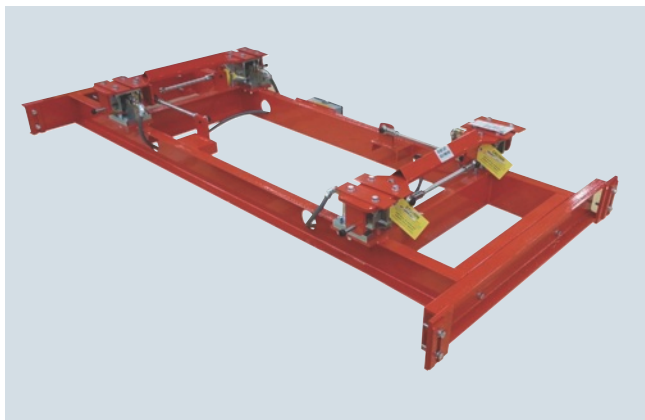


Belt Scales

SITRANS belt scales

SITRANS WB300

Overview



SITRANS WB300 is a heavy-duty, full-frame four load cell belt scale used for process and load-out control. Rails not included with belt scale.

Benefits

- Outstanding reliability and repeatability
- Fast reaction to product loading; capable of monitoring high product temperatures
- Rugged construction
- Shear beam design load cells with unique mounting do not react to horizontal forces from rollers/aprons

Application

SITRANS WB300 belt scale provides continuous in-line weighing on a variety of products in primary and secondary industries. It is proven in a wide range of tough applications from clinker (in cement production), to mining, iron, and steel.

The WB300's proven use of shear beam style load cells results in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide optimum accuracy and repeatability even with uneven loading and fast pan speeds.

Operating with Milltronics BW500, WP241 or SIWAREX FTC micro-processor-based integrators, the WB300 provides indication of flow rate, totalized weight, belt load, and belt speed of bulk solid materials. A speed sensor monitors conveyor pan speed for input to the integrator.

The WB300 is installed in a simple drop-in assembly and has a complete full length frame to ensure support during operation. Existing rails are then attached to the mounting points. Maintenance is kept to a minimum, with just periodic calibration checks required.

Technical specifications

| SITRANS WB300 | |
|---|--|
| Mode of operation | |
| Measuring principle | Strain gauge load cells measuring load on pan conveyor rails |
| Typical application | Control in cement production |
| Measurement accuracy | |
| Accuracy ¹⁾ | ± 2 % or better of totalization over 33 ... 100 % operating range |
| Repeatability | ± 0.1 % |
| Medium conditions | |
| Material temperature | -40 ... +150 °C (-40 ... +300 °F) |
| Apron design | |
| Pan width | <ul style="list-style-type: none"> • 24 ... 72 inch • Equivalent to 600 ... 1 800 mm in metric size |
| Pan speed | Up to 1 m/s (200 fpm) ²⁾ |
| Capacity | |
| | Up to 5 000 t/h (5 500 STPH) at maximum pan speed. Please contact a Siemens representative for higher rates. |
| Conveyor incline | |
| | <ul style="list-style-type: none"> • ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy³⁾ |
| Load cell | |
| Construction | 17-4 PH (1.4568) stainless steel construction |
| Degree of protection | IP67 |
| Cable length | 3 m (10 ft) |
| Excitation | 10 V DC nominal, 15 V DC maximum |
| Output | 2 ± 0.002 mV/V excitation (nominal) at rated load cell capacity |
| Non-linearity and hysteresis | 0.02 % of rated output |
| Non-repeatability | 0.01 % of rated output |
| Capacity | <ul style="list-style-type: none"> • Maximum ranges |
| Overload | 150 % of rated capacity, ultimate 300 % of rated capacity |
| Temperature | <ul style="list-style-type: none"> • -40 ... +75 °C (-40 ... +167 °F) operating range • -10 ... +40 °C (14 ... 104 °F) compensated |
| Weight | Contact factory |
| Interconnection wiring (to integrator) | |
| | <ul style="list-style-type: none"> • < 150 m (500 ft) 18 AWG (0.75 mm²) 10 conductor shielded cable • > 150 m ... 300 m (500 ft ... 1 000 ft) 18 ... 22 AWG (0.75 ... 0.34 mm²), 12 conductor shielded cable |
| Approvals | CE, RCM |

¹⁾ Accuracy subject to: On factory approved installations the belt scale system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration of the test. The minimum material test sample must be equivalent to a sample obtained at the test flow rate for three revolutions of the belt or at least ten minutes running whichever is greater.

²⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

³⁾ Review by Siemens application engineer required.

Selection and ordering data

SITRANS WB300

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Contact factory

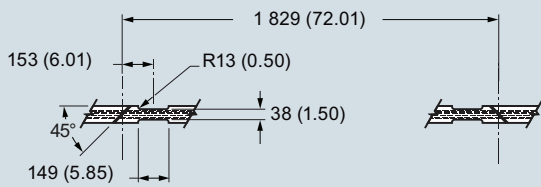
factorysupport.smpi@siemens.com

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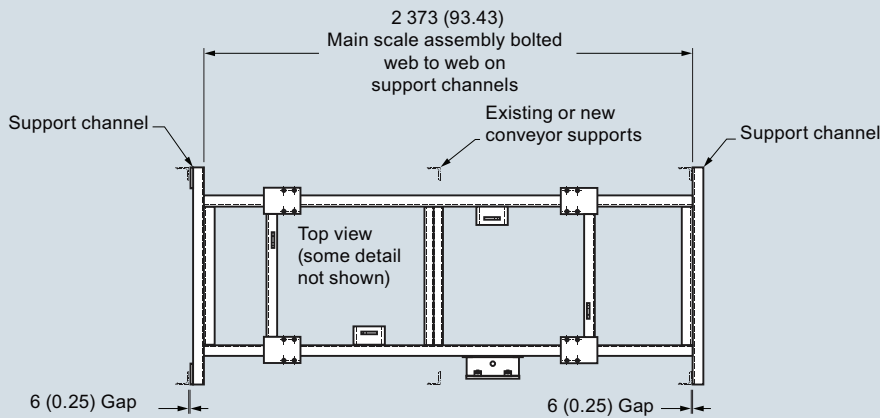
Dimensional drawings



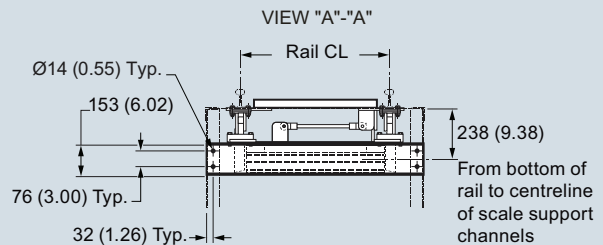
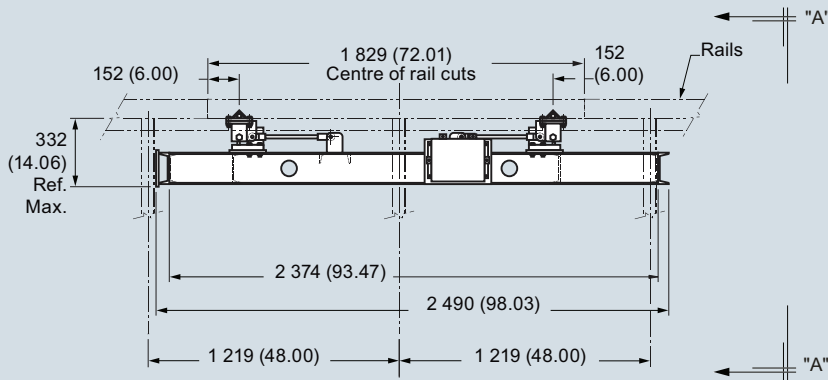
Bottom view of rails to be cut by customer notches to facilitate scale mounting brackets



Top view of rails and cross ties to top of load cells (main scale assembly not shown)

