AVK FILTRATION

Technology and Innovation Partners ARKE Filters

60 YEARS EXPERIENCE

Product Datasheet

Hydraulic Filter Elements – AVD Series

AVK Filtration – Commitment of Quality

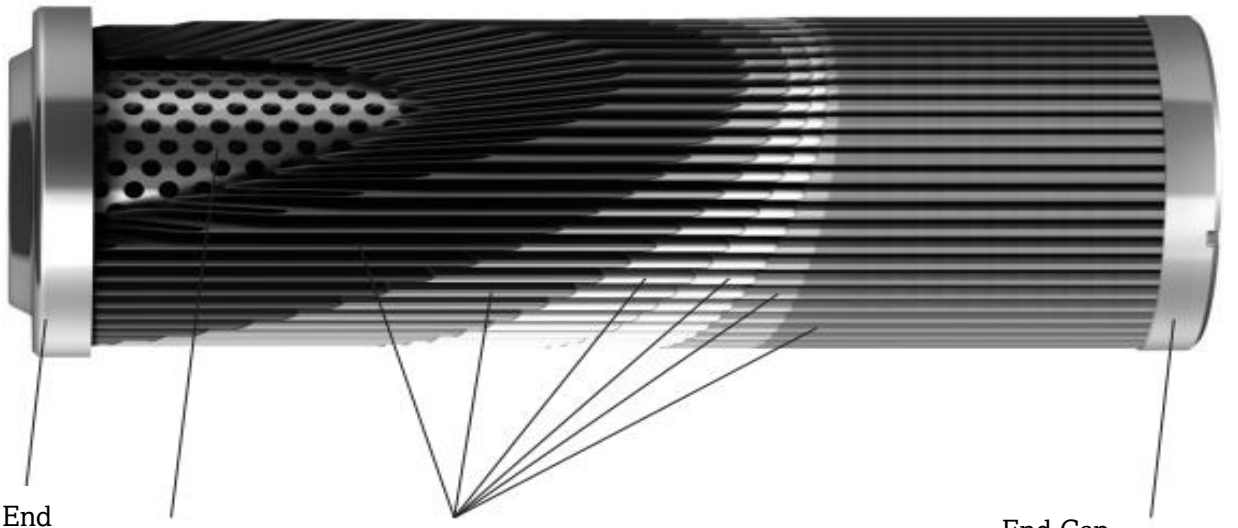
TECHNICAL DATASHEET – Hydraulic Filter Elements DIN 24550-3

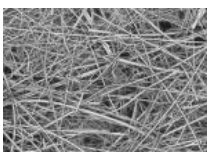
Hydraulic Filter Elements

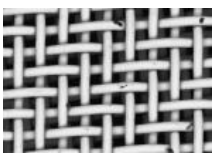
The filter element is the central component of industrial filters. The actual filtration process takes part here. The main filter variables, such as the retention capacity, dirt holding capacity and pressure loss, are determined by the filter elements used and the filter media used in them. Rexroth filter elements are used for the filtration of hydraulic fluids in the hydraulic system as well as for the filtration of lubricants, industrial fluids and gases.

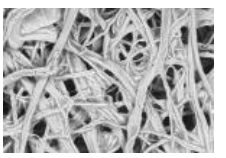
The filter medium achieves the best possible degree of cleanliness compared to other filter media. It is suitable for fluids such as hydraulic oils, lubricants and chemical and industrial fluids. Due to its defined retention capacity (ISO 16889), it offers highly effective protection for machines and system components which are sensitive to contamination.

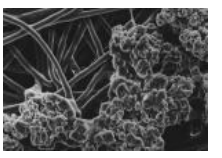
Various filtration medias used by AVK

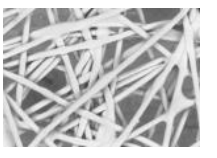



Inorganic
Micro Glass


Metal Mesh


Cellulose
Fiber

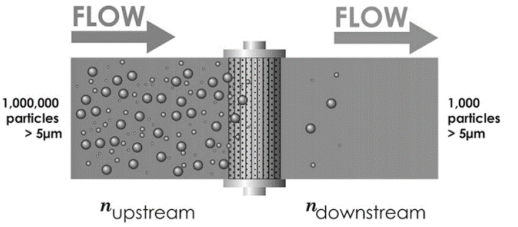

Water
Absorbing


Fleece

Filtration Performance

Filtration ratio βx(c) (β value)

The retention capacity of a hydraulic filter against contamination in a hydraulic system is characterized by the filtration ratio βx(c). This characteristic is the most important performance characteristic of a hydraulic filter. It is measured during the multipass test and is the average value between the defined initial and final pressure differential according to ISO 16889 using ISOMTD test dust. The filtration ratio βx(c) is defined as the quotient of the particle count of the respective particle size on both sides of the filter.



