



## CLOGGING INDICATORS

Visual and electrical indicators

### INDICATORS FOR APPLICATION ON SUCTION LINE

NORMALLY USED ON FS7 / FA1 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
<p><b>MPS</b> formerly S1</p>			<p><b>VACUUM GAUGE</b> 0 ÷ -1 bar</p>
<p><b>PDS</b> formerly S13</p>			<p><b>VACUUM SWITCH</b> -0,2 bar</p> <ul style="list-style-type: none"> <li>• DC: 30 V - 4 A inductive, 3 A resistive</li> <li>• AC: 250 V - 3 A inductive, 2 A resistive</li> <li>• Protection: IP65, connector DIN43650</li> <li>• SPDT contacts</li> </ul>

### OPTIONAL CONNECTOR for S13

<p><b>LC24</b></p>			<p>The LC24 connector can replace the standard black connector of the "S13" indicator (N.B. supplied separately).                  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>
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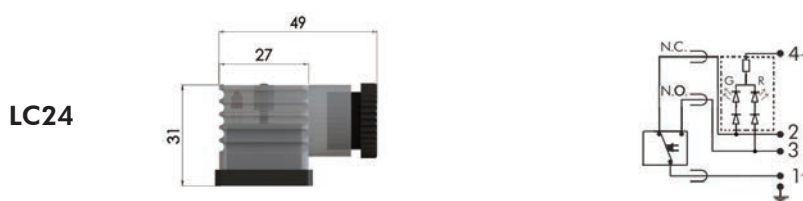
**INDICATORS FOR APPLICATION ON RETURN LINE**

NORMALLY USED ON FA1 (return line) / FA2 / FR1 / FR6 / FCR7

The clogging indicator registers the pressure upstream 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.

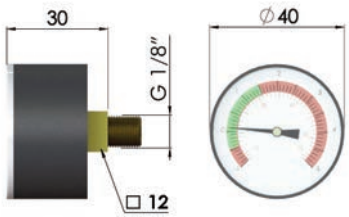


CODE	DIMENSIONS	SYMBOL	SETTING
<b>MPB</b> formerly R9			<b>PRESSURE GAUGE</b> ● 1,7 ÷ 10 bar ● 0 ÷ 1,7 bar
<b>MPC</b>			<b>PRESSURE GAUGE</b> ● 3 ÷ 10 bar ● 0 ÷ 3 bar
<b>MRB</b> formerly R10			<b>PRESSURE GAUGE</b> ● 1,7 ÷ 10 bar ● 0 ÷ 1,7 bar
<b>MRC</b>			<b>PRESSURE GAUGE</b> ● 3 ÷ 10 bar ● 0 ÷ 3 bar
<b>PDB</b> formerly R13			<b>PRESSURE SWITCH</b> <b>PDB (R13)</b> = 1,3 bar <b>PDC (R14)</b> = 2 bar • DC: 30 V - 4 A inductive, 3 A resistive • AC: 250 V - 3 A inductive, 2 A resistive • Protection: IP65, connector DIN43650 • SPDT contacts
<b>PDC</b> formerly R14			Available on request ATEX version Ex I M1 Ex ia I Ex II 1G Ex ia IIC TX Ex II 1D Ex ia IIIC TX°C

**OPTIONAL CONNECTOR for PDB\_PDC**


The LC24 connector can replace the standard black connector of the "PDB / PDC" indicator (N.B. supplied separately).  
 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.

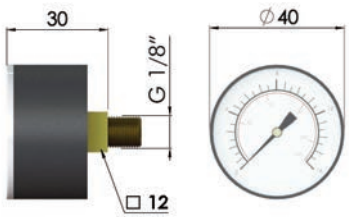


**INDICATORS MULTIPURPOSE FOR APPLICATION ON SUCTION AND RETURN LINE**

CAN BE USED ON FS7 / FA1(suction line) OR FA1(return line) / FA2 / FR1/ FR6 / FCR7

