

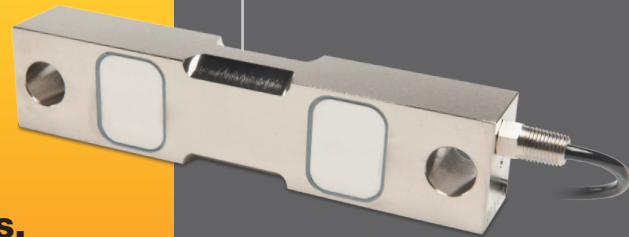


## Dual Shear Beam Load Cell

# WA Series

**The WA Series is a rugged, high performance load cell constructed of steel or hermetically sealed stainless steel. The WA Series is designed to accurately measure compression loads ranging from 0-1000 lbs. to 0-100,000 lbs.**

The WA Series is an extremely rugged, high performance load cell constructed of steel (WA1), and hermetically sealed stainless steel (WA4). The WA Series load cells are designed to accurately measure compression loads in capacities ranging from 0-1,000 lbs. to 0-200,000 lbs. The robust, rectangular Dual Shear Beam design readily tolerates angular, eccentric and side loading effects, with minimal sensitivity to these anomalies. This load cell is available as Harsh Environment Sealed (IP67-Limited Immersion), Hostile Environment Sealed (IP66-High Pressure Jets) or Hermetically Sealed (IP68-Continuous Immersion) by virtue of proprietary, multi-redundant barriers uniquely integrated to protect all internal components. The WA4 hermetically sealed version uses suitable conduit and the standard cable conduit adapter. The cable is a durable polyurethane-jacketed cable, with a tinned-copper braided shield for mechanical protection and to minimize the effects of RFI and EMI. The WA Series output sensitivities are held to a close tolerance to facilitate summing in multiple load cell applications. The attributes of the WA Series make it ideal for inventory monitoring, tank/bin/hopper and reactor weighing, bulk material handling, web tension and steel coil weighing applications, as well as for O.E.M. situations.



### APPLICATIONS

- Compression Measurements
- Tank, Bin and Hopper Weighing
- Mixer and Blender Weighing
- Bulk Material Inventory/Processing
- Silo/Large Vessel Weighing
- Web Tension Measurements

### FEATURES

- 1,000 to 100,000 lbs. Capacities
- Dual Shear Beam Technology
- 0.03% Accuracy Class
- Steel or Hermetically Sealed Stainless Steel
- High Eccentric Load Tolerance
- Companion Weigh Modules
- Matched Output Sensitivities
- IP66/67/68 Environmental Sealing
- Two Year Warranty



For more information call **1-888-545-8988**

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# WA Series Specifications

Innovative Measurement Solutions



## PERFORMANCE

Rated capacities <sup>(1)</sup> (lbs.) (WA1) 1K, 1.5K, 2K, 3K, 5K, 10K, 15K, 25K, 35K, 50K, 75K, 100K  
(WA4) 1K, 1.5K, 2.5K, 5K, 10K, 15K, 25K, 35K, 50K, 60K, 75K, 80K, 100K

Rated Output (FSO) 3 mV/V

Output Tolerance  $\pm .25\%$  R.O.

Combined Error Band  $\leq 0.03\%$  FSO (WA1) /  $\leq 0.07\%$  FSO (WA4)

Non-Linearity  $\leq 0.03\%$  FSO (WA1) /  $\leq 0.07\%$  FSO (WA4)

Hysteresis  $\leq 0.03\%$  FSO (WA1) /  $\leq 0.07\%$  FSO (WA4)

Non-Repeatability  $\leq 0.02\%$  FSO (WA1) /  $\leq 0.01\%$  FSO (WA4)

Side Load Rejection Ratio 500:1

Zero balance  $\pm 1\%$  FSO

Creep (20 minutes) 0.03 % of Load

<sup>(1)</sup> ("K" = thousand)

## MECHANICAL

Material Alloy tool steel (WA1)  
17-4ph Stainless Steel (WA4)

Finish Electroless nickel plated (WA1)  
Bead Blasted (WA4)

