



# DP 5.02

## DIFFERENTIAL PRESSURE INDICATOR

### DESCRIPTION

Differential pressure indicators serve to monitor a variable pressure difference. They can be used with fuels, lubricating oils, hydraulic oils, emulsions and water, for example.

### WORKING PRINZIPLE

A hermetically sealed piston moves with increasing pressure difference against the effect of a calibrated measuring element.

The piston position corresponding with the respective differential pressure is permanently magnetically transferred to the indicator disk at a rotation angle analogue to the differential pressure. This analogically indicates the increasing differential pressure from blue=Differential pressure 0 bar to red=Differential pressure maximum.

In addition, electrical signals can be generated at up to two switching points within the indication range. NO contacts, NC contacts and changeover contacts are available for this purpose.

### MATERIALS (STANDARD DESIGN)

Housing: GK-AlSi 10 (Mg) hard-coated

Pistons: Ms 58 (exposed to medium)

Measuring element: 1.4310 (CrNi Steel) (exposed to medium)

Screws: Stainless steel (VA)

Seal: (roll membrane): NBR

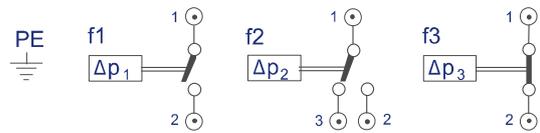
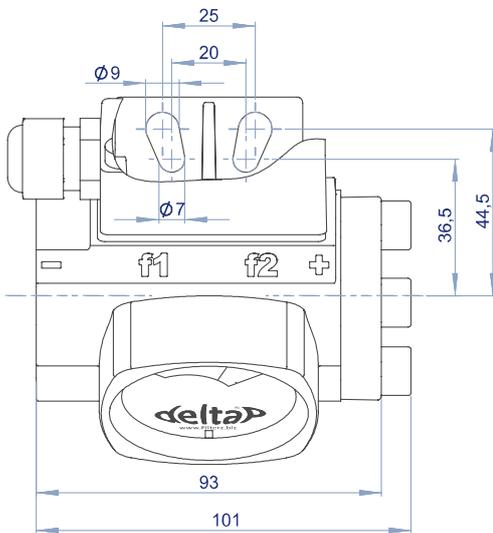
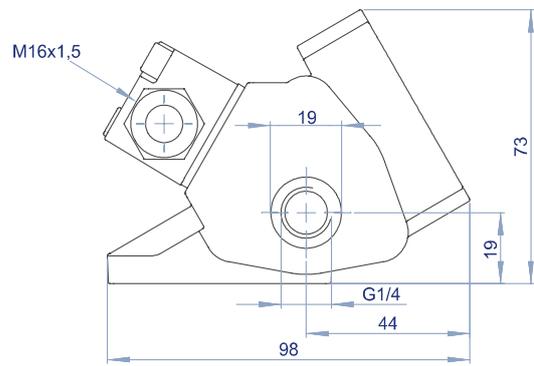
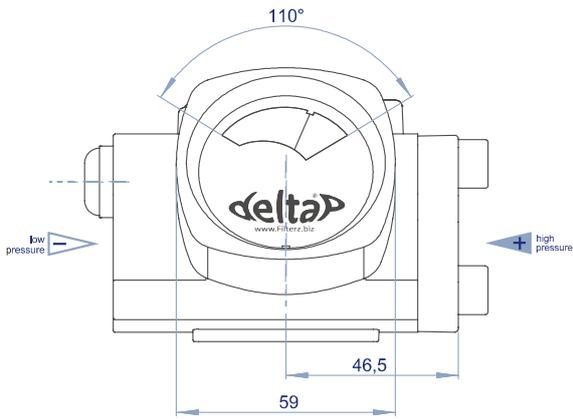
Cable gland: PA (polyamide); seal: CR (chloroprene rubber)



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### DIMENSIONS



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### TECHNICAL DATA

<b>Perm. operating overpressure :</b>	100 bar
<b>Perm. operating temperature</b>	Medium: max. 120°C
<b>Environmental / housing temperature:</b>	ax. 120°C (dep. on attachment parts)
<b>Cable gland:</b>	max. 100°C
<b>Basic measuring range standard:</b>	beginning at 0 to $\Delta p_{\max} = 0.3 - 0.5 - 0.6 - 0.7 - 0.8 - 1.0$ 1.2 - 1.3 - 1.5 - 1.6 - 2.0 - 2.5 - 3.0 - 3.5 - 4.2 bar
<b>Measuring range extension (high pressure attachment):</b>	Pressure transmission of the entire measuring range; possible factors: x 2.0 / x 3.0 / x 4.0
<b>Optical signalling:</b>	V-shaped 110° ( $0.1 \dots 1.0 \times \Delta p_{\max}$ ) via rotating indicator disk blue (clean) / red (contaminated)
<b>Installation position:</b>	any
<b>Electrical signalling:</b>	Can be equipped with 0 / 1 / 2 contacts Type f1: NO contact (standard switchpoint at $0.75 \times \Delta p$ ) Type f2: Changeover contact (standard switchpoint at $1.0 \times \Delta p$ ) Type f3: NC contact (standard switchpoint at $1.0 \times \Delta p$ ) Other switchpoints on request
<b>Switching accuracy:</b>	$\pm 0.05$ bar ( $\Delta p_{\max} \leq 2.0$ bar); $\pm 0.08$ bar ( $\Delta p_{\max} > 2.0$ bar)
<b>Switching capacity:</b>	Contact type f1: 120W / 250 V / 3.0 A / 120 VA Contact type f2: 30W / 250 V / 1.0 A / 60 VA Contact type f3: 30W / 250 V / 1.0 A / 60 VA

