

# LMD 211 series

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 200 l/min



# TYPICAL FILTER SIZING Selection Software

## Step ①

Select "FILTER SIZING SOFTWARE" after login

The screenshot shows the MP Filtri website's homepage. A user profile for 'WELCOME MARIO ROSSI' is displayed. Below it, a section titled 'Then here you're selecting the tool wanted:' contains three buttons: 'FILTER SIZING SOFTWARE' (highlighted with a blue box), 'POWER TRANSMISSION SOFTWARE', and 'MODIFY PROFILE'. At the bottom of the page, there is contact information for MP Filtri srl.

OR

Select "FILTER SIZING" after login from a product page

The screenshot shows a product page for 'MPFX' filter elements. The 'FILTER SIZING' button is highlighted with a blue box at the bottom right of the page. To the right, there is a technical drawing of a filter element and some descriptive text about tank-mounted return filters.

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

## Step ②

The screenshot shows the 'FILTER SIZING SOFTWARE' interface. Under 'RETURN/SUCTION', the 'RETURN' tab is selected. The 'Product: MPFX' dropdown is set to 'MPFX - Mineral oil'. Input fields include Working Pressure (bar), Flow rate (l/min), Fluid type (ISO VG 46 SUS 216), Viscosity (cSt), and Viscosity (cSt). Filtration is set to 'A25 - 25 µm absolute inorganic microfibre'. Connection Type is 'G 1''. A 'CALCULATE' button is highlighted with a blue box at the bottom.

The screenshot shows the 'FILTER SIZING SOFTWARE' interface with the same configuration as the previous step. The 'Product: MPFX' dropdown is set to 'MPFX - Mineral oil'. Input fields include Working Pressure (bar), Flow rate (l/min), Fluid type (ISO VG 46 SUS 216), Viscosity (cSt), and Viscosity (cSt). Filtration is set to 'A25 - 25 µm absolute inorganic microfibre'. Connection Type is 'G 1''. A 'CALCULATE' button is highlighted with a blue box at the bottom.

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

The screenshot shows the 'FILTER SIZING SOFTWARE' interface with various filter options selected. At the bottom, a table lists filter products with columns for Image, Code, Prex, Qmax, ΔP, Housing ΔP, Element ΔP, Connection, Seal, and Link. Two rows are shown: 'MPFX-103-3-A-G3-A25-H-BP21' and 'MPFX-103-3-A-G3-A25-H-BP21'. Each row has a 'Report' link at the bottom right.

## TYPICAL FILTER SIZING

## Step 4

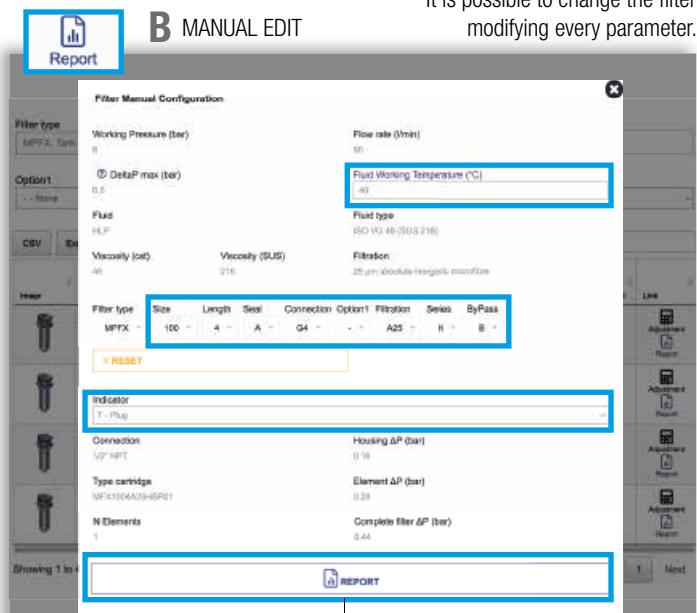
Choose the most suitable filter from the proposed list.

Filter type	Valve	Seal							
MPX: Tank lid mounting - [Pmax = 1 bar]	B: 1.75 bar Bypass	A: NBR	<b>X</b> RESET						
Option1	Single or duplex	DIN Standard	Indicator						
-- None	Single	NOT APPLICABLE	Visual						
<b>CSV</b>	<b>Excel</b>	Show 10 entries	Search:						
Image	Code	Peak bar psi	Qmax dm³/h gpm us	dP bar inHg psig	Housing AP bar psi	Element AP bar psi	Connection	Seal	Link
	MPX-100-S-A-G3-A25-H-BPSI	B 116 95.74	25.3 0.47	T 0.12 2	E35 5	G 1"	A	 	
	MPX-104-S-A-G3-A25-H-BPSI	B 116 95.74	25.3 0.47	T 0.12 2	E35 5	G 1"	A	 	

