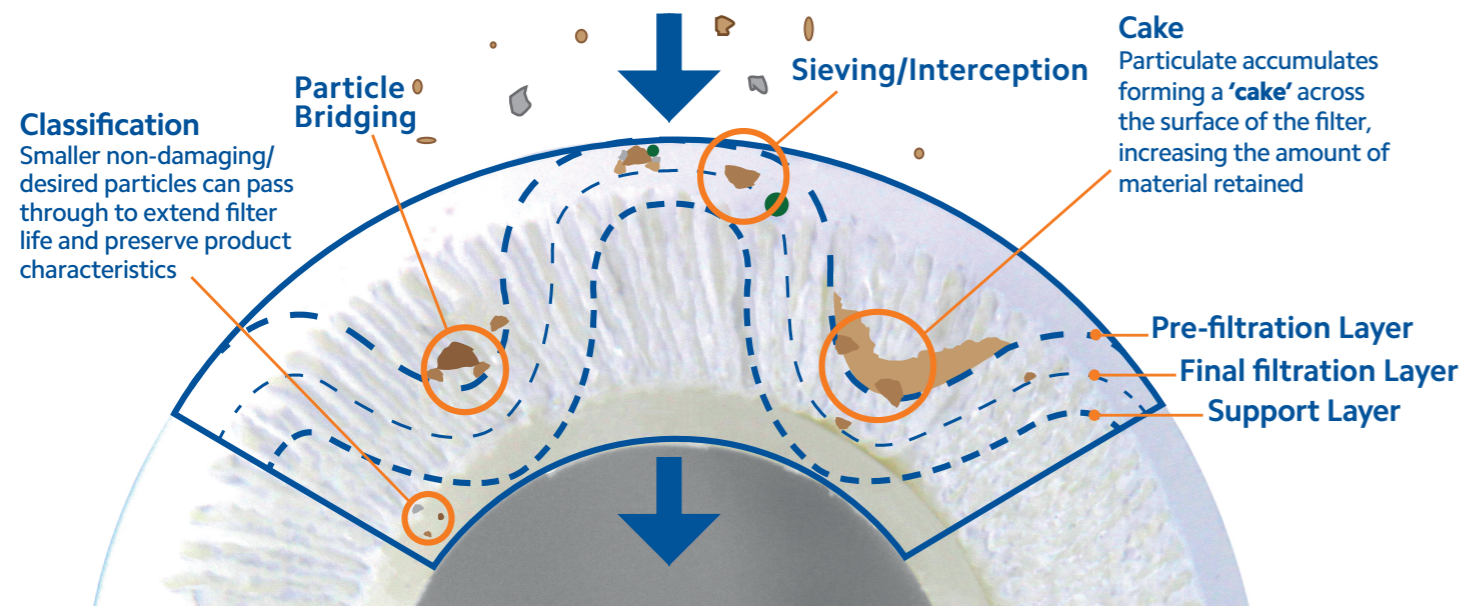


What is Surface Filtration?

Pleated filters are widely used as effective surface filtration due to their excellent flow rates and high efficiency.

Pleating dramatically increases available surface area whilst maintaining high dirt loading and low pressure drops. Much of the media used in pleated cartridges also has some depth characteristics, thanks to its multi-layer construction, thereby aiding particle retention and classification.

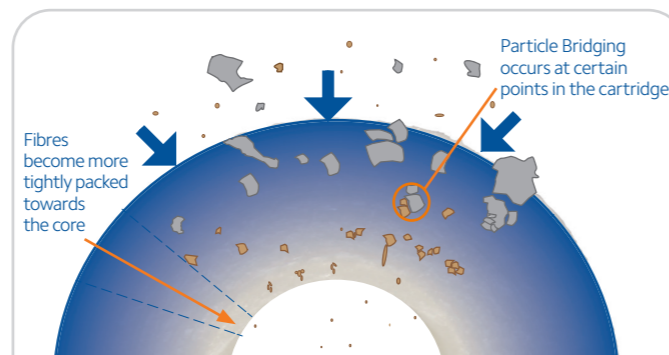


Surface Filtration Technology

Pleated filters are the ideal technology of choice over depth filtration for retention of known or uniformly sized particles.

