

Bailey & Mackey Ltd



BOURDON TUBE PRESSURE GAUGES

Keeping pressure under control

AN ISO 9000 COMPANY

Bourdon Tube Pressure Gauges

Bailey & Mackey have been manufacturing high quality pressure instruments for over 75 years. The product range has been extended over this period and we now manufacture Pressure Gauges, Temperature Gauges, Pressure Switches and Pressure Transducers.

Our products satisfy most pressure and temperature sensing applications in many industrial markets including, **Aerospace, Automotive, Chemical, Marine, Medical, Water, Waste, Fire, Food, Heating and Ventilating**, and **General Industries**. In fact we have products which cover almost every pressure sensing application.

Expertise in pressure sensing technology enables us to manufacture to the highest standard of quality and reliability.

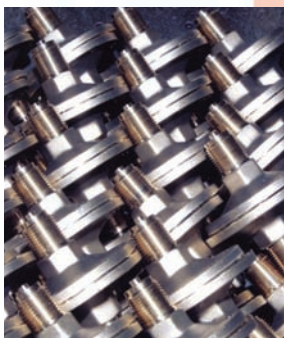
Our quality management system, which is approved by B. S. I. Quality assurance to **BS EN 9001**, ensures that all products have been correctly assembled and tested prior to despatch to our customers.

Bailey & Mackey aims to lead its chosen sectors of the **Pressure Gauge, Temperature Gauge, Pressure Switch and Pressure Transducer** Industry through excellence in customer service and product quality.

**Bailey & Mackey –
Pressure control experience and
innovation for over 75 years**



Cert No. FM 59294



Bailey & Mackey Ltd

Baltimore Road, Birmingham B42 1DE, UK
Tel +44 (0)121 357 5351 · Fax +44 (0)121 357 8319
enquiries@baileymackey.com · www.baileymackey.com

Bailey & Mackey Pressure Gauges

measure pressures relative to atmospheric pressure and are divided into three groups, each group being based on a different measuring principle.

Bourdon Tube Gauges

consist of a formed tube with one end fixed and the other end free to deflect under pressure. This type of gauge is only available for applications where the material of the tube (e.g. Beryllium Copper or Stainless Steel) is compatible with the fluid in the system. The maximum pressure that we manufacture these gauges to is 700 bar (10000 psi). Illustrated in this Catalogue.

Diaphragm Gauges

consist of a metal diaphragm which deflects under pressure. This type of gauge is extremely versatile as materials and coatings can be used which will resist corrosion and consequently can be adapted for use with the majority of fluids. The maximum pressure that we manufacture these gauges to is 70 bar (1000 psi). Illustrated in our Diaphragm Gauge Catalogue.

Bellows Gauges

consist of a metal bellows which expand/contract when pressure/vacuum is applied. This type of gauge is used for low pressures up to 500 mbar (200 in.H₂O). Illustrated in our Diaphragm Catalogue.

All Bailey & Mackey Pressure Gauges

can be supplied for measuring vacuum although absolute pressure gauges are not included in our range.

Temperature Gauges

utilise both the bourdon tube and vapour pressure principle. A temperature sensing element is connected to the bourdon tube via a length of capillary or rigid stem. Liquid contained in the element, when subject to heat, converts to a gas pressure which deflects the tube. Illustrated in our Temperature Gauges Catalogue.

Bailey & Mackey Pressure and Temperature Gauges

can be modified to suit almost any requirement. Please contact our Sales Office for technical assistance.

Type	Description	Page	Type	Description	Page
	Introduction	2-3		Panel Mounting Clamp Fixing Back Connection	
73	Direct Mounting Bottom Connection 50 to 250mm Diameter	4-5	50GP	50mm Diameter	22
73SP	Safety Pattern 50 to 150mm Diameter	6-7	84 & 85	60 to 250mm Diameter	24-25
S73G, 73W & 73G	Liquid Fillable Sealed Case 63 to 160mm Diameter	8-9	50DPP & 50DPT	Duplex Pressure/ Pressure or Pressure/VP Temperature 50mm Diameter	23
S73, 73S, S73SG & 73SG	Liquid Fillable Stainless Steel Constructed Sealed Case 63 to 160mm Diameter	8-9	84W & 84G	Liquid Fillable Sealed Case 100 & 160mm Diameter	26-27
74	Back Flange Mounted Safety Pattern 100 to 200mm Diameter	10-11	84S & 84SG	Liquid Fillable Stainless Steel Constructed Sealed Case 100 & 160mm Diameter	26-27
74SP	Back Flange Mounted Safety Pattern 100 to 200mm Diameter	10-11	87	Square Cased Panel Mounted Back Connection 72 & 96mm Square	28
74W & 74G	Back Flange Mounted Liquid Fillable Sealed Case 100 to 160mm Diameter	12-13	5214	Automotive Panel Mounted Clamp Fixing Rear Connection 52mm Diameter	29
74S & 74SG	Back Flange Mounted Liquid Fillable Stainless Steel Constructed 100 to 160mm Diameter	12-13	73PT & 73PTA	Potentiometric Voltage or 4 – 20mA output 150mm Diameter	30
80	Panel Mounting 3 Hole Fixing Bottom Connection 60 to 200mm Diameter	14-15	73T & 81T	Test Accuracy	31
80SP	Safety Pattern 60 to 200mm Diameter	14-15	73DPT & 82DPT	Duplex Pressure/ Temperature 80mm Diameter	32-33
30EU	Direct Mounting Back Connection 30mm Diameter	16	73E & 82E	With Switch Function 63mm Diameter	34-35
38EU	38mm Diameter	17		Portable Test Pump	36
82	50 to 80mm Diameter	18-19	Options		37 & 38
82SP	Safety Pattern 50mm Diameter	18-19	Chemical Seals		39 & 40
81 & 83	Back Connection Unsealed Case 60 to 200mm Diameter	20-21	Chemical Compatibility Chart		40
81SP	Safety Pattern 100mm Diameter	20-21	Accessories		41
			Standard Dial Markings		42-43
			Installation Instructions		44
			Conversion Factors		45

Bailey & Mackey's range of Bourdon Tube Pressure Gauges are built to the highest standards of workmanship required for such precision instruments. Each individual Pressure Gauge is subject to a series of most stringent pressure and calibration tests before dispatch.

Applications

Bourdon Tube Pressure Gauges with brass connections and phosphor bronze tubes are suitable for use on air, water, oils and other fluids compatible with these materials.

When used on steam a syphon should be fitted and filled with water prior to use. Pressure Gauges manufactured in stainless steel are for use with corrosive fluids or in corrosive environments or where food or hygiene requirements demand a higher specification.

Vacuum

All sizes of Bourdon Tube Pressure Gauges can be supplied for indication of vacuum relative to atmospheric pressure.

Gauges calibrated 0–30in Hg or 0–760mm Hg will, normally, have their pointers moving clockwise on increasing vacuum. Gauges calibrated 0–1 bar have their pointers moving anti-clockwise. Absolute Pressure Gauges are not included in the Bailey & Mackey range.

Combined Pressure And Vacuum

On some applications there may be a requirement for indication of both pressure and vacuum in one instrument.

Please contact our sales office for further information.

Working Pressure

It is recommended that the gauge range should be chosen so that the working pressure is not more than 65% of the maximum scale value for fluctuating pressures or 75% for steady pressures.

Accuracy

Bailey & Mackey Bourdon Tube Pressure Gauges are normally supplied to the accuracy laid down in BS EN837.

See relevant page for accuracy.



Temperature

Gauges should not be exposed to excessive heat or cold since this causes them to indicate incorrectly. Excessive heat could cause the solder which is used to join the tube to the connection to melt. Gauges containing liquids should not be exposed to cold as the liquid could solidify and damage the tube.

Gauges should be mounted away from heat sources either via a sufficient length of capillary to keep the gauge cool, or in the case of steam, fitted with a syphon tube which is filled with distilled water prior to use.

Energy Release Device

It is a requirement of BS EN837 that gauges 100mm diameter and above shall be fitted with a pressure release device if used on gases.

Bailey & Mackey Bourdon Tube gauges are fitted with such a device.

Safety Pattern

It is a mandatory requirement of BS EN837 section 5:11 that gauges of maximum scale values above 25 bar (363 lbf/in²) shall be of the safety pattern type if used on gases (steam is classed as a gas).

Bailey & Mackey Safety Pattern Gauges have a solid baffle integral with the case, an energy release device at the rear of the case and an acrylic window.

Pressure gauges to this specification are marked 'SAFETY PATTERN' on the dial. Pressure gauges above 25 bar (363 lbf/in²) with 'HYDRAULIC' marked on the dial must not be used on gases.

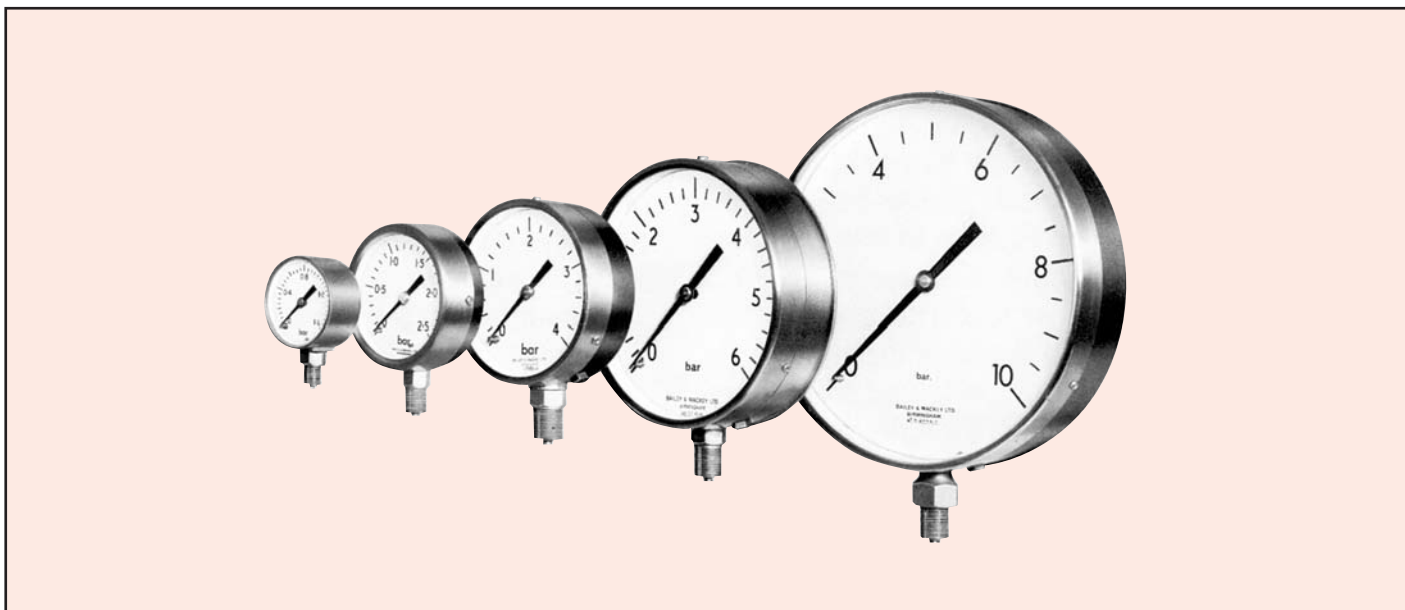
For Acetylene or Oxygen use please contact our technical department.

Liquid Filling

Liquid filled pressure gauges are recommended for applications where they are subject to conditions of severe vibration. The liquid in the gauge case lubricates the mechanism and damps down oscillations.

In conditions involving rapid pressure pulsation mechanism wear will be reduced and there may be a slight damping effect. Liquid filled gauges are sealed therefore condensation is not noticeable and corrosive atmospheres cannot enter the gauge case.





Of high quality and robust construction, this range of instruments is designed for use in most industrial applications where the fluid used is not aggressive to copper alloys.

- 50mm to 250mm Diameter
- Direct Mounting
- Bottom Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD (50 mm dia. $\pm 2\%$ FSD)
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54
- Energy release at rear of case 100mm dia. & above

Materials of Construction

Case

- 50–100mm dia.....Steel
- 150mm dia.....Brass
- 200–250mm dia.....Aluminium

Bezel

- 50mm dia.....Steel
- 60–250mm dia.....Brass

WindowInstrument Glass

Sensing Element

- up to 250 bar.....Phosphor Bronze
- above 250 barSteel

MovementBrass

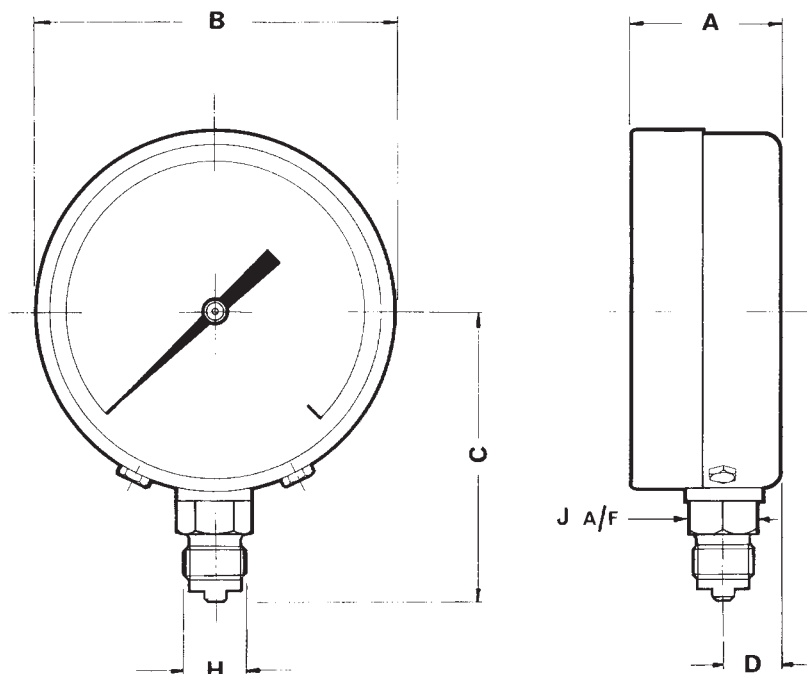
Connection.....Brass

FinishBlack Enamelled

All Bailey & Mackey Pressure Gauges can be adapted to meet the users application.

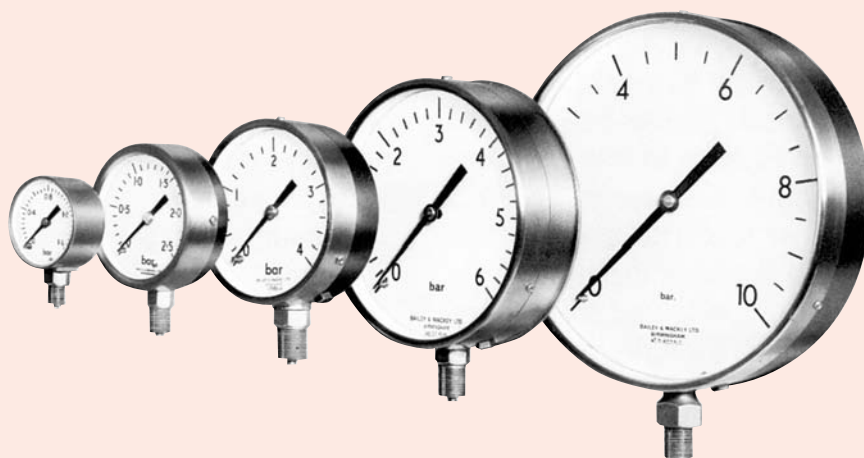
e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.



Nominal Size	A	B	C	D	H	J	Weight
50mm	27.6mm	53mm	47.5mm	8.5mm	G1/8 1/8" BSP	15.25mm	0.127kg
60mm	30.1mm	61.2mm	50.8mm	12.7mm	G1/4" 1/4" BSP	14mm	0.182kg
63mm	33mm	64.5mm	51mm	12.7mm	G1/4" 1/4" BSP	14mm	0.19kg
80mm	33.8mm	81.1mm	63.6mm	13.2mm	G1/4" 1/4" BSP	14mm	0.25kg
100mm	43mm	103mm	81.8mm	16.8mm	G3/8" 3/8" BSP	19mm	0.64kg
			97.5mm		G1/2" 1/2" BSP	*24mm	*0.68kg
150mm	48mm	151mm	103mm	19mm	G3/8" 3/8" BSP	19mm	1.1kg
			119mm		G1/2" 1/2" BSP	*24mm	*1.18kg
200mm	50mm	209mm	148mm	20.6mm	G1/2" 1/2" BSP	24mm	2.1kg
250mm	50mm	255.5mm	171mm	20.2mm	G1/2" 1/2" BSP	24mm	2.5kg

*1/2" BSP connections standard for 60 bar, 1000 lbf/in² and above
 3/8 BSP connections standard below 60 bar and 1000 lbf/in²



Of high quality and robust construction, this range of instruments is designed for use in most industrial applications where the gases are used over 25 bar and they are not aggressive to copper alloys.

