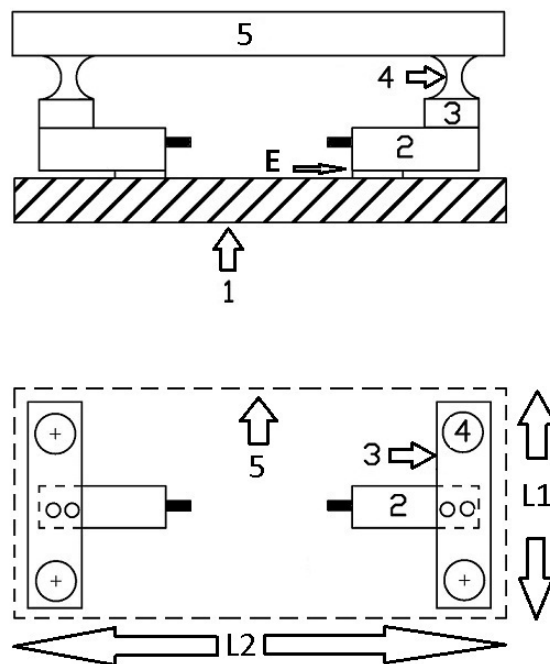


PLATFORM DESIGN WITH TWO LOAD CELLS FOR CHECK-WEIGHERS

Sometimes it is necessary to perform “enlarged” weight platforms of huge dimensions. When we cannot solve the application with one central load cell, we can use two load cells, one at each end. A common case is a check-weigher or weight controller.

Mounting two load cells:



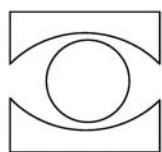
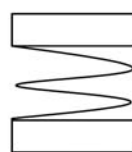
- 1- BENCH
- 2- LOAD CELL
- 3- CROSS ROD
- 4- SILENT-BLOCK, SPRING OR BALL BEARING

- 5- WEIGHING PLATFORM
- E- SPACER ACCESSORY MOUNTING
- L1- MAXIMUM PLATFORM WIDTH
- L2- MAXIMUM PLATFORM LENGTH

Anchor firmly two load cells (2) to the strong bench (1). If necessary, insert a spacer accessory (E). Fix the cross rods (3) to the load cells (2). Anchor the rubber silent-blocks (4) at the ends of the cross rods. Fix the weighing platform (5) on the silent-blocks (4).

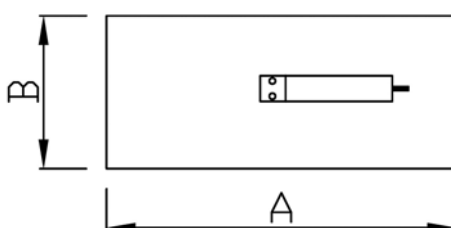
The rubber silent-block will provides the necessary free movement to the structure to perform a good weighing system. Reducing cross tensions between the two load cells produced by platform bending. We will choose a rubber silent-block according to the applied load, not too hard, because then it will not work as needed, giving some free movement to the system.

Alternative to the rubber silent-blocks there are other elements more sophisticated that can be used, as ball bearing, springs or other combinations:


Ball Bearing

Spring

Platform Size:

Platform load cells, off-center or single point type, have as a main characteristic to support a non-centered load located on a weighing surface of maximum dimensions $A \times B$. It is defined for each load cell in their data-sheet.



The new platform with two load cells will have a determinate length $L2$ and width $L1$.

The width $L1$ of the platform will be limited by the maximum allowable width, defined by B for the type of load cell chosen: $L1 \leq B$.

However, the length $L2$ of the platform has no limitation. Longitudinally the platform is as a beam supported at both ends, and theoretically, will not transmit any torsion to the load cells. For that reason we should ensure the platform has to be strong enough for weighing without deformations. To absorb the small deformations we will use the silent-block, giving mobility and repeatability to the weighing system.

Electrical connection:

Every load cell has a tolerance on its output signal, which means, small weight differences can appear when applying the same load at every side of the platform. It is recommended to connect the load cells to a junction box to perform a fine corner adjustment. The precision potentiometers of the junction box will allow the user to equal these small differences, obtaining the same weight value for the entire weighing surface.

From Utilcell hope this technical note can be of help in performing the platform design with two load cells, only as a guideline and not serve as a contractual specification. We reserve the right to change the content of this technical note at any time without notice.

Remaining at your disposal for any further information.