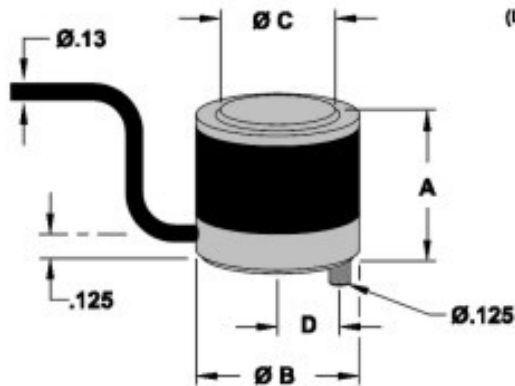


# Helm Load Cells

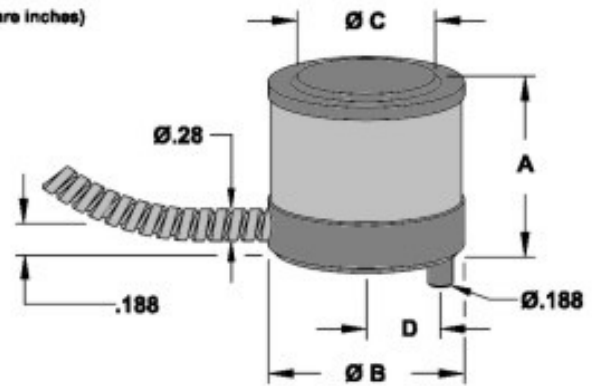
## Low Profile Solid

**Low Capacity 1,000 to 16,000 Lbs.**

**High Capacity 10 to 75 Tons**



(Dimensions are inches)



\* Denotes 1 mV/V output.

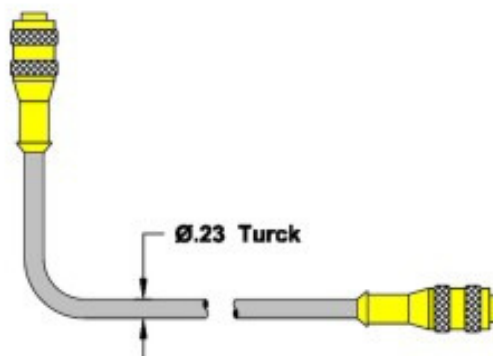
MODEL	A	B	C	D
LCS05-1K*	.625	.490	.246	—
LCS05-2K	.625	.490	.246	—
LCS05-4K	.750	.615	.348	.188
LCS05-8K	.750	.740	.492	.250
LCS05-12K	.875	.865	.603	.313
LCS05-16K	.875	.990	.696	.375

Cover & armor are S/S

MODEL	A	B	C	D
HCS05-10T	1.250	1.240	.778	.375
HCS05-15T	1.250	1.365	.953	.438
HCS05-20T	1.375	1.490	1.100	.500
HCS05-25T	1.500	1.615	1.230	.500
HCS05-50T	1.750	2.240	1.740	.750
HCS05-75T	2.250	2.490	2.130	.875

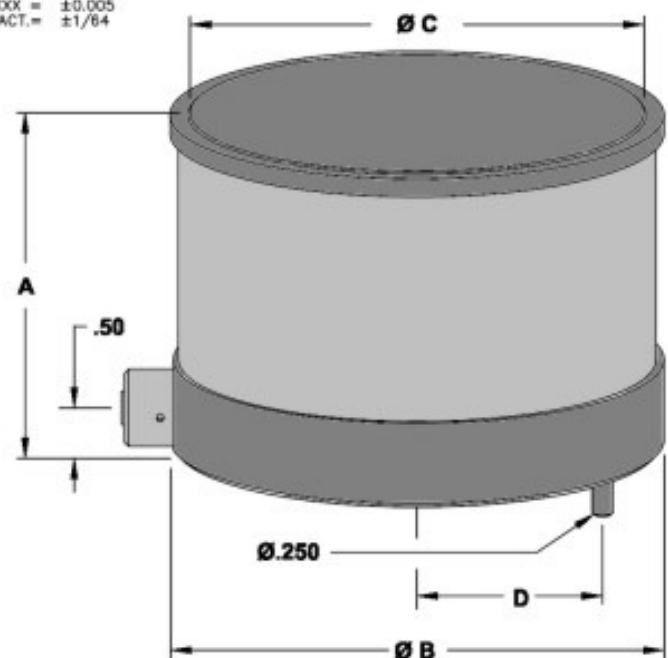
TOLERANCES:  
X.XX =  $\pm 0.010$   
X.XXX =  $\pm 0.005$   
FRACT. =  $\pm 1/64$

**High Capacity 100 to 500 Tons**



Cover is S/S

MODEL	A	B	C	D
HCS05-100T	3.000	2.990	2.460	1.125
HCS05-200T	3.500	3.990	3.480	1.500
HCS05-300T	3.500	4.740	4.260	1.750
HCS05-400T	4.000	5.490	4.920	2.000
HCS05-500T	4.000	5.990	5.500	2.250



T-3283-51B, Rev.02/07/07

# **Low Profile Solid**

## **Low Capacity 1,000 to 16,000 Lbs.**

Helm LPS Series load cells are built from high quality steel to accurately measure compression forces from .5 to 500 tons. The low profile design allows for easy mounting in confined areas. Special protective coatings seal the strain gage elements. An anti-rotation pin is supplied with each load cell to assure proper positional accuracy.

