

# STAINLESS STEEL (SWS) SERIES FORCE TRANSDUCERS

## FEATURES

- Stainless Steel Construction
- Welded Diaphragm
- Optional Hermetically Sealed Connector
- Guaranteed Maximum Off-Center Load and Moment Error
- Low Creep
- Low Susceptibility to Magnetic Fields
- Temperature and Barometric Pressure Compensation
- 5pt Tension & Compression Calibration
- Proprietary Modulus Compensated Strain Gages



Note: Shown with Optional Integral Cable

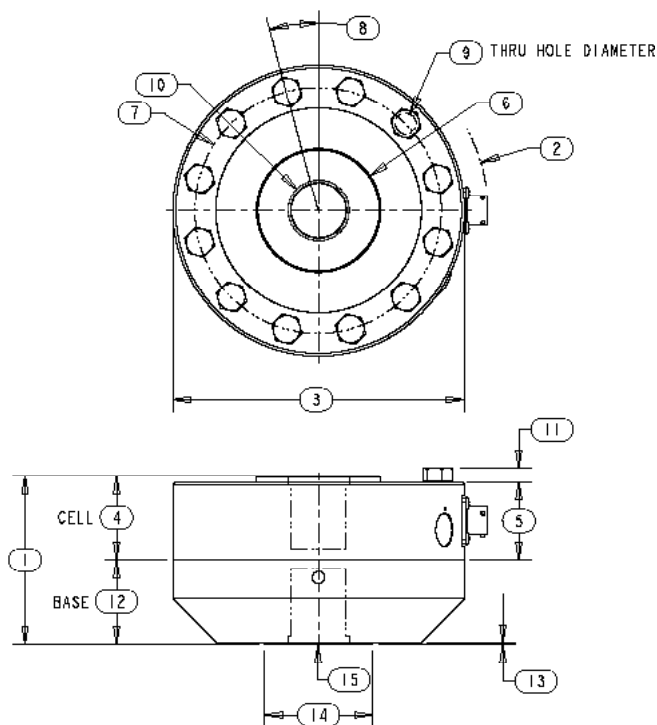
## SPECIFICATIONS

| Model                                 |           | SWS10                       | SWS20         | SWS30         |
|---------------------------------------|-----------|-----------------------------|---------------|---------------|
| Capacity                              | U.S. lbf. | 5K, 10K                     | 25K, 50K      | 100K          |
| PARAMETERS                            | Metric kN | 25, 50                      | 100, 250      | 500           |
| ACCURACY                              |           |                             |               |               |
| Static Error Band, % Rated Output     |           | +/-0.050                    | +/-0.050      | +/-0.060      |
| Nonlinearity, % Rated Output          |           | +/-0.050                    | +/-0.050      | +/-0.050      |
| Hysteresis, % Rated Output            |           | +/-0.060                    | +/-0.060      | +/-0.060      |
| Nonrepeatability, % Rated Output      |           | +/-0.010                    | +/-0.010      | +/-0.010      |
| Creep, % in 20 minutes                |           | +/-0.025                    | +/-0.025      | +/-0.025      |
| Off-Center Load Sensitivity, %/inch   |           | +/-0.250                    | +/-0.250      | +/-0.250      |
| Side Load Sensitivity, %              |           | +/-0.250                    | +/-0.250      | +/-0.250      |
| Zero Balance, % Rated Output          |           | +/-1.0                      | +/-1.0        | +/-1.0        |
| TEMPERATURE                           |           |                             |               |               |
| Range, Compensated, °F                |           | +15 to +115                 | +15 to +115   | +15 to +115   |
| Range, Compensated, °C                |           | -10 to +45                  | -10 to +45    | -10 to +45    |
| Range, Operating, °F                  |           | -65 to +200                 | -65 to +200   | -65 to +200   |
| Range, Operating, °C                  |           | -55 to +90                  | -55 to +90    | -55 to +90    |
| Effect on Sensitivity, % Rdg/ °F      |           | +/-0.0008                   | +/-0.0008     | +/-0.0008     |
| Effect on Sensitivity, % Rdg/ °C      |           | +/-0.0015                   | +/-0.0015     | +/-0.0015     |
| Effect on Zero, % Rated Output/ °F    |           | +/-0.0015                   | +/-0.0015     | +/-0.0015     |
| Effect on Zero, % Rated Output/ °C    |           | +/-0.0027                   | +/-0.0027     | +/-0.0027     |
| ELECTRICAL                            |           |                             |               |               |
| Rated Output, mV/V, Nominal           |           | 4                           | 4             | 4             |
| Excitation Voltage, VDC Maximum       |           | 20                          | 20            | 20            |
| Input Resistance, Ohms                |           | 350 + 40/-3.5               | 350 + 40/-3.5 | 350 + 40/-3.5 |
| Output Resistance, Ohms               |           | 350 +/-3.5                  | 350 +/-3.5    | 350 +/-3.5    |
| Insulation Resistance, Megohm         |           | 5000 @ 50 VDC               | 5000 @ 50 VDC | 5000 @ 50 VDC |
| Bayonet Connector                     |           | PT02E-10-6P (MS3112E-10-6P) |               |               |
| MECHANICAL                            |           |                             |               |               |
| Safe Overload Range, % Rated Capacity |           | +/-150                      | +/-150        | +/-150        |
| Weight lb                             |           | 2.9                         | 9.1           | 23.5          |
| Weight kg                             |           | 1.3                         | 4.1           | 10.7          |
| Weight w/base lb                      |           | 6.5                         | 21.5          | 52.5          |
| Weight w/base kg                      |           | 3.0                         | 9.8           | 23.8          |
| Flexure Material                      |           | Stainless Steel             |               |               |

