

Weighing & Process Protection Portfolio

Weighing



Electronics



Belt scales



Weighfeeders



Impact flowmeters



Load cells

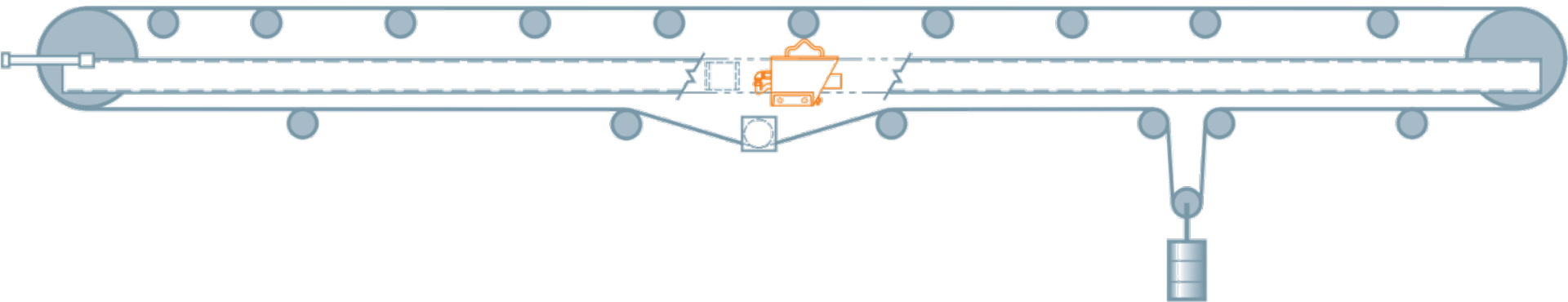
Process Protection



Acoustic and motion sensors

Comprehensive portfolio meeting the challenges of today's global industrial needs

What is a belt scale SYSTEM?



Advantages

- No disruption to the process
- Material characteristics are not altered
- Time to process material is not affected
- Capital expenditure is minimal
- Maintenance costs are low