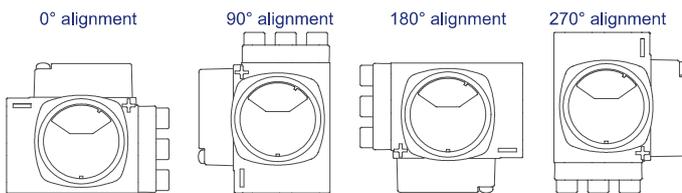
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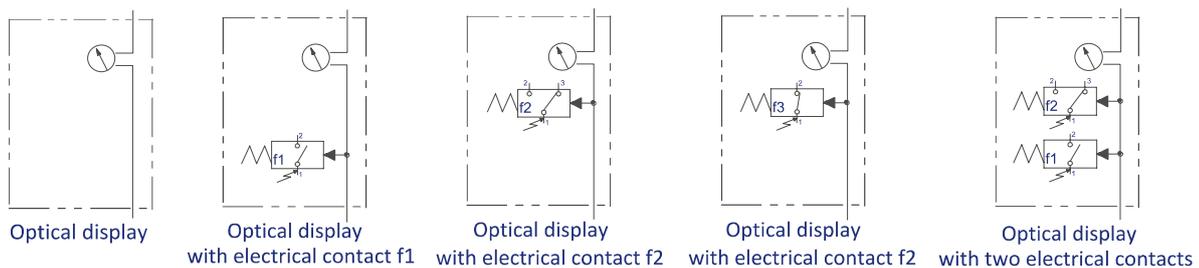
### CONNECTIONS

<b>Fixture:</b>	2x universal slot, spacing 20mm / 25mm to fit M6 / M8 hexagon socket screws
<b>Fluid connections:</b>	internal thread both sides G1/4, suitable screw joints DIN 2353
<b>Switch contacts (standard):</b>	Terminal strip with cover cap and cable gland (Clamping range 4.5...10mm) Suitable for connection cables max. 1.5mm <sup>2</sup> , stripping length ≤ 8 mm Optionally: div. plug connectors, see type code

### VIEWING GLASS ALIGNMENT



### SCHEMATIC DIAGRAM



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### ORDERING AND OPTION CHART

Type code (ordering example).

The type code can be found on the type plate.

<b>DP 5.02-2.0 (2.0=Δp measuring range)</b>	Basic device without electrical contacts
	includes: Spring made of 1.4310
	Pistons made of 1.4310
	Roll membrane NBR
	Viewing glass with lettering "deltaP®"

<b>DP 5.02</b>	<b>2.0</b>	<b>T</b>	<b>f1.1.4</b>	<b>f2.2.0</b>	<b>V</b>	<b>VA</b>	<b>0</b>	<b>1</b>	<b>X</b>	<b>N</b>	
<b>Viewing glass lettering (Standard deltaP®)</b>											
										<b>N</b>	Neutral
										<b>S</b>	Special design acc. to customer specification
<b>Viewing glass alignment (Standard 0° see Page 2)</b>											
									<b>X</b>	90°	
									<b>Y</b>	180°	
									<b>Z</b>	270°	
<b>Electr. connection/connector (if with contact(s) standard terminal strip)</b>											
								<b>1</b>	1x DIN 43650connector		
								<b>2</b>	2x DIN 43650connector		
								<b>3</b>	1x circular connector M12 4-poeg		
								<b>4</b>	2x circular connector M12 4-poeg		
								<b>5</b>	1x Han-7D connector		
<b>Piston design (standard roll membrane)</b>											
								<b>HD</b>	for HD attachment		
								<b>HD</b>	for high-pressure attachment		
								<b>P</b>	with Kotef seal (PTFE ring)		
<b>Piston material (standard Ms 58)</b>											
						<b>VA</b>	1.4435 (CrNi-Steel)				
<b>Seal material (standard NBR)</b>											
					<b>V</b>	FPM (fluorine-polymer rubber)					
					<b>E</b>	EPDM (ethylene-propylene rubber)					
<b>Changeover contact f2/NC contact f3</b>											
			<b>F2.X.X</b>	Switchpoint in bar / standard 100% Δp <sub>max</sub> )							
			<b>F3.X.X</b>	Switchpoint in bar / standard 100% Δp <sub>max</sub> )							
			Other switchpoints on request								
<b>NO contact f1</b>											
			<b>F1.X.X</b>	Switch point in bar / standard 75% Δp <sub>max</sub> )							
			Other switchpoints on request								
<b>Measuring element</b>											
			<b>X.X.T</b>	Add. T for PTFE coated							
<b>Measuring range</b>											
			<b>X.X</b>	Δp <sub>max</sub> see page 1							
<b>Series</b>											
<b>DP 5.02</b>	deltaP® differential pressure indicator type 5.02										