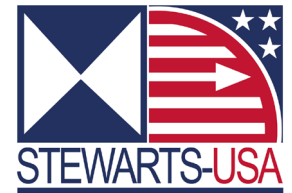


MODELS - 5010, 5011, 5012



SUBSEA Pressure Gauges

Standard Hyperbaric test 1.1 × Design Depth Pressure.

APPLICATIONS

Specially developed to meet the need for gauges working at great depths under the sea and in hyperbaric conditions. Measures the true pressure of the system with reference to sea level atmospheric pressure where the gauge case is sealed. Reinforced case prevents ambient pressure affecting the inlet pressure reading.

STANDARD SPECIFICATION

SUBSEA Gauge (protected against complete, continuous submersion in water to IP68)

Sizes

63mm (2.5"), 100mm (4.0") and 150mm (6.0")

Case/ Bezel

AlSi 316 Stainless Steel (Manufactured from a solid billet). Pressure tight for depths down to 1,000 ft (300 mtr) of water.

Special gauges can be manufactured for depths up to 10,000 ft (3,000 mtr) of water on 100mm (4") gauges only. Liquid filled (recommended)

Socket & Element

316 Stainless Steel

Movement

Stainless Steel Construction

Dial

Anodized Aluminium

All gauges supplied as white lettering on black background as standard (Non Glare), bespoke colours and designs are available upon request

Pointer

Black Aluminium

Window

Toughened glass on 1000ft 63 & 100mm gauges

Acrylic on 1000ft 150mm gauge & 4000,5000 & 10000ft 100mm gauges.

Traceability

All instruments are individually calibrated and have a unique serial number on dial.

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

Installation instructions

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

Accuracy class

0 - 10,000 psi = 1.0% of span on 4.0" & 6.0" (1.0% on 2.5").

15 & 20K psi = 1.0% of span on 4.0" & 6.0" (1.5% on 2.5").

30K psi & up = 1.5% of span on 4.0" & 6.0"

Higher Ranges on request (Consult Sales)

Over-pressure

| 0 - 1500 psi | >1500 - 10000 psi | >10000 - 20000 psi | >20000 - 35000 psi |
|--------------|-------------------|--------------------|--------------------|
| 1.25 X FSD | 1.15 X FSD | 1.10 X FSD | 1.10 X FSD |

Scale Range

Rear Connect

Vacuum to 1,400 bar (20,000 psi) on 2.5" gauge

Vacuum to 3,000 bar (45,000 psi) on 4.0" & 6.0" gauges

Bottom Connect

Vacuum to 700 bar (10,000 psi) on 2.5" gauge

Vacuum to 700 bar (10,000 psi) on 4.0" & 6.0" gauges

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 (316ss / Monel) | BSP (316ss / Monel) | BSPT (316ss / Monel) |
| 1/8" | 400 bar (6000 psi) | 400 bar (6000 psi) | 400 bar (6000 psi) |
| 1/4" | 1000 bar (15000 psi) | 1000 bar (15000 psi) | 1000 bar (15000 psi) |
| 3/8" | 1000 bar (15000 psi) | 1000 bar (15000 psi) | 1000 bar (15000 psi) |
| 1/2" | 1000 bar (15000 psi) | 1600 bar (23200 psi) | 1000 bar (15000 psi) |

Dry, Liquid Fillable or Pre-Filled. VIBRAGAUGE® Option also available.

VIBRAGAUGE® for Dampening of vibration & pulsation without liquid filling.

With liquid-filled case for applications with high dynamic Pressure pulsations or vibration.

Model-5012 Flush Mounted Screw Fixing (Rear Connection)



Model-5010 Direct Mounted (Bottom Connection)

Model-5011 Surface Mounted (Bottom Connection)

Model-5012 Flush Mounted Screw Fixing (Rear Connection)

See Page-2 for dimension

Operating Temperature Range EN837

-20° to 60°C (-4°F to 140°F) without loss of accuracy.