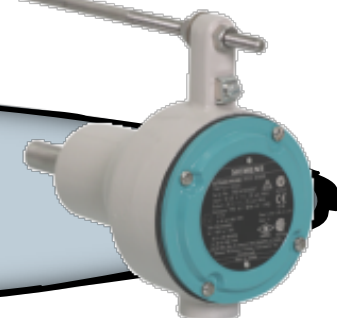


Three components

Belt scale



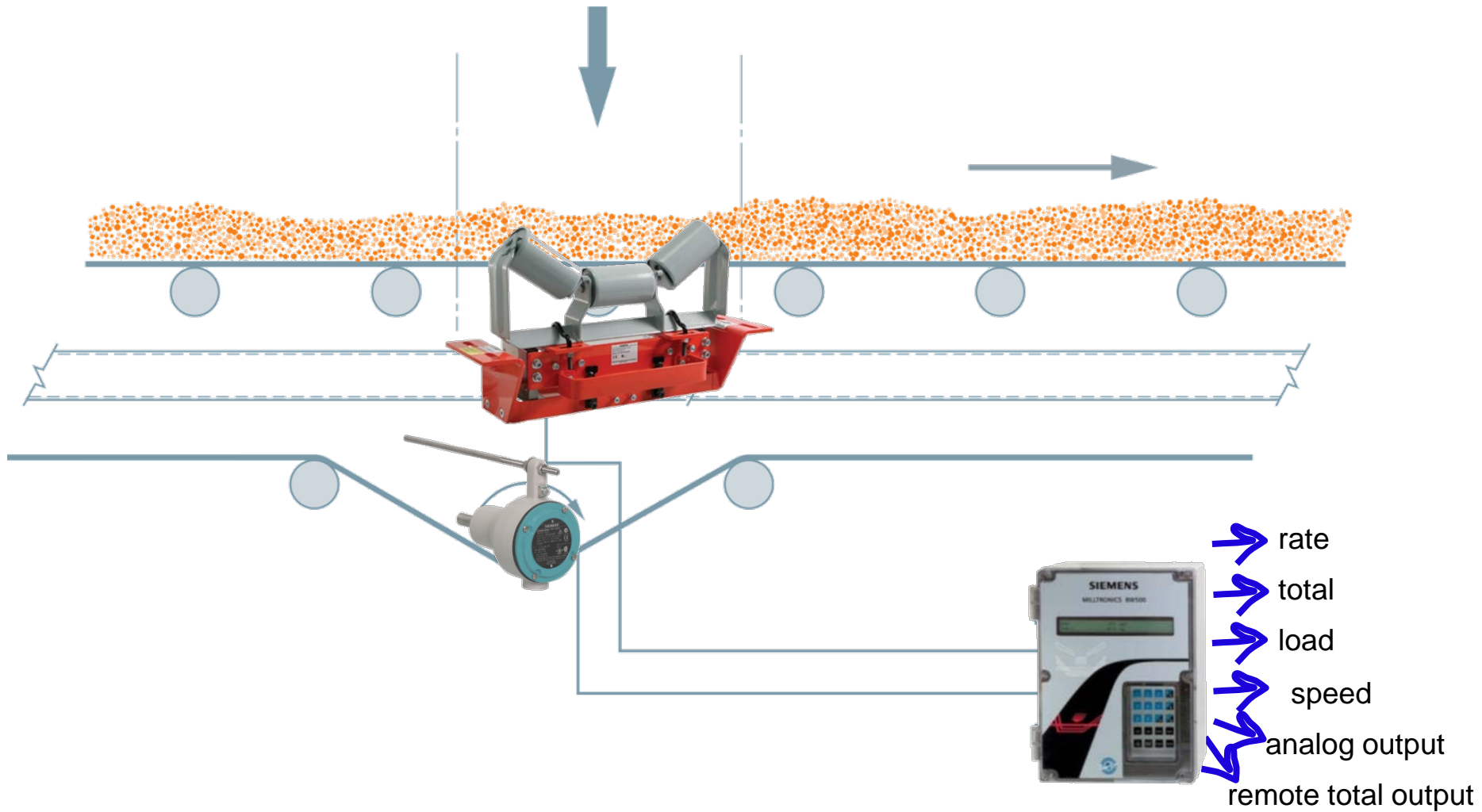
Speed sensor



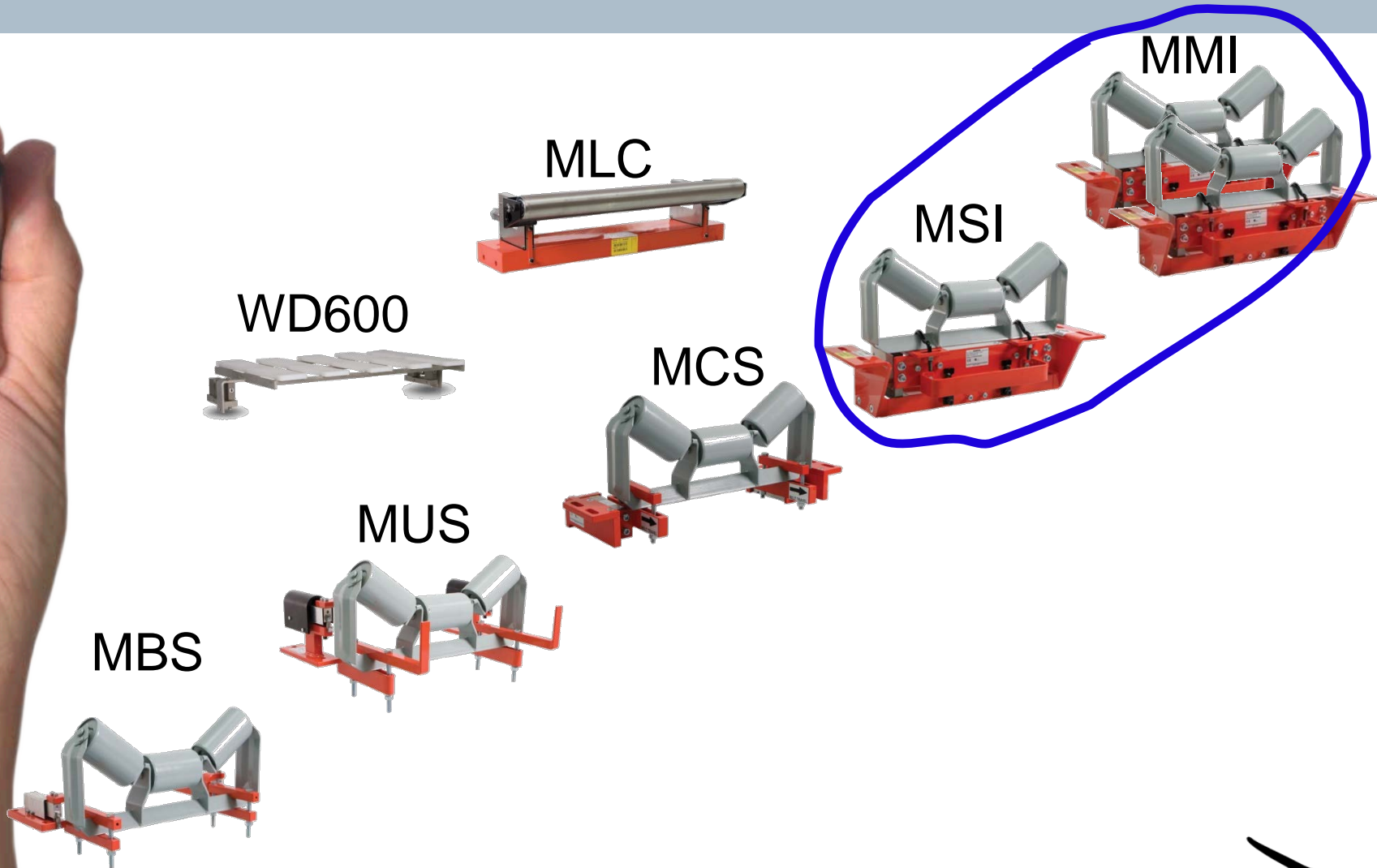
Integrator



Belt scale basics



Our belt scale family

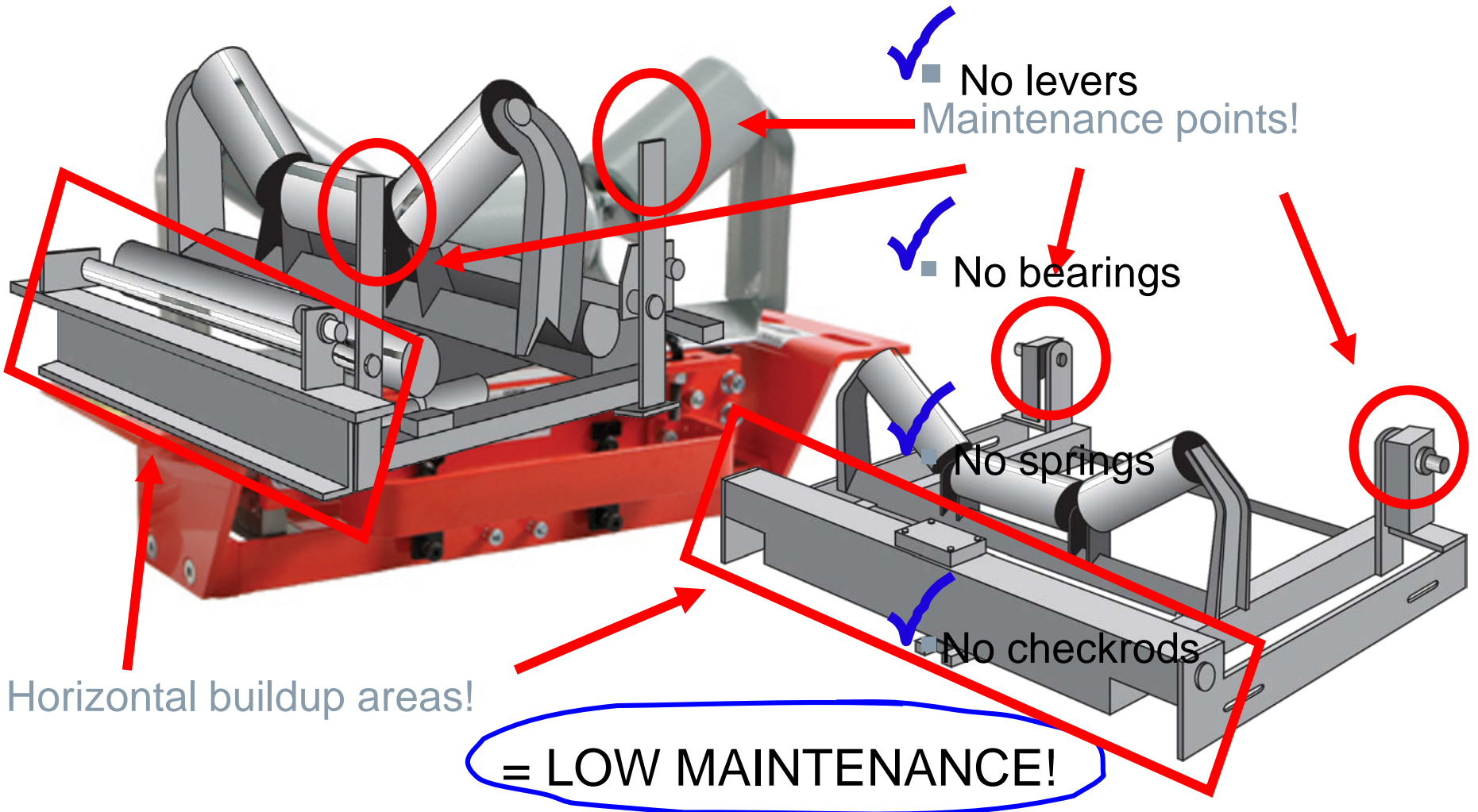


