



**HARDY**  
**PROCESS SOLUTIONS**  
Measurement ■ Automation ■ Productivity

**YOUR PARTNER IN  
PROCESS MEASUREMENT**

- **PEOPLE**
- **PROCESS**
- **SOLUTIONS**
- **PRODUCTIVITY**

## LEVERAGE PEOPLE WHO ARE COLLABORATING TO HELP YOU SUCCEED

### **Hardy is Working to Make it EASY**

For our partners to work with us, follow our solutions strategy, select our products, communicate our value.

For customers to install, integrate, calibrate, operate and maintain our solutions

**This is our mission and our end goal**

### **Hardy is Keeping It Simple**

Our belief is that SIMPLICITY delivers our promise of EASY and LEAST COST TO OWN.

### **Stock, Make, Pack, & Ship Solutions**

Our solutions align with our customers supply chain

making it EASY for them to understand where, why and how we fit as a solution partner.



*“collaborating to  
accelerate your  
manufacturing  
productivity”*

# LEVERAGE A COMPANY WHO UNDERSTANDS YOUR PROCESS

## Four Reasons to Partner with Hardy

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



We know Measurement, Automation & Productivity.  
Our solutions optimize your operations:

- Hardy was founded as Hardy Scales in 1918
- Hardy developed the first PLC integrated weighing system for an Allen Bradley PLC
- Hardy pioneered WAVERSAVER®, the technology which eliminates the effects of vibration on weighing systems
- Hardy is part of Roper Industries, a \$3.2b+ public company



Improve your inventory management accuracy

**SILO & TANK MEASUREMENT SOLUTIONS**



Optimize your batching/blending accuracy and throughput

**FEED AND RATE CONTROL SOLUTIONS**



Tighten the tolerances on your packaging lines

**FILL & DOSING CONTROL SOLUTIONS**

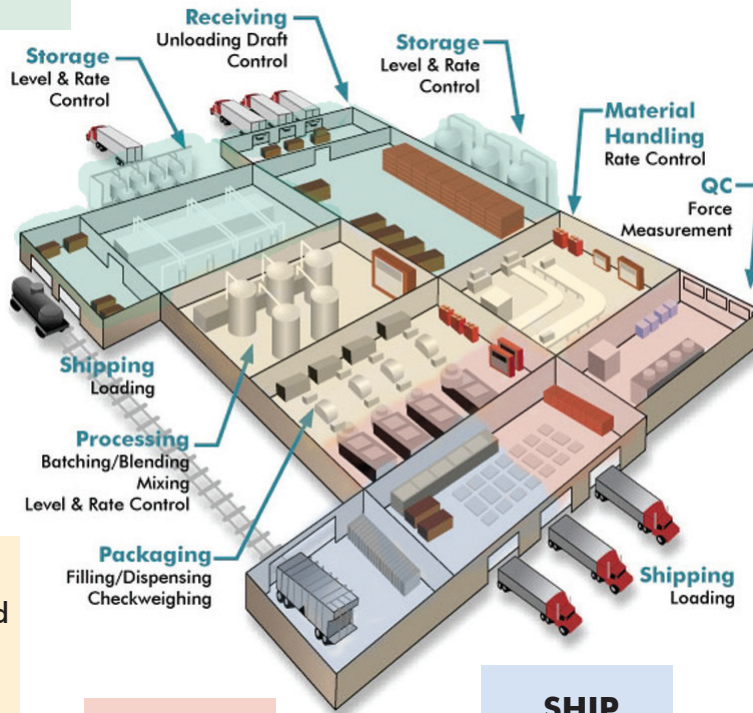


Enhance your product inspection capability

**CHECK WEIGHING SOLUTIONS**

# LEVERAGE SOLUTIONS THAT ARE STRUCTURED TO MEET YOUR BUSINESS NEEDS

**STOCK**  
Inventory  
Mangement  
Solutions



**MAKE**  
Batching and  
Blending  
Solutions

**PACK**  
Packaging  
Solutions

**SHIP**  
Product  
Inspection  
Solutions

At Hardy, we believe that industrial weighing solutions should be EASY to engineer and operate.

We believe that simplicity delivers the LOWEST TOTAL COST to own.

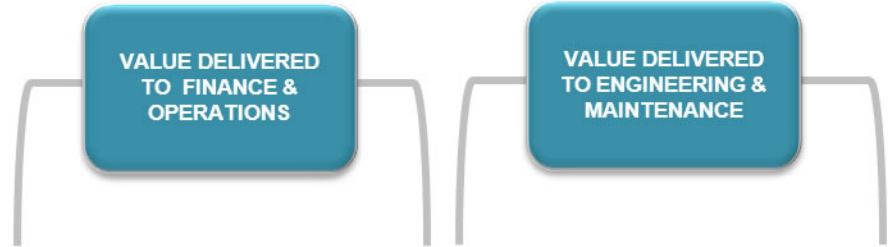
That's why our solutions are EASIER to install, integrate, commission, diagnose and maintain.

Want MORE PRODUCTIVITY at the LEAST TOTAL COST to own?

Call Hardy to discover how Today!