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

- Optional dial materials & Custom markings
- Monel according to ISO 15156 / NACE MR-01-75 wetted parts
- Other pressure connections (Including high pressure)
- Orifice Restrictor Screw (standard Ø0.9mm, Ø0.4mm on request)
- Customer logo printed on dial
- Liquid filled / Suitable for liquid filling
- VIBRAGAUGE® (See data sheet)
- Gauge over-pressure up to 130% of FSD

Further options on request

* Gauges can be Recalibrated (Please return to manufacturer)

High Pressure Options Available

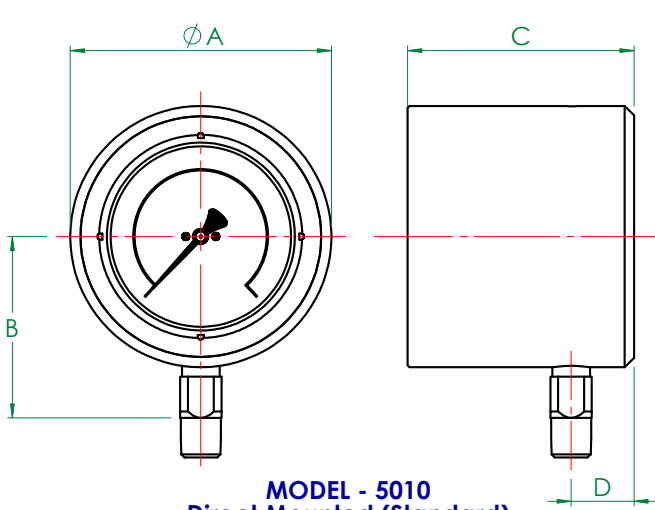
| HIGH PRESSURE THREAD OPTIONS (Up to 2500 bar (36000 psi)) | | | | | | |
|---|------------------------|------|------|------------------------|------|------|
| GAUGE | TUBE MP (Up to 20 ksi) | | | TUBE HP (Up to 36 ksi) | | |
| | 1/4" | 3/8" | 1/2" | 1/4" | 3/8" | 1/2" |
| 63mm | M | M | M | M | M | 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

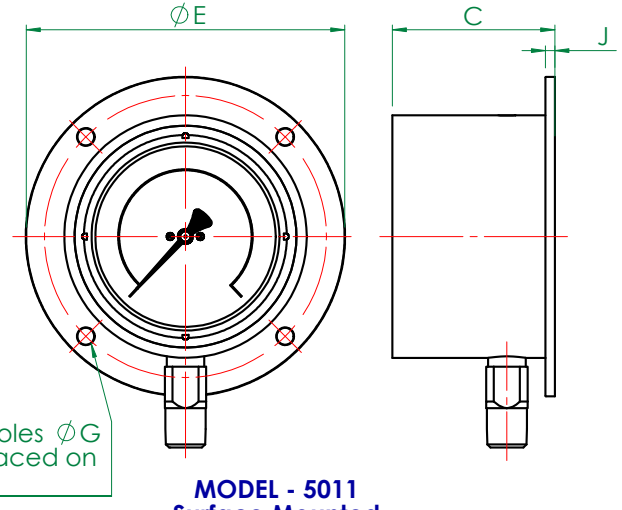
Specifications and dimensions in this leaflet, are subject to change without prior notice.