MSI – Milltronics Single Idler

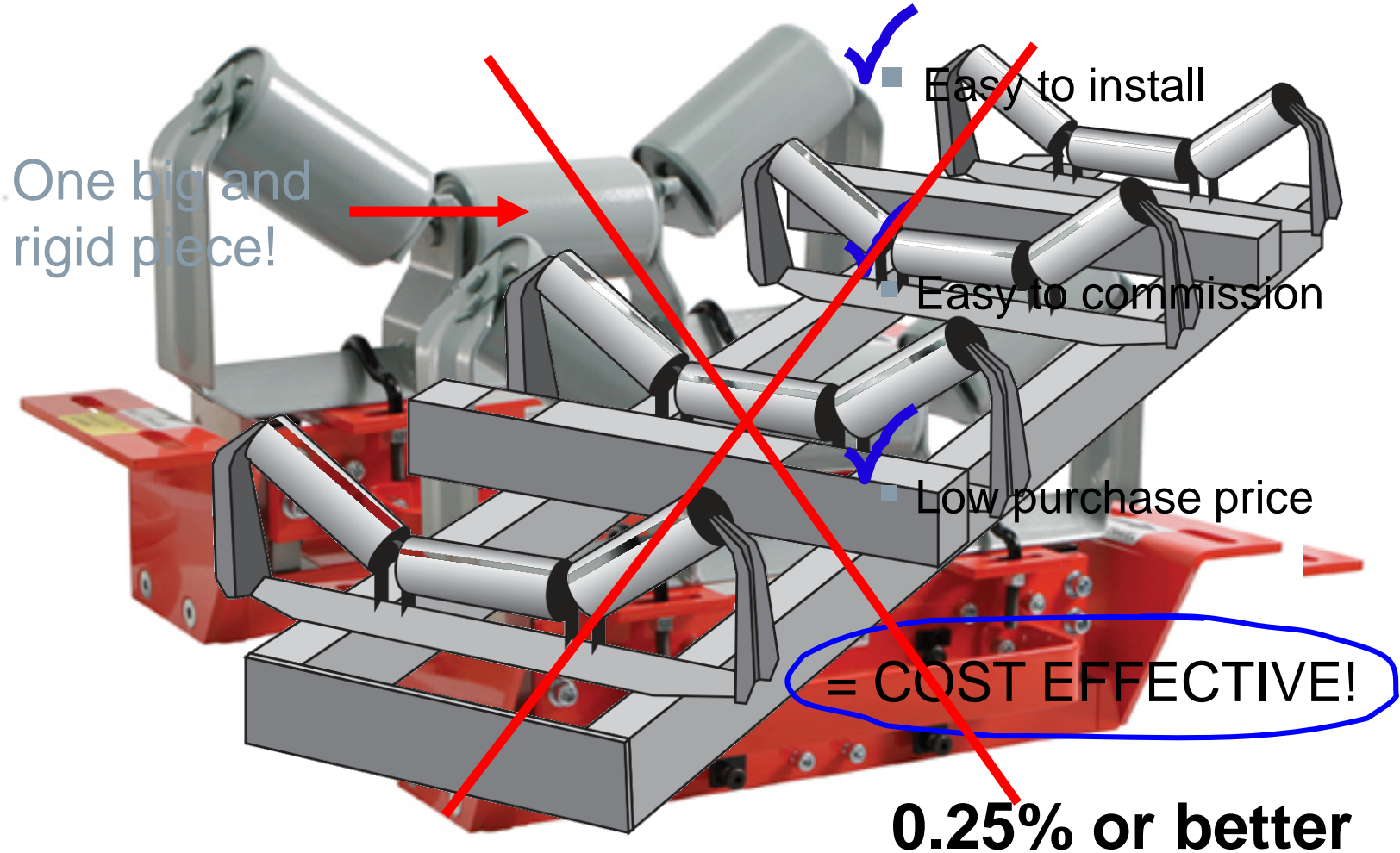


0.5% or better

Low maintenance



MMI – Milltronics Multi Idler



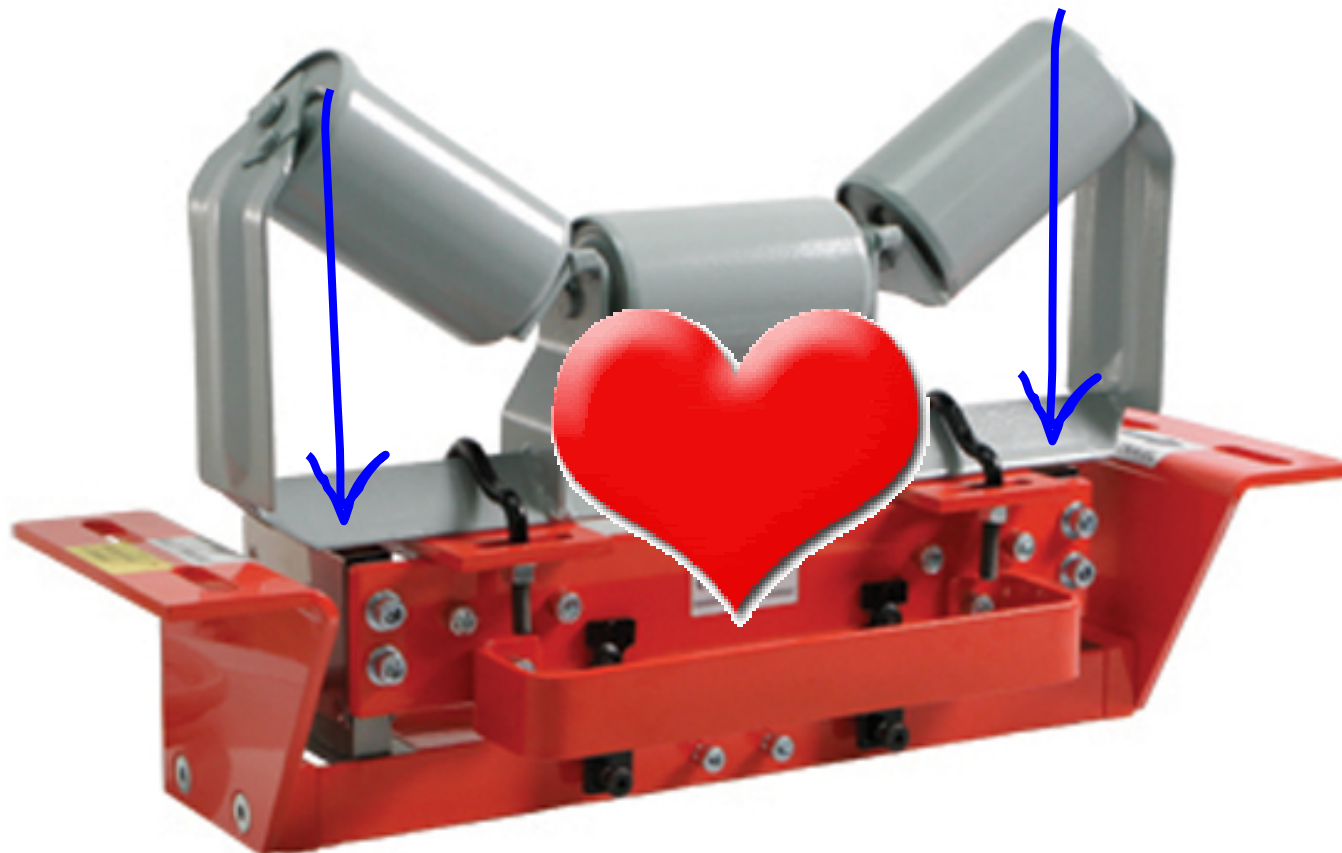
MSI in the field



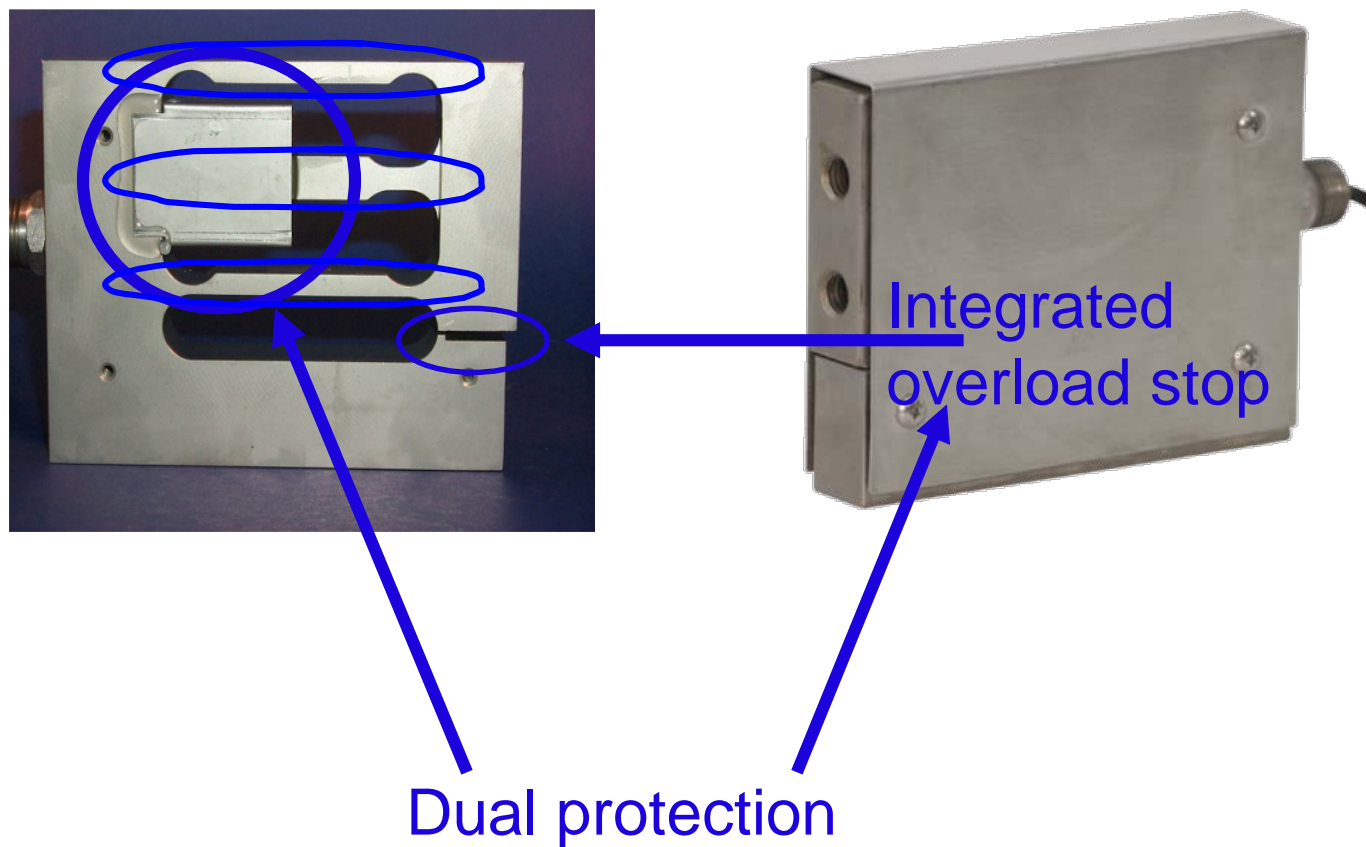
MMI in the field



