

GM INSTRUMENTATION



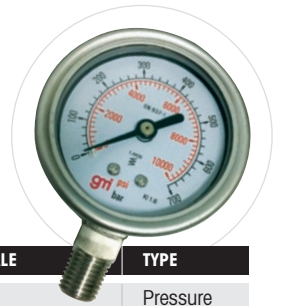
gmi
25 YEARS

**Pressure & Vacuum
Gauges & Indicators**

63mm Dial Stainless Steel and Brass

63mm (Nominal) Diameter
 Bottom & Back Connection
 1/4" BSP Parallel Thread
 Accuracy ±1.6% Full Scale

Mounting Options: 10,11
Additional Options: AT, DD, RC, RS



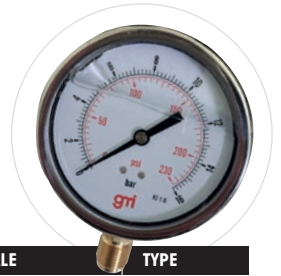
OUTER SCALE	INNER SCALE	TYPE
- 30/0 in Hg to 0/+15 psi	- 1/0 bar to 0/+1 bar	Compound
- 30/0 in Hg to 0/+30 psi	- 1/0 bar to 0/+2 bar	Compound
- 30/0 in Hg to 0/+60 psi	- 1/0 bar to 0/+4 bar	Compound
- 30/0 in Hg to 0/+100 psi	- 1/0 bar to 0/+7 bar	Compound
- 30/0 in Hg to 0/+160 psi	- 1/0 bar to 0/+11 bar	Compound
- 30/0 in Hg	- 1/0 bar	Vacuum
0/15 psi	0/1 bar	Pressure
0/30 psi	0/2 bar	Pressure
0/60 psi	0/4 bar	Pressure
0/100 psi	0/7 bar	Pressure
0/160 psi	0/11 bar	Pressure
0/200 psi	0/14 bar	Pressure
0/300 psi	0/20 bar	Pressure

OUTER SCALE	INNER SCALE	TYPE
0/400 psi	0/28 bar	Pressure
0/500 psi	0/35 bar	Pressure
0/600 psi	0/40 bar	Pressure
0/1000 psi	0/70 bar	Pressure
0/1500 psi	0/100 bar	Pressure
0/2000 psi	0/140 bar	Pressure
0/2500 psi	0/180 bar	Pressure
0/3000 psi	0/200 bar	Pressure
0/4000 psi	0/280 bar	Pressure
0/5000 psi	0/350 bar	Pressure
0/6000 psi	0/400 bar	Pressure
0/10000 psi	0/700 bar	Pressure

100mm Dial Stainless Steel and Brass

100mm (Nominal) Diameter
 Bottom & Back Connection
 3/8" BSP Parallel Thread
 Accuracy ±1.6% Full Scale

Mounting Options: 10,11
Additional Options: AT, DD, RC, RS
Also stocked in the following alternative threads: 1/2" BSP, 1/2" NPT



OUTER SCALE	INNER SCALE	TYPE
- 30/0 in Hg to 0/+15 psi	- 1/0 bar to 0/+1 bar	Compound
- 30/0 in Hg to 0/+30 psi	- 1/0 bar to 0/+2 bar	Compound
- 30/0 in Hg to 0/+60 psi	- 1/0 bar to 0/+4 bar	Compound
- 30/0 in Hg to 0/+100 psi	- 1/0 bar to 0/+7 bar	Compound
- 30/0 in Hg to 0/+160 psi	- 1/0 bar to 0/+11 bar	Compound
- 30/0 in Hg	- 1/0 bar	Vacuum
0/15 psi	0/1 bar	Pressure
0/30 psi	0/2 bar	Pressure
0/60 psi	0/4 bar	Pressure
0/100 psi	0/7 bar	Pressure
0/160 psi	0/11 bar	Pressure
0/200 psi	0/14 bar	Pressure
0/300 psi	0/20 bar	Pressure

