

SF2 250-350 series

Flow rate up to 160 l/min



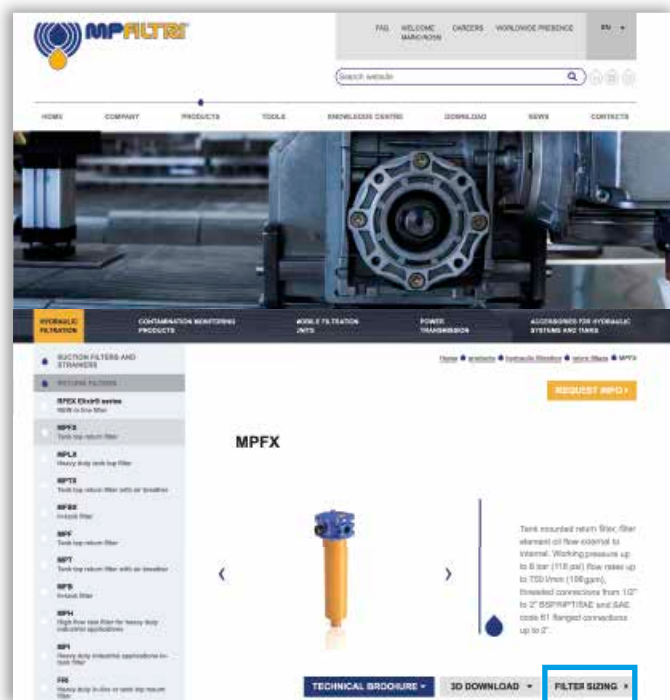
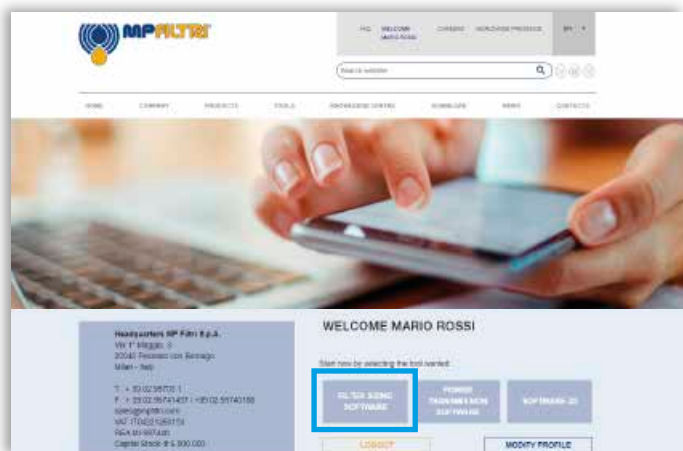
TYPICAL FILTER SIZING Selection Software

Step ①

Select "FILTER SIZING SOFTWARE" after login

OR

Select "FILTER SIZING" after login from a product page



Choose the type of filter family.
Enter the main data for sizing the filter
then push CALCULATE.

Step ②

Enter the main data for sizing the filter
then push CALCULATE.

PRODUCT SELECTION POWER TRANSMISSION SOFTWARE FILTER SIZING SOFTWARE

SUCTION LOW & MEDIUM PRESSURE HIGH PRESSURE
RETURN/SUCTION RETURN STAINLESS STEEL HIGH PRESSURE

Working Pressure (bar) * 5 Flow rate (l/min) * 90 DP max of the project (bar) * 0.5 Fluid Working Temperature (°C) * 40

Fluid * HLP - Mineral oils Fluid type * ISO VG 46 (SUS 216) Viscosity (cst) * 46 Viscosity (SUS) * 216

Filtration * A25 - 25 µm absolute inorganic microfibre Connection Type * G 1"

CALCULATE

PRODUCT SELECTION POWER TRANSMISSION SOFTWARE FILTER SIZING SOFTWARE

SUCTION LOW & MEDIUM PRESSURE HIGH PRESSURE
RETURN/SUCTION RETURN STAINLESS STEEL HIGH PRESSURE

Product: MPFX Working Pressure (bar) * 5 Flow rate (l/min) * 90 DP max of the project (bar) * 0.5 Fluid Working Temperature (°C) * 40

Fluid * HLP - Mineral oils Fluid type * ISO VG 46 (SUS 216) Viscosity (cst) * 46 Viscosity (SUS) * 216

Filtration * A25 - 25 µm absolute inorganic microfibre Connection Type * G 1"

CALCULATE

Step ③

Select the desired options to choose the appropriate filter type for the application.

Working Pressure 8 (bar) Fluid HLP
Flow rate 90 (l/min) Fluid type ISO VG 46 (SUS 216)
DP max of the project 0.5 (bar) Seal A - NBR
Working Temperature 40 (°C) Optional seals V - FPM
Filtration 25 µm absolute inorganic microfibre Working Temperature with options -20 + 110 (°C)
Connection Type G 1" Viscosity 46 (cst) - 216 (SUS)

NEW SEARCH

Filter type MPFX: Tank top mounting - (Pmax) 1 Valve B: 1.75 bar System Seal A: NBR X-RESET

Option1 Single or duplex DIN Standard NOT APPLICABLE Indicator Visual

CSV Excel Show 10 entries Search:

Image	Code	Press bar	Qmax l/min	Qmax gpm	DP bar	Housing DP psi	Element DP bar	Element DP psi	Connection	Seal	Link	
	MPFX-100-3-A-G3-A25-HBP51	8	116	30.74	25.3	0.47	7	0.12	2	0.35	G 1"	A
	MPFX-100-3-A-G3-A25-HBP21	8	116	30.74	25.3	0.47	7	0.12	2	0.35	G 1"	A

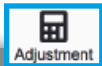
Step 4

Choose the most suitable filter from the proposed list.

