

EMC Vessel Weighing Systems

Weighing offers high accuracy and repeatability when measuring the contents of tanks, silos and other vessels.

EMC's Vessel Weighing products combine to provide simple and economical systems which are supported by EMC's extensive experience, and essential specialist engineering advice to ensure a successful installation.

Typical installations include the weighing and supporting of large milk powder and flour silos, vegetable oil tanks, small tanks for mixing and batching applications, hygienic and hazardous environments, etc.

The size and type of vessel, its support structures and pipe connections, movement during filling, environmental aspects, etc, are all factors that have to be considered in the design of a Vessel Weighing System, as they can have a significant impact on the accuracy and reliability.

As an aid to ensuring each system meets requirements, customers will generally be asked to complete EMC's Vessel Weighing Technical Questionnaire covering all the relevant factors. Please request a copy on the enquiry sheet.

Loadcell Mounts

Loadcell Mounts provide a ready-made solution for tank and vessel weighing.

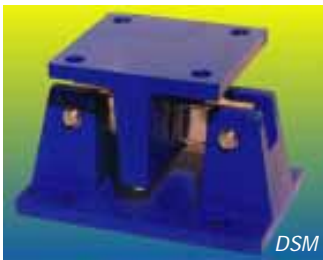
In many applications, installation is simply a case of bolting the Mount between the floor and vessel leg, however, some installations require more engineering to ensure reliability and accuracy.

For best accuracy we usually recommend that one Mount is installed on each leg of the vessel (e.g. for a 2 tonne vessel with 4 legs we suggest 4 x 500kg capacity mounts).

A variety of Loadcell Mounts are available, each designed for different applications:



Wastewater Treatment Plant Sludge Tank



DSM Mounts

Designed for large vessels with built-in vertical and horizontal seismic restraints. Suitable for vessels that are subject to movement or agitation.

- Capacities from 450kg to 34 tonne
- Powder Coated or Welded Sealed Stainless Steel models available
- Matched outputs for multiple loadcell arrangements
- Double ended shear-beam loadcells, high 3mV/V output, accuracy: $\pm 0.03\%$



Stabiflex Mounts

Fully stainless steel and zinc plated steel Stabiflex-F Mounts are ideal for vessel weighing in standard, hygienic, Ex rated, wash down and harsh environments.

- Capacities from 100kg to 5 tonne
- Provides excellent vessel stability
- Integrated ball and cup decoupling system enables quick loadcell replacement
- Stainless Steel Bending Beam loadcells, 2mV/V output, accuracy: $\pm 0.033\%$



Silokit Mounts

The Silokit-R is an economical alternative to the DSM Mount with lower accuracy. Suitable for large vessels with no movement or agitation.

- Capacities from 5 tonne to 30 tonne
- Stainless Steel construction
- Lift-off prevention and resistant to lateral forces
- Stainless Steel Compression loadcells, 2mV/V output, accuracy: $\pm 0.05\%$



Isoflex Mounts

Isoflex Mounts are designed for medium sized Tanks and Hoppers in general industrial situations where no movement or agitation occurs.

- Capacities from 250kg to 2 tonne
- Zinc plated steel plates with rubber pad for vibration and shock absorption
- Stainless Steel Shear Beam loadcells, 3mV/V output, accuracy: $\pm 0.017\%$



Rubberkit Mounts

Designed for small Vessels the compact Rubberkit-FX provides easy installation and accurate weighing.

- Capacities from 20kg to 200kg
- Stainless steel upper and lower plates
- Upper plate includes rubber support to compensate for any misalignment
- Stainless Steel Bending Beam loadcells, 2mV/V output, accuracy: $\pm 0.033\%$

EMC Vessel Weighing Systems

EMC ModWeigh MW61 Weigher System

EMC ModWeigh MW61 Weigher Systems utilise digital technology to provide users with a modular system that is highly accurate, cost-effective and easy to use.

The MW61 can be used with any loadcell based weighing system such as Silo and Tank Weighing, Batch Weighing and Platform Scales.

The unit is fully digital with no potentiometers or DIP switches. Basic calibration is done by pushbutton on the unit, or full calibration facilities are achieved remotely using the EMC MW99d3 Weight Indicator.

When calibrated remotely, the calibration may be done by entering loadcell capacity and sensitivity which allows the calibration of systems without the use of test weights. No need to empty the vessel, do a tare, refill the vessel, etc.

For multiple vessels, the Modbus interface enables economical installation of several transmitters, with just a single indicator necessary for calibration and set-up.

ModWeigh is 12-24Vdc powered and analogue outputs are standard.



MW61 P-Module



MT4 Transmitter:
4 loadcell terminals, 1 digital input,
2 digital outputs and one 4-20mA output



MW99d3 Weight Indicator



Liquid Storage Tanks

Each ModWeigh system includes:

MW61 P-Module

A removable module that plugs in to the transmitter module. It determines the device functions and holds calibration settings.

A programmed P-Module can simply be plugged into a new unit at any time and the calibration settings are automatically loaded - no time-consuming configuration of the instrument is necessary.

Transmitter

Four versions, with up to 8 digital inputs and 8 digital outputs, are available, in either DIN rail or Field housings.

Indicator

The MW99d3 Weight Indicator displays the weight, setup and calibration, and also provides a status display of the operating system.

It features a LCD graphics display with easy to use menu selection.

Accessories

A variety of connectors, cables and options for system optimisation.

ModWeigh Key Features

- Digital high accuracy design (no pots or DIP switches)
- Excitation for up to 10 x 350Ω loadcells
- 6 or 4 wire loadcell connection
- Update rate 100 times per second
- 4-20mA output is standard
- Removable P-Module holds calibration settings
- Up to 8 digital inputs and 8 digital outputs
- Field software upgrades

Loadcells

Only the highest quality loadcells, from the world's leading manufacturers, are fitted in EMC Mounts to ensure the best in reliability and accuracy (from $\pm 0.03\%$).

Capacities range from 25kg to 34 tonne or more, and models include double-ended shear beam, standard shear beam, compression, S-beam, bending beam, etc.

Loadcells are available in various materials such as Tool Steel and Stainless Steel and with specifications to suit the specific application and environment, e.g:

- IP66/68 sealed models for hygienic or wash-down applications
- hazardous area certified (ATEX)
- OIML certified (Trade Approved)



For more information on EMC Weighing Systems please circle the following numbers on the Enquiry Form:

- DSM Mounts - No 0503
- Stabiflex Mounts - No 0504
- Silokit Mounts - No 0505
- Isoflex Mounts - No 0506
- Rubberkit Mounts - No 0507
- ModWeigh MW61 - No 0508
- Loadcells - No 0509

Technical Questionnaire - No 0510

Alternatively, please contact John Ball at EMC for technical advice, quotations or to discuss your applications