

# SPAN™ Liquid Filled Industrial Gauge – 3.5"

## Overview

Span Sub-Sea gauges are designed for rugged service applications. Liquid fill fluid dampens the gauge pointer movement for improved readings and longer life, making these gauges ideal for high shock and vibration applications.

The Zytel case and ring offer good appearance and excellent resistance to chemical, weather, and corrosion attack.

The Span gauge has many optional features that allow a user to develop a basic or special product specification.

## Benefits

- "ICD" patented internal breathing diaphragm allows TOTAL liquid fill with no expansion bubble. Excellent in angled panel mounting applications. ESSENTIAL in any sub-sea or ROV deep water applications. The ICD is standard on all SPAN Sub-Sea gauges.
- Temperature/Pressure Compensated: The ICD compensates the case (to 150F) for changes in internal case pressure caused by fluctuations in ambient temperature. (Especially critical in lower pressure and vacuum gauges.) The ICD also compensates the case for external pressure in Sub-Sea deep water applications. A SPAN exclusive feature.
- Freeze proof: The KEM-X Socket Saver is an internal diaphragm seal to prevent freezing, clogging, and corrosion. It is available on all SPAN gauges.
- Any SPAN instruments can be tested, serialized and certified traceable to N.I.S.T. accuracy standards with Test Points.

## Applications

- Sub-Sea applications
- Military, Marine
- ROV equipment and Panels
- Mobile hydraulic equipment



LFP-312 Span 3.5" Liquid Filled Industrial Gauge



LFS-314 Span 3.5" Liquid Filled Industrial Gauge

## Construction Data

|                     |  |
|---------------------|--|
| Case                | Zytel Nylon – Black  |
| Bezel               | Zytel Nylon – Removable  |
| ICD                 | Internal compensating diaphragm  |
| Socket              | 316 Stainless Steel - TIG Welded   |
| Bourdon Tubes       | 316 Stainless Steel Vac to 1000 PSI "C" tube 1500 to 20000 stainless spiral tube |
| Pressure Connection | ¼" npt male  |
| Lens                | Acrylic  |
| Pointer             | White aluminum   |
| Movement            | Precision Swiss movement copper alloy  |
| Dial                | Black Aluminum w/ white markings   |
| Fill fluid          | High purity glycerin - no bubble   |
| Ranges              | Vacuum, compound to 20000 PSI  |

### Dial Ranges and Intervals

| Standard Dial Range | Numbered | Minor |
|---------------------|----------|-------|
| 0-15                | 2        | .2    |
| 0-30                | 5        | .5    |
| 0-60                | 10       | 1     |
| 0-100               | 10       | 1     |
| 0-160               | 20       | 2     |
| 0-200               | 20       | 2     |
| 0-300               | 50       | 5     |
| 0-400               | 50       | 10    |

| Standard Dial Range | Numbered | Minor |
|---------------------|----------|-------|
| 0-600               | 100      | 10    |
| 0-1000              | 100      | 10    |
| 0-1500              | 300      | 20    |
| 0-3000              | 500      | 50    |
| 0-5000              | 500      | 50    |
| 0-6000              | 1000     | 100   |
| 0-10000             | 1000     | 100   |
| 0-15000             | 2000     | 200   |

## Thuemling Instrument Group

1225 Pearl Street, Waukesha, WI 53186 • Phone: 262-547-1789 • Fax: 262-547-6493  
 Web: www.thuemling.com • Email: thuemling@earthlink.net



## SPAN™ Liquid Filled Sub-Sea Gauge – 3.5"

### Performance Data

|                 |                        |
|-----------------|------------------------|
| Accuracy        | 1% Full Scale Grade 1A |
| Design          | ANSI/ASME B40.1        |
| Operating Temp. | -40 to 150F            |