# STAINLESS STEEL (SWS) SERIES FORCE TRANSDUCERS

## DIMENSIONS

| Model      | SWS10                 | SWS10M               | SWS20                   | SWS20M                   | SWS30                 | SWS30M               |
|------------|-----------------------|----------------------|-------------------------|--------------------------|-----------------------|----------------------|
| Capacity   | 5K, 10K lbf           | 25, 50 kN            | 25K, 50K lbf            | 100, 250 kN              | 100K lbf              | 500kN                |
| Dimensions | inch                  | mm                   | inch                    | mm                       | inch                  | mm                   |
| 1.         | 2.51                  | 63.5                 | 3.51                    | 88.9                     | 4.50                  | 114.3                |
| 2.         | R 2.53                | R 64.3               | R 3.50                  | R 88.9                   | R 4.50                | R 114.3              |
| 3.         | 4.12                  | 104.8                | 6.06                    | 154.0                    | 8.00                  | 203.2                |
| 4.         | 1.38                  | 34.9                 | 1.75                    | 44.5                     | 2.50                  | 63.5                 |
| 5.         | 1.25                  | 31.8                 | 1.63                    | 41.3                     | 2.25                  | 57.2                 |
| 6.         | 1.18                  | 30.0                 | 2.22 25K<br>2.46 50K    | 56.4 100kN<br>62.5 250kN | 3.64                  | 92.5                 |
| 7.         | 3.50                  | 88.9                 | 5.13                    | 130.3                    | 6.50                  | 165.1                |
| 8.         | 22.5°                 | 22.5°                | 15°                     | 15°                      | 11.25°                | 11.25°               |
| 9.         | .28<br>8 Places       | 7.1<br>8 Places      | .41<br>12 Places        | 10.3<br>12 Places        | .53<br>16 Places      | 13.5<br>16 Places    |
| 10.        | 5/8 - 18<br>1.12 Deep | M16 x 2<br>28.5 Deep | 1 1/4 - 12<br>1.50 Deep | M33x 2<br>38.1 Deep      | 1 3/4-12<br>2.20 Deep | M42 x 2<br>55.9 Deep |
| 11.        | 0.18                  | 4.7                  | 0.29                    | 7.5                      | .40                   | 10.2                 |
| 12.        | 1.13                  | 28.6                 | 1.75                    | 44.5                     | 2.00                  | 50.8                 |
| 13.        | 0.03                  | 0.8                  | 0.03                    | 0.8                      | 0.03                  | 0.8                  |
| 14.        | 1.25                  | 31.8                 | 2.25                    | 57.2                     | 3.00                  | 76.2                 |
| 15.        | 5/8-18<br>.88 Deep    | M16 X 2<br>22.4 Deep | 1 1/4-12<br>1.50 Deep   | M33 X 2<br>38.1 Deep     | 1 3/4-12<br>1.75 Deep | M42 X 2<br>44.5 Deep |



## OPTIONS

Additional bridges  
Output adjustment to standard  
Compression overload protection  
Hermetically sealed connector  
Connector Protectors  
Integral cable

## ACCESSORIES

Mating connector  
Loading fixtures  
Interconnect cable  
Shunt calibration resistor  
Instrumentation