SF2 500 series

Flow rate up to 700 l/min



TYPICAL FILTER SIZING Selection Software

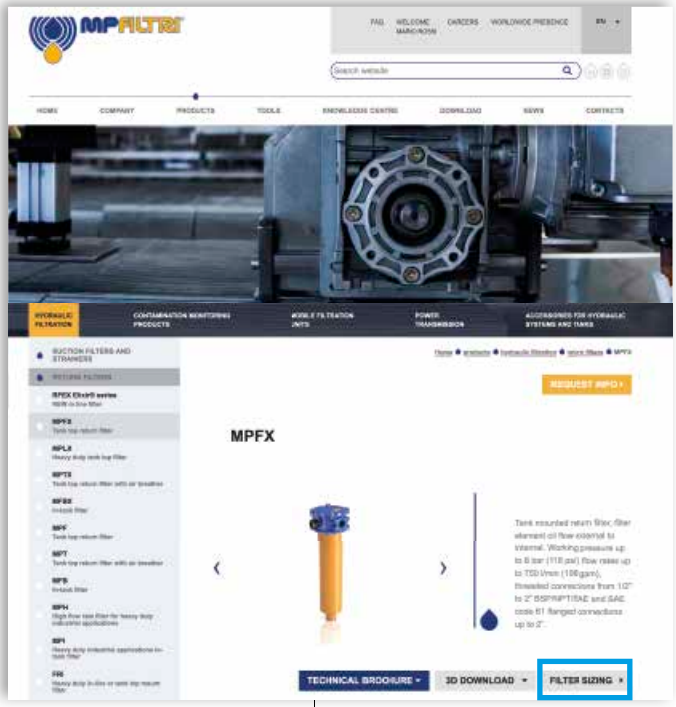
Step 1

Select “FILTER SIZING SOFTWARE” after login

OR

Select “FILTER SIZING” after login from a product page

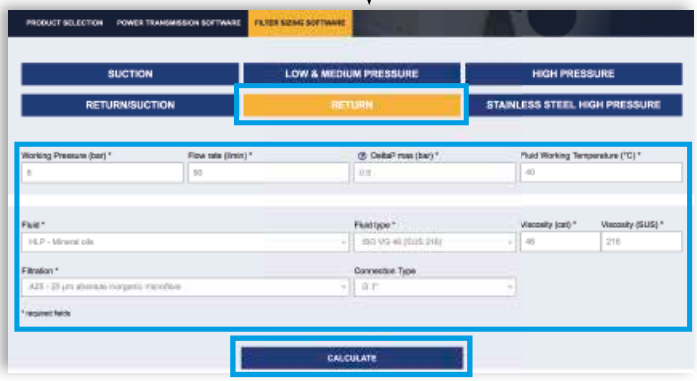


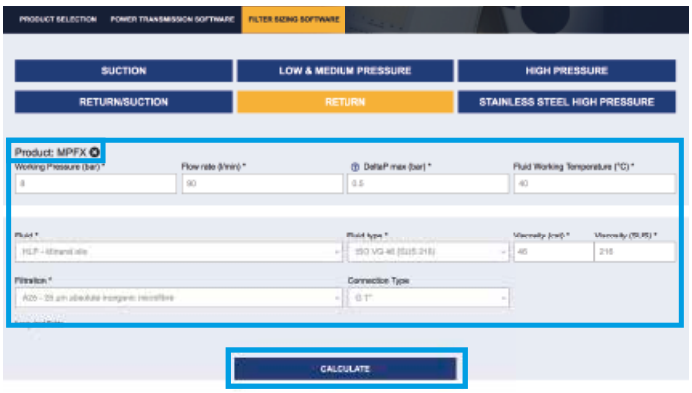


Choose the type of filter family.
Enter the main data for sizing the filter
then push CALCULATE.

Step 2

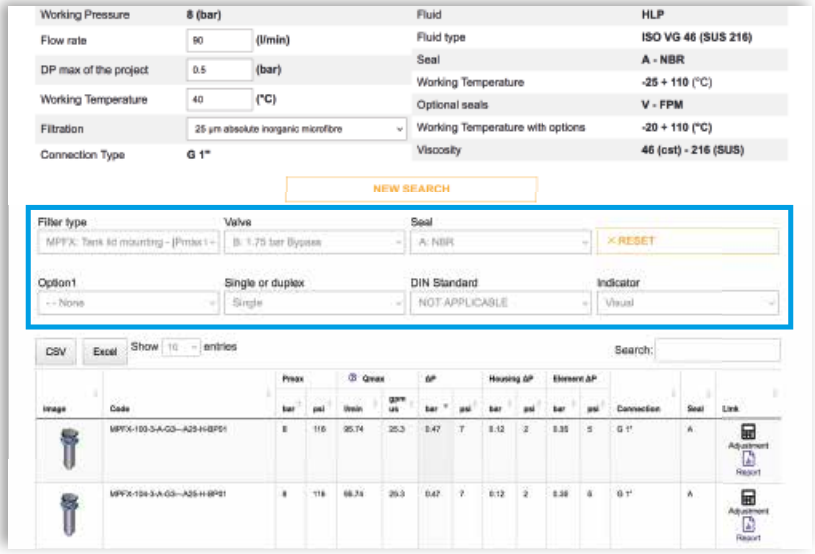
Enter the main data for sizing the filter
then push CALCULATE.





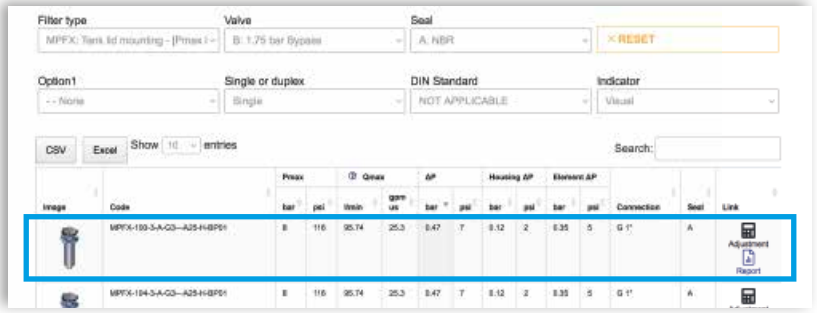
Step 3

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



Step 4

Choose the most suitable filter from the proposed list.



