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## LIQUID

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### Icon Guide



**Material(s)**  
*For filter elements this is describing the filter media.*



**Certificate(s)**  
*FDA or PED? You find any certificate here.*



**Flow**  
*Recommended max. flow unless otherwise described.*



**Surface Roughness**  
*The roughness of the filter housing surface. Described in  $\mu\text{m}$ .*



**Dimensions**  
*For filter elements this describes the length.*



**Filtration Rate**  
*The micron rating of the filter element.*



**Inlet/Outlet Connection**  
*Refer to the table if the filterhousing has various connection sizes.*



**Diameter**  
*The cartridge diameter of filter elements.*



**Effectivity**  
*Describes the retention of particles equal to the micron rating.*



**End Cap**  
*See guides for overview of end caps.*



**Pressure**  
*Recommended max. pressure unless otherwise described.*



**Differential Pressure**  
*Recommended max. diff. pressure unless otherwise described.*



**O-ring Material**  
*Describes the standard o-ring. We can supply different materials.*



**Temperature**  
*Recommended max. temperature unless otherwise described.*



**Dew Point**  
*Describes the achievable dew points.*





*Ultrafilter Scandinavia offers a wide selection of filtration products for compressed air, liquids and gas. We have stock in Denmark and from here we distribute all of our products to Scandinavia and the Baltic countries.*

Ultrafilter Scandinavia is a part of the Ultrafilter Group. Production is in Germany and we have several subsidiaries in Europe and the United States.

In all countries, you can buy our products on local websites. Information about our products as well as brochures and manuals can be found on our website. We can adapt all of our filtration products to your needs, and we offer visits from our consultants in order to find the right solution for you. We also offer on going service on our products once they are installed.

We have many different kinds of compressed air filters that are compatible with compressed air systems of all brands. We also offer compressed air dryers, adsorption and membrane dryers in addition to auto drain compressors, compressed air tanks and oil-water separators. Additionally, we have a sterile compressed air filter for food and beverage applications.

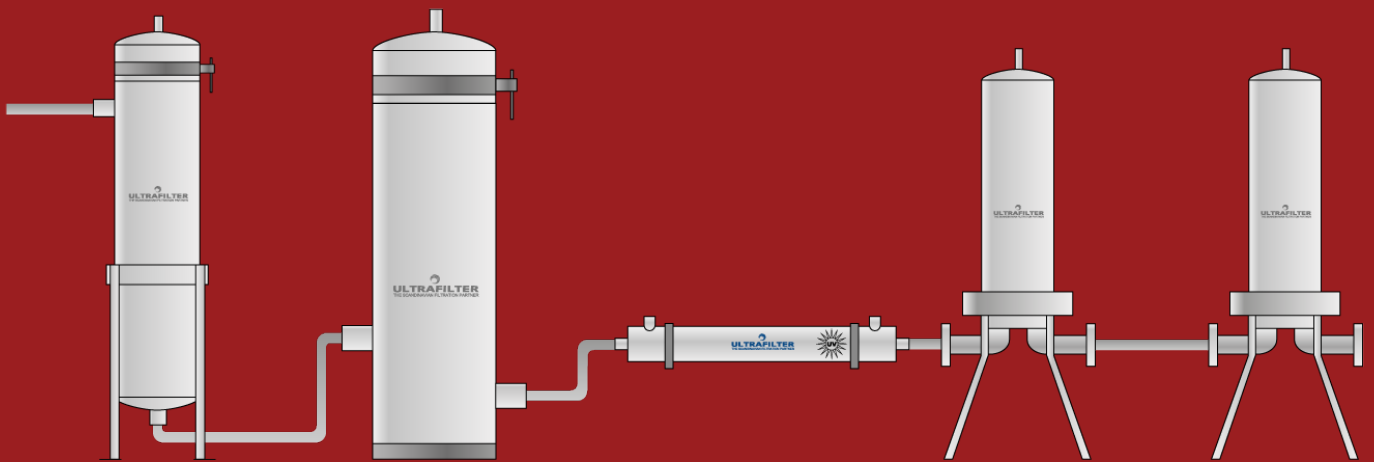
We offer all kinds of filters for liquids such as bag filters, absolute filters and membrane filters, with industrial applications, such as coolant. We have a great deal of experience with filter solutions for the food and beverage industry, and our products are approved by EC 1935/2004 as well as FDA. We also have filters for drinking water.

We have one of the best generators for manufacturing nitrogen and oxygen and for filtering all kinds of gas like methane and bio gas.

**Ultrafilter design and manufacture components and systems for the purification of compressed air, technical gases and liquids.**









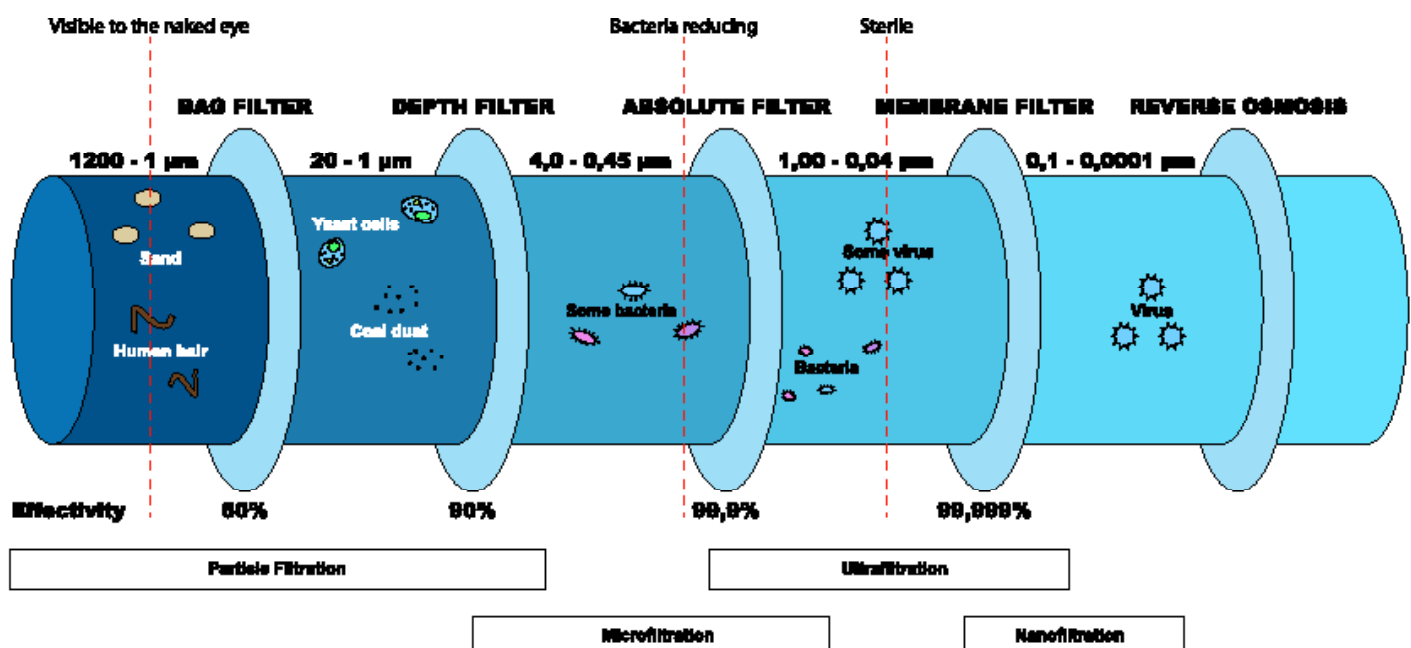
Ultrafilter Skandinavien offers a wide range of high quality, cost effective filters for all stages of the purification or clarification process, that feature the latest developments in everything from bag filters to membrane technology.

We offer a comprehensive range of polymeric disposable filters and high quality stainless steel filters for use as prefilters, general filtration and sub-micron membrane filters. These are suitable for use in new installations and as replacement cartridges in existing systems including.

You will find we have a complete selection of industrial, food-grade or pharmaceutical filters to best meet your exact needs. Our products are fully validated and technically supported by our filtration consultants.

## Our range of applications include, but is not limited to:

- Dairies
- Breweries
- Parts washing
- Water plants
- Coolant water
- Soft drinks production
- Chemical processing
- Food processing
- Bottling
- Mineral water
- Cosmetics & toiletries
- Electronics grade chemicals
- Plastics manufacturing
- Paints manufacturing
- Analytical laboratories
- Diagnostics processes
- Pharmaceutical & medical





# FILTRATION IN FOOD & BEVERAGES

Our primary media are polymeric or stainless-steel filters, which are manufactured from FDA-approved media under clean room conditions to meet the latest EC Directives for Food Contact. All our sterile grade membrane filter cartridges are 100% integrity tested during production. We offer connections for most filters to easily retrofit into new or existing filter housings from our own range or competitors.

Our certification includes EC 1935/2004, EN 10/2011, FDA by CFR article 21 and several more available upon request. Our products are verified in laboratories set to meet or exceed European standards, as well as the FDA rules and regulations.

The Pioneers of liquid filtration, the food and beverages industry, have long held high demands for sterile filters, pre-filters and even process water filtration, to reduce the risk of any contamination of product or employees, and with standardization of the requirements, the demands have not gotten any less specific or easier to meet, but our product range have been designed to fit your highest expectation, from our high capacity filter bags, to the highest efficiency membrane filters.

**We have a wide range of applications in many food and beverage segments, including:**

## Dairies & food processing

- Water filtration
- Pre-filtration of product
- Bio burden reduction
- Tanker transfer filtration
- Bottle rinsing

## Breweries & distilleries

- Liquor filtration
- Trap filtration of PVPP or DE powder
- Final filtration & stabilization
- Tanker transfer filtration



## Soft drinks & mineral water

- Raw water filtration
- Sugar Syrup clarification
- Final filtration & stabilization
- Tanker transfer filtration

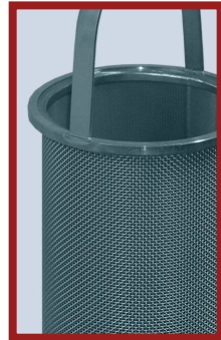
## Other

- Cryptosporidium removal
- Wine bottling









*See also process air segment for gas, steam and sterile air filtration*

# MESH BASKET FILTER HIGH FLOW

SF



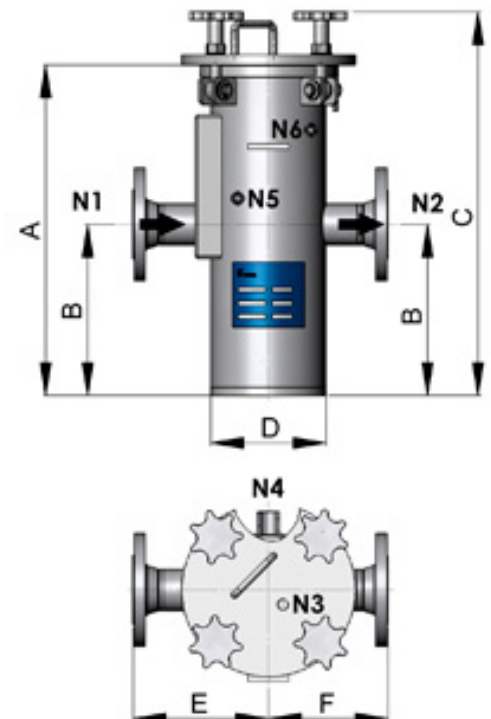
## Technical Data

-  Stainless steel 304
-  18-260 m³/h
-  10 bar
-  50, 100, 150, 200, 250, 300, 500, 1000
-  -10 to +80°C
-  FPM (others on request)
-  

High flow filtration tasks doesn't always require specially pleated elements, and for some, the capacity of bag filters are not enough. This is where an in-line mesh filter housing SF-IL excels, as the sturdy 304 stainless steel filter housing, is supplied with a stainless steel mesh filter basket, that may be removed for cleaning and reuse. The filter housing is constructed with inlet and outlet opposite, to allow in-line installation.

