

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 MC³ 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 Ft³/Hr (0.017 – 14.115 M³/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

- MC³ 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

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

