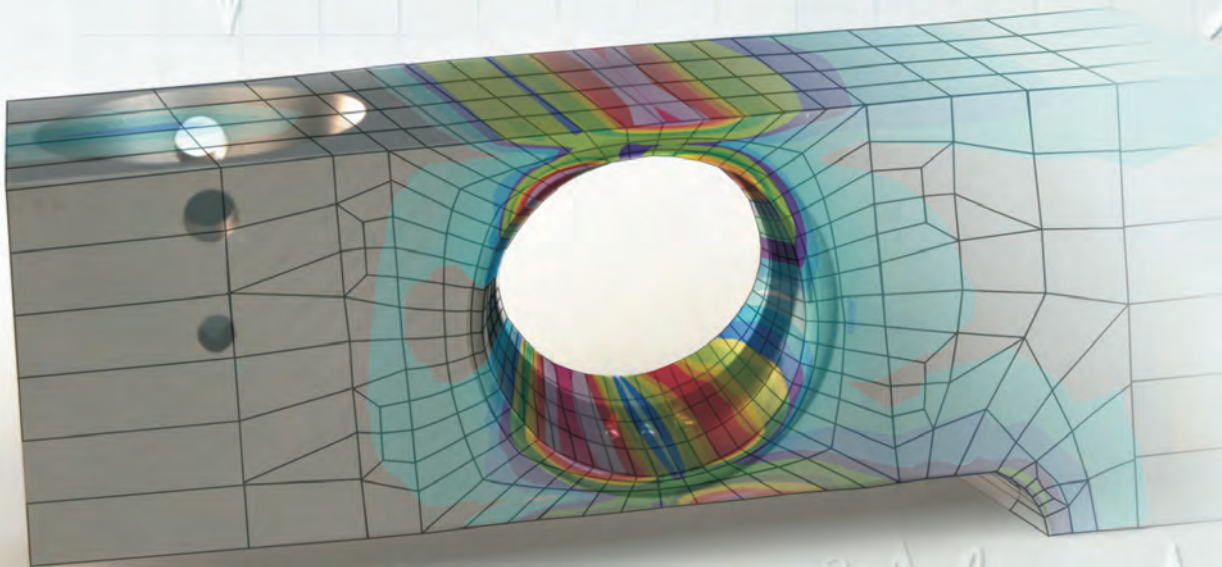
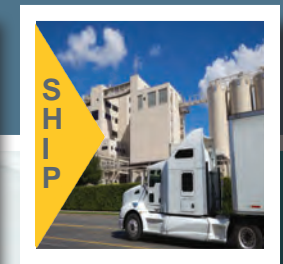
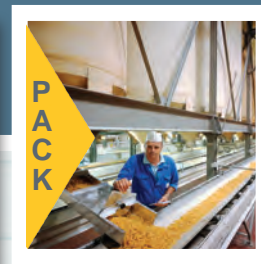


SELECTION GUIDE

Load Sensors • Load Points • Bench Scales
Floor Scales • Summing Cards • Junction Boxes • Cable



$$V_e = \frac{\sigma^2 A l}{2E}$$

$$\sigma = e E$$



$$F$$

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THE PURPOSE OF THIS GUIDE

This guide is intended to help you select the best Hardy load cells, load sensors, load points, scales and/or accessories for each application.

Best Weighing Practice

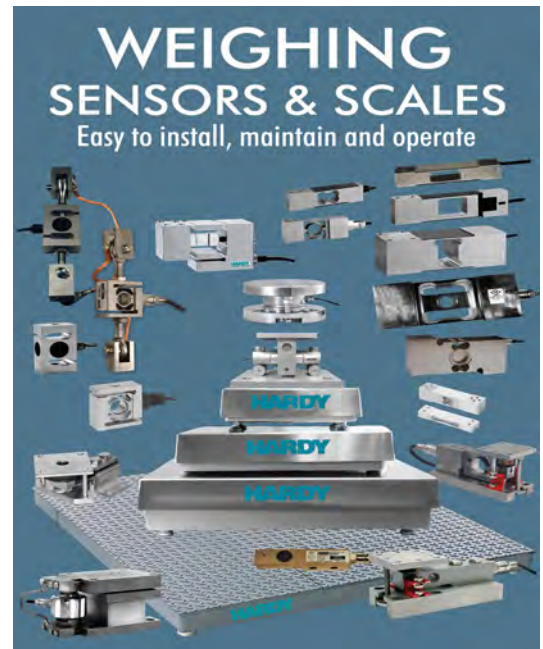
Optimum performance of process weighing systems can only be achieved if the load cells, load sensors or scales with the most appropriate capacities, performance and environmental specifications are selected and correctly applied. Consideration must also be given to the rest of the weighing system components, the load point mounting hardware, summing box and cable. This guide explains/follows the best practices for selecting and applying weighing system components.

Guide Contents

All the necessary background information and specifications regarding Hardy's load cells, load sensors, load points and scales is included. We discuss overall system performance. Finally we guide you through a process of selection to help propose a good solution fit for the application requirements on hand.

Using this Guide:

- Page 2 explains how load cells, load sensors & scales are typically deployed across the "Manufacturing Supply Chain"
- Pages 3-4 illustrate the "Anatomy of a Load Cell & Load Sensors"
- Page 5 illustrates the "Anatomy of a Load Point"
- Page 6 explains the "Hardy Toolbox", C2 and how our Toolbox (feature) supports Lowest Total Cost.
- Page 7 illustrates the "Anatomy of a Weighing System"
- Page 8 explains "Weighing System Performance - Accuracy, Repeatability & Resolution"
- Pages 9-10 explain the 3 key criteria of a "Best Solution Fit" and how to go about selecting the most appropriate Load Cell/s, Load Point/s or Scale/s for an application.
- Page 11 is a "Load Cell/Load Sensor Selection Chart". Use it to easily identify which Load Cell/Load Point would best fulfill the performance requirements of the application.
- Page 12 is a "Scale Selection Chart". Use it to easily identify which Platform Scales (Bench, Portable or Floor) would best fulfill the performance requirements.



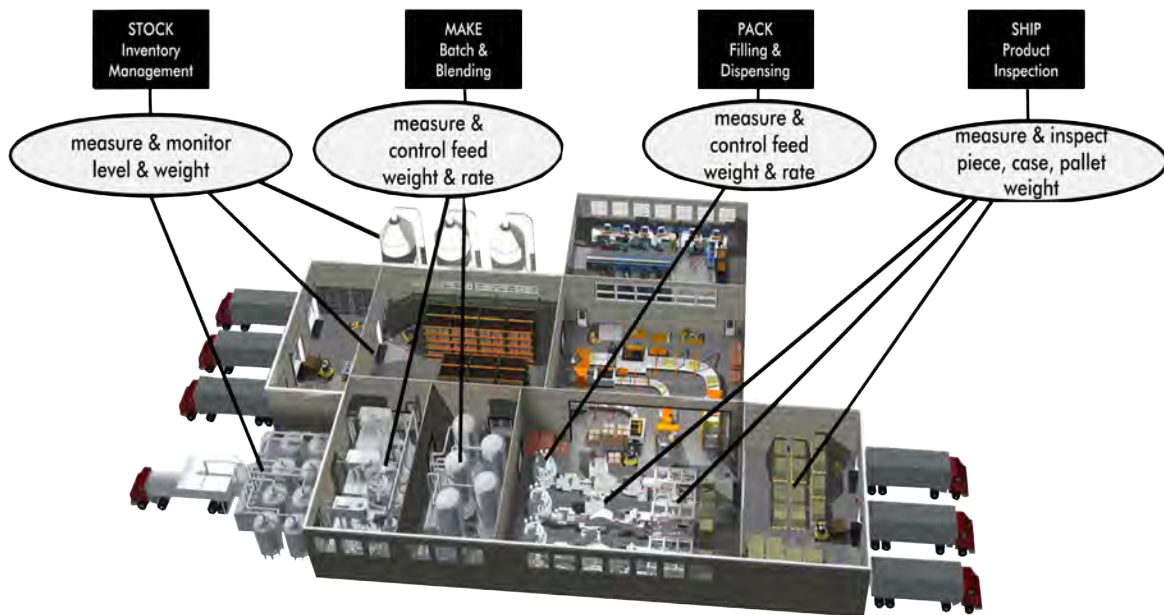
Finally, the tabbed sections in this guide, allow you to find products by type (e.g. Rocker, Double Ended Beam, Bench Scale, Accessories, etc) and capacity (highest to lowest).

Each Tab contains specific data sheets for each of the products in the selected family or the components to complete the Hardy Solution for your customer's application.

PROCESS WEIGHING SYSTEMS IN “MANUFACTURING SUPPLY CHAINS”

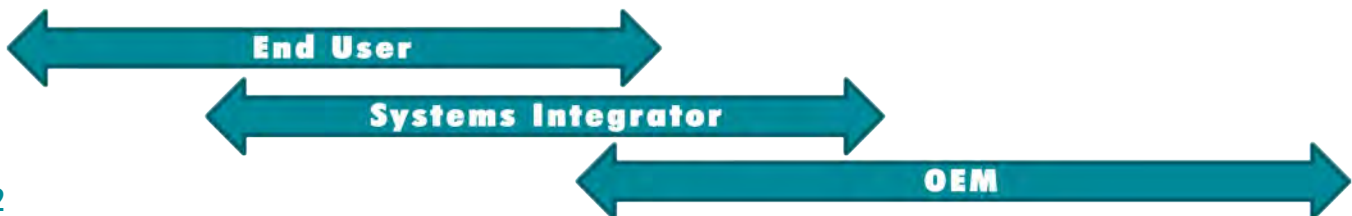
Hardy’s core competence, product and value propositions are aligned with process weighing applications and the technical requirements of manufacturing systems.

- 1 We specialize in **process weighing**.
- 2 We serve **manufacturers and processors**.
- 3 We **measure/monitor/control/inspect**, integrate to **automation** and deliver **productivity**.
- 4 Our solutions optimize **stock, make, pack and ship** operations.



Hardy load cells, load sensors, load points and scales are manufactured to meet the requirements of all four manufacturing areas as shown below.

Stock	Make	Pack	Ship
<ul style="list-style-type: none"> ▶ 10 Klbs - 2640 tons ▶ Carbon Steel ▶ IP65 - IP67 ▶ No Hazardous Certifications ▶ No Weights & Measures ▶ UL/CE ▶ Shear Beam, Canister, Double Ended Shear Beam, Ring 	<ul style="list-style-type: none"> ▶ 500 lb to 50 Klbs ▶ Carbon/Stainless Steel ▶ IP68- IP69K ▶ Hazardous Div 1 & Div 2 ▶ No Weights & Measures ▶ UL/CE ▶ Shear Beam, Canister, Double Ended Shear Beam, Ring, Tension, Bench, Platform, Floor 	<ul style="list-style-type: none"> ▶ 5 lb - 5 Klbs ▶ Stainless Steel ▶ IP69K ▶ Hazardous Div 1 & Div 2 ▶ Some NTEP ▶ UL/CE ▶ Shear Beam, Tension, Single Point, Bench, Platform 	<ul style="list-style-type: none"> ▶ 10 g - 5 Klbs ▶ Carbon Steel ▶ IP65 - IP69K ▶ No Hazardous Certifications ▶ NTEP ▶ UL/CE ▶ Shear Beam, Single Point, Floor, Platform



ANATOMY OF A HARDY LOAD SENSOR

Blind Loading Hole

- Allows a spherical end loading pin to insure load is applied at the same precise location, eliminating unwanted effects of side and eccentric loads common with threaded hole designs.

Hermetically Sealed & IP68 / IP69K (on select models) Rated

- A nitrogen filled sensing area laser sealed by a welded sleeve and cable entry through a glass to metal header blocks moisture and protects circuits from corrosion for long sensor life, even in harsh environments.

Matched MV/V & MV/V/OHM

- Each sensor produced is electrically matched to a standard resulting in no corner adjustments (trim pots) or recalibration required in platforms or hopper scales.

Additional 'O' Ring and Stuffing Gland

- Provide additional protection from the environment.



Combined Error Reduced 50%

- More consistent weight measurements, lower hysteresis and nonlinearity.

200% Safe Overload Limit

- Less susceptibility to shock and pulsed loads.

Cylindrical Sleeve

- The gauge area sealing shares much less of the applied load as compared to the conventional cup. This allows more of the applied load to be accurately sensed by the strain gauges.

316 Electro-polished Stainless Steel

- Cable fittings and gauge area sleeve are polished for additional protection from corrosion.



Ready To Install Cable

- Each sensor is shipped with cables stripped and wires tinned for easy installation.

Color Code Label

- Identifies wires for easy installation.

• **C2®, Second Generation Calibration**

Allows fast, accurate system calibration without test weights.

• **On-board Certs**

The performance characteristics of each sensor are stored in an internal memory so you never lose the original certification data.

• **Standard ¼ NPT Conduit Adapter**

Allows conduit to be installed right to the load sensor, increasing system reliability.

• **Potted Cable Enclosure**

Proprietary material prevents moisture from contacting header terminals and wicks up cable approximately 6" providing added moisture barrier.

All load cells look the same on the surface. It's the attention to detail beneath the surface that separates a Hardy ADVANTAGE® Line Load Sensor. You'll find details like a no-cost conduit adapter, redundant sealing for superior protection from moisture, matched parameters for easy sensor installation without corner adjusting, tighter specs for higher accuracy and individual performance certs posted on the web for easy access. It's attention to detail that And it's Hardy Process Solutions that focuses on your specific technical and commercial needs incorporating all of the best features available in load cell manufacturing.

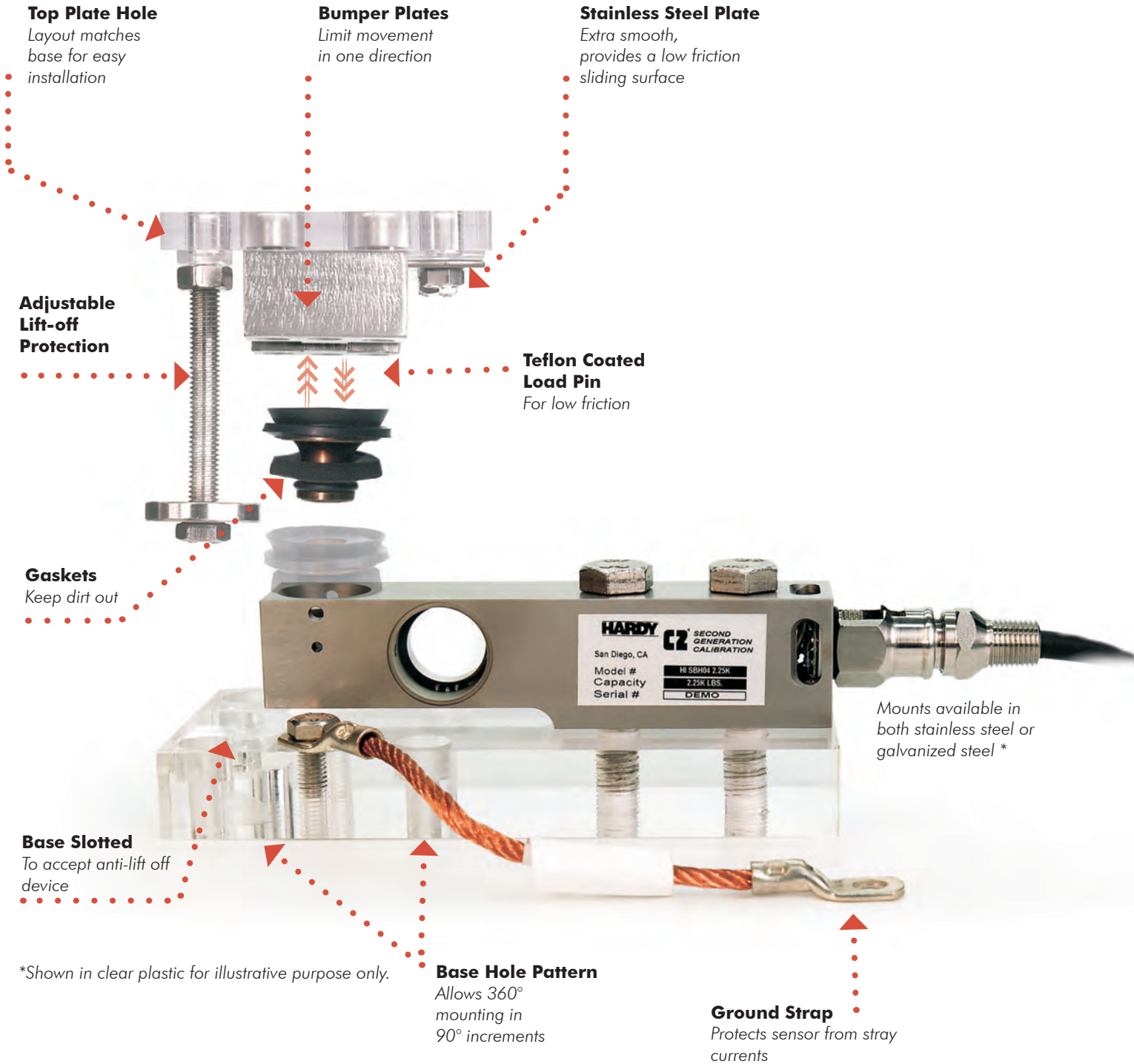
The same attention to detail shown in our Mid-Capacity sensor to the left permeates Hardy's entire line.

Hardy Process Solutions is committed to providing customer value through the configurability of its sensor line. For those applications that require a balance between cost and functionality, Hardy offers the ADVANTAGE® Lite line with many of the same features and functionality and many choices of mounts, sensors, and features to help you select the right products for your application.

Hardy's expanded single point and tension load sensor portfolio allows OEMs to choose the product that fits their application at a price that fits their budget.

The pages that follow should outline everything you need to specify your load point weighing requirements. If you need more information, our Maintenance and Installation manuals, as well as links to our local representatives and Technical Support, are available to you on the Internet at www.hardysolutions.com.

ANATOMY OF A HARDY LOAD POINT

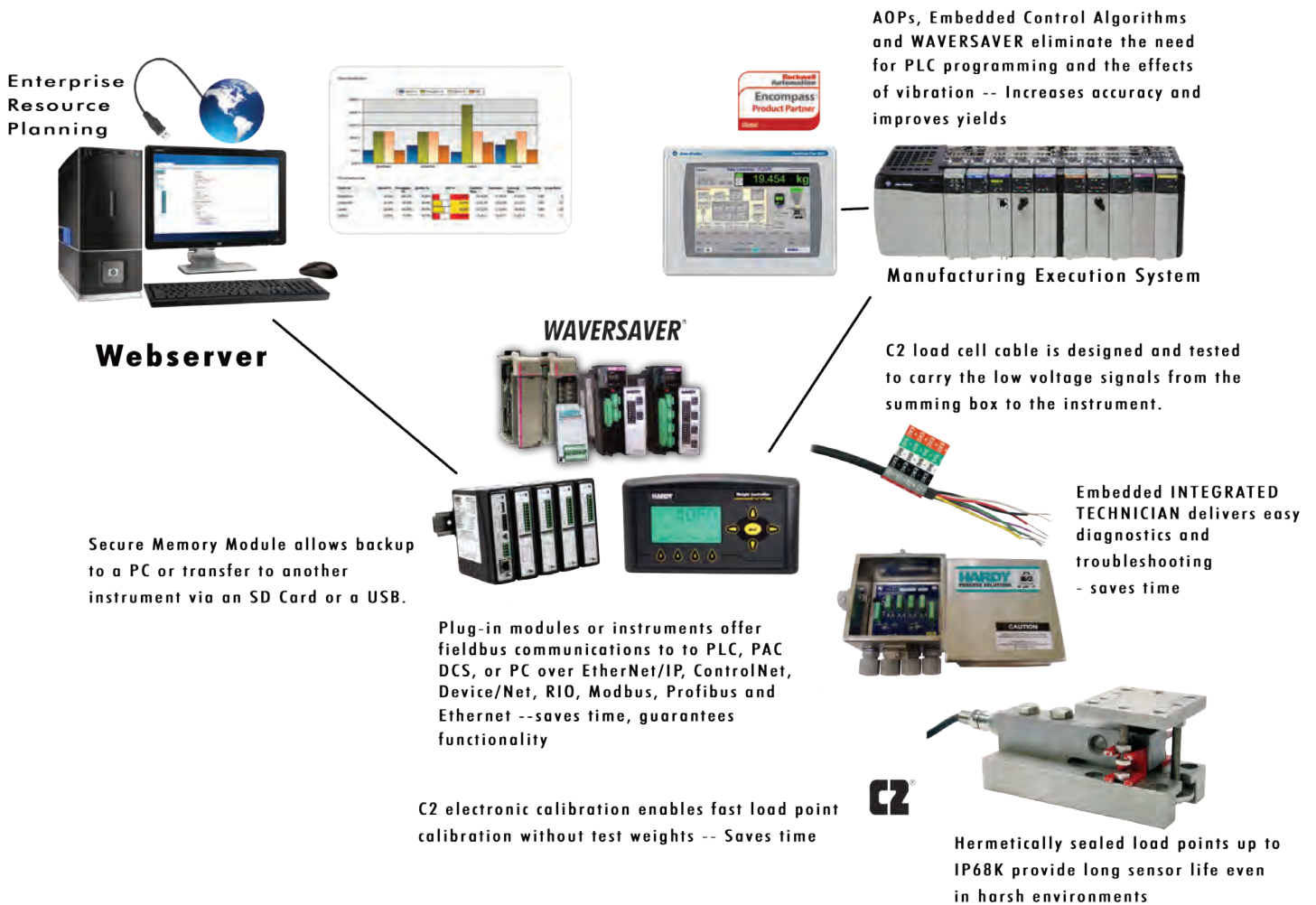


*Shown in clear plastic for illustrative purpose only.

The Hardy Process Solutions free-sliding Advantage® mounting hardware permits thermal expansion and contraction and are self-checking with lift-off protection, preventing unwanted forces from affecting the load cell's performance. With many years of process weighing experience, Hardy has incorporated a wide range of mount designs into its load point assemblies to provide customers with optimum performance and safety for a wide range of applications.

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

ANATOMY OF A PROCESS WEIGHING SYSTEM



A Hardy Process Solutions weighing system consists of a choice of precision matched load sensors, coupled with mounting hardware to eliminate unwanted forces and provide precise weight signals.

Signals from the load cells are wired to an engineered junction box where they are summed in circuitry allowing both local and remote system troubleshooting. From the junction box, the weight signal is carried by Hardy C2[®] cable, which is designed specifically for this purpose, to a weigh module that plugs directly into a PLC, or a weight controller/weight processor that cleans the signal and displays it locally.

The weighing instrument either provides control such as flow control, or simply conditions the signal to be sent over the customer's choice of Fieldbus networks (such as EtherNet IP, DeviceNet, Modbus or Profibus-DP to name just a few) to a PLC, PAC, DCS or PC. The PLC, PAC, or DCS interprets the weight readings and provides them to the MRP or other software to provide the manufacturing system with overall process control.

ACCURACY, REPEATABILITY, RESOLUTION & CALIBRATION OPTIONS

1. Accuracy, resolution, and repeatability are the three key capabilities used to measure a weighing system's overall weighing performance.

Accuracy is how close the reading on a scale's indicator is to the actual weight placed on the scale. Accuracy is generally important for all weighing applications, but it is especially important in legal for trade applications. A scale's accuracy is usually calculated by loading the scale with certified weights.

Repeatability is a scale's ability to display same weight reading each time the same weight is placed on the scale. It is especially important for batching and filling applications, when a desired accuracy cannot be achieved, and the batch or filling operation requires the same amount of a material be used for each batch. Repeatability and accuracy go hand in hand. You can have a repeatable system that is not accurate, but you cannot have an accurate system unless it is repeatable.

The following factors can influence the accuracy and repeatability of a weighing system.

- Load Cell and Instrument performance (can influence accuracy and repeatability)
- Load Cell capacity (must be selected based on actual dead load, live load and performance requirements)
- Load Point design (this is the mechanical mechanism for transferring the load to the load cell)
- Tank and Vessel Design (can influence accuracy and repeatability)
- Piping Design (Live-to-Dead Connections can influence accuracy and repeatability)
- Calibration (the method of calibration can influence accuracy)
- Environmental Factors: Wind, Seismic Forces, Temperature, Vibration
- Operational / Process Factors

Resolution is the smallest weight change that the weighing systems digital instrumentation can detect. Resolution is measured in increment size, which is determined by the capabilities of the load cells and digital indicator. A digital weight indicator may be able to display a very small increment size, such as 0.01 lb [5g]; however, that does not mean the system is accurate to 0.01 lb [5g]. Resolution is primarily determined by the weight indicator's electronic circuitry, not the sensor or the scale. Many of today's industrial indicators can resolve a load cell's signal into 1,000,000 internal divisions and can actually display 100,000 divisions. The displayed resolution is determined by how the indicator is configured. But displaying an increment size does not make a scale accurate to that increment.

2. Calibration Options


Calibrating with a simulated weight signal This is a quick calibration technique that replaces the output produced by the load cell/s and does NOT take into account the systems mechanical characteristics It relies heavily on the accuracy of the printed data for each load cell and the inputting of this data to a simulator.

Calibrating with test weights The system can accurately be calibrated when utilizing certified weights equal to 80 to 100 percent of the rated capacity. It is time consuming, labor intensive, and has potential health and safety issues. The load distribution may be unrealistic and any mechanical binding will be calibrated into the system at the tested weight and temperature. Test weights must be cleaned to minimize contamination and the scale must be emptied to provide a zero reference point. Unfortunately it is widely utilized with weights equal to 10 or 20 percent of the scales capacity, which opens up the potential for greater errors at medium to high weight readings.

Calibrating without test weights using

Hardy's C2® Provides fast, reliable, safe, and easy calibration of the process weighing system. It will notify you of any mis-wiring. During the verification phase (testing with a small test weight), C2 will indicate any system binding issues. The scale does not require it to be empty since it relies on a single reference point and there is no contamination from test weights, or heavy labor issues to deal with from handling heavy test weights.









Hardy's Toolbox Inside = Least Total Cost to Own



Deploy a Toolkit that Delivers Value Across Multiple Business Functions

VALUE DELIVERED TO FINANCE & OPERATIONS

VALUE DELIVERED TO ENGINEERING & MAINTENANCE

		ACCURATE	STABLE	FAST	ANYWHERE	EASY
Weight Free Calibrations Saves time, Increases Safety		FACTORY CALIBRATED	TESTED & DOCUMENTED	SAVES ~ 4 HOURS	LOCAL OR REMOTE	NO WEIGHTS PUSH BUTTON
Operator Diagnostics Saves Time, Increases Uptime		ERROR FREE	TESTED & DOCUMENTED	SAVES ~ 3 HOURS	LOCAL OR REMOTE	PUSH BUTTON
Digital Vibration Filtering, Stability Saves Time, Higher Throughput		REDUCES WASTE	FEWER READ ERRORS	DECREASES PROCESS TIME	ALMOST ANY APPLICATION	SIMPLE SETUP
Proactive Feed Management Saves Material, Higher throughput		IMPROVES QUALITY	MANAGES EXCEPTIONS	SAVES RAW MATERIALS	ALMOST ANY APPLICATION	AUTOMATIC ADJUSTMENT
Proactive Piece Inspection Saves Product, Reduces Risk		REDUCES WASTE	FEWER READ ERRORS	DECREASES READ TIMES	ALMOST ANY APPLICATION	INCLUDES PIECE DETECT
No software/PC Setup Saves Time, Increases Access		ERROR FREE	TESTED & DOCUMENTED	ACCELERATES SETUP/MAINT	LOCAL OR REMOTE	NO SOFTWARE
Protected, Transferrable Setup Saves Time, Reduces Risk		ERROR FREE	TESTED & DOCUMENTED	SAVES ~ 2 HOURS	OPEN SOURCE MEDIUM	EASY CARD EXCHANGE
Validated Integration Tools Saves Time, Reduces Risk		ERROR FREE	TESTED & DOCUMENTED	SAVES ~ 3 HOURS	IN-CHASSIS OR ON-WIRE	PRE CERTIFIED PROFILES

HARDY C2[®] DIFFERENCE

- **FAST**
Calibrates with ONE reference point, not FIVE
- **SAFE**
Eliminates need for full-scale test weights
- **RELIABLE**
Data stored in chip

Since 1994, thousands of weighing systems have been calibrated electronically using C2[®] Electronic Calibration by Hardy Process Solutions. Unlike calibration with test weights, all the live weight on the scale does not have to be removed and heavy test weights do not have to be repeatedly put on and off the scale. As soon as your scale system is installed, it can be C2 calibrated, and proper scale installation verified. The result is a calibration that is easier, quicker, safer, and typically more accurate than methods used in the past.

Weight Free Calibration Using C2

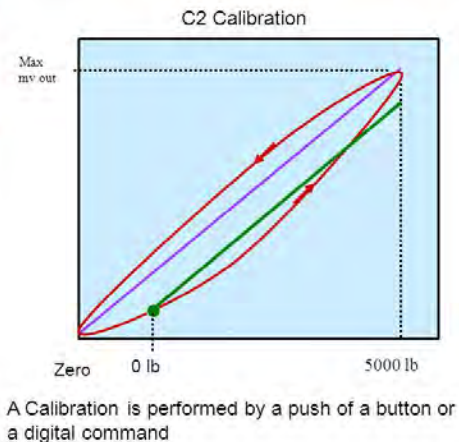
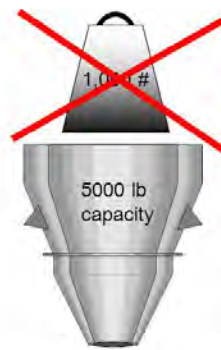
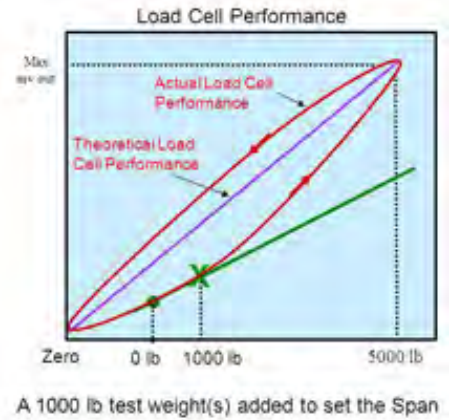
- ≥ 4 X Faster
- ≥ 2 X Safer
- ≥ 3 X Easier

What is a C2 system?

A C2 system includes load points, junction box, cabling and instrumentation, and is designed to make calibration easier than ever before. Upon installation or re-calibration, your Hardy instrument automatically searches for C2 certified load points and records their performance characteristics. Entering a reference point is all that's needed to bring your system on-line within seconds. On instruments with "THE BUTTON" feature, one touch of a button is enough. All that's left is to verify your scale. This is done by carefully distributing one or two small weights (25 to 100 lbs.) on to the scale so they are shared by all the load sensors. The scale reading should equal the value of the test weight/s applied. Remove the weight/s and the scale reading should return to its original value. If both of these are true then the scale is calibrated, verified and ready for use. If the values are not true, then there are mechanical problems with the scale that need to be corrected.

Is C2 Electronic Calibration as accurate as calibration with test weights?

Theoretically, test weights should provide an accurate calibration within the quality of the scale installation. However, calibration conditions are often less than ideal. Many vessels lack the space needed to place enough test weights on them to get an accurate calibration. Distributing the weights equally on the vessel may also be impossible. Some vessels are mounted in areas offering limited



accessibility, while others have weight capacities far in excess of available test weights. These real world issues often cause calibration errors.

With C2, these considerations are no longer an issue. Each individual load sensor has its performance characteristics stored on an internal memory device. These characteristics are measured on National Institute of Standards and Technology (NIST) traceable test devices and electronically recorded when the sensor is manufactured. The C2 system uses these parameters, the instruments' characteristics and a reference point to calibrate the scale system.

C2 reduces downtime for repairs and time waiting for test weights. It eliminates test weight related injuries and ends material substitution headaches, including contamination and waste disposal issues. C2 is a standard feature on Hardy load sensors, weigh modules, and weight and rate controllers.

The SELECTION PROCESS

The Goal: Best Fit for the Application

When selecting a load cell, load sensor, load point or scale, 3 key criteria needed to be considered:

- Will it meet the requirement for the maximum anticipated load
- Will it support the requirement for overall performance (accuracy, repeatability, resolution)
- Will it stay within designed safe limits, for all anticipated operational conditions

Hardy Process Solution's line of Load Cells, Load Sensors and Load Point assemblies are designed to provide exceptional performance in a safe and predictable manner.

A **Load Cell** consists of precision machined metal with strain gauges attached.

A **Load Sensor** consists of a precision strain gauge load cell with a memory device embedded within the cell (C2®), or attached at the end of its cable. The C2® memory device contains all the operating characteristics of that individual load cell, which can be read by any Hardy Process Solutions instrument.

A **Load Point** consists of a load cell or load sensor, with matched mounting hardware. Each load point comes with an installation and maintenance manual which is available for easy download from our Internet site at www.hardysolutions.com.

Load cells, load sensors and load points are designed with safe and ultimate loading limits that are the highest in the industry. The safe limit (e.g. 200% of rated capacity for the Advantage© Line) is that value above which some degradation of calibration can occur but with no permanent shift in performance. The ultimate limit (e.g. 300% of rated capacity for the Advantage© Line) is that point at which physical failure may occur. In selecting a load point, it is essential that the gross loadings fall well within the safe limits of the capacity chosen.

All Advantage load sensors are matched and calibrated for mV/V/ohm and mV/V. This removes the need for potentiometers in the summing box and allows a load sensor to be replaced in a weigh system without the need to re-calibrate the system. This is not the case for Load Cells.

Advantage load sensors are very accurate when the load is applied in the correct manner. Hardy mounting hardware is specifically designed to direct the load properly to the load sensor while resisting angular effects and reducing moment sensitivity.

Free sliding and Rocker pinned Advantage mounts permit thermal and vessel load expansion and contraction and are self-checking with lift-off protection. With many years of successful process weighing experience, Hardy has incorporated mount designs into its load point assemblies to provide optimum performance for the application provided that suitable load points are used for their application.

Types of Load Cells and Load Sensors

Rocker: High capacity compression for "Stock & "Make" plant areas; used in heavy capacity, multiple cell applications they provide a convex spherical upper and lower loading surfaces for load introduction. Since it is allowed to "rock", serious adverse loads due to differential expansion, deflection and shortening are avoided and performance is enhanced.

Double Ended Shear Beams: Medium to high capacity compression for "Stock & "Make" plant areas; are used in multiple load cell applications such as truck scales, railroad scales and heavy duty tank weighing systems. They are bolted at the ends and the load is introduced to the center. They provide good restraint to possible load movement and can eliminate the need for check rods but are susceptible to hysteresis errors.

Single Ended Shear Beams: Low to medium capacity compression for the "Make" & "Pack areas"; supported at one end (usually with two retaining bolts) and the force is applied at the opposite end. Usually used in tank weighing or batching and blending applications, single ended shear beams provide a high resistance to eccentric loads making them ideal for weighing systems with mixers and agitators.

S-Type: Low to medium capacity tension and compression load points for the "Make" & "Pack" areas; their greatest advantage are on small capacity vessels where there is available overhead support. They are susceptible to side loading when used for compression applications.

Single Point: low capacity compression and tension for the "Pack & Ship" areas; used in platform scales, packaging and dosing/filling machinery. Single points are supported at one end and the weigh force is applied at the opposite end. An advantage to using single points is that the force can accurately be measured within a stated area like a scale deck.

Selection of Load Points

The following steps will quickly isolate which individual load sensor(s) (cells) or load point assemblies will satisfy your application.

1. Determine whether the vessel to be weighed will be hung in tension or set on top of the load point assemblies in compression. Count the number of support points (legs).
2. Determine the unloaded weight of the scale structure, vessel (with no material in or on it) and all equipment to be mounted (valves, gates, vibrators, etc.) on the load points. This is called the "Dead Load" (DL).
3. Determine the maximum total weight of the heaviest material to be weighed. This is called the "Live Load" (LL).
4. Calculate each load sensor's required capacity. This is expressed:
Capacity = (Dead Load + Live Load)/Number of Support Points
or the shorter version (**C = (DL+LL)/#SP**)
5. Use the Load Point Selection Charts on pages 12-13 to determine the load point assembly appropriate for your installation. Do not exceed the values shown (for example, if the individual load cell capacity is 800 lbs, select the next system up or 1,000 lbs.) From the chart, determine the model that has a mount, its type of seal, material and approval rating. Next go to the tab in the guide as shown on the chart for that sensor's data sheet.
6. Add a summing box and cable (not required with a scale) from the appropriate tab of this guide that interfaces with your instrument requirements, and your system is complete. Note that you will need a summing box or summing card whenever you need to aggregate the weight from multiple sensors or load points into the weighing instrument.
7. Note that for the Advantage Single-ended beam load points you can choose a three, or four point system rather than selecting individual (fixed, bumper & slider) parts.



Types of Scales

Bench Also known as platform scales have ranges of 10 lbs to 1500 lbs. and are used for checkweighing, testing, portioning food items such as chicken or fruit, or portioning minor ingredients in the "Make", "Pack" & "Ship" areas of an industrial plant. They usually have a remote indicator or are tied directly to a control (PLC) system.

Pedestal Similar to a bench scale but with an indicator attached directly to the scale. Can be found in all areas of the plant.

Floor Heavy duty industrial scale that sits on the floor with or without optional ramps, or in a pit level to the floor; sometimes called a pallet scale. Usually used in the "Stock", "Make" & "Ship" areas of a plant. They can be portable or stationary. An indicator can be attached to the scale or mounted remotely.

How to Select Scales

The easiest way to select a scale is to talk with a Hardy Process Solutions sales engineer or your local Hardy Rep or distributor. He or she will take you through the following questions.

When selecting a Bench, pedestal, or floor scale, 3 key criteria needed to be considered:

- Will it meet the requirement for the maximum anticipated load
- Will it support the requirement for overall performance (accuracy, repeatability, resolution)
- Will it stay within designed safe limits, for all anticipated operational conditions

1. **Determine what the application will be for the scale.**
 - a. Will it be in a wet (wash down) or dry environment?
 - b. Will the environment have a hazardous class and division and require certification?
 - c. Will material be sold commercially off of the scale and require certification (NTEP)?
 - d. Will it sit on a bench, on the floor, or in a pit? If it sits on the floor will ramps, bumpers, etc. be required?
 - e. Will it be in contact with the product and require sanitary certification?
2. **What is the size of the scale deck?**
3. **Will the deck be stainless steel or painted steel smooth or tread plate (only with Floor).**
4. **What is the weight of the heaviest material (Live Load) that will go on the scale?**
 - a. Will there be any "deadload" (pallets, tanks, valves, etc.) on the scale?
 - b. What resolution will be required?
5. **Does the scale require an instrument?**
 - a. Does it need to be attached or remotely mounted?
 - i. Does it require a local display and keyboard?
 - ii. Does it require a network interface?
 - iii. If remote what is the cable length required?

Refer to www.hardysolutions.com for PDF and CAD drawings.