From 66 liters per minute and a DN25 flange connection, all the way up to 4.650 liters per minute and a DN200 flange. This filter takes care of a long range of filtration tasks, with large amounts of particles or a very high flow. The design of this filter housing allows easy access through the top lid, and to the mesh filter basket.

The basket is designed to hold large amounts of dirt or particles, and may be cleaned for continuous use. This combination of a metal surface filter, with the dirt holding capacity of filter bags, allow for a longer use than most other high flow filters. The filter comes in a standard range of filtration degrees from 50µm to 1000µm, and the mesh filter has a double layer, to assure the efficiency of the filtration.



SF-IL	Flow rate m³/h	Connection in/out	Filter area m²	Dimensions (mm)					
				A	B	C	D	E	F
SF 004	4	DN25	~0,02	233	91	283	Ø88,9	95	117
SF 018	18	DN50	~0,11	233	104	283	Ø88,9	95	117
SF 027	27	DN65	~0,11	480	250	560	Ø168	198	175
SF 040	40	DN80	~0,22	615	300	690	Ø219	225	225
SF 065	65	DN100	~0,22	615	300	690	Ø219	225	225
SF 150	150	DN150	~0,31	800	450	880	Ø273	295	275
SF 260	260	DN200	~0,83	1113	700	1207	Ø406	429	305


Data based on a differential pressure of 0,2 bar. May be subject to change.




# MESH BASKET FILTER TANK WAGON


TW


## Technical Data

 Stainless steel 304 / 316

 Up to 70 m³/h

 10 bar

 100, 200, 250, 500, 1000

 -10 to +80°C

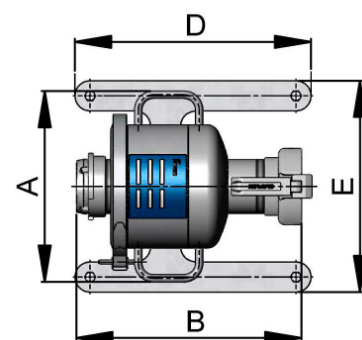
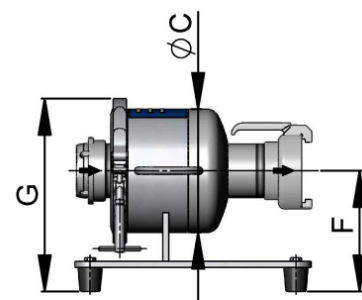
 FPM (others on request)



The tanker wagon filter series TW are compact cylindrical housings with a flat lid.

The lid is closed by a quick closure, which ensures a very rapid disassembly of the screen basket without tools. The inlet and outlet is equipped with a connection coupling.

This allows a easy expansion of a tanker hose or a container tank with a safety filter. The tank wagon filter series TW are equipped with and without foot. On request the filter can be supplied with a differential pressure gauge, which can optionally be equipped with an electrical contact.



Dimensions	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
TW 50	316	365*	ø204	390	350	200	320
TW 80	316	372	ø204	390	350	200	320
TW 100	316	389	ø204	390	350	200	320

Subject to technical alterations.














# BAG FILTERS

## Ultra-Bag PP / PE / NMO



### Technical Data

-  Polypropylene, Polyester or Nylon
-  1 to 1200  $\mu$ m
-  80%
-  18cm or 10cm
-  25 - 85 cm
-  PP: 82°C. PE: 120°C. NMO: 90°C
-   

### Features & Benefits

Top ring of polypropylene, polymer or stainless steel.

The filter bags distinguish themselves by high flow capability and dirt holding capacity. They come in a broad selection of filtration degrees from 1 to 200 micron in polypropylene and the high temperature polyester bags. We also carry Nylon bags for rough filtrations up to 1200 microns. Less than 30% particles can pass through a bag filter of the same filtration degree.

All bags are available as FDA and EC certified version with polypropylene fixture, as well as with a steel ring fixture version for industrial applications.

Polypropylene and polyester bags utilize the depth filtration technique, trapping various particles and oil remnants in the fibers of the material, however the nylon material is a mesh filter bag, meaning it's a surface filtration, often used for more viscous liquids or coarser filtration degrees.

### Size 1

Length: 45cm  
Diameter: 18cm

### Size 2

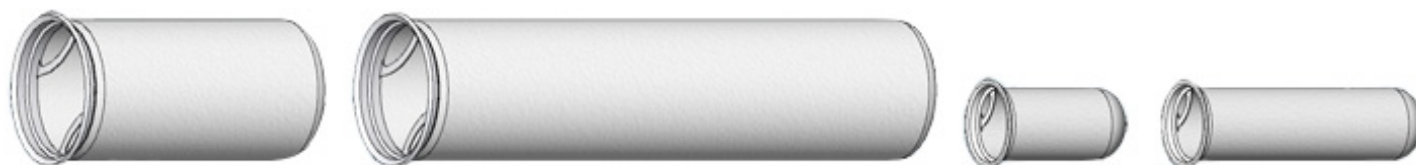
Length: 85cm  
Diameter: 18cm

### Size 3

Length: 25cm  
Diameter: 10cm

### Size 4

Length: 40cm  
Diameter: 10cm



Model	Ultra-Bag PP	Ultra-Bag PE	Ultra-Bag NMO
Filtration rates	1 $\mu$ m to 200 $\mu$ m	1 $\mu$ m to 200 $\mu$ m	25 $\mu$ m to 1200 $\mu$ m
Material	Polypropylene	Polyester	Nylon monofilament
Maximum operating temperature	82°C	120°C	90°C

### Applications







Food & Beverages	•	•	•
High viscosity			•
Process Water	•	•	•
- Over 80°C		•	•



# BAG FILTER HOUSINGS

BFS / BFP

## Technical Data

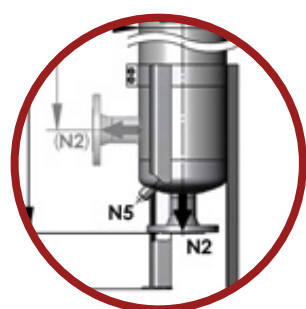
-  Stainless steel or Polypropylene
-  380-1200 l/min
-  PP: 82°C. PE: 120°C. NMO: 90°C
-  FPM (others available)
-  



The first filter of a production line is often the least clean, and has the highest flow. For this purpose, we recommend using a bag filter, as the high dirt holding capacity, as well as the high default flow rate makes it the optimal solution for many pre-filtrations, wastewater filtrations and also some cooling liquid lines. Bag filters come in 4 different sizes, from 100 liter/minute to roughly 680 liter/minute, and may be used for as fine filtrations as 1 micron.

Our filter housings are constructed in stainless steel, most with a heavy bolt-lid. Our filter housings for bags have a specially fixed steel accessory to hold down the bag, using the fixture of the filter housings lid, to prevent any bypass past the filter bags.

## OPTIONS



Bottom or side  
Outlet



Double  
Version



Duplex  
Version



Top Inlet  
Version

Model	Flow l/min	Material	Connection in/out	Bag size	Max. Pressure	Max. Temperature
BFS 3	100	304 / 316	1 1/2"	3	10 bar	80°C
BFS 4	150	304 / 316	1 1/2"	4	10 bar	80°C
BFS 1	380	304 / 316	2" / DN50	1	10 bar	80°C
BFP 1	380	Polypropylene	DN32 to DN80	1	6 or 10 bar	60°C
BFS 2	680	304 / 316	2" / DN50 / DN80	2	10 bar	80°C
BFP 2	680	Polypropylene	DN32 to DN100	2	6 or 10 bar	60°C
BFS 2 Double	1300	394 / 316	DN80 / DN100	2	10 bar	80°C

# STAINLESS STEEL MESH FILTER

P-SMp



## Technical Data

	Pleated Steel Mesh
	1 - 840 µm
	99,90%
	Start-up: 0,15 bar.
	60°C
	5" 10" 20" 30" 40"
	DOE, Code 7, Code Y (UF) or Code 3
	EPDM (others available)

## Materials of Manufacture

316L stainless steel standard. 304L stainless steel.

## Cartridge Dimensions (Nominal)

Diameter\*: 2.6" (66mm) standard

Length\*: 05: 5" (125mm)

10: 10" (250mm)

20: 20" (498mm)

30: 30" (745mm)

40: 40" (1012mm)

\* Other diameters and non-standard lengths available on request.

## Effective Filtration Area

1.40ft<sup>2</sup> (0.13m<sup>2</sup>) per 10" (250mm) cartridge.

## Gaskets and O-Rings

EPDM as standard. Nitrile, PFTE, Silicone, Viton® and PFTE coated

Viton® available on request or by process selection.

## Maximum Differential Pressure

Normal flow direction: 367psi (25bar)

Reverse flow direction: 44psi (3.0bar)

## Operating Temperature

Maximum continuous: up to 644°F (340°C) seal limiting  
up to 1832°F (1000°C) alloy limiting

Micron Rating	Liquids Rating (µm)		Gas Rating (µm)
	98,00% Retention	99,90% Retention	99,90% Retention
0003	3 µm	10 µm	2 µm
0005	5 µm	18 µm	13 µm
0010	10 µm	25 µm	18 µm
0015	15 µm	35 µm	25 µm
0025	25 µm	30 µm	20 µm
0030	30 µm	40 µm	30 µm
0035	35 µm	50 µm	45 µm
0070	70 µm	75 µm	60 µm






# STAINLESS STEEL MESH FILTER

P-SM


## Technical Data

 Cylindrical Steel Mesh

 1 - 840 µm

 99,99%

 60°C

 5" 10" 20" 30" 40"

 DOE, Code 7, Code Y (UF) or Code 3

 EPDM (others available)



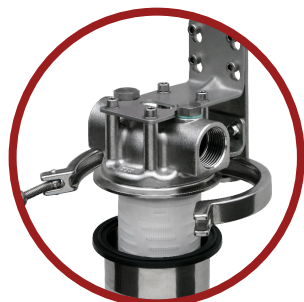
Ultrafilter offers a varied range of stainless steel mesh filters in the P-SM series. This product is produced in 304L stainless steel by default, for the best possible protection and efficiency of your application.