- 50mm to 150mm Diameter
- Full Safety Pattern with integral baffle
- Direct Mounting
- Bottom Connection
- Max. Pressure 700 bar
- 1 bar vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD (50mm dia. $\pm 2\%$ FSD)
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54
- Energy release at rear of case

Materials of Construction

Case

50mm dia.....	Steel
60–80mm dia.....	Brass
100mm dia.....	Steel
150mm dia.....	Aluminium

Bezel

50mm dia.....	Steel
60–80mm dia.....	Brass
100–150mm dia.....	Brass

WindowPerspex

Sensing Element

up to 250 bar.....	Phosphor Bronze
above 250 bar	Steel

MovementBrass

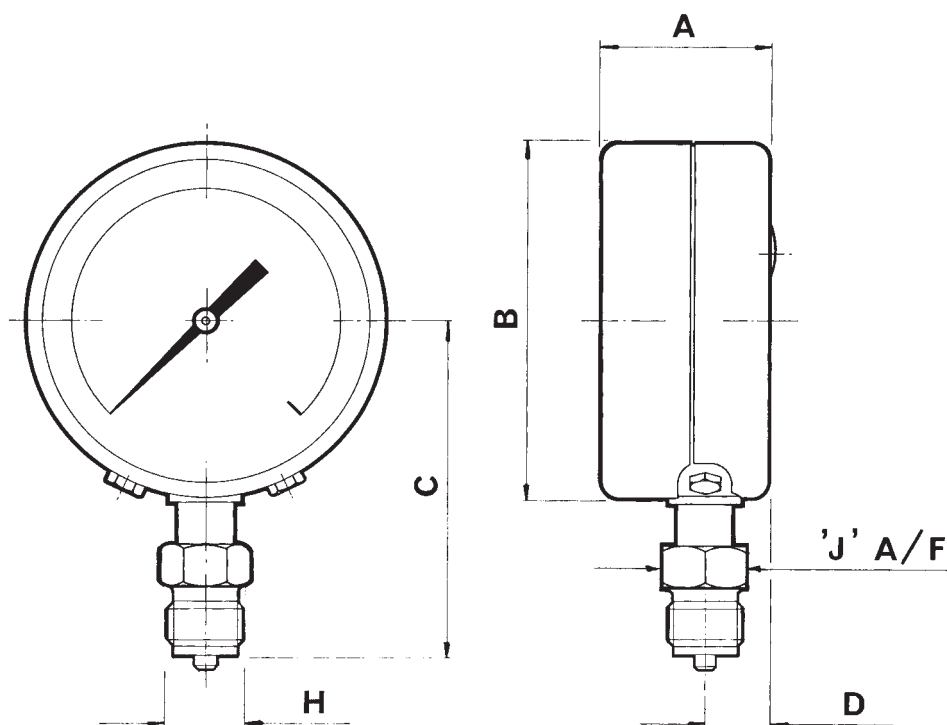
Connection.....Brass

FinishBlack Enamelled

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

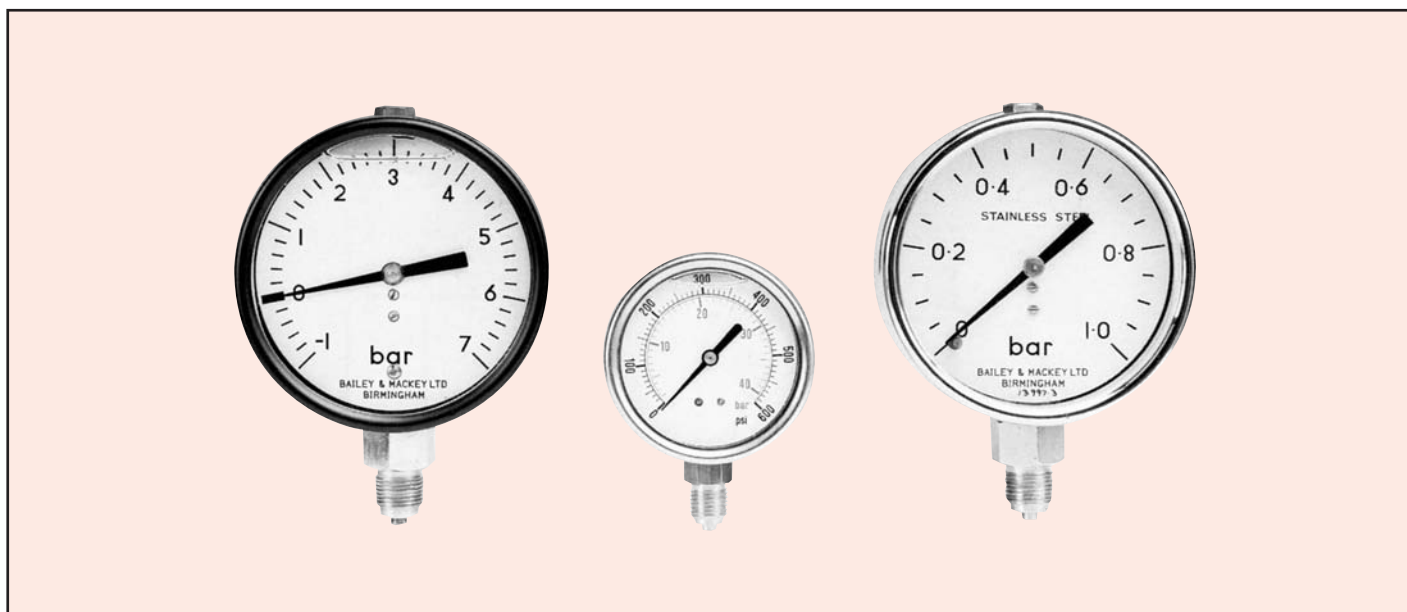
e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.



Nominal Size	A	B	C	D	H	J	Weight
50mm	26.5mm	53mm	47.5mm	9mm	G1/8 1/8" BSP	15.25mm	0.127kg
63mm	33mm	61mm	56.2mm	11.9mm	G1/4" 1/4" BSP	16mm	0.19kg
80mm	39mm	81.1mm	64.5mm	18.2mm	G1/4" 1/4" BSP	16mm	0.29kg
100mm	48mm	103mm	51mm	19mm	G1/2" 1/2" BSP	24mm	0.7kg
150mm	48mm	151mm	119mm	19mm	G1/2" 1/2" BSP	24mm	1.25kg

Type 73W,G,S & SG Bourdon Tube Pressure Gauges



With sealed cases which can be liquid filled, these gauges are intended for use where applications demand a robust construction. The stainless steel version can be used in the food, medical & chemical industries.

- 63, 100 & 160mm Diameter
- Sealed Case
- Glycerine Filled & Dry
- Direct Mounting
- Bottom Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD (63mm dia. $\pm 2.5\%$)
- All Metal Construction
- Full size Sensing Element
- Enclosure rating IP68
- Energy release at top of case

Materials of Construction

Type S73G — Liquid Filled

- Case & BezelStainless Steel
- Sensing Element.....Phosphor Bronze
- MovementBrass
- ConnectionBrass

Type 73W — Dry

Type 73G — Liquid Filled

- Case & BezelSteel
- Sensing Element
 - up to 250 barPhosphor Bronze
 - above 250 barSteel
- MovementBrass
- Connection.....Brass
- FinishBlack Enamelled

Type S73S,73S — Dry

Type S73SG,73SG — Liquid Filled

- Case & BezelStainless Steel
- Sensing Element.....Stainless Steel
- MovementStainless Steel
- Connection.....Stainless Steel

Windows on all the above gauges are transparent plastic

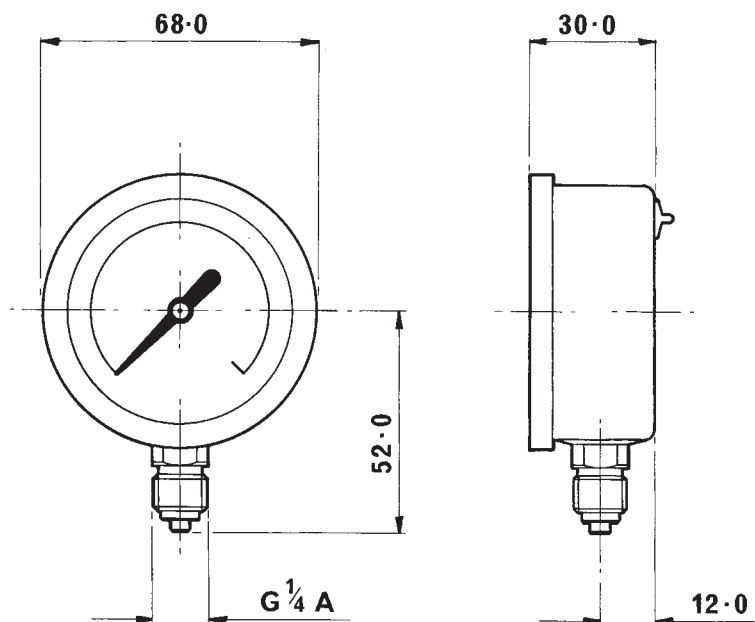
All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

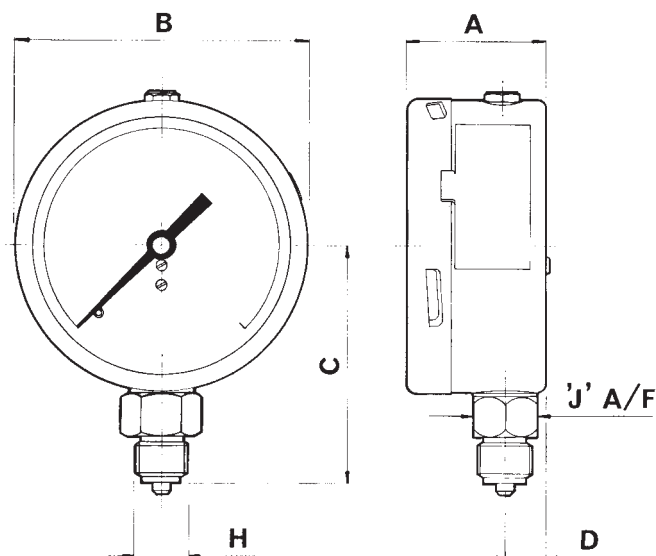
For these and other modifications please contact our Technical Sales Department.

Bourdon Tube Pressure Gauges **Type 73W,G,S & SG**

63mm
diameter

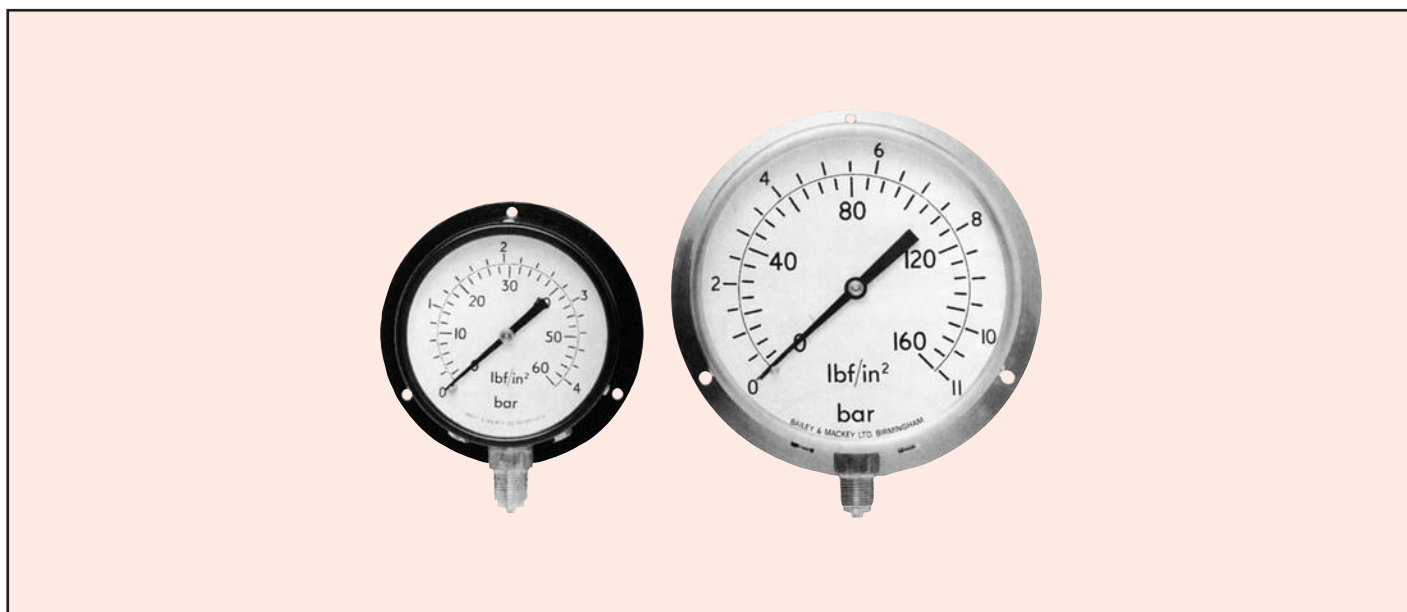


100 & 160mm
diameter



Nominal Size	A	B	C	D	H	J
100mm	47.5mm	101mm	82mm	13.7mm	G3/8 3/8" BSP	22mm
160mm	50mm	160mm	108.3mm	18.2mm	G1/4" 1/4" BSP	22mm
			111.3mm		G3/8" 3/8" BSP	
			115.3mm		G1/2" 1/2" BSP	

Type 74 & 74SP Bourdon Tube Pressure Gauges



Of high quality and robust construction, this range of instruments are designed for use in most industrial applications where the fluid is not aggressive to copper alloys.

- 100mm to 200mm Diameter
- Back Flange Mounting
- Bottom Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54
- Energy release at rear of case

Type 74 is for use on liquids up to 700 bar and gases up to 25 bar.

Type 74SP are full safety pattern gauges with energy release at the rear, for use on gases above 25 bar.

Materials of Construction

Case

100 mm dia.....Steel
150 mm & 200mm dia.Aluminium

BezelBrass

Window

Type 74Instrument Glass
Type 74SPPerspex

Sensing Element

up to 250 barPhosphor Bronze
above 250 barSteel

MovementBrass

ConnectionBrass

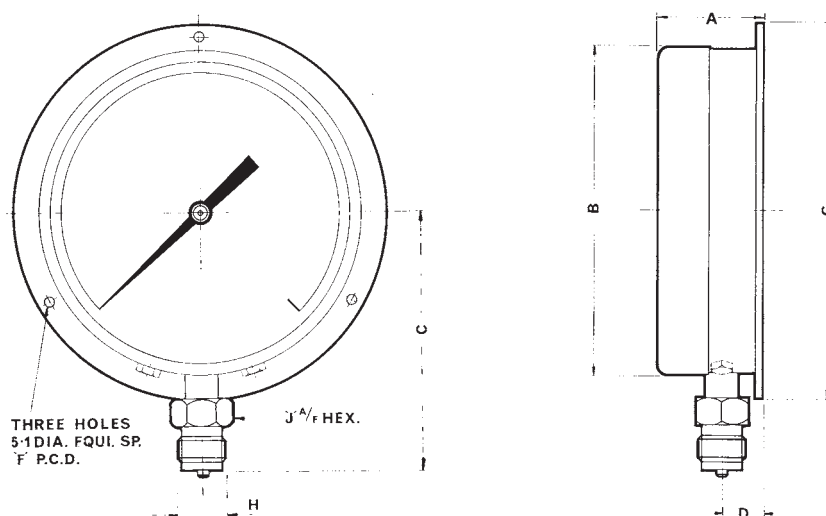
FinishBlack Enamelled

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.

