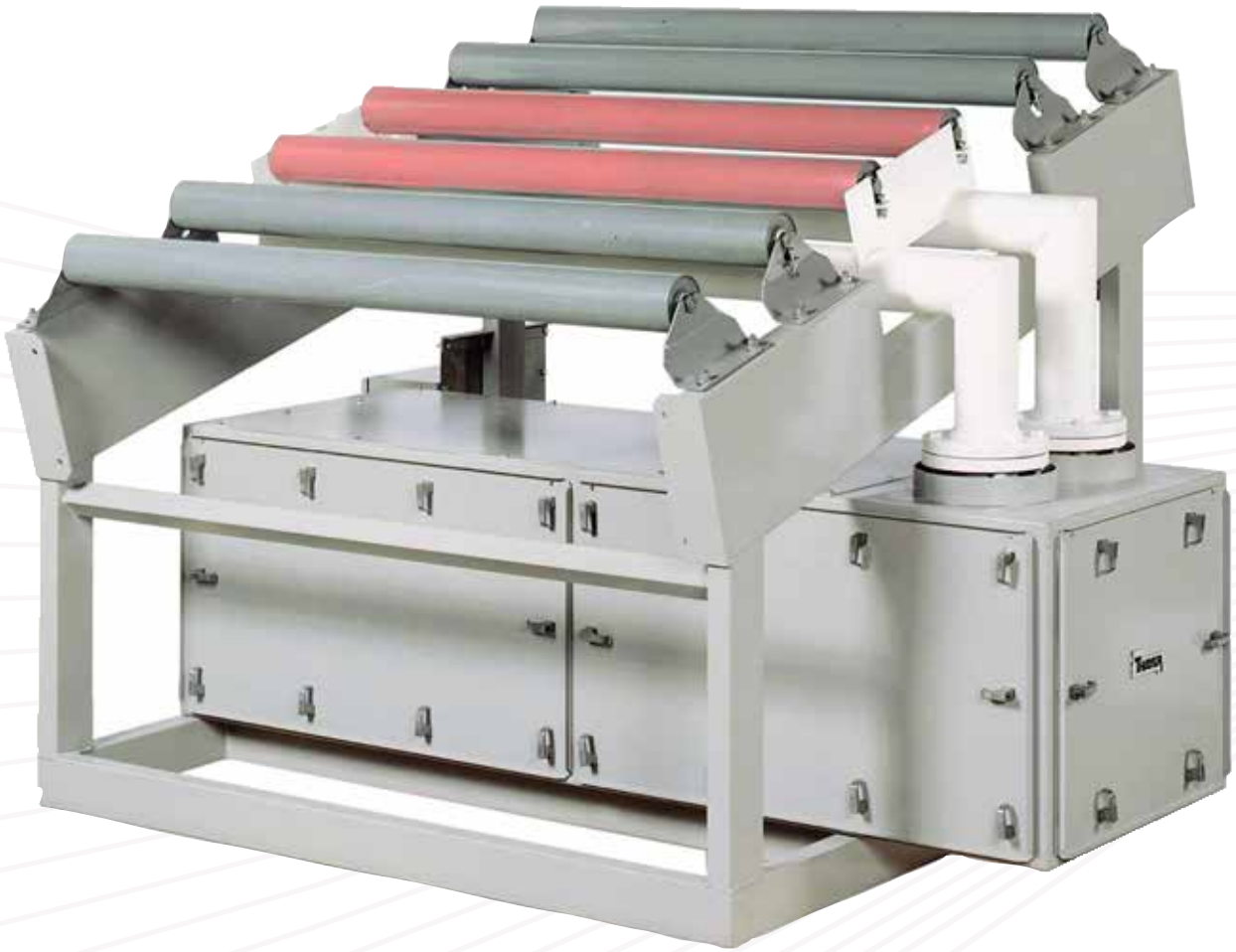
THAYER SCALE

CONTINUOUS WEIGHING & FEEDING OF BULK MATERIALS

FORCE MEASUREMENT FMSS SUSPENSION SYSTEM

MODEL "FP" Conveyor Belt Scale



THAYER Model FP- Flat Belt Conveyor Scale-Multiple Weigh Idlers

The THAYER “FP” Belt Scales is a unique weighing scale specifically designed to accurately weigh “low density” materials. Weighing deck typically consists of 2 to 6 flat idlers, mounted either horizontally or at an incline of up to 12 degrees, depending on material handled. It can be used in new installations or can be seamlessly integrated into an existing conveyor. Typical application include cereals, snack foods, pet foods, wood fibers, paper waste, tobacco, and textiles (bulk densities ranging from 0.5 to 25 pcf).

