raw material to iron

The Challenges

Processing of raw materials is an area where profits can be earned through greater process and inventory control or lost in high maintenance and downtime. In this area, you face unique sensor and control challenges: ambient temperature and weather extremes; potential collisions, long mechanical travels; the accurate movement, stockpiling and blending of raw materials; potentially explosive conditions; and abrasive compounds.

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 raw material to iron:

1 Ship Unloading Crane Position and Control

- *Resolver-based, long travel, and boom positioning sensors*
- *Thruster Brakes*

2 Stacker/Reclaimer Position and Control

- *Resolver-based luff and slew packages in mill-duty housings that emulate encoder outputs or provide analog outputs*
- *CATRAC™ carriages and CATRAC™ turntables*
- *Explosion proof cam switches with optional internal resolver or provisions for your rotary sensor*
- *Explosion proof resolvers*
- *Brakes*

3 Charge Car, Pusher/Leveler Car, Door Machine, Guide Machine, Quench Car Position and Control

- *Resolver-based pusher bar and leveler bar position sensor in mill-duty housing*
- *Mill-duty Linear Displacement Transducer (LDT) for door removal mechanism*

4 Skip Hoist Position and Control

- *Dedicated Programmable Limit Switch (PLS) controls skip car cycle*
- *Resolver-based stockline winch and stock rod position encoders in mill-duty housings*
- *Mill-duty encoder packages for chute/distributor tilt and rotation*
- *1746-1771 cards for A/B PLC*

5 Mud Gun/Lance Position

- *Resolver-based position and mud charged measurement encoder in mill-duty housing*
- *Cam switches with resolvers or encoders*

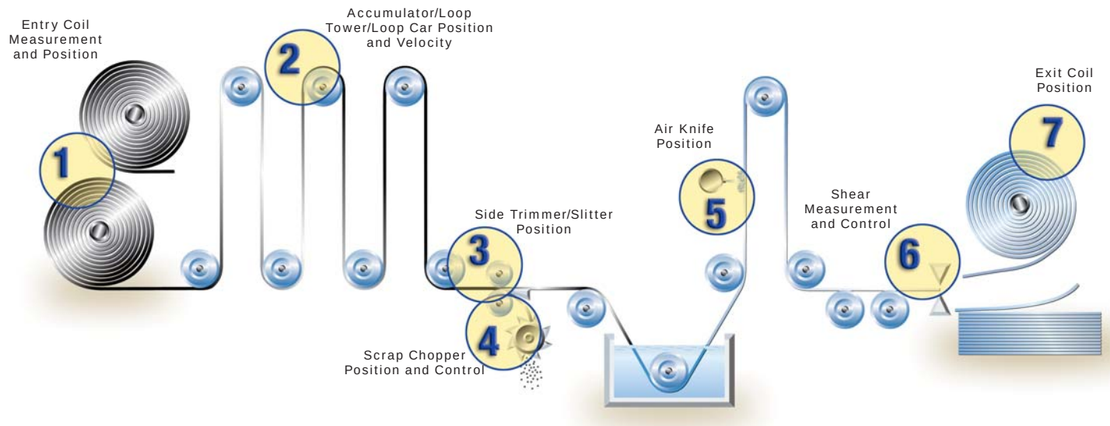
6 Torpedo Car Filling

- *Resolver-based position encoders for hot metal and slag tilt spouts*

More Mill-Duty Solutions:

Control Products

In this primary area of the mill, AMETEK Automation and Process Technologies also offers mill-duty GEMCO hydraulic, electric and electro-thrust crane brake systems, CATRAC™ cable and hose carriers, and process hoist limit controls, stock rods, temperature measurement and bell bunder blending.



application notes

Reduced Down-Time

Special Engineered Replacement Sensor Operates 10 Times Longer Than OEM Supplied Sensor Package

The Challenge: To improve encoder package survival near the pickling operation

The original resolver/encoder packages supplied with the OEM's drive systems were not providing acceptable operational life due to corrosive liquid entering the sensor housing and destroying the sensor.

The Solution: A direct bolt-in replacement sensor for the original OEM supplied sensor package

The electrical characteristics of the OEM resolver and pulse encoder were analyzed to insure that our replacement was compatible. The sensor housing is built from stainless steel. Double shaft seals were used to stop the penetration of corrosive liquids. The results were dramatic. Our engineered sensor solution lasted 12 months before failure. The OEM sensor package lasted, on the average, 3 to 4 weeks before failure and replacement was necessary. But that's not the end of the story. When our sensor failed, we analyzed the failure and have redesigned the product for even longer life. This is just one example of a special engineered solution that is making a real impact in steel mill productivity.

Consult factory for application details.

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