### Weigh Belt Feeder Application

The Model 970I-24 has a 24" wide belt and is designed to meter various materials into a process at a designated feedrate with gravimetric precision.

## **Theory of Operation**

The feeder belt speed is varied to deliver material from a supply device into a process at a desired rate. A weight signal output and speed signal output are supplied for closed-loop process control (see MC<sup>3</sup> Specification Sheet).

#### **Materials of Construction**

- 304 Stainless Steel on all Metal Components
- Uniform glass beaded surface (Merrick No. 3)

#### Enclosure

- 3/16" Thick Stainless Steel, Welded Construction
- Full-Length Stainless Steel Conveyor Access Door on access side
- Two, One-Third Length Stainless Steel Access Doors on Back Side of Feeder

#### Conveyor

- Two Cantilevered Arms for Support
- Sealed for Life Pulley Bearings
- Double-Bladed Removable Belt Scraper

#### **Standard Drive Components**

- 0.25 HP DC
- Merrick XTRA Drive Motor Speed Controller
- Right Angle Side Mount Direct Drive

#### Weight Sensing Device

- Static Weigh Suspension (no moving parts)
- Easy, 3-Point Alignment
- Single Strain Gauge Load Cell
  - Stainless Steel, Hermetically Sealed, Temperature and Pressure Compensated
  - 350 Ohm Bridge
  - 2 or 3 mV/V Signal
  - 10 to 15 Volts Excitation

#### **Speed Sensing Device**

- Dual-Channel Speed Sensor
- Tail (Non-Driven) Pulley Mounted for True Belt Speed Pick-up

#### **PICTURE NOT AVAILABLE**

#### **Feed Rates**

- Volumetric Throughput: 0.60 to 500 Ft<sup>3</sup>/Hr (0.017 - 14.115 M<sup>3</sup>/Hr).
  - (Multiply Volumetric Rate by Bulk Density of Material to Compute Gravimetric Feed Rate)

#### **Gravimetric Turndown**

• 40:1 from Maximum Feedrate

#### **Standard Power Requirements**

- 115 Volts, 1 Phase, 60 Hertz
- 15 Amp Service

#### **Ambient Temperature Limits**

• 0° to 77° C (32° to 170° F)

#### Control

- MC<sup>3</sup> Touch Screen Microprocessor
- Continuous Weighing or Rate-Control Feeding, Batching and Rate-Controlled Batching Applications
- Communication Interfaces:
  - Merrick Serial Communications Protocol
  - Modbus ASCII, Modbus +
  - DeviceNET.
  - DF1, DH-485, Data Highway +

#### Accuracy

+/- 0.25%

#### **Standard Accessories**

- Calibration Test Chain
- Maintenance Arms

#### **Installed Weight**

• 505 Lbs. (315 Kg.) Standard

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#### **Optional Accessories**

- Infeed and Discharge Flexible Connections
- Transitions To and From the Feeder
- Hazardous Location Electrical Components
- AC Drive and Motor Components
- Special Materials of Construction
- Hung-from-Above Support Structures Available
- Extended Infeed to Discharge Lengths
- Special Bottom Enclosures and Support Stands
- Material Stream Viewing Windows
- Dust Collection Connection Stubs
- Automatic and Manual Discharge Sampling Valves
- Manual Infeed Material Cut-Off Gate

