

Replacement Element VF / FF / MF / SMF / AK

AIRFILTER ENGINEERING P / U / H / S / C
(Particulate, Coalescing, Oil vapour removal)

Description

ultrafilter replacement filter elements have been specifically developed for high efficient removal of solid particles, oil aerosols, water, hydrocarbons, vapours and odours from compressed air⁽¹⁾.

Filter elements are designed to fit into AIRFILTER ENGINEERING filter housings.

Applications ⁽²⁾

- Automotive
- Electronics
- Food & Beverage
- Chemical
- Petrochemical
- Plastics
- Paint
- General industrial application



⁽¹⁾ For any other technical gas please contact us or your local dealer

⁽²⁾ Replacement filter element for AIRFILTER ENGINEERING can be used in variety of applications. For applications not listed please contact us or your local dealer.

Filter Element Rating According to ISO 8573-1 (2010)

AE type / ultrafilter type	Solid particles	Water	Oil
P / VF	Class 6	-	-
U / FF	Class 3	-	-
H / MF	Class 2	-	Class 2
S / SMF	Class 1-2	-	Class 1
C / AK	-	-	Class 0/1

Validated according to ISO12500-1 and ISO12500-3

Technical Specification

	P / VF ⁽⁶⁾	U / FF ⁽⁶⁾	H / MF ⁽⁶⁾	S / SMF ⁽⁶⁾	C / AK ⁽⁶⁾
Operating temperature		1,5 - 65 °C/ 35 - 149 °F			1,5 - 45 °C/ 35 - 113 °F
Operating pressure			0 - 16 barg/ 0 - 232 psi		
Differential pressure (dry)	10 mbar/ 0,145 psi	20 mbar/ 0,290 psi	50 mbar/ 0,725 psi	80 mbar/ 1,160 psi	60 mbar/ 0,870 psi
Differential pressure (wet)	20 mbar/ 0,290 psi	40 mbar/ 0,580 psi	120 mbar/ 1,740 psi	190 mbar/ 2,756 psi	N/A
Particle retention (nominal)	99,99% (3 µm)	99,9999% (1 µm)	99,9999% (0,1 µm)	99,9999% (0,01 µm)	N/A
Particle retention rate ISO 12500-3 ⁽³⁾	95 %	99,8 %	99,98 %	99,9994 %	N/A
Residual oil content ISO 12500-1 ⁽⁴⁾	N/A	< 0,5mg/m ³	< 0,1mg/m ³	< 0,01mg/m ³	< 0,005mg/m ³
Capacity ISO12500-2 ⁽⁵⁾	N/A	N/A	N/A	N/A	20 min

⁽³⁾ Tested according to ISO12500-3, 1bar(a), nominal flow, P/VF 03/10 - MPPS-(5 Mic); U/FF, H/MF, S/SMF - MPPS-(0,3 Mic)

⁽⁴⁾ Tested according to ISO12500-1, H/MF, S/SMF oil aerosol viscosity 32mm²/s, inlet concentration 10mg/m³

⁽⁵⁾ Tested according to ISO12500-2, C/AK 03/10, tested with n-Hexane, test concentration 100mg/kg, 80% saturation

⁽⁶⁾ Cross reference **ultrafilter** vs. AIRFILTER ENGINEERING filtration grades:

VF = P/VF = P
FF = U/FF = U
MF = H/MF = H
SMF = S/SMF = S
AK = C/AK = C



Sizes

Plastic End Caps	Aluminum End Caps	Dimensions [mm]	Flow Capacity [Nm ³ /h]	Flow Capacity [scfm]	Fits into Zander Filter Housing
XX 10 _	XX 10 _ AL	Ø=42; h=53	30	18	G 2
XX 15 _	XX 15 _ AL	Ø=51; h=59	50	29	G 3
XX 20 _	XX 20 _ AL	Ø=51; h=75	70	41	G 5
XX 30 _	XX 30 _ AL	Ø=51; h=144	100	59	G 7
XX 55 _	XX 55 _ AL	Ø=75; h=118	180	106	G 9
XX 95 _	XX 95 _ AL	Ø=75; h=218	300	177	G 11
XX 150 _	XX 150 _ AL	Ø=75; h=318	470	277	G 12
XX 220 _	XX 220 _ AL	Ø=75; h=508	700	412	G 13
XX 290 _	XX 290 _ AL	Ø=92; h=506	940	553	G 14
XX 430 _	XX 430 _ AL	Ø=92; h=760	1450	853	G 17
XX 625 _	XX 625 _ AL	Ø=140; h=605	1940	1142	G 18
XX 775 _	XX 775 _ AL	Ø=140; h=755	2400	1413	G 19

XX = Filtration grade **ultrafilter** VF, FF, MF, SMF or AK

Ø=Diameter; h=Height

_ = Filtration grade AIRFILTER ENGINEERING P, U, H, S or C

Example for ultrafilter designation: SMF 290 S or SMF 290 S AL (for aluminum end caps)

Materials

	P / VF	U / FF	H / MF	S / SMF	C / AK
Filter media	Acrylic fibers, cellulose	Borosilicate micro fibers	Borosilicate micro fibers	Borosilicate micro fibers	Borosilicate micro fibers
Support media	Polyester	/	/	/	/
Drainage media	/	Polyurethane	Polyurethane	Polyurethane none for SMFP	/
Adsorption media	/	/	/	/	Activated carbon granulate PES (Polyester)
Support (inner-outer)	Stainless steel 1.4301				
Bonding	Polyurethane				
Endcaps	PA6 with 30% glass fibers or Aluminum				
Sealing	NBR				

Correction Factors

To calculate the correct capacity of a given filter based on actual operating conditions, multiply the nominal flow capacity by the appropriate correction factor(s).

CORRECTED CAPACITY = NOMINAL FLOW CAPACITY x C_{OP}

Operating Pressure

[bar]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
[psi]	29	44	58	72	87	100	115	130	145	160	174	189	203	218	232
C _{OP}	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88	2,00	2,13

Maintenance

Replace filter element grade P/VF, U/FF, H/MF, S/SMF at least once per year or when pressure drop reaches 350mbar. Replace filter element grade C/AK at least every 6 months.