Specialized Scale design assures reliable, accurate weighing.
The most important element of the FP Belt Scale is its scale system, which utilizes Thayer Scale’s “FMSS” technology (see below). The FP has a unique combination of features that make it ideal for low density belt weighing:

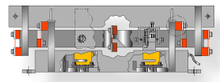
- High efficiency “dead Load” counterbalancing, up to 500 lbs.
- Load sensor sized to utilize its full range for “live load” only
- Calibration maintained under heavy overloading, 1,000+lb.
- Ultra-low deflection (<0.0005 in.) negates belt tension error.
- Non-tilting platform design for conveyor alignment stability.
- Provisions for built in automatic test weight.
- Easy to re-range in the field.

“FMSS” Scale Technology

A Force Measurement Suspension System (FMSS) is the arrangement of active mechanical elements interposed between the load receptor (belt) and load cell. Properly designed, the FMSS functions as a force vector filter that permits the sum of the chosen uni-directions force components to pass through the system to the load cell while blocking all other nuisance, erroneous or destructive force vectors.
The Flexure Plate systems eliminates all wearing parts, such as bearings, pivots and knife edges, and is not susceptible to vibration. Flexure suspension system transfers to a single load transducer, which accurately measures load regardless of load position. Most platform scales are not designed to be immune to side loading and/or tortional loading caused by the plant environment and by the movement of the belt. These factors can cause poor accuracy and poor calibration stability. The Thayer flexure system cancels all horizontal force vectors and also tare loads to be completely mass counter balanced, permitting load cell sizing based on net rather than gross weight.

“FMSS” FLEXURE PLATE SYSTEM

Flexure plate system eliminates all wearing parts, such as bearings, pivots and knife edges and is not susceptible to vibration. Flexure suspension system transfers all loading forces to a single load transducer, which accurately measures load regardless of load position. Most platform scales are not designed to be immune to side loading and/or tortional loading caused by the plant environment and by the movement of the feed screw, agitator, etc. These factors can cause poor accuracy and poor calibration stability. Thayer’s flexure system cancels all horizontal force vectors and also allows heavy tare loads (weight of feeder and hopper) to be completely mass counterbalanced , permitting load cell sizing based on net rather than gross weight