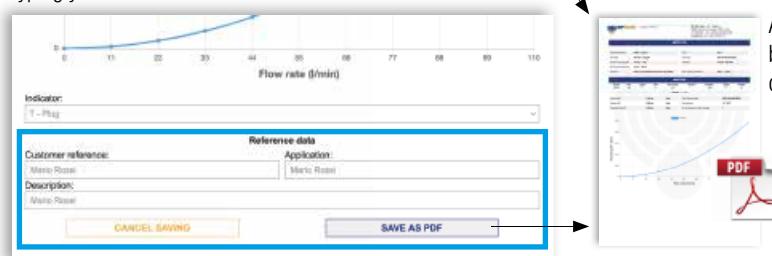
## Step 5



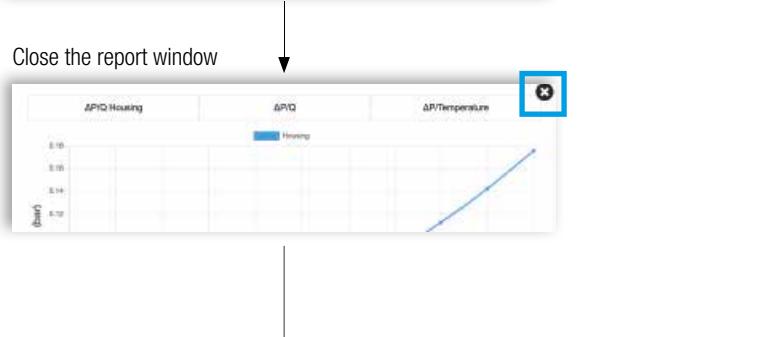
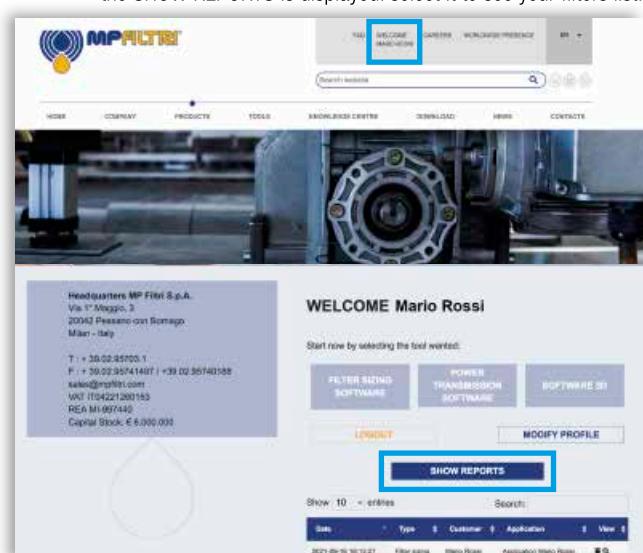
SAVE IN YOUR ARCHIVE  
typing your reference data and then SAVE AS PDF



It is possible to change the filter  
modifying every parameter.



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



# LMD 211 GENERAL INFORMATION

## Description

### Low & Medium Pressure filters

#### Duplex

**Maximum working pressure up to 6 MPa (60 bar)**

**Flow rate up to 200 l/min**

LMD211 is a range of versatile low pressure duplex filter with integrated changeover function to allow the filter element replacement without the system shut-down.

They are directly connected to the lines of the system through the hydraulic fittings.

#### Available features:

- Female threaded connections up to 1 1/2" and flanged connections up to 1 1/2", for a maximum flow rate of 200 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Water removal elements, to remove the free water from the hydraulic fluid. For further information, see the Contamination Management document and the dedicated leaflet.
- Balancing valve integrated in the changeover lever, to equalize the housing pressure before the switch
- Bypass valve, to relieve excessive pressure drop across the filter media
- Vent ports, to avoid air trapped into the filter going into the system
- Drain ports, to remove the fluid from the housing prior the maintenance work
- Optional sampling ports, to get samples of fluid or to connect additional instrument to the system
- Visual, electrical and electronic differential clogging indicators

#### Common applications:

- Systems where shut-down causes high costs
- Systems where shut-down causes safety issues

## Technical data

### Filter housing materials

- Head: Aluminium
- Bowl: Cataphoretic painted steel
- Bypass valve: AISI 304 - Polyamide

### Pressure

- Test pressure: 9 MPa (90 bar)
- Burst pressure: 21 MPa (210 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 6 MPa (60 bar)

### Bypass valve

- Opening pressure 350 kPa (3.5 bar)  $\pm 10\%$
- Other opening pressures on request.

### $\Delta p$ element type

- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

### Seals

- Standard NBR series A
- Optional FPM series V

### Temperature

From -25° C to +110° C

### Connections

Inlet/Outlet In-Line

### Note

LMD 211 filters  
are provided  
for vertical mounting

## Weights [kg] and volumes [dm<sup>3</sup>]

Filter series	Weights [kg]				Volumes [dm <sup>3</sup> ]			
	Length	1	2	3	Length	1	2	3
<b>LMD 211</b>		9.5	11.2	12.8		4.1	4.6	5.3

		Filter element design - N Series									
Filter series	Length	A03	A06	A10	A16	A25	M25	M60	M90	P10	P25
LMD 211	1	90	95	140	147	156	191	192	192	177	181
	2	113	121	158	162	173	192	192	193	181	183
	3	131	146	166	169	177	193	194	194	184	187

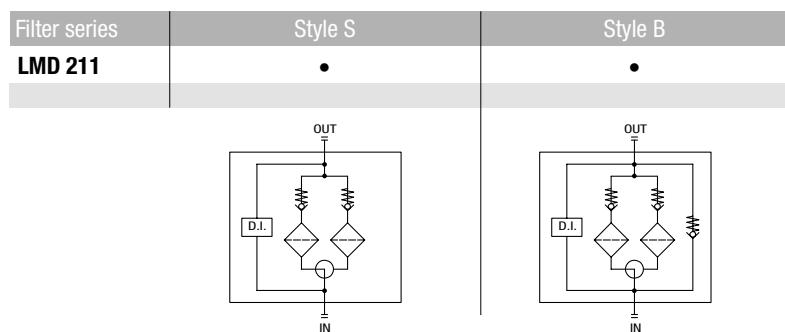
**Maximum flow rate for a complete low and medium pressure filter with a pressure drop  $\Delta p = 0.7$  bar.**

The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltre.com](http://www.mpfiltre.com).

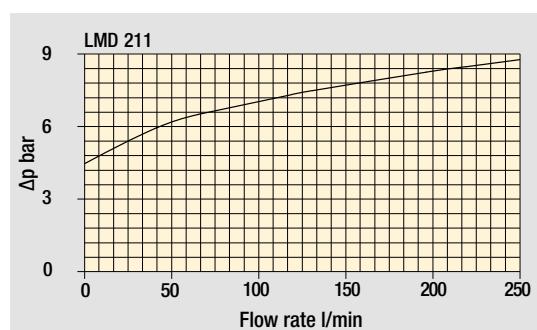
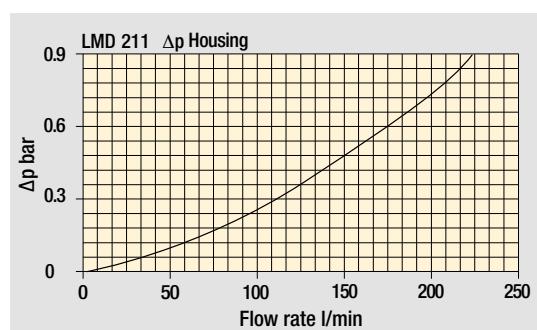
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure.  
Please, contact our Sales Department for further additional information.

