

Product Data Sheet

Filter Housings FMA.., FMS.. (100, 350 bar)

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Field of application

Type FMA and FMS filter housings are designed as compressed air filter housings for the high-pressure range in the pressure levels 100 bar and 350 bar for compressed air without aggressive substances.

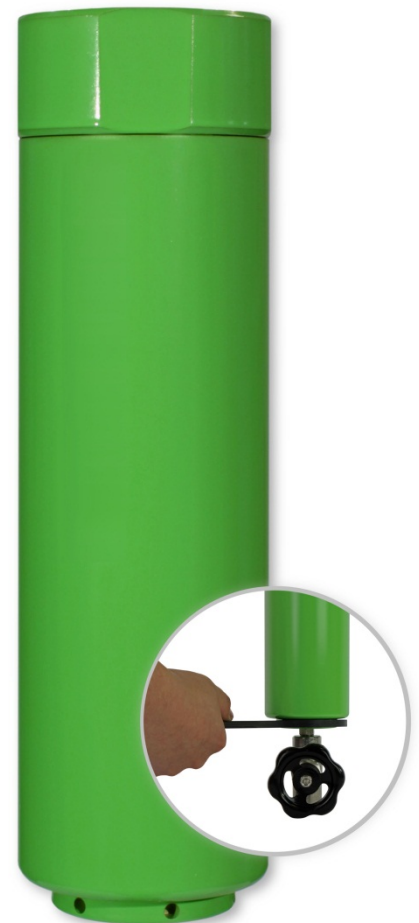
Features

Type FMA and FMS filter housings are made from machined aluminium (FMA) or steel (FMS). For surface finishing purposes and for increasing the resistance the housings are passivated completely and an impact-proof and abrasion-proof powder coating is provided on the outer side of the housing.

Each housing has an O-ring seal at either end of the housing thread. As a result, both the thread and the thread grease are protected against contact of the operating fluid and against negative effects from the ambient air. In addition, when screwing the lower filter part (filter bowl) into the upper filter part (filter head) the torque applied to the thread of the filter housing is limited by means of a limit stop. This prevents the thread from being pressed or overstressed and the housings can easily be opened although they are subject to heavy mechanical load during high-pressure operation. If necessary opening the housing can be supported using a hook spanner wrench (DIN 1810 B).

Each type FMA and FMS filter housing is designed for one filter element to be inserted. In addition, these housings are provided with an inlet and outlet with a thread each (connection size depends on the model) as well as with a condensate outlet with a G 1/4 thread (all threads according to DIN 259). All the models also have 2 x G 1/4 threaded connections which, in conjunction with two M10 x 1.5 mounting holes, are used for differential pressure monitoring and compressed air purity monitoring.

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



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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 ^{*2}	Min./Max. operating temperature
FMA30	50 m ³ /h	100/350 bar	-10°C - +80°C
FMA50	70 m ³ /h	100/350 bar	
FMA70	100 m ³ /h	100/350 bar	
FMS90	160 m ³ /h	100/350 bar	
FMS110	330 m ³ /h	100/350 bar	

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

*2 - indication on the type label

Volume flow conversion factors

«F1» - Pressure (in bar)

75	100	125	150	175	200	225	250	275	300	325	350
6.5	7.6	8.5	9.3	9.9	10.5	11.0	11.5	11.9	12.3	12.7	13.0

«F2» - Temperature (in °C)

-10	0	10	20	30	40	50	60	70	80
1.11	1.07	1.04	1.00	0.97	0.94	0.91	0.88	0.85	0.83

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

All models	In the course of filter element replacement or cleaning: checking for serious corrosion or rust formation
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Materials

FMA

Component	
Filter housing	Aluminium (3.1645)
Mounting parts, fittings	Steel (galvanically zinc-plated), stainless steel
Sealing materials	NBR
Coatings	Inside and outside: Chrome(VI)-free thin-film passivation ; min. layer thickness 5µ Outside: 1-component power coating epoxide/polyester, layer thickness approx. 80 µ
Lubricants	Rivolta S.K.D. 4002 or similar

FMS

Component	
Filter housing	Steel (C22.8)
Mounting parts, fittings	Steel (nickel-plated or zinc-plated), stainless steel
Sealing materials	NBR
Coatings	Inside and outside: Iron phosphate passivation; layer thickness < 1µ Outside: 1-component power coating epoxide/polyester, layer thickness approx. 80 µ
Lubricants	Rivolta S.K.D. 4002 or similar