Image	Code	Pmax bar	Pmin psi	Qmax l/min	Qmin us	AP bar	Housing AP psi	Element AP bar	Connection	Seal	Link	
	MPTX-100-5-A-Q3-A25-H-BPFI	8	116	95.74	25.3	0.47	7	0.12	2	0.35	5	G 1"
	MPTX-104-5-A-Q3-A25-H-BPFI	8	116	95.74	25.3	0.47	7	0.12	2	0.35	5	G 1"

Step 5

It is possible to change the filter modifying every parameter.



A SAVE YOUR FILTER'S REPORT



B MANUAL EDIT



SAVE IN YOUR ARCHIVE
typing your reference data and then SAVE AS PDF

A new
browser window
displays the pdf

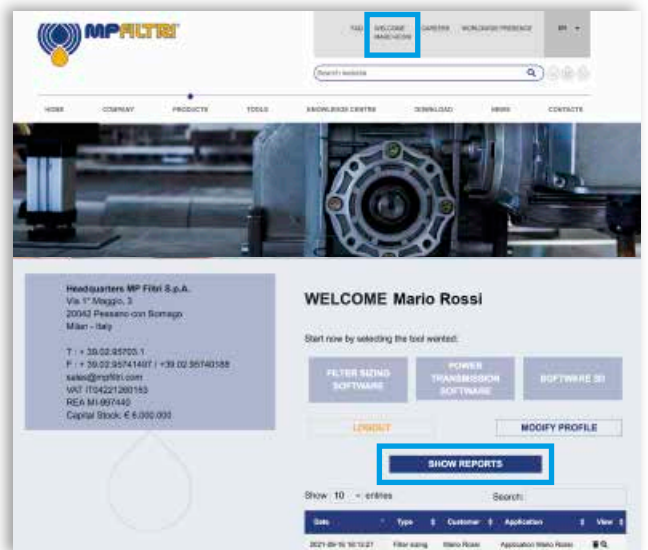
see **A**



Close the report window



By clicking your WELCOME button,
the SHOW REPORTS is displayed: select it to see your filters list.



SF2 250-350 GENERAL INFORMATION

Description

Technical data

Suction filters

Flow rate up to 160 l/min

SF2 250 and SF2 350 are ranges of suction filters with integrated shut-off valve for protection of the downstream pump against the coarse contamination.

They are placed below the minimum oil level, directly connected to the suction line of the pump.

They can be fitted on the side or below the tank, allowing a more flexible design of the tank.

The shut-off valve closes automatically when the cover is removed, allowing the filter element replacement without the fluid drop.

Available features:

- Female threaded connections up to 1" and flanged connections up to 1 1/2", for a maximum flow rate of 160 l/min
- Multiple connections, to connect several suction lines
- Bypass valve, to relieve excessive pressure drop across the filter media
- Magnetic filter, to hold the ferrous particles
- Visual, electrical and electronic clogging indicators

Common application:

- Mobile machines
- Industrial equipment

Filter housing materials

- Filter body: Aluminium
- Cover: Polyamide, GF reinforced
- Valve: Polyamide, GF reinforced - Steel
- Anti-Emptying valve: Steel

Bypass valve

Opening pressure 30 kPa (0.3 bar) $\pm 10\%$

Elements

Fluid flow through the filter element from IN to OUT

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25 °C to +110 °C

Note

SF2 250-350 filters mounting, see the drawings on page 43 and following.

Weights [kg]

Filter series	
SF2 250	2.6
SF2 350	2.6

GENERAL INFORMATION SF2 250-350

FILTER ASSEMBLY SIZING Flow rates [l/min]

Filter series	Filter element design - N Series					
	M25	M60	M90	M250	P10	P25
SF2 250	147	151	155	160	85	132
SF2 350	147	151	155	160	85	132

Maximum flow rate for a complete suction filter with a pressure drop $\Delta p = 0.08$ bar.

The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

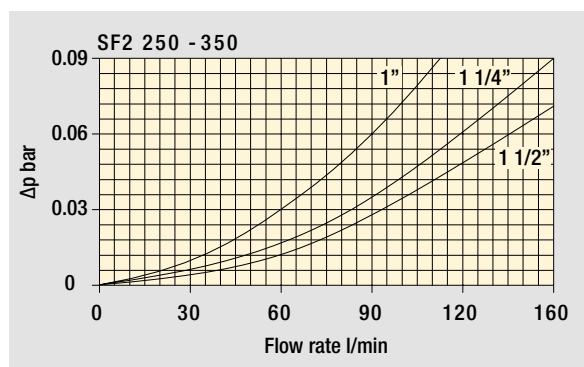
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

Hydraulic symbols

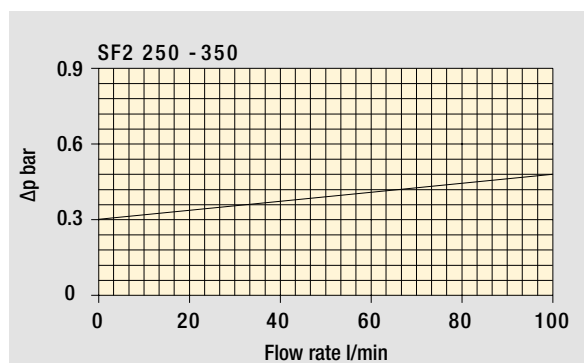
Filter series	Style R - S		Style Q - H	
SF2 250	•	-	•	-
SF2 350	-	•	-	•

