate	PP	Removal of SO _x , Hg, and other acidic gases
Hopcalite	HO	Removal of CO by catalytic oxidation to CO ₂
Sodium Bicarbonate	SB	Acid Neutralizer
Copper Sulfate	CS	Removal of ammonia

We also offer Adsorption Dryer Housings (ADS) and Adsorption Columns (IACH & IAAH) which are essentially vessels packed with loose refillable adsorbent. Since there is much greater volume of media within the vessel these are specified for systems with high flow rates.

FILTER ELEMENT GUIDE

LIQUID ELEMENTS

Liquid filter elements are designed to capture particles in a liquid stream. We offer two basic types of filters; melt blown depth filters and pleated. Polyspun (melt blown) filters are an economical solution for non-critical and basic applications. Our pleated line of elements encompasses polypropylene, stainless steel, and microfiber glass. These three options allow UFS to provide a variety of efficiencies and service life across a full spectrum of applications. Which include but are not limited to fuel, chemical processing, pharmaceutical, and resins.

Our liquid elements are manufactured to industry standards allowing them to fit in other proprietary filter housings, as well as our Onstream SLH series of assemblies. All liquid elements are designed for standard sizes (2.50" OD). Available in lengths of 4.875", 9.75", 19.875", & 29.875".

Spun Polypropylene – Liquid Applications

Our Polyspun filter cartridges are nominally rated 100% pure polypropylene filters. A high performance process, using very fine diameter fibers, which build up producing spun bonded layers, give the filter its depth. This process results in an element with excellent pore size consistency and very high void volumes. The outer layers contain different graded pore sizes, which act as pre-filtration by removing larger particles from the stream, leaving smaller particles to be trapped by the fine fibers of the inner layer.

TECHNICAL INFORMATION	
Materials of Construction:	Spun Polypropylene
Type of Application:	Remove Particles from Liquid Stream
Maximum Temperature:	160°F
Appearance:	White Polypropylene Microfiber
Flow Direction:	Outside to Inside
Micron Sizes:	01, 05, 10, 25, 50, 75, 100, 150



The use of very fine fibers – typically between 1 and 5 micron – creates many more pores than is possible with large fiber which results in open volumes in excess of 65% which in turn provides longer service life.

Pleated Polypropylene – Liquid Applications

Elements are suitable for all particulate removal applications in non-corrosive gases and liquids. The coarsest grade that will adequately protect the application should be chosen, as this will result in the most economical solution to the contamination problem.

TECHNICAL INFORMATION	
Materials of Construction:	Polypropylene, EPDM
Type of Application:	Remove Particles from Liquid Stream
Maximum Temperature:	180°F
Appearance:	White Pleated Polypropylene with Polypropylene Cage, Black EPDM Seals
Flow Direction:	Outside to Inside
Micron Sizes:	01, 10, 25, 50, 75



Micron sizes available are 01, 10, 25, 50 and 75.

FILTER ELEMENT GUIDE

Pleated Stainless Steel – Liquid Applications

Pleated stainless steel elements provide excellent strength, and are ideal for a variety of demanding applications where disposable elements have specific limitations. They fit our Onstream SLH housings and other proprietary brands.

TECHNICAL INFORMATION	
Materials of Construction:	304 Stainless Steel, Viton
Type of Application:	Remove Particles from Liquid Stream
Maximum Temperature:	400°F
Appearance:	Pleated SS Mesh with Brown Viton Seals
Flow Direction:	Outside to Inside
Micron Sizes:	5, 10, 25, 50, 75, 100, 150, 200 *Other Microns Available-Special Order



LIQUID ELEMENTS FOR STANDARD UFS / HEADLINE PRODUCTS

Liquid filter elements are designed to capture particles in a liquid stream. We offer two basic types of filters that fit our standard UFS/Headline filter housings with tie rods; Five-Layer Stainless Steel Mesh and Pleated MicroGlass elements. These two options allow UFS to provide a variety of efficiencies and service life across a full spectrum of critical applications. By utilizing a double opened ended filter element we have the ability to install these two types of elements into our standard range which allow us to provide solutions in all sorts of environments even at high temperatures and pressures up to 10,000 psig.

Five-Layer Stainless Steel

Stainless Steel elements are recommended for filtration of heavily contaminated liquids, polymers, and steam, since they are re-cleanable by back-flushing or ultrasonic cleaning. The elements consist of five layers of precision-woven 316L stainless steel mesh formed into cylinders and sintered together.

TECHNICAL INFORMATION	
Material of Construction:	Five Layer 316L Stainless Steel with PTFE or Viton End Seals (Pictured with PTFE)
Type of Application:	Sample Conditioning, Fast Loop, Steam, and Liquid
Maximum Temperature:	1000°F (without seals)
Appearance:	316L Stainless Steel
Flow Direction:	Both
Micron Sizes:	01, 03, 10, 25, 50, 100, and 200



We offer seven standard grades of filtration, which fit our Headline Filters line of housings, as well as other proprietary brands. Micron Sizes: 0.5, 1, 3, 10, 25, 50, 100, 200. Grade 25 (25 micron) is widely used to protect pumps and valves while grade 03 (3 micron) is recommended for removal of pipe scale from steam. The SS Elements are environmentally friendly because they are durable and non-absorbent, they can be backwashed, cleaned and reused, thus eliminating a major disposal headache.

FILTER ELEMENT GUIDE

Sintered Polyethylene (PEL) - Particle Removal in Liquid

Slight pressure will force liquid through the element while at the same time repelling any dirt "particulate" which is encapsulated in the water. The element uses two filtration techniques, surface area and depth. Typical flow direction is out to in, since dirt is visible on the outside surface area and the outer diameter is larger for increased surface filtration. The elements may be back flushed in place, or cleaned ultrasonically, however their low cost makes it economical to dispose of.

TECHNICAL INFORMATION

Material of Construction:	Virgin Polyethylene
Type of Application:	Particle Filtration in Liquid
Maximum Temperature:	212°F
Appearance:	Bright White
Flow Direction:	Either Direction
Micron Sizes:	10, 25, 75, & 100



PEL filter elements are constructed from virgin polyethylene (H.D.P.E.). The material is in powdered/granular form and then compressed into a sintered tube. This process allows the filter element to be free from foreign binders. Thus, the only compatibility issue is with polyethylene. No end caps or gaskets are necessary to seal the element into place. Axial compression is used to create a seal on the flat surface of the element. The PEL elements are naturally hydrophobic.

Pleated MicroGlass – Liquid Applications

These elements are specifically designed to be used in our 150/160 high pressure filter housings where high flow rates and high efficiency filtration is required. The inner spiral wound 304 Stainless Steel support core and reinforced pleats provide high flows along with added durability.

TECHNICAL INFORMATION

Materials of Construction:	Pleated Glass Microfiber Epoxy Coated Steel Reinforced Screen Inner 304 Stainless Steel Support Core PVC End Caps, Viton O-Rings
Type of Application:	Remove Particles from Liquid Stream
Maximum Temperature:	140°F
Appearance:	Perforated Metal with Black End Caps
Flow Direction:	Outside to Inside
Micron Sizes:	03 , 10 & 25



Micron Sizes Available: 03, 10 & 25