

SF2 250-350 series

Flow rate up to 160 l/min



SF2 250-350 GENERAL INFORMATION

Description

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

Technical data

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) ±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]

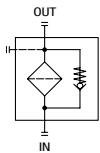
Filter series	Filter element design - N Series					
	M25	M60	M90	M250	P10	P25
SF2 250	147	151	155	160	85	132
SF2 350	147	151	155	160	85	132

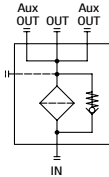
Maximum flow rate for a complete suction filter with a pressure drop $\Delta p = 0.08$ bar.

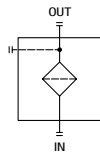
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
You can also calculate the right size using the formulas present on the FILTER SIZING 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.

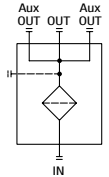
Hydraulic symbols

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



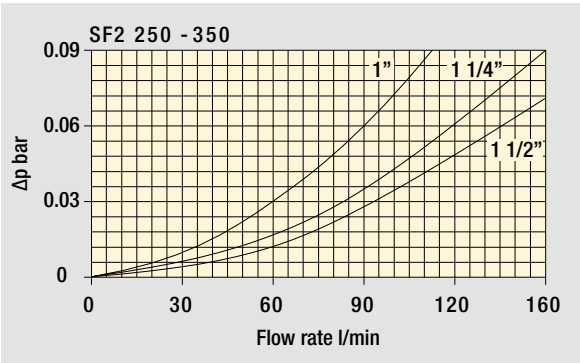




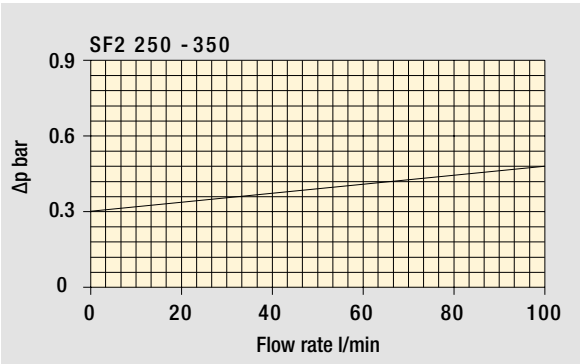


Pressure drop

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

SF2250

SF2350

Configuration example 1:

SF2250

W

F2

R

M25

P01

Configuration example 2:

SF2350

A

G1

S

M90

P01

Seals and treatments

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

Execution

P01

MP Filtri standard

Pxx

Customized

All filter media except M60, P10 and P25 are compatible with fluids HFA, HFB and HFC

FILTER ELEMENT

Element series and size

SF250

Configuration example 1:

