



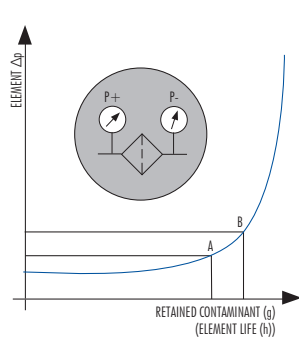
CLOGGING INDICATORS

Visual and electrical indicators

The **Pressure indicator** measures the pressure in one point only:

- for suction application it must be located downstream the filter element (P-)
- for return application it must be located upstream the filter element (P+)

The **Differential indicator** measures the D_p between upstream and downstream of the filter element, i.e. it is the ideal indicator for in line application.



The **Pressure Drop** ($D_p =$ differential pressure) through the filter increases during the system operation due to the contaminant retained by the filter element.

The filter element must be replaced when the indicator shows an alarm and before the D_p reaches the by-pass set value (i.e. the set value A of the clogging indicator must always be lower than the set value B of the by-pass valve).

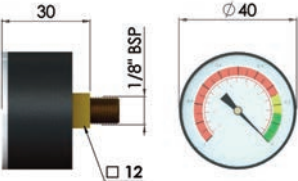


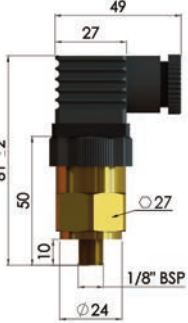

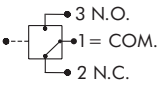
WARNING: in **cold start** conditions a false alarm can be caused by higher oil viscosity due to low temperature; the indicator alarm must be considered at normal working temperature only.

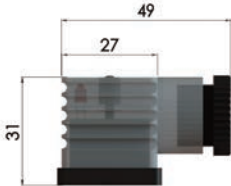
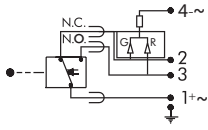
INDICATORS FOR APPLICATION ON SUCTION LINE

NORMALLY USED ON **FS-7 / FA-1 series (suction line)**

The clogging indicator registers the pressure downstream the filter element:

- in the **VISUAL** indicator the red area shows the need for element replacement.
- in the **ELECTRIC** indicator an electrical switch is activated.

CODE	DIMENSIONS	SYMBOL	SETTING
S1	 <p style="text-align: right;"> 25 Nm</p>		<p>VACUUM GAUGE 0 ÷ -1 bar</p>
S13	 <p style="text-align: right;"> 25 Nm</p>		<p>VACUUM SWITCH -0,2 bar</p> <ul style="list-style-type: none"> • DC: 30 V – 4 A inductive, 3 A resistive • AC: 250 V 3 A inductive, 2 A resistive • Protection: IP65, connector DIN43650 • SPDT contacts

CODE	DIMENSIONS	SYMBOL	DESCRIPTION
LC24			<p>The LC24 connector can replace the standard black connector of the “S13” indicator. (N.B. supplied separately)</p> <p>Feeded with 24V, it gives a visual indication of the filter element conditions: normally the GREEN LED is on, the RED LED switch on when the element is clogged.</p>

INDICATORS FOR APPLICATION ON RETURN LINE

NORMALLY USED ON FA-1 (return line) / FA-2 / FR-1 / FR-8 / FCR-7

The clogging indicator registers the pressure downstream the filter element:

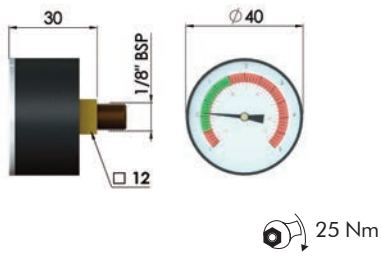

- in the VISUAL indicator the red area shows the need for element replacement.
- in the ELECTRIC indicator an electrical switch is activated.