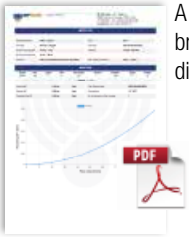
Step 5

A SAVE YOUR FILTER'S REPORT



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





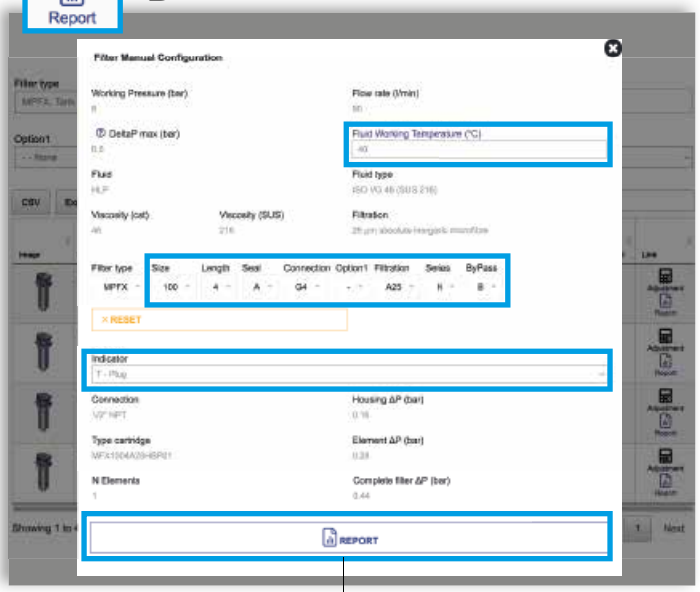
A new
browser window
displays the pdf

Close the report window



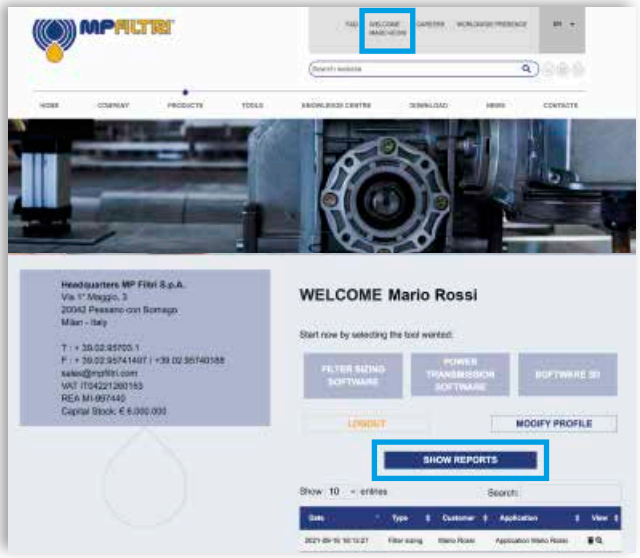
B MANUAL EDIT

It is possible to change the filter
modifying every parameter.



see **A**

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



SF2 500 GENERAL INFORMATION

Description

Suction filters

Flow rate up to 700 l/min

SF2 500 is a range 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:
- Flanged connections up to 4", for a maximum flow rate of 700 l/min
- Optional hose fitting installed, to connect the suction line without the use of flanges
- Magnetic filter, to hold the ferrous particles
- Plastic and metal handle, to close the shut-off valve before the cover removal
- Electrical switch, to signal the closed shut-off valve
- Visual, electrical and electronic clogging indicators

Common application:
Industrial equipment

Technical data

Filter housing materials
- Housing:
  Anodized Aluminium
  Steel (chemical heat treatment): only for SF2 535 - 540

- Cover:
  Anodized Aluminium
  Steel (chemical heat treatment): only for SF2 535 - 540

- Optional flange:
  Anodized Aluminium

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 500 filters mounting, see the drawings on page 51 and following

Weights [kg]

Filter series	
SF2 500-501	4.0
SF2 503	4.8
SF2 504	5.8
SF2 505	6.0
SF2 510	7.2
SF2 535	17
SF2 540	19

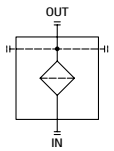
FILTER ASSEMBLY SIZING
Flow rates [l/min]

Filter series	Filter element design - N Series	
	M25	M60 M90 M250
SF2 500	219	234
SF2 501	259	282
SF2 503	325	390
SF2 504	484	543
SF2 505	199	221
SF2 510	259	282
SF2 535	439	479
SF2 540	644	688

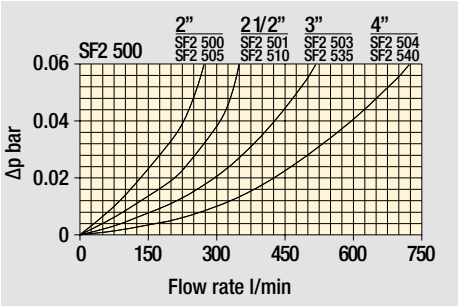
Maximum flow rate for a complete suction filter with a pressure drop Δp = 0.08 bar.
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
You 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.

Filter series	
SF2 500	•

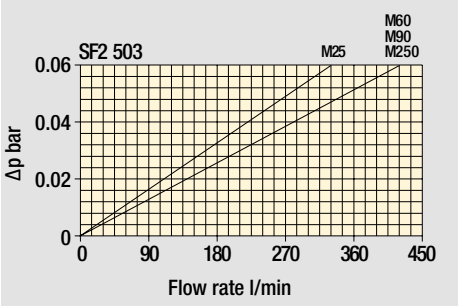
Hydraulic symbols

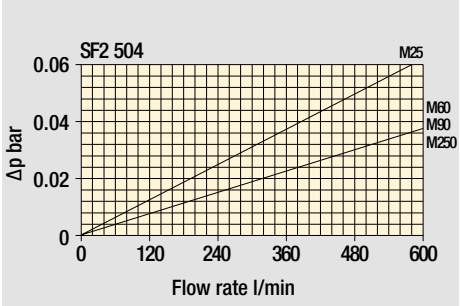


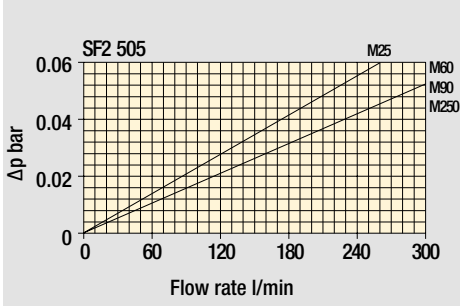
Pressure drop
Filter housings Δp pressure drop

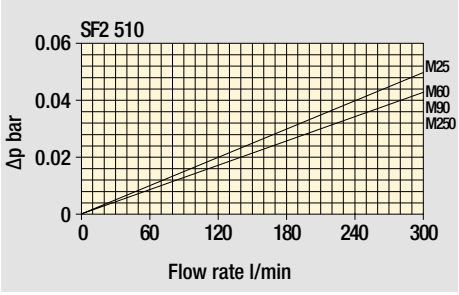


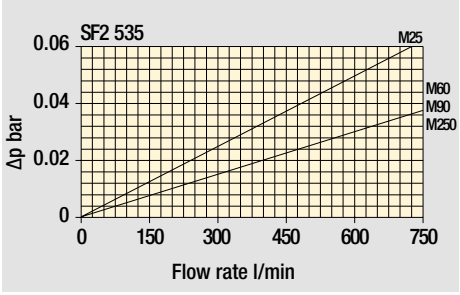
Filter element Δp pressure drop

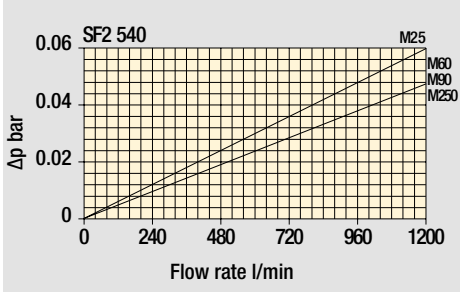












The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

Designation & Ordering code

COMPLETE FILTER

Configuration example 1: SF2500 | W | F1 | D | M25 | P01
Configuration example 2: SF2535 | A | F2 | C | M60 | P01

Series and size

SF2500
SF2501
SF2503
SF2504
SF2505
SF2510
SF2535
SF2540

Seals and treatments

A	NBR
V	FPM
W	NBR compatible with fluids HFA-HFB-HFC
Z	FPM compatible with fluids HFA-HFB-HFC

Connections

	SF2500 - SF2505	SF2501 - SF2510	SF2503 - SF2535	SF2504 - SF2540
F1	2” SAE 3000 psi/M	2 1/2” SAE 3000 psi/M	3” SAE 3000 psi/M	4” SAE 3000 psi/M
F2	2” SAE 3000 psi/UNC	2 1/2” SAE 3000 psi/UNC	3” SAE 3000 psi/UNC	4” SAE 3000 psi/UNC
C1	Hose barb 2”/M	Hose barb 2 1/2”/M	Hose barb 3”/M	Hose barb 4”/M