OUTER SCALE	INNER SCALE	TYPE
0/400 psi	0/28 bar	Pressure
0/500 psi	0/35 bar	Pressure
0/600 psi	0/40 bar	Pressure
0/1000 psi	0/70 bar	Pressure
0/1500 psi	0/100 bar	Pressure
0/2000 psi	0/140 bar	Pressure
0/2500 psi	0/180 bar	Pressure
0/3000 psi	0/200 bar	Pressure
0/4000 psi	0/280 bar	Pressure
0/5000 psi	0/350 bar	Pressure
0/6000 psi	0/400 bar	Pressure
0/10000 psi	0/700 bar	Pressure

100mm Dial Stainless Steel and Brass Class 1

100mm (Nominal) Diameter
 Bottom & Back Connection
 3/8" BSP Parallel Thread
 Accuracy ±1.0% Full Scale

Mounting Options: 10,11,12
Additional Options: AT, PW, RC, RS
Also stocked in the following alternative threads: 1/2" BSP, 1/2" NPT



OUTER SCALE	INNER SCALE	TYPE
- 1/0 bar to 0/+1 bar	- 30/0 in Hg to 0/+15 psi	Compound
- 1/0 bar to 0/+2 bar	- 30/0 in Hg to 0/+30 psi	Compound
- 1/0 bar to 0/+4 bar	- 30/0 in Hg to 0/+60 psi	Compound
- 1/0 bar to 0/+7 bar	- 30/0 in Hg to 0/+100 psi	Compound
- 1/0 bar to 0/+11 bar	- 30/0 in Hg to 0/+160 psi	Compound
- 1/0 bar	- 30/0 in Hg	Vacuum
0/1 bar	0/15 psi	Pressure
0/2 bar	0/30 psi	Pressure
0/4 bar	0/60 psi	Pressure
0/7 bar	0/100 psi	Pressure
0/11 bar	0/160 psi	Pressure
0/14 bar	0/200 psi	Pressure
0/16 bar	0/240 psi	Pressure

OUTER SCALE	INNER SCALE	TYPE
0/20 bar	0/300 psi	Pressure
0/28 bar	0/400 psi	Pressure
0/40 bar	0/600 psi	Pressure
0/70 bar	0/1000 psi	Pressure
0/100 bar	0/1500 psi	Pressure
0/160 bar	0/2400 psi	Pressure
0/200 bar	0/3000 psi	Pressure
0/280 bar	0/4000 psi	Pressure
0/400 bar	0/6000 psi	Pressure
0/700 bar	0/10000 psi	Pressure
0/1000 bar	0/15000 psi	Pressure

160mm Dial Stainless Steel and Brass

160mm (Nominal) Diameter
 Bottom & Back Connection
 3/8" BSP Parallel Thread
 Accuracy ±1.0% Full Scale

Mounting Options: 10,11,12
Additional Options: AT, PW, RS
Also stocked in the following alternative threads: 1/2" BSP, 1/2" NPT



OUTER SCALE	INNER SCALE	TYPE
- 1/0 bar to 0/+1 bar	- 30/0 in Hg to 0/+15 psi	Compound
- 1/0 bar to 0/+2 bar	- 30/0 in Hg to 0/+30 psi	Compound
- 1/0 bar to 0/+4 bar	- 30/0 in Hg to 0/+60 psi	Compound
- 1/0 bar to 0/+7 bar	- 30/0 in Hg to 0/+100 psi	Compound
- 1/0 bar to 0/+11 bar	- 30/0 in Hg to 0/+160 psi	Compound
- 1/0 bar	- 30/0 in Hg	Vacuum
0/1 bar	0/15 psi	Pressure
0/2 bar	0/30 psi	Pressure
0/4 bar	0/60 psi	Pressure
0/7 bar	0/100 psi	Pressure
0/11 bar	0/160 psi	Pressure
0/14 bar	0/200 psi	Pressure
0/16 bar	0/240 psi	Pressure