Safe overload Compression 150 % FSO  
Side Load 100% FSO

Ultimate overload Compression 300% FSO  
Side Load: 150% FSO

Deflection See Dimensions Page

Weight See Dimensions Page

Mounting Bolt Torque [Torque Table](#)

## ELECTRICAL

Input Impedance 770  $\pm$  10 ohms (WA1), 700  $\pm$  14 ohms (WA4)

Output Impedance 700  $\pm$  5 ohms (WA1), 703  $\pm$  4 ohms (WA4)

Insulation Resistance >5000 Megohms @ 50VDC

Excitation Voltage 10 V AC/DC (15 V maximum) WA1,  
10 V AC/DC (25 V maximum) WA4

Cable Color Code  
+ Excitation (red)  
- Excitation (black)  
+ Signal (green)  
- Signal (white)  
Shield (natural)

Cable Type 4-conductor, 26 AWG, Polyurethane Jacket,  
Tinned Copper Braid, Diameter: 0.187"

Cable Length See Dimensions Table

Cable Termination Finished Conductors

Cable Seal Compression Gland Fitting

## ENVIRONMENTAL

Temperature, Operating -4 to +140 °F (-20 to +60°C)

Temperature, Compensated 14 to +104 °F (-10 to +40°C)

Temperature, Storage -60 to +185 °F (-50 to +85°C)

Temperature Effects Zero < 0.0015% FSO/°F  
< 0.0026% FSO/°C

Temperature Effects Output < 0.0008% of Rdg./°F  
< 0.0014% Rdg./°C

Sealing IP67, Dust and Limited submersion (WA1)  
IP66; Multi-redundant; High Pressure  
Resistant, IP68; Multi-redundant; Continuous  
Immersion Tolerance (WA4)

FM Approval  
Intrinsically Safe: Class I, II, III; Div.1 Groups A-G  
Non-Incendive: Class 1; Div.2 Groups A-D

