

Load Cell Weigh Modules

FEATURES

- Capacity range: 500, 1.25K, 2.5K, 5K, and 10K lb (227, 567, 1.13K, 2.27K, and 4.5K kg)
- High-grade, welded, stainless-steel load beams (1.25K to 10K lb)
- Sealed to IP67 standards for washdown service
- Fixed, full-floating, and semi-floating mounting
- NTEP Certificate of Conformance
- FM and CSA approved

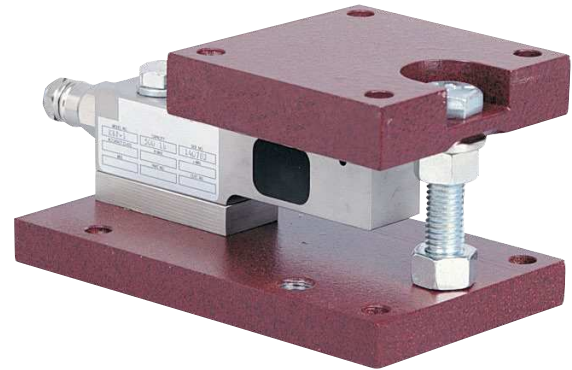
APPLICATIONS

- Storage tank weighing
- Bin/hopper scale conversion
- Level system measurement
- Platform scales

DESCRIPTION

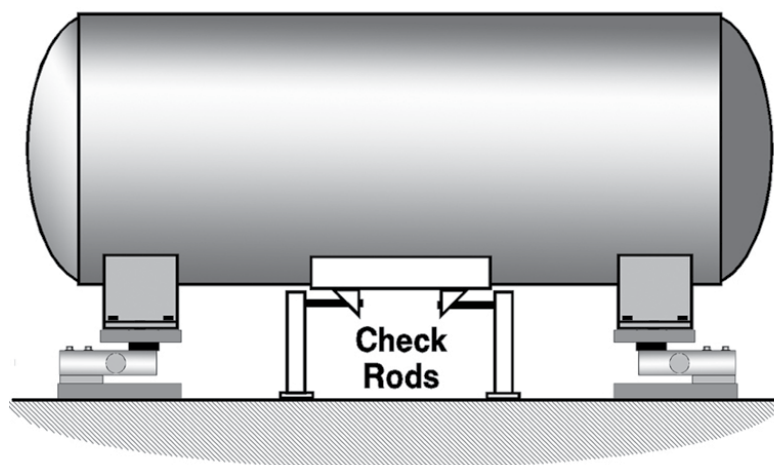
BLH Nobel EconoMount Weigh Modules are well suited for general industrial applications that require retrofitting an existing structure or hopper into a scale. The EconoMount System uses a stainless steel beam transducer coupled with fixed, full-floating, or semi-floating mounting hardware. The combination of all three types, under a structure, results in a checkless system that also can accommodate moderate degrees of thermal expansion and contraction.

EconoMount units come in standard capacity ranges of 500, 1.25K, 2.5K, 5K, and 10K pounds with either painted



alloy (standard) or stainless steel (optional) mounting hardware. Load beam sealing meets NEMA 4 and IP67 requirements. EconoMount 1.25K through 10K pound modules are NTEP Certified for Class III and IIIL scale systems.

CONFIGURATION



Load Cell Weigh Modules

MODULE CONFIGURATION ADVANTAGES

The BLH Nobel EconoMount System consists of three types of module mounting hardware. Each three or four support weigh system consists of a combination of fixed, semi-floating, and full-floating mounting hardware types. The full combination results in a checkless weigh system that accommodates moderate amounts of thermal expansion and contraction.

Fixed Mounting Modules

The fixed type mounting module design restricts movement in both horizontal directions while allowing a moderate degree of mounting plate angular movement to accommodate construction variances. This module type is installed on only one support to provide a fixed system 'anchor'.