Mesh filter elements have the great advantage they can be regenerated by ultrasonic bath or backwashing the system. After regeneration, the filter will be ready for use again.

P-SM mesh filters are very robust filters, with a temperature tolerance up to 200°C, and differential pressure tolerance of up to 5 bar(g), and with a start up differential pressure of max 0.15 bar (g).

Stainless steel mesh filters are usable in food and beverage applications, and are additionally often used for particle retention in cosmetic, chemical, water treatment and syrup filtration. Many more applications apply.

## RECOMMENDED FILTER HOUSINGS



**SK**  
Industrial



**PF-EG**  
Sanitary








**P-EG**  
Air & Gas

# NOMINAL FILTER CARTRIDGES

Ultra-Depth / Ultra-Wound



## Technical Data

-  Polypropylene, Resin or cotton
-  90%
-  5" 9 1/4" 9 3/4" 10" 19 1/4" 20" 29 1/4" 30" 39" 40"
-  DOE or Code 7 (others available)
- 

The Ultra-Depth filter cartridges are most often melt blown polypropylene or resin bonded filter elements, where the element is constructed porously with filtration pores of differing sizes, down to the innermost layer, which is no larger than the filtration degree of the depth filter cartridge.

Depth filters are most commonly supplied with a double open end, for easy and fast installation and change-out.

Less than 10% particles can pass a depth filter of the same filtration degree.

Model	Ultra-Depth PP	Ultra-Depth RB	Ultra-Wound
Filtrationrates	1 µm to 75 µm	1 µm to 150 µm	1 µm to 150 µm
Material	Polypropylene	Resin	Cotton
Maximum operating temperature	80°C	120°C	120°C
Applications			
Chemicals	•	•	
Water	•		•
Electronics		•	
Food & Beverages	•		
Industrial	•	•	•
Pharmaceuticals	•		



# NOMINAL FILTER CARTRIDGES

Ultra-Depth / Ultra-Wound



## Ultra-Depth PP - General Purpose Nominal Filter

Ultra-Depth PP-TF is a high flow, graded depth filter with high contaminant capacity for long life. Constructed from FDA approved polypropylene with excellent performance characteristics, it is an economic choice for a wide range of applications.

## Ultra-Depth RB - High Chemical Resistance

Ultra-Depth RB is an industrial filter, with a high temperature resistance, as well as a good chemical resistance to paints, inks, adhesives, coolants, pesticides, fertilizer, lube oils and many solvents. The RB filters are not suitable for food applications.



## Ultra-Wound CSS - High Temperatures

The bleached cotton meet the FDA standards and is designed specifically for water and food applications. The core is made of stainless steel, and makes the filter useful in high temperature applications.

## RECOMMENDED FILTER HOUSINGS



SK  
Single



MK  
Multi DOE



ME  
Multi Code 7



AQ2  
Plastic

# ABSOLUTE FILTER CARTRIDGES



## Technical Data

- Polypropylene or Glass Fibre
- 99,98%
- 5" 10" 20" 30" 40"
- Code 7 or DOE (others available)
- EPDM (others available)
- 

Ultra-Pleat cartridges are suitable for absolute removal of unwanted particulates and for prefiltration to membrane filters.

The Ultra-Pleat filter cartridges is a surface filter with an efficiency of 99,98%. Often the final filters of industrial and even food and beverage productions, absolute filters use surface filtration with fixed pore sizes for very high efficiencies and low filtration degrees. On some filters, the media is applied in several layers for a specific effect on the filtration, however at a cost of differential pressure.

Our absolute filters have a pleated media around the core for a larger filtration surface, securing a longer life for the filter and lower differential pressure.

Ultra-Pleat filters are most commonly supplied with a Code 7 connection, securing the elements by bayonet, securing a non-bypass connection between filter element and housing. As an alternative we also supply the Ultra-Pleat elements with DOE connections.

The unique design of the Ultra-Pleat cartridges helps to achieve lower running costs and a smaller process footprint.

Model	Ultra-Pleat GP-M	Ultra-Pleat PP100	Ultra-Pleat PP-K
Filtrationrates	0,5 µm to 5 µm	0,5 µm to 40 µm	0,5 µm to 40 µm
Material	Glass Fibre	Polypropylene	Polypropylene
Maximum operating temperature	80°C	80°C	80°C
Applications			
Chemicals		•	•
Water	•	•	•
Electronics	•	•	
Food & Beverages	•	•	•
Industrial		•	•
Pharmaceuticals	•	•	•
Breweries	•	•	



# ABSOLUTE FILTER CARTRIDGES



## Ultra-Pleat PP100 - General Purpose Absolute Filter

Ultra-Pleat PP100 is our general purpose pleated filter cartridge. Suitable for most applications in food and beverage industry.

The graded multi-layer polypropylene media provide prefiltration of the process fluid prior to the absolute rated final layer.

## Ultra-Pleat PP-K - Broad Particle Mix

Ultra-Pleat PP-K is specially suited for filtration of broad particle mix. The wider pleating of the filter media ensures that the filter will block.

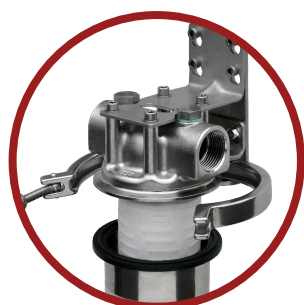
The combination of up to eight separate filtration layers provides true depth filtration, within a pleated cartridge construction, and resistance to fouling.



## Ultra-Pleat GP-M - Clarification Of Liquids

A range of absolute rated cartridge filters from Ultrafilter, featuring the latest developments in borosilicate glass fibre filter media technology, GP-M Series cartridges are constructed from robust glass fibre and polypropylene filtration layers, offering removal ratings from 0.5 to 5 micron absolute.

## RECOMMENDED FILTER HOUSINGS



**SK**  
Single



**PF-EG**  
Sanitary



**ME**  
Multi Code 7



**MK**  
Multi DOE



# MEMBRANE FILTER CARTRIDGES



### Technical Data

- PES, PP or Nylon
- 99,999999%
- 5" 10" 20" 30" 40"
- Code 7 (others available)
- EPDM (others available)
- 

Ultra-Mem is our series of membrane filter cartridges with an effectivity of 99,999999%. Very often the final filtration step in high requirement productions will be one or more membrane filters. A high demand product in the pharmaceutical and veterinary industries, membranes are available in many lengths from 5" to 40" long, and they come in a number of materials and specifications to fit almost any filter housing and filtration task you might have.

Most membranes can be regenerated with an autoclave or CIP steam, and may be used several times, as long as the filter integrity remains uncompromised.

Ultra-Mem cartridges are validated for bacterial removal according to HIMA guidelines and ASTM F838-05, with a log reduction value >7. They are therefore suitable for applications requiring sterilising grade filtration.

Model	PF-PES	PF-PP	PF-BEV	PF-NYL
Filtrationrates	0,04 - 1,2 µm	0,1 - 0,2 µm	0,2 - 0,65 µm	0,2 - 0,45 µm
Material	PES	PP	PES	Nylon
Maximum operating temperature	60°C	80°C	60°C	60°C
Applications				
Chemicals		•		
Water	•		•	
Electronics	•	•		
Food & Beverages	•		•	•
Industrial	•	•		•
Pharmaceuticals	•			•



# MEMBRANE FILTER CARTRIDGES



## Ultra-Mem PF-PES - General Purpose Membrane

Ultra-Mem PF-PES is our standard membrane for critical liquid filtration. Careful media selection ensures that PF-PES cartridges are also very suited to critical particle control down to 0.04 micron ratings. PF-PES cartridges offer high flux rates and low differential pressures, a feature common to polyethersulphone membranes.

## Ultra-Mem PF-PP - Chemical Resistance

For solvent and aggressive chemical filtration applications, Ultra-Mem PF-PP cartridges offer a wide range of chemical compatibility.

Suitable for the most demanding microfiltration applications, the cartridges can be used for the filtration of aggressive chemical solutions including acids, alkalis, solvents and etchants.

PF-PP cartridges can also be used for a wide range of sterile venting and gas filtration applications.

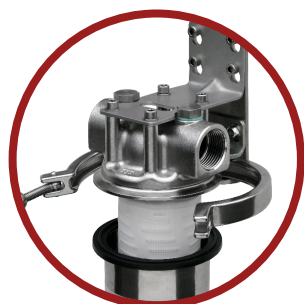


## Ultra-Mem PF-BEV

Ultra-Mem PF-BEV is a membrane filter specially designed for filtration of beverages.

The Ultra-Mem PF-BEV 0,45 micron rated filter removes yeasts and moulds including the smallest spoilage bacteriasuch as *Oenococcus oeni*. The PF-BEV 0,65 micronrated filter removes contaminating yeast, moulds,and spoilage bacteria from beverages. The PF-BEV 0,2 micron rated cartridges provide sterile filtrationfor bottled water and other beverage grade waterapplications.

## RECOMMENDED FILTER HOUSINGS



SK  
Single



PF-EG Tri-clamp  
Single / Multi



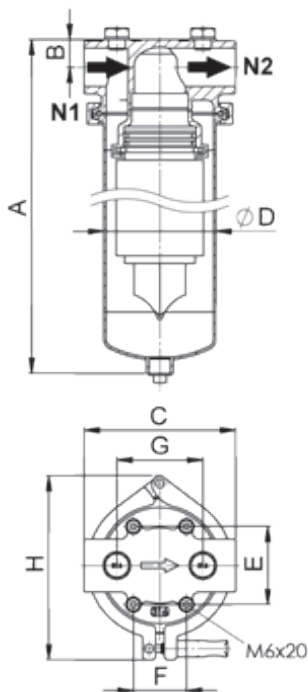
PF-EG Dairy  
Single / Multi



PF-EG Weld  
Single / Multi

# SINGLE CARTRIDGE FILTER HOUSING

SK



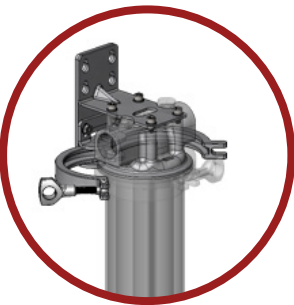
## Technical Data

- Stainless steel 304 or 316
- 12-75 l/min
- 25 bar
- 1" BSP
- 90°C
- 5" 10" 20" 30"
- DOE, Code 7 or Code 3
- FPM (others available)
- PED

Our filter housings are constructed in stainless steel, most with a heavy bolt-lid or solid clamp lock for the smaller housings. All housings are available in 316 and 304 stainless steel. Select sizes are available in heavy-duty plastic versions for off-shore and other applications.

