

# Series PNC710

## General Purpose Tension and Compression Pancake Load Cell



Select ranges in stock.

### Standard Features

- 0.10% Linearity
- Tension and Compression
- 3 mV/V output
- All Welded Stainless Steel
- Excellent Off-Axis Capability
- Standard Ranges to 200,000 lbs.
- Shock and Vibration Resistant
- Barometrically Compensated
- 5 Point Tension Calibration Record Traceable to NIST

### Optional Features

- Customer Specified Threaded Center Hole
- Customer Specified Electrical Termination
- Metric Versions
- Overload Stops
- Special Calibrations
- Internal Amplifier for High Level Analog and/or Digital Output
- Dual/Triple Bridges
- Submersible Versions to 30,000 ft. Seawater
- -320°F to 400°F Operating Temperature

### Description

The Series PNC710 load cells are high accuracy low profile “pancake” designs for both tension and compression applications. These force sensors incorporate a threaded-through center hole with dual diaphragms welded to the sensing section and the mounting outer section. This design increases rigidity thus reducing both the effects of off-center loading and side loading. The PNC710 series is constructed of all welded stainless steel for very demanding application environments. Bolted-on or welded-on stainless steel electrical connectors are standard. Hermetically sealed connectors are also available providing for a fully hermetic load cell. Additional features include shock and vibration protection and barometric compensation. These load cells are configured to be universally interchangeable within the industry. Each unit is shipped with a 5 point calibration record traceable to NIST as standard.

### Performance

#### Standard Ranges

100 lbs. FSO to 200,000 lbs. FSO.  
(Ranges in Bold Type are available in stock)  
(see table)

#### Output

3 mV/V  $\pm$ 0.50% FSO.

#### Linearity

0.10% FSO\*.

#### Hysteresis

0.08% FSO\*.

#### Temperature Effect on Zero

0.002% FSO/°F.

#### Temperature Effect on Span

0.002% Reading/°F.

#### Zero Balance

1% FSO.

*\*Note: For the 50K lb. unit, values are typical, maximum error is 0.20% FSO BFSL.*

### Environmental Characteristics

#### Operating Temperature Range

-65°F to 250°F.  
(-320°F to 400°F optional.)

#### Compensated Temperature Range

70°F to 170°F.  
(-65°F to 400°F optional.)

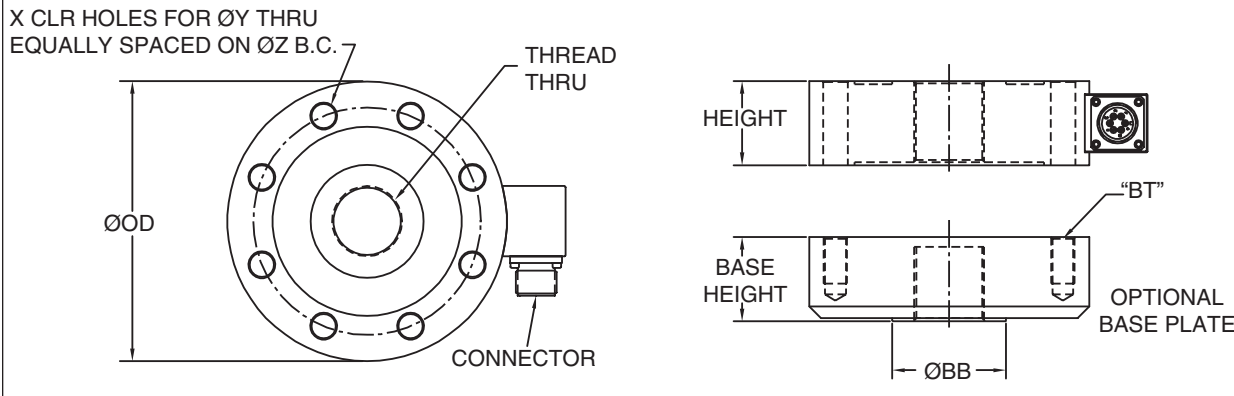
PNC710

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## Specifications

Baseline Configuration Specs Represented.  
Modifications Encouraged - See Below  
Custom Designs Available

### Dimensions (inches)



Capacity (lbs.)	ØOD	Thread	Height	X	Y	Z	Base Height	ØBB	Base Thread Depth	Base BT
<b>100, 250, 500, 1000</b>	3.00	3/8-24 UNF	1.00	6	0.28	2.250	1.00	1.00	0.75	1/4-28 x 0.50 deep
Amplified- 100 thru 1000	3.00	3/8-24 UNF	1.38	6	0.28	2.250	1.00	1.00	0.75	1/4-28 x 0.50 deep
<b>2K, 5K</b>	3.50	1/2-20 UNF	1.00	6	0.34	2.625	1.00	1.50	0.75	5/16-24 x 0.50 deep
Amplified- 2K, 5K	3.50	1/2-20 UNF	1.38	6	0.34	2.625	1.00	1.50	0.75	5/16-24 x 0.50 deep
<b>10K, 15K, 20K</b>	5.50	1-14 UN	1.80	8	0.41	4.500	1.50	2.00	0.75	3/8-24 x 0.75 deep
<b>20K, 30K, 50K</b>	6.00	1-1/2-12 UN	1.80	8	0.53	4.875	1.80	2.50	1.00	1/2-13 x 1.00 deep
<b>75K, 100K</b>	9.00	2-12 UN	2.50	12	0.66	7.750	2.50	3.00	1.25	5/8-18 x 1.00 deep
<b>150K, 200K</b>	11.00	2-1/2-12 UN	3.00	12	0.89	9.500	3.00	NA	1.75	7/8-16 x 1.50 deep

(Ranges in Bold Type are available in stock)

### Mechanical Characteristics

#### Static Overload Without Damage

150% FSO.

#### Standard Calibration

Tension only:

5 points (0, 50%, 100%, 50%, 0 of FSO).

#### Optional Calibrations

##### • Compression only:

5 points (No charge option)

##### • Tension and Compression:

5 points in each direction

##### • Special multipoint calibration

(customer specified):

in tension or compression or both tension and compression.

#### Material

Welded stainless steel.

#### Threads

Female threads (See table).

Metric threads available as option.

### Electrical Characteristics

#### Bridge Resistance

350 Ohms nominal.

#### Excitation

10 Vdc or Vac.

#### Insulation Resistance

Greater than 5000 megaohms at 50 Vdc.

#### Electrical Termination

##### Ranges Up To 5000 lbs.

PTIH-10-6P Stainless Steel Connector or equivalent.

##### Ranges Over 5000 lbs.

MS3102-14S-6P Stainless Steel Connector.

(MIL-C-5015 with glass to metal seals)

#### For All Ranges

Integral cables, at customer specified lengths, are available.

### Electrical Characteristics

#### Connector Pins (Standard)

A +EXE D - EXE

B +EXE E - SIG

C - EXE F +SIG

Customer specified wiring codes are available.

### Options

#### Load Button

Optional.

#### Thread Stops

Optional.

#### Base Plate Kits

Optional - See Table.

Can be installed at factory for calibration.



### Modifications and Warranty

MODIFICATIONS: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice.

WARRANTY: Stellar Technology warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that Stellar Technology's obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by Stellar Technology. This warranty is in lieu of all other warranties expressed or implied.