



**BUILT SMART
BUILT TO SURVIVE**

Model 2RF-4A 2 Idler Belt Scale

Superior Performance in an economical package

The THAYER 2RF-4A Belt Scale is a precision instrument designed for high accuracy process weighing or inventory monitoring. The weighbridge features exclusive rocking flexure suspension in the approach configuration. Measurement sensitivity is high, deflection is low, and the 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 sensor.

THAYER 2 Idler Belt Scale Features

- Depth of suspension stringers is 4 inches to meet deflection criterion.
- Mass counterbalance weights are used to counterbalance the dead load of the main frame weigh idlers and conveyor belt. The use of the mass counterbalance permits maximum utilization of the load cell.
- Special pentagonal (5-sided) tubular stringers employed to meet combination needs of torsional/bending rigidity and low material build-up area.
- Patented rocking-flexure primary pivot is wear-less and uniquely accommodates a distorting foundation (as is characteristic of typical conveyor structures).
- Isolation lever suspended by stainless steel pre-stressed aircraft cable protects load cell from extraneous forces that arise from distorting foundation and serves to provide means to optimize load cell utilization factor.
- Patented calibration method utilizing a controlled belt travel interval makes one-shot adjustment possible.
- Unique test weight system eliminates need for test chains.

A typical equipment package includes scale suspension, load sensor, and belt speed transmitter.

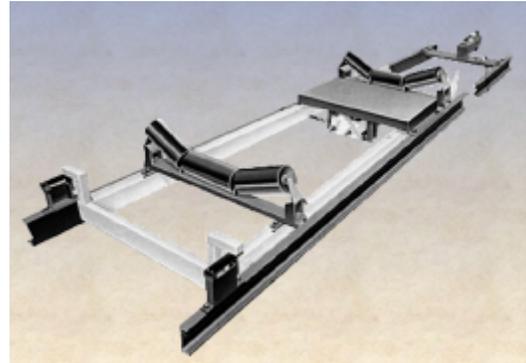


Speed Transmitter

A very important consideration in achieving high accuracy with a minimum bias error is the measurement of the conveyor speed. The Thayer speed measurement system is the product of many years of research. An accurate speed measurement requires the use of a precision wheel or pulley in contact with the tension side of the belt in the area where the scale weighbridge is located. The Thayer Belt Travel Pulser Assembly includes a precision pulley that has a tolerance of $\pm 0.05\%$. The speed transmitter is a high resolution electronic digital pulse generator. The transmitter is equipped with special seals designed for operation in dusty environments laden with abrasive dust. The pulse frequency is directly proportional to the speed of the conveyor belt and each pulse represents a specific increment of belt travel.



Load Cell



Model 2RF-4A Rocking Flexure Belt Scale

THAYER Load Cell

Belt conveyor scales are unique in the field of weighing and do not easily lend themselves to the use of standard force transducers such as strain gage cells. Over 20 years of experience led Thayer Scale to the development of a load cell that is uniquely suited to belt conveyor scales.

The basic transducer is a linear variable differential transformer (LVDT) with an isoelastic element as the force reactor. Complete control of load cell performance is maintained by assembling and testing each load cell at the factory.

At Thayer Scale we custom build our load cells with capacity ranges that step up in fine increments. Our applications computer software can pick the best load cell for the job; one that will have a range that is ideally suited to the service it will perform. This, in culmination with our Isolation Lever and Mass Counterbalance, enables us to reach 90+% Load Cell Utilization Factor on all applications.

Calibration

A belt scale should be thought of as a precision instrument and its performance should be quickly and easily checked. Thayer Scale can provide an accurate reliable calibration using a calibrating weight instead of test chains for all scale capacities. Thayer Scale developed and patented the first automatic calibration system in 1971.

The test weight lift and storage assembly was developed by Thayer Scale to provide a safe and convenient method for accurately applying and storing the calibration weight. It provides a repeatable result and eliminates one of the problems associated with test weights which was related to the inconsistent placement of the test weight.

The test weight lift and storage assembly provides a safe, convenient method of placing the calibration weight on the scale weighbridge accurately-test after test.

- Safe-eliminates need to go between belt strands.
- Easy-permits one man to operate.
- Repeatability-weight is always positioned in the same location test after test.

Thayer Scale-Hyer Industries, Inc.