MODELS - 5010, 5011, 5012

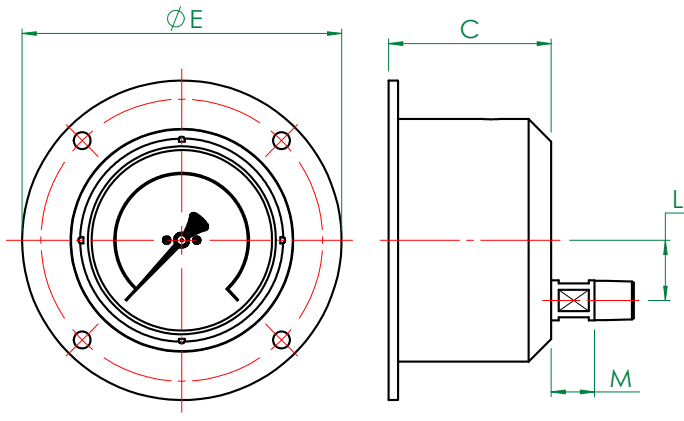
SUBSEA Pressure Gauges



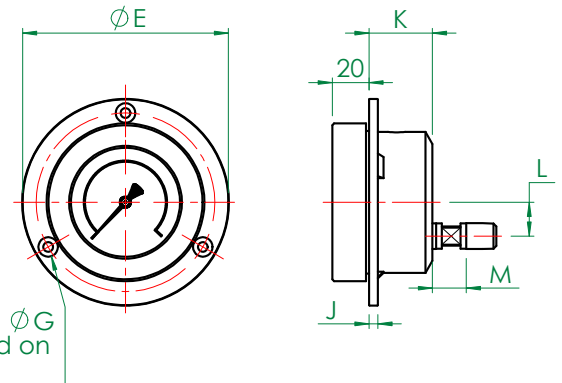
MODEL - 5010
Direct Mounted (Standard)



