

# DIFFERENTIAL PRESSURE GAUGES

# Differential Pr. Gauges - Bellow Type

- MODEL : DPBL** (Dry Case)
- LFDPBL** (Liquid Filled Case)
- SFDPBL** (Solid Front, Dry Case)
- LSDPBL** (Liquid Filled, Solid Front Case)

## Features

- Bellow type construction
- Reference Standard: EN - 837
- All SS internals
- Chemical seal unit (optional) for process suitability
- Accuracy  $\pm 1\%$  FSD
- A set of two stainless steel bellows mounted on a force balance enables direct reading of the actual differential pressure.
- Each Bellow of the pressure Gauge can withstand the full static pressure without any damage or shifting being caused to the instrument.



## Specifications

<b>Dial</b>	150 mm, Aluminium, white background, black markings
<b>Case</b>	SS304 / SS316 with bayonet bezel
<b>Protection</b>	Weatherproof to IP-68 (IS:13947 part I / IEC:60529)
<b>Window</b>	Safety glass (Shatter proof / Toughened glass)
<b>Pointer</b>	Light weight, micrometer adjustable
<b>Sensing element</b>	Bellow
<b>Sensor Material &amp; Wetted Parts</b>	SS316 / SS316L / Monel / Hastelloy-C
<b>Movement</b>	SS304 / SS316
<b>Connection</b>	1/2" NPT (M) as standard (other on request)
<b>Range</b>	Minimum 0 to 1000 mm WC; Higher range as per customer requirement
<b>Static Pressure</b>	Upto 60 kg/cm <sup>2</sup> g, Higher Static Pressure on request
<b>Accuracy</b>	$\pm 1\%$ FSD
<b>Blow out disc</b>	Provided (top of the case)
<b>Temperature suitability</b>	Ambient (-)20°C to 60°C, Media 100°C
<b>Temperature Effect</b>	Within $\pm 0.4\%$ FSD/10°C, when temperature changes from reference temperature of 20°C
<b>Optional</b>	Chemical seal units with Capillary Liquid filled case External Knob for zero setting CE Atex



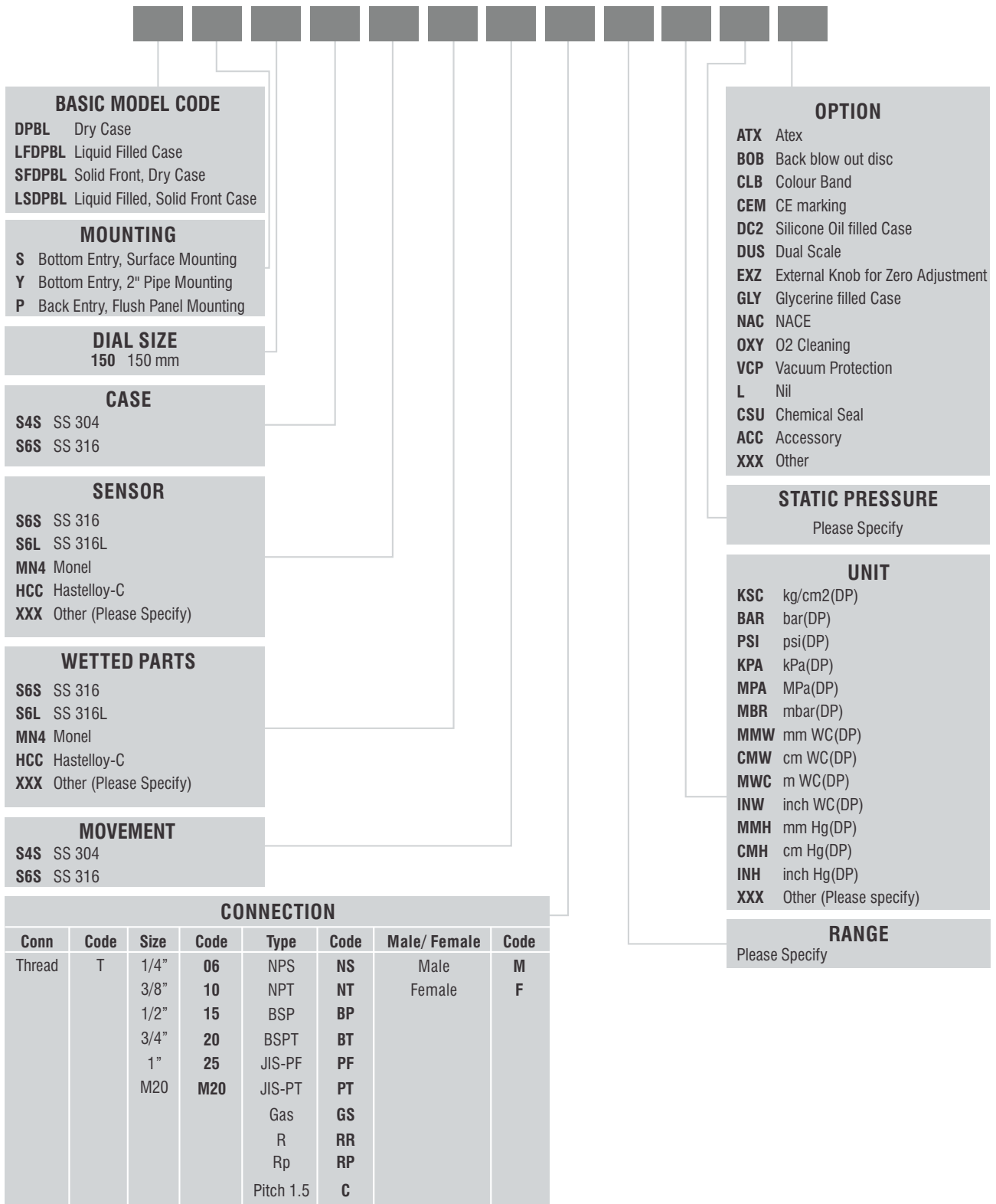
**DP Gauge with Diaphragm Seal & Capillary**

The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement. For higher temperature services above 100°C, we recommend to provide sufficient Impulse Tubing to bring down the fluid temperature .

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Ordering Information

## MODEL



e.g. For 1/2"NPT(M), Code: **T15NTM**  
 For M20x1.5 (F), Code: **TM20CF**

Sample Model Code: **DPBL-Y-150-S4S-S6S-S6S-S4S-T15NTM-(0-2)-BAR-25bar.g-L**

## Differential Pr. Gauges Diaphragm type

*General*

**MODEL : DPDS (Dry Case)**

**L FDPDS (Liquid Filled Case)**

**S FDPDS (Solid Front, Dry Case)**

**LSDPDS (Liquid Filled, Solid Front Case)**

### Features

- General purpose differential pressure measurement
- Sensing Element of Diaphragm
- Wetted Parts in SS316 / SS316L / Monel / Hastelloy-C (other on request)
- Non-wetted parts & Case in Stainless Steel
- Accuracy  $\pm 1.6\%$  FSD
- Span of dial marking at 270 Deg Angle, even for very low ranges



