

May/June 2018

Weigh & Measure

iWAMmag.com

Serving the Scale Industry – the Dealers and Associations

NISA Spring 2018 Conference

A white and red concrete mixer truck is shown from a front-three-quarter view, parked on a scale. The truck has a large white cylindrical mixer drum with red reflective markers. The cab is white with red accents on the fenders and bumper. The truck is positioned on a scale platform with yellow and black markings. The background shows a clear blue sky and some trees.

**The Internet of Things
And the Scale Industry.
Are You Ready?**

**Density Kits And
Under-Weighing Hooks
What Does it all mean?**

**The Evolution From
Static Axle Weights To
Dynamic Weigh-in-Motion**

The Evolution From Static Axle Weights To Dynamic Weigh-in-Motion

WIM (Weigh-in-Motion)

Technology is Changing How Weight Data is Gathered Across Multiple Industries

Transportation and logistics operators in various industries, including aggregates, concrete, logistics and distribution, require accurate weight measurements of their vehicles to keep business running smoothly. Utilizing portable scales that weigh a vehicle's axles individually has increased the accessibility and uses for weight data. Weigh-in-Motion technology has taken that in another direction by increasing the efficiency in capturing this data for tracking and other purposes.

The principle behind weighing a vehicle using static axle, or wheel load scales, and Weigh-in-Motion (WIM) technology is similar. Like axle scales, weigh-in-motion is based on measuring the weight of individual axles of a given vehicle, only without the need to stop to obtain accurate values. From there,



The efficiency provided by an LS-WIM System make this a perfect fit for high-traffic areas, like entrance and exit gates.

data like Gross Vehicle Weight (GVW), axle group weight, side-to-side weight and vehicle speed can be collected and logged for future use.

Static Wheel Load and Axle Scales

The development of the portable wheel load scale, like the Intercomp PT300 and LP600 family of products, allowed vehicle operators to determine axle weights and GVW in even the most remote locations. Traditional, full-length in-ground truck scales have the primary purpose to measure GVW, instead of the axle weights used to determine legality of trucks on public roads. Intercomp's portable digital wheel and axle scales offered operators a convenient, cost-effective and portable method to determine vehicle weights.

Along with filling the need for portable wheel weighing, Intercomp developed the AX900 static, semi-portable axle scale. Like wheel load scales, axle scales can measure the weights of individual axles, while also adding the ability to measure entire axle

groups quickly, depending on the configuration of the scales. This scale design offered the same ability to confirm legal axle weights, but in a package that allowed for higher throughput.

The outright portability and simplicity of wheel load and axle scales are ideal for many applications. However, there are some cases where axle scales, like the AX900 are best suited, such as measuring fill weights. Axle scales allow monitoring at the fill point and prevent return trips for offloading material if the vehicle is found to be overweight. Examples of this include filling aggregates into a truck, or filling trailers with scrap metal and other waste materials.

Intercomp Weigh-in-Motion and WIM Technology Expansion

Currently, WIM technology is experiencing proliferation around the world. An increasing number of organizations across a variety of industries are beginning to understand the value that WIM technology can provide their businesses.

“Static truck weighing has been our bread and butter and is still a big part of our business,”

Chris Berg, Intercomp market specialist, said. “However, we continue to see an increase in interest and sales of our WIM systems and have developed a full suite of products that can fill virtually any need.”

There are many applications where WIM weighing technology can offer a distinct benefit, such as increased efficiency with options for automation, accurate inventory tracking and verifying axle weight compliance. Intercomp has been designing and building Weigh-In-Motion scales for over 15 years and has worked very hard to create the best possible solutions for many different needs.

Permanent Weigh-In-Motion Solutions

Intercomp’s LS-WIM In-Ground Weigh-In-Motion System represents an affordable, space saving, low-maintenance weighing option for a variety of industries. When examining permanent in-ground scales, one advantage of the LS-WIM is a small-footprint design. A single weighbridge is installed perpendicular to

the flow of truck traffic, with each axle being weighed as a truck drives over the scale.

LS-WIM also offers options to create a fully-automated gate system. With Intercomp’s LS20 WIM Indicator, drivers can utilize a Key Fob, allowing for remote activation and unique vehicle identification without stopping. Temporary vehicles can also input the vehicle’s ID at the indicator for tracking and data collection purposes. The driver can then proceed over the



Semi-Portable axle scales provide users the convenience and efficiency to drive over scales, allowing static weighing of multiple vehicles.

scale to register a weight.