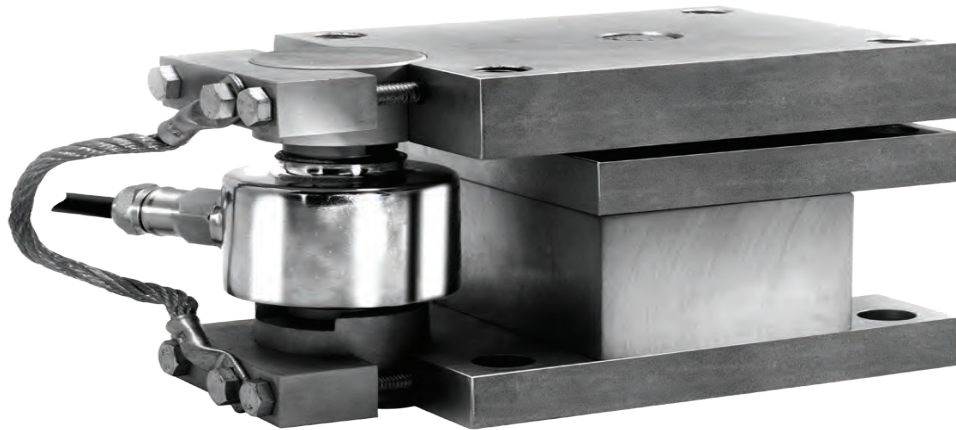
LOAD CELL SELECTION CHART

Hardy Process Solutions, Inc. Load Cell Capacity Matrix																												
	Rocker	DEB	LP	Single Ended Beams				Tension				Single Points																
Compression																												
Tension																												
Load Point																												
Mount																												
Bench Scale																												
Checkweigher																												
Floor Scale																												
Sensor/Cell																												
Capacity (Lbs.)	HIRC103 Series	HIRC104 Series	HICSB01C-AS Series	HICSB01C-SS Series	HIP100 Series	HISBH04 Series	HISB005 Series	HISB012 Series	HISBHF14 Series	HIBB01 Series	HIBBH06 Series	HISTA01 Series	HISTLB Series	HISTH06 Series	HIST5 Series	HISTA Series	HISPB1 Series	HISPA01 Series	HISPT Series	HISPA22 Series	HISPL Series	HISPM4 Series	HISPA10A Series	SP 1042 No C20	SP 1250 No C20	Capacity (Kg)		
666,000 Lbs.																										300,000 Kg		
330,000 Lbs.																											150,000 Kg	
250,000 Lbs.																											113,400 Kg	
220,000 Lbs.																											100,000 Kg	
200,000 Lbs.																											90,800 Kg	
150,000 Lbs.																											68,040 Kg	
110,000 Lbs.																											50,000 Kg	
100,000 Lbs.																											45,400 Kg	
88,000 Lbs.																											40,000 Kg	
75,000 Lbs.																											34,000 Kg	
66,000 Lbs.																											30,000 Kg	
60,000 Lbs.																											27,200 Kg	
50,000 Lbs.																											23,000 Kg	
44,000 Lbs.																											20,000 Kg	
33,000 Lbs.																											15,000 Kg	
30,000 Lbs.																											13,620 Kg	
22,500 Lbs.																											10,200 Kg	
20,000 Lbs.																											9,100 Kg	
16,500 Lbs.																											7,500 Kg	
11,250 Lbs.																											5,103 Kg	
10,000 Lbs.																											4,540 Kg	
6,600 Lbs.																											3,000 Kg	
5,000 Lbs.																											2,268 Kg	
4,500 Lbs.																											2,041 Kg	
4,400 Lbs.																											2,000 Kg	
3,300 Lbs.																											1,500 Kg	
2,500 Lbs.																											1,134 Kg	
2,250 Lbs.																											1,020 Kg	
2,200 Lbs.																											997 Kg	
1,653 Lbs.																											750 Kg	
1,500 Lbs.																											680 Kg	
1,400 Lbs.																											635 Kg	
1,125 Lbs.																											510 Kg	
1,100 Lbs.																											499 Kg	
1,000 Lbs.																											454 Kg	
750 Lbs.																											340 Kg	
660 Lbs.																											300 Kg	
550 Lbs.																											250 Kg	
600 Lbs.																											226 Kg	
450 Lbs.																											204 Kg	
440 Lbs.																											200 Kg	
330 Lbs.																											150 Kg	
225 Lbs.																											102 Kg	
220 Lbs.																											100 Kg	
200 Lbs.																											90.7 Kg	
165 Lbs.																											75 Kg	
150 Lbs.																											68 Kg	
110 Lbs.																											50 Kg	
100 Lbs.																											45 Kg	
88 Lbs.																											40 Kg	
75 Lbs.																											34 Kg	
66 Lbs.																											30 Kg	
50 Lbs.																											22.6 Kg	
44 Lbs.																											20 Kg	
33 Lbs.																											16 Kg	
25 Lbs.																											11 Kg	
22 Lbs.																											10 Kg	
16.5 Lbs.																											7.5 Kg	
11 Lbs.																											5 Kg	
6.6 Lbs.																											3 Kg	
4.4 Lbs.																											2 Kg	
3.3 Lbs.																											1.5 Kg	
2.5 Lbs.																											1.2 Kg	
2.2 Lbs.																											1 Kg	
1.3 Lbs.																											0.6 Kg	
0.66 Lbs.																											0.3 Kg	
Capacity (Lbs.)																									Capacity (Kg)			
Hermetic Seal																												Hermetic Seal
Stainless Steel																												Stainless Steel
Aluminum																												Aluminum
C20® Capability																												C20® Capability
FM Approval																												FM Approval
NTEP Approval																												NTEP Approval

All information and specifications on this page are subject to change without notice. Consult website for latest specifications.

HI LPRC03 Advantage® Hermetic Rocker Load Points

HI LPRC03 Load Points with HI RCH03 and HI RCH04 Sensors



HI LPRC03 ADVANTAGE® low profile, rocker load point systems are specially designed for high capacity applications including silo, tank and large hopper weighing. The rocker design offers the lowest total cost of ownership through high performance, ease of installation and safety. Key factors that contribute to lower cost of ownership include:

Accuracy

- Self-centering rocker design maintains alignment under shear forces
- Precision sensor (combined error 0.02%-0.05% rated output) up to 660Klbs

Safety

- Best in class liftoff, side force and ultimate failure protection for people and equipment
- True glass-to-metal hermetic sealing delivers the ultimate protection to sensors during washdown (IP68/IP69K)
- C2 cloud-based calibration reduces the risk of accidents or contamination from test weights
- Anti-Rotation cups are designed to protect sensor cables

Easy Installation

- Integral spacers mean no dummy load cells or welding fixtures are required. Mounts are installed without load cells, allowing welding to be performed directly on the mount itself
- C2 cloud-based calibration for fast startup in high capacity installations
- 360° checking mechanism means load points can be installed in any direction

Easy Maintenance

- Replace load cells with minimal tank jacking. Removable load cups enable sensors to slide in and out
- Matched mV/V/ohm load cells are easy to replace without recalibration

Key Features

- Mounts are available in stainless or alloy steel to deliver the best combination of price and performance
- FM Certified load cell for intrinsically safe applications

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

HI RCH03/04 ADVANTAGE® Load Sensors

SPECIFICATIONS	Units	HI RCH04 (16.5 to 50 Klbs)/HI RCH03	HI RCH03
Maximum Capacity (E _{max})	klbs	16.5 / 33 / 50 / 66 / 88 / 110	220 / 330 / 660
Max number verification intervals	n _{max}	3000	N/A
Min load cell verification interval	v _{min}	E _{max} / 15000	N/A
Combined Error	%RO	± 0.0200	± 0.0500
Non-Linearity	%RO	± 0.0166	± 0.0400
Hysteresis	%RO	± 0.0166	± 0.0400
Creep error (30 Minutes) / DR	%RO	± 0.0166	± 0.0600
Temperature effect on min dead load output	%RO/10°C	± 0.0093	± 0.0400
Temperature effect on sensitivity	%RO/10°C	± 0.0100	± 0.0200
Non-Repeatability	%RO	Not Specified	Not Specified
Rated Output (RO)	mV/V	2 ± 0.1%	2 ± 0.1%
Calibration in mV/V/Ω		Matched	Matched
Zero Balance	%RO	± 5	± 5
Excitation Voltage	V	5-15	5-15
Input Resistance	Ω	1150 ± 50	1150 ± 50
Output Resistance	Ω	1100 ± 2	1100 ± 2
Insulation resistance (100VDC)	MΩ	≥ 5000	≥ 5000
Load Cell Safe Load Limit	%E _{max}	200	200
Load Cell Ultimate Load Limit	%E _{max}	300	300
Load Cell Safe Side Load	%E _{max}	N/A	N/A
Compensated Temperature Range	°C	-10 ... ±40	-10 ... ±40
Operating Temperature Range	°C	-40 ... ±80	-40 ... ±80
Load Cell Material		Stainless Steel 17-4PH (1.4548)	Stainless Steel 17-4PH (1.4548)
Sealing		Complete Hermetic Sealing - Glass to Metal Header	Complete Hermetic Sealing - Glass to Metal Header
Protection according to EN 60 529		IP68 (up to 2 m water depth)/IP69k	IP68 (up to 2 m water depth)/IP69k
Cable Length	ft	30 ft	50 ft
Hazardous Certification		IS Class 1,2,3 Div 1, NI Class 1,2,3 Div 2	IS Class 1,2,3 Div 1, NI Class 1,2,3 Div 2
Legal For Trade		N/A	N/A

HI LPRC03 Mount Specifications

SPECIFICATIONS	UNITS	CAPACITY IN Klbs				
		16.5Klb - 50Klb	66Klb - 88Klb	110Klb - 220Klb	330 Klb	660Klb
Capacity	Klb	16.5Klb - 50Klb	66Klb - 88Klb	110Klb - 220Klb	330 Klb	660Klb
Rated Liftoff Force	lb	22000	39600	66000	88000	132000
Rated Overload	lb					
Rated Side Force	lb	11000	19800	33000	44000	66000
Yield Liftoff Force	lb					
Yield Overload	lb					
Yield Side Force	lb					
Weight Excluding Sensor	lb	33	73	143	250	495
Available Materials	Metallurgy	Stainless Steel / Zinc Plated Steel	Stainless Steel / Zinc Plated Steel	Stainless Steel / Painted Steel	Painted Steel	Painted Steel
Levelling Required		0.4/100 (legal for trade), 0.8/100 (general applications)				

HI LPRCH03 ADVANTAGE® Load Point

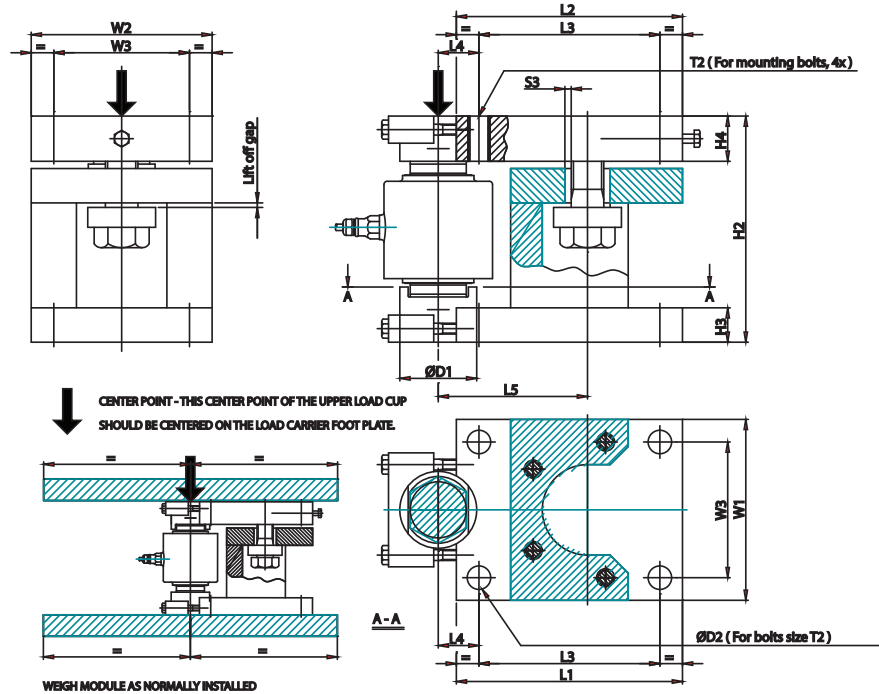
HI LPRC03 Series 16.5K Lbs - 50Klbs

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable

CABLE LENGTH: 30 FEET OF CABLE FOR 110K AND LESS, AND 50 FEET OF CABLE FOR 220K AND ABOVE



CAPACITY LBS [T]	MODEL NUMBER STAINLESS STEEL	PLATED STEEL	MODEL NUMBER	LOAD SENSOR CABLE LENGTH	MAXIMUM LIFT-OFF FORCE KLB [KN] *	MAXIMUM SIDE FORCE KLB [KN] *	WEIGHT - EXCLUDING LOAD SENSOR
16.5KLB [7.5T]	HI LPRC03-16.5K-43C	HI LPRC03-16.5K-45C	HI RCHC04-16.5K	30FT [9.1M]	22.5 [100]	11.2 [50]	33LB [15KG]
33KLB [15T]	HI LPRC03-33K-43C	HI LPRC03-33K-45C	HI RCHC04-33K				
50KLB [22.5T]	HI LPRC03-50K-43C	HI LPRC03-50K-45C	HI RCHC04-50K				

DIMENSIONS IN [MM]													BOLT THREAD	
D1	D2	H2	H3	H4	L1	L2	L3	L4	L5	S3	W1	W2	W3	T2
1.96 [50]	.69 [17.5]	5.12 [130]	.79 [20]	1.18 [30]	6.54 [166]	6.30 [160]	5.12 [130]	.98 [25]	3.94 [100]	.20 [5]	5.12 [130]	5.12 [130]	3.94 [100]	M16

HI RCH03 ADVANTAGE® Load Sensor

DIMENSIONS- INCHES [MM]

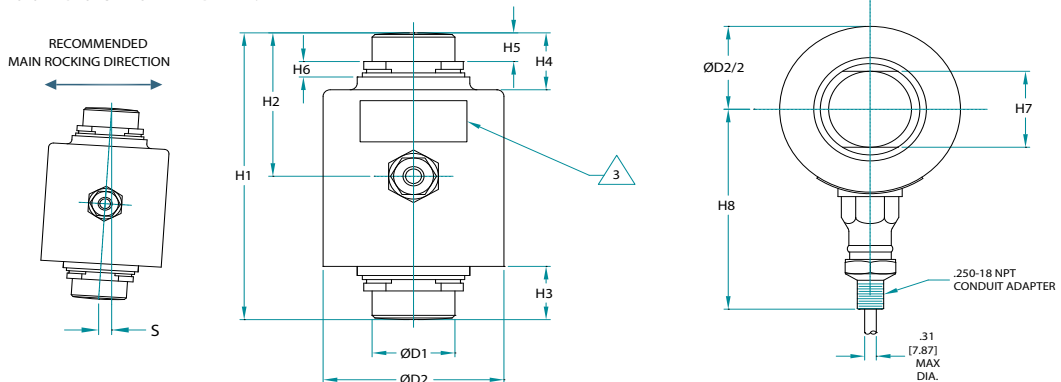
TOLERANCES: ±0.015 [0.4] UNLESS OTHERWISE STATED

MODEL NUMBER	CAPACITY LBS [T]	H1	H2	H3	H4	H5	H6	H7	H8	ØD1	ØD2	S MAX*	RF **	CABLE LENGTH FT [M]
HI RCH03-66K	66KLB [30T]	5.512 [140]	2.756 [70]	1.024 [26]	1.102 [28]	.512 [13]	.256 [6.5]	1.535 [39]	3.307 [84]	1.535 [39]	3.189 [81]	.413 [10.5]	7,644 LBS [34KN]	30FT [9.1M]
HI RCH03-88K	88KLB [40T]	5.906 [150]	2.953 [75]	1.220 [31]	1.299 [33]	.512 [13]	.461 [11.7]	1.535 [39]	3.307 [84]	1.535 [39]	3.189 [81]	.394 [10]	8,318 LBS [37KN]	30FT [9.1M]
HI RCH03-110K	110KLB [50T]	7.008 [178]	3.504 [89]	1.260 [32]	1.339 [34]	.669 [17]	.335 [8.5]	1.732 [44]	3.701 [94]	1.732 [44]	3.898 [99]	.354 [9]	11,465 LBS [51KN]	30FT [9.1M]
HI RCH03-220K	220KLB [100T]	7.008 [178]	3.504 [89]	1.516 [38.5]	1.516 [38.5]	.669 [17]	.472 [12]	2.441 [62]	3.693 [93.8]	2.441 [62]	4.740 [120.4]	.453 [11.5]	34,171 LBS [152KN]	50FT [15.2M]
HI RCH03-330K	330KLB [150T]	8.268 [210]	4.134 [105]	1.681 [42.7]	1.681 [42.7]	.811 [20.6]	.504 [12.8]	3.000 [76.2]	4.783 [121.5]	3.000 [76.2]	6.500 [165.1]	.571 [14.5]	53,954 LBS [240KN]	50FT [15.2M]
HI RCH03-660K	660KLB [300T]	11.024 [280]	5.512 [140]	2.201 [55.9]	2.201 [55.9]	.984 [25]	.846 [21.5]	3.937 [100]	4.783 [121.5]	3.937 [100]	6.500 [165.1]	.591 [15]	105,211 LBS [468KN]	50FT [15.2M]

(*) S MAX = MAXIMUM LATERAL DISPLACEMENT OF LOAD INTRODUCTION. RECOMMENDED GAP 0.118 TO 0.197 [3.0 TO 5.0].

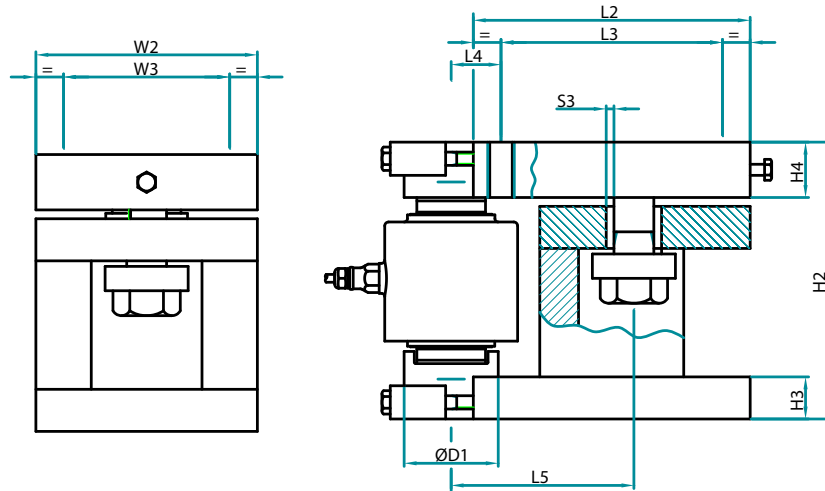
(**) RF = RESTORING FORCE AT S MAX AND E MAX.

HI RCH03 Series Other Sensor Drawings Available on Website

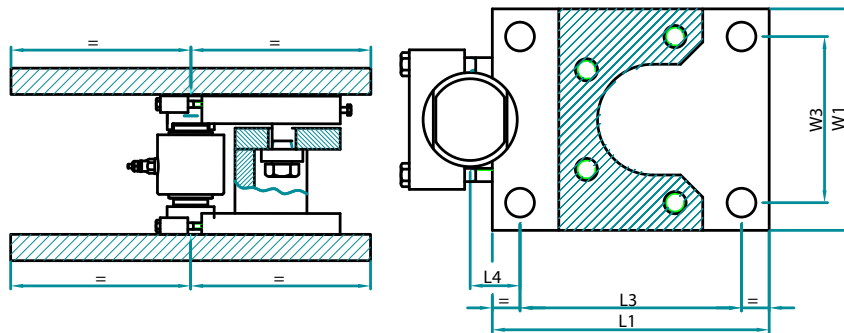


HI LPRC03 Series ADVANTAGE® Load Point

HI LPRC03 Series
66K Lbs - 660K lbs



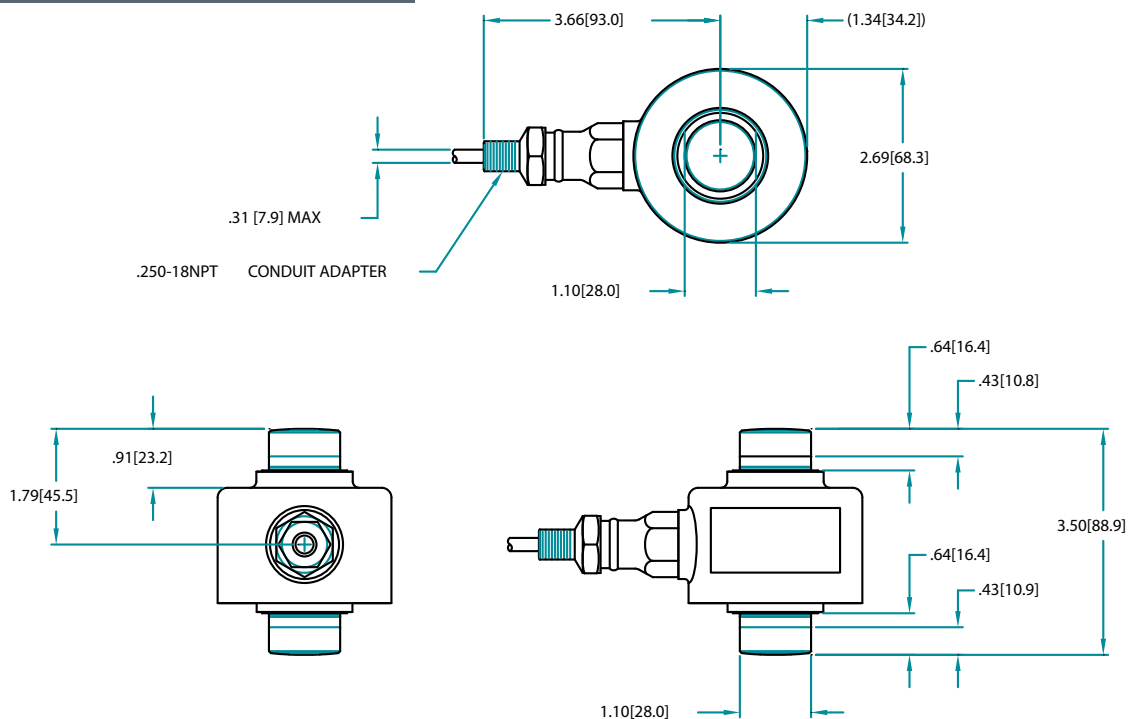
THE WEIGH MODULE NORMALLY INSTALLED



Load cell type/capacity	D1	D2	H2	H3	H4	L1	L2	L3	L4	L5	W1	W2	W3	S3	T2	Max lift off force Klbs	Max side force Klbs	Weight excl. loadcell Lbs
HIRCH03-66K & 88K	60	22	200	29	40	210	170	30	125	150	150	110	6	M20	40.4	20.2	73	
HIRCH03-110K & 220K	85	26	250	38	50	250	200	45	165	200	200	150	7	M24	67.4	33.7	144	
HIRCH03-330K	110	33	300	40	60	300	290	60	205	260	250	190	8	M30	89.9	44.9	250	
HIRCH03-660K	135	39	400	60	70	370	350	280	65	235	320	300	230	10	M36	179.8	67.4	497

HI RCH04 Series ADVANTAGE® Load Sensor

HI RCH04 Series
16.5Klbs - 50Klbs



HI LPRC03 Ordering Information

Capacity		Model #	Part#	Part #	Part #
lbs	mt	Load Point Assy	Load Sensor	Mount Stainless Steel	Mount Zinc or Painted Steel
16.5K	7.5	HI LPRC03-16.5K-4_C	HIRCH04-16.5K	5501-0194-01	5501-0194-11 (Zinc)
33K	15	HI LPRC03-33K-4_C	HIRCH04-33K	5501-0194-01	5501-0194-11 (Zinc)
50K	23	HI LPRC03-50K-4_C	HIRCH04-50K	5501-0194-01	5501-0194-11 (Zinc)
66K	30	HI LPRC03-66K-4_C	HIRCH03-66K	5501-0240-01	5501-0240-11 (Zinc)
88K	40	HI LPRC03-88K-4_C	HIRCH03-88K	5501-0240-02	5501-0240-12 (Zinc)
110K	50	HI LPRC03-110K-4_C	HIRCH03-110K	5501-0240-03	5501-0240-23 (Painted)
220K	100	HI LPRC03-220K-4_C	HIRCH03-220K	5501-0240-04	5501-0240-24 (Painted)
330K	150	HI LPRC03-330K-41C	HIRCH03-330K	N/A	5501-0240-25 (Painted)
660K	300	HI LPRC03-660K-41C	HIRCH03-660K	N/A	5501-0240-26 (Painted)

In Model Number use 43C for Stainless Mounts, 45C for Zinc Plated Mounts and 41C for Painted Mounts.

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Double Ended Shear Beam



DSB01C Load Sensor and MDSB01C Mount Double Ended Shear Beams



The Hardy DSB01C Double Ended Shear Beam load cells are designed for use on medium to high capacity vessels. The DSB01C series offer high accuracy and reliable performance with Hardy's industry leading C2 Electronic Calibration technology. Ideal for high capacity tanks and vessels, the DSB01C is a dependable workhorse suitable for heavy duty applications.

The load cells are either alloy steel (DSB01C-AS) or stainless steel (DSB01C-SS) construction. Both Stainless Steel and Nickel plated alloy steel come in 5Klb to 250Klb (2.27 to 113.4 Metric Tons), with mounting hardware available separately. They are oil proof, waterproof and non-corrosive, making them suitable for all kinds of environments. They have a protection rating of IP67. Both series come with a 9m (30 ft) cable.

SPECIFICATIONS	DSB01C-SS	DSB01C-AS
Rated Output (ES)	$3 \pm 0.003 \text{mV/V}$	$3 \pm 0.003 \text{mV/V}$
Max # Verification Int.	3000	3000
Min Verification Int.	$E_{\text{max}}/7500$	$E_{\text{max}}/12500$
Zero Balance	$< \pm 1.0 \% \text{ R.O.}$	$< \pm 1.0 \% \text{ R.O.}$
Combined Error	$< \pm 0.023 \% \text{ R.O.}$	$< \pm 0.023 \% \text{ R.O.}$
Input Resistance	$700 \pm 7 \text{ ohm}$	$700 \pm 7 \text{ ohm}$
Output Resistance	$703 \pm 4 \text{ ohm}$	$703 \pm 4 \text{ ohm}$
Insulation Resistance	$> 5000 \text{ Mohm}@50 \text{ VDC}$	$> 5000 \text{ Mohm}@50 \text{ VDC}$
Excitation	5 - 12 vdc	5 - 12 vdc
Safe Load Limit	150% E_{max}	150% E_{max}
Ultimate Load	300 % E_{max}	300 % E_{max}
Sensor Material	Stainless Steel 17-4PH	Nickel Plated Alloy Steel
Sealing	Potted	Potted
Approvals	CE, IP67	CE, IP67
Warranty	Two years	Two years

ORDERING INFORMATION

Shipping Weight is 5lbs to 46lbs for Sensors; 30lbs to 720lbs for mounts.
For both sensors or mounts order SS for Stainless Steel and AS for Alloy Steel.

Capacity		Model#
Klbs	mt*	DSB01C Sensors
5Klb	2.27mt	DSB01C-_S-5KLB
10Klb	4.54mt	DSB01C-_S-10KLB
20Klb	9.1mt	DSB01C-_S-20KLB
30Klb	13.62mt	DSB01C-_S-30KLB
50Klb	22.7mt	DSB01C-_S-50KLB
60Klb	27.2mt	DSB01C-_S-60KLB
75Klb	34mt	DSB01C-_S-75KLB
100Klb	45.4mt	DSB01C-_S-100KLB
150Klb	68mt	DSB01C-_S-150KLB
200Klb	90.8mt	DSB01C-_S-200KLB
250Klb	113.4mt	DSB01C-_S-250KLB

Use SS for Stainless Steel, AS for Alloy Steel

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable

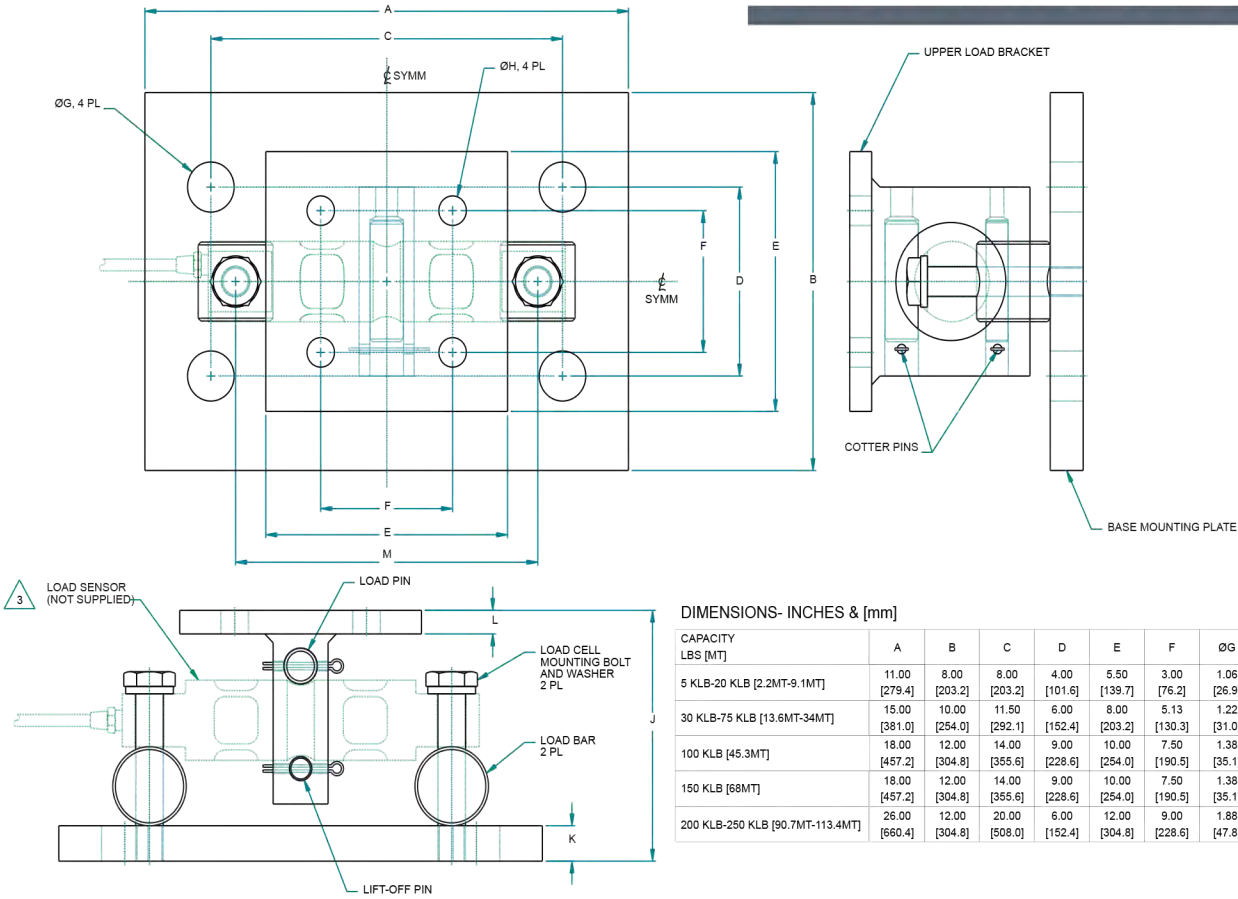
CABLE LENGTH 9 METERS

MDSB01C Mount capacity		Model#
Klbs	mt*	Mount
5-20Klb	2.27 to 9.1mt	MDSB01C-_S-5-20KLB
30-75Klb	13.6 to 34mt	MDSB01C-_S-30-75KLB
100Klb	45.4mt	MDSB01C-_S-100KLB
150Klb	68mt	MDSB01C-_S-150KLB
200-250Klb	90.8 to 113.4mt	MDSB01C-_S-200-250KLB

Use SS for Stainless Steel, AS for Alloy Steel

* Metric Tons estimated from lbs conversion.

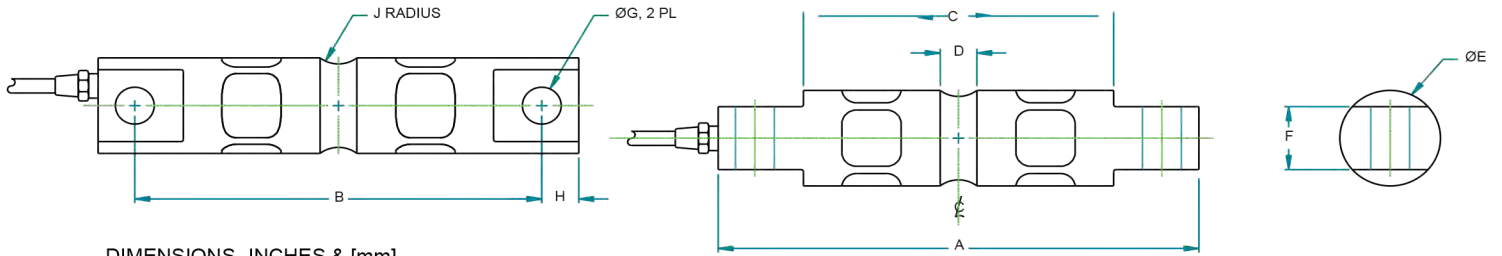
HI MDSB01C Double Ended Shear Beam Mount



DIMENSIONS- INCHES & [mm]

CAPACITY LBS [MT]	A	B	C	D	E	F	ØG	ØH	J	K	L	M
5 KLB-20 KLB [2.2MT-9.1MT]	11.00 [279.4]	8.00 [203.2]	8.00 [203.2]	4.00 [101.6]	5.50 [139.7]	3.00 [76.2]	1.06 [26.9]	.63 [16.0]	5.48 [139.2]	.75 [19.1]	.50 [12.7]	6.875 [174.63]
30 KLB-75 KLB [13.6MT-34MT]	15.00 [381.0]	10.00 [254.0]	11.50 [292.1]	6.00 [152.4]	8.00 [203.2]	5.13 [130.3]	1.22 [31.0]	.75 [19.1]	8.43 [214.1]	1.00 [25.4]	.75 [19.1]	8.500 [215.9]
100 KLB [45.3MT]	18.00 [457.2]	12.00 [304.8]	14.00 [355.6]	9.00 [228.6]	10.00 [254.0]	7.50 [190.5]	1.38 [35.1]	.81 [20.6]	10.39 [264.0]	1.25 [31.8]	1.25 [31.8]	9.500 [241.3]
150 KLB [68MT]	18.00 [457.2]	12.00 [304.8]	14.00 [355.6]	9.00 [228.6]	10.00 [254.0]	7.50 [190.5]	1.38 [35.1]	.81 [20.6]	10.39 [264.0]	1.25 [31.8]	1.25 [31.8]	9.500 [241.3]
200 KLB-250 KLB [90.7MT-113.4MT]	26.00 [660.4]	12.00 [304.8]	20.00 [508.0]	6.00 [152.4]	12.00 [304.8]	9.00 [228.6]	1.88 [47.8]	1.06 [26.9]	15.73 [400.0]	2.00 [50.8]	2.00 [50.8]	13.000 [330.3]

HI DSB01C Load Sensor

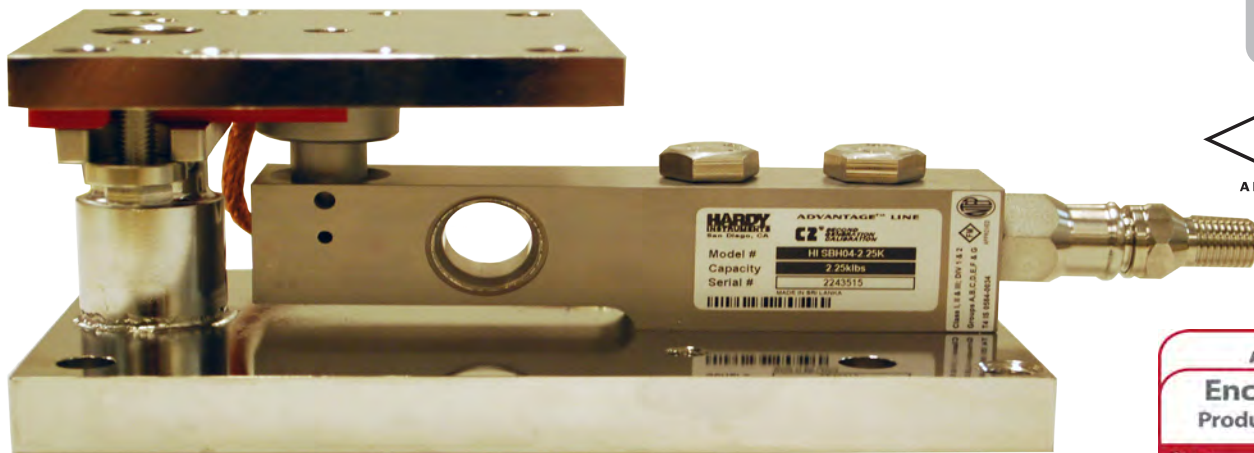


DIMENSIONS- INCHES & [mm]

CAPACITY LBS [KN]	MODEL NUMBER PLATED ALLOY STEEL	MODEL NUMBER STAINLESS STEEL	A	B	C	D	ØE	F	ØG	H	J
5 KLB [2.2MT]	DSB01C-AS-5KLB	DSB01C-SS-5KLB	8.12 [206.2]	6.88 [174.6]	5.24 [133.1]	.62 [15.7]	1.70 [43.2]	1.12 [28.4]	.66 [16.7]	.62 [15.7]	.50 [12.7]
10 KLB [4.5MT]	DSB01C-AS-10KLB	DSB01C-SS-10KLB									
20 KLB [9.1MT]	DSB01C-AS-20KLB	DSB01C-SS-20KLB	8.12 [206.2]	6.88 [174.6]	5.24 [133.1]	.84 [21.3]	1.95 [49.5]	1.12 [28.4]	.66 [16.7]	.62 [15.7]	.50 [12.7]
30 KLB [13.6MT]	DSB01C-AS-30KLB	DSB01C-SS-30KLB									
50 KLB [22.7MT]	DSB01C-AS-50KLB	DSB01C-SS-50KLB	10.25 [260.4]	8.50 [215.9]	6.50 [165.1]	1.00 [25.4]	3.00 [76.2]	2.34 [60.2]	1.06 [26.9]	.88 [22.4]	1.00 [25.4]
60 KLB [27.2MT]	DSB01C-AS-60KLB	DSB01C-SS-60KLB									
75 KLB [34MT]	DSB01C-AS-75KLB	DSB01C-SS-75KLB									
100 KLB [45.3MT]	DSB01C-AS-100KLB	DSB01C-SS-100KLB	11.25 [285.8]	9.50 [241.3]	7.49 [190.2]	1.22 [31.0]	3.50 [88.9]	2.50 [63.5]	1.06 [26.9]	.88 [22.4]	1.50 [38.1]
150 KLB [68MT]	DSB01C-AS-150KLB	DSB01C-SS-150KLB	11.25 [285.8]	9.50 [241.3]	7.49 [190.2]	1.22 [31.0]	3.90 [99.1]	2.80 [71.1]	1.06 [26.9]	.88 [22.4]	1.50 [38.1]
200 KLB [90.7MT]	DSB01C-AS-200KLB	DSB01C-SS-200KLB	16.10 [408.9]	13.00 [330.3]	10.00 [254.0]	1.25 [31.7]	5.38 [136.6]	4.60 [116.8]	1.56 [39.6]	1.55 [39.4]	2.00 [50.8]
250 KLB [113.4MT]	DSB01C-AS-250KLB	DSB01C-SS-250KLB									

OneMount™ Advantage® Shear Beam Load Points

OneMount HI ONELP Load Points with HI SBH04 Hermetic Shear Beam Sensors



The Hardy OneMount™ with Advantage® shear beams are specifically built to save customers time and money during installation, calibration, and maintenance. Each load point provides extraordinary flexibility and durability in most industrial environments. Each feature of the load point was intentionally designed based on nearly 100 years of process weighing experience, delivering a best-in-class measurement system for vessel, hopper and tank weighing systems.