Our single element filter housings for DOE have a specially fixed steel accessory to secure the elements from shaking. This also allows several length configurations, using the fixture extend or shorten the element length.

## OPTIONS



Wall Mount



Pressure Gauge



Magnet Bar



Model	Flow l/min	Connection in/out	Max. Temperature	Element Connection	Dimensions (mm)							
					A	B	C	D	E	F	G	H
SK 5"	12	1"	90°C	DOE	230	22	120	ø88,9	62	42	68	146
SK 10"	25	1"	90°C	DOE	367	22	120	ø88,9	62	42	68	146
SK 20"	50	1"	90°C	DOE	615	22	120	ø88,9	62	42	68	146
SK 30"	75	1"	90°C	DOE	863	22	120	ø88,9	62	42	68	146
SK - C7 5"	12	1"	90°C	Code 7	291	22	120	ø88,9	62	42	68	146
SK - C7 10"	25	1"	90°C	Code 7	427	22	120	ø88,9	62	42	68	146
SK - C7 20"	50	1"	90°C	Code 7	674	22	120	ø88,9	62	42	68	146
SK - C7 30"	75	1"	90°C	Code 7	915	22	120	ø88,9	62	42	68	146









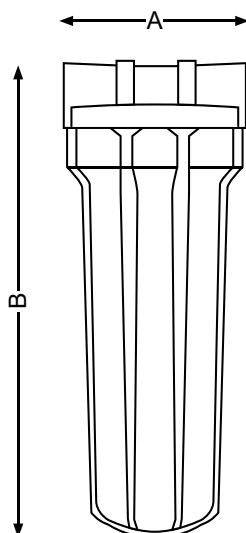


# PLASTIC FILTER HOUSINGS

AQ2 / Jumbo

## Technical Data

-  Polypropylene and/or SAN
-  15-150 l/min
-  Max. 6-8 bar
-  5" 10" 20"
-  EPDM or Viton (others available)
-  PED



For some applications, a plastic filter housing is more suitable than a stainless steel housing. Polypropylene is an FDA approved material with a broad chemical compatibility.

### AQ2-PP:

As completely produced with first rate thermoplastic polymers, AQ2-PP filters are suitable for both industrial and food and beverage applications, where high standards of clean quality and performance are needed.

### AQ2-HT:

Professional Housing for extreme working condition. Made of glass-reinforced high quality thermoplastic polymer, AQ2-HT filter housings are a technical alternative to Brass and Stainless housings.

These housings can withstand temperatures up to a maximum of 90°C and pressure up to 8 bar. Excellent chemical compatibility makes AQ2-HT housings an ideal choice for a wide variety of industrial applications.

### Jumbo:

Jumbo is a line of two-piece containers for large-diameter cartridges. It is suitable for situations where a certain quantity of water is consumed. The Jumbo housings are all polypropylene, and suitable for the same applications as AQ2-PP.

Model	Flow l/min	Connection in/out	Material	Max. Temperature	Dimensions (mm)	
					A	B
AQ2 5"	15	3/4"	PP/SAN	50°C	122	174
AQ2 10"	30	3/4"	PP/SAN	50°C	122	294
AQ2 20"	60	3/4"	PP/SAN	50°C	122	565
AQ2 10 PP	30	3/4"	PP	40°C	122	317
AQ2 10 HT	30	3/4"	PBT	90°C	122	317
Jumbo 10"	80	1"	PP	37°C	189	338
Jumbo 20"	150	1½"	PP	37°C	189	603

# MULTI CARTRIDGE HOUSING DOE

MK



## Technical Data

	Stainless steel 316L
	Electropolished
	125 - 1200 l/min
	10 bar
	100°C
	10" 20" 30" 40"
	DOE
	Nitrile
	PED

The MK Series filter cartridge housings have a simple and robust construction and are fitted with a V-band clamp or swing bolt closure system for rapid opening and cartridge change-out.

Standard housings are configured to accept double open end style (DOE) cartridges.

These MK DOE housings use pressure plate assemblies including top cup and spring seal assemblies that permit the use of filter cartridges with single-length equivalents of 9 ¾ to 10 inches.

To adapt the housing to accept single open end (SOE), double O-ring cartridges with locating spear, the standard pressure plate is replaced with the SOE pressure plate (to be ordered separately).

The housing handles liquids at pressures up to 10 bar g and temperatures of up to 100 °C. All wetted surfaces are in 316L stainless steel. Other parts (V-band clamp, feet mountings, etc.) are supplied in 304 stainless steel or similar. MK filter housings are electropolished for a consistent, easy care finish.

Nitrile gaskets are supplied as standard. Other gasket materials are available as standard items and can be readily swapped with those supplied.

The 5 cartridge round housings are available with either male-threaded BSPT or flanged (PN16) connections. The 12 round housings are fitted with DIN PN16 DN80 flanges. All vents and drains are female BSP.










Multi Cartridge Housings	Flow l/min	Connection	Material	Max. Temperature	Element Connection
05MK-10	125	1 ½" or DN40	Stainless Steel	100°C	DOE
05MK-20	250	2" or DN50	Stainless Steel	100°C	DOE
05MK-30	375	2" or DN50	Stainless Steel	100°C	DOE
05MK-40	500	2" or DN50	Stainless Steel	100°C	DOE
03MKP-10	75	DN32 to DN80	Polypropylene	60°C	DOE
03MKP-20	150	DN32 to DN80	Polypropylene	60°C	DOE
03MKP-30	225	DN32 to DN80	Polypropylene	60°C	DOE
03MKP-40	300	DN32 to DN80	Polypropylene	60°C	DOE
05MKP-10	125	DN32 to DN100	Polypropylene	60°C	DOE
05MKP-20	250	DN32 to DN100	Polypropylene	60°C	DOE
05MKP-30	375	DN32 to DN100	Polypropylene	60°C	DOE
05MKP-40	500	DN32 to DN100	Polypropylene	60°C	DOE



# MULTI CARTRIDGE HOUSING CODE 7

ME

## Technical Data

-  Stainless steel 316L
-  Electropolished
-  120-640 l/min
-  10 bar
-  90°C
-  20" 30" 40"
-  DOE, Code 7 or Code 8
-  EPDM
-  PED

The easy to clean and operate ME multi cartridge housing is available with 3, 5 & 8 element as standard, from 20" to 40" length. The housing is constructed as a split shell with, and is equipped with a standard screw clamp for pressures up to 10 bar.

The housing has low legs as standard and is the ideal choice when using single open end plug in style cartridges or pleated double open end cartridges. The lightweight dome is equipped with handles and allows easy access to the cartridges for quick filter changeouts.

Any ME housing will work optimally with any of our absolute or nominally rated filters. We recommend use of fully sanitary filters for membrane filtration.

This design makes the ME series suitable for pre-filtration or primary filtration in almost any field of application, including but not limited to:

### Food & beverage processing

- Particle removal
- Edible oils
- Ingredient Water
- Soft drinks
- Ingredients & nutrient supplements

### Chemical processing

- Acids
- Fine chemicals
- Alcohols
- Solvents

### Industrial processes

- Micro-Electronics
- Paints
- Coatings

### Cosmetics

### Healthcare



Model	Flow l/min	Connection in/out		Filter Element	
		BSP	DIN	Size	Qty
03ME-20	120	2"	DN50	20" Code 7	3
03ME-30	180	2"	DN50	30" Code 7	3
03ME-40	240	2"	DN50	40" Code 7	3
05ME-20	200	2,5"	DN65	20" Code 7	5
05ME-30	300	2,5"	DN65	30" Code 7	5
05ME-40	500	2,5"	DN65	40" Code 7	5
08ME-30	480	3"	DN80	30" Code 7	8
08ME-40	640	3"	DN80	40" Code 7	8

# MECHANICAL POLISHED FILTER

## PF-EG



The sanitary PF-EG cartridge housings are available as single cartridge housings or from 3 to 30 cartridges up to 40" long. The surface roughness (RA) is mechanically polished to be less than 0,8 µm, or less than 0,4 µm on request. There are no nooks, thread, corners or impurities to prevent easy and efficient cleaning of the housing, making the fully hygienic housing optimal for high end applications.

The T-style design with dome cover is equipped with clamp as standard or bolted closure for certain filter sizes, and allows pressures up to 10 bar.

The free standing filter housing is supplied with legs, and is designed with a domed cover. This lightweight cover allows easy access to the cartridges for rapid changeouts and the housings are fully cleanable in-line (CIP ready).

### Technical Data

	Stainless steel 304L or 316L
	0,8 / 0,4
	12-3000 l/min
	10 bar
	150°C
	20" 30" 40"
	DOE, Code 7 or Code 8
	EPDM
	PED
	FDA
	CE

Model	Flow l/min	Connection in/out			Filter Element	
		DIN 11851	Tri-clamp	Weld	Size	Qty
PF-EG 0012	12	DN25	DN25	N/A	5" Code 7	1
PF-EG 0025	25	DN25	1"	25,4 x 1,65	10" Code 7	1
PF-EG 0050	50	DN25	1"	25,4 x 1,65	20" Code 7	1
PF-EG 0075	75	DN25	1"	25,4 x 1,65	30" Code 7	1
PF-EG 0100	100	DN25	1"	25,4 x 1,65	40" Code 7	1
PF-EG 0150	150	DN40	1,5"	38,1 x 1,65	20" Code 7	3
PF-EG 0225	225	DN40	1,5"	38,1 x 1,65	30" Code 7	3
PF-EG 0250	250	DN50	2"	50,8 x 1,65	20" Code 7	5
PF-EG 0300	300	DN40	1,5"	38,1 x 1,65	40" Code 7	3
PF-EG 0375	375	DN50	2"	50,8 x 1,65	30" Code 7	5
PF-EG 0400	400	DN50	2"	50,8 x 1,65	20" Code 7	8
PF-EG 0500	500	DN50	2"	50,8 x 1,65	40" Code 7	5
PF-EG 0600	600	DN50	2"	50,8 x 1,65	30" Code 7	8
PF-EG 0800	800	DN50	2"	50,8 x 1,65	40" Code 7	8
PF-EG 0900	900	DN65	2,5"	63,5 x 1,65	30" Code 7	12
PF-EG 1200	1200	DN65	2,5"	63,5 x 1,65	40" Code 7	12
PF-EG 1350	1350	DN65	2,5"	63,5 x 1,65	30" Code 7	18
PF-EG 1800	1800	DN65	2,5"	63,5 x 1,65	40" Code 7	18
PF-EG 2250	2250	DN80	3"	76,2 x 1,65	30" Code 7	30
PF-EG 2400	2400	DN65	2,5"	63,5 x 1,65	40" Code 7	24
PF-EG 3000	3000	DN80	3"	76,2 x 1,65	40" Code 7	30



# MECHANICAL POLISHED FILTER

PF-EG

## Hygienic design filter housings for food application.

The products destined to the Food & Beverage sector are designed with hygienic design, crevice-free and self-draining. During production, a high care is paid to the surface finishes with grounded weldings and guaranteed roughness. We can supply different hygienic connection standards available on the market. The housings are suitable for steam in place and cleaning in place processes. The materials in contact with fluids are accurately selected to be used with food, in compliance with the regulations in force. The housing is supplemented with any required certification.

