

VACUUM INDICATORS

**CLOGGING
INDICATORS**



V 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.

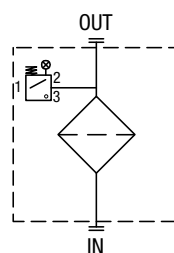
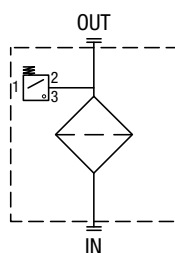
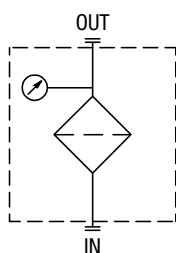
Standard items are produced with R 1/4" EN 10226 connection.

Available products with R 1/8" EN 10226 to be fitted on MPS series.

Vacuum indicators are identified in the Hydraulic Filtration catalogue and in the Quick Reference Guide table by the letter "V".

Example:

V VVB20P01



Vacuum Indicators



DESIGNATION, ORDERING CODES & TECHNICAL DATA

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APPLICABLE VACUUM INDICATORS BY FILTER SERIES

Filter Series	VEA	VEB	VLA	VLB	VVA	VVB	VVR	VVS
STRC	-	-	-	-	-	-	-	-
MPAC	-	-	-	-	-	-	-	-
SFEX	-	•	-	•	-	•	-	•
SFMC	•	-	•	-	•	-	•	-
SFSC	•	-	•	-	•	-	•	-

VACUUM INDICATORS

Series		Configuration example 1:										EX
VE Electrical vacuum indicator		VE	A	21	V	A	50	P01				
VL Electrical/Visual vacuum indicator		VL	B	21	A	A	71	P01				
VV Vacuum gauge		VV	R	20				P01				
Type VE - VL		Type VV		SFC	SFEX							
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	VVA	VVB	VVR	VVS					
20	0.20 bar	-	-	•	•	•	•					
21	0.21 bar	•	•	-	-	-	-					
Seals		VEA - VLA		VEB - VLB		VV						
A	NBR	•		•		-						
V	FPM	•		-		-						
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 Vac	-	•	-								
71	Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	•	-								
Option												
P01		MP Filtri standard										
Pxx		Customized										
Certifications		VEA21A	VEA21V	VEB	VL	VV						
Without		•	•	•	•	•						
EX	ATEX certification	•	•	•	-	-						
UL	UL certification	•	-	-	-	-						

VACUUM CLOGGING INDICATORS RETURN/SUCTION FILTERS

Designation & Ordering code

APPLICABLE VACUUM INDICATORS BY FILTER SERIES

Filter Series	VEB	VLB	VVB	VVS
MRSX	•	•	•	•
LMP124	-	-	-	-

VACUUM INDICATORS

Series		Configuration example 1:										EX			
VE Electrical vacuum indicator		VL		B		21		V		A		50		P01	
VL Electrical/Visual vacuum indicator		VVB		S		20		A		A		71		P01	
VV Vacuum gauge		VVS												P01	
Type VE - VL		Type VV													
B Connection EN 10226 - R1/8"		B Axial connection EN 10226 - R1/8"													
		S Radial connection EN 10226 - R1/8"													
Vacuum setting		VE		VL		VVB		VVS							
20 0.20 bar		-		-		•		•							
21 0.21 bar		•		•		-		-							
Seals		VEB - VLB		VV											
A NBR		•		-											
V FPM		-		-											
Thermostat		VE		VL		VV									
A Without		•		•		-									
Electrical connections		VE		VL											
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 Vac		-		•											
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc		-		•											
Option															
P01 MP Filtri standard															
Pxx Customized															