# WA Typical System Configuration

## SENSING LOAD CELL(S)



## SIGNAL CONDITIONING

Analog Transmitters



Serial Transmitters



Digital Indication



Process Control



Batch Control



Data Acquisition



## OUTPUT OPTIONS

0-5 VDC

0-10VDC

$\pm 5$  VDC

$\pm 10$  VDC

4-20 mA

0-20 mA

RS-232

RS-422

RS-485

20 mA Serial Loop

Ethernet

Profibus DP

DeviceNet

CANOpen

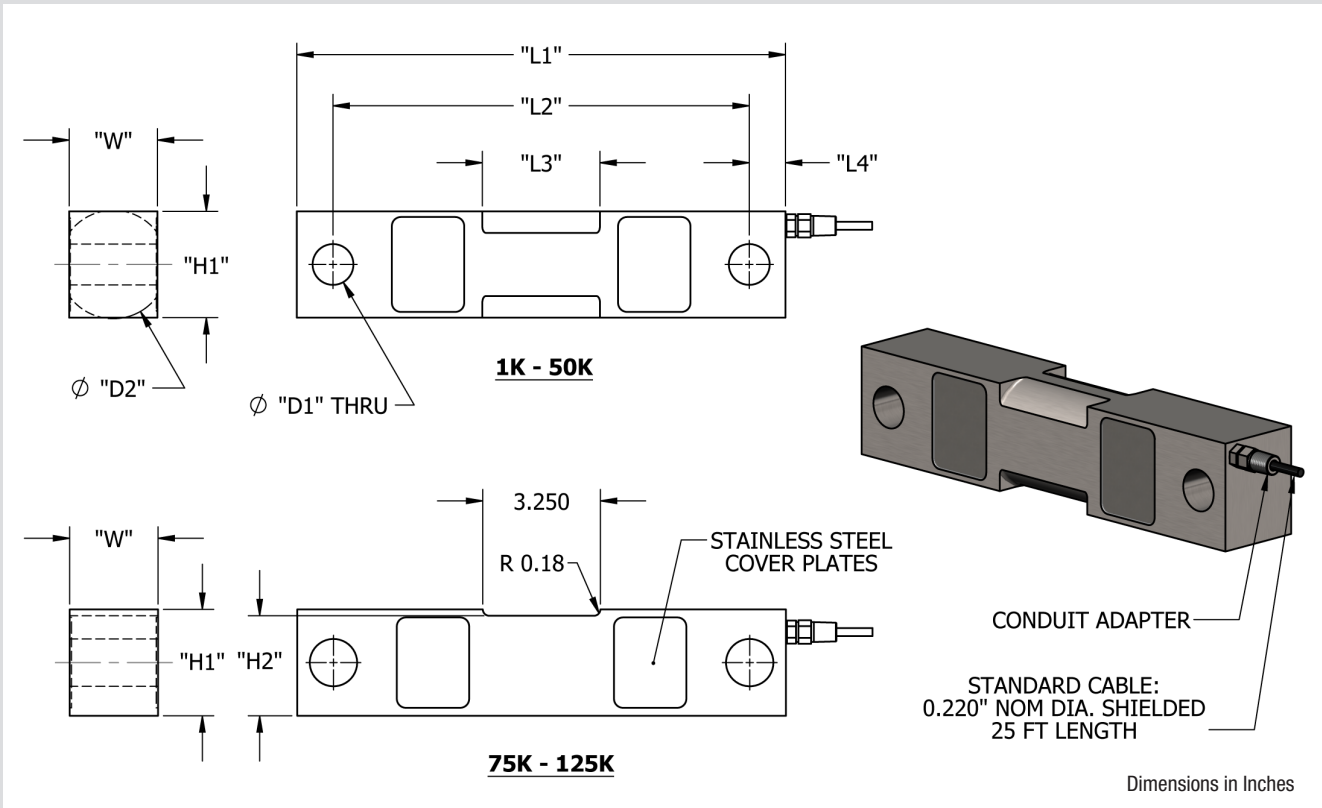
ControlNet

Modbus RTU

Wireless

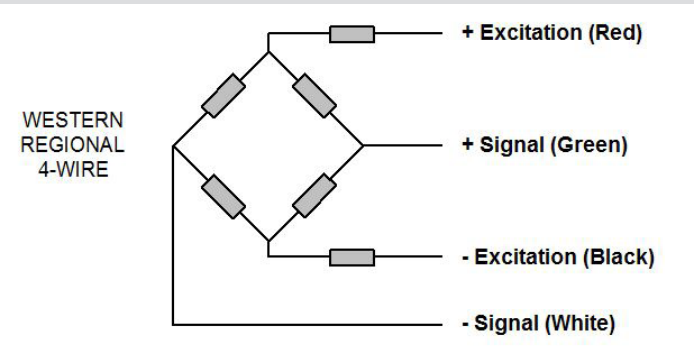
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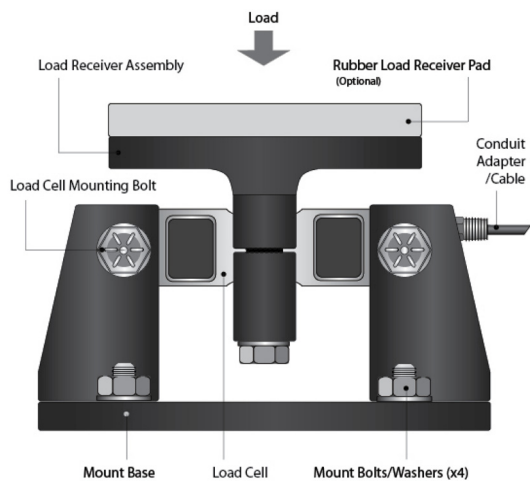
Capacity (LB)	H1	H2	W	L1	L2	L3	L4	D1	D2	Conduit Adapter	Deflect	Weight
DIMENSIONS (INCHES)												
1K, 1.5K, 2.5K, 5K	1.25	-	1.25	7.50	6.25	1.22	0.63	0.50	1.25	1/4-18 NPT	0.025"	3.0 LBS
10K, 15K, 20K, 25K	1.94	-	1.44	8.75	7.50	1.62	0.63	0.81	2.00	1/4-18 NPT	0.030"	7.0 LBS
35K	2.50	-	1.50	8.75	7.50	1.81	0.63	0.81	2.50	1/4-18 NPT	0.032"	10.0 LBS
50K	2.94	-	2.44	13.50	11.50	3.25	1.00	1.31	3.00	1/2-14 NPT	0.035"	25.0 LBS
75K	2.94	2.76	2.44	13.50	11.50	3.25	1.00	1.31	-	1/2-14 NPT	0.040"	25.0 LBS
100K, 125K	3.94	3.69	2.94	18.50	15.00	3.25	1.75	1.63	-	1/2-14 NPT	0.043"	60.0 LBS