Two Types Load Cells to Choose From

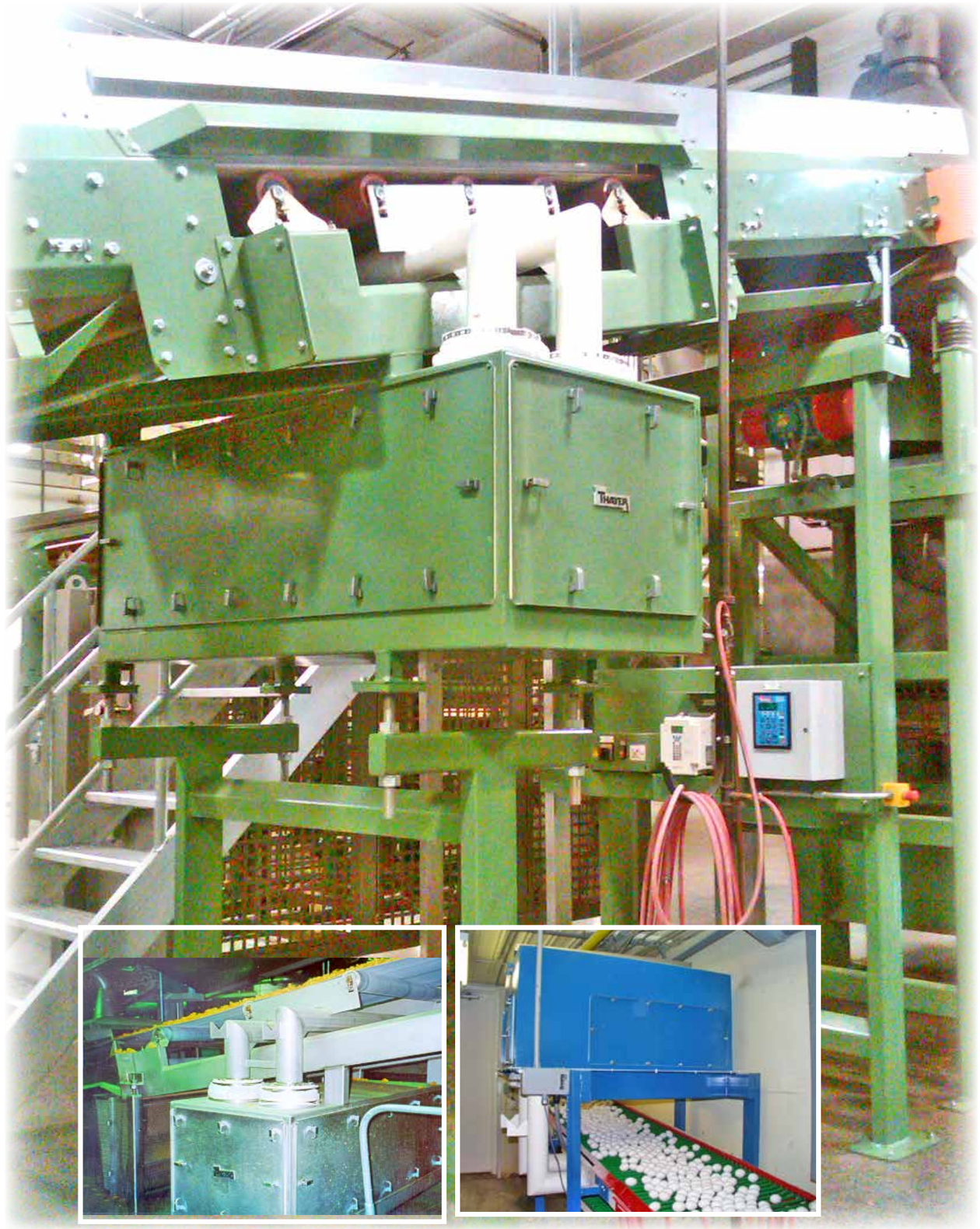
THAYER LVDT Load Cell
The LVDT Load Cell was specifically developed as the ideal adjunct to THAYER’S “reverse-action” Force Measurement Suspension System. It is essentially a precision and extremely durable “tension-style” force transducer that is manufactured in a fine series of force ranges to produce scale capacities from 10 to 500 lbs depending on the application. The LVDT is the ideal load cell for “light loading” applications where mechanical tare loads represent as much as 10 to 40 times the net material load and provides unparalleled overload protection at 1000% of rated output.

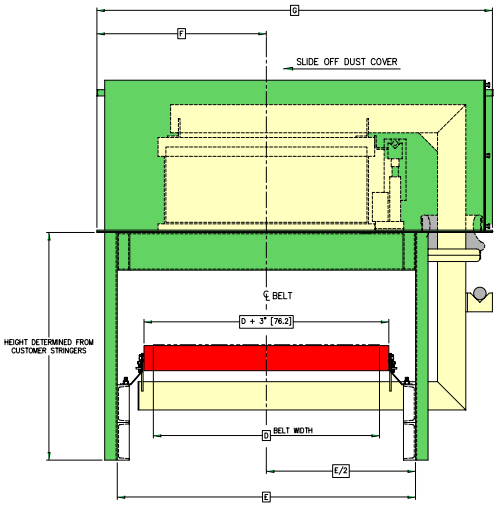
THAYER Strain Gauge Load Cell
The Strain Gauge Load Cell is available in force ranges from 25 to 500 lbs with an overload protection of 300% of rated output.

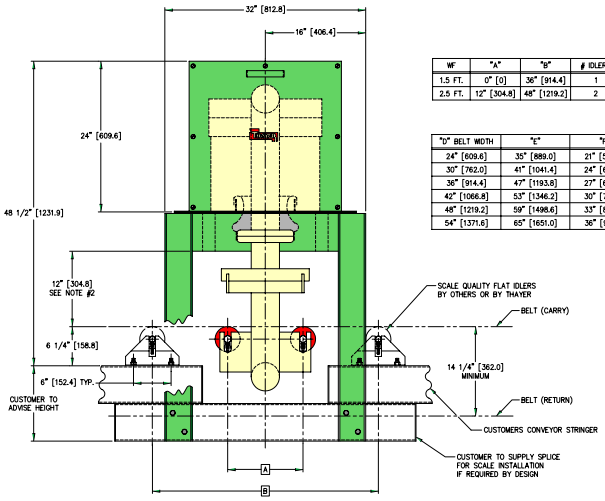
CALIBRATION is fast, accurate and reliable

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. Adding the THAYER Automated Test Weight Lifter now makes calibration even easier and more exact.

