

Differential pressure gauge – switch Model 106D

Switzer data sheet DPG-106D

Applications

- Monitoring and control of pumps
- Filter monitoring
- Level measurement in closed tanks

Special features

- Differential pressure measuring range from 0 ... 25 bar
- Diaphragm sensor
- Weatherproof
- High working pressure
- 270 deg pointer travel
- High-low switching
- Dual scale for flow monitoring



Differential pressure gauge, model 106D

106D Differential pressure gauge are diaphragm operated to ensure reliable indication of pressure difference between two inputs.

High and low pressures are applied on either side of a diaphragm. The resultant deflection is transferred to the gauge case through a unique motion – transfer mechanism and a SS movement. The diaphragm displacement is kept minimum to achieve high

repeatability. The pointer movement and dial are fitted in a weatherproof SS case. Snubbers are part of the process connections, which protect the instrument from process pressure fluctuations.

High and low switching for alarm can be provided with adjustable cam mechanism to actuate one or two microswitches. The diaphragm is protected fully from over pressure through a seal valve assembly.

Standard version

Case

304 SS

Dial nominal size in mm

150

Dial

Aluminium, white, black lettering

Scale

Linear, square root or both

Window material

Toughened safety float glass

Accuracy class (includes linearity)

| Range | Standard | | Optional | |
|-------|--------------------------|-----------------------|--------------------------|-----------------------|
| | Indicator without switch | Indicator with switch | Indicator without switch | Indicator with switch |
| Low | ± 1 % | ± 1.5 % | N/A | N/A |
| High | ± 1.5 % | ± 2 % | ± 1 % | ± 1.5 % |

For glycerine filling accuracy shall be ±1.5% for low ranges and ±2% for high ranges

Scale ranges

- Low range: 0 ... 25 mbar to 0 ... 400 mbar
- High range: 0 ... 0.6 bar to 0 ... 25 bar

Maximum working pressure

60 Bar (standard)

Over range protection

130% of FSR through built-in seal valve

Permissible ambient temperature

-20 ... +70°C

Permissible medium temperature

- 120°C with Buna-N sealing
- 205°C with Viton sealing
- 150°C with EPDM sealing

For higher temperatures use adequate length of impulse piping.

Temperature effect

When the temperature of the measuring system deviates from the reference temperature 30 deg C; maximum ±0.5% / 10K of full scale value

Ingress protection

IP66 per IEC 60529 category-2

Zero adjustment

Via micrometer pointer

Process element

SS 316 Ti diaphragm for low ranges
Inconel-718 diaphragm for high ranges

Sealings (wetted)

Buna-N

Measuring cell

316 SS

Movement

Stainless steel (non-wetted)

Process entries

Sides

Process connection

1/4" NPTF standard (through snubber)

Drain and vent

Standard

Mounting

Flush panel (standard)

Alarm switching (optional)

Snap acting SPDT microswitch

No. of switches

- One (for high or low)
- Two (one for high and one for low)
- DPDT action with two switches (either high or low)

Switch rating

- 5A, AC 250 V
- 3A, DC 24 V (Inductive)

Switch setting

Adj. between 10% and 90% of FSR

Switching differential

- Fixed within 8% of FSR for one switch
- Fixed within 12% of FSR for two switches

High-low gap (min.)

15% of FSR between two switches

Electrical connection

DIN 43650 plug

Calibration

Calibration is as per ANSI/ASME B40.1 Clause 6.2.3

Range table

Low ranges

| Range code | Range in mbar | Range code | Range in mmWC |
|------------|----------------|------------|---------------|
| M013 | 0 ... 25 | W012 | 0 ... 250 |
| M014 | 0 ... 40 | W015 | 0 ... 400 |
| M016 | 0 ... 60 | W083 | 0 ... 600 |
| M018 | 0 ... 100 | W021 | 0 ... 1000 |
| M022 | 0 ... 160 | W024 | 0 ... 1600 |
| M024 | 0 ... 250 | W026 | 0 ... 2500 |
| M028 | 0 ... 400 | W030 | 0 ... 4000 |
| M056 | -12.5 ... 12.5 | W047 | -125 ... 125 |
| | | W008 | -500 ... 500 |

High ranges

| Range code | Range in bar | Range code | Range in Kg/Cm ² |
|------------|---------------|------------|-----------------------------|
| B081 | 0 ... 0.6 | K020 | 0 ... 0.6 |
| B004 | 0 ... 1.0 | K023 | 0 ... 1.0 |
| B077 | 0 ... 1.25 | K063 | 0 ... 1.25 |
| B005 | 0 ... 1.6 | K024 | 0 ... 1.6 |
| B006 | 0 ... 2 | K026 | 0 ... 2 |
| B007 | 0 ... 2.5 | K027 | 0 ... 2.5 |
| B008 | 0 ... 3.5 | K028 | 0 ... 3.5 |
| B056 | 0 ... 4 | K029 | 0 ... 4 |
| B009 | 0 ... 5 | K059 | 0 ... 5 |
| B057 | 0 ... 6 | K030 | 0 ... 6 |
| B078 | 0 ... 8 | K064 | 0 ... 8 |
| B011 | 0 ... 10 | K032 | 0 ... 10 |
| B079 | 0 ... 12 | K065 | 0 ... 12 |
| B058 | 0 ... 16 | K035 | 0 ... 16 |
| B012 | 0 ... 20 | K036 | 0 ... 20 |
| B059 | 0 ... 25 | K037 | 0 ... 25 |
| B003 | - 0.5 ... 0.5 | K007 | - 0.5 ... 0.5 |
| B086 | - 1.0 ... 1.0 | K006 | - 1.0 ... 1.0 |
| B087 | - 2.0 ... 2.0 | K005 | - 2.0 ... 2.0 |