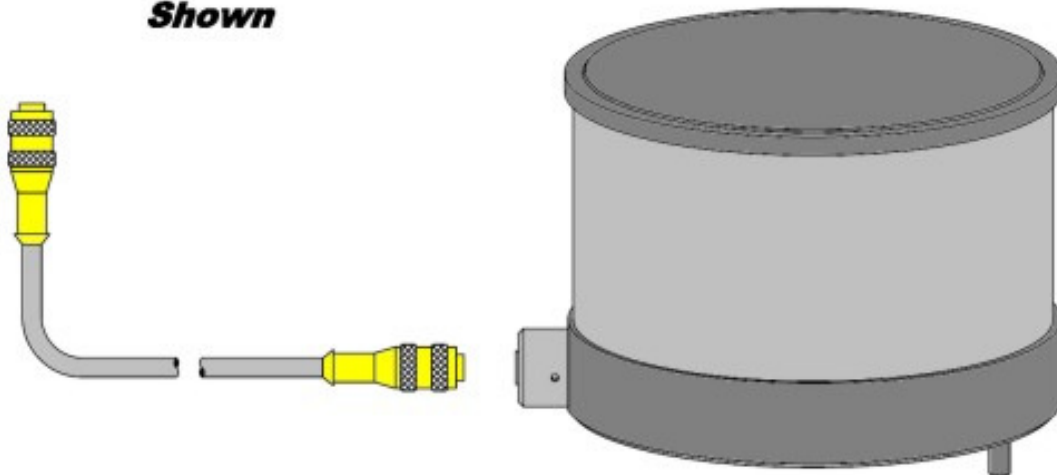
### **Possible Applications:**

<b>Stamping Dies</b>	<b>Blanking Station</b>
<b>Forging Dies</b>	<b>Forming Station</b>
<b>Assembly</b>	<b>Coining Station</b>
<b>Rolling Mills</b>	<b>Piercing Station</b>
<b>Calibration</b>	<b>Staking Station</b>
<b>Tensioner</b>	<b>Insertion Station</b>
<b>Compaction</b>	<b>Crimping Station</b>

## **High Capacity 10 to 500 Tons**

<b>Excitation Voltage:</b>	<b>5-15 Volts DC</b>
<b>Output Voltage:</b>	<b>2m/V Volt *</b>
<b>Bridge Resistance:</b>	<b>175 Ohms</b>
<b>Material:</b>	<b>17-4PH Stainless</b>
<b>Loading Surface:</b>	<b>Precision Ground</b>
<b>Overload Rating:</b>	<b>125%</b>
<b>Temperature Range:</b>	<b>60° to 200° F</b>
<b>Linearity/Hysteresis:</b>	<b>±0.50% Full Scale</b>
<b>Repeatability:</b>	<b>±.25% Full Scale</b>
<b>Cable:</b>	<b>4 Conductor Shield</b>
<b>Cable Length:</b>	<b>15 Ft., Standard</b>
<b>Wiring Code:</b>	<b>Compression</b>
<b>+Gage:</b>	<b>Black</b>
<b>-Gage:</b>	<b>Green</b>
<b>+Signal:</b>	<b>White</b>
<b>-Signal:</b>	<b>Red</b>
<b>Shield:</b>	<b>Gray</b>

### **HELM Model HCS05 - 500T Shown**



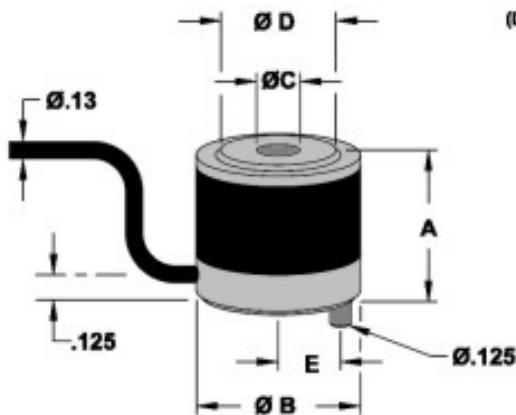
\* Some models have a lower output and are so noted.