The LS20 indicator will save up to 1,500 weighing records that are transferrable via USB for long-term storage and analysis. Weight values can also be displayed on a wireless LED scoreboard, or a ticket can be produced on a wireless printer, allowing the driver to confirm legal axle weights before exiting the yard or facility.

While the relatively small form factor allows for placement flexibility, the small size also requires less installation work than other in-ground systems. Requirements like concrete work and drains are reduced, allowing installation to be complete in a matter of days. Not only does this reduce material costs and time required to install the scale, but downtime at the installation location is also minimized.

In dynamic mode, Intercomp’s LS-WIM System is accurate within one to two percent, with operating speeds up to 10 mph, and capacities available up to 100,000 pounds per axle. At 13-foot wide, the weighbridge can accommodate

the width of standard and oversized vehicles.

“The system allows inventory managers the ability to better track stocking levels of a product or commodity by having a clear picture of how much material enters and leaves a given facility,” Berg said. “In addition, the system gives operators the ability to see instant feedback regarding weight distribution of a given load. This allows real-time changes to ensure proper dispersion of weight to avoid a potential citation for axle weight violations, while minimizing the possibility of equipment damage due to improper loading practices.”

Intercomp also offers in-ground Strip Sensors that can measure vehicle axle weights at a wide range of speeds, from low speeds up to 80 mph. These sensors are ideal for ultra-high volume applications and installed into three-inch (75mm) channels cut into the road surface. Strip Sensor installations can occur at lower cost because of the minimal time and labor associated with installation and maintenance. This also means less downtime as these systems are installed.

Portable Weigh-In-Motion Solutions

When looking at the entire line of Intercomp Weigh-in-Motion offerings, the LS630-WIM Portable System may look most familiar to those who know Intercomp products. The highly-portable system is made up of two billet aluminum weigh pads with a capacity of 20 or 30 tons per axle, four rollup mats and wireless connection to either a PC, with Intercomp WIM software, or self-contained PT20 WIM CPU. Each system provides the end-user the ability to use the system with a minimum amount of setup.

While portability and simple deployment are clear advantages of the LS630-WIM, the benefits of this of this system continue. Like its LS-WIM cousin, the portable system also offers the ability to track inventory and confirm proper vehicle weight distribution among each axle of a vehicle. The portability allows for use at temporary or remote facilities and worksites, while maintaining efficient vehicle throughput.





The LS630 Portable WIM System Provides the ability to weigh vehicles dynamically, virtually anywhere, with the ability to accommodate most single-lane axle groupings.



Strip Sensors bundle low installation and maintenance costs, with the ability to weigh moving vehicles at any speed, into a flexible and dependable package.

Suitable applications include inventory tracking at temporary aggregate sites, permanent facilities with limited space and use of a single scale

system to serve multiple locations.

The entire LS630 system, including scale pads, ramps and CPU, fits in the rear of most

vehicles, and is deployable in less than 15 minutes. The system boasts a dynamic accuracy of two to three percent, with an operating speed of up to 10 mph, in dynamic mode. In static mode, the scales are NTEP Certified with an accuracy of +/- 0.5 percent. The rollup ramps/levelers not only ease the process of getting the vehicle over the weigh pads while in motion, but are also a critical part of the measuring process. Like any static scale, the most accurate axle weights are registered while all axles in a wheel group are on the same plane.

Looking Forward

Static wheel load and axle scales, and dynamic weighing solutions share similar technology. Portable and in-ground options allow optimization to fulfill distinct needs, dependent on the end user's exact application and site requirements. As an example, portable systems can be utilized at permanent locations that cannot accommodate space needed for larger systems.

Weigh-in-Motion technology represents a large growth potential within many different industries as businesses continue to find ways to make repeatable tasks, like weighing vehicles, more efficient. However, static weighing will play a significant role in relation to efficiency, into the foreseeable future.

"At the end of the day, our goal is to help businesses and organizations operate in such a way that they are able improve safety, reduce potential fines and expenses, and maximize their efficiency when loading and collecting data on vehicles," Berg said. "When a business is able to deliver on-time, at lower costs to the customer, the positive experience can produce long-lasting growth to the bottom line."

Contact

For more information on the products Intercomp offers, please email them at: info@intercompcompany.com, or visit them online at: www.IntercompCompany.com.