Accuracy

- Self-centering rocker design maintains alignment under considerable shear forces
- Precision sensor (combined error 0.02% rated output) from 1,125 lbs – 22,500 lbs
- Optional Dynamic Stabilization Rods can be purchased to reduce vibration noise on the sensor for better resolution

Safety

- Lutoff and side force ratings are confirmed by third party destructive testing
- True glass-to-metal hermetically sealed sensors deliver the ultimate washdown protection (IP68/IP69K)
- C2® electronic calibration reduces the risk of accidents or contamination from test weights

Easy Installation

- Integral spacers can carry the full rated capacity without the load cell installed, eliminating the need for expensive dummy load cells or welding fixtures
- Once mounts are installed, the load cells slide into place. With minimal tank jacking (1/8"), the spacers are removed for a live load point
- 360° checking mechanism means load points can be installed in any direction
- C2® electronic calibration for fast startup in high capacity installations

Easy Maintenance

- Replace load cells with minimal tank jacking (1/8")
- Matched mV/V/ohm load cells are easy to replace without recalibration

User Benefits

- OEE improvement from consistent, accurate performance, and reduced installation and maintenance time
- Reduced capital investment and labor typically associated with dummy load cells and welding fixtures
- Reduced complexity of system selection and installation from a single, universal design

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

HI SBH04 ADVANTAGE® Load Sensor

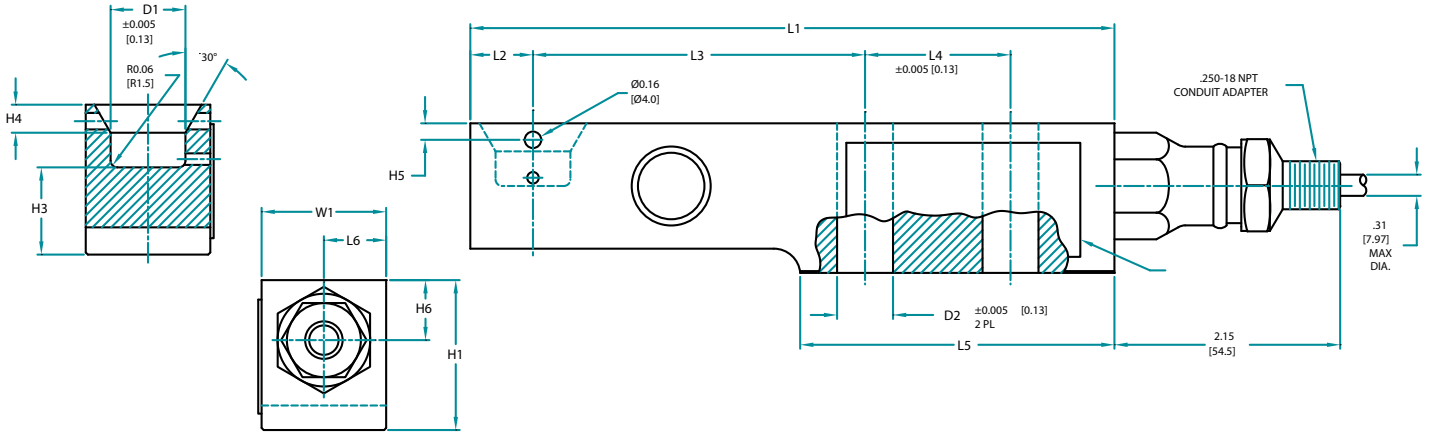
SPECIFICATIONS	Units	HI SBH04
Maximum Capacity (E _{max})	lbs	1.125k / 2.25k / 4.5k / 11.25k / 22.5k
Max number verification intervals	n _{max}	3000
Min load cell verification interval	v _{min}	E _{max} / 11000
Combined Error	%RO	± 0.0200
Non-Linearity	%RO	± 0.0166
Hysteresis	%RO	± 0.0166
Creep error (30 Minutes) / DR	%RO	± 0.0166
Temperature effect on min dead load output	%RO/10°C	± 0.0127
Temperature effect on sensitivity	%RO/10°C	± 0.0100
Non-Repeatability	%RO	Not Specified
Rated Output (RO)	mV/V	2 ± 0.1%
Calibration in mV/V/Ω		Matched
Zero Balance	%RO	± 5
Excitation Voltage	V	5-15
Input Resistance	Ω	1100 ± 50
Output Resistance	Ω	1000 ± 2
Insulation resistance (100VDC)	MΩ	≥ 5000
Load Cell Safe Load Limit	%E _{max}	200
Load Cell Ultimate Load Limit	%E _{max}	300
Load Cell Safe Side Load	%E _{max}	100
Maximum Platform Size	N/A	N/A
Compensated Temperature Range	°C	-10 ... +40
Operating Temperature Range	°C	-40 ... +80
Load Cell Material		Stainless Steel 17-4PH (1.4548)
Sealing		Complete Hermetic Sealing - Glass to Metal Header
Protection according to EN 60 529		IP68 (up to 2m water depth) / IP69k
Cable Length	ft	20 ft
Hazardous Certification		IS Class 1,2,3 Div 1
Legal For Trade		NTEP COC 99-057A1

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE	
EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable

HI ONEMT OneMount™

SPECIFICATIONS	Units			
Capacity	lb	1125lb - 4500lb	11250lb	22500lb
Rated Liftoff Force	lb	2250	5625	11250
Rated Overload	lb	6750	16875	33750
Rated Side Force	lb	4500	11250	22500
Weight Excluding Load Cell	lb	9	24	43
Material	Metrollogy	Electropolished Stainless Steel / Stainless Steel / Plated Steel		
Levelling Required		0.4/100 (legal for trade) / 0.8/100 (general applications)		



DIMENSIONS- INCHES & [mm]

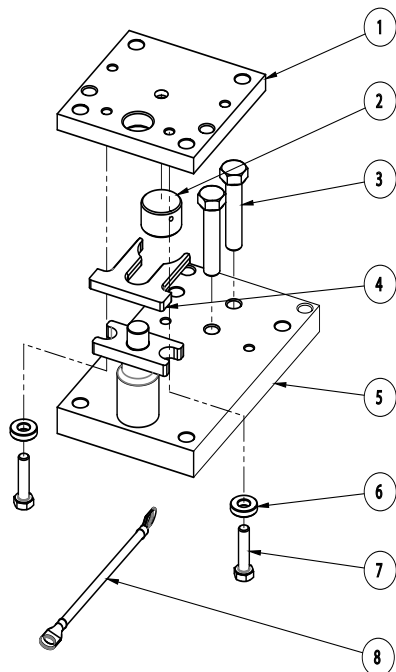
TOLERANCES: ±0.010 [0.25] UNLESS OTHERWISE STATED

CAPACITY LBS (kN)	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD1	ØD2	BOLT	TORQUE
1.125K 2.25K [5] 4.5K [20]	6.10 [155.0]	0.59 [15.0]	3.15 [80.0]	1.38 [35.0]	2.98 [75.7]	0.59 [15.0]	1.42 [36.0]	0.23 [5.8]	0.83 [21.0]	0.27 [6.9]	0.16 [4.1]	0.59 [15.0]	1.181±0.003 [30.0±.08]	0.709 [18.0]	0.53 [13.5]	.500-20 UNC GRADE 5 [M12 8.8]	65 FT LBS [90Nm]
11.25K [50]	7.48 [190.0]	0.83 [21.0]	4.13 [105.0]	1.57 [39.9]	3.66 [93.0]	0.66 [16.8]	1.93 [49.0]	0.31 [7.9]	1.12 [28.5]	0.23 [5.8]	0.31 [7.9]	0.89 [22.5]	1.693±0.003 [43.0±.08]	0.984 [25.0]	0.85 [21.5]	.750-10 UNC GRADE 5 [M20 8.8]	295 FT LBS [400Nm]
22.5K [100]	9.65 [245.0]	1.19 [30.2]	5.31 [134.9]	1.97 [50.0]	4.72 [120.0]	0.73 [18.5]	2.87 [73.0]	0.50 [12.7]	1.66 [42.2]	0.39 [10.0]	N/A	1.22 [31.0]	2.362±0.005 [60.0±0.13]	1.181 [30.0]	1.06 [27.0]	1.000-8 UNC GRADE 5 [M24 8.8]	515 FT LBS [700Nm]

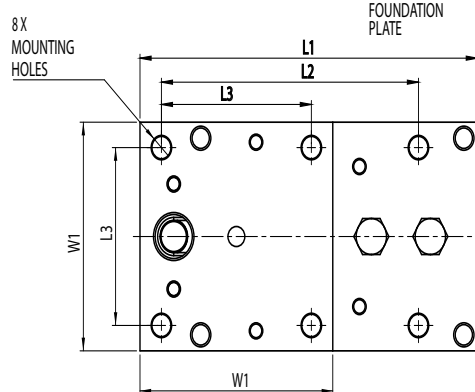
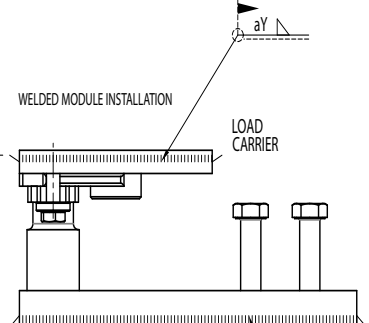
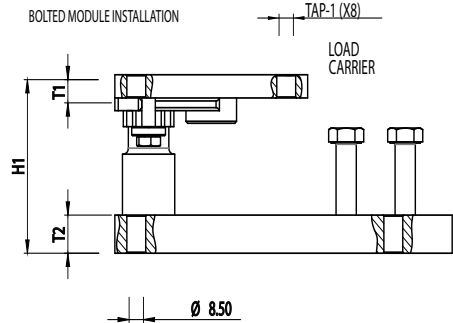
HI ONEMT Mounts

Load cell type/Capacity	PART LIST	L1	L2	L3	W1	T1	T2	H1	TAP-1	Weld size Xmm	Weld size Ymm	Max Lift off force kN	Tightning Torque for Load cells (Nm)
SB4-5kN~20kN	0065074	200	152	89	114	12	19	87	M10	5	5	45	90(M12 DIN 8.8)
SB4-50kN	0063190	256	184	102	148	18	24	111	M16	5	5	75	400(M20 DIN 8.8)
SB4-100kN	0067490	355	270	130	178	24	29	154	M20	8	8	105	700(M24 DIN 8.8)
SB8-10kG~250kG	0062462	165	145	82	102	8	12.5	76	M8	5	5	45	25(M8-DIN 8.8)

PROCEDURE FOR ASSEMBLING THE WEIGH MODULE



BOLTED MODULE INSTALLATION



COMPONENTS

Item #	Description
8	Grounding strap
7	Lift off protection bolts
6	Washer 52-25
5	Base assembly 52-25
4	Shipping & installation spacer
3	Load cell mounting bolts
2	52-25 Load cup
1	Top plate

OneMount™ and Advantage® Shear Beam Ordering Information



Load Point Assembly (Stainless Steel Sensor and Stainless Steel Mount)					
Capacity Klbs	Capacity kn	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
1.125	5	HIONELP-H-1125-SS	12 lb	HISBH04-1125	3.6 lb
2.25	10	HIONELP-H-2.25K-SS	12 lb	HISBH04-2.25K	3.6 lb
4.5	20	HIONELP-H-4.5K-SS	12 lb	HISBH04-4.5K	3.6 lb
11.25	50	HIONELP-H-11.25K-SS	30 lb	HISBH04-11.25K	6.65 lb
22.5	100	HIONELP-H-22.5K-SS	60 lb	HISBH04-22.5K	17 lb

Load Point Assembly (Stainless Steel Sensor and Alloy Steel Mount)					
Capacity Klbs	Capacity kn	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
1.125	5	HIONELP-H-1125-AS	12 lb	HISBH04-1125	3.6 lb
2.25	10	HIONELP-H-2.25K-AS	12 lb	HISBH04-2.25K	3.6 lb
4.5	20	HIONELP-H-4.5K-AS	12 lb	HISBH04-4.5K	3.6 lb
11.25	50	HIONELP-H-11.25K-AS	30 lb	HISBH04-11.25K	6.65 lb
22.5	100	HIONELP-H-22.5K-AS	60 lb	HISBH04-22.5K	17 lb

Load Point Assembly (Stainless Sensor and Electropolished Stainless Steel Mount)					
Capacity Klbs	Capacity kn	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
1.125	5	HIONELP-H-1125-ES	12 lb	HISBH04-1125	3.6 lb
2.25	10	HIONELP-H-2.25K-ES	12 lb	HISBH04-2.25K	3.6 lb
4.5	20	HIONELP-H-4.5K-ES	12 lb	HISBH04-4.5K	3.6 lb
11.25	50	HIONELP-H-11.25K-ES	30 lb	HISBH04-11.25K	6.65 lb
22.5	100	HIONELP-H-22.5K-ES	60 lb	HISBH04-22.5K	17 lb

Mount Ordering Information					
Sensor Capacity Klbs	Capacity kn	Mount Part # Stainless Steel	Mount Part # Alloy Steel	Mount Part # Electropolished Steel	Sensor Part #
1.125	5	HIONEMT-4.5KLB-SS	HIONEMT-4.5KLB-AS	HIONEMT-4.5KLB-ES	HISBH04-1125
2.25	10				HISBH04-2.25K
4.5	20				HISBH04-4.5K
11.25	50	HIONEMT-11.25KLB-SS	HIONEMT-11.25KLB-AS	HIONEMT-11.25KLB-ES	HISBH04-11.25K
22.5	100	HIONEMT-22.5KLB-SS	HIONEMT-22.5KLB-AS	HIONEMT-22.5KLB-ES	HISBH04-22.5K

Optional Dynamic Stabilization Rods		
	Stainless Steel	Alloy Steel
4.5	5504-0074-SS-4.5KLB	5504-0074-AS-4.5KLB
11.25	5504-0074-SS-11.25KLB	5504-0074-AS-11.25KLB
22.5	5504-0074-SS-22.5KLB	5504-0074-AS-22.5KLB

Easy Installation Process

1. Align and level the mounts under the vessel without the load cells installed. The mounts can be installed in any orientation, because of a 360° checking mechanism to ensure accuracy and safety.
2. Lower the vessel onto the mounts and weld or bolt the mounts to the foundation and the vessel.
3. Perform any peripheral pipe welding or add any required attachments.
4. Slide the load cell into place and fasten to the bottom plate.
5. Jack the vessel up 1/8" to remove the shipping/installation bracket.
6. Lower the vessel onto the live load point and calibrate using Hardy's C2® electronic calibration.

ISO 9001:2008
CERTIFIED

Since 1993

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Hardy Process Solutions

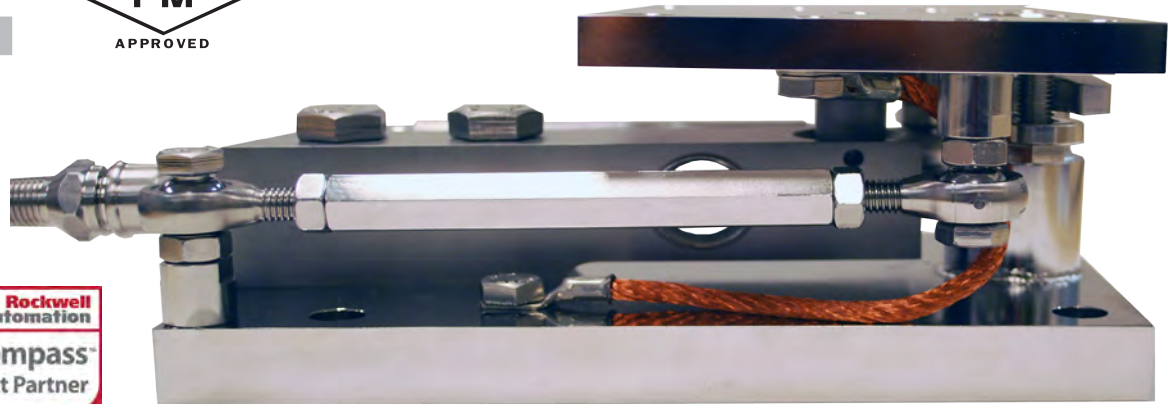
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OneMount™ Advantage® Lite Shear Beam Load Points

OneMount HI ONELP Load Points with HI SB05 Shear Beam Sensors



The Hardy OneMount™ with Advantage® Lite shear beams are specifically built to save customers time and money during installation, calibration, and maintenance. Each load point provides extraordinary flexibility and durability in most industrial environments. Each feature of the load point was intentionally designed based on nearly 100 years of process weighing experience, delivering a best-in-class measurement system for tank, vessel, and hopper weighing applications.

Accuracy

- Self-centering rocker design maintains alignment under considerable shear forces
- Precision sensor (combined error 0.02% rated output) from 1,125 lbs – 22,500 lbs
- Optional Dynamic Stabilization Rods can be purchased to reduce vibration noise on the sensor for better resolution

Safety

- Liftoff and side force ratings are confirmed by third party destructive testing
- Potted sensors provide economical options for installations that only require IP67 ingress protection
- C2® electronic calibration reduces the risk of accidents or contamination from test weights

Easy Installation

- Integral spacers can carry the full rated capacity without the load cell installed, eliminating the need for expensive dummy load cells or welding fixtures.
- Once mounts are installed, the load cells slide into place. With minimal tank jacking (1/8"), the spacers are removed for a live load point.
- 360° checking mechanism means load points can be installed in any direction
- C2® electronic calibration for fast startup in high capacity installations

Easy Maintenance

- Replace load cells with minimal tank jacking (1/8").
- Matched mV/V/ohm load cells are easy to replace without recalibration

User Benefits

- OEE improvement from consistent, accurate performance, and reduced installation and maintenance time.
- Reduced capital investment and labor typically associated with dummy load cells and welding fixtures.
- Reduced complexity of system selection and installation from a single, universal design

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

HI SB05 ADVANTAGE® Load Sensor

SPECIFICATIONS	Units	HI SB05	HI SB05
Maximum Capacity (E _{max})	klbs	1.125k / 2.25k / 4.5k / 11.25 klbs	22.5 klbs
Max number verification intervals	n _{max}	3000	N/A
Min load cell verification interval	v _{min}	E _{max} / 11000	N/A
Combined Error	%RO	± 0.0200	± 0.0500
Non-Linearity	%RO	± 0.0166	± 0.0400
Hysteresis	%RO	± 0.0166	± 0.0400
Creep error (30 Minutes) / DR	%RO	± 0.0166	± 0.0600
Temperature effect on min dead load output	%RO/10°C	± 0.0127	± 0.0400
Temperature effect on sensitivity	%RO/10°C	± 0.0100	± 0.0200
Non-Repeatability	%RO	Not Specified	Not Specified
Rated Output (RO)	mV/V	2 ± 0.1%	2 ± 0.1%
Calibration in mV/V/Ω		Matched	Matched
Zero Balance	%RO	± 5	± 5
Excitation Voltage	V	5-15	5-15
Input Resistance	Ω	1100 ± 50	1100 ± 50
Output Resistance	Ω	1000 ± 2	1000 ± 2
Insulation resistance (100VDC)	MΩ	≥ 5000	≥ 5000
Load Cell Safe Load Limit	%E _{max}	200	200
Load Cell Ultimate Load Limit	%E _{max}	300	300
Load Cell Safe Side Load	%E _{max}	100	100
Maximum Platform Size	N/A	N/A	N/A
Compensated Temperature Range	°C	-10 ... ± 40	-10 ... ± 40
Operating Temperature Range	°C	-20 ... ± 65	-20 ... ± 65
Load Cell Material		Stainless Steel 17-4PH (1.4548)	Stainless Steel 17-4PH (1.4548)
Sealing		Potted	Potted
Protection according to EN 60 529		IP67	IP67
Cable Length	ft	20 ft	20 ft
Hazardous Certification		IS Class 1,2,3 Div 1	IS Class 1,2,3 Div 1
Legal For Trade		N/A	N/A

HI ONEMT OneMount™

SPECIFICATIONS	Units	HI ONEMT		
Capacity	lb	1125lb - 4500lb	11250lb	22500lb
Rated Liftoff Force	lb	2250	5625	11250
Rated Overload	lb	6750	16875	33750
Rated Side Force	lb	4500	11250	22500
Weight Excluding Load Cell	lb	9	24	43
Material	Metallurgy	Electropolished Stainless Steel / Stainless Steel / Plated Steel		
Levelling Required		0.4/100 (legal for trade), 0.8/100 (general applications)		

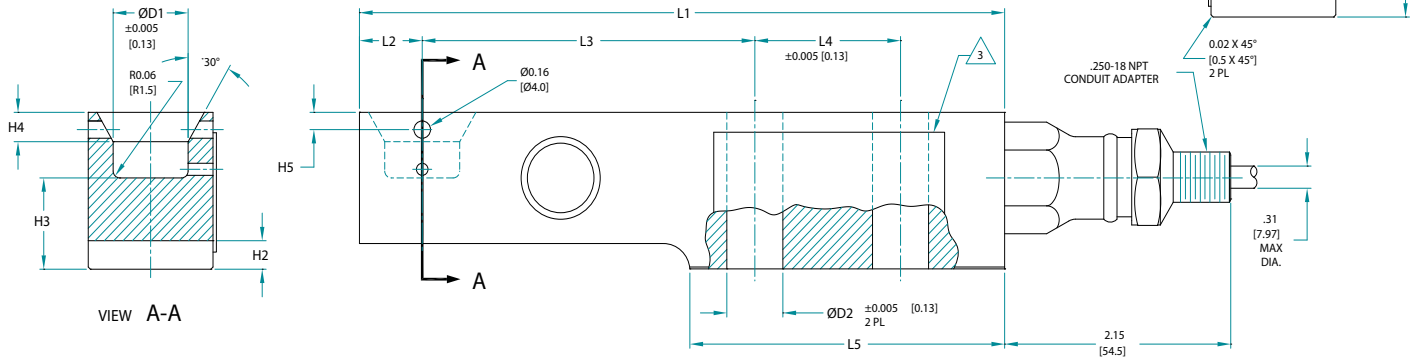
C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE	
EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2 +	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut a load sensor cable

DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.010 [0.25] UNLESS OTHERWISE STATED

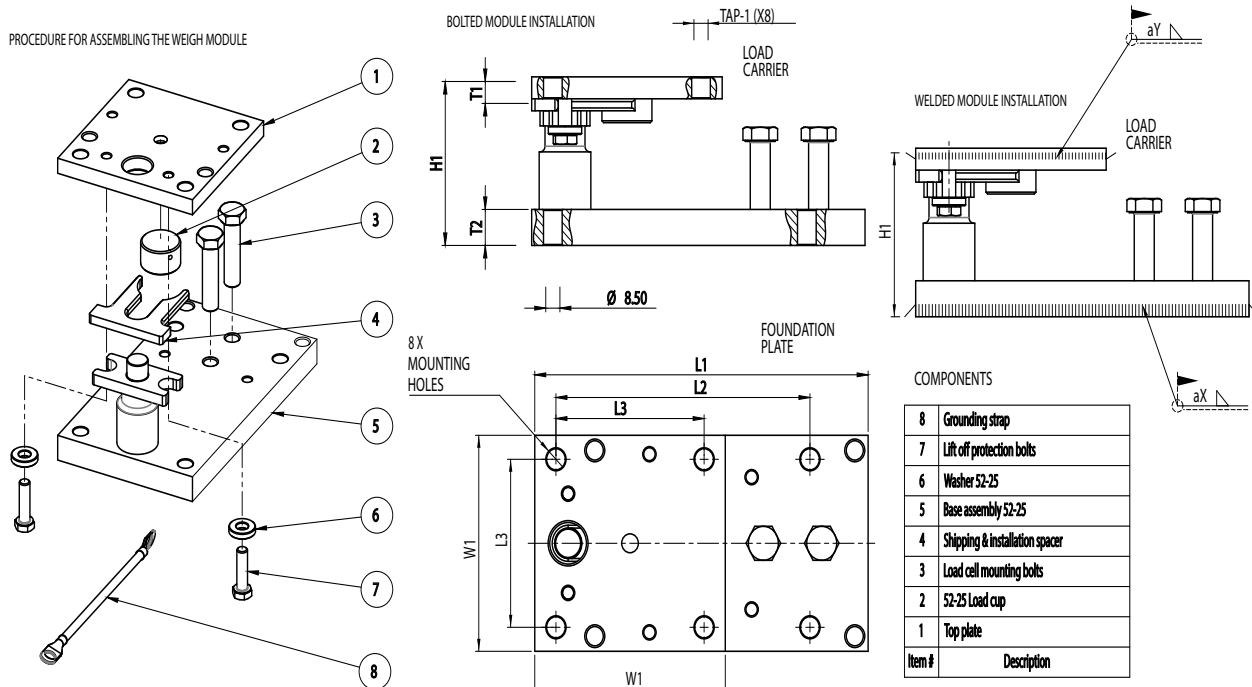
CAPACITY LBS (kN)	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD1	ØD2	BOLT Δ	TORQUE
1125 [5] 2.25K [10] 4.5K [20]	6.10 [155.0]	0.59 [15.0]	3.15 [80.0]	1.38 [35.0]	2.98 [75.7]	0.59 [15.0]	1.42 [36.0]	0.23 [5.8]	0.83 [21.0]	0.27 [6.9]	0.16 [4.1]	0.59 [15.0]	1.181±0.003 [30.0±0.08]	0.709 [18.0]	0.53 [13.5]	.500-20 UNC GRADE 5 [M12 8.8]	65 FT LBS [90Nm]
11.25K [50]	7.48 [190.0]	0.83 [21.0]	4.13 [105.0]	1.57 [40.0]	3.66 [93.0]	0.67 [17.0]	1.93 [49.0]	0.31 [8.0]	1.12 [28.5]	0.24 [6.0]	0.31 [8.0]	0.89 [22.5]	1.693±0.003 [43.0±0.08]	0.984 [25.0]	0.83 [21.0]	.750-10 UNC GRADE 5 [M20 8.8]	295 FT LBS [400Nm]
22.5K [100]	9.65 [245.0]	1.18 [30.0]	5.31 [135.0]	1.97 [50.0]	4.72 [120.0]	0.73 [18.5]	2.87 [73.0]	0.49 [12.5]	1.65 [42.0]	0.39 [10.0]	N/A	1.22 [31.0]	2.362±0.005 [60.0±0.13]	1.181 [30.0]	1.06 [27.0]	1.000-8 UNC GRADE 5 [M24 8.8]	515 FT LBS [700Nm]



HI ONEMT Mounts

Load cell type/Capacity	PART LIST	L1	L2	L3	W1	T1	T2	H1	TAP-1	Weld size Xmm	Weld size Ymm	Max Lift off force kN	Tightening Torque for Load cells (Nm)
SB4-5kN-20kN	0065074	200	152	89	114	12	19	87	M10	5	5	45	90(M12 DIN 8.8)
SB4-50kN	0063190	256	184	102	148	18	24	111	M16	5	5	75	400(M20 DIN 8.8)
SB4-100kN	0067490	355	270	130	178	24	29	154	M20	8	8	105	700(M24 DIN 8.8)
SB8-10kG-250kG	0062462	165	145	82	102	8	12.5	76	M8	5	5	45	25(M8-DIN 8.8)

PROCEDURE FOR ASSEMBLING THE WEIGH MODULE



OneMount™ and Advantage® Lite Shear Beam Ordering Information



Load Point Assembly (Stainless Steel IP67 Sensor and Stainless Steel Mount)					
Capacity Klbs	Capacity kn	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
1.125	5	HIONELP-1125-SS	12 lb	HISB05-1125	3.6 lb
2.25	10	HIONELP-2.25K-SS	12 lb	HISB05-2.25K	3.6 lb
4.5	20	HIONELP-4.5K-SS	12 lb	HISB05-4.5K	3.6 lb
11.25	50	HIONELP-11.25K-SS	30 lb	HISB05-11.25K	6.65 lb
22.5	100	HIONELP-22.5K-SS	60 lb	HISB05-22.5K	17 lb

Load Point Assembly (Stainless Steel IP67 Sensor and Alloy Steel Mount)					
Capacity Klbs	Capacity kn	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
1.125	5	HIONELP-1125-AS	12 lb	HISB05-1125	3.6 lb
2.25	10	HIONELP-2.25K-AS	12 lb	HISB05-2.25K	3.6 lb
4.5	20	HIONELP-4.5K-AS	12 lb	HISB05-4.5K	3.6 lb
11.25	50	HIONELP-11.25K-AS	30 lb	HISB05-11.25K	6.65 lb
22.5	100	HIONELP-22.5K-AS	60 lb	HISB05-22.5K	17 lb

Load Point Assembly (Stainless IP67 Sensor and Electropolished Stainless Steel Mount)					
Capacity Klbs	Capacity kn	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
1.125	5	HIONELP-1125-ES	12 lb	HISB05-1125	3.6 lb
2.25	10	HIONELP-2.25K-ES	12 lb	HISB05-2.25K	3.6 lb
4.5	20	HIONELP-4.5K-ES	12 lb	HISB05-4.5K	3.6 lb
11.25	50	HIONELP-11.25K-ES	30 lb	HISB05-11.25K	6.65 lb
22.5	100	HIONELP-22.5K-ES	60 lb	HISB05-22.5K	17 lb

Mount Ordering Information					
Sensor Capacity		Mount Part #	Mount Part #	Mount Part #	Sensor Part #
Klbs	kn	Stainless Steel	Alloy Steel	Electropolished Steel	
1.125	5	HIONEMT-4.5KLB-SS	HIONEMT-4.5KLB-AS	HIONEMT-4.5KLB-ES	HISB05-1125
2.25	10				HISB05-2.25K
4.5	20				HISB05-4.5K
11.25	50	HIONEMT-11.25KLB-SS	HIONEMT-11.25KLB-AS	HIONEMT-11.25KLB-ES	HISB05-11.25K
22.5	100	HIONEMT-22.5KLB-SS	HIONEMT-22.5KLB-AS	HIONEMT-22.5KLB-ES	HISB05-22.5K

Optional Dynamic Stabilization Rods		
	Stainless Steel	Alloy Steel
4.5	5504-0074-SS-4.5KLB	5504-0074-AS-4.5KLB
11.25	5504-0074-SS-11.25KLB	5504-0074-AS-11.25KLB
22.5	5504-0074-SS-22.5KLB	5504-0074-AS-22.5KLB

Easy Installation Process

1. Align and level the mounts under the vessel without the load cells installed. A 360° checking mechanism ensures accuracy and safety in any orientation.
2. Lower the vessel onto the mounts and weld or bolt the mounts to the foundation and the vessel.
3. Perform any peripheral pipe welding or add any required attachments.
4. Slide the load cell into place and fasten to the bottom plate.
5. Jack the vessel up 1/8" to remove the shipping/installation bracket.
6. Lower the vessel onto the live load point and calibrate using Hardy's C2® weightless calibration.

ISO 9001:2008
CERTIFIED

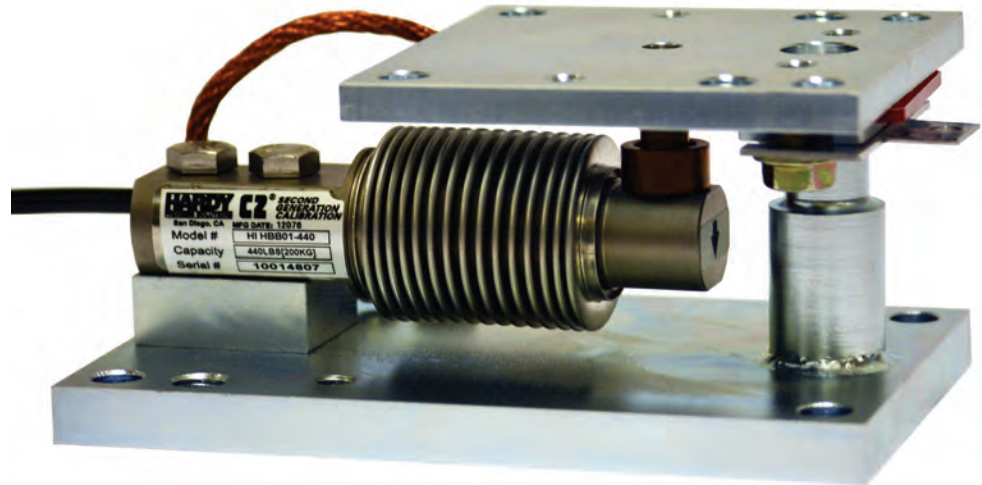
Since 1993

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OneMount™ Advantage® Beam Load Points

OneMount HI ONELP Load Points with HI HBB01 Beam Sensors



The Hardy OneMount™ with Advantage® beam sensor provides extraordinary flexibility and durability for industrial environments. OneMount load point systems are specifically built to save customers time and money during installation, calibration, and maintenance. Each feature of the load point was intentionally designed based on nearly 100 years of process weighing experience, creating a best-in-class measurement system for check weighers, small hoppers, tank weighing systems, bagging machines and other low capacity industrial applications.

Accuracy

- Self-centering rocker design maintains alignment under substantial shear forces
- Precision sensor (combined error 0.02% rated output) from 22 lbs – 550 lbs
- Optional Dynamic Stabilization Rods reduce vibration noise on the sensor for better resolution

Safety

- Best-in-class liftoff and side force ratings for safety under stress
- True glass-to-metal hermetically sealed sensors deliver the ultimate washdown protection (IP68/IP69K)
- C2® cloud-based calibration reduces the risk of accidents or contamination from test weights

Easy Installation

- Built to carry the full rated capacity without the load cell installed, eliminating the need for expensive dummy load cells and welding fixtures
- Once mount is installed, the load cell slides into place. With minimal tank jacking (1/8"), the two spacers are removed for a live load point
- 360° checking mechanism means load points can be installed in any direction
- C2® weightless calibration for fast startup in high capacity installations with a Hardy weight controller or weight processor

Easy Maintenance

- Replace load cells with minimal tank jacking (1/8").
- Matched mV/V/ohm load cells are easy to replace without recalibration

User Benefits

- OEE improvement from consistent, accurate performance, and reduced installation and maintenance time
- Reduced capital investment and labor typically associated with dummy load cells and welding fixtures
- Reduced complexity of system selection and installation from a single, universal design

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

HI SB05 ADVANTAGE® Load Sensor

SPECIFICATIONS	Units	HI HBB01
Maximum Capacity (E _{max})	lbs	22 / 44 / 110 / 220 / 440 / 550
Max number verification intervals	n _{max}	3000
Min load cell verification interval	v _{min}	E _{max} / 11000
Combined Error	%RO	± 0.0200
Non-Linearity	%RO	± 0.0166
Hysteresis	%RO	± 0.0166
Creep error (30 Minutes) / DR	%RO	± 0.0166
Temperature effect on min dead load output	%RO/10°C	± 0.0140
Temperature effect on sensitivity	%RO/10°C	± 0.0100
Non-Repeatability	%RO	Not Specified
Rated Output (RO)	mV/V	2 ± 0.1%
Calibration in mV/V/Ω		Matched
Zero Balance	%RO	± 5
Excitation Voltage	V	5-15
Input Resistance	Ω	380 ± 10
Output Resistance	Ω	350 ± 3
Insulation resistance (100VDC)	MΩ	≥ 5000
Load Cell Safe Load Limit	%E _{max}	200
Load Cell Ultimate Load Limit	%E _{max}	300
Load Cell Safe Side Load	%E _{max}	100
Maximum Platform Size	N/A	N/A
Compensated Temperature Range	°C	-10 ... ± 40
Operating Temperature Range	°C	-40 ... ± 80
Load Cell Material		Stainless Steel 17-4PH (1.4548)
Sealing		Complete Hermetic Sealing - Glass to Metal Header
Protection according to EN 60 529		IP68 (up to 2m water depth)
Cable Length	ft	10 ft
Hazardous Certification		IS Class 1,2,3 Div 1

Easy Installation Process

1. Align and level the mounts under the vessel without the load cells installed. The mounts can be installed in any orientation, because of a 360° checking mechanism to ensure accuracy and safety.
2. Lower the vessel onto the mounts and weld or bolt the mounts to the foundation and the vessel.
3. Perform any peripheral pipe welding or add any required attachments.
4. Slide the load cell into place and fasten to the bottom plate.
5. Jack the vessel up 1/8" to remove the shipping/installation brackets (two).
6. Lower the vessel onto the live load point and calibrate using Hardy's C2® cloud-based calibration.

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE	
EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2 +	GRAY
C2 -	VIOLET
SHIELD	YELLOW

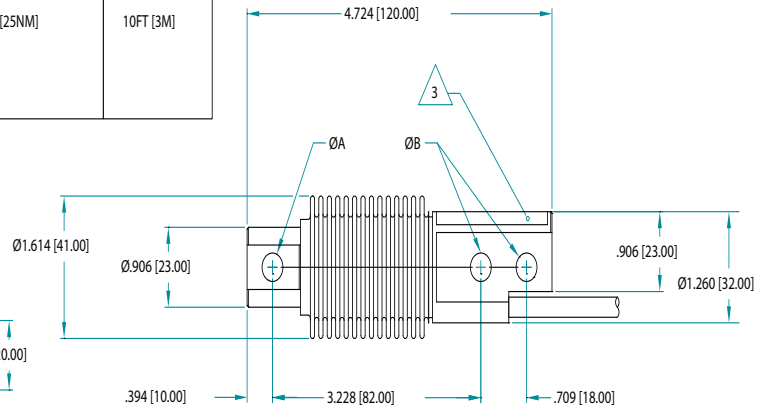
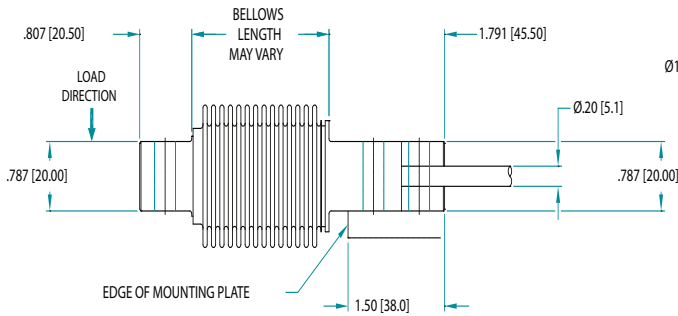
WARNING: NEVER cut a load sensor cable

HI ONEMT OneMount™

SPECIFICATIONS	Units	HI ONEMT
Capacity	lb	22lb - 550lb
Rated Liftoff Force	lb	225
Rated Overload	lb	1100
Rated Side Force	lb	550
Weight Excluding Load Cell	lb	4
Material	Metallurgy	Electropolished Stainless Steel / Stainless Steel / Plated Steel
Levelling Required		0.4/100 (legal for trade) / 0.8/100 (general applications)

MODEL NUMBER	CAPACITY LBS [KG]	ØA	ØB	THD TORQUE	CABLE LENGTH FT [M]
HI HBB01-22	22 LB [10KG]	Ø320 [8.2MM]	Ø320 [8.2MM]	18 LB-FT [25NM]	10FT [3M]
HI HBB01-44	44 LB [20KG]				
HI HBB01-110	110 LB [50KG]				
HI HBB01-220	220 LB [100KG]				
HI HBB01-440	440 LB [200KG]				
HI HBB01-550	550 LB [250KG]				

TOLERANCES: ±0.01 [0.3] UNLESS OTHERWISE STATED

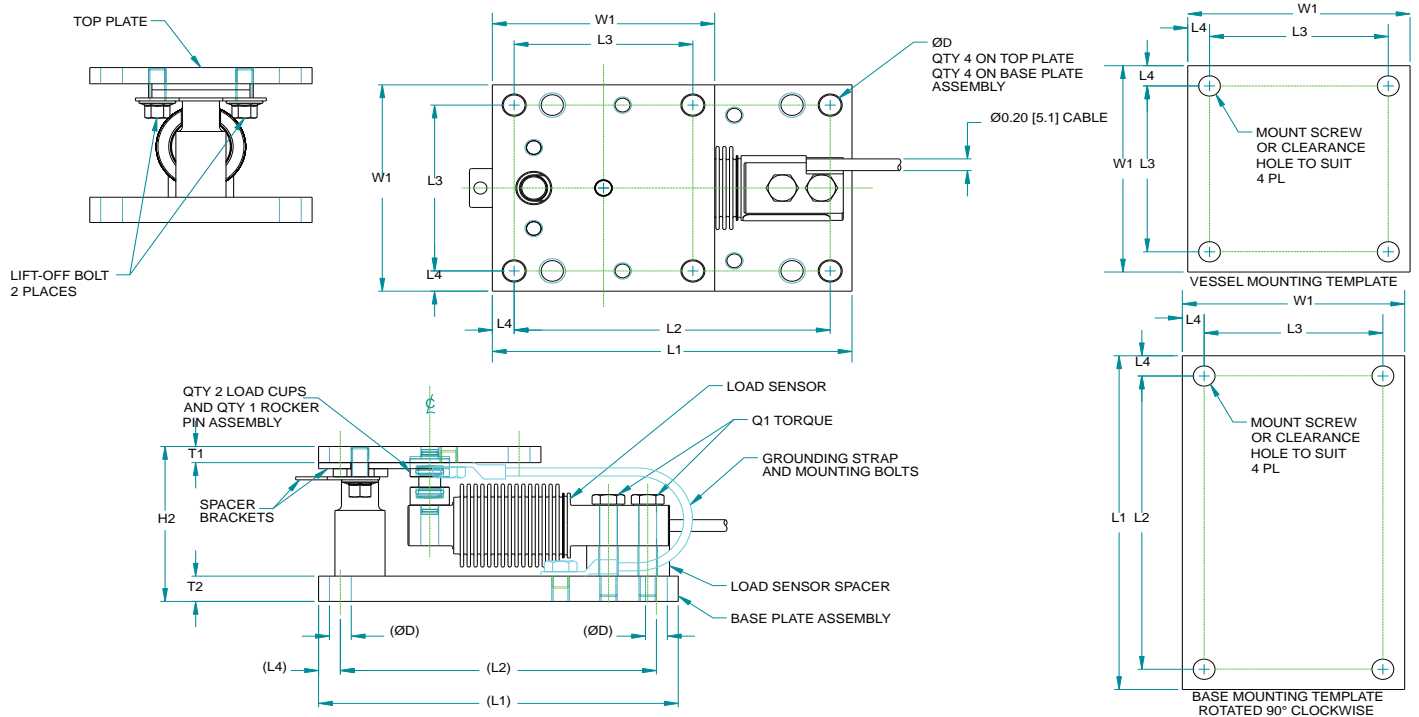


HI ONEMT Mounts

DIMENSIONS- INCHES & [mm]

CAPACITY LBS [KG]	L1	L2	L3	L4	W1	T1		H1	H2	ØD	MOUNT SCREW	WELD X	WELD Y	MAX LIFT-OFF FORCE	Q1 TORQUE LB-FT [NM]	Q2 TORQUE LB-FT [NM]
22 LB [10KG]	6.50 [165.0]	5.709 [145.00]	3.228 [82.00]	0.39 [10.00]	4.02 [102.0]	0.31 [8.0]	0.49 [12.5]	2.98 [75.6]	3.02 [76.6]	0.394 [10.00]	5/16-18 OR M8 DIN 8.8	0.2 [5.0]	0.2 [5.0]	5.05 T [45KN]	18 LB-FT [25NM]	15 LB-FT [21NM]
44 LB [20KG]																
110 LB [50KG]																
220 LB [100KG]																
440 LB [200KG]																
550 LB [250KG]																

TOLERANCES: ±0.015 [0.38] UNLESS OTHERWISE STATED



OneMount™ and Advantage® Shear Beam Ordering Information



Load Point Assembly (Stainless Steel IP68 Sensor and Stainless Steel Mount)					
Capacity lbs	Capacity kg	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
22	9.98	HIONELP-H-22-SS	12 lbs	HIHBB01-22	1.2 lbs
44	19.96	HIONELP-H-44-SS	12 lbs	HIHBB01-44	1.2 lbs
110	49.9	HIONELP-H-110-SS	12 lbs	HIHBB01-110	1.2 lbs
220	99.8	HIONELP-H-220-SS	12 lbs	HIHBB01-220	1.2 lbs
440	199.6	HIONELP-H-440-SS	12 lbs	HIHBB01-440	1.2 lbs
550	249.5	HIONELP-H-550-SS	12 lbs	HIHBB01-550	1.2 lbs

Load Point Assembly (Stainless Steel IP68 Sensor and Alloy Steel Mount)					
Capacity lbs	Capacity kg	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
22	9.98	HIONELP-H-22-AS	12 lbs	HIHBB01-22	1.2 lbs
44	19.96	HIONELP-H-44-AS	12 lbs	HIHBB01-44	1.2 lbs
110	49.9	HIONELP-H-110-AS	12 lbs	HIHBB01-110	1.2 lbs
220	99.8	HIONELP-H-220-AS	12 lbs	HIHBB01-220	1.2 lbs
440	199.6	HIONELP-H-440-AS	12 lbs	HIHBB01-440	1.2 lbs
550	249.5	HIONELP-H-550-AS	12 lbs	HIHBB01-550	1.2 lbs

Load Point Assembly (Stainless IP68 Sensor and Electropolished Stainless Steel Mount)					
Capacity lbs	Capacity kg	Load Point Part #	Load Point Shipping Weight	Sensor Part #	Sensor Shipping Weight
22	9.98	HIONELP-H-22-ES	12 lbs	HIHBB01-22	1.2 lbs
44	19.96	HIONELP-H-44-ES	12 lbs	HIHBB01-44	1.2 lbs
110	49.9	HIONELP-H-110-ES	12 lbs	HIHBB01-110	1.2 lbs
220	99.8	HIONELP-H-220-ES	12 lbs	HIHBB01-220	1.2 lbs
440	199.6	HIONELP-H-440-ES	12 lbs	HIHBB01-440	1.2 lbs
550	249.5	HIONELP-H-550-ES	12 lbs	HIHBB01-550	1.2 lbs

OneMount Without Sensors		
Mount Part # Stainless Steel	Mount Part # Alloy Steel	Mount Part # Electropolished Steel
HIONEMT-550-SS	HIONEMT-550-AS	HIONEMT-550-ES

Optional Dynamic Stabilization Rods (550 lb capacity)	
Stainless Steel	Alloy Steel
5504-0074-SS-550LB	5504-0074-AS-550LB

ISO 9001:2008
CERTIFIED

Since 1993

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ADVANTAGE LINE - Low Profile



HI HPLP Low Profile Load Points



- Stainless steel construction with electro-polished finish or alloy steel with (1.0443) plating
- Environmental Protection IP68/IP69K
- Complete laser welded hermetic sealing
- Low profile design with integrated lift off protection
- Calibration in mV/V
- Stainless mount features RA Rating of 0.5um nominal

The Hardy HI HPLP ADVANTAGE® Series are low profile load point systems designed to support loads where a traditional load cell won't fit. They are designed with electro-polished surfaces, and stainless steel or alloy steel construction making them low-maintenance in less than ideal environments.