Microswitch and Handweel

		SF2500 - SF2501	SF2503 - SF2504	SF2505 - SF2510	SF2535 - SF2540
S	Without microswitch, without handwheel	•	•	•	•
C	With microswitch, without handwheel	-	-	•	•
D	With microswitch, with polyamide handwheel	•	•	-	-
K	With microswitch, with steel handwheel	•	•	-	-
M	Without microswitch, with polyamide handwheel	•	•	-	-

Filtration rating (filter media)

M25	Wire mesh 25 µm	**M90**	Wire mesh 90 µm
M60	Wire mesh 60 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

Configuration example 1: SF510 | M25 | W | P01
Configuration example 2: SF535 | M60 | | P01

Element series and size

	SF2500	SF2501	SF2503	SF2504	SF2505	SF2510	SF2535	SF2540
SF503	-	-	•	-	-	-	-	-
SF504	-	-	-	•	-	-	-	-
SF505	-	-	-	-	•	-	-	-
SF510	•	•	-	-	-	•	-	-
SF535	-	-	-	-	-	-	•	-
SF540	-	-	-	-	-	-	-	•

Filtration rating (filter media)

M25	Wire mesh 25 µm	**M90**	Wire mesh 90 µm
M60	Wire mesh 60 µm	**M250**	Wire mesh 250 µm

Seals and treatments

-	Standard version
W	Compatible with fluids HFA-HFB-HFC

Execution

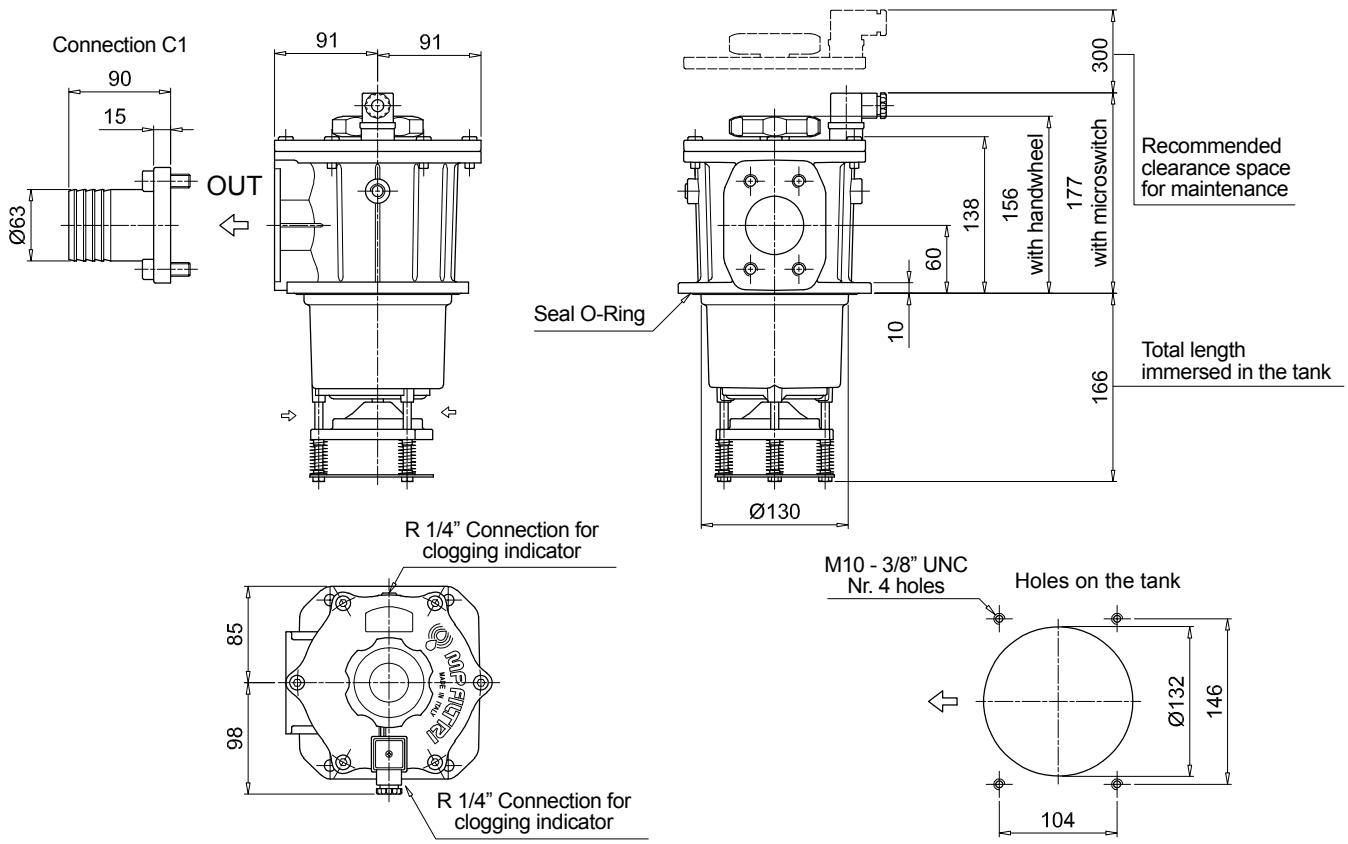
P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