T-3283-52B, Rev.02/07/07

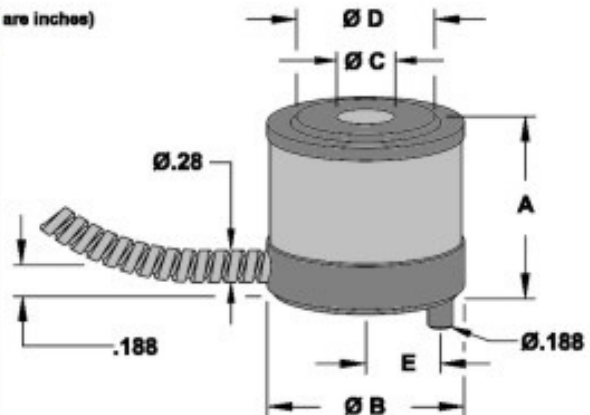
# Low Profile Ring

**Low Capacity 1,000 to 16,000 Lbs.**

**High Capacity 10 to 75 Tons**



(Dimensions are inches)



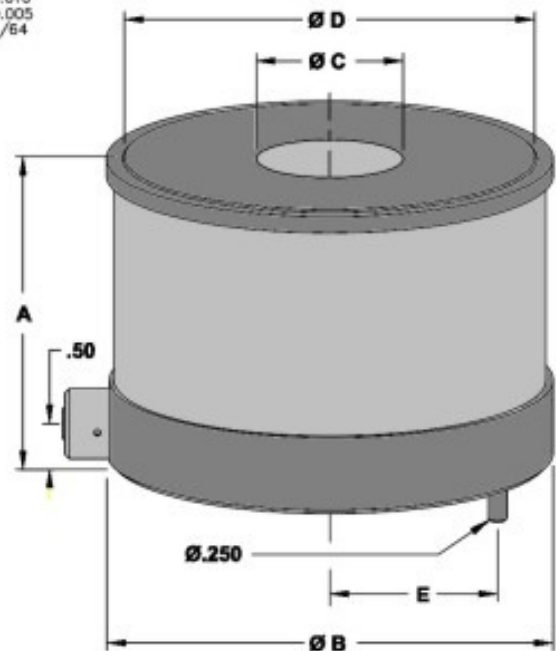
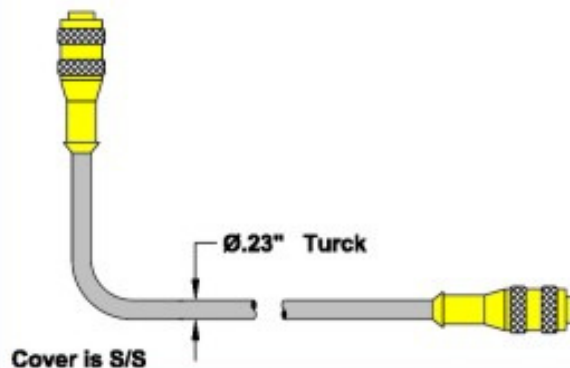
Cover & armor are S/S

MODEL	A	B	C	D	E
LCR05-1K	.625	.740	.250	.351	.250
LCR05-2K	.625	.865	.375	.512	.313
LCR05-4K	.750	.990	.500	.609	.375
LCR05-8K	.750	.990	.500	.702	.375
LCR05-12K	.875	1.115	.500	.783	.406
LCR05-16K	.875	1.115	.500	.857	.406

MODEL	A	B	C	D	E
HCR05-10T	1.250	1.740	.875	1.233	.625
HCR05-15T	1.250	1.740	.875	1.294	.625
HCR05-20T	1.375	1.990	1.000	1.487	.750
HCR05-25T	1.500	1.990	1.000	1.586	.750
HCR05-50T	1.750	2.490	1.250	2.143	.875
HCR05-75T	2.250	2.740	1.250	2.417	1.000

TOLERANCES:  
X.XX =  $\pm 0.010$   
X.XXX =  $\pm 0.005$   
FRACT. =  $\pm 1/64$

**High Capacity 100 to 500 Tons**



MODEL	A	B	C	D	E
HCR05-100T	2.750	3.740	1.500	2.882	1.375
HCR05-200T	3.500	4.490	1.500	3.790	1.625
HCR05-300T	3.500	5.240	1.750	4.608	2.000
HCR05-400T	4.000	5.740	1.750	5.224	2.125
HCR05-500T	4.000	6.240	1.750	5.775	2.313

