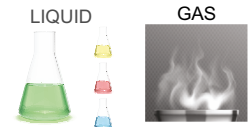


# Differential Pressure Transmitter

# MSP3100



## OVERVIEW

### Operation

MSP3100 Gauge, absolute and differential pressure measurement in gases, steam or liquids in all areas of process control field.

### Features

- Compact design
- Protection type IP67 or EX-proof as optional
- High sensitivity
- MEMS technology
- Cost effective
- Short delivery
- High pressure
- High long-term stability

### Application

- Level, volume or mass measurement in liquids.
- Working with detecting element

## OPERATING DATA

Temperature Limit	-40...85°C
Storage Temp. Limit	-45...85°C
Stability	±0.25% of URL for 5 years
Accuracy	±0.075% URL
Humidity limit	0-100% relative
Temperature Drift	±0.03% of URL/10°C
Overpressure	Full scale ranges x3
Weight	4 kg (without connection)
Turndown Ratio	10:1

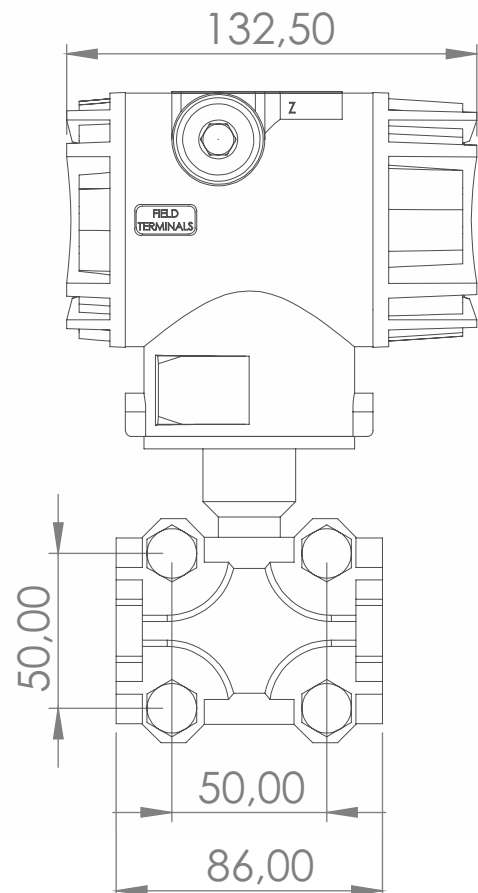
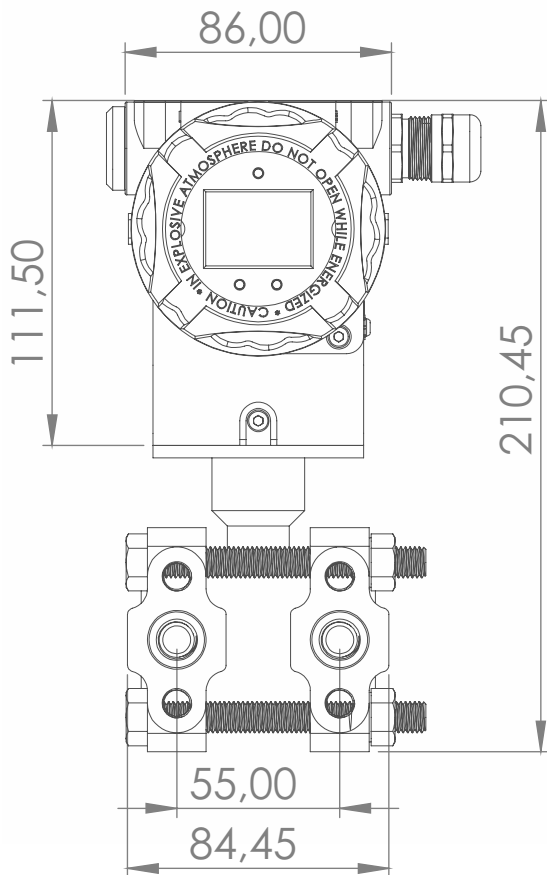
## MEASURING RANGES