CODE	DIMENSIONS	SYMBOL	SETTING
<p><b>MPA</b> formerly R7</p>			<p><b>PRESSURE / VACUUM GAUGE</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">●</span> -1 ÷ -0,2 bar</li> <li><span style="color: green;">●</span> -0,2 ÷ 1,4 bar</li> <li><span style="color: red;">●</span> 1,4 ÷ 5 bar</li> </ul>
			

**INDICATORS FOR APPLICATION ON LOW PRESSURE LINE**

NORMALLY USED ON FA1 (low pressure line) series

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

**DIFFERENTIAL CLOGGING INDICATORS**

V02 / E02 NORMALLY USED ON F040 series  
 V05 / E05 NORMALLY USED ON F040 / F100 / F160 / F280 / F420 series  
 V08 / E08 NORMALLY USED ON F100/ F160 / F280 / F420 series

CODE	DIMENSIONS	SYMBOL	SETTING
V02			<b>DIFFERENTIAL VISUAL</b> 2,7 bar
V05			<b>DIFFERENTIAL VISUAL</b> 5 bar
V08			<b>DIFFERENTIAL VISUAL</b> 8 bar

CODE	DIMENSIONS	SYMBOL	SETTING
E02			<b>DIFFERENTIAL ELECTRIC</b> 2,7 bar
E05			<b>DIFFERENTIAL ELECTRIC</b> 5 bar <ul style="list-style-type: none"> <li>• Electric plug connection as per DIN 43650</li> <li>• Protection: IP65 acc. to DIN 40050</li> <li>• Max current: 5A resistive 1A inductive</li> <li>• Max voltage: 250V AC - 30V DC</li> </ul>
E08			<b>DIFFERENTIAL ELECTRIC</b> 8 bar

**OPTIONAL CONNECTOR for E serie**

LC24			<p>The LC24 connector can replace the standard black connector of the "E" indicator (N.B. supplied separately).                      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>
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**DIFFERENTIAL CLOGGING INDICATORS**

EX5 / VX5 NORMALLY USED ON FD3 / FDM series  
 EX8 / VX8 NORMALLY USED ON FDM series

CODE	DIMENSIONS	SYMBOL	SETTING
VX5			<b>DIFFERENTIAL VISUAL</b> 5 bar
VX8			<b>DIFFERENTIAL VISUAL</b> 8 bar



CODE	DIMENSIONS	SYMBOL	SETTING
EX5			<b>DIFFERENTIAL ELECTRIC</b> 5 bar
EX8			<b>DIFFERENTIAL ELECTRIC</b> 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

**OPTIONAL CONNECTOR for E serie**

LC24			<p>The LC24 connector can replace the standard black connector of the "E" indicator. (N.B. supplied separately)</p> <p>Powered with 24V, it gives a visual indication of the filter element conditions: normally the GREEN LED is on, the RED LED switches on when the element is clogged.</p>
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**DIFFERENTIAL CLOGGING INDICATORS**

Z34 / Z35 NORMALLY USED ON FA4 series

CODE	DIMENSIONS	SYMBOL	SETTING
<b>Z34</b>			<p><b>DIFFERENTIAL VISUAL</b> 2,7 bar</p>
<b>Z35</b>			<p><b>DIFFERENTIAL ELECTRIC</b> 2,7 bar</p> <ul style="list-style-type: none"> <li>• Max current: 0,5A resistive 0,2A inductive</li> <li>• Max voltage: 36 VDC</li> <li>• Protection: IP54 as per DIN 40050</li> </ul> <p>Ground through filter head to chassis</p>

## USER INFORMATION

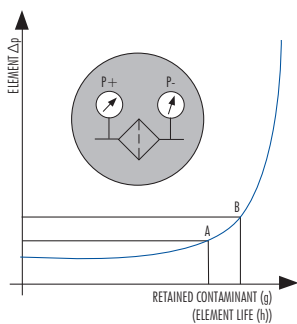
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The **Pressure indicator** measures the pressure in one point only:

-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.

## OPTIONAL VERSIONS

**Subject to MOQ our differential indicators can be supplied in special versions like ATEX, different connectors, two alarm levels, etc.: pls contact our Customer Service for further information.**