OUTER SCALE	INNER SCALE	TYPE
0/20 bar	0/300 psi	Pressure
0/28 bar	0/400 psi	Pressure
0/40 bar	0/600 psi	Pressure
0/70 bar	0/1000 psi	Pressure
0/100 bar	0/1500 psi	Pressure
0/160 bar	0/2400 psi	Pressure
0/200 bar	0/3000 psi	Pressure
0/280 bar	0/4000 psi	Pressure
0/400 bar	0/6000 psi	Pressure
0/700 bar	0/10000 psi	Pressure
0/1000 bar	0/15000 ps	Pressure

63mm Dial All Stainless Steel

63mm (Nominal) Diameter
 Bottom & Back Connection
 1/4" BSP Parallel Thread
 Accuracy ±1.6% Full Scale

General Purpose
Mounting Options: 10,11
Additional Options: AT, GF, RC, RS



OUTER SCALE	INNER SCALE	TYPE
- 1/0 bar to 0/+1 bar	- 30/0 in Hg to 0/+15 psi	Compound
- 1/0 bar to 0/+2 bar	- 30/0 in Hg to 0/+30 psi	Compound
- 1/0 bar to 0/+4 bar	- 30/0 in Hg to 0/+60 psi	Compound
- 1/0 bar to 0/+7 bar	- 30/0 in Hg to 0/+100 psi	Compound
- 1/0 bar to 0/+11 bar	- 30/0 in Hg to 0/+160 psi	Compound
- 1/0 bar	- 30/0 in Hg	Vacuum
0/1 bar	0/15 psi	Pressure
0/2 bar	0/30 psi	Pressure
0/4 bar	0/60 psi	Pressure
0/7 bar	0/100 psi	Pressure
0/11 bar	0/160 psi	Pressure
0/14 bar	0/200 psi	Pressure
0/16 bar	0/240 psi	Pressure

OUTER SCALE	INNER SCALE	TYPE
0/20 bar	0/300 psi	Pressure
0/28 bar	0/400 psi	Pressure
0/40 bar	0/600 psi	Pressure
0/70 bar	0/1000 psi	Pressure
0/100 bar	0/1500 psi	Pressure
0/160 bar	0/2300 psi	Pressure
0/200 bar	0/3000 psi	Pressure
0/280 bar	0/4000 psi	Pressure
0/400 bar	0/6000 psi	Pressure
0/700 bar	0/10000 psi	Pressure

100mm Dial All Stainless Steel

100mm (Nominal) Diameter
 Bottom & Back Connection
 3/8" BSP Parallel Thread
 Accuracy ±1.0% Full Scale

Mounting Options: 10,11
Additional Options: AT, GF, PW, RC, RP, RS
Also stocked in the following alternative threads: 1/2" BSP, 1/2" NPT



OUTER SCALE	INNER SCALE	TYPE
- 1/0 bar to 0/+1 bar	- 30/0 in Hg to 0/+15 psi	Compound
- 1/0 bar to 0/+2 bar	- 30/0 in Hg to 0/+30 psi	Compound
- 1/0 bar to 0/+4 bar	- 30/0 in Hg to 0/+60 psi	Compound
- 1/0 bar to 0/+7 bar	- 30/0 in Hg to 0/+100 psi	Compound
- 1/0 bar to 0/+11 bar	- 30/0 in Hg to 0/+160 psi	Compound
- 1/0 bar	- 30/0 in Hg	Vacuum
0/1 bar	0/15 psi	Pressure
0/2 bar	0/30 psi	Pressure
0/4 bar	0/60 psi	Pressure
0/7 bar	0/100 psi	Pressure
0/11 bar	0/160 psi	Pressure
0/14 bar	0/200 psi	Pressure
0/16 bar	0/240 psi	Pressure

