

# SPAN<sup>TM</sup>



## *Sub Sea Gauges*

*Catalog 215B*

# SPAN™

## Liquid Filled Sub-Sea Gauge – 2.5"

### 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 this gauge 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 gauge to be fully filled. 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.

### Options

- 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 gauge can be 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



SUB/LFC-212 Span 2.5" Liquid Filled Sub-Sea Gauge



SUB/LFS-212 Span 2.5" Liquid Filled Sub-Sea Gauge

### Construction Data

Case	Zytel Nylon – Black
Bezel	Zytel Nylon – Removable
ICD	Internal Compensating Diaphragm
Socket	316 Stainless Steel - TIG Welded
Socket O Ring	HNBR
Bourdon Tubes	Vac to 1000 PSI 316 Stainless Steel “C” Tube 1500 to 20000 Stainless Spiral Tube
Pressure Connection	¼” NPT Male
Lens	Acrylic
Pointer	White Aluminum
Movement	Precision Swiss Movement
Dial	Black Aluminum w/ White Markings
Fill fluid	High Purity Glycerin
Ranges	Vacuum, Compound to 20000 PSI

### Dial Ranges and Intervals

Standard Dial Range	Numbered	Minor
0-15	3	.5
0-30	5	.5
0-60	10	1
0-100	10	1
0-160	40	5
0-200	20	2
0-300	50	5
0-400	50	5
0-600	100	10
0-1000	200	20

Standard Dial Range	Numbered	Minor
0-1500	250	50
0-2000	400	50
0-3000	500	100
0-5000	1000	100
0-6000	1000	100
0-7500	1500	100
0-10000	1000	100
0-15000	2000	200
0-20000	4000	500

## SPAN™ Liquid Filled Sub-Sea Gauge – 2.5"

### Performance Data

Accuracy	1% Full Scale Grade 1A (Vac -15000) 2% Full Scale (20000 only)
Design	ANSI/ASME B40.1
Operating Temp.	-40 to 150F

### Temperature Error

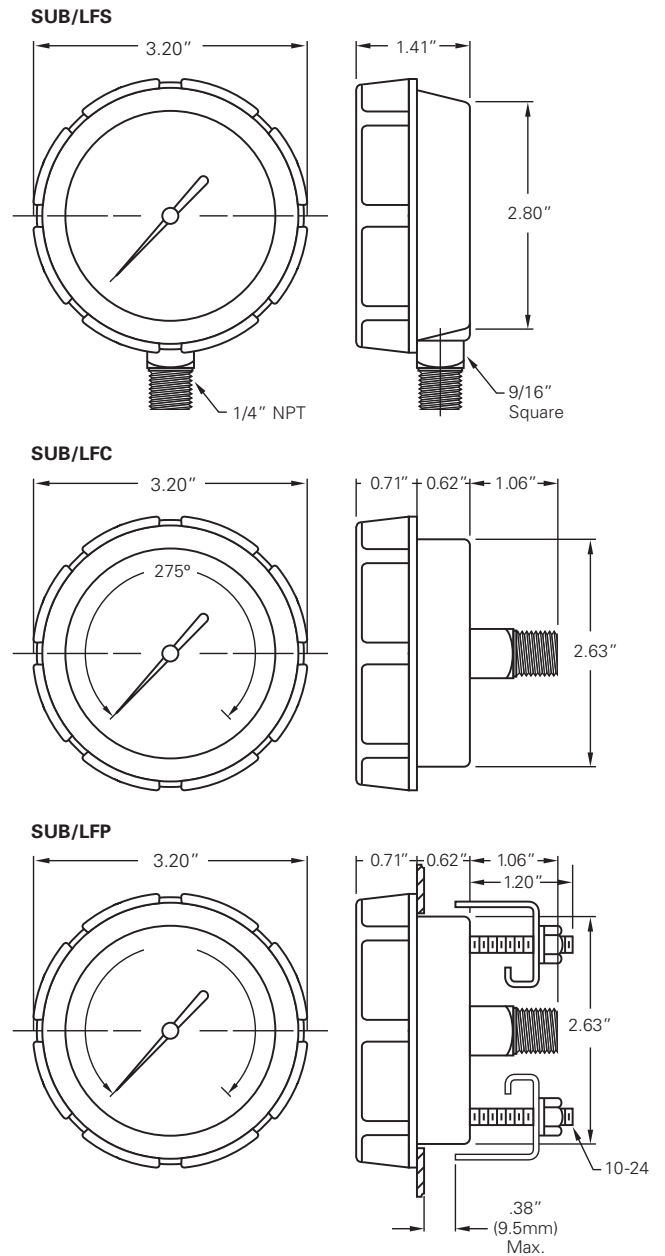
Additional error when temperature changes from reference temperature of 68F (20C) +0.4% for every 18F (10C) rising or falling as a percentage of span.

