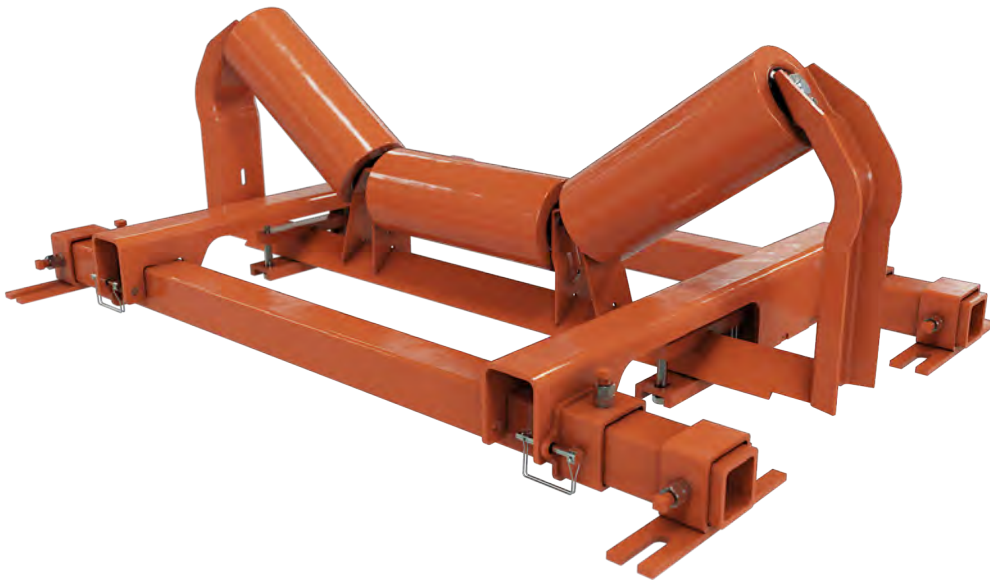


REPLACEMENT & AFTERMARKET

BELT SCALES



Collaborate / Create / Convey

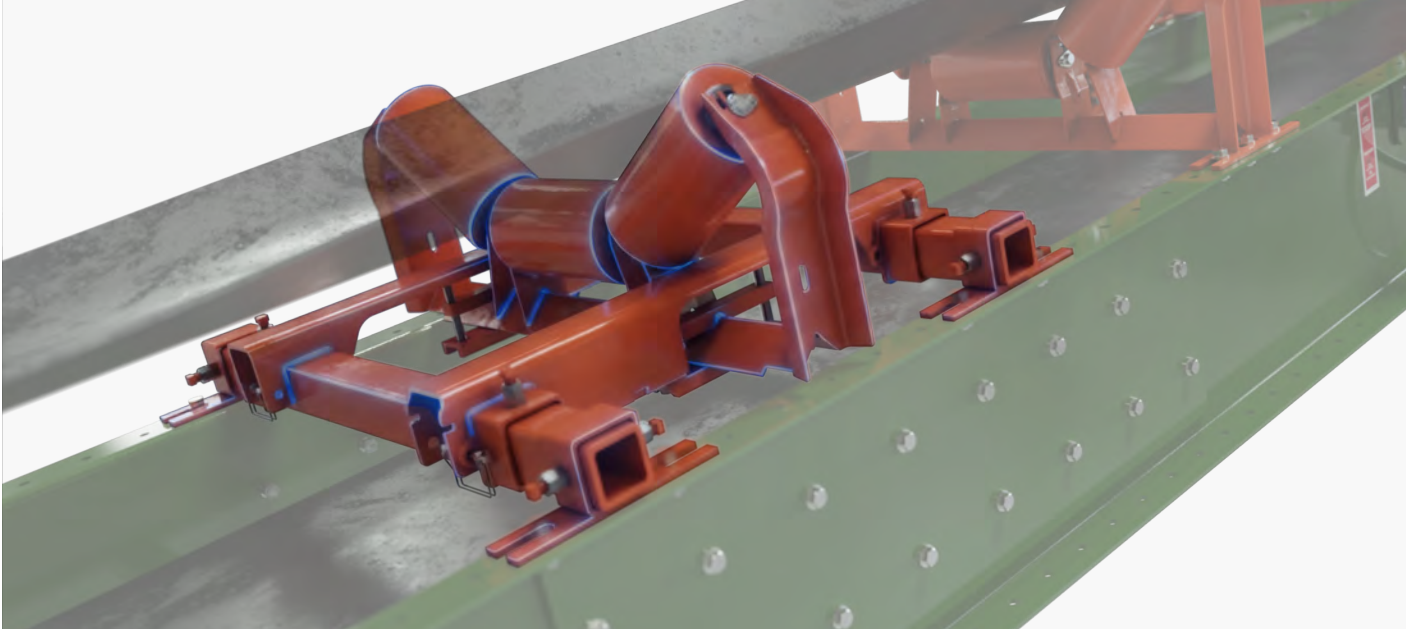
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BELT SCALES