# DEPLOY A TOOLKIT THAT DELIVERS VALUE ACROSS MULTIPLE BUSINESS FUNCTIONS



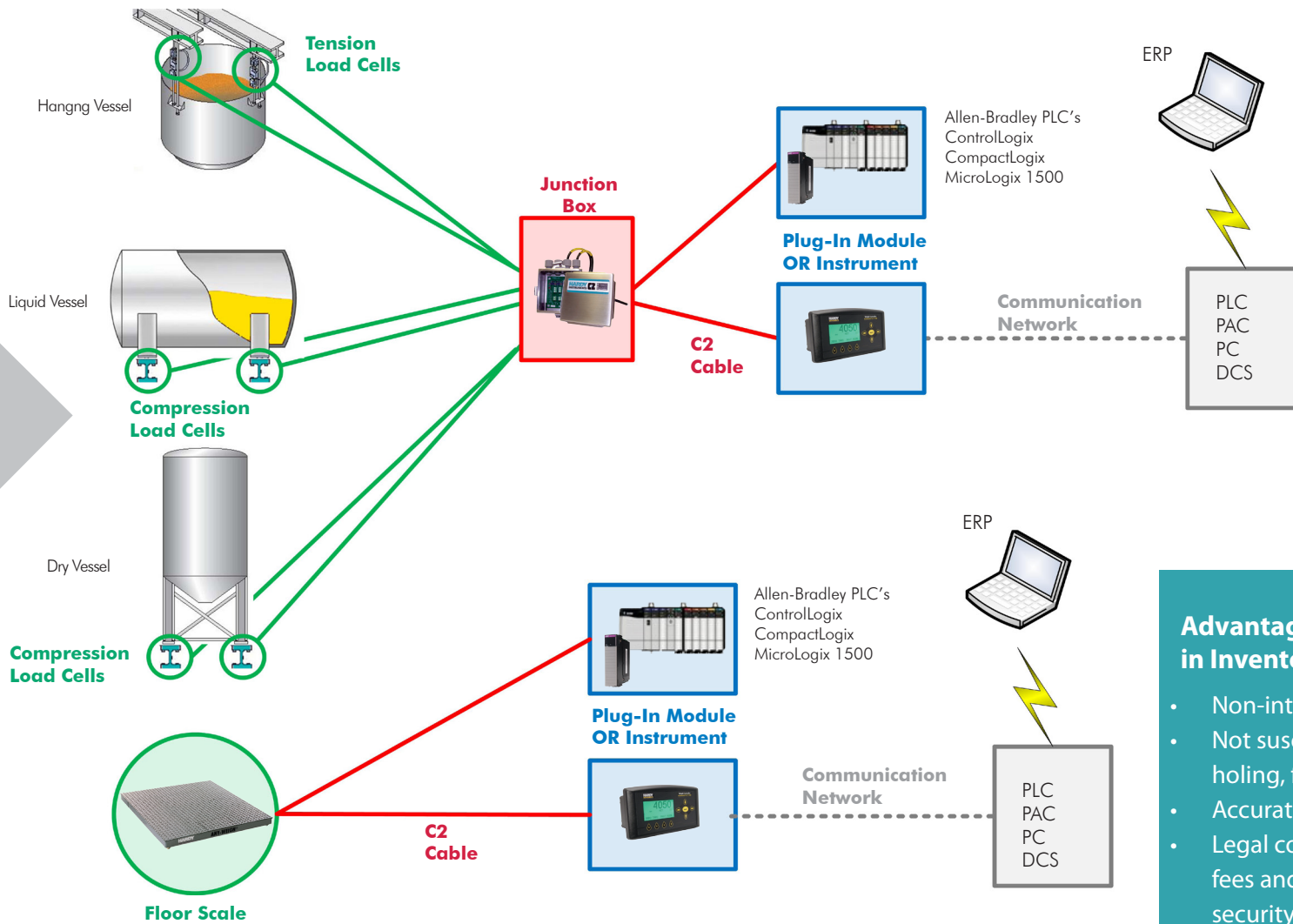
		ACCURATE	STABLE	FAST	ANYWHERE	EASY
Weight Free Calibrations Saves time, Increases Safety		FACTORY CALIBRATED	TESTED & DOCUMENTED	SAVES ~ 4 HOURS	LOCAL OR REMOTE	NO WEIGHTS PUSH BUTTON
Operator Diagnostics Saves Time, Increases Uptime		ERROR FREE	TESTED & DOCUMENTED	SAVES ~ 3 HOURS	LOCAL OR REMOTE	PUSH 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

# INVENTORY MANAGEMENT SOLUTIONS

- Level-by-Weight
- Draft Control



STOCK



- ### Advantages of Using Weight in Inventory Control
- Non-intrusive
  - Not susceptible to bridging, rat holing, foaming or fogging
  - Accurate weigh/level
  - Legal compliance - reduced fees and compliance costs; security in continued operation

# BENEFITS OF HARDY CORE FEATURES IN INVENTORY MANAGEMENT

- C2 Electronic Calibration**  
 Weight-Free Calibrations  
 Saves Time  
 Increases Safety
- IT Integrated Technician**  
 Automated Diagnostics  
 Reduces Downtime  
 Reduces Rework
- WAVERSAVER**  
 Automatic Vibration Elimination  
 Higher Accuracy  
 Reduces Material Waste
- WebServer**  
 Open Connectivity Tools  
 Saves Time  
 Reduces Effort
- SMM-USB / SMM-SD**  
 Intuitive, Safe & Transferrable Set-ups  
 Saves Time  
 Reduces Risk