SF250

M25

W

P01

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

Seals and treatments

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

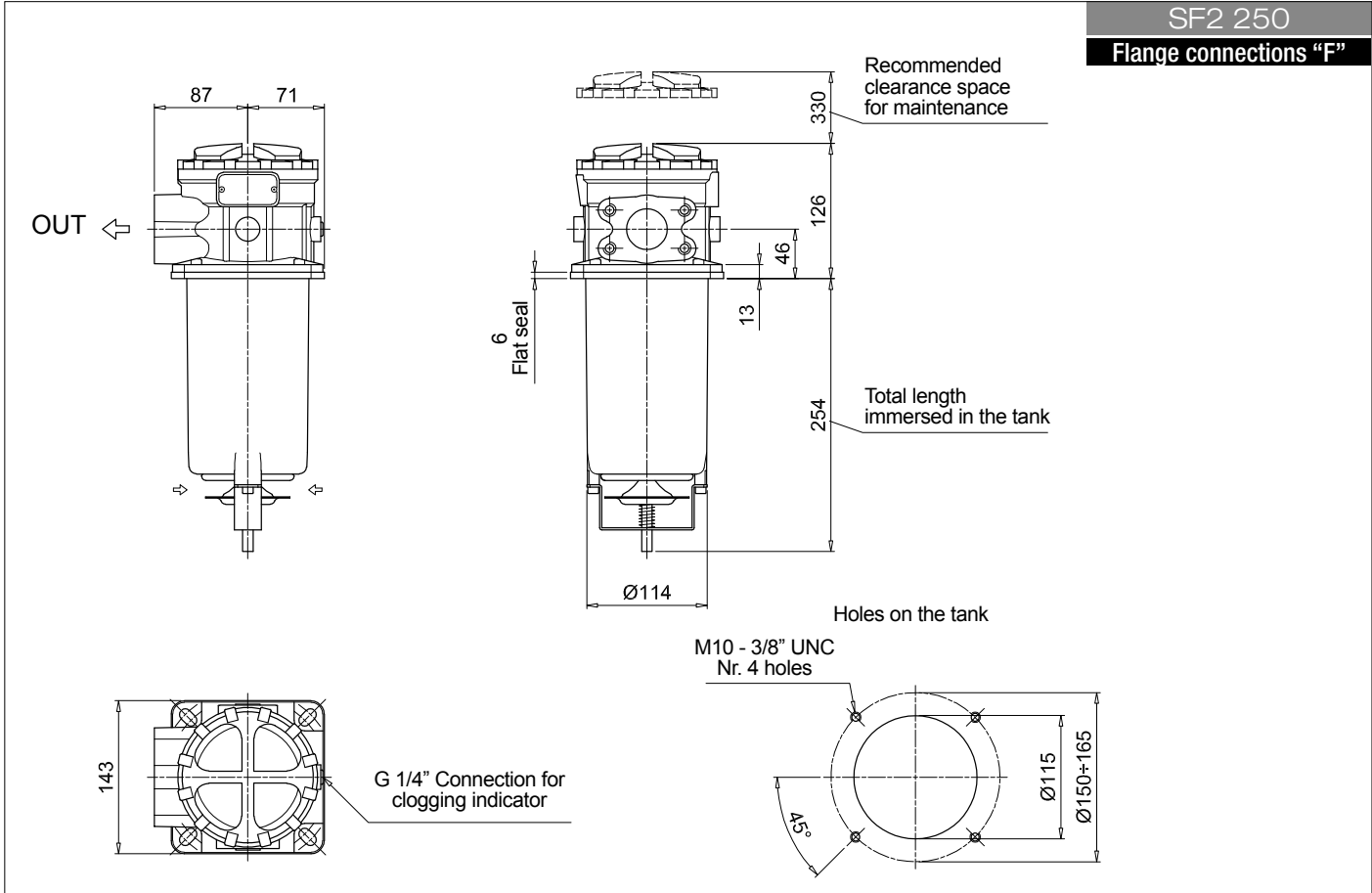
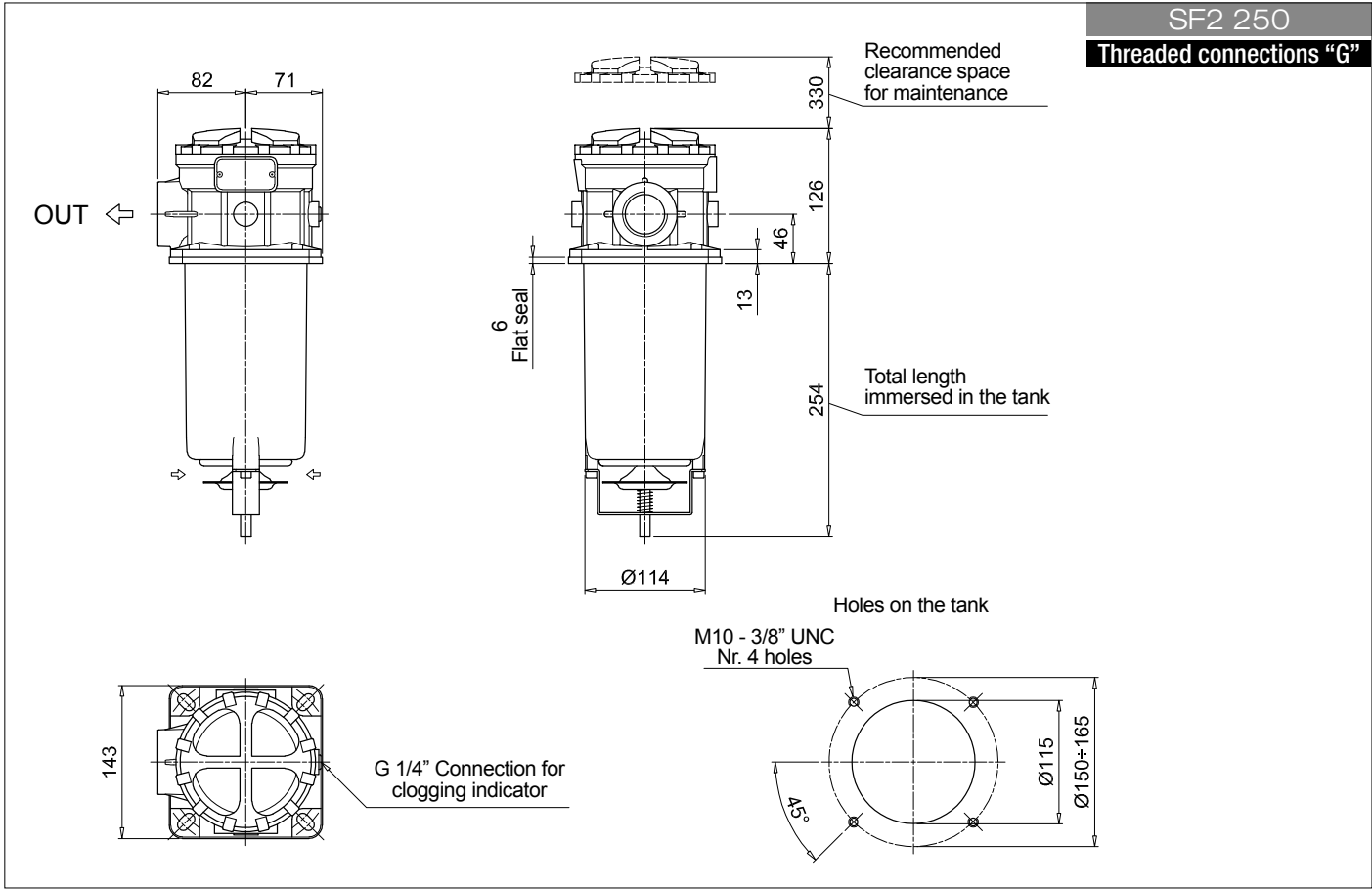
Electrical / visual vacuum indicator