Belt Scales

Conveyor belt scales weigh the materials being transported on a continuous conveyor belt system. Operating without accurate real-time flow rate data limits operational visibility, leading to unmanaged material usage and significant inventory discrepancies. Implementing a dedicated weighing system introduces real-time monitoring to continuously track material output. This precision reduces systematic errors and allows facilities to streamline inventory management while facilitating strict process control.

Belt scales consist of cooperating physical components, primarily load cell assemblies and speed encoders, to measure weight and calculate belt speed simultaneously. Integrators process the independent load cell and speed data to compute the precise material output. Traditional units rely on this combination of structural load cells and rotational speed sensors, utilizing an established equation to convert weight and speed into an accurate flow rate. Measurement data is then pushed to the integrator's local display or transmitted directly to a remote display for comprehensive facility analysis.

APPLICATIONS



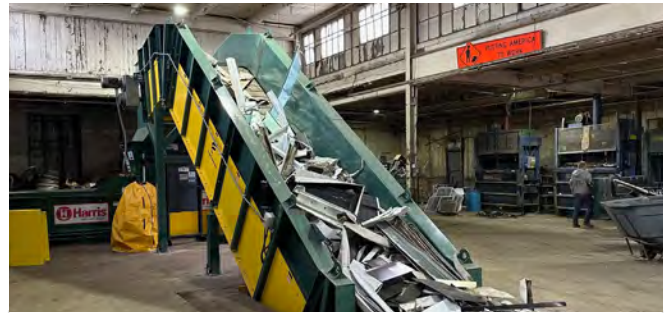
Waste Processing

Mixed solid waste and municipal solid waste environments handle highly variable load densities that demand continuous tracking. Conveyor belt scales calculate precise real-time flow rate data directly on the line, enabling efficient inventory management and rigorous process control.



Aggregates

Conveying rocks, cement, ores, gravel, and abrasive materials requires rugged hardware to withstand abrasive forces. Load cell assemblies measure the extreme weight of bulk aggregate materials to generate precise weighing data and reduce tracking errors.



Recycling

Facilities processing loose, bulk materials like paper, glass, plastic, and scrap metals necessitate continuous throughput measurement. Speed encoders and integrators process material flow data to ensure efficient operation and direct cost savings through better material usage.



Demolition

Heavy demolished concrete, wood, tiles, and construction debris present severe impact and localized stress points on conveying systems. Multi-idler scale architectures provide increased load measurement stability and support across wider belts facing heavy demolition materials.



Heavy Industry

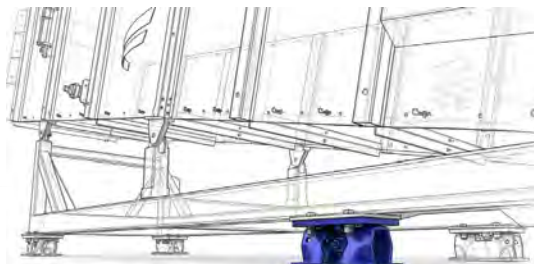
Manufacturing, logging, grain, tire, and chemical sectors demand reliable continuous process data for operational efficiency. Real-time weighing hardware integrates with remote displays to transmit critical flow rate analytics and process control variables.

KEY FEATURES

01

Load Cell Assembly:

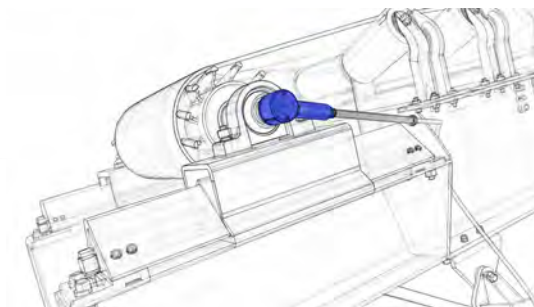
Measures the weight of the material on the belt by converting physical exertion into an electrical signal strictly proportional to the applied force.



02

Speed Encoder Unit:

Utilizes speed pick-up wheels to capture accurate belt velocity measurements during continuous conveying operations.



03

Data Integrator Module:

Processes incoming load cell electrical signals and speed encoder data to compute the exact flow rate of the material.