T-3283-53B, Rev.0/06/07



# **Low Profile Ring**

**Low Capacity 1,000 to 16,000 Lbs.**

**High Capacity 10 to 500 Tons**

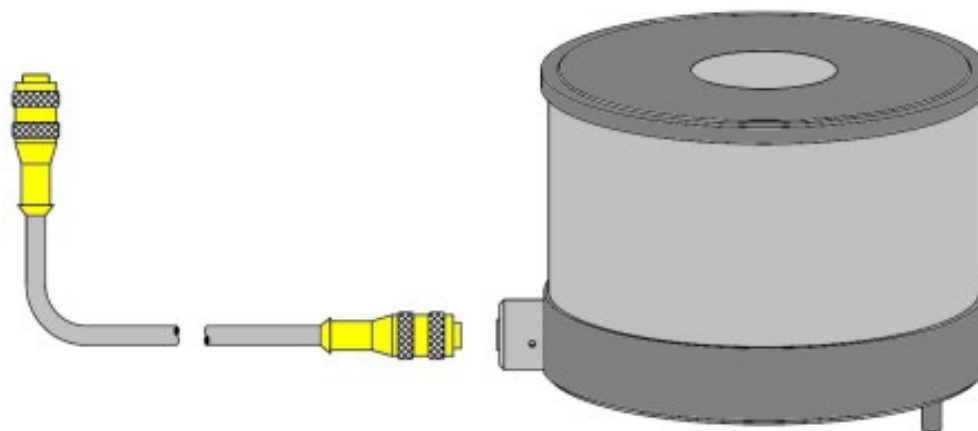
Helm LPR Series load cells are built from high quality steel to accurately measure compression forces from .5 to 500 tons. The low profile design allows for easy mounting in confined areas. Special protective coatings seal the strain gage elements. An anti-rotation pin is supplied with each load cell to assure proper positional accuracy.

## **Possible Applications:**

<b>Stamping Dies</b>	<b>Blanking Station</b>
<b>Forging Dies</b>	<b>Forming Station</b>
<b>Assembly</b>	<b>Coining Station</b>
<b>Rolling Mills</b>	<b>Piercing Station</b>
<b>Calibration</b>	<b>Staking Station</b>
<b>Tensioner</b>	<b>Crimping Station</b>
<b>Compaction</b>	<b>Insertion Station</b>

Excitation Voltage: 5-15 Volts DC  
Output Voltage: 2m/V Volt  
Bridge Resistance: 175 Ohms  
Material: 17-4PH Stainless  
Loading Surface: Precision Ground  
Overload Rating: 125%  
Temperature Range: 60° to 200° F  
Linearity/Hysteresis:  $\pm 0.50\%$  Full Scale  
Repeatability:  $\pm .25\%$  Full Scale  
Cable: 4 Conductor Shielded  
Cable Length: 15 Ft., Standard  
Wiring Code: Compression  
+Gage: Black  
-Gage: Green  
+Signal: White  
-Signal: Red  
Shield: Gray

**HELM Model HCR05-500T**  
**Shown**



# Calibration Load Cells

## 10, 25, 50 AND 100 TON CAPACITIES

These Helm calibration load cells are made from high quality 17-4ph stainless steel, to accurately measure compression forces from 1 ton (2000lbs.) to 100 tons (200,000lbs.)

OEM's and machine users worldwide rely on these load cells, to provide accurate and repeatable loads for testing, calibration, and run-off of new and existing machinery.

### Possible Applications:

- Load testing of metalworking machinery such as: stamping presses, forging presses, and hydraulic presses
- Calibration of force measurement instrumentation and strain gages for load testing
- Verification of current load cell readings on existing machinery

Excitation Voltage: 5-15 Volts DC

Output Voltage: 2m/V Volt

Bridge Resistance: 700 Ohms

Material: 17-4PH Stainless Steel, Rc42- 44

Loading Surface: Precision Ground

Recommended load range: 10 -100% of Capacity

Overload Rating: 125%

Temperature Range: 60°F to 200°F

Linearity/Hysteresis:  $\pm 0.25\%$  Full Scale

Repeatability:  $\pm 0.10\%$  Full Scale

Cable: 4 Conductor Shielded

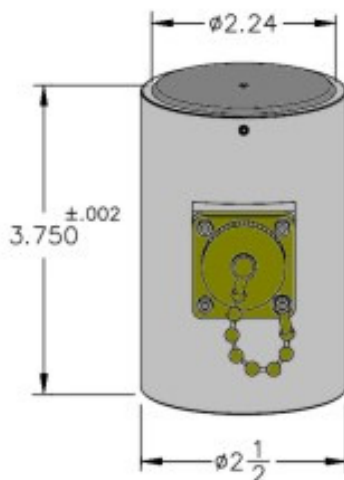
Cable Length: 20 Ft., Standard

Connector: 7 Pin Amphenol

Weight: LC-10, 25, & 50T  
4 Lbs.

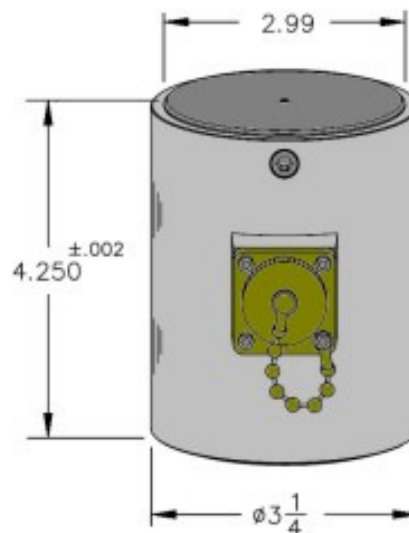
Weight: LC-100T  
8 Lbs.