P.O. Box 669, 91 Schoosett Street, Pembroke, MA 02359

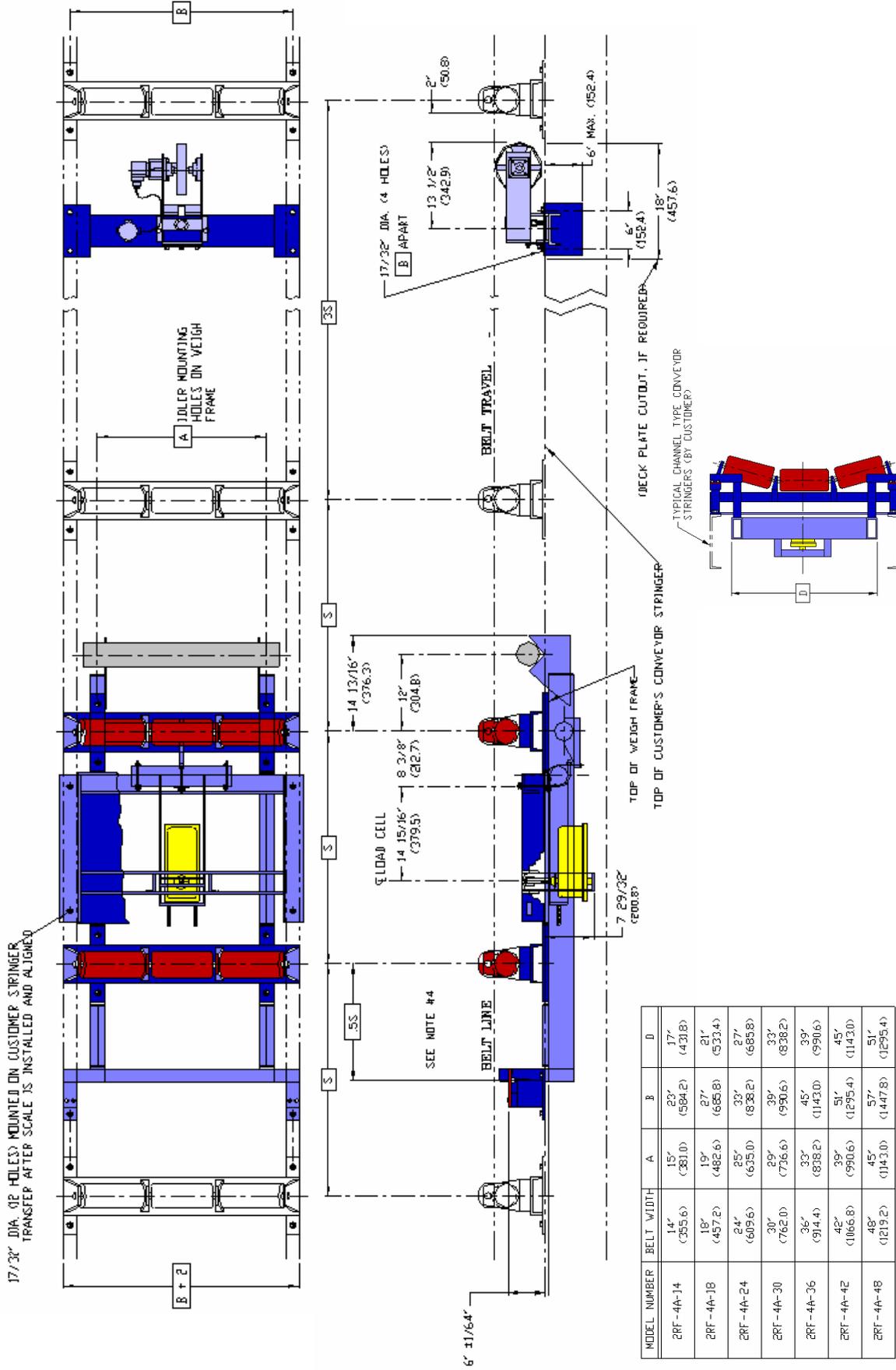
Ph: (781) 826-8101 FAX: (781) 826-7944

E-MAIL Sales@ThayerScale.com

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Thayer Scale 2RF Rocking Flexure Belt Scale



MODEL NUMBER	BELT WIDTH	A	B	D
2RF-4A-14	14" (355.6)	15" (381.0)	23" (584.2)	17" (431.8)
2RF-4A-18	18" (457.2)	19" (482.6)	27" (685.8)	21" (531.4)
2RF-4A-24	24" (609.6)	25" (635.0)	33" (838.2)	27" (685.8)
2RF-4A-30	30" (762.0)	29" (736.6)	39" (990.6)	33" (838.2)
2RF-4A-36	36" (914.4)	33" (838.2)	45" (1143.0)	39" (990.6)
2RF-4A-42	42" (1066.8)	39" (990.6)	51" (1295.4)	45" (1143.0)
2RF-4A-48	48" (1219.2)	45" (1143.0)	57" (1447.8)	51" (1295.4)

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