

# 3D PRECISION TEST GAUGE

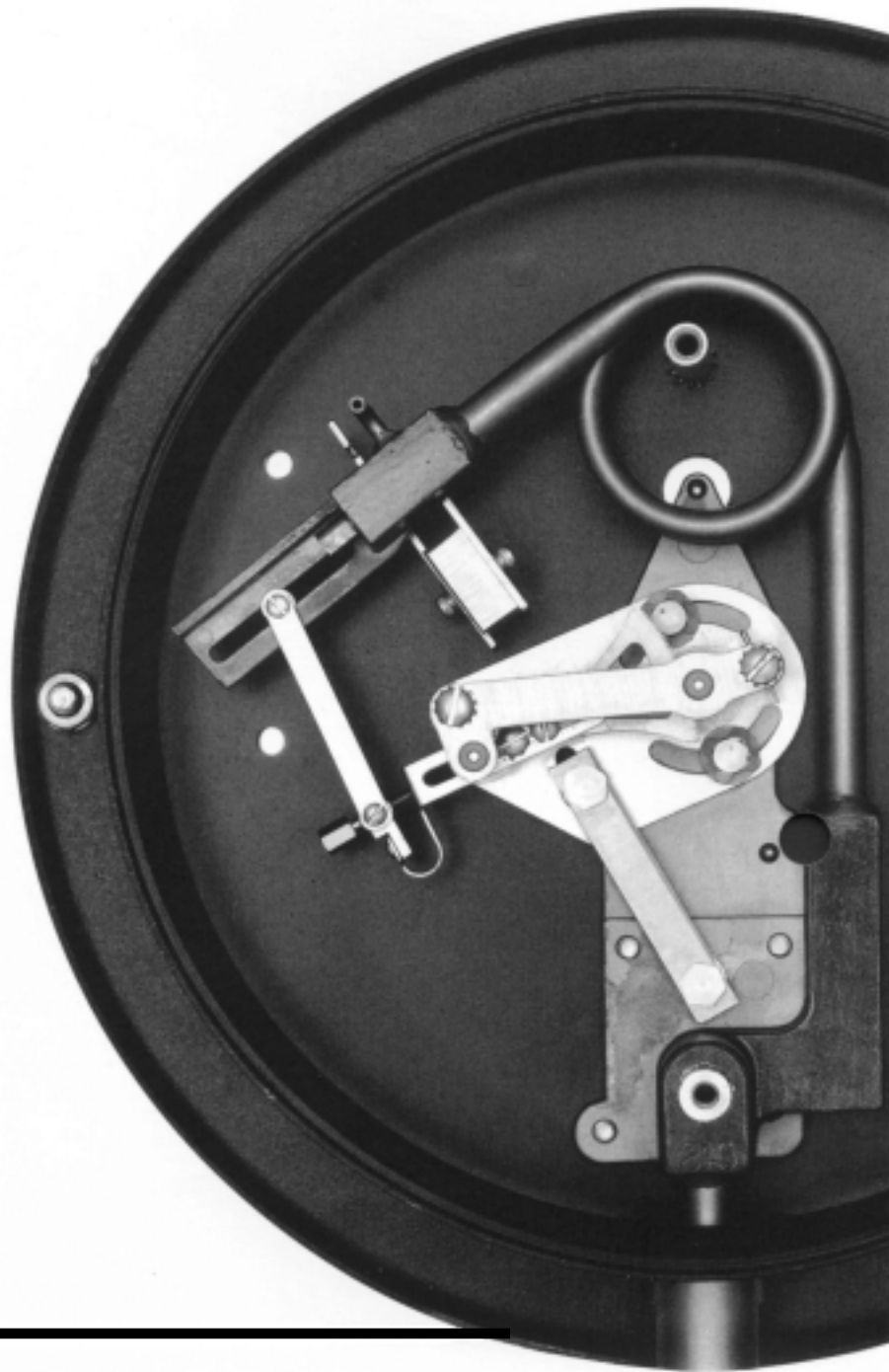


**3D** Instruments, Inc.  
*Direct Drive Difference*

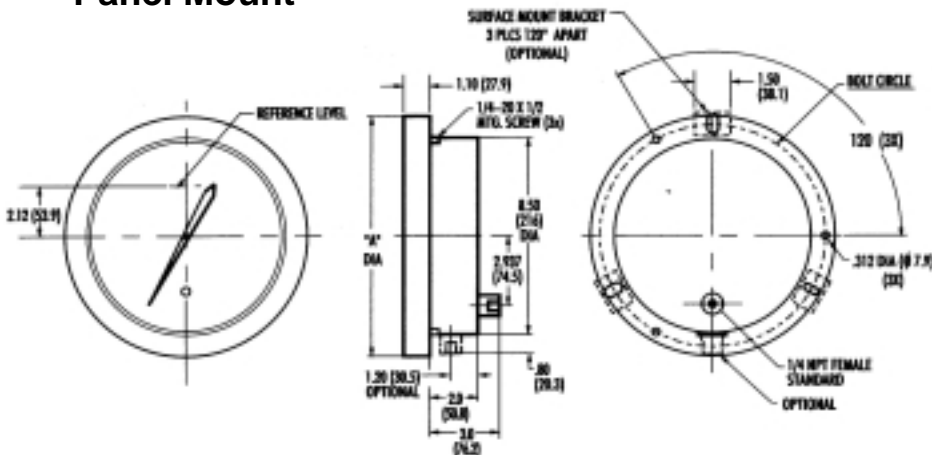
# The Best Precision Test Gauge For Your High Accuracy Requirements

## Features

- High accuracy 0.1% of span
- Repeatability 0.02% of span
- Hysteresis 0.1% of span (or less)
- Inherent temperature compensation from: -25 °F (-32 °C) to +125 °F (+52°C)
- 120% full scale pressure with no calibration shift
- 200% full scale pressure without damage
- Corrosion resistant materials
- Linear dials, span micro-adjust and zero reference adjust allow component replacement and simplify recalibration
- Easy reading high resolution 3D dial in soft green and white with a mirror band to eliminate parallax error
- 5 year warranty



## Panel Mount



M		M R	M <sup>R</sup> R
PANEL CUT OUT FOR ALL SIZES IS 8.75 (222.3)			
ALL DIMENSIONS ARE IN INCHES (MM)			

# The Best Precision Test Gauge For Your High Accuracy Requirements

The 3D Precision Test Gauge is certified for industrial and laboratory pressure transfer measurement in the U.S. and worldwide.