OUTER SCALE	INNER SCALE	TYPE
0/20 bar	0/300 psi	Pressure
0/28 bar	0/400 psi	Pressure
0/40 bar	0/600 psi	Pressure
0/70 bar	0/1000 psi	Pressure
0/100 bar	0/1500 psi	Pressure
0/160 bar	0/2400 psi	Pressure
0/200 bar	0/3000 psi	Pressure
0/280 bar	0/4000 psi	Pressure
0/400 bar	0/6000 psi	Pressure
0/700 bar	0/10000 psi	Pressure
0/1000 bar	0/15000 psi	Pressure
0/1600 bar	0/23200 psi	Pressure

All of the following instruments can be supplied to customer specification quickly and at very competitive prices. As built to order, great care must be taken to ensure the specification is correct before confirming order. **Please contact us for technical guidance or quotation.**

SAFETY PATTERN GAUGES

Gauges for use in applications measuring air or other gases over 25 bar which requires a special design to allow for safer operator use.

This is achieved by a combination of various measures, which, in the event of a gauge pressure system failure, allows built-up pressure in the case to safely escape ensuring the window remains intact and doesn't explode into an operators face.

As a further precaution, safety glass or polycarbonate plastic windows are always used rather than standard instrument glass.

There are three types of safety pattern gauges designated (S-1, S-2 and S-3) the most suitable type depending on the gas being used, pressure range and gauge case diameter required.



OXYGEN & ACETYLENE GAUGES

Oxygen when under pressure and in contact with oil or grease can be explosive.

It is imperative that extreme care is taken in the manufacture, testing and installation of oxygen gauges to avoid any oil contamination.

Oxygen gauges must always be "Safety Pattern Type" and have "Oxygen" and the "Use No Oil" symbol clearly printed on the dial.

Acetylene when in contact with high copper or silver content alloys may form an explosion risk.

All parts of the gauge in contact with Acetylene should be steel or a maximum 65% copper content alloy.

Acetylene gauges must always be "Safety Pattern Type" and have "Acetylene" clearly printed on the dial.



ELECTRICAL CONTACT GAUGES

Electrical contacts can be fitted to many gauges to provide an electrical output. Additionally, magnetic contacts can be specified where vibration is present to ensure clean making/breaking of the contacts.

Contact options are;

SEC 1 (Single Contact): Single contact making on rising pressure or temperature

SEC 2 (Single Contact): Single contact breaking on rising pressure or temperature

DEC 1 (Double Contact): 1st contact making on rising pressure or temperature. 2nd contact breaking on rising pressure or temperature

DEC 2 (Double Contact): 1st contact breaking on rising pressure or temperature. 2nd contact making on rising pressure or temperature

DEC 3 (Double Contact): Both contacts making on rising pressure or temperature

DEC 4 (Double Contact): Both contacts breaking on rising pressure or temperature



PEAK/MAX PRESSURE GAUGES

A "Peak" or "Max Pressure" indicator can be added to many gauges to indicate the maximum pressure or temperature measured by the instrument.

This additional indicator will stay at the maximum reading until reset by customer when desired by using the supplied tool.

The tool can either remain on the gauge or be removed to prevent tampering or accidental resetting.

This type of additional indicator is known by many other names such as "Follower Pointer", "Drag Pointer", "Tell-Tale Pointer" or "Slave Pointer".

Available built to order in nominal diameters 63/100/160mm and normally supplied dry (without glycerine).

Glycerine filled is an option only on the 100mm diameter and at additional cost.



MASTER TEST GAUGES

Used to check calibration of other gauges or where extremely accurate measurement is required.

Available in diameters 100mm / 160mm / 250mm ("Full Safety Pattern" type can also be offered in 100mm and 160mm diameters) Ranges -1 bar vacuum to 1000 bar pressure.

Accuracy better than $\pm 0.25\%$ of full scale at any point on the scale whether on rising or falling vacuum or pressure.