### Weather Protection

Weather tight (NEMA 4X / IP 65)

### Optional Extras

IB1	=	KEMX Buna-N Diaphragm
IV1	=	KEMX Viton - Diaphragm
IE1	=	KEMX EPDM - Diaphragm
CERT	=	NIST Certified with Calibration Points
RECAL	=	Slotted Adjustable Pointer
O2C	=	Oxygen Cleaning
STUD	=	Back Mount Studs for Wall Mounting
OEM	=	Custom Dials
COL	=	Color Bezel



**Ordering Number for 2.5" 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	2 = 2-1/2	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		2=2% Accuracy 20000 PSI Only				
SUB/LFP = Panel Mount U-Clamp						
<b>Example: SUB/LFS -</b>	<b>2 -</b>	<b>1</b>	<b>2</b>	<b>100 -</b>	<b>G</b>	<b>CERT</b>

( SUB/LFS-212-100-G-CERT )



# SPAN™

## Liquid Filled Sub-Sea 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 this gauge 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 gauge to be fully filled. 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.

### Options

- 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 gauge can be 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



SUB/LFC-312 Span 3.5" Liquid Filled Sub-Sea Gauge



SUB/LFS-312 Span 3.5" Liquid Filled Sub-Sea Gauge

### Construction Data

Case	Zytel Nylon – Black
Bezel	Zytel Nylon – Removable
ICD	Internal Compensating Diaphragm
Socket	316 Stainless Steel - TIG Welded
Socket O Ring	HNBR
Bourdon Tubes	Vac to 1000 PSI 316 Stainless Steel “C” Tube 1500 to 20000 Stainless Spiral Tube
Pressure Connection	¼" NPT Male
Lens	Acrylic
Pointer	White Aluminum
Movement	Precision Swiss Movement
Dial	Black Aluminum w/ White Markings
Fill fluid	High Purity Glycerin
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
0-600	100	10
0-1000	100	10

Standard Dial Range	Numbered	Minor
0-1500	300	20
0-2000	400	50
0-3000	500	50
0-5000	500	50
0-6000	1000	100
0-7500	1500	100
0-10000	1000	100
0-15000	2000	200
0-20000	4000	500

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

### Performance Data

Accuracy	1% Full Scale Grade 1A (Vac -15000) 2% Full Scale (20000 only)
Design	ANSI/ASME B40.1
Operating Temp.	-40 to 150F

### Temperature Error

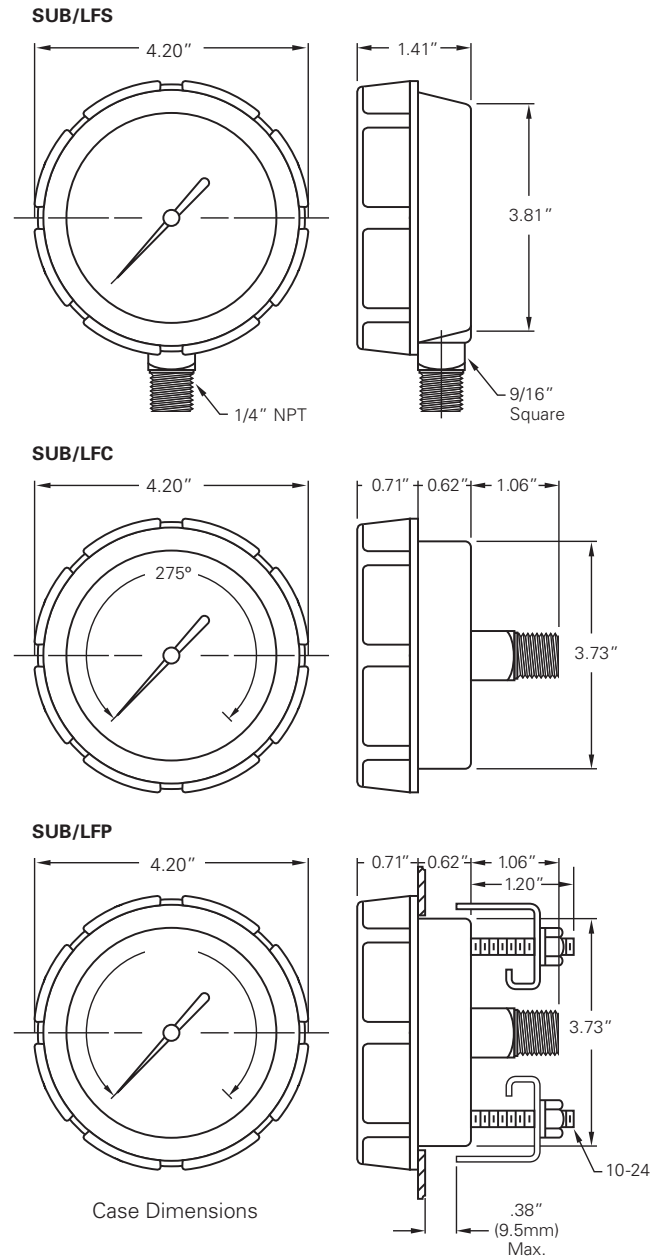
Additional error when temperature changes from reference temperature of 68F (20C) +0.4% for every 18F (10C) rising or falling as a percentage of span.