Load cells



Load cells



Load cells



Load cells



Our integrator family

Siwarex WP241



Siwarex FTC



Milltronics BW500/L



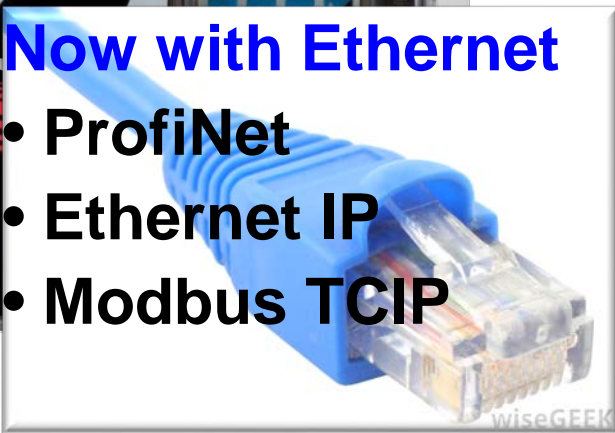
Milltronics BW500

Milltronics BW500



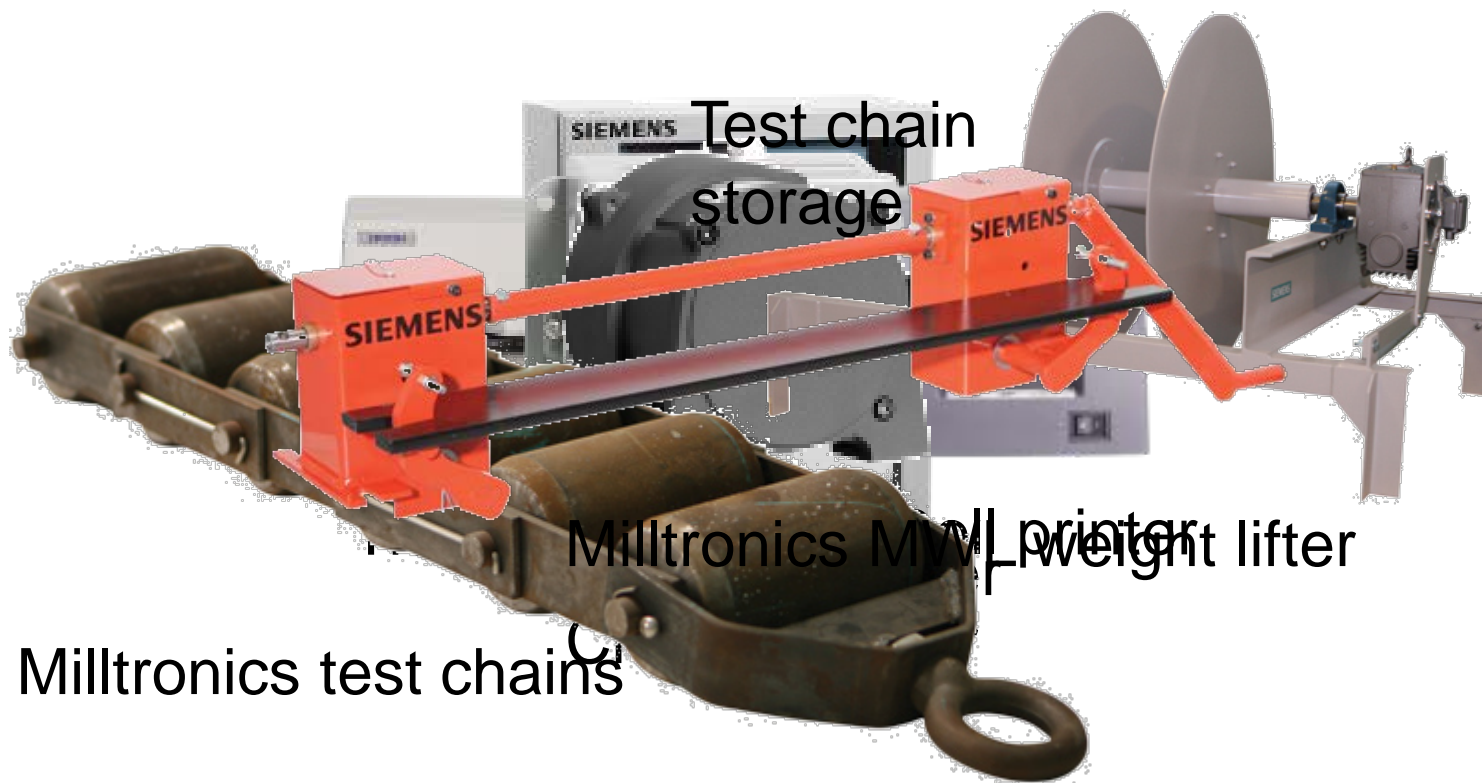
Now with Ethernet

- ProfiNet
- Ethernet IP
- Modbus TCIP



- ✓ ■ Differential speed detection and batching
- ✓ ■ Incline and moisture inputs
- ✓ ■ Online calibration
- ✓ ■ Multiple feed conditions and/or material
- ✓ ■ Five programmable multifunction alarm relays