## Applications

The PF-EG housing is usable with any of our absolute rated cartridges or filter membranes, and it is suitable for almost any application, including but not limited to:

### Food & Beverage

- Critical final filtration
- Bio burden reduction
- Clarification steps
- Beer & Wine
- Milk
- Mineral water & soft drinks
- Juice & sugar liquids
- Ingredient water
- Process & cleaning water
- Filling and storage

### Pharmaceutical

- Sterile filtration
- Trap filtration
- Ingredient treatment
- Clarification
- Solids retention
- Water for steam
- Filling and storage

### Cosmetics

- Incoming water
- Solvents
- Sterile filling
- Sterile water

### Fine chemicals



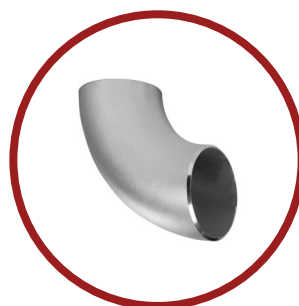
## CONNECTION TYPES



Dairy



Tri-clamp



Welded



Flange

# HIGH FLOW FILTER

Ultra-Flow



## Technical Data

	Stainless steel 304L or 316L
	12-3000 l/min
	10 bar
	1 2 5 10 15 25 40 70
	110°C
	3M High Flow
	EPDM
	PED

The unique construction of High Flow Filters (patent pending) permits flow rates of up to 113 m<sup>3</sup>/hr (500 gpm) in a single cartridge. Resulting in fewer filter elements to accommodate your flow requirements. In fact, the High Flow Filtration System requires as few as one-tenth the number of elements as competitive 2.5" (63,5 mm) pleated cartridges.

The High Flow housings are specifically designed to deliver all of the system's benefits in a compact footprint. Housings are available in standard designs, as well as customizable configurations to suit your specific needs. All standard High Flow housings are designed, manufactured, tested and code-stamped in accordance with ATEX Group II, Category 2, T5 and PED 97/23/EC rated Category I. Stainless steel housing external surfaces are glass-bead blasted for a consistent, easy care finish.

The High Flow housing is available in a variety of sizes to accommodate from 1 to 7 filter elements in both 40" and 60" lengths. Larger housings are available upon request.

Housings are also available in horizontal or vertical configurations, depending on your needs. Choose the horizontal option to help

Model	Nominal Diameter (mm)	Material	Connection in/out (DIN)		Recommended max. flow (m <sup>3</sup> /h)		Max. Pressure and Temperature	Vent & Drain Connections	
			40"	60"	40"	60"		Vent	Drain
1HF	220	316L SS or 304L SS	DN100	DN100	80	113	10 bar, 110°C	¼" ***	½" ***
3HF	450	316L SS or 304L SS	DN150	DN200	198**	339	10 bar, 110°C	½"	1"
5HF	500	316L SS or 304L SS	DN200	DN250	352**	556**	10 bar, 110°C	½"	1"
7HF	600	316L SS or 304L SS	DN250	DN300	556	791	10 bar, 110°C	1"	2"



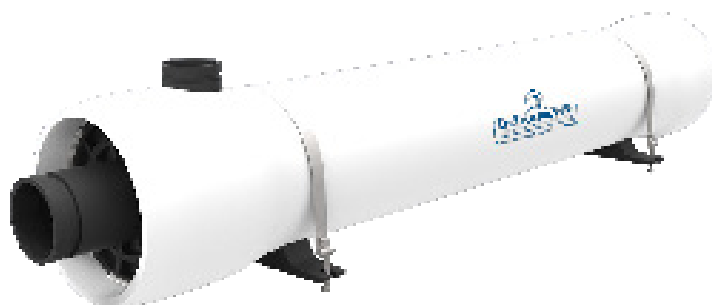


# HIGH FLOW FILTER HOUSING

Ultra-Flow

## Technical Data

-  FRP, Nylon & ABS
-  12-3000 l/min
-  10 bar
-  Inlet/outlet: 3"
-  1 5 10 20 50 100
-  20" 40" 60"
-  EPDM, NBR



## Features & Benefits:

- Suitable for high flow cartridge filters
- Easy installation, quick change-out without dismantling pipeline
- Ultra high strength of corrosion resistance, perfect option for sea water
- Modular design, smaller footprint, compact and movable
- Beautifully matched with FRP membrane vessels
- Low Maintenance Costs

## Applications

- High Flow Cartridge filters
- RO Prefiltration
- Pretreatment
- Seawater desalination
- Condensate water filtration
- Hot water recovery in power generation
- API, Solvents, and water filtration in Biopharm market
- Bottled water filtration
- High fructose, edible oil, soft drinks and milk
- Paints and coatings
- Petrochemical and Refineries
- Microelectronics, Film, Fiber and resin

## Parts & Accessories

1. O-ring
2. Locking kit segments
3. End Cap
4. End Cap
5. Thrust Ring
6. Guiding Fame
7. Saddle
8. Strape
9. Couplings (Optional)
10. Short Tube (Optional)



# HIGH FLOW FILTER CARTRIDGES

Ultra-Flow



### Technical Data

	Polypropylene or Glass Fibre
	17-113 m³/h
	1 3 5 10 20 50
	70°C
	FDA Buna N (others available)

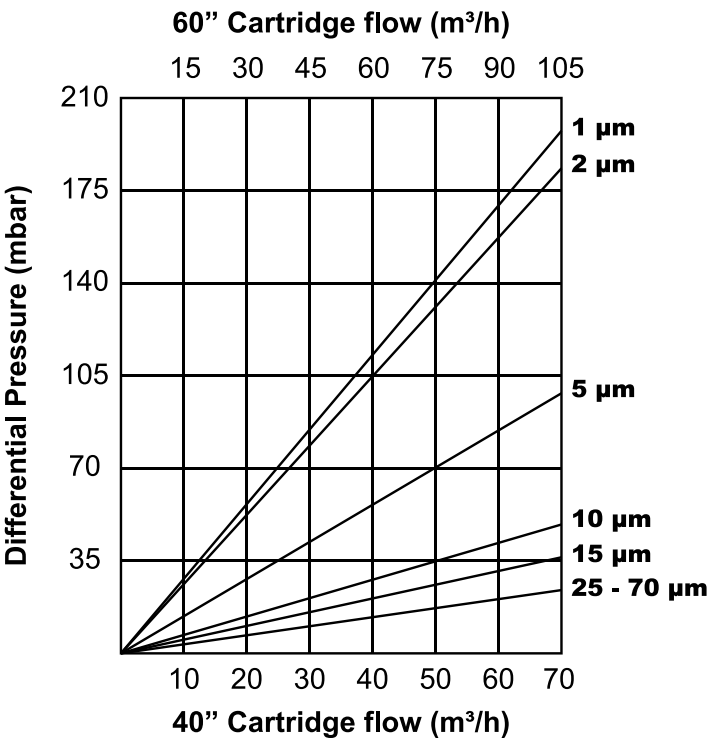
High Flow filters are used for filtration of large volumes of water, or watery fluids. Ultra-Flow from ultrafilter Skandinavien are made of polypropylene, which is pleated around the filter core, to offer a bigger dirt holding capacity, as well as a better flow and lower differential pressure.

The filters operate at more than 90% efficiency, and can be supplied in standard 60" or the shorter 40" version.

Each 60" cartridge is equivalent to more than 12 filter bags in filtration material.

### Features & Benefits

- Special radial pleated design
- Superior filtration area up to 18m².
- Ultra high flow rate up to 113 m³/h.
- High dirt holding capacity for long life and lower cost.
- Broad chemical compatibility for different applications.
- Convenient handle for easy change-out.
- Smaller footprint.







# HIGH FLOW FILTER CARTRIDGES

Ultra-Flow

Our range of high flow filter cartridges also includes cartridges made to specifications that match high flow housings from different manufacturers. The cartridges are the same high quality as our standard Ultra-Flow cartridges. If you are not sure which type of cartridge you need, contact our customer support and we will find a matching cartridge for your housing.



## Ultra-Flow for 3M High Flow Housings

Filter media:	Polypropylene
Filtration Area:	18 m <sup>2</sup> @60inch, 12 m <sup>2</sup> @40inch
Recommended Flow:	65m <sup>3</sup> /h @ 60inch, 38m <sup>3</sup> /h @ 40inch
Max. Flow:	113m <sup>3</sup> /hr @60inch, 80m <sup>3</sup> /hr@40inch
Filtration Rates:	1, 3, 5, 10, 20, 50 µm

## Ultra-Flow for Pall High Flow Housings

Filter media:	Polypropylene or Glass Fibre
Filtration Area:	8 m <sup>2</sup> @60inch, 5,3 m <sup>2</sup> @40inch
Recommended Flow:	50m <sup>3</sup> /h @ 60inch, 33m <sup>3</sup> /h @ 40inch
Max. Flow:	113m <sup>3</sup> /hr @60inch, 75m <sup>3</sup> /hr@40inch
Filtration Rates:	1, 3, 5, 10, 20, 50 µm



## Ultra-Flow for Pentair High Flow Housings









Filter media:	Polypropylene
Filtration Area:	13,8 m <sup>2</sup> @60inch, 9,2 m <sup>2</sup> @40inch
Recommended Flow:	57m <sup>3</sup> /h @ 60inch, 40m <sup>3</sup> /h @ 40inch
Max. Flow:	113m <sup>3</sup> /hr @60inch, 75m <sup>3</sup> /hr@40inch
Filtration Rates:	1, 3, 5, 10, 20, 50 µm