MODEL - 5011
Surface Mounted



MODEL - 5012
Flush Mounted - Screw Fixing



MODEL - 5012
Configuration - 63mm only

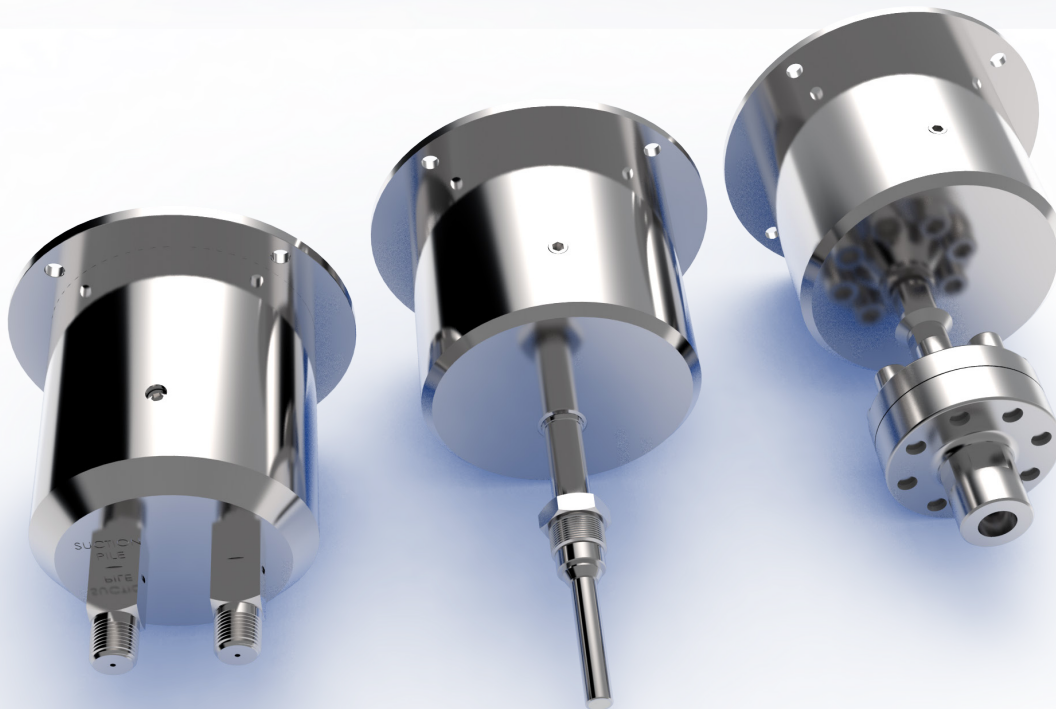
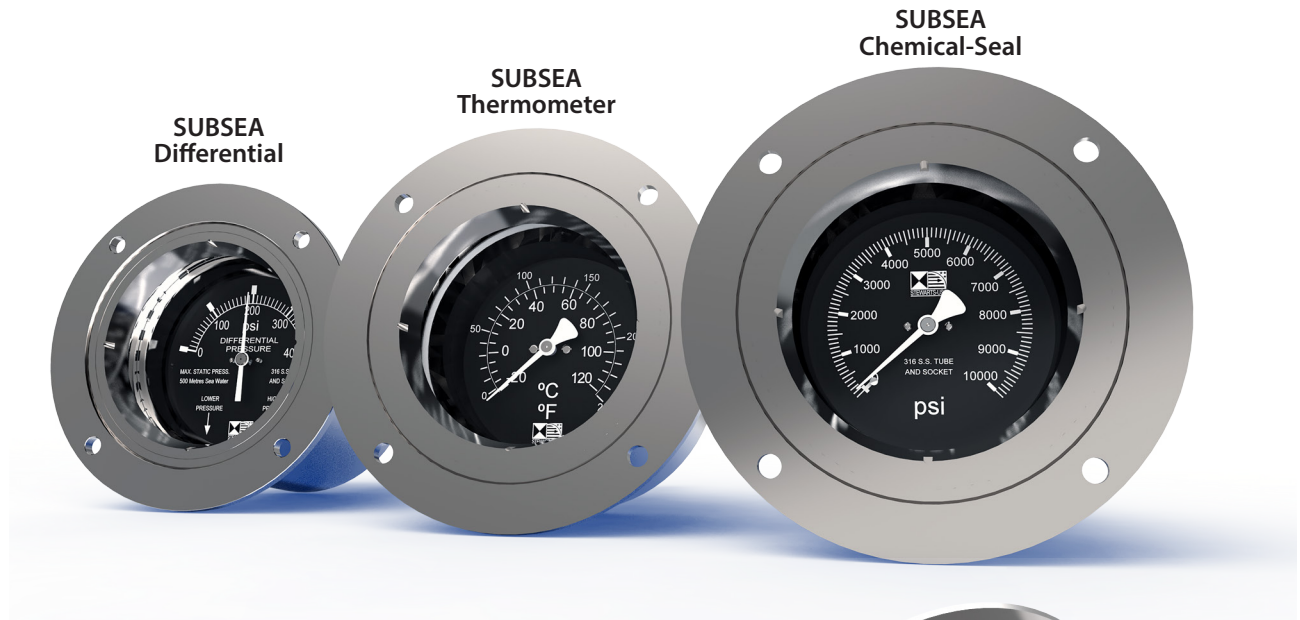
| Code | DEPTH | General Arrangement Dimensions in mm, Tolerance ± 1 mm (0.0393 inches) | | | | | | | | | | | | |
|------|---------------|--|-----|------|-------|------|-----|---|------|-----|------|----|----|-----|
| | | DialØ | Dim | A | B | C | D | E | F | G | H | J | K | L |
| K1 | 1000ft/300m | 2.5" (63mm) | 84 | 50 | 53.3 | 19 | 110 | 3 | 5.2 | 95 | 4.75 | 18 | 18 | 80 |
| | | 4" (100mm) | 129 | 91.3 | 86.5 | 25.5 | 170 | 4 | 9 | 150 | 5 | 32 | 23 | 133 |
| | | 6" (150mm) | 178 | 116 | 134.5 | 33.5 | 240 | 4 | 10.5 | 208 | 10 | 32 | 23 | 185 |
| K1.5 | 4000ft/1200m | 4" (100mm) | 129 | 91.3 | 105.5 | 33.5 | 170 | 4 | 9 | 150 | 5 | 32 | 23 | 133 |
| K2 | 5000ft/1500m | 4" (100mm) | 132 | 92.8 | 105.5 | 33.5 | 170 | 4 | 9 | 150 | 5 | 32 | 23 | 136 |
| K3 | 10000ft/3000m | 4" (100mm) | 132 | 96.5 | 120.9 | 33.9 | 180 | 4 | 9 | 160 | 5 | 32 | 23 | 143 |



Differential, Chemical-Seals & Thermometers

In addition to the 5000 series pressure gauges, at Stewarts-USA we further compliment the SUBSEA range with various other types of instrumentation. In catering for the needs of the subsea sector, Stewarts-USA is continuing to further develop products for full submersion use at various depths with increased options on standard specifications and customizable specials.