The Standard (SPE) range of cartridges features a single layer media, which filters on the principles of direct interception and 'caking' where multiple particles accumulate across the media pore. Over time this leads to partial closure, which can increase efficiency and the chance to target finer particles.

The entire Premier range includes support and pre-filtration layers providing an element of depth characteristics. These layers retain larger particles, ensuring the specified micron rating of the cartridge can be utilised for exacting classification.



Depth Filtration Technology

The fibres become more tightly packed throughout a depth cartridge, progressively reducing the size of particles that can pass through the filter.

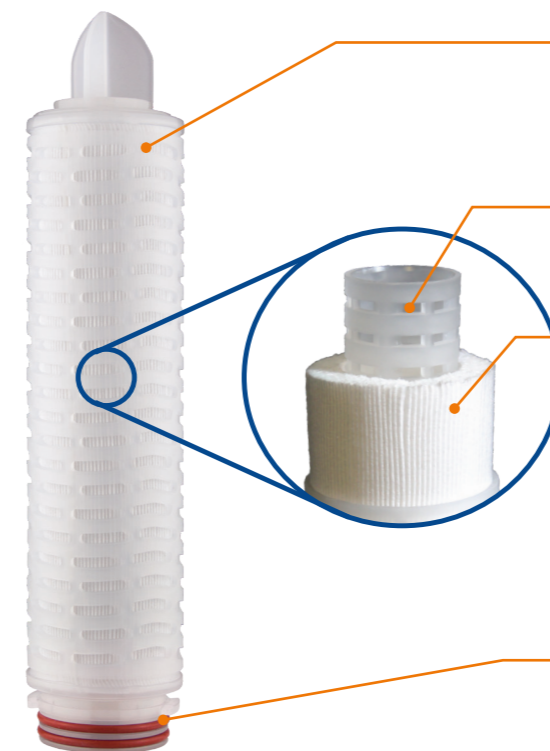
Advantage: Economic to produce.

Disadvantage: Higher pressure drop means a shorter service life compared to pleated cartridges.

Premier Pleat Construction

The Premier Pleat, Crypto and Bubble Point ranges are all constructed with a rigid inner and outer polypropylene core. Offering protection for the pleat pack, the cage also allows a variety of end-caps to be thermally bonded to the cartridge. This secure construction technique prevents bypass, creating a seal strong enough for repeated steam or chemical sterilisation as well as cartridge integrity testing.

Developments in 2018 see a new outer cage design that increases its void volume by over 10%. Whilst maintaining cartridge strength, increasing the open area allows a more uniform distribution of flow across the entire pleat pack ensuring low pressure drop and maximised dirt holding capacity.



Outer support cage

- Provides product strength and rigidity.
- Protects the pleat pack, ensuring media integrity.
- New outer cage design with increased void volume.

Inner support cage

- End-caps are bonded to the support core for product security and strength, ensuring no bypass and enabling integrity testing.

Media

- Pleated construction increases surface area, delivering high flow rates, low initial clean pressure drop and optimised dirt holding.
- Designed with an optimum balance of filtration media and void volume, the pleat pack is engineered to ensure that the entire surface area of the cartridge is used, maximising dirt holding capability whilst maintaining high flow rates and low pressure drop.

Thermally bonded end-cap

- No adhesive ensures no leaching of additives.
- Numerous end-caps and seals available to suit various housings (refer to pages 32 and 33).