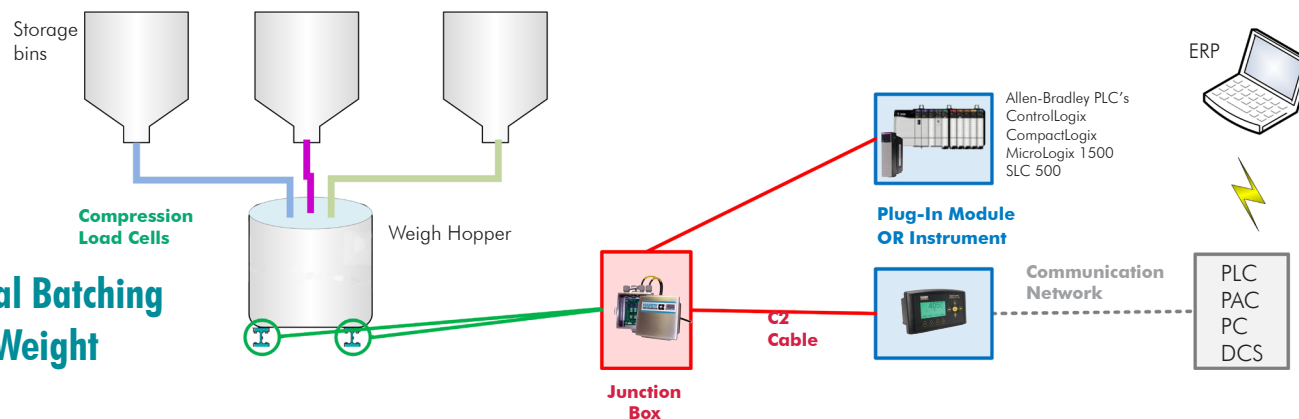
LOAD CELLS/SCALES		JUNCTION BOXES/C2 CABLE		PLC MODULES		INSTRUMENTS		COMMUNICATIONS
<b>ADVANTAGE HI LPRC03/04 Rocker</b> High capacity 16.5K lbs to 660K lbs SS or plated mounting, IP68, C2		<b>INTEGRATED TECHNICIAN (IT) Junction Box</b> Stainless, fiberglass, painted steel With and without trim pots*		<b>ControlLogix</b> HI 1756-WS - Single Scale HI 1756-2WS - Dual Scale		<b>Single Scale Controllers</b> HI 4050 Panel Mount with display (-PM) Wall Mount with display (-WM) Din Rail Blind (-DR)		EtherNet IP - Modbus TCP ControlNet - Modbus RTU DeviceNet - Remote I/O Profibus - Analog Ethernet TCP/IP
<b>ADVANTAGE HI HPLS/Beam</b> Med. to high capacity 1,125 Kilbs to 22.5K lbs SS or plated mounting, IP68, C2		<b>Junction Box (no IT)</b> Stainless, fiberglass, painted steel With and without trim pots* TB-10 model connects more than 4 load cells (*Trim pots cannot be used with C2)		<b>CompactLogix &amp; MicroLogix 1500</b> HI 1769-WS - Single Scale HI 1769-2WS - Dual Scale		HI 2151/30 Panel Mount with display (-PM) Wall Mount with display (-WM) Blind remote (-R)		Profibus - Remote I/O Analog - Serial BCD
<b>ADVANTAGE HI HPLP Low Profile</b> Med. to high capacity 1.1K lbs to 665K lbs SS or plated mounting, IP68, C2		<b>C2 Cable</b> Eight conductor 22 AWG copper - 2 excitation - 2 signal - 2 for C2 - 2 sense Designed for low voltage, load point performance characteristics and switching commands. Use from Junction Box to Weight Controller		<b>SLC 500</b> HI 1746-WS - Single Scale		<b>Multi-Scale Controllers</b> HI 3030 Full console with display (-PM) Blind remote (-R)		EtherNet IP - Modbus TCP ControlNet - DeviceNet Profibus - Analog Ethernet TCP/IP
<b>ADVANTAGE Lite Shear Beam</b> HI SB05 or HI SBH04 sensors Medium capacity 1.125K lbs to 22.5K lbs SS or plated mounting IP67		C2		<b>Micro 800</b> HI 2080-WS (EASY 8)		<b>Weight Processors</b> HI 6300 Series Blind or with monochrome display Split Screen Display Mode (HI 6310 only)		Modbus RTU Ethernet TCP/IP Analog 4-20 (HI 6310 only) Ethernet UDP
<b>ADVANTAGE Lite Double Ended Shear Beam</b> HI SBH04 or HI BBH06 Medium capacity 5K lbs to 250K lbs SS or plated mounting IP67						HI 6500 Series Blind or with monochrome display Split Screen Display Mode		EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP Analog 4-20
<b>Scales</b> <b>Hardy Floor Scale</b> 30"x 30" - 6'x 8', 1K to 10K lbs capacity SS or painted steel Smooth or diamond plate deck				<b>Modular Sensor System</b> HI 6600 Series Hardy Gateway Module plus Up to 30 Weight Processing Modules Blind or with optional multichannel display	EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP			
					<b>Weight Indicators &amp; Transmitters</b> HI 200DNWM DeviceNet weigh module	DeviceNet		

# BATCHING AND BLENDING SOLUTIONS



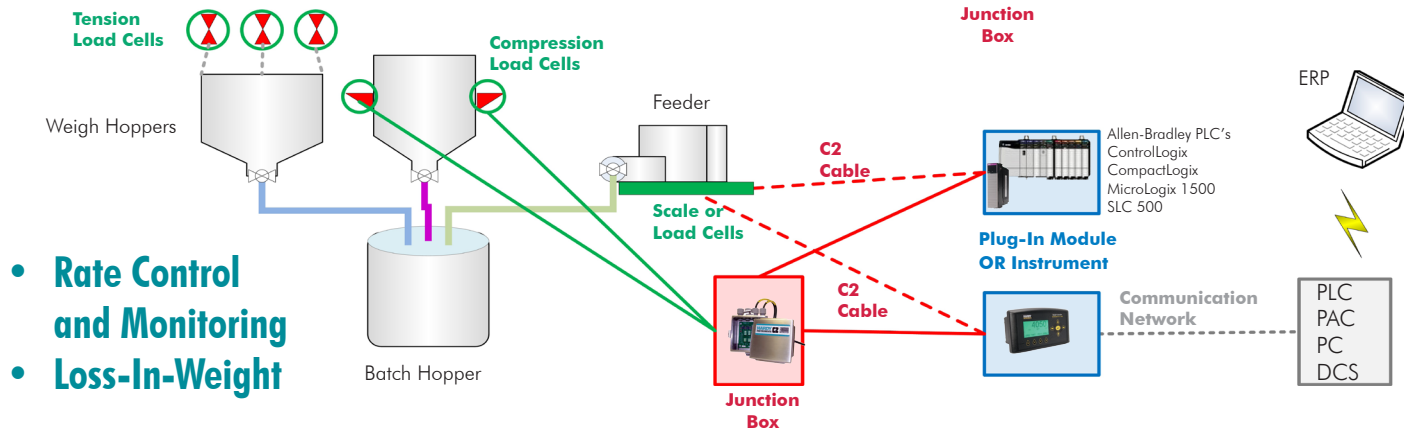
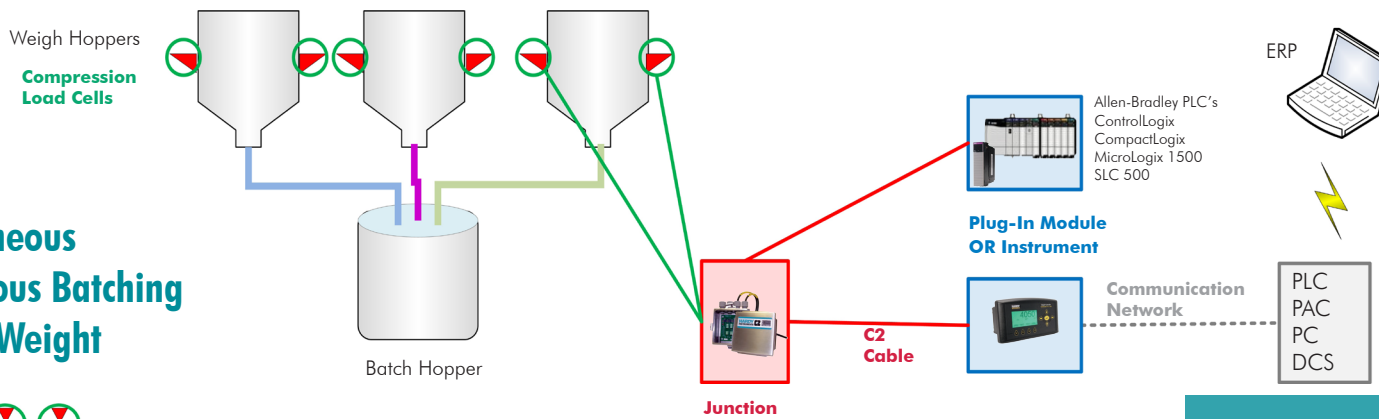
MAKE

