

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 disposition 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

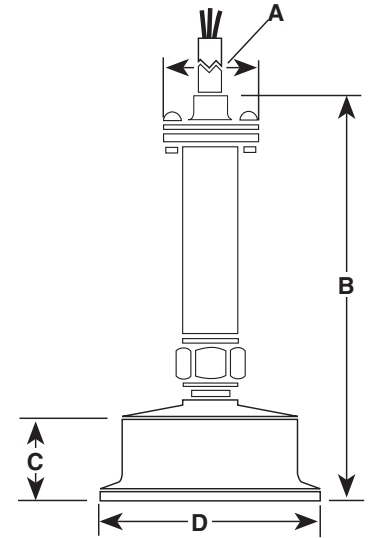
Diaphragm: 316L stainless steel

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

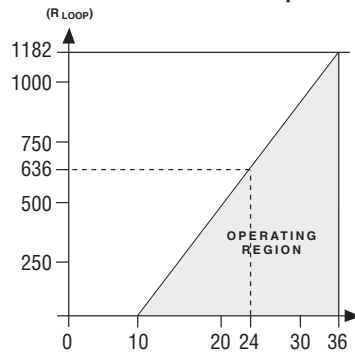
Consult factory for pricing, availability and required minimums for nonstandard products.
WARNING! Sensitive Diaphragm!

Dimensions



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

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)

How To Order

| | | | | | | | |
|--|--|---|---|---|---|---|--|
| <div style="border: 1px solid black; padding: 2px; display: inline-block;">K S</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">7</div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> </div> | <div style="border: 1px solid black; padding: 2px; display: inline-block;">#</div> |
| Type Configuration (KS) | Accuracy (7) 1.0%, ±0.040%/°F | Sanitary Seal (S15) 1½" Sanitary Connection (S20) 2" Sanitary Connection | Output Signal (42) 4-20mA (16) 1-6 Vdc (15) 1-5 Vdc (02) 2mV/V (03) 3mV/V (10) 10mV/V (20) 20mV/V | Electrical Termination (F2) 36" Cable, Shielded, PVC Sheathing (B6) Bendix 6-pin #PTO2A-10-6P* (B9) WP Bendix 6-pin #PTO2H-10-6P* (B4) Bendix 4-pin #PTO2A-8-4P* (B8) WP Bendix 4-pin #PTO2H-8-4P* (C1) ½ NPT-M Conduit and 36" Cable (HM) Hirschmann Miniature | Pressure Range (30) 30 psi (60) 60 psi (100) 100 psi (150) 150 psi (200) 200 psi (300) 300 psi (500) 500 psi (750) 750 psi (1000) 1000 psi See Standard Ranges under Functional Specifications | | |
| | | | | | | <small>*Mating connector available as option</small> | |