Overpressure Range	0-300 bar
--------------------	-----------

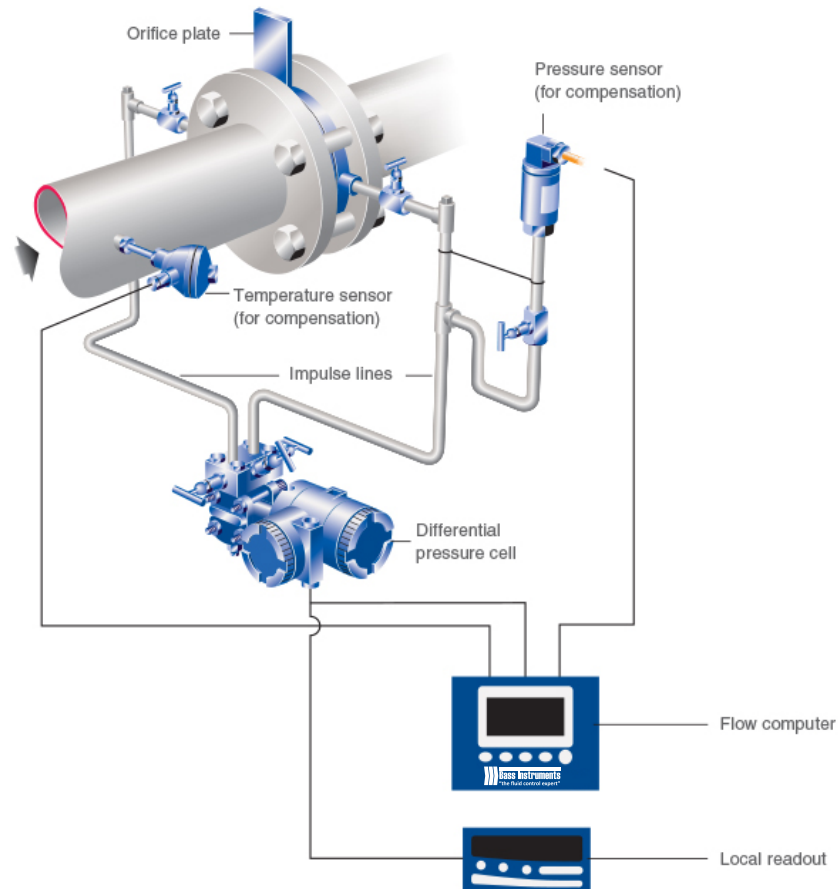
## MATERIALS

Wetted Part	AISI316
Others	On request

## TECHNICAL DRAWINGS AND DIMENSIONS



# ■ INSTALLATION



## 1. Select the Right Gauge

Before you pull out a wrench, first make sure you have the right type of gauge for the application. The pressure gauge you choose must be the correct one for the:

- Expected pressure range to be measured. The selected range should be double the operating range.
- Process media compatibility.
- Process temperature
- Severe operating conditions (e.g., vibrations, pulsations, pressure spikes).

However, even if you install the gauge perfectly, you could face the same problems you had before the installation if the gauge isn't the right one for the job.

## 2. Apply Force on Wrench Flats

Once you've chosen the correct gauge, pay attention to how you install the gauge. Rather than turning the case by hand, use an open-end wrench and apply force to the wrench flat. Applying the force through the case could damage the case connection as well as the gauge internals. Not applying sufficient torque could result in leaks.

## 3. Seal the Deal

Notice the type of threads on the gauge before you seal it. If the gauge has parallel threads, seal it using sealing rings, washers. If the gauge has tapered threads, additional means of sealing, such as PTFE tape, are recommended. This is standard practice for any pipe fitter because tapered threads do not provide complete sealing on their own.

## 4. Use a Clamp Socket or Union Nut with Straight Thread

When tapered threads are used, the installer has the luxury of adjusting the gauge even after sufficient torque has been applied. This allows for convenient orientation of the gauge face. However, with straight threads the face orientation is not adjustable once it bottoms out. You start by tightening the gauge by hand. As soon as you encounter a resistance, apply an open-end wrench to the wrench flat and continue turning the gauge. At this point you have approximately one turn left to put the gauge into the desired position.