$$\beta_x = \frac{n_{upstream} > x}{n_{downstream} > x}$$

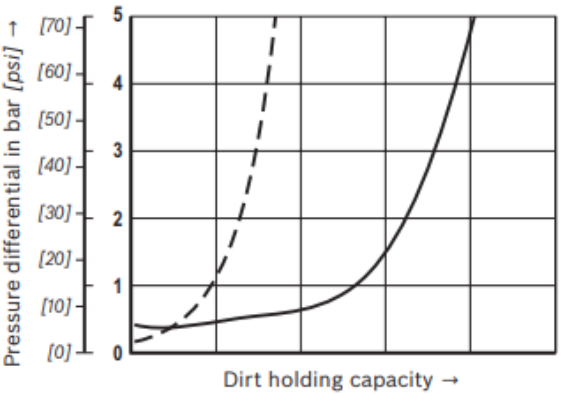
n = Number of particulants > x (where x is the particulant size in microns)

$$\beta_5 = \frac{1{,}000{,}000 > 5\mu m}{1{,}000 > 5\mu m} = 1{,}000$$

(1,000 -1) / 1,000 x 100 = 99.9%

efficiency = Beta minus 1 divided by beta times 100

Filtration ISO Standard Comparison		
βx(c) > 1000 ISO 16889	βx > 200 ISO 4572	AVK Filter Media Code
5 µm(c)	3 µm(c)	G03
7 µm(c)	6 µm(c)	G06
10 µm(c)	10 µm(c)	G10
16 µm(c)	18 µm(c)	G16
21 µm(c)	25 µm(c)	G25



Dirt holding capacity

It is also measured using the multipass test and determines the amount of test dust ISOMTD which is fed to the filter medium until a specified pressure differential increase has been reached.

- - - - - Standard single layer glass fiber media
——— AVK special multi layered glass fiber media

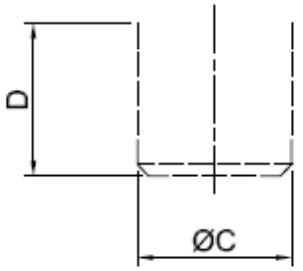
Compared to conventional filter media with single layer technology, AVK multi layered filter material features a high dirt holding capacity because it is made of two separate filter layers connected in series

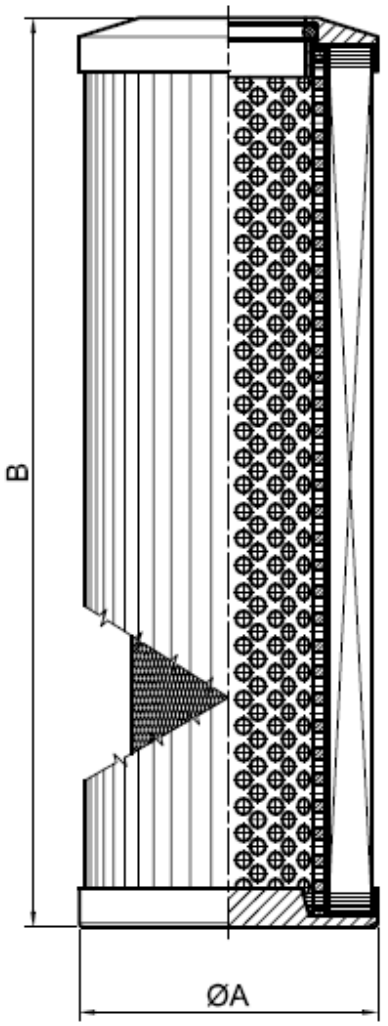
Model Code Selection – AVD Series

	Series	Size	Micron	Seals	Collapse ΔP	AVK Std
	1	2	3	4	5	6
Sample Code	AVD	40	6A	H	D	S1

1	**FILTER ELEMENT SERIES**	AVD	DIN Series
2	**SIZE**	40 63 100 160 250 400 630 1000	SIZE 40 SIZE 63 SIZE 100 SIZE 160 SIZE 250 SIZE 400 SIZE 630 SIZE 1000
3	**FILTRATION (µ Micron Size)**	3A 6A 10A 16A 25A 25M	3µ Absolute Rated Glass Fiber 6µ Absolute Rated Glass Fiber 10µ Absolute Rated Glass Fiber 16µ Absolute Rated Glass Fiber 25µ Absolute Rated Glass Fiber 25µ Wire Mesh
4	**SEALS**	H V	NBR VITON
5	**COLLAPSE ΔP**	N D	20 Bar 210 Bar
6	**AVK STANDARD**	S1	Standard Element

Technical Specifications





Oil Filtration Solutions

Technical Data	
Flow Direction	*Out to In*
Max ΔP	*N - 20 bar / D - 210 bar*
Working Temp.	*-25 Deg C to +110 Deg C*
Seals	*Nitrile / Viton*
Filtration Media	Inorganic Glass Fiber / Metal Mesh

Dimensions in accordance with DIN 24550-3

SIZE	A	B	C	D
40	45	100	22	10
63	45	160	22	10
100	45	250	22	10
160	80	160	40	15
250	80	250	40	15
400	80	400	40	15
630	100	400	60	20
1000	100	630	60	20

Unit of measurement- mm