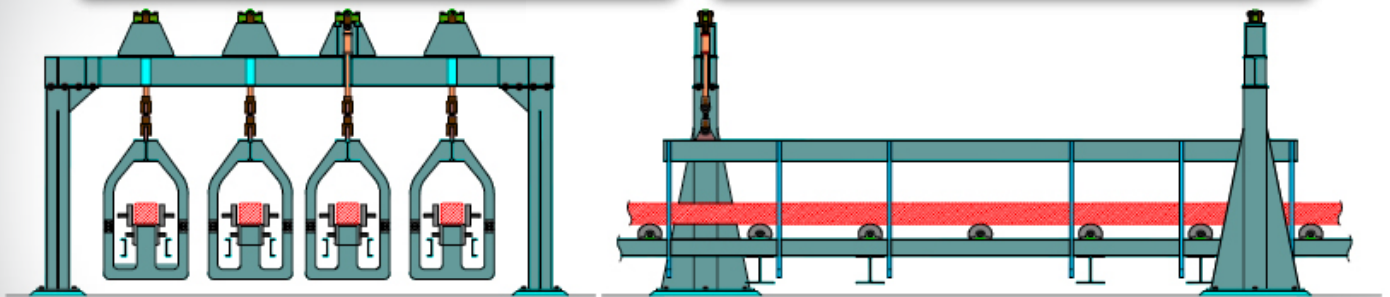


Billet Weigh System

In the competitive mill environment; yield optimization, throughout, length/weight performance consistency and scrap reduction is all important to operation success. Incorrect or erratic billet length and weight generate waste and energy costs through re-heat, customer rejection, and extra annealing energy that saps the caster and post-processing lines of volume. Extra handling raises the cost per ton beyond target financial objectives. Marginally long billet gives away product.

Old measurement and control systems produce error; and encoder-based; “price-meal” black box measuring architectures are prone to failure. “High-End O.E.M’s” overcharge for improved technology. Open to an integrated solution? Let Technical Weighing Services, Inc evaluate your current system for a retrofit to our fully integrated check weigh technology; and insist on our inclusion as a part of your new line!



Hydraulic Lift Scales

TECH WEIGH

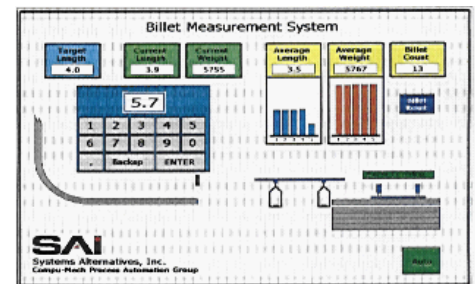
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Features:

- Torch Control: Integrated torch control and automatic length compensation. Variation to target is statistically analyzed to provide next cut pre-action.
- Reliable Length Control Implementing Better Sensor Technology: Measure by contact roll resolver (eliminates failure-prone encoder electrical and mechanical problems), or contact-less long range laser range finder technology.
- Selection of Cut an Optimization Method: Cut by length or cut by weight. Metallurgy entered in system parameters interacts with length calculation.
- Integrated Weigh Electronics: Our use of tightly-integrated PLC-based weigh modules allow fast, easy setup and calibration to flow within the operator GUI: no need to “crack the book” or fuss with cumbersome calibration routines or third party black boxes. PLC stored calibration values reset to original upon module change-out.
- PLC Based System with Open or Dedicated: GUI for Operator interface to your plant standards.
- Check Weigh Mechanicals Suit your Line Arrangement: Pick and Weigh (overhead: low maintenance); Lift & Weigh or Set-Aside and Weigh. Weigh data is compared to length data and chemistry for accurate statistical cut control using our proven algorithms.
- Statistics: Graphically track length, weight, shift uptime and productivity. Generate hardcopy or report to your Level 2 system via plant or industrial net. TWS can even provide ties to company MIS and Production Orders System and financials. Know your cost and get the data real time!



Billet Weigh Control Console
Operator's Pulpit

TECH WEIGH

Aggressive ROI:

- Return on your investment with paybacks in under a year in many cases.
- Liberation of process capacity, waste reduction, lower man-hour per ton costs and reduced maintenance.

TWS Process Engineering Background

- Mechanical Design and Fabrication: Custom engineering, load cell manufacturing and steel fabrication as self-owned resources to compliment our turn-key deliverables.
- Process Control and Data Collection Systems: Since 1986, including software, hardware, and instrumentation engineering. Most associates are ex-plant engineers: we know your needs!
- Electrical and Electronic System Design: Including power systems, motors/motion control, control panels, fabrication, and installation.
- Communications Systems: LAN, WAN, wireless, serial
- Computer Platforms: Microprocessors, PC's (various), Sun Sparc, IBM RISC, DEC (PDP/11, VAX), distributed control systems (Fisher, Bailey), PLC's (A.B., GE, Modicon, TI/Siemens, PLC Direct, Reliance), and more..All operating systems, languages and operator interfaces.

Mill Communications Products Offered by TWS

- Radio and Powerline wireless data modems and our "Data Mirror" analog and digital RTU's
- Protocol converters with protocol simulation and test software

TWS Mill Applications Experience

- Scrap Management: Weighing and Data acquisition systems to facilitate accurate weights and grade of scrap in your charge.
- Additive Systems: Alloy and other additives batching systems for furnace, AOD, and LMF stations.
- Ladle Weighing Systems: Transfer car and crane systems for the accurate weighing and data acquisition of tapped weights.
- Caster Systems: Turret arm and Tundish systems for accurate control of caster process.
- Slab/Billet/Bloom Systems: Closed loop cut to weight systems for finished goods yield maximization and production cost control. Complimentary Services and Systems: vehicle scales, platform scales, coil scale strip tension control, roll force control, crane scales, level 2 process systems interface, and custom control and mechanical engineering and fabrication.



TWS Communications Products

Why Use TWS? – Distinguishing Factors

- Confidentiality in your systems/product development.
- Flexible Contract Arrangements: We can perform as Your Consultant, a turn key supplier, contracting engineer, or confidential development partner ... you decide!
- Proven Project Methodology: The application of flexibility and multi-discipline talent, with pre-order proposal clarity, distinguished project management, and Industry wide skills and perspectives ... TWS Your Mill Systems Source