

Belt Scales

IN-MOTION BELT SCALE SOLUTIONS



RICE LAKE[®]
WEIGHING SYSTEMS

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Belt Scales

Keep Production Moving with Belt Scale Systems

Belt scales are the most accurate and efficient way to measure material flow on a conveyor belt and can also be used for product dosing. A belt scale consists of a weigh frame with one or more load cells, a speed sensor and a weigh processor. The weight processor converts signals received from the load cell and speed sensor into a total and weight per hour.

The selection of a weigh frame and speed sensor is determined by the required accuracy, as well as capacity, belt speed, inclination and structure of the transport belt.

Rice Lake Weighing Systems offers a broad selection of durable and accurate belt scales. With five different models to choose from, Rice Lake belt scales provide a solution for nearly every application, including food, recycling, chemical, steel, animal feed and compost production, sand and gravel quarries, and harbor logistics industries.



BS221DB

The BS221DB Master™ belt scale weigh frame consists of two arms each equipped with a pivot and a load cell mounted to the side supports of the conveyor belt. The idler, or weighing roller, is mounted on top of the frame arms. The BS221DB provides simple assembly and accessibility for service. Suitable for most belt widths and capacities, the BS221DB is a versatile solution for many applications.

STANDARD FEATURES

- Weigh frame is mounted on outside of conveyor
- Minimum modifications to conveyor are required
- Service friendly
- Friction-free pivot supports
- Two support beams
- Fits standard conveyors—mounts with four bolts per assembly

OPTIONS

- Galvanized or stainless steel construction

APPLICATIONS

- Medium to heavy capacity

SPECIFICATIONS

CONVEYOR WIDTH:	500 mm-2,400 mm
MAXIMUM CAPACITY:	2,000 ton/hour
MAXIMUM BELT SPEED:	2,5 m/s
MAXIMUM INCLINATION:	25 degrees
MATERIAL:	Powder coated mild steel
SYSTEM ACCURACY:	+/- 1%
LOAD CELL:	RL1415: 50 kg, 100 kg, 200 kg
JUNCTION BOX:	JBW
WARRANTY:	One-year limited



BS311M

Consisting of an idler or weighing roller placed on a simple load cell beam, the BS311M Master belt scale weigh frame is a cost effective solution. Suitable for belt widths up to 1,000 mm and belt speeds up to 1,5 meters per second, the BS311M frame is often used for belts that can regulate the capacity of a bulk flow using the measured value and a controlled belt speed.

STANDARD FEATURES

- Semi-modular weigh frame design
- Weigh frame without moving parts
- Fits standard conveyors
- Mounts with four bolts
- Requires weigh frame cutting for proper fit
- Minimum modifications to conveyor required

OPTIONS

- Galvanized or stainless steel construction
- Custom widths available

APPLICATIONS

- Mining, quarries, bulk material blending, process control and retrofit

SPECIFICATIONS

CONVEYOR WIDTH:	1,000 mm max
MAXIMUM CAPACITY:	1,000 ton/hour
MAXIMUM BELT SPEED:	1,5 m/s
MAXIMUM INCLINATION:	10 degrees
MATERIAL:	Powder coated mild steel
SYSTEM ACCURACY:	+/- 1%
LOAD CELL:	L6T: 50 kg, 100 kg, 250 kg
WARRANTY:	One-year limited



BS211

The BS211 Master belt scale weigh frame consists of an inner frame mounted with two friction-free pivots to one end of the scale. The load cell is located on the opposite end with the idler mounted on the inner frame. The friction-free pivots absorb tensile stress in a horizontal direction, creating a very solid weigh frame well-suited for heavy-duty applications.

STANDARD FEATURES

- Friction-free pivot points
- One load cell carrier beam
- Fits standard conveyors
- Custom built for each application

OPTIONS

- Galvanized or stainless steel construction
- For belt widths > 1400 mm

APPLICATIONS

- Medium to heavy capacity, mining and agriculture

SPECIFICATIONS

CONVEYOR WIDTH:	500 mm to 2.000 mm
MAXIMUM CAPACITY:	3.000 ton/hour
MAXIMUM BELT SPEED:	2,5 m/s
MAXIMUM INCLINATION:	25 degrees
MATERIAL:	Powder coated mild steel
SYSTEM ACCURACY:	+/- 0,5 - 1%
LOAD CELL:	B3G stainless steel, s-beam (capacity selected from application)
WARRANTY:	One-year limited



BS143

Weigh three idlers on an inner frame supported by four load cells with the BS143 Master belt scale weigh frame. This creates an incredibly accurate belt scale qualified for high capacities and belt speeds. The BS143 is often used in mining and aggregate applications. The frame is custom made using the specifications of the conveyor belt, making it suitable for different belt conveyor models.