### Hydraulic symbols



### Pressure drop

Filter housings  $\Delta p$  pressure drop



Bypass valve pressure drop

The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

# LMD 211

## Designation & Ordering code

### COMPLETE FILTER

Series and size <b>LMD211</b>	Configuration example: LMD211 3 B A C 6 A10 N P01
Length 1   2   3	
Bypass valve <b>S</b> Without bypass <b>B</b> With bypass 3.5 bar	
Seals and treatments <b>A</b> NBR <b>V</b> FPM	
Connections <b>C</b> G 1 1/2" <b>F</b> 1 1/2" NPT <b>I</b> SAE 24 - 1 7/8" - 12 UN <b>L</b> 1 1/2" SAE 3000 psi/M + G 1 1/4" <b>M</b> 1 1/2" SAE 3000 psi/UNC + 1 1/4" NPT <b>N</b> 1 1/2" SAE 3000 psi/UNC + SAE 20 - 1 5/8" UN	
Connection for differential indicator <b>6</b> With plugged connection	
Filtration rating (filter media) <b>A03</b> Inorganic microfiber 3 µm <b>M25</b> Wire mesh 25 µm <b>A06</b> Inorganic microfiber 6 µm <b>M60</b> Wire mesh 60 µm <b>A10</b> Inorganic microfiber 10 µm <b>M90</b> Wire mesh 90 µm <b>A16</b> Inorganic microfiber 16 µm <b>P10</b> Resin impregnated paper 10 µm <b>A25</b> Inorganic microfiber 25 µm <b>P25</b> Resin impregnated paper 25 µm  <b>WA025</b> Water absorber inorganic microfiber 25 µm	
Element Δp <b>N</b> 20 bar	Execution <b>P01</b> MP Filtri standard <b>Pxx</b> Customized

### FILTER ELEMENT

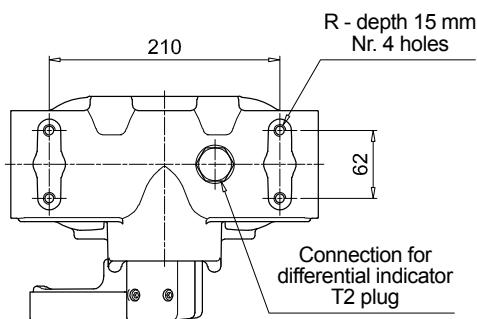
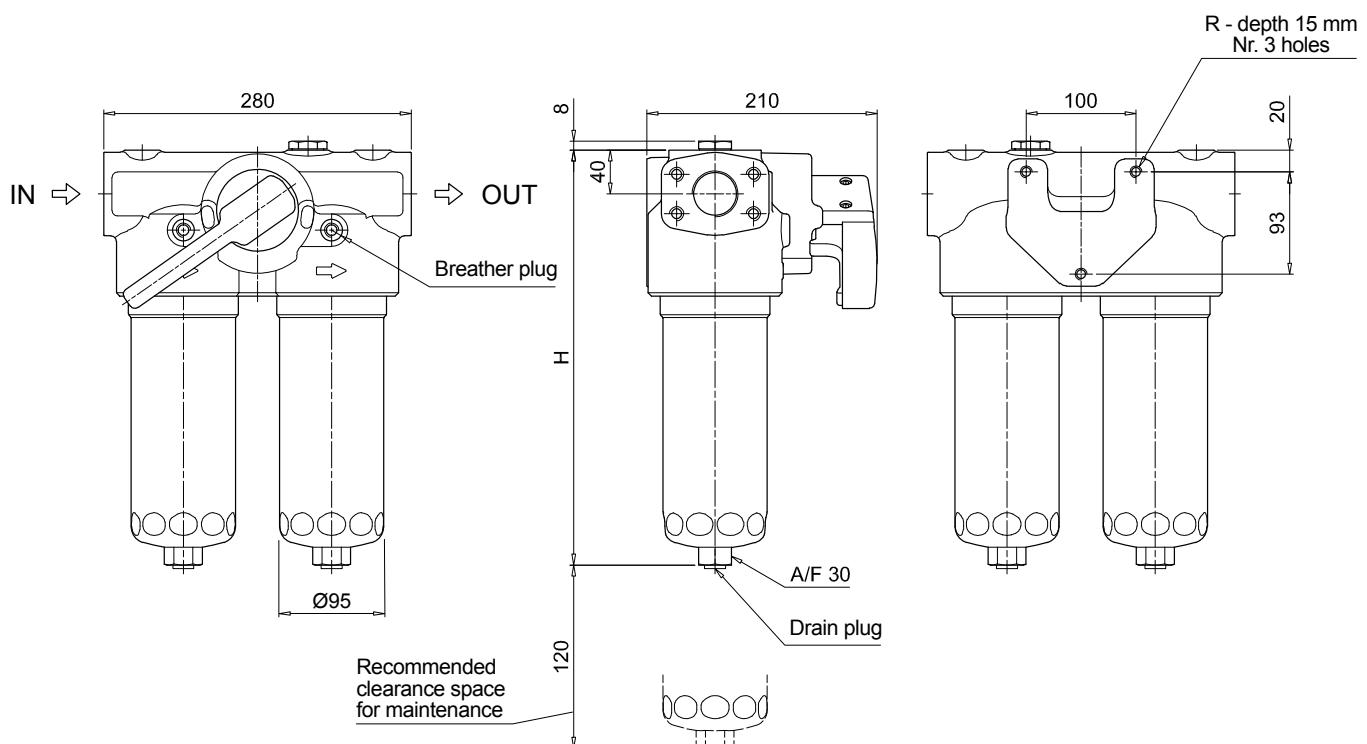
Element series and size <b>CU210</b>	Configuration example: CU210 3 A10 A N P01
Element length 1   2   3	
Filtration rating (filter media) <b>A03</b> Inorganic microfiber 3 µm <b>M25</b> Wire mesh 25 µm <b>A06</b> Inorganic microfiber 6 µm <b>M60</b> Wire mesh 60 µm <b>A10</b> Inorganic microfiber 10 µm <b>M90</b> Wire mesh 90 µm <b>A16</b> Inorganic microfiber 16 µm <b>P10</b> Resin impregnated paper 10 µm <b>A25</b> Inorganic microfiber 25 µm <b>P25</b> Resin impregnated paper 25 µm  <b>WA025</b> Water absorber inorganic microfiber 25 µm	
Seals and treatments <b>A</b> NBR <b>V</b> FPM	Element Δp <b>N</b> 20 bar
Execution <b>P01</b> MP Filtri standard <b>Pxx</b> Customized	

### CLOGGING INDICATORS

DEA Electrical differential indicator	DTA Electronic differential indicator
DEM Electrical differential indicator	DVA Visual differential indicator
DLA Electrical / visual differential indicator	DVM Visual differential indicator
DLE Electrical / visual differential indicator	T2 Plug