Dimensions in mm

FIG.1 : 0 ... 600 mbar to 0 ... 25 bar ranges

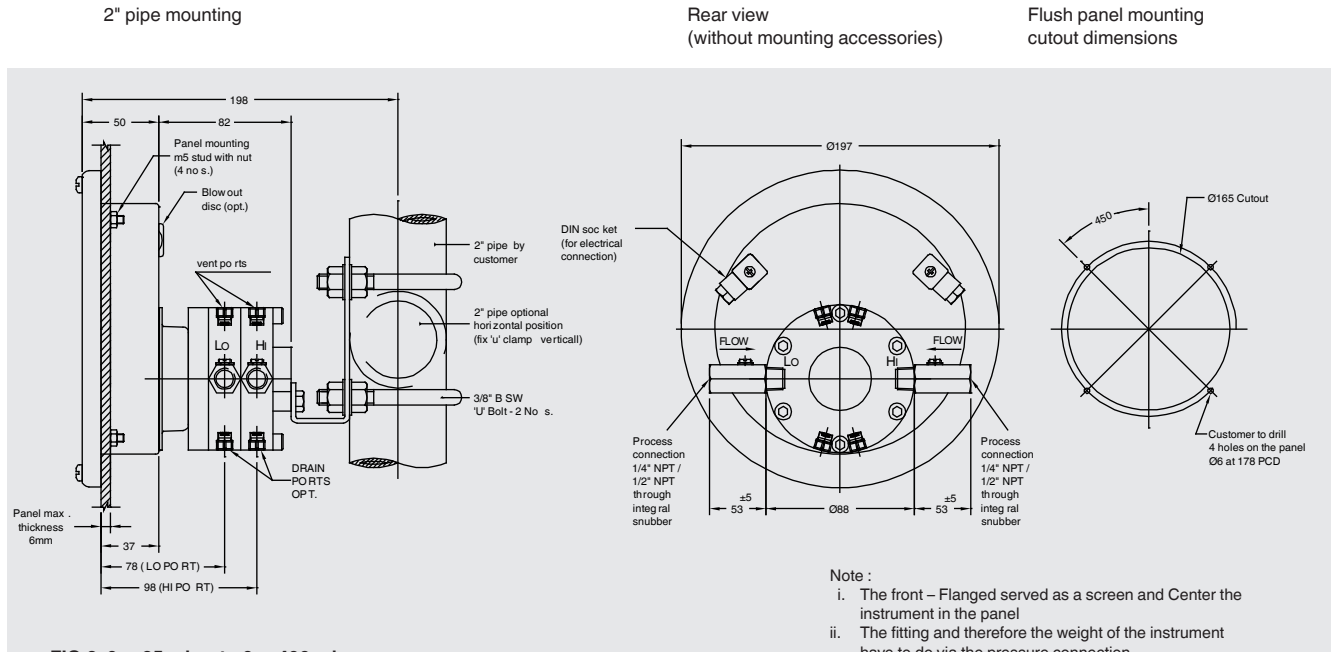
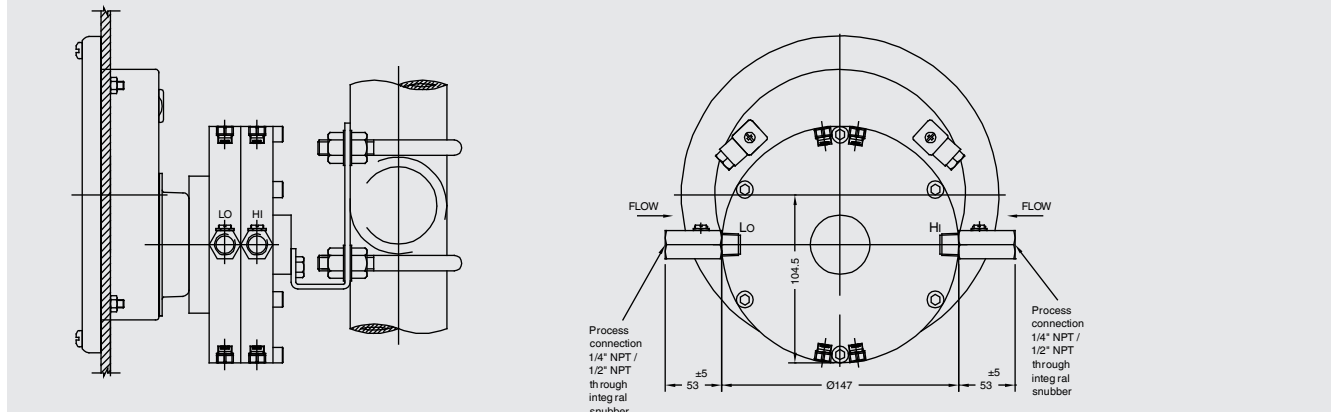


FIG.2: 0 ... 25 mbar to 0 ... 400 mbar ranges



Ordering information

Scale ranges / Accuracy class / Sealing / Process entries / Process connection / Switching / Mounting / Mounting material / Liquid filling / Type of service / Pressure relief / Maximum working pressure / Electrical entry

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