# HIGH FLOW FILTER HOUSING

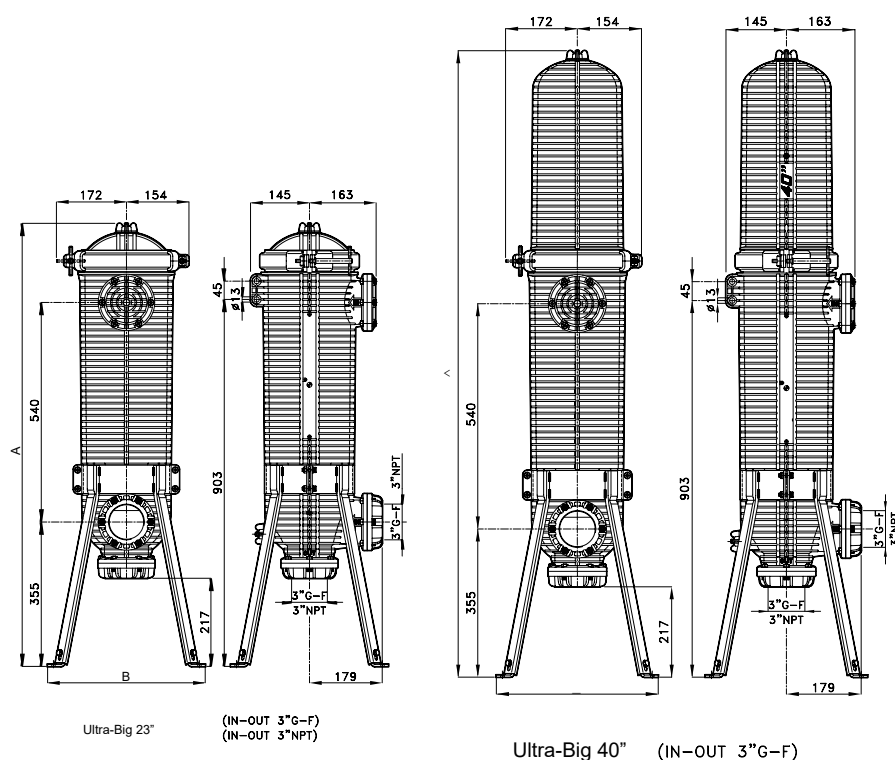
Ultra-BIG



## Technical Data

-  Polypropylene and glass fibre
-  130-830 l/min
-  Working: 6 bar (20 bar burst)
-  3" BSP or DN 80 flange
-  40°C
-  23" 40"
-  NBR 70 Sh
-  PED

Ultra-BIG is a unique polypropylene housing for professional applications where high performances and reliable products are needed. Designed to treat high quantity of water, it's a two-pieces compact container, that can fit 23" and 40" filtering elements. The housing is made with 3" female In-Out threading without brass inserts, and it's equipped with, plastic drain plug and plastic relief valve. Ultra-BIG is provided with a stainless steel clamp that enable to open and close (easily and quickly) the housing during maintenance operations. The housing is individually packed in carton box.




Model	Flow @ 5-20 µm	Element Height	Connection In/Out	Dimensions (mm)		Weight (kg)
				A	B	
Ultra-Big 23"	250 l/min	23"	3"	1090	388	19,0
Ultra-Big 40"	500 l/min	40"	3"	1500	388	22,5




# HIGH FLOW FILTER CARTRIDGES

Ultra-BIG


## Technical Data


 Polypropylene or Polyester

 1-90 µm

 80-95%

 Max. 80°C

 23" 40"

 NBR (others available)



Ultra-BIG elements are very cost efficient and available in three standard versions and a number of custom cartridges on request.

The standard range includes a depth filter for high solids retention, a pleated version for very low differential pressures, and a plastic mesh in 80 or 250 µm for back-flushable pre-filtration. The elements are easy to install and change, due to the handle and easy twist connection used.

The ULTRA-BIG series is a cost efficient way to pre-filter raw water with possibility for back-flush, or as a primary drinking or process water filter with a small installation footprint, and a versatile filter system.









# LENTICULAR FILTER HOUSINGS

Ultra-Disc



## Technical Data

-  Stainless Steel 316
-  10 bar @ 40°C / 0,4 bar @ 150°C
-  -20°C to 150°C
-  1½"
-  12" 16"
-  Silicone (others available)

Ultra-Disc series has been designed to propose a product suitable for being used in Food & Beverage market and in general in sanitary industry.

The characteristics and building flexibility make the Ultra-Disc series the optimal proposal for price and quality of product.

The filter housing standard external surface finishing is mechanical polishing, same solution is for internal surface finishing with a roughness of RA<0.8μ.

## Applications

- Food & Beverage
- Sanitary Industry







Dimensions								
Model	12"				16"			
	U-D 121	U-D 122	U-D 123	U-D 124	U-D 161	U-D 162	U-D 163	U-D 164
Modules diameter x number (N)	12"x1	12"x2	12"x3	12"x4	16"x1	16"x2	16"x3	16"x4
PED Category (M)	II	II	II	II	II	II	III	III
C mm	970	1240	1520	1820	970	1240	1540	1840
E mm	460	730	1010	1310	460	730	1030	1330
Total vessel volume litres (V)	32	53	74	96	63	105	147	191
Bowl Weight kg	11	16	20	25	21	30	40	50
Total net Weight kg	44	50	58	63	75	86	99	111
Packaging size 12" CM 50x51x	90	115	140	165	-	-	-	-
Packaging size 16" CM 63x64x	-	-	-	-	100	125	150	175
Total Weight Packed kg	49	56	65	70	81	93	107	119

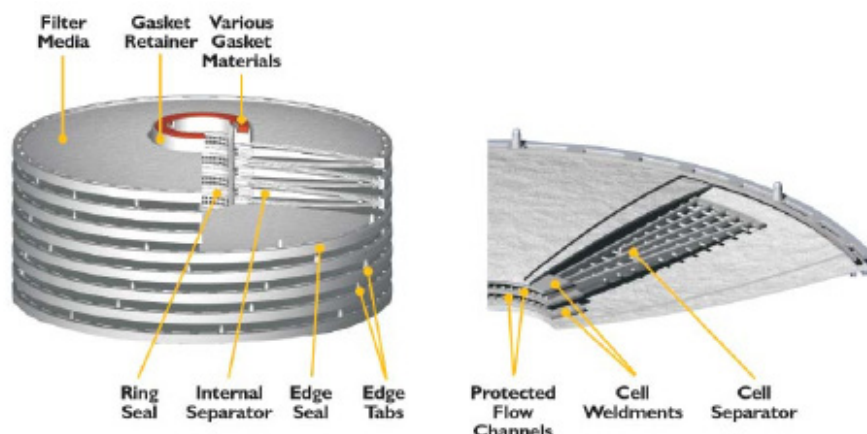


# LENTICULAR FILTER DISCS

Ultra-Disc

## Technical Data

-  Refined cellulose and cationic resin.
-  0,1µm to 10 µm
-  99,99%
-  8", 12", 16"
-  Max. 82°C
-  2,4 bar



Ultra-Disc filter extends depth filtration capacity and extends protection of downstream membranes thereby extending filter life and lowering overall filtration costs. SP Series is a family of advanced dual zone depth filters designed to provide optimal clarification of bioprocess, biological and pharmaceutical fluids.

Ultra-Disc filters consist of two distinct layers or “zones” of filter media with the upstream zone more open than the downstream zone. This structure enhances the contaminant holding capacity of the filter media, since larger particles are trapped in the upper zone of the filter media and smaller particles are trapped in the lower zone, reducing premature plugging and extending service life.

## Applications

- Clarification of mammalian cell culture process fluids (cell separation).
- Protection of downstream processes including membrane (0,2, 0,1 µm) filters, TFF systems and chromatography columns.
- Clarification of bacteria and yeast cell lysates.
- Endotoxin and nucleic acid removal.
- Clarification of colloidal and haze forming contaminants.







Model	Recommended Flush	Sterilization Parameters	Max Flow l/min pr m2
Ultra-Disc SP	54 l/m2 at 20 litre per min/m2	In-situ steam sterilisation for 30 minutes at 126°C (3 cycles)	1 to 10
Ultra-Disc ZB	54 l/m2 at 20 litre per min/m2	Autoclave or In situ steam sterilize 30 minutes @ 126°C (3 cycles)	1 to 10
Ultra-Disc HT	54 l/m2 at 20 litre per min/m2	Autoclave or in-situ steam sterilisation for 1 hour at 121°C	1,2 to 12

# UV DISINFECTION

MonoRay



### Technical Data

-  Stainless steel or Polypropylene
-  8-240 m³/h
-  10 bar
-  80°C

Microorganisms in the water, whether bacteria, algae, parasites or many more, can cause trouble for operations and usage of the water, and the safest way to stop growth and migration of the organisms is UV treatment.

Through UV systems, we can cover most tasks from water to turbid liquids, foodstuff, beverages or viscous liquids. We cover tasks from small supplies to very large systems, and all our systems are available in FDA approved stainless steel for general applications or polypropylene for corrosive environments.

All our single- and multi lamp UV systems use the internationally acclaimed Ultratherm UV lamps.

Our UV systems come with a number of options, including cabinet mounting for your convenience, a large touchscreen for easy interaction, or an automatic performance and event log.

Other options include:

- UV sensor
- Fully automatic cleaning system
- Automatic lamp dimming (power save mode)
- Flow control

MonoRay	Flow rate m³/h		Connection in/out	Power
	PP	SS		
1-75	8	10	1½" BSP	0,08 kW
1-220	35	38	DN80	0,25 kW
1-350	53	58	DN100	0,4 kW
1-440	62	68	DN100	0,5 kW
3-220	100	110	DN125	0,75 kW
4-220	130	150	DN150	1,0 kW
4-350	210	240	DN150	1,5 kW

PP = Polypropylene. SS = Stainless Steel.





# UV DISINFECTION

## Applications



### Drinking Water

The treatment of drinking water is vital to protecting public health. Common threats are chlorine-resistant microorganisms such as *Cryptosporidium* and *Giardia* as well as fecal organisms such as *E. coli* and numerous other pathogens. Such microorganisms constantly pose a potential health risk in unprotected drinking water. Drinking water related diseases can be fatal and the associated costs can add up to billions of dollars worldwide.

### Wastewater

In order to protect the natural environment (rivers, lakes, beaches, coastal areas) increasingly stricter regulations have been implemented to limit release of pathogenic microorganisms originating from domestic wastewater. Therefore, many wastewater utilities have adopted ultraviolet (UV) as the most appropriate treatment option as opposed to chemical disinfection.



### Aquaculture

Millions of salmon, sturgeons, eels, turbot, sea bass etc. are produced in aquaculture systems worldwide. Here UV systems have been chosen to increase security from infection diseases thereby protecting millions of invested dollars. Diseases such as Infectious Salmon Anaemia (ISA) are prevented through the use of UV systems. This has given the respected fish farms security and reassurance that the fish is not infected. The UV systems are also easy to maintain, the lamp lifetime is 16.000 hours guaranteed and they do not take up time in the daily routines.



# 3M Purification Filtration



For more than 100 years, people around the world have looked to 3M for products and ideas, which solve problems and help to make the world smarter, faster, healthier and safer. 3M has more than 500,000 products and 40 core technologies, 3M has gained leadership in all major markets it serves throughout the world.

3M Purification, formerly known as CUNO, was founded in 1912 by Charles Cuno and has more than 90 years of experience in the filtration business. In 2005 CUNO was acquired by the 3M company and became a part of the 3M industrial & Transportation division. In 2009 it became 3M Purification Filtration. New solutions are continuously being provided to customers worldwide, by combining the broad worldwide market coverage of the 3M company with the separation and filtration expertise of 3M purification.

Using the core technologies of 3M Purification, a comprehensive product range that includes membranes, depth filters, pleated filters, cleanable filters, housing and engineered filtration systems is produced. 3M Purification owns more than 200 patents and 300 trademarks and is active on a worldwide basis.

