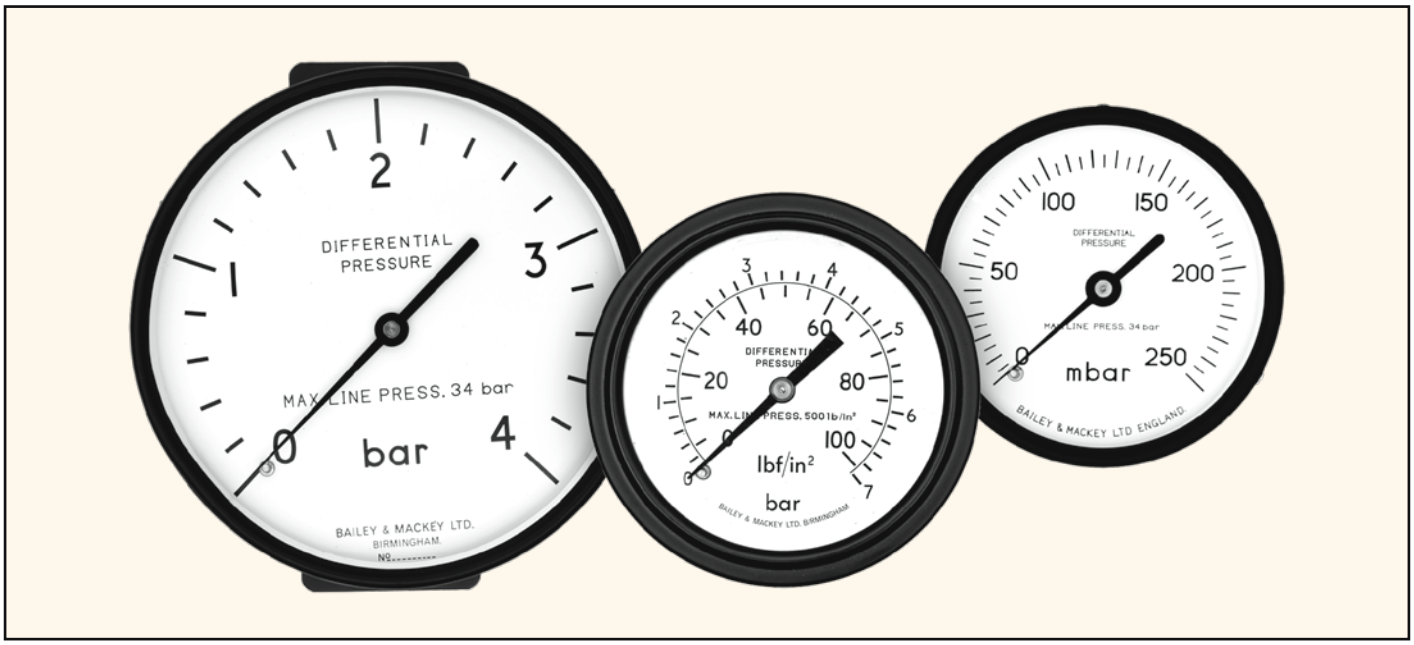

- **Balanced Pressure Chambers**
- **Safe Against Pressure Surges**
- **Unbalanced Pressure Protection**
- **Accuracy Unaffected by Static Pressure Changes**
- **Calibrated to Read Both Rising and Falling Pressures**
- **Can be Calibrated to have a Center Zero Indicating Pointer**

Applications

Differential Pressure Gauges are used to monitor the difference in pressure between two points. They can be used to monitor the condition of filters as when filters become contaminated the flow through the filter hence the pressure across the filter becomes less. They can be used to monitor the condition of boilers and pumps as the less efficient they become the pressure drop across them increases. They can even be used to measure flow through pipes, orifice plates etc.

The instrument can be fitted with a ‘maximum finger’ mounted on the window . This red ‘slave pointer’ is driven round the dial by the indicating pointer and remains to indicate the maximum differential pressure reached if the indicating pointer drops back with reducing differential.

Specification

The two pressures are applied to either side of a spring diaphragm. The accuracy of these gauges does not vary with changes in line pressure because the two pressures act on opposite sides of the one element that has equal areas.

The diaphragm chamber is machined to restrict movement of the diaphragm under out-of-balance pressures greater than the maximum calibration of the gauge.

