

finishing and coating

The Challenges

This is the “value-add” department of steel processing and involves a variety of operations from pickling, annealing, and tin or chrome plating; to galvanizing, slitting and shearing. In all these operations careful monitoring and positioning of material handling is extremely important to product quality. Add to this, temperature concerns and corrosive materials and you have formidable sensor and control challenges.

Smart Solutions

All AMETEK Automation and Process Technologies mill-duty smart solutions are application driven. Whether we use standard products or special engineered solutions, you can depend on five things: accuracy and repeatability, survivability, easy installation, and service. Here are a few examples in finishing and coating:

1 Entry Coil Measurement and Position

- Resolver-based entry traverse position monitor
- Mill-duty Linear Displacement Transducer (LDT) for raise/lower position
- CATRAC™

2 Accumulator/Loop Tower/Loop Car Position and Velocity

- 925 Resolver-based linear cable reel sensor monitors position and velocity
- Multi-turn dual resolver monitors loop car position and provides +/- analog output

Side Trimmer/Slitter Position

- Resolver-based encoder system monitors trimmer/slitter lap and gap positions

- Mill-duty Linear Displacement Transducer (LDT) monitors actual blade position

• CATRAC™

4 Scrap Chopper Position and Control

- Resolver-based position control
- Resolver-based Programmable Limit Switch (PLS) system cycles chopper for even blade wear
- CATRAC™

5 Air Knife Position

- Resolver- and Linear Displacement Transducer (LDT) based air knife 3 and 4 axis positioning

• Model 955S or 956 BLOK

6 Shear Measurement and Control

- Resolver-based high speed Programmable Limit Switch (PLS) system measures length and triggers shear

7 Exit Coil Position

- Resolver-based coil car positioning

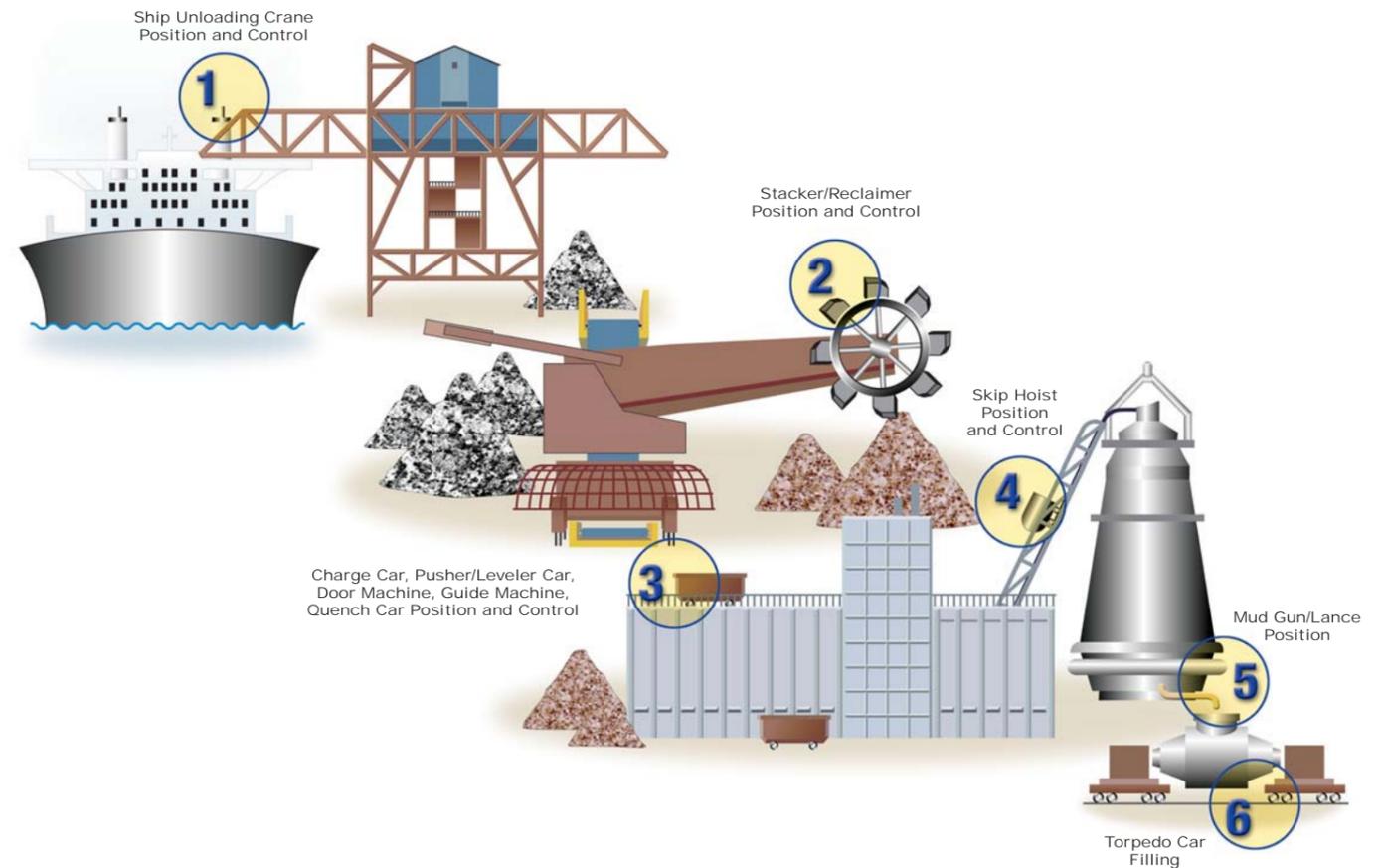
- Linear Displacement Transducer (LDT) monitors raise/lower position

• CATRAC™

More Mill-Duty Solutions

Control Products

In this area of the mill, AMETEK Automation and Process Technologies also offers mill-duty GEMCO hydraulic, electric, and electro-thrust brake systems, CATRAC™ cable and hose carriers, and B/W point level and continuous liquid level control with EPA approved leak detection in below ground tanks.



application notes

Reduce Cycle Time

Greater Skip Hoist Control Reduces Cycle Time By Up To 10%

The Challenge: To get more “heats” from a blast furnace

One way to meet this challenge is to fill the furnace faster by allowing the skip car to travel farther up the ramp before programmed slow-down. In the past, ramp slow-down has been determined by cam switches or encoders feeding a PLC. They work, but because of poor repeatability or long scan times, the skip car has to begin its slow down early in the cycle ... too early. It is a time-waster.

The Solution: GEMCO Series 1989 PLS dedicated skip car control device

With scan times in the 200 micro-seconds range and highly accurate continuous positioning outputs, you can drive the skip car farther up the ramp before slow-down is required. In a 1:45 second cycle, you can save 7 to 10%. The Series 1989 PLS also has a unique feature that continuously compensates for cable stretch, allowing you to maintain cycle time gains and avoid crashes.

This is a proven smart solution at work in steel mills worldwide. Consult factory for application details.