Please note -When used for checking calibration accuracy of other gauges, a "Master Test Gauge" must be at least 4x greater accuracy than the instrument being checked.

For example, with a 0-400 bar range the instrument would have an accuracy of better than ± 1 bar and could be used to check and certify any other gauge where the accuracy should be ± 4 bar or higher.

Our "Master Test Gauges" are fitted with a knife edge pointer and mirrored scale to facilitate accurate reading of the scale and are supplied with a full point to point test certificate.



ABSOLUTE GAUGES

Used for measurement of pressure where the geographical barometric pressure must not influence the measurement accuracy.

This is achieved by fully evacuating the capsule and sealing the case so that pressure measurement is made against a reference point of absolute zero.

Made to BS EN837-3 standard with an accuracy of $\pm 2\%$ full scale.

Only suitable for use on clean dry air.



DIFFERENTIAL GAUGES

Used to measure the pressure or vacuum difference from two sources or two parts of the same system.

A typical application is across a filter. The higher the reading the more the filter is becoming blocked and may need changing.

Another application would be across an orifice to indicate flow rate.

Available in 100mm or 160mm diameter, ranges of -1 bar vacuum to 60 bar pressure.



DIGITAL PRESSURE GAUGES

For applications where a digital pressure read-out is preferred to a standard analogue gauge.

Various diameters, pressure ranges and connection options are available to special order.

Please contact us with your requirements and for further information.



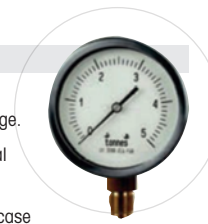
LOAD/FORCE GAUGES

Used when weight or force measured needs to be indicated instead of pressure as with a standard gauge.

Many of our gauges can be supplied with special dial designs according to customer requirements.

A typical application is for hydraulic presses. In this case the area or diameter of the hydraulic ram must be supplied in order for us to calculate the relevant pressure range of the gauge and calibrate the dial.

We would also recommend that the ram area or diameter be included on the dial design to ensure the correct gauge is used on the correct ram.





Welded Chemiseals



Flush with Thread Connection

BSP Welded Chemiseals



Welded with Flange Connection



Welded with Thread Connection

Bolted with Thread Connection



Bolted with Flange Connection



MOUNTING OPTIONS

- 10** = Bottom Mounting Direct (Standard)
- 11** = Bottom Mounting with 3 Hole Back Flange (add 11 to product code)
- 12** = Bottom Mounting with 3 Hole Front Flange (add 12 to product code)
- 20** = Centre Back Mounting Direct (Standard)
- 21** = Centre Back Mounting with 3 Hole Back Flange (add 21 to product code)
- 22** = Centre Back Mounting with 3 Hole Front Flange (add 22 to product code)
- 23** = Centre Back Mounting with Bracket (add 23 to product code)

- 30** = Lower Back Mounting Direct (Standard)
- 31** = Lower Back Mounting with 3 Hole Back Flange (add 31 to product code)
- 32** = Lower Back Mounting with 3 Hole Front Flange (add 32 to product code)
- 33** = Lower Back Mounting with Bracket (add 33 to product code)

ADDITIONAL OPTIONS

- AB** = Alternative Bezel
- AP** = Alternative Pocket
- AT** = Alternative Thread/s Available
- BB** = Black Bezel
- DD** = Drain Glycerine & Dry
- GF** = Glycerine Filled

- IG** = Instrument Glass
- PW** = Plastic Window
- RC** = Rubber Cover
- RP** = Red Adjustable Pointer
- RS** = Restrictor Screw
- SG** = Safety Glass Window

EXAMPLE

This gauge has 4 mounting options & 3 additional options. Match the mounting option you require with the number from the key and add it to the full product code.
If required also add the additional options code.
"B612J348L/33/PW"

GM INSTRUMENTATION



Pressure | Temperature
Level | Flow | Calibration
Gas Detection



GM Instrumentation

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