

**RICE LAKE**<sup>®</sup>  
WEIGHING SYSTEMS

To be the best by every measure<sup>®</sup>

# Load Cell and Weigh Module Selection Guide



At Rice Lake our goal is to be the best by every measure. When all else is equal, three things will make your experience with us distinctly different. Service. Selection. Speed.

Our roots are planted firmly in the principles of quality and customer service. Through three generations of family ownership these ideals remain unchanged. As an international leader in the manufacture and distribution of weight-related products and process-control equipment, our experts know load cells and are here to guide you to the right one. Only Rice Lake has the world's largest selection of load cells and mounts, including Rice Lake, Vishay Celtron, Vishay BLH, HBM, Flintec, Interface, Vishay RTI, Vishay Sensortronics and Vishay TedeA-Huntleigh.

This brochure is a condensed version of Rice Lake's full load cell and weigh module product offering. The entire selection can be found through our website and our annually published Load Cell Guide—one of the most utilized resources in the weighing industry; complete with dimensional drawings, technical specifications, wiring codes and load ratings. To obtain Rice Lake's Load Cell Guide, contact our literature coordinator at 800-472-6703, or download a PDF version from our website, [www.ricelake.com](http://www.ricelake.com).

## **Rice Lake Contact Information:**

### **To place an order:**

Toll Free USA:  
**800-472-6703**

Email:  
**orderdesk@ricelake.com**

Telephone:  
**715-234-9171**

Internet:  
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Toll Free Canada/Mexico:  
**800-321-6703**

24-hour Fax:  
**715-234-6967**

### **Technical Support:**

Technical Support:  
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Service, Repairs,  
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**800-472-6703**  
**service.rlws@ricelake.com**

Canada & Mexico  
Technical Support:  
**800-321-6703**

Customer Assistance and Service Department hours  
Weekdays: 6:30 AM to 6:30 PM (Central Time)  
Saturday: 8:00 AM to 12:00 PM (Central Time)  
Customer service available in English, Spanish, and French

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# Selecting Load Cells & Weigh Modules

## Be Confident You are Installing The Best

Rice Lake Weighing Systems' experienced engineering and design staff deliver high-quality weigh modules and load cells. We consider factors such as working environment, loading conditions and other design specifications to give you simply the best.

We offer over 20 different mount styles, including waterproof-guaranteed modules. Coupled with our outstanding selection of load cells manufactured to the highest quality standards, our mounts come complete with everything you need backed by unbeatable support to help you get it done.

## Custom Load Cell and Mount Specialists

Rice Lake Weighing Systems offers the most comprehensive selection of load cells, mounts and sensors available. We also understand that you may have unique requirements for custom-built products. If you don't see what you need in our catalog, call us to take advantage of the many special services Rice Lake Weighing Systems has to offer:

- Customized load cells and mounts
- Special coatings – SURVIVOR® coating for use in hazardous chemical environments
- Customized cable lengths
- Special cable – PTFE load cell cable for harsh environments

# Choosing the Correct Weigh Module

The wide variety of weigh modules we manufacture and distribute may leave you wondering what the differences are between certain models and, most importantly, which modules are best suited for your needs. Most operations can be classified into three application categories:

- Suspended Weighing
- Vessel Weighing
- Truck Scale Weighing

## Complete Mounting Kits

Complete mounting kits are available with our weigh modules, simplifying the selection and installation processes. Each kit comes with a detailed installation manual and an analog junction box with cable assembly, eliminating the need to order separate parts.

All standard weigh module kits include the require load cell(s), junction box, mounting hardware and cable, but can be customized to meet your exact needs.



# Suspended Weighing

Suspended weigh modules support load cells that are hung vertically and measure through tension, such as in suspended hoppers. Suspended weigh modules are available in stainless or mild steel.

