

Replacement Element MF / SMF / AK

Atlas Copco old type DD / PD / QD

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

Atlas Copco / ultrafilter type	Solid particles class	Water class	Oil class
DD/MF	2	/	2
PD/SMF	1-2	/	1
QD/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

	DD/MF ⁽⁶⁾	PD/SMF ⁽⁶⁾	QD/AK ⁽⁶⁾
Operating temperature	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
Differential pressure (dry)	50 mbar/ 0,725 psi	80 mbar/ 1,160 psi	60 mbar/ 0,870 psi
Differential pressure (wet)	120 mbar/ 1,740 psi	190 mbar/ 2,756 psi	/
Particle retention (nominal)	99,9999% (0,1 µm)	99,9999% (0,01 µm)	/
Particle retention rate ISO ⁽³⁾	99,98 %	99,9994 %	/
Residual oil content ⁽⁴⁾	< 0,1mg/m ³	< 0,01mg/m ³	< 0,005mg/m ³
Flow Direction	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, MF 03/10, SMF 03/10, MPPS-(0,3µm)

(4) Tested according to ISO12500-1, MF 03/10, 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** – Atlas Copco filtration grades: **MF** = DD, **SMF** = PD, **AK** = QD

Materials

	DD/MF	PD/SMF	QD/AK
Filter media	Borosilicate micro fibers	Borosilicate micro fibers	Borosilicate micro fibers
Protection media	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
Bonding	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
Sealing	NBR	NBR	NBR

Sizes

Type <i>ultrafilter</i>	Type Atlas Copco	Diameter [mm]	Height [mm]	Flow Capacity [Nm ³ /h]	Flow Capacity [scfm]	Fits into filter housing
XX 2/0.5 (AL)	__ 6	36,5	67	32	19	Grade-6
XX 3/1.5 (AL)	__ 13	50,5	81	61	36	Grade-13
XX 4/1.5 (AL)	__ 25	50,5	118	108	64	Grade-25
XX 6/2.5 (AL)	__ 40	72	161	2116	127	Grade-40
XX 10/2.5 (AL)	__ 65	72	260	432	254	Grade-65
XX 12/3 2"S (AL)	__ 195	86	330	792	466	Grade-195
XX 24/3 2"S (AL)	__ 295	86	631	1188	699	Grade-295
XX 15/4 2 1/2"S (AL)	__ 400	114	416	1548	911	Grade-400
XX 24/4 2 1/2"S (AL)	__ 500	114	637	2232	1314	Grade-500

Filter cartridge names consist of cartridge size and filtration grade.

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

before filter size (e.g. SMF 10/2.5 (PD 65) = Atlas Copco old type PD 65).

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There is an option for **aluminum endcaps** (e.g. SMF 10/2.5 **AL** (PD 65) - Atlas Copco type PD 650).

Atlas Copco Standard is with Polyamid end caps.

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

DD/MF, PD/SMF - Replace filter element at least once per year or when pressure drop reaches 350mbar.

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