Pressure drop

Filter housings Δp pressure drop



Bypass valve pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

SF2 250-350

Designation & Ordering code

COMPLETE FILTER

Series and size		Configuration example 1:					
SF2250		SF2250	W	F2	R	M25	P01
SF2350		Configuration example 2:					
		SF2350	A	G1	S	M90	P01
Seals and treatments		Filtration rating					
		Mxx	Pxx				
A	NBR	•	•				
V	FPM	•	•				
W	NBR compatible with fluids HFA-HFB-HFC	•	-				
Z	FPM compatible with fluids HFA-HFB-HFC	•	-				
Connections		Aux (only SF2350)	SF2250	SF2350			
G1	G 1 1/2"	G 1"	•	•			
G2	1 1/2" NPT	-	•	-			
G3	SAE 24 - 1 7/8" - 12 UN	SAE 16 - 1 5/16" - 12 UN	•	•			
G4	G 1 1/4"	-	•	-			
G5	1 1/4" NPT	-	•	-			
G6	SAE 20 - 1 5/8" - 12 UN	-	•	-			
G7	G 1"	-	•	-			
G8	1" NPT	-	•	-			
G9	SAE 16 - 1 5/16" - 12 UN	-	•	-			
F1	1 1/2" SAE 3000 psi/M	-	•	-			
F2	1 1/2" SAE 3000 psi/UNC	-	•	-			
Bypass valve and magnetic filter							
R	With bypass, with magnetic filter	Q	Without bypass, with magnetic filter				
S	With bypass, without magnetic filter	H	Without bypass, without magnetic filter				
Filtration rating (filter media)							
M25	Wire mesh 25 µm	P10	Resin impregnated paper 10 µm				
M60	Wire mesh 60 µm	P25	Resin impregnated paper 25 µm				
M90	Wire mesh 90 µm						
M250	Wire mesh 250 µm						
All filter media except M60, P10 and P25 are compatible with fluids HFA, HFB and HFC							
Execution							
P01	MP Filtri standard						
Pxx	Customized						

