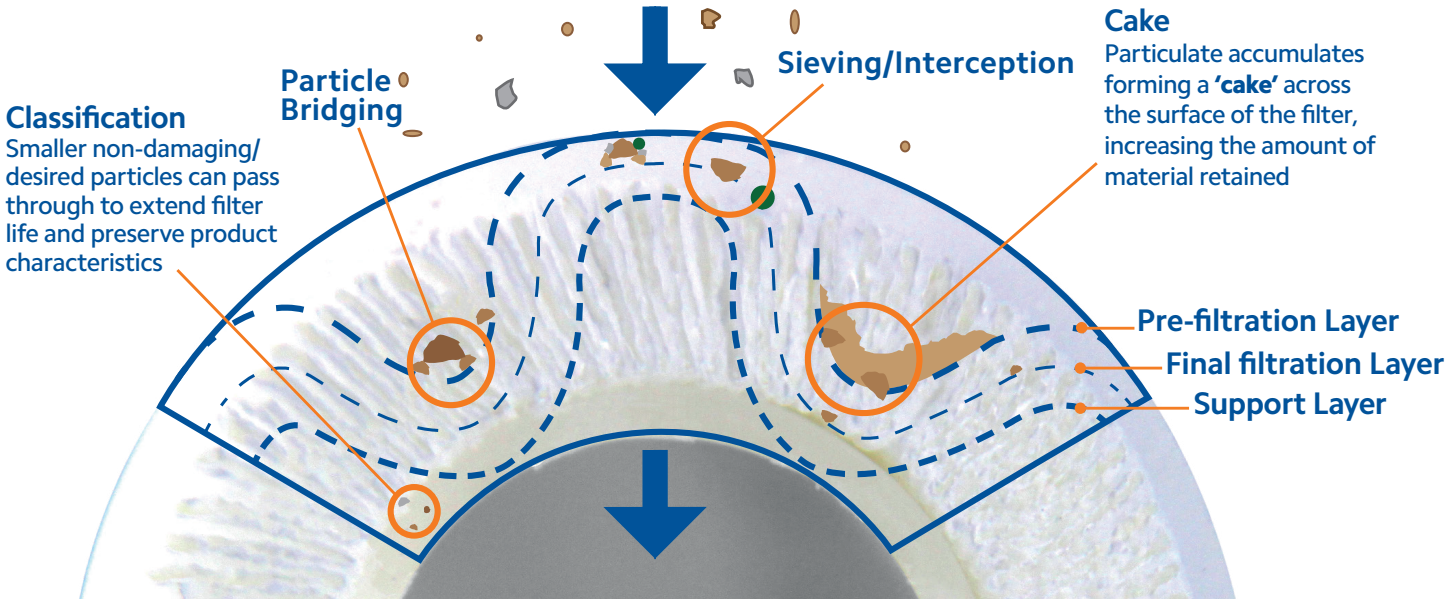
What is Surface Filtration?

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.

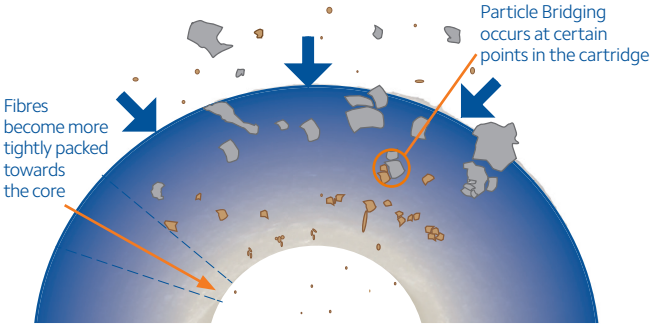


Surface Filtration Technology

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.

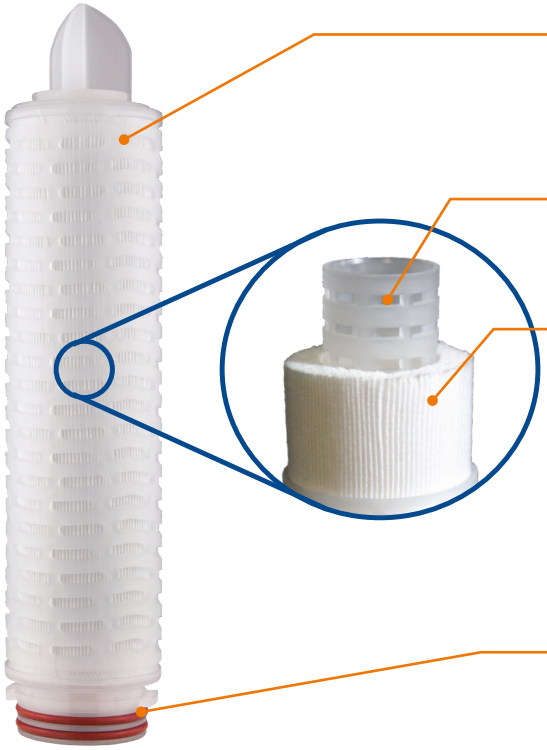
Advantage: Economic to produce.