- Sequential Batching
- Gain-In-Weight



MAKE

- Simultaneous
- Continuous Batching
- Loss-In-Weight



- Rate Control and Monitoring
- Loss-In-Weight







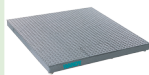















### Advantages of using Weight in Batching and Blending Systems

- Lower initial costs
- Fewer components to maintain
- Accurate recipe/level
- Quality - consistent customer satisfaction
- Legal compliance - reduced fees and compliance costs; security in continued operation



# BENEFITS OF HARDY CORE FEATURES IN BATCHING AND BLENDING

- C2 Electronic Calibration**  
Weight-Free Calibrations  
Saves Time  
Increases Safety
- IT Integrated Technician**  
Automated Diagnostics  
Reduces Downtime  
Reduces Rework
- WAVERSAVER**  
Automatic Vibration Elimination  
Higher Accuracy  
Reduces Material Waste
- WebServer**  
Open Connectivity Tools  
Saves Time  
Reduces Effort
- SMM / SMM-SD**  
Intuitive, Safe & Transferrable Set-ups  
Saves Time  
Reduces Risk

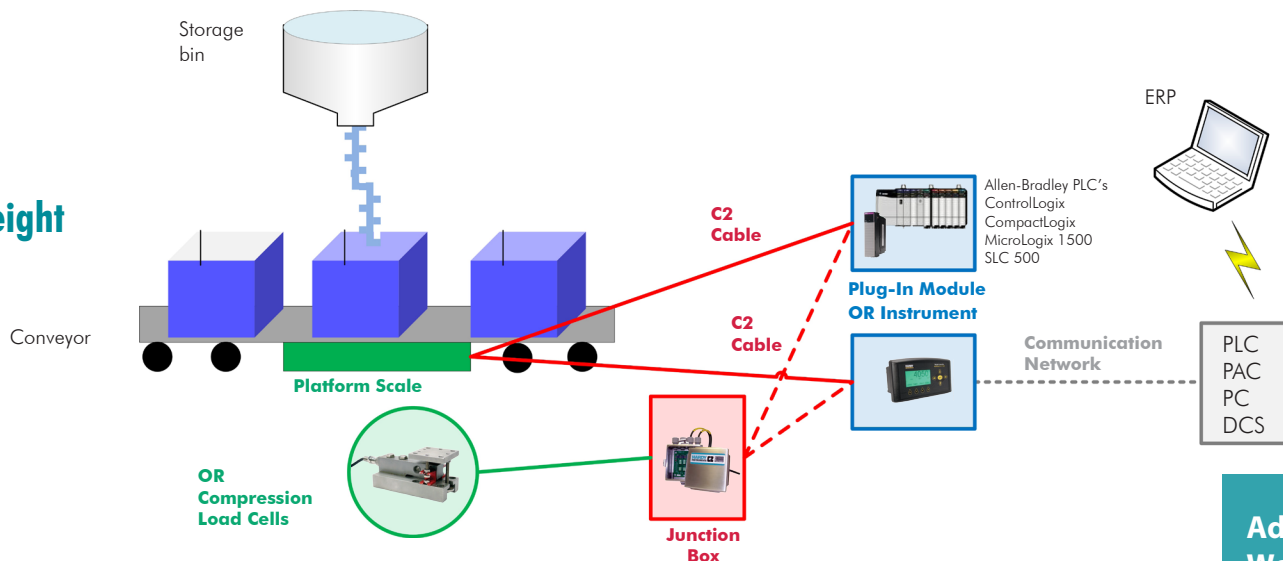
LOAD CELLS	SCALES	PLC MODULES	INSTRUMENTS	COMMUNICATIONS
<p><b>ADVANTAGE Shear Beams</b> HI LPB and HI HLPS Light to High capacity 44 lbs-22.5K lbs Stainless steel or plated mounting IP68</p> 	<p><b>Scales</b> Hardy Bench Scale 12"x12" &amp; 24"x24", 33 - 1,300 lbs. Stainless steel tops Low profile, rugged construction Enviro Scale: Washdown IS/ I,II,III / 1 / ABCDEFG</p>  	<p><b>ControlLogix</b> HI 1756-WS - Single Scale HI 1756-2WS - Dual Scale HI 1756-FC - Feeder Control HI1756nDF -Dispenser/Filler</p> 	<p><b>Single Scale Controllers</b> HI 4050 Panel Mount w/ display (-PM) Enclosure (PMWS) Wall Mount with display (- WM) Din Rail Blind (-DR)</p> 	<p>EtherNet/IP Modbus TCP ControlNet Modbus RTU DeviceNet Remote I/O Profibus Analog Ethernet TCP/IP</p>
<p><b>ADVANTAGE HI HLPT/ S-type</b> Medium capacity 225-11.25K lbs Stainless steel or plated mounting IP68 Mount Compatible with HI STH01, HI STH06 and HI STLB Sensors</p> 	<p><b>Hardy Floor Scale</b> 30"x30" - 6'x8", 1K - 10K lbs capacity Stainless or painted steel Smooth or diamond plate deck</p> 	<p><b>CompactLogix &amp; MicroLogix 1500</b> HI 1769-WS - Single Scale HI 1769-2WS - Dual Scale HI 1769-FC - Feeder Control</p> 	<p>HI 2151/30 Panel Mount w/ display (-PM) Enclosure (PMWS) Wall Mount with display (-WM) Blind remote (-R)</p> 	<p>Profibus Remote I/O Analog - Serial BCD</p>
<p><b>ADVANTAGE HI HPLP Low Profile</b> Med. to high capacity 1.1 to 665K lbs SS or plated mounting, IP68</p> 	<p><b>JUNCTION BOXES/C2 CABLE</b></p>	<p><b>SLC 500</b> HI 1746-WS - Single Scale</p> 	<p><b>Multi-Scale Controllers</b> HI 3030 Full console with display (-PM) Blind remote (-R)</p> 	<p>EtherNet/IP Modbus TCP ControlNet DeviceNet Profibus Analog Ethernet TCP/IP</p>
<p><b>ADVANTAGE Lite HI LPRE</b> Medium capacity 440 lbs -4.4K lbs Stainless steel or plated mounting IP67</p> 	<p><b>INTEGRATED TECHNICIAN (IT) Junction Box</b> Stainless, fiberglass, painted steel With and without trim pots*</p> 	<p><b>Micro 800</b> EASY 8 (HI 2080-WS)</p> 	<p><b>Rate Controller</b> HI 4060 Panel Mount with display (-PM) Wall Mount with display (- WM) Din Rail Blind (-DR)</p> 	<p>EtherNet/IP Modbus TCP ControlNet DeviceNet Profibus Analog</p>
<p><b>ADVANTAGE Lite Shear Beam</b> HI SB05 or HI SBH04 sensors Medium capacity 1.125K lbs to 22.5K lbs SS or plated mounting IP67</p> 	<p><b>Junction Box (no IT)</b> Stainless, fiberglass, painted steel With and without trim pots* TB-10 model connects more than 4 load cells (*Trim pots cannot be used with C2)</p> 	<p><b>C2 Cable</b> Eight conductor 22 AWG copper - 2 excitation - 2 signal - 2 for C2 - 2 sense</p> 	<p><b>Weight Processors</b> HI 6000 Series (HI 63X0 and HI 65X0) Blind or with monochrome display Split Screen Display Mode</p> 	<p>EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP Analog 4-20 (HI 6X10 models)</p>
<p><b>Tension Sensors</b> HI STLB Compatible with HI HLPT mounts Low to medium capacity SS IP67</p> 	<p>Designed for low voltage, load point performance characteristics and switching commands. Use from Junction Box to Weight Controller</p>	<p><b>Modular Sensor System</b> HI 6600 Series Hardy Gateway Module plus Up to 30 Weight Processing Modules Blind or with optional multichannel display</p> 	<p>EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP</p>	