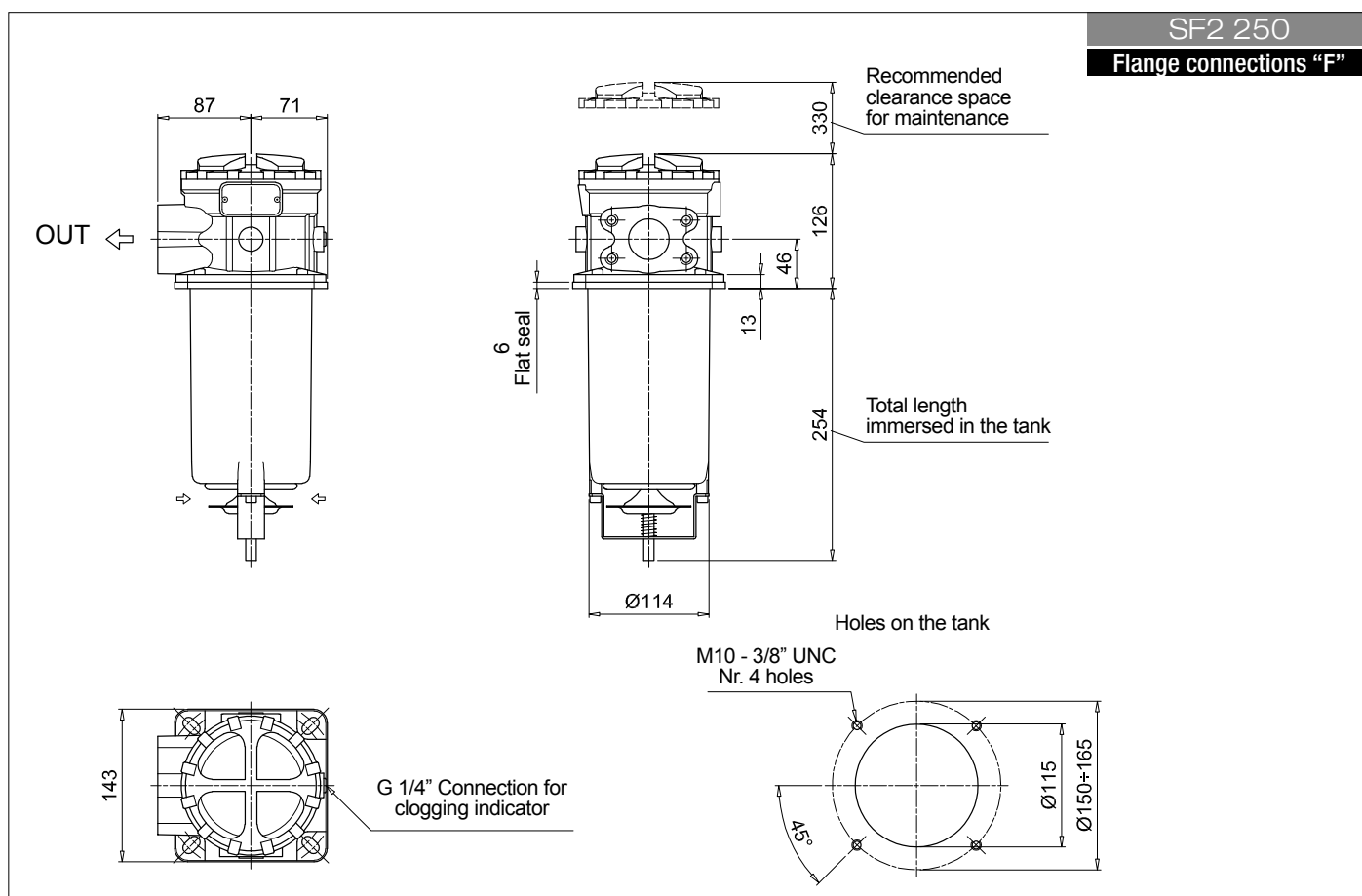
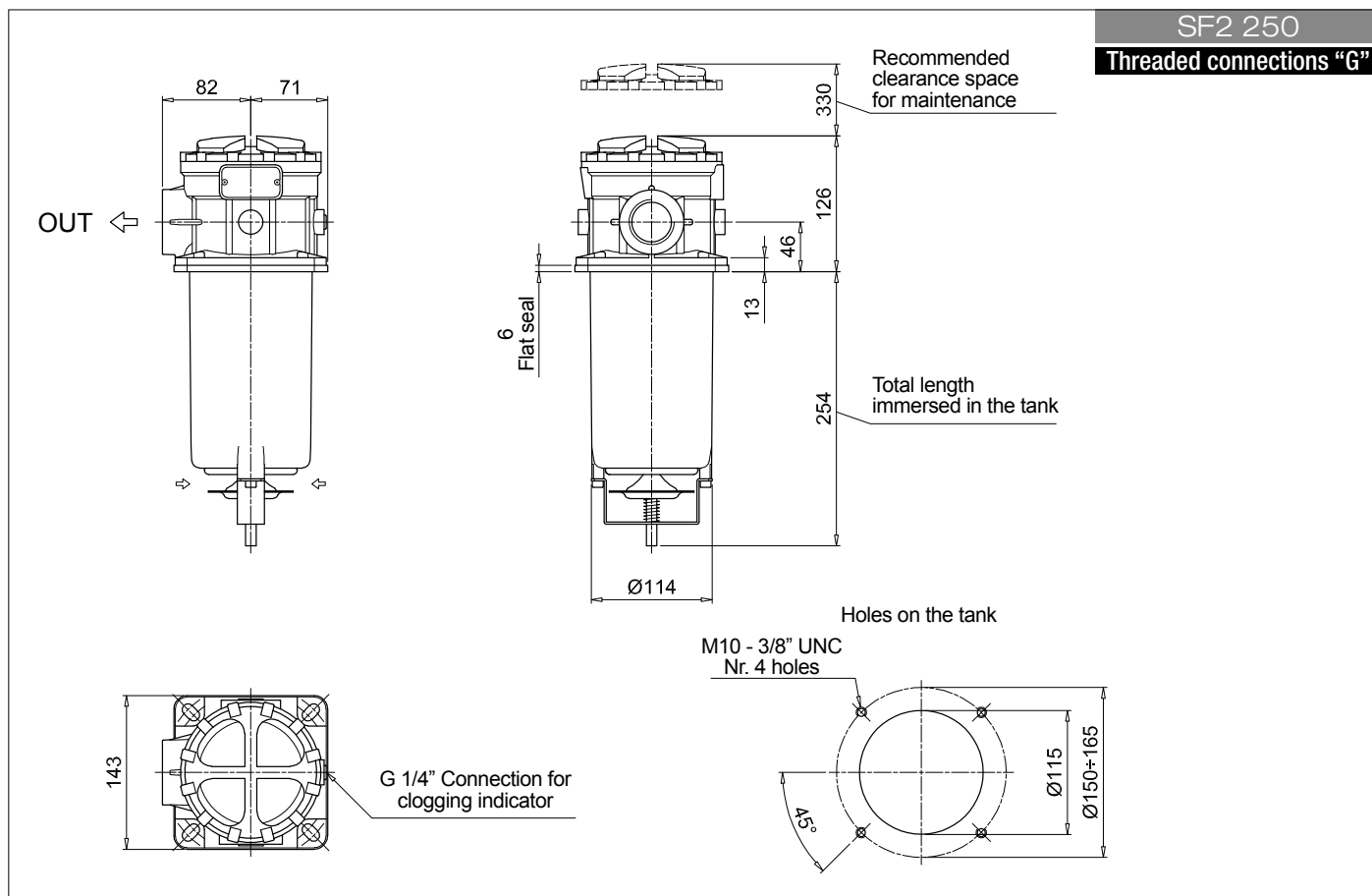
FILTER ELEMENT

Element series and size		Configuration example 1:		SF250	M25	W	P01
SF250		Configuration example 2:		SF250	M90	N	P01
Filtration rating (filter media)							
M25	Wire mesh 25 µm	P10	Resin impregnated paper 10 µm				
M60	Wire mesh 60 µm	P25	Resin impregnated paper 25 µm				
M90	Wire mesh 90 µm						
M250	Wire mesh 250 µm						
		Filtration rating					
Seals and treatments		Mxx	Pxx				
N	NBR	•	•				
V	FPM	•	•				
W	NBR compatible with fluids HFA-HFB-HFC	•	-				
Z	FPM compatible with fluids HFA-HFB-HFC	•	-				
				Execution			
				P01	MP Filtri standard		
				Pxx	Customized		

