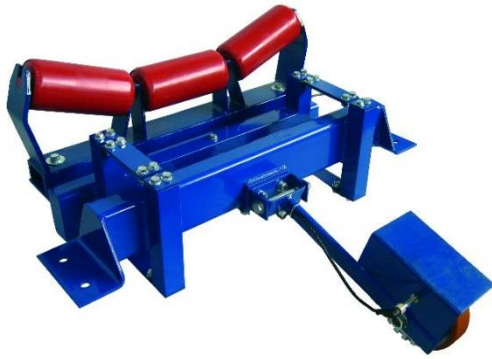


BELT WEIGHER (SCALE)

SRT/1R et SRT/2R



DEFINITION and PRINCIPLE

The Belt Scale is a weighing machine designed to acquire continuous material flow handled by a belt conveyor and by the integration of flow rate to determine the totalized amount of material.

The material flow is the weight per meter on the conveyor in comparison with the unrolled belt length.

The weight of the material on a belt length called "weighing length" is measured by one or two Strain Gauge Load Cells

The belt speed is measured by an incremental encoder or a proximity detector located on the conveyor's driven drum

DESIGN AND CHARACTERISTICS

The SRT Belt Weigher was designed by SAUTELMA to meet the high accuracy required by their customers. The weight collection system incorporates 2 parallel sets of flexures supported by one or two strain gauge load cells. The design of the weight collection system ensures that the weight is transferred correctly into the load cell, to optimise the weighing performance.

The SRT belt scale can be single idler or double idler scale (SRT/1R et SRT/2R)

It consists of three main parts:

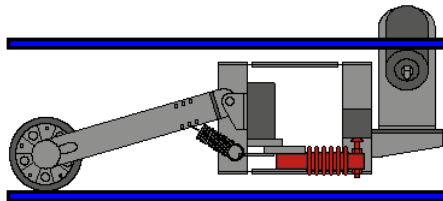
- Weight collection system model SRT
- Load cells, speed detector and signal processing unit
- Digital electronics control system

Stainless steel IP 67 Strain gauge load cell. The belt weigher is assembled with one or two load cells according to the belt width

Robust weighing frame (weight collection system) at one or two weighed idlers. Heavy duty construction in carbon steel (optional in stainless steel)

Local processing of signals (weight & speed) by a Digital Signal Processing Unit (optional).

High resolution digital speed transducer. The SRT belt weigher can also be supplied with a proximity speed detector installed on the conveyor's driven drum (cheaper solution)



The Belt scale is monitored by a MINISMART digital weight controller developed by Sautelma for all industrial weighing and feeding applications. The Minismart can be installed near the belt scale in an IP 65 cubicle or without cubicle in the plant room control panel.

ADVANTAGES

- Simple weighing frame easily adaptable to all types of conveyors
- Easy and quick commissioning
- Digital signal processing unit based locally
- Automatic zero and calibration software
- The SRT weighing collection system ensures the perfect transfer of the weight into the loadcell/s
- The SRT Belt Scale is approved by OIML for commercial (trade) continuous weighing,
- Weighing accuracy : up to +/- 0,25 % (depending on the conveyors characteristics)

APPLICATIONS

Sautelma's SRT Belt scale is used for continuous weighing of bulk materials on belt conveyors.	
Quarries and sand pits :	Production control and trade weighing
Dock installations :	Ships loading and unloading
Mines	Production control
Coal terminal station	Boiler filling control
Construction materials	On line acquisition of flow rate and totalized amounts
Food industry	Grain production control and accountability of stored amounts
Sugar factory	Receipt of raw materials, flow and consumption measurement, trade weighing
Tobacco	Weighing and control of tobacco throughput in production plants
Chemical, fertilizers :	Production control, bulk shipping, trade weighing



CONTROL COMMAND EQUIPMENT



Minismart IP55 cabinet



Minismart Front face



Digital signal processing unit

The SRT Belt scale is controlled by the **MINISMART** electronics controller.

The MINISMART controller consists of two cards :

Central unit card with 16 bits microcontroller and digital and analogue Inputs/Outputs and ports for serial connections RS232 / RS485

Front face card with 2 display units and a multifunction keyboard

- Designed for interchangeable modular cards,
 - It is installed in a IP 55 or IP65 cabinet
- Human-Machine Interface (HMI) including :
- High visibility alphanumeric display,
 - LCD display (20 characters - 4 lines) for conversation mode,
 - Multifunction keyboard with alphanumeric keyboard, operating keys (parameters) and control keys (set point, zeroing, calibration and faults)
 - Operating display
 - Designed with interchangeable modular cards,
 - Memory assisted by self-powered battery in case of mains failure,
 - Parameter safety key by access code,
 - Communication ports for serial connection RS232, RS422 or RS485 of the external peripherals (desk printer, PLC)

Software

- . automatic tarring and calibration software
- . continuous belt weighing software
- . tantalization of weighed material
- . automatic tarring and calibration software
- . Galvanic isolated 4-20 mA signal for instant throughput
- . Communication by digital and analogue (4.20mA) signals or other links (MODBUS, PROFIBUS, DEVICENET, CONTROLNET, ETHERNET...)



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