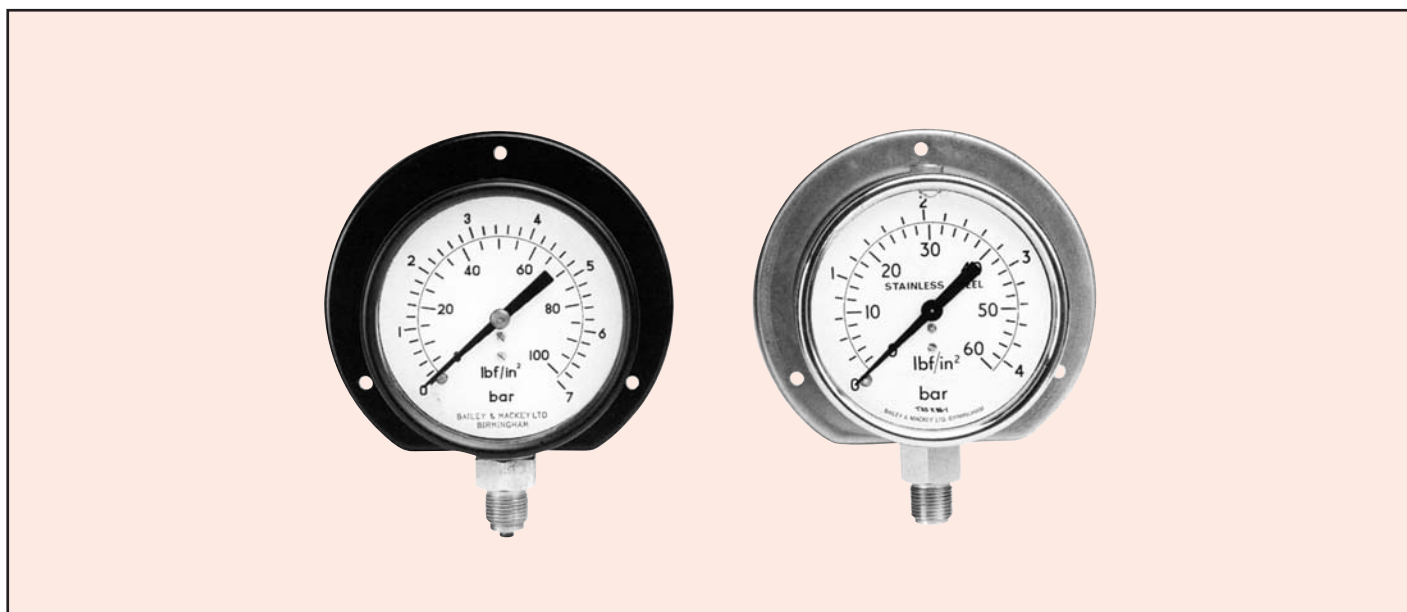
Bourdon Tube Pressure Gauges **Type 74 & 74SP**



Nominal Size	A	B	C	D	F	G	H	J	Weight
100mm	46mm	103mm	82mm	19mm	116mm	126mm	3/8" BSP	19mm	0.45kg
150mm	48mm	151mm	103mm 119mm	19mm	163.5mm	175.5mm	3/8" BSP *1/2" BSP	19mm 24mm	1.1kg 1.18kg
200mm	50mm	209mm	148mm	20.6mm	221mm	238mm	1/2" BSP	24mm	2.1kg

*1/2" BSP connections standard for 60 bar, 1000 lbf/in² and above
3/8 BSP connections standard below 60 bar and 1000 lbf/in²

Type 74W,G,S & SG Bourdon Tube Pressure Gauges



With sealed cases which can be liquid filled these gauges are intended for use where applications demand a robust construction. The stainless steel version can be used in the food, medical & chemical industries.

- 100 & 160mm Diameter
- Sealed Case
- Glycerine Filled & Dry
- Back Flange Mounting
- Bottom Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD
- All Metal Construction
- Full size Sensing Element
- Enclosure rating IP68
- Energy release at top of case

Materials of Construction

Type 74W — Dry

Type 74G — Liquid Filled

Case & BezelSteel

Sensing Element

up to 250 barPhosphor Bronze

above 250 barSteel

MovementBrass

Connection.....Brass

FinishBlack Enamelled

Type 74S — Dry

Type 74SG — Liquid Filled

Case & BezelStainless Steel

Sensing Element.....Stainless Steel

Connection.....Stainless Steel

MovementStainless Steel

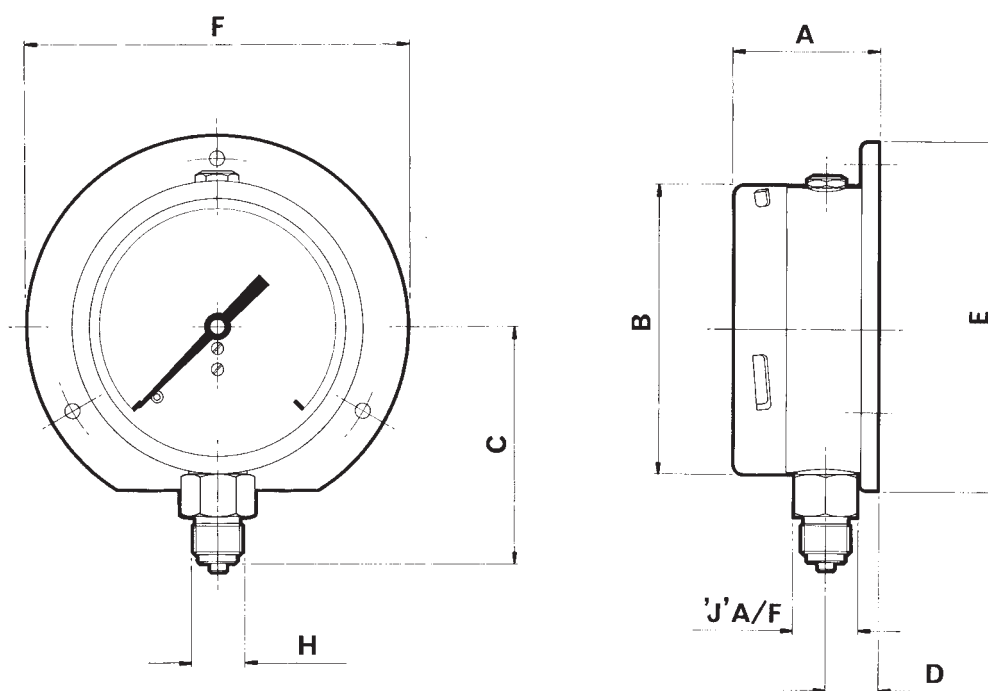
Windows on all the above gauges are transparent plastic.

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

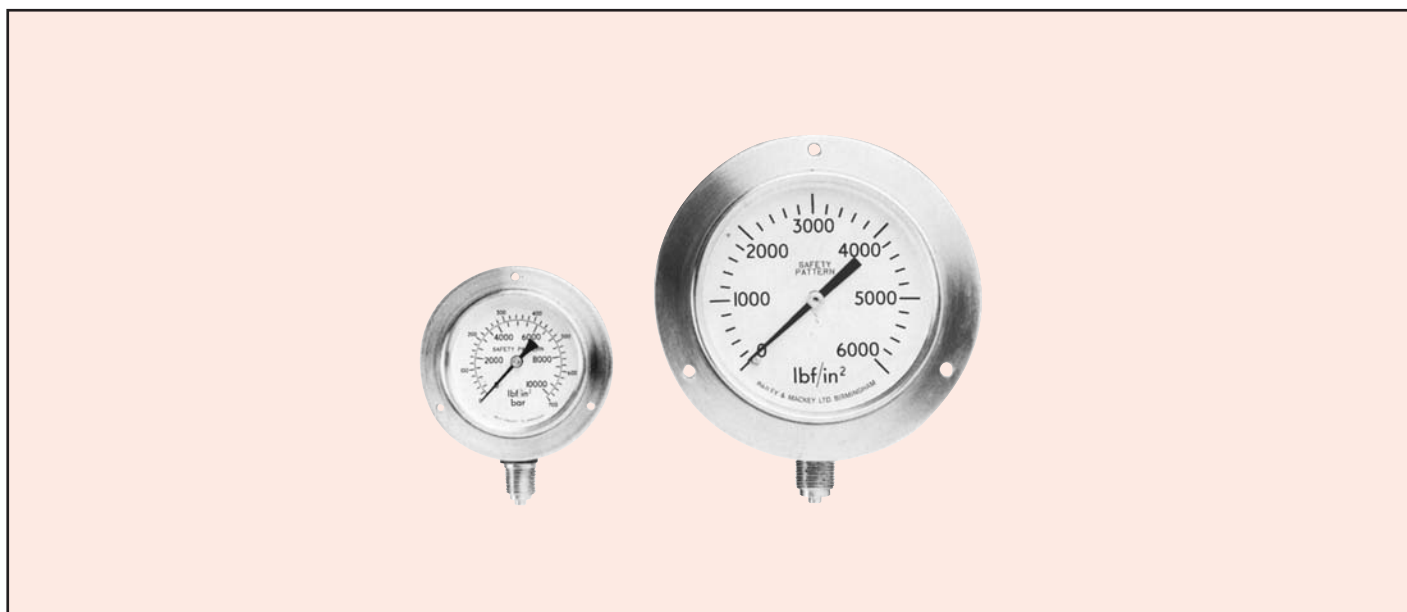
For these and other modifications please contact our Technical Sales Department.

Bourdon Tube Pressure Gauges **Type 74W,G,S & SG**



Nominal Size	A	B	C	D	E	F	H	J	Mounting Holes
100mm	50.5mm	101mm	82mm	16.7mm	121.5mm	132mm	G3/8 3/8" BSP	22mm	3x 4.80 Dia. ON 116 PCD
			86mm				G1/2" 1/2" BSP		
160mm	54mm	160mm	111.3mm	16.7mm	184mm	196mm	G3/8" 3/8" BSP	22mm	3x 5.80 Dia on 178 PCD
			115.3mm				G1/2" 1/2" BSP		

Type 80 & 80SP Bourdon Tube Pressure Gauges



Of high quality and robust construction this range of instruments is designed for mounting in control cabinets.

- 60mm to 150mm Diameter
- Panel Mounting with three hole fixing
- Bottom Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54
- Energy release 100mm dia. and above at rear of case

Type 80 is for use on liquids up to 700 bar and gases up to 25 bar.

Type 80SP 60 mm & 80 mm diameter only These are full safety pattern gauges with energy release at the rear for use on gases above 25 bar.

Materials of Construction

Case

60–100mm dia. Steel
150mm & 200mm dia. Aluminium

Bezel Brass

Window

Type 80 Instrument Glass
Type 80SP Perspex

Sensing Element

up to 250 bar Phosphor Bronze
above 250 bar Steel

Movement Brass

Connection Brass

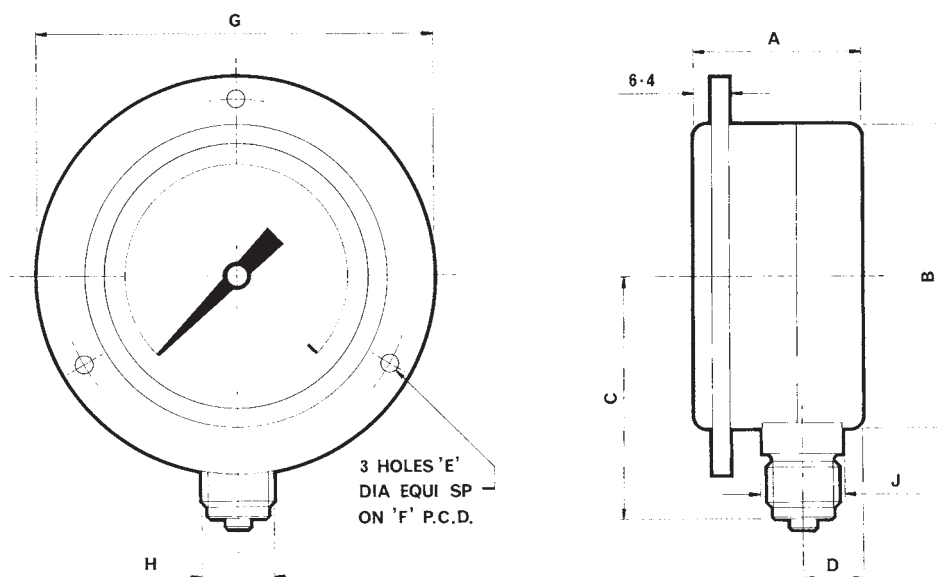
Finish Black Enamelled

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.

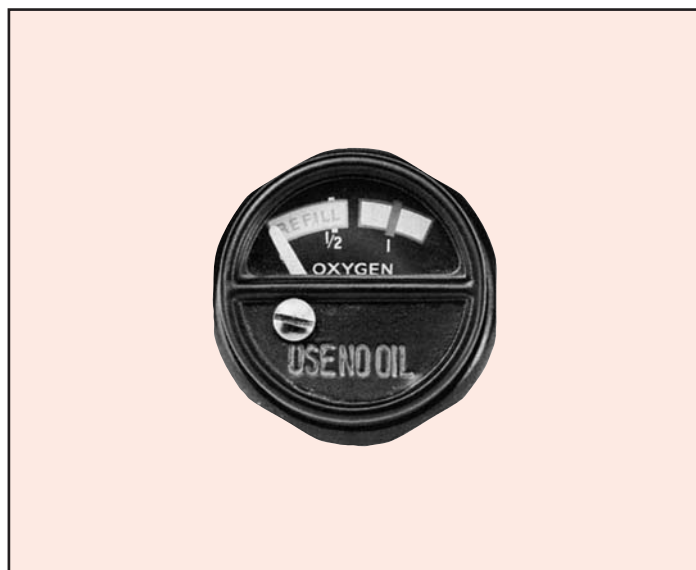
Bourdon Tube Pressure Gauges **Type 80 & 80SP**



Nominal Size	A	B	C	D	E	F	G	H	J	Weight
60mm	33mm	61mm	56.2mm	11.9mm	3.3mm	71.4mm	79.5mm	G1/4	16 A/F	0.19kg
60mm SP	31.5mm	61.1mm	54.7mm	11.9mm	3.3mm	71.4mm	79.5mm	G1/4	16 A/F	0.19kg
80mm	39mm	81.1mm	64.5mm	18.2mm	4.8mm	94mm	102mm	G1/4	16 A/F	0.29kg
80mm SP	37.5mm	81.1mm	63mm	18.2mm	4.8mm	94mm	102mm	G1/4	16 A/F	0.29kg
100mm	43mm	103.5mm	97.5mm	19mm	5.2mm	121mm	134mm	G1/2	24 A/F	0.8kg
150mm	48mm	163.5mm	119mm	20.6mm	5.2mm	175mm	184mm	G1/2	24 A/F	1.5kg
200mm	50mm	212mm	148mm	20.2mm	5.2mm	226mm	238.2mm	G1/2	24 A/F	2.7kg

These pressure gauges are designed to withstand high levels of shock and vibration. They are robust, high quality instruments ensuring long life and sustained accuracy under the most arduous conditions.

- 30mm Nominal Diameter
- Direct Mounting
- Centre Back Connection
- Maximum Pressure 350 bar
- Accuracy $\pm 5\%$ FSD
- Robust Construction
- Blow Off Rear Vent for Gas Service
- Optional Oxygen Service
- Enclosure Rating IP54



Applications

These gauges can be used with all fluids that are compatible with copper alloys and can accept static pressures up to 75% FSD or dynamic pressures up to 65% FSD.

If oxygen or breathing air is used as the pressure fluid please inform us when ordering.

Materials of Construction

Case.....Brass-Black nickel plated

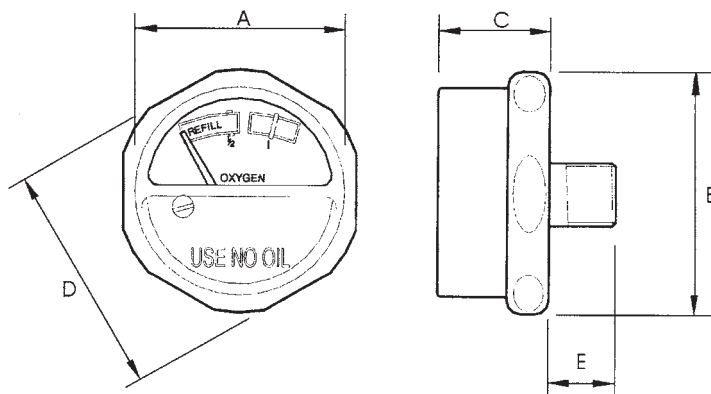
Bezel.....Brass-Black nickel plated

Window.....Perspex

Sensing element.....Phosphor Bronze or Beryllium Copper depending on range

Connection.....Brass

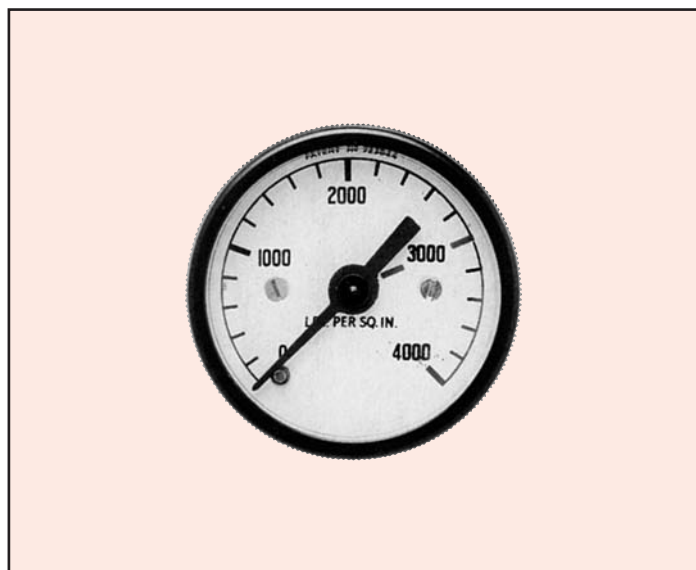
OptionsPlease discuss with our technical sales office. For example:-
The connection thread can be supplied in any size up to 8mm diameter.
Dial layouts can be supplied to suit the application.
Alternative finishes are also available.