CLOGGING INDICATORS

See page 66

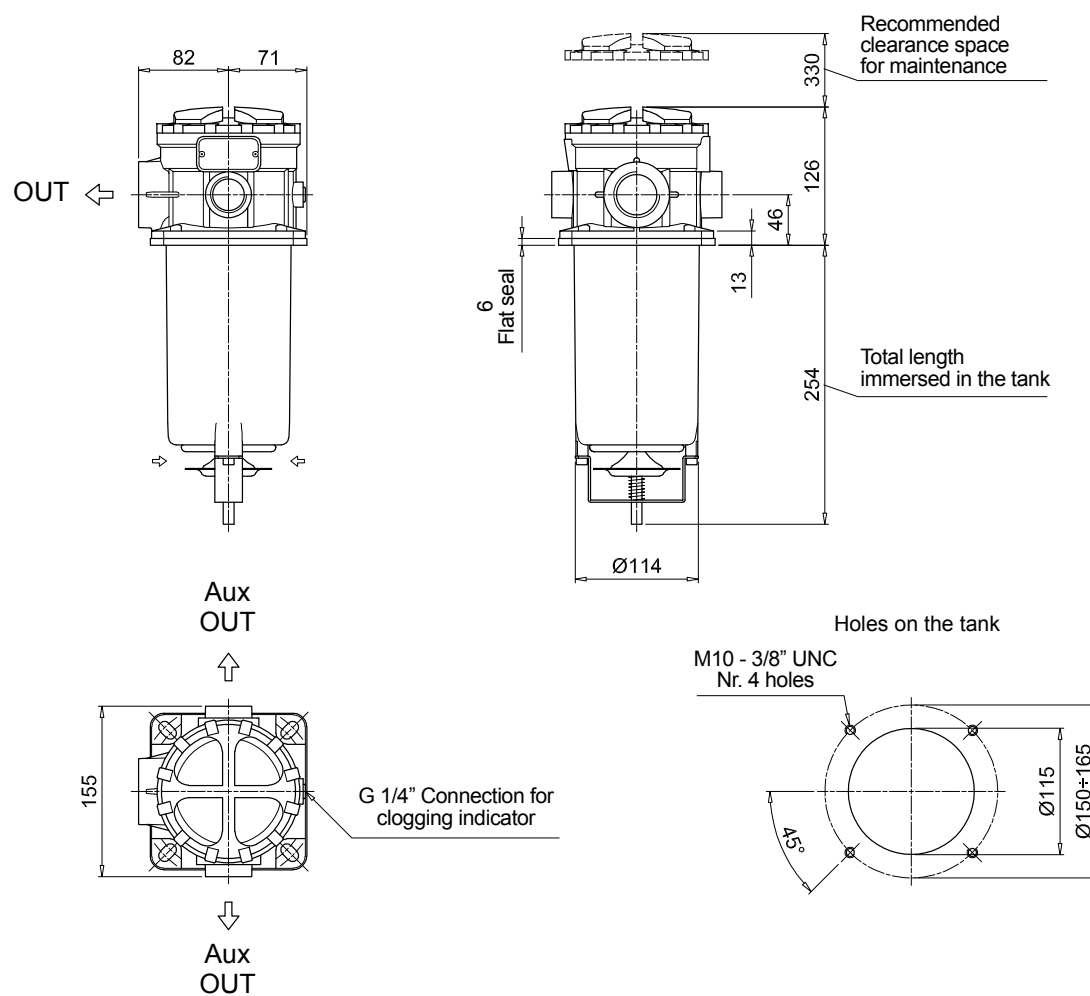
VVA	Axial vacuum gauge
VVR	Radial vacuum gauge
VEA	Electrical vacuum indicator
VLA	Electrical / visual vacuum indicator



SF2 250-350

Dimensions

SF2 350

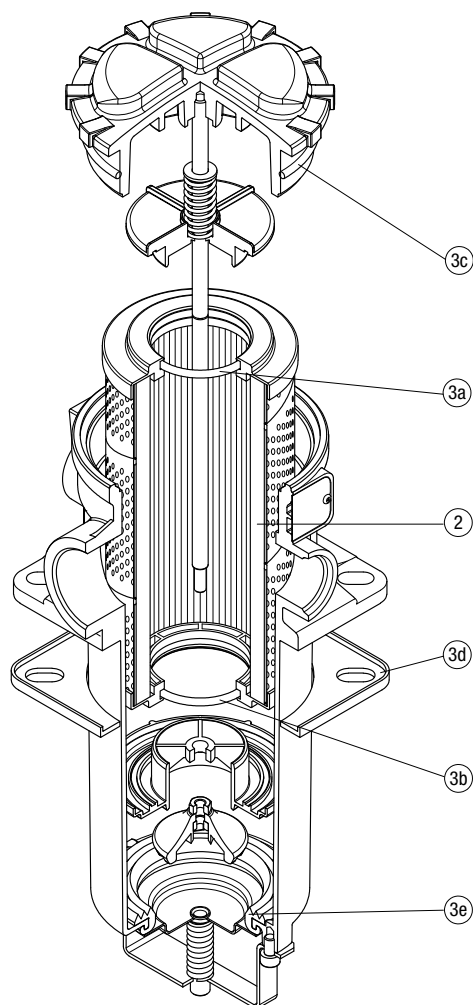
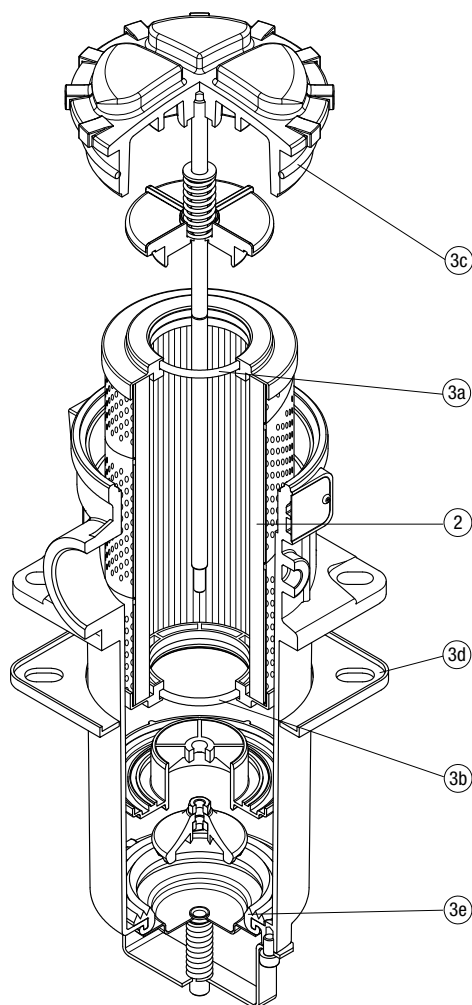