### Specifications

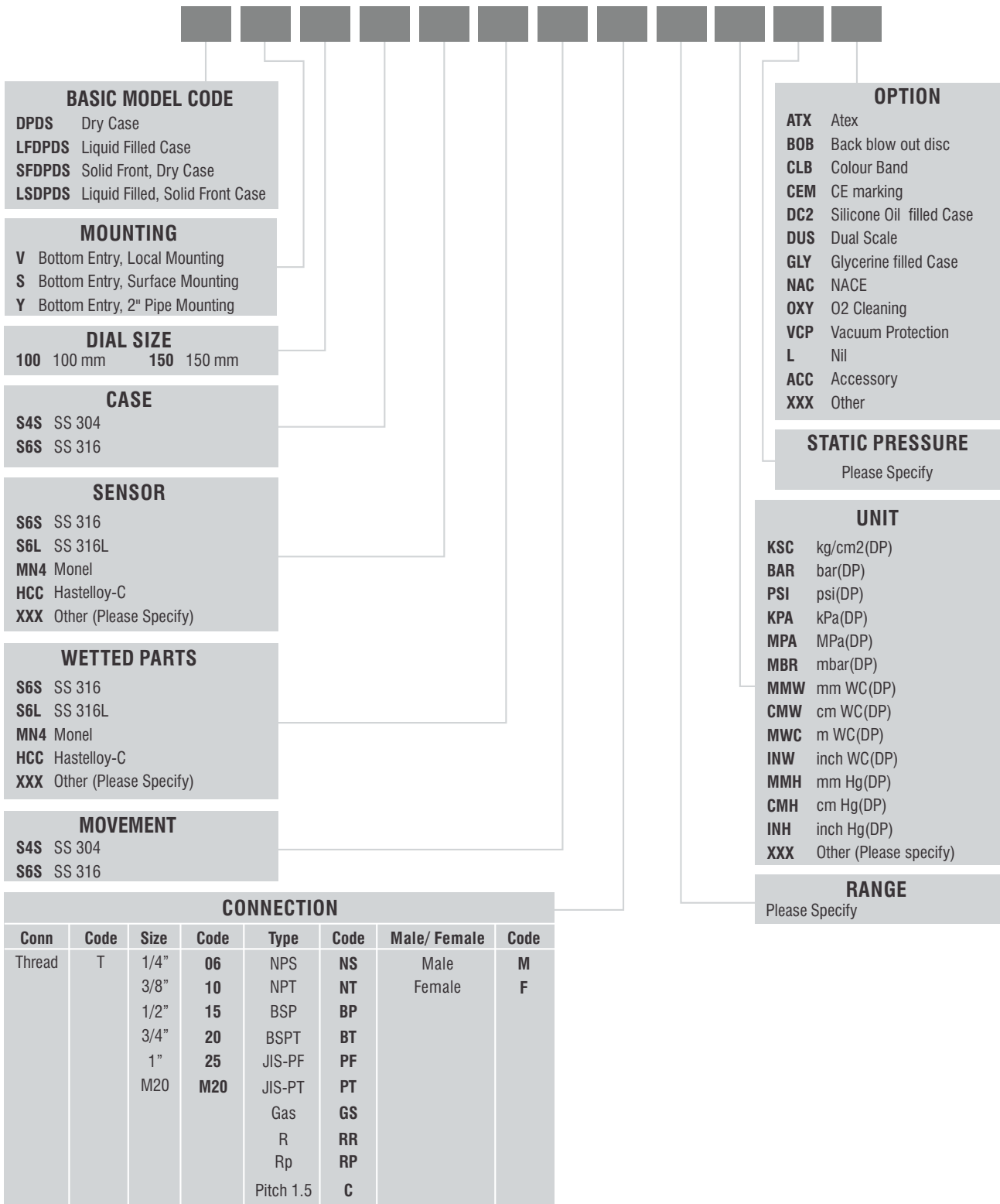
<b>Dial</b>	100mm / 150 mm, Aluminium, white background, black markings
<b>Case</b>	SS304 as standard (SS316 on request) with bayonet bezel
<b>Protection</b>	Weatherproof to IP-68 (IS:13947 part I / IEC:60529)
<b>Window</b>	Safety glass (Shatter proof / Toughened glass)
<b>Pointer</b>	Pointer Light weight, micrometer adjustable
<b>Sensing element</b>	Diaphragm
<b>Wetted Parts</b>	SS316 / SS316L / Monel / Hastelloy-C (other on request)
<b>Movement</b>	SS304 as standard (SS316 on request)
<b>Connection</b>	1/2" NPT (M) as standard (other on request)
<b>Range</b>	Any range between 0 to 160 mm WC & 0 to 4 kg/cm <sup>2</sup> (DP) / Higher Range on request
<b>Static Pressure</b>	Upto 60 kg/cm <sup>2</sup> g, Higher Static Pressure on request
<b>Accuracy</b>	$\pm 1.6\%$ FSD
<b>Blow out disc</b>	Provided (top of the case)
<b>Temperature suitability</b>	Ambient (-) 20°C to 60°C, Media 100°C
<b>Temperature Effect</b>	Within $\pm 0.5\%$ FSD/10°C, when temperature changes from reference temperature of 20°C
<b>Optional</b>	Liquid filled case (for Range 0 to 1000mmWC & above only) CE Atex

The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement. For higher temperature services above 100°C, we recommend to provide sufficient Impulse Tubing to bring down the fluid temperature .

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Ordering Information

## MODEL



e.g. For 1/2"NPT(M), Code: **T15NTM**  
 For M20x1.5 (F), Code: **TM20CF**

Sample Model Code: **DPDS-Y-150-S4S-S6S-S6S-S4S-T15NTM-(0-1000)-MMW-4kg/cm2.g-L**

# High Static Pr. Differential Pr. Gauges

## Diaphragm type, High Static Pressure

**MODEL : DPDH (Dry Case)**  
**LFDPDH (Liquid Filled Case)**

### Features

- General purpose differential pressure measurement
- Sensing Element of Diaphragm
- Wetted Parts in SS316 / SS316L / Monel / Hastelloy-C (other on request)
- Non-wetted parts & Case in Stainless Steel
- Accuracy  $\pm 1.6\%$  FSD