# PACKAGING SOLUTIONS

- Filling
- Dispensing

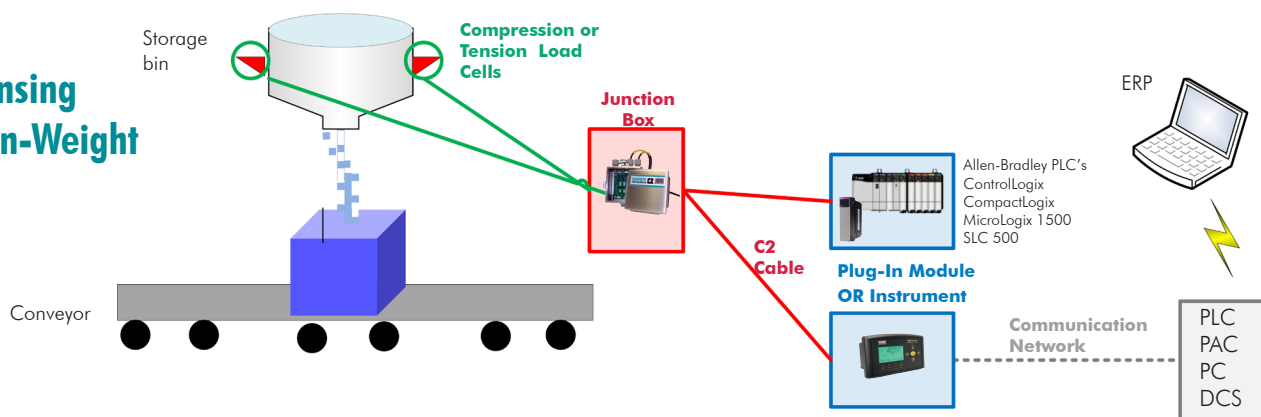


- Filling
- Gain-In-Weight



P  
A  
C  
K

- Dispensing
- Loss-In-Weight

























## Advantages of using Weight in Packaging Systems

- Lower long term costs
- Accurate weight/level
- Quality - consistent customer satisfaction
- Legal compliance - reduced fees and compliance costs; security in continued operation

# BENEFITS OF HARDY CORE FEATURES IN PACKAGING SOLUTIONS

- C2 Electronic Calibration**  
Weight-Free Calibrations  
Saves Time  
Increases Safety
- IT Integrated Technician**  
Automated Diagnostics  
Reduces Downtime  
Reduces Rework
- WAVERSAVER**  
Automatic Vibration Elimination  
Higher Accuracy  
Reduces Material Waste
- WebServer**  
Open Connectivity Tools  
Saves Time  
Reduces Effort
- SMM / SMM-SD**  
Intuitive, Safe & Transferrable Set-ups  
Saves Time  
Reduces Risk

