Product Data Sheet
Filter Housings FWP.. (16, 12 bar)

Field of application
Type FWP filter housings are designed as compressed air, vacuum and steam filter housings for small to medium compressed air volume flows / steam capacities and connection sizes in the pressure level up to 16 bar at temperatures up to 200°C.

Features
Type FWP filter housings are made from stainless steel, manufactured in a deep drawing process with final assembling by welding processes. For surface finishing purposes the filter housing are electro polished inside and outside, additionally mechanically polishing is provided on the outer side.

Filter head and bowl are connected by a milk pipe connection (hygienic connection acc. to DIN 11851), sealed by an aseptic profile gasket. This results in a dead space free design inside the filter housing ensuring hygienic safety.

Each type FWP filter housing is designed for one filter element of type EFSTP to be inserted. Connection and sealing between filter element and filter housing is provided by a double O-ring bayonet coupling.

The housings are provided with a threaded inlet and outlet (connection size depends on the model) while many other connection types are available on request. Additionally each filter housing offers a threaded G 1/4 connection with the filter head and bowl for venting purposes, as standard plug screws are fitted.

The filter housings comply with the requirements of the Pressure Equipment Directive 2014/68/EU, and some (depending on the model) have the CE marking of this Euro-pean directive.

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Filtrations-Separations-Technik

Basic Data

Size	nominal volume flow (VN)*1	nominal steam capacity (VN)*2	max. operating pressure	min./max. operating temperature
FWP20	30 m³/h	10 kg/h	16 bar	
FWP30	50 m³/h	15 kg/h	16 bar	
FWP70	100 m³/h	35 kg/h	16 bar	
FWP90	160 m³/h	55 kg/h	16 bar	-10°C – + 134°C
FWP110	330 m³/h	95 kg/h	16 bar	
FWP120	500 m³/h	160 kg/h	16 bar	When using a high
FWP130	800 m³/h	220 kg/h	16 bar	temperature sealing kit
FWP140	1.000 m³/h	320 kg/h	16 bar	-10°C – +200°C
FWP170	1.500 m³/h	400 kg/h	16 bar	
FWP180	2.000 m³/h	610 kg/h	12 bar	
FWP190	2.500 m³/h	920 kg/h	12 bar	

*1 - refers to 1 bar(a) and 20°C at 7 bar operating pressure
*2 - refers to saturated steam at 134°C (2 bar)

Volume flow and steam capacity conversion factors

«F1» - Pressure (in bar)

0 bar	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar	11 bar	12 bar	13 bar	14 bar	15 bar	16 bar
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)

-10	0	10	20	30	40	50	60	70	80	90	100	110	120
1,11	1,07	1,04	1,00	0,97	0,94	0,91	0,88	0,85	0,83	0,81	0,79	0,77	0,75

Calculation of the converted volume flow

Converted volume flow VK	Nominal required volume flow VN_{min}
VK = VN x F1 X 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

Saturated steam

«F» - Pressure and Temperature (in °C)

0,5 bar 111°C	1 bar 120°C	1,5 bar 127°C	2 bar 134°C	2,5 bar 139°C	3 bar 144°C	3,5 bar 148°C	4 bar 152°C	4,5 bar 156°C	5 bar 159°C	6 bar 165°C	7 bar 170°C	8 bar 175°C	9 bar 180°C	10 bar 184°C	12 bar 192°C	15 bar 201°C
0,52	0,68	0,84	1,00	1,16	1,31	1,46	1,62	1,77	1,92	2,22	2,52	2,82	3,12	3,41	4,0	4,9

Calculation of the converted steam capacity

Converted steam capacity VK	Nominal required steam capacity VN_{min}
VK = VN x F	VN_{min} = VK / F

VK : Converted steam capacity calculated for the operating conditions
VN_{min}: Nominal required steam capacity calculated for the operating conditions, based on the steam capacity at operating conditions.

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Maintenance rules

All sizes	• In the course of filter element replacement or cleaning checking for serious corrosion • Checking and replacement of filter housing gasket if required

Materials

Component	
Filter housing	Stainless steel 1.4301 (AISI 304, V2A), optional 1.4541 (AISI 321)
Mounting parts, fittings	Stainless steel 1.4301 (AISI 304, V2A), optional 1.4541 (AISI 321)
Sealing materials	EPDM, optional Viton or Silikon
Surfaces	Surface finish inside : Ra < 0,8µ - electro polished Surface finish outside : electro polished / mechanically polished

Connections, dimensions and weights

Size	Connection	Vent connection	height	width	depth	weight
FWP20	G ¹/₄“	2 x G ¹/₄“	220 mm	147 mm	108 mm	2,3 kg
FWP30	G ³/₈“	2 x G ¹/₄“	220 mm	147 mm	108 mm	2,4 kg
FWP70	G ¹/₂“	2 x G ¹/₄“	220 mm	151 mm	108 mm	2,4 kg
FWP90	G ³/₄“	2 x G ¹/₄“	220 mm	151 mm	108 mm	2,4 kg
FWP110	G 1“	2 x G ¹/₄“	312 mm	188 mm	135 mm	3,4 kg
FWP120	G 1 ¹/₂“	2 x G ¹/₄“	312 mm	198 mm	135 mm	3,5 kg
FWP130	G 1 ¹/₂“	2 x G ¹/₄“	486 mm	233 mm	170 mm	6,2 kg
FWP140	G 2“	2 x G ¹/₄“	486 mm	233 mm	170 mm	6,2 kg
FWP170	G 2“	2 x G ¹/₄“	792 mm	233 mm	170 mm	7,7 kg
FWP180	G 2 ¹/₂“	2 x G ¹/₄“	792 mm	275 mm	200 mm	11,7 kg
FWP190	G 3“	2 x G ¹/₄“	1056 mm	289 mm	200 mm	13,1 kg

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

Size	volume	category
FWP20	0,7 Liter	–
FWP30	0,7 Liter	–
FWP70	0,7 Liter	–
FWP90	0,7 Liter	–
FWP110	1,6 Liter	–
FWP120	1,6 Liter	–
FWP130	3,8 Liter	I
FWP140	3,8 Liter	I
FWP170	6,2 Liter	I
FWP180	9,7 Liter	I
FWP190	12,9 Liter	I

Other directives

Size	
All sizes	–

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