For further details and to discuss your requirements with one of our team members please contact our sales department.



Pressure Gauges & Chemical Seal

EN837 Calibration,
PER 97/23/EC
Standard Hyperbaric test $1.1 \times$ Depth Pressure @ 10,000 Ft
Optional (FAT to ISO 10423 Annex F.1.11)
Optional (Hyperbaric to ISO 13628 Amex L)

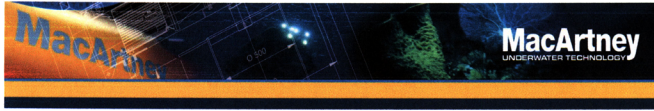
Thermometers

EN13190 Calibration
PER 97/23/EC
Standard Hyperbaric test $1.1 \times$ Depth Pressure @ 10,000 Ft
Please note:- Must be used with a Thermowell



SUBSEA INSTRUMENTS

Pressure Test Certificates



PRESSURE TEST CERTIFICATE

| | | | |
|-------------------|---|--------------|----------|
| Customer | Stewart Buchanan Gauges Ltd | | |
| Address | Burnside Ind Estate Kilsyth G65 9JX | | |
| Tel No | 01236 821533 | Fax No | |
| Customer Order No | Pro Forma | Contact Name | I Carson |

| | | | |
|-------------------|---|------------------|---------|
| Product Tested | Differential Pressure Gauge Max Depth 500 Mtr range -10 / +10 Bar s/no: 14941974/1 | | |
| Test Authority | Macartney UK Ltd | | |
| Date of Test | 13/02/2015 | | |
| Test Required | Hyperbaric | | |
| Depth / Pressure | 50 Bar | Duration | 60 min |
| Cycles / Sequence | One | | |
| Result | Pass | | |
| Test Medium | Freshwater | Temperature (°C) | Ambient |
| References | Pressure Transmitter Serial No 082655124, Calibration Cert No 548787. | | |
| Comments | | | |

| | | | | |
|----------------------|------------|-------------------|------|------------|
| Authorised Signature | M Mckessar | <i>M MCKESSAR</i> | Date | 13/02/2015 |
|----------------------|------------|-------------------|------|------------|

| | | | | | |
|--------|------------|----------------|------|------|------------|
| Job No | UKP1508848 | Certificate No | 3940 | Date | 13/02/2015 |
|--------|------------|----------------|------|------|------------|



PRESSURE TEST CERTIFICATE

| | | | |
|-------------------|---|--------------|--------------|
| Customer | Stewart-Buchanan Gauges Limited | | |
| Address | Stewart-Buchanan Gauges Limited Burnside Industrial Estate Kilsyth Glasgow G65 9JX | | |
| Tel No | 01236 821533 | Fax No | 01236 824090 |
| Customer Order No | 10804482-1 | Contact Name | Ian Carson |

| | | | |
|-------------------|--|------------------|---------|
| Product Tested | 1 off Glycerine Filled Pressure Gauge serial no 10940468 / 1 | | |
| Test Authority | Macartney UK Ltd | | |
| Date of Test | 16-12-10 | | |
| Test Required | Hydrostatic | | |
| Depth / Pressure | 336 Bar | Duration | 80Min |
| Cycles / Sequence | 169 Bar 15 min 336 Bar 80 min 169 Bar 15 min | | |
| Result | Passed | | |
| Test Medium | Freshwater | Temperature (°C) | Ambient |
| References | AB PTM Pressure Transmitter Serial No 082655124, Calibration Cert No 548787. | | |
| Comments | Gauge live tested during pressure test see purchase order 10804482-1 for details | | |

| | | | | |
|----------------------|------------|--|------|------------|
| Authorised Signature | Keith Moir | | Date | 16-12-2010 |
|----------------------|------------|--|------|------------|

| | | | | | |
|--------|------------|----------------|------|------|------------|
| Job No | UKP1002279 | Certificate No | 1962 | Date | 16-12-2010 |
|--------|------------|----------------|------|------|------------|