Identification

Lot Coded

- Laser etched lot code on cartridge
- Traceable back to raw materials

QR Code

- Links directly to further information for each product

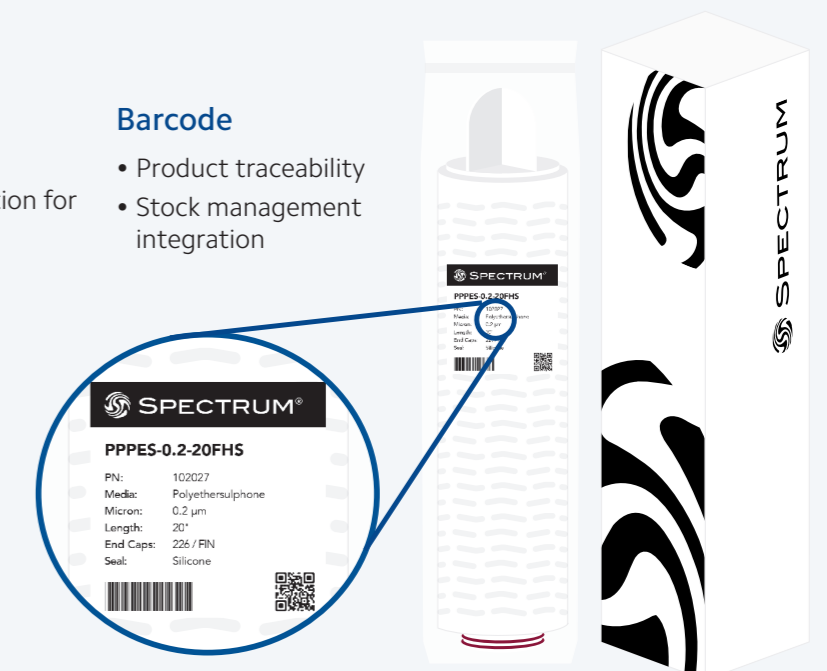
Barcode

- Product traceability
- Stock management integration

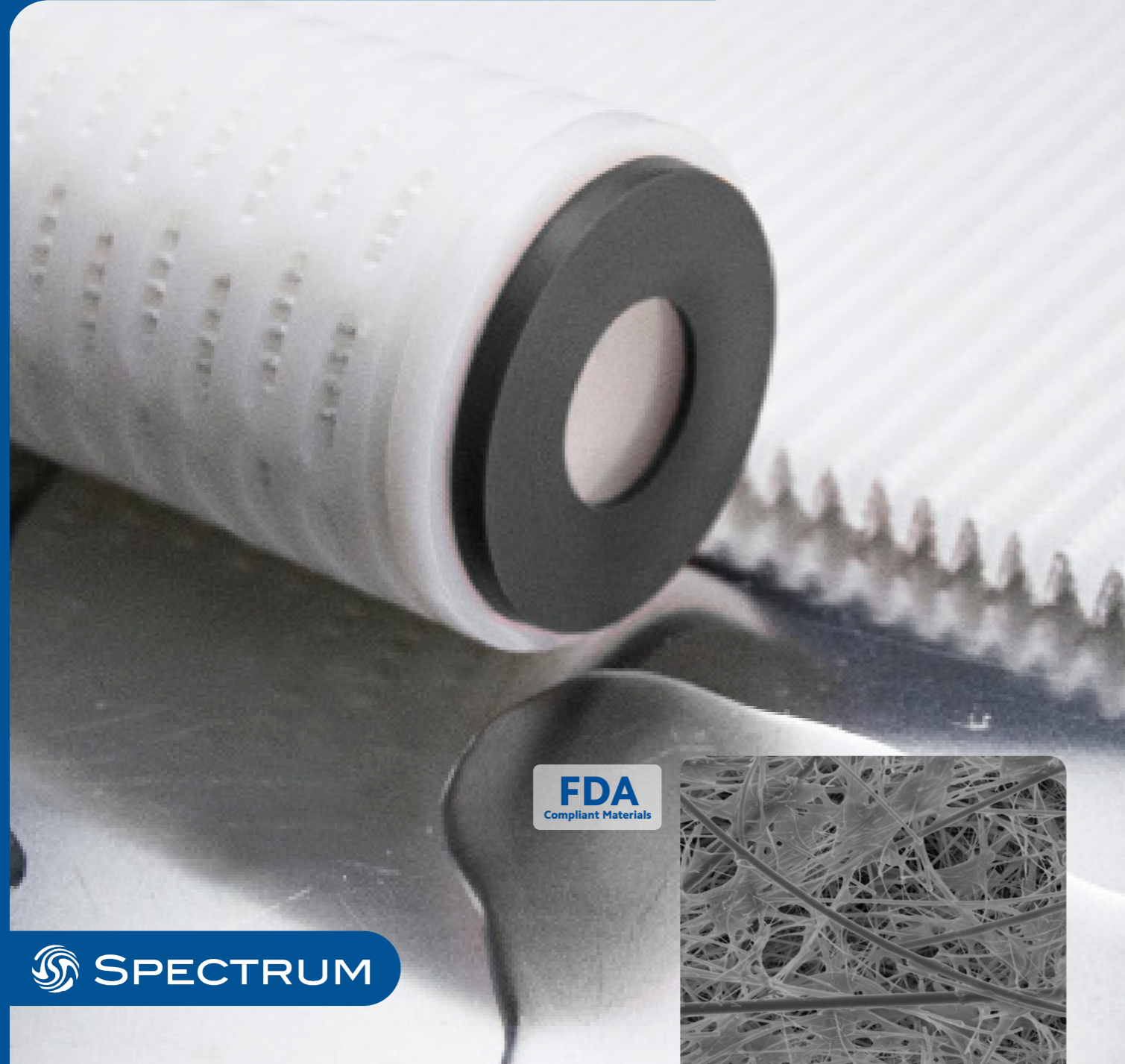
Packaging

Four Protective Layers

- Vacuum sealed inner packaging
- Tough outer polybag layer provides additional protection
- Individual product boxes
- Heavy duty outer carton



Innovative Beverage Cartridge for Extended Service Life



FDA
Compliant Materials

SPECTRUM

Premier Pleat Depth Polypropylene 1-40 micron

The PPDP range presents a product development on the popular SPECTRUM Premier Pleat. Designed to combine the science of depth filtration with the benefits of a pleated cartridge, the increased pleat pack depth allows for a higher dirt holding capacity over standard pleated cartridges. The PPDP is ideal for beverage applications targeting a wide range of particulate size, as well as industry processes to remove softer, gelatinous contaminants.