## **ITCM Series (Isolated Tension Cell Modules)**

Featuring a clevis and rod-end ball-joint assembly, the ITCM mount is half the overall length of traditional s-beam tension mounts. This unique design consistently corrects loading alignment, even in difficult applications. The load cell is completely isolated from stray currents using PTFE-lined rod ends and a grounding strap which provides an alternative path to ground. Use in single- or multiple-module configurations. Most capacities are NTEP approved.

### **Series**

100 to 20,000 lb  
(45.4 to 9071.9 kg)

### **Stainless Steel**

100 to 5,000 lb  
(45.4 to 2268 kg)

### **Stainless Steel HE**

500 to 5,000 lb  
(226.8 to 2268 kg)



# Vessel Weighing

Available in either stainless or painted mild steel, Rice Lake carries a variety of models and configurations for weighing tanks, vessels and other fixed containers.

## EZ Mount 1 Series

Utilizing a unique self-checking sliding-pin design, the EZ Mount 1 allows for thermal expansion and contraction and controlled scale-deck movement with minimal friction. FM approved load cells make this module ideal for intrinsically safe, explosion-proof, and medium- to heavy capacity tank and hopper functions. EZ Mount 1 Series is available in stainless steel and hermetically sealed variations as well as an NTEP Certified mild and stainless steel design.

### Mild/Stainless Steel

5,000 to 150,000 lb (2268.0 to 68,040 kg)

## RL1600 Series

The RL1600 is a low-profile, bolt-in-place model for mounting directly to a tank without additional mounting plates or load buttons. Self-checking movement tolerates thermal expansion and contraction and provides lift-off protection. RL1600 Series is well-suited for medium-to heavy-capacity tanks, bins, hoppers and general dry ingredient and bulk material management.

### Cast Iron

1,000 to 25,000 lb (453.6 to 11,340 kg)

### Mild/Stainless Steel

1,000 to 75,000 lb (453.6 to 34,019.5 kg)

## RL9000 TWM Series

The low-profile, IP67-rated, RL9000 TWM maximizes space and offers an all-in-one package with optimal top plates to minimize installation time. This module delivers accurate readings even while off level as much as 3 degrees. RL9000 TWM has self-centering in all directions with 100% uplift protection that provides extreme durability.

### Mild Steel

150,000 to 450,000 lb (68,040 to 204,120 kg)

### Stainless Steel

1,000 to 100,000 lb (453.6 to 45,359.4 kg)

## RL9000 TWM-HT

Rice Lake's RL9000 TWM-HT adds an enhanced FEP cable with special strain gauges and other components that protect in temperatures as high as 400°F.



# Vessel Weighing

## **SURVIVOR® RL1700 HE**

This all stainless steel, weldless self-checking design guarantees reliable, waterproof performance. With a hermetically sealed IP66/68-rated stainless steel load cell, the SURVIVOR RL1700 HE is perfect for light- to medium-capacity needs of today's industrial food processors. Adjustable jacking/shipping bolts easily secure the top mounting plate away from the load cell to make installation and service fast and simple. The SURVIVOR RL1700 HE is NTEP and OIML approved.

### **Stainless Steel**

11 to 11,023.1 lb (5 to 5,000 kg)

## **RL1800 Series**

Combining self-checking and multi-directional movement capabilities, the RL1800 tolerates platform and tank movement in all directions. The center-pivoted, tension-loading design incorporates spherical washers for self-centering. A load is suspended on a high-strength bolt instead of the traditional wire rope, providing added durability. The RL1800 is NTEP and OIML approved.

### **Plated Mild/Stainless Steel**

250 to 10,000 lb (113.4 to 4535.9 kg)

## **RL1900 Series**

The stainless steel RL1900 Series Weigh Module Kit utilizes several Rice Lake Weighing Systems components to provide an unmatched level of performance. The RL1900 Kit is ideally suited for tank, hopper and bin weighing operations with medium-range capacities. Each module combines multi-directional movement and self-checking capabilities. The welded-seal stainless steel load cell withstands corrosive washdown environments. The RL1900 Series is NTEP and OIML approved.