The load point provides users with a uniform, compact and economical solution across a wide range of load cell capacities - from 500 kg (1100 lbs.) through to 30,000 kg (66,000 lbs.). Each load point consists of mounting hardware and a mV/V and mV/V/ohm matched load sensor with true hermetic sealing, C2® Electronic Calibration capabilities, on-board electronic certs and twenty feet of cable. Each load point assembly is specifically designed to eliminate the effects of unwanted side forces to provide exceptional accuracy and features IP68/IP69.

SPECIFICATIONS

Rated Output (ES)	2±0.1 mV/V
Non-Linearity	< ±0.25 % R.O.
Hysteresis	< ±0.25 % R.O.
Combined Error	< ±0.25 % R.O.
Zero Balance	< ±5.0 % R.O.
Creep @ 30 Min.	< ±0.06 % R.O.
Temp Effect Output	< ±0.04 % R.O./C
Temp Effect Sensitivity	< ±0.02 % R.O./C
Input Resistance	390 ± 20 ohm
Output Resistance	330 ± 25 ohm
Insulation Resistance	≥5000 Mohm
Excitation	5 - 15 vdc
Safe Load Limit	200 % Emax
Ultimate Load	300 % Emax
EN 60 529 Protection	IP68*/IP69
Operating Temperature	-20 to +65 °C
Stainless RA Rating	0.5um nominal
Approvals	IP68/IP69K
Warranty	Two years

* Up to 2m water depth

ORDERING INFORMATION

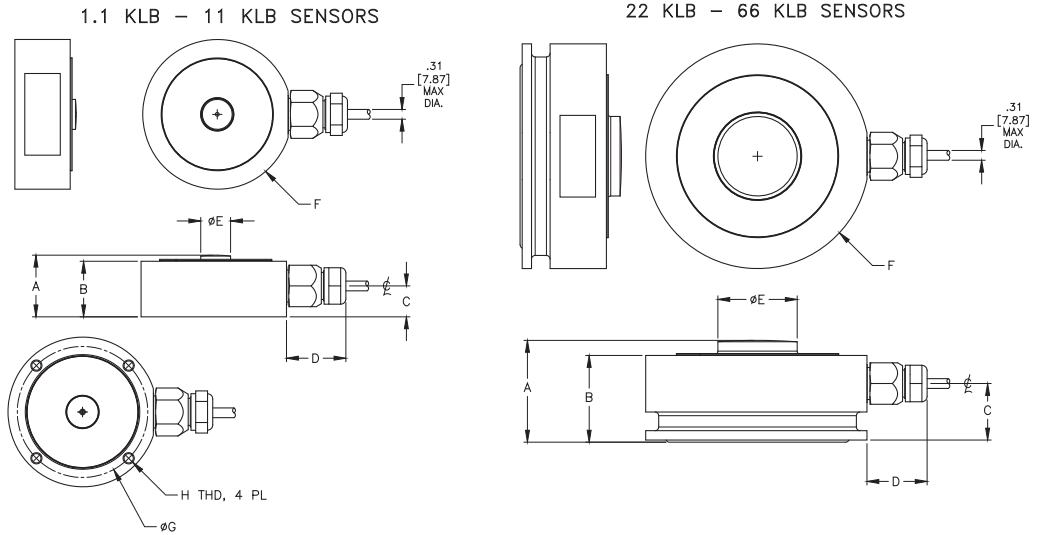
Load sensors are manufactured in Stainless Steel. Each load point consists of sensor and mount and is available with stainless steel (SS) or alloy steel (AS) mounting hardware.

Capacity	Model #		Load Point	
	lbs*	mt	Sensor Only	Stainless Steel Mount
1.1K	.5 mt	HIHP50-SS-1.1K	HIHPLP-SS-1.1K	HIHPLP-AS-1.1K
2.2K	1 mt	HIHP50-SS-2.2K	HIHPLP-SS-2.2K	HIHPLP-AS-2.2K
4.4K	2 mt	HIHP50-SS-4.4K	HIHPLP-SS-4.4K	HIHPLP-AS-4.4K
11K	5 mt	HIHP50-SS-11K	HIHPLP-SS-11K	HIHPLP-AS-11K
22K	10 mt	HIHP50-SS-22K	HIHPLP-SS-22K	HIHPLP-AS-22K
44K	20 mt	HIHP50-SS-44K	HIHPLP-SS-44K	HIHPLP-AS-44K
66K	30 mt	HIHP50-SS-66K	HIHPLP-SS-66K	HIHPLP-AS-66K

* lbs estimated from mt conversion

ADVANTAGE Low Profile Load Sensor

HI HP50 Load Sensors



C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2 +	GRAY
C2 -	VIOLET
SHIELD	YELLOW

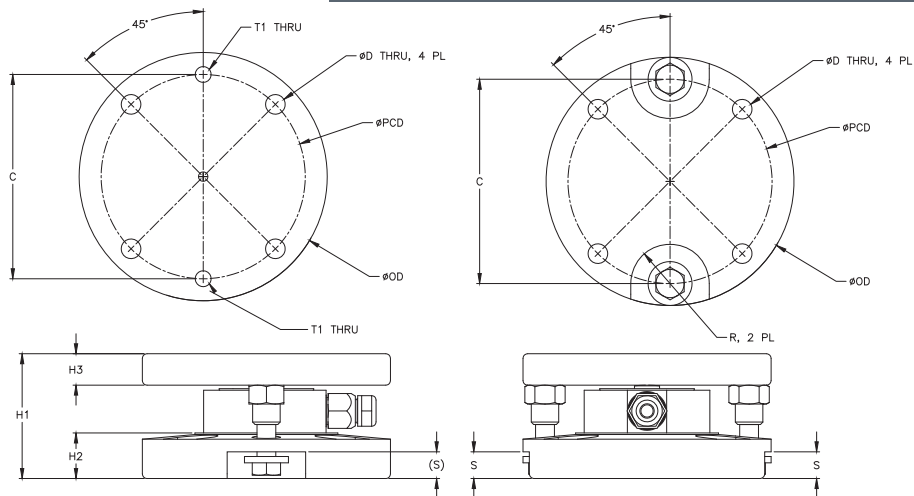
MODEL NUMBER	CAPACITY LBS [MT]	A	B	C	D	ØE	ØF	ØG	H THD	WEIGHT	CABLE LENGTH FT [M]
HI HP50-SS-1.1K	1.1 KLB [0.5MT]	1.299 [33]	1.181 [30]	.649 [16.5]	1.201 [30.5]	.630 [16]	3.150 [80]	2.756 [70]	M6 X 8MM DEEP	1.76 LB [0.8KG]	20FT [6.1M]
HI HP50-SS-2.2K	2.2 KLB [1MT]	1.299 [33]	1.181 [30]	.649 [16.5]	1.201 [30.5]	.630 [16]	3.150 [80]	NA	NA	1.76 LB [0.8KG]	20FT [6.1M]
HI HP50-SS-4.4K	4.4 KLB [2MT]	1.299 [33]	1.181 [30]	.649 [16.5]	1.201 [30.5]	.630 [16]	3.150 [80]	NA	NA	1.76 LB [0.8KG]	20FT [6.1M]
HI HP50-SS-11K	11 KLB [5MT]	1.299 [33]	1.181 [30]	.649 [16.5]	1.201 [30.5]	.630 [16]	3.150 [80]	NA	NA	1.76 LB [0.8KG]	20FT [6.1M]
HI HP50-SS-22K	22 KLB [10MT]	1.614 [41]	1.398 [35.5]	.906 [23]	1.201 [30.5]	1.142 [29]	3.740 [95]	NA	NA	2.87 LB [1.3KG]	20FT [6.1M]
HI HP50-SS-44K	44 KLB [20MT]	2.126 [54]	1.831 [46.5]	1.240 [31.5]	1.201 [30.5]	1.673 [42.5]	4.724 [120]	NA	NA	6.61 LB [3KG]	30FT [9.1M]
HI HP50-SS-66K	66 KLB [30MT]	2.126 [54]	1.831 [46.5]	1.240 [31.5]	1.201 [30.5]	1.673 [42.5]	4.724 [120]	NA	NA	6.61 LB [3KG]	30FT [9.1M]

TOLERANCES: ±0.015 [0.4] UNLESS OTHERWISE STATED

WARNING: NEVER cut load sensor cable

CABLE LENGTH: 20 FEET

ADVANTAGE Low Profile Load Point Outline



DIMENSIONS— IN [MM]		TOLERANCES: ±0.015 [0.4] UNLESS OTHERWISE STATED									
CAPACITY LBS [MT]	ØPCD	ØOD	C	ØD	R	H1	H2	H3	S	T1 THD	
1.1 KLB [0.5MT]	5.12 [130]	6.22 [158]	5.12 [130]	.49 [12.5]	.98 [25]	3.13 [79.5]	1.14 [29]	.79 [20]	.67 [17]	M12	
2.2 KLB [1MT]	5.12 [130]	6.22 [158]	5.12 [130]	.49 [12.5]	.98 [25]	3.13 [79.5]	1.14 [29]	.79 [20]	.67 [17]	M12	
4.4 KLB [2MT]	5.12 [130]	6.22 [158]	5.12 [130]	.49 [12.5]	.98 [25]	3.13 [79.5]	1.14 [29]	.79 [20]	.67 [17]	M12	
11 KLB [5MT]	5.12 [130]	6.22 [158]	5.12 [130]	.49 [12.5]	.98 [25]	3.13 [79.5]	1.14 [29]	.79 [20]	.67 [17]	M12	
22 KLB [10MT]	5.75 [146]	7.40 [188]	5.75 [146]	.49 [12.5]	1.08 [27.5]	4.08 [103.5]	1.46 [37]	1.18 [30]	.79 [20]	M16	
44 KLB [20MT]	7.28 [185]	8.98 [228]	7.28 [185]	.65 [16.5]	1.38 [35]	4.88 [124]	1.65 [42]	1.28 [32.5]	.79 [20]	M16	
66 KLB [30MT]	7.28 [185]	8.98 [228]	7.28 [185]	.65 [16.5]	1.38 [35]	4.88 [124]	1.65 [42]	1.28 [32.5]	.79 [20]	M16	

HI HPLP Load Points

Footed Advantage® Load Cells

HI SBHF14, HI SBHC14 and HI HBB01 Footed Hermetic Shear Beam Sensors



HI SBHC14 - 500-5000 lbs
Captive Load Pin: Threaded

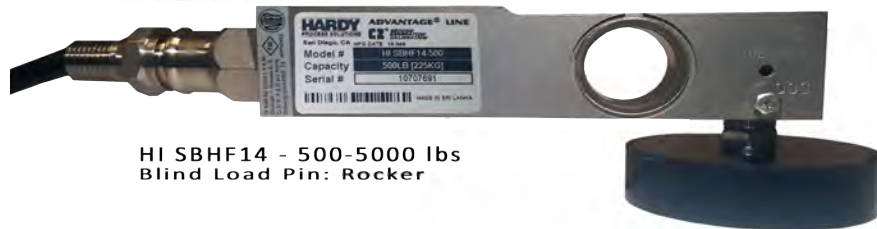


Applications

- Platform Scales
- Tank Weighing
- Hoppers
- Conveyor Systems



HI HBB01 - 22-1100 lbs
Captive Load Pin: Threaded



HI SBHF14 - 500-5000 lbs
Blind Load Pin: Rocker

Hardy's new lineup of footed load cells with height adjustable rubber feet are used for many standard industrial manufacturing applications, including platform scales, tank weighing, hoppers, and conveyor systems. Rocker and Captive load pin options not only provide a high degree of structural integrity but also make them flexible for a wide variety of installations.

Hardy footed load cell supports are designed to prevent unwanted forces from affecting load cell performance. Height adjustable, self aligning rubber feet make it easy to level the load, whether it is a platform scale or a large tank.

Threaded designs eliminate the potential for lift-off from the foot. Alternatively, a Rocker Pin design provides an addition degree of accuracy by accommodating off-center loading. The rocking action helps prevent unwanted mechanical binding or torsional forces from affecting load cell performance.

Each sensor comes matched by mV/V/ohm and includes true hermetic sealing, C2® Electronic Calibration, and on-board electronic certs. With IP68 (and IP69K for the HI SBHF14 and the HI SBHC14) they provide a high degree of ingress protection. They feature a height adjustable, self aligning rubber foot to combine excellent load introduction with a low profile design. The height is very easy to adjust through rotation of the foot.

Features

- C2 Electronic Datasheets for EASY Electronic Calibration
- Complete Hermetic Sealing
- Compatible Height Adjustable Rubber Feet
- Matched mmV/V/Ω load cells

User Benefits at a Glance

- Perfect combination of advanced features and economy for OEMs and System Integrators
- C2® Electronic Calibration
- Industry Standard Load Cell Form factor allows for easy upgrade of existing systems to utilize C2®
- IP68 or IP68/IP69K protection according to EN 60 529.

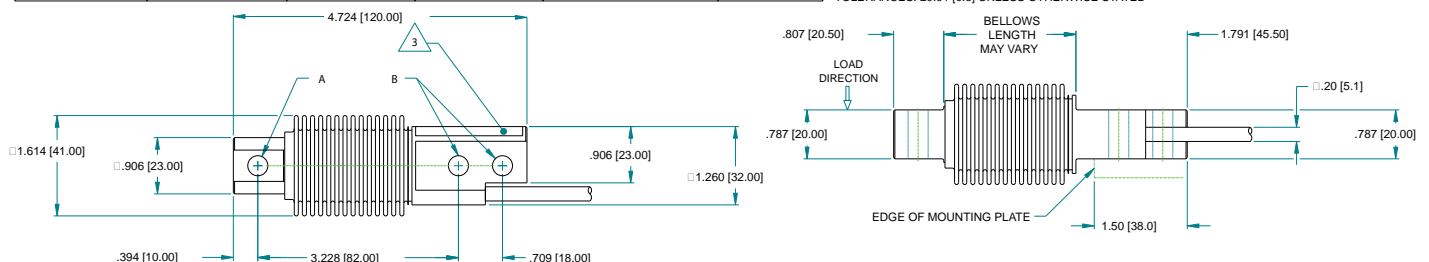
All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

Advantage® Footed Load Sensor

SPECIFICATIONS	Units	HI SBHF14 & HI SBHC14	HI HBB01
Maximum Capacity (E _{max})	lbs	500 / 1000 / 2500 / 5000	22 / 44 / 110 / 220 / 440 / 550
Max number verification intervals	n _{max}	3000	3000
Min load cell verification interval	v _{min}	E _{max} / 11500	E _{max} / 11000
Combined Error	%RO	± 0.0200	± 0.0200
Non-Linearity	%RO	± 0.0166	± 0.0166
Hysteresis	%RO	± 0.0166	± 0.0166
Creep error (30 Minutes) / DR	%RO	± 0.0166	± 0.0166
Temperature effect on min dead load output	%RO/10°C	± 0.0122	± 0.0140
Temperature effect on sensitivity	%RO/10°C	± 0.0100	± 0.0100
Non-Repeatability	%RO		
Rated Output (RO)	mV/V	2 ± 0.1%	2 ± 0.1%
Calibration in mV/V/Ω		Matched	Matched
Zero Balance	%RO	±5	± 5
Excitation Voltage	V	5-15	5-15
Input Resistance	W	1100 ± 50	380 ± 10
Output Resistance	W	1000 ± 2	350 ± 3
Insulation resistance (100VDC)	MW	≥ 5000	≥ 5000
Load Cell Safe Load Limit	%E _{max}	200	200
Load Cell Ultimate Load Limit	%E _{max}	300	300
Load Cell Safe Side Load	%E _{max}	100	100
Compensated Temperature Range	°C	-10 ... +40	-10 ... +40
Operating Temperature Range	°C	-40 ... +80	-40 ... +80
Load Cell Material (metallurgy)		Stainless Steel 17-4PH (1.4548)	Stainless Steel 17-4PH (1.4548)
Sealing		Complete Hermetic Sealing - Glass to Metal Header	Complete Hermetic Sealing - Glass to Metal Header
Protection according to EN 60 529		IP68 (up to 2m water depth) / IP69k	IP68 (up to 2m water depth)
Cable Length	ft	10 (HI SBHF14) 20 (HI SBHC14)	10
Hazardous Certification		HISBHF14 Only: IS Class 1,2,3 Div 1, NI Class 1,2,3 Div 2	IS Class 1,2,3 Div 1, NI Class 1,2,3 Div 2
Legal For Trade		HISBHF14 Only: NTEP COC 04-090	NTEP COC 99-057A1

HI HBB01 ADVANTAGE® Footed Load Sensor

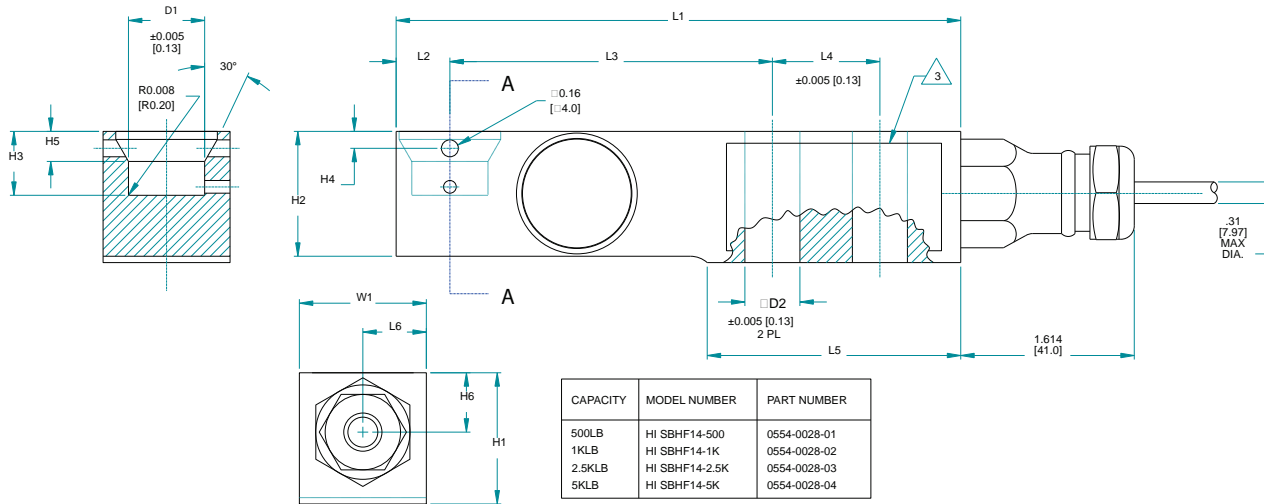
MODEL NUMBER	CAPACITY LBS [KG]	ØA	ØB	THD TORQUE	CABLE LENGTH FT [M]
HI HBB01-22	22 LB [10KG]	Ø.320 [8.2MM]	Ø.320 [8.2MM]	18 LB-FT [25NM]	10FT [3M]
HI HBB01-44	44 LB [20KG]				
HI HBB01-110	110 LB [50KG]				
HI HBB01-220	220 LB [100KG]				
HI HBB01-440	440 LB [200KG]				
HI HBB01-550	550 LB [250KG]				
HI HBB01-1.1K	1.1 KLB [500KG]	Ø.413 [10.5MM]	Ø.320 [8.2MM]	25 LB-FT [35NM]	



DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.010 [0.25] UNLESS OTHERWISE STATED

CAPACITY	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD1	ØD2	BOLT Δ 8	TORQUE
500LB/1KLB	5.25 [133.4]	0.50 [12.7]	3.00 [76.2]	1.00 [25.4]	2.36 [59.9]	0.59 [15.0]	1.22 [31.0]	1.02 [28.8]	0.59 [15.0]	0.16 [4.0]	0.28 [7.1]	0.58 [14.7]	1.181±0.003 [30.0±.08]	0.709 [18.0]	0.51 [13.0]	.500-20 UNC GRADE 5 [M12 8.8]	66 FT LBS [90Nm]
2.5KLB	5.25 [133.4]	0.50 [12.7]	3.00 [76.2]	1.00 [25.4]	2.36 [59.9]	0.59 [15.0]	1.22 [31.0]	1.20 [30.5]	0.59 [15.0]	0.16 [4.0]	0.28 [7.1]	0.58 [14.7]	1.181±0.003 [30.0±.08]	0.709 [18.0]	0.51 [13.0]	.500-20 UNC GRADE 5 [M12 8.8]	66 FT LBS [90Nm]
5KLB	5.25 [133.4]	0.50 [12.7]	3.00 [76.2]	1.00 [25.4]	2.36 [59.9]	0.59 [15.0]	1.22 [31.0]	1.20 [30.5]	0.59 [15.0]	0.16 [4.0]	0.28 [7.1]	0.58 [14.7]	1.181±0.003 [30.0±.08]	0.709 [18.0]	0.51 [13.0]	.500-20 UNC GRADE 8 [M12 10.9]	88 FT LBS [120Nm]

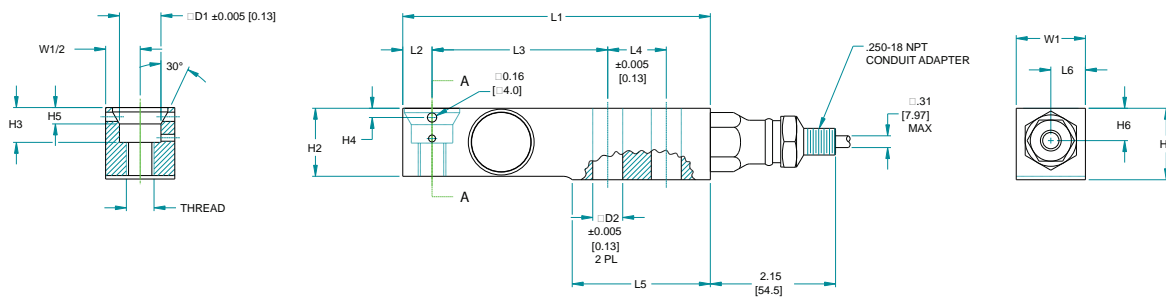


HI SBHC14 ADVANTAGE® Footed Load Sensor

DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.015 [0.38] UNLESS OTHERWISE STATED

CAPACITY LBS [kN]	MODEL NUMBER	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD2	THREAD	MOUNTING BOLT Δ	TORQUE LB-FT [NM]
500 LB [227KG]	HI SBHC14-500	5.25 [133.4]	0.50 [12.7]	3.00 [76.2]	1.00 [25.4]	2.36 [59.9]	0.59 [15.0]	1.22 [31.0]	1.13 [28.8]	0.59 [15.0]	0.16 [4.0]	0.28 [7.1]	0.59 [15.0]	1.181±0.003 [30.0±.08]	0.51 [13.0]	.500-20 UNF-2B	.500-20 UNF GRADE 5 [M12 8.8]	66 [90]
1 KLB [454KG]	HI SBHC14-1K	5.25 [133.4]	0.50 [12.7]	3.00 [76.2]	1.00 [25.4]	2.36 [59.9]	0.59 [15.0]	1.22 [31.0]	1.13 [28.8]	0.59 [15.0]	0.16 [4.0]	0.28 [7.1]	0.59 [15.0]	1.181±0.003 [30.0±.08]	0.51 [13.0]	.500-20 UNF-2B	.500-20 UNF GRADE 5 [M12 8.8]	66 [90]
2.5 KLB [1.13MT]	HI SBHC14-2.5K	5.25 [133.4]	0.50 [12.7]	3.00 [76.2]	1.00 [25.4]	2.36 [59.9]	0.59 [15.0]	1.22 [31.0]	1.20 [30.5]	0.59 [15.0]	0.16 [4.0]	0.28 [7.1]	0.59 [15.0]	1.181±0.003 [30.0±.08]	0.51 [13.0]	.500-20 UNF-2B	.500-20 UNF GRADE 5 [M12 8.8]	66 [90]
5 KLB [2.27MT]	HI SBHC14-5K	5.25 [133.4]	0.50 [12.7]	3.00 [76.2]	1.00 [25.4]	2.36 [59.9]	0.59 [15.0]	1.22 [31.0]	1.20 [30.5]	0.59 [15.0]	0.16 [4.0]	0.28 [7.1]	0.59 [15.0]	1.181±0.003 [30.0±.08]	0.51 [13.0]	.500-20 UNF-2B	.500-20 UNF GRADE 5 [M12 8.8]	89 [120]



Advantage® Footed Load Sensor Ordering Information

Advantage® Hermetically Sealed Footed Load Sensor with C2® Calibration					
CAPACITY			MODEL	Shipping Weight	
lbs	kg*	Part #	Hole Type	lbs	kg
500	227	HISBHF14-500	Blind Hole	4	2
1000	454	HISBHF14-1K	Blind Hole	4	2
2500	1134	HISBHF14-2.5K	Blind Hole	4	2
5000	2270	HISBHF14-5K	Blind Hole	4	2

Advantage® Hermetically Sealed Footed Load Sensor with C2® Calibration					
CAPACITY			MODEL	Shipping Weight	
lbs	kg*	Part #	Hole Type	lbs	kg
500	227	HISBHC14-500	1/2-20 Threaded Hole	4	2
1000	454	HISBHC14-1K	1/2-20 Threaded Hole	4	2
2500	1134	HISBHC14-2.5K	1/2-20 Threaded Hole	4	2
5000	2270	HISBHC14-5K	1/2-20 Threaded Hole	4	2

Advantage® Hermetically Sealed Footed Load Sensor with C2® Calibration					
CAPACITY			MODEL	Shipping Weight	
lbs	kg*	Part #	Hole Type	lbs	kg
22	10	HIHBB01-22	Through Hole	1.2	0.5
44	20	HIHBB01-44	Through Hole	1.2	0.5
110	50	HIHBB01-110	Through Hole	1.2	0.5
220	100	HIHBB01-220	Through Hole	1.2	0.5
440	200	HIHBB01-440	Through Hole	1.2	0.5
550	250	HIHBB01-550	Through Hole	1.2	0.5
1100	500	HIHBB01-1.1K	Through Hole	1.2	0.5

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE	
EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable

Height Adjustable Rubber Foot	
Part Number	Description
HIHARF3	Blind Hole Foot for use with HISBHF14 Load Sensors and HIFS Floor Scales
HIHARF6	1/2-20 UNF Threaded Foot for use with HISBHC14 Load Sensors
HIHARF7	Height Adjustable Rubber Foot for HIHBB01 Load Sensors

*Kg estimated from lbs conversion

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 hardyinfo@hardysolutions.com

ISO 9001:2008
CERTIFIED

Since 1993

Footed-Rev A 04/16
 0401-Foot

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ADVANTAGE & ADVANTAGE LITE SHEAR BEAMS

HI HLPS, HI LPS05, HI HLPRE04 & HI LPRE05 Hermetic Shear Beam Load Point Assemblies



Hardy Process Solutions is committed to providing customer value through the configurability of its sensor line. For compression applications between 1125 lb and 22,500 lb (.5 mt and 10 mt), Hardy offers four different configurations of shear beam load points. Customers can choose between two different levels of moisture ingress protection on load sensors, and between two mounting hardware options. These mounting options offer different levels of liftoff and side force protection, thermal expansion, and vibration accommodation, depending on the application requirements.

Sensor Options	Mount Options	
	Bumper, Slider, Fixed	HIMSBRE
HI SBH04 Hermetically sealed	HI HLPS	HI HLPRE04
HI SB05 Environmentally sealed	HI LPS05	HI LPRE05

For demanding mounting situations with side forces (~50% Emax) and anti-uplift requirements

HI HLPS: The Hardy HI HLPS ADVANTAGE® Series sliding load point system consists of a stainless steel, mV/V and mV/V/ohm matched HI SBH04 load sensor with true hermetic sealing and C2® electronic calibration capabilities. The IP68/IP69k load sensor combined with the bumper, slider, fixed mounting configuration offers the best in moisture and corrosion protection, along with best-in-class protection from liftoff (6.6 -15.2Klbs) and side forces, and best-in-class accuracy in high thermal expansion and vibration installations. The bumper slider fixed mount is perfect for agitated vessels, vibratory feeders, and wind-loaded tanks.

HI LPS05: The Hardy Process Solutions Advantage® Lite HI LPS05 mid-range shear beam load point offers the same bumper, slider, fixed mounting configuration as the HI HLPS load point with an IP67 HI SB05 load sensor. The HI SB05 is a stainless steel, mV/V and mV/V/ohm matched load sensor with C2® Electronic Calibration capabilities, and has the ability to deliver customer savings for applications that do not require hermetic sealing.

For mounting applications with low side forces (<10%Emax) and no anti-uplift requirements

HI HLPRE04: The HI HLPRE04 pairs the ADVANTAGE® Series HI SBH04 hermetically sealed IP68/IP69k load sensor with the cost-effective HIMSBRE mount. Perfect for mezzanine level tank, hopper, or platform installations with wash-down requirements, the HI MSBRE mount offers consistent load introduction in a lower profile installation. The blind hole load pin with rubber element design provides stray voltage isolation, minor misalignment correction, and absorbs minor thermal expansion and shock.

HI LPRE05: The HI LPRE05 pairs the ADVANTAGE® Lite Series HI SB05 environmentally sealed load sensor with the HIMSBRE mount, offering the lowest cost shear beam installation. The IP67 HI SB05 load cell delivers exactly what is required for minimally-wet mezzanine level tank, hopper, or platform applications.

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable
CABLE LENGTH 20 FEET

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

www.hardysolutions.com

HI HLPS OR HILPS05 ORDERING INFORMATION

Load Point with Stainless Hardware (-43) or zinc plated Hardware (-45), Shipping Weight approx. 10-35 lbs. for Load Point, 4-17 lbs. for Sensor. A vessel with 3 legs will require 1 each fixed (F), bumper (B) & slider (S) assy. A vessel with 4 legs will require 1 each fixed (F), bumper (B) & 2 each slider (S) assy.

Capacity		Assy #			Hermetically Sealed Model#		Environmentally Sealed Model#	
lbs	mt	FIXED	BUMPER	SLIDER	HI SBH04	SPARE Load Sensor	HISB05	SPARE Load Sensor
1,125	0.5	F	B	S	HIHLPS1125-4__	HISBH04-1125	HILPS05-1125-4__	HISB05-1125
2.25K	1	F	B	S	HIHLPS2.25K-4__	HISBH04-2.25K	HILPS05-2.25K-4__	HISB05-2250
4.5K	2	F	B	S	HIHLPS4.5K-4__	HISBH04-4.5K	HILPS05-4.5K-4__	HISB05-4500
11.25K	5	F	B	S	HIHLPS11.25K-4__	HISBH04-11.25K	HILPS05-11.25K-4__	HISB05-11.25K
22.5K	10	F	B	S	HIHLPS22.5K-4__	HISBH04-22.5K	HILPS05-22.5K-4__	HISB05-22.5K

Load points can be ordered as a system rather than ordering individual components.

3 POINT SYSTEMS				
CAPACITY		MODEL#		
lbs	mt	HI SBH04	HI SBH05	
3,375	1.5	HI 3S3375-4__	HI3S05-3375-4	
6.75K	3.1	HI 3S6.75K-4__	HI3S05-6.75K-4__	
13.5K	6.1	HI 3S13.5K-4__	HI3S05-13.5K-4__	
33.75K	15.3	HI 3S33.75K-4__	HI3S05-33.75K-4__	
67.5K	30.6	HI 3S67.5K-4__	HI3S05-67.5K-4__	

4 POINT SYSTEMS				
CAPACITY		MODEL#		
lbs	mt	HI SBH04	HI SBH05	
4.5K	2.0	HI 4S4.5K-4__	HI4S05-4.5K-4__	
9K	4.1	HI 4S9K-4__	HI4S05-9K-4__	
18K	8.2	HI 4S18K-4__	HI4S05-18K-4__	
45K	20.4	HI 4S45K-4__	HI4S05-45K-4__	
90K	40.8	HI 4S90K-4__	HI4S05-90K-4__	

SPECIFICATIONS	HISBH04	HI SBH05*
Rated Output (ES)	2±0.002mV/V	2±0.002mV/V
Non-Linearity	<±0.0166 % R.O.	<±0.0166 % R.O.*
Hysteresis	<±0.0166 % R.O.	<±0.0166 % R.O.*
Zero Balance	<±5.0 % R.O.	<±5.0 % R.O.*
Combined Error	<±0.02 % R.O.	<±0.02 % R.O.*
Creep @ 30 Min.	<±0.0166 % R.O.	<±0.0166 % R.O.*
Temp Effect Output	±0.0127 % R.O./C*	±0.0127 % R.O./C*
Temp Effect Sensitivity	±0.010 % R.O./C*	±0.010 % R.O./C*
Input Resistance	1100±50 ohm	1100±50 ohm
Output Resistance	1000 ± 2 ohm	1000 ± 2 ohm
Insulation Resistance	≥5000 Mohm	≥5000 Mohm
Excitation	5 - 15 vdc	5 - 15 vdc
Safe Load Limit	200 % Emax	200 % Emax
Ultimate Load	300 % Emax	300 % Emax
Safe Side Load	50 % Emax	50% Emax
Approvals & Hazardous	CE, IP68/IP69K NTEP Class III FM IS Class I, Div I	CE, IP67 FM IS Class 1, Div 1
Warranty	Two years	Two years

* HI SBH05 in 22.5Lb capacity ONLY • Non-Linearity ±0.0400% R.O.

• Hysteresis ±0.0400% R.O. • Combined Error ±0.0500% R.O.

