



Coalescing Filter Elements

PRODUCT FEATURES / BENEFITS

- ◆ Completely Disposable
- ◆ High Flow Rates, Low Pressure Drop
- ◆ Custom Sizes Available
- ◆ Minimum of 95+% Efficiency of 0.01 Micron
- ◆ Compressed Air & Gas Service
- ◆ Instrumentation & Analytical Protection
- ◆ Natural Gas (CNG)
- ◆ Natural Gas Vehicle

Our microfiber disposable filter elements are manufactured from precisely controlled blends of borosilicate glass microfibers, produced to rigorous quality standards. The highly uniform microfiber matrix delivers exceptional filtration efficiency while maintaining very low pressure drop. With a void volume exceeding 90%, these elements provide high contaminant holding capacity, quick liquid drainage, and extended service life.

The microfibers are chemically bonded to ensure high mechanical strength, dimensional stability, and resistance to fiber migration or shedding under operating conditions. Multiple binder systems are available, enabling optimization of element construction for specific fluid compatibility, operating temperatures, and environmental conditions. Filter elements are offered across a broad range of nominal and absolute efficiencies, from coarse bulk particulate removal (Grade 80) to near-complete elimination of sub-micron contaminants.

At the core of our coalescing filters is a fully disposable element made entirely from borosilicate glass microfiber. The coalescing elements feature a two-layer structure: an inner particle capture layer and an outer drainage layer. Captured liquid droplets remain mobile within the fine-pored capture layer, migrating along the intersecting microfibers and growing in size as they progress. These coalesced droplets are then transferred to the large-pored drainage layer, from which they drain by gravity into the filter bowl.

The coalescing elements are completely self-supporting and are installed in the filter housing simply by tightening a retaining nut. No end caps, gaskets, or support cores are required. The elements are designed for an initial dry pressure drop of less than 2 psi. During operation, the pressure drop increases gradually as solid particles are captured within the media. We recommend replacing the element when the differential pressure reaches 10 psi.

Coalescing elements must always operate with flow from the inside to the outside of the element to ensure proper liquid drainage. These elements also simultaneously collect solid particulates, which will shorten element life.



C Grade - Coalescing (Oil and Water Removal)

The C-Type element is specifically designed to remove liquid aerosols and particulates from gases in both corrosive and non-corrosive applications. It is constructed of two layers of borosilicate microfiber. The inner layer consists of very fine, densely packed fibers that capture microscopic aerosols. The outer layer is made of slightly larger fibers, allowing the captured liquids to migrate through the depth of the media and drain from the filter element. This two-layer construction is critical to effective coalescing, and borosilicate microfiber is ideally suited for this function.

This element has an off-white, toasted appearance due to the fluorocarbon resin binder. This coloration is normal and does not affect element performance.

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

The 70-grade elements are formulated to provide 95% efficiency at 0.01 microns while maintaining a low pressure drop. For best overall performance, we recommend starting with this grade of element.

CS Grade – Heavy Coalescing

These elements are designed for heavy coalescing applications, including CNG and vacuum pump exhaust service. They are rated for continuous operation up to 900°F and provide excellent performance in demanding coalescing conditions. The elements are constructed to mimic the performance of the C-grade media, utilizing a silica binder in place of a PVDF binder.

They are typically used with our 3/4" NPT filter housings and larger.

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

The 70-grade elements are formulated to provide 95% efficiency at 0.01 microns while maintaining a low pressure drop. For best overall performance, we recommend starting with this grade of element.

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

Specialty Options for Coalescing Elements

We offer several options for our coalescing elements designed to fit within existing CS Grade elements, including interior and exterior support cages as well as a pleated element insert. These features enhance element strength and durability where additional protection is required for demanding coalescing applications.

We also offer a high pressure coalescing element that incorporates an epoxy resin binder to further strengthen the element for applications involving high pressure or heavy contaminants.

For additional support or application assistance, please contact us at 1-800-311-5561 or sales@unitedfiltration.com.

EC Grade – Coalescing with High Differential Pressure

Elements are designed for high pressure coalescing or systems with high differential pressure caused by valve operations. These elements consist of two layers of borosilicate microfiber glass with a two-stage epoxy resin binder for added strength. For heavy liquid coalescing service, we recommend the CS grade.

Please consult the factory regarding our EC Elements. 1-800-311-5561 or sales@unitedfiltration.com

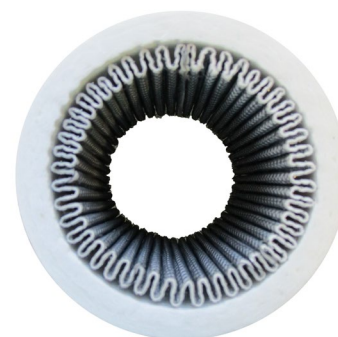


Dual Pleated Coalescing Series

Our DPCS 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. However, we do have the ability to assemble this configuration in the 25mm and 38mm elements.

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	50DPCS	60DPCS	70DPCS	N/A

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

X1 Type – Exterior Cage for CS Elements

For Added Protection we can encapsulate the CS grade coalescer with an Exterior Cage (designated as X1). These configurations are for Heavy Coalescing in systems with large pressure swings. These stainless-steel supports provide microfiber integrity to minimize fracturing the elements due to system environments.

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%
30CSX1	40CSX1	50CSX1	60CSX1	70CSX1	80CSX1

Our 70CSX1 is the recommended standard grade element that provides good coalescing efficiency with high flow rates and long element life.

X3 Type – Interior & Exterior Cage for CS Elements

For Added Protection we can encapsulate the CS grade coalescer with an Interior and Exterior Cage (designated as X3). These configurations are for Heavy Coalescing in systems with large pressure swings. These stainless-steel supports provide microfiber integrity to minimize fracturing the elements due to system environments.

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.

Ordering Information

All disposable filter elements have a part number arranged with three figures, e.g. 25-64-70C. The first figure refers to the inside diameter, the second figure refers to the overall length and the third position refers to the grade designation. Replace the 'XX' in the part numbers with the grade designation. Please enquire with specific requirements.

Grades Available:

30 (99.99998%); 40 (99.9999%); 50 (+99.99%); 60 (+99.5%); 70 (+95%); and 80 (+75%)

Example Part Number: 25-178-70C

Standard Sizes Offered Per Grade / Type

Size	C Grade	CS Grade	EC Grade	X1 Type	X3 Type	Dual Pleated
12-25-xx	YES	YES	-	-	-	-
12-32-xx	YES	YES	YES	-	-	-
12-57-xx	YES	YES	YES	YES	-	-
12-83-xx	YES	YES	YES	-	-	-
25-51-xx	YES	YES	YES	YES	YES	YES
25-64-xx	YES	YES	YES	YES	YES	YES
25-127-xx	YES	YES	YES	YES	YES	YES
25-178-xx	YES	YES	YES	YES	YES	YES
38-58-xx	YES	YES	-	-	-	-
38-152-xx	YES	YES	YES	YES	YES	YES
51-89-xx	YES	YES	-	YES	YES	-
51-230-xx	YES	YES	YES	YES	YES	YES
51-476-xx	YES	YES	YES	YES	YES	YES
63-762-xx	YES	YES	YES	YES	YES	-

We are able to produce elements with the inner diameters from 0.27" (7mm) to 3.94" (100mm), and lengths from 0.394" (10mm) to 39.4" (1000mm).