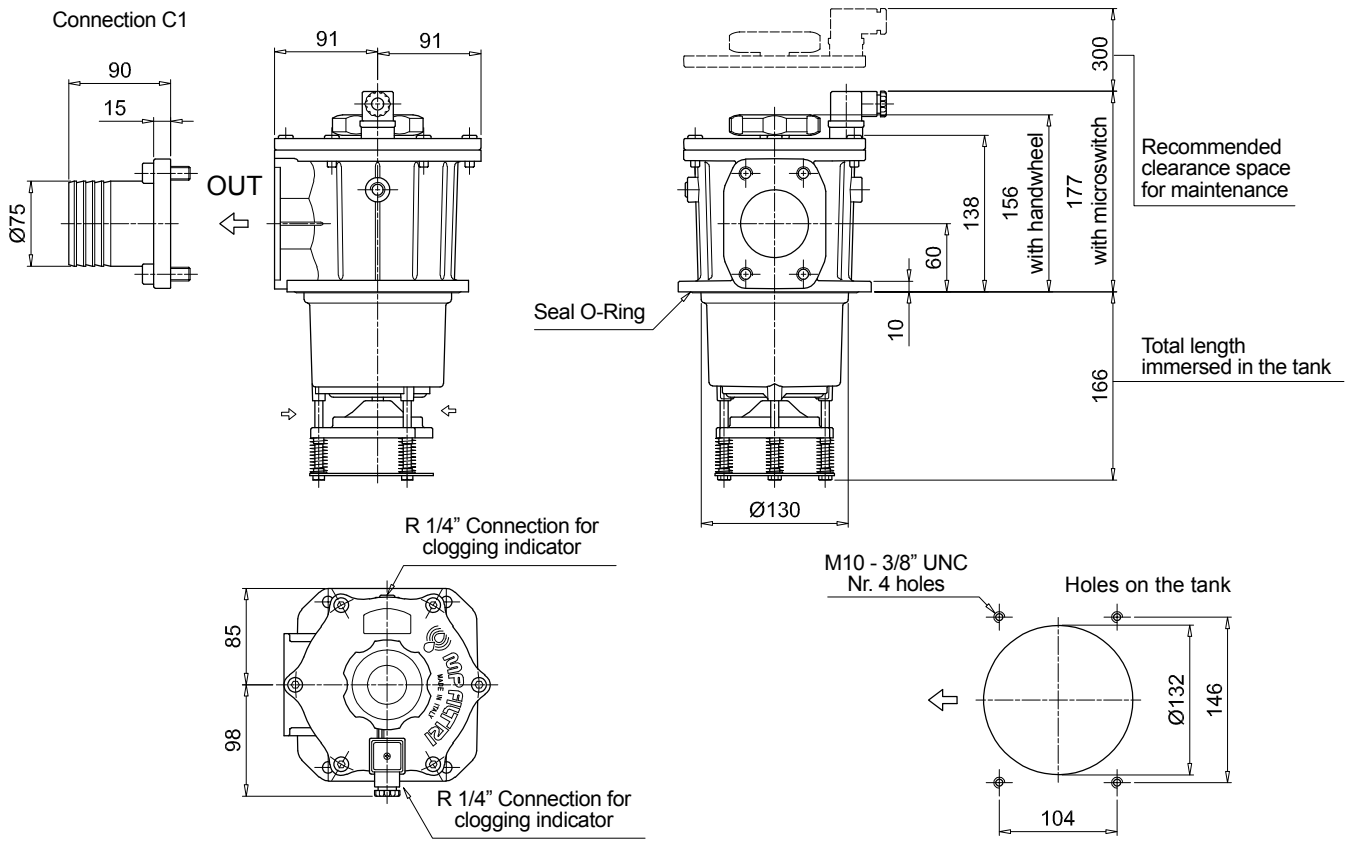
See page 66

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

SF2500

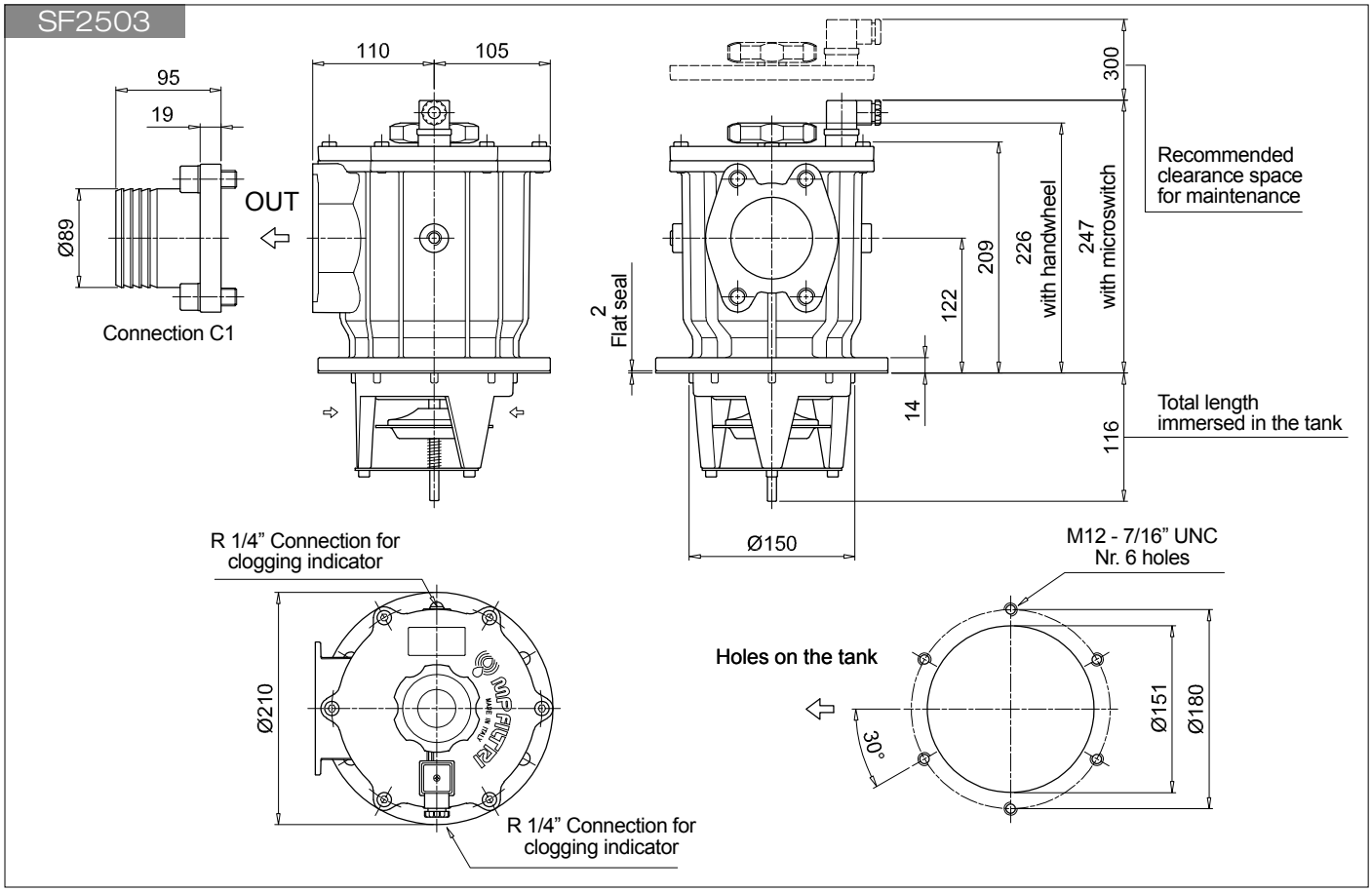


SF2501

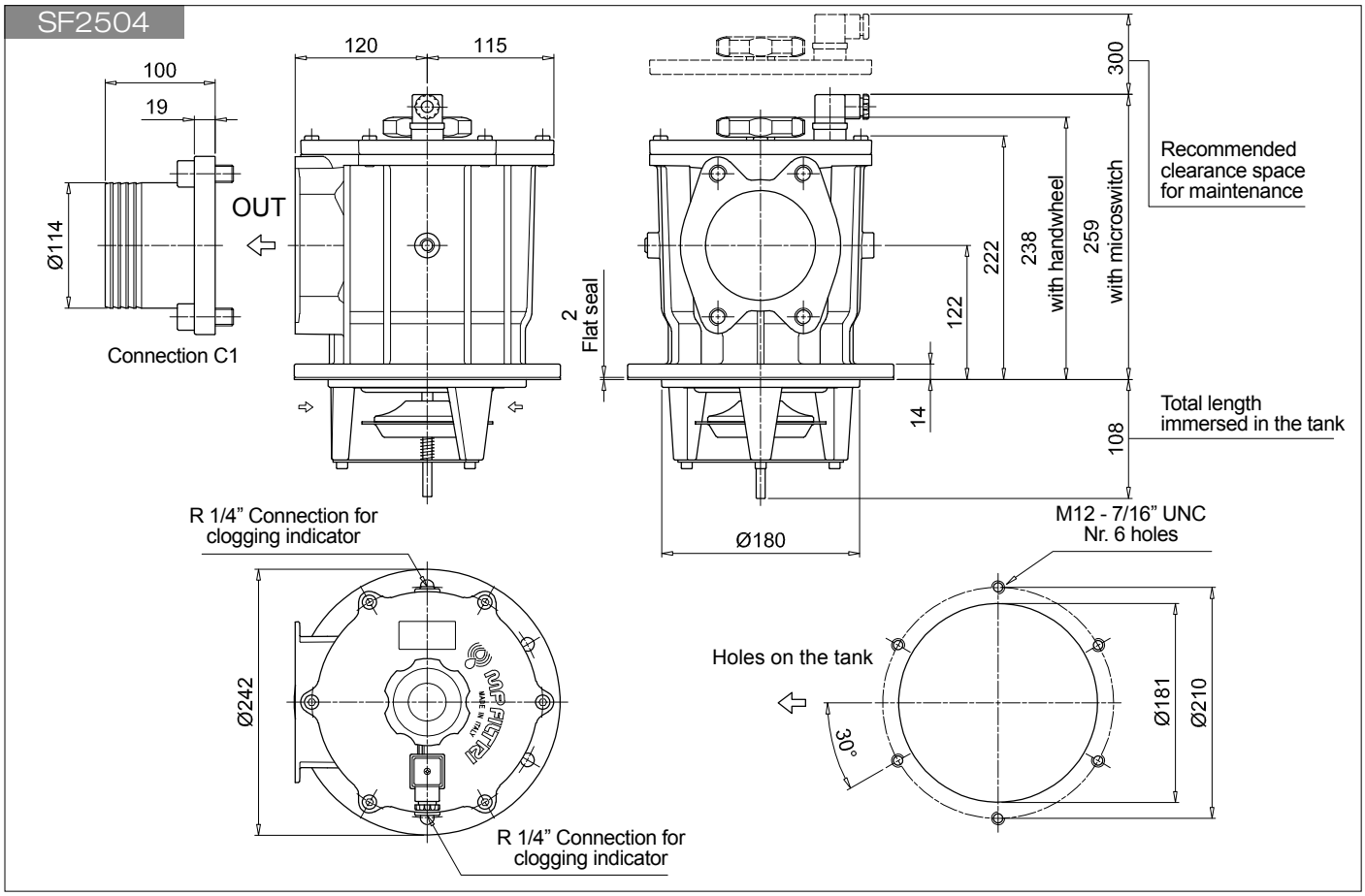


Dimensions

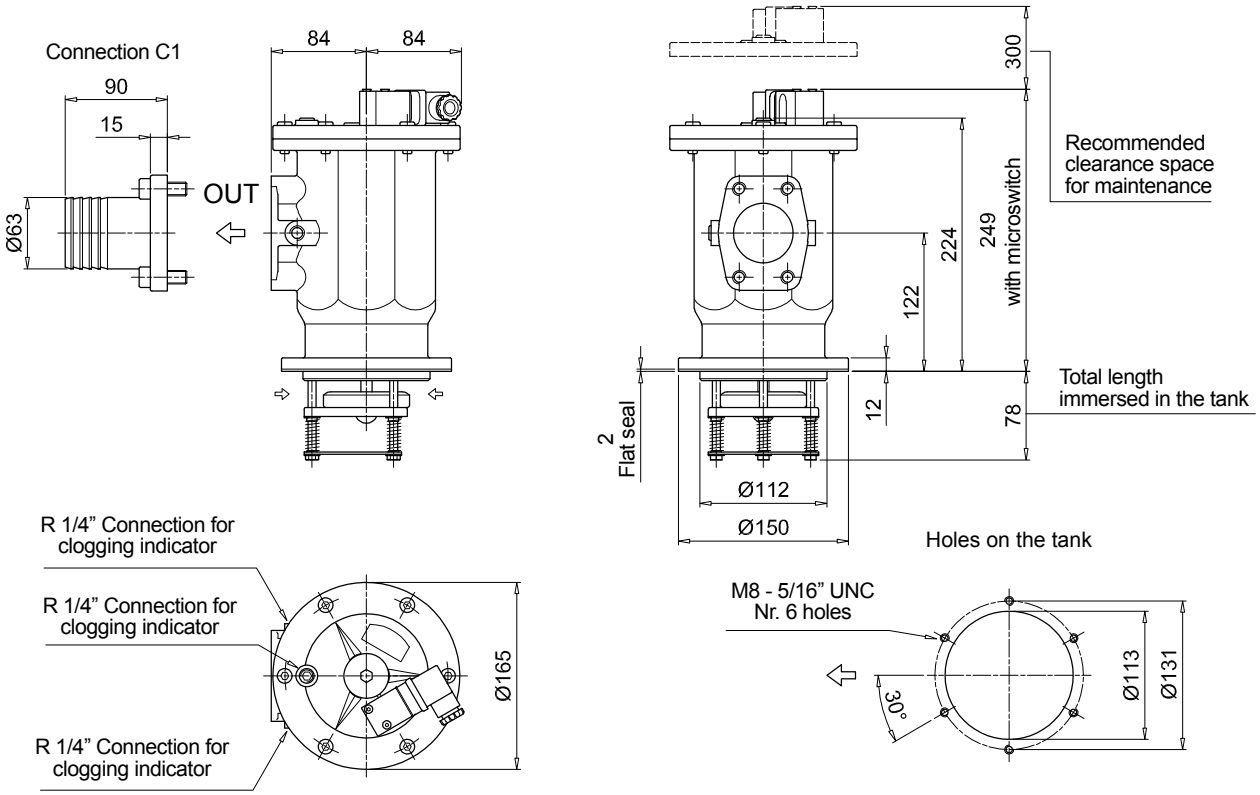
SF2503



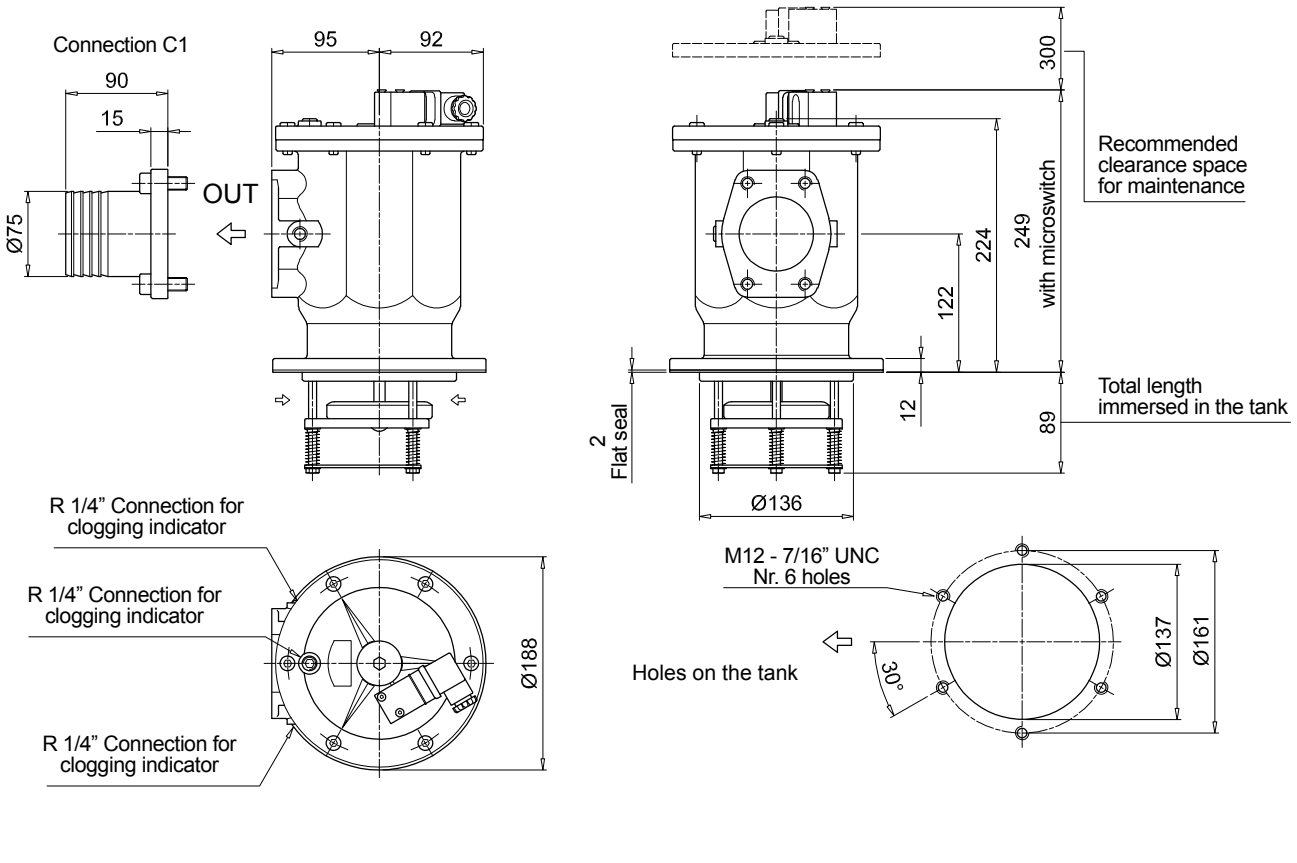
SF2504