• Creep error @30 Min. ±0.0600% R.O. • Temp Effect Output ±0.0400% R.O./10°C • Temp Effect Sensitivity +0.0200% R.O./10°C

HI HLPRE04 and HI LPRE05 ORDERING INFORMATION

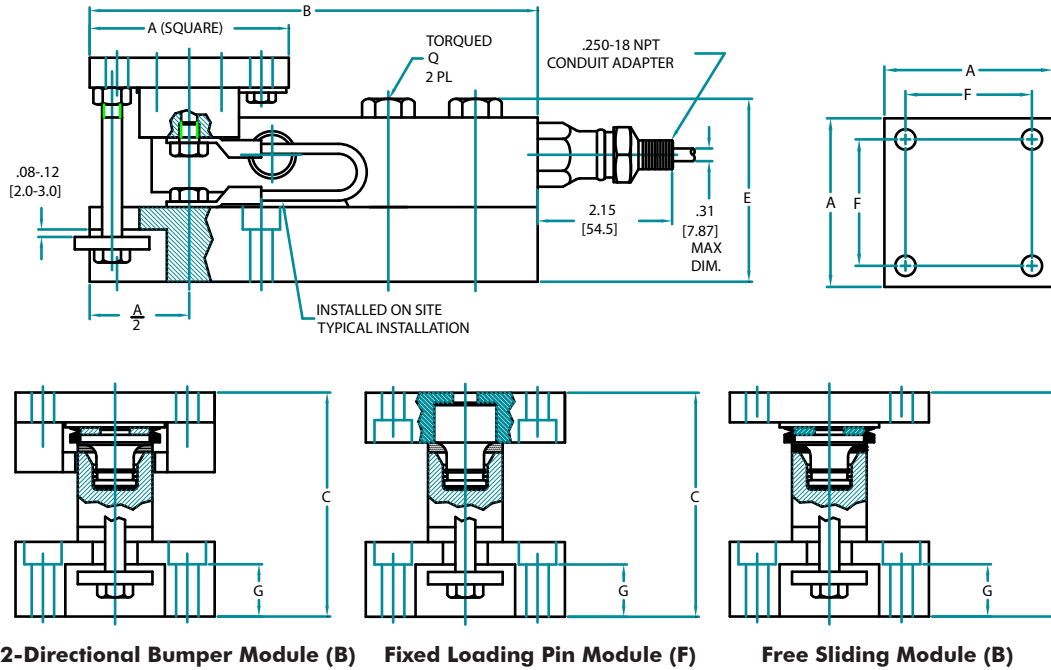
Shipping Weight 4-17 lbs. for Sensors; 8.4 to 35 lbs for mounts. Order 45 for Galvanized Steel, 43 for Stainless Steel or WP for Without Bottom Plate

Hermetically Sealed Load Sensor				
Sensor Capacity			Model#	
Klbs	kg*	Load Sensor	Load Point	
1.125	510	HISBH04-1125	HIHLPRE04-1125-4__	
2.25	1020	HISBH04-2.25K	HIHLPRE04-2.25K-4__	
4.5	2039	HISBH04-4.5K	HIHLPRE04-4.5K-4__	
11.25	5098	HISBH04-11.25K	HIHLPRE04-11.25K-4__	
22.5	10197	HISBH04-22.5K	HIHLPRE04-22.5K-4__	

Environmentally Sealed Load Sensor				
Sensor Capacity			Model#	
Klbs	kg*	Load Sensor	Load Point	
1.125	510	HISB05-1125	HILPRE05-1125-4__	
2.25	1020	HISB05-2250	HILPRE05-2.25K-4__	
4.5	2039	HISB05-4500	HILPRE05-4.5K-4__	
11.25	5098	HISB05-11K25	HILPRE05-11.25K-4__	
22.5	10197	HISB05-22K5	HILPRE05-22.5K-4__	

*Kg estimated from lbs conversion

HI HLPS Series ADVANTAGE Load Point

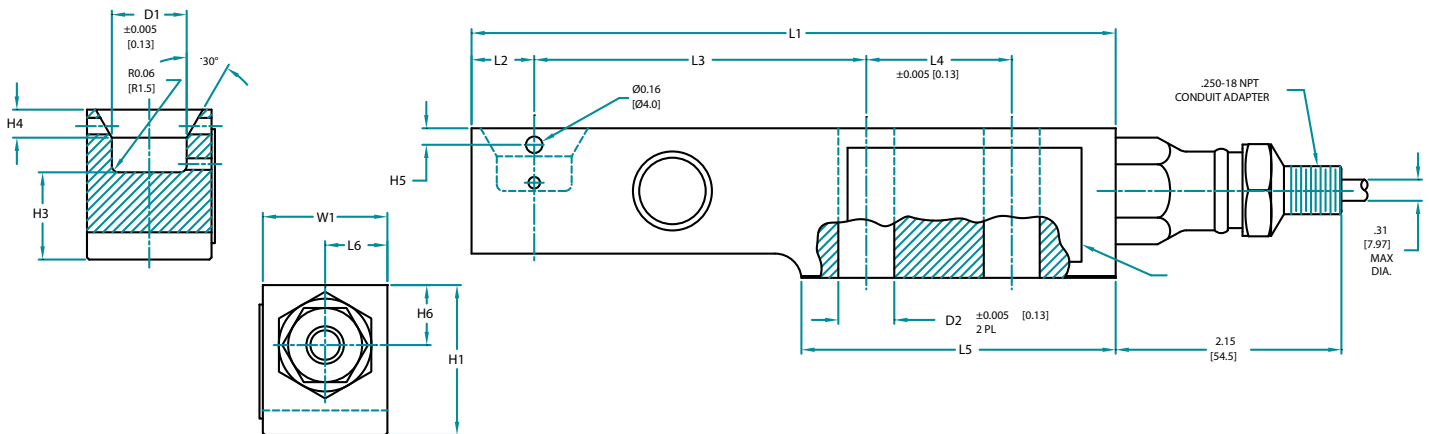


Drawing shown includes HI SBH04 sensor. Substitute Sensor ONLY for HI LPS05 drawing. Other drawings available on Hardy Website

DIMENSIONS- INCHES & [mm]

CAPACITY LBS [kN]	A	B	C	ØD	E	F	G	H	J	K	L	ØM	Q FT LBS	MOUNT SCREW	WEIGHT LBS
1.125K [5]	3.15 [80.0]	7.09 [180.0]	3.54 [90.0]	0.354 [9.00]	2.91 [74.0]	2.28 [58.0]	0.83 [21.0]	0.47 [12.0]	0.43 [11.0]	0.79 [20.0]	1.18 [30.0]	0.591 [15.00]	65 [70Nm]	.312	12
2.25K [10]	3.94 [100.0]	8.66 [220.0]	4.72 [120.0]	0.433 [11.00]	4.02 [102.0]	2.99 [76.0]	1.14 [29.0]	0.59 [15.0]	0.55 [14.0]	0.98 [25.0]	1.57 [40.0]	0.709 [18.00]	295 [400Nm]	.375	24
4.5K [20]	4.72 [120.0]	10.83 [275.0]	6.69 [170.0]	0.571 [14.50]	5.83 [148.0]	3.54 [90.0]	1.85 [47.0]	0.79 [20.0]	0.67 [17.0]	1.18 [30.0]	2.36 [60.0]	0.866 [22.00]	515 [700Nm]	.500	56.2

HI SBH04 ADVANTAGE Load Sensor



DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.010 [0.25] UNLESS OTHERWISE STATED

CAPACITY LBS [kN]	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD1	ØD2	BOLT	TORQUE
1.125K [5]	6.10 [155.0]	0.59 [15.0]	3.15 [80.0]	1.38 [35.0]	2.98 [75.7]	0.59 [15.0]	1.42 [36.0]	0.23 [5.8]	0.83 [21.0]	0.27 [6.9]	0.16 [4.1]	0.59 [15.0]	1.181±0.003 [30.0±0.08]	0.709 [18.0]	0.53 [13.5]	.500-20 UNC GRADE 5 [M12 8.8]	65 FT LBS [90Nm]
2.25K [10]	7.48 [190.0]	0.83 [21.0]	4.13 [105.0]	1.57 [39.9]	3.66 [93.0]	0.66 [16.8]	1.93 [49.0]	0.31 [7.9]	1.12 [28.5]	0.23 [5.8]	0.31 [7.9]	0.89 [22.5]	1.693±0.003 [43.0±0.08]	0.984 [25.0]	0.85 [21.5]	.750-10 UNC GRADE 5 [M20 8.8]	295 FT LBS [400Nm]
4.5K [20]	9.65 [245.0]	1.19 [30.2]	5.31 [134.9]	1.97 [50.0]	4.72 [120.0]	0.73 [18.5]	2.87 [73.0]	0.50 [12.7]	1.66 [42.2]	0.39 [10.0]	N/A	1.22 [31.0]	2.362±0.005 [60.0±0.13]	1.181 [30.0]	1.06 [27.0]	1.000-8 UNC GRADE 5 [M24 8.8]	515 FT LBS [700Nm]

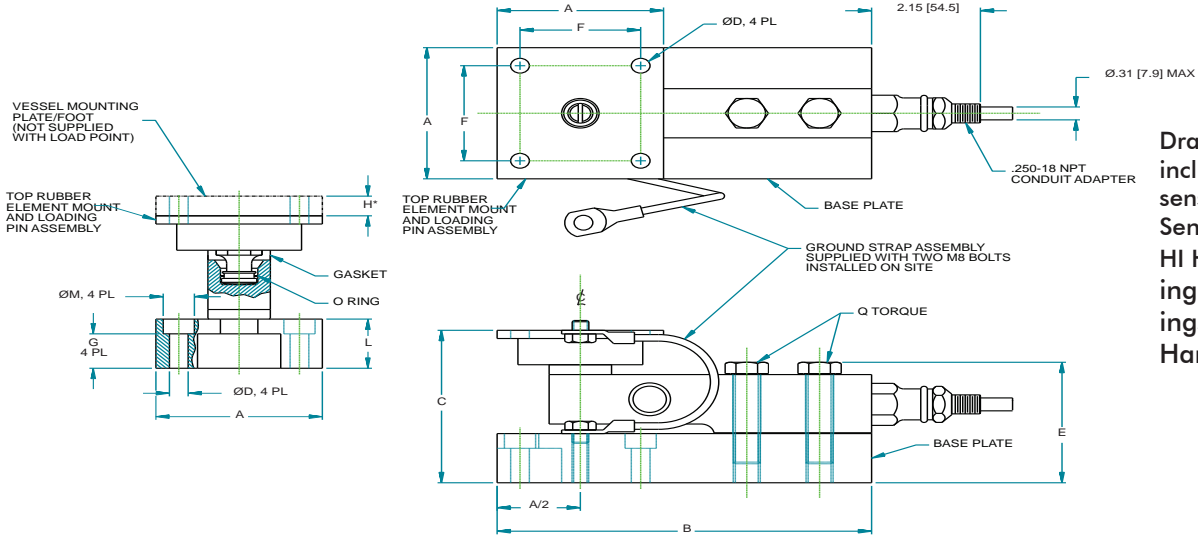
HI LPRE05 Load Point Mount

DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.015 [0.38] UNLESS OTHERWISE STATED

CAPACITY LBS [KN]	A	B	C	ØD	E	F	G	H*	L	ØM	Q TORQUE LB-FT [NM]	MOUNT SCREW	S MAX**	RF***
1125 LB [5KN]	3.15 [80.0]	7.09 [180.0]	3.66 [93.0]	0.354 [9.00]	2.91 [74.0]	2.28 [58.0]	0.83 [21.0]	0.47 [12.0]	1.18 [30.0]	0.591 [15.00]	65 LB-FT [70NM]	.312 OR M8	0.197 [5.00]	360 LB [1.6KN]
2.25 KLB [10KN]														
4.5 KLB [20KN]														
11.25 KLB [50KN]	3.94 [100.0]	8.62 [219.0]	4.65 [118.0]	0.433 [11.00]	4.02 [102.0]	2.99 [76.0]	1.14 [29.0]	1.57 [40.0]	0.709 [18.00]	295 LB-FT [400NM]	.375 OR M10		1124 LB [5KN]	
22.5 KLB [100KN]														
	4.72 [120.0]	10.83 [275.0]	6.61 [168.0]	0.571 [14.50]	5.83 [148.0]	3.54 [90.0]	1.85 [47.0]							2.36 [60.0]

* RECOMMENDED MINIMUM THICKNESS OF VESSEL MOUNTING FOOT/PLATE ** SMAX = MAXIMUM LATERAL DISPLACEMENT OF LOAD INTRODUCTION
 *** RF = RESTORING FORCE AT SMAX ****IMPORTANT! USE BUMPER STOPS IF LATERAL FORCES EXCEED THE RF VALUE. BUMPER STOP GAP TO BE APPROXIMATELY 2-3 MM.



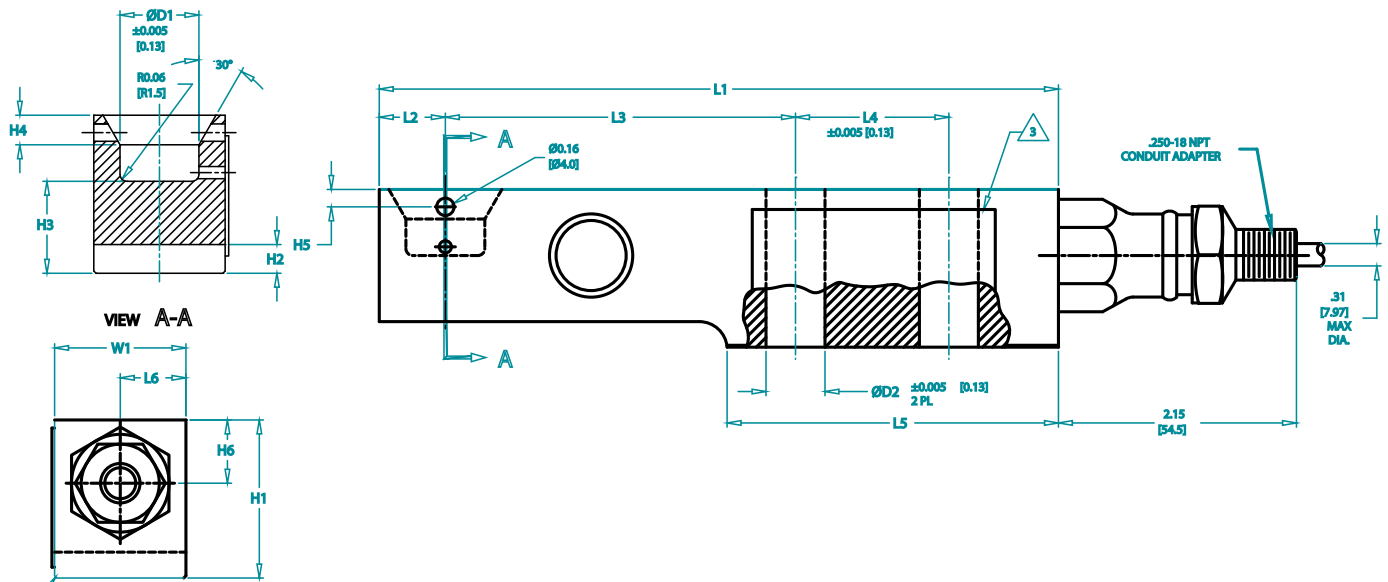
Drawing shown includes HI SB05 sensor. Substitute Sensor Only for HI HLPRE04 drawing. Other drawings available on Hardy Website

HI SB05 Advantage Lite Load Sensor

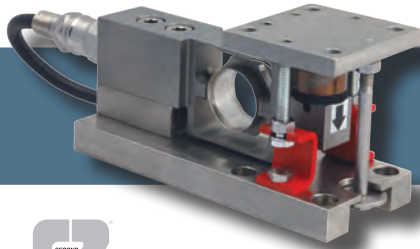
DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.010 [0.25] UNLESS OTHERWISE STATED

CAPACITY LBS [KN]	L1	L2	L3	L4	L5	L6	H1	H2	H3	H4	H5	H6	W1	ØD1	ØD2	BOLT Δ	TORQUE
1125 [5] 2.25K [10] 4.5K [20]	6.10 [155.0]	0.59 [15.0]	3.15 [80.0]	1.38 [35.0]	2.98 [75.7]	0.59 [15.0]	1.42 [36.0]	0.23 [5.8]	0.83 [21.0]	0.27 [6.9]	0.16 [4.1]	0.59 [15.0]	1.181±0.003 [30.0±0.08]	0.709 [18.0]	0.53 [13.5]	.500-20 UNC GRADE 5 [M12 8.8]	65 FT LBS [90Nm]
11.25K [50]	7.48 [190.0]	0.83 [21.0]	4.13 [105.0]	1.57 [40.0]	3.66 [93.0]	0.67 [17.0]	1.93 [49.0]	0.31 [8.0]	1.12 [28.5]	0.24 [6.0]	0.31 [8.0]	0.89 [22.5]	1.693±0.003 [43.0±0.08]	0.984 [25.0]	0.83 [21.0]	.750-10 UNC GRADE 5 [M20 8.8]	295 FT LBS [400Nm]
22.5K [100]	9.65 [245.0]	1.18 [30.0]	5.31 [135.0]	1.97 [50.0]	4.72 [120.0]	0.73 [18.5]	2.87 [73.0]	0.49 [12.5]	1.65 [42.0]	0.39 [10.0]	N/A	1.22 [31.0]	2.362±0.005 [60.0±0.13]	1.181 [30.0]	1.06 [27.0]	1.000-8 UNC GRADE 5 [M24 8.8]	515 FT LBS [700Nm]



ADVANTAGE LINE - LOW CAPACITY



HI LPB Hermetic Load Point Assembly Compression

The Hardy HI LPB ADVANTAGE® Series, sliding load point system is designed for use on light to medium capacity vessels.

Each load point consists of mounting hardware and a stainless steel mV/V and mV/V/ohm matched load sensor with true hermetic sealing, C2® Electronic Calibration capabilities, on-board electronic certs, a ¼ NPT conduit adapter and ten feet of cable. Each pre-assembled, low profile load point system provides lift off protection and consists of three mount types specifically designed to eliminate the effects of unwanted forces to provide exceptional accuracy. The assembly can be positioned 360 degrees in ninety degree steps. A grounding strap and fixed color code wiring label is provided with each load point. The mounting hardware is available in either stainless or zinc plated steel. The sensors have an IP rating of IP68/IP69K.

The HI LPB is available in the following standard capacities: 44 lbs, 110 lbs, 225 lbs, 450 lbs, and come fully assembled with shipping bracket for protection.

SPECIFICATIONS

Rated Output (ES)	2±0.002mV/V
Non-Linearity	< ±0.018 % R.O.
Hysteresis	< ±0.025 % R.O.
Zero Balance	< ±1.0 % R.O.
Creep @ 5 Min.	< ±0.01 % R.O.
Temp Effect Output	< ±0.0014 % R.O./C
Temp Effect Sensitivity	< ±0.0007 % R.O./C
Input Resistance	1050 to 1150 ohms
Output Resistance	1000 ± 2 ohm
Insulation Resistance	>5000 Mohm
Excitation	5 - 15 vdc
Safe Load Limit	200 % Emax
Ultimate Load	300 % Emax
Safe Side Load	50 % Emax
Max Lift Off	100 % Emax
Approvals	CE, IP68/IP69K
Warranty	Two years

ORDERING INFORMATION

Load Point with Stainless Hardware (-43_) shown, zinc plated Hardware (-45_).
Shipping Weight approx. 10 lbs., Sensor 3 lbs.

A vessel with 3 legs will require 1 each fixed (F), bumper (B) & slider (S) assy.

A vessel with 4 legs will require 1 each fixed (F), bumper (B) & 2 each slider (S) assy.

Capacity	Model #	Model#	Model#	Model#	
lbs	Kgs	FIXED Assy	BUMPER Assy	SLIDER Assy	SPARE Load Sensor
44	20	HI LPB44-43F	HI LPB44-43B	HI LPB44-43S	HI BBH06-44
110	50	HI LPB110-43F	HI LPB110-43B	HI LPB110-43S	HI BBH06-110
225	100	HI LPB225-43F	HI LPB225-43B	HI LPB225-43S	HI BBH06-225
450	200	HI LPB450-43F	HI LPB450-43B	HI LPB450-43S	HI BBH06-450

Load points can be ordered as a system rather than ordering individual components.

3 POINT SYSTEMS

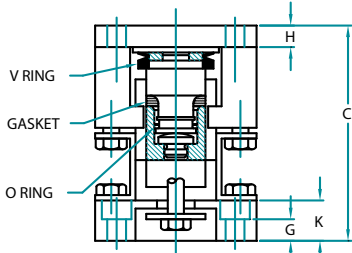
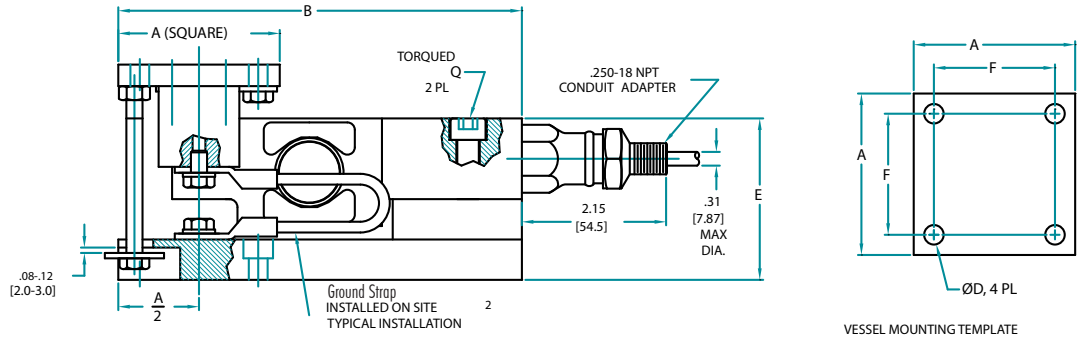
CAPACITY		MODEL#
lbs	Kg	
132	60	HI 3B132-43
330	150	HI 3B330-43
675	306	HI 3B675-43
1350	612	HI 3B1.35K-43

4 POINT SYSTEMS

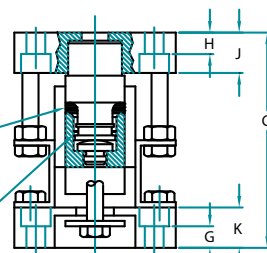
CAPACITY		MODEL#
lbs	Kg	
176	80	HI 4B176-43
440	200	HI 4B440-43
900	408	HI 4B900-43
1800	816	HI 4B1.8K-43

ADVANTAGE Load Point Outline

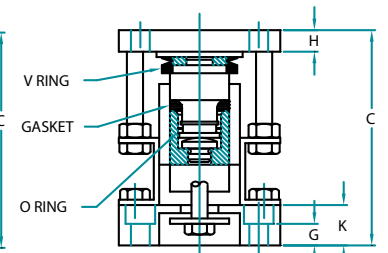
HI LPB Series



2-Directional Bumper Module (B)



Fixed Loading Pin Module (F)



Free Sliding Module (S)

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2-	VIOLET
SHIELD	YELLOW

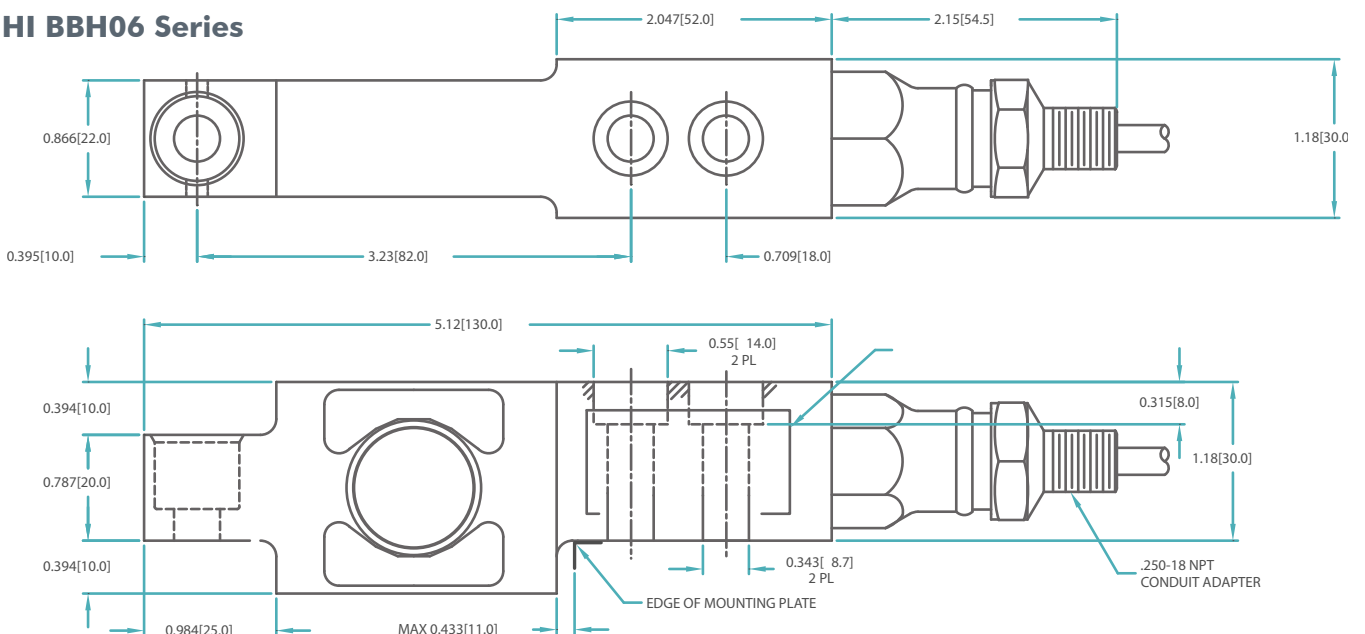
DIMENSIONS- INCHES & [mm]

CAPACITY LBS (kg/kN)	A	B	C	ØD	E	F	G	H	J	K	ØL	Q FT LBS	MOUNT SCREW	WEIGHT LBS
44, 110, 225, 450 [20] [50] [1] [2]	2.36 [60.0]	5.91 [150.0]	3.15 [80.0]	0.276 [7.00]	2.36 [60.0]	1.73 [44.0]	0.315 [8.00]	0.315 [8.00]	0.59 [15.0]	0.59 [15.0]	0.433 [11.00]	18.5 [25Nm]	.250	6.5

WARNING: NEVER cut load sensor cable
CABLE LENGTH 10 FEET

ADVANTAGE Load Sensor Outline

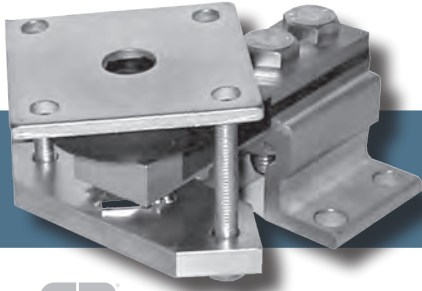
HI BBH06 Series



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ADVANTAGE Lite



HI LPRE Load Point Assembly Compression

The Hardy ADVANTAGE® Lite Series of load point assemblies provides superior performance when compared to common load cells, as well as exceptional value, in meeting your weighing needs.

Each pre-assembled load point consists of rugged stainless steel mounting hardware and a C2® Calibration compatible stainless steel, mV/V and mV/V/ohm matched and sealed load sensor. The rubber element mount provides stray voltage isolation, minor misalignment correction, thermal expansion and shock absorption. It can be used in applications with conveyors and vessels with or without agitators or mixers. The load point assembly is self-checking, eliminating the need for costly external check rods to hold the assembly in place and also provides lift-off protection. Each load sensor comes with twenty feet of six-conductor cable and a color-coded wiring label to aid in installation. The sensors have an IP rating of IP67. The ADVANTAGE Lite Series is available in the following standard capacities: 440 lb, 1,100 lb, 2,200 lb, and 4,400 lb.

SPECIFICATIONS

Rated Output (ES)	2±0.004mV/V
Non-Linearity	< ±0.025 % R.O.
Hysteresis	< ±0.025 % R.O.
Zero Balance	< ±1.0 % R.O.
Creep @ 5 Min.	< ±0.010 % R.O.
Temp Effect Output	< ±0.002 % R.O./C
Temp Effect Sensitivity	< ±0.002 % R.O./C
Input Resistance	1100 ± 5.0% ohm
Output Resistance	1000 ± 2.0% ohm
Insulation Resistance	>5000 Mohm
Excitation	5 - 15 vdc
Safe Load Limit	200 % Emax
Ultimate Load	300 % Emax
Approvals	IP67
Warranty	Two years

ORDERING INFORMATION

Only available with Stainless Hardware

Shipping weight for Load Point approx 5 lbs, Sensor 3 lbs.

Capacity		Model#	
lbs*	kg	SPARE Load Sensor	Rubber Element Assembly
440	220	HI SB02-440	HI LPRE 440-33C
1100	500	HI SB02-1.1K	HI LPRE 1.1K-33C
2200	1000	HI SB02-2.2K	HI LPRE 2.2K-33C
4400	2000	HI SB02-4.4K	HI LPRE 4.4K-33C

Load points are ordered only as individual components.

* Lbs estimated from kg conversion.

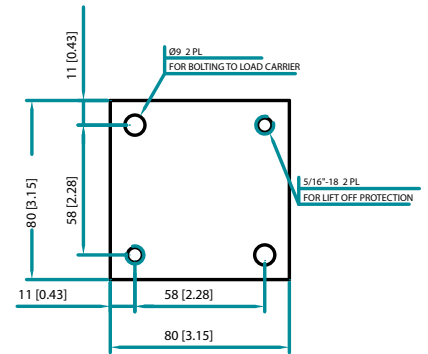
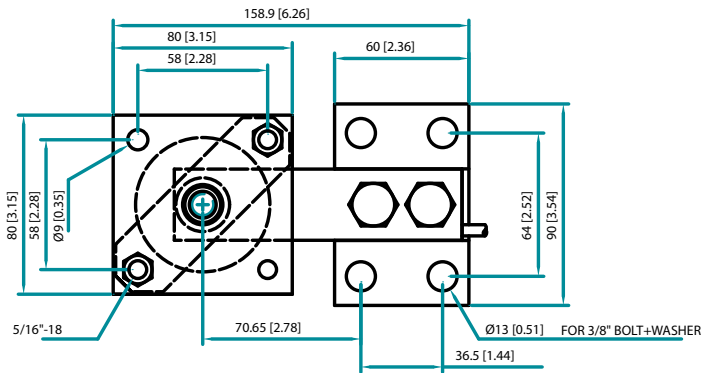
Calibrated for mV/V/Ohm and mV/V, which results in "cornering" without adjustment, may eliminate the need for re-calibration after field replacement.

All information and drawings on these pages are subject to change without notice. Consult website for latest specifications.

www.hardysolutions.com

ADVANTAGE Lite Load Point Outline

HI LPRE Series
440 Lbs/220 kgs
 Other sizes available
 on website

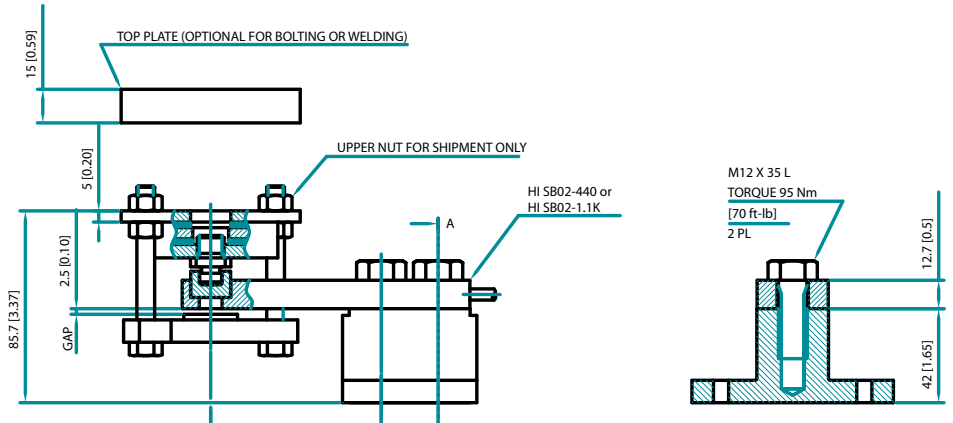


TOP PLATE (OPTIONAL)

C2 WIRE COLOR CODE FLAG LABEL IS FOUND
 APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

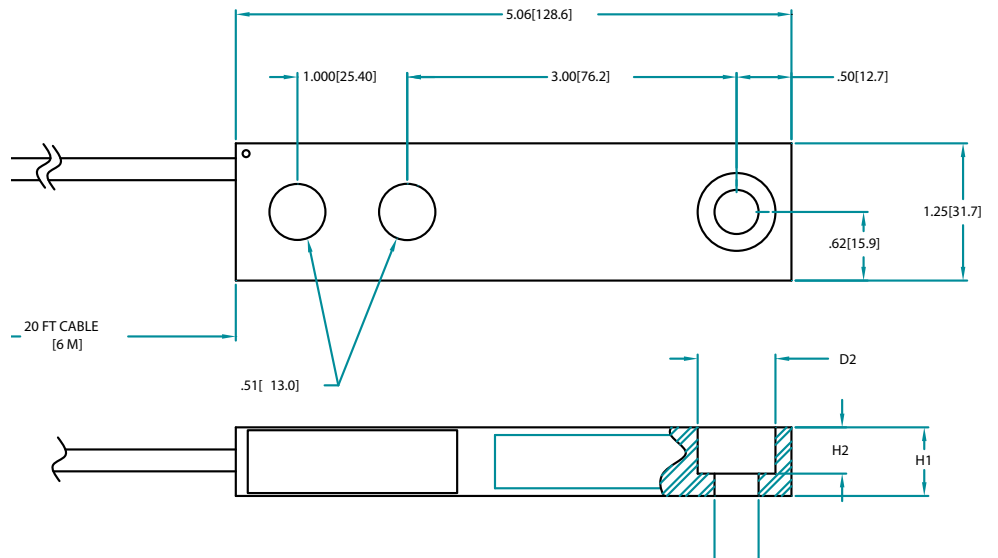
WARNING: NEVER cut load sensor cable



ADVANTAGE Lite Load Sensor Outline

CABLE LENGTH: 20 FEET

HI SB02 Series



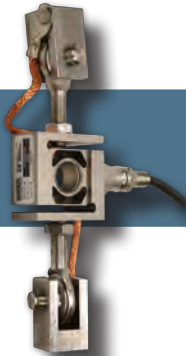
DIMENSIONS- INCHES & [mm]

CAPACITY LBS [KG]	H1	H2	ØD1	ØD2
440 [200]	0.50 [12.7]	0.25 [6.3]	0.405±0.003 [10.26±.06]	
1.1k [500]	0.63 [15.9]	0.43 [10.9]	0.405±0.003 [10.26±.06]	0.712±0.003 [18.06±.06]
2.2k [1000]	0.75 [19.1]	0.24 [6.0]	0.562±0.003 [14.26±.06]	
4.4k [2000]	1.00 [25.4]	0.26 [6.5]	0.688±0.003 [17.46±0.06]	0.909±0.003 [23.06±0.06]

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ADVANTAGE LINE - LOW TO HIGH CAPACITY



HI HLPT Hermetic Load Point Assembly Tension

The Hardy HI HLPT ADVANTAGE® Series, tension load point systems are designed for use on low to medium capacity vessels.

Each load point consists of mounting hardware and a stainless steel mV/V and mV/V/ohm matched load sensor with true hermetic sealing, C2® Electronic Calibration capabilities, on-board electronic certs, a ¼ NPT conduit adapter and twenty feet of cable. Each load point includes clevis style mounting hardware to provide exceptional accuracy while accommodating for side forces. A grounding strap and fixed color code wiring label are provided with each load point. The mounting hardware is available in either stainless or zinc plated steel for capacities up to 4.5K pounds and galvanized steel in higher capacities. The load sensors have an IP rating of IP68/IP69K.

The HI HLPT is available in the following standard capacities: 225 lbs, 450 lbs, 1,125 lbs, 2.25K lbs, 4.5K lbs and 11.25K lbs.

SPECIFICATIONS	HISTH06	HISTH01
Rated Capacity	225/450/1125 lbs	2250/4500/11250 lbs
Rated Output (ES)	2±0.002mV/V	2±0.002mV/V
Max # Verification Int.	3000	3000
Min Verification Int.	Emax/10200	Emax/12000
Non-Linearity	<±0.0166 % R.O.	<±0.0166 % R.O.
Hysteresis	<±0.0166 % R.O.	<±0.0166 % R.O.
Zero Balance	<±5% R.O.	<±5% R.O.
Combined Error	<±0.02 % R.O.	<±0.02 % R.O.
Creep @ 30 Min.	<±0.0166 % R.O.	<±0.0166% R.O.
Temp Effect Output	<±0.0137 % R.O./C	<±0.0246% R.O./C
Temp Effect Sensitivity	<±0.010 % R.O./C	<±0.010 % R.O./C
Input Resistance	1100± 50 ohm	1100 ± 50 ohm
Output Resistance	1000 ± 2 ohm	1000 ± 2 ohm
Insulation Resistance	≥5000 Mohm	≥5000 Mohm
Excitation	5 - 15 vdc	5 - 15 vdc
Compensated Temp	°C -10 to +40	°C -10 to +40
Operating Temperature	°C -20 to +80	°C -20 to +80
Safe Load Limit	200 % Emax	200 % Emax
Ultimate Load	300 % Emax	300 % Emax
Construction	Stainless Steel 17-4PH	Stainless Steel 17-4PH
Sealing	Hermetically Sealed	Hermetically Sealed
Approvals	IP68/IP69K FM IS Class I, Div 1	IP68/IP69K FM IS Class I, Div 1
Warranty	Two years	Two years

ORDERING INFORMATION

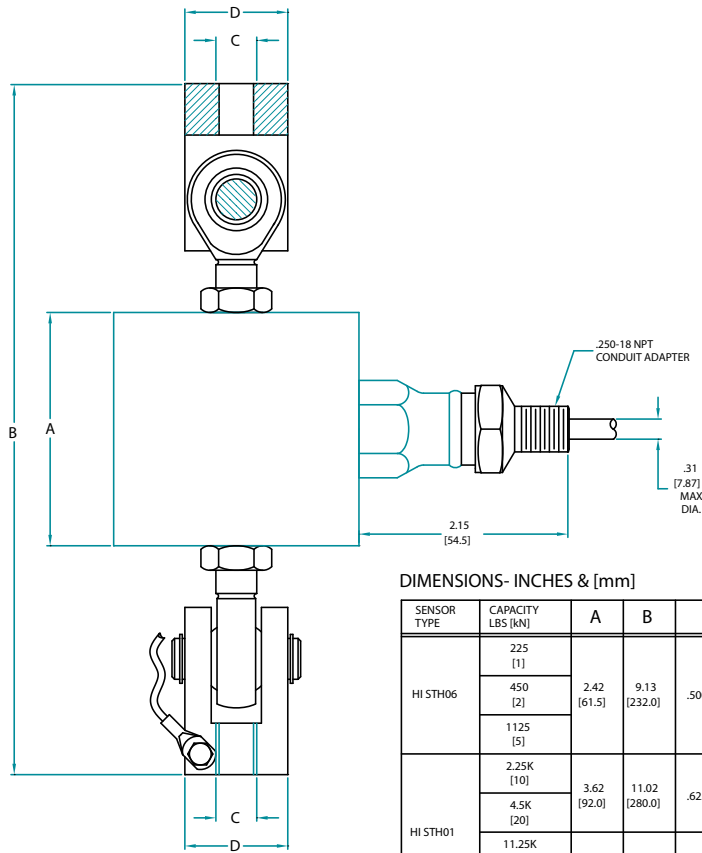
Load Point can be ordererd with stainless hardware (-43C) as shown, or zinc plated hardware (-45C)
Shipping weight for load points approx. 10-35 lbs, Sensor 4 lbs.

Capacity	Model #		Model#
	lbs	mt	FIXED Assy
225	0.1	HI HLPT225-43C	SPARE Load Sensor HI STH06-225
450	0.2	HI HLPT450-43C	HI STH06-450
1,125	0.5	HI HLPT1125-43C	HI STH06-1125
2.25K	1	HI HLPT2.25K-43C	HI STH01-2.25K
4.5K	2	HI HLPT4.5K-43C	HI STH01-4.5K
11.25K	5	HI HLPT11.25K-43C	HI STH01-11.25K

All information and drawings on these pages are subject to change without notice.
Consult website for latest specifications.

ADVANTAGE Load Point Outline

HI HLPT Series



C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable

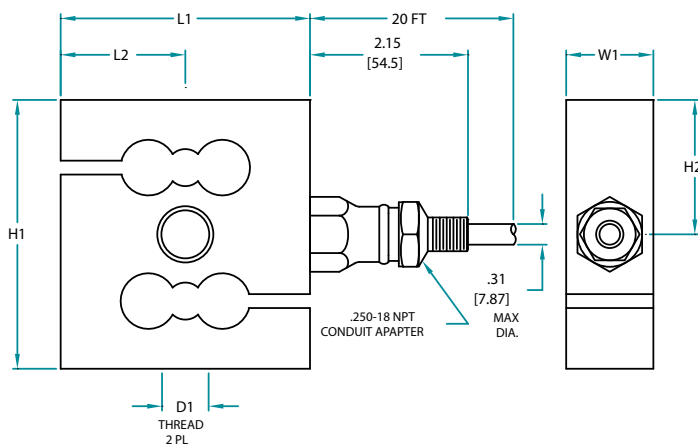
CABLE LENGTH: 20 FEET

DIMENSIONS- INCHES & [mm]

SENSOR TYPE	CAPACITY LBS [kN]	A	B	C	D
HI STH06	225 [1]	2.42 [61.5]	9.13 [232.0]	.500-13 UNC	1.38 [35.0]
	450 [2]				
	1125 [5]				
HI STH01	2.25K [10]	3.62 [92.0]	11.02 [280.0]	.625-11 UNC	1.77 [45.0]
	4.5K [20]				
	11.25K [50]	5.35 [136.0]	14.96 [380.0]	1.000-8 UNC	2.36 [60.0]

HI STH06 & HI STH01 Load Sensor Outline

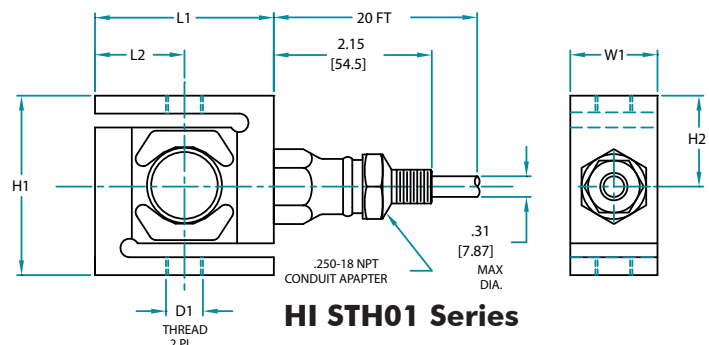
HI STH06 Series



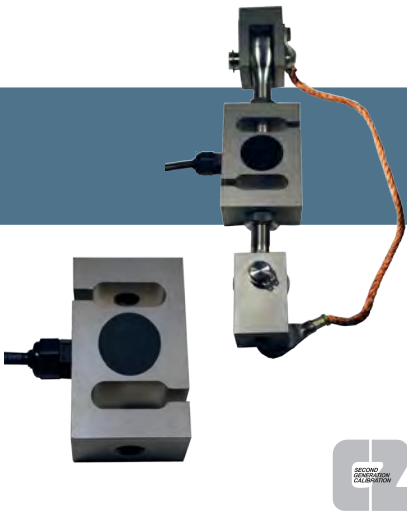
DIMENSIONS- INCHES & [mm]

CAPACITY LBS [kN]	H1	H2	L1	L2	W1	D1	THREAD
225, 450, 1125 [1] [2] [5]	2.42 [61.5]	1.21 [30.7]	2.42 [61.5]	1.21 [30.7]	1.18 [30.0]	500-20 UNF	
2.25K, 4.5K [10] [20]	3.62 [92.0]	1.81 [46.0]	3.38 [86.0]	1.69 [43.0]	1.18 [30.0]	.625-18 UNF	
11.25K [50]	5.35 [136.0]	2.86 [68.0]	5.62 [143.0]	2.81 [71.5]	1.69 [43.0]	1-12 UNF	

TOLERANCES: ±0.015 [0.4] UNLESS OTHERWISE STATED



ADVANTAGE® LITE 'S' TENSION LOAD CELL



HI STL B Load Sensor and HI LPTLB Load Point 'S' Beam Type Tension Load Cell

The Hardy Process Solutions HI STL B Advantage® Lite 'S' Type stainless steel sensor is designed for hanging vessels, hoppers, filling machinery and process control. These stainless steel 17-4PH sensors feature IP67 ratings, and allow for tension and compression loading. Improved potting makes it suitable for use in industrial environments. It features the same accuracy and performance as their Advantage counterpart, but without hermetic sealing. Sensors come with Hardy C2® electronic datasheets to support weightless calibration capabilities when coupled with a Hardy weighing instrument. They are available in a wide range of capacities from 100 kg to 5000 kg (220 lbs to 11Klb).