**HELM Model LC-10T,  
LC-25T, and LC-50T**



**Note: 1.) Chrome Cover and Mil-Spec  
Amphenol Connector are Standard.**

**HELM Model LC-100T**



**2.) Cells ordered in sets are finish  
ground together to the same height.**

# Calibration Load Cells

## 250 TON CAPACITY

This Helm calibration load cell is made from high quality 17-4ph stainless steel, to accurately measure compression forces from 25 tons (50,000lbs.) to 250 tons (500,000lbs.)

OEM's and machine users worldwide rely on these load cells, to provide accurate and repeatable loads for testing, calibration, and run-off of new and existing machinery.

### Possible Applications:

- Load testing of metalworking machinery such as: stamping presses, forging presses, and hydraulic presses
- Calibration of force measurement instrumentation and strain gages for load testing
- Verification of current load cell readings on existing machinery

Excitation Voltage: 5-15 Volts DC

Output Voltage: 2m/V Volt

Bridge Resistance: 700 Ohms

Material: 17-4PH Stainless Steel, Rc42-44

Loading Surface: Precision Ground

Recommended load range: 10-100% Capacity

Overload Rating: 125%

Temperature Range: 60°F to 200° F

Linearity/Hysteresis:  $\pm 0.25\%$  Full Scale

Repeatability:  $\pm 0.10\%$  Full Scale

Cable: 4 Conductor Shielded

Cable Length: 20 Ft., Standard

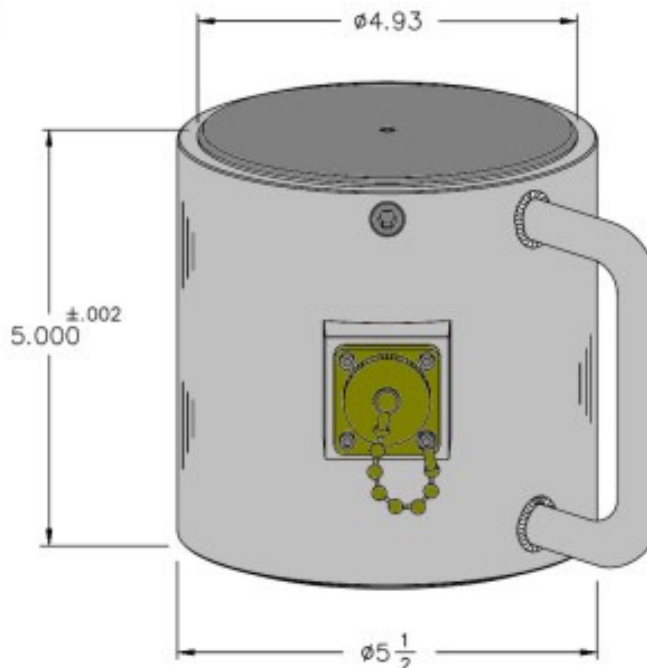
Connector: 7 Pin Amphenol

Weight: 34 Lbs.

### **HELM Model LC-250T**

#### Notes:

- 1.) A chrome cover and mil-spec connector are standard.
- 2.) Cells ordered in sets are finish ground together to the same height.



# Calibration Load Cells

## LOW PROFILE 500 TON CAPACITY

This Helm calibration load cell is built from high quality E-4340 alloy steel, to accurately measure compression forces from 50 tons (100,000lbs.) to 500 tons (1,000,000 lbs.).

OEM's and machine users worldwide rely on these load cells to, provide accurate and repeatable loads for testing, calibration, and run-off of new and existing machinery.

### Possible Applications:

- Load testing of metalworking machinery such as: stamping presses, forging presses, and hydraulic presses
- Calibration of force measurement instrumentation and strain gages for load testing
- Verification of current load cell readings on existing machinery