Market oriented 3M Purification divisions include healthcare, fluid processing and 3M water filtration. 3M water Filtration provides water filtration for the home, food service and vending a leisure market.

3M Purification is a world leader in the design, manufacture and marketing of a comprehensive line of filtration products. which provide separation, clarification and purification solutions for fluids and gasses.

We distribute the following products directly through 3M:

- 3M High Flow
- 3M Cuno DuoFlo
- 3M Cuno CTG System
- 3M Cuno Zeta Plus
- 3M High Capacity 700 Series
- 3M LifeAssure Membranes
- 3M Betafine XL
- 3M Micro-Klean
- 3M Betapure
- 3M NB Filter Bags
- 3M 500 Series Filter Bags
- 3M 100 Series Filter Bags
- 3M Aqua-Pure







# FINDING THE RIGHT SIZE DRYER



The flows mentioned in the dryer tables are based on specific operating conditions. To calculate the right size dryer you should use the correction factors below.

## Refrigeration Dryers

The formular below can be used to calculate the correct capacity of both the UD 50Hz and UD 60Hz.

### Flow x K1 x K2 x K3 x K4

Operating Pressure bar (g)	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Correction factor K1	0,71	0,82	0,90	0,96	1,00	1,04	1,07	1,09	1,11	1,13	1,15	1,16	1,18	1,19

Compressed Air Inlet Temperature	30	35	40	45	50	55	60	65	70
Correction factor K2	1,23	1,00	0,81	0,66	0,57	0,52	0,48	0,44	0,40

Ambient Temperature	20	25	30	35	40	45	50	Dewpoint	3	5	7	9
Correction factor K3	1,05	1,00	0,95	0,89	0,84	0,78	0,72	Correction factor K4	1,00	1,24	1,38	1,40

## High Pressure Refrigeration

The formular below can be used to calculate the correct capacity of UD HP.

### Flow x K1 x K2 x K3 x K4

Operating Pressure bar (g)	25	30	35	40	45	50	Compressed Air Inlet Temperature	35	45	70
Correction factor K1	0,94	0,97	0,99	1,00	1,01	1,01	Correction factor K2	1	0,77	0,46

Ambient Temperature	20	25	30	35	40	45	50	Dewpoint	3	5	7	9
Correction factor K3	1,05	1,00	0,90	0,90	0,84	0,79	0,73	Correction factor K4	1,00	1,12	1,25	1,41



## Membrane Dryer

The formular below can be used to calculate the correct capacity of the UFM membrane dryer.

### Flow x K1

Operating Pressure bar (g)	4	5	6	7	8	9	10	11	12
Correction factor K1	0,41	0,56	0,76	1,0	1,22	1,48	1,76	1,86	2,22

## HeatLess HL

For calculating capacity on our HeatLess HL adsorption dryer, use the correction factor below.

### Flow x K1

Correction factor K1		Operating Pressure (bar g)												
		4	5	6	7	8	9	10	11	12	13	14	15	16
Inlet temp. (°C)	35	0,63	0,75	0,88	1,00	1,13	1,25	1,38	1,50	1,55	1,60	1,65	1,70	1,76
	40	0,55	0,66	0,77	0,88	0,99	1,10	1,21	1,32	1,43	1,54	1,65	1,70	1,76
	45 *	0,42	0,50	0,59	0,67	0,76	0,84	0,92	1,01	1,09	1,17	1,26	1,34	1,42
	50 **	0,35	0,41	0,48	0,55	0,62	0,69	0,76	0,83	0,90	0,96	1,03	1,10	1,17

\* PDP -25°C

\*\*PDP -20°C

## VarioBlo

The capacity of the VarioBlo heat regenerated adsorption dryer can be calculated with the formular below.

### Flow x K1 (x K2 - For PDP -70°C)

Correction factor K1		Operating Pressure (bar g)						
		4	5	6	7	8	9	10
Inlet temp. (°C)	30	0,71	0,86	1,00	1,15	1,18	1,25	1,37
	35	0,62	0,75	0,87	1	1,12	1,25	1,37
	40	0,38	0,54	0,67	0,82	0,92	1,07	1,21
	43	-	0,33*	0,45**	0,54**	0,61***	0,72	0,80

\* PDP -20°C

\*\*PDP -25°C

\*\*\*PDP -30°C

Correction factor K2		Operating Pressure (bar g)						
		4	5	6	7	8	9	10
Inlet temp. (°C)	30	-	0,90	0,90	0,80	0,80	0,80	0,80
	35	-	0,80	0,80	0,80	0,80	0,80	0,80
	40	-	-	-	-	-	0,70	0,70

# WATER CONTENT IN AIR

The table below shows the water content in compressed air at different temperatures. This is useful for calculating the capacity of dryers.



Dew Point °C	g/Nm <sup>3</sup>	ppm
-100	0,0000111	0,0138
-90	0,0000767	0,0953
-80	0,000434	0,54
-70	0,0027	2,57
-60	0,00857	10,7
-55	0,0166	20,6
-50	0,0317	39,4
-48	0,0399	49,6
-46	0,0507	69,0
-44	0,0642	80,1
-42	0,0816	101,5
-40	0,102	126,9
-38	0,127	158
-36	0,159	197,8
-34	0,197	245
-32	0,244	303
-30	0,301	374
-28	0,371	461
-26	0,454	564
-24	0,554	689
-22	0,675	840
-20	0,816	1015
-19	0,899	1118
-18	0,989	1231
-17	1,09	1356
-16	1,19	1480
-15	1,31	1630
-14	1,43	1779
-13	1,57	1953
-12	1,72	2140
-11	1,80	2338
-10	2,06	2562
-9	2,25	2798
-8	2,45	3047
-7	2,68	3333
-6	2,92	3632
-5	3,18	3955
-4	3,46	4303
-3	3,77	4690
-2	4,10	5100
-1	4,46	5547

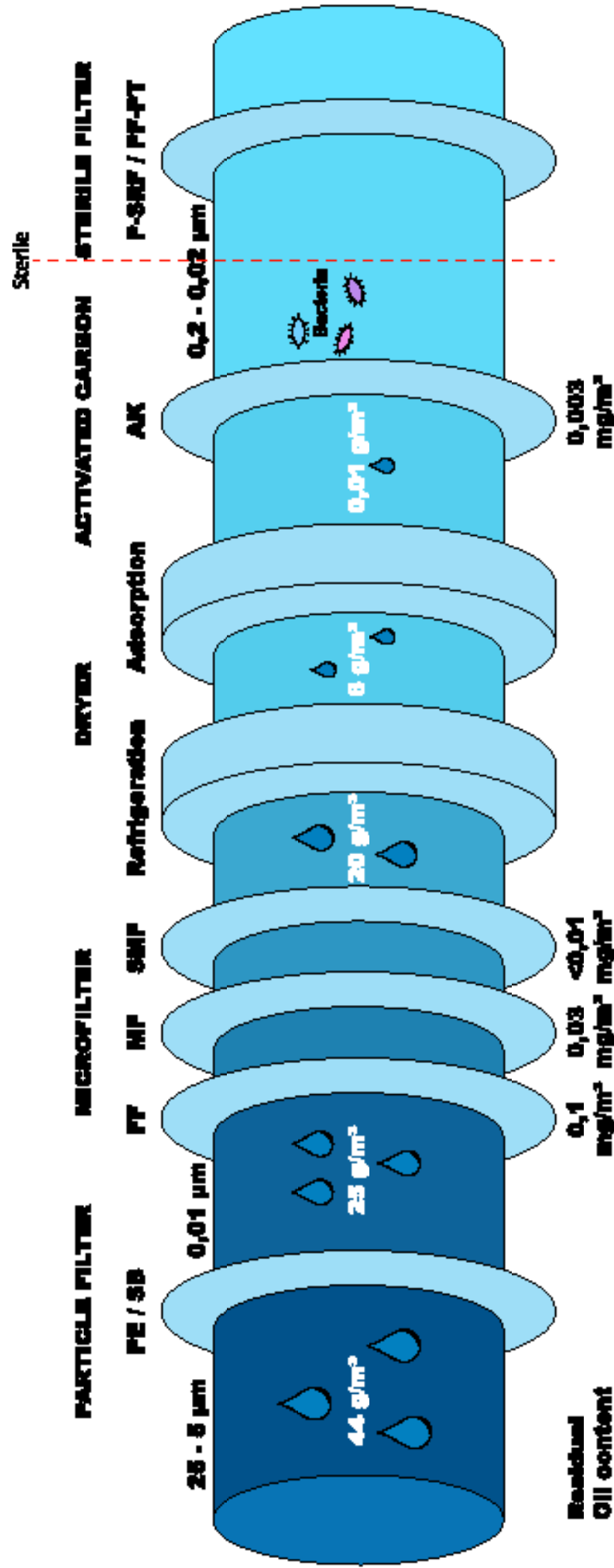
Dew Point °C	g/Nm <sup>3</sup>	ppm
0	4,84	6020
1	5,21	6480
2	5,59	6953
3	6,02	7487
4	6,45	8022
5	6,91	8595
6	7,41	9216
7	7,94	9875
8	8,51	10584
9	9,10	11318
10	9,74	12114
11	10,4	12935
12	11,1	13806
13	11,9	14800
14	12,7	15796
15	13,5	16791
16	14,4	17885
17	15,4	19030
18	16,4	20396
19	17,4	21641
20	18,5	23020
21	19,7	24502
22	21,0	26120
23	22,3	27736
24	23,7	29477
25	25,1	31219
26	26,7	33209
27	28,3	35200
28	30,0	37312
29	31,8	39551
30	33,6	41791
35	44,6	55472
40	58,5	71761
45	76,0	94527
50	97,8	120399
55	125	155472
60	158	196652
70	247	307212
80	376	467662
90	556	691542



## COMPRESSOR CAPACITY

You can use this table to find the compressor capacity and size the filtration accordingly.