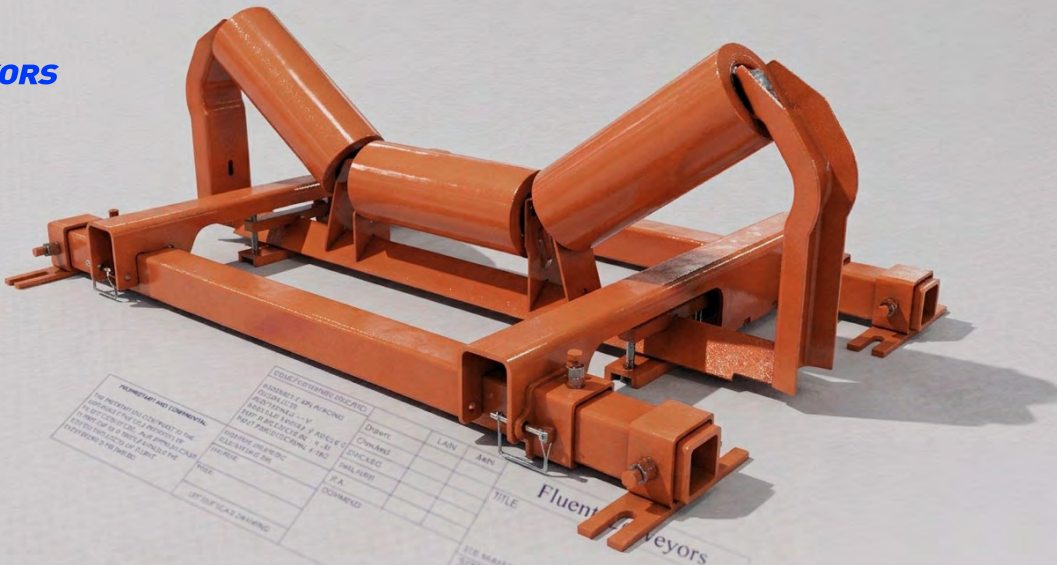


04

Idler Configuration Options:

Available in single, dual, and multi-idler configurations to accommodate different conveyor capacities, belt widths, and accuracy requirements.





BELT SCALES SPECIFICATIONS

Configuration Type	Supporting Mechanism	Primary Application Focus	Measurement Method
Single Idler	One Idler	Standard Loads	Weight
Dual Idler	Two Idlers	Fluctuating Loads & Increased Accuracy	Weight
Multi-Idler	Multiple Idlers	Heavier Loads & Wider Belts	Weight
Volumetric	N/A	Variable Material Densities	Volume

Data Processing & Calibration Metrics

Component / Variable	Function	Output / Equation
Load Cells	Material force measurement	Proportional electrical signal
Speed Encoders	Belt velocity measurement	Accurate speed data
Integrator Equation	Data synthesis	Flow rate = Weight × Speed
Calculation Example	System output	500 lbs × 2 ft/second = 1000 lbs/second

Note: Scale calibration requires recording a zero load reading on an empty belt before distributing calibration weights evenly across the belt width to adjust integrator settings.

THE ENGINEERING ADVANTAGE

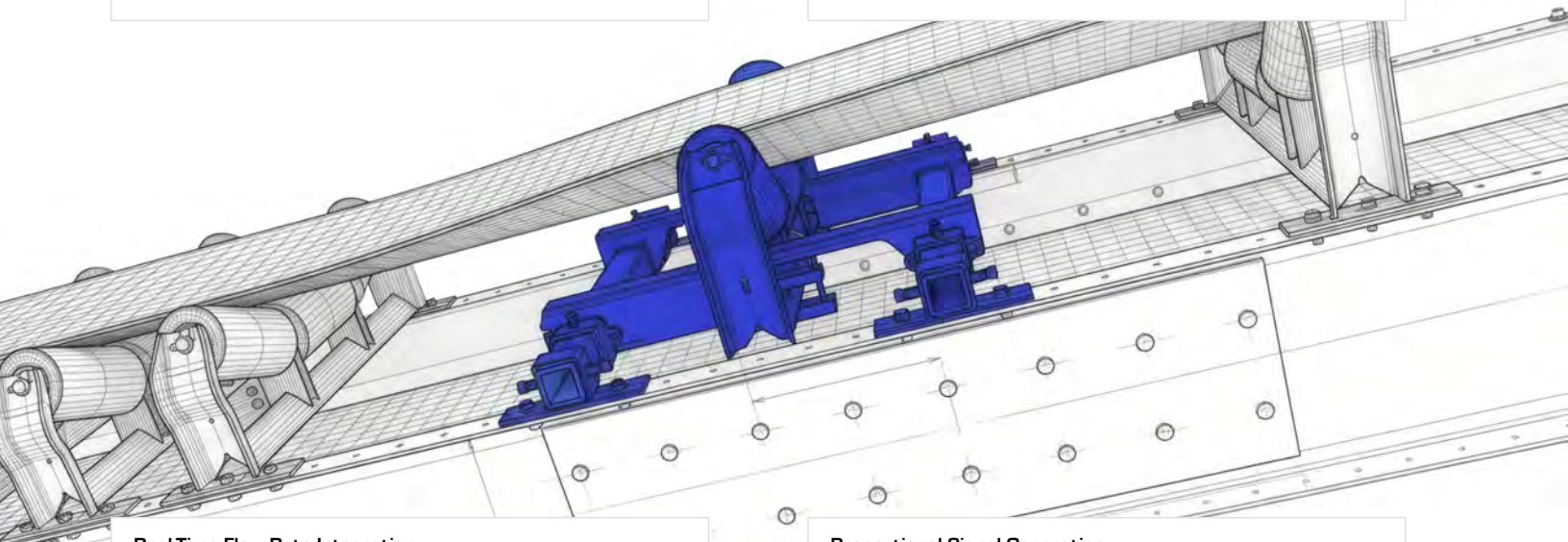
This section outlines the measurement architecture behind conveyor belt scales, covering calibration procedures and calculation principles to ensure accurate flow rate data.