Excitation Voltage: 5-15 Volts DC

Output Voltage: 2m/V Volt

Bridge Resistance: 350 Ohms

Material: E-4340 Alloy, Rc42-44

Loading Surface: Precision Ground

Recommended load range: 10-100% Capacity

Overload Rating: 125%

Temperature Range: 60° to 200° F

Linearity/Hysteresis:  $\pm 0.25\%$  Full Scale

Repeatability:  $\pm 0.10\%$  Full Scale

Cable: 4 Conductor Shielded

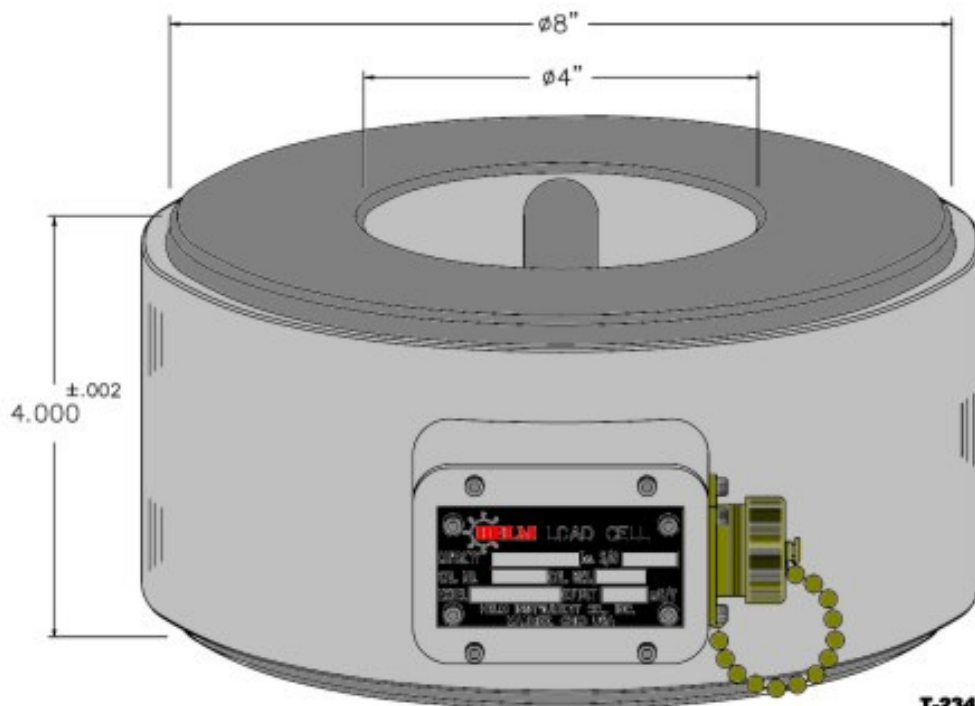
Cable Length: 20 Ft, Standard

Connector: 7 Pin Amphenol

Weight: 68 Lbs.

Note: 1/8" Tempered masonite is placed above and below cell when loading to eliminate end-effects.

### HELM Low Profile Model LC-500T



T-2342-51, Rev.06/04/07

**Notes:** 1.) A Chrome cover and mil-spec connector are standard.

2.) Cells ordered in sets are finish ground together to the same height.



# Calibration Load Cells

## 500 TON CAPACITY "SOLID"

This Helm calibration load cell is made from high quality 17-4ph stainless steel, to accurately measure compression forces from 50 tons (100,000lbs.) to 500 tons (1,000,000lbs.)

OEM's and machine users worldwide rely on these load cells, to provide accurate and repeatable loads for testing, calibration, and run-off of new and existing machinery.

### Possible Applications:

- Load testing of metalworking machinery such as: stamping presses, forging presses, and hydraulic presses
- Calibration of force measurement instrumentation and strain gages for load testing
- Verification of current load cell readings on existing machinery