Suction filters

52

MP Filtri

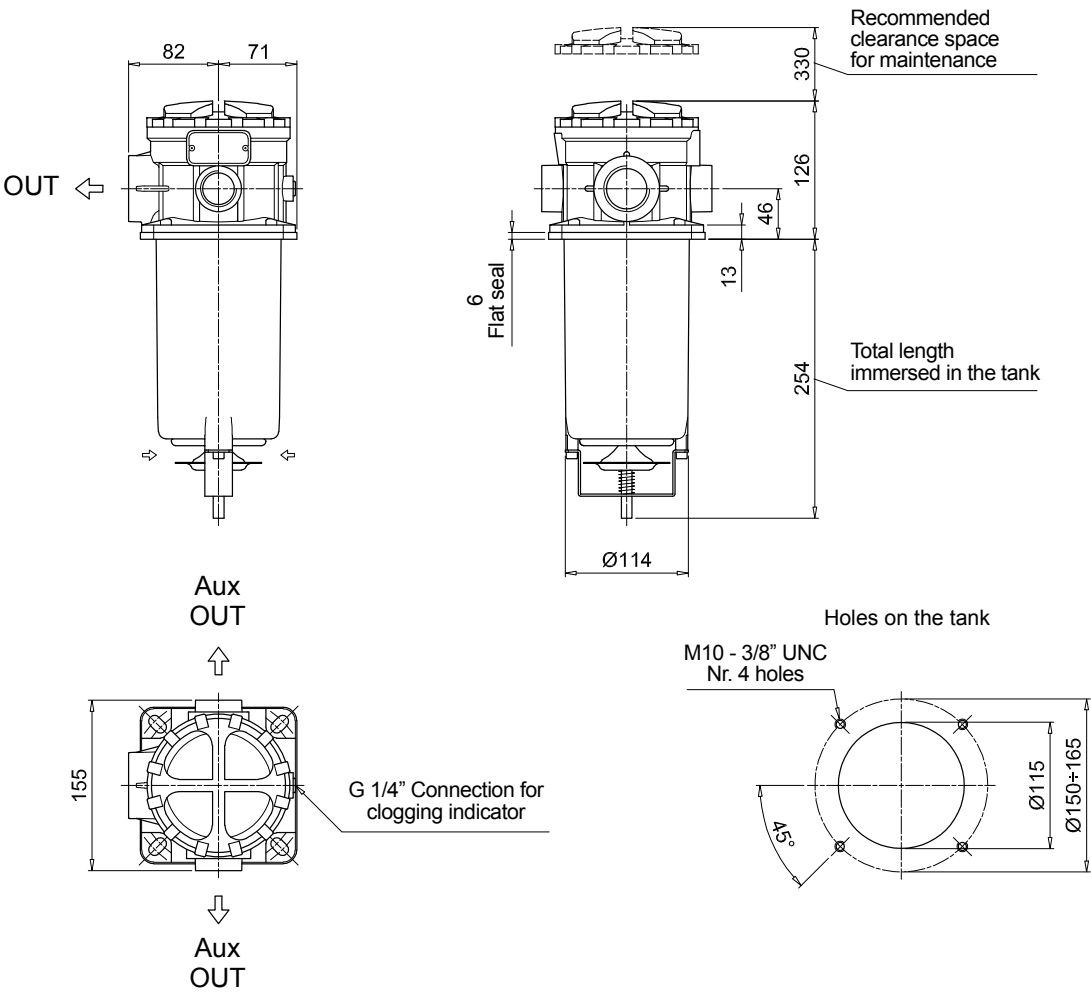
ТОВ "Промислова Гідравліка": <https://promhydraulic.com.ua/ua/>
Телефонуйте: +380 (95) 670-15-32, +380 (98) 533-91-67, +380 (96) 244-48-42