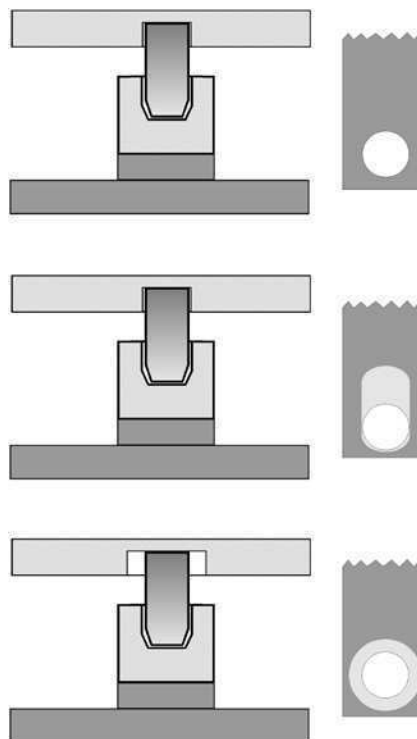
Semi-Floating Modules

The semi-floating module design restricts lateral horizontal movement, but allows radial horizontal movement and a moderate degree of mounting plate angular movement to accommodate construction variances. This module type is installed at one support only to provide a guide for thermal expansion and contraction.

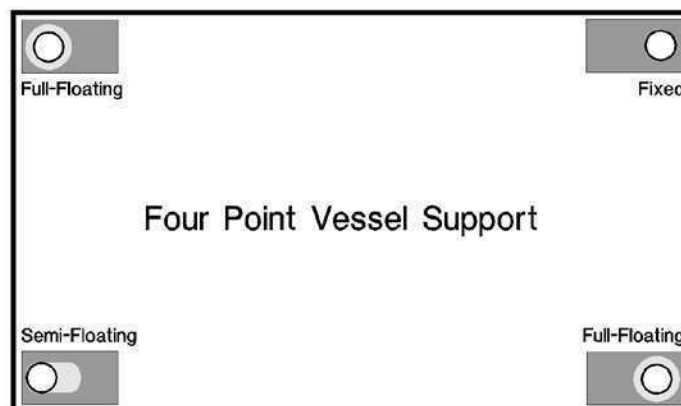
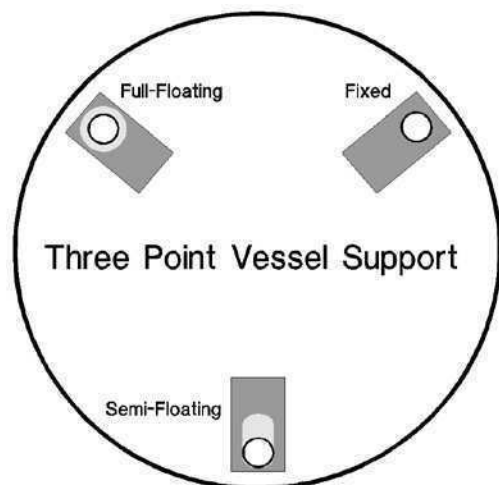
Full-Floating Modules

The full-floating module allows movement in both horizontal directions and angular movement of the mounting plate. At least one, full-floating module is needed in each system to accommodate thermal expansion and contraction in all directions.

All three module types use the same load beams, base plates, and assembly bolts. All types also conform to the same outline dimensions and performance specifications.



RECOMMENDED MOUNTING ARRANGEMENTS



Load Cell Weigh Modules

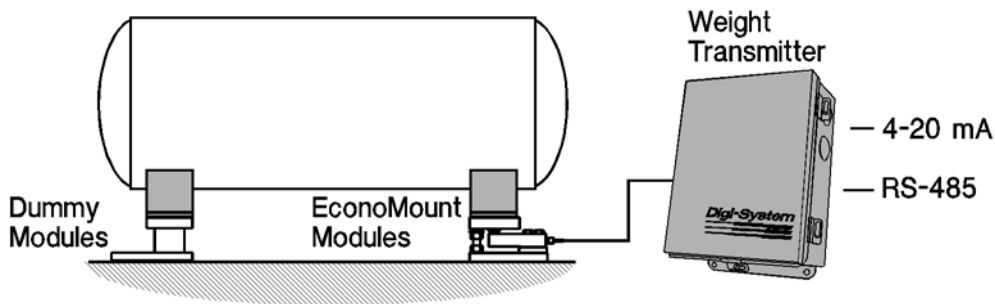
LEVEL SYSTEM APPLICATIONS

Installing a load cell under only one or two supports of a vessel results in an inexpensive, non-intrusive, highly reliable method of measuring level. Weight or mass is an inherently more accurate means of measuring vessel contents because it is independent of the vessel shape, temperature, and specific gravity of the contents. The non-contact nature of the measurement and proven reliability of a strain gage based transducer results in significantly lower maintenance costs as compared to other level measurement technologies.

EconoMount Weigh Modules are a good choice for partially supported weigh systems for level measurement applications. The full-floating and semi-floating hardware accommodate moderate degrees of vessel thermal expansion and contraction without error while dummy (or simulated) modules are available for feed installation at non-instrumented vessel supports.