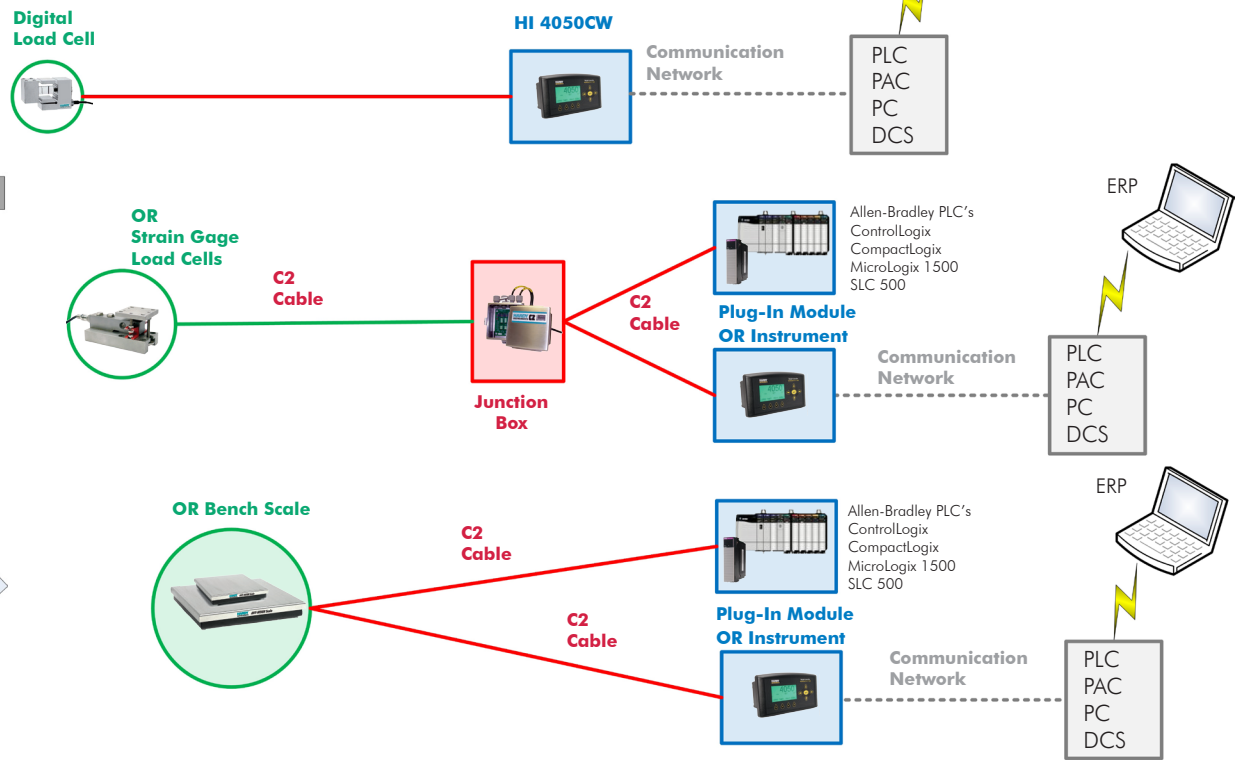
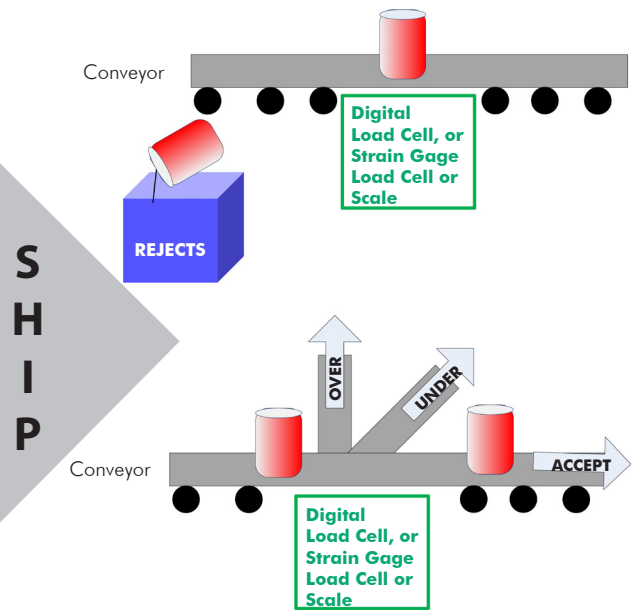
C2		C2		C2, IT, WAVERSAVER		C2, IT, WAVERSAVER, WEBSERVER, SMM		
LOAD CELLS/SCALES		LOAD CELLS/SCALES		PLC MODULES		INSTRUMENTS	COMMUNICATIONS	
<b>SINGLE POINT LOAD Cells</b> HI SP7 Light capacity 220-550 lbs Hermetically sealed, stainless steel IP69K		<b>Ultra Low Capacity Single Point</b> HI SPL Aluminum Series Super Light capacity 1.4 lbs - 440 lbs Aluminum with high precision at low capacity IP66		<b>ControlLogix</b> HI 1756-WS - Single Scale HI 1756-2WS - Dual Scale HI 1756-nDF - Dispenser/Filler		<b>Filler Dispenser/IBC</b> HI 3010 Full console with display (-PM) Blind remote (-R)		EtherNet/IP - Modbus TCP ControlNet - DeviceNet Profibus - Analog Ethernet TCP/IP
HI SP6 Light capacity 22-440 lbs Hermetically sealed, stainless steel IP68/IP69K		<b>Low Capacity Tension Load Cells</b> HI STA S Beam Alloy Steel Light to High Capacity 25 lbs to 20K lbs IP 67		<b>CompactLogix &amp; MicroLogix 1500</b> HI 1769-WS - Single Scale HI 1769-2WS - Dual Scale		<b>Single Scale Controllers</b> HI 4050 Panel Mount with display (-PM) Wall Mount with display (-WM) Din Rail Blind (-DR)		EtherNet/IP - Modbus TCP ControlNet - Modbus RTU DeviceNet - Remote I/O Profibus - Analog Ethernet TCP/IP
HI SPB1 Light to medium capacity 110 lbs - 2.2K lbs Hermetically sealed, stainless steel IP68		<b>HI STC S Beam</b> Aluminum Light Capacity 2 lbs - 44 lbs IP 67		<b>SLC 500</b> HI 1746-WS - Single Scale		HI 2151/30 Panel Mount with display (-PM) Wall Mount with display (-WM) Blind remote (-R) Stainless steel Nema 4X Enclosure (-WS)		Profibus - Remote I/O Analog - Serial BCD
HI SP1 Light capacity 16.5-440 lbs Hermetically sealed, stainless steel IP67		<b>Bench Scales</b> ANY-WEIGH 12"x12" & 24"x24" 33 - 1,300 lbs. Stainless steel tops Low profile, rugged construction		<b>Micro 800</b> EASY 8		<b>Multi-Scale Controllers</b> HI 3030 Full console with display (-PM) Blind remote (-R)		EtherNet/IP - Modbus TCP ControlNet - DeviceNet Profibus - Analog Ethernet TCP/IP
HI SPA60 Aluminum Brick Type Light to medium capacity 66 lbs - 1.65K lbs Aluminum with improved potting IP67		<b>Hardy Bench Scale</b> 12"x12" & 24"x24", 33 - 1,300 lbs. Stainless steel tops Low profile, rugged construction				<b>Weight Processors</b> HI 6000 Series (HI 63X0 and HI 65X0) Blind or with monochrome display Split Screen Display Mode		EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP Analog 4-20 (HI 6X10 models)
HI SPA42 Aluminum Light capacity 11 lbs - 440 lbs Aluminum with improved potting IP67						<b>Modular Sensor System</b> HI 6600 Series Hardy Gateway Module plus Up to 30 Weight Processing Modules Blind or with optional multichannel display		EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP
HI SPA22 Aluminum Light capacity 11 lbs - 88lbs Aluminum with improved potting IP67								
		<b>C2 CABLE</b> <b>C2 Cable</b> Eight conductor 22 AWG copper - 2 excitation - 2 signal - 2 for C2 - 2 sense Designed for low voltage, load point performance characteristics and switching commands. Use from Junction Box to Weight Controller						