See page 478

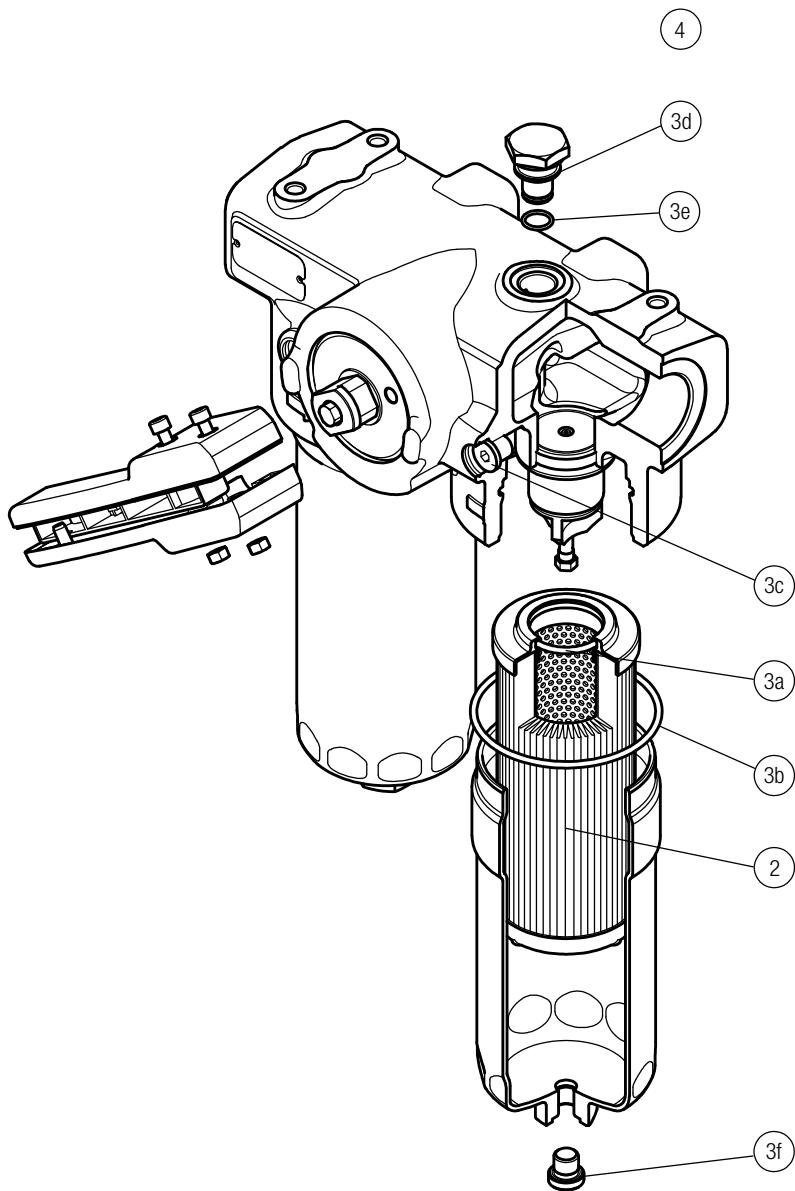
LMD211	
Filter length	H [mm]
1	383
2	513
3	651
Connections	R
C	M10
F - I	3/8" UNC
L	M10
M - N	3/8" UNC



# LMD 211 SPARE PARTS

Order number for spare parts

LMD 211



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 2 pcs.
Filter series	Filter element	Seal Kit code number NBR FPM	Indicator connection plug NBR FPM
LDL	See order table	02050671 02050672	T2H T2V



# 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:

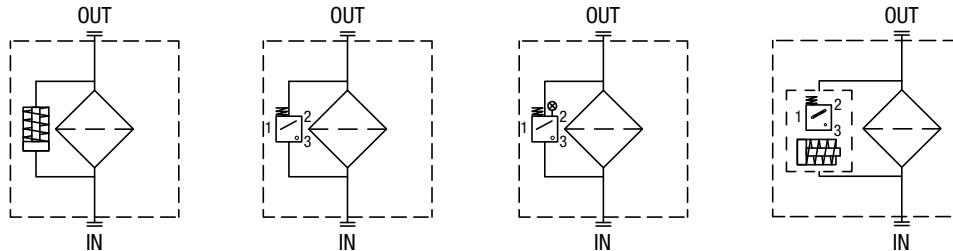
- Vacuum switches and gauges
- Pressure switches and gauges
- Differential pressure indicators

These type of devices can be provided with a visual, electrical or both signals.

## Suitable indicator types

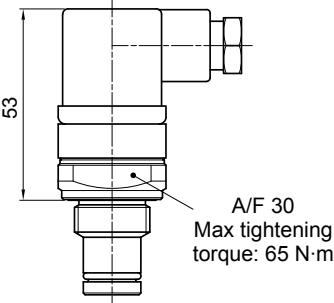
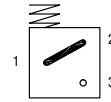
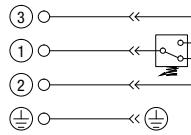
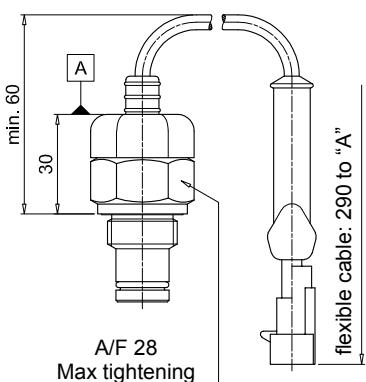
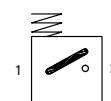
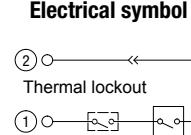
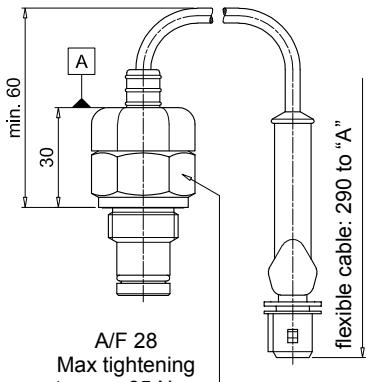
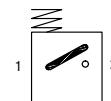
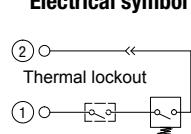
### DIFFERENTIAL INDICATORS

Differential indicators are used on the Pressure line to check the efficiency of the filter element. They measure the pressure upstream and downstream of the filter element (differential pressure). Standard items are produced with special connection G 1/2" size. Also available in Stainless Steel models.



