

# Replacement Element FF / MF / SMF / AK

ALUP (new) P / G / C / V

(Particulate, Coalescing, Oil vapour removal)

## Description

**ultrafilter** replacement filter elements have been developed for high efficient removal of solid particles, oil aerosols, water, hydrocarbons, vapours and odours from compressed air <sup>(1)</sup>. Filter elements have been designed to fit into ALUP filter housings.



## Applications <sup>(2)</sup>

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

<sup>(1)</sup> For any other technical gas please contact us or your local dealer.

<sup>(2)</sup> Replacement filter element for ALUP (new) 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)

ALUP (new) type / <b>ultrafilter</b> type	Solid particles	Water	Oil
P / <b>FF</b>	Class 3	-	Class 3
G / <b>MF</b>	Class 2	-	Class 2
C / <b>SMF</b>	Class 2	-	Class 1
V / <b>AK</b>	-	-	Class 0/1

Validated according to ISO12500-1, ISO12500-2 and ISO12500-3

## Technical Specification

Filtration grade name	P / <b>FF</b> <sup>(6)</sup>	G / <b>MF</b> <sup>(6)</sup>	C / <b>SMF</b> <sup>(6)</sup>	V / <b>AK</b> <sup>(6)</sup>
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)	20 mbar 0,290 psi	50 mbar / 0,725 psi	80 mbar 1,160 psi	60 mbar 0,870 psi
Differential pressure (wet)	40 mbar 0,580 psi	120 mbar / 1,740 psi	190 mbar 2,756 psi	N/A
Particle retention (nominal)	99,9999 % (1 µm)	99,9999 % (0,1 µm)	99,9999 % (0,01 µm)	N/A
Particle retention rate ISO <sup>(3)</sup>	99,8 %	99,98 %	99,998 %	N/A
Residual oil content <sup>(4)</sup>	< 0,5mg/m <sup>3</sup>	< 0,1mg/m <sup>3</sup>	< 0,01mg/m <sup>3</sup>	< 0,005mg/m <sup>3</sup>
Capacity (ISO12500-2) <sup>(5)</sup>	N/A	N/A	N/A	20 min

<sup>(3)</sup> Tested according to ISO12500-3, 1bar(a), nominal flow 03/10 element, P/**FF**, G/**MF**, C/**SMF**, MPPS-(0,3µm)

<sup>(4)</sup> Tested according to ISO12500-1, 03/10 element, P/**FF**, G/**MF**, C/**SMF** oil aerosol viscosity 32mm<sup>2</sup>/s, inlet concentration 10mg/m<sup>3</sup>

<sup>(5)</sup> Tested according to ISO12500-2, 03/10 element, V/**AK**, tested with n-Hexane, test concentration 100mg/kg, 80% saturation

<sup>(6)</sup> Cross reference ultrafilter – ALUP (new) filtration grades:

**ultrafilter** fine filter type **FF** = P/**FF** = P  
**ultrafilter** Microfilter type **MF** = G/**MF** = G  
**ultrafilter** Submicrofilter type **SMF** = C/**SMF** = C  
**ultrafilter** Activated Carbon filter type **AK** = V/**AK** = V

## Sizes

Filter Element Type / Size	Dimensions [mm]
XXX 45 _	Ø=46; h=56
XXX 90 _	Ø=46; h=91
XXX 125 _	Ø=46; h=146
XXX 180 _	Ø=61; h=155
XXX 290 _	Ø=61; h=195
XXX 505 _	Ø=86; h=288
XXX 685 _	Ø=86; h=323
XXX 935 _	Ø=86; h=368
XXX 1295 _	Ø=102; h=420
XXX 1890 _	Ø=120; h=509
XXX 2430 _	Ø=120; h=679

Ø=Diameter; h=Height

**XXX** = **ultrafilter** filtration grade FF, MF, SMF or AK  
 \_ = Filtration grade ALUP (new) P, G, C or V

Example for **ultrafilter** designation: SMF 935 C

## Materials

	P / FF	G / MF	C / SMF	V / AK
Filter media			Borosilicate micro fibres	
Adsorption media		/		Activated carbon granulate PES (Polyester)
Drainage media		Polyester based polyurethane		/
Support (inner-outer)			Stainless steel 1.4301	
Bonding			Polyurethane	
Endcaps			PA6 with 30% glass fibres	
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<sub>OP</sub>

## 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 <sub>OP</sub>	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/FF, G/MF and C/SMF at least once per year or when pressure drop reaches 350mbar.

Replace filter element grade V/AK at least every 6 months.