# PRODUCT INSPECTION SOLUTIONS



## • Check Weighing

### • Static Check Weighing



### • Dynamic Check Weighing


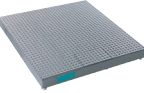
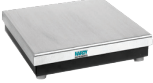















**Advantages of using Weight in Product Inspection Systems**

- Quick response time
- No need for On/Off sensors (Digital LC)
- Legal Compliance - reduced fees etc.
- Quality - consistent customer satisfaction



# BENEFITS OF HARDY CORE FEATURES IN PRODUCT INSPECTION SOLUTIONS

- C2 Electronic Calibration**  
Weight-Free Calibrations  
Saves Time  
Increases Safety
- IT Integrated Technician**  
Automated Diagnostics  
Reduces Downtime  
Reduces Rework
- WAVERSAVER**  
Automatic Vibration Elimination  
Higher Accuracy  
Reduces Material Waste
- WebServer**  
Open Connectivity Tools  
Saves Time  
Reduces Effort
- SMM / SMM-SD**  
Intuitive, Safe & Transferrable Set-ups  
Saves Time  
Reduces Risk

LOAD CELLS/SCALES		JUNCTION BOXES/C2 CABLE		PLC MODULES		INSTRUMENTS		COMMUNICATIONS
<p><b>Digital Sensor Point</b> HI DCSP Capacity 2kg-50 kg Stainless steel sensor only, IP69</p> <p><b>Scales</b> Hardy Floor Scale 30"x30" - 6'x8', 1K - 10K lbs capacity Stainless or painted steel Smooth or diamond plate deck</p> <p>Hardy Bench Scale 12"x12" &amp; 24"x24", 33 - 1,300 lbs. Stainless steel tops Low profile, rugged construction Optional Roller Top Assembly</p> <p>ANY-WEIGH Bench Scale 12"x12" &amp; 24"x24", 33 - 1,300 lbs. Stainless steel tops Low profile, rugged construction</p> <p>For Check Weighing Applications on Conveyers or Rollers, Hardy Shear Beams and Single Point load Cells are also Ideal</p>	   	<p><b>INTEGRATED TECHNICIAN (IT) Junction Box</b> Stainless, fiberglass, painted steel With and without trim pots*</p> <p><b>Junction Box (no IT)</b> Stainless, fiberglass, painted steel With and without trim pots* TB-10 model connects more than 4 load cells (*Trim pots cannot be used with C2)</p> <p><b>C2 Cable</b> Eight conductor 22 AWG copper - 2 excitation - 2 signal - 2 for C2 - 2 sense Designed for low voltage, load point performance characteristics and switching commands. Use from Junction Box to Weight Controller</p>	  	<p><b>ControlLogix</b> HI 1756-WS - Single Scale HI 1756-2WS - Dual Scale</p> <p><b>CompactLogix &amp; MicroLogix 1500</b> HI 1769-WS - Single Scale HI 1769-2WS - Dual Scale</p> <p><b>SLC 500</b> HI 1746-WS - Single Scale</p> <p><b>Micro 800 EASY 8</b></p>	   	<p><b>Single Scale Controllers</b> HI 4050 or HI 4050CW Panel Mount with display (-PM) Wall Mount with display (-WM) Din Rail Blind (-DR)</p> <p>HI 2151/30 Panel Mount with display (-PM) Wall Mount with display (-WM) Blind remote (-R)</p> <p><b>Multi-Scale Controllers</b> HI 3030 Full console with display (-PM) Blind remote (-R)</p> <p><b>Weight Processors</b> HI 6000 Series (HI 63X0 and HI 65X0) Blind or with monochrome display Split Screen Display Mode</p> <p><b>Modular Sensor System</b> HI 6600 Series Hardy Gateway Module plus Up to 30 Weight Processing Modules Blind or with optional multichannel display</p> <p><b>Weight Indicators &amp; Transmitters</b> HI 200DNWM DeviceNet weigh module</p>	      	<p>EtherNet IP - Modbus TCP ControlNet - Modbus RTU DeviceNet - Remote I/O Profibus - Analog Ethernet TCP/IP</p> <p>Profibus - Remote I/O Analog - Serial BCD</p> <p>EtherNet IP - Modbus TCP ControlNet - DeviceNet Profibus - Analog Ethernet TCP/IP</p> <p>EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP Analog 4-20 (HI 6X10 models)</p> <p>EtherNet/IP Profibus-DP Modbus RTU Modbus TCP Ethernet TCP/IP Ethernet UDP</p> <p>EtherNet IP - Modbus TCP ControlNet - DeviceNet Profibus - Analog</p>

# SELECTING LOAD CELLS

## ADVANTAGE LINE - Load Points/Sensors

Hardy's ADVANTAGE® Line load point assemblies are designed to provide exceptional performance in a safe and predictable manner. The load point consists of a precision, C2® load sensor assembled with matched mounting hardware. Each load point comes with an installation and maintenance manual which is also available for download from our Internet site at [www.hardysolutions.com](http://www.hardysolutions.com).