Connection	1/8" BSP
A	30mm
B	35mm
C	16mm
D	32.5mm
E	9.5mm

These pressure gauges are designed to withstand high levels of shock and vibration. They are robust, high quality instruments ensuring long life and sustained accuracy under the most arduous conditions.

- 40mm Nominal Diameter
- Direct Mounting
- Centre Back Connection
- Maximum Pressure 400 bar
- Accuracy $\pm 2\%$ FSD
- Robust Construction
- Blow Off Rear Vent for Gas Service
- Optional Oxygen Service
- Enclosure Rating IP54



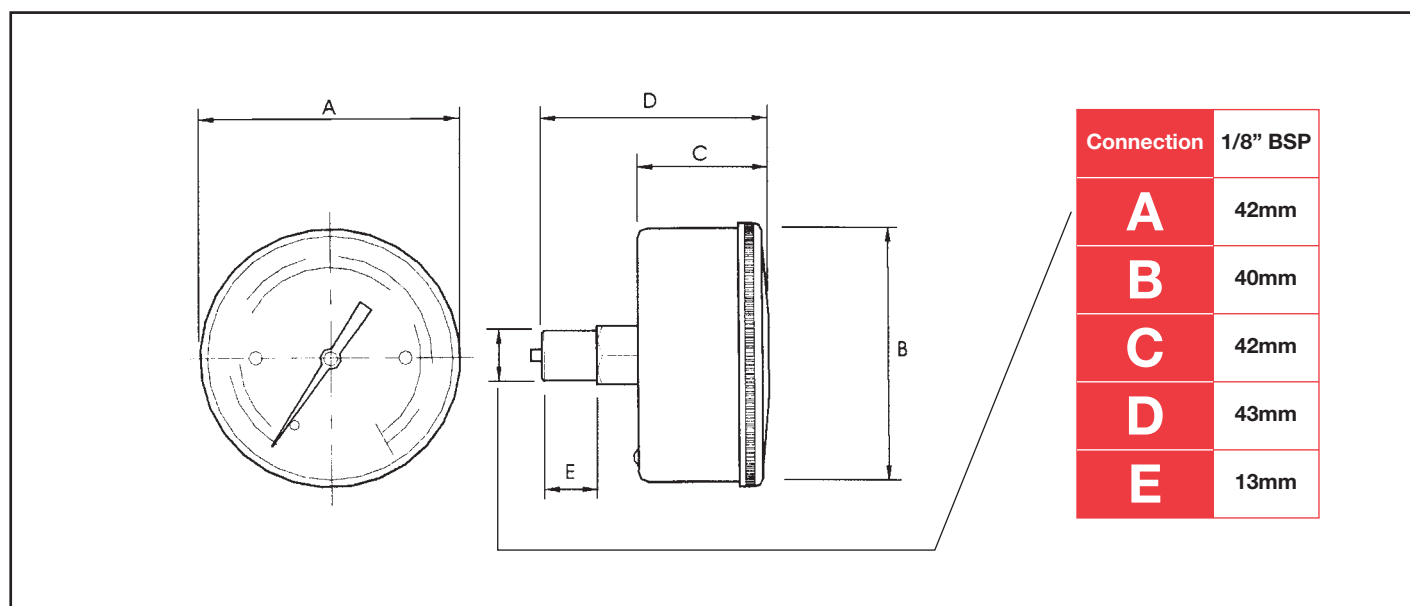
Applications

These gauges can be used with all fluids that are compatible with copper alloys and can accept static pressures up to 75% FSD or dynamic pressures up to 65% FSD.

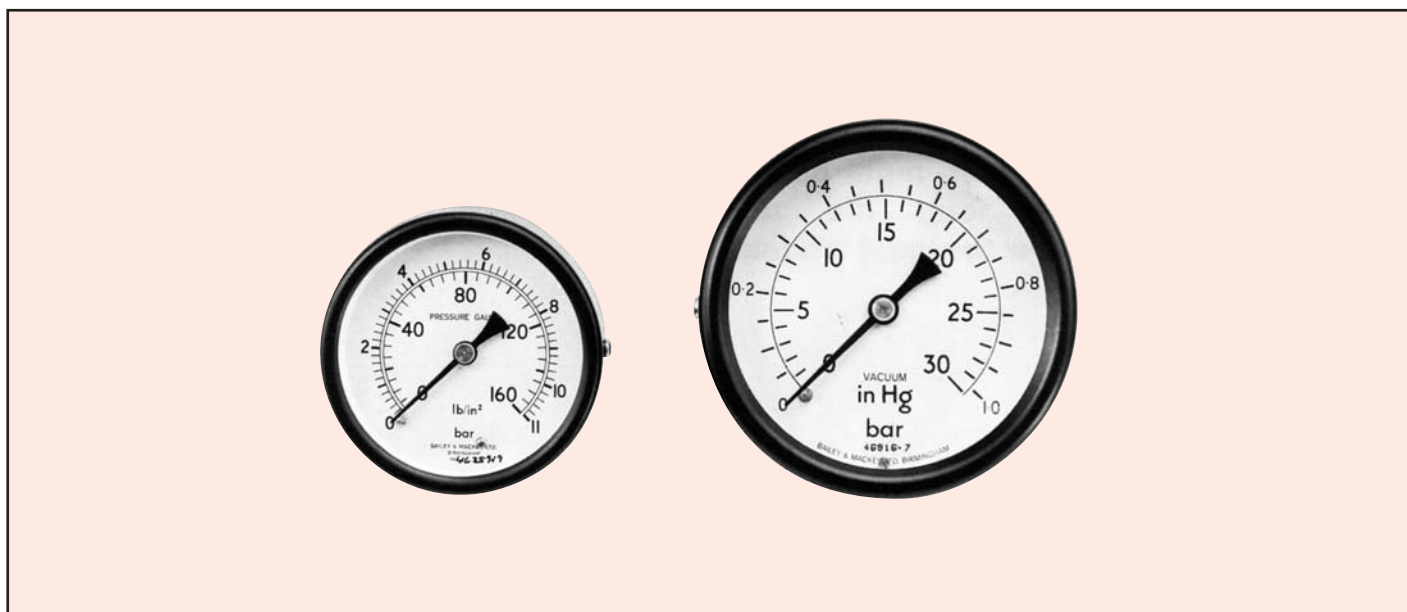
If oxygen or breathing air is used as the pressure fluid please inform us when ordering.

Materials of Construction

- CaseBrass-Black nickel plated
 Bezel.....Brass-Black nickel plated
 WindowPerspex
 Sensing element.....Phosphor Bronze or Beryllium Copper depending on range
 ConnectionBrass
 Options.....Please discuss with our technical sales office. For example:-
 The connection thread can be supplied in any size up to 8mm diameter.
 Dial layouts can be supplied to suit the application.
 Alternative finishes are also available.



Type 82 & 82SP Bourdon Tube Pressure Gauges



Of high quality and robust construction, this range of instruments is designed for use in most industrial applications where the fluid used is not aggressive to copper alloys.

- 50mm to 80mm Diameter
- Direct Mounting
- Centre Back Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD (50 mm dia. $\pm 2\%$ FSD)
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54

Type 82 is for use on liquids up to 700 bar and gases up to 25 bar.

Type 82SP is a full safety pattern gauge with energy release at the rear and is for use on gases above 25 bar.

Materials of Construction

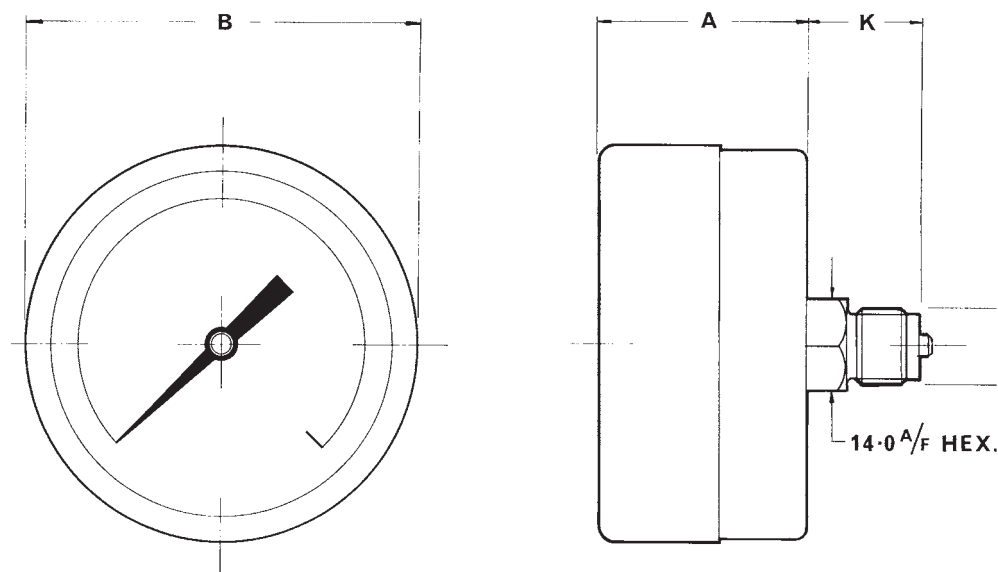
Case	Steel
Bezel	Brass
Window	
Type 82	Instrument Glass
Type 82SP	Perspex
Sensing Element	
up to 250 bar	Phosphor Bronze
above 250 bar	Steel
Movement	Brass
Connection	Brass
Finish	Black Enamelled

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

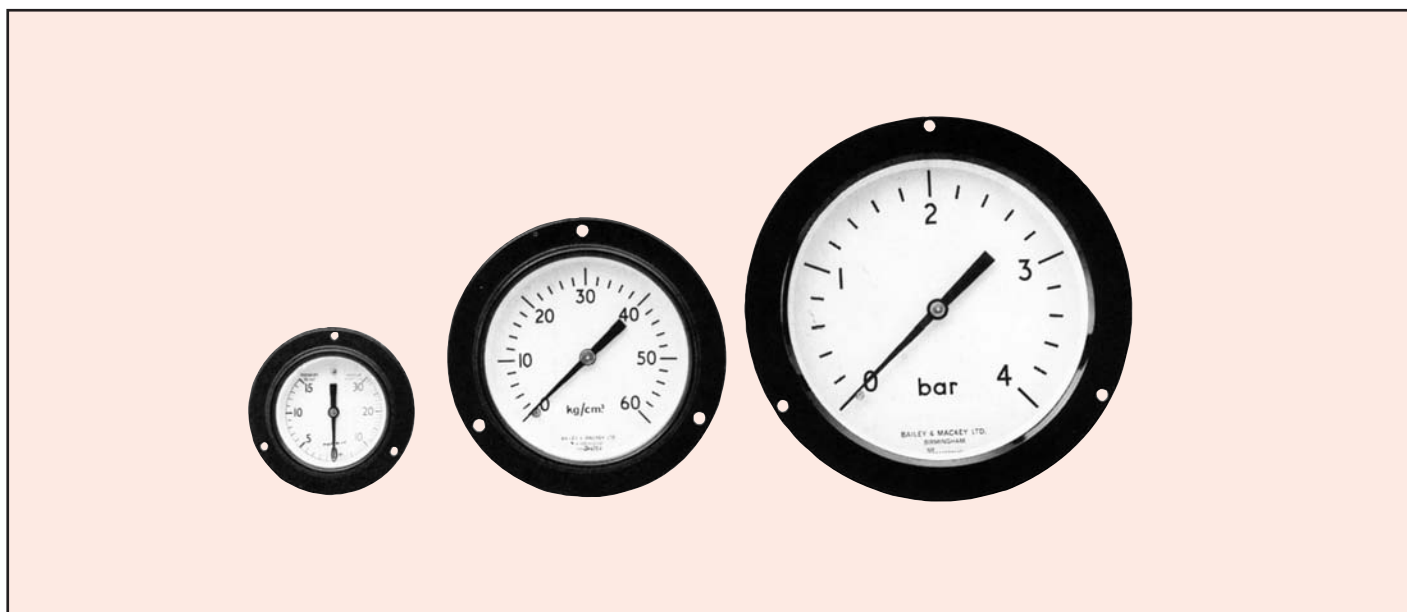
For these and other modifications please contact our Technical Sales Department.

Bourdon Tube Pressure Gauges **Type 82 & 82SP**



Nominal Size	A	B	H	K	Weight
50mm	28mm	50.8mm	G1/8 1/8" BSP	19mm	0.127kg
50mm SP	32mm	51.75mm	G1/8 1/8" BSP	15mm	0.127kg
60mm	30.1mm	61.2mm	G1/4" 1/4" BSP	20.6mm	0.182kg
63mm	30.5mm	64.5mm	G1/4" 1/4" BSP	21.6mm	0.19kg
80mm	33.8mm	81.1mm	G1/4" 1/4" BSP	20.6mm	0.25kg

Type 81, 81SP & 83 Bourdon Tube Pressure Gauges



Of high quality and robust construction, these gauges are intended for panel mounting.

- 60 to 200mm Diameter
- Panel Mounting with three hole fixing
- Rear Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54
- Energy release 100 mm dia and above at rear of case.

Type 81 & 83 are for use on liquids up to 700 bar and gases up to 25 bar.

Type 81SP is a full safety pattern gauge with energy release at the rear and is for use on gases above 25 bar.

Materials of Construction

Case

60–100mm dia. Steel
150 & 200mm dia. Aluminium

Bezel

60–100mm dia. Steel
150 & 200mm dia. Black Plastic

Window

Type 81 & 83 Instrument Glass
Type 81 SP Perspex

Sensing Element

up to 250 bar Phosphor Bronze
above 250 bar Steel

Movement Brass

Connection Brass

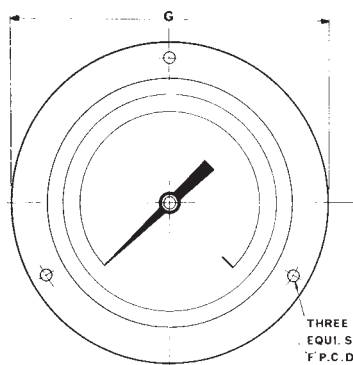
Finish Black Enamelled

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

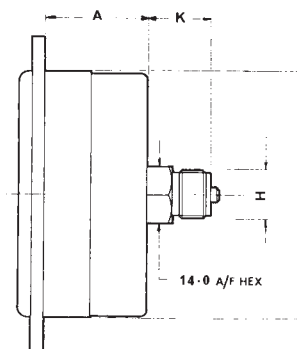
e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.

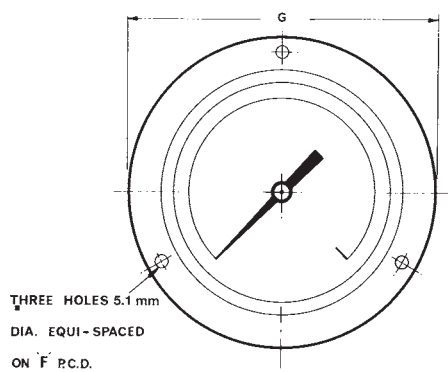
Bourdon Tube Pressure Gauges Type 81, 81SP & 83



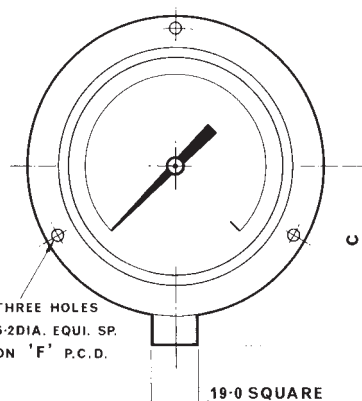
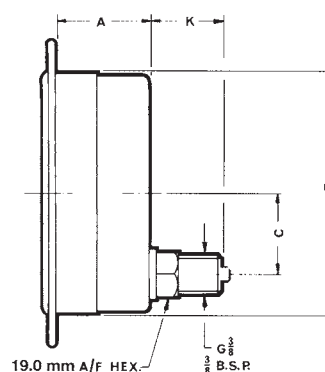
THREE HOLES 'E' DIA.
EQUI. SP. ON
'F' P.C.D.