Excitation Voltage: 5-15 Volts DC

Output Voltage: 2m/V Volt

Bridge Resistance: 700 Ohms

Material: 17-4PH Stainless Steel, Rc42- 44

Loading Surface: Precision Ground

Recommended load range: 10 -100% of Capacity

Overload Rating: 125%

Temperature Range: 60°F to 200° F

Linearity/Hysteresis:  $\pm 0.25\%$  Full Scale

Repeatability:  $\pm 0.10\%$  Full Scale

Cable: 4 Conductor Shielded

Cable Length: 20 Ft., Standard

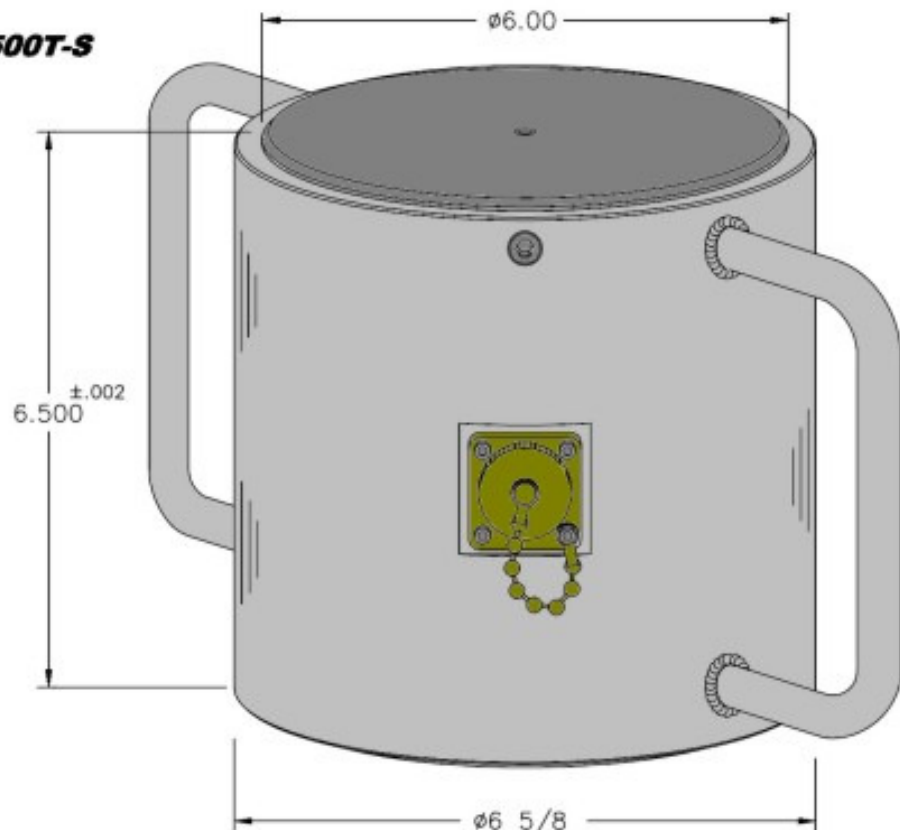
Connector: 7 Pin Amphenol

Weight: 56 Lbs.

### **HELM Model LC-500T-S**

#### Notes:

- 1.) Chrome cover and mil-spec Amphenol connector are standard.
- 2.) Cells ordered in sets are finish ground together to the same height.





# Calibration Load Cells

## LOW PROFILE 1000 TON CAPACITY

This Helm calibration load cell is built from high quality E-4340 alloy steel, to accurately measure compression forces from 100 tons (200,000 lbs.) to 1000 tons (2,000,000 lbs.).

OEM's and machine users worldwide rely on these load cells, to provide accurate and repeatable loads for testing, calibration, and run-off of new and existing machinery.

### Possible Applications:

- Load testing of metalworking machinery such as: stamping presses, forging presses and hydraulic presses
- Calibration of force measurement instrumentation and strain gages for load testing
- Verification of current load cell readings on existing machinery

Excitation Voltage: 5-15 Volts DC

Output Voltage: 2m/V Volt

Bridge Resistance: 350 Ohms

Material: E-4340 Alloy, Rc42-44

Loading Surface: Precision Ground

Recommended load range: 10-100% Capacity

Overload Rating: 125%

Temperature Range: 60° to 200° F

Linearity/Hysteresis:  $\pm 0.25\%$  Full Scale

Repeatability:  $\pm 0.10\%$  Full Scale

Cable: 4 Conductor Shielded

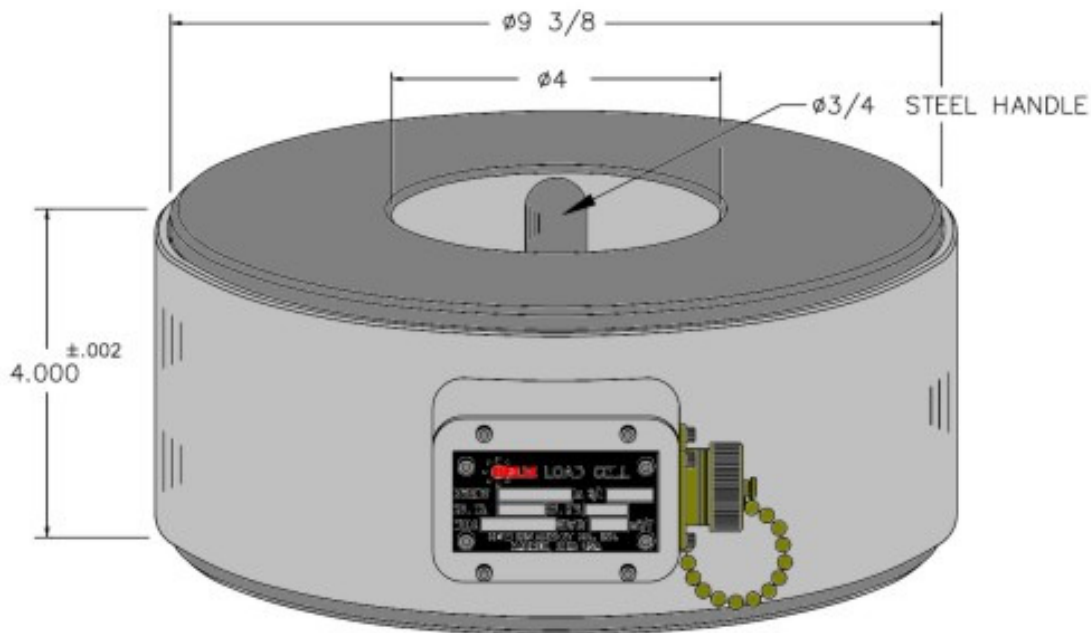
Cable Length: 20 Ft, Standard

Connector: 7 Pin Amphenol

Weight: 68 Lbs.

Note: 1/8" Tempered masonite is placed above and below cell when loading to eliminate end-effects.