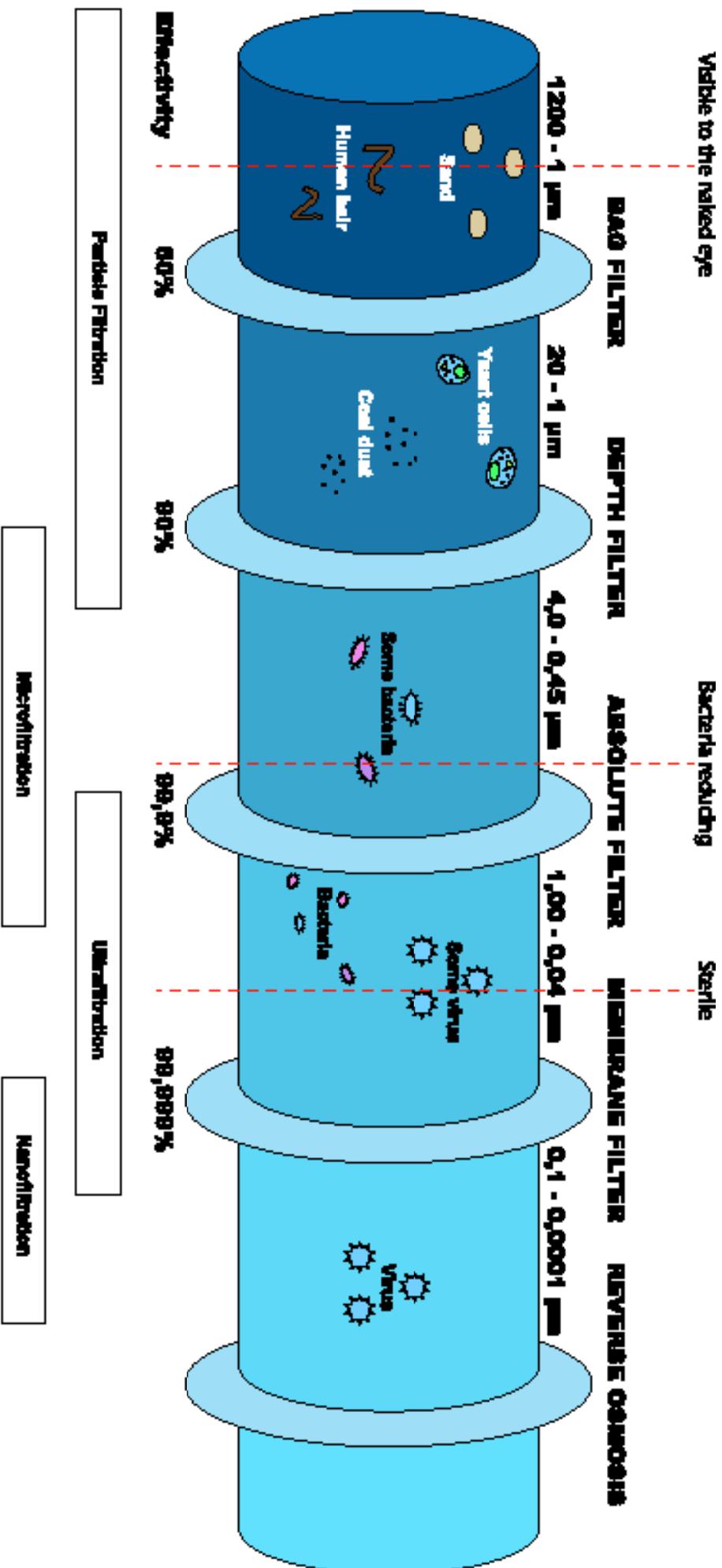
m <sup>3</sup> /h	m <sup>3</sup> /min	l/sek	cfm	kW	HP
5	0,08	1,39	2,9	0,5	0,7
10	0,17	2,78	5,9	1,1	1,5
15	0,25	4,17	8,8	1,5	2,0
20	0,33	5,56	11,8	2,2	3,0
25	0,42	6,94	14,7	3,0	4,0
35	0,58	9,72	20,6	4,0	5,5
50	0,83	13,89	29,4	5,5	7,5
65	1,08	18,06	38,3	7,5	10
80	1,33	22,22	47,1	9,0	
100	1,67	27,78	58,9	11,0	15
125	2,08	34,72	73,6	13,0	
150	2,50	41,67	88,3	15,0	20
175	2,92	48,61	103,0	15,0	25
225	3,75	62,50	132,4	22,0	30
300	5,00	83,33	176,6	30,0	40
375	6,25	104,17	220,7	37,0	50
450	7,50	125,00	264,9	45,0	60
550	9,17	152,78	323,7	55,0	75
650	10,83	180,56	382,6	65,0	85
750	12,50	208,33	441,4	75,0	100
850	14,17	236,11	500,3	90,0	115
1000	16,67	277,78	588,6	90,0	120
1175	19,58	326,39	691,6	110,0	150
1350	22,50	375,00	794,6	132,0	175
1500	25,00	416,67	882,9	160,0	215
1650	27,50	458,33	971,2	160,0	215
1950	32,50	541,67	1147,7	200,0	270
2250	37,50	625,00	1324,3	200,0	270
2750	45,83	763,89	1618,6	250,0	335
3500	58,33	972,22	2060,0	315,0	425
4000	66,67	1111,11	2354,3	400,0	535







# LIQUID FILTRATION

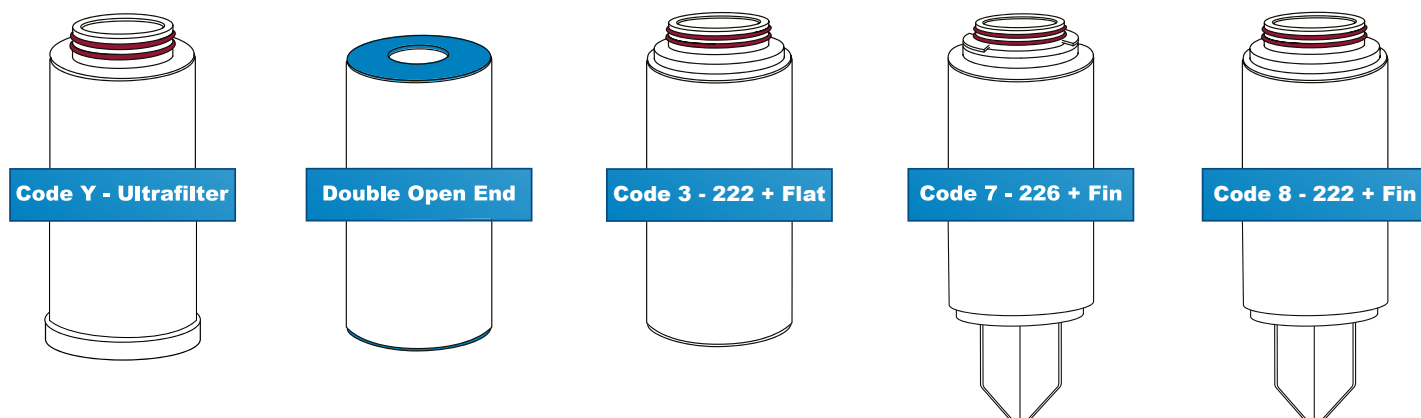


# END CAP CONFIGURATIONS

Our process filter elements are available with a wide range of different end cap configurations. This ensures compatibility with nearly any filter housing and lets us replace elements from other brands.



## ULTRAFILTER STANDARD END CAPS



## ADDITIONAL END CAPS

Configuration name	Top End			Outlet End		
	End Fitting	Seal	Quantity	End Fitting	Seal	Quantity
Code 2	Flat	None		Open with lugs	O-ring 226	2
Code 3	Flat	None		Open	O-ring 222	2
Code 7	Fin	None		Open with lugs	O-ring 226	2
Code 8	Fin	None		Open	O-ring 222	2
Code 9	Recess	None		Flat open	O-ring 213	1
Code 18 (retro fit)	Flat	None		Open	O-ring 222	2
Code 28 (S)	Fin	None		Open with 3 lugs	O-ring 222	2
Code Y (UF)	Flat	None		Open	O-ring BS832	2
N SOE	Recess	None		Flat open	O-ring 213	1
G SOE	Flat	None		Flat open	O-ring BS118	2
G DOE 10"	Flat open	Flat gasket	1	Flat open	Flat gasket	1
DOE 9 3/4"	Flat open	Flat gasket	1	Flat open	Flat gasket	1

If you don't find your desired end cap configuration, contact Ultrafilter for availability.





**THE SCANDINAVIAN FILTRATION PARTNER**

## SHOP ONLINE

At [www.ultra-filter.com](http://www.ultra-filter.com) you will find a wide selection of filtration products ready for you to order.



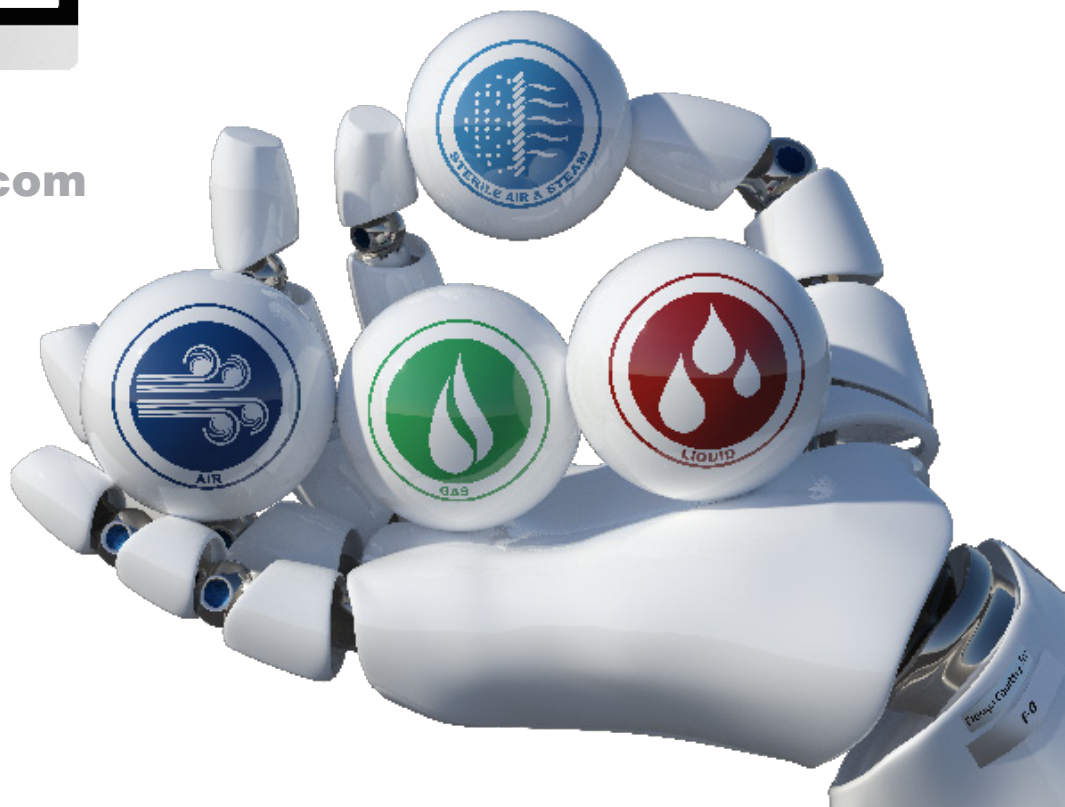
**[www.ultra-filter.com](http://www.ultra-filter.com)**

## ABOUT US

Ultrafilter Scandinavia offers a wide selection of filtration products for compressed air, liquids and gas. We have stock in Denmark and from here we distribute all of our products to Scandinavia and the Baltic countries.

Ultrafilter Scandinavia is a part of the Ultrafilter group. Our production facility is in Germany and we have several subsidiaries in Europe.

You can buy our products on local websites. Information about our products as well as brochures and manuals can be found on our website ([www.ultra-filter.com](http://www.ultra-filter.com)).



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