WEIGHTRON BILANCIAI
INDUSTRIAL WEIGHING SPECIALISTS
BILANCIAI GROUP

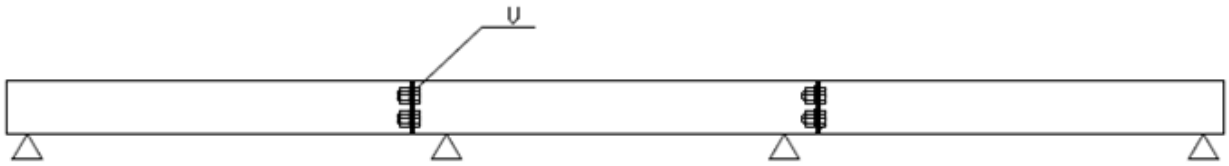
WEIGHBRIDGE DESIGN WHITE PAPER

ISOSTATIC Vs IPERSTATIC DESIGN

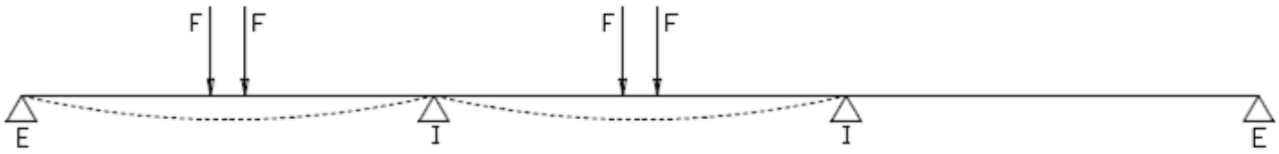
DESIGN TYPES

The difference between weighbridges manufactured with an **ISOSTATIC or a IPERSTATIC** solution.

Most of the weighbridge manufacturers are producing the deck with more than a 1 span version (6;8;10 load cells), in a Iperstatic solution. The panels are connected strictly with bolts as you can see in scheme 1.



The scheme for the calculus of the hardness is:



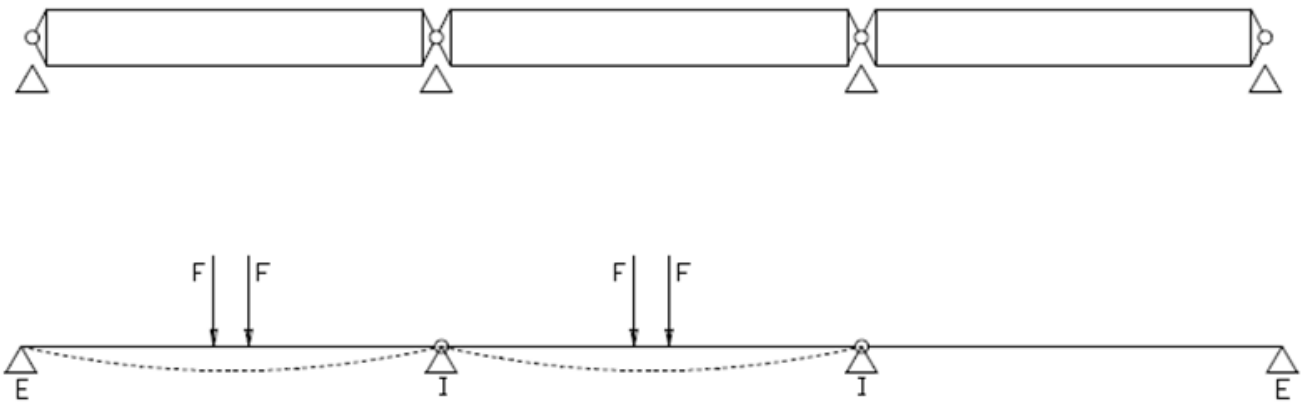
The deck, the intermediates points "I ", are stressed and it also stresses the fixing bolts "V "and the connection brackets, causing the fixing bolts to shear.

In case we have high load "F "and movement of the support points" I "or "E "(subsidence), the initial installation level can change compromising the strength and the accuracy of the system over time.

Weighbridge Modules bolted together forming a singular rigid fixed structure

WEIGHTRON BILANCIAI DESIGN SOLUTION

To avoid this problem, since 1992 Weightron Bilanciai has manufactured their weighbridges using an ISOSTATIC solution



Weighbridge Modules joined using a single bolt and two adjustment bolts to "square" the modules to each other. This ISOSTATIC module connection allows' for each module to "level" independently of each other, without having influence on connecting module.

The internal points "I "are hinges, the panels are free and any movement in any of the support points does not affect the strength and the accuracy of the system over time and doesn't not influence the interconnecting module.

Module level differences may occur overtime due to settling of foundations.