

Procon Engineering

Belt Weigher Technologies



Minimise Measurement Errors. Maximise Plant Operability.

Belt weighers play a critical role in bulk material measurement and management for industries ranging from mining to agriculture to manufacturing. But in many of these applications, high temperatures, abrasive or corrosive materials and continuous-duty operation can hinder belt weigher reliability and accuracy—significantly impacting a plant’s operations and profits.

Procon Engineering’s belt weigher systems are designed and built for durability and accuracy in every application, helping you avoid bulk measurement errors to optimize plant efficiencies, maximise uptime and boost your bottom line.

Full-Spectrum Belt Weighing Solutions and Services

Procon Engineering is a leading manufacturer and supplier of turnkey Process Control and Weighing Systems, incorporating the well-established products and expertise of Defiant & Negretti Weighing and Inflo Belt Weighers.

Our belt weighing systems offer a reliable and accurate means of measuring weight per unit time and totalised values of bulk material passing along a conveyor belt, providing reliable data for operational control and reporting. Our systems are successfully used in a broad spectrum of industries, including mining, quarrying, nuclear, power generation, food and beverage, pharmaceuticals, chemicals, general engineering, agriculture, and building materials.

Operating under ISO 9001 accreditation, Procon Engineering maintains rigorous quality standards throughout design, manufacturing, installation and support. We also hold relevant quality, health and safety approvals from institutions including Lloyds Register and alongside industry-relevant Passport Schemes.



In-Process Belt Weighers

Procon Resometric Belt Weighers

have an enviable reputation for highly accurate, repeatable and reliable belt scale performance in the harshest operating environments around the world.

The heart of our system is the Digital Resometric Force Transducer (Resonator), which measures load by detecting proportional changes in resonant frequency as material passes over the carriage rollers. This change in frequency, coupled with the measured belt travel speed, provides a highly repeatable, highly accurate weight reading per unit time.

Other features include:

- Performance capabilities superior to OIML Class 0.5, a high-accuracy classification reserved for gas meters and liquid flow meters
- Virtual no-motion mechanical force measurements, thanks to lateral chainage fitted between the weigh carriage and rigid conveyor to minimise side forces introduced by poor belt tracking or material asymmetry
- Automatic angle compensation while weighing on mobile equipment like ship unloaders and stacker/reclaimers, with Procon's proprietary Astatic Mass Zero Compensation system



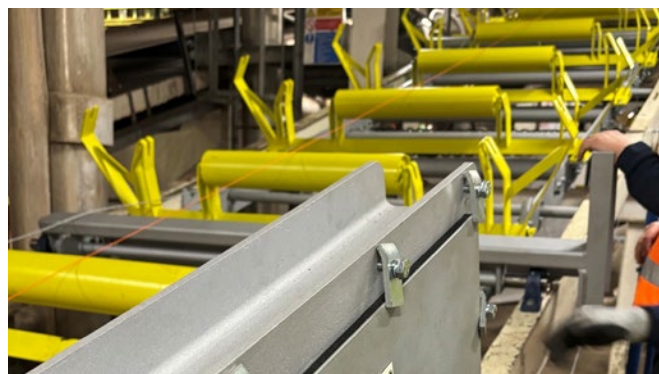
Optimised Production Management with Reduced Material Losses

Even small measurement inaccuracies can result in costly cumulative losses. For example, a plant processing ore at a rate of 5,000 tons per hour with a per +0.25% scale inaccuracy is effectively giving away up to 12.5 tons of product every hour. Over the course of a year, this loss can be as high as 26,000 tons. At a cost of \$60/ton, this equates to nearly \$1.6 million in lost revenue due to product giveaway.

The Resometric weigher provides far greater scale accuracy for tighter production control. As a result, operators can run their conveyor systems at higher speeds and throughputs, leading to more efficient operations and reduced profit losses.

For applications where cost is a key consideration and ultra-high accuracy is not essential, Load Cell Belt Weighers and Scales provide a reliable and cost-effective solution.