SF2 250-350

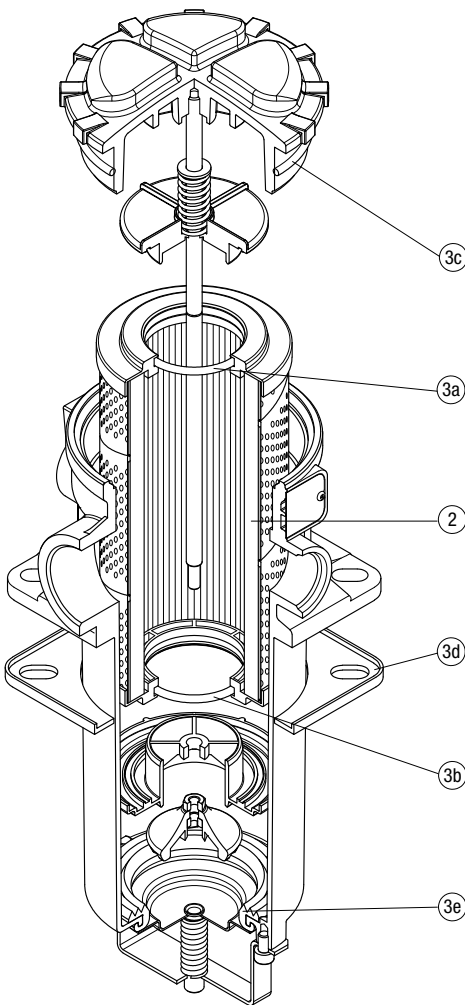
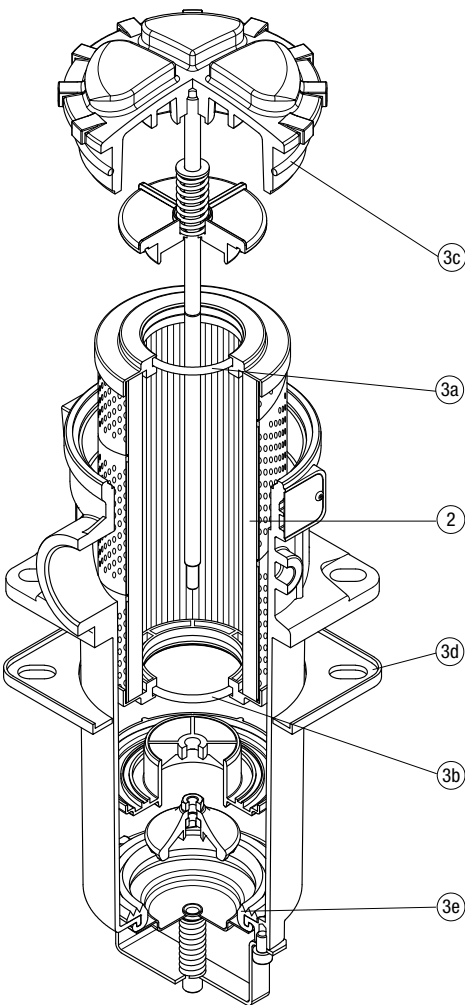
Dimensions