### **Stainless Steel**

1,000 to 10,000 lb  
(453.6 to 4535.9 kg)



# Vessel Weighing

## MVS Truck/Track/Horizontal-Tank Module

Built to withstand the most punishing environments, MVS mounts use center-loaded double-ended shear beam load cells to eliminate the need for costly check rods. The result is a pendulum effect that removes binding, protects the load cell from damaging side loads and automatically returns the scale to dead center. The mild steel MVS is easy to install and promises high performance and long life.

### NTEP Certified

20,000 to 125,000lb (4536 to 56,700kg)

## RL50210 TA Mini Tank and Conveyor Modules

The RL50210 TA is a cost-effective solution for indoor applications with low checking requirements and moderate shock. This popular design utilizes neoprene isolation/compression mounts, allowing for minor misalignments, expansion, contraction and shock absorption. RL50210 TA is available in either stainless steel or zinc-plated mild steel and is NTEP Certified in most capacities.

### NTEP Certified

1000 to 2,500lb (22.7 to 1134.0 kg)

### Overload Stop Modules

500 lbs (226.8 kg) and up

## Paramounts® Series

Choose the Paramounts design for superior accuracy in applications with expansion, contraction and vibration. By adding up to six free-sliding modules, these systems offer the free motion to eliminate side loads and the strength to keep the vessel intact. Jacking/shipping bolts prevent accidental lift-off and allow for quick installation or service to load cells. Most capacities are NTEP Certified.

### Mild Steel EP

1,125 to 22,500 lb  
(5103 to 10,215 kg)

### Stainless Steel HE/Mild Steel HS

520 to 22,500 lb  
(236.1 to 10,215 kg)



# Truck Scale Weighing

These modules are best suited for weighbridge designs but meet the needs of a broad range of industrial scale applications.

## TSA Truck Scale Assembly

The TSA Truck Scale Assembly incorporates a unilink suspension design that checks lateral movement of the assembly and allows for controlled floating of the scale deck. Together the TSA mount and double-ended shear beam load cell eliminate the need for troublesome check rods, links, expansion assemblies and other peripheral hardware. Constructed of durable cast iron and steel with a primer coating.

### Series

10,000 to 75,000 lb (4536 to 34,019.4 kg)

### NTEP Certified

20,000 to 75,000 lb (9071.9 to 34,019.4 kg)

## MVS Truck/Track/ Horizontal-Tank Module

Built to withstand the most punishing environments, MVS mounts use center-loaded double-ended shear beam load cells to eliminate the need for costly check rods. The result is a pendulum effect that removes binding, protects the load cell from damaging side loads, and automatically returns the scale to dead center. The mild steel MVS is easy to install and promises high performance and long life.

### Series

10,000 to 125,000 lb (4536 to 56,700 kg)