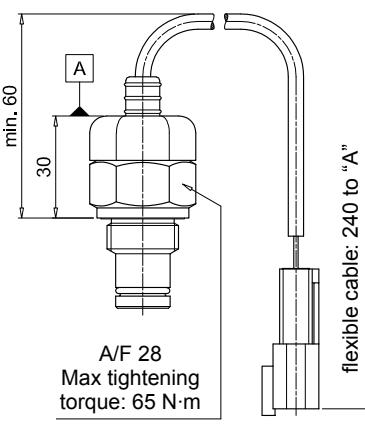
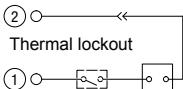
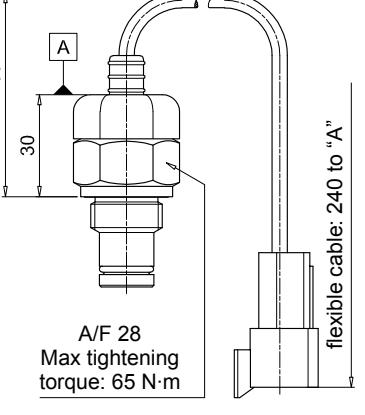
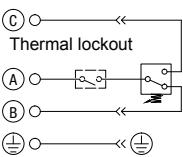
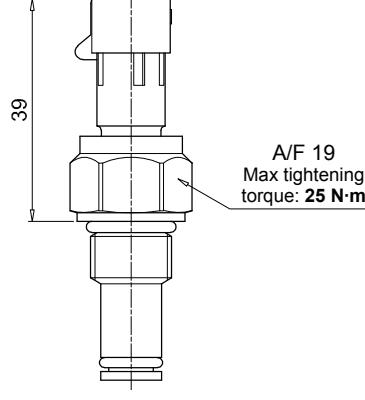
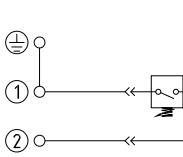
## Quick reference guide

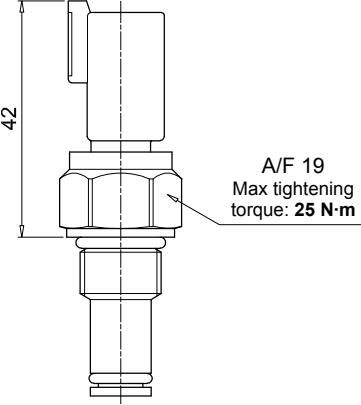
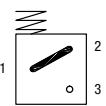
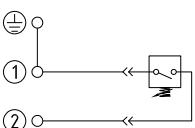
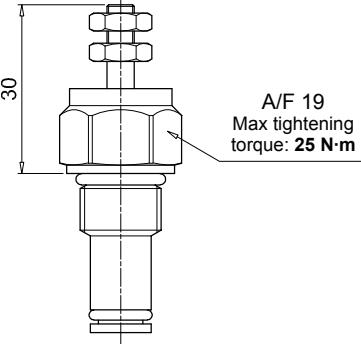
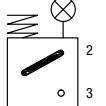
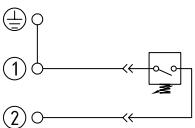
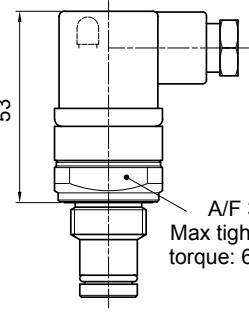
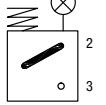
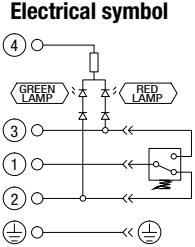
Filter family	Filter series	Visual indicators	Electrical indicators	Electrical / Visual indicators
	<b>ELIXIR®</b> LFEX060-080-110-160	DVS25HP01	DES25HA10P01 DES25HA30P01 DES25HA80P01	
With bypass valve 3.5 bar	LMP 110 - 112 - 116 - 118 - 119 MULTIPORT LMP 120 - 122 - 123 MULTIPORT LMP 210 - 211 - LDP LMP 400 - 401 & 430 - 431 LMP 900 - 901 LMP 902 - 903  LMP 950 - 951 LMP 952 - 953 - 954 LMD 211 - 400 - 401 - 431 - 951 - LDD	DVA20xP01 DVM20xP01	DEA20xA50P01 DEM20XX10P01 DEM20XX20P01 DEM20XX30P01 DEM20XX35P01  DTA20xF70P01	DLA20xA51P01 DLA20xA52P01 DLA20xA71P01  DLE20xA50P01 DLE20xF50P01
	<b>ELIXIR®</b> LFEX060-080-110-160	DVS40HP01	DES40HA10P01 DES40HA30P01 DES40HA80P01	
Without bypass valve	LMP 110 - 112 - 116 - 118 - 119 MULTIPORT LMP 120 - 122 - 123 MULTIPORT LMP 210 - 211 - LDP LMP 400 - 401 & 430 - 431 LMP 900 - 901 LMP 902 - 903 LMP 950 - 951 LMP 952 - 953 - 954 LMD 211 - 400 - 401 - 431 - 951 - LDD	DVA50xP01 DVM50xP01	DEA50xA50P01 DEM50XX10P01 DEM50XX20P01 DEM50XX30P01 DEM50XX35P01  DTA50xF70P01	DLA50xA51P01 DLA50xA52P01 DLA50xA71P01  DLE50xA50P01 DLE50xF50P01

