

Product Data Sheet

Water Separator Inserts EFST..W

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Field of application

Type EFST water separator inserts of filtration grade W are mainly designed for separating great amounts of liquids from compressed air flows (liquid separation), i.e. separating compressed air condensate generated in aftercoolers or refrigerant dryers. Larger solid contaminants are, of course, also separated during this process. Filtration grade W is therefore used, if great amounts of liquid or coarse contaminants need to be separated from a compressed air flow.

Water separator inserts of type EFST..W are only suitable for FCA series filter housings.

Features

Type EFST water separator inserts of filtration grade W consist of a stainless steel cyclone spinner attached to an end cap in the top part and a stainless steel rebound plate in the bottom part of the water separator insert. Highest attention was paid to the metal design so even great pulsations within the compressed air system cannot cause any harm to the water separator insert.

For a proper operation of the water separator insert the flow direction needs to be from outside to inside (code 'S' when ordering a complete water separator including housing).

Compressed air entering the separator housing is redirected by the water separator insert to a kind of cyclone flow. "Heavy" liquid contaminants within the compressed air are pushed against the inner wall of the housing this way (centrifugal forces), finally draining into the bottom of the housing by gravity while the compressed air, freed from a major part of liquid contaminants, is flowing towards to outlet in the middle of the housing. The rebound plate avoids contaminants, already separated and collected in the bottom part of the filter housing, re-entering the compressed air flow.

All the features mentioned above are a contribution to a water separator which has a high performance (water separation efficiency) and maximum operating safety (integrated metal design).



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Specifications subject to change without notice

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Basic data

Model	Nominal volume flow (VN) ^{*1}	Max. operating pressure	Min./Max. operating temperature
EFST 30 W	100 m ³ /h	---	+2°C - +65°C
EFST 90 W	330 m ³ /h		
EFST 120 W	800 m ³ /h		
EFST 140 W	1,500 m ³ /h		
EFST 180 W	2,500 m ³ /h		

*1 - refers to 1 bar(a) and 20°C at 7 bar operating pressure

Purity classes according to ISO 8573-1

Contamination	
Solid particles ^{*2}	Class X
Water content ^{*2}	Class 7
Total oil content ^{*2}	Class X

*2 - 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
17	18	19	20	25	30	35	40	45	50							
2.24	2.35	2.45	2.6	3.1	3.6	4.0	4.4	4.7	5.1							

«F2» - Temperature (in °C)

2	5	10	15	20	25	30	35	40	45	50	55	60	65
1.07	1.05	1.04	1.02	1.00	0.98	0.97	0.95	0.94	0.92	0.91	0.89	0.88	0.87

Calculation of the converted volume flow

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

VK : Converted volume flow calculated for the operating conditions

VN_{min}: Nominal required volume flow calculated for the operating conditions, based on the volume flow at operating conditions

Maintenance rules

Pressure range	
All models	---

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Product specific data

Specification	
Efficiency (max.)	99.9%

Materials

Component	
Cyclone spinner, rebound plate	Stainless steel 1.4301 (AISI 304, V2A)
Bonded joint	PU (polyurethane)
End caps	EFST30-140: PA6 (polyamide), 30% glass fibre ; EFST180: aluminium anodized
Sealing materials	NBR

Dimensions

Model	Height (total height)	Ø	Ø Inlet (inside)
EFST 30	57 mm (57 mm)	51 mm	24 mm
EFST 90	118 mm (124 mm)	75 mm	44 mm
EFST 120	318 mm (324 mm)	75 mm	44 mm
EFST 140	510 mm (510 mm)	92 mm	55 mm
EFST 180	612 mm (612 mm)	140 mm	96 mm

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

Model	Volume	Category	Commissioning inspection	Routine inspection
All models	Water separator inserts are not part of the Pressure Equipment Directive 2014/68/EU			

Other directives

Model	
All models	---