

## Weigh Belt Feeder Application

The Model 970-24 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
- Glass Bead 2B Finish
- All Welds Continuous and Ground Smooth

## Enclosure

- 0.1875" Thick Stainless Steel, Welded Construction
- Full-Length LEXAN<sup>®</sup> Conveyor Access Door
- Two, One-Third Length LEXAN<sup>®</sup> 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, Washdown TENV Motor
- SCR Motor Speed Controller
- Lubricant-Free, Steel Reinforced, Polyurethane Drive Belt with Elastomer Tensioner

## Weight Sensing Device

- Direct Mounted 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

## Feed Rates

- Volumetric Throughput: 2.625 to 2,250 Ft<sup>3</sup>/Hr (0.074 – 63.72 M<sup>3</sup>/Hr).  
(Multiply Volumetric Rate by Bulk Density of Material to Compute Gravimetric Feed Rate)

## Gravimetric Turndown

- 20:1 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 Roller Chain
- Maintenance Arms

## Installed Weight

- 605 Lbs. (227 Kg.) Standard

## Optional Accessories

- Infeed and Discharge Flexible Connections
- Clean-In-Place Systems
- Transitions To and From the Feeder
- Hazardous Location Electrical Components
- AC Drive and Motor Components
- Chemical Duty or BISSC Certified Motors and Reducers
- 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