Chemical Protection

For aggressive chemicals both sides of the differential pressure gauges can be fitted with diaphragm seals which protect the gauges from chemical attack. (see page 12 for chemical compatibility charts)

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Differential Pressure Gauges **Type 91, 92 & 93**

- **80, 100 mm and 160 mm Diameter**
- **Maximum Pressure 6 bar**
- **Out of balance Pressure 4x range**
- **Accuracy 2% Full Scale Deflection**
- **All Metal Construction**

Standard Calibrations

0 to 0.6 bar or 0 to 10 p.s.i.
0 to 1 bar or 0 to 15 p.s.i.
0 to 1.6 bar or 0 to 20 p.s.i.
0 to 2 bar or 0 to 30 p.s.i.
0 to 2.5 bar or to 40 p.s.i.
0 to 4 bar or 0 to 60 p.s.i.
0 to 6 bar or 0 to 100 p.s.i.

Maximum Line Pressure 34 bar (500 p.s.i.)

All ranges can be calibrated to have a center zero for reading in both directions

For Lower Pressure ranges see page 19

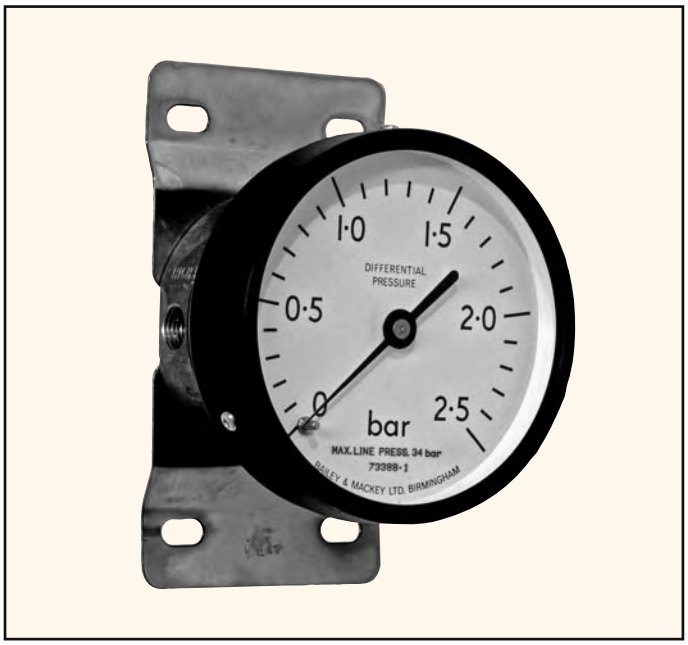
Special Dial Markings

Dials calibrated in other pressure units such as kN/m2, MN/m2, kPa, Kg/cm2, cm water, meters of water, cm Hg, inches Hg etc single scale, dual scale or with square root markings can be supplied if required. An extra charge is made for special dial marking, dependent on the costs involved.

Overload

Dimensions of the diaphragm housing are such that the movement of the diaphragm is stopped when the pressure difference exceeds the full scale deflection. The gauge will accept the accidental application of up to 4 times the range without damage except for a small calibration error. Under working conditions the pressure difference should not exceed the full scale value of the gauge. This overload should not preclude the installation of a balancing valve in all applications where differential pressure gauges are used (see page 23).

- **Type 91 is Panel Mounting 3 Hole Fixing.**
- **Type 92 is Panel Mounting Clamp Fixing.**
- **Type 93 is Direct Mounting**
- **For Stainless Steel Add a Suffix S to the above Part Numbers (Type 92 & 93 only)**
- **For Glycerine Filled Gauges Add a Suffix G to the above part Numbers (Type 92 & 93 only)**



Materials of Construction

Wetted Parts	Brass with Beryllium Copper Diaphragm
Seals	Nitrile Rubber
Case 80 & 100mm dia	Mild Steel Black Enamelled
Case 160mm dia	Aluminium Black Enamelled
Bezel 80 & 100mm dia	Mild Steel Black Enamelled
Bezel 160mm dia	Black ABS Plastic

Alternatives Available

Wetted Parts	Stainless Steel
Seals	Viton
Case & Bezel	Stainless Steel

Accuracy ..... ± 1.5% full scale deflection

Temperature ..... 80°C Maximum
(a temperature coeficient of 2% over 30°C can be expected)

Applications

When these low pressure gauges are used on liquids both connections and the tapping points should be in one horizontal plane. If not, allowance should be made for differences in the height of liquid in the connecting pipes. Bleed ports can be provided at the highest point of the pressure chambers if required