### Specifications

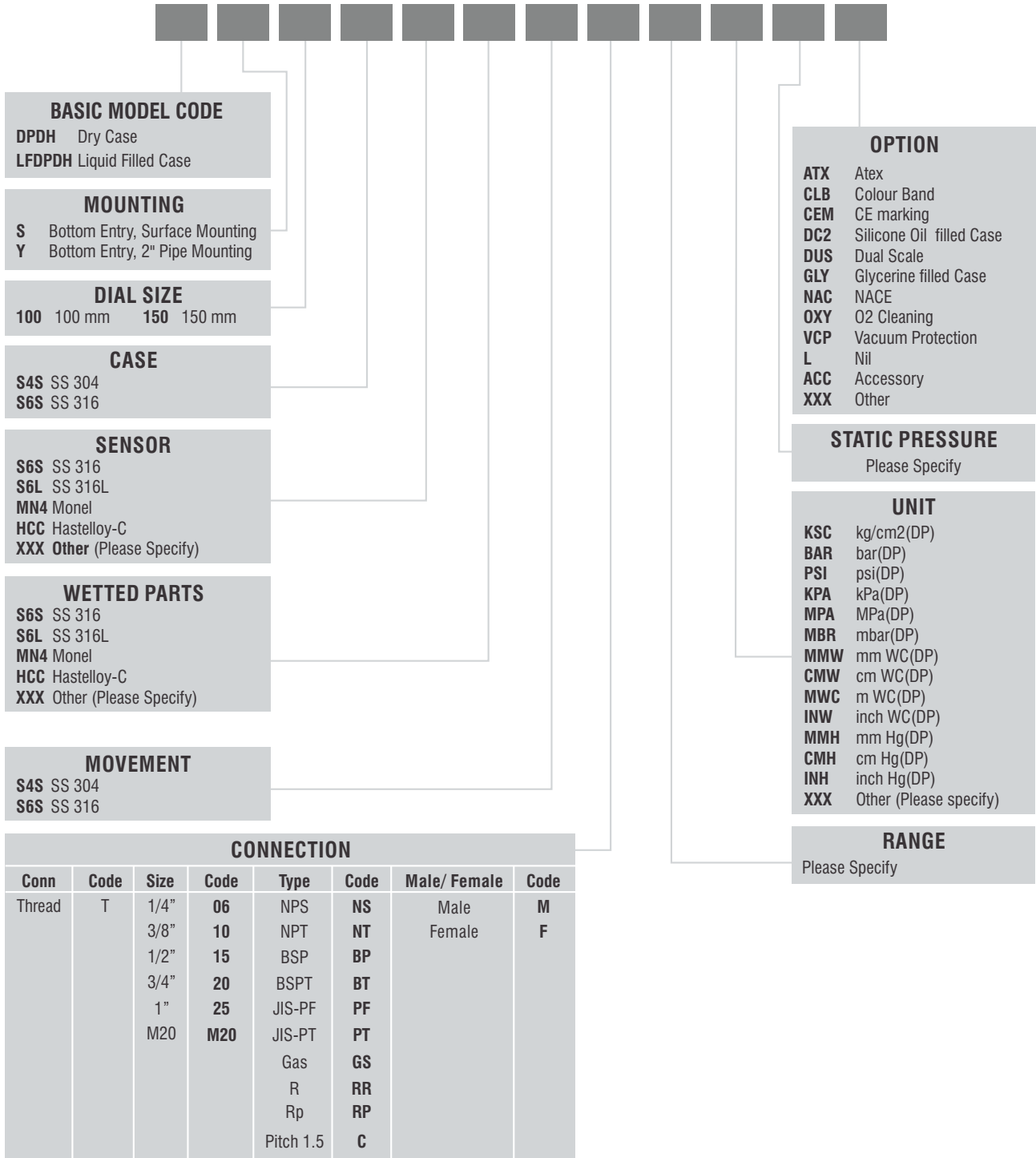
<b>Dial</b>	100mm / 150 mm, Aluminium, white background, black markings
<b>Case</b>	SS304 as standard (SS316 on request) with bayonet bezel
<b>Protection</b>	Weatherproof to IP-68 (IS:13947 part I / IEC:60529)
<b>Window</b>	Safety glass (Shatter proof / Toughened glass)
<b>Pointer</b>	Pointer Light weight, micrometer adjustable
<b>Sensing element</b>	Diaphragm
<b>Wetted Parts</b>	SS316 / SS316L / Monel / Hastelloy-C (other on request)
<b>Movement</b>	SS304 as standard (SS316 on request)
<b>Connection</b>	1/2" NPT (M) as standard (other on request)
<b>Range</b>	Any range between 0 to 1000 mm WC & 0 to 6 kg/cm <sup>2</sup> (DP)
<b>Static Pressure</b>	Upto 250 kg/cm <sup>2</sup> g, Higher Static Pressure on request
<b>Accuracy</b>	$\pm 1.6\%$ FSD
<b>Blow out disc</b>	Provided (top of the case)
<b>Temperature suitability</b>	Ambient (-) 20°C to 60°C, Media 100°C
<b>Temperature Effect</b>	Within $\pm 0.5\%$ FSD/10°C, when temperature changes from reference temperature of 20°C
<b>Optional</b>	Liquid filled case CE Atex

The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement. For higher temperature services above 100°C, we recommend to provide sufficient Impulse Tubing to bring down the fluid temperature .

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Ordering Information

## MODEL



e.g. For 1/2"NPT(M), Code: **T15NTM**  
 For M20x1.5 (F), Code: **TM20CF**

Sample Model Code: **DPDH-Y-150-S4S-S6S-S6S-S4S-T15NTM-(0-2)-BAR-25bar.g-L**

# Differential Pr. Gauges Diaphragm type

## ±1%FSD Accuracy

*General*

### MODEL : DPDX

#### Features

- Differential pressure measurement with Accuracy of  $\pm 1\%$  FSD
- Sensing Element of Diaphragm
- Wetted Parts in SS316 / SS316L / Monel / other on request
- Non-wetted parts & Case in Stainless Steel
- Low Range & High Static Pressure
- Span of dial marking at 270 Deg Angle



#### Specifications

<b>Dial</b>	100 mm* / 150 mm, Aluminium, white background, black markings
<b>Case</b>	SS304 as standard (SS316 on request) with bayonet bezel
<b>Protection</b>	Weatherproof to IP-68 (IS:13947 part I / IEC:60529)
<b>Window</b>	Safety glass (Shatter proof / Toughened glass)
<b>Pointer</b>	Pointer Light weight, micrometer adjustable
<b>Sensing element</b>	Diaphragm
<b>Wetted Parts</b>	SS316 / SS316L / Monel / other on request
<b>Movement</b>	SS304 as standard (SS316 on request)
<b>Connection</b>	1/2" NPT (M) as standard (other on request)
<b>Range</b>	Any range between 0 to 250 mm WC & 0 to 10,000mmWC(DP) / other on request
<b>Static Pressure</b>	Up to 100 kg/cm <sup>2</sup> .g (higher on request)
<b>Accuracy</b>	$\pm 1\%$ FSD
<b>Blow out disc</b>	Provided (top of the case)
<b>Temperature suitability</b>	Ambient (-) 20°C to 80°C, Media 100°C
<b>Temperature Effect</b>	Within $\pm 0.5\%$ FSD/10°C, when temperature changes from reference temperature of 20°C
<b>Optional</b>	CE Atex