Zero-Load Baseline Calibration:

Requires running an empty belt to establish a foundational zero measurement prior to applying targeted calibration weights.

Distributed Load Calibration:

Necessitates placing physical calibration weights evenly across the belt width at the scale location to verify and adjust integrator calculation accuracy.

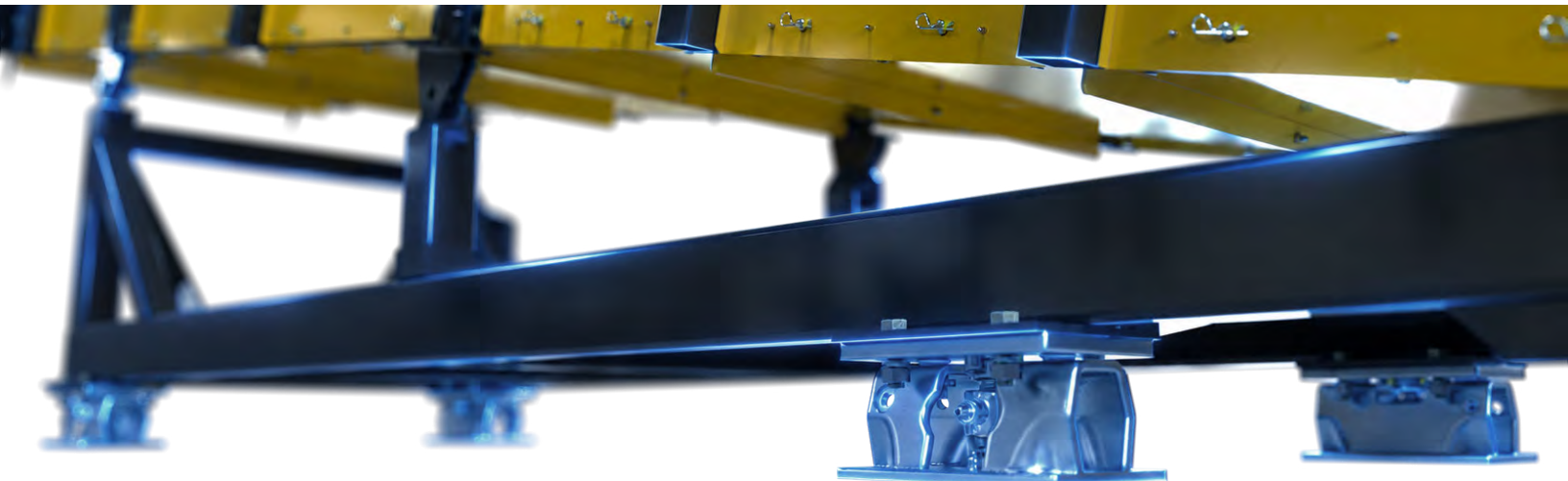


Real-Time Flow Rate Integration:

Combines mass weight data from load cells with velocity measurements from speed encoders to calculate continuous flow rates via the integrator.

Proportional Signal Generation:

Converts the physical force exerted on the load cells by the bulk material into a direct electrical signal for measurement processing.



CONTACT INFORMATION

OUR ENGINEERS WILL SPEC THE EXACT PART FOR YOUR SYSTEM

For product specifications, engineering support, or order inquiries, please contact our team using the information provided below. Our specialists are available to ensure accurate recommendations and efficient service for your application requirements.

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