- Self-storing Test Load can not be misplaced
- Minimizes downtime for calibration checks
- Eliminates risk of injury to personnel
- Assures that correct test load is always applied
- Precisely controls positioning of test load on scale
- Permits full calibration from remote location
- Permits verification of active measurement rang



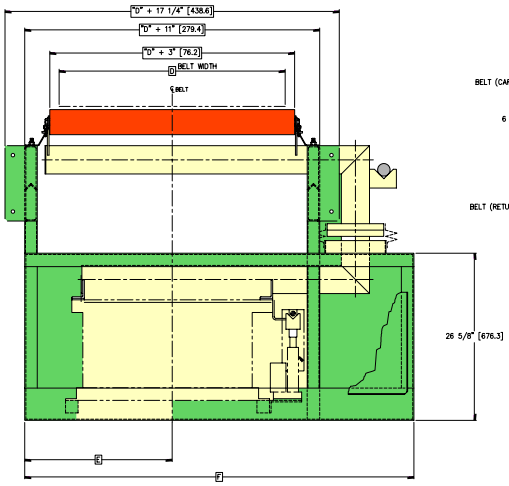


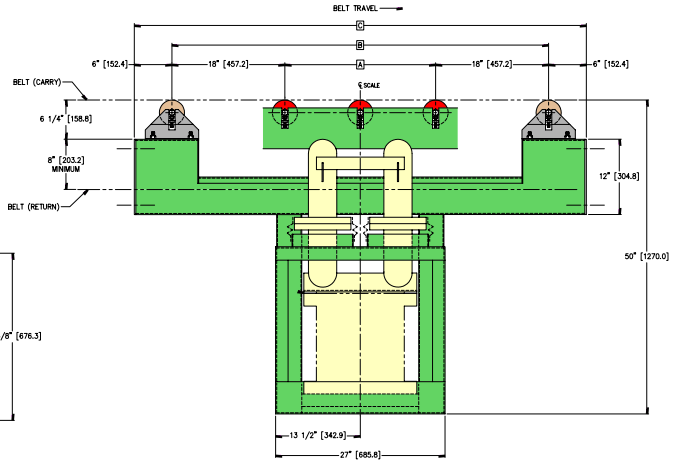


WF	"A"	"B"	# IDLERS
1.5 FT.	0" [0]	36" [914.4]	1
2.5 FT.	12" [304.8]	48" [1219.2]	2

"D" BELT WIDTH	"E"	"F"	"G"
24" [609.6]	35" [889.0]	21" [533.4]	51" [1295.4]
30" [762.0]	41" [1041.4]	24" [609.6]	57" [1447.8]
36" [914.4]	47" [1193.8]	27" [685.8]	63" [1600.2]
42" [1066.8]	53" [1346.2]	30" [762.0]	69" [1752.6]
48" [1219.2]	59" [1498.6]	33" [838.2]	75" [1905.0]
54" [1371.6]	65" [1651.0]	36" [914.4]	81" [2057.4]

SCALE “OVER” DESIGN





"D" BELT WIDTH	"E"	"F"
24" [609.6]	17 1/2" [444.5]	50" [1270.0]
30" [762.0]	20 1/2" [520.7]	56" [1422.4]
36" [914.4]	23 1/2" [596.9]	62" [1574.8]
42" [1066.8]	26 1/2" [673.1]	68" [1727.2]
48" [1219.2]	29 1/2" [749.3]	74" [1879.6]
54" [1371.6]	32 1/2" [825.5]	80" [2032.0]

WF	"A"	"B"	"C"	# IDLERS
3.5 FT.	24" [609.6]	60" [1524.0]	72" [1828.8]	3
4.5 FT.	36" [914.4]	72" [1828.8]	84" [2133.6]	4
5.5 FT.	48" [1219.2]	84" [2133.6]	96" [2438.4]	5

SCALE “UNDER” DESIGN

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