\*Note: 100 mm dial is not available in Flush Panel Mounting

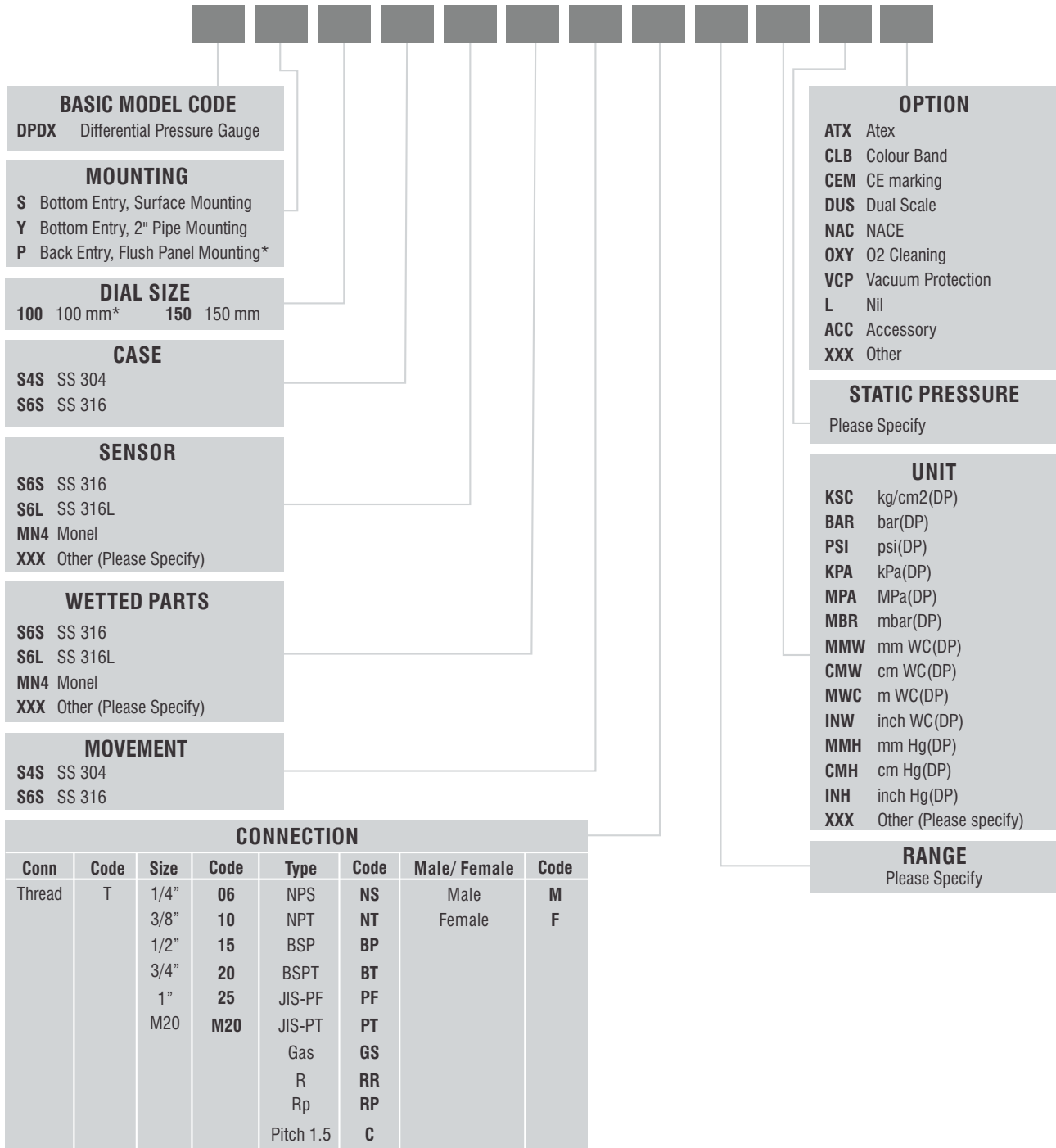
The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement. For higher temperature services above 100°C, we recommend to provide sufficient Impulse Tubing to bring down the fluid temperature .

Under Technical Collaboration with M/s. Gauges Bourdon, France



# Ordering Information

## MODEL



e.g. For 1/2"NPT(M), Code: **T15NTM**  
For M20x1.5 (F), Code: **TM20CF**

\*Note: 100 mm dial is not available in Flush Panel Mounting

Sample Model Code: **DPDX-P-150-S4S-S6S-S6S-S4S-T15NTM-(0-1000)-MMW-20kg/cm2.g-L**

# Differential Pr. Gauges-Capsule Type

*General*

**MODEL : DPCP**

## Features

- Low differential pressure measurement with high accuracy
- Sensing element- Capsule in SS316L
- Screwed connection
- Accuracy  $\pm 1\%$  FSD
- General stainless steel capsule differential pressure gauges are designed for measuring small differential pressures on clean & dry air or gas system



## Specifications

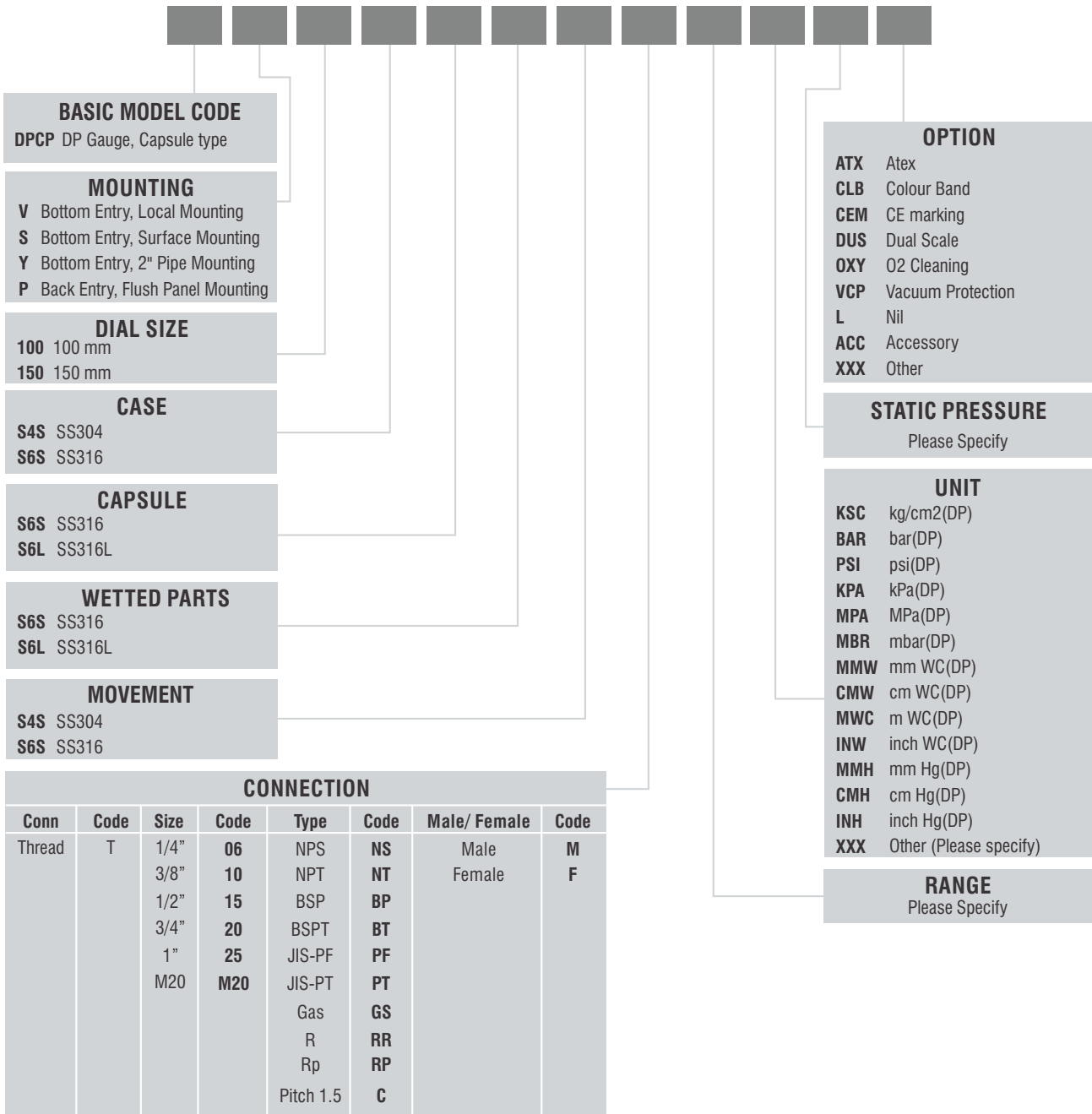
<b>Dial</b>	100 mm / 150 mm, Aluminium, white background, black markings
<b>Case</b>	SS304 / SS316 with bayonet bezel
<b>Protection</b>	Weatherproof to IP-68 (IS:13947 part I / IEC:60529)
<b>Window</b>	Safety glass (Shatter proof / Toughened glass)
<b>Sensing</b>	Capsule in SS316, SS316L
<b>Connection</b>	1/2 " NPT (M) as standard (other on request)
<b>Range</b>	Any range between 0 to 60 mm WC to 0 to 1000 mmWC
<b>Static Pressure</b>	10 times the range (Maximum)
<b>Accuracy</b>	$\pm 1\%$ FSD
<b>Temperature Suitability</b>	Ambient (-)20°C to 60°C, Media 80°C
<b>Note</b>	Capsule type DP Gauges are recommended for non-corrosive, clean, clear (colourless) & dry Gases / Air only
<b>Optional</b>	CE Atex

The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement.