To ensure the best fit for your specific requirements, we recommend discussing your application in detail with a Procon Sales Engineer, who can advise on the most suitable configuration.



Other Support Services

Simple Calibration to Ensure Years of Service

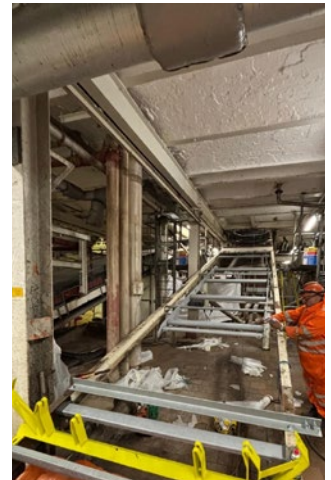
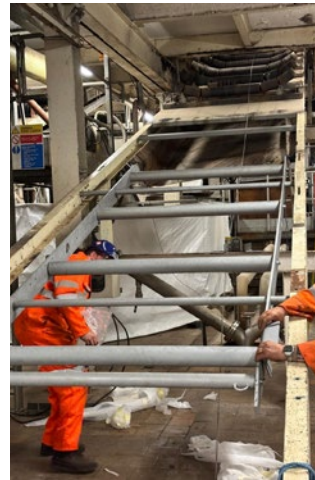
Maintaining accuracy over time is essential to belt weigher performance. Our systems can be calibrated, simply and efficiently, using roll-over calibration weights, which are positioned across the conveyor stringers and lowered to apply a known load.

This method allows efficient calibration checks with minimal disruption to operations. Once calibrated, our systems provide stable, repeatable measurements over extended operating periods, supporting reliable plant control and reporting.

Project Management

Procon Engineering understands the importance of working closely with each client to capture the full value of every system we provide. That's why we're organized specifically to provide highly effective project management, including:

- Establishing the functional design specification for every project, including detailed project plans, milestones and reviews — all under the umbrella of our ISO 9001 accreditation
- Taking full responsibility for every system we install and providing a single point of contact
- Work closely with clients' engineering departments to support seamless implementation and timely delivery



Service and Support for the Life of the System

Procon Engineering recognizes that our customers' needs extend well beyond installation. That's why we're committed to providing after-sales service and support throughout a system's operating life.

We operate a comprehensive service, installation and commissioning facility that supports our customers across the UK and internationally. Our maintenance programmes, which cover both our own systems and those of most other manufacturers, ensure your plant's performance remains at peak potential.

Specific services include:

- Onsite technical service and support
- Service Contract Agreements
- Cost-effective calibration

- Installation and commissioning
- Repair, refurbishment, and system upgrades
- In-house and onsite training to optimise system performance



Controllers

The EP52 Proweigher is a premier Procon controller designed for demanding belt weighing applications. Housed in a compact enclosure with an IP65-rated front panel, it is designed to deliver reliable performance in challenging industrial environments.

When supplied with the Procon Load Cell Belt Weigher, the EP52 controller supports system accuracies of +0.5 to +2%, depending on conveyor design and operational requirements. The controller manages belt speed and batch control functions, while retransmitting live net weight, flow rate and totalised values via serial communications or analogue outputs.

Compatibility with Modbus, Ethernet/IP and Profibus DP protocols enables straightforward integration into existing plant control systems, supporting centralised monitoring and data analysis.



Software solutions

Procon Engineering provides both application and system software. Over many years, our engineers have developed an extensive in-house modular software library. This modular approach allows proven components to be incorporated into customised plant control systems, improving conformity, consistency and reliability.

By leveraging established modules, final testing and commissioning timescales can be reduced, while maintaining high standards of performance and documentation.



Panel building

Electrical, electronic and pneumatic control panels, including MCC and multibay units, are designed and assembled in-house using standardised components selected for reliability and serviceability.

All panels undergo functional testing and comprehensive documentation prior to installation and commissioning, ensuring readiness for seamless integration into the client's operating environment.



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