Pleated depth filters are increasingly being specified for applications that require higher dirt loading capabilities, while maintaining consistent flow rates and low pressure drop.

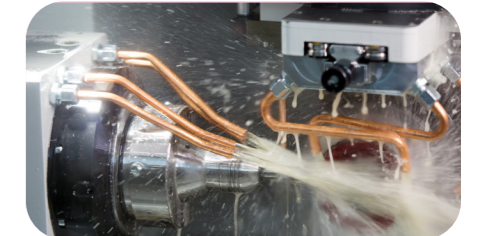
Manufactured from WRAS approved materials, the all polypropylene construction of the PPDP provides reliability and excellent compatibility with a range of fluids. With 1 to 40 micron options available, the high efficiency media provides an effective final filtration solution or pre-filtration to absolute membrane media downstream.



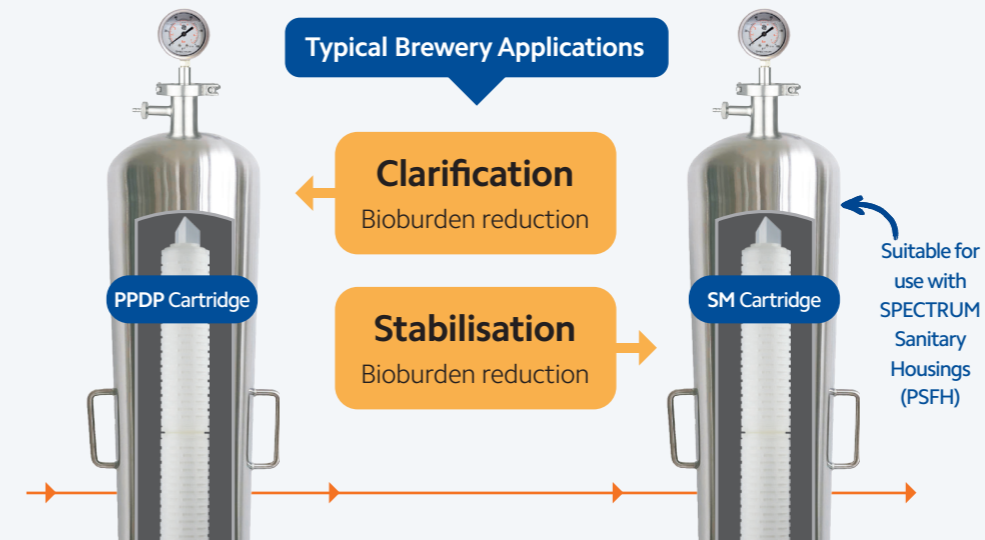
Breweries
The complex diversity of beer production involves varying fluid types and particulate loading. PPDP delivers excellent removal of a wide range of particulate size while retaining desirable characteristics.