## WA Wiring Diagram

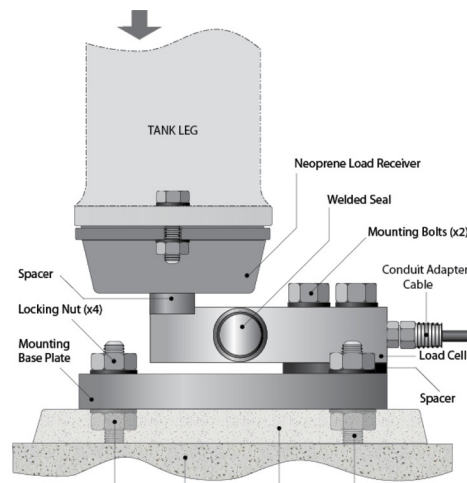




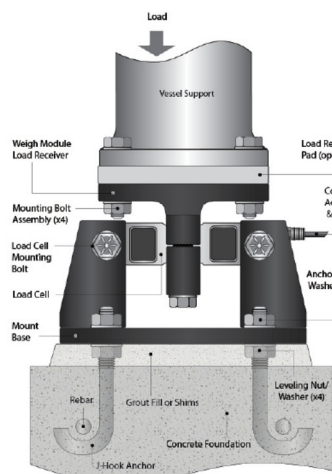
## Weigh Module Components (MC)



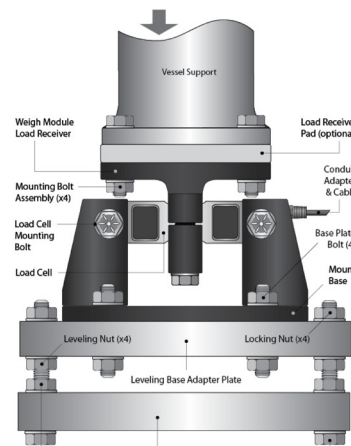
## Bin Weighing (MC)



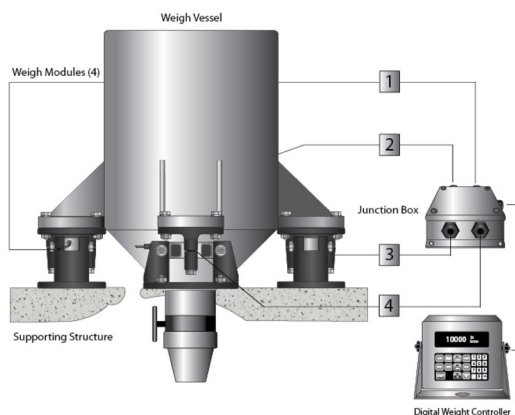
## Floor/Footer Installation Components (MC)



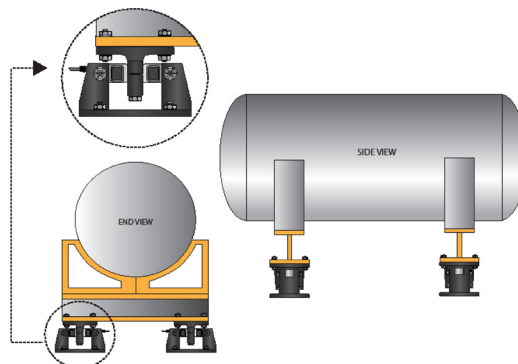
## I-Beam Installation Components (MC)



## Weighing System Components (MC)



## Horizontal Tank



## Legal Disclaimer



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