### NTEP Certified

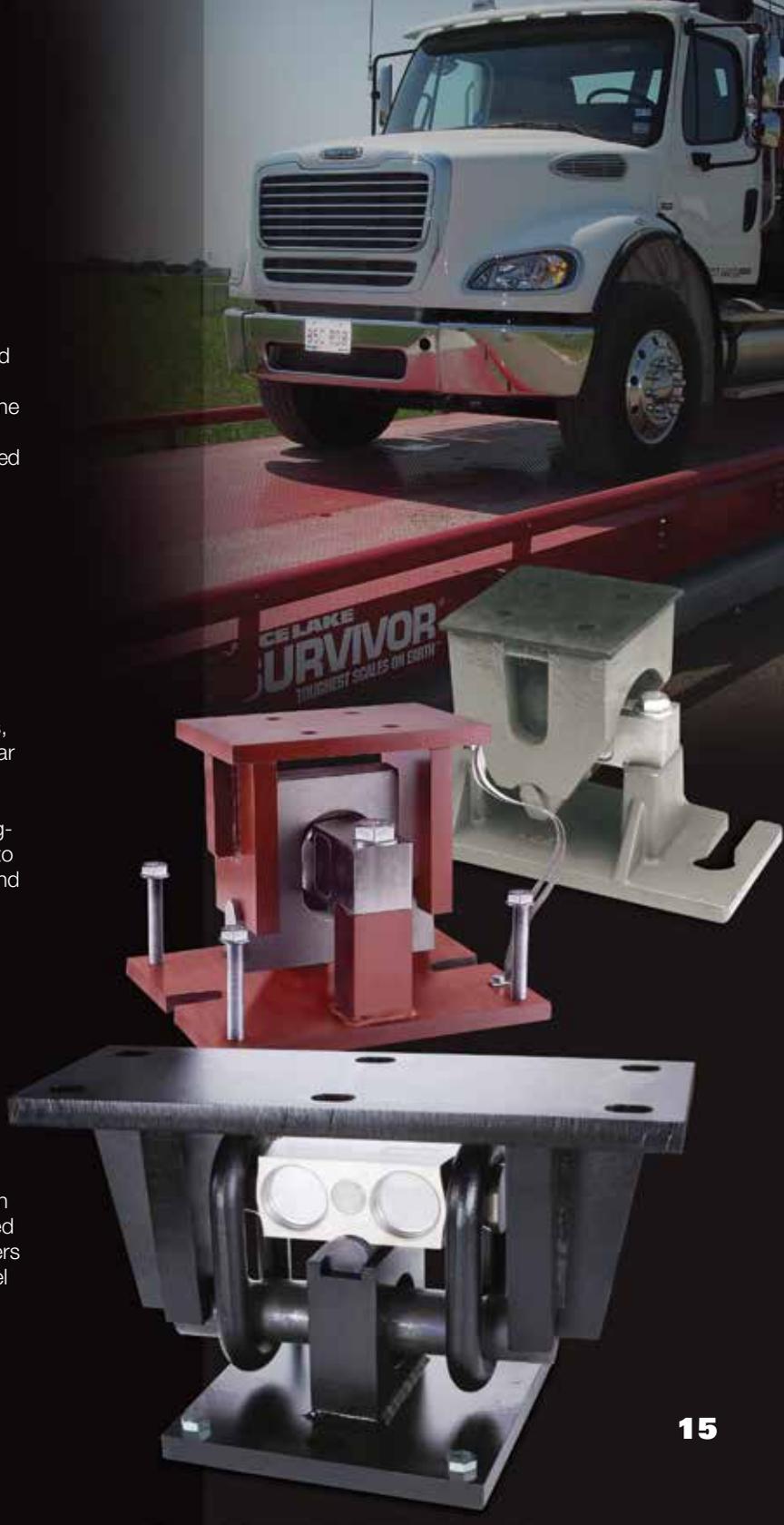
20,000 to 125,000 lb (9071.9 to 56,700 kg)

## Translink™ Truck Scale Assembly

The TRANSLINK parallel-link truck scale assembly permits free movement in all directions on a horizontal plane while the pendulum action of the links quickly return the scale to center. No need for costly check rods; simply install platform bumpers and forget about over-travel. This painted alloy-steel assembly is ideal for heavy-capacity weighbridges and horizontal tanks.

### Series

25,000 to 100,000 lb (11,339.8 to 45,359.4 kg)



# Load Cells

With the largest selection of quality load cells available in stock, nobody offers faster, more reliable service. Whether you need a replacement load cell or a load cell for a unique application, we've got a solution to fit any need. Our knowledgeable customer service representatives can answer your questions and help you select the best load cell for any application from tank and hopper weighing, to bulk material management, to mechanical scale conversions.

## Load cells can be categorized into the following types:

### • Single Point

Single point load cells are similar to single-ended beams but designed for lighter capacity applications such as bench scales. Single point load cells are most commonly constructed of aluminum with capacities ranging from 1 to 1,000 kg.

### • Double-Ended Beam

A double-ended beam load cell is secured at both ends with the load applied to the center. Double-ended beam load cells come in a variety of construction with capacities ranging from 1,000 to 250,000 lb.

