



For best weighing results load cell mounting assemblies (mounts) must be correctly installed. Some models of mount provide restraint for side forces and/or uplift and these must also be correctly oriented. Where the mount is not intended to provide side restraint and there is any possibility of side forces, external restraints or bump stops should be added to prevent damage from side loads or impacts.

Unpack your mounting assembly and inspect to ensure no damage has occurred in transit, if the load cell is pre-installed take special note of the cable which may be more easily damaged. If it has been necessary to remove or install the load cell into the mount then ensure that the assembly has been performed correctly and that the lateral and uplift restraints are set in accordance with any instructions.

Multiple mounts are frequently fitted to one vessel and care must be taken with regards relative placement. The holes for the mounting bolts and internal clearances allow for a small amount of adjustment, following the steps below should correctly install the mounting assembly.

1. Where the mount provides lateral restraint and multiple mounts are used the orientation of the mounts is set to ensure over all restraint of the vessel in all directions. The mounts generally allow a small amount of deflection in at least one direction to accommodate expansion/contraction and loading induced deflections (bending of frames).
2. Position each mount to be fitted to the vessel and loosely fix in place. Ensure that the base plate to which the mount attaches is flat and free from burrs, lumps or debris. Some mounts are shipped with a packing strap that holds the assembly together for installation, this should be removed when the mount is in place.
3. Check that the top plate of the mount is parallel to the bottom plate with no more variation than 1mm when measuring the height at various points around the periphery. The top plate can usually rock and self align but if it tilts too far the assembly will bind and the interference will cause errors.
4. In most mounts there is some lateral movement possible, the mount usually has a self-centering action with a restoring force to return the mount to the neutral position.
 - a) The top plate should be set so that there is movement possible and the plate is in the middle position of that movement in the neutral position where the restoring force is zero.
 - b) Check that any movement during operation will not result in binding that could damage the load cell, reduce strength or affect the accuracy.
 - c) The bolt hole clearance can usually enable small amounts of adjustment.
5. Check that the top plate is not rotated to ensure that any uplift restraints are clear of the top plate, visually check by observing the position of the restraint in the clearance hole.
6. It is important that the load is correctly distributed on the mounts. Small variations in manufacture of the weighing vessel (i.e. distortion during welding) can mean that the spacing between mounting plates of the vessel varies and hence the amount of load on each load cell. To correct this it is usual to place shim or sheet metal packing between the load cell mount and vessel mounting plate so that the load is correctly distributed. The distribution of the load can be checked by applying excitation voltage (a 9V – 12V battery will suffice) to each load cell in turn and checking the signal voltage which would be less than 30mV for a 3mV/V load cell at full load with 10V excitation. It is also good practise to re-check this under loading in case support deflections are causing the load to re-distribute. The PSB mount M-PSB has facility to adjust the height for this purpose.
7. Tighten the fixing bolts to secure the mount in position.
8. Lay the cable and fix in position so that it is not exposed to damage, connecting the cables together in a junction box as required. It is recommended that a sealed junction box with glands sealing the cable is used to prevent the possibility of any moisture entering the box which could lead to drifting or instability.
9. Connect from the junction box to the weight display or signal conditioner and perform the required configuration.
10. Calibrate the scale as required.

Note: The mounts can sit on steel plates or frameworks or concrete foundations. Ensure that the supporting structure has enough strength, especially if the load is bearing over a small area. Steel base plates are recommended in most applications, grouting can be used to set the base plate height correctly on concrete foundations, ensuring that the grout or concrete is of sufficient strength. Where a mount can be borne by concrete, it can be set in position and grouted directly. With grouting, ensure that good quality high strength machine grout is used.

Also note that the load cell deflection is generally very small (in structural terms) and the effect that deflection of the support or foundation can have on redistribution of the load should be considered. Deflection of a concrete pad on soil supporting four mounts can easily be such that most of the load becomes supported on two diagonally opposite mounts, possibly causing overloading or rocking.

! It is not recommended to weld the mount to the base plates. If fixing by welding is required bolt the mount to a support plate and weld the support plate in position. Welding with the load cells in place can damage the load cells, special precautions can reduce the risk.