

## Model KS Sanitary Transmitter



### APPLICATIONS:

*Dairy, food, pharmaceutical and any 3A sanitary application*

### FEATURES:

- 316L stainless steel electropolished (1½"-2") Tri-Clamp® style diaphragm
- Vac.-1000 psi pressure range
- Stainless steel NEMA 4X enclosure
- Superior long-term stability and repeatability
- Current/voltage/millivolt output
- Wide range of electrical connections available
- All-welded construction

Ashcroft® combines the proven polysilicon thin film technology with its longtime know-how of diaphragm seals to create the KS sanitary pressure transmitter. The all-welded stainless steel construction meets the 3A Sanitary Standard 74-02.

The KS Sanitary Pressure Transmitter features the benefits of polysilicon thin film performance at an affordable price. Modern chemical vapor deposition methods provide simple, stable, molecular bonds between a proven metal diaphragm and polysilicon strain gage bridge. There are no epoxies or bonding agents to contribute to signal instability or drift. The integral metal diaphragm and polysilicon bridge are virtually unaffected by shock, vibration or mounting position.

### PERFORMANCE SPECIFICATIONS

**Accuracy Class (Span):** ±1.0%  
 Includes non-linearity, (Terminal Point Method), hysteresis, non-repeatability, zero offset and span setting errors  
**Best fit straight line (BFSL)** ±0.75%  
 Includes non-linearity, hysteresis and non-repeatability errors

### ENVIRONMENTAL SPECIFICATIONS

**Temperature**  
 Storage -65/+250°F (-54 to +120°C)  
 Operating -20/+180°F (-28 to +82°C)  
 Compensated +30/+130°F (0 to +50°C)  
**Thermal Coefficients: (68°F (20°C) ref.) % Span/°F Standard:**  
 ZERO ±0.04%  
 SPAN ±0.04%

**Humidity:** No performance effect at 95% relative humidity – noncondensing

### FUNCTIONAL SPECIFICATIONS

**Standard Ranges (psi)**  

|        |        |           |
|--------|--------|-----------|
| 0/30*† | 0/300† | vac./30*  |
| 0/60*† | 0/500  | vac./60*  |
| 0/100† | 0/750  | vac./100† |
| 0/150† | 0/1000 |           |
| 0/200† |        |           |

Consult factory for nonstandard ranges.

\*T/C multiply by 1.5 times.

†NEMA 4X only with F2 and C1 electrical connections.

### Overpressure: (F.S.)

Proof 200%  
 Burst 800%

**Vibration Sweep:** Less than ±0.1% span effect for 0-2000 Hz at 20 g's in any axis

**Shock:** Less than ±0.05% span effect for 100 g's, 20ms shock in any axis

**Position Effect:** Less than 0.01% span

### ELECTRICAL SPECIFICATIONS

#### Transmitter Output Signal:

4-20mA (2 wire)  
 1-5 Vdc (3 wire)  
 1-6 Vdc (3 wire)

**Supply Current:** Less than 3mA for voltage output

#### Power Requirements:

10-36 Vdc unregulated

#### Reverse polarity protected

#### Transducer Output Signal:

2m V/V ratiometric  
 3m V/V ratiometric  
 10m V/V ratiometric  
 20m V/V ratiometric

**Power Requirements:** 5-10 Vdc regulated

#### Circuit to Case Insulation Resistance:

100 M ohms @ 50 Vdc



## Model KS Pressure Transducer/Transmitter

### PHYSICAL SPECIFICATIONS

**Enclosure:** NEMA 4X

**Weight:** 13.5 oz (approx. without cable)

#### MATERIALS

**Case:** 300 series stainless steel

**Cable:** No. 24 AWG, 36" PVC, shielded, vented, UL approved

**Diaphragm:** 316L SS, 12-20 Ra surface finish

#### Standard Process Connections:

316L stainless steel electropolished

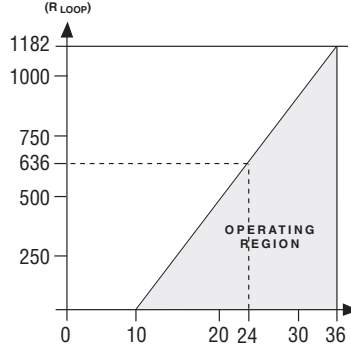
Tri-Clamp® style 1½", 2"

**Fill:** USP grade 99.5% glycerin fill, contact factory for other fill fluids

**Consult factory for pricing, availability and required minimums for nonstandard products.**

**WARNING! Sensitive Diaphragm!**

### Load Limitations 4-20mA Output Only



$$V_{min} = 10V + (.022A \times R_L)$$

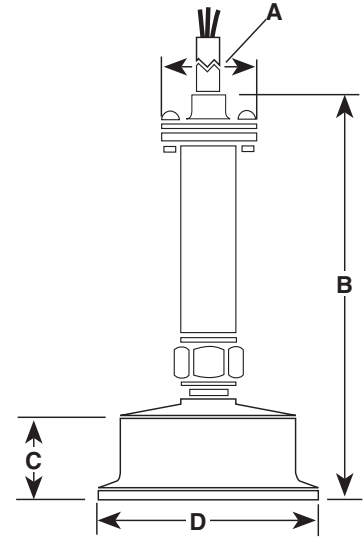
$$R_L = R_S + R_W$$

$R_L$  = Loop Resistance (ohms)

$R_S$  = Sense Resistance (ohms)

$R_W$  = Wire Resistance (ohms)

### Dimensions



| MODEL | A   | B   | C   | D   |
|-------|-----|-----|-----|-----|
| S15   | 0.8 | 4.7 | 0.9 | 2.0 |
| S20   | 0.8 | 4.7 | 0.9 | 2.5 |

### How To Order

|                                   |                                         |                                                                                       |                                                                                                                               |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                     |          |
|-----------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>KS</b>                         | <b>7</b>                                |                                                                                       |                                                                                                                               |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                     | <b>#</b> |
| <b>Type Configuration</b><br>(KS) | <b>Accuracy</b><br>(7) 1.0%, ±0.040%/°F | <b>Sanitary Seal</b><br>(S15) 1½" Sanitary Connection<br>(S20) 2" Sanitary Connection | <b>Output Signal</b><br>(42) 4-20mA<br>(16) 1-6 Vdc<br>(15) 1-5 Vdc<br>(02) 2mV/V<br>(03) 3mV/V<br>(10) 10mV/V<br>(20) 20mV/V | <b>Electrical Termination</b><br>(F2) 36" Cable, Shielded, PVC Sheathing<br>(B6) Bendix 6-pin #PT02A-10-6P*<br>(B9) WP Bendix 6-pin #PT02H-10-6P*<br>(B4) Bendix 4-pin #PT02A-8-4P*<br>(B8) WP Bendix 4-pin #PT02H-8-4P*<br>(C1) ½ NPT-M Conduit and 36" Cable<br>(HM) Hirschmann Miniature | <b>Pressure Range</b><br>(30) 30 psi<br>(60) 60 psi<br>(100) 100 psi<br>(150) 150 psi<br>(200) 200 psi<br>(300) 300 psi<br>(500) 500 psi<br>(750) 750 psi<br>(1000) 1000 psi<br>See Standard Ranges under Functional Specifications |          |

\*Mating connector available as option