### Temperature Error

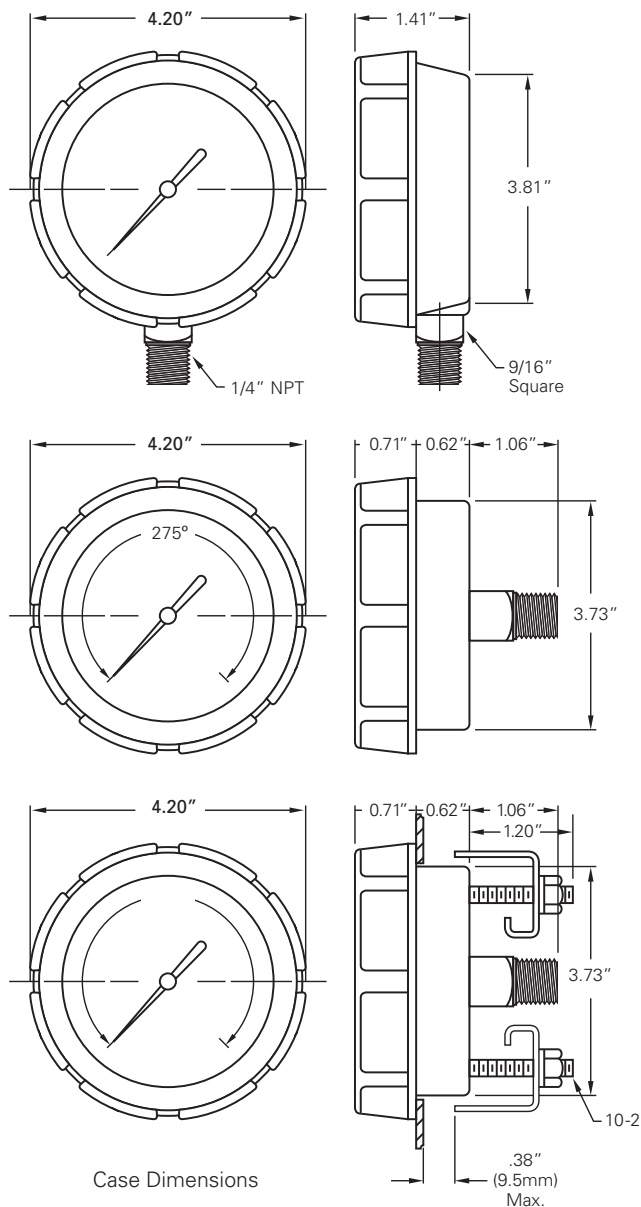
Additional error when temperature changes from reference temperature of 68F (20C) +0.4% for every 18F (10C) rising or falling as a percentage of Span.

### Weather Protection

Weather tight (NEMA 4X / IP 65)

### Optional Extras

|       |   |  |
|-------|---|--|
| KEMX  | = | Clog-Freeze proof diaphragm                      |
| CERT  | = | NIST Certified with calibration points           |
| SFB   | = | S.S. Bezel                                       |
| RECAL | = | Slotted adjustable pointer                       |
| O2C   | = | Oxygen Cleaning                                  |
| STUD  | = | Back mount studs and hardware for panel mounting |
| OEM   | = | Custom Dials                                     |



**Ordering Number for 3.5" Span Sub-Sea Gauge** – Construct by selecting one item from each of the columns below:

| Configuration                 | Dial Size | Accuracy        | Wetted Parts                             | Range                     | Fill                | Options          |
|-------------------------------|-----------|-----------------|--|---------------------------|---------------------|------------------|
| SUB/LFS = Stem Mount Bottom   | 3 = 3-1/2 | 1 = 1% Accuracy | 2 = 316L Stainless Steel Tube and Socket | Please specify from chart | G = Glycerin Filled | From option list |
| SUB/LFC = Center Back Mount   |           |                 |  |                           |                     |                  |
| SUB/LFP = Panel Mount U-Clamp |           |                 |  |                           |                     |                  |
| <b>Example: SUB/LFS</b>       | <b>3</b>  | <b>1</b>        | <b>2</b>                                 | <b>100</b>                | <b>G</b>            | <b>CERT</b>      |

( SUB/LFS-312-100-G-CERT )

### Thuemling Instrument Group

1225 Pearl Street, Waukesha, WI 53186 • Phone: 262-547-1789 • Fax: 262-547-6493  
 Web: www.thuemling.com • Email: thuemling@earthlink.net

