

# 890 Series – 3A Sanitary Pressure Transducer

- ▶ For Clean-In-Place (CIP) and Sterilize-In-Place (SIP)
- ▶ 0.20% Full Scale Accuracy
- ▶ No Liquid Fill Diaphragms

The 890 Series meets 3A sanitary design standards and is fully sealed to withstand external high pressure washdowns. These units are packaged in rugged welded stainless steel housings and are exceptionally insensitive to vibration, shock and environmental extremes. A small size and tri-clover sanitary pressure fitting allow direct mounting in most CIP and SIP installations. Other features include IC-based circuitry, a 1/2" NPT conduit fitting and shielded cable with vent tube. Sealed screws provide access to zero and span adjustments.

## Specifications

| Input                    |  |
|--------------------------|--|
| Pressure Range           | Vacuum to 1000 psig  |
| Proof Pressure           | see ordering chart   |
| Burst Pressure           | see ordering chart   |
| Fatigue Life             | >1 million cycles  |
| Performance              |  |
| Output                   | 4-20 mA (2 Wire)   |
| Supply Voltage (Vs)      | 18-38 VDC  |
| Accuracy                 | 0.20% FS   |
| Thermal Error Zero       | 0.02% FS/°F (0.036%FS/°C)                                    |
| Thermal Error Span       | 0.02% FS/°F (0.036%FS/°C)                                    |
| Compensated Temperatures | 20°F to 180°F (-7°C to +80°C)                                |
| Operating Temperatures   | -40°F to +260°F (-40°C to +125°C)                            |
| Storage Temperatures     | -65°F to +260°F (-54°C to +127°C)                            |
| Zero Tolerance           | 1% FS (±0.5 mA adjustable)                                   |
| Span Tolerance           | 1% FS (±0.5 mA adjustable)                                   |
| Maximum Loop Resistance  | (Vs-18) x 50   |
| Response Time            | 10 ms  |
| Mounting Effects         | 0.15% FS (.25% FS for 1.5" Tri-Clover)                       |
| Mechanical Configuration |  |
| Pressure Port            | 1.5" or 2" Tri-Clover Sanitary Fitting                       |
| Wetted Parts             | 316 Stainless Steel  |
| Electrical Connection    | 1/2" NPT Conduit Fitting and Strain Relief with 15 ft. Cable |
| Enclosure                | Stainless Steel  |
| Vibration                | 10g Peak Sinusoidal, 50 to 1000 Hz                           |
| Acceleration             | 10g  |
| Shock                    | 50g  |
| Approvals                | Meets 3-A Sanitary Standards                                 |
| Weight                   | 8 oz   |



## Applications

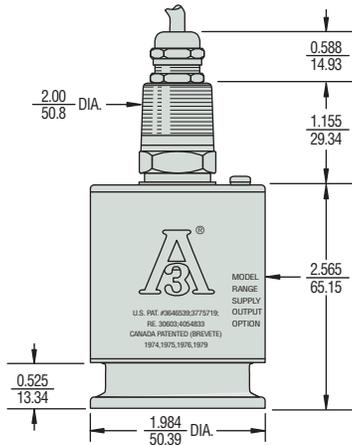
- Food Processing
- Dairy & Beverage Processing
- Pharmaceutical Processing
- Sanitary Pipelines

## How They Operate

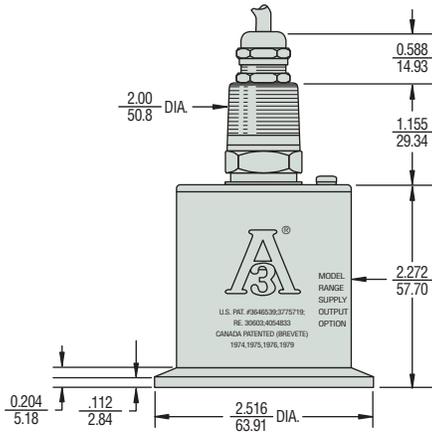
A stainless steel diaphragm and an insulated electrode form a variable capacitor. Pressure on the diaphragm alters the sensor's capacitance, which is then detected and converted to a highly accurate linear 4-20 mA signal by electronic circuitry featuring Gems' patented charge-balance principle. Low hysteresis, very stable operation and negligible clamping effect are inherent.

**Dimensions**

**1.5" Fitting**



**2" Fitting**



Gems adheres to strict quality standards including MIL-1-45208A and ANSI-2540-1.

**How to Order**

Order as 890 Series Sanitary Pressure Transmitters. Specify Pressure Range (tabulated below), Fitting Size and any Options. Use **bold** characters to construct a product code.

**SELECT**

**C890 - 10 - 1.5 - \* - \* - \* - \***

1. Series **C890** - 890 Series

2. Pressure Ranges

| 2" Tri-Clover Sanitary Fittings |                      |               |               | 1.5" Tri-Clover Sanitary Fittings |               |               |
|---------------------------------|----------------------|---------------|---------------|-----------------------------------|---------------|---------------|
| Operating Range<br>psig         | in. H <sub>2</sub> O | Proof<br>psig | Burst<br>psig | Operating Range<br>psig           | Proof<br>psig | Burst<br>psig |
| <b>1</b>                        | 27.7                 | 50            | 100           | <b>30</b>                         | 1000          | 1200          |
| <b>2</b>                        | 55.4                 | 100           | 150           | <b>60</b>                         | 1000          | 1200          |
| <b>5</b>                        | 138.4                | 150           | 200           | <b>100</b>                        | 1000          | 1200          |
| <b>10</b>                       | 276.8                | 150           | 200           | <b>300</b>                        | 1000          | 1200          |
| <b>15</b>                       | 415.2                | 150           | 200           | <b>500</b>                        | 1000          | 1500          |
| <b>30</b>                       | 830.4                | 150           | 300           | <b>1000</b>                       | 1250          | 2400          |
| <b>60</b>                       | 1160.8               | 180           | 400           | <b>-14.7 to 15</b>                | 1000          | 1200          |
| <b>100</b>                      | 2768.0               | 200           | 400           | <b>-14.7 to 45</b>                | 1000          | 1200          |
| <b>150</b>                      | 4152.0               | 225           | 400           |                                   |               |               |
| <b>-14.7 to 15</b>              | -407 to 415          | 150           | 300           |                                   |               |               |

3. Pressure Port **1.5** - 1.5" Tri-Clover Sanitary Fitting  
**2.0** - 2" Tri-Clover Sanitary Fitting

4. Options (\*Add as suffix to base part code as needed)  
**715** - ±0.1% FS accuracy  
**884** - 20 Ra finish  
**911** - Etched metal stainless steel tag  
 Cable Length:  
**816-825** - For cable lengths of 16 to 25 feet (15 ft. is standard).  
 Please specify cable length by code (e.g., 820 for 20 ft. cable).  
 Consult factory for cable longer than 25 feet.  
 Calibration Certificate:  
**901** - 11-point calibration certificate.

**PRESSURE TRANSDUCERS**