### • Single-Ended Beam

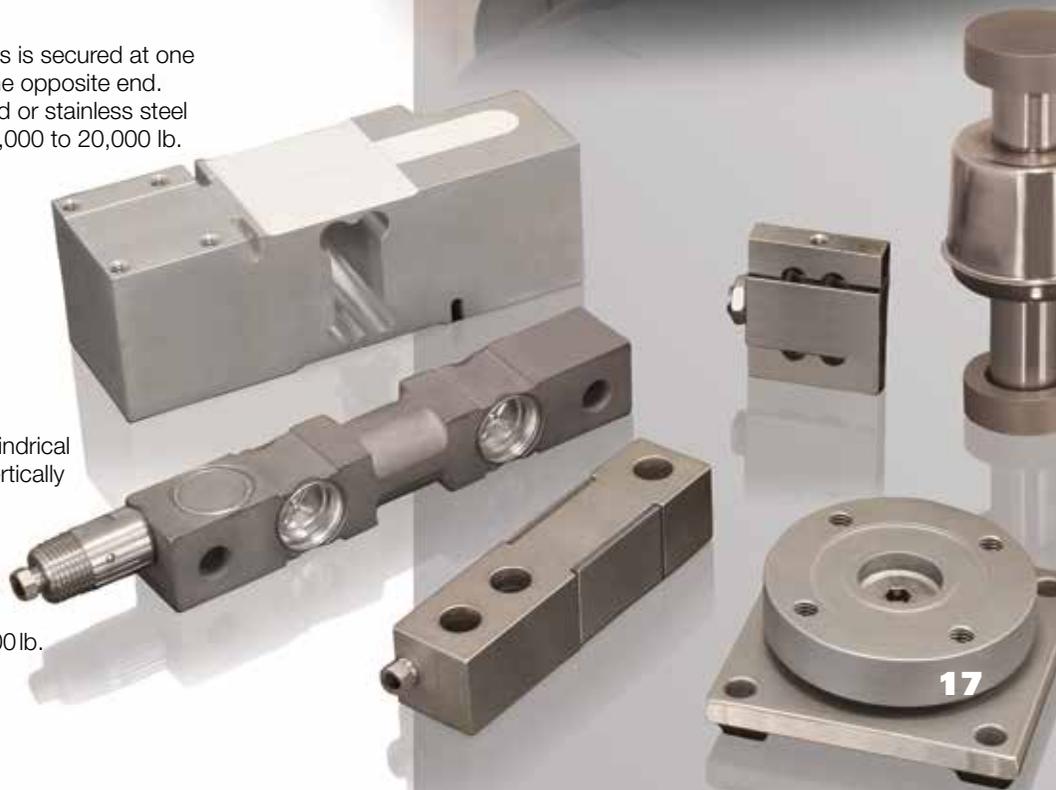
A single-ended beam load cell is secured at one end with the load applied to the opposite end. Construction can either be mild or stainless steel with capacities ranging from 1,000 to 20,000 lb.

### • S-Beam

S-beam load cells are most commonly used to suspend a weighing vessel with tension applied through stretching. Capacities typically range from 25 to 40,000 lb.

### • Canister Type

Canister type load cells are cylindrical load cells with force applied vertically in tension or compression. These load cells are ideal for heavy-capacity and environmentally demanding applications with capacities ranging from 20,000 to 500,000 lb.



# Single Points

## RLSP4 Series

A low-profile model popular in retail, postal and platform scale applications, this aluminum load cell is moment compensated for guaranteed accuracy. Gauge-coating compound protects against high-humidity environments. The RLSP4 includes 3.3 ft/1 m of load cell cable. Most capacities are NTEP Certified.

### Series

3 to 100 kg (6.6 to 220.5 lb)

## RLPWM15HE Series

This IP69K-rated, hermetically sealed, stainless steel model is NTEP Certified and perfect for the stringent demands of industrial food processors and other washdown applications. RLPWM15HE includes 10 ft/3.1 m of load cell cable.