Symmetrical, level vessels with self-leveling liquids or solids and minimal connected piping can achieve accuracies of better than 0.5%.

On three point support systems, we recommend the use of a single, full-floating module and two dummy modules. On four point support systems, one full-floating, one semi-floating, and two dummy modules are recommended.



ORDERING CODES

EconoMount Three Support Tank Sets Consisting Of: 1 Full Floating Module, 1 Semi-Floating Module, 1 Fixed Module

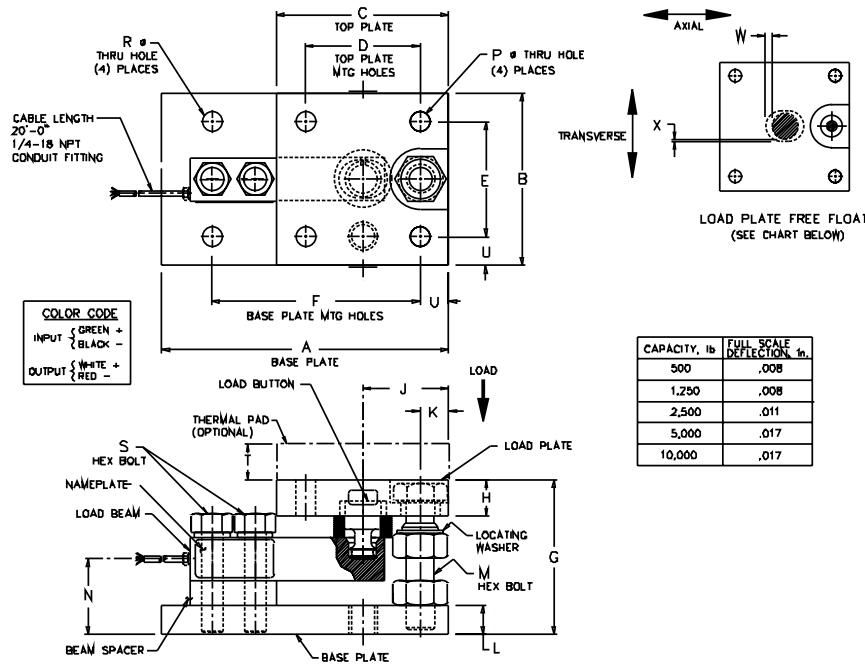
| Model Number | Cell Capacity | System Capacity | Painted Steel PN | Stainless Steel PN | Painted Dummy PN | Stainless Dummy PN |
|-----------------|---------------|-----------------|------------------|--------------------|------------------|--------------------|
| EM-P/S-3L-500 | 500 lb | 1.5K lb | 469282 | 469338 | 469364 | 472798 |
| EM-P/S-3L-1.25K | 1.25K lb | 3.75K lb | 469283 | 469339 | 469364 | 472798 |
| EM-P/S-3L-2.5K | 2.5K lb | 7.5K lb | 469284 | 469340 | 469364 | 472798 |
| EM-P/S-3L-5K | 5K lb | 15K lb | 469285 | 469341 | 469364 | 472798 |
| EM-P/S-3L-10K | 10K lb | 30K lb | 469893 | 469897 | 472765 | 472799 |

EconoMount Four Support Tank Sets Consisting Of: 2 Full Floating Modules, 1 Semi-Floating Module, 1 Fixed Module

| | | | | | | |
|-----------------|----------|--------|--------|--------|--------|--------|
| EM-P/S-4L-500 | 500 lb | 2K lb | 469288 | 469344 | 469364 | 472798 |
| EM-P/S-4L-1.25K | 1.25K lb | 5K lb | 469289 | 469345 | 469364 | 472798 |
| EM-P/S-4L-2.5K | 2.5K lb | 10K lb | 469290 | 469346 | 469364 | 472798 |
| EM-P/S-4L-5K | 5K lb | 20K lb | 469291 | 469347 | 469364 | 472798 |
| EM-P/S-4L-10K | 10K lb | 40K lb | 469895 | 469889 | 472765 | 472799 |