APPLICABLE VACUUM INDICATORS BY FILTER SERIES

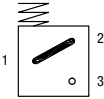
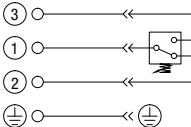
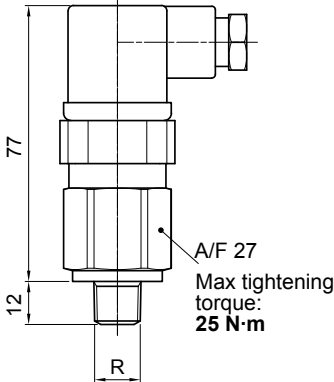
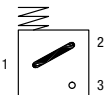
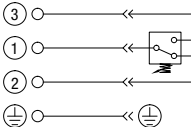
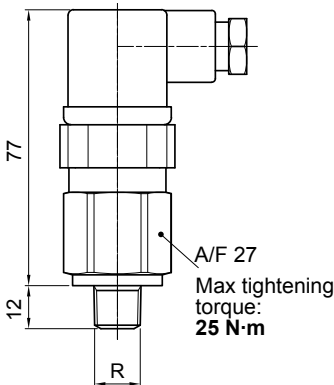
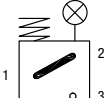
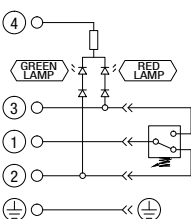
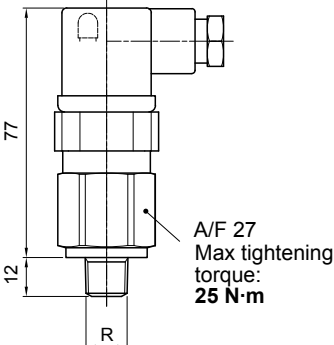
Filter Series	VEA	VEB	VLA	VLB	VVA	VVB	VVR	VVS
MPS	-	•	-	•	-	•	-	•

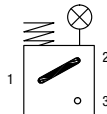
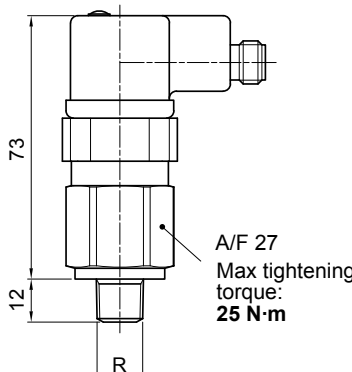
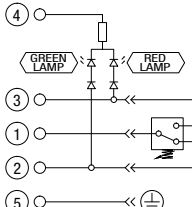
VACUUM INDICATORS

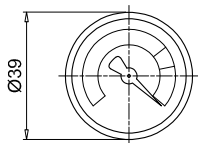
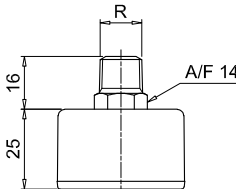
Series		Configuration example 1:							VE		B	21	A	A	50	P01	EX		
VE Electrical vacuum indicator		Configuration example 2:							VL		B	21	A	A	71	P01			
VL Electrical/Visual vacuum indicator		Configuration example 3:							VV		S	20				P01			
VV Vacuum gauge																			
Type VE - VL		Type VV																	
B Connection EN 10226 - R1/8"		B Axial connection EN 10226 - R1/8"																	
		S Radial connection EN 10226 - R1/8"																	
Vacuum setting		VE		VL		VVB		VVS											
20 0.20 bar		-		-		•		•											
21 0.21 bar		•		•		-		-											
Seals		VEA - VLA		VEB - VLB		VV													
A NBR		•		•		-													
V FPM		•		-		-													
Thermostat		VE		VL		VV													
A Without		•		•		-													
Electrical connections		VE		VL															
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 Vac		-		•															
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc		-		•															
Option																			
P01 MP Filtri standard																			
Pxx Customized																			
Certifications		VEA21A		VEA21V		VEB		VL		VV									
Without		•		•		•		•		•									
EX ATEX certification		•		•		•		-		-									
UL UL certification		•		-		-		-		-									