### Series

10 to 100 kg (22 to 220.5 lb)

## RLPWM16 Series

This aluminum single-point with potted cavity is IP67 rated and NTEP Certified for excellent performance in damp environments. It meets the needs of heavier applications with 10 ft/3.1 m of load cell included.

### Series

50 to 635 kg (110.2 to 1455.5 lb)



# Double-Ended Beams

## RL70000 Series

A center loading double-ended beam for tank and hopper applications, this high accuracy, low-profile shear-beam design with redundant sealing is unaffected by side load forces. The NTEP Certified RL70000 Series comes complete with 30 ft/9.2 m load cell cable.

### Alloy Steel

5,000 to 250,000 lb (2268.0 to 113,400 kg)

### Stainless Steel

5,000 to 150,000 lb (2268.0 to 68,038.9 kg)

## RL75016 Series

The RL75016 Series is a center loading double-ended beam for tank and hopper applications that features stainless and mild steel construction as well as hermetic sealing for hostile environments. This load cell comes complete with 25 ft/7.6 m of load cell cable. The RL75016 Series includes the alloy-steel RL75016, stainless steel RL75016 SS, and the stainless/welded-seal, hostile-environment RL75016 WHE.

### Series

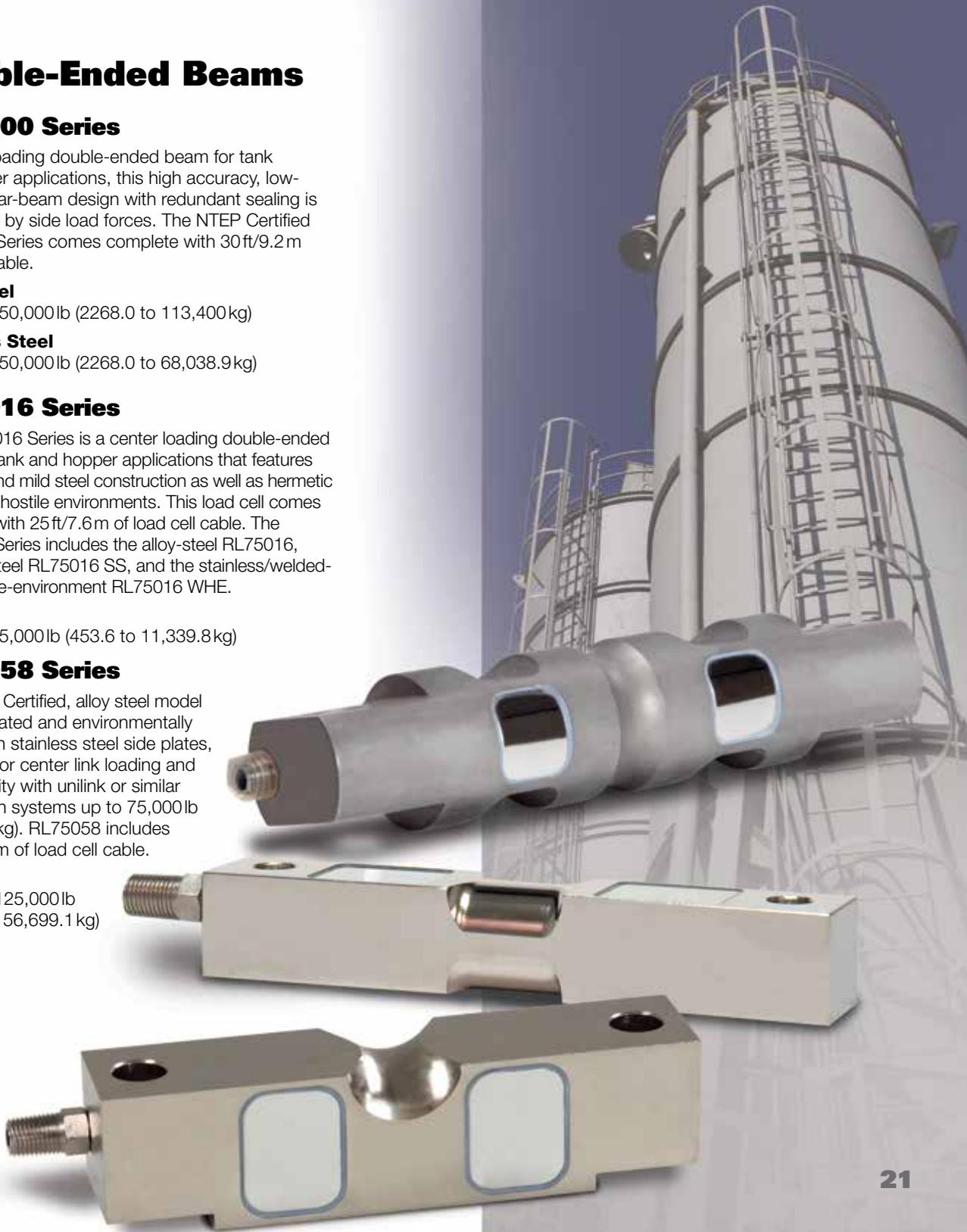
1,000 to 25,000 lb (453.6 to 11,339.8 kg)