### Weather Protection

Weather tight (NEMA 4X / IP 65)

### Optional Extras

IB1	=	KEMX Buna-N Diaphragm
IV1	=	KEMX Viton - Diaphragm
IE1	=	KEMX EPDM - Diaphragm
CERT	=	NIST Certified with calibration points
RECAL	=	Slotted Adjustable Pointer
O2C	=	Oxygen Cleaning
STUD	=	Back Mount Studs for Wall Mounting
OEM	=	Custom Dials
COL	=	Color Bezel



**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		2=2% Accuracy 20000 PSI Only				
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 )

# SPAN™

## Liquid Filled Sub-Sea Gauge – 4.5”

### 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 this gauge 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 gauge to be fully filled. 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.

### Options

- 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 gauge can be 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



SUB/LFC 412 Span 4.5”  
Liquid Filled Sub-Sea Gauge



SUB/LFS-412 Span 4.5”  
Liquid Filled Sub-Sea Gauge

### Construction Data

Case	Zytel Nylon – Black
Bezel	Zytel Nylon – Removable
ICD	Internal Compensating Diaphragm
Socket	316 Stainless Steel - TIG Welded
Socket O Ring	HNBR
Bourdon Tubes	Vac to 1000 PSI 316 Stainless Steel “C” Tube 1500 to 20000 Stainless Spiral Tube
Pressure Connection	¼” NPT Male
Lens	Acrylic
Pointer	White Aluminum
Movement	Precision Swiss Movement
Dial	Black Aluminum w/ White Markings
Fill fluid	High Purity Glycerin
Ranges	Vacuum, Compound to 20000 PSI

### Dial Ranges and Intervals

Standard Dial Range	Numbered	Minor	Standard Dial Range	Numbered	Minor
0-15	2	.2	0-1500	300	20
0-30	5	.5	0-2000	400	50
0-60	10	1	0-3000	500	50
0-100	10	1	0-5000	500	50
0-160	20	2	0-6000	1000	100
0-200	20	2	0-7500	1500	100
0-300	50	5	0-10000	1000	100
0-400	50	5	0-15000	2000	200
0-600	100	10	0-20000	4000	500
0-1000	100	10			

## SPAN™ Liquid Filled Sub-Sea Gauge – 4.5”

### Performance Data

Accuracy	1% Full Scale Grade 1A (Vac -15000) 2% Full Scale (20000 only)
Design	ANSI/ASME B40.1
Operating Temp.	-40 to 150F