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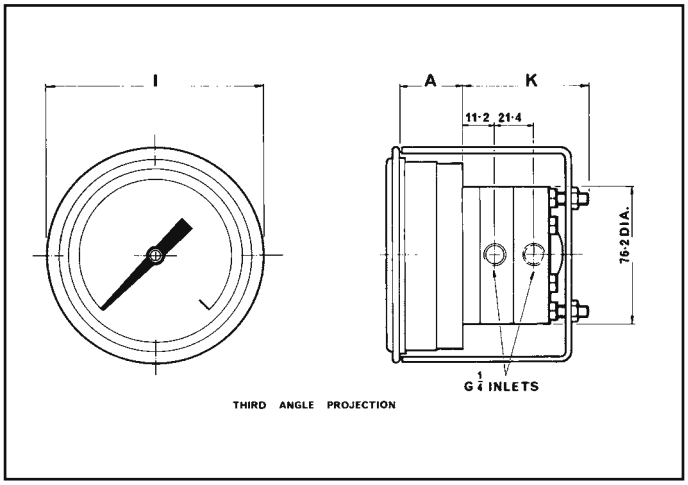
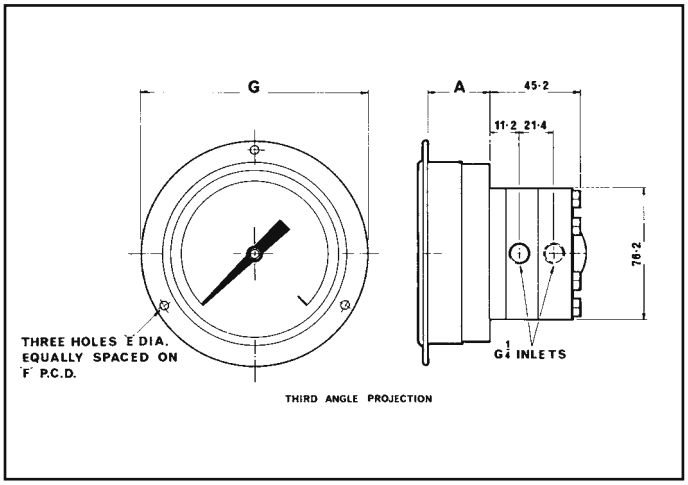
Type 91 Panel Mounting 3 Hole Fixing



Type 92 Panel Mounting Clamp Fixing



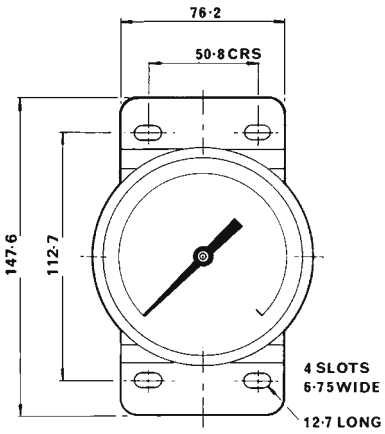
Nominal Size	A	E	F	G	I	K	No of Clamps	Panel Cut-out	Weight
80mm	21mm	4.8mm	94mm	102mm	95mm	70mm	1	86mm	1.1kg
100mm	27mm	5.2mm	121mm	134mm	118.4mm	70mm	1	112mm	1.8kg
160mm	36.5mm	5.2mm	175mm	184.2mm	169.1mm	45.2mm	3	165mm	1.8mm

Pressure Connections are at 3 o'clock and 9 0'clock when viewed from the front of the gauge the high pressure port is on the left side of the gauge and the low pressure port is on the right side of the gauge

Type 93 Direct Mounting with optional wall fixing brackets attached

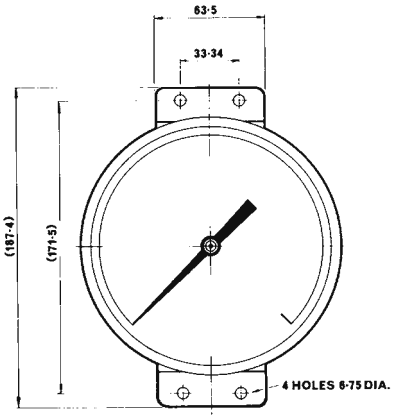
Nominal size
100mm diameter

Weight 1.75kg



Nominal size
160mm diameter

Weight 1.75kg



For Type 93 all other dimensions are as for Type 91 above except that the panel mounting bezel is replaced by a plain bezel.

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