The HI STL B sensor can be used standalone using a threaded rod or with the same clevis mount used on the HIHLPT load points. The HI LPTLB load point is available in capacities from 220lb (100kg) to 11Klb (5000kg). The sensor is environmentally protected with a plastic covering to IP67. The load point provides a robust, accurate solution for general tension mounted industrial weighing applications. A grounding strap and fixed color code wiring label are provided with each load point. The mounting hardware is available in either stainless or galvanized steel.

SPECIFICATIONS HI STL B

Rated Output (ES)	2 + 0.1% mV/V
Max # Verification Int.	3000
Min Verification Int.	Emax/12000
Non-Linearity	< ±0.0166 % R.O.
Hysteresis	< ±0.0166 % R.O.
Zero Balance	< ±5.0 % R.O.
Combined Error	< ±0.02 % R.O.
Creep @ 30 Min.	< ±0.0166 % R.O.
Temp Effect Output	±0.0116% RO/10°C
Temp Effect Sensitivity	±0.010 % RO/10°C
Input Resistance	1100 ± 50 ohm
Output Resistance	1000 ± 2 ohm
Insulation Resistance	≥ 5000 Mohm
Excitation	5 - 15 vdc
Safe Load Limit	200 % Emax
Ultimate Load	300 % Emax
Sensor Material	Stainless Steel 17-4PH
Sealing	Potted
Approvals	CE, IP67
Warranty	Two years

ORDERING INFORMATION

Shipping Weight 4lbs to 15lbs for Sensors; 6lbs to 20 lbs for mounts. For load points, order 45 for Galvanized Steel, 43 for Stainless Steel * 11Klb mount is available in Galvanized Steel Only

Capacity		Load Point Model #	Sensor Model#
lbs*	kg	Load Sensor	
220	100	HILTPLB-220LB-4_C	HISTLB-220LB
440	200	HILTPLB-440LB-4_C	HISTLB-440LB
1100	500	HILTPLB-1.1KLB-4_C	HISTLB-1.1KLB
2200	1000	HILTPLB-2.2KLB-4_C	HISTLB-2.2KLB
4400	2000	HILTPLB-4.4KLB-4_C	HISTLB-4.4KLB
6600	3000	HILTPLB-6.6KLB-4_C	HISTLB-6.6KLB
11000	5000	HILTPLB-11KLB-45C	HISTLB-11KLB

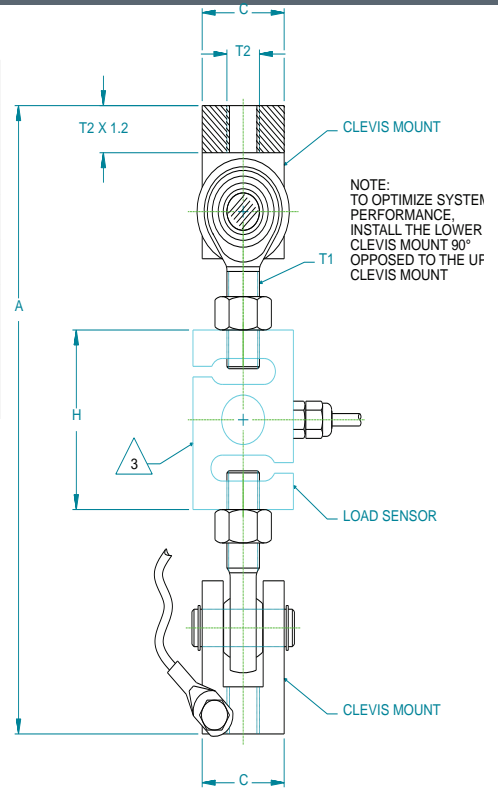
* Lbs calculated from kg conversion.

HI STS Mount

DIMENSIONS- INCHES & [mm]

TOLERANCES: ±0.015 [0.38] UNLESS OTHERWISE STATED

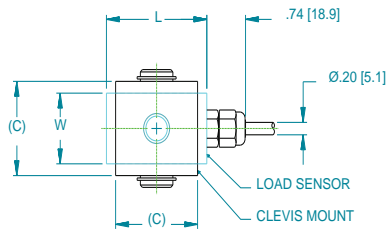
CAPACITY LBS [KG]	A	C	H	L	W	T1	T2	MAXIMUM SAFE STATIC LOAD FORCE-LB [KN]
220 LB [100KG]	9.25 [235.0]	1.18 [30.0]	3.00 [76.2]	1.93 [49.0]	1.18 [30.0]	.500-20 UNC-2B	.500-13 UNC-2B	449.62 LB [2KN]
440 LB [200KG]	9.25 [235.0]	1.18 [30.0]	3.00 [76.2]	1.93 [49.0]	1.18 [30.0]	.500-20 UNC-2B	.500-13 UNC-2B	899.24 LB [4KN]
1.1 KLB [500KG]	9.25 [235.0]	1.18 [30.0]	3.00 [76.2]	1.93 [49.0]	1.18 [30.0]	.500-20 UNC-2B	.500-13 UNC-2B	2.25 KLB [10KN]
2.2 KLB [1000KG]	9.25 [235.0]	1.18 [30.0]	3.00 [76.2]	1.93 [49.0]	1.18 [30.0]	.500-20 UNC-2B	.500-13 UNC-2B	3.37 KLB [15KN]
4.4 KLB [2000KG]	10.50 [266.7]	1.57 [40.0]	3.39 [86.1]	3.00 [76.2]	1.18 [30.0]	.625-18 UNC-2B	.625-11 UNC-2B	6.74 KLB [30KN]
6.6 KLB [3000KG]	12.00 [304.8]	1.97 [50.0]	3.49 [88.7]	3.49 [88.7]	1.57 [40.0]	.750-16 UNC-2B	.750-10 UNC-2B	10.12 KLB [45KN]
11 KLB [5000KG]	17.00 [431.8]	2.36 [60.0]	5.75 [146.1]	3.59 [91.2]	2.22 [56.4]	1.000-12 UNC-2B	1.000-8 UNC-2B	16.86 KLB [75KN]



C2 WIRE COLOR CODE FLAG LABEL IS FOUND
APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	GREEN
EXCITATION -	BLACK
SIGNAL +	WHITE
SIGNAL -	RED
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

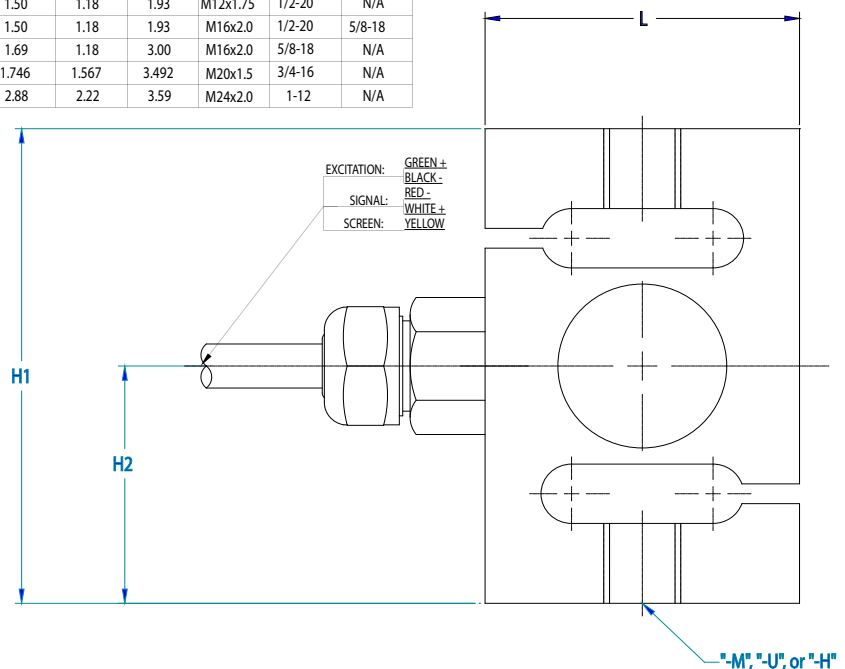
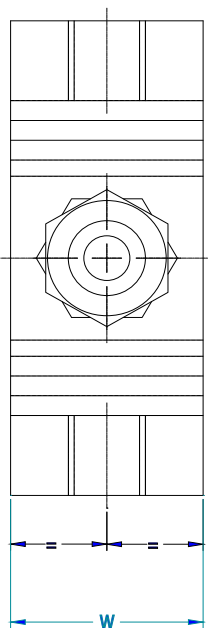
WARNING: NEVER cut load sensor cable



CABLE LENGTH 9-10 FEET

HI STLB Load Sensor

CAPACITY	H1	H2	W	L	-M	-U	-H
100 kg	3.00	1.50	1.18	1.93	M12x1.75	1/2-20	N/A
200 kg	3.00	1.50	1.18	1.93	M12x1.75	1/2-20	N/A
500 kg	3.00	1.50	1.18	1.93	M12x1.75	1/2-20	N/A
1000 kg	3.00	1.50	1.18	1.93	M16x2.0	1/2-20	5/8-18
2000 kg	3.39	1.69	1.18	3.00	M16x2.0	5/8-18	N/A
3000 kg	3.492	1.746	1.567	3.492	M20x1.5	3/4-16	N/A
5000 kg	5.75	2.88	2.22	3.59	M24x2.0	1-12	N/A



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LOW CAPACITY 'S' BEAM TENSION SENSORS



HI STS 'S' Beam Type Tension Load Sensors

The Hardy Process Solutions HI STS beam type nickel plated alloy tool steel sensor is designed for low capacity hanging vessels, hoppers, filling machinery and process control. These sensors feature IP67 ratings, and improved potting makes them suitable for use in industrial environments. They are available in capacities from 25 lb to 200 lb (11 kg to 91 kg).

The sensor can be mounted standalone or using threaded rods.

SPECIFICATIONS	HI STS
Rated Output (ES)	$3 \pm 25\%$ mV/V
Max # Verification Int.	5000
Zero Balance	$< \pm 1.0\%$ R.O.
Combined Error	$< \pm 0.03\%$ R.O.
Creep @ 30 Min.	$< \pm 0.03\%$ R.O.
Temp Effect Output	$< \pm 0.0010\%$ RO /°F
Temp Effect Sensitivity	$< \pm 0.0008\%$ load /°F
Input Resistance ohm	343 to 450
Output Resistance	349 to 355
Insulation Resistance	≥ 1000 Mohm
Excitation	5 - 15 vdc
Safe Load Limit	150 % Emax
Ultimate Load	300 % Emax
Sensor Material	Nickel Plated Alloy Steel
Sealing	Potted
Protection EN 60 529	IP67
Warranty	Two years

ORDERING INFORMATION

Shipping Weight HI STS 4lb; HI STA 2 lb.

Capacity		Sensor Model#
lb	kg*	HI STS
25 lb	11 kg	HISTS-25LB
50 lb	23 kg	HISTS-50LB
75 lb	34 kg	HISTS-75LB
100 lb	45 kg	HISTS-100LB
150 lb	68 kg	HISTS-150LB
200 lb	91 kg	HISTS-200LB

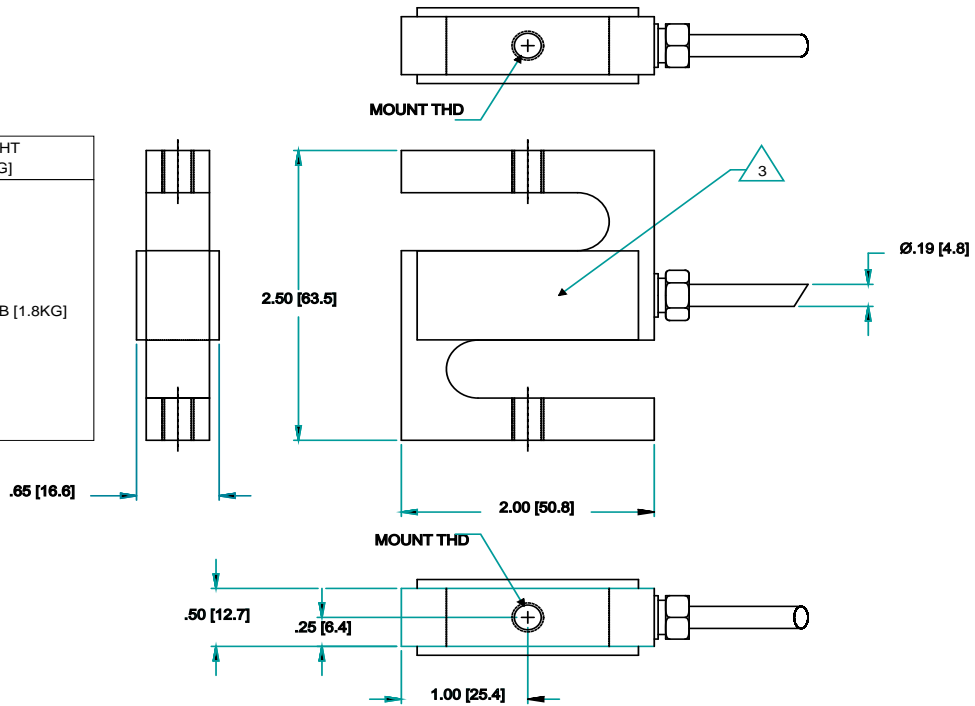
* kg calculated from lb capacities

HI STS Sensor

DIMENSIONS- INCHES & [mm]

MODEL NUMBER	CAPACITY LB	MOUNT THD	WEIGHT LB [KG]
HI STS-25LB	25 LB	1/4-28 UNF-2B	4 LB [1.8KG]
HI STS-50LB	50 LB		
HI STS-75LB	75 LB		
HI STS-100LB	100 LB		
HI STS-150LB	150 LB		
HI STS-200LB	200 LB		

TOLERANCES: ±0.01 [0.3] UNLESS OTHERWISE STATED



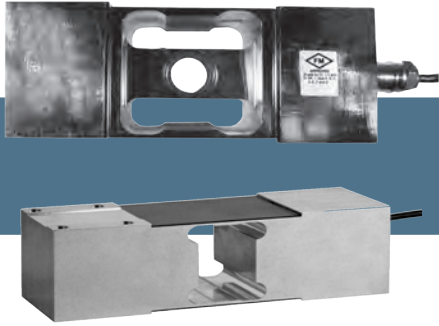
WIRE COLOR CODE

EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE

WARNING: NEVER cut load sensor cable

CABLE LENGTH 6 METERS (APPROX. 20 FT.)

BRICK TYPE SINGLE POINT SERIES



HI SPB1 and HI SPA60 Brick Type Single Point Load Sensors



The Hardy Process Solutions brick type series of single point load cells are designed for the OEM, conveyor and bench scale markets which require accurate measurements during off-center load conditions. They are built to perform in industrial packaging, dispensing, and dosing applications. These sensors feature C2® calibration capabilities and come with three meters (9-10 ft) of cable.

The HI SPB1 is a 17-4PH stainless steel single point load cell with complete hermetic sealing. It is ideal for bench and floor scales, conveyor scales, check weighers, packing machines, and industrial process control. With IP68/IP69K, the HI SPB1 is a perfect fit for use in harsh industrial environments. With a wide range of capacities from 50 kg (110lb) to 1,000 kg (2.2Klb), it is highly resistant to impacts and features an integral mounting spacer. It supports a maximum platform size up to 1000 mm x 1000 mm (39.37 in x 39.37in).

The HI SPA60 is an aluminium brick type single point load cell with improved potting. It features a wide range of capacities from 30 kg to 750 kg and features IP67 environmental protection. The maximum platform size it supports is 600 x 600 mm (23.62 in x 23.62 in).

SPECIFICATIONS	HI SPB1	HI SPA60
Rated Output (ES)	2mV/V ±5%	2mV/V ±10%
Max # Verification Int.	3000	3000
Min Verification Int.	Emax/12500	Emax/7500
Non-Linearity	< ±0.0166 % R.O.	< ±0.0166 % R.O.
Hysteresis	< ±0.0166 % R.O.	< ±0.0166 % R.O.
Zero Balance	< ±5.0 % R.O.	< ±5.0 % R.O.
Combined Error	< ±0.02 % R.O.	< ±0.02 % R.O.
Creep @ 30 Min.	< ±0.0166 % R.O.	< ±0.0166 % R.O.
Temp Effect Output	< ±0.0112 % R.O./C	< ±0.0187 % R.O./C
Temp Effect Sensitivity	< ±0.010 % R.O./C	< ±0.010 % R.O./C
Input Resistance ohm	1100 ±50	413 ±20
Output Resistance ohm	960 ± 50	350 ± 25
Insulation Resistance	≥5000 Mohm	≥5000 Mohm
Excitation	5 - 15 vdc	5 - 15 vdc
Safe Load Limit	200 % Emax	150 % Emax
Ultimate Load	300 % Emax	300 % Emax
Safe Side Load	100 % Emax	100 % Emax
Material	SS 17-4PH (1.4548)	Aluminum
Sealing	Hermetically Sealed	Potted
Protection & Hazardous	IP68/IP69K FM IS Class 1, Div 1	IP67 FM IS Class 1, Div 1
Warranty	Two years	Two years

ORDERING INFORMATION

No mounting hardware. Shipping Wt. approx. 5lb for HISPA60, 14 lbs. HISPB1.

Capacity		Model#
lbs*	kg	Load Sensor
110 lb	50 kg	HISPB1-50
220 lb	100 kg	HISPB1-100
551 lb	250 kg	HISPB1-250
1102 lb	500 kg	HISPB1-500
2205 lb	1000 kg	HISPB1-1000

Capacity		Model#
lbs*	kg	Load Sensor
66 lb	30 kg	HISPA60-30
110 lb	50 kg	HISPA60-50
220 lb	100 kg	HISPA60-100
440 lb	200 kg	HISPA60-200
660 lb	300 kg	HISPA60-300
1102 lb	500 kg	HISPA60-500
1653 lb	750 kg	HISPA60-750

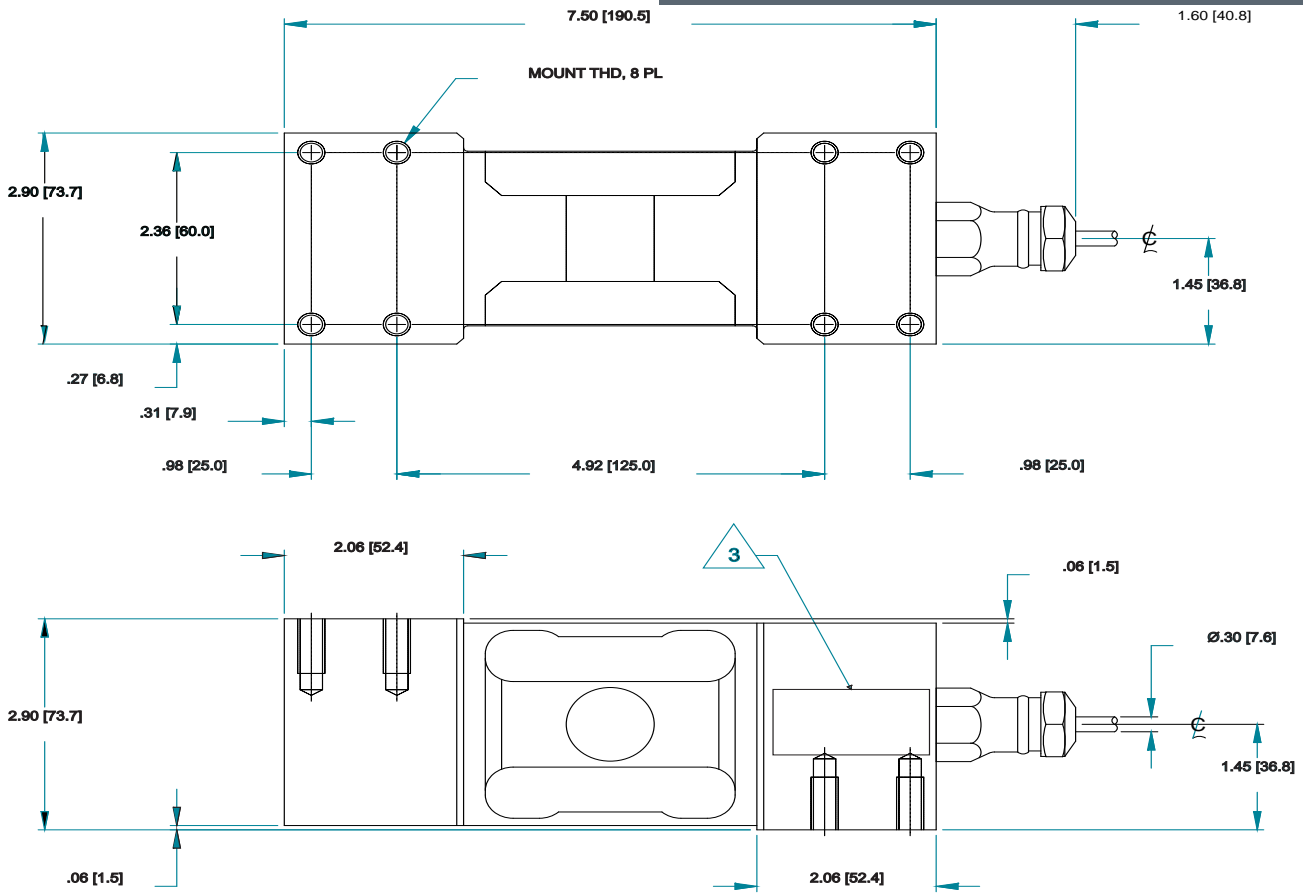
* Lbs estimated based on kg conversion.

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE	
EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+	GRAY
C2 -	VIOLET
SHIELD	YELLOW

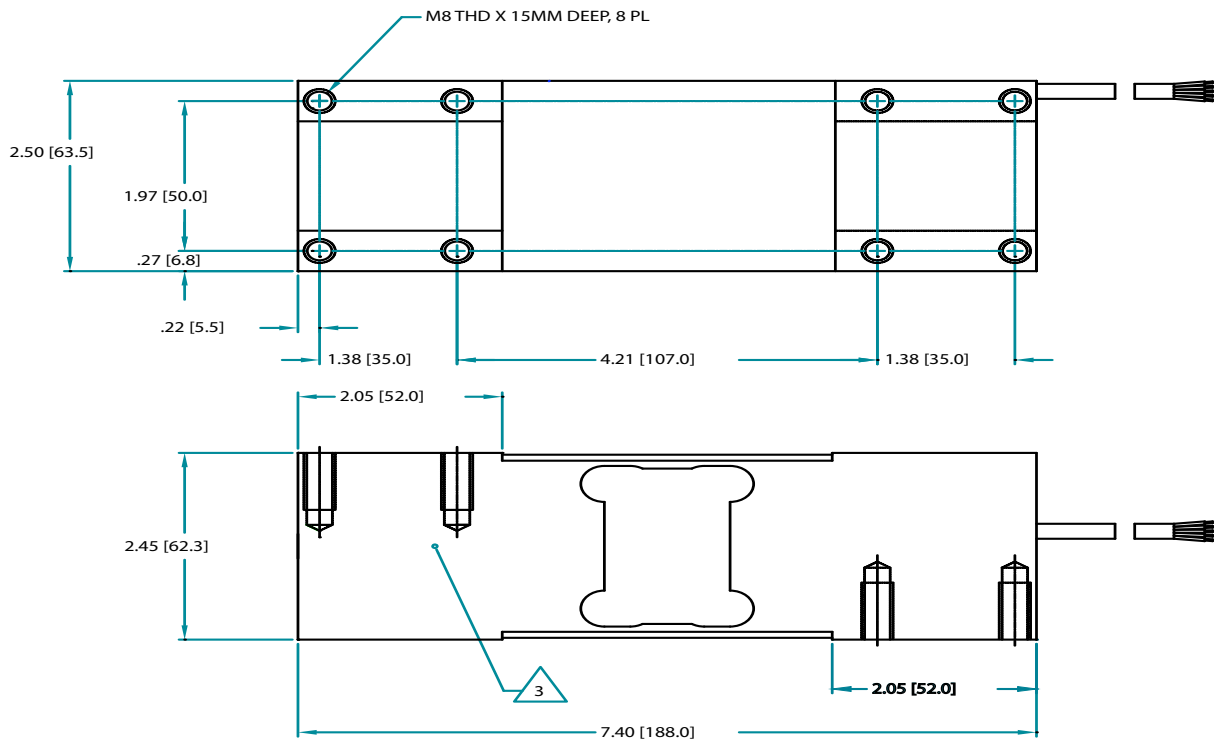
CABLE LENGTH 9-10 FEET

WARNING: NEVER cut the load sensor cable

HISPBI Single Point Stainless Steel Brick



HISPA60 Single Point Aluminum Brick



HISP7 SINGLE POINT

HI SP7 Single Point Stainless Steel Load Sensor



The Hardy Process Solutions HI SP7 single point load cell is designed for gas cylinder scales, bench and floor scales, conveyor scales, check weighers, packing machines, and industrial process control. Its polished stainless construction and hermetic sealing make it a fantastic fit for sanitary food and beverage applications. These sensors feature C2[®] calibration capabilities and come with three meters (9-10 ft) of cable.

The HI SP7 is polished 17-4PH stainless steel with complete hermetic sealing. With IP68/IP69K, the HI SP7 is a perfect fit for use in harsh industrial environments. With a wide range of capacities from 100kg (220lb) to 550 kg (1.1Klb), it is an ideal fit for many industrial packaging applications. It supports a maximum platform size up to 600 mm x 600 mm (23.62 in x 23.62 in).

SPECIFICATIONS	HISP7
Rated Output (ES)	2mV/V ±5%
Max # Verification Int.	3000
Min Verification Int.	E _{max} /12500
Non-Linearity	< ±0.0166 % R.O.
Hysteresis	< ±0.0166 % R.O.
Zero Balance	< ±5.0 % R.O.
Combined Error	< ±0.02 % R.O.
Creep @ 30 Min.	< ±0.0166 % R.O.
Temp Effect Output	< ±0.0112 % R.O./C
Temp Effect Sensitivity	< ±0.010 % R.O./C
Input Resistance ohm	380 ±20
Output Resistance ohm	350 ± 10
Insulation Resistance	>5000 Mohm
Excitation	5 - 15 vdc
Safe Load Limit	200 % E _{max}
Ultimate Load	300 % E _{max}
Safe Side Load	100 % E _{max}
Material	SS 17-4PH (1.4548)
Sealing	Hermetically Sealed
Protection & Hazardous	IP68/IP69K
Warranty	Two years

ORDERING INFORMATION

No mounting hardware. Shipping Wt. approx. 5.5 lb

Capacity		Model#
lbs*	kg	Load Sensor
220lb	100kg	HISP7-100
551lb	250kg	HISP7-250
1102lb	500kg	HISP7-500

* lbs estimated based on kg conversion

C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE	
EXCITATION +	RED
EXCITATION -	BLACK
SIGNAL +	GREEN
SIGNAL -	WHITE
C2+*	GRAY
C2-*	VIOLET
SHIELD	YELLOW

CABLE LENGTH 9-10 FEET

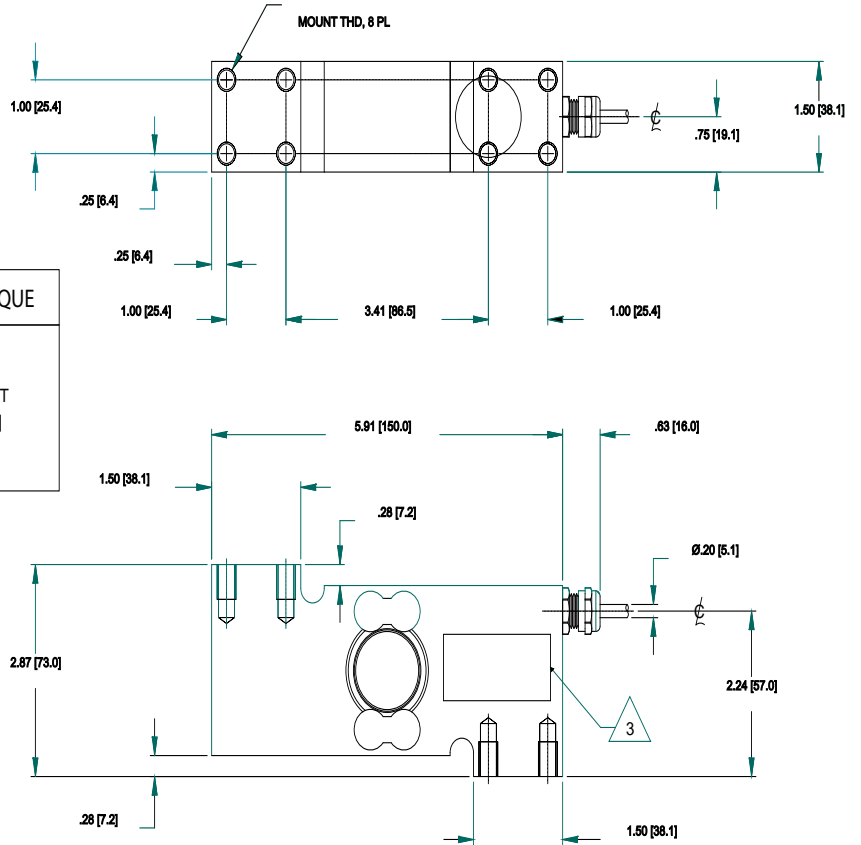
WARNING: NEVER cut load sensor cable

HI SP7 Single Point Stainless Steel

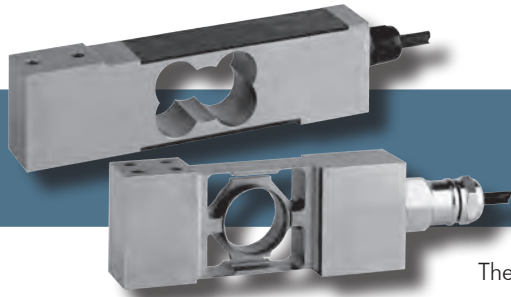
DIMENSIONS- INCHES & [mm]

MODEL NUMBER	CAPACITY LBS [KG]	MOUNT THD	THD TORQUE
HI SP7-100	220 LB [100KG]	M8 X 1.25 .47 [12MM] DEEP	18 LB-FT [25NM]
HI SP7-250	550 LB [250KG]		
HI SP7-500	1.1 KLB [500KG]		

TOLERANCES: ±0.01 [0.3] UNLESS OTHERWISE STATED



SINGLE POINT SERIES



HI SP1 and HI SP6 Single Point Load Sensors

The Hardy Process Solutions HI SP Series of single point load cells are designed for the OEM, conveyor and bench scale markets which require a low sensitivity to off center loads. They are built to perform in harsh environments found in the food, chemical and allied industries. The sensors are 17-4 PH stainless steel, with C2[®] calibration capabilities and come with three meters (9-10 ft) of cable.

The HI SP1 is available in capacities from 7.5kg to 200kg (16.5 to 440lbs), are environmentally protected with a plastic covering to IP67 (IP65 for 7.5 and 10kg) and have an integral mounting spacer.

The HI SP6 is available in capacities from 10kg to 200kg (22 to 440lbs), are completely hermetic sealed to IP68 and have an integral mounting spacer.

Both the HI SP1 and the HI SP6 have a maximum platform size of 600mm x 600mm (23.62 inches x 23.62 inches).

SPECIFICATIONS	HI SP1	HI SP6
Rated Output (ES)	2±0.10mV/V	2±0.10mV/V
Non-Linearity	< ±0.0166 % R.O.	< ±0.0166 % R.O.
Hysteresis	< ±0.0166 % R.O.	< ±0.0166 % R.O.
Zero Balance	< ±5.0 % R.O.	< ±5.0 % R.O.
Combined Error	< ±0.02 % R.O.	< ±0.02 % R.O.
Creep @ 30 Min.	< ±0.0166 % R.O.	< ±0.0166 % R.O.
Temp Effect Output	< ±0.0140 % R.O./C	< ±0.0112 % R.O./C
Temp Effect Sensitivity	< ±0.010 % R.O./C	< ±0.010 % R.O./C
Input Resistance	390 ± 20 ohm	1100 ± 50 ohm
Output Resistance	330 ± 25 ohm	960 ± 50 ohm
Insulation Resistance	≥5000 Mohm	≥5000 Mohm
Excitation	5 - 15 vdc	5 - 15 vdc
Safe Load Limit	200 % Emax	200 % Emax
Ultimate Load	300 % Emax	300 % Emax
Safe Side Load	100 % Emax	100 % Emax
Hazardous	FM IS, Class1, Div 1	FM IS, Class1, Div 1
Warranty	Two years	Two years

ORDERING INFORMATION

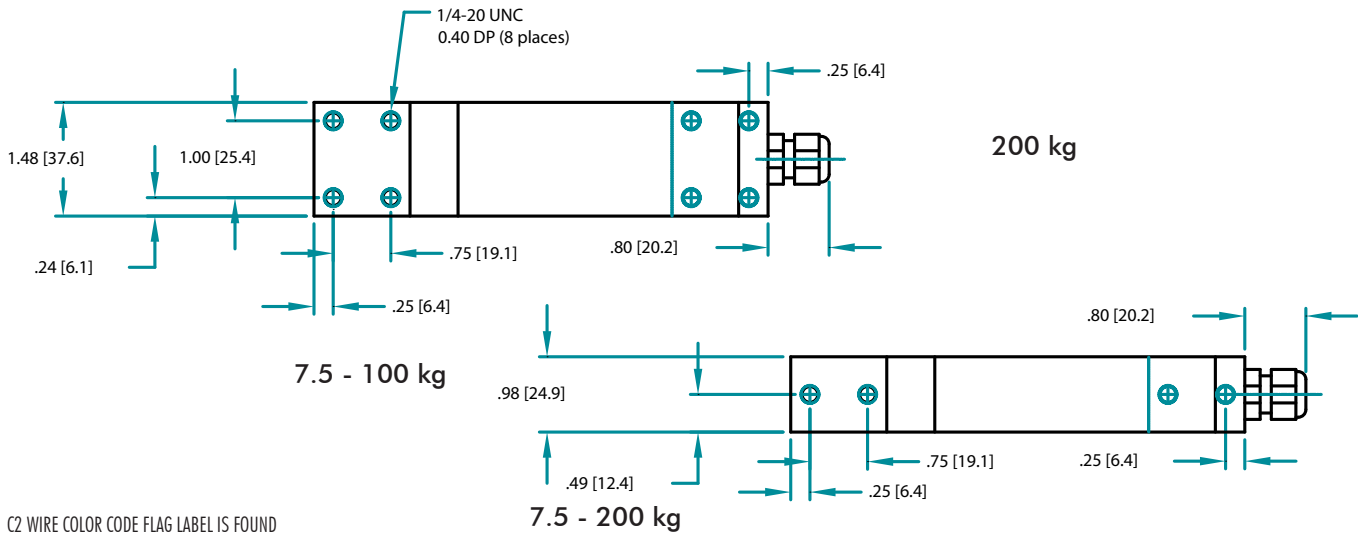
No mounting hardware. Shipping Wt. approx. 4 lbs. for HI SP6, 3 lbs. HI SP1.

Capacity		Model#
lbs*	kg	Load Sensor
22	10	HI SP6-10
44	20	HI SP6-20
110	50	HI SP6-50
220	100	HI SP6-100
440	200	HI SP6-200

Capacity		Model#
lbs*	kg	Load Sensor
16.5	7.5	HI SP1-7.5
22	10	HI SP1-10
33	15	HI SP1-15
66	30	HI SP1-30
110	50	HI SP1-50
165	75	HI SP1-75
220	100	HI SP1-100
440	200	HI SP1-200

* Lbs estimated from kg conversion

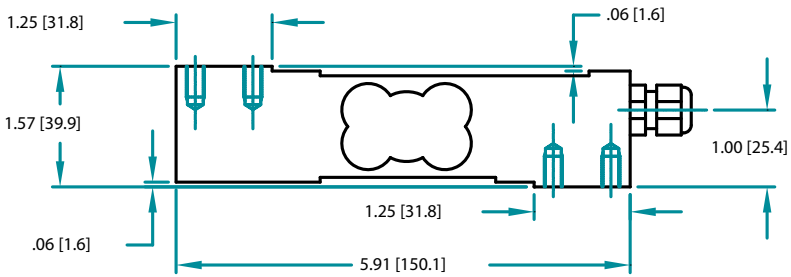
HI SP1 Single Point Outline



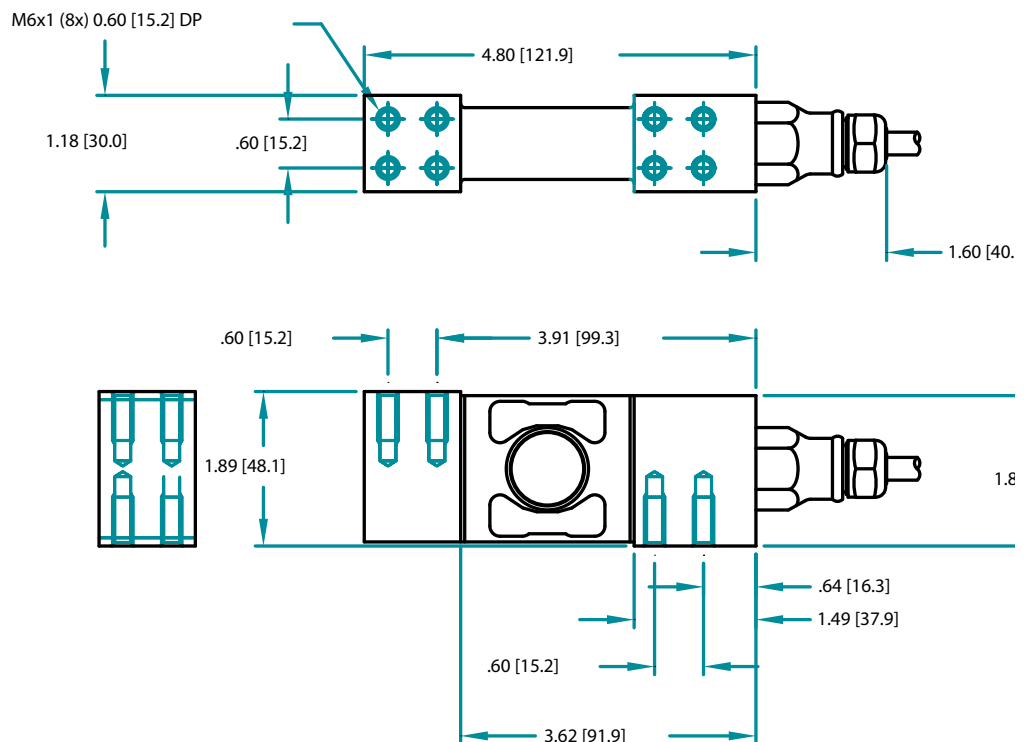
C2 WIRE COLOR CODE FLAG LABEL IS FOUND
APPROX. 10 IN. FROM END OF SENSOR'S CABLE

	HISP1	HISP6
EXCITATION +	GREEN	RED
EXCITATION -	BLACK	BLACK
SIGNAL +	WHITE	GREEN
SIGNAL -	RED	WHITE
C2+	GRAY	GRAY
C2-	VIOLET	VIOLET
SHIELD	YELLOW	YELLOW

WARNING: NEVER cut load sensor cable
CABLE LENGTH 9-10 FEET



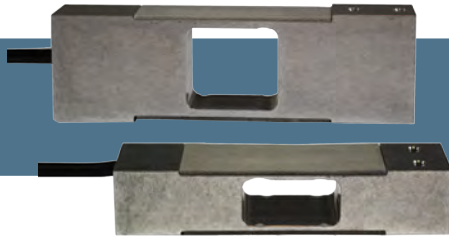
HI SP6 Single Point Outline



800.821.5831

+1 858.278.2900

ALUMINUM SINGLE POINT SERIES



HI SPA22 and HI SPA42 Single Point Load Sensors

The Hardy Process Solutions HI SPA Series of aluminum single point load cells are designed for the OEM, conveyor and bench scale markets, which can accommodate off center loads. They are built to perform in industrial packaging, dispensing, and dosing applications. These aluminum sensors come standard with C2[®] calibration capabilities.

