

CARDINAL WEIGHBRIDGE COMPANY SOUTH AFRICA

PRODUCT INFORMATION MODEL PLA (AXLE)



Cardinal Weighbridge Company
- South Africa -

CWCSA are very proud of our installed customer base with of hundreds of weighbridges installed across multiple industries in South Africa and Africa.

Some examples of our existing customers use-aged and or applications are:

- Makoya Supply Chain, with 5 weigh bridges installed on the same site doing in excess of 1200 weighs per day
- Richards Bay Terminal, with 3 weigh bridges installed on the same terminal doing in excess of a 1000 weighs per day
- Vector Logistics, with 2 axel weigh bridges installed on the same site doing in excess of 500 weighs per day
- Grassroots exporting 70% of dry fruit to the UK using our weigh bridge because of accuracy and reliability

With a proven track record of reliability and accuracy and with tens of thousands of weighs per weigh bridge every month we guarantee service on-site within 8 hours within the event of a call been logged at our 24 hours call centre.

Technical Specification

Weighbridge deck platform Model PLA (AXLE)

This weighbridge is manufactured using longitudinal beams 457 x 191 x 74 with a 200 mm reinforced concrete slab. This is an extra heavy-duty weighbridge and popular in the mining industry. Designed to carry a load of 100 mt in accordance with the American MTBF standard.

This weighbridge comes standard with side rails and entry & exit points are tyre friendly. The weighbridge will be made out of 4 independent section of 3,6,7,6 m length each 3,1 m wide with an effective height of 430 mm. The weighbridge will rest on a total of 16 load cells. Capacity of each load cells will be 20 tons, for a total load capacity of 320 tons over the 22 m length.

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The load cells positioned underneath the weighbridge, span of 3,6,7,6 m between each pair of load cells. The weighbridge will be able to oscillate horizontally by 10-20 mm (“ball and cup” system).

Stoppers: Form part of the deck and help to dissipate the lateral force in any direction should a vehicle stop or take off too quickly.

Deflection: The weighbridge deck should not deflect more than 10mm under ultimate load.

Cables: All cables run through conduit inside the concrete slabs to a centrally situated waterproof junction box.

Foundation

The civil foundation work to be done in accordance with our STANDARD dimensional drawings. Roughly, this will consist of five concrete blocks with dimensions: width=3,5 m, length=1 m and height= 430 mm and two concrete ramps of 3,5m width and 5,0m in length (OPTIONAL).

All concrete to be ready mix, 25MPA. This design is based on a ground load bearing capacity of 150 Kpa and more. Should the ground be softer, compaction will be necessary. Should special compactable gravel have to be brought to site, the gravel and transport thereof are not included in the quoted prices A civil drawing will be supplied with all the relevant information



Concrete blocks 0,7m X 4,0m



Ramps



- Permanent concrete ramps with a minimum slope of 1:10. (OPTIONAL)

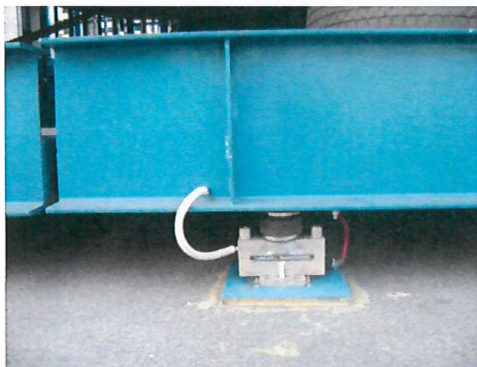
- Basic movable entry walls (INCLUDED) that are spike secured into the ground and require a gravel fill to be supplied by the client.



Load cells

PA 6167 Double-ended Shear Beam Load Cell alloy steel construction and is nickel-plated and hermetically (airtight) sealed. The PA 6167 is reliable, simple to install and provides a high accuracy reading suitable for all kinds of environments with built-in lightning protection.

Each load cell has a capacity of 20/30 ton, allowing for maximum point and axle loading. The PA 6167 is approved to 3000d with a 0.02% combined error, analogue, operating range -10 to +40 degrees centigrade, maximum safe overload 150%. There are no joints or plugs anywhere in the system. Failure due to moisture ingress is totally obviated.