## RL75058 Series

This NTEP Certified, alloy steel model is nickel plated and environmentally sealed with stainless steel side plates, designed for center link loading and compatibility with unilink or similar suspension systems up to 75,000 lb (34,019.4 kg). RL75058 includes 35 ft/10.7 m of load cell cable.

### Series

20,000 to 125,000 lb  
(9071.9 to 56,699.1 kg)



# Single-Ended Beams

## RL35023 Series

Single-ended beams are designed for low-profile scales in a variety of process applications. RL35023 includes 20 ft/6.1 m of load cell cable.

### Alloy Steel

500 to 20,000 lb (226.8 to 9071.9 kg)

### Alloy/Stainless Steel NTEP Certified

1,000 to 10,000 lb (453.6 to 4535.9 kg)

## RL35082 Series

This stainless steel, welded-seal design is NTEP Certified for exceptional performance in food and chemical processing. RL35082 comes complete with 20 ft/6.1 m of cable and is available in both IP67 and fully hermetic IP66/68 versions. The threaded load hole makes mounting easy in single- or multiple-cell installations.

### Stainless Steel

1,000 to 10,000 lb (453.6 to 4535.9 kg)

## RLHBB

Stainless steel construction, hermetic sealing and a polyurethane-shielded cable help the RLHBB function flawlessly in harsh environments. THE RLHBB is traditionally used in low-profile platforms, weighing and packing machines, electromechanical conversions and general-purpose weighing applications. RLHBB includes 10 ft/3.1 m of load cell cable and is NTEP Certified and OIML approved in most capacities.

### Stainless Steel

5 to 500 kg (11.0 to 1102.3 lb)



# S-Beams

## RL20000 Series

The IP67-rated RL20000 Series is equipped to handle damp operating environments with ease and is NTEP Certified in most capacities. Each s-beam load cell includes 20ft/6.1 m of load cell cable. Environmentally sealed models include the alloy-steel RL20000, stainless steel RL20000 SS, stainless steel RL20000 ST, and the alloy-steel RL20001. Also available is the stainless steel, welded-seal RL20001 HE.

### Series

50 to 20,000lb (22.9 to 9071.9kg)



## Canister Type

### RLCSP1

#### Compression Canister

This high-capacity cell is built with reliability, durability and precision in mind. RLCSP1 offers welded-seal, stainless steel construction for demanding vehicle-scale and process applications. This load cell is NTEP Certified and comes standard with 30ft/9.2m of load cell cable.

#### Stainless Steel

25,000 to 200,000lb  
(11,339.8kg to 90,718.5kg)



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