The HI SPA42 comes in capacities from 11lbs to 440lbs (5kg to 200kg), are environmentally rated at IP67 and have improved potting. The HI SPA42 has 3 meters of cable (9.8 ft.). It supports a maximum platform size of 400 mm x 400 mm (15.75 in x 15.75 in).

The HI SPA22 is available in capacities from 11lbs to 88lbs (5kg to 40kg), are environmentally rated at IP67 and have improved potting. The HI SPA22 has 2 meters of cable (6.5 ft.). It supports a maximum platform size of 350 mm x 350 mm (13.78 in x 13.78 in).

SPECIFICATIONS	HI SPA42	HI SPA22
Rated Output (ES)	2 ± 10% mV/V	2 ± 10% mV/V
Max # Verification Int.	3000	3000
Min Verification Int.	E _{max} /6000	E _{max} /6000
Non-Linearity	< ± 0.0166 % R.O.	< ± 0.0166 % R.O.
Hysteresis	< ± 0.0166 % R.O.	< ± 0.0166 % R.O.
Zero Balance	< ± 5.0 % R.O.	< ± 5.0 % R.O.
Combined Error	< ± 0.02	< ± 0.02
Creep @ 30 Min.	< ± 0.0166 % R.O.	< ± 0.0166 % R.O.
Temp Effect Output	< ± 0.0140 % R.O./C	< ± 0.0233 % R.O./C
Temp Effect Sensitivity	< ± 0.010 % R.O./C	< ± 0.010 % R.O./C
Input Resistance	413 ± 20 ohm	413 ± 20 ohm
Output Resistance	350 ± 25 ohm	350 ± 25 ohm
Insulation Resistance	≥ 5000 Mohm	≥ 5000 Mohm
Excitation	5 - 15 vdc	5 - 15 vdc
Safe Load Limit	150 % E _{max}	150 % E _{max}
Ultimate Load	300 % E _{max}	300 % E _{max}
Safe Side Load	100 % E _{max}	100 % E _{max}
Material	Aluminum	Aluminum
Sealing	Potted	Potted
Protection & Hazardous	IP67, FM IS Class 1, Div 1	IP67, FM IS Class 1, Div 1
Warranty	Two years	Two years

ORDERING INFORMATION

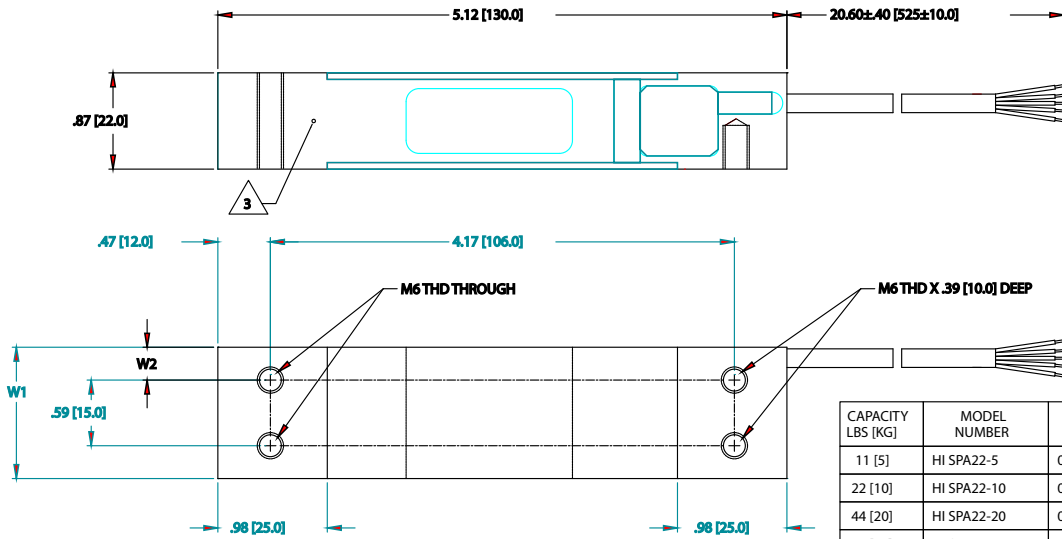
No mounting hardware. Shipping Wt. approx. 1lb for HI SPA22 and 2 lbs for HI SPA42.

Capacity		Model#
lbs*	kg	Load Sensor
11	5	HISPA22-5
22	10	HISPA22-10
44	20	HISPA22-20
66	30	HISPA22-30
88	40	HISPA22-40

Capacity		Model#
lbs*	kg	Load Sensor
11	5	HISPA42-5
22	10	HISPA42-10
44	20	HISPA42-20
66	30	HISPA42-30
110	50	HISPA42-50
200	100	HISPA42-100
440	200	HISPA42-200

* lbs estimated based on kg conversion

HI SPA22 Single Point Aluminum



CAPACITY LBS [KG]	MODEL NUMBER	PART NUMBER	W1	W2
11 [5]	HI SPA22-5	0554-0034-01	1.00 [25.4]	.20 [5.2]
22 [10]	HI SPA22-10	0554-0034-02	1.18 [30.0]	.30 [7.5]
44 [20]	HI SPA22-20	0554-0034-03		
66 [30]	HI SPA22-30	0554-0034-04		
88 [40]	HI SPA22-40	0554-0034-05		
110 [50]	HI SPA22-50	0554-0034-06		

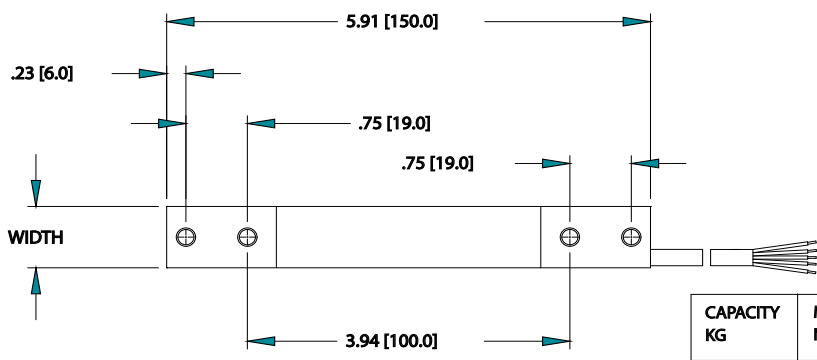
C2 WIRE COLOR CODE FLAG LABEL IS FOUND APPROX. 10 IN. FROM END OF SENSOR'S CABLE

EXCITATION +	GREEN
EXCITATION -	BLACK
SIGNAL +	WHITE
SIGNAL -	RED
C2 +	GRAY
C2 -	VIOLET
SHIELD	YELLOW

WARNING: NEVER cut load sensor cable

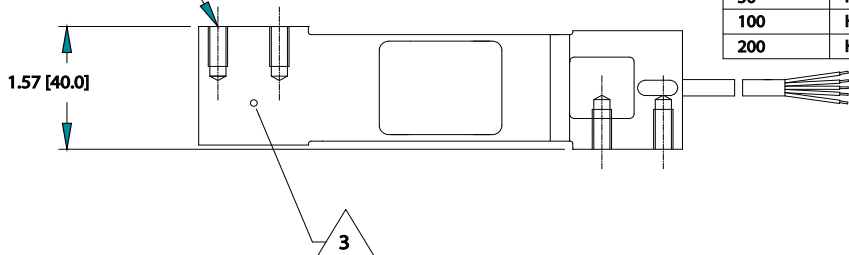
CABLE LENGTH 6 FEET

HI SPA42 Single Point Aluminum

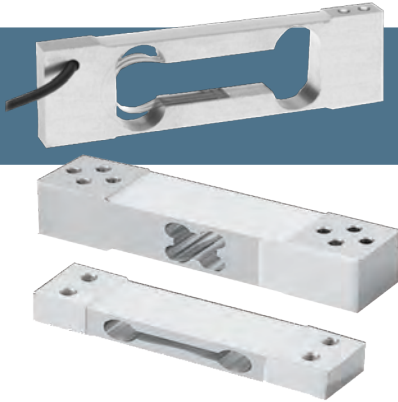


CAPACITY KG	MODEL NUMBER	PART NUMBER	WIDTH
5	HI SPA42-5	0554-0030-01	.78 [19.8]
10	HI SPA42-10	0554-0030-02	
20	HI SPA42-20	0554-0030-03	
30	HI SPA42-30	0554-0030-04	
50	HI SPA42-50	0554-0030-05	1.00 [25.4]
100	HI SPA42-100	0554-0030-06	
200	HI SPA42-200	0554-0030-07	

M6X1.0 FOR 5KG THRU 100KG,
M8X1.0 FOR 200KG
4 PL



LOW CAPACITY ALUMINUM SINGLE POINT



HI SPAL04 and HI SPL Ultra-Low Capacity Single Point Aluminum Load Sensors

The Hardy Process Solutions HI SPAL04 and HI SPL Series of aluminum ultra-low capacity, single point load cells are ideal for packaging machines, dosing/filling, belt scales/conveyor scales, in-motion checkweighers, and retail scales/counting scales for sensitive low-weight materials, such as pharmaceuticals and minor ingredients.

The HI SPAL04 comes in capacities of 300 grams to 3 KG (.667 lb to 6.6 lb) with an IP rating of IP66. It is great for use under platforms up to 200 mm x 200 mm (8 in x 8 in).

The HI SPL is available in capacities from 600 grams to 3 kg (1.6 lb to 6.6 lb) and also features a rating of IP66. It is ideal for use under platforms up to 400 mm x 400 mm (16 in x 16 in).

Both families feature improved potting.

ORDERING INFORMATION

No mounting hardware. Shipping Wt. approx. 1 lb for both HI SPAL04 and HI SPL sensors

SPECIFICATIONS	HI SPAL04 (.3/.6/1.2kg)	HI SPAL04 (1.5kg)	HI SPL (.6/1/2kg)	HI SPL (3kg)
Rated Output (ES)	0.9±0.1 mV/V	0.9±0.1 mV/V	2±10% mV/V	2±10% mV/V
Max # Verification Int.			1000	5000
Min Verification Int.			Emax/1400	Emax/8000
Hysteresis			< ±0.030 % R.O.	< ±0.025 % R.O.
Combined Error	±0.01 % R.O.	±0.0067 % R.O.		
Non-Linearity			< ±0.030 % R.O.	< ±0.025 % R.O.
Zero Balance	< ±5.0 % R.O.	< ±5.0 % R.O.	< ±3.0 % R.O.	< ±3.0 % R.O.
Creep @ 30 Min./DR			< ±0.030 % R.O.	< ±0.030 % R.O.
Temp Effect Output	±0.0004 % R.O./C	±0.0004 % R.O./C	±0.0026 % R.O./C	±0.0026 % R.O./C
Temp Effect Sensitivity	±0.0002 % load/°C	±0.0002 % load/°C	±0.0015 % load/°C	±0.0015 % load/°C
Input Resistance	415 ± 20 ohm	415 ± 20 ohm	410 ± 10 ohm	410 ± 10 ohm
Output Resistance	350 ± 3 ohm	350 ± 3 ohm	350 ± 3 ohm	350 ± 3 ohm
Insulation Resistance	>2000 Mohm	>2000 Mohm	>5000 Mohm	>5000 Mohm
Excitation Voltage	5 - 15 vdc	5 - 15 vdc	5 - 15 vdc	5 - 15 vdc
Safe Load Limit	150 % Emax	150% Emax	150 % Emax	150% Emax
Ultimate Load	250 % Emax	250% Emax	200 % Emax	200% Emax
Material	Aluminum	Aluminum	Aluminum	Aluminum
Sealing	Potted	Potted	Potted	Potted
Protection	IP66	IP66	IP66	IP66
Compensated Temp	+5 to 40 °C	+5 to 40 °C	-10 to 40 °C	-10 to 40 °C
Operating Temperature	-30 to 70 °C	-30 to 70 °C	-20 to 60 °C	-20 to 60 °C
Warranty	Two years	Two years	Two years	Two years

Capacity		Model#
lbs*	kg	Load Sensor
0.66 lb	300 g	HISPAL04-0.3KG
1.3 lb	600 g	HISPAL04-0.6KG
2.6 lb	1.2 kg	HISPAL04-1.2KG
3.3 lb	1.5 kg	HISPAL04-1.5KG
6.6 lb	3 kg	HISPAL04-3KG

Capacity		Model#
lbs*	kg	Load Sensor
1.3lb	600 g	HISPL-600G
2.2 lb	1 kg	HISPL-1KG
4.4 lb	2 kg	HISPL-2KG
6.6 lb	3 kg	HISPL-3KG

* lbs estimated based on kg conversion

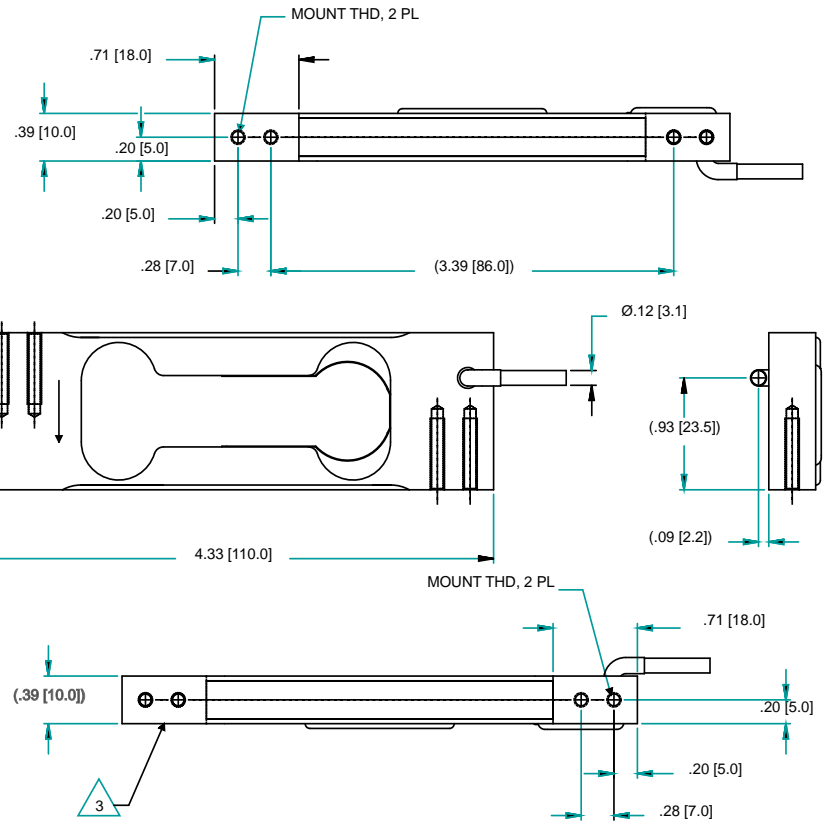
Sensors do not come with C2 Electronic Calibration.

HI SPAL04 Single Point Aluminum

DIMENSIONS- INCHES & [mm]

MODEL NUMBER	CAPACITY KG	MOUNT THD	CABLE LENGTH FT [M]
HI SPAL04-0.3KG	0.3KG	M3 X 0.5 15MM DEEP	1.5FT [.5 M]
HI SPAL04-0.6KG	0.6KG		
HI SPAL04-1.2KG	1.2KG		
HI SPAL04-1.5KG	1.5KG		
HI SPAL04-3KG	3KG		

TOLERANCES: ±0.01 [0.3] UNLESS OTHERWISE STATED



WIRE COLOR CODE

EXCITATION +	GREEN
EXCITATION -	BLACK
SIGNAL +	RED
SIGNAL -	WHITE

WARNING: NEVER cut load sensor cable

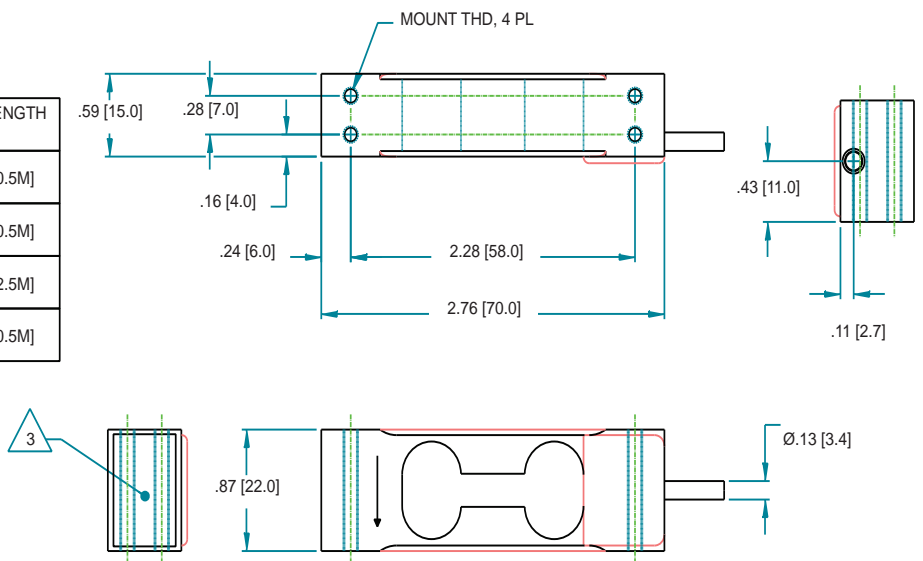
CABLE LENGTH 1.6 FT (0.5 M) TO 4.9 FT (1.5 M)

HI SPL Single Point Aluminum

DIMENSIONS- INCHES & [mm]

MODEL NUMBER	CAPACITY KG	MOUNT THD	CABLE LENGTH FT [M]
HI SPL-600G	600G	M3 X 0.5	1.6FT [0.5M]
HI SPL-1KG	1KG		1.6FT [0.5M]
HI SPL-2KG	2KG		8.2FT [2.5M]
HI SPL-3KG	3KG		1.6FT [0.5M]

TOLERANCES: ±0.01 [0.3] UNLESS OTHERWISE STATED



Hardy Bench Scales

Applications

PROCESS WEIGHING

- Minor Ingredients or Hand-Add applications
- Small Batch Reactor Applications in Chemical/Biochemical
- Machine Filling and Dispensing
- Conveyor Scales
- Product Inspection: Checkweighing,
- Piece Count, Portion Control
- Shipping



Features THE HARDY PROCESS TOOLBOX

The Hardy Process Toolbox is a set of productivity tools that delivers value across process weighing functions. Each tool saves time, increases accuracy, improves efficiency or reduces risk in your process weighing applications.



Electronic calibration without test weights



HARDY Load Sensors

- Stainless Steel or Aluminum
- True Hermetic Seal or Potted
- Corner adjusted

Capacities from 5 lbs to 1,000 lbs

Hazardous: FM IS, Class 1, Div 1

NTEP Certifications (pending)

Overload Protection

- **300% R.O.* Overload**
- **100% R.O. End Loading**
- **100% R.O. Corner Loading**

(*Rated Output)

Hardy Bench Scales offer the ultimate in product configurability and customization for use in all industrial weighing applications, offering customers the ability to choose the right product at a price that fits their budget. Hardy Bench Scales are available in either stainless or carbon steel base construction, with 304 Stainless Steel platters. Choose between hermetically sealed, IP68/69K, C2 load cells and environmentally sealed, IP67 load cells, depending on your application.

All Hardy Bench Scales come standard in 12"x12", 18"x18", and 24"x24" sizes, and range in capacity from 5lbs – 1,000lbs (2.27kg to 454 kg). Custom sizes and capacities are available upon request. Tell us what will work best for your application and budget, and let us create the solution.

400 Series – HIBS400-xxxx

The 400 Series is Hardy's top of the line industrial bench scale. With all stainless steel construction and a hermetically sealed, IP68/IP69K, FM Hazardous approved, stainless steel Advantage® load cell, the HI BS400 is built for the heaviest wash down applications and corrosive environments. Hardy has built its C2 weight-free calibration technology into every scale, delivering the lowest total cost of ownership on the market. C2 calibration saves time during commissioning and replacement, removes personnel from processing areas, and keeps your process cleaner by eliminating the need for potentially contaminated test weights.

300 Series – HIBS300-xxxx

The Hardy 300 Series is a Hardy's lowest cost stainless steel industrial scale, built to handle light wash down and humid environments. Each bench scale is equipped with an FM approved IP67 aluminum load cell, and comes with NTEP (pending) certifications standard.

200 Series – HIBS200-xxxx

The 200 Series is Hardy's lowest cost industrial scale, featuring a painted carbon steel base and IP67 aluminum load cell made for use in dry and dusty environments. Each aluminum load cell is FM approved, and the HI BS200 comes with NTEP (pending) certifications standard.

For seamless integration into your manufacturing control system, attach any of the Hardy Bench Scales to a Hardy Weight Processor or Weight Controller with EtherNet/IP, Profibus-DP, Modbus, or Analog 4-20mA output. Or connect to a Hardy PAC or PLC plug-in weight module for the cleanest installation on the market.

All Hardy Scales can be paired with an optional 12" or 24" Indicator Column for instrument mounting. Hardy Bench Scales are also available with a ball-top platter to streamline roll-on, roll-off weighing applications.



COMPONENTS TO COMPLETE YOUR HARDY SYSTEM

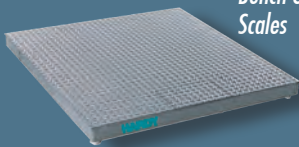
Hardy Bench Scales, Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale mounts to accommodate your application requirements.

ADVANTAGE Series with C2 Calibration



Bench & Floor Scales



Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weight Processors & Transmitters

Allen-Bradley® Compatible Plug-in Weigh Scale Modules



HI 3000 & HI 4000 Controllers and HI 6000 Series Weight Processors



SPECIFICATIONS

Platter Construction

- 304 Stainless Steel (all models)
- Size: 12" x 12", 18" x 18" and 24" x 24" (custom sizes are available)

Deck Height

- 12" x 12": 5, 25, 50, 150 lbs: 3.75" to 4.5" (9.5 to 11.4 cm) adjustable
- 18" x 18": 50, 25, 50, 150 lbs: 3.75" to 4.5" (9.5 to 11.4 cm) adjustable
- 18 x 18": 300, 500 lbs: 5.5" x 6.5" (14 to 16.5 cm) adjustable
- 24" x 24": all capacities 5.5" x 6.5" (14 to 16.5 cm) adjustable

Capacity Range

- 5 lbs to 1000 lbs (2.27 to 454 kg)

Rated Output

- Overload: 300% R.O.
- End loading: 100% R.O.
- Corner loading: 100% R.O.

Cable Length

- Platform to Instrument - 9 to 10 feet nominal (3 meters) (for longer cable lengths, contact the Factory)

Base Construction

- HIBS400 & HIBS300: Stainless Steel
- HIBS200: Painted Carbon Steel

Load Sensors

- HIBS400: C2® stainless steel, hermetically sealed IP68/IP69K
- HIBS300 & HIBS200: aluminum, environmentally potted, IP67

Resolution

- 5000 divisions of scale capacity

Accuracy

- Combined Error: 0.02%

Warranty

- Two year limited warranty

Approvals

- NTEP (HIBS300 and HIBS200 Only) Pending
- FM IS Hazardous Class I, Div 1 Load Cell

Shipping Weight

- 12" x 12": 38 lbs (17.2 kg)
- 18" x 18": 59 lbs (26.8 kg)
- 24" x 24": 104 lbs (47.2 kg)

Hardy Bench Scale Models

HI BS400

Purpose built to handle the toughest industrial applications, ensuring a long life when used in harsh, corrosive, wet or humid environments (IP68/IP69K). 304SS base and platter with stainless steel, hermetically sealed, C2 load cell. FM certified.

HI BS300

Rugged industrial scale with stainless steel construction for use in harsh and wet environments (IP67). 304SS base and platter construction with an Aluminum Load Cell. FM certified, NTEP pending.

HI BS200

A versatile and cost-effective industrial scale that satisfies a variety of weighing applications in dry environments (IP67). Carbon steel base and 304SS Platter, with an Aluminum Load Cell. FM certified, NTEP Pending.

Standard Sizes and Capacities

	lbs	lbs	lbs	lbs	lbs	lbs	lbs
Capacity	5	25	50	150	300	500	1000
12" x 12"	X	X	X	X			
18" x 18"			X	X	X	X	
24" x 24"			X	X	X	X	X

Hardy Bench Scale Accessories

Enables you to easily configure a solution to meet your individual applications!

- Instrument pedestal
- Roll Top



Instrument Pedestal
12" and 24"
Stainless and Carbon Steel



Roll Top

HARDY

PROCESS SOLUTIONS

Measurement • Automation • Productivity

Hardy Process Solutions

9440 Carroll Park Dr.
San Diego, CA 92121
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fax +1-858-278-6700
www.hardysolutions.com
hardyinfo@hardysolutions.com

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CERTIFIED
Since 1993

Visit our website for:

- full product specifications
- ordering information
- application notes
- technical description
- operator's manual

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Hardy Enviro™ Bench Scales

Applications

PROCESS WEIGHING

- *Minor Ingredients or Hand-Add applications*
- *Small Batch Reactor Applications in Chemical/Biochemical*
- *Product Inspection: Checkweighing,*
- *Piece Count, Portion Control*
- *Shipping*



Features

Sanitary Washdown

- *304 Stainless Steel base and platter*
- *IP67 Rated Load Cell*
- *Closed corners on platform cover*
- *Withstands high pressure and high temperatures*

HARDY Load Sensor

- *Stainless Steel*
- *Corner adjusted*

Capacities from 2 lbs to 100 lbs

Sizes from 10" x 10" to 18" x 18"

NTEP Certification

Overload Protection

- **300% R.O.* Overload**
- **100% R.O. End Loading**
- **100% R.O. Corner Loading**

(*Rated Output)

The Hardy Process Solutions Enviro™ bench scale meets the needs of the food and chemical industries for sanitary scales that withstand high-pressure, high-temperature washdown environments.

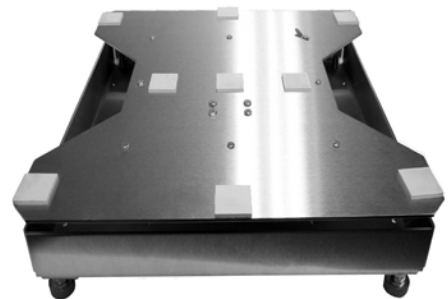
All Hardy Enviro Scales come standard in 10"x10", 12"x12" and 18"x18" and range in capacity from 2 lbs – 100 lbs (0.90 kg to 45.4 kg).

Made of 304 stainless steel and featuring an IP67 rated load cell, the Enviro washdown bench scales are designed for easy cleaning and sanitizing. Welds are continuous, which prevents processing materials and moisture from accumulating and forming colonization points for harmful bacteria like Salmonella, E. Coli, and Listeria Monodytogenes.

Closed corners on the platform cover prevent splash collection of water or processing materials inside the scale. Busing and spacers are used to eliminate lap joints and facilitate quick and easy cleaning.

The ultra-smooth stainless platter resists surface penetration and is easy to clean, adhering to the AMI's strict standards for safety in RTE areas and other production applications. The superior sanitary design and durable stainless steel construction of the Enviro™ washdown bench scales are a perfect foundation for a reliable sanitary bench scale configuration.

At Hardy, we believe that industrial weighing systems should be EASY to engineer and to operate. Simplicity drives the LEAST TOTAL COST. Want MORE PRODUCTIVITY at the LEAST TOTAL COST to own? Call Hardy to discover how today!



COMPONENTS TO COMPLETE YOUR HARDY SYSTEM

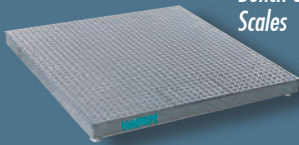
Hardy Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale mounts to accommodate your application requirements.

ADVANTAGE Series with C2 Calibration



Bench & Floor Scales



Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weight Processors & Transmitters

Allen-Bradley® Compatible Plug-in Weigh Scale Modules



HI 3000 & HI 4000 Controllers and HI 6000 Series Weight Processors



Hardy Enviro Bench Scale

Specifications

IP Rating:

- IP67

Load Cell Type:

- Stainless Steel, Potted

Base Construction:

- 304 Stainless Steel

Platter Construction:

- 304 Stainless Steel

Capacity Range:

- 2lb to 100lb

Minimum Overload Protection:

- 300% Rated Capacity

Minimum End Loading Protection:

- 100% Rated Capacity

Minimum Corner Loading Protection:

- 100% Rated Capacity

Intrinsically Safe:

- Yes

Legal for Trade Rating:

- NTEP

Resolution:

- 5,000 divisions of full scale

Sanitary Specification:

- Follows sanitary specifications for processing equipment developed by the American Meat Institute (AMI)

Standard Sizes:

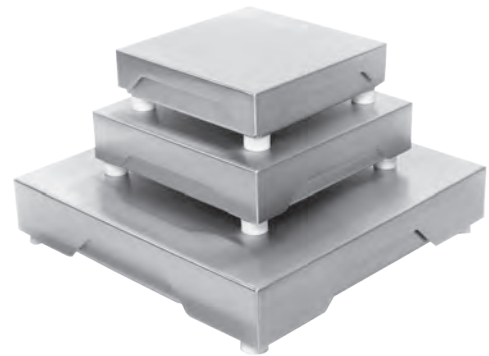
- 10" x 10" x 2.89" H
- 12" x 12" x 3.10" H
- 18" x 18" x 3.87" H

Shipping Weight

- 10" x 10": 25 lbs (11.34kg)
- 12" x 12": 38 lbs (17.2 kg)
- 18" x 18": 59 lbs (26.8 kg)

Standard Sizes and Capacities

Model #	Platter Size	Capacity
HIWDPS-1010-0002	10" x 10"	2 lb
HIWDPS-1010-0006	10" x 10"	6 lb
HIWDPS-1010-0010	10" x 10"	10 lb
HIWDPS-1010-0025	10" x 10"	25 lb
HIWDPS-1212-0030	12" x 12"	30 lb
HIWDPS-1212-0050	12" x 12"	50 lb
HIWDPS-1818-0050	18" x 18"	50 lb
HIWDPS-1818-0100	18" x 18"	100 lb



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 Measurement • Automation • Productivity

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ANY-WEIGH BENCH SCALES



ANY-WEIGH® Bench Scales



UNIVERSAL SCALE SPECIFICATIONS

Rated Output (ES)	0.900 ± 0.0009 mV/V
Combined Error	0.030 % R.O.
Zero Balance	5.0 % R.O.
Creep @ 30 Min.	0.030 % R.O.
Temp Effect Output	< ± 0.0015 % R.O./°F
Temp Effect Sensitivity	< ± 0.0008 % R.O./°F
Comp. Temp Range	-10 - +40°C
Oper. Temp Range	-10 - +65°C
Input Resistance	297.5 ± 10% ohm
Output Resistance	250 ± 5% ohm
Excitation	5 - 15 Volts
Safe Load Limit	300 % Emax
Ultimate Load	400 % Emax
Max Cornering Error	0.06% 1/2 full scale load, 1/2 way to corner
Warranty	Two years

The ANY-WEIGH® Bench scales provide complete flexibility in size and capacity for use in a wide range of weighing applications. With their rugged construction and stainless steel tops, ANY-WEIGH Scales are a great fit for both laboratory and industrial installations.

The ANY-WEIGH line of bench scales can be configured with standard interfacing to a weight instrument or with a built-in, direct connection to a PLC or PC.

Universal Scale - HI xxxxSBU-x*

Directly attach the scale's 15-foot cable to any weighing instrument or controller. If interfacing with a Hardy Controller, you can take full advantage of WAVERSAVER®, and C2® Electronic Calibration.

DeviceNet Scale - HI xxxxSBD-x*

With its built-in DeviceNet interface you can use this scale to provide a weight output to any point on a DeviceNet Network. This version also incorporates both the WAVERSAVER and C2 technologies, and comes with a six-inch pig-tailed connector.

Analog Scale - HI xxxxSBA-x*

Use the Analog Output Scale to provide a 4-20 mA output directly proportional to the weight reading. This version offers a low-cost, effective solution for bringing an analog weight reading directly into a control system, with minimal additional wiring or hardware, and comes with a 15-foot 2-wire shielded cable. The scale comes pre-wired and pre-calibrated from the factory but provides potentiometers for coarse and fine zero adjustment as well as span. It does not have C2 or WAVERSAVER capabilities.

ORDERING INFORMATION

MODEL #	SIZE	CAPACITY	HEIGHT	SHIP WEIGHT
	in/mm	lb/kg	in/mm	lb/kg
HI 1212SB_-33	12" x 12" / 298 x 298	33/15	1.54/39.1	14/6.4
HI 1212SB_-66	12" x 12" / 298 x 298	66/30	1.56/39.6	14/6.4
HI 1212SB_-130	12" x 12" / 298 x 298	130/60	1.62/41.2	14/6.4
HI 2424SB_-130	24" x 24" / 600 x 600	130/60	1.62/41.2	52/23.6
HI 2424SB_-330	24" x 24" / 600 x 600	330/150	1.65/41.9	52/23.6
HI 2424SB_-660	24" x 24" / 600 x 600	660/300	1.87/47.5	52/23.6
HI 2424SB_-1.3K	24" x 24" / 600 x 600	1300/590	2.05/52.1	52/23.6

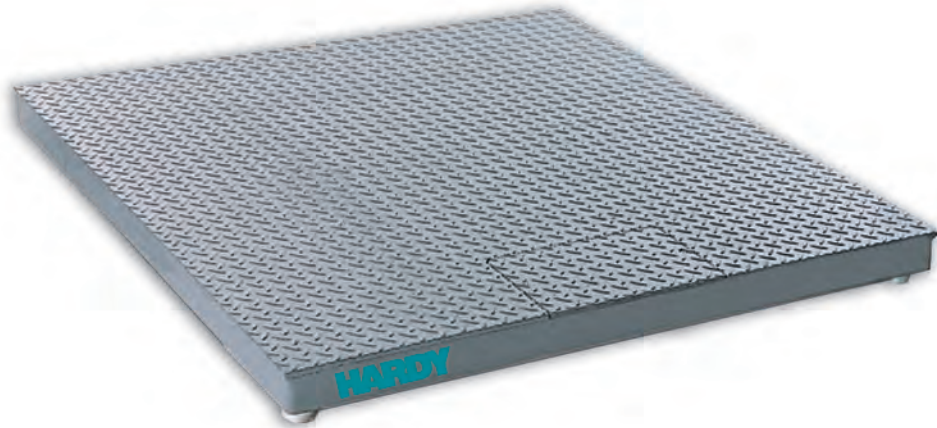
SBU Universal SBD DeviceNet
SBA Analog SBAFM Analog Hazardous

*All dimensions and capacities are nominal and subject to 0.005% tolerance ratios. Consult website for latest specifications.

Applications

PROCESS WEIGHING

- Inventory Management
- Batching & Blending
- Dispensing & Filling
- Check Weighing
- Shipping



Features THE HARDY PROCESS TOOLBOX

The Hardy Process Toolbox is a set of productivity tools that delivers value across process weighing functions. Each tool saves time, increases accuracy, improves efficiency or reduces risk in your process weighing applications.



Electronic calibration without test weights

C2[®] eCAL[™]

Weighing system monitoring and troubleshooting

IT INTEGRATED TECHNICIAN[®]

HARDY ADVANTAGE[®] Load Sensors

- Factory Matched
- Stainless Steel
- True Hermetic Seal
- No Cornering

Capacities Range from 1,000 to 10,000 lbs

Top Access Summing Card

100% End Loading

Hardy's accurate, rugged and reliable floor scales provide value and flexibility in size and capacity for use in a wide range of industrial weighing applications. Rated for 250,000 load cycles under normal loading conditions, these floor scales are built to last.*

FEATURES

Hardy floor scales are designed and built for harsh chemical and washdown industrial environments, yet are easy to use and install with the latest advancements in weighing technology. Just level the deck, attach the included twenty-foot cable, calibrate (if a C2[®] compatible instrument, set your reference), verify and begin weighing.

Available in eight sizes from 30 x 30 inch to 72 x 96 inches in 1, 2.5, 5, and 10 thousand pound capacities, Hardy floor scales have two threaded holes in the decks for attaching eyebolts to facilitate installation and cleaning.

C2[®] ELECTRONIC CALIBRATION

Used with a Hardy weight processor or controller, C2 enables fast, accurate, electronic calibration without test weights. The C2 system reduces downtime for installation or repairs and eliminates test weight related injuries.

INTEGRATED TECHNICIAN[®]

Each scale has built-in INTEGRATED TECHNICIAN (IT) circuitry. Coupled with a Hardy controller or instrument, the scale provides diagnostic and troubleshooting tools that read individual weights and voltages to aid you in isolating problems and ensure the integrity of your scale system.

SERVICE BY DESIGN

Along with C2 and INTEGRATED TECHNICIAN, all Hardy floor scales feature a top access plate for quick and easy access to the NEMA 4X summing box containing the Hardy 6011 Summing Card, ensuring that general maintenance is easier and more time-efficient.

HERMETICALLY SEALED LOAD SENSORS

The heart of any scale is the load sensors. All Hardy floor scales come standard with four matched Hardy ADVANTAGE[®] stainless steel, true hermetically-sealed sensors — sealed at both the gauging area and cable entry for long life. All are matched and calibrated for mV/V and mV/V/ohm. This eliminates the need for corner adjustment and potentiometers in the junction box, allowing a sensor to be replaced without calibration. Instead of the typical threaded hole into which the load cell foot is attached, the ADVANTAGE sensors use a blind hole technique ensuring the load is applied at a precise location to provide an accurate reading, weightment after weightment.

RUGGED, LOW PROFILE DESIGN

With a deck height of only 4.0 inches and 100% end loading, these floor scales enable easy, any-side access and maneuvering of all types of load handling equipment onto the scale.

Each scale features a field-proven, rugged structural rib design with 1/4 inch thick smooth or diamond plate deck that can withstand overloads of up to 100% of its capacity. Durable rubber encapsulated feet provide easy height adjustment.

**Contact Hardy for more information*

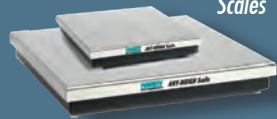
COMPONENTS TO COMPLETE YOUR HARDY SYSTEM

Hardy Bench Scales, Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale mounts to accommodate your application requirements.