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Ordering Information

## MODEL



e.g. For 1/2"NPT(M), Code: **T15NTM**  
 For M20x1.5 (F), Code: **TM20CF**

Sample Model Code: **DPCP-S-150-S4S-S6S-S6S-S4S-T15NTM-(0-60)-MMW-500mmWC.g-L**

# Differential Pressure Gauges- Diaphragm/ Piston Type

**MODEL : DPMH (Dry Case)  
LFDPMH (Liquid Filled Case)**

## Features

- Magnetic Diaphragm / Piston type construction
- Static pressure 35 bar & 100 bar
- Body block - Aluminium / SS316 / SS316L
- Screwed connection
- Accuracy  $\pm 2\%$  FSD (Ascending)
- Unit of measurement - kg/cm<sup>2</sup>, bar, mmWC



## Specifications

<b>Dial</b>	100 mm / 150 mm, Aluminium, white background, black markings
<b>Case &amp; Bezel</b>	SS304 weatherproof to IP-67(Dry Case) / IP-68 (Liquid Filled Case) as per IS:13947 part I / IEC:60529
<b>Window</b>	Safety glass (Shatter proof / Toughened glass)
<b>Sensing</b>	Diaphragm in Viton / Piston in SS
<b>Body Material</b>	Aluminium / SS316 / SS316 L
<b>Magnet</b>	Ceramic
<b>Spring</b>	SS316
<b>Connection</b>	1/4" NPT (F) as standard (other on request)
<b>Range</b>	Minimum span of Range 50 mmWC (500 mmWC with Switch )
<b>Static Pressure</b>	35 bar & 100 bar
<b>Accuracy</b>	$\pm 2\%$ FSD (on Ascending Side)
<b>Blow out disc</b>	Provided (top of the case)
<b>Temperature suitability</b>	Ambient (-)20°C to 60°C, Media 80°C
<b>Optional</b>	Liquid filled Case (minimum Range 0 to 1000mmWC) Filling not available with Switch
	Switching : <b>SPDT (Micro Switch)</b>
	Voltage : 230V AC
	Rating Switch : 1 SPDT & 2 SPDT
	Current : 5 A (max)
	CE
	Atex



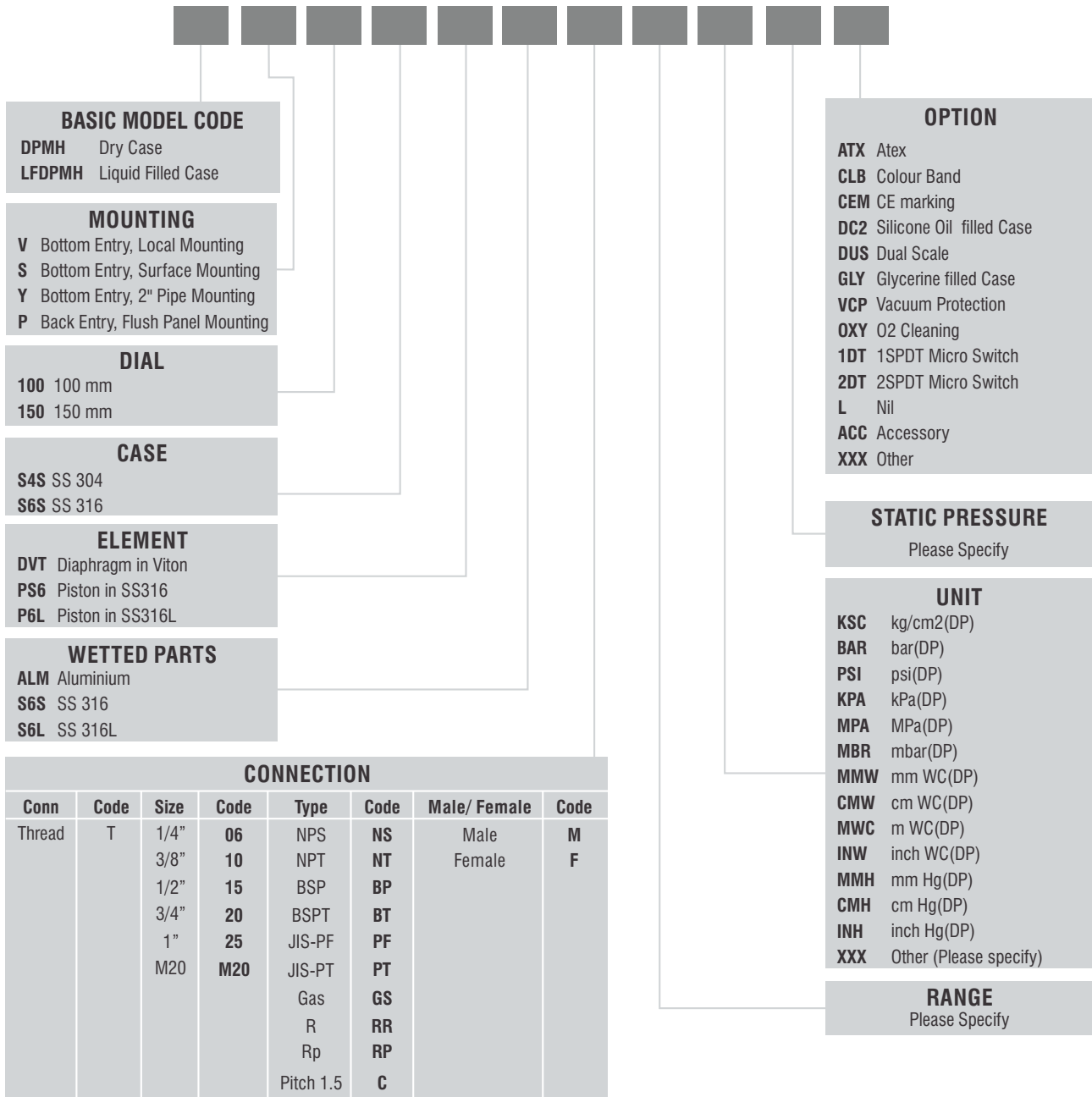
**DP Gauge with Micro Switch**

The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement.

