

Replacement Element VF / FF / SMF / AK

KSI ECOCLEAN type FF5 / MFO / SMA / CA

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.



Filter Element Rating According ISO 8573-1:2010

KSI / ultrafilter type	Solid particles class	Water class	Oil class
FF5/VF	6	/	/
MFO/FF	3	/	/
SMA/SMF	1-2	/	1
CA/AK	1-2*	/	0/1*

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

* Valid if "SMF" filter cartridge is installed upstream

Technical Specification

	FF5/VF ⁽⁶⁾	MFO/FF ⁽⁶⁾	SMA/SMF ⁽⁶⁾	CA/AK ⁽⁶⁾
Operating temperature	1,5 - 65 °C/ 35 - 149 °F	1,5 - 65 °C/ 35 - 149 °F	1,5 - 65 °C/ 35 - 149 °F	1,5 - 45 °C/ 35 - 113 °F
Operating pressure	0 - 16 barg/ 0 - 232 psi	0 - 16 barg/ 0 - 232 psi	0 - 16 barg/ 0 - 232 psi	0 - 16 barg/ 0 - 232 psi
Differential pressure (dry)	10 mbar/ 0,145 psi	20 mbar/ 0,290 psi	80 mbar/ 1,160 psi	60 mbar/ 0,870 psi
Differential pressure (wet)	20 mbar/ 0,290 psi	40 mbar/ 0,580 psi	190 mbar/ 2,756 psi	/
Particle retention (nominal)	99,99% (3 µm)	99,9999% (1 µm)	99,9999% (0,01 µm)	/
Particle retention rate ISO ⁽³⁾	95 %	99,8 %	99,9994 %	/
Residual oil content ⁽⁴⁾	/	/	< 0,01mg/m ³	< 0,005mg/m ³
Flow Direction	INSIDE to OUTSIDE	INSIDE to OUTSIDE	INSIDE to OUTSIDE	INSIDE to OUTSIDE
Capacity (ISO12500-2) ⁽⁵⁾	/	/	/	20 min

(3) Tested according to ISO12500-3, 1bar(a), nominal flow, VF 03/10 - MPPS-(5µm) ; FF 03/10, SMF 03/10 - MPPS-(0,3µm)

(4) Tested according to ISO12500-1, SMF 03/10 - Oil aerosol viscosity 32mm²/s, inlet concentration 10mg/m³

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

(6) Cross reference **ultrafilter** - KSI filtration grades: **VF** = FF5, **FF** = MFO, **SMF** = SMA, **AK** = CA

Materials

	FF5/VF	MFO/FF	SMA/SMF	CA/AK
Filter media	Acrylic fibers, cellulose	Borosilicate micro fibers	Borosilicate micro fibers	Borosilicate micro fibers
Protection media	Polyester fleece	Polyester fleece	Polyester fleece	Polyester fleece
Drainage media	/	Polyester based polyurethane	Polyester based polyurethane	/
Adsorption media	/	/	/	Activated carbon granulate
Support (inner-outer)	Stainless steel 1.4301	Stainless steel 1.4301	Stainless steel 1.4301	Stainless steel 1.4301
Bonding	Polyurethane	Polyurethane	Polyurethane	Polyurethane
Endcaps	PA6 with 30% glass fibers or aluminium	PA6 with 30% glass fibers or aluminium	PA6 with 30% glass fibers or aluminium	PA6 with 30% glass fibers or aluminium
Sealing	NBR	NBR	NBR	NBR

Sizes

Type <i>ultrafilter</i>	Type KSI	Diameter [mm]	Height [mm]	Flow Capacity [Nm ³ /h]	Flow Capacity [scfm]	Fits into filter housing
XX 3711 __ (AL)	FE3711 __ (AL)	36,5	73	35-52	22-32	F25, F50
XX 5111 __ (AL)	FE5111 __ (AL)	48	114	120	75	F70
XX 7111 __ (AL)	FE7111 __ (AL)	70	153	216	135	F90
XX 7311 __ (AL)	FE7311 __ (AL)	70	302	360	224	F110
XX 7411 __ (AL)	FE7411 __ (AL)	70	364	540-725	336-452	F120, F130
XX 8501 __ (AL)	FE8501 __ (AL)	95	431	800	498	F140
XX 8601 __ (AL)	FE8601 __ (AL)	95	502	1200	747	F160
XX 8701 __ AL*	FE8701 __ AL*	160	385	1500	935	F170
XX 8901 __ AL*	FE8901 __ AL*	140	760	1900	1184	F190

Filter cartridge names consist of cartridge size and filtration grade.

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

before filter size (e.g. SMF 7311 SMA (FE7311 SMA) = KSI type FE7311 SMA).

__ = Filtration grade designation KSI FF5, MFO, SMA, CA

There is an option for **aluminum endcaps** (e.g. SMF 7311 SMA **AL** (FE7311 SMA) - KSI type FE7311 SMA).

KSI Standard is with Polyamid end caps.

* Available only with aluminum endcaps from **ultrafilter**.

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

FF5/VF, MFO/FF, SMA/SMF - Replace filter element at least once per year or when pressure drop reaches 350mbar.

CA/AK - Replace filter element at least every 6 months.