Nominal Size	A	B	E	F	G	H	K	Panel Cut-Out	Weight
63mm	27.7mm	61.7mm	3.3mm	71.5mm	80mm	G1/4 1/4" BSP	20.6mm	65mm	0.28kg
80mm	25.7mm	81mm	4.8mm	94mm	102mm	G1/4" 1/4" BSP	20.6mm	87mm	0.3kg

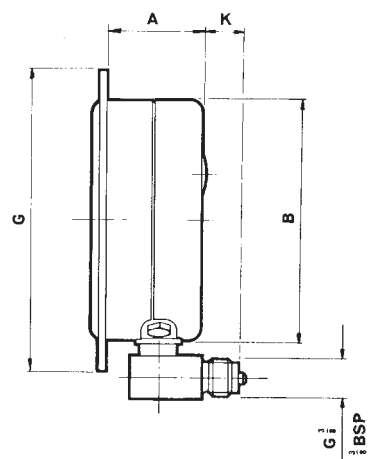


THREE HOLES 5.1mm
DIA. EQUI-SPACED
ON 'F' P.C.D.



THREE HOLES
5.2 DIA. EQUI. SP.
ON 'F' P.C.D.

19.0 SQUARE



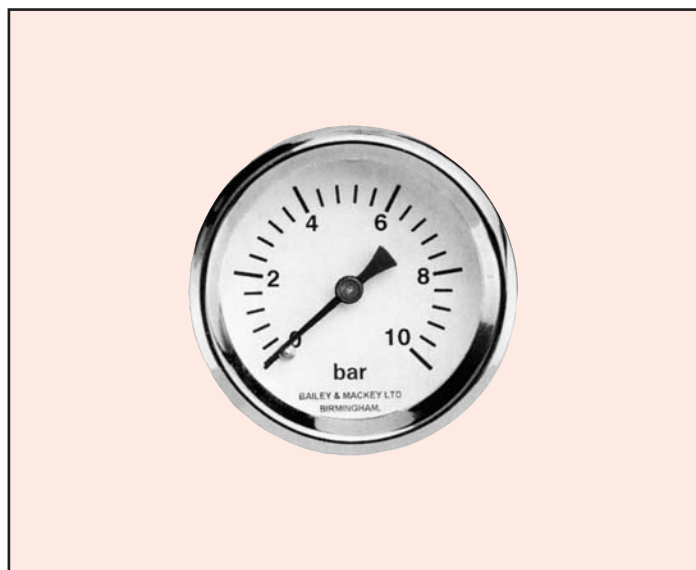
Nominal Size	A	B	C	F	G	K	Panel Cut-Out	Weight
100mm	38.2mm	103.5mm	35mm	121mm	134mm	30.5mm	105mm	0.8kg
100mm SP	42mm	103mm	65mm	121mm	134mm	19mm	105mm	1.0kg
150mm	48.3mm	163.5mm	56.4mm	175mm	175mm	27.8mm	165mm	1.5kg
200mm	49.5mm	212.2mm	56.4mm	226mm	226mm	26.9mm	215mm	2.72kg

Of high quality and robust construction, this range of instruments is designed for use in most industrial applications where the fluid is compatible with copper alloys.

Matching temperature gauges are available for this range of instruments.

These gauges can be supplied with internal illumination.

- 50mm Diameter
- Panel Mounting with Clamp Fixing
- Rear Connection
- Max. Pressure 210 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 2.5\%$
- All Metal Construction
- Zero adjuster (optional)
- Internal Illumination (optional)
- Eccentric version available



Materials of Construction

Case.....	Steel Black Enamelled
Bezel.....	Brass – Chrome Plated
Window.....	Instrument Glass
Sensing Element.....	Phosphor Bronze
Movement.....	Brass
Connection.....	Brass
Internal Illumination.....	12/24vdc

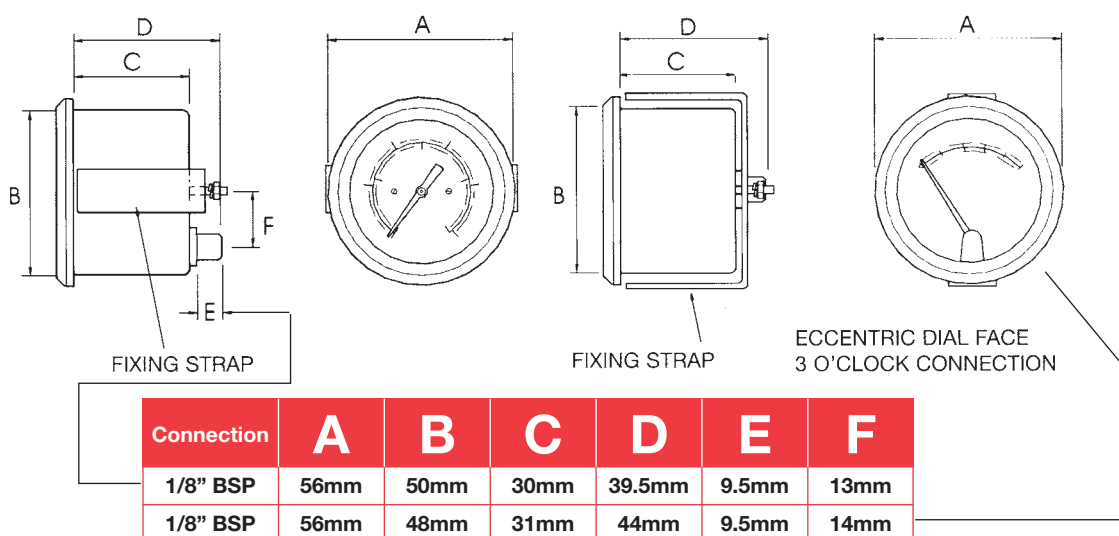
All Bailey & Mackey Pressure Gauges can be adapted to meet the users application.

e.g. The connecting thread can be modified.

The dial can be scaled in any unit and company logo's incorporated.

The colour of the case & bezel can be changed.

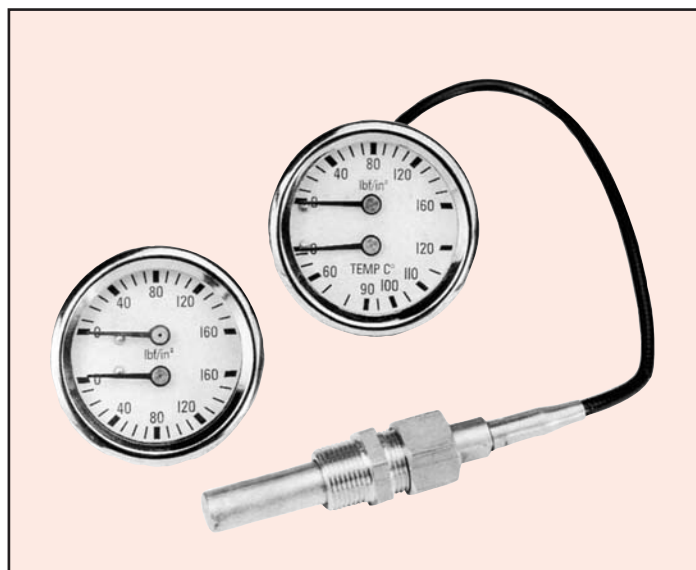
For these and other modifications please contact our Technical Sales Department.



Bourdon Tube Pressure Gauges **Type 50DPP & DPT**

A variant of the 50GP range of pressure gauges, this range allows for two pressure gauges or a pressure gauge and a vapour pressure temperature gauge to be housed in one case.

- 50mm Diameter
- Panel Mounting with Clamp Fixing
- Rear Connections
- Max. Pressure 20 bar
- Max. Temperature 150°C
- Accuracy $\pm 2.5\%$ FSD
- All Metal Construction
- Zero Adjuster (optional)
- Internal Illumination (optional)



Materials of Construction

Case.....	Steel Black Enamelled
Bezel.....	Brass – Chrome Plated
Window.....	Instrument Glass
Sensing Element.....	Phosphor Bronze
Temperature Bulb.....	Brass
Capillary	Copper Steel Armoured and Plastic Covered
Movement	Brass
Connection.....	Brass
Internal Illumination	12/24vdc

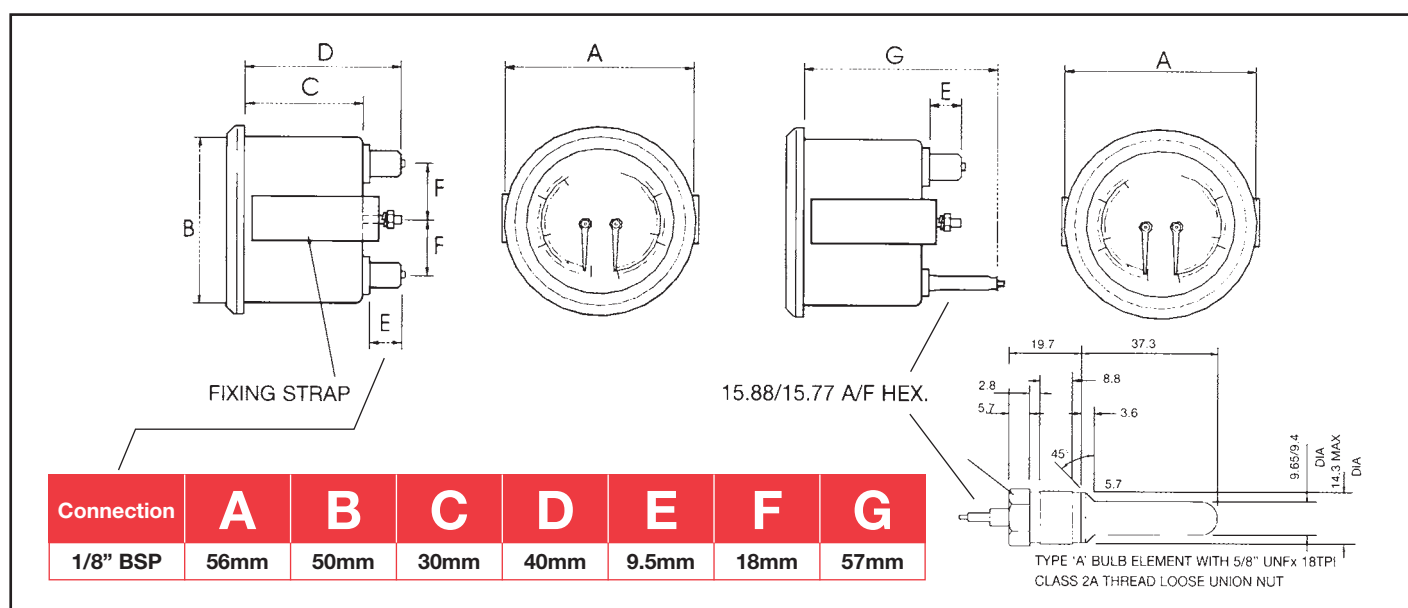
All Bailey & Mackey Pressure Gauges can be adapted to meet the users application.

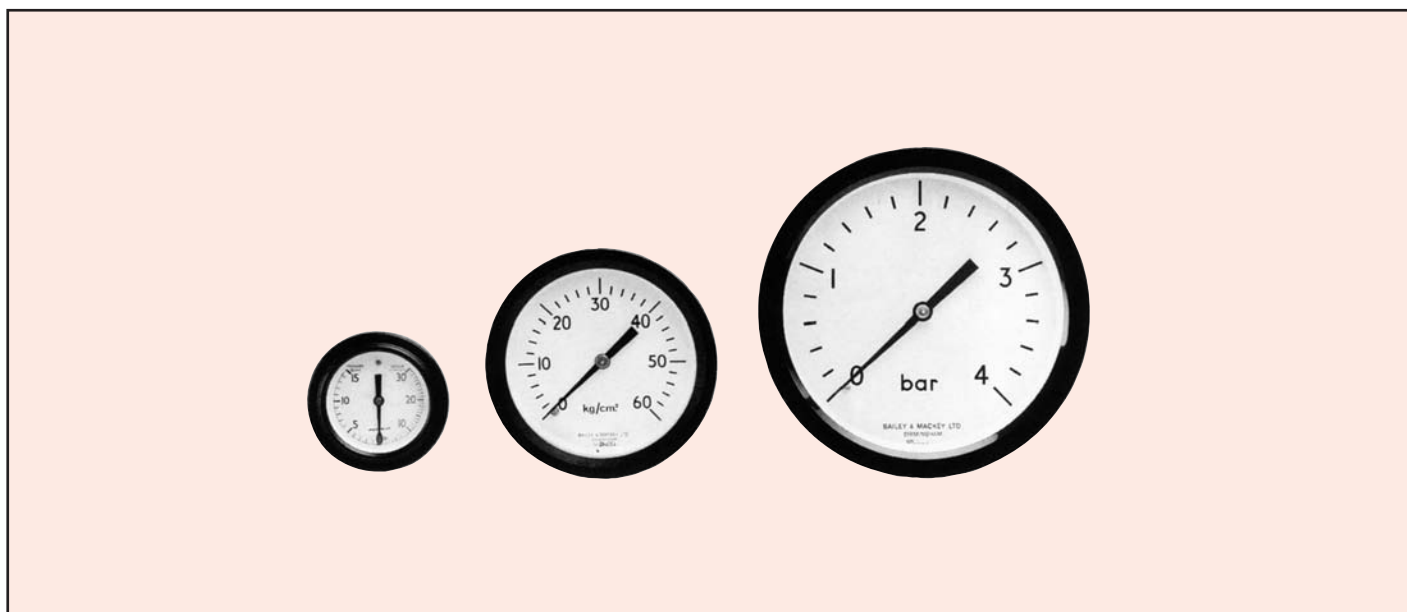
e.g. The connecting thread can be modified.

The dial can be scaled in any unit and company logo's incorporated.

The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.





Of high quality and robust construction these gauges are intended for panel mounting.

- 60 to 250mm Diameter
- Panel Mounting with clamp fixing
- Rear Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54
- Energy release 100mm dia. and above at rear of case

Materials of Construction

Case

60–100mm dia..... Steel
150–250mm dia..... Aluminium

Bezel

60–100mm dia..... Steel
150 & 250mm dia. Black Plastic

Window Instrument Glass

Sensing Element

up to 250 bar Phosphor Bronze
above 250 bar Steel

Movement Brass

Connection Brass

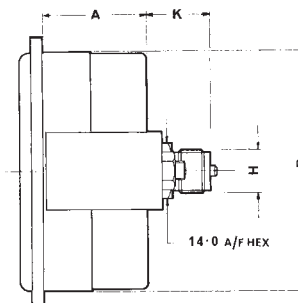
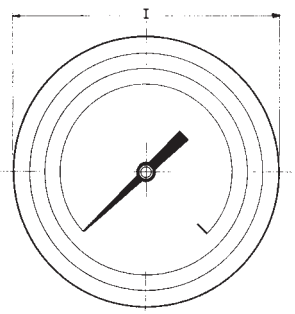
Finish Black Enamelled

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

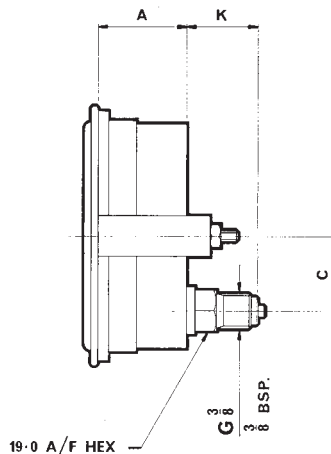
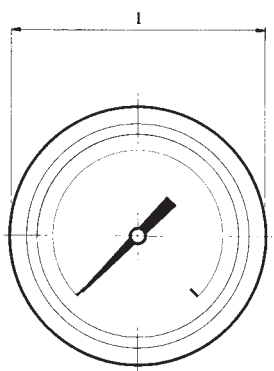
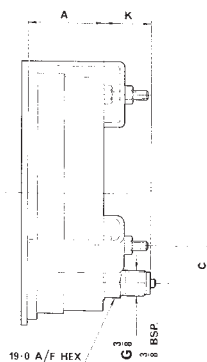
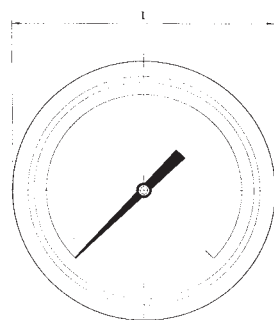
For these and other modifications please contact our Technical Sales Department.

