

PRESSURE SENSORS

► 2200 Series Pressure Transducers

Features

- Superior long term stability
- Excellent repeatability
- Temperature compensated
- All stainless steel wetted parts
- Configurable to each specific application

Benefits

- Routine calibration not required
- Maintains accuracy over wide temperature range
- Compatible with corrosive fluids/gases
- Retro-fit to existing systems

Equipment Used On

- Gas management systems
- Vacuum systems
- Anaesthetic gas scavengers
- Cryogenic surgical devices
- Chemical sterilizers
- Steam sterilizers
- Manifold control panel
- Compressed air systems

Fluid Monitoring Applications

- Medical gases/anesthesia
- Steam
- Detergent/Wash
- Water
- Oxygen

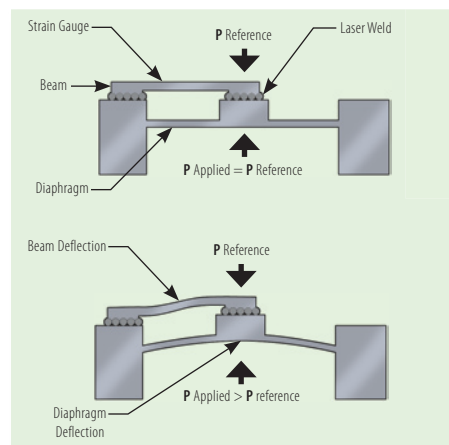
Medical Equipment Pressure Transducer



Gems 2200 Series range of pressure transducers feature proven Chemical Vapor Disposition (CVD) sensing technology to provide long-term stability and outstanding levels of accuracy over broad operating temperature ranges. The all stainless steel construction of media wetted parts ensures compatibility with medical gases and caustic fluids. A wide choice of pressure and electrical fittings allows direct fitting to existing systems.

Operating Principle

A four arm active Wheatstone Bridge manufactured using Chemical Vapor Deposition techniques to deposit silicon on stainless steel, is laser welded to a force summing diaphragm. ASIC technology provides accurate temperature compensation and a wide choice of electrical outputs.



Polysilicon strain gauges are attached to the sensor beam at the molecular level utilizing Chemical Vapor Disposition (CVD) manufacturing methods. $P_{\text{Applied}} > P_{\text{Reference}}$ deflects the diaphragm and attached beam, the a tomically fused strain gauges provide a proportional output for an applied pressure.


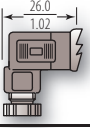
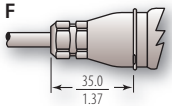
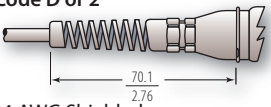
Specifications

2200 Series


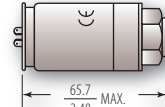
Input	
Pressure Range	Vacuum to 400 bar G (6000 psi) 0 - 25 bar Absolute
Proof Pressure	2 x Full Scale (FS) (1.5 x Fs for 400 bar, ≥ 5000 psi)
Burst Pressure	>35 x FS ≤ 6 bar (100 psi) >20 x FS ≥ 60 bar (1000 psi) >5 x FS ≤ 400 bar (6000 psi)
Fatigue Life	
	Designed for more than 100 million FS cycles
Performance	
Long Term Drift	0.2% FS/year (non-cumulative)
Accuracy	0.25 % FS typical (optional 0.15% FS)
Thermal Error	1.5% FS typical (optional 1% FS)
Compensated Temperatures	-20° to 80° C (-5° to 180° F)
Operating Temperatures	-40° to 125° C (-40° to 260° F) for elec. codes A, B -20° to 80° C (-5° to 180° F) for elec. codes 2, D -20° to 50° C (-5° to 125° F) for elec. code F
Zero Tolerance	1% of span
Span Tolerance	1% of span
Mechanical Configuration	
Pressure Port	See examples at right
Wetted Parts	17-4 PH Stainless Steel
Electrical Connection	See examples below
Enclosure	316 SS, 17-4 PH SS IP65 for elec. codes A, B, D, F, 2 IP67 for elec. code "F"
Vibration	35g peak sinusoidal, 5 to 2000 Hz
Acceleration	100g steady acceleration in any direction 0.032% FS/g for 1 bar (15 psi) range decreasing logarithmically to 0.0007% FS/g for 400 bar (6000 psi) range.
Shock	Withstands free fall to IEC 68-2-32 procedure 1
Approvals	CE
Weight	approx. 100 grams (additional cable; 75 g/m)

Components

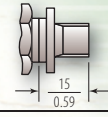
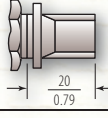
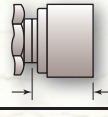
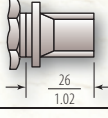
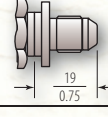
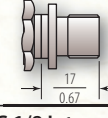

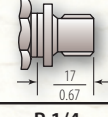
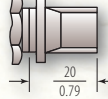
The 2200 Series is highly configurable and provides a wide selection of both electrical connections (examples below) and pressure port connections (examples right). Your Gems Medical Specialist will help with the ideal configuration to suit your application requirements.

Mini 4 Pin - No Connector
Code B 
Mini 4 Pin - With Connector
Code A  26.0 1.02
IP67 Cable (Waterproof)
Code F  35.0 1.37
24 AWG Shielded PVC
IP67 or NEMA 4 Cable
Code D or 2  70.1 2.76
24 AWG Shielded

mm
inch

mV Gauge/Absolute Amplified Gauge
 61.6 2.43 MAX.
Amplified Absolute
 65.7 2.48 MAX.

Maximum diameter 27.3 mm (1.07")

1/8-27 NPT
 15 0.59
1/4-18 NPT
 20 0.79
1/4-18 NPT Internal
 24 0.95
1/2-14 NPT
 26 1.02
7/16-20 UNF-2A
 19 0.75
9/16-18 UNF-2A
 17 0.67
G 1/8 Internal

G 1/4 External
 17 0.67
R 1/4
 20 0.79

Our Medical Equipment Specialists are ready to discuss your sensor requirements, so don't hesitate to give us a call.

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