SF2505

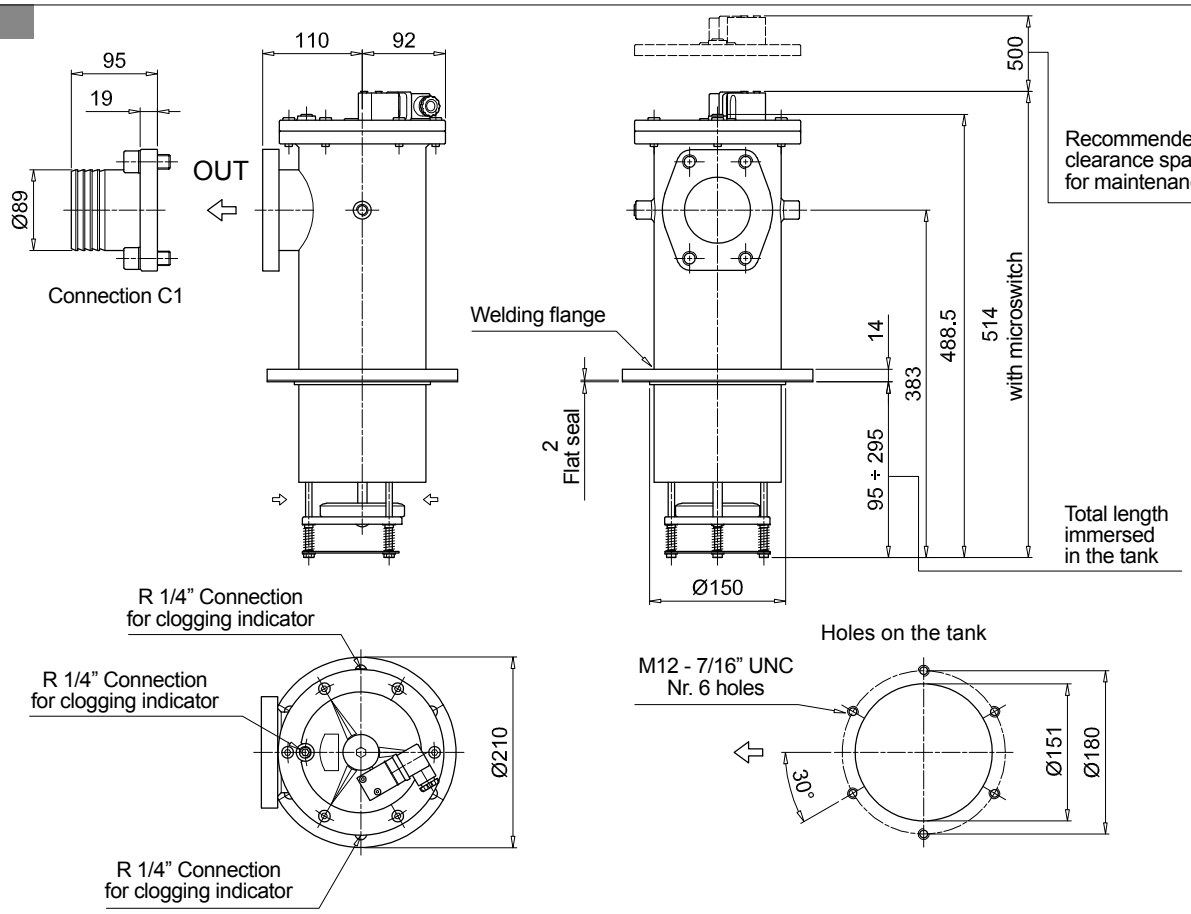


SF2510

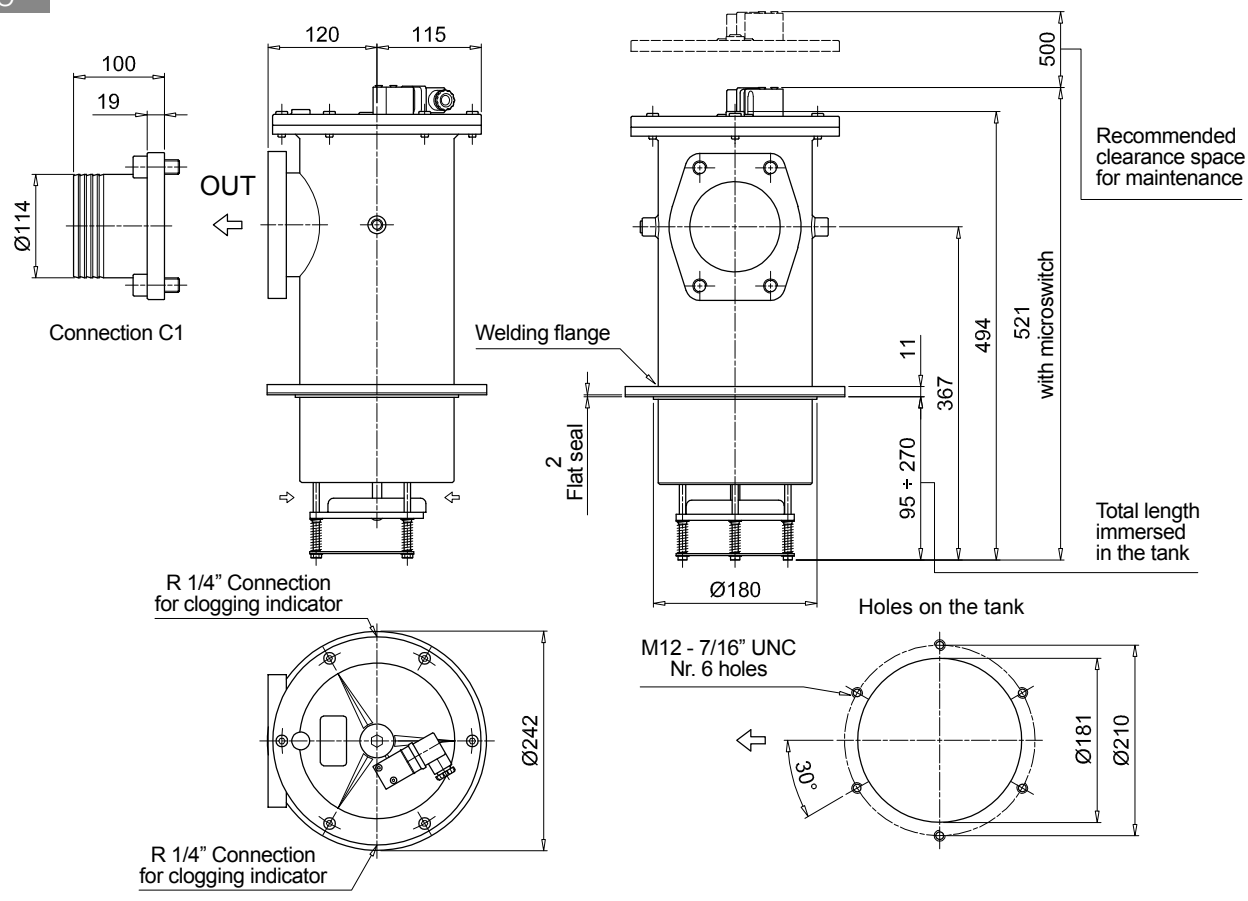


Dimensions

SF2535

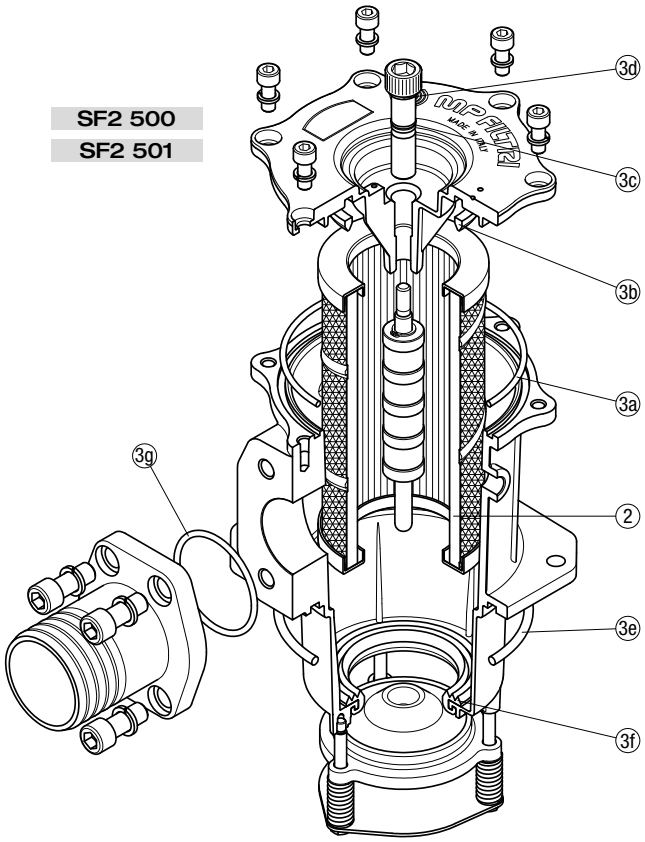


SF2540

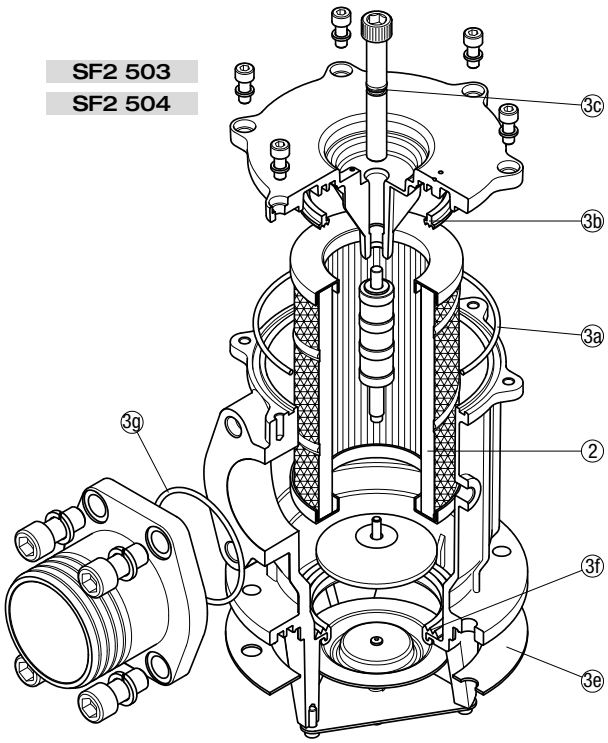


Order number for spare parts

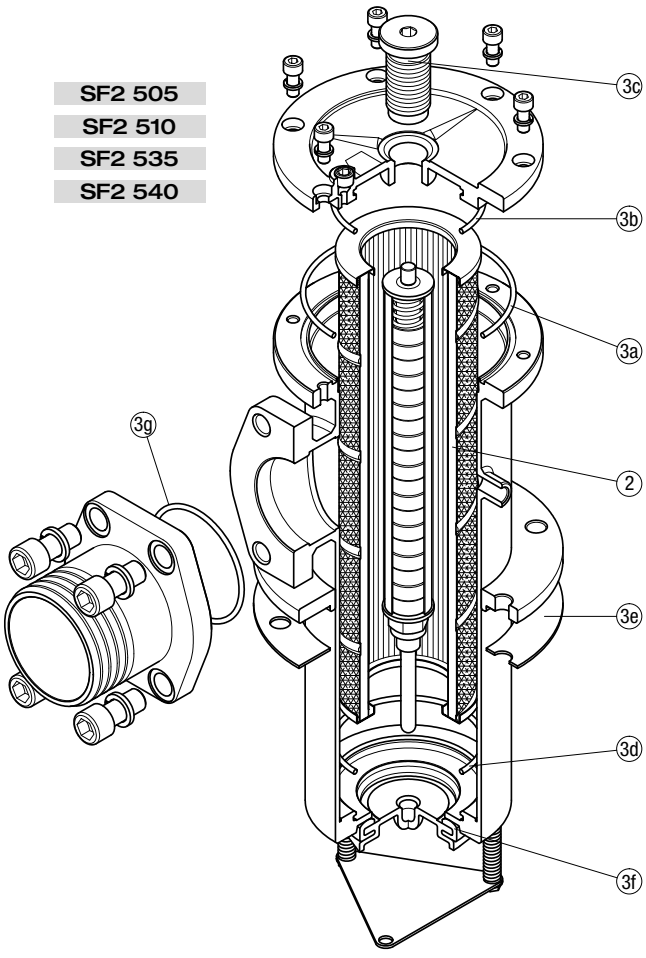
SF2 500
SF2 501



SF2 503
SF2 504



SF2 505
SF2 510
SF2 535
SF2 540



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3g)	
Filter series	Filter element	Seal Kit code number NBR	FPM
SF2 500	See order table	02050141	02050142
SF2 501		02050143	02050144
SF2 503		02050070	02050071
SF2 504		02050072	02050073
SF2 505		02050043	02050044
SF2 510		02050045	02050046
SF2 535		02050051	02050052
SF2 540		02050053	02050054

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:

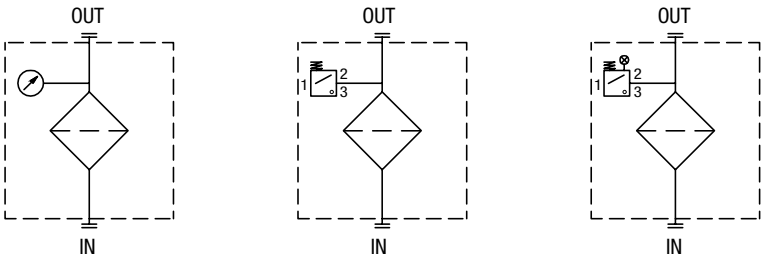
- **Vacuum switches and gauges**
- **Pressure switches and gauges**
- **Differential pressure indicators**

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.