CODE	DIMENSIONS	SYMBOL	SETTING
R9			<p>PRESSURE GAUGE</p> <ul style="list-style-type: none"> 0 ÷ 1 bar 1 ÷ 1,5 bar 1,5 ÷ 4 bar
R10			
R13			<p>PRESSURE SWITCH</p> <p>R13 = 1,3 bar R14 = 2 bar</p> <ul style="list-style-type: none"> • DC: 30 V – 4 A inductive, 3 A resistive • AC: 250 V 3 A inductive, 2 A resistive • Protection: IP65, connector DIN43650 • SPDT contacts
R14			

CODE	DIMENSIONS	SYMBOL	DESCRIPTION
LC24			<p>The LC24 connector can replace the standard black connector of the "R13" and "R14" indicator. (N.B. supplied separately)</p> <p>Feeded with 24V, it gives a visual indication of the filter element conditions: normally the GREEN LED is on, the RED LED switch on when the element is clogged.</p>

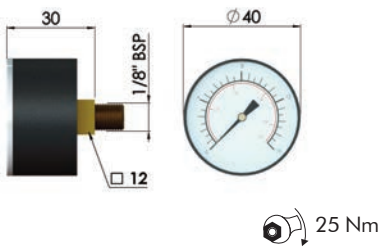

INDICATORS MULTIPURPOSE FOR APPLICATION ON SUCTION AND RETURN LINE

CAN BE USED ON FS-7 / FA-1(suction line) OR FA-1(return line) / FA-2 / FR-1/ FR-8 / FCR-7

CODE	DIMENSIONS	SYMBOL	SETTING
R7			<p>PRESSURE / VACUUM GAUGE</p> <ul style="list-style-type: none"> -1 ÷ -0,2 bar -0,2 ÷ 1,4 bar 1,4 ÷ 5 bar

INDICATORS FOR APPLICATION ON LOW PRESSURE LINE

NORMALLY USED ON FA-1 (low pressure line) series

CODE	DIMENSIONS	SYMBOL	SETTING
R12			<p>PRESSURE GAUGE</p> <p>0 ÷ 16 bar</p>

DIFFERENTIAL CLOGGING INDICATORS

V05 / E05 NORMALLY USED ON **F040-DMD / F100-XD / F160-XD / F280-D1 / F420-D1** series

V08 / E08 NORMALLY USED ON **F100-XD / F160-XD / F280-D1 / F420-D1** series

V02 / E02 NORMALLY USED ON **F040-DMD** series

CODE	DIMENSIONS	SYMBOL	SETTING
V02			DIFFERENTIAL VISUAL 2,7 bar
V05			DIFFERENTIAL VISUAL 5 bar
V08			DIFFERENTIAL VISUAL 8 bar

CODE	DIMENSIONS	SYMBOL	SETTING
E02			DIFFERENTIAL ELECTRIC 2,7 bar
E05			DIFFERENTIAL ELECTRIC 5 bar
E08			DIFFERENTIAL ELECTRIC 8 bar

- Electric plug connection as per DIN 43650
- Protection: IP65 acc. to DIN 40050
- Max current: 5A resistive 1A inductive
- Max voltage: 250V AC - 30V DC

CODE	DIMENSIONS	SYMBOL	DESCRIPTION
LC24			<p>The LC24 connector can replace the standard black connector of the "E" indicator. (N.B. supplied separately)</p> <p>Feeded with 24V, it gives a visual indication of the filter element conditions: normally the GREEN LED is on, the RED LED switch on when the element is clogged.</p>

DIFFERENTIAL CLOGGING INDICATORS

EX5 / VX5 NORMALLY USED ON **FD-3 / FDM-D1** series

EX8 / VX8 NORMALLY USED ON **FDM-D1** series

CODE	DIMENSIONS	SYMBOL	SETTING
VX5			DIFFERENTIAL VISUAL 5 bar
VX8			DIFFERENTIAL VISUAL 8 bar

CODE	DIMENSIONS	SYMBOL	SETTING
EX5			DIFFERENTIAL ELECTRIC 5 bar
EX8			DIFFERENTIAL ELECTRIC 8 bar

- Electric plug connection as per DIN 43650
- Protection: IP65 acc. to DIN 40050
- Max current: 5A resistive 1A inductive
- Max voltage: 250V AC - 30V DC

CODE	DIMENSIONS	SYMBOL	DESCRIPTION
LC24			<p>The LC24 connector can replace the standard black connector of the "E" indicator. (N.B. supplied separately)</p> <p>Fedded with 24V, it gives a visual indication of the filter element conditions: normally the GREEN LED is on, the RED LED switch on when the element is clogged.</p>

DIFFERENTIAL CLOGGING INDICATORS

Z34 / Z35 NORMALLY USED ON FA-4 series

CODE	DIMENSIONS	SYMBOL	SETTING
Z34			<p>DIFFERENTIAL VISUAL 2,7 bar</p>
Z35			<p style="text-align: center;">DIFFERENTIAL ELECTRIC 2,7 bar</p> <ul style="list-style-type: none"> • Max current: 0,5A resistive 0,2A inductive • Max voltage: 36 VDC • Protection: IP54 as per DIN 40050



Clogging indicators

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