### Temperature Error

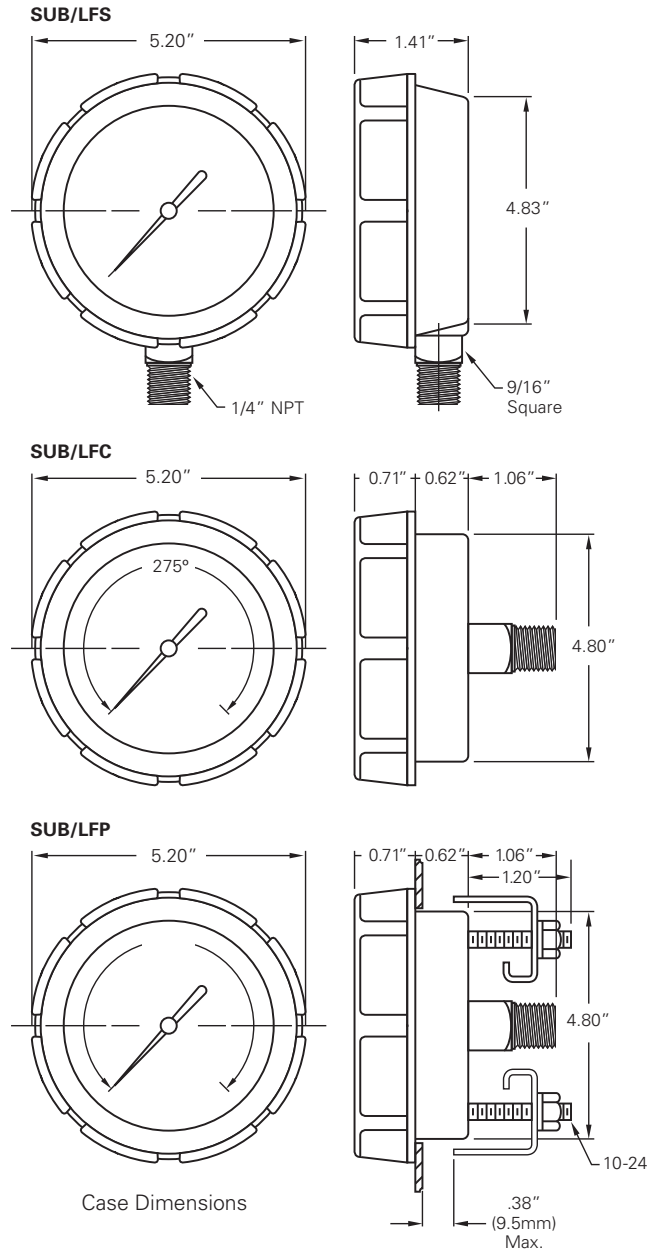
Additional error when temperature changes from reference temperature of 68F (20C) +0.4% for every 18F (10C) rising or falling as a percentage of Span.

### Weather Protection

Weather tight (NEMA 4X / IP 65)

### Optional Extras

IB1	=	KEMX Buna-N Diaphragm
IV1	=	KEMX Viton - Diaphragm
IE1	=	KEMX EPDM - Diaphragm
CERT	=	NIST Certified with Calibration Points
RECAL	=	Slotted Adjustable Pointer
02C	=	Oxygen Cleaning
STUD	=	Back Mount Studs for Wall Mounting
OEM	=	Custom Dials
COL	=	Color Bezel



**Ordering Number for 4.5” 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	4 = 4-1/2	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		2=2% Accuracy 20000 PSI Only				
SUB/LFP = Panel Mount U-Clamp						
<b>Example: SUB/LFS -</b>	<b>4 -</b>	<b>1</b>	<b>2</b>	<b>100 -</b>	<b>G</b>	<b>CERT</b>

( SUB/LFS-412-100-G-CERT )



Born in the 'Oil Patch' in 1970, the **SPAN** liquid filled pressure gauge was the standard for offshore platform, ROV, panel makers and oil patch support equipment.

The **ORIGINAL** is still the **BEST!**



**Case & Bezel:** Zytel Nylon for Maximum Corrosion Resistance.

**Size:** Matching 2-1/2", 3-1/2" and 4-1/2" Dial Sizes.

**Socket & Tube:** Brass or Stainless Steel.

**Fill:** Glycerin, Fully Filled.

**Accuracy:** 1% Full Scale ANSI Grade 1A.

**Connection:** 1/4" NPT Bottom or Back. (1/2" NPT Optional)

**Ranges:** VAC thru 20,000 PSI. Custom Dials Available.

**Styles:** Stem, Center Back Mount and Panel Mounting.

'ICD' patented internal breathing diaphragm offers TOTAL liquid fill. Excellent in angled panel mounting applications. ESSENTIAL in any sub-sea or ROV deep water application.

NIST certified gauges available as option.

SPAN Sub Sea Gauges are made to order and have special construction for this application. Contact factory for specifications and ordering information.