PRESSURE TEST CERTIFICATE

| | | | |
|-------------------|---|--------------|--------------|
| Customer | Stewart Buchanan Gauges Ltd | | |
| Address | Stewart Buchanan Gauges Ltd Rodney Sinnott Burnside Industrial Estate Kilsyth Glasgow G65 9JX | | |
| Tel No | 01236 821533 | Fax No | 01236 824090 |
| Customer Order No | 13903305-2 | Contact Name | Ian Carson |

| | | | |
|-------------------|--|------------------|---------|
| Product Tested | 10000 Ft Subsea Chemical Seal Gauge 0-12000 PSI/BAR s/n 13922246/1 | | |
| Test Authority | Macartney UK Ltd | | |
| Date of Test | 24/09/13 | | |
| Test Required | Hydrostatic | | |
| Depth / Pressure | 330 Bar | Duration | 4 Hours |
| Cycles / Sequence | 1 | | |
| Result | Passed | | |
| Test Medium | Freshwater | Temperature (°C) | Ambient |
| References | AB PTM Pressure Transmitter Serial No 082655124. | | |
| Comments | Gauge live tested during pressure test 200 Cycles 0-800 Bar 1 x Cycle 828 Bar and hold for 15 min | | |

| | | | | |
|----------------------|------------|-------------------|------|----------|
| Authorised Signature | Keith Moir | <i>Keith Moir</i> | Date | 24/09/13 |
|----------------------|------------|-------------------|------|----------|

| | | | | | |
|--------|------------|----------------|------|------|----------|
| Job No | UKP1305966 | Certificate No | 3516 | Date | 24/09/13 |
|--------|------------|----------------|------|------|----------|



PRESSURE TEST CERTIFICATE

| | | | |
|-------------------|---|--------------|--------------|
| Customer | Stewart Buchanan Gauges Ltd | | |
| Address | Stewart Buchanan Gauges Ltd Rodney Sinnott Burnside Industrial Estate Kilsyth Glasgow G65 9JX | | |
| Tel No | 01236 821533 | Fax No | 01236 824090 |
| Customer Order No | 13904272-1 | Contact Name | Ian Carson |

| | | | |
|-------------------|--|------------------|---------|
| Product Tested | Subsea Thermometer S/No: 13933780/1 | | |
| Test Authority | Macartney UK Ltd | | |
| Date of Test | 22/11/13 | | |
| Test Required | Hydrostatic | | |
| Depth / Pressure | 337 Bar | Duration | 1 Hour |
| Cycles / Sequence | 1 | | |
| Result | Passed | | |
| Test Medium | Freshwater | Temperature (°C) | Ambient |
| References | AB PTM Pressure Transmitter Serial No 082655124. | | |
| Comments | Live camera test of gauge. | | |

| | | | | |
|----------------------|------------|-------------------|------|----------|
| Authorised Signature | Keith Moir | <i>Keith Moir</i> | Date | 22/11/13 |
|----------------------|------------|-------------------|------|----------|

| | | | | | |
|--------|------------|----------------|------|------|----------|
| Job No | UKP1306703 | Certificate No | 3575 | Date | 22/11/13 |
|--------|------------|----------------|------|------|----------|

STEWARTS-USA, LLC

6786 Tipperary Houston, Texas 77061 USA

Tel: 713.643.1022 Fax: 713.643.2855

sales@stewartsusa.com

www.STEWARTSUSA.com