Spirits and Liquors
With an increased dirt holding capacity, the PPDP are perfectly suited to the production of spirits and liquors, which typically have a higher level of particulate and 'pulp' compared to traditional clear spirits.



Swarf Removal
Ensuring effective removal of swarf is critical in many machining applications. PPDP provides high efficiency particle removal to protect expensive equipment.



Hygiene and Traceability

- Manufactured in a clean room environment, protecting against unwanted contaminants.
- Each cartridge has double layered packaging. The inner plastic wrap is vacuum sealed and a tough outer layer provides further protection and cleanliness.
- Individually labelled and boxed for security and ease of product identification.

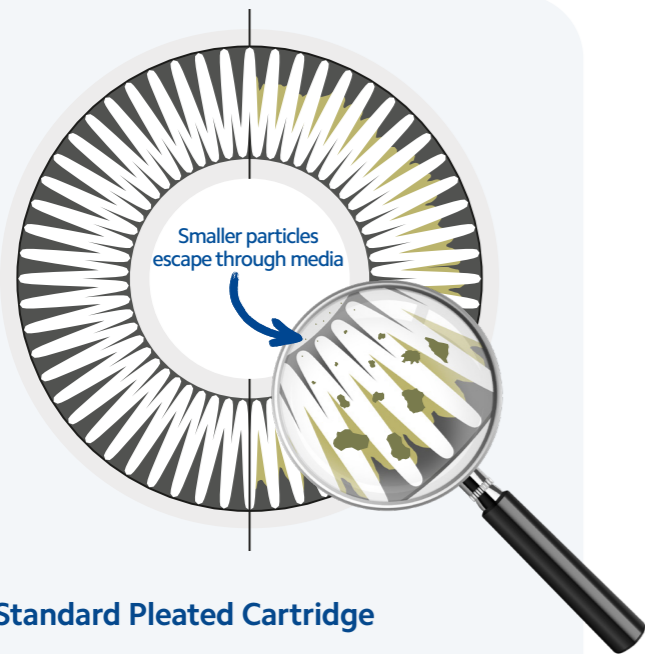


Higher Dirt Holding

Pleated filters are typically used in applications that require high efficiency filtration, removing unwanted contaminant above a specific micron size whilst allowing the passage of desirable characteristics.

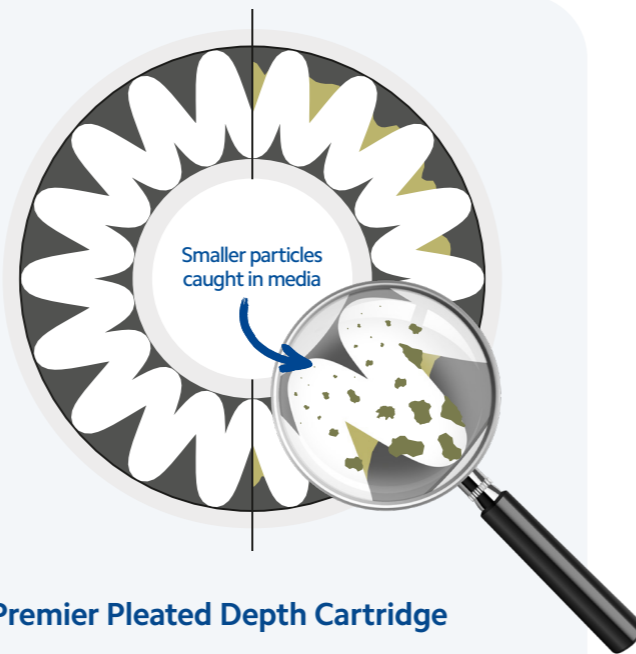
A limitation of this type of filtration is 'blinding' whereby significantly larger particulate will prematurely block the cartridge pores. The PPDP has been developed with a thicker pleat pack, increasing dirt holding capacity and removing a wider range or larger particulate without premature blinding.

