

# Product Data Sheet

## Filter Cartridges EFST..CMS (Desiccant)

Version: 1.8.0

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Date: 13.07.2018

### Field of application

Type EFST.. filter cartridges of filtration grade CMS are mainly designed for separating humidity (water vapour) from small compressed air flows (dry-type filtration). The properties of the desiccant are especially suitable for drying compressed air e.g. in point-of-use dryers. Filtration grade CMS is therefore used, if there are no liquid contaminants in the compressed air flow.

### Features

EFST..CMS filter cartridges consist of a loose desiccant filling, embedded between two coarse filter cloths and mesh screens. Furthermore a pleated general purpose filter element (Z) is fully integrated into the cartridge downstream in order to reliably prevent even the finest desiccant abrasion from leaving the filter cartridge. A transparent perspex cylinder as a main body makes the desiccant filling visible, the pleated general purpose filter media is located between two stainless steel cylinders. Both desiccant and filter stage are completed / separated by plastic end caps. The adsorptive desiccant stage as well as general purpose filter stage is fully incorporated in a single, compact cartridge unit. As a result a further downstream dust filtration is no longer required.

The longish shaped desiccant bed ensures a long contact time of the compressed air with the desiccant and thus a low dew point and long lifetime. The integrated general purpose filter makes a downstream dust filtration by means of a complete separate dust filter unit superfluous (housing and element) and thus reduces differential pressure and costs - operating as well as investment costs.

All the features mentioned above contribute to a filter cartridge which has a long service life (high adsorption capacity) combined with economic efficiency (low differential pressure, investment costs) and maximum operating safety (integrated design). This guarantees extremely low dew points and thus dry air.



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### Basic data

Model	Nominal volume flow (VN) <sup>*1</sup>	Capacity <sup>*2</sup>	Max. operating pressure	Min./Max. operating temperature
EFST 90	0.5 m <sup>3</sup> /h	11 m <sup>3</sup>	---	+2°C - +45°C
EFST 110	1.5 m <sup>3</sup> /h	32 m <sup>3</sup>		
EFST 120	2.5 m <sup>3</sup> /h	54 m <sup>3</sup>		
EFST 130	4.0 m <sup>3</sup> /h	95 m <sup>3</sup>		

\*1 - refers to 1 bar(a) and 20°C at 7 bar operating pressure for 10 seconds contact time of the compressed air inside the desiccant bed  
Reducing the volume flow improves all specifications

\*2 - refers to 20°C inlet temperature (17.15 g/m<sup>3</sup> humidity) and 20% load capacity of the desiccant referred to its weight

### Purity classes according to ISO 8573-1

Contamination	
Solid particles <sup>*3</sup>	(Class 2)
Water content <sup>*3</sup>	Class 2
Total oil content	---

\*3 - typical result, on the assumption of suitable inlet concentrations as well as operating and marginal conditions.

### Volume flow conversion factors

#### «F1» - Pressure (in bar)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.125	0.25	0.38	0.50	0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00	2.13

#### «F2» - Temperature (in °C)

2	5	10	15	20	25	30	35	40	45
1.07	1.05	1.04	1.02	1.00	0.98	0.97	0.95	0.94	0.92

#### Calculation of the converted volume flow

Converted volume flow VK	Nominal required volume flow VN <sub>min</sub>
$VK = VN \times F1 \times F2$	$VN_{min} = VK / F1 / F2$

VK : Converted volume flow calculated for the operating conditions

VN<sub>min</sub>: Nominal required volume flow calculated for the operating conditions, based on the volume flow at operating conditions

### Maintenance rules

Pressure range	
Entire pressure range	Replacement of filter cartridge depending on the operating temperature and therefore on the specified vapour amount (use of a humidity indicator or dewpoint meter is recommended)

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### Product specific data

Specification	
Differential pressure	< 50 mbar
Pressure dew point (nominal)	-40°C

Model	Amount of desiccant
EFST 90	117 g
EFST 110	348 g
EFST 120	579 g
EFST 130	1018 g

### Materials

Component	
Filling	Molecular sieve (MS)
Filter cloths	Polyester-Polyurethane
Mesh screens	Stainless steel 1.4301
Filter media general purpose filtration	Glass fibre
Bonded joint	PU (Polyurethane)
Cylinder filling	Acrylic
Cylinders filter media	Stainless steel 1.4301
End caps	PA6 (Polyamide)
Sealing materials	NBR

### Dimensions

Model	Height (total height)	Ø	Ø Inlet (inside)
EFST 90	118 mm (124 mm)	75 mm (73.3 mm)	44 mm
EFST 110	218 mm (224 mm)	75 mm (73.3 mm)	44 mm
EFST 120	318 mm (324 mm)	75 mm (73.3 mm)	44 mm
EFST 130	508 mm (514 mm)	75 mm (73.3 mm)	44 mm

### Classification according to Pressure Equipment Directive 2014/68/EU for group 2 fluids

Model	Volume	Category
All models	Filter cartridges are not part of the Pressure Equipment Directive 2014/68/EU	

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### Other directives

Model	
All models	---