

# Ultra Precision, High Output Universal Load Cells

Models 46 and 49

HIGH OUTPUT 4mV/V

STAINLESS STEEL

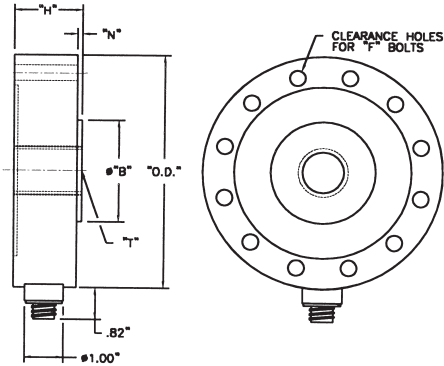
250 TO 200,000 lbs.



Models 46 and 49 offer high output (4mV/V), tension/compression load sensing solutions without sacrificing performance. These rugged all-welded, stainless steel, load cells conform to industry standards and are interchangeable with Sensotec Models 45 and 47. The Model 46 and 49 are available in ranges 250 to 200,000 lbs. and can be customized to your application. Popular options include a pull plate (standard on 49), load button, mating cable, amplified output and *Signature Calibration*.

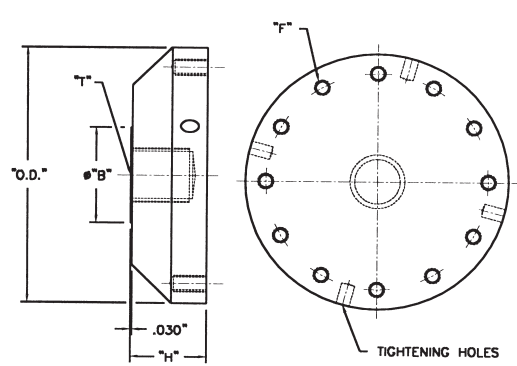
### LOAD CELL

Model 46 (Order Code AL118)  
Model 49 (Order Code AL119)



### PULL PLATE

Model 46 Optional  
Model 49 Installed



## Dimensions

#### Model 46 High Output (Order Code AL118)

#### Model 49 Ultra Precision High Output (Order Code AL119)

Range	O.D."	H"	T	B"	N"	F
250; 500; 1000;						
2000; 5000; 10,000 lbs	4.12	1.37	5/8-18 UNF-3B	1.34	0.12	9/32 Dia., 8 Holes Eq. Sp., 3.50 B.C.
25,000-50,000 lbs	6.06	1.75	1-1/4-12 UNF-3B	2.65	0.12	13/32 Dia., 12 Holes Eq. Sp., 5.125 B.C.
100,000 lbs.	8.00	2.50	1-3/4-12 UNF-3B	3.76	0.25	17/32 Dia., 16 Holes Eq. Sp., 6.50 B.C.
200,000 lbs.	11.00	3.50	2-3/4-8 UNF-3B	4.81	0.50	11/16 Dia., 16 Holes Eq. Sp., 9.00 B.C.

#### Pull Plate for Model 46

Range	Order Code	O.D."	H"	T	B"	F
250; 500; 1000;						
2000; 5000; 10,000 lbs.	AA229	4.12	1.12	5/8-18 UNF-3B	1.25	1/4-28, 8 Holes Eq. Sp., 3.50 B.C.
25,000-50,000 lbs.	AA230	6.06	1.75	1-1/4-12 UNF-3B	2.25	3/8-24, 12 Holes Eq. Sp., 5.125 B.C.
100,000 lbs.	AA231	8.00	2.00	1-3/4-12 UNF-3B	3.00	1/2-20, 16 Holes Eq. Sp., 6.50 B.C.
200,000 lbs.	AA232	11.00	3.00	2-3/4-8 UNF-3B	4.50	5/8-18, 16 Holes Eq. Sp., 9.00 B.C.

## High Output Precision (High Output Ultra-Precision)

**Model 46** (Order Code AL118)    **(Model 49)\*\***  
(Order Code AL119)

	250*; 500*; 1,000; 2,000 lb.	5,000; 10,000 lb.	25,000; 50,000 lb.	100,000 lb.	200,000 lb.
<b>PERFORMANCE</b>					
Range.....	250*; 500*; 1,000; 2,000 lb.	5,000; 10,000 lb.	25,000; 50,000 lb.	100,000 lb.	200,000 lb.
Output, standard (mV/V) .....	2.0	4.0	4.0	4.0	4.0
Static error band, (+/-%F.S.) <sup>1</sup> .....	0.04 (0.02)	0.05 (0.03)	0.05 (0.04)	0.05 (0.04)	0.06 (0.05)
Nonlinearity, (+/-%F.S.) <sup>2</sup> .....	0.04 (0.02)	0.05 (0.03)	0.05 (0.04)	0.05 (0.04)	0.05 (0.05)
Hysteresis, (+/-%F.S.) <sup>2</sup> .....	0.02 (0.02)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.04 (0.03)
Non-Repeatability, (+/-%F.S.) <sup>2</sup> .....	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
<b>ENVIRONMENTAL</b>					
Temperature, Operating .....			-65°F to 200°F		
Temperature, Compensated .....			0°F to 150°F		
Temperature Effect					
- Zero (max) %F.S./°F .....			0.0008		
- Span (max) %Rdg./°F .....			0.0008		
<b>ELECTRICAL</b>					
Excitation, calibrated (VDC) .....			10		
Bridge Resistance, nominal Ω .....			350		
Insulation Resistance mΩ .....			5000 @ 50 VDC		
Wiring Code, standard .....			#39, see appendix		
Electrical Termination.....			PC02A-10-6P		
Mating Harness .....			AA163		
<b>MECHANICAL</b>					
Deflection @ full scale load (in) .....	0.003	0.002	0.004	0.004	0.005
Static Overload Capacity, (+/-%F.S.)*** ..	150	150	150	150	150
Ring Frequency (kHz) .....	1.7, 2.4, 2.4, 3.4	6.8, 9.1	5.7, 7.0	6.3	4.5
Weight, Element (lb) .....	3.1	3.2	8.8	22	55
Weight, base (lb) .....	3.5	3.5	11	20	61
Pull Plate (optional on model 46).....	AA229	AA229	AA230	AA231	AA232
Load Button (optional).....	AA290	AA290	AA291	AA292	AA293

\* 250, 500 lb ranges have 700 Ohm bridge resistance

\*\* Data for model 49 shown in parenthesis, otherwise same for both models

\*\*\*Off-axis loading maximum allowable 50% of F.S.

<sup>1</sup> Static error band is the guaranteed performance specification. The static error band is calculated as the best fit straight line through zero, including the effects of non-linearity, hysteresis and non-repeatability.

<sup>2</sup> Values noted are typical values but fall within the static error band.

## General Information (See Appendix)

Model 46 is standard without a pull plate. On Ultra Precision Model 49, the load cell and pull plate are calibrated as a unit. Internal amplifiers are available for all ranges. Internal amplification for ranges ≤10,000 lbs. (4.12" OD) may increase height. Using an in-line amplifier for ranges ≤10,000 lbs. will avoid this height increase.

**Options:** A.S.T.M. E74 calibration 9c; Overload stops 4x, compression only, engage at approximately 125% of cell capacity—requires pull plate.

**Premium Options:** Signature calibration 53e (Model 46 only); Intrinsically safe amp CENELEC Approved 2N.

**Accessories:** Mating connectors and connector/cable assemblies; Load Buttons (See Appendix).

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