

# MODELS-1081,1082,1083,1084



## Standard Oxygen & Acetylene Gauge

### APPLICATIONS

Gas and Steam in excess of 25 Bar pressure can represent danger if there is a rupture in the Bourdon Tube measuring this gas. To minimize the danger, gauges in this application should be Safety Pattern type, having solid front between Bourdon tube and dial, safety window and blow-out back to allow any blast to release to the rear of gauge. Although there is not necessarily any great risk in the use of gauges for gases at pressure less than 25 Bar, a blow-out disc should be incorporated and the purchaser should have regard to the nature of the gas and the installation conditions and, if necessary, order a gauge of the Safety Pattern type.

### STANDARD SPECIFICATION

Aluminium Safety Pattern Gauge with Baffle Wall (Weatherproof to IP54)

Model-1082 Direct Mounted

### Sizes

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

### Case/ Bezel

Aluminium Black Stove Enamelled Finish. Solid front between bourdon tube and dial.  
**Bezel** Brass with Lacquered Finish. (Black Stove Enamelled on 1083 & 1084 Models)

### Socket & Element

Brass or Stainless Steel (Ph.Br. or BeCu Element, Range Dependant)

### Movement

Brass or Stainless Steel

### Blowout Protection

S3 Safety Pattern with Baffle Wall and Blow-out Back

### Dial

White Anodised Aluminium (Black Printing)

### Pointer

Black Aluminium

### Window

Laminated Safety 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, S3 Safety Pattern 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)

MAX PRESSURE EN 837-1			
THREAD EN837	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



Model-1081 Surface Mounted (Bottom Connection)  
 Model-1082 Direct Mounted (Bottom Connection)  
 Model-1083 Flush Mounted Screw Fixing (Rear Connection)  
 Model-1084 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)
- Perspex window
- Orifice Restrictor Screw (standard Ø0.9mm, Ø0.4mm on request)
- Customer logo printed on dial
- Vibragauge® (See data sheet)
- Snubbagaugage® (See data sheet)
- 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)

HIGH PRESSURE THREAD OPTIONS (Up to 2500 bar)						
GAUGE	TUBE MP (Up to 20 ksi)			TUBE HP (Up to 36 ksi)		
	1/4	3/8	9/16	1/4	3/8	9/16
63mm	M	M				
100mm	M/F	M/F	M	M/F	M	M
150mm	M/F	M/F	M	M/F	M	M

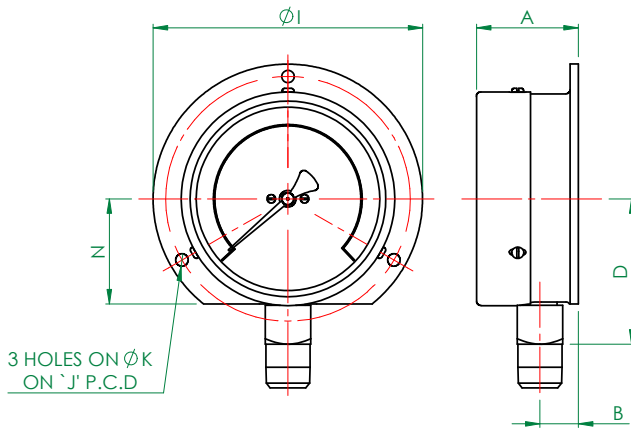
**Ordering Parameters, Please state the following:** SIZE, MODEL NO, SCALE RANGE, CONNECTION, PRESSURE MEDIUM & OPTIONAL EXTRAS

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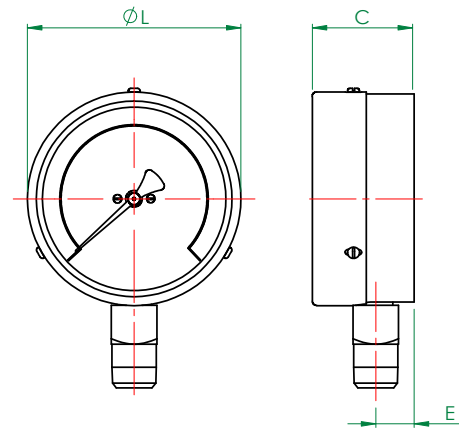
## Standard Oxygen & Acetylene Gauge



