

LESIM/JUMBO

Heavy duty mining scale



Mining and construction industries demand rugged scales built to unique specifications that will provide dependable performance for extreme duty cycles. Leon Engineering series of mining truck scales are the ultimate in weighing technology for off-road heavy haulage applications. Contrary to standard full deck weighbridge, the LESIM/JUMBO is a portable system consisting of individual weigh pads which measure the load on each wheel of a dump truck dynamically or statically. . Its modular design enables any possible truck axle configuration or model of mining dump truck.

Capacity	Dimensions	Number of pads	Number of Load cells per pad	Load cell Nominal Capacity
120t	2.4 x 3 m	2	4	30t
200t	2.4 x 3 m	2	4	50t
400t	2.4 x 4 m	2	4	100t
700t	2.4 x 4 m	2	4	150t

Weigh pad configuration // Weighing procedure examples

A) Dynamic weighing // 1% accuracy

1. Truck passes over the weigh pads at slow speed (5 km/h).
2. Weigh per wheel axle and total is recorded automatically (along with date/time)



Weigh pad configuration

B) Static weighing // 0,5% accuracy

1. Truck stops with front wheels on the weigh-pads.
2. Front wheel and axle weight is registered.
3. Truck proceeds and stops with rear wheel on the weigh pad.
4. Rear wheel and axle weight is registered.
5. Total weight is computed, printed and stored (along with date/time)



Weigh pad configuration

C) Static weighing // 0.1% accuracy OIML R76 approved

Where more precise weighing is required a setting of 4x separate weigh pads is the best solution.

1. Truck driver stops over the weigh pads with the assistance of either the operator or by the use of traffic light automation (turning red).
2. Once the weighing is completed and recorded, the operator signals to move ahead; or in the case of traffic lights, the light turns green.
3. Wheel axle and total weight is computed printed and stored.



Weigh pad configuration

Digital junction box

The digital junction box is designed to connect analogue load cells, and to offer the performance and the advantages of a digital load cell configuration. It contains all transducer electronics to excite the strain gauge, amplify, filter and convert the analogue signal of each load cell to a digital form. In effect each channel turns an analogue loadcell into a "digital" one. One of the main advantages of the system is that load cells failures can be detected in advance, by monitoring the zero shift, guarding you against costly downtime or product waste. Moreover truck axle weighing assist in correcting front & rear axle, right & left axle loading ratio. Also it keeps record of time and date of possible axle over-weights (peak holding).



Weigh pad configuration // Man operated or Unattended

Man operated

Man operation can be performed by the use of LD5218i weighing indicator; according to following procedure: First the truck stops with front wheels on the weigh-pads and the operator register the front wheel and axle weight. Then truck proceeds and stops with rear wheel on the weigh pad and the operator register the rear wheel and axle weight. Finally , total weight is computed printed and stored.



LD5218i indicator

Unattended automatic operation

A high distance transponder, RFID tag is fixed on the truck's front window ,for automatic truck identification. A vertical column, same height as the truck, is also supplied ,as a standard part of the system. On the top of the column an RFID antenna is placed, connected with the system electronic control box placed at the low part of the column.

A large second weight display is also placed at driver's level, so the truck driver sees the axle weights and totals, going through the scale. A traffic light is supplied to guide the driver through the scale, in case a static weighing mode has been chosen ,for better weighing accuracy.



LD5219
weighing terminal



RD650
Remote Display



Traffic light
with pole

Operation description: The driver follows the traffic light (red=stop / green =go) When truck passes through the scale, the RFID gives the truck ID to the system. The system adds the axle weights and totals. (if dynamic mode has been chosen then truck goes through without stopping, If static mode has been chosen then driver has to follow the traffic lights instructions) Then automatically the following data is transferred to the system memory:

- 1)Day time axle total truck ID (This data can either be transferred to the company IT system through fix cable connection)
- 2)Bluetooth, or plug in cable option is also provided to down load the data to a portable PC
- 3)Software applications can be individually developed by our experienced software engineers, to suit specific demands.

Advanced Options



Solar Panel
power supply



Pre-fabricated
control room



Surge protection



Bluetooth
data exchange

Unattended System example