<p><b>DEA*50</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.0 bar <math>\pm 10\%</math></td><td>DE A 20 x A 50 P01</td></tr> <tr> <td>5.0 bar <math>\pm 10\%</math></td><td>DE A 50 x A 50 P01</td></tr> </tbody> </table>  <p>A/F 30 Max tightening torque: 65 N·m</p>	Settings	Ordering code	2.0 bar $\pm 10\%$	DE A 20 x A 50 P01	5.0 bar $\pm 10\%$	DE A 50 x A 50 P01	<p><b>Hydraulic symbol</b></p>  <p><b>Electrical symbol</b></p> 	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> <li>- IP69K according to ISO 20653</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: EN 175301-803</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> </ul>
Settings	Ordering code							
2.0 bar $\pm 10\%$	DE A 20 x A 50 P01							
5.0 bar $\pm 10\%$	DE A 50 x A 50 P01							
<p><b>DEM*10</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.0 bar <math>\pm 10\%</math></td><td>DE M 20 x 10 P01</td></tr> <tr> <td>5.0 bar <math>\pm 10\%</math></td><td>DE M 50 x 10 P01</td></tr> </tbody> </table>  <p>A/F 28 Max tightening torque: 65 N·m</p>	Settings	Ordering code	2.0 bar $\pm 10\%$	DE M 20 x 10 P01	5.0 bar $\pm 10\%$	DE M 50 x 10 P01	<p><b>Hydraulic symbol</b></p>  <p><b>Electrical symbol</b></p> 	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: AMP Superseal series 1.5</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> <li>- Thermal lockout: Normally open up to 30 °C (option "F")</li> </ul>
Settings	Ordering code							
2.0 bar $\pm 10\%$	DE M 20 x 10 P01							
5.0 bar $\pm 10\%$	DE M 50 x 10 P01							
<p><b>DEM*20</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.0 bar <math>\pm 10\%</math></td><td>DE M 20 x 20 P01</td></tr> <tr> <td>5.0 bar <math>\pm 10\%</math></td><td>DE M 50 x 20 P01</td></tr> </tbody> </table>  <p>A/F 28 Max tightening torque: 65 N·m</p>	Settings	Ordering code	2.0 bar $\pm 10\%$	DE M 20 x 20 P01	5.0 bar $\pm 10\%$	DE M 50 x 20 P01	<p><b>Hydraulic symbol</b></p>  <p><b>Electrical symbol</b></p> 	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: AMP Time junior</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> <li>- Thermal lockout: Normally open up to 30 °C (option "F")</li> </ul>
Settings	Ordering code							
2.0 bar $\pm 10\%$	DE M 20 x 20 P01							
5.0 bar $\pm 10\%$	DE M 50 x 20 P01							

# DIFFERENTIAL INDICATORS

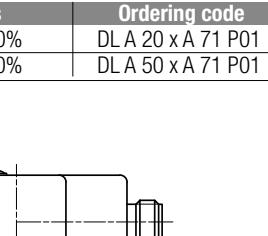
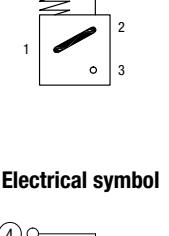
## Dimensions

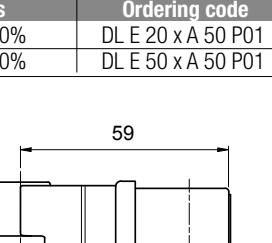
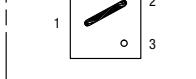
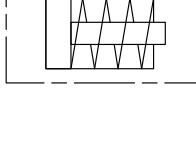
<p><b>DEM*30</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.0 bar <math>\pm 10\%</math></td><td>DE M 20 x x 30 P01</td></tr> <tr> <td>5.0 bar <math>\pm 10\%</math></td><td>DE M 50 x x 30 P01</td></tr> </tbody> </table>  <p>A/F 28 Max tightening torque: 65 N·m</p>	Settings	Ordering code	2.0 bar $\pm 10\%$	DE M 20 x x 30 P01	5.0 bar $\pm 10\%$	DE M 50 x x 30 P01	<p><b>Hydraulic symbol</b></p>  <p><b>Electrical symbol</b></p>  <p>② ○ → Thermal lockout ① ○ → [ ]</p>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: Deutsch DT-04-2-P</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> <li>- Thermal lockout: Normally open up to 30 °C (option "F")</li> </ul>
Settings	Ordering code							
2.0 bar $\pm 10\%$	DE M 20 x x 30 P01							
5.0 bar $\pm 10\%$	DE M 50 x x 30 P01							
<p><b>DEM*35</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.0 bar <math>\pm 10\%</math></td><td>DE M 20 x x 35 P01</td></tr> <tr> <td>5.0 bar <math>\pm 10\%</math></td><td>DE M 50 x x 35 P01</td></tr> </tbody> </table>  <p>A/F 28 Max tightening torque: 65 N·m</p>	Settings	Ordering code	2.0 bar $\pm 10\%$	DE M 20 x x 35 P01	5.0 bar $\pm 10\%$	DE M 50 x x 35 P01	<p><b>Hydraulic symbol</b></p>  <p><b>Electrical symbol</b></p>  <p>③ ○ → Thermal lockout ④ ○ → [ ] ⑤ ○ → [ ]</p>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: Deutsch DT-04-3-P</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> <li>- Switching type: SPDT contact</li> <li>- Thermal lockout: Normally open up to 30 °C (option "F")</li> </ul>
Settings	Ordering code							
2.0 bar $\pm 10\%$	DE M 20 x x 35 P01							
5.0 bar $\pm 10\%$	DE M 50 x x 35 P01							
<p><b>DES*10</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.5 bar <math>\pm 10\%</math></td><td>DE S 25 H A 10 P01</td></tr> <tr> <td>4.0 bar <math>\pm 10\%</math></td><td>DE S 40 H A 10 P01</td></tr> </tbody> </table>  <p>A/F 19 Max tightening torque: 25 N·m</p>	Settings	Ordering code	2.5 bar $\pm 10\%$	DE S 25 H A 10 P01	4.0 bar $\pm 10\%$	DE S 40 H A 10 P01	<p><b>Hydraulic symbol</b></p>  <p><b>Electrical symbol</b></p>  <p>① ○ → [ ] ② ○ → [ ]</p>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Internal parts: Brass - Polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 16 bar</li> <li>- Proof pressure: 24 bar</li> <li>- Burst pressure: 48 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP67 according to EN 60529</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: AMP Superseal series 1.5</li> <li>- Resistive load: 0.2 A / 24 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> </ul>
Settings	Ordering code							
2.5 bar $\pm 10\%$	DE S 25 H A 10 P01							
4.0 bar $\pm 10\%$	DE S 40 H A 10 P01							

