

# MODELS-411, 412, 413, 414.



## Standard Gauge

### APPLICATIONS

Standard Gauges are suitable for general purpose applications for gas and liquid media which do not corrode brass & having an environment which is not harsh to Mild Steel Case. Commonly used on equipments like pumps, compressors, boilers, pneumatic and hydraulic machines etc.

### STANDARD SPECIFICATION

Gauge with Blow-out Protection (Weatherproof Construction to IP54)

#### Sizes

63, 100, 150, 200, 250 and 300 mm

#### Case

- (a) Mild Steel. Stove enamelled finish. 100 & 150mm
- (b) Aluminium. Stove enamelled finish. 63, 200, 250 & 300mm

#### Bezel

Brass lacquered finish. (Stove enamelled finish on 413 & 414 models)

#### Socket + Element

- Low Pressure - Brass / (Ph.Br or Be.Cu element, range dependant)
- High Pressure - AISI 316 st.st / (316 st.st or Ni-Span-C element, range dependant)

#### Movement

Brass or Stainless Steel

#### Blowout Protection

- (a) Blowout device (EN837-1 S1)
- (b) Safety Pattern with baffle wall and blow out back (EN837-1 S3)

#### Dial

White Anodised Aluminium (Black Printing)

#### Pointer

Black Aluminium

#### Window

Sheet Glass

#### Traceability

All instruments are individually calibrated and have an unique Serial Number.

#### Certification available on request

- Certificate of Conformity Traceable to National Standards
- Group Certification (Pressure Test Calibration Statement)
- Point to Point Test Certificate
- BS EN 10204 3.1 Material Certification

#### Safety

All units are manufactured to comply with EN 837-1, S1 or S3 specification and other regulatory standards including PED 2014/68/EU.

#### Installation instructions

Refer to EN 837-2 and our [Guidance On Use of Equipment](#) data sheet.

#### Accuracy class

	ACCURACY CLASS EN837-1 (Optional)		Higher Pressure
	0 - 600 bar	>600 - 1600 bar	>1600 - 2500 bar
63mm	1.0	1.6 *	N/A
100 to 300 mm	1.0 (0.6)	1.0	1.6

0.5% Accuracy on request (Consult Sales)

Higher Ranges on request (Consult Sales)

#### Over-pressure

0 - 100 bar	>100 - 600 bar	>600 - 1600 bar	>1600 - 2500 bar
1.25 x FSD	1.15 x FSD	1.10 x FSD	1.10 x FSD

#### Scale Range

Vacuum / Compound to -1 to 0 to -1 to 24 bar

63mm gauge 0 to 1400 bar \*

100 to 300 mm gauges 0 to 2500 bar

Or other equivalent units of pressure or vacuum

PED 2014/68/EU limits, GAS Group.1 <1000 bar, GAS Group.2 <3000 bar

#### Pressure Connection Thread

1/8", 1/4", 3/8", 1/2" NPT, BSP, BSPT (See High Pressure Options)

THREAD EN837	MAX PRESSURE EN 837-1		
	NPT Brass (316ss/Monel)	BSP Brass (316ss/Monel)	BSPT Brass (316ss/Monel)
1/8"	400 bar	400 bar	400 bar
1/4"	600 (1000) bar	600 (1000) bar	600 (1000) bar
3/8"	600 (1000) bar	600 (1000) bar	600 (1000) bar
1/2"	600 (1000) bar	700 (1600) bar	600 (1000) bar

Ordering Parameters, Please state the following: SIZE, MODEL NO, SCALE RANGE, CONNECTION, PRESSURE MEDIUM & OPTIONAL EXTRAS

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Specifications and dimensions in this leaflet, are subject to change without prior notice.

Model-412 Direct Mounted



Model-411 Surface Mounted (Bottom Connection)

Model-412 Direct Mounted (Bottom Connection)

Model-413 Flush Mounted Screw Fixing (Rear Connection)

Model-414 Flush Mounted Clamp Fixing (Rear Connection)

See Page-2 for dimension

#### Operating Temperature Range EN837

-20° to 60°C (-4°F to 140°F)

Options for lower/higher operating ranges (Contact Sales)

#### Temperature Error

Additional error when temperature changes from reference

Temperature of 20°C (68°F) ±0.4% for every 10°C (18°F) rising or Falling % of span

#### Optional Extras

- Micro adjustable pointer /Black finish
- Optional dial materials & Custom markings
- Monel according to ISO 15156 / NACE MR-01-75 wetted parts
- Other pressure connections (Including high pressure)
- Laminated Safety Glass / Perspex window
- Orifice Restrictor Screw (standard Ø0.9mm, Ø0.4mm on request)
- Customer logo printed on dial
- Vibragauge® (See data sheet)
- Chrome finish bezel
- Gauge over-pressure up to 130% of FSD