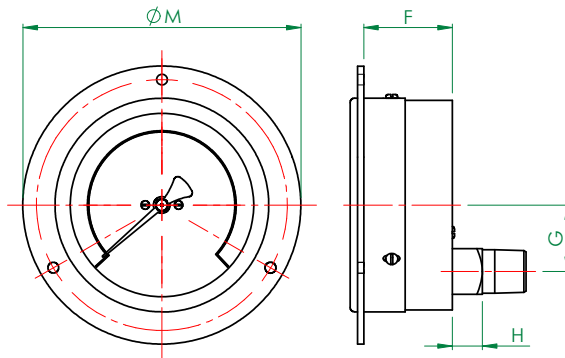
Surface mounted gauges should be fitted with distance pieces of not less than 3/4" (20mm) long to allow them to be mounted away from wall or panel.



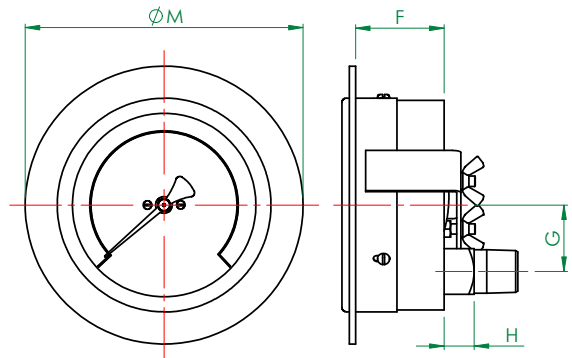
**MODEL 1081  
SURFACE MOUNTED**



**MODEL 1082  
DIRECT MOUNTED (STANDARD)**



**MODEL 1083  
FLUSH MOUNTED SCREW FIXING**



**MODEL 1084  
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	N	PANEL CUT OUT
Dial Ø 2.5" (63mm)	35	11	35	38.5	11	29	21	6	86	75	3.6	65	90	32	70
4" (100mm)	49	18	49	70	18	43	32	14	130	118	6	103	134	51	112
6" (150mm)	53	18	53	92	18	50	32	14	183	168	6	153	185	75.5	165
8" (200mm)	54	18	53	122	17	46	52	16	235	221	5.5	204	239	103	215
10" (250mm)	55	17	55	148	17	49	52	16	290	273	6.5	256	302	129	270
12" (300mm)	56	17	56	173	17	51	52	16	346	325	6.5	306	369	153	320

### Precautions Relating to Gauges for use with Oxygen and Acetylene.

Gauges for use with Oxygen. Oxygen under pressure forms an explosive mixture with oil or grease, and a serious explosion may result if the two are brought together. Thin films and slight deposits of oil or grease are particularly susceptible to ignition. It is imperative that extreme care be exercised in the manufacture and testing of oxygen gauges and in the subsequent cleaning and handling of oxygen gauges and their connections, so that they are kept absolutely free from oil and grease. When gauges are tested, oil must not be allowed to touch or enter the gauge.

They should be tested only with oil - free water or dry clean air or other suitable media on testing equipment used for that purpose alone and no other gauges should be tested on this equipment owing to the risk of oil contamination. (NOTE: Factory air supplies are rarely, if ever, free from oil contaminator.)

It is essential that all gauges for use with oxygen should be of the Safety type. It is essential that all gauges for use with oxygen shall have plainly inscribed on the dial in black letters, the word OXYGEN and in red the warning symbol for "USE NO OIL".

Gauges for use with Acetylene. Acetylene in conjunction with copper or silver may form an explosive compound and the use of high copper or silver content alloys for any part of the gauge that may come in contact with the gas should be avoided. Where possible, the bourdon tube and all other parts with which the gas may make contact should be constructed of steel. Where the use of steel is impracticable, a low copper content alloy should be used and the copper content should be less than 65%.

It is essential that all gauges for use with acetylene should be of the Safety Type. It is essential that all gauges for use with acetylene shall have plainly inscribed on the dial in red letters **ACETYLENE**.

## STEWART-BUCHANAN GAUGES LTD

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