<p><b>DES*30</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.5 bar <math>\pm 10\%</math></td><td>DE S 25 HA 30 P01</td></tr> <tr> <td>4.0 bar <math>\pm 10\%</math></td><td>DE S 40 HA 30 P01</td></tr> </tbody> </table>  <p>A/F 19 Max tightening torque: 25 N·m</p> <p>42</p>	Settings	Ordering code	2.5 bar $\pm 10\%$	DE S 25 HA 30 P01	4.0 bar $\pm 10\%$	DE S 40 HA 30 P01	<p><b>Hydraulic symbol</b></p>  <p>1 2 3</p> <p><b>Electrical symbol</b></p>  <p>① ②</p>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Internal parts: Brass - Polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 16 bar</li> <li>- Proof pressure: 24 bar</li> <li>- Burst pressure: 48 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP67 according to EN 60529</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: Deutsch DT-04-2-P</li> <li>- Resistive load: 0.2 A / 24 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> </ul>
Settings	Ordering code							
2.5 bar $\pm 10\%$	DE S 25 HA 30 P01							
4.0 bar $\pm 10\%$	DE S 40 HA 30 P01							
<p><b>DES*80</b></p> <p><b>Electrical Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.5 bar <math>\pm 10\%</math></td><td>DE S 25 HA 80 P01</td></tr> <tr> <td>4.0 bar <math>\pm 10\%</math></td><td>DE S 40 HA 80 P01</td></tr> </tbody> </table>  <p>A/F 19 Max tightening torque: 25 N·m</p> <p>30</p>	Settings	Ordering code	2.5 bar $\pm 10\%$	DE S 25 HA 80 P01	4.0 bar $\pm 10\%$	DE S 40 HA 80 P01	<p><b>Hydraulic symbol</b></p>  <p>1 2 3</p> <p><b>Electrical symbol</b></p>  <p>① ②</p>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Internal parts: Brass - Polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 16 bar</li> <li>- Proof pressure: 24 bar</li> <li>- Burst pressure: 48 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP67 according to EN 60529</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: Stud #10-32 UNF</li> <li>- Resistive load: 0.2 A / 24 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> </ul>
Settings	Ordering code							
2.5 bar $\pm 10\%$	DE S 25 HA 80 P01							
4.0 bar $\pm 10\%$	DE S 40 HA 80 P01							
<p><b>DLA*51 - DLA*52</b></p> <p><b>Electrical/Visual Differential Indicator</b></p> <table border="1"> <thead> <tr> <th>Settings</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>2.0 bar <math>\pm 10\%</math></td><td>DL A 20 x A x x P01</td></tr> <tr> <td>5.0 bar <math>\pm 10\%</math></td><td>DL A 50 x A x x P01</td></tr> </tbody> </table>  <p>A/F 30 Max tightening torque: 65 N·m</p> <p>53</p>	Settings	Ordering code	2.0 bar $\pm 10\%$	DL A 20 x A x x P01	5.0 bar $\pm 10\%$	DL A 50 x A x x P01	<p><b>Hydraulic symbol</b></p>  <p>1 2 3</p> <p><b>Electrical symbol</b></p>  <p>④ ③ ① ② ⑤</p> <p>(GREEN LAMP) (RED LAMP)</p>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Transparent polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul> <p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> <li>- Degree protection: IP69K according to ISO 20653</li> </ul> <p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: EN 175301-803</li> <li>- Type 51 52</li> <li>- Lamps 24 Vdc 110 Vdc</li> <li>- Resistive load: 1 A / 24 Vdc 1 A / 110 Vdc</li> </ul>
Settings	Ordering code							
2.0 bar $\pm 10\%$	DL A 20 x A x x P01							
5.0 bar $\pm 10\%$	DL A 50 x A x x P01							

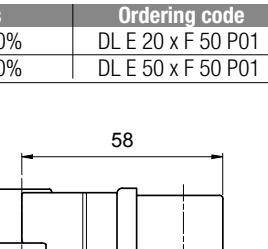
## DIFFERENTIAL INDICATORS

Dimensions

DLA*71		<b>Hydraulic symbol</b>	<b>Materials</b>	
<b>Electrical/Visual Differential Indicator</b>				
Settings	Ordering code			
2.0 bar $\pm 10\%$	DLA 20 x A 71 P01			
5.0 bar $\pm 10\%$	DLA 50 x A 71 P01			
		<b>Electrical symbol</b>	<b>Technical data</b>	
		<b>Electrical data</b>		
<ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>				
		<ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529 IP69K according to ISO 20653</li> </ul>		

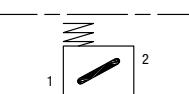
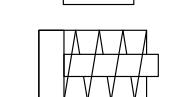
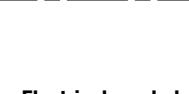
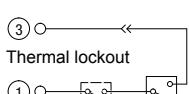
DLE*A50		<b>Hydraulic symbol</b>	<b>Materials</b>	
<b>Electrical/Visual Differential Indicator</b>				
<b>Settings</b>	<b>Ordering code</b>			
2.0 bar $\pm 10\%$	DL E 20 x A 50 P01			
5.0 bar $\pm 10\%$	DL E 50 x A 50 P01			
 A/F 32 Max tightening torque: 95 N·m			<ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
		<b>Technical data</b>	<b>Electrical data</b>	
		<ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529</li> </ul>	<ul style="list-style-type: none"> <li>- Electrical connections: EN 175301-803</li> <li>- Resistive load: 5 A / 250 Vac</li> <li>- Available the connector with lamps</li> </ul>	

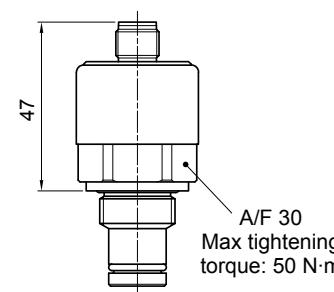
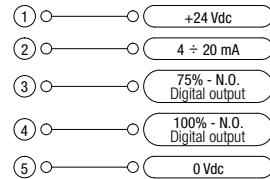
DLE*F50	
Electrical/Visual Differential Indicator	
Settings	Ordering code
2.0 bar $\pm 10\%$	DL E 20 x F 50 P01
5.0 bar $\pm 10\%$	DL E 50 x F 50 P01

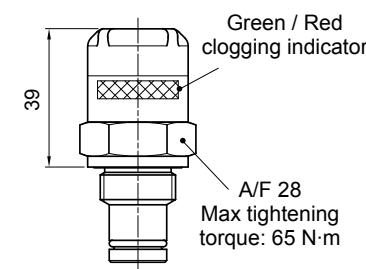
  


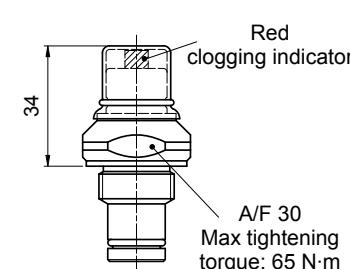
A/F 32  
Max tightening torque: 95 N·m

<b>Hydraulic symbol</b>	<b>Materials</b>
	<ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black polyamide</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>
	<b>Technical data</b>
	<ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529</li> </ul>
<b>Electrical symbol</b>	<b>Electrical data</b>
  	<ul style="list-style-type: none"> <li>- Electrical connections: EN 175301-803</li> <li>- Resistive load: 5 A / 250 Vac</li> <li>- Thermal lockout setting: +30 °C</li> </ul>