Load Cell Weigh Modules

OUTLINE DIMENSIONS



| LOAD PLATE FREE FLOAT | | |
|---------------------------|---------|--------------|
| CAPACITY (lbs) | W AXIAL | X TRANSVERSE |
| 500 ¹ to 5,000 | FIXED | ±0 |
| | SEMI | ±1/8 |
| | FULL | ±1/8 |
| 10,000 | FIXED | ±0 |
| | SEMI | ±5/16 |
| | FULL | ±3/16 |

| CAPACITY, lb | FULL SCALE DEFLECTION, in. |
|--------------|----------------------------|
| 500 | .008 |
| 1,250 | .008 |
| 2,500 | .011 |
| 5,000 | .017 |
| 10,000 | .017 |

| COMPONENT | MATERIAL | |
|-----------------|------------------------|--------------------------------------|
| | PAINTED | LOAD CELL STAINLESS STEEL |
| BEAM SPACER | 304 | 304 |
| LOCATING WASHER | STAINLESS STL | STAINLESS STL |
| LOAD BUTTON | 17-4 PH | 17-4 PH |
| LOAD BEAM | STAINLESS STL | STAINLESS STL |
| LOAD PLATE | PAINTED | CL 304 |
| BASE PLATE | 1018 STEEL | STAINLESS STL |
| HEX BOLTS (M) | ZINC PLATE | 18-8 STAINLESS STL |
| HEX BOLTS (S) | ZINC PLATE SAE GRADE 5 | 410 STAINLESS STL ASTM A193 GRADE B6 |

| CAPACITY (lbs) | A | B | C | D | E | F | G | H | J | K | L | M | N | P | R | S | T | U | WEIGHT APPROX (lbs) |
|----------------|----|-------|-------|-------|-------|------|-------|-------|-------|-----|-----|--------|-------|-------|-------|--------|-----|-----|---------------------|
| 500-5000 | 8 | 4 1/2 | 4 1/2 | 3 1/2 | 3 1/2 | 6 | 4 1/8 | 1.0 | 2 1/4 | 5/8 | 3/4 | 5/8-11 | 1.8 | 7/16 | 7/16 | 1/2-20 | 1.0 | 1/2 | 16 |
| 10,000 | 10 | 6 | 6 | 4 | 4 | 7.25 | 5 3/8 | 1 1/4 | 3.0 | 1.0 | 1.0 | 1-8 | 2 5/8 | 11/16 | 11/16 | 5/4-10 | 1.0 | 1.0 | RES |

Load Cell Weigh Modules

| SPECIFICATIONS | | |
|-------------------------------------|---|----------------------------|
| PARAMETER | VALUE | |
| PERFORMANCE | | |
| Capacities | 500, 1.25K, 2.5K, 5K, 10K lb (227, 567, 1.13K, 2.27K, 4.5K kg) | |
| Rated output (RO) | 2.0 mV/V (±0.25%) | |
| Repeatability | 0.01% RO | |
| Combined error | 0.02% RO (beam only), 0.10% module assembly | |
| Zero balance | 1.0% RO | |
| Creep (30 minutes) | 0.024% RO | |
| Temperature effects on zero balance | 0.0012% RO/°F | |
| Temperature effects on rated output | 0.0008% Load/°F | |
| ELECTRICAL | | |
| Recommended excitation | 10 VDC (15 VDC max.) | |
| Input resistance | 350 Ω (±7) | |
| Output resistance | 350 Ω (±5) | |
| Cable length | 20 ft, 4-conductor cable | |
| TEMPERATURE | | |
| Safe temperature | -58 to +149°F | |
| Compensated range | +14 to +104°F | |
| PARAMETER | VALUE | |
| ADVERSE LOAD RATINGS | | |
| Safe overload | 150% rated capacity | |
| Safe sideload | 100% rated capacity | |
| Ultimate overload | 300% rated capacity | |
| MATERIAL | | |
| | Painted | Stainless |
| Load beam | 17-4 PH stainless steel* | 17-4 PH stainless steel |
| Load button | 17-4 PH stainless steel | 17-4 PH stainless steel |
| Bases and load plates | painted steel** | high grade stainless steel |
| Beam spacer | 304 stainless steel | 304 stainless steel |
| Locating washer | 304 stainless steel | 304 stainless steel |
| SEALING | | |
| Load beam | NEMA 4 and IP67 | |
| DEFLECTION | | |
| 500 lb | 0.013 in | |
| 1.25 to 5K lb | 0.017–0.025 in | |
| 10K lb | 0.025–0.035 in | |

* 500 lb beam—alloy tool steel, electroless nickel plated

** single component, waterborne polyurethane copolymer—high gloss

BLH Nobel is continually seeking to improve product quality and performance. Specifications may change accordingly.

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