



# MB<sub>SE</sub>

## LOW CAPACITY WEIGH MODULE

### *applications*

- Compression Measurements
- Tank, Bin and Hopper Weighing
- Mixer and Blender Weighing
- In-Motion/Conveyor Weighing
- OEM and VAR Solutions

### *features*

- 50 to 500 lbs. Capacities
- Excellent Performance
- 0.03% Accuracy Class
- Steel or Stainless Steel Versions
- Shock/Vibration Isolation Mount
- Self-Checking
- Easy Installation
- IP65/IP67 Environmental Sealing
- Matched Output Sensitivities
- Two Year Warranty

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#### *application tip:*

The Model *VB3* load cell features *VITON*<sup>®</sup> Fluoroelastomer Seals. It is rated for moderate Washdown and for Corrosive Environments.

The MBse Series is a "small-envelope" high performance, low profile weigh module constructed of steel (MB1se), or stainless steel (MB3se). The MBse Series is designed to accurately measure compression loads in capacities ranging from 50 lbs. to 500 lbs. The integral Model VB load cell features a unique "dual-guided" cantilever design, resulting in reduced sensitivity to off-center and side loading effects. The neoprene load receiver reduces the effects of shock loading, vibration and thermal expansion, and accommodates minor misalignment with vessel supports. The MB1se is sealed to IP65. The MB3se exceeds the IP67 rating (thoroughly sealed against airborne particles and the effects of immersion up to 1 meter.) by virtue of proprietary, composite environmental barriers, including *VITON*<sup>®</sup> Fluoroelastomer Seals to protect the strain gage area and the cable entry, both high failure mode areas in competitive versions of this load cell. The cable is a durable PE/PVC DuoWrap<sup>®</sup> cable, with a tin-copper braided shield for mechanical protection and to minimize the effects of RFI and EMI. The attributes of the MBse Series make it an ideal choice for weighing small vessels, e.g. reactors, mixers and blenders, as well as for material handling and O.E.M. weighing situations where a well-sealed, compact, low capacity and high performance weigh module solution is needed.



*VB3 Bending Beam*

*Innovative Measurement Solutions*





performance

Featuring Model VB3  
Stainless Steel Load Cells

|                          |                             |
|--------------------------|-----------------------------|
| Rated capacities (lbs.): | 50, 75, 100, 150, 250 & 500 |
| Rated output (FSO)       | 3 mV/V ±0.25%               |
| Combined error           | ≤ 0.03 % FSO                |
| Non-linearity            | ≤ 0.03 % FSO                |
| Hysteresis               | ≤ 0.02 % FSO                |
| Non-repeatability        | ≤ 0.01 % FSO                |
| Creep (20 minutes)       | ≤ 0.03 % of load            |
| Zero balance             | ≤ 2 % FSO                   |
| Zero Return (20 minutes) | Better than 0.01 % FSO      |

mechanical

|                     |  |
|---------------------|--|
| Load Cell Material: | Alloy steel (MB1 <sub>se</sub> )<br>17-4ph Stainless steel (MB3 <sub>se</sub> )  |
| Load Cell Finish:   | Electroless nickel (MB1 <sub>se</sub> )<br>Electro-polished (MB3 <sub>se</sub> ) |
| Mount Material:     | Mild steel (MB1 <sub>se</sub> )<br>Stainless steel (MB3 <sub>se</sub> )          |
| Mount Finish:       | Plated (MB1)<br>Bead Blasted (MB3 <sub>se</sub> )                                |
| Safe overload       | Compression/Tension: 150% FSO<br>Side load: 50% FSO                              |
| Ultimate overload   | Compression/Tension: 300% FSO<br>Side load: 100% FSO                             |
| Weight              | 3 lbs.   |

electrical

|                       |   |
|-----------------------|---|
| Input impedance       | 350 ohms (NOMINAL)  |
| Output impedance      | 350 ± 3 ohms  |
| Insulation resistance | >5000 Megohms @ 50VDC   |
| Excitation Voltage    | 10 V AC/DC (15 V maximum)   |
| Cable Color code:     | + Excitation (red)<br>- Excitation (black)<br>+ Output (green)<br>- Output (white)<br>Shield (bare) |
| Cable type            | 4-conductor; 22 AWG; tin-copper,<br>braided shield; polyurethane jacket                             |
| Cable termination     | Finished conductors   |

environmental



|                          |   |
|--------------------------|---|
| Temperature, operating   | 4 to +140 °F (-20 to +60°C)   |
| Temperature, compensated | 14 to +104 °F (-10 to +40°C)  |
| Temperature effects:     | Zero < 0.0015% FSO/°F<br>< 0.0026% FSO/°C<br>Output < 0.0008% of Rdg./°F<br>< 0.0014% Rdg./°C |
| Sealing                  | IP65 (MB1); IP67 (MB3 <sub>se</sub> )   |

options

Special cable lengths, MS connectors, Hi-Temperature operation, Control Instrumentation and Unique Mount Requirements.

dimensions

