http://www.massload.com

Permanent Weight In Motion

Weight in motion scales are excellent for high traffic locations where vehicle speed is reduced to under 20km/h and accurate weighing needs to be done quickly, such as toll booths, border crossings, or shipping gates. You can depend on Massload weight in motion scales to deliver high accuracy results and have a very long life due to the rugged design. Permanent weight in motion systems require a pit to be poured to mount the weigh bridges into.

Simple Installation!

Installation of Massload's permanent weight in motion scale is simple. If it is an existing roadway that the scale will be installed in, an approximate hole must be cut through the surface. The scale frames are first bolted together then suspended in the cutout. The first of 2 pours is to create the bottom of the pit. When this has cured, the second pour fills the outer portion of the cutout. The loadcells are then installed and wires run. The weigh bridges are bolted onto the loadcells. The computer is then setup. That's it.



As with any weight in motion system that Massload sells, there are at least 3 parts:

1. The scale that the vehicle rolls over.

2. The scale interface device.

3. A PC to receive the results of the weighing.

The scales are fabricated in 2 identical pieces to keep the shipping package small, allow for some adjustment of the pads to compensate for the crown of the road surface, as well as facilitate ease of installation. If the entire WIM system is purchased from Massload, we will pre calibrate the system in our factory with known test weights to verify all components are functional. A calibration check is recommended after final installation.

The scales come in various sizes depending on the type of traffic you are weighing. See the last page of this brochure for the standard sizes, and remember, we can easily custom design a size that is right for your application.

Additional information about the vehicle can be obtained by the use of a vehicle scanning light curtain (the orange uprights in the picture to the right), as well as a host of other peripherals such as cameras and ID equipment. Contact Massload for options.



<complex-block>

Weight in Motion V4.0 from Massload is a very flexible, feature rich, and mature data handling software package. Keep track of all your weight in motion statistics in one simple to use program. Just start the software, and your on your 'weigh'!

Why buy your next weight in motion scales from Massload?...Simple

Low System Cost • Simple Installation • High Accuracy
 Long Scale Life • Flexible Software



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Permanent WIM (Cont.)



Typical Installation

Weight In Motion V4.0 Software Features Features

- All regular scale functions such as zero, real-time weight display, grad size, etc.
- · Built in calibration utility with unlimited linearity point capability
- · Static / Dynamic mode allows you to use the scale to weigh axles statically
- Scoreboard support Dual traffic light support
- · Export data to Excel or delimited text files for archiving
- Full sheet report generation with configurable reports
- Configurable vehicle types database
- Full database management
- · Configurable main screen show only the data that you want to see
- · Post weighing screen allows you to fill in additional information
- Many program security features
- Graphing capabilities
- Configurable full screen weight display
- Automatic detection of LCIB signal

Database Fields

• Axle Weight • Axle Speed • Total Weight • Average Speed • Date • Time • Speed Units • Weight Units • Zero Factor • Grad Size • Sample Length • Number of Axles • Tractor Tare¹ • Trailer Tare¹ • Vehicle Type¹ • Vehicle ID¹ • Scale Operator¹ • Driver Name¹

¹Manually entered after the weighing process Note: Additional fields available depending on the perhiferal options that you have. (cameras, tire sensors, ect) How does Weight in Motion work?

Weight in motion is the weighing of a moving object over a scale that is stationary. WIM4.0 from Massload handles all of the complex processes of weighing automatically for you. As a vehicle starts to drive over the scale, the software begins gathering data. Data is gathered until the vehicle has passed completely over the scale with all of it's axles. When this is complete, the software analyses the data that was captured to determine the actual axle weights. The axle weights, total weight, speeds and other statistics are then calculated. If turned on, a post weighing screen comes up and prompts for additional information. The data is then written to the hard disk of the computer and a report for the vehicle can then be printed. The system is immediately ready for another vehicle to pass over the scale.



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Permanent WIM (Cont.)

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Scale Specifications

Physical Size	144" x 30" x 6"* (other sizes available on request)	
Dynamic Capacity	50,000 lbs per axle (50lb graduations)	
Static Capacity	100,000 lbs per axle (50lb graduations)	
Dynamic Accuracy	+/-3% GVW, 95% Confidence at <5km/h +/-5% GVW, 95% Confidence at <20km/h	
Static Accuracy	0.25% Full Scale or better	
Safe Overload	150% of full scale	
Shipping Weight	670 lbs / pad (2 pads per system)	
Material	High strength steel w/diamond plate decking, your choice of finish and color. Loadcells are heat treated, nickel plated alloy steel	
Loadcell Excitation	Minimum 5VDC, Maximum 15VDC	
Ground Level Requirement	Level and flat concrete surface required within 1/16" for most accurate results (poor approach and departure will affect accuracy)	
Operating Temp Range	-40°C to +80°C for scales; LCIB and computer need to be maintained at room temperature	
Stability	0.5% Full Scale / Year	
Power	Scale is powered by the LCIB, which is powered from the USB port of the computer. (Draws < 500mA)	

LCIB Specifications		
Sample Rate	2,000 samples/second continuously	-
Resolution	16 Bit	-
Calibration	Up to 100 individual calibrations can be stored on the device	And the Case of the second
Linearity Adjust- ment	Up to 100 linearity adjustment points per calibration	
Computer Interface	Fully Rated USB 1.1	
Scale Interface	Rugged DB9 Connector	
Power Require- ments	None, powered by the USB port of the computer	
Computer Require- ments	Pentium 3, 1GHz or better, 10GB of disk space (for raw data storage), 256MB RAM, Keyboard, Monitor, 1 free USB port, Windows 2000 or Windows XP Note: 1 or more serial ports may be required for additional devices Massload can supply the computer if required.	-

A typical weight in motion system from Massload includes:

of finish and color

• 1 LCIB interface device

• 1 length of cable to run

box to the scale house (please specify when

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from the summation

• 1 Summation box for

the loadcells

ordering)

1 USB cable.
 Additional Equipment

- 1 scale of your choice, may include:
 painted with your choice
 Conduit to r
 - Conduit to run the loadcell wires in
 - Drainage pipe
 - Tools and materials related to pouring concrete
 - A Windows based PC

Optional Equipment

- IR Light curtain for automatic separation of vehicles
- Loop detectors for automatic separation of vehicles
- Traffic light controller
- Various ID tag systems for automatic logging of trucking activities



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