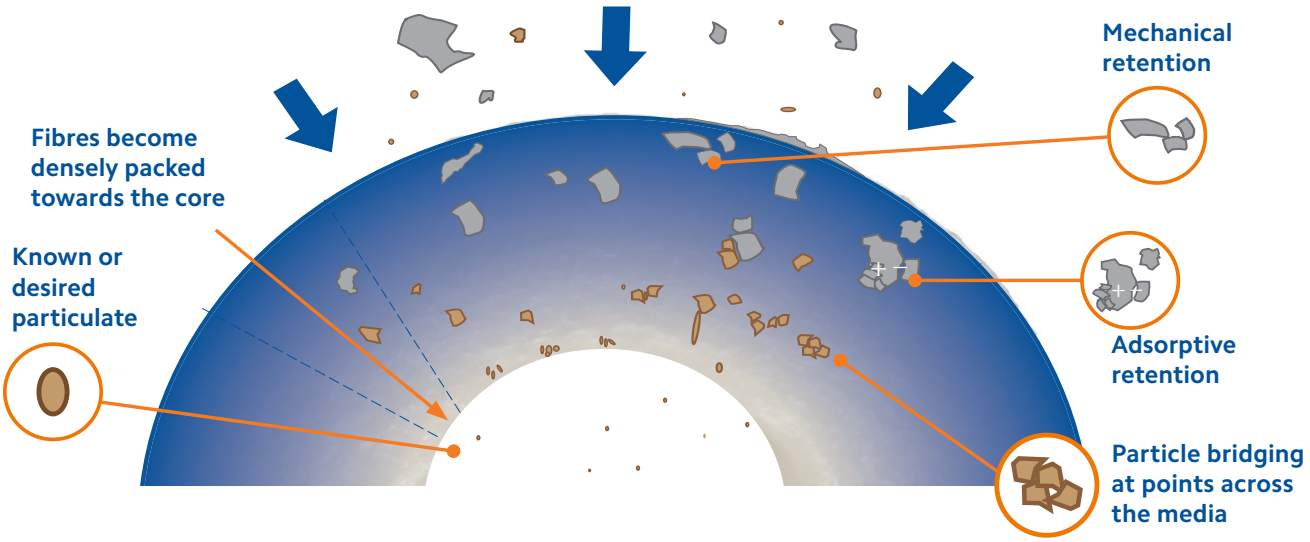
What is Depth Filtration?

Successfully used in a variety of applications, depth filtration utilises a thick layer of media to effectively trap and retain various particulate. Commonly specified as the first stage of a filtration cascade, more advanced manufacturing techniques have now developed depth cartridges suited to improving downstream filtration.

Cross-Section of a Depth Cartridge



How do Depth Filters Work?

As liquid from the inlet is sent twisting and turning on a tortuous path through the filter cartridge, particles become caught in the densely packed fibres of a depth filter - this sieving or interception is known as mechanical retention. With the introduction of graded-depth filtration, a broad range of particulate can be captured across the entirety of the depth media.

From outside to in, the media fibres become densely packed with larger particulate captured first, allowing smaller particles to be progressively intercepted. As well as the physical interception, fibres also naturally attract particles via Van de Waals force. This adhesion process is known as adsorptive retention.

Typical Applications

Depth filtration offers a myriad of solutions to suit many applications:

- Incoming water
- Pre-RO
- General pre-filtration
- Particulate removal
- High temperatures
- Aggressive solvents
- Food grade compatibility
- High viscosity liquids
- Adhesives
- Paints and inks

Technology Developments

For over 50 years, string wound cartridges have been used as a basic form of filtration. Development in manufacturing processes and technologies have resulted in more advanced cartridges with improved performance characteristics and capabilities.

1 Million+

Supply Capabilities

Each year Fileder supplies the equivalent of more than 1 million 10" depth cartridges

Spun Bonded Fibres

Advanced range of solutions for efficient prefiltration or particulate classification

- The most popular option for sediment reduction
- More precise filtration over wound technology
- Particulate is retained throughout the depth of the filter media
- Increased void volume (available space for particulate to be retained) maximises dirt holding capacity
- Suitable for applications from batch process to drinking water

Wound String Fibres

Ideal for high temperature and chemical compatibility applications

- Tried and tested technology
- Cost effective particulate filtration
- Multiple options of filter media and core material
- Suitable for high temperature and aggressive chemicals
- Wide micron rating options from 0.5 to 150 micron

Specialist Materials

Ideal for high viscosity and high temperature applications

- Specially designed for more challenging applications
- Technologies applied to overcome high viscosity processes
- Products for superior performance in paint and ink applications
- Cartridges infused with antibacterial additives

Reduces Bacteria Growth

FDA
Compliant Materials

Bacteria growth vs untreated polypropylene spun when challenged with Staphiloccus Aureus

SPECTRUM

TruDepth® Antimicrobial Spun

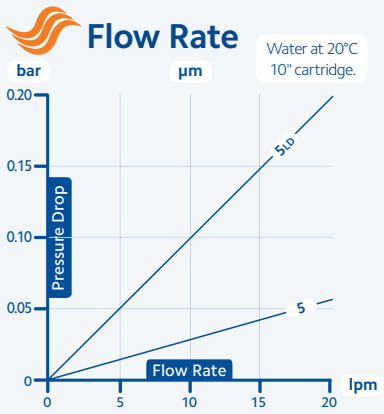
5 micron

Inhibiting the growth of trapped bacteria and microbes within the filter, the specialist antimicrobial spun depth cartridge prevents premature blocking from biofilm, the occurrence of unpleasant smells and the potential of unsightly water stains by utilising silver ions with antimicrobial properties. Primarily used in private water supplies such as boreholes and well water, the AMS is also an excellent safe guard for more critical pre-filtration applications such as pre-UV treatment.

Key Features

- Added active ingredient that resists and inhibits bacterial growth
- Effective graded particulate reduction and high dirt holding capacity

Flow Rate



Materials of Construction

Filter Media
Polypropylene (with antibacterial ingredient)

Configurations

Micron (µm)

5

Length (")

9¾	9⅞	20	30	40

Diameter

Regular	Large = LD

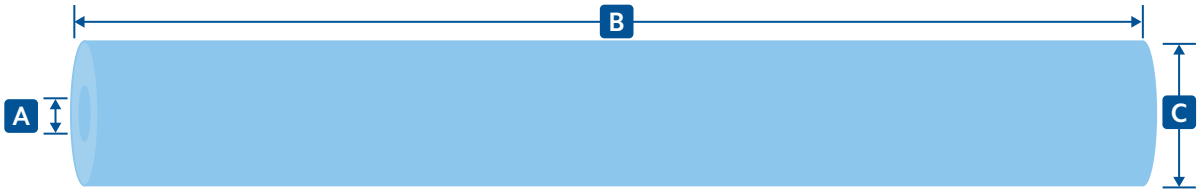
Specification

Efficiency
90%

Max. Operating Temperature
65°C

Max. Operating Pressure Differential
2.5 bar at 21°C

Dimensions



	Dimensions (mm)		
	A	B	C
9⅞	28	250	63
20	28	508	63
30	28	762	63
40	28	1016	63
9¾LD	30	248	115
20LD	30	508	115

Part Number

Code		Micron		Length
AMS	–	5	–	9⅞, 20, 30, 40
				9¾LD, 20LD

e.g. AMS-5-97/8