50 to 80mm
diameter



Nominal Size	A	B	H	I	K	Panel Cut-Out	Weight
50mm	23.5mm	53mm	G1/8 1/8" BSP	55.6mm	19mm	53mm	0.13kg
60mm	27.7mm	61.7mm	G1/4" 1/4" BSP	73mm	20.6mm	65mm	0.28kg
80mm	25.7mm	81mm	G1/4" 1/4" BSP	95mm	20.6mm	87mm	0.3kg

100 to 250mm
diameter



Nominal Size	A	C	I	K	Panel Cut-Out	Weight
100mm	38.2mm	35mm	120mm	30.5mm	110mm	0.8kg
150mm	48.3mm	56.4mm	169.1mm	27.8mm	165mm	1.5kg
200mm	49.5mm	56.4mm	228.7mm	26.9mm	215mm	2.72kg
250mm	53mm	56.4mm	276mm	28.2mm	270mm	3kg

Type 84W,G,S & SG Bourdon Tube Pressure Gauges



With sealed cases which can be liquid filled this type is intended for use where application demands a robust gauge. All stainless steel construction can be used in the food, medical & chemical industries.

- 100 & 160mm Diameter
- Sealed Case
- Glycerine Filled & Dry
- Panel Mounting with Clamp Fixing
- Rear Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD
- All Metal Construction
- Full size Sensing Element
- Enclosure rating IP68
- Energy release at top of case

Materials of Construction

Type 84W — Dry

Type 84G — Liquid Filled

Case & BezelSteel

Sensing Element

up to 250 barPhosphor Bronze

above 250 barSteel

MovementBrass

Connection.....Brass

FinishBlack Enamelled

Type 84S — Dry

Type 84SG — Liquid Filled

Case & BezelStainless Steel

Sensing Element.....Stainless Steel

MovementStainless Steel

Connection.....Stainless Steel

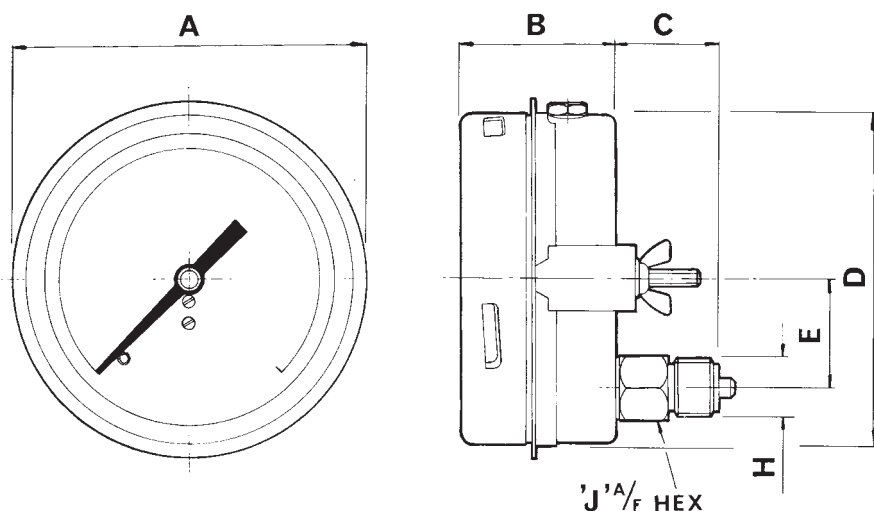
Windows on all the above gauges are transparent plastic.

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.

Bourdon Tube Pressure Gauges **Type 84W,G,S & SG**



Nominal Size	A	B	C	D	E	H	J	Panel Cut-Out
100mm	110mm	47.5mm	33.5mm	101mm	34.2mm	G3/8" 3/8" BSP	22mm	103mm
			38mm			G1/2" 1/2" BSP		
160mm	170mm	51mm	33.5mm	158mm	34.2mm	G3/8" 3/8" BSP	22mm	165mm
			38mm			G1/2" 1/2" BSP		



Of high quality and robust construction these square gauges are intended for panel mounting.

- 72 & 96mm Square
- Panel Mounting with Clamp Fixing
- Rear Connection
- Max. Pressure 700 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 1\%$ FSD
- All Metal Construction
- Full size sensing element
- Enclosure rating IP54

Materials of Construction

Case & Bezel	Steel
Window	Instrument Glass
Sensing Element	
up to 250 bar	Phosphor Bronze
above 250 bar	Steel
Movement	Brass
Connection	Brass
Finish	Black Enamelled

All Bailey & Mackey Pressure Gauges can be adapted to meet the users application.

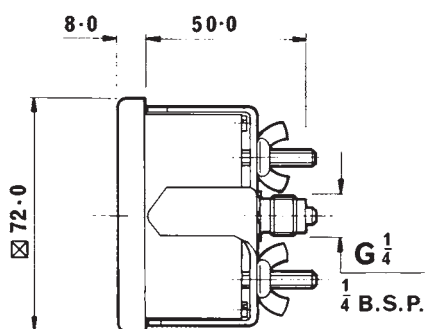
e.g. The connecting thread can be modified.

The dial can be scaled in any unit and company logo's incorporated.

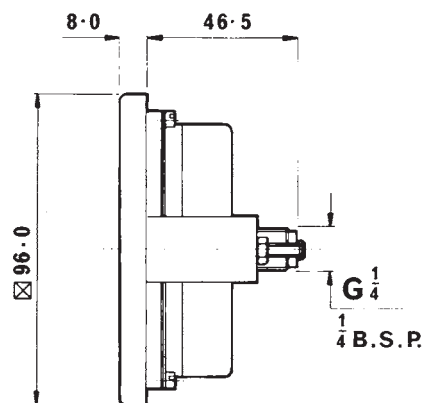
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.

All dimensions in mm



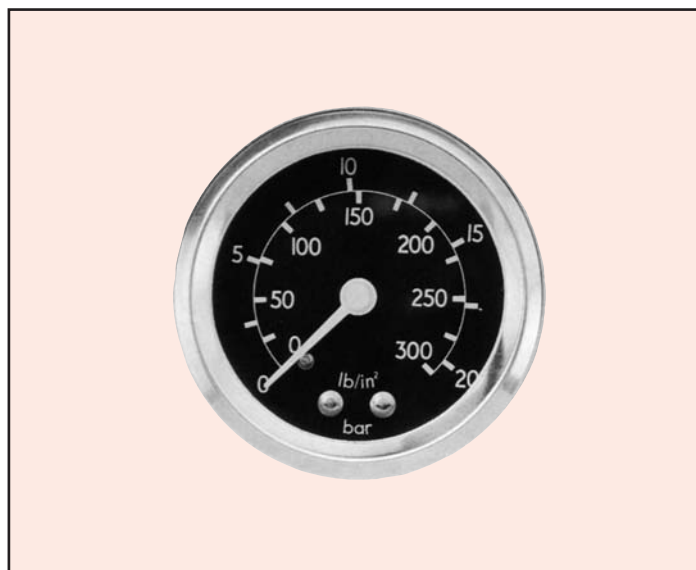
PANEL CUT-OUT 62.0 x 62.0



PANEL CUT-OUT 87.0 x 87.0

Of high quality and robust construction, this range of instruments is designed for use in most automotive applications. Matching temperature gauges can be found in our temperature gauge catalogue. The gauges can be supplied with either light slots in the case or with internal illumination.

- 52mm Diameter
- Panel Mounting with Clamp Fixing
- Rear Connection
- Max. Pressure 210 bar
- 1 bar Vacuum
- Combined Pressure & Vacuum
- Accuracy $\pm 2.5\%$
- All Metal Construction
- Gauge Face Weatherproof
- 3 Hole Fixing Adaptor (optional)
- Internal Illumination (optional)



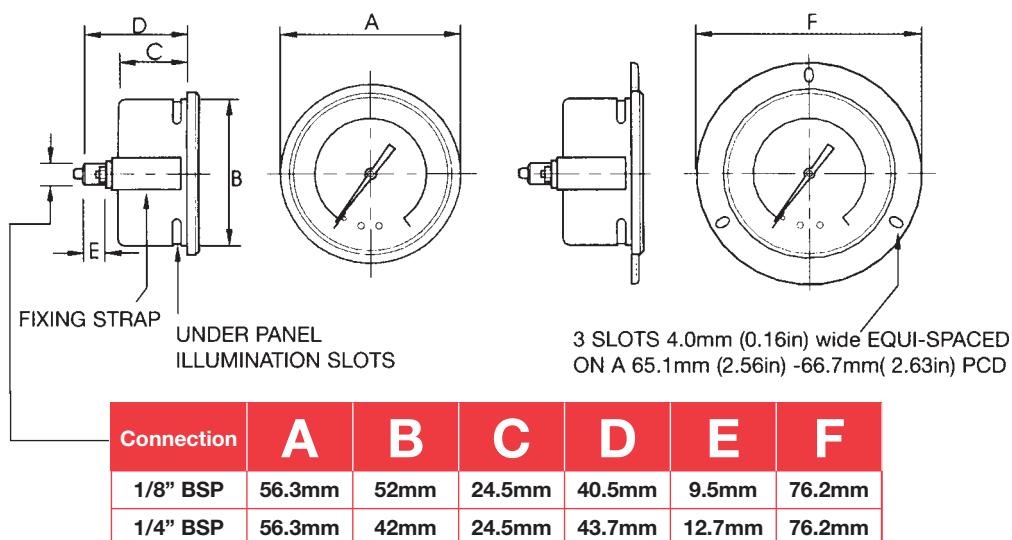
Materials of Construction

Case.....	Steel Black Enamelled
Bezel	Polished Stainless Steel
Window.....	Instrument Glass
Sensing Element.....	Phosphor Bronze
Movement	Brass
Connection.....	Brass
Internal illumination.....	12/24v dc

All Bailey & Mackey Pressure Gauges can be adapted to meet the users application.

- e.g. The connecting thread can be modified.
 The dial can be scaled in any unit and company logo's incorporated.
 The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.



Type 73PT & PTA Potentiometric Pressure Gauges

Pressure gauge with high output signal. Designed to give pressure indication and electrical output signal for distant reading in one unit and only one pressure tapping.

- Gauge ranges up to 600 bar
- Potentiometric or 4-20 mA output
- 150mm Diameter pressure indication
- Supplied with 1M flying lead
- Weight 1.18kg
- Pressure connection 1/2" BSP male (alternatives available)
- Bourdon tube sensing element

PART No. 73 PT for voltage output

PART No. 73 PTA for 4-20 mA output

Alternative ranges available

Accuracy±1%

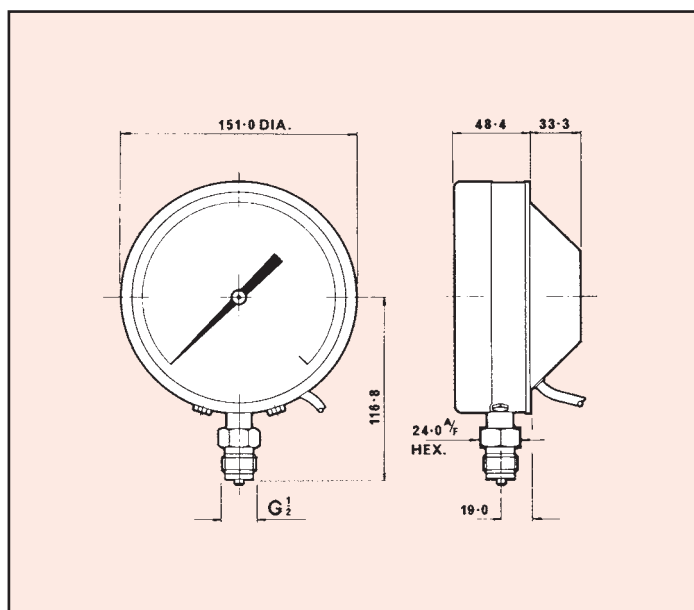
Output.....73PT Ratiometric
73 PTA 4-20 mA

Gauge pressures

For use with materials compatible with brass and phosphor bronze

Ranges

-1/0 bar	0/4 bar	0/25 bar	0/160 bar
0/1 bar	0/6 bar	0/40 bar	0/250 bar
0/1.6 bar	0/10 bar	0/60 bar	0/400 bar
0/2.5 bar	0/16 bar	0/100 bar	0/600 bar



All Bailey & Mackey Pressure Gauges can be adapted to meet the users application.

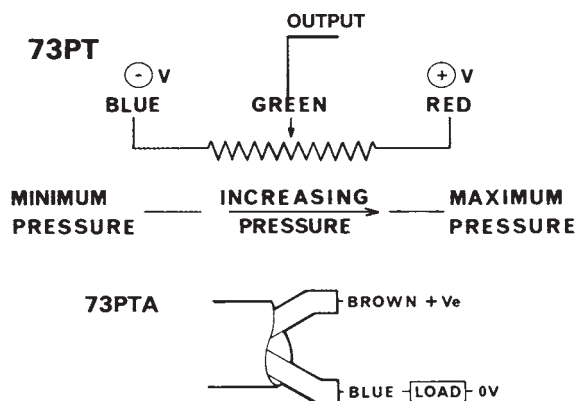
e.g. The connecting thread can be modified.

The dial can be scaled in any unit and company logo's incorporated.

The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.

Wiring Diagram



Note: The coil will be damaged if full load is applied to the wiper.

Output: 0/2000 ohms (ranges up to 2.5 bar)
0/1570 ohms (ranges 4 bar and above)
minimum load independence 4K ohms

Supply: 60V dc max regulated
max current 12mA

Output: 4-20mA
2 wire current loop
max load impedance 400ohms

Supply: 12 to 24V dc

Note: If the wiring is reversed there will be no signal.

Test Accuracy Pressure Gauges **Type 73T & 81T**



Test Accuracy Gauges are supplied to laboratory & Inspection Departments for the recalibration of industrial accuracy pressure equipment.

- 100, 150 & 200mm diameter
- Direct Mounting Type 73T
- Panel Mounting Type 81T
- Accuracy $\pm 0.25\%$ FSD
- Mirror scale to reduce parallax errors
- Single or Dual Scale
- With Calibration Certificate

For dimensions of Type 73T see Type 73

For dimensions of Type 81T see Type 81

The mechanisms of our test gauges are specially built to a high standard and the dial of each gauge is individually calibrated against Dead Weight equipment which is traceable to National Standards with NAMAS certification.

A calibration certificate is supplied with each test gauge.

Test gauges have a greater number of marks on the dial compared to an industrial gauge and we recommend that the maximum is 200 as more than this can cause confusion.

Type 73DPT & 73DPT Duplex Pressure/Temperature Gauges



These gauges are intended for use where pressure and temperature are to be measured from one tapping port. A typical application is in boiler installations where the pressure and the temperature of the hot water needs to be seen.

- 80 mm Diameter
- Bottom or Centre Back Connection
- 0 to 20 bar / 30 to 150°C Ranges
- Stainless Steel Wetted Parts
- Extended Stem to Pass Through Insulation

Type 73DPT has a bottom connection.

Type 82DPT has a centre back connection.

