



MSI Belt Scale

For Proven Performance



 **MILLTRONICS**
Mass Dynamics Division



Simply The Best High Accuracy Conveyor Belt Scale Money Can Buy

The MSI is one of the most advanced single idler belt scales available. Suitable for providing in-line weighing on a variety of products in primary and secondary industries, the MSI monitors products as diverse as aggregate or flour, sand, sugar or coal. It is internationally proven in a wide range of tough applications from extraction - in mines, quarries and pits - to power generation, iron and steel, food processing and chemicals.

Rugged And Reliable



Milltronics' rugged, single piece MSI Belt Scale guarantees the world beating reliability needed for effective, dynamic in-line weighing of material on belt conveyors, even in the harshest environments. The MSI links in to a range of advanced electronic integrators to provide site management with continuous readouts of rate, total, speed and load. The unbeatable combination of simple

installation, low maintenance and repeatable accuracy makes Milltronics' MSI the preferred choice for in-line belt weighing of bulk solids. It provides accurate, repeatable results every time.

Outstanding Accuracy and Repeatability

Milltronics' unique weigh frame design ensures unrivalled accuracy and repeatability, even in applications with uneven product loading or with relatively fast moving belts. While 0.5% accuracy is normal, installations worldwide report accuracies better than 0.25%.

Simple Drop-In Installation



This compact belt scale can be used in conveyors where space is restricted. Because of its simple drop-in installation, significant cost savings are offered over conventional systems. The weigh frame is easily mounted in the conveyor by just four bolts and an existing idler set, then secured to the dynamic beam (see schematic). Installation is quick and easy, taking just a matter of hours. The versatile unit can be used with any existing belt weighing system, replacing obsolete weighing heads as a quickly installed retrofit unit.

Low Cost of Ownership

Potential maintenance problems are removed as the MSI has no moving parts, meaning pivot and lever wear and replacement are now things of the past. A periodic calibration check is the only further action that may be required. Mechanical stops protect the system against accidental overload, preventing costly damage.

Installation of the MSI is a simple, drop-in operation.



How It Works

The system consists of three components: the weigh bridge, the speed sensor, and the integrator. The steel base of the weigh bridge supports two electronically balanced load cells. In accordance with the parallelogram principle, the load cells react solely to vertical forces of mass transmitted through the weighing idler, and never to idler friction, side forces, or off-centre loading. This response, only to actual belt loading, makes the MSI the most accurate single idler belt scale available today. In operation, the vertical force representing actual belt load is sensed by the load cells, providing the weight signal. A shaft mounted speed sensor provides a signal for belt speed. The integrator processes the weight and speed signals electronically, providing accurate indication of flow rate and totalized material.





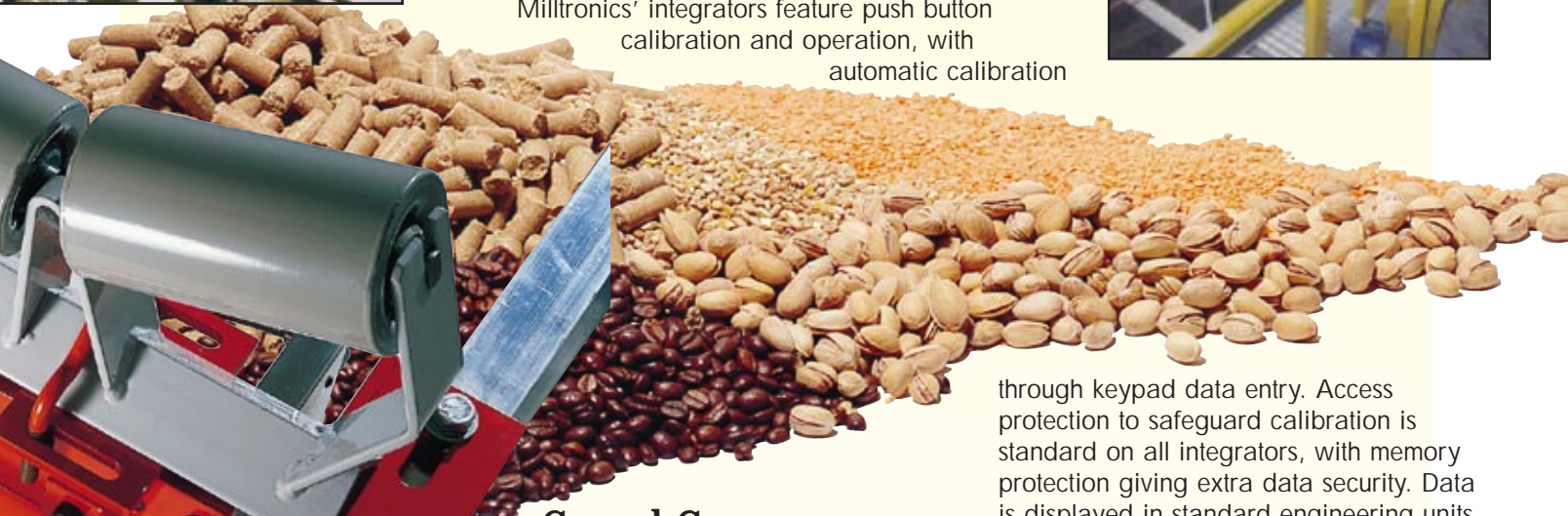
Fast Reaction To Product Loading

The patented design of the MSI is unlike that of any other single idler belt scale. Its unique use of parallelogram style load cells results in fast reaction to vertical forces, ensuring instant response to changes in product loading. This guarantees outstanding accuracy and, more importantly, repeatability. This is true even in applications with uneven product loading or with relatively fast moving belts.