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Ordering Information

## MODEL



e.g. For 1/2"NPT(M), Code: **T15NTM**  
 For M20x1.5 (F), Code: **TM20CF**

Sample Model Code: **DPMH-P-150-S4S-DVT-S6S-T15NTM-(0-600)-MMW-25bar.g-L**

# Mag-DP - Differential Pressure Gauges



## for low Differential Pressure measurement

### MODEL: DPMG

“General” make Mag-DP Gauges are designed for measuring very low differential pressures. Minimum measuring Range offered is as low as 0 to 6 mmWC(DP). The Mag-DP Gauges are suitable for measuring fan & blower pressures, filter resistance, furnace draft, and pressure drop across orifice plates, etc. Mag-DP Gauges are designed to suit Flush Panel Mounting or Surface (Projection) Mounting or Yoke (2” Pipe) Mounting as per requirement. For maximum accuracy, it is recommended to mount the Gauge in Vertical position. Suitable mounting accessories are provided with each Gauge.

### Features

- Diaphragm operated, with magnetic helical Movement
- Suitable for measuring very low differential pressure
- Minimum measuring Range as low as 0 to 6 mmWC(DP)
- Silicone Rubber diaphragm (Buna-N for Hydrogen Service)
- Body material – Aluminium



### Working Principle

The Mag-DP Gauge consists of a Silicone Diaphragm with integrally moulded O-Ring. The Diaphragm is locked and sealed in its position with a sealing plate & retaining ring. There is a Range Spring to which Diaphragm is connected. Depending upon the applied pressure, the displacement of the Diaphragm is transferred to the Range spring. This causes the motion of the magnet provided at one end of the Range spring. The change in magnetic field rotates the Helical movement which also is made with magnetic material and mounted on frictionless jewelled beading. The pointer is fixed on the helical movement. Thus the rotation of the helical movement is directly indicated by the Pointer above the Dial.

### Specifications

<b>Mounting Orientation</b>	Diaphragm in vertical position (Consult factory for other position orientations).
<b>Size</b>	Nominal Size 4" (100 mm) & Case OD 4-1/2" (114 mm)
<b>Dial</b>	Aluminium, white background with Black markings
<b>Housing</b>	Die cast Aluminum Case & Bezel, with Acrylic cover, Weather proof to IP-65 as per IEC-60529. Exterior finish in coated Gray, withstands 168 hour Salt spray Corrosion Test.
<b>Sensing Element</b>	Silicone Rubber diaphragm with integrally molded O-ring For Hydrogen Service Diaphragm shall be Buna-N.
<b>Process Connections</b>	1/8" NPT(F) duplicate HP & LP Connections - One Pair at side & the other at back/rear. (1/8"NPT Plugs shall be provided for the unused connections)
<b>Accuracy</b>	±2% of FSD for Range 0 to 25 mmWC & above at 24 DegC ±3% of FSD for Range 0 to 10mmWC to 15 mmWC at 24 DegC ±4% of FSD for Range 0 to 6, -3 to 3, -5 to 5 mmWC at 24 DegC
<b>Pressure Limits</b>	(-)500 mm Hg Vacuum to 1 bar.g Pressure
<b>Over pressure</b>	Relief plug opens at approximately 25 psig (1.72 bar)
<b>Temperature Limits</b>	20 to 140°F (-6.67 to 60°C).
<b>Weight</b>	Approx 500 gm
<b>Standard Accessories</b>	Two 1/8" NPT Male plugs for duplicate process connections Two 1/8" pipe thread to rubber tubing adaptors Three flush mounting adapters & suitable screws.

### Ordering Information

MODEL : DPMG- [ ] [ ] [ ] [ ]

<b>Mounting</b>	<b>RANGE</b>	<b>UNIT</b>	<b>CONNECTION</b>
S Surface Y 2" Pipe P Flush Panel	Please Specify	MMW mmWC    MBR mbar CMW cmWC    PAS Pascal INW inchWC	BUN Buna-N Diaphragm instead of Silicone Diaphragm ATX Atex CEM CE L Nil

Any special requirement on request

**Sample Model Code: DPMG-P-(0-10)-MMW-L**

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Indicating Differential Pressure Switch

**MODEL : IDMSB (Micro switch in Bellow type)**  
**IDNSB (NAMUR switch in Bellow type)**  
**IDNSD (NAMUR switch in Diaphragm type)**

GENERAL has been designing and manufacturing high quality Differential pressure indicating switches to suit to most of the industrial application for accurate control of the process equipments. Rigorous and continuous tests are conducted for design and quality conformance.

- Indicating Differential Pressure Switches are design to use in Pumps, Compressors, Lubrication Systems, Turbines, Generators, Boilers, Furnaces etc. in industries such as Chemical, Fertilizer, Ferrous & Non-ferrous metal, Pulp & Paper, Power, Waste Water Treatment, Refinery & Petrochemical, Synthetic Fibre, etc.



**Bellow type, with Micro switch & Weather proof Case**

## Specifications

<b>Dial</b>	100/ 150 mm (for diaphragm) & 150mm (for Bellow), Aluminium dial, white background, black markings
<b>Case</b>	SS304 / SS316 with bayonet bezel (for WP enclosure - NAMUR & Micro switch / FP enclosure - NAMUR switch only) Die Cast Aluminium (for Micro switch with FP enclosure only)
<b>Protection</b>	Weatherproof to IP - 68 (IS:13947 part I / IEC:60529) Flameproof to IIA, IIB (equivalent to NEC Cl. 1, Div. 2, Gr. C & D)
<b>Window</b>	Safety glass
<b>Cable Entry</b>	1/2" NPT (F)
<b>Switch</b>	1 SPDT / 2 SPDT, Snap acting micro-switch Rated 5A @ 230 VAC / 3A @ 28 VDC Inductive Contacts (NAMUR), Single or Double, adjustable between 10% & 90% of the Range, Nominal Voltage, 8.32 V DC, Operating Voltage, 5 to 25 V DC
<b>Sensing element</b>	Bellow/ Diaphragm
<b>Sensor Material &amp; Wetted Parts</b>	SS316 / SS316L / Monel / Hastelloy-C / other on request
<b>Movement</b>	Brass / SS304 / SS316
<b>Set Point</b>	Adjustable throughout the range
<b>Mounting</b>	Surface Mounting / 2" Pipe Mounting
<b>Process Connection</b>	1/2" NPT (M) as standard. Other connections optionally
<b>Range</b>	Minimum 0 to 250 mm WC(DP) for NAMUR switch in Diaphragm type Minimum 0 to 2500 mm WC(DP) for NAMUR switch in Bellow type Minimum 0 to 1kg/cm <sup>2</sup> (DP) for Micro switch in Bellow type Higher ranges as per customer requirement
<b>Static Pressure</b>	Upto 60 kg/cm <sup>2</sup> g, Higher on request
<b>Accuracy</b>	Bellow type with Micro switch: ±1% FSD (for indication) & ±2% FSD (for Switching) Bellow type with NAMUR switch: ±1% FSD (indication & switching) Diaphragm type with NAMUR switch: ±1.6% FSD (indication & switching)
<b>Temperature suitability</b>	Ambient (-)20°C to 60°C, Media 100°C
<b>Temperature Effect</b>	Within ±0.5% FSD/10°C, when temperature changes from reference temperature of 20°C
<b>Blow out disc</b>	Provided at top of the Case (not applicable for FP Die Cast Aluminium Case)
<b>Optional</b>	Diaphragm seal with Capillary CE, Atex



**Diaphragm type, with NAMUR switch & Weather proof Case**



**Bellow type, with Micro switch, Flame proof Case & Diaphragm Seal**

The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement.

