

# MODEL F-51 WEIGH BELT FEEDER



## Model F-51 Weigh Belt Feeder

The **Model F-51 Weigh Belt Feeder System** is designed for high accuracy, low feed rates and light bulk density materials. Its unique design offers a consistent flow of various materials which are important to your process. Its ease of maintenance, low wear parts and reliability will give you peace of mind.

### Unique Features:

- Cantilevered design: allows for easy belt removal without having to deal with splices or cutting the belt.
- Customizable to your application: Carbon steel or stainless steel construction, food grade or standard belting.
- Head or Tail driven dependent upon the application.
- Angled head pulley configuration: allows for an even feed of materials into your process.
- Full Floating Weighbridge Design: provides a more accurate response to material variations.
- Enclosed or open construction.
- Designed for hazardous or non-hazardous locations.

The **Model F-51 Weigh Belt Feeder** is designed for high accuracy on materials with low flow rates and bulk densities. It can be used in both food grade and industrial environments. The Model F-51 allows you to accurately control the feed rate of your process with a guaranteed accuracy of  $\pm 0.5\%$ . It can help you automate your blending system, assure precise feeding of additives, give you better process control and provide you with crucial information for the running of your plant.

The Bulk Pro Systems Series F-51 incorporates a single idler full floating weighbridge assembly, the Model N60 Belt Speed Sensor, the powerful microprocessor based electronics of the Bulk Pro Systems Model 6000 Series Integrator.

Material is fed into the weigh belt via a feed hopper, this hopper is equipped with a manually adjustable profile gate which controls the bed depth on the feeder belt. The weighbridge assembly built into the feeder measures the gravimetric force applied by the material traveling down the belt and converts this force into a mV signal which is proportional to the loading on the belt. A digital speed sensor continuously monitors the belt speed and the powerful microprocessor based electronics of 6000 series electronics integrates these two signals to give you an instantaneous rate of flow and totalized weight of material that has passed through the feeder. The 6000 series integrator also provides analog or digital outputs that allow you to control and monitor your process.

# SPECIFICATIONS

## Model F-51 Weigh Belt Feeder

- Accuracy:  $\pm 0.25\%$  to 1% of set rate at 2 sigma based upon factory approved applications.
- Belt widths: 12 inch (305mm) to 36" (914mm)
- Length: 36 inch (914mm) to 72" (1,829mm) centerline of inlet to centerline of discharge.
- Capacity: 120 lb/hr to 50,000 lb/hr with 50 PCF material (54.4 kg/hr to 22,680 kg/hr with 801 kg/m<sup>3</sup> material)
- Belt Loading: 2 lb/ft to 20 lb/ft (3.0 kg/m<sup>3</sup> to 29.8 kg/m<sup>3</sup>)
- Typical Weigh Span: 10.75" (273mm)
- Belt Type: Endless polyester/monofilament carcass with FDA/USDA covers. Other belt types available.
- Idlers: 1" (25.4mm) diameter stainless steel with sealed for life bearings.
- Head Pulley : 1.5" diameter stainless steel angled towards discharge.
- Speed Reducer: Sumitomo or equal shaft mounted.
- Scale: Dual load cell, single idler, full floating weighbridge assembly.
- Frame Design: Cantilevered frame with quick release take-ups for easy belt removal. Belt can be removed from either the right or left hand side of feeder.
- Load Cell: Low capacity bending beam type.
- Load Cell Excitation: 10 VDC nominal, 20 VDC maximum.
- Non-Linearity: 0.02% of rated output.
- Repeatability: 0.01% of rated output.
- Hysteresis: 0.02% of rated output.
- Temperature Sensitivity Zero: 0.0008% rated output/degrees F (0.0014% rated output/degrees C)
- Temperature Sensitivity Span: 0.0008% load/degrees F (0.0014% load/degrees C)

## Speed Sensor

- Type: Direct coupled, brushless pulse generator.

## Accessory Equipment:

- Safety Stop Switches
- Belt Misalignment Switches
- Plugged Chute Switches
- Variable Speed Drives
- Constant Speed Drives
- Class 1 and 2 Motors and J-boxes
- Top Covers
- Side Covers
- Bottom Covers
- Skirt Boards

