

Product Data Sheet

Sterile Filter Elements ERZA..PST

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Field of application

Type ERZA..P filter elements of filtration grade ST provide the opportunity to use our high performance, energy efficient and safe to operate filtration technology also in ZANDER series G-ST filter housings. We recommend the following filtration grade assignment:

	FST GmbH	ZANDER
Sterile	ST	ST-R

Features

Filter elements of filtration grade ST are sterile filter elements, designed for separating micro-biological contaminants from compressed air flows, i.e. viruses, bacteria, etc. (sterile filtration). The filter elements can be sterilised (steaming and autoclaving) and are therefore used for generating sterile compressed air flows (sterile air). Filtration grade ST filter elements, of course, also separate finest solid contaminants and are therefore used for fine dust separation and to generate ultra clean compressed air flows (ultra clean air).

Filter elements of filtration grade ST consist of a wrapped glass fibre depth filter media, supported by an additional NOMEX layer inside and outside. The media pack is compactly located between the two stainless steel cylinders and end caps and therefore completely integrated in the filter element.

To avoid a breakthrough at an early stage and to achieve a high number of sterilisation cycles, the media pack is provided with several layers.

Filter elements of filtration grade ST are manufactured using a high temperature resin bonded joint. This feature allows high operating and sterilising temperatures.

All the features mentioned above are a contribution to a filter element which has a high performance (high separation efficiency) and maximum operating safety (integrated, multi-layer design).



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Specifications subject to change without notice

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Latest version see www.fstweb.de

Basic data

Model	Nominal volume flow (VN) ^{*1}	Max. operating pressure	Min./Max. operating temperature
ERZA1080P	50 m ³ /h	---	+2°C - +150°C Sterilisation ^{*2} (100 cycles) 121°C for 30 minutes 131°C for 20 minutes 141°C for 10 minutes
ERZA1160P	80 m ³ /h		
ERZA2016P	165 m ³ /h		
ERZA2026P	270 m ³ /h		
ERZA2038P	405 m ³ /h		
ERZA2055P	550 m ³ /h		
ERZA3055P	740 m ³ /h		
ERZA3080P	1,150 m ³ /h		

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

*2 - steaming and autoclaving

Purity classes according to ISO 8573-1

Contamination	
Solid particles ^{*3}	Class 0-1
Water content	---
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
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	10	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150
1.07	1.04	1.00	0.98	0.97	0.95	0.94	0.91	0.88	0.85	0.83	0.81	0.79	0.77	0.75	0.73	0.71	0.69

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

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Maintenance rules

Pressure range		
0-4 bar	Replacement of filter element once a year the latest on a differential pressure of 50 mbar	Replacement of filter element latest after 40 sterilisation cycles, depending on the type of sterilisation (hard/soft) earlier, if required
5-16 bar	Replacement of filter element once a year the latest on a differential pressure of 350 mbar	
17-50 bar	Replacement of filter element once a year the latest on a differential pressure of 500 mbar	

Product specific data

Specification	
Differential pressure, dry	30 mbar
Micron rating (nominal) for air	0.01 μ
Efficiency	100%

Materials

Component	
Depth filter media	Borosilicate micro glass fibres
Supporting fabric of depth filter media	NOMEX
Bonded joint	Silicon
Cylinders	Stainless steel 1.4301
End caps	Stainless steel 1.4301
Sealing materials	Silicon

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Dimensions

Model	Height (total height)	Ø	Ø Inlet (inside)
ERZA1080P	76 mm (92 mm)	52 mm	23 mm
ERZA1160P	152 mm (168 mm)	52 mm	23 mm
ERZA2016P	146 mm (170 mm)	73 mm	34 mm
ERZA2026P	244 mm (268 mm)	73 mm	34 mm
ERZA2038P	354 mm (378 mm)	73 mm	34 mm
ERZA2055P	489 mm (513 mm)	73 mm	34 mm
ERZA3055P	501 mm (531 mm)	90 mm	55 mm
ERZA3080P	751 mm (781 mm)	90 mm	55 mm

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

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

Other directives

Model	
All models	---