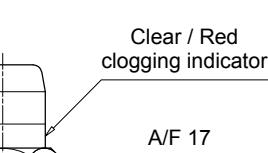
<b>DTA*70</b>		<b>Hydraulic symbol</b>	<b>Materials</b>	
<b>Electronic Differential Indicator</b>				
<b>Settings</b>	<b>Ordering code</b>			
2.0 bar $\pm 10\%$	DT A 20 x 70 P01			
5.0 bar $\pm 10\%$	DT A 50 x 70 P01			
 <p>47 A/F 30 Max tightening torque: 50 N·m</p>			<b>Technical data</b>	
			- Body: Brass	
			- Internal parts: Brass - Polyamide	
			- Contacts: Silver	
			- Seal: HNBR - FPM	
			<b>Electrical data</b>	
			- Max working pressure: 420 bar	
			- Proof pressure: 630 bar	
			- Burst pressure: 1260 bar	
			- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943	
			- Degree protection: IP67 according to EN 60529	
			<b>Electrical symbol</b>	
 <ul style="list-style-type: none"> <li>(1) +24 Vdc</li> <li>(2) 4 ÷ 20 mA</li> <li>(3) 75% - N.O. Digital output</li> <li>(4) 100% - N.O. Digital output</li> <li>(5) 0 Vdc</li> </ul>				

<b>DVA</b>		<b>Hydraulic symbol</b>	<b>Materials</b>	
<b>Visual Differential Indicator</b>				
<b>Settings</b>	<b>Ordering code</b>			
2.0 bar $\pm 10\%$	DV A 20 x P01			
5.0 bar $\pm 10\%$	DV A 50 x P01			
 <p>39 Green / Red clogging indicator A/F 28 Max tightening torque: 65 N·m</p>			<b>Technical data</b>	
			- Reset: Automatic reset	
			- Max working pressure: 420 bar	
			- Proof pressure: 630 bar	
			- Burst pressure: 1260 bar	
			- Working temperature: From -25 °C to +110 °C	
			- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943	
			- Degree protection: IP65 according to EN 60529	

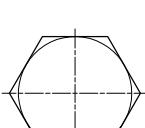
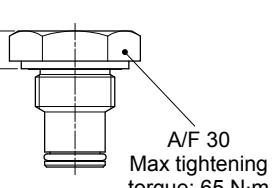
<b>DVM</b>		<b>Hydraulic symbol</b>	<b>Materials</b>	
<b>Visual Differential Indicator</b>				
<b>Settings</b>	<b>Ordering code</b>			
2.0 bar $\pm 10\%$	DV M 20 x P01			
5.0 bar $\pm 10\%$	DV M 50 x P01			
 <p>34 Red clogging indicator A/F 30 Max tightening torque: 65 N·m</p>			<b>Technical data</b>	
			- Reset: Manual reset	
			- Max working pressure: 420 bar	
			- Proof pressure: 630 bar	
			- Burst pressure: 1260 bar	
			- Working temperature: From -25 °C to +110 °C	
			- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943	
			- Degree protection: IP65 according to EN 60529	

## DIFFERENTIAL INDICATORS

## Dimensions

DVS		Hydraulic symbol	Materials
Visual Differential Indicator			Materials
Settings	Ordering code		Materials
2.5 bar ±10%	DV S 25 H P01		- Body: Brass
4.0 bar ±10%	DV S 40 H P01		- Internal parts: Brass - Polyamide
			- Contacts: Silver
			- Seal: HNBR
			Technical data
			- Reset: Automatic reset
			- Max working pressure: 16 bar
			- Proof pressure: 24 bar
			- Burst pressure: 48 bar
			- Working temperature: From -25 °C to +110 °C
			- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
			- Degree protection: IP67 according to EN 60529

T2	
Indicator plug	
Seal	Ordering code
HNBR	T2 H
FPM	T2 V



**Materials**

- Body: Phosphatized steel
- Seal: HNBR / FPM

# DIFFERENTIAL INDICATORS

Dimensions

## DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATORS

<b>Series</b>	Configuration example 1: DE M 20 H F 50 P01					
<b>DE</b> Electrical differential indicator	Configuration example 2: DL E 50 V A 71 P01					
<b>DL</b> Electrical/Visual differential indicator	Configuration example 3: DT A 20 H F 70 P01					
<b>DT</b> Electronic differential indicator	Configuration example 4: DV M 50 V P01					
<b>DV</b> Visual differential indicator						
<b>Type</b>	<b>DE</b>	<b>DL</b>	<b>DT</b>	<b>DV</b>		
<b>A</b> Standard type	•	•	•	<b>A</b> With automatic reset		
<b>M</b> With wired electrical connection	•	-	-	<b>M</b> With manual reset		
<b>E</b> For high power supply	-	•	-	<b>S</b> With automatic reset		
<b>S</b> Compact version	•	-	-			
<b>Pressure setting</b>						
<b>20</b> 2.0 bar						
<b>25</b> 2.5 bar						
<b>40</b> 4.0 bar						
<b>50</b> 5.0 bar						
<b>Seals</b>						
<b>H</b> HNBR						
<b>V</b> FPM						
<b>Thermostat</b>	<b>DEA</b>	<b>DEM</b>	<b>DLA</b>	<b>DLE</b>	<b>DT</b>	<b>DV</b>
<b>A</b> Without	•	•	•	•	-	-
<b>F</b> With thermostat	-	•	-	•	•	-
<b>Electrical connections</b>	<b>DEA</b>	<b>DEM</b>	<b>DLA</b>	<b>DLE</b>	<b>DT</b>	<b>DV</b>
<b>10</b> Connection AMP Superseal series 1.5	-	•	-	-	-	-
<b>20</b> Connection AMP Timer Junior	-	•	-	-	-	-
<b>30</b> Connection Deutsch DT-04-2-P	-	•	-	-	-	-
<b>35</b> Connection Deutsch DT-04-3-P	-	•	-	-	-	-
<b>50</b> Connection EN 175301-803	•	-	-	•	-	-
<b>51</b> Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	•	-	-	-
<b>52</b> Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	•	-	-	-
<b>70</b> Connection IEC 61076-2-101 D (M12)	-	-	-	-	•	-
<b>71</b> Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	•	-	-	-
<b>Option</b>						
<b>P01</b> MP Filtri standard						
<b>Pxx</b> Customized						

## DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

<b>Series</b>	Configuration example T2 H	
<b>T2</b> Indicator plug		
<b>Seals</b>		
<b>H</b> HNBR		
<b>V</b> FPM		