Integrator Options To Suit Your Needs

Milltronics' belt scales operate in conjunction with one of a series of micro-processor based integrators which provide information in the format you require. These integrators indicate flow rate, total weight, belt load and speed of bulk solids material on easy-to-read displays. Options include the provision of a bar graph indicating percentage of rate, enabling an operator to assess production against target at a glance. Other integrators are capable of handling six to eight load cell inputs. We will help you make the choice of integrator to meet your specific needs.

Milltronics' integrators feature push button calibration and operation, with automatic calibration



through keypad data entry. Access protection to safeguard calibration is standard on all integrators, with memory protection giving extra data security. Data is displayed in standard engineering units.

Speed Sensors

Used in conjunction with the MSI, the speed sensor monitors conveyor belt speed for input to the integrator. The output signal is transmitted by cable connection to the integrator in order to accurately compute the rate of material being conveyed. Milltronics offers the following speed sensor options:

MD-256 Rotary Pulse Generator

This mounts directly to the tail or bend pulley shaft. Housed in a rugged weatherproof enclosure, it provides accurate and reliable results, being immune to false signals generated by either the conveyor or external vibrations.

Return Belt Speed Sensor (RBSS)

Easily installed, this provides a signal generated from the wheel on the sensor as it rotates on the return belt.

While a speed sensor is recommended, it is not essential when belt speed is constant.



MD-256 Speed Sensor

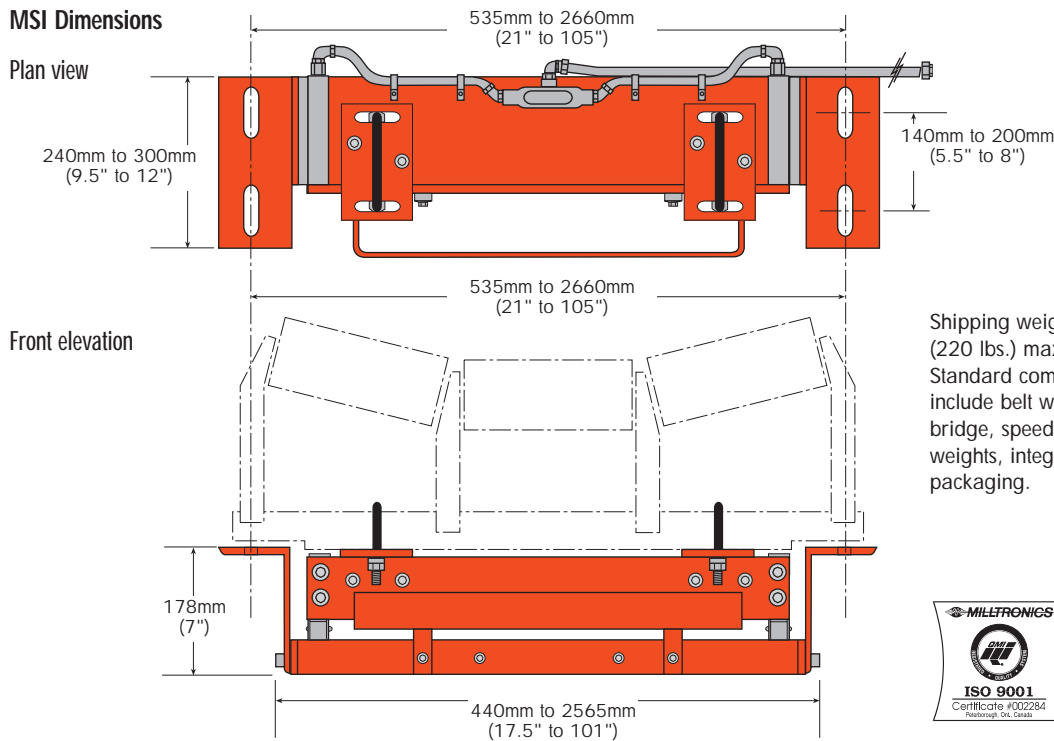


Specifications

Accuracy	±0.5% of totalized weight over a range of 0.25 to 1.25 of design capacity on an approved installation.	Overload Protection	Infinite (mechanical stop).
Standard Size	For conveyors with belt widths from 500 mm to 1800 mm (metric). From 18" to 60" (CEMA).	Calibration	Via static test weights (supplied), test chains (optional), or material tests.
Mounting	Four bolts, two for each conveyor stringer. Designed to fit any standard conveyor.	Load Cell	Super precision strain gauge, temperature compensated.
Weigh Bridge Construction	Structural steel, supporting two load cells. Optional: Stainless steel.	Operating Range	-40°C to 60°C (-40°F to 140°F)

Our continuous programme to improve our products may result in changes to design and specification without notice.

MSI Dimensions



Shipping weight 100 kg (220 lbs.) maximum
 Standard components include belt weigh bridge, speed sensor, test weights, integrator and packaging.



Y2K Compliant - Year 2000 Compliant

Mass Dynamics is dedicated to the sales and development of continuous weighing and motion sensing instrumentation. Launched in 1997 as a new business division of Milltronics Ltd., Mass Dynamics offers a range of belt scales, solids flowmeters, weighfeeders, acoustic sensors and motion sensing equipment. Designed to withstand the sustained rigours of heavy primary industries, these products have proven their reliability in a wide range of harsh applications including the mining, mineral processing and cement industries. They are also used extensively in wet and dry food processing and petrochemicals.



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