SF2 350



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:

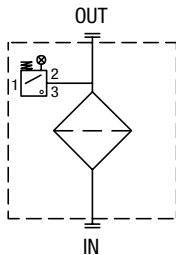
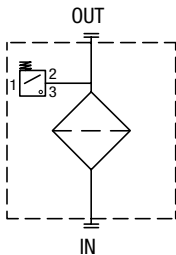
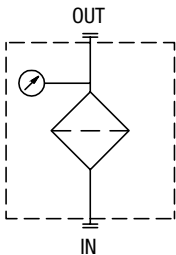
- Vacuum switches and gauges
- Pressure switches and gauges
- Differential pressure indicators

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	ELIXIR® SFEX060-080-110-160	WB16P01 VVS16P01	VEB21AA50P01	VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01
	With bypass valve 0.3 bar			
	SF2 250 - 350 SF2 500 - 501 - 503 - 504 - 505 SF2 510 - 535 - 540	VVA16P01 VVR16P01	VEA21AA50P01	VLA21AA51P01 VLA21AA52P01 VLA21AA53P01 VLA21AA71P01

VE*50

Electrical Vacuum Indicator

R	Ordering code
EN 10226 - R1/4"	VE A 21 A A 50 P01
EN 10226 - R1/8"	VE B 21 A A 50 P01

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

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:

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
EN 10226 - R1/8"	VL B 21 A A xx P01

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

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
24 Vdc	110 Vdc	230 Vac

- Lamps

1 A / 24 Vdc	1 A / 110 Vdc	1 A / 230 Vac
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- Resistive load:

VL*71

Electrical/Visual Vacuum Indicator

Connections	Indicator code
EN 10226 - R1/4"	VL A 21 A A 71 P01
EN 10226 - R1/8"	VL B 21 A A 71 P01

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

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

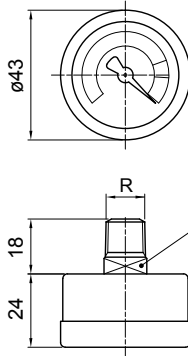
24 Vdc

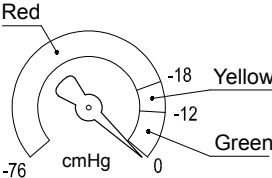
- Resistive load:

0.4 A / 24 Vdc

VACUUM INDICATORS

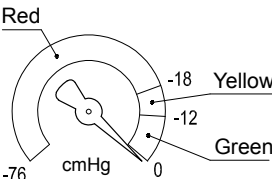
Dimensions

VVA	
Axial Vacuum Gauge	
R	Ordering code
EN 10226 - R1/4"	VV A 16 P01
	
A/F 27 Max tightening torque: 25 N·m	

Hydraulic symbol	
	
Dial scale	
	
Conversion to SI units	
[cmHg]	[bar]
-12	-0.16
-18	-0.24
-76	-1.01

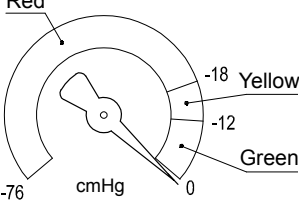
Materials	
- Case:	Painted Steel
- Window:	Transparent plastic
- Dial:	Painted Steel
- Pointer:	Painted Aluminium
- Pressure connection:	Brass
- Pressure element:	Bourdon tube Cu-alloy soft soldered
Technical data	
- Max working pressure:	Static: 7 bar Fluctuating: 6 bar Short time: 10 bar
- Working 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
A/F 27 Max tightening torque: 6.5 N·m	

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
A/F 14 Max tightening torque: 25 N·m	

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

A/F 11
Max tightening torque: 6.5 N·m

Hydraulic symbol

Dial scale

Red -18 Yellow -12 Green 0

cmHg

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

VE Electrical vacuum indicator

VL Electrical/Visual vacuum indicator

VV Vacuum gauge

Type VE - VL

A Connection EN 10226 - R1/4"

B Connection EN 10226 - R1/8"

Type VV

A Axial connection EN 10226 - R1/4"

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

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