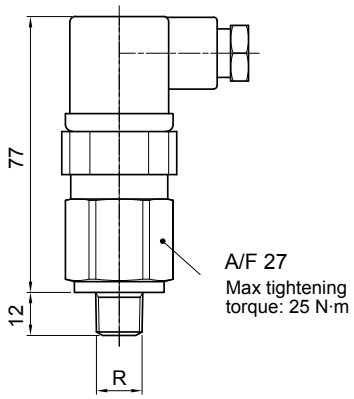
Quick reference guide

Filter family			Visual indicators	Electrical indicators	Electrical / Visual indicators
SUCTION FILTERS	With bypass valve 0.3 bar	ELIXIR® SFEX060-080-110-160	VVB16P01 VVS16P01	VEB21AA50P01	VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01
		SF2 250 - 350 SF2 500 - 501 - 503 - 504 - 505 SF2 510 - 535 - 540	VVA16P01 VVB16P01 VVR16P01 VVS16P01	VEA21AA50P01	VLA21AA51P01 VLA21AA52P01 VLA21AA53P01 VLA21AA71P01

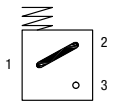
VE*50

Electrical Vacuum Indicator

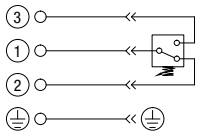
R	Ordering code
EN 10226 - R1/4"	VE A 21 A A 50 P01



Hydraulic symbol



Electrical symbol



Materials

- Body:	Brass
- Base:	Black polyamide
- Contacts:	Silver
- Seal:	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

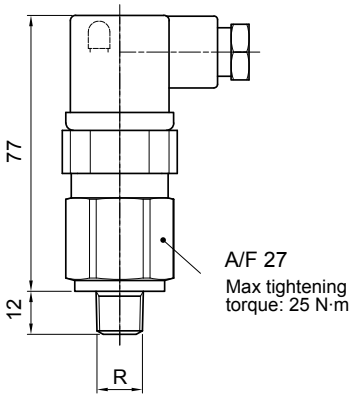
Electrical data

- Electrical connection:	EN 175301-803
- Resistive load:	5 A / 14 Vdc 4 A / 30 Vdc 5 A / 125 Vac 4 A / 250 Vac
- Available ATEX product:	I M1 Ex ia I Ma II 1GD Ex ia IIC Tx Ex ia IIIC Tx°C X
- CE certification	

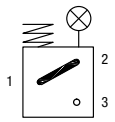
VL*51 - VL*52 - VL*53

Electrical/Visual Vacuum Indicator

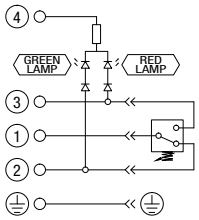
R	Ordering code
EN 10226 - R1/4"	VL A 21 A A xx P01



Hydraulic symbol



Electrical symbol



Materials

- Body:	Brass
- Base:	Transparent polyamide
- Contacts:	Brass - Polyamide
- Seal:	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

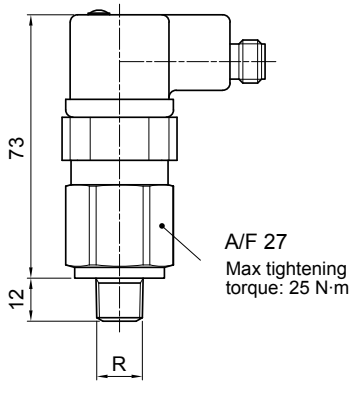
Electrical data

- 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

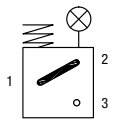
VL*71

Electrical/Visual Vacuum Indicator

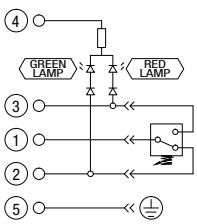
Connections	Indicator code
EN 10226 - R1/4"	VL A 21 A A 71 P01



Hydraulic symbol



Electrical symbol



Materials

- Body:	Brass
- Base:	Black polyamide
- Contacts:	Silver
- Seal:	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:	IEC 61076-2-101 D (M12)
- Lamps	24 Vdc
- Resistive load:	0.4 A / 24 Vdc

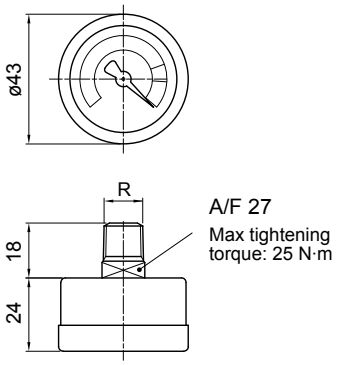
VACUUM INDICATORS

Dimensions

VVA

Axial Vacuum Gauge

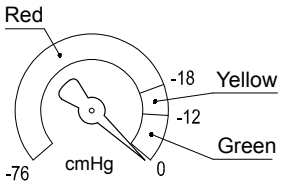
R	Ordering code
EN 10226 - R1/4"	VV A 16 P01



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

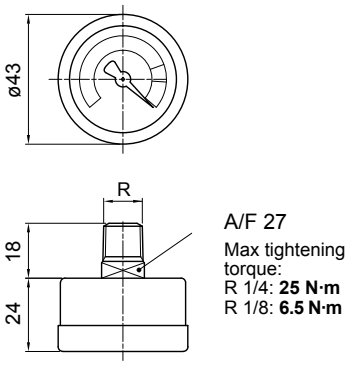
Technical data

- 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

VVB

Axial Vacuum Gauge

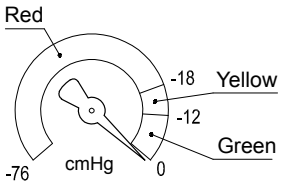
R	Ordering code
EN 10226 - R1/8"	VV B 16 P01



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

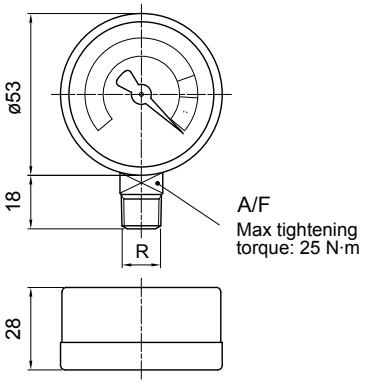
Technical data

- 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

VVR

Radial Vacuum Gauge

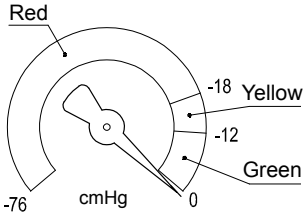
R	Ordering code
EN 10226 - R1/4"	VV R 16 P01



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

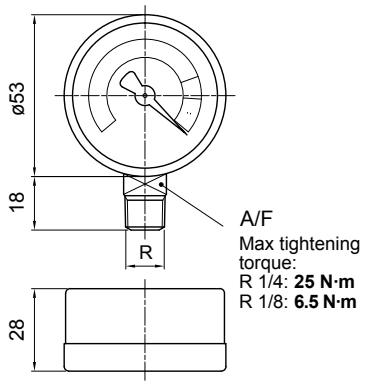
Technical data

- 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

VVS

Radial Vacuum Gauge

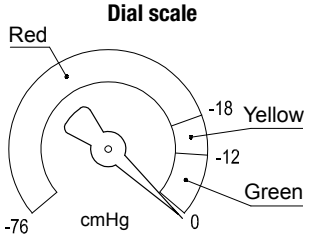
R	Ordering code
EN 10226 - R1/8"	VV S 16 P01



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

Configuration example 1:	VE	A	21	A	A	50	P01
Configuration example 2:	VL	A	21	A	A	71	P01
Configuration example 3:	VV	R	16				P01

Series

VE Electrical vacuum indicator
VL Electrical/Visual vacuum indicator
VV Vacuum gauge

Type VE - VL

A Connection EN 10226 - R1/4"

Type VV

A Axial connection EN 10226 - R1/4"
B Axial connection EN 10226 - R1/8"
R Radial connection EN 10226 - R1/4"

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