Further options on request

#### Available with a wide range of accessories

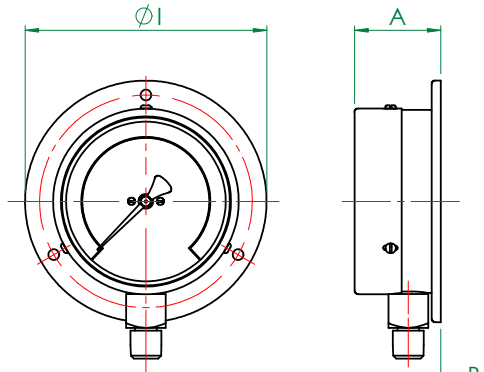
Syphons, Snubbers, Overrange gauge protectors, Valves, Manifolds, Diaphragm seals, Swivel adaptors, etc ensures that STEWARTS can provide you with the right product to suit any individual application or requirement.

#### High Pressure Options Available (316ss / Monel Only)

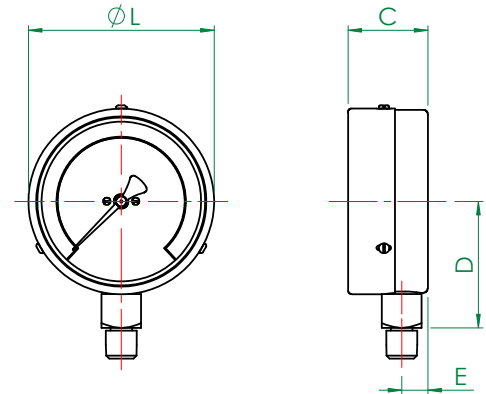
GAUGE	HIGH PRESSURE THREAD OPTIONS (Up to 2500 bar)					
	TUBE MP (Up to 20 ksi)			TUBE HP (Up to 36 ksi)		
	1/4	3/8	1/2	1/4	3/8	1/2
63mm	M	M				
100mm	M/F	M/F	M	M/F	M	M
150mm	M/F	M/F	M	M/F	M	M

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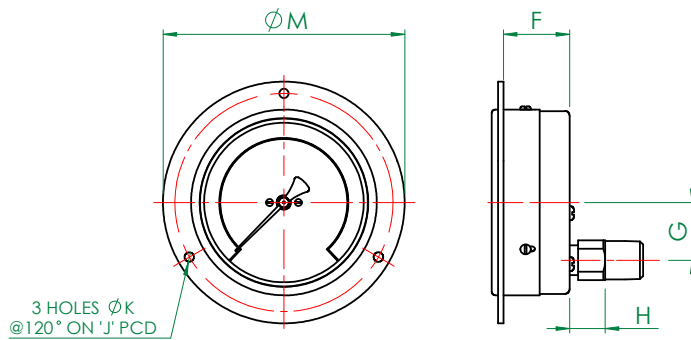
## Standard Gauge



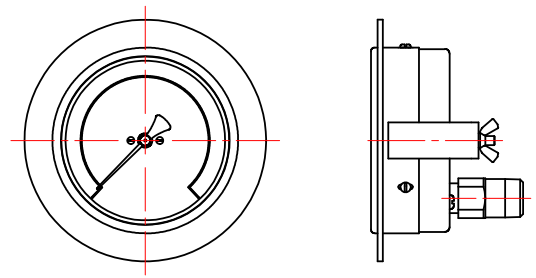
**MODEL 411  
SURFACE MOUNTED**



**MODEL 412  
DIRECT MOUNTED (STANDARD)**



**MODEL 413  
FLUSH MOUNTED SCREW FIXING**



**MODEL 414  
FLUSH MOUNTED CLAMP FIXING**

General Arrangement Dimensions in mm, tol' ± 1mm														
Dim	A	B	C	D	E	F	G	H	I	J	K	L	M	PANEL CUT OUT
Dial Ø														
2.5" (63mm)	37	12	37	43	12	32	20	13	86	76	4	65	89	70
4" (100mm)	48	18	44	70	15	38	32	20	127	121	5	103	134	112
6" (150mm)	49	19	45	90	16	38	32	20	183	168	6	152	185	165
8" (200mm)	54	18	52.5	122	17	46	52	16	235	221	5.5	204	239	215
10" (250mm)	55	17	55	148	17	49	52	16	290	273	6.5	256	302	270
12" (300mm)	56	17	56	173	17	51	52	16	346	325	6.5	306	369	330

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