Belt scale accessories

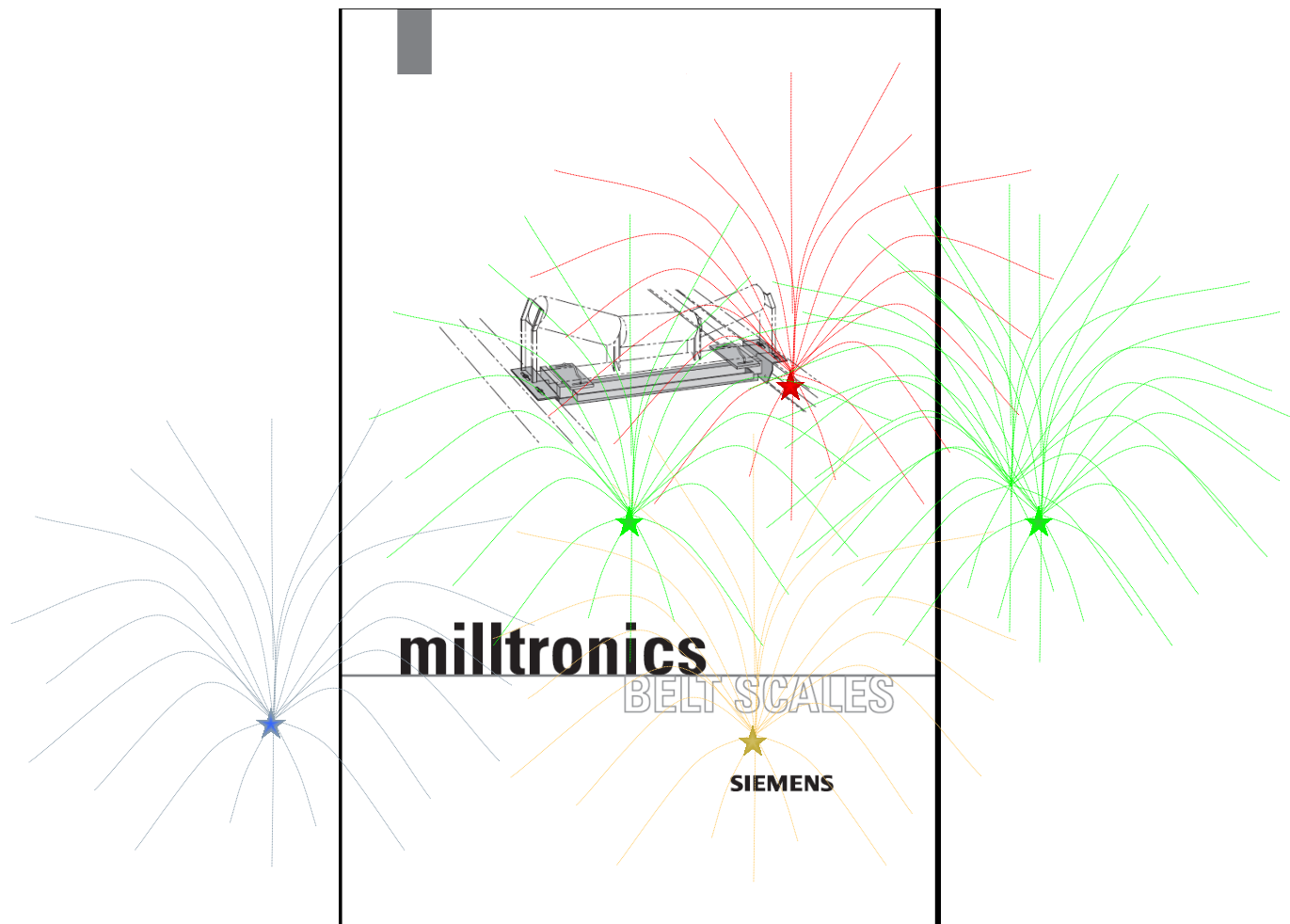


Test chain storage

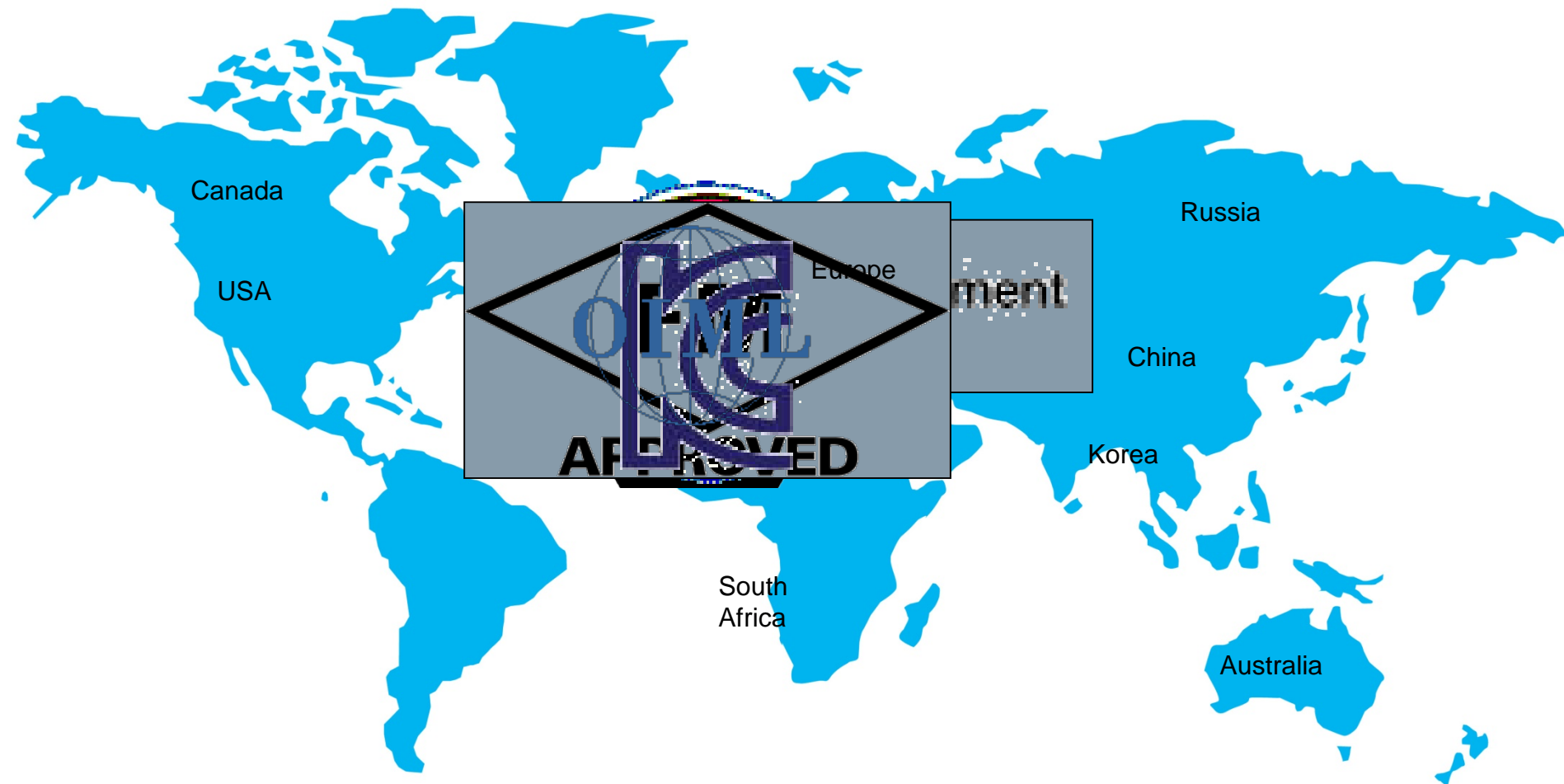
Milltronics MW printer weight lifter

Milltronics test chains

Proper installation is key!



Approvals



A world of applications



Case studies



Siemens MS/MMI belt scales

High accuracy of raw materials improves steel company's bottom line



XinYu Steel is a large steel mill located in XinYu City, China. In operation for more than 50 years, the company is highly focused on innovation and the application of new products. XinYu produces and sells iron and steel products including plates, wires, rebars, tubes, and strips. XinYu markets its products in China, United States, South Korea, Japan, Europe, and southeast Asia.

During steel production, iron is melted and reprocessed to remove any other carbon in excess of that required as an alloying agent. Other alloying elements can include tungsten, manganese, vanadium, and chromium. Steel is then cast into ingots or slabs to form a variety of products, including sheet metal, plates, bars, wire, and rails.

Increasing efficiency by focusing on the measurement of energy and raw material is a major goal of XinYu. Improving cost accounting processes assists with overall production efficiency. In the steel production system, these processes are mostly based on the measurement of energy and the accounting of raw materials. Precise measurement of raw ingredients is therefore critical to a company's bottom line.

Challenge

For several years, XinYu experienced problems caused by inaccurate measurement of raw material in the company's mines, material plants, and other production plants. XinYu attempted to solve the problem by installing electronic belt scales. Unfortun-

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Milltronics MSI, Milltronics BW500, and SITRANS WS300

Conveyor becomes weighfeeder with reliable belt scale system



A material handling company located in eastern Ontario, Canada designs and manufactures a variety of products including conveyors, bucket elevators, and weighfeeders, to list a few.

The company's products are used in a wide variety of industries including pulp and paper, mining, cement, smelting and reduction, food processing, quarrying, chemical, power plants, and ports.

Challenge

The mechanical design of conveyors and other material handling equipment is this company's focus. They required a belt scale partner to provide components that could be used for weighfeeder supply. The appli-

cations that the company was targeting were those with very high flow rates.