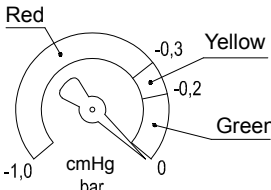
VACUUM INDICATORS

Technical data

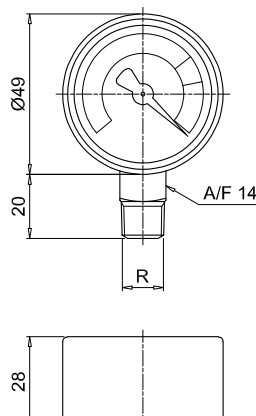
VE*50 (EX) Electrical Vacuum Indicator Connection: EN 175301-803		Hydraulic symbol 		Materials - Body: Brass - Base: Black polyamide - Contacts: Silver - Seal: VEA: NBR/FPM VEB: NBR	
R	Ordering code	Electrical symbol 		Technical data - Vacuum setting: 0.21 bar ±10% - Max working pressure: 10 bar - Proof pressure: 15 bar - Working temperature: From -25 °C to +80 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFB and HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529	
EN 10226 - R1/4"	VE A 21 x A 50 P01 VE A 21 x A 50 P01 EX			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	
EN 10226 - R1/8"	VE B 21 A A 50 P01 VE B 21 A A 50 P01 EX				
VEA50 UL Electrical Vacuum Indicator Connection: EN 175301-803		Hydraulic symbol 		Materials - Body: Brass - Base: Black polyamide - Contacts: Silver - Seal: VEA: NBR/FPM VEB: NBR	
R	Ordering code	Electrical symbol 		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 HFB and HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529	
EN 10226 - R1/4"	VE A 21 A A 50 P01 UL			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	
VL*51 - VL*52 - VL*53 Electrical/Visual Vacuum Indicator Connection: EN 175301-803		Hydraulic symbol 		Materials - Body: Brass - Base: Transparent polyamide - Contacts: Brass - Polyamide - Seal: VLA: NBR/FPM VLB: NBR	
51: Transparent base with lamps 24 Vdc 52: Transparent base with lamps 110 Vdc 53: Transparent base with lamps 230 Vac		Electrical symbol 		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 HFB and HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529	
R	Ordering code			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	
EN 10226 - R1/4"	VL A 21 x A xx P01				
EN 10226 - R1/8"	VL B 21 A A xx P01				

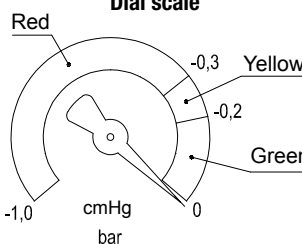
VL*71		Hydraulic symbol	Materials
Electrical/Visual Vacuum Indicator			
Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc			Brass Black polyamide Silver VLA: NBR/FPM VLB: NBR
Connections	Indicator code		
EN 10226 - R1/4"	VL A 21 x A 71 P01		
EN 10226 - R1/8"	VL B 21 A A 71 P01		
		Electrical symbol 	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 HFB and HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529

VVA - VVB	
Axial Vacuum Gauge	
R	Ordering code
EN 10226 - R1/4"	VVA 20 P01
EN 10226 - R1/8"	VVB 20 P01
 	

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

Materials	
- Case:	Black plastic
- Window:	Clear plastic
- Dial:	White plastic
- Pointer:	Black plastic
- Pressure connection:	Cu-alloy
- Pressure element:	Bourdon tube Cu-alloy soft soldered, C type
- Movement:	Cu-alloy
Technical data	
- Max working pressure:	Steady: -0.7 bar Fluctuating: -0.6 bar Short time: -1.0 bar
- Working temperature:	Ambient from -40 °C to +60 °C Fluid max + 60 °C Storage from -40 °C to +60 °C
- Compatibility with fluids:	Mineral oils, Synthetic fluids HFB and HFC according to ISO 2943
- Accuracy:	Class 2.5 according to EN 13190
- Degree of protection:	IP31 according to EN 60529

VVR - VVS		
Radial Vacuum Gauge		
R	A/F	Ordering code
EN 10226 - R1/4"	14	VVR 20 P01
EN 10226 - R1/8"	11	VVS 20 P01
		

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

Materials	
- Case:	Black plastic
- Window:	Clear plastic
- Dial:	White plastic
- Pointer:	Black plastic
- Pressure connection:	Cu-alloy
- Pressure element:	Bourdon tube Cu-alloy soft soldered, C type
- Movement:	Cu-alloy
Technical data	
- Max working pressure:	Steady: -0.7 bar Fluctuating: -0.6 bar Short time: -1.0 bar
- Working temperature:	Ambient from -40 °C to +60 °C Fluid max + 60 °C Storage from -40 °C to +60 °C
- Compatibility with fluids:	Mineral oils, Synthetic fluids HFB and HFC according to ISO 2943
- Accuracy:	Class 2.5 according to EN 13190
- Degree of protection:	IP31 according to EN 60529

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