SPARE PARTS SF2 250-350

Order number for spare parts

SF2 250

SF2 350



Q.ty: 1 pc.		Q.ty: 1 pc.	
Item:	2	3	(3a ÷ 3e)
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
SF2 250 - 350	See order table	02050586	02050587

Clogging indicators

Introduction

Filter elements are efficient only if their Dirt Holding Capacity is fully exploited. This is achieved by using filter housings equipped with clogging indicators.

These devices trip when the clogging of the filter element causes an increase in pressure drop across the filter element.

The indicator is set to alarm before the element becomes fully clogged.

MP Filtri can supply indicators of the following designs:

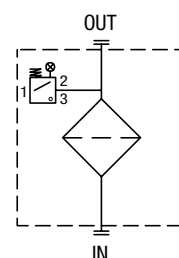
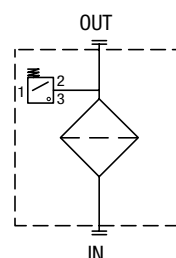
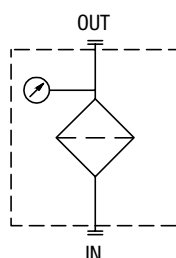
- Vacuum switches and gauges
- Pressure switches and gauges
- Differential pressure indicators

These type of devices can be provided with a visual, electrical or both signals.

Suitable indicator types

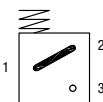
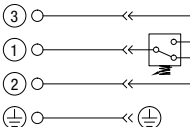
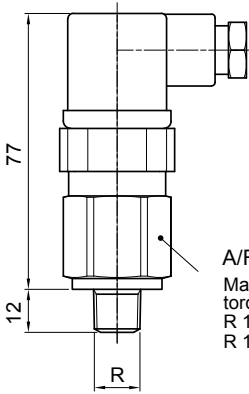

VACUUM INDICATORS

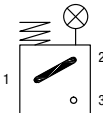
Vacuum indicators are used on the Suction line to check the efficiency of the filter element. They measure the pressure downstream of the filter element. Standard items are produced with R 1/4" EN 10226 connection.

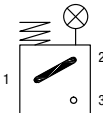


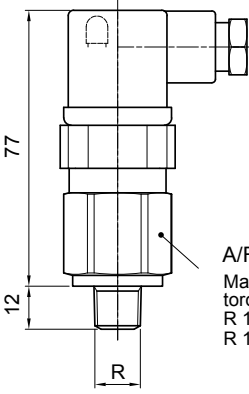
Quick reference guide

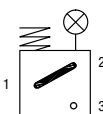
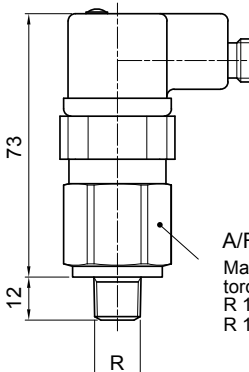
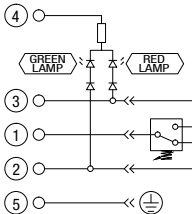
Filter family		Visual indicators	Electrical indicators	Electrical / Visual indicators
SUCTION FILTERS	<p>ELIXIR® SFEX060-080-110-160</p>	<p>WB16P01 VVS16P01</p>	<p>VEB21AA50P01</p>	<p>VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01</p>
	<p>With bypass valve 0.3 bar</p>			
	<p>SF2 250 - 350 SF2 500 - 501 - 503 - 504 - 505 SF2 510 - 535 - 540</p>	<p>VVA16P01 VVR16P01</p>	<p>VEA21AA50P01</p>	<p>VLA21AA51P01 VLA21AA52P01 VLA21AA53P01 VLA21AA71P01</p>