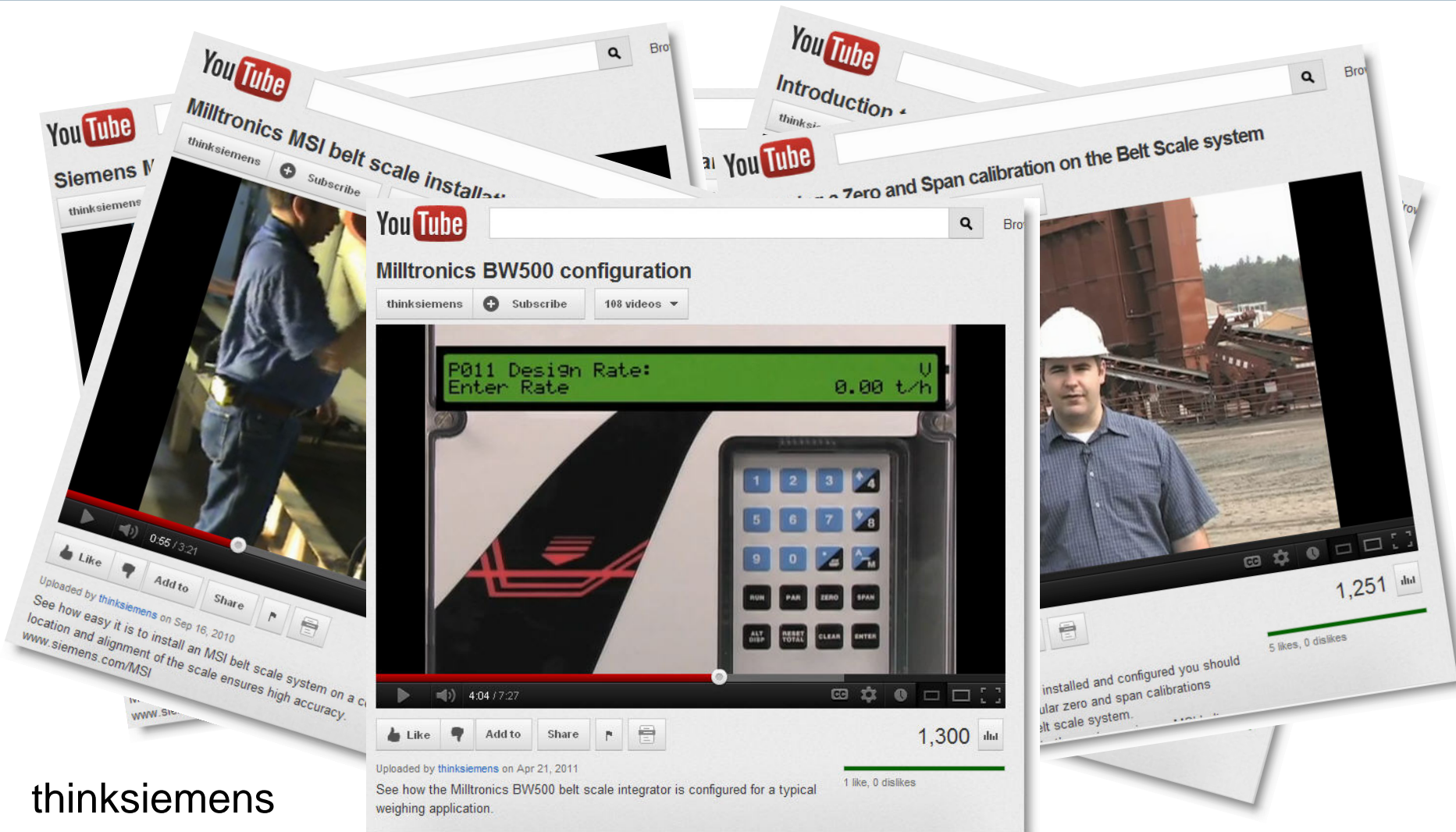
Weighfeeders can be up to 15.2 meters (50 feet) long, with flow rates reaching 10,000 tph (11,000 stph). Very few belt scale manufacturers provide a scale that fits on conveyors with belt widths of up to 1.8 meters (72 inches) and flow rates up to 12,000 tph (13,200 stph). With this amount of material moving on their weighfeeders, accuracy and reliability were the biggest concerns in this company's search for a belt scale partner.

Solution

The company chose the Milltronics MSI belt scale from Siemens because of its

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YouTube videos



thinksiemens

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MSI demo

- 0.5% accuracy with a single idler
- linear to 150%
- overload to 300%
- easy to install
- not affect by belt forces
- direct loading and fast
- reliable & robust
- integrated loadcell stop
- world wide approvals
- tried and true
- mild / stainless / galvanized steel available

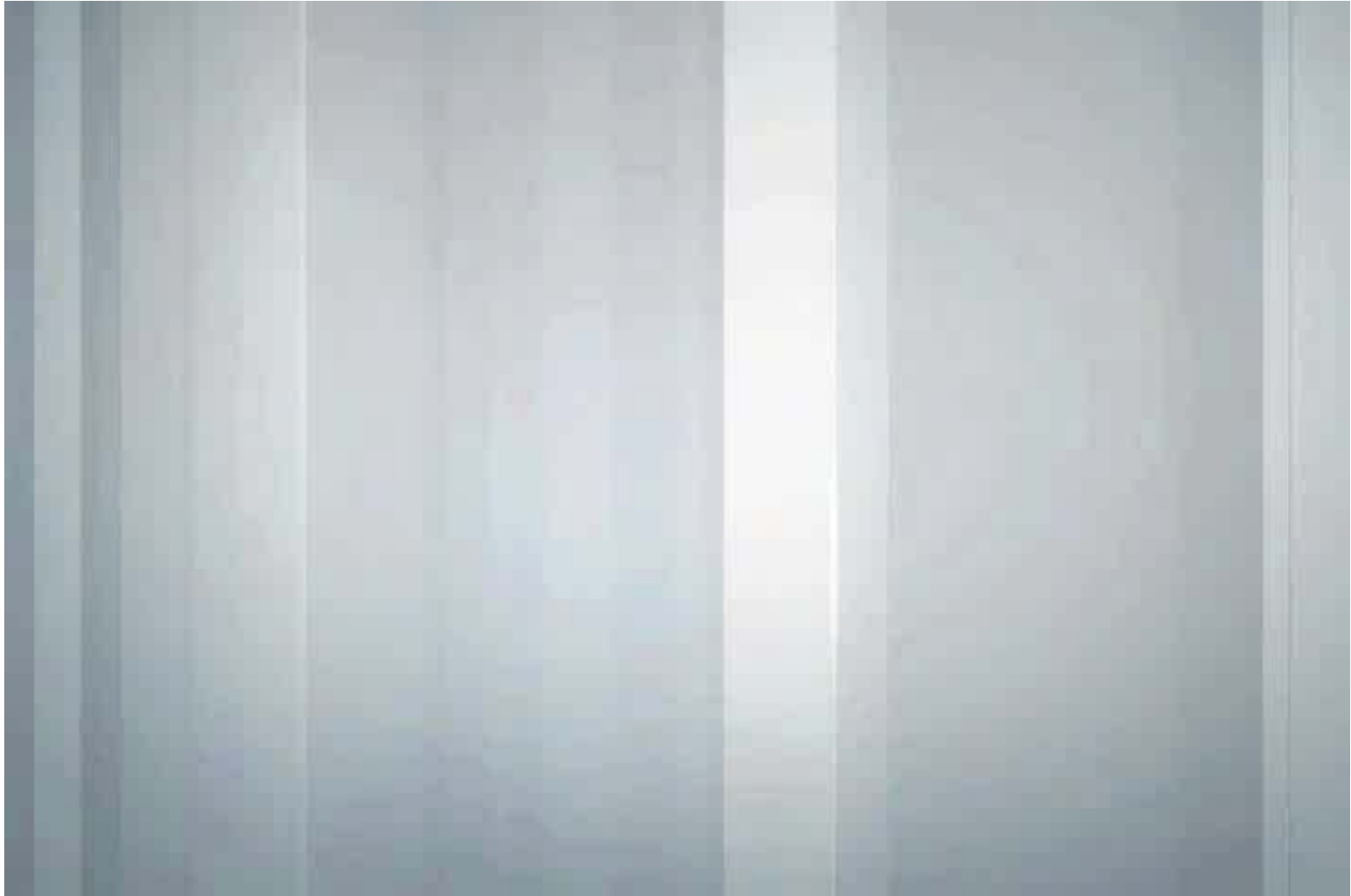


Backup material – for future refresh

Mike Tallevi – MSI Video

Sales Primer / Key Selling Points

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SIEMENS



Webinar
2014

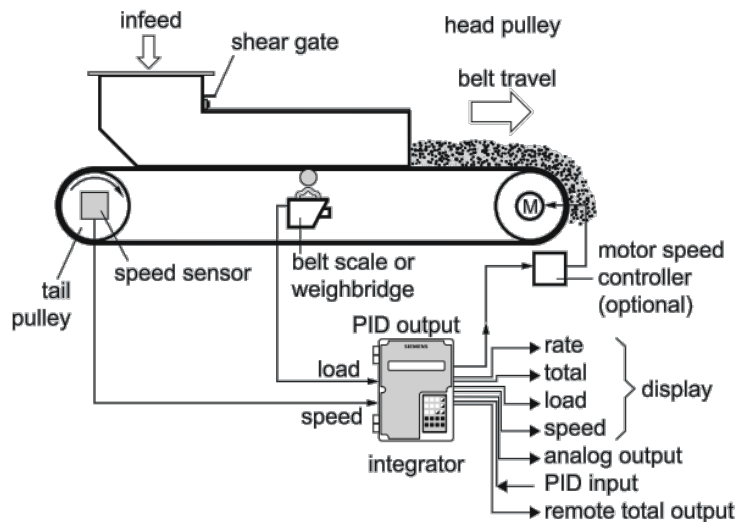
SITRANS WW300 / 310

Heavy duty weighfeeders

Weighfeeders

Why do I need a weighfeeder?