### HELM Low Profile Model LC-1000T



**Notes:** 1.) A Chrome cover and mil-spec connector are standard.

2.) Cells ordered in sets are finish ground together to the same height.

# Calibration Load Cells

## 1000 TON CAPACITY "SOLID"

This Helm calibration load cell is built from high quality E-4340 alloy steel, to accurately measure compression forces from 100 tons (200,000lbs.) to 1000 tons (2,000,000 lbs.).

OEM's and machine users worldwide rely on these load cells, to provide accurate and repeatable loads for testing, calibration, and run-off of new and existing machinery.

### Possible Applications:

- Load testing of metalworking machinery such as: stamping presses, forging presses, and hydraulic presses
- Calibration of force measurement instrumentation and strain gages for load testing
- Verification of current load cell readings on existing machinery

Excitation Voltage: 5-15 Volts DC

Output Voltage: 2m/V Volt

Bridge Resistance: 350 Ohms

Material: E-4340 Alloy, Rc42-44

Loading Surface: Precision Ground

Recommended load range: 10 -100% of Capacity

Overload Rating: 125%

Temperature Range: 60° to 200° F

Linearity/Hysteresis:  $\pm 0.25\%$  Full Scale

Repeatability:  $\pm 0.10\%$  Full Scale

Cable: 4 Conductor Shielded

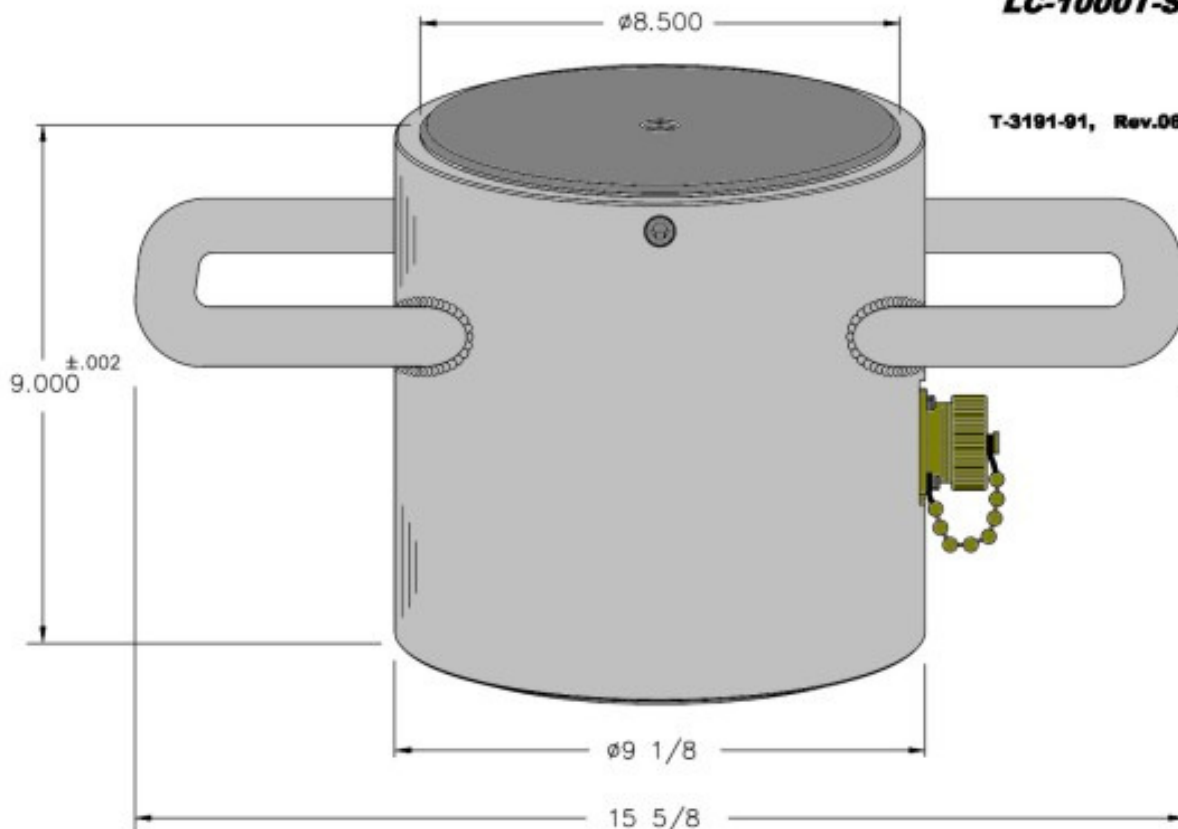
Cable Length: 20 Ft, Standard

Connector: 7 Pin Amphenol

Weight: 150 Lbs.

**HELM Model  
LC-1000T-S**

T-3191-91, Rev.06/04/07



**Notes:** 1.) Chrome cover and mil-spec connector are standard.

2.) Cells ordered in sets are finish ground together to the same height.