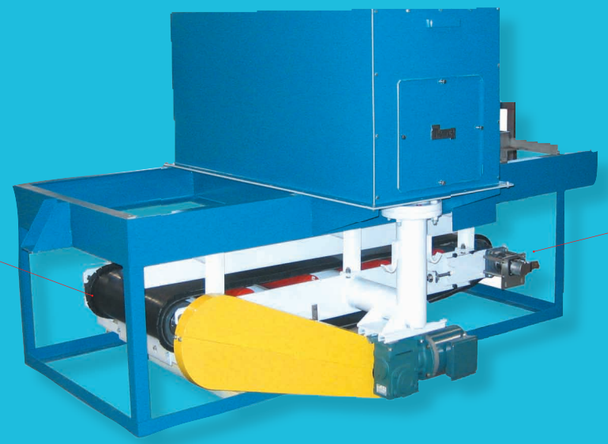
THAYER SCALE
MODEL *S* WEIGH BELT

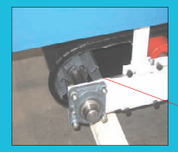
Thayer's Series "S" gravimetric scales are designed for continuous control and/or measurement of solid material which can be conveyed on a belt. This unit can be applied singularly or in combination for batch weighing, proportioning, blending, metering or inventory control.

Depending on the material handled, pre-feeder can be screw, rotary, belt, vibratory or pinch valve. screw, rotary or pinch valve pre-feeders are normally used with fluid powders, while belt and vibratory pre-feeders are used with granular or fibrous materials.

Scale: The S Weigher uses Thayer Scale's patented Model 18 precision flexure plate suspension scale with FMSS technology. The scale provides for complete mass counterbalancing of the dead load of the conveyor, permitting the load sensor to react only to the net material load. This unique system is not affected by dirt, shocks or vibration, and can withstand overloads in excess of 1,000 pounds without causing damage or affecting calibration. The highly advanced and extremely robust sensing technology is based on the marriage of the LVDT, embedded temperature sensing and proprietary linearizing and temperature compensating algorithms. The scale is mounted above the conveyor, which is totally suspended. This design eliminates belt effects and permits immediate scale response when the flow rate varies.

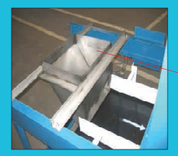
Conveyor: Conveyor is heavy-duty construction, employing standard industrial idlers and pulleys. Conveyor belting is endless and is normally furnished with a molded edge flange. Side skirts are also supplied to eliminate side spillage. Since load measurements are not affected by the physical characteristics of the belting and its supporting means (belt stiffness, sliding friction, belt non-uniformity, splice effects, tension/misalignment interaction, etc.) the type of belting construction and its material can be chosen on the basis of durability and belt-tracking ability without concern for accuracy compromise. The unique cantilevered conveyor support makes it possible to replace belting without dismantling the conveyor.





Cage Style Pulley

BELT TRAVEL PULSER:
Speed sensing is digital and accurate over an infinite speed range.
Rugged speed sensor is coupled directly to the feeder tail pulley not the drive pulley and measures belt speed or belt travel.



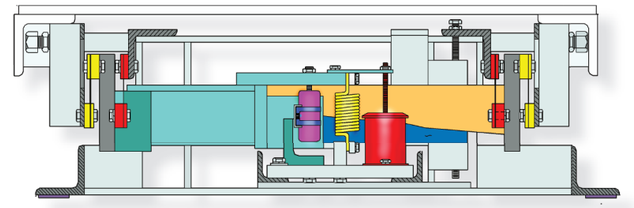
Material transfer chute mounted to conveyor frame

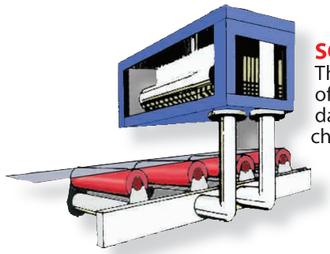
Chute is equipped with "flexible" gate to slow material velocity as it flows onto the belt surface

THAYER FLEXURE PLATE SUSPENSION SCALE Laboratory Accuracy in Industrial Environments

The Basic THAYER Flexure-Plate Suspension system utilizes a series of steel flexure plates to transmit gravimetric loads vertically from the load receiving element through levers to the specifically selected controls. The combination of mass counterbalancing against tare loads, frictionless flexure-mounted levers and a high resolution transducer produces a force measuring system beyond compare. Of significance is the fact that infinite weighings may be made without maintenance or calibration, regardless of atmospheric or factory conditions. In many instances, THAYER Flexure Plate Suspension Systems placed in operation in 1950 are still working without maintenance or adjustment.

- Sustained sensitivity without maintenance.
- Deflection less than 0.001 inch.
- Cancellation of horizontal force vectors.
- Nullification of heavy tare loads.
- Immunity to off-center or overhung loads.
- Load transducer completely isolated from overloads.
- Non-tilting platform design.
- Low mechanical resonance frequency.
- Load transducer utilization factor > 90%.
- Ability to re-rate scale capacity in field.





SCALE LOCATED OUTSIDE THE MATERIAL HANDLING AREA:

Thayer's scale is not mounted between the strands of the belt, but in a location outside of the material handling area. This design has several benefits. The scale is not prone to damage, is out of the way for cleaning, and is not subject to tare build-up that would change the weight, causing incorrect calibration. Thayer's scales can take high load direct overloads that are caused by operating personnel or by the occasional material overload.

SCALE CALIBRATION

More and more weigh feeders are being used in conjunction with statistical process control where performance records are routinely generated and recorded as required by a customer's quality assurance program. Such a record should contain a "validation of scale calibration" step to be truly meaningful as a quality assurance tool. Thayer Scale provides a means for easily applying a known test weight and going through a calibration sequence by means of instrumentation push-button commands to check scale calibration. A "foolproof" self-checking software algorithm in the feeder control instrumentation prevents erroneous calibration.

Thayer Scale's test weight calibration method has proven accurate and reliable over decades of in-plant use. Unlike material sampling, it is always clean, fast and safe. Unlike electronic signal simulation, it actually tests the performance of critical electro-mechanical components under the full deflection range of the load cell.

THAYER SERIES 5200 INTEGRATOR

The simplest high precision Belt Scale Integrator in industry today, the SERIES 5200 is the product of a careful, well thought-out program to eliminate the fears of many scale users that electronic instruments are too complex for the average plant maintenance man.

- The SERIES 5200 Thayer Scale's new generation of operator interface for control and monitoring of any process weighing and flow control equipment.
- For use with any Strain Gauge or LVDT type load cell.
- Powerful internal 24 bit (1 part in 4,000,000) load resolution produces unparalleled system accuracy.
- Minimal customer wiring. The Scale Unit (SU-5200) mounted at the conveyor gathers load, speed and temperature data and communicates this information to the central processor (CPU) through a 2-wire RS422/485 connection.

THAYER SOLIDS FLOW CONTROL®

INTELLIGENT FMSS TECHNOLOGY

THAYER SCALE-HYER INDUSTRIES, INC.
91 Schoosett St., Pembroke, MA 02359
Ph: 781-826-8101 Fax: 781-826-7944
e-Mail: Sales@ThayerScale.com
WEB: www.ThayerScale.com