Materials of Construction

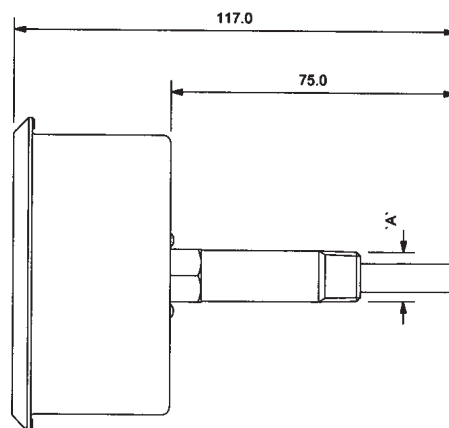
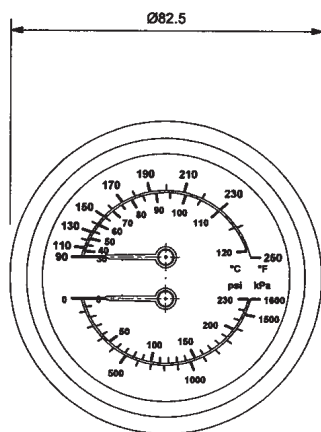
Case	Black Enamelled Steel
Bezel	Black Enamelled Steel
Window	Instrument Glass
Sensing Element	
Pressure	Stainless Steel
Temperature	Stainless Steel
Connection	Stainless Steel

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

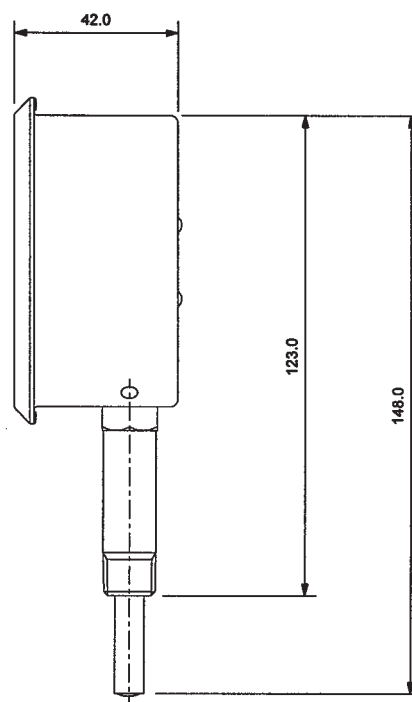
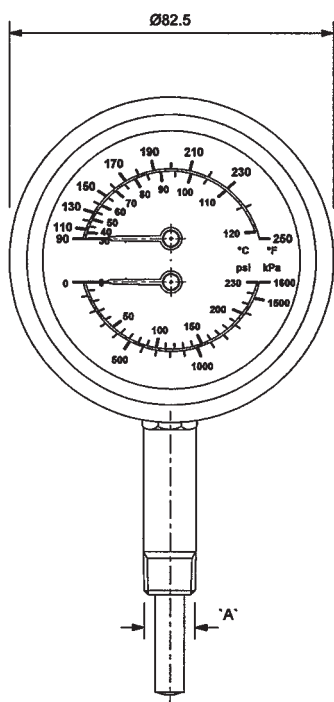
For these and other modifications please contact our Technical Sales Department.

Duplex Pressure/Temperature Gauges **Type 73DPT & 73DPT**



Connection 'A'

Both types of gauge can be supplied with 1/4" BSP P, 1/4" BSP T or 1/4" NPT connection thread.



Type 73E & 82E Switch Function Pressure Gauges



These gauges allow for the indication of pressure with an electrical switch point that can be factory pre-set for either a normally open or normally closed function.

These gauges can be used for the control of pumps, to indicate the contents and signal a loss in maintained pressurized systems.

- 63mm Diameter
- Bottom or Back Connection
- Accuracy $\pm 2.5\%$ FSD
- Direct Mounting
- Max. Pressure 400 bar
- SPDT Micro-switch

Type 73E has a bottom connection.

Type 82E has a centre back connection.

Electrical Rating

5A at 250v a.c. for d.c. ratings,
please contact our technical department.

Process Connection

1/4" BSP Parallel male; 1/4" BSP Taper male or 1/4" NPT male

Materials of Construction

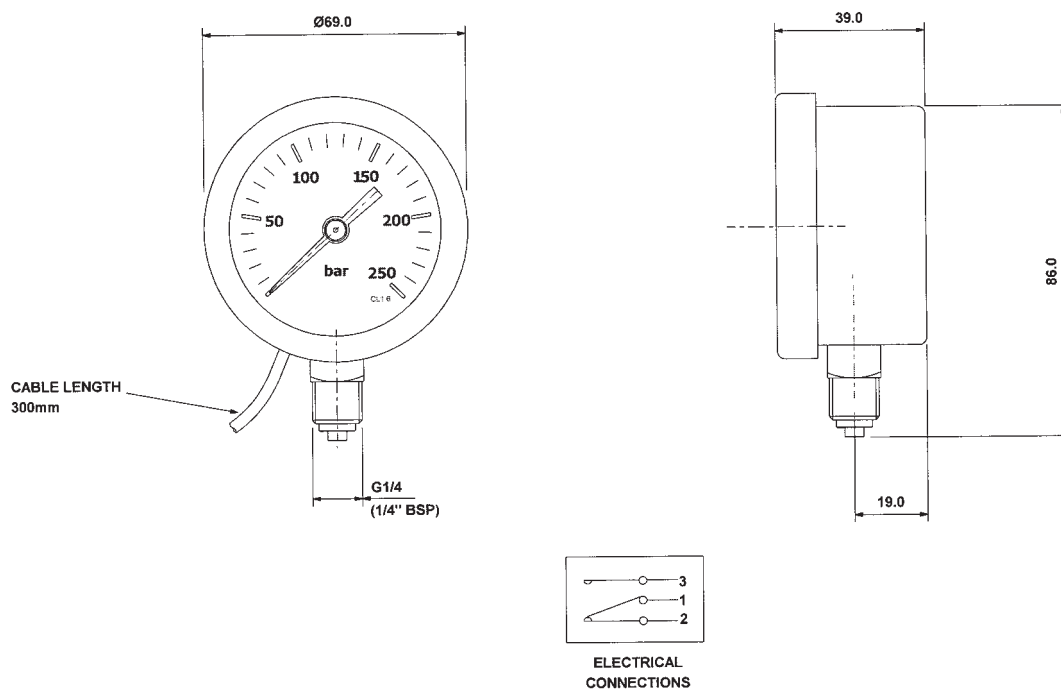
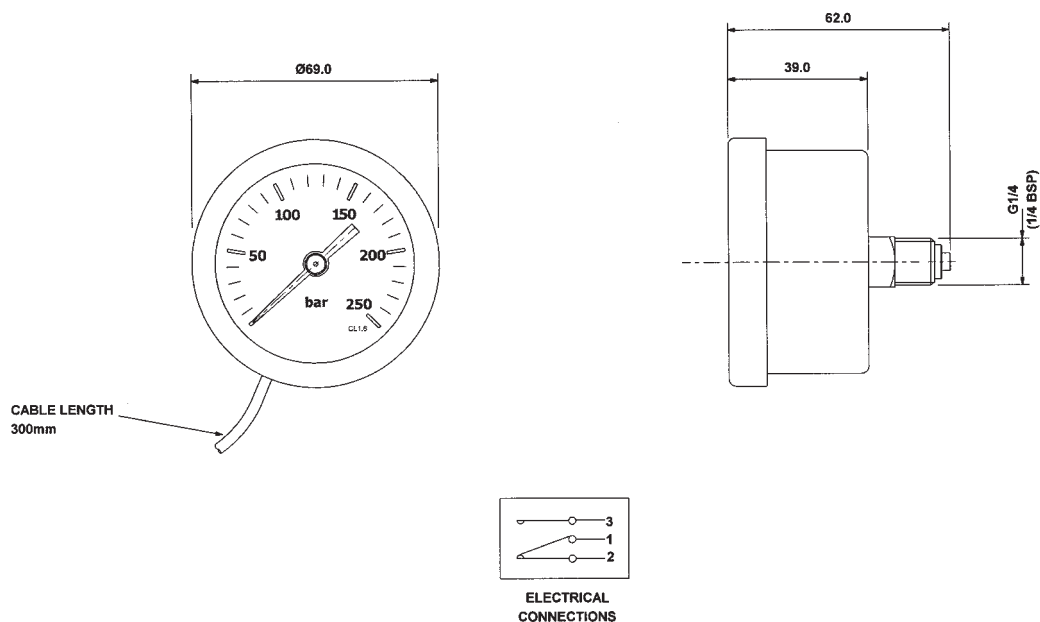
Case & Bezel	Stainless Steel
Window	Clear Plastic
Bourdon Tube	Phosphor Bronze
Connection	Brass

All Bailey & Mackey
Pressure Gauges can be adapted
to meet the users application.

e.g. The connecting thread can be modified.
The dial can be scaled in any unit and company logo's incorporated.
The colour of the case & bezel can be changed.

For these and other modifications please contact our Technical Sales Department.

Switch Function Pressure Gauges **Type 73E & 82E**



Application

The Bailey & Mackey Portable Test Pump is ideal for on site checking and inspection of pressure gauges, pressure switches and pressure transducers. In fact, any application where pressure is required in a handy portable unit for routine tests.

Specifications

The brass Test Pump is suitable for pressures up to 400 bar. Water or other suitable calibration fluid is compressed by a piston moving in a cylinder. Pressure readings are taken from a 150mm diameter pressure gauge, with a suitable pressure range and compared with the unit under test. Standard pressure gauges are calibrated to a commercial accuracy of $\pm 1\%$ of full scale value; but a Test Accuracy gauge calibrated to an accuracy of $\pm 0.25\%$ of maximum scale value can be supplied if required.

The set is supplied in a case complete with spanner and adaptors to take 3/8", 1/4" and 1/8" bsp male threads. The connections on the pump and gauge are 1/2" bsp male threads.

Also Available

A 1 metre length of heavy duty plastic tube with pressure connections and a shut-off valve for checking panel mounted pressure gauges without dismantling from the panel.

A right-angle adaptor for checking gauges with back connection.

A battery operated unit for accurately setting pressure switches. Leads from the unit are connected to the pressure switch terminals; a lamp lights when the switch contacts close at the set pressure.



Receiver Gauges

Pneumatic control systems using 3 – 15 lbf/in² (0.2 – 1 bar), the pressure in a process fluid is transmitted from the tapping point to the control by a proportional signal. Pressure Gauges can be calibrated to indicate this signal.

Zero on the dial being 3 lbf/in² (0.2 bar) and full scale 15 lbf/in² (1 bar). Receiver gauge scales may be graduated 0 – 100%, 3 – 15 lbf/in² etc, or in other units such as °C, Litres per hour, square root etc. as required by the system.

Movement of the Bourdon Tube is restricted by an internal stop below 3 lbf/in² (0.2 bar), allowing the pointer to drop below zero when no pressure is applied.

Accuracy normally ±1% FSD
special calibration ±0.5% FSD



Setting Pointer

When maximum pressure is required to be indicated, which is below the full scale value of the pressure gauge an adjustable pointer can be fitted either to the dial or to the window, so that the secondary pointer can be set to the point on the dial at the maximum reading.



Maximum Pointer

If the maximum pressure in the system is required to be shown until reset manually a slave pointer can be fitted to the window of the pressure gauge which remains in position when the pressure reduces.

This slave pointer can also be used as a minimum pressure indicator if adjusted to the gauge pointer once the system is running. An allowance for the drag that this finger causes should be added to the general tolerance of the gauge to which it is fitted, normally 1%.



Electric Contacts

Where an electric circuit is required at a specific pressure an electric contact unit can be fitted to the front of a pressure gauge. A dished transparent plastic housing, which replaces the normal window, contains the contacts which can give opening or closing circuits.

These contacts can be fitted to 100 mm & 150 mm diameter gauges only. They are available for pressure ranges of 1 bar and above.

An increased tolerance of 1% above the respective gauge tolerance is required to accommodate the effect that contacts have on normal pressure gauges.

To alleviate the effects of contact bounce and to ensure secure switching magnetic contacts are used. Contacts are set by means of a removable key which fits in the central boss of the contact housing.

When electric contacts are fitted the pressure gauge should be installed in the vertical position and protected from humidity, vibration and pressure pulsation.

Applications

Electric contact gauges are normally used for high or low level alarm, for control of pumps or compressors etc.

Due to the low energy switching the contacts should be connected into the control circuit via a relay.



Electric Rating

Alternating Current50VA

Direct Current30 Watts

Contact Forms

Single contact Make on rising pressure
Make on falling pressure

Twin contactsAny combination rising
and/or falling

Triple contactsAny combination of the above

Contacts can not be configured to give a changover function. If this is required we recommend that a relay is used.

Pressure Gauge Diaphragm Seals (Chemical Seals)

Diaphragm seals or chemical seals are used with bourdon tube gauges to provide a barrier between a corrosive fluid and a bourdon tube pressure gauge. They can be used to prevent paint, slurry, powder etc blocking the bourdon tube.

The cavity above the diaphragm and the passageway in the bourdon tube gauge is filled with a non-aggressive fluid which transmits the pressure exerted on the diaphragm of the diaphragm seal to the bourdon tube in the gauge.

The filling should be done under vacuum which removes all the

air from the filling media which gives a better accuracy than filling at atmospheric pressure.

Diaphragm seals are one way of satisfying aggressive applications, but before selecting a diaphragm seal we would recommend that Diaphragm Gauges are used as they give a better solution. For example in a diaphragm gauge there is no liquid filling which is a major disadvantage when using a bourdon tube pressure gauge fitted to a diaphragm seal.

See our catalogue illustrating our range of Diaphragm Gauges.

Bailey and Mackey manufacture two sizes of diaphragm seals which can be selected for the size of gauge being used.



Type Z140

This diaphragm seal is in stainless steel construction only and is intended for use on bourdon tube pressure gauges up to 80 mm diameter.

Maximum Pressure.....400 bar



Type Z800

This diaphragm seal can be supplied with various wetted parts selected from the chemical compatibility chart illustrated.

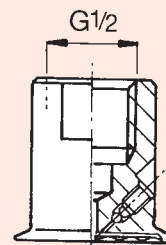
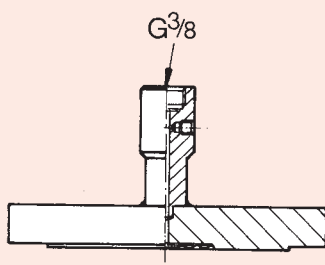
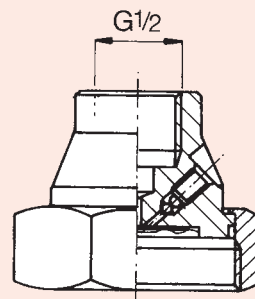
The Z800 diaphragm seal is intended for use with bourdon tube gauges above 80 mm diameter although it can be used with smaller diameter gauges.

Maximum Pressure.....200 bar

Diaphragm Seals (Chemical Seals) Pressure Gauge

Flush Diaphragm Flanges

Applications that are of a hygienic nature or ones that are using fluids (granules or powders) that are likely to block the pressure passage of bourdon tube gauges can be fitted with diaphragm seals which have a stainless steel diaphragm electron beam welded to the bottom face of the seal. Bailey & Mackey can supply hygienic fittings and flanges in this form.