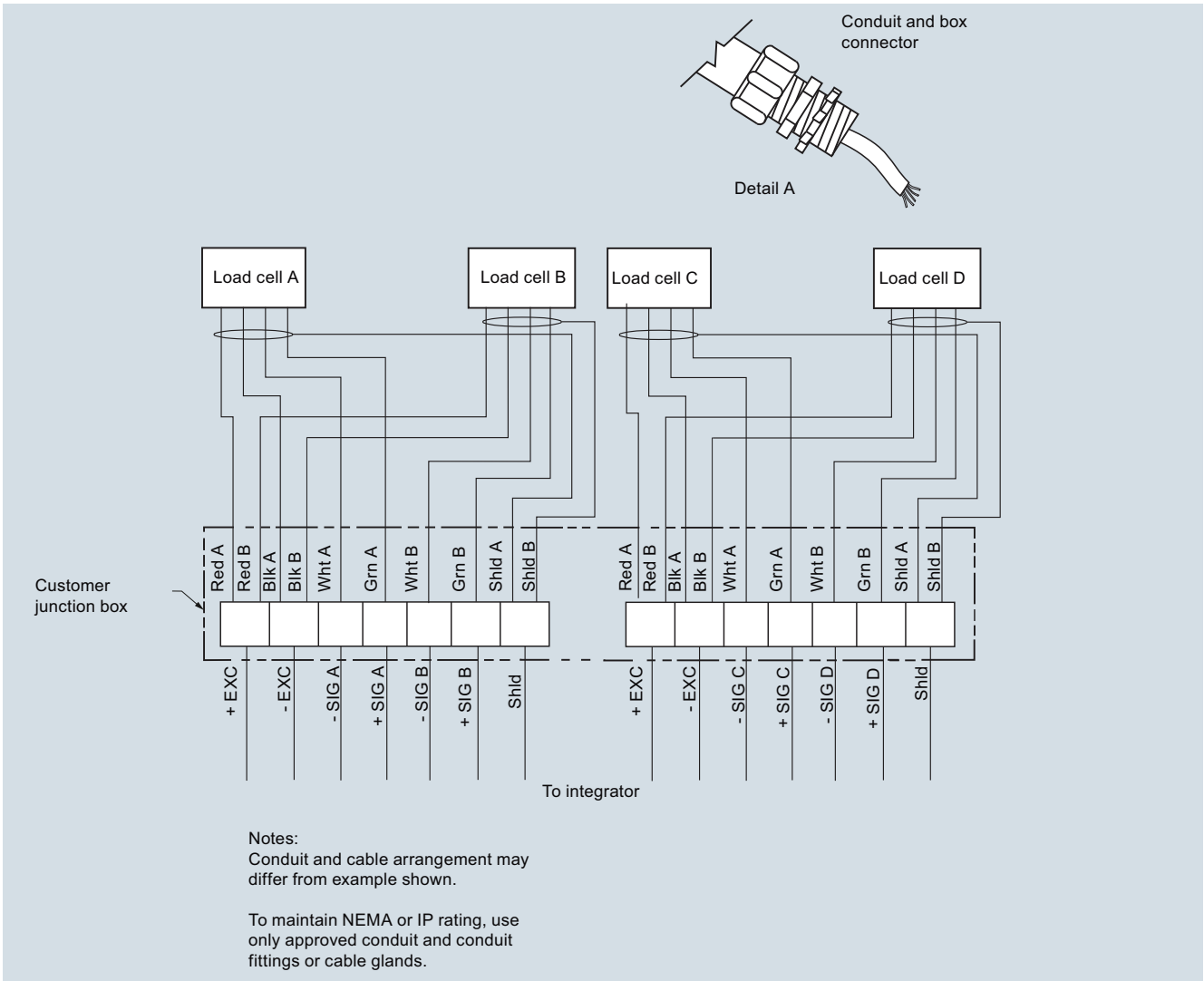


Top view (some detail not shown)



SITRANS WB300, dimensions in mm (inch)

Schematics



SITRANS WB300 connections