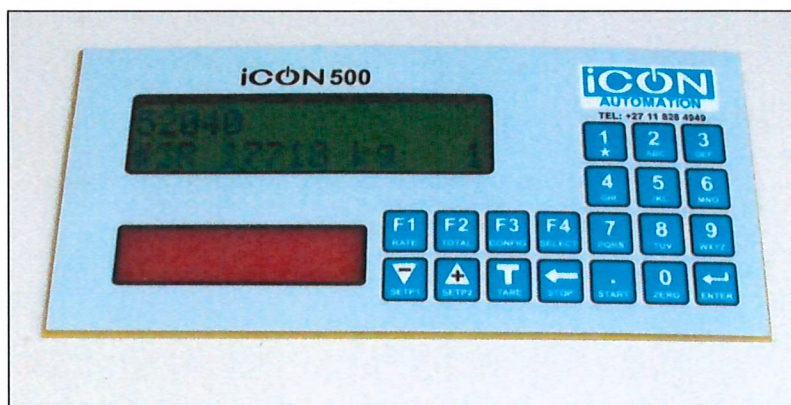
An installed Load-cell assembly



View of a Load-cell

Electronic Weighing Indicator

- ICON500 electronic platform scale operated from 220VAC.
- The display will be of the LCD type with backlighting.
- Ethernet interface for connection to a computer. Ethernet output of weight to be transferred to local PC.
- The operator will be able to Zero or Tare the scale whenever necessary.
- The instrument can also be connected to a printer.
- The minimum readout increment of the weighbridge can be set as low as 20kg.



Weighbridge software

Gravity is Africa's leading weighbridge software. No other systems provides the power and operational flexibility for weighbridge management applications

Compatible with leading ERP, waste management and accounting software packages, Gravity offers unrivalled system integration and data management for your weighbridge.

- **Ideal for single or multiple weighbridges**
- **Fully web enabled**
- **Powerful database capabilities**
- **Compatible with recognised third party software**
- **Control for traffic barriers/lights/ANPR cameras/card readers**
- **Fully configurable for each application**
- **Vehicle management capabilities**
- **Yard Management**
- **Online Management & Reporting Portal**

Surge and lightning protection

Protection for the system is provided by,

- a. Inductive lightning protection within each load-cell,
- b. Copper straps connecting the platform steel structure to the base plates, thus bypassing each load-cell,
- c. Copper cables connecting each platform to an earthed spike and the instrumentation to one of the earthed spikes.
- d. A Data protection device will be provided and installed.
- e. A Surge protection device will be provided but not installed; this must be done by the customers appointed electrician into the Distribution Board.

All instrumentation, PC, communication channels and printer shall be isolated and protected against lightning strikes by way of an internal surge protection unit mounted in an enclosure. A lightning protection multi plug and inline UPS will also be provided.

❖ Advanced Lightning Protection

The aim is to achieve an earth reading of 10 ohms consistently over the whole span of the 22m weighbridge. To achieve this we have to install a copper cable that will encircle the weighbridge.

At each loadcell an insulated copper cable will run from the weighbridge to the baseplate and from the baseplate to an earth spike, which in turn will be connected to the copper cable encircling the weighbridge.

The two platforms will be earthed together at 2 earth ends to form one unit.

With either of the above solutions, we still cannot guarantee that no damage will occur due to the nature of lightning strikes. Further information can be obtained from CWCSA

Computer hardware

- a. Desktop PC, Intel Celeron, 1.8 GHZ speed, 4GB ram, 18,5" inch monitor, 250GB hard drive, mouse, keyboard and Windows 10 Operating System.
- b. Samsung ML2020 Printer
- c. RCT-1000VA In Line UPS
- d. Serial to IP Converter
- e. Data Surge Protectors
- f. Panda Endpoint Protection – Antivirus
- g. A printer will be supplied with a 30 day guarantee of sign off.

If your PC is connected to the Internet, we can supply remote support and assistance.



Calibration & certification



Trade approval SA 1334 and SA 1487



Ferrotech LTF 0139

We will certify the weighbridge in accordance with SANS 10378 trade metrology regulations and bring the following to your attention:

It is essential for our truck to have access to pull alongside the scale, allowing us to use our truck mounted crane for installation and to place 500kg block weights on the scale for testing, calibrating and certification.

The operator must have a clear and unobstructed view of the total weighbridge platform.

Service & Maintenance

Service & repair is included for a period of 12 months and Warranty for a period of 60 months and clients can log there problems 24 hour at Call center by email or voice messages. Detection and correction of failures in real time could be undertaken 95% of the time over the phone. Fully trained service technicians provide response to your service needs within 6 - hours, whether installation, maintenance or repair. Our technicians operate throughout South Africa. After the first 12 months we have various service & maintenance agreement available to ensure the best service and support on an on-going basis.

ISO 9001: 2008

We are Audited and Certified to ISO 9001: 2008
International Quality Standards.



WWW.CWCSA.COM

CWC IS THE GLOBAL LEADER IN WEIGHBRIDGE TECHNOLOGY