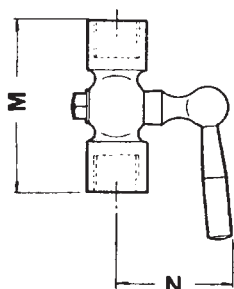


Chemical Compatibility Chart for Diaphragm Seals (Chemical Seals)

MALLEABLE IRON BASE, 316 S.STEEL DISC	UPVC BASE 1/2" BSP, PTFE DISC	SILVER PLATED BASE, FINE SILVER DISC	316 STAINLESS BASE AND DISC
Acetylene Alkyl Chlorides Ammonia (Max 60°C) Aniline Calcium Chloride (Max 60°C) Caustic Soda (Max 60°C) Chlorides of Na, K, Mg Hydrocyanic Acid Pyridine	Max temperature 40°C Max Pressure 200 lbf/in ² Anhydrous Ammonia Aluminium Chloride Caustic Soda Hydrobromic Acid (50%) Hydrochloric Acid (36%) Hydrogen Sulphide Lead Acetate Methanol Oxalic Acid Phosphoric Acid (500/0) Potassium Salts Sodium Hypochlorite Sodium Salts Sulphuric Acid (70%) Waste Gases	Brines Bromine Chlorine (wet or dry) Chlorates of Na, K, Ba Chlorides of Na, K, Mg Fluorine Mercuric Chloride Ozone	Acetic Acid Ammonium Hydroxide Carbon Disulphide Carbon Tetrachloride Caustic Soda Caustic Potash Citric Acid Formic Acid Fruit Juices Food Machinery Hexamine Hydrogen Peroxide Oil-Phosphate Ester Based Silver Nitrate Water De-ionised

Gauge Cock

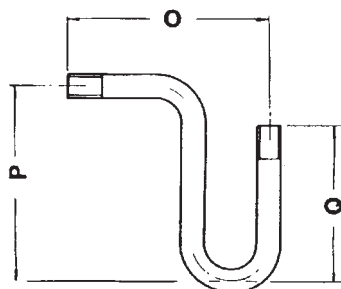
Double Female / Max. Press. 14 bar



	M	N	Weight
G1/2" 1/2" BSP	2.94" 74.6mm	1.75" 44.4mm	0.64lb 0.29kg
G3/8" 3/8" BSP	2.56" 65mm	1.69" 42.9mm	0.452lb 0.202kg

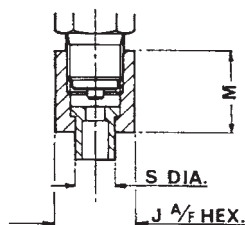
U Syphon

Max. Press. 14 bar



	O	P	Q	Weight
G1/2" 1/2" BSP	6.56" 16.7mm	5.88" 14.9mm	6.63" 16.9mm	1.2lb 0.545kg
G3/8" 3/8" BSP	5.94" 15.1mm	5.7" 14.5mm	6.13" 15.6mm	0.79lb 0.359kg

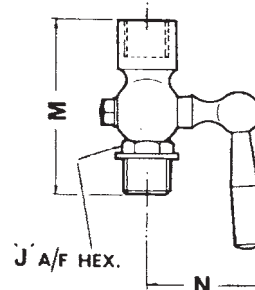
Union Nuts and Tailpipes



	M	S	J	Weight
G1/2" 1/2" BSP	26.5mm	14mm	24mm	81g
G3/8" 3/8" BSP	21.5mm	12mm	19mm	43g
G1/4" 1/4" BSP	15.5mm	8mm	14mm	18g

Gauge Cock

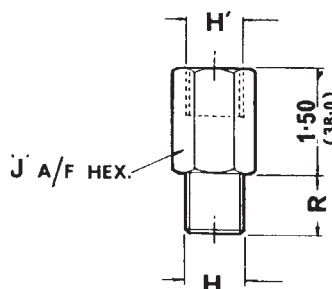
Double Female / Max. Press. 14 bar



	M	N	J	Weight
G1/2" 1/2" BSP	2.94" 74.6mm	1.69" 42.9mm	0.94" 24mm	0.6lb 0.272kg
G3/8" 3/8" BSP	2.75" 69.8mm	1.63" 41.4mm	0.75" 19mm	0.5lb 0.227kg
G1/4" 1/4" BSP	2.19" 55.6mm	1.25" 31.7mm	0.56" 14.2mm	0.28lb 0.127kg

Adjustable Throttling Device

Max. Press. 400 bar



H	H'	J	R	Weight
G1/4" 1/4" BSP	G1/4" 1/4" BSP	0.60" 15.3mm	0.56" 14.2mm	0.15lb 0.068kg
G3/8" 3/8" BSP	G3/8" 3/8" BSP	0.82" 20.8mm	0.69" 17.5mm	0.27lb 0.123kg
G1/2" 1/2" BSP	G1/2" 1/2" BSP	1.01" 28mm	0.63" 15.9mm	0.43lb 0.2kg

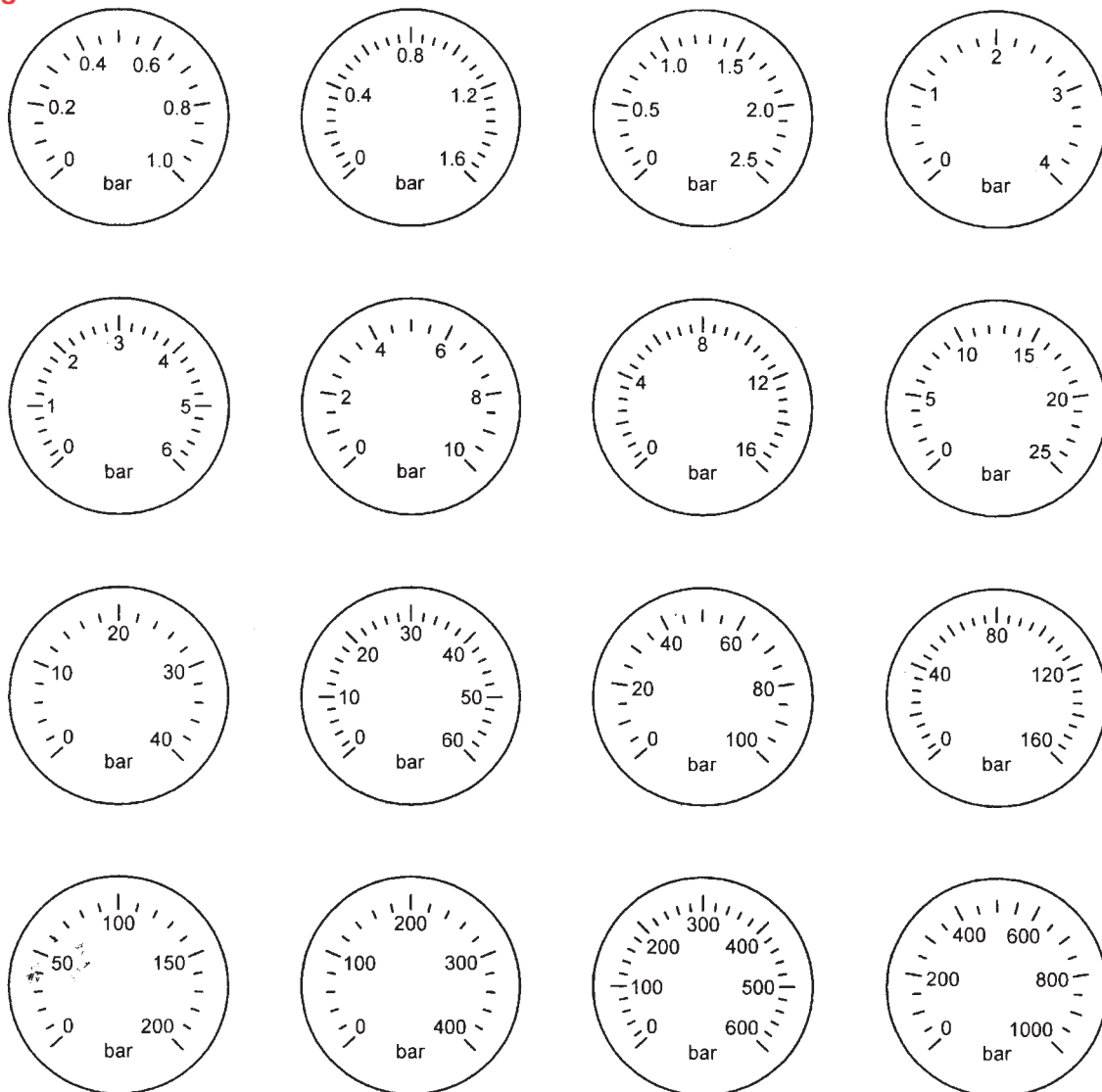
Dimensions of cocks and syphons supplied may vary slightly from those given above.

A range of ball valves is available for pressures above 14 bar, these have double female connections.

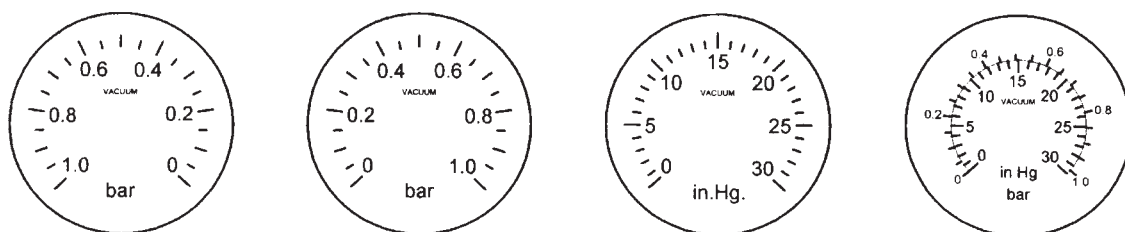
Bailey & Mackey's pressure gauge ranges are to BS1780 for single scale, vacuum and combined pressure and vacuum dials.

Dual scale dials are based on the ranges shown in BS1780 with the major scale being the inner one. Other dial markings are also available including the addition of company names and logo's.

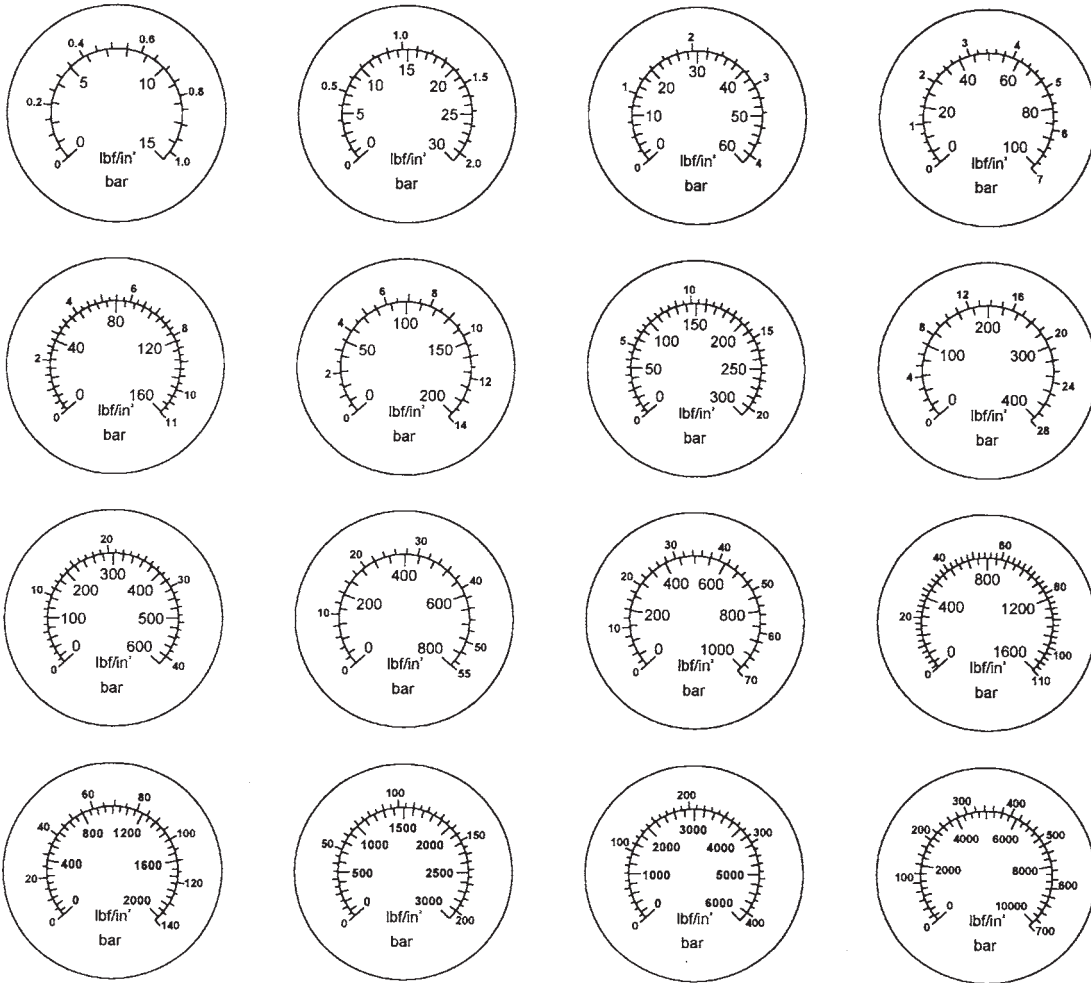
Bar Scales



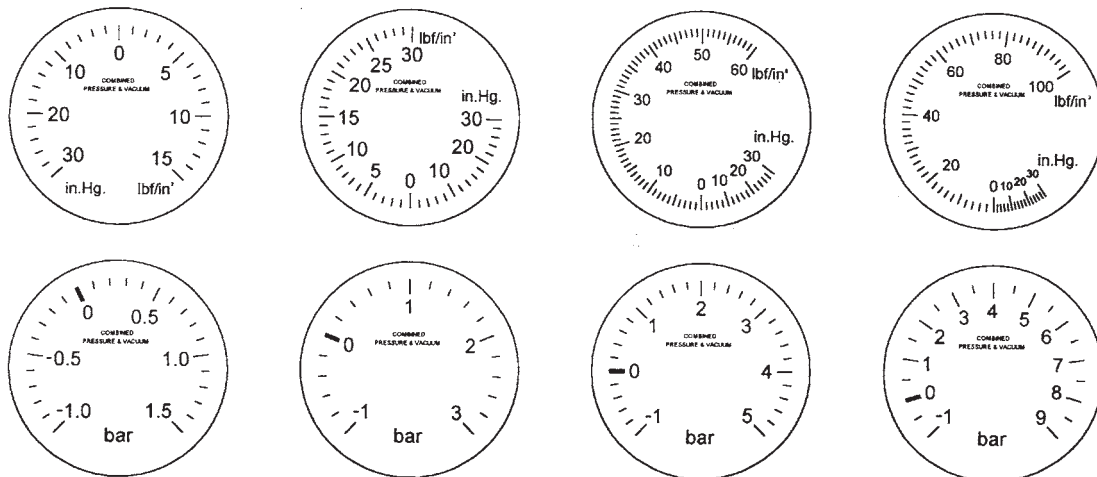
Vacuum Scales



lbf/in² & bar Dual Scales



Combined Pressure & Vacuum Scales



A Pressure Gauge correctly installed and to the correct specification gives indication of pressure in the system which helps to ensure the safe working of process plant machinery.

- a) Before fitting the gauge to a pressure source check that the maximum scale value of the gauge is higher than the pressure to be applied. The applied pressure should be 75% of maximum scale value for steady pressures or 65% of maximum scale value for fluctuating pressures.
- b) Before fitting the gauge to a pressure source check that the wetted parts are compatible with the fluid being used, and that the pressure connection correctly matches that of the pipework.
- c) When fitting the gauge to the pipework, use correct sealing methods. Do not use the gauge case to tighten the gauge to the pipework, use a correct size spanner on the neck hexagon.
- d) For gas applications ensure that a safety pattern gauge is used for pressures over 25 bar (363lbf/in²).
- e) Gauges marked "Hydraulic" must not be used on compressed gases.
- f) Pressure Gauges with blow-out release at the back must be mounted at least 20mm away from a panel or wall to ensure safe dissipation of the confined pressure should the tube fracture.
- g) Do not use gauge for oxygen or acetylene unless approved by our Technical Department. Gauges must have "Oxygen" or "Acetylene" marked on dial if used on these gases.
- h) Do not use glycerine filled gauges for any fluid which has strong oxydizing agents for example chlorine, hydrogen peroxide, nitric acid, etc.
- i) If the pressure gauge is to be subject to vibration, pressure surges, pressure pulses or over pressure, consult our Technical Department for approval before use.
- j) The ambient and process temperature acting on the gauge should be within -20°C and + 80°C and protected from higher fluid temperature by means of a syphon tube filled with condensate before use. The fluid in the pressure chamber should not be allowed to freeze or crystallise as this will lead to rupture of the sensing element.
- k) Should the pointer of any pressure gauge not return to zero, when the pressure is removed, it is an indication that damage to the gauge has occurred and the gauge should be replaced immediately.

If in doubt concerning the application of any pressure gauge please contact our Technical Department who will be only to pleased to give you advice.



Multiply units in left hand column by factor to obtain units at top. i.e. bar x 14.504 = lb./in²

	bar	lbf/in ²	kg/cm	atm (std)	MH ₂ O	inH ₂ O	mmHg	inHg	N/M ²	Pa
bar	1	14.504	1.0197	0.9869	10.197	401.46	750.06	29.53	100000	100000
lbf/in ²	0.0689	1	0.0703	0.068	0.7031	27.68	51.715	2.036	6894.8	6894.8
kg/cm ²	0.9807	14.223	1	0.9678	10	393.7	735.56	28.959	98066	98066
atm (std)	1.0133	14.696	1.0332	1	10.332	406.78	760	29.921	101325	101325
MH ₂ O	0.0981	1.4223	0.1	0.0968	1	39.37	73.556	2.8959	9806.6	9806.6
inH ₂ O	0.0025	0.0361	0.0025	0.0025	0.0254	1	1.8683	0.0736	249.09	249.09
mmHg	0.0013	0.0193	0.0014	0.0013	0.0136	0.5352	1	0.0394	133.32	133.32
inHg	0.0339	0.4912	0.0345	0.0334	0.3453	13.595	25.4	1	3386.4	3386.4
N/M ²	0.00001	0.00015	0.00001	0.00001	0.0001	0.004	0.0075	0.0003	1	1
Pa	0.00001	0.00015	0.00001	0.00001	0.0001	0.004	0.0075	0.0003	1	1

The right is reserved to change product specifications without prior notice.



OTHER PRODUCTS IN OUR RANGE



Keeping pressure under control

Bailey & Mackey Ltd

Baltimore Road, Birmingham B42 1DE, UK • Tel +44 (0)121 357 5351 • Fax +44 (0)121 357 8319
Email enquiries@baileymackey.com • Web www.baileymackey.com