Connections, dimensions and weight

Model	Connection	Condensate Outlet	Height	Width	Depth	Weight
FMA30	G 3/8	G 1/4	225 mm	82 mm	87 mm	2.3 kg
FMA50	G 1/2	G 1/4	225 mm	82 mm	87 mm	2.3 kg
FMA70	G 1/2	G 1/4	290 mm	82 mm	87 mm	2.7 kg
FMS90	G 3/4	G 1/4	325 mm	116 mm	125 mm	18.8 kg
FMS110	G 1	G 1/4	410 mm	116 mm	125 mm	22.4 kg

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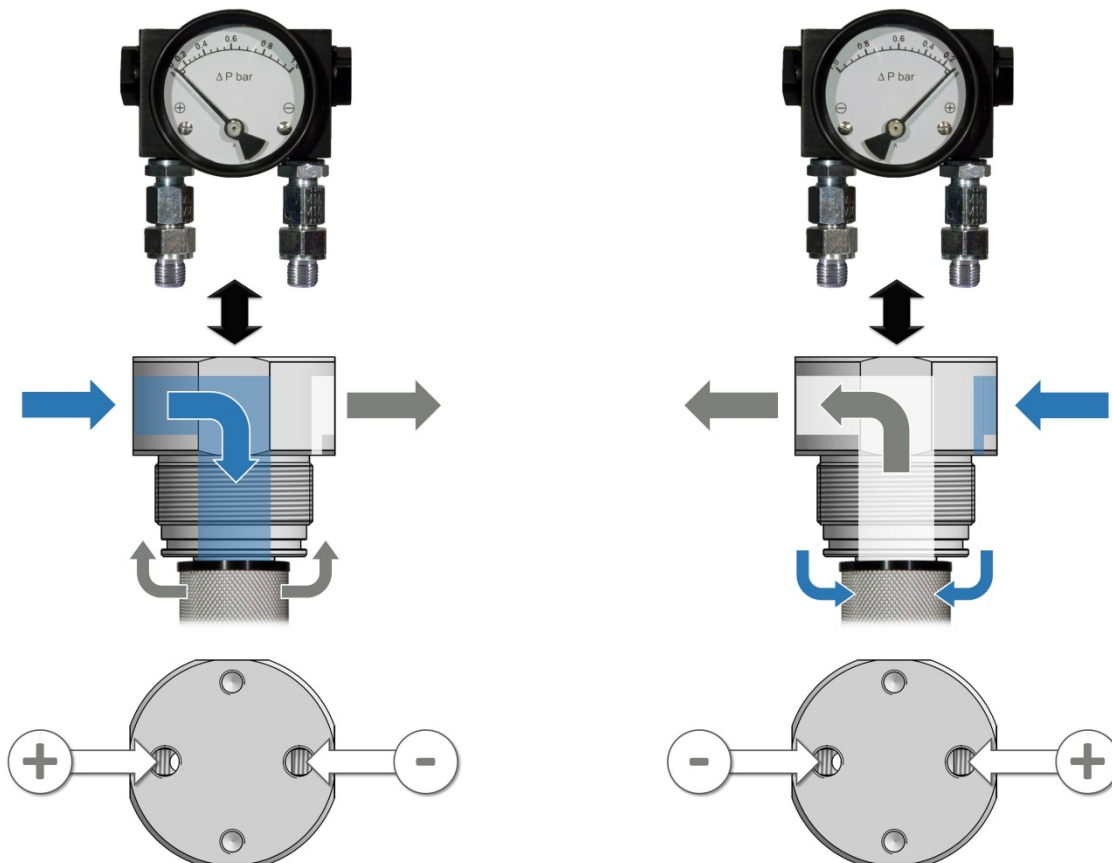
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Connection differential pressure indication

FMA/FMS 30-110 (100 bar, 350 bar)



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

Model	Volume	Category		Commissioning inspection*4		Routine inspection*4	
		100 bar	350 bar	100 bar	350 bar	100 bar	350 bar
FMA30	0.35 litres	---	---	---	---	---	---
FMA50	0.35 litres	---	---	---	---	---	---
FMA70	0.57 litres	---	---	---	---	---	---
FMS90	1.34 litres	I	II	AP*5	NB*5	---	---
FMS110	1.87 litres	I	II	AP*5	NB*5	---	---

*4 - In Germany defined by the Ordinance on Industrial Safety and Health of September 27th, 2002 (BGBl. I p. 3777) §14 and §15

*5 - Authorised person (AP) or Notified Body (NB)

Other directives

Model	
All models	---