ADVANTAGE Series with C2 Calibration



Bench & Floor Scales

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weight Processors & Transmitters

Allen-Bradley® Compatible Plug-in Weigh Scale Modules



HI 3000 & HI 4000 Controllers and HI 6000 Series Weight Processors



SPECIFICATIONS

Platform

- 0.25" inch thick smooth or safety tread deck

Deck Height

- 4.0 inches (10.2 cm) (adjustable 0.2" or 5 mm)

Overload Capacity

- 200% of rated scale capacity

End Loading

- 100% of rated scale capacity

Cable Length

- Platform to Instrument - 20 feet (for longer cable lengths, contact the Factory)

Construction

- 304 SS Stainless Steel
- Painted Carbon Steel with Two-part UV resistant Polyurethane - 2 to 4 mil top coat

Load Sensors

- C2® stainless steel
- hermetic seal
- blind hole loading

Junction Box

- NEMA 4X

Hardy 6011 Summing Card

- 4 Individual load sensor terminal blocks
- INTEGRATED TECHNICIAN® circuitry

Scale Excitation

- 5vdc +/-5%

Optional Eye Bolts

- 1/2 - 13 x 1-1/2", 2-1/4" diameter eye

Duty Cycle

- +250,000 load cycles under normal loading conditions*

*Contact Hardy for further information

Accuracy

- Combined Error: 0.02%
- Repeatability: 0.01%

Warranty

- Two year limited warranty
- NTEP
- UL, CUL, CE
- FM Hazardous Class I,II,III/Div 2

Approvals PENDING

- -PS Painted Steel Platform Top
- -SS Stainless Steel Platform Top
- -S Smooth Platform Top
- -T Tread Plate Platform Top

ORDERING OPTIONS

Visit our website for:

- full product specifications
- ordering information
- application notes
- technical description
- operator's manual

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or call us: **800-821-5831**
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STANDARD SIZES AND CAPACITIES

SIZE feet/cm	CAPACITY lb/kg	HEIGHT in/cm	SHIP WEIGHT lb/kg
30" x 30" / 76 x 76	1000/500	3.375"/8.6 cm	200/91
3' x 3' / 91 x 91	1000/500	3.375"/8.6 cm	250/113
	2500/1250	3.375"/8.6 cm	250/113
4' x 4' / 122 x 122	2500/1250	3.375"/8.6 cm	405/184
	5000/2250	3.375"/8.6 cm	405/184
4' x 5' / 122 x 152	5000/2250	3.375"/8.6 cm	500/227
	10,000/4500	3.375"/8.6 cm	500/227
4' x 6' / 122 x 183	5000/2250	3.375"/8.6 cm	600/272
	10,000/4500	3.375"/8.6 cm	600/272
5' x 5' / 152 x 152	5000/2250	3.375"/8.6 cm	650/295
	10,000/4500	3.375"/8.6 cm	650/295
5' x 7' / 152 x 213	5000/2250	3.375"/8.6 cm	900/408
	10,000/4500	3.375"/8.6 cm	900/408
6' x 8' / 183 x 244	10,000/4500	3.375"/8.6 cm	1150/522

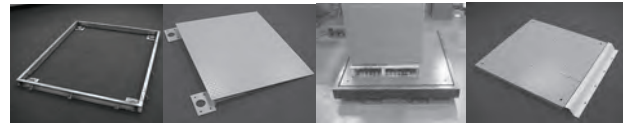
HARDY FLOORSCALE ACCESSORIES

Enables you to easily configure a solution to meet your individual applications!

- Ramps
- Pit Frames
- Bumper Guards
- Bolt Down Plates
- Instrument pedestal
- Portability Frames



Instrument Pedestal
HIFSI-48-SS



Pit Frames
HIFSPF Series

Access Ramps
HIFSR Series

Portability Frames
HIFSPK Series

Bumper Guards
HIFSBG Series

Lift Deck Scales Coming Soon!

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Hardy Lift Deck Floor Scales

Applications

PROCESS WEIGHING

- Inventory Management
- Batching & Blending
- Dispensing & Filling
- Shipping



Features THE HARDY PROCESS TOOLBOX

The Hardy Process Toolbox is a set of productivity tools that delivers value across process weighing functions. Each tool saves time, increases accuracy, improves efficiency or reduces risk in your process weighing applications.



Electronic calibration without test weights



Weighing system monitoring and troubleshooting



Hardy ADVANTAGE® Load Sensors

- Factory Matched IP69K
- Stainless Steel
- True Hermetic Seal

Capacities Range from 1,000 to 5,000 lbs

Top Access Summing Card

100% End Loading

Hardy Process Solutions now has a new line of lift-deck wash down scales to meet the needs of the most demanding, clean applications.

These process weighing scales combine best-in-class durability with Hardy's Process Toolbox features: weightless calibration (C2®) and operator diagnostics (INTEGRATED TECHNICIAN®). Hardy Lift Deck Floor Scales offer manufacturers multiple ways to reduce their maintenance costs and downtime.

DESIGNED FOR ANY ENVIRONMENT

Hardy Lift Deck Floor Scales are designed and built for harsh chemical and washdown industrial environments, yet are easy to use and install with the latest advancements in weighing technology. Just level the deck, attach the included twenty-foot cable, calibrate (if a C2® compatible instrument, set your reference), verify and begin weighing.

Available in three sizes from 36 x 36 inch to 60 x 60 inch in 1, 2, and 5 thousand pound capacities. Hardy Lift Deck floor scales have two or four handles on the decks for easy lifting to facilitate installation and cleaning.

C2® ELECTRONIC CALIBRATION

With a Hardy weight controller, C2® load sensors enable fast, accurate, electronic calibration without test weights at just a push of a button. The easy-to-use C2® system reduces downtime for installation and repairs and eliminates test weight related safety risks.

INTEGRATED TECHNICIAN®

Each scale has built-in INTEGRATED TECHNICIAN® (IT) circuitry. When coupled with a Hardy controller, the scale provides diagnostic and troubleshooting tools that read individual weights and voltages to aid you in isolating problems. Together, Hardy C2® and IT eliminate the need to open the junction box, reducing the risk of moisture ingress. The junction box remains sealed reducing the risk of contamination for heavy wash down applications.

HERMETICALLY SEALED LOAD SENSORS

The heart of any scale is the load sensors. All Hardy Lift Deck floor scales come standard with four matched Hardy ADVANTAGE® IP69K stainless steel, true hermetically-sealed sensors — sealed at both the gauging area and cable entry for long life. All are matched and calibrated for mV/V and mV/V/ohm. This eliminates the need for corner adjustment and potentiometers in the junction box, allowing a sensor to be replaced without calibration. Hardy ADVANTAGE® sensors use a blind hole technique ensuring the load is applied at a precise location to provide an accurate reading, weighment after weighment.

RUGGED, LOW PROFILE DESIGN

Rated for 250,000+ load cycles under normal loading conditions,* these lift deck floor scales are built to last. With a deck height of only 4.2 inches and 100% end loading, Hardy Lift Deck Floor Scales feature a hydraulic system that enables one person to easily lift the deck for cleaning. Durable rubber-based feet are height adjustable from below the platform for easy leveling.

COMPONENTS TO COMPLETE YOUR HARDY SYSTEM:

Hardy Bench Scales, Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale mounts to accommodate your application requirements.



ADVANTAGE Series with C2 Calibration



Bench & Floor Scales

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weight Processors & Transmitters

Allen-Bradley® Compatible Plug-in Weigh Scale Modules



HI 3000 & HI 4000 Controllers and HI 6000 Series Weight Processors



SPECIFICATIONS

Platform

- 0.25 inch thick smooth or safety tread deck

Height

- 4.2-4.4 inches (10.6 -11.2 cm) adjustable 0.2" or 5 mm

Accuracy

- Combined Error: 0.02%
- Repeatability: 0.01%

Overload Capacity

- 100% of rated scale capacity

End Loading

- 100% of rated scale capacity

Cable Length

- Platform to Instrument - 20 feet (for longer cable lengths, contact the Factory)

Construction

- Stainless Steel - Type 304

Duty Cycle

- +250,000 load cycles under normal loading conditions*

*Contact Hardy for further information

Load Sensor

- IP69K rating for washdown applications
- C2® or manual calibration
- stainless steel
- hermetically sealed
- blind hole loading

Summing Card Enclosure

- NEMA 4x stainless steel

Hardy 6011 Summing Card

- Individual load sensor terminal blocks
- INTEGRATED TECHNICIAN® circuitry

Scale Excitation

- 5vdc +/-5%

Warranty

- Two Years

STANDARD SIZES AND CAPACITIES

SIZE feet/cm	CAPACITY lb/kg	HEIGHT in/cm	SHIP WEIGHT lb/kg
3' x 3' / 91 x 91	1000/454	4"/10.2 cm	290/131.5
	2000/907	4"/10.2 cm	290/131.5
	5000/2268	4"/10.2 cm	290/131.5
4' x 4' / 122 x 122	1000/454	4"/10.2 cm	440/199.6
	2000/907	4"/10.2 cm	440/199.6
	5000/2268	4"/10.2 cm	440/199.6
5' x 5' / 152 x 152	1000/454	4"/10.2 cm	695/315.2
	2000/907	4"/10.2 cm	695/315.2
	5000/2268	4"/10.2 cm	695/315.2

All sizes and capacities are available with either a smooth or tread deck.

ORDERING OPTIONS

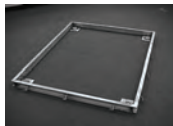
- S Smooth Platform Top
- T Tread Plate Platform Top

HARDY LIFT DECK FLOOR SCALE ACCESSORIES

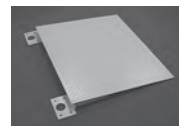
A complete line of

- Instrument Pedestals
- Ramps
- Pit Frames

enable you to easily configure a solution to meet your individual applications



Pit Frames
HI FSLDPF Series



Access Ramps
HI FSLDR Series



Instrument Pedestal
HIFSI-48-SS

HARDY

PROCESS SOLUTIONS

Measurement • Automation • Productivity

Hardy Process Solutions

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San Diego, CA 92121
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www.hardysolutions.com
hardyinfo@hardysolutions.com

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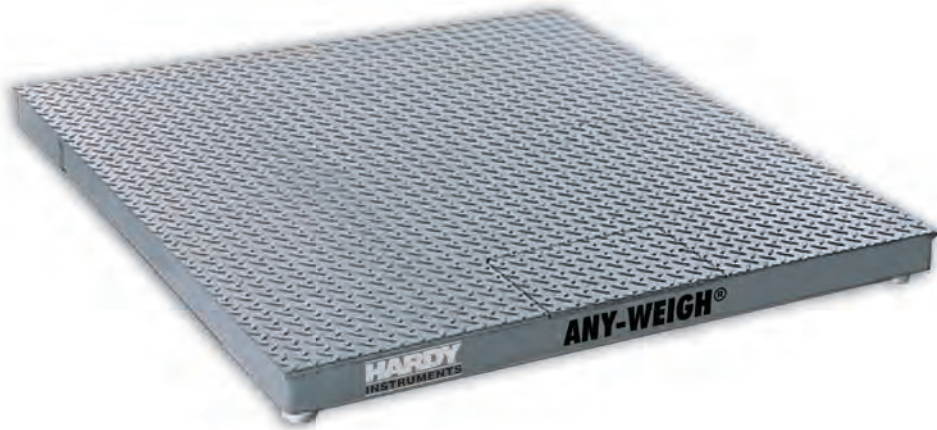
HARLDFLR 0615
0400-LDFS-01A

ANY-WEIGH® Floor Scales

Applications

PROCESS WEIGHING

- Check Weighing
- Batching
- Filling
- Inventory
- Shipping
- Force



Features

C2® Electronic Calibration

- Electronic calibration without test weights



INTEGRATED TECHNICIAN®

- Weighing system monitoring and troubleshooting

ADVANTAGE® Load Sensors

- Matched
- Stainless Steel
- True Hermetic Seal
- No Cornering

**Capacities Range from
1,000 to 10,000 lbs**

Top Access Summing Card

100% End Loading

Hardy's rugged and reliable ANY-WEIGH® floor scales provide value and flexibility in size and capacity for use in a wide range of industrial weighing applications.

FEATURES

The ANY-WEIGH line of floor scales is designed and built for harsh chemical and washdown industrial environments, yet is easy to use and install with the latest advancements in weighing technology. Gone are the manual multi-turn potentiometers for corner adjusting. Just level the deck, attach the included twenty-foot cable, calibrate (if a C2® compatible instrument, set your reference), verify and begin weighing.

Available in eight sizes from 30 x 30 inch to 6 x 8 foot in 1, 2.5, 5, and 10 thousand pound capacities, the ANYWEIGH floor scales have two threaded holes in the decks for attaching eyebolts to facilitate installation and cleaning.

C2® ELECTRONIC CALIBRATION

With a push of a button in a Hardy Controller, C2 enables a fast, accurate, electronic calibration without test weights. The C2 system reduces downtime for installation or repairs and eliminates test weight related injuries.

INTEGRATED TECHNICIAN®

Each scale has built-in INTEGRATED TECHNICIAN (IT) circuitry. When coupled with a Hardy controller, the scale provides diagnostic and troubleshooting tools that read individual weights and voltages to aid you in isolating problems and ensure the integrity of your scale system. In short, IT helps you solve problems should any occur.

SERVICE BY DESIGN

Along with C2 and INTEGRATED TECHNICIAN, all Hardy ANYWEIGH floor scales feature a top access plate for quick and easy access to our Nema 4x junction box, ensuring that general maintenance is easier and more time-efficient.

HERMETICALLY SEALED LOAD SENSORS

The heart of any scale is the load sensor. All ANY-WEIGH floor scales come standard with Hardy ADVANTAGE® stainless steel, true hermetically-sealed sensors — sealed at both the gauging area and cable entry for long life. All are matched and calibrated for mV/V and mV/V/ohm. This eliminates the need for corner adjustment pots and allows a sensor to be replaced without calibration. Instead of the typical threaded hole into which the load cell foot is attached, the ANYWEIGH sensors use a blind hole technique ensuring the load is applied at a precise location, providing an accurate reading, weightment after weightment.

RUGGED, LOW PROFILE DESIGN

With a deck height of only three inches and 100% end loading, these floor scales enable easy, any-side access and maneuvering of all types of load handling equipment onto the scale.

Each scale features a field-proven, rugged structural rib design with 1/4 inch thick smooth or diamond plate deck that can withstand overloads of up to 150% of its capacity. A durable rubber-based foot for each load sensor is height adjustable from below the platform.

COMPONENTS TO COMPLETE YOUR HARDY SYSTEM FOR:

- Filling & Dispensing
- IBC Dispensing
- Batching/Blending
- Check Weighing
- Flow Rate Monitoring
- Flow Rate Control
- Force Measurement
- Level Measurement/Control

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Transmitters



Allen-Bradley® Compatible Plug-in Weigh Scale Modules



HI 3000 Series and HI 4050 Controllers



HARDY

PROCESS SOLUTIONS

Measurement • Automation • Productivity

SPECIFICATIONS

Platform

- 0.25 inch thick smooth or safety tread deck

Height

- 3 inches (adjustable 0.275" 7mm)

Overload Capacity

- 150% of rated scale capacity

End Loading

- 100% of rated scale capacity

Cable Length

- Platform to Instrument - 20 feet
- (for longer cable lengths, contact the Factory)

Construction

- Stainless Steel - Type 304
- Mild Steel - Type A36 carbon steel coated with two part enamel

Paint

- Epoxy modified alkyd enamel (mild steel models only)

Load Sensor

- C2® stainless steel
- hermetic seal
- blind hold loading

Junction Box

- Nema 4x stainless steel

Summing Card

- Individual load sensor terminal blocks
- INTEGRATED TECHNICIAN® circuitry

Scale Excitation

- 5vdc +/-5%

Optional Eye Bolts

- 1/2 - 13 x 1-1/2", 2-1/4" diameter eye

Approvals

- NTEP Pending

All specifications subject to change without notice. Please contact the Hardy factory or visit our website for the latest specifications.

ORDERING INFO

- 4XX Stainless Hermetic Load Cells
- X1X Painted Platform Top
- X3X Stainless Platform Top
- XXS Smooth Platform Top
- XXT Tread Plate Platform Top

STANDARD SIZES AND CAPACITIES

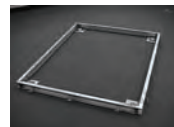
SIZE feet/cm	CAPACITY lb/kg	HEIGHT in/cm	SHIP WEIGHT lb/kg
2.5' x 2.5' / 76 x 76	1000/500	3"/1.19 cm	200/91
3' x 3' / 91 x 91	1000/500	3"/1.19 cm	250/113
	2500/1250	3"/1.19 cm	250/113
4' x 4' / 122 x 122	2500/1250	3"/1.19 cm	405/184
	5000/2250	3"/1.19 cm	405/184
	10,000/4500	3"/1.19 cm	405/184
4' x 5' / 122 x 152	5000/2250	3"/1.19 cm	500/227
	10,000/4500	3"/1.19 cm	500/227
4' x 6' / 122 x 183	5000/2250	3"/1.19 cm	600/272
	10,000/4500	3"/1.19 cm	600/272
5' x 5' / 152 x 152	5000/2250	3"/1.19 cm	650/295
	10,000/4500	3"/1.19 cm	650/295
5' x 7' / 152 x 213	5000/2250	3"/1.19 cm	900/408
	10,000/4500	3"/1.19 cm	900/408
6' x 8' / 183 x 244	10,000/4500	3"/1.19 cm	1150/522

ANY-WEIGH ACCESSORIES

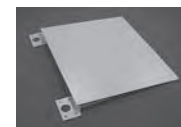
A complete line of

- Ramps
- Pit Frames
- Bumper Guards
- Bolt Down Plates
- Lift Eyes

enable you to easily configure a solution to meet your individual applications



Pit Frames
HI APF Series



Access Ramps
HI AR Series



Bumper Guards
HI ABG Series

COMMUNICATION INTERFACES

- Allen-Bradley® PLC
- ControlLogix
- SLC
- Serial
- Series 5
- Analog

- Remote I/O
- Profibus
- Modbus TCP
- Ethernet
- DeviceNet



To learn more about ANY-WEIGH scales visit our website for:

- full product specifications
- ordering information
- application notes
- technical description
- operator's manual

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AW FLR 0811
0400-0013-01B

Applications
PROCESS WEIGHING

- *Batching/Blending*
- *Filling/Dispensing*
- *Level-by-Weight*
- *Inventory Management*



Features

The Hardy Process Toolbox

The Hardy Process Toolbox is a set of productivity tools that support process weighing functions. Each tool saves time, increases accuracy, improves efficiency or reduces risk in process weighing applications.



C2® Electronic Calibration

- Electronic calibration without test weights

INTEGRATED TECHNICIAN®

- Complete weighing system monitoring and troubleshooting

NEMA 4X Enclosure

- Water and corrosion resistant

Hazardous Locations

- Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III

IT or JB SUMMING BOX

The Hardy HI 6020 Summing box is a critical component in a weighing system that enables use of Hardy's core technologies - C2® electronic calibration and Integrated Technician® (IT).

Each summing box distributes excitation voltage to up to four load cells and transfers each load cell's performance characteristics and weight signals to the Hardy weighing instrument. A summing card with IT allows a weighing instrument operator to switch to the summing card's internal test circuit and diagnose the entire weighing system from the front panel of the instrument or a remote location over the Internet. Individual load cells can be isolated from each other for weight and voltage readings, allowing a technician or operator to quickly and safely troubleshoot weighing system faults and anomalies.

The HI 6020 Summing box is available with a variety of options, including IT, trim pots (for non-Hardy load cells) and a NEMA 4X enclosure in stainless steel, painted steel or fiberglass. The enclosure features a thick-wall design with an interior seal for a long lasting, robust wash-down installation. Each box comes with two packaged hole plugs and five cable grip fittings suitable for load cell cables with an outside diameter of 1/4 to 3/8 inches. A label is provided on the underside of the top cover to record load cell serial numbers and location.

A single HI 6020 Summing box supports up to 4 load cells. To connect two HI 6020 Summing Boxes together to support between 5 and 8 load cells, use the TB6 Auxiliary connection between boxes.

SPECIFICATIONS

Max number of Load Cells

- 8 (with two junction boxes)

Enclosure

- Choice of Stainless Steel, Painted Steel or Fiberglass

PCB Dimensions

- 4.88" (12.38 cm) x 4.88" (12.38 cm)

Connector Type

- Removeable Phoenix Terminal Block
- 7 pin, 1 row, 4 mm pitch
- 55 degree wire entry

Auxiliary Port for Connecting Junction Boxes

- TB6

Temp Range

- -10 to +60°C (14 to 140°F)

Max Current

Maximum current consumption with Integrated Technician:

- 58mA with 4 x 350 ohm load cells
- 116mA with 8 x 350 ohm load cells
- 19mA with 4 x 1100 ohm load cells
- 38mA with 8 x 1100 ohm load cells

Maximum current consumption with Trimming Pots:

- 58mA with 4 x 350 ohm load cells
- 116mA with 8 x 350 ohm load cells
- 19mA with 4 x 1100 ohm load cells
- 38mA with 8 x 1100 ohm load cells

Trim Pot Num Turns

- 11 (for use with non-C2 systems)

Trim Pot Impedance Range

- 0-10 Ω

Power Rating

- HI 6020IT: 5 VDC, Class 2, max. 50 mA
- HI 6020JB: 2-15 VDC, Class 2, max. 275 mA

Warranty

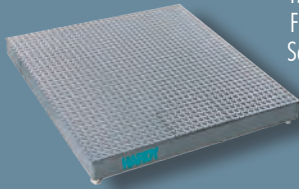
- Two-year warranty against defects in workmanship

COMPONENTS TO COMPLETE YOUR HARDY SYSTEM

Hardy Bench Scales, Floor Scales and Load Points
Hardy carries a wide variety of strain gauge load points and scales to accommodate your application requirements.



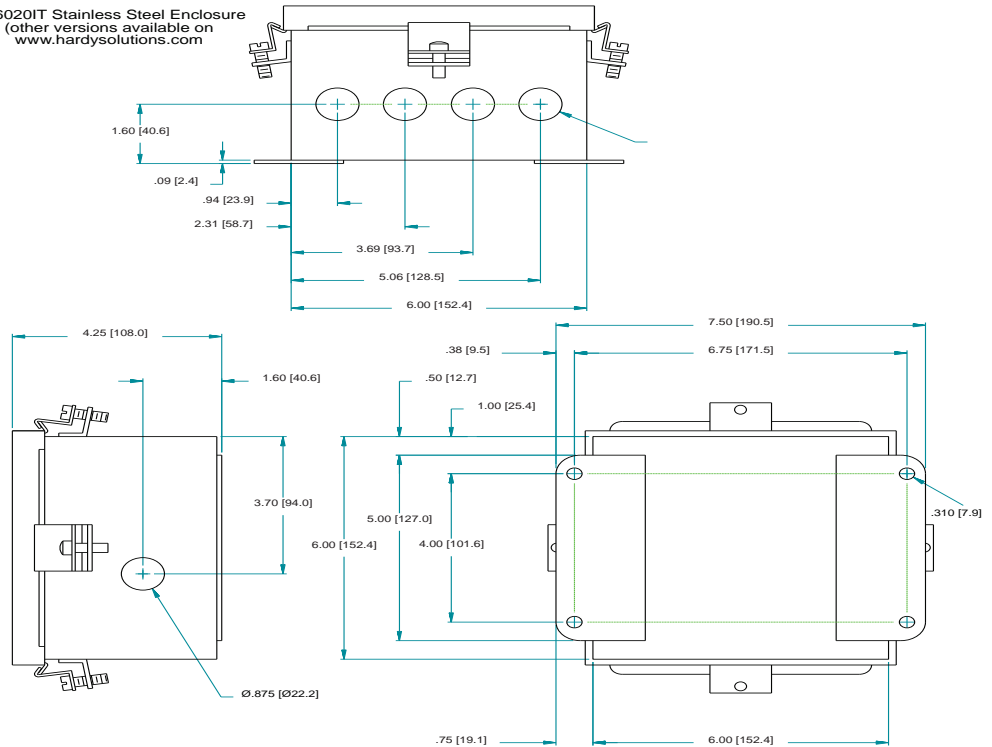
ADVANTAGE[®] Series Load Point with C2 Calibration



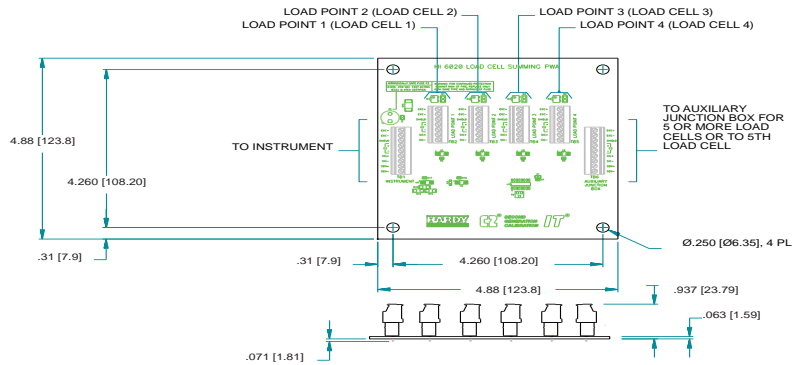
Hardy Floor Scales

HI 6020 SUMMING BOX (STAINLESS STEEL ENCLOSURE AND IT VERSION SHOWN)

HI 6020IT Stainless Steel Enclosure (other versions available on www.hardysolutions.com)



HI 6020IT SERIES LOAD CELL SUMMING CARD



Allen-Bradley[®] Compatible Plug-in Weigh Scale Modules



HI 3000 Series HI 4000 Controllers and HI 6000 Weight Processors



MODEL #	DESCRIPTION
HI6020IT-PS1	Integrated Technician NEMA 4/IP66 Painted Steel
HI6020IT-FG1	Integrated Technician NEMA 4X/IP66 Fiberglass
HI6020IT-SS1	Integrated Technician NEMA 4X/IP66 Stainless Steel
HI6020IT-SC1	Integrated Technician Summing Card, no Enclosure
HI6020IT-PS2	Integrated Technician NEMA 4/IP66 Painted Steel with Trim Pots*
HI6020IT-FG2	Integrated Technician NEMA 4X/IP66 Fiberglass with Trim Pots*
HI6020IT-SS2	Integrated Technician NEMA 4X/ IP66 Stainless Steel with Trim Pots*
HI6020IT-SCT	Integrated Technician Summing Card with Trim Pots*, no Enclosure
HI6020JB-PS1	NEMA 4/IP 66 Painted Steel
HI6020JB-FG1	NEMA 4X/IP 66 Fiberglass
HI6020JB-SS1	NEMA 4X/IP 66 Stainless Steel
HI6020JB-SC1	Summing Card, no Enclosure
HI6020JB-PS2	NEMA 4/IP 66 Painted Steel with Trim Pots*
HI6020JB-FG2	NEMA 4X Fiberglass with Trim Pots*
HI6020JB-SS2	NEMA 4X/IP 66 Stainless Steel with Trim Pots*
HI6020JB-SCT	Summing Card with Trim Pots*, no Enclosure

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*Trim Pots are NOT compatible with C2 Load Cells

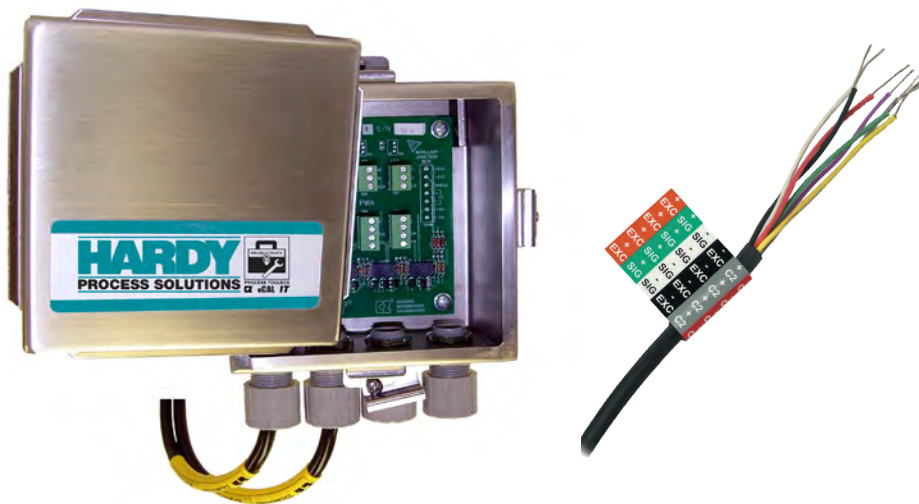
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HI 6020 Rev C
0400-00028B 01/17

Applications

PROCESS WEIGHING

- *Batching/Blending*
- *Filling/Dispensing*
- *Level-by-Weight*
- *Check Weighing*



Features

THE HARDY PROCESS TOOLBOX

The Hardy Process Toolbox is a set of productivity tools that delivers value across process weighing functions. Each tool saves time, increases accuracy, improves efficiency or reduces risk in your process weighing applications.



Electronic calibration without test weights

A C2 system includes load points, junction box, cabling and weighing instrumentation, and is designed to make calibration easier than ever before. Upon installation or re-calibration, a Hardy instrument automatically searches for C2 certified load points and records their performance characteristics. Entering a reference point is all that's needed to bring your system on-line within seconds.



JUNCTION BOX

The Hardy C2[®] certified HI 215JB Junction Box contains circuitry in a waterproof enclosure which distributes the excitation voltage to up to four load points and transfers each load point's performance characteristics and weight signals to the weight controller.

The box's unique removable multiple connector design allows for easy isolation and trouble-shooting of weighing systems. Two junction boxes can be cabled together to handle up to eight load points from a single scale using the TB10 option.

Available in NEMA 4 rated painted steel, NEMA 4X rated stainless steel or fiberglass, each box comes with two packaged hole plugs and five cable grip fittings suitable for O.D. cable of 1/4 to 3/8 inches.

A label is provided on the underside of the top cover to record load point positions. A non-C2 version with trim pots is also available.

C2[®] CABLE

Hardy C2[®] Certified Cable has been designed specifically for the electrically and mechanically harsh environments found in Process Weighing applications. While many process variables are transmitted at a 0-10 volt or 4-20 milliamp level, signals from load or force sensors are typically one thousand times smaller, or 0-0.010 volts. A ten pound change on a 100,000 pound scale would correspond to a signal change of 0.000001 volts (1 micro volt). Therefore, cabling must protect against electrical noise common in the plant environment.

It is also imperative that moisture not enter the cable as it would increase capacitance and allow coupling of voltage from the excitation wires to the signal wires. The coupling of voltage causes "drifting" weight indications. Use of improper cable between even the finest load sensors and instrumentation will yield poor weighing results. The costs and time delays of removing and replacing improper weighing system cable are prohibitive. To insure an effective weighing system, always specify Hardy C2 Certified Cable.

COMPONENTS TO COMPLETE YOUR HARDY SYSTEM

Hardy Bench Scales, Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale bases to accommodate your application requirements.



ADVANTAGE Series Load Point with C2 Calibration



Hardy Bench Scales

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weigh Processors

Allen-Bradley® Compatible Plug-in Weigh Scale Modules



HI 3000 Series HI 4050 Controllers and HI 6000 Series



MODEL #	DESCRIPTION
C2 Cable	C2 Certified, 8-Conductor
HI 215JB-SS1	Stainless Steel Standard
HI 215JB-SS2*	Stainless with Trim Pots
HI 215JB-SS3**	Stainless with TB-10
HI 215JB-SS4*	Stainless with Trim pots and TB-10
HI 215JB-PS1	Painted Standard
HI 215JB-PS2*	Painted with Trim Pots
HI 215JB-PS3**	Painted with TB-10
HI 215JB-PS4**	Painted with Trim pots and TB-10
HI 215JB-FG1	Fiberglass Standard
HI 215JB-FG2*	Fiberglass with Trim Pots
HI 215JB-FG3**	Fiberglass with TB-10
HI 215JB-FG4*	Fiberglass with Trim Pots and TB-10
HI 215JB-SC	Summing card, no enclosure
HI 215JB-SCT*	Summing card w/ trimpots, no enclosure
HI 215JB-SCB**	Summing card with TB-10, no enclosure
HI 215JB-SCBT*	Summing card with Trim Pots and TB-10, no enclosure

*Not for use with C2 load points

** For more than 4 load cells use two junction boxes/cards one with TB-10

JUNCTION BOX

Current in ma

- Max ma for 4 360Ω LCs: 57
- Max ma for 8 360Ω LCs: 114
- Max ma for 4 1100Ω LCs: 18
- Max ma for 8 1100Ω LCs: 38

Approvals

- CE

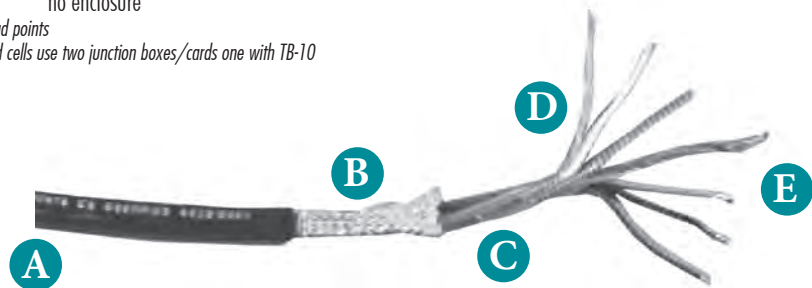
Warranty

- Two-year warranty against defects in workmanship

C2 CABLE

Recommended wiring for color code cabling between the junction box and instrumentation when using ADVANTAGE™ line and all other load points.

+ Excitation	Red
+ Sense	Blue
+ Signal	Green
- Signal	White
- Sense	Brown
- Excitation	Black
+ C2	Gray
- C2	Violet



A The thick (0.060") outer jacket protects signal leads from minor nicks and cuts, and helps keep moisture and contaminants out. The vinyl material used is flexible for conduit bends and slides more easily in long conduit runs. Additionally, this material resists many corrosive substances.

B A 36 gauge braided tinned copper shield provides better than 85% coverage and tight braid angles to reduce the chance of outside electrical noise reaching the signal leads. Unlike other process measurements, incremental changes in weight correspond to signal changes typically in the range of 0.0000001 volts (0.1 micro volt). Without proper shielding, common plant electrical noise can cause fluctuation and incorrect weight readings.

C A mylar barrier reduces the chance of moisture reaching the signal leads should the cable be nicked. Moisture between signal leads increases the capacitance between signals and results in cross coupling of voltages and incorrect weight readings.

D The 22 gauge wire is stranded for reliability in bends and is color coded for easy installation.

E Two wires make up a twisted pair to reduce capacitance for C2 signals and provide a constant cable impedance.

Visit our web site for:

- full product specifications
- ordering information
- application notes
- technical description
- operator's manual

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04/15

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Applications
PROCESS WEIGHING

- *Batching/Blending*
- *Filling/Dispensing*
- *Level-by-Weight*
- *Check Weighing*



Features

The Hardy Process Toolbox

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C2[®] and eCAL[™]
Electronic Calibration

- Electronic calibration without test weights



INTEGRATED TECHNICIAN[®] (IT)

- Weighing system monitoring and troubleshooting



SUMMING BOX

The Hardy HI 6010 Summing box is a critical component in a weighing system that enables use of Hardy's core technologies - C2[®], eCAL[™], and IT. The summing box distributes excitation voltage to up to four load cells and transfers each load cell's performance characteristics and weight signals to the Hardy weight controller. A summing card with IT (Integrated Technician[®]) allows a weighing instrument operator to switch to the summing card's internal test circuit and diagnose the entire weighing system from the front panel of the instrument or a remote location over the Internet. Individual load cells can be isolated from each other for weight and voltage readings, allowing a technician or operator to quickly and safely troubleshoot weighing system faults and anomalies.

The HI 6010 Summing box is available with a variety of options (e.g. with or without IT or trim pots for non-Hardy load cells) and ships in a NEMA 4X polycarbonate enclosure. The enclosure features a thick-wall design, threaded brass cover (on/off) inserts, an o-ring and 'flangeless' surface mounting for a long lasting, robust, sanitary wash-down installation. Each box comes with two packaged hole plugs and five cable grip fittings suitable for load cell cables with an outside diameter of 1/4 to 3/8 inches. A label is provided on the underside of the top cover to record load cell assemblies.

SPECIFICATIONS

Max number of Load Cells

- 4

Trim Pot Num Turns

- 11
 (for use with non-C2 eCAL systems)

Impedance Range

- 0-10 Ω

PCB Dimensions

- 4.875" x 3.0"

Connector Type

- Phoenix Terminal Block,
- 7 pin, 1 row, 3.5 mm pitch
- 55 degree wire entry

Temp Range

- -10 to +60°C (14 to 140°F)

Max Current

- 180mA at 250'

Max Current/Channel

- 80mA

Static Current

- 25mA

Wire Diameter

- 22-24 AWG

Warranty

- Two-year warranty against defects in workmanship

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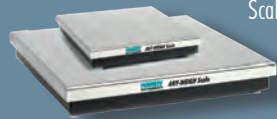
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Hardy Bench Scales, Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale bases to accommodate your application requirements.



ADVANTAGE Series Load Point with C2 Calibration



ANY-WEIGH Scales

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Transmitters

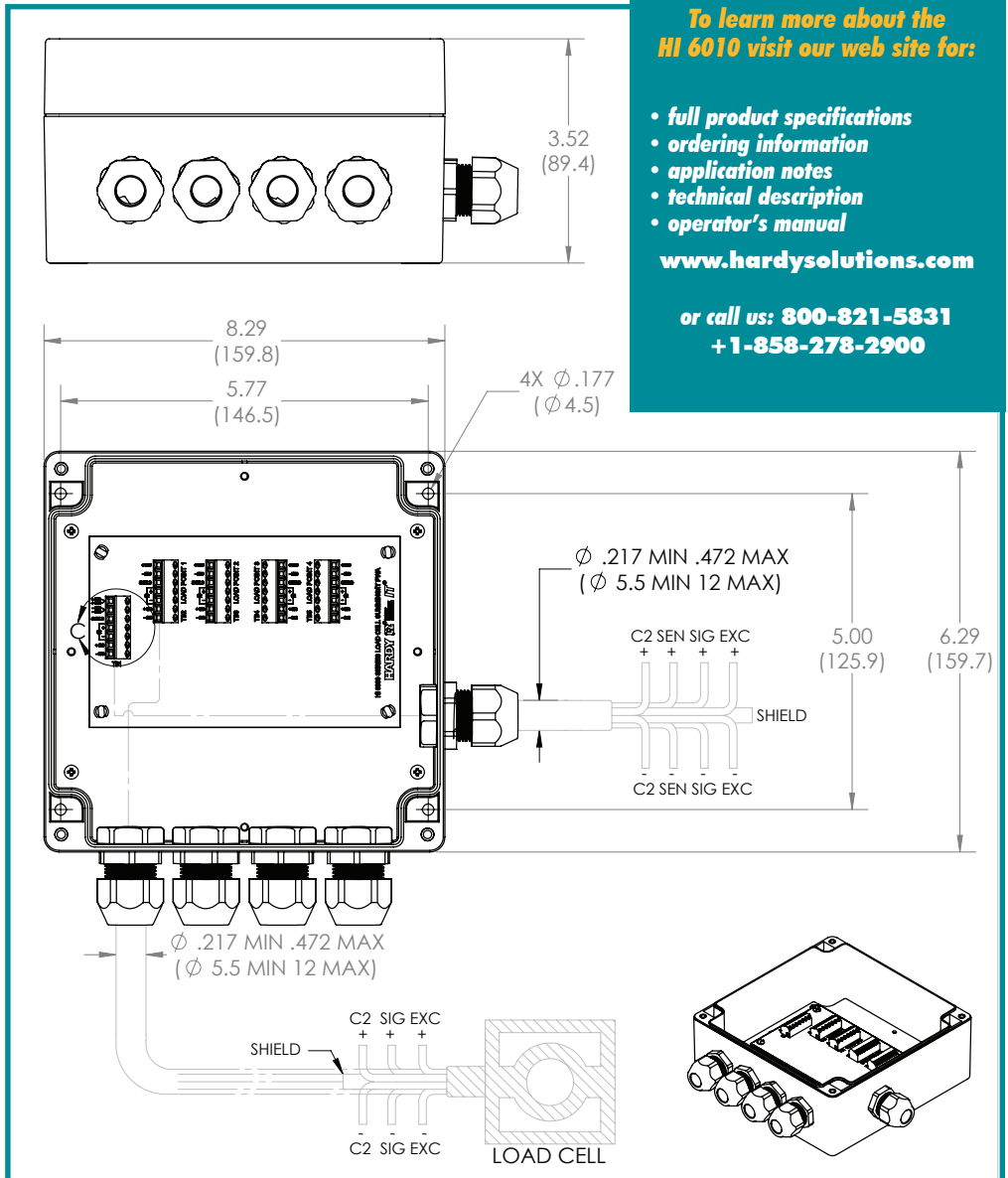
Allen-Bradley® Compatible Plug-in Weigh Scale Modules



HI 3000 Series
HI 4050 Controllers
and HI 6000 Series



HI 6010 SUMMING BOX OUTLINE



To learn more about the HI 6010 visit our web site for:

- full product specifications
- ordering information
- application notes
- technical description
- operator's manual

www.hardysolutions.com

or call us: 800-821-5831
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MODEL #	DESCRIPTION
HI6010JB-SC1	Summing Card Only
HI6010JB-SC2*	Summing Card w/ Trim Pots
HI6010JB-PC1	Summing Card in Polymer Enclosure
HI6010JB-PC2	Summing Card in Polymer Enclosure w/ Trim Pots
HI6010IT-SC1	IT Summing Card Only
HI6010IT-SC2*	IT Summing Card w/ Trim Pots
HI6010IT-PC1	IT Summing Card in Polymer Enclosure
HI6010IT-PC2	IT Summing Card in Polymer Enclosure w/ Trim Pots

*Not for use with C2 load points
** For more than 4 load cells use two HI6020 series junction boxes/cards

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Measurement ■ Automation ■ Productivity

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