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Ordering Information

## MODEL



### BASIC MODEL CODE

- IDMSB** Micro switch in Bellow type
- IDNSB** NAMUR switch in Bellow type
- IDNSD** NAMUR switch in Diaphragm type

### MOUNTING

- V** Bottom Entry, Local Mounting
- S** Bottom Entry, Surface Mounting
- Y** Bottom Entry, 2" Pipe Mounting
- P** Back Entry, Flush Panel Mounting (for Bellow type only)

### DIAL SIZE

- 150** 150 mm

### CASE

- S4S** SS 304
- S6S** SS 316
- ALM** Die Cast Aluminium\*

### SENSOR

- S6S** SS 316
- S6L** SS 316L
- MN4** Monel
- HCC** Hastelloy-C
- XXX** Other (Please Specify)

### WETTED PARTS

- S6S** SS 316
- S6L** SS 316L
- MN4** Monel
- HCC** Hastelloy-C
- XXX** Other (Please Specify)

### MOVEMENT

- S4S** SS 304
- S6S** SS 316
- BRS** Brass

### OPTION

- 1DT** 1SPDT Micro Switch
- 2DT** 2SPDT Micro Switch
- 1NR** NAMUR Switch, single
- 2NR** NAMUR Switch, double
- FAB** Flame Proof Case - IIA/IIB
- F2C** Flame Proof Case - IIC
- FAT** Flame Proof Case - IIC (ATEX)
- CLB** Colour Band
- CEM** CE marking
- DUS** Dual Scale
- NAC** NACE
- OXY** O2 Cleaning
- VCP** Vacuum Protection
- CSU** Chemical Seal
- ACC** Accessory
- XXX** Other

### STATIC PRESSURE

Please Specify

### UNIT

- KSC** kg/cm<sup>2</sup>(DP)
- BAR** bar(DP)
- PSI** psi(DP)
- KPA** kPa(DP)
- MPA** MPa(DP)
- MBR** mbar(DP)
- MMW** mm WC(DP)
- CMW** cm WC(DP)
- MWC** m WC(DP)
- INW** inch WC(DP)
- MMH** mm Hg(DP)
- CMH** cm Hg(DP)
- INH** inch Hg(DP)
- XXX** Other (Please specify)

### RANGE

Please Specify

### CONNECTION

Conn	Code	Size	Code	Type	Code	Male/ Female	Code
Thread	T	1/4"	<b>06</b>	NPS	<b>NS</b>	Male	<b>M</b>
		3/8"	<b>10</b>	NPT	<b>NT</b>	Female	<b>F</b>
		1/2"	<b>15</b>	BSP	<b>BP</b>		
		3/4"	<b>20</b>	BSPT	<b>BT</b>		
		1"	<b>25</b>	JIS-PF	<b>PF</b>		
		M20	<b>M20</b>	JIS-PT	<b>PT</b>		
				Gas	<b>GS</b>		
				R	<b>RR</b>		
		Rp	<b>RP</b>				
		Pitch 1.5	<b>C</b>				

e.g. For 1/2"NPT(M), Code: **T15NTM**  
For M20x1.5 (F), Code: **TM20CF**

\*Die Cast Aluminium Case applicable for Micro switch with Flame proof version only. Blow out disc shall not be applicable.

Sample Model Code: **IDMSB-Y-150-S4S-S6S-S6S-S4S-T15NTM-(0-2)-BAR-25bar.g-2DT**



# Flow Indicator

# General

## MODEL : DPFI

### Features

- Differential Pressure across Orifice Plate Assembly
- Weld Neck Flange connection
- Unit of measurement direct in terms of flow unit
- Weatherproof to IP – 68

### Specifications

#### Orifice Plate Assembly

<b>Design</b>	Conforms to ISA RP 3.2, DIN 1952, BS 1042, ISO-5167
<b>Types</b>	Square edge concentric, Quadrant edged, Conical entrance, Eccentric, Segmental
<b>Plate material</b>	SS304, SS316, SS316L as standard. Hastelloy-C, Monel, PP, PVC, PTFE coated, etc. can be given on request.
<b>Orifice Bore</b>	In accordance with ISO-5167, BS-1042, ASME MFC 3M, R.W.Miller, L.K.Spink, AGA-3
<b>Tag Plate</b>	In the same material as plate & is welded to orifice plate. Tag plate integral to the Orifice plate (i.e. without welding) can also be offered as a special case.
<b>Vent / Drain</b>	Vent or Drain holes are provided as per customer's requirement. Not drilled for orifice bores smaller than 25.4 mm
<b>Flange Union</b>	Weld neck, Slip on, Threaded, Socket welded with RF or RTJ facing Orifice flanges are in accordance with ANSI B16.36 with minimum flange rating of 300# for sizes up to 8" or male - female flanges in accordance with ANSI B16.5.
<b>Pressure Tappings</b>	Corner tappings are recommended for sizes upto 1 1/2"; Flange taps from 2" to 16"; D – D/2 taps for higher sizes.
<b>Gasket</b>	SS spiral wound + CAF, SS spiral wound + Grafoil, SS spiral wound + PTFE are normally supplied as per process requirement. Other materials available on request. For RTJ flanges, the plate is fixed on the plate holder. The plate holder is in Soft Iron material & acts as a gasket.
<b>Studs / Nuts</b>	ASTM A193 Gr.B7/A-194 Gr.2H as standard, Other material on request.
<b>Jack Screw</b>	Carbon Steel ( C1038 heat treated )



#### Flow Indicator

<b>Dial</b>	100 / 150 mm (depending upon type of DPG), Aluminium, white background, black markings
<b>Case</b>	SS304 / SS316 with bayonet bezel
<b>Protection</b>	Weatherproof to IP-68 (IS:13947 part I / IEC:60529)
<b>Window</b>	Safety glass (Shatter proof / Toughened glass)
<b>Pointer</b>	Light weight, micrometer adjustable
<b>Sensing</b>	Bellow, Diaphragm or Piston (depending upon type of DPG)
<b>Other wetted parts</b>	SS316 / SS316L / Monel / Hastelloy-C (other on request)
<b>Movement</b>	SS304 / SS316
<b>Connection</b>	1/2" NPT (M) as standard (other on request)
<b>Range</b>	Minimum 0 to 1000 mm WC
<b>Static Pressure</b>	Upto 60 kg/cm <sup>2</sup> g, Higher Static Pressure on request
<b>Accuracy</b>	±1% FSD / ±1.6% FSD / ±2% FSD ascending (depending upon type of DPG)
<b>Blow out disc</b>	Provided (top of the case)
<b>Optional</b>	Flow Indicator with NAMUR / Micro switch also available Three Valve Manifold in SS316, suitable SS tubing and associated instrument fittings

The parameters mentioned here are the standard specifications / values generally used for most of the process applications. Any other specification not appearing here also can be provided as per customer requirement.