Incorporating 3D Instruments' well known expertise in test gauge design and application, the Precision Test Gauge provides unsurpassed long-term accuracy. The dial face design comes directly from 3D experience with the practical use of high resolution pressure calibration in the laboratory and the field.

Utilizing a highly sensitive Ni-Span C Bourdon tube, the Precision Test Gauge is virtually unaffected by temperature variations. This obsoletes the need for an expensive add-on temperature compensation device. The Bourdon tube material offers a superior spring rate varying only 0.02% from  $-25^{\circ}\text{F}$  ( $-32^{\circ}\text{C}$ ) to  $+125^{\circ}\text{F}$  ( $+52^{\circ}\text{C}$ ).

With the 3D Precision Test Gauge there is no need for preliminary pressure cycling. All materials used are selected to be corrosion resistant. All gauges are supplied with a bleed port, and Bronze bushings are used ensuring low friction and long term precision in extreme applications involving dust, vibration and temperature variation.

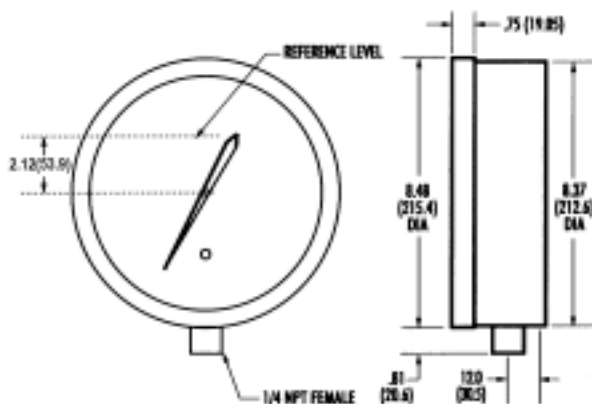
The gauge dial uses 3D Instruments well known anti-glare soft green with mirror anti-parallax band, and white outer ring for maximum user resolution. This system has proven practical advantages for technicians and engineers.