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

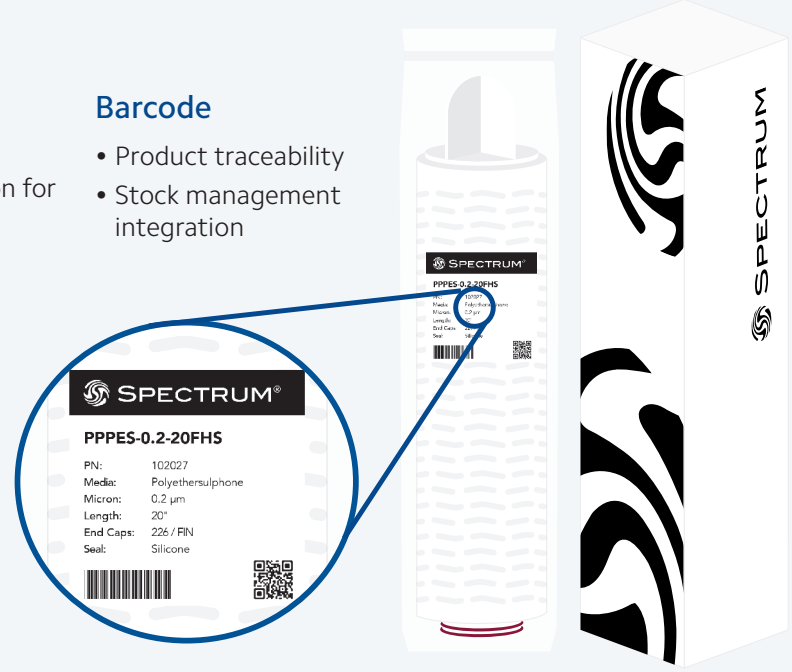
- Laser etched lot code on cartridge
- Traceable back to raw materials

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

Strong Solvent Filtration

Premier Pleat Nylon

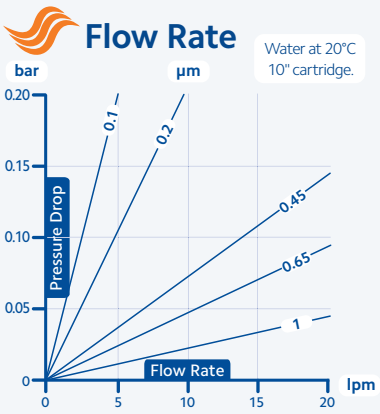
0.1-1 micron

The PPN filter uses naturally hydrophilic Nylon 66 media for excellent chemical compatibility and low extractable content. Suitable for filtering strong solvents (reference standard industry compatibility charts) and the effective retention of gelatinous particles, the PPN is designed for applications requiring exacting micron classification between 0.1 and 1 micron. Each cartridge is thermally bonded, eliminating the need for potentially contaminating adhesives or binders.

Key Features

- Prior to final construction each cartridge is rinsed with ultra pure water for low extractables
- No fibre release in accordance with pharmaceutical requirements
- Hydrophillic Nylon 66 membrane with polypropylene support layers result in low initial clean pressure drop

Flow Rate



Materials of Construction

Filter Media
Nylon 66

Support Media
Polypropylene

End-cap
Polypropylene
Polypropylene with PSU ring insert (Z)
Polypropylene with SS ring insert (Q)

Core
Polypropylene

Cage
Polypropylene

Seal
Viton (as standard)

Configurations

Micron (µm)

0.1	0.2	0.45	0.65	1

Length (")

9¾	10	20	30	40

End-cap

AA	CG	EG	EH	FG	FH	MG
MH	QG	ZH				

Seal

T = Teflon®	V = Viton®

Specification

Efficiency
99.98%

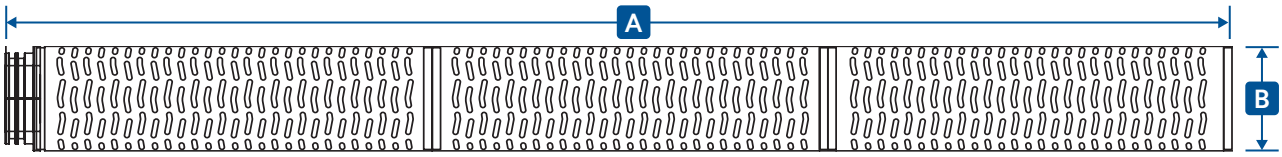
Max. Operating Temperature
82°C

Max. Sterilising Cycles
5 x 20 min cycles at 120°C. Requires compatible end-caps Q (222) and Z (226).

Surface Area
0.57 m^2 per 10"

Max. Operating Pressure Differential
6 bar at 21°C

Dimensions



	A (mm)					B (mm)
Length	AA	CG	EG/FG/MG/	QG	EH/FH/MH/ZH	
9¾"	248	-	-	-	-	70
10"	-	241	270	276	310	70
20"	508	506	520	526	560	70
30"	750	-	770	776	810	70
40"	1000	-	1020	1026	1060	70

Part Number

Code	Micron	Length	End-cap	Seal
PPN –	0.1, 0.2, 0.45, 0.65, 1	– 9¾	AA	V
		– 10, 20, 30, 40	CG, EG, EH, FG, FH, MG, MH, QG, ZH	T, V

e.g. PPN-0.65-30QGV