Under Technical Collaboration with M/s. Gauges Bourdon, France

# Ordering Information

## MODEL CODE FOR FLOW INDICATOR ASSEMBLY \*



**BASIC MODEL CODE**  
DPFI DP type Flow Indicator

**TYPE OF ORIFICE PLATE**  
**OCC** Conical Entrance  
**OEC** Eccentric  
**OQC** Quadrant Edge Concentric  
**OSC** Square Edge Concentric  
**OSE** Segmental

**PLATE MATERIAL**  
**S4S** SS304      **MN4** Monel 400  
**S4L** SS304L    **HCB** Hastelloy-B  
**S6S** SS316      **HCC** Hastelloy-C  
**S6L** SS316L    **TTM** Titanium  
**S6T** SS316Ti   **TAN** Tantalum  
**321** SS321      **PTF** PTFE  
**S6P** SS316+PTFE **PPN** Polypropylene  
**6LP** SS316L+PTFE **XXX** Other (Please Specify)

**PLATE THICKNESS**  
**OP1** 3.18 mm  
**OP2** 6.35 mm  
**OP3** 9.52 mm  
**OP4** 12.70 mm  
**XXX** Other (Please Specify)

**TYPE OF FLANGE**  
**FSO** Slip On  
**FSW** Socket Welded  
**FTH** Threaded  
**FWN** WN Welding Neck

**LINE SIZE / SCHEDULE**

Size	Code	Schedule	Code
1/2"	<b>15</b>	Sch 40	<b>S40</b>
3/4"	<b>20</b>	Sch 80	<b>S80</b>
1"	<b>25</b>	Sch 160	<b>S16</b>
1-1/2"	<b>40</b>	Sch XXS	<b>XXS</b>
2"	<b>50</b>	Other (Please Specify)	<b>XXX</b>
3"	<b>80</b>		

e.g. For 2" (50 NB), Sch 80 Pipe, Model Code: **50S80**

**FLOW RANGE & UNIT**  
Please Specify

**STATIC PRESSURE**  
Please Specify

**UNIT**  
**KSC** kg/cm<sup>2</sup>(DP)  
**BAR** bar(DP)  
**PSI** psi(DP)  
**KPA** kPa(DP)  
**MPA** MPa(DP)  
**MBR** mbar(DP)  
**MMW** mm WC(DP)  
**CMW** cm WC(DP)  
**MWC** m WC(DP)  
**INW** inch WC(DP)  
**MMH** mm Hg(DP)  
**CMH** cm Hg(DP)  
**INH** inch Hg(DP)  
**XXX** Other (Please specify)

**DP RANGE**  
Please Specify

**FLANGE MATERIAL**  
**S4S** SS304      **6LP** SS316L+PTFE  
**S4L** SS304L    **MN4** Monel 400  
**S6S** SS316      **HCB** Hastelloy-B  
**S6L** SS316L    **HCC** Hastelloy-C  
**S6T** SS316Ti   **TTM** Titanium  
**321** SS321      **XXX** Other (Please Specify)  
**S6P** SS316+PTFE

**FLANGE RATING / FACING**

Conn	Code	Rating	Code	Rating	Code	Facing	Code
Flange	F	1/2"	<b>15</b>	150	<b>A</b>	RF	<b>RF</b>
		3/4"	<b>20</b>	300	<b>B</b>	FF	<b>FF</b>
		1"	<b>25</b>	600	<b>C</b>	RTJ	<b>RJ</b>
		1-1/2"	<b>40</b>	900	<b>D</b>	LT	<b>LT</b>
		2"	<b>50</b>	1500	<b>E</b>	LG	<b>LG</b>
		3"	<b>80</b>	2500	<b>F</b>		

e.g. For 40 NB 300# RF flange, Model Code: **40BRF**

\* Model Code for DPG to be specified separately, as per the type of DPG selected (Refer DPG Catalogues)

Sample Model Code: **DPFI-OCC-S6S-OP1-FWN-50S80-F50BRF-S6S-(0-2500)-MMW-25bar.g-(0-100m3/Hr)**

## In-House testing facilities for Pressure & Differential Pressure Gauges

Pressure Gauges and Differential Pressure Gauges are manufactured in technical collaboration with M/s Gauges Bourdon, France. The same are manufactured and tested in accordance with EN : 837 standard. According to the said international standard, following tests are carried out to ensure the quality of Pressure Gauges. We can carry out following tests In-House at our manufacturing plant.

1. Visual Inspection
2. Dimensional Verification
3. Accuracy Test
4. Hysteresis Test
5. Leak Test
6. Influence of Mounting Position
7. Degree of Protection
8. Effects of Mechanical Vibration
9. Effects of Mechanical Shock
10. Endurance test with Steady Pressure
11. Endurance test with Over Pressure
12. Endurance test with Cyclic Pressure
13. Safety Blow-out Test
14. Thermal stability test at rated temperature
15. Temperature effect test
16. Energy release test



# NABL



# Pressure Conversion Chart



To convert pressure from one unit to another:

1. Start at column heading with units to convert from.
2. Move down the same column to number "1".
3. Move across this row to the column with units heading you are converting to.
4. Multiply the number in this cell with the value you are converting from to get the new value in converted units.

psi	atms.	inch WC	mm WC	cm WC	oz/in <sup>2</sup>	Kg/cm <sup>2</sup>	inch Hg	mm Hg	cm Hg	mbar	bar	Pa (N/m <sup>2</sup> )	KPa	MPa
1	0.0681	27.71	703.8	70.38	16	0.0704	2.036	51.715	5.17	68.95	0.0689	6,895	6.895	0.0069
14.7	1	407.2	10,343	1,034.30	235.1	1.033	29.92	760	76	1013	1.013	101,325	101.3	0.1013
0.0361	0.00246	1	25.4	2.54	0.5775	0.00254	0.0735	1.866	0.187	2.488	0.00249	248.8	0.249	0.00025
0.001421	0.000097	0.0394	1	0.1	0.0227	0.0001	0.00289	0.0735	0.00735	0.098	0.000098	9.8	0.0098	0.00001
0.01421	0.000967	0.3937	10	1	0.227	0.001	0.0289	0.735	0.0735	0.98	0.00098	98	0.098	0.0001
0.0625	0.00425	1.732	43.986	4.4	1	0.0044	0.1273	3.232	0.3232	4.31	0.00431	431	0.431	0.00043
14.22	0.968	394.1	10001	1000.1	227.6	1	28.96	735.6	73.56	980.7	0.981	98,067	98.07	0.0981
0.4912	0.03342	13.61	345.7	34.57	7.858	0.0345	1	25.4	2.54	33.86	0.0339	3,386	3.386	0.00339
0.01934	0.001316	0.536	13.61	1.361	0.31	0.00136	0.0394	1	0.1	1.333	0.001333	133.3	0.1333	0.000133
0.1934	0.01316	5.358	136.1	13.61	3.1	0.0136	0.394	10	1	13.33	0.01333	1,333	1.333	0.00133
0.0145	0.000987	0.4012	10.21	1.021	0.2321	0.00102	0.0295	0.75	0.075	1	0.001	100	0.1	0.0001
14.504	0.987	401.9	10,210	1,021	232.1	1.02	29.53	750	75	1,000	1	100,000	100	0.1
0.000145	0.00001	0.00402	0.102	0.0102	0.00232	0.00001	0.000295	0.0075	0.00075	0.01	0.00001	1	0.001	0.000001
0.14504	0.00987	4.019	102.07	10.207	2.321	0.0102	0.295	7.5	0.75	10	0.01	1,000	1	0.001
145.04	9.869	4019	102,074	10,207	2321	10.2	295.3	7500	750	10,000	10	1,000,000	1,000	1