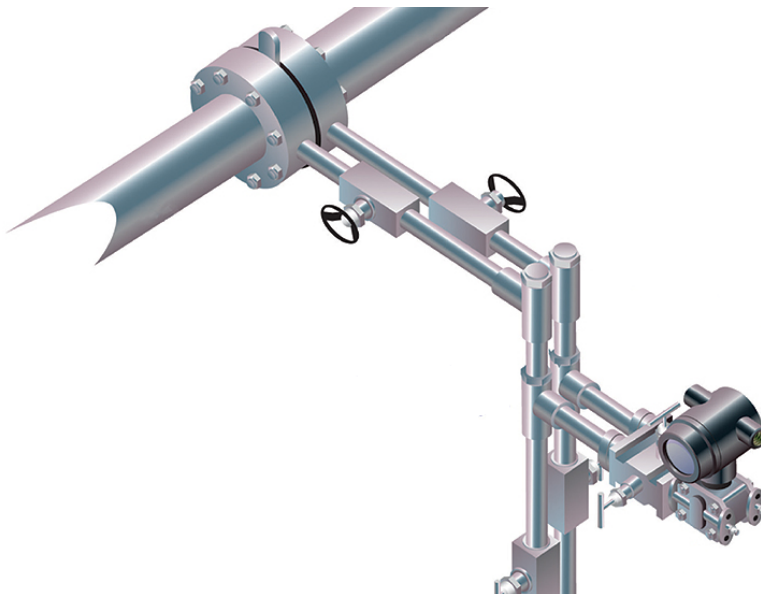
## 5. Leave Space for Blow-out

For personnel safety, some gauges come with a safety pattern design consisting of a solid wall between the front of the gauge and the Bourdon tube, and a blow-out back. In the event of a pressure build-up inside the case or a catastrophic Bourdon tube rupture, all the energy and release of media will be directed to the back of the gauge, thus protecting the people reading the gauge. In order for the safety device to function properly, it is important to keep a minimum space of 1/2 inches. Process gauges come standard with integrated pegs to insure this distance when mounting the gauge against a surface.

## 6. Vent the Gauge Case

Some gauges come with a small valve on top of the case. Users who don't understand the purpose of the valve are confused about why it's included. During shipment, liquid-filled gauges can go through temperature changes that create internal pressure build-up. This can cause the gauge pointer to be off zero. When installing the gauge, open the compensation valve to allow this pressure to vent. It should then be closed again to prevent any external ingress. After you mount the gauge, set the compensating valve from CLOSE to OPEN.

A pressure gauge can do its job only if it's installed properly. Whether you're an operator or a maintenance technician, use these tips for proper gauge installation to make sure your gauges perform as they should. Contact Bass Instrument's technical support team if you have questions about properly installing gauges.



## CONNECTION

Standard

Please refer ordering table

## ELECTRICAL DATA

<b>Output</b>	2 wires, 4-20 mA 2 wires, 4-20 mA+HART MODBUS (no analog output)
<b>Power Supply</b>	10.5-55 VDC power
<b>Electrical Connection</b>	M20x1.5 - Aluminium or AISI316SS as optional
<b>Enclosure</b>	IP67

## MEASURING RANGES

Code	Range (DIN Flange)	Min. Span	Code	Range (DIN Flange)	Min.Span
001	10 mBar (PN160)	1 mBar	007	40 Bar (PN160)	4 Bar
002	30 mBar (PN160)	3 mBar	008	500 mBar (PN420)	50 mBar
003	100 mBar (PN160)	10 mBar	009	3 Bar (PN420)	300 mBar
004	500 mBar (PN160)	50 mBar	010	16 Bar (PN420)	1600 mBar
005	3 Bar (PN160)	300 mBar	011	40 Bar (PN420)	4 Bar
006	16 Bar (PN160)	1600 mBar	012	300 Bar (PN420)	30 Bar