VE*50		Hydraulic symbol	Materials
Electrical Vacuum Indicator			- Body: Brass - Base: Black polyamide - Contacts: Silver - Seal: NBR
R	Ordering code	Electrical symbol	Technical data
EN 10226 - R1/4"	VE A 21 A A 50 P01		- Vacuum setting: -0.21 bar ±10% - Max working pressure: 10 bar - Proof pressure: 15 bar - Working temperature: From -25 °C to +80 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529
EN 10226 - R1/8"	VE B 21 A A 50 P01		Electrical data
			- Electrical connection: EN 175301-803 - Resistive load: 5 A / 14 Vdc 4 A / 30 Vdc 5 A / 125 Vac 4 A / 250 Vac - Available Atex product: II 1GD Ex ia IIC Tx Ex ia IIIC Tx °C X - CE certification 
A/F 27 Max tightening torque: R 1/4: 25 N·m R 1/8: 6.5 N·m			

VL*51 - VL*52 - VL*53		Hydraulic symbol	Materials
Electrical/Visual Vacuum Indicator			
R	Ordering code		
EN 10226 - R1/4"	VL A 21 A A xx P01		Brass
EN 10226 - R1/8"	VL B 21 A A xx P01		Transparent polyamide
			Brass - Polyamide
			NBR
		Technical data	
		- Vacuum setting:	-0.21 bar ±10%
		- Max working pressure:	10 bar
		- Proof pressure:	15 bar
		- Working temperature:	From -25 °C to +80 °C
		- Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
		- Degree of protection:	IP65 according to EN 60529
		Electrical data	
		- Electrical connection:	EN 175301-803
		- Type	51 52 53
		- Lamps	24 Vdc 110 Vdc 230 Vac
		- Resistive load:	1 A / 24 Vdc 1 A / 110 Vdc 1 A / 230 Vac

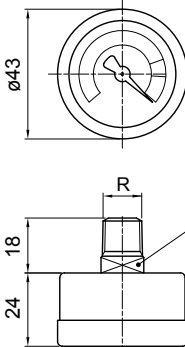

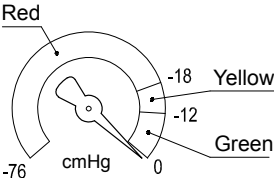
VL*51 - VL*52 - VL*53		Hydraulic symbol	Materials
Electrical/Visual Vacuum Indicator			
R	Ordering code		
EN 10226 - R1/4"	VL A 21 A A xx P01		Brass
EN 10226 - R1/8"	VL B 21 A A xx P01		Transparent polyamide
			Brass - Polyamide
			NBR
		Technical data	
		- Vacuum setting:	-0.21 bar ±10%
		- Max working pressure:	10 bar
		- Proof pressure:	15 bar
		- Working temperature:	From -25 °C to +80 °C
		- Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
		- Degree of protection:	IP65 according to EN 60529
		Electrical data	
		- Electrical connection:	EN 175301-803
		- Type	51 52 53
		- Lamps	24 Vdc 110 Vdc 230 Vac
		- Resistive load:	1 A / 24 Vdc 1 A / 110 Vdc 1 A / 230 Vac

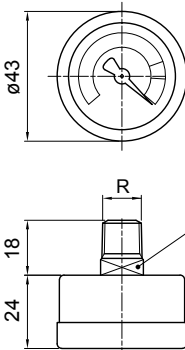

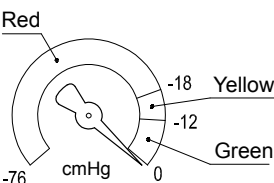
		A/F 27 Max tightening torque: R 1/4: 25 N·m R 1/8: 6.5 N·m
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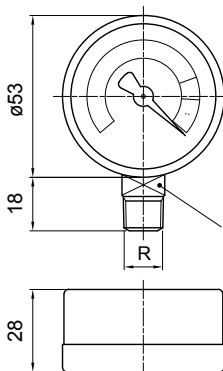

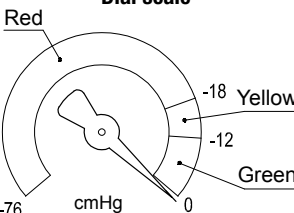
VL*71		Hydraulic symbol	Materials
Electrical/Visual Vacuum Indicator			
Connections	Indicator code		
EN 10226 - R1/4"	VL A 21 AA 71 P01		Brass Black polyamide Silver NBR
EN 10226 - R1/8"	VL B 21 AA 71 P01		
		Electrical symbol	Technical data
A/F 27 Max tightening torque: R 1/4: 25 N·m R 1/8: 6.5 N·m			
			Electrical data
		Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943	Degree of protection: IP65 according to EN 60529
		Electrical connection: IEC 61076-2-101 D (M12)	Lamps: 24 Vdc
		Resistive load: 0.4 A / 24 Vdc	

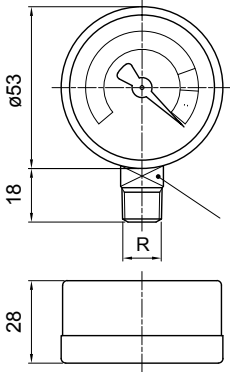
VACUUM INDICATORS

Dimensions


VVA										
Axial Vacuum Gauge										
R	Ordering code									
EN 10226 - R1/4"	VV A 16 P01									
<div><div></div><div>A/F 27 Max tightening torque: 25 N·m</div></div>										
<div><div></div><div>Dial scale </div><div>Conversion to SI units<table><tr><th>[cmHg]</th><th>[bar]</th></tr><tr><td>-12</td><td>-0.16</td></tr><tr><td>-18</td><td>-0.24</td></tr><tr><td>-76</td><td>-1.01</td></tr></table></div></div>		[cmHg]	[bar]	-12	-0.16	-18	-0.24	-76	-1.01	<div>Materials<ul style="list-style-type: none">- Case: Painted Steel- Window: Transparent plastic- Dial: Painted Steel- Pointer: Painted Aluminium- Pressure connection: Brass- Pressure element: Bourdon tube Cu-alloy soft soldered</div> <div>Technical data<ul style="list-style-type: none">- Max working pressure: Static: 7 bar Fluctuating: 6 bar Short time: 10 bar- Working temperature: From -40 °C to +60 °C- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943- Accuracy: Class 2.5 according to EN 13190- Degree of protection: IP31 according to EN 60529</div>
[cmHg]	[bar]									
-12	-0.16									
-18	-0.24									
-76	-1.01									