STANDARD FEATURES

- Custom built for each application
- Fits standard conveyors
- Multiple idler design
- Inner frame has free-floating platform

OPTIONS

- Galvanized or stainless steel construction
- Two, three or four weigh idlers

APPLICATIONS

- Medium to heavy capacity, mining and aggregate

SPECIFICATIONS

CONVEYOR WIDTH:	500 mm to 3.000 mm
MAXIMUM CAPACITY:	20.000 ton/hour
MAXIMUM BELT SPEED:	7 m/s
MAXIMUM INCLINATION:	25 degrees
MATERIAL:	Powder coated mild steel
SYSTEM ACCURACY:	+/- 0,25 - 0,5%
LOAD CELL:	4x B3G stainless steel s-beam (capacity selected from application)
WARRANTY:	One-year limited



BS421

The BS421 Master belt scale weigh frame is specifically designed for low-capacity applications. Low belt speed, flat rollers and horizontal belts are mandatory. The BS421 features two RL1415 bending beams and hermetically sealed load cells mounted to adjusting plates on the outside of the conveyor stringers to create a stable base. The BS421 master belt scale is also available for hazardous and explosive areas.

STANDARD FEATURES

- Ideal for flat belt conveyors
- Roller supported on both sides by load cells
- Open design for easy cleaning

APPLICATIONS

- Light capacity, food production and light granular materials

SPECIFICATIONS

CONVEYOR WIDTH:	300 mm to 1.600 mm
MAXIMUM CAPACITY:	60 ton/hour
MAXIMUM BELT SPEED:	1,0 m/s
MAXIMUM INCLINATION:	Horizontal
MATERIAL:	304 stainless steel
SYSTEM ACCURACY:	+/- 1%
LOAD CELL:	RL1415 single ended beam in 10, 20 or 50 kg capacities
WARRANTY:	One-year limited

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INTEGRATORS



WE503D Integrator

The WE503D integrator and weight processor can be used in most applications for dynamic weighing systems, such as belt scales, screw weighers, BulkSlide flowmeters and impact flowmeters.

It provides a readout of the flow of material in kilograms per hour or the total in kilograms, and has two totalizers.

The WE503D has a batch function as well as a PID control function, which can be used to control the capacity in function of a setpoint.

SPECIFICATIONS

- **Power:** AC or DC
- **A/D:** 5VDC Single Channel
- **Communication Options:** 5V RS-232, RS-485, Ethernet TCP/IP, Wi-Fi
- **I/O:** Supports Dual Encoders

OPTIONAL

- Analog Output
- **Fieldbus:** PROFIBUS DP, PROFINET, Modbus TCP/IP, EtherNet/IP, DeviceNet, EtherCAT, CanOpen



1280D Integrator

The 1280 is an event-based programmable controller with color touchscreen, ideal for custom applications that combine signal processing, input/output control and network communications.

The durable color touchscreen with a seven-inch LCD display integrates data with real-time operations to leverage actionable information.

Custom programs can monitor up to four different belt scales from one screen.

SPECIFICATIONS

- **Power:** AC or DC
- **A/D:** 10VDC up to 4 channels
- **Communication Options:** Full duplex RS-232 with CTS/RTS, RS-422/485, Ethernet TCP/IP, Wi-Fi
- **Flexible Interface:** Web server accessible over TCP network
- **I/O:** Supports up to 8 Encoders

OPTIONAL

- Analog Output
- **Fieldbus:** PROFIBUS, PROFIBUS, Modbus TCP/IP, EtherCAT, DeviceNet, EtherNet/IP



SCT-4XD Digitizer with 1280 Enterprise™ HMI

Built tough to withstand even the harshest environments, the unparalleled capabilities of the digitizer paired with the 1280 Enterprise are designed for modularity.

Web server access from both instruments gives a new dimension of remote access with handheld devices, printers, PLCs or PCs to support the growth of any application.

SPECIFICATIONS

- **Power:** AC or DC
- **A/D:** 5VDC Singular Channel with up to 4 individual load cell monitoring
- **Communication Options:** RS-232, RS-485
- **Flexible Interface:** Web server accessible over TCP network
- **I/O:** Supports Dual Encoders and Outputs for automatic test weight application
- **Modular:** Remote digitizer reporting back to 1280 Enterprise HMI

OPTIONAL

- Analog Output
- **Fieldbus:** EtherNet/IP, PROFINET, Modbus TCP/IP

SALES AND TECHNICAL ASSISTANCE



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