All Advantage sensors are designed with safe and ultimate loading limits which are the highest in the industry. The safe limit (200% of rated capacity) is that value above which some degradation of calibration can occur but with no permanent shift in performance. The ultimate limit (300% of rated capacity) is that point at which physical failure may occur. In selecting a load point, it is essential that the gross loadings that are anticipated 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 junction box and allows a load sensor to be replaced in a weigh system without the need to re-calibrate the system.

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

Free sliding Advantage mounts permit thermal expansion and contraction and are self checking with lift-off protection. With many years of process weighing experience, Hardy has incorporated mount designs into its load point assemblies to provide you with optimum performance.

## Selection of Load Points

The following steps will quickly isolate which individual load sensors 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.
2. Determine the unloaded weight of the scale structure, vessel and all equipment to be mounted (valves, gates, vibrators, etc.) on (from) 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.

$$\text{Load Sensor Capacity Range} = \frac{(\text{Dead Load} + \text{Live Load})}{\text{Number of Support Points}}$$



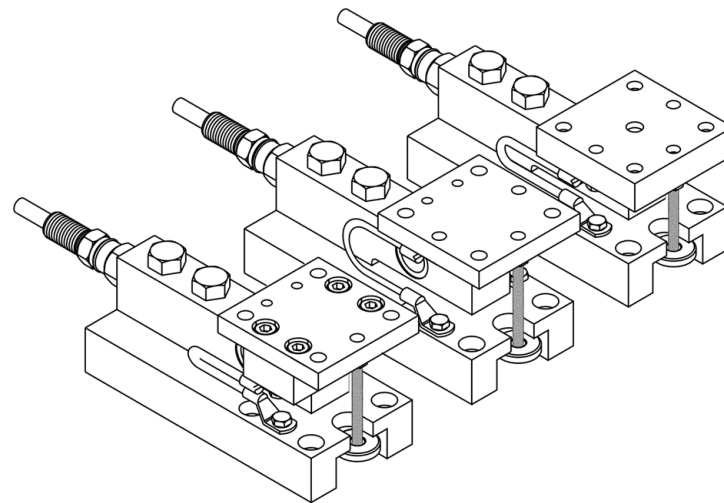
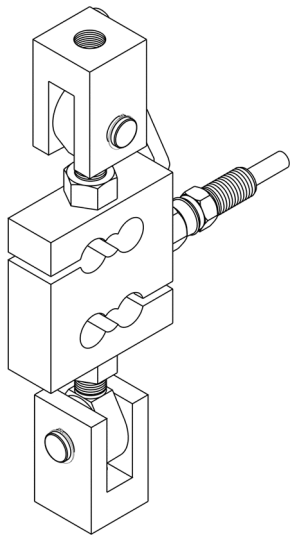
## System Selection

You can also determine the load point system required by calculating the system total load.

1. Determine whether the vessel to be weighed will be suspended in tension or set on top of the load point assemblies in compression. Count the number of support points.
2. Determine the unloaded weight of the scale structure, vessel and all equipment to be mounted (valves, gates, vibrators, etc.) on (from) 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 the system capacity.

$$\text{System Capacity} = (\text{DL}) + (\text{LL})$$

5. Based on the number of support points, use the single load point capacity and multiply those values by 3 or 4. Add a junction box and cable to interface with your instrument requirements, and your system is complete.



## Environment

The environment where the load point is to function may be a factor in selection. For example, the Advantage load sensors are designed to operate at temperatures of 175°F to -40°F; for higher temperature, special load sensors are available. Advantage sensors are hermetically sealed in the gauge area and at the cable entry allowing them to be classified at IP68. This rating provides protection from the entry of dust and the full long-term immersion in water. The sensors and mounts (-43) are made of 17-4 stainless steel, providing a high degree of chemical corrosive resistance to solvents, alkalis and acids. Even the bolts are stainless steel and are rated to meet the sensors capacity. You can select zinc-plated steel mounting hardware for less rigorous environments. The -45 series of Load Points are plated with 12-15um Electro Zinc plus Yellow Chromate Dip.

- The long-term corrosion resistance of zinc is directly proportional to thickness. Typically commercial coatings are 3-5um thick, Hardy specifies a heavier coating of 12-15um.
- The electro zinc plating is enhanced by chemical chromate passivation conversion which applies a harder surface film, referred to as ZYC (zinc yellow chromate).
- In dry indoors environments this plating's service life prior to first signs of corrosion can be greater than 20yrs.

Refer to [www.hardysolutions.com](http://www.hardysolutions.com) for PDF and CAD drawings.

**Hardy is Working to Make it EASY**

For our partners to work with us, follow our solutions strategy, select our products, communicate our value.  
 For customers to install, integrate, calibrate, operate and maintain our solutions  
**This is our mission and our end goal**

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Our belief is that SIMPLICITY delivers our promise of EASY and LEAST COST TO OWN.

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Our solutions align with our customers supply chain making it EASY for them to understand where, why and how we fit as a solution partner.

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<p>Improve your inventory management accuracy</p> <p><b>SILO &amp; TANK MEASUREMENT SOLUTIONS</b></p>	<p>Optimize your batching/ blending accuracy and throughput</p> <p><b>MATERIAL FEED BY WEIGHT AND RATE CONTROL SOLUTIONS</b></p>	<p>Tighten the tolerances on your packaging lines</p> <p><b>FILLING, DISPENSING &amp; DOSING CONTROL SOLUTIONS</b></p>	<p>Enhance your product inspection capability</p> <p><b>CHECK WEIGHING SOLUTIONS</b></p>

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