All Precision Test Gauge dials are linear and interchangeable in the field for the same pressure range. The advantage of using the Ni-Span C Bourdon tube and the resulting low hysteresis is that the Precision Test Gauges are not individually matched to a non-linear dial. This makes field repair and calibration not only a possibility but a relatively easy task performed with exactness and facility by instrument technicians in real world situations.

3D Instruments, already the major force in mechanical field test gauge pressure instruments, is proud to supply the best available Precision Test Gauge for your high accuracy applications.



## Stem Mount



# Precision Test Gauge Specifications

**Precision Test Gauge Accuracy** - 0.1% of span

This accuracy statement includes repeatability, linearity and hysteresis, obtained by calibration with pressure standards traceable to NIST

**Calibration Points** - 12 points up scale and 12 down scale

**Overpressure** - 120% of span without calibration shift  
200% of span without damage

**Repeatability** - 0.02% of span

**Hysteresis** - .1% span or less

**Measurand Fluid** - gauges are calibrated with air (up to 1,000 psi) or distilled water (up to 10,000 psi), Other fluids compatible with Ni Span C, 300 series stainless steel and Buna-N may be used. Gauges may be oxygen cleaned.

**Needle Movement** - 310°

**Temperature** - 25°F (-32°C) to 125°F (+52°C)

operating ambient

**Warranty** - 5 years

The lowest full scale pressure is 15 psi (1 bar), the highest full scale pressure is 10,000 psi (660 bar) or the equivalent in other pressure units. These ranges are available in PSIG, PSIA, INCHES OF MERCURY, and MILLIMETERS OF MERCURY. Other ranges and pressure units are available on request.

Gauge Diameter	Model Number	Standard Fittings (1)	Mounting	Net Weight (lbs.)	Shipping Weight (lbs.)
7	25X19	Bottom	*Stem	4 (1.8 kg)	11 (5.0 kg)
8.5	25X16	Lower Back	Panel	5 (2.2 kg)	12 (5.5 kg)
12	25X17	Lower Back	Panel	7 (3.2 kg)	14 (6.4 kg)
16	25X18	Lower Back	Panel	12 (5.5 kg)	20 (9.0 kg)

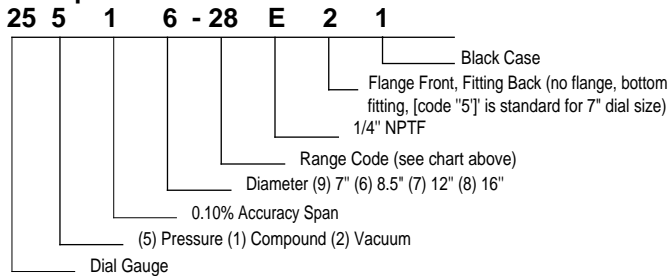
\*Front flange available as an option. Consult factory

Code	Standard Range	Increments	Sub-divisions	Gauge Diameter
15	0-15 psi	750	.02	7, 8.5, 12
		1500	.01	16
21	30 psi	600	.05	7, 8.5, 12
		1500	.02	16
22	60 psi	600	.10	7, 8.5, 12
		1200	.05	16
23	1 00 psi	1000	.1	All
24	150 psi	750	.2	7, 8.5, 12
		1500	.1	16
25	200 psi	1000	.2	All
26	300 psi	600	.5	7, 8.5, 12
		1500	.2	16
51	400 psi	800	.5	All
27	500 psi	1000	.5	All
28	600 psi	600	1	7, 8.5, 12
		1200	.5	16
53	800 psi	800	1	All
29	1000 Psi	1000	1	All
31	1 500 psi	750	2	7, 8.5, 12
		1500	1	16
32	2000 psi	1000	2	All
33	3000 psi	600	5	7, 8.5, 12
		1500	2	16
34	4000 psi	800	5	All
35	5000 psi	1000	5	All
36	6000 psi	600	10	7, 8.5, 12
		1200	5	16
37	8000 psi	800	10	All
38	10000 psi	1000	10	All
VACUUM				
15 (AAU)	15-0 psi	750	.02	7, 8.5, 12
		1500	.01	16
15	30-0 in / hg	600	.05	7, 8.5, 12
		1500	.02	16
15 (AAQ)	800-0 mm / hg	800	1	All

## Ordering Information

3D 1/10% Precision Test Gauges can be ordered by building a part number as follows:

**Example:**



NOTE: (1) Standard fittings are female 1/4" NPT Other fittings are optional.

An ISO 9000



Registered Company