- Quality control of product processing
- Flow rate control for batching or blending
- Feed control of material out of a bin or hopper
 - Combine, conveying, control and process inputs



SITRANS WW310

Medium to heavy duty weighfeeder for use in harsh industries

- $\pm 0.5\%$ accuracy over 10:1 turndown, based on speed
- Up to 270 mtph (300 t/h) capacity
- Rugged triple labyrinth sealed idlers
- 304 or AR400 steel material contact parts available
- Modular design for complete disassembly/maintenance



SITRANS WW310 features & benefits

- All SITRANS WW310 weighfeeders are cantilevered for easy belt changes



- Weighfeeders come complete with installation lifting points



SITRANS WW310 features & benefits

- All SITRANS WW310 weighfeeders are factory tested to ensure accuracy and repeatability
- Each weighfeeder comes standard with a return belt V-plow and a head pulley belt scraper for continuous belt cleaning
- Pulleys are crowned for positive belt traction and all weighfeeders come with belt side rollers



SITRANS WW310 features & benefits

- SITRANS WW310 motors are inverter duty rated for speed turn downs up to 10:1



- The load cells and speed encoder are accessible without removing an access panel



SITRANS WW310 features & benefits

- The infeed is a mass flow design to reduce funnel flow effects of material in a bin or hopper
- The design is modular; an enclosure can be built onto an open unit and bottom covers can be added to enclosed unit all after installation



SITRANS WW310 accessories



Integration

Milltronics BW500

- Standalone with full PID control and relay outputs
- Modbus, Ethernet, Profibus DP, Profinet, Modbus TCP, DeviceNet
- Eng, Ger, Fre, Spa, Rus, Ita, Por languages

SIWAREX FTC

- SIMATIC S7 integration
- Data logging

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Drive control

- Options for all power needs
- Basic and advanced functions
- Industrial communication options

SITRANS WW310 application examples

Cement production

- Feed rate control for material blending
- Product quality



Mine back fill

- Feed rate control of material
- Control additives for empty mine filler



SITRANS WW310 application examples

Power generation

- Feed rate control for coal
- Furnace feeding to monitor environmental regulations



Steel

- Feed rate control of material
- Product quality



SITRANS WW310 application examples

Power generation

- Feed rate control for ethanol
- Process feeding for production

Mineral processing

- Feed rate control of material
- Product quality



Sales support

Application data needs to be submitted for technical review and configuration



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Weighfeeder Application Questionnaire

Customer information

Contact: _____ Prepared By: _____
 Company: _____ Date: _____
 Address: _____ Notes on the Application: _____
 City: _____ Country: _____
 State/Province: _____ Zip/Postal Code: _____
 Phone: (____) _____ Fax: (____) _____ E-mail: _____

Material

Material being measured: _____ Particle size: _____ mm/inch/mesh
 Bulk density: _____ Kg/m³ or lb/cu. ft. or t/m³ Moisture content: _____ %
 Temperature: _____ °C/°F Angle of repose: _____ degrees Surcharge angle: _____ degrees
 Material characteristics: sticky powder corrosive highly abrasive fluidizes

Pre-feed

(Supply sketch where possible) Sketch attached
 Application: Load, speed, rate, and total Batch Control Ratio controlled blending
 Feed type: Rotary valve Belt Screw Vibratory pan Bin, hopper, or silo Other
 Hopper size: _____ ft³/m³ Continuous conveying Discontinuous conveying
 Feed rate: _____ t/hr, kg/hr, lb/hr, LTPH, or STPH _____ min. _____ max. _____ nominal
 Accuracy required: +/- _____ % Hazardous classification at scale location: _____
 Condition of operating environment: Wash down Sanitary Corrosive Normal
 Duty cycle: _____ hours per day Material free fall height onto belt: _____

Weighfeeder

Space limitations: length: _____ width: _____ height: _____ mm/inch Requested belt width: _____ mm/inch
 Construction: open enclosed Quantity required: _____ Access side looking in direction of belt travel: left right
 Inlet dimensions: L x W: _____ mm/inch Centerline length: _____ mm/inch
inlet to discharge

Installation

(Indicate all that apply) Power available for motor: _____ volts _____ Hz
 Inputs required: 4 ... 20 mA PID
 Outputs required: 4 ... 20 mA Relays (#): _____ PID Remote totalizer
 Communications: AB Remote I/O PROFIBUS DP SIMATIC S7 PLC EtherNet/IP DeviceNet RS-232 / RS-485 Modbus ProfiNet Modbus TCP/IP
 Preferred Weighfeeder Model: WW100 WW200 WW300 Preferred Construction: Painted mild steel 304 SS 316 SS
 Options: Belt tracking switches Safety pull cord switches Secondary speed sensor Start, stop, speed, controller
 Gravity tensioned belt tracker (WW100/WW300) Shear curtain Belt cleaning brush
 Open options: Discharge dust hood Skirtboard covers
 Enclosed options: Bottom covers Dust tight seals Plugged discharge chute switch Skirtboard covers Dust extraction port Drag chain clean out conveyor

SITRANS WW310

Your ideal solution for heavy duty weighfeeder applications in price competitive environments.

- $\pm 0.5\%$ accuracy over 10:1 turndown, based on speed
- Up to 270 mtph (300 t/h) capacity
- Rugged triple labyrinth sealed idlers
- 304 or AR400 steel material contact parts available
- Modular design for complete disassembly/maintenance



SITRANS WW weighfeeders



SITRANS WW100	SITRANS WW200	SITRANS WW300	SITRANS WW310
Food, W/WW, chemical	Food, chemical	Cement, steel, power, mining	Cement, steel, power, mining
Compact high accuracy unit designed for ease of cleaning and maintenance	Flexible design with a long weighdeck for optimum weighing accuracy	Dust-tight patented unibody design allows for quick and easy belt changes	Modular design with external access to critical components
Single load cell allows for extremely low flow rate monitoring	Belt support slider bars are self cleaning and minimize moving/rotating parts	Self-steering belt tensioner maintains positive belt tracking while conveying	Removable components allow for complete disassembly for cleaning or maintenance

Thank you!



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