

Synteq XP M / S

The depth filter for the removal of water, oil aerosols and solid particles from compressed air and gases with validated retention rate acc. to ISO 12500-1.

Product description:

The filter elements Synteq XP M / S are designed for the purification of compressed air or gases in industrial applications.

Validated performance data acc. to ISO 12500-1 for reliable achievement of compressed air quality suitable to achieve ISO 8573-1 quality classes.

The high performance filter media Synteq XP provides two innovations in one product:

a unique fibre blend filtration media plus a new manufacturing technology without adding any binder.

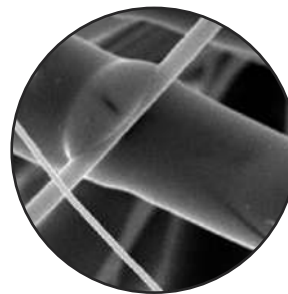
By using this technology stable polyester fibres and micro-fine borosilicate fibres are thermally melted together. The use of the polyester fibres establishes a stabile framework, which sustainably supports the high filtration efficiency of the borosilicate fibres.

Synteq XP is a revolutionary new media which provides highest filtration performance, exceptional dirt holding capacity and great stability.

Applications:

The Synteq XP filter is for example being utilised in the following industries:

- Final filtration for control and process air
- Pre-filter to protect adsorption dryers (M)
- Dust filter downstream adsorption dryers (M)
- General applications in food and beverage industries
- Filtration (S) upstream of activated carbon filters



Cross section of the Synteq XP filter with SEM micrograph of the filter media



Synteq XP depth filter

Element Type	Flow rate at 7 bar g m ³ /h *
20/30	1440
30/30	1920
30/50	2880

Sizing example for pressure which deviates from nominal pressure:
 $\dot{V}_{nom} = 2300 \text{ m}^3/\text{h}$, operating pressure = 9 bar (g)

$$\dot{V}_{corr} = \frac{\dot{V}_{nom}}{f_p}$$

$$\dot{V}_{corr} = \frac{2300 \text{ m}^3/\text{h}}{1.25} = 1840 \text{ m}^3/\text{h}$$

Calculated Size: Type 30/30

Operating Pressure bar g	Pressure conversion factor f_p
1	0.25
2	0.38
3	0.50
4	0.63
5	0.75
6	0.88
7	1.00
8	1.13
9	1.25
10	1.38
11	1.50
12	1.63
13	1.75
14	1.88
15	2.00
16	2.13

* m³/h related to 1 bar abs. and 20°C

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Features:	Benefits:
Validated performance data acc. to ISO 12500-1	Reliable reaching of the compressed air quality according to ISO 8573-1
Intelligent overall concept	Flow range, filtration grades, efficiencies and available options perfectly meet requirements of air purification
Innovative, binderfree filter media Synteq XP	High retention rate, high dirt holding capacity and high stability at very low differential pressure
Coalescence sleeve fixed by outside support sleeve	Flow area between element and housing guaranteed at any time; optimised drainage function by constant stable structure of the coalescence sleeve
Support sleeve made of stainless steel meshed grid	Protection of the filter media against pressure shocks

Materials:	
Filter media	Polyester fibres and borosilcate fibres, thermally merged
Coalescence sleeve	Polyester fleece
Inner and outer support sleeves	Stainless steel 1.4301 / 304
End caps	Aluminium
O-Rings	Perbunan: silicone free and binderfree (Standard)
Bonding	Polyurethane

Validation:
Validation of high-efficiency filters acc. to ISO 12500-1

Particle retention rate related to 0.01 µm	Oil retention rate acc. to ISO 12500-1	Residual oil content at an inlet concentration of		
			10 mg/Nm ³	3 mg/Nm ³
$\eta (S) = 99.99999\%$	$\eta (S) = 99.8\%$	$\dot{m}_{Oil} (S) [mg/Nm^3]$	0.02	< 0.01
$\eta (M) = 99.99998\%$	$\eta (M) = 99.3\%$	$\dot{m}_{Oil} (M) [mg/Nm^3]$	0.07	< 0.03

