



BELT SCALES & INSERTION WEIGHERS

Model 1RF "QUARRY KING" Belt Scale

Outdoor conveyor weighing of dusty fines and "stone like" aggregate materials where rugged construction and spill-proof/jam-proof suspension design are the most essential attribute. Teaming with Thayer Scale's proven "Rocking Flexure" fulcrum is a completely new "pipestem" single idler suspension system incorporating built-in storage means for its calibration weight (no test chains required). This combination of unique elements provides important advantages for neglected-maintenance operations where on-going dust build-up and spilled aggregates are known to foul conventional suspension designs. Applications include troughed belt conveyors of 14-48" widths (Series 1RF-3A for 14", 18", 24", 30"; Series 1RF-4A for 36", 42", 48") operating at speeds up to 600 fpm and inclines up to 18 degrees.



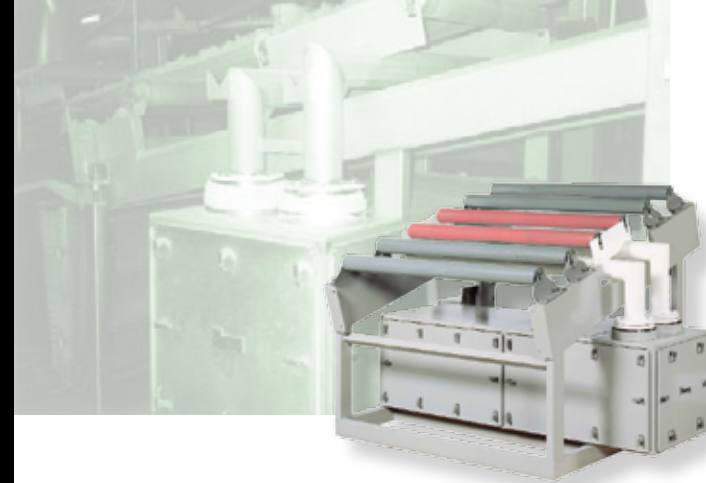
Model "RF" BELT SCALE CONFIGURATION

- There are two basic weighbridge configurations - **approach** and **approach-retreat**. The selection depends on a number of factors. Among them are space available, belt loading, idler spacing, belt tension, required accuracy and frequency of calibration.
- **APPROACH TYPE:** An approach weigh bridge is suitable for most applications requiring an accuracy of 1/4% to 1% of full scale. It is available in one, two and three-idler designs.
- **APPROACH-RETREAT TYPE:** The approach-retreat weighbridge is designed principally for high accuracy applications normally requiring certification for commercial weighing and accuracy as high as 1/10%... available in four and six idler designs.
- The scale provides for complete mass counterbalancing of the dead load (idlers and belt) 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% of rated capacity without causing damage or affecting calibration. The highly advanced and extremely robust sensing technology is based on the marriage of the weight transducer, embedded temperature sensing and proprietary linearization and temperature compensating algorithms.



MODEL "NAR", NTEP CERTIFIED BELT SCALES

THAYER "NAR" Belt Scales are designed to deliver exceptional stability and accuracy for use in applications requiring verifiable weights. They are recommended for applications requiring commercial certification for billing purposes. These belts have been proven in service demanding $\pm 0.125\%$ accuracy through independent certification. The weigh bridge features exclusive rocking flexure suspension in the approach-retreat configuration. Measurement sensitivity is high, deflection is low, and the single load cell is isolated from the error-inducing effects of extraneous lateral forces, off-center loading, foundation distortion, inclination hold-back forces, and high sporadic shocks and overloads. Tare load is mass-counterbalanced to create superior signal to noise ratio in weight sensing, orders of magnitude better than belt scale designs supporting full tare load on the load sensors.



MODEL "FP" Belt Scale

Thayer Scale's Model "FP" is the low density Belt Scale of choice for many light duty weighing applications. Featuring a mass counterbalanced weigh bridge that allows the entire range of the load cell to be used for more accurate weighing of low density products, the Model "FP" is custom manufactured to fit into an existing conveyor. The Model "FP" is widely used in the cereal, tobacco and engineered composite wood panel industries providing all of the design benefits of the THAYER Low Density "M" Weigh Belt without the cost of a complete weigh belt system.

Insertion Weigh Belts

Unlike conventional weigh belts that feature a weigh bridge installed in the conveyor, THAYER specialized Insertion Weighers feature a weigh bridge that consists of a complete conveyor assembly directly coupled to a patented *Force Measurement Suspension System* (FMSS). This system provides for complete mass counterbalancing of the conveyor assembly, so that the load cell only reacts to the net material load. This unique system is not affected by dirt, shock or vibration and can withstand overloads in excess of 1,000% of rated scale capacity without damage or calibration drift.

The highly advanced and extremely robust sensing technology is based on the marriage of the LVDT, embedded temperature sensing and proprietary linearization and temperature compensating algorithms.

This unique measurement system is not affected by belt tension and allows heavy and/or specialized belts that, although suitable for the material handling needs of the application, may not provide sufficient flexibility for use in conventional weigh belts, to be used in the Model "S" or "SB" without concern for accuracy compromise.

MODEL "SI" Weigh Belt

Thayer Scale's specialized Model "SI" Insertion Weighers provide accurate and repeatable rate measurement in tight process areas. When used with a variety of pre-feed devices, the Insertion Weigher can be used to control and/or batch dry bulk solids in areas that do not have the space to support a weigh belt feeder. Totally wash down and impervious to caustic sanitizing solutions, the "SI" is a perfect fit for many food applications.



MODEL "SB" Weigh Belt

The type "SB" unit adapts well to existing vibratory, screw or belt conveyor installations where it has been determined that weight measurement and/or flow control is desired. Also on new installations, the combination of a suitable pre-feeder and Model "SB" unit often proves the best approach considering both cost and material handling requirements.