VVB										
Axial Vacuum Gauge										
R	Ordering code									
EN 10226 - R1/8"	VV B 16 P01									
<div><div></div><div>A/F 27 Max tightening torque: 6.5 N·m</div></div>										
<div><div></div><div>Dial scale </div><div>Conversion to SI units<table><tr><th>[cmHg]</th><th>[bar]</th></tr><tr><td>-12</td><td>-0.16</td></tr><tr><td>-18</td><td>-0.24</td></tr><tr><td>-76</td><td>-1.01</td></tr></table></div></div>		[cmHg]	[bar]	-12	-0.16	-18	-0.24	-76	-1.01	<div>Materials<ul style="list-style-type: none">- Case: Painted Steel- Window: Transparent plastic- Dial: Painted Steel- Pointer: Painted Aluminium- Pressure connection: Brass- Pressure element: Bourdon tube Cu-alloy soft soldered</div> <div>Technical data<ul style="list-style-type: none">- Max working pressure: Static: 7 bar Fluctuating: 6 bar Short time: 10 bar- Working temperature: From -40 °C to +60 °C- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943- Accuracy: Class 2.5 according to EN 13190- Degree of protection: IP31 according to EN 60529</div>
[cmHg]	[bar]									
-12	-0.16									
-18	-0.24									
-76	-1.01									

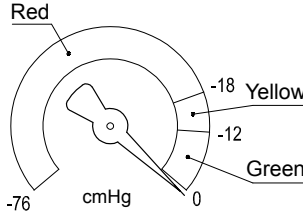
VVR										
Radial Vacuum Gauge										
R	Ordering code									
EN 10226 - R1/4"	VV R 16 P01									
<div><div></div><div>A/F 14 Max tightening torque: 25 N·m</div></div>										
<div><div></div><div>Dial scale </div><div>Conversion to SI units<table><tr><th>[cmHg]</th><th>[bar]</th></tr><tr><td>-12</td><td>-0.16</td></tr><tr><td>-18</td><td>-0.24</td></tr><tr><td>-76</td><td>-1.01</td></tr></table></div></div>		[cmHg]	[bar]	-12	-0.16	-18	-0.24	-76	-1.01	<div>Materials<ul style="list-style-type: none">- Case: Painted Steel- Window: Transparent plastic- Dial: Painted Steel- Pointer: Painted Aluminium- Pressure connection: Brass- Pressure element: Bourdon tube Cu-alloy soft soldered</div> <div>Technical data<ul style="list-style-type: none">- Max working pressure: Static: 7 bar Fluctuating: 6 bar Short time: 10 bar- Working temperature: From -40 °C to +60 °C- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943- Accuracy: Class 2.5 according to EN 13190- Degree of protection: IP31 according to EN 60529</div>
[cmHg]	[bar]									
-12	-0.16									
-18	-0.24									
-76	-1.01									

VVS	
Radial Vacuum Gauge	
R	Ordering code
EN 10226 - R1/8"	VV S 16 P01
<div></div>	

Hydraulic symbol



Dial scale



Conversion to SI units	
[cmHg]	[bar]
-12	-0.16
-18	-0.24
-76	-1.01

Materials

- Case: Painted Steel
- Window: Transparent plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tube Cu-alloy soft soldered

Technical data

- Max working pressure: Static: 7 bar
Fluctuating: 6 bar
Short time: 10 bar
- Working temperature: From -40 °C to +60 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC according to ISO 2943
- Accuracy: Class 2.5 according to EN 13190
- Degree of protection: IP31 according to EN 60529

DESIGNATION & ORDERING CODE										
Series		Configuration example 1:		VE	A	21	A	A	50	P01
VE Electrical vacuum indicator		Configuration example 2:		VL	A	21	A	A	71	P01
VL Electrical/Visual vacuum indicator		Configuration example 3:		VV	R	16				P01
VV Vacuum gauge										
Type VE - VL		Type VV								
A Connection EN 10226 - R1/4"		A Axial connection EN 10226 - R1/4"								
B Connection EN 10226 - R1/8"		B Axial connection EN 10226 - R1/8"								
		R Radial connection EN 10226 - R1/4"								
		S Radial connection EN 10226 - R1/8"								
Vacuum setting		VE	VL	VV						
16 -0.16 bar		-	-	•						
21 -0.21 bar		•	•	-						
Seals		VE	VL	VV						
A NBR		•	•	-						
Thermostat		VE	VL	VV						
A Without		•	•	-						
Electrical connections		VE	VL	VV						
50 Connection EN 175301-803		•	-	-						
51 Connection EN 175301-803, transparent base with lamps 24 Vdc		-	•	-						
52 Connection EN 175301-803, transparent base with lamps 110 Vdc		-	•	-						
53 Connection EN 175301-803, transparent base with lamps 230 Vdc		-	•	-						
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc		-	•	-						
					Option					
					P01 MP Filtri standard					
					Pxx Customized					