Difference between 'Standard Pleat' and 'Premier Pleat Depth'



Standard Pleated Cartridge

Traditional pleated cartridges use single layers of media to produce a pleat pack that delivers exacting classification.

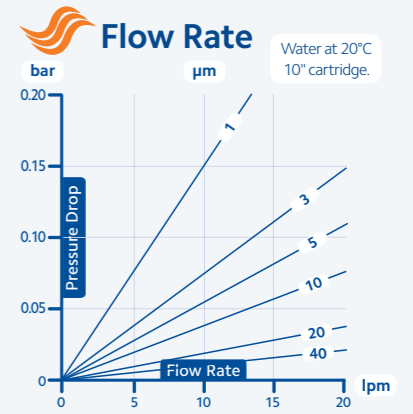


Premier Pleated Depth Cartridge

The thicker pleat pack of the PPDP provides high efficiency graded removal of contaminant, whilst maintaining high flow rate and low pressure drop.

Key Features

- Combines surface and depth filtration technology to provide high efficiency filtration with a high dirt holding capacity
- All polypropylene construction is suitable for a variety of fluids from water to beer, cider and wine



Materials of Construction

- Filter Media:** Melt Blown Polypropylene
- Core:** Polypropylene
- Support Media:** Polypropylene
- Cage:** Polypropylene
- End-cap:** Polypropylene
- Seal:** Silicone (EPDM/Viton)

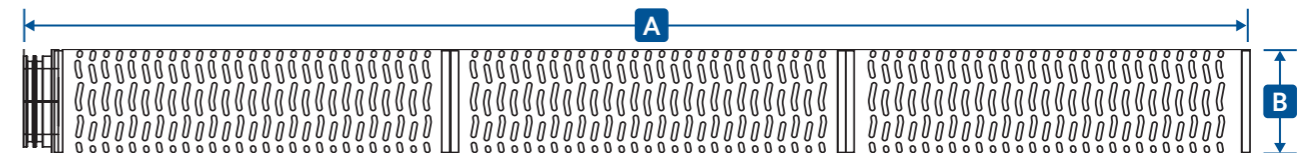
Configurations

- Micron (µm):** 1, 3, 5, 10, 20, 40
- Length ("): 9 3/4, 10, 20, 30, 40**
- End-cap:** AA, CG, EG, EH, FG, FH
- Seal:** S = Silicone, E = EPDM, V = Viton®

Specification

- Efficiency:** 99%
- Max. Operating Temperature:** 80°C
- Max. Sterilising Cycles:** 10 x 20 min cycles at 121°C.
- Surface Area:** 0.3m² per 10"
- Max. Operating Pressure Differential:** 4 bar at 21°C

Dimensions



Length	A (mm)						B (mm)
	AA	CG	EG	EH	FG	FH	
9 3/4"	248	-	-	-	-	-	70
10"	-	243	270	310	270	310	70
20"	508	500	519	560	520	561	70
30"	750	-	769	812	770	815	70
40"	1000	-	1018	1060	1019	1062	70

Efficiency

Cartridge Micron Rating	Challenge Particulate Size										
	0.1 µm	0.2 µm	0.45 µm	1 µm	3 µm	5 µm	10 µm	20 µm	30 µm	50 µm	100 µm
1 µm	95	96	98	99	99+						
3 µm	92	95	97	98	99	99+					
5 µm	83	90	95	97	98	99	99+				
10 µm		82	91	95	96	97	99	99+			
20 µm				80	88	95	97	99	99+		
40 µm						86	95	97	98	99	99+

Part Number

Code	Micron	Length	End-cap	Seal
PPDP	1, 3, 5, 10, 20, 40	9 3/4, 10, 20, 30, 40	AA, CG, EG, EH, FG, FH	S, E, V

e.g. PPDP-1-20-AAS