

Belt Feeder Application

The Model 960G is a general purpose belt feeder designed to gravimetrically meter chemicals into a process at an adjustable feedrate.

Theory of Operation

The feeder belt speed is varied automatically to meter material into a process at a desired set point. Belt speed is determined by a Merrick MC³ microprocessor controller by integrating the belt load with the belt speed. A gravimetric feeder is used for closed-loop process control.

Materials of Construction

- 3/16" Thick Carbon Steel Enclosure, Epoxy Painted
- Aluminum Pulleys
- 304 Stainless Steel Internals (Except Pulleys)
- Lexan¹ Full Length Side Door
- 11 Gauge Carbon Steel Rear Access Door, Epoxy Painted
- All Welds Continuous and Smooth

Conveyor and Internals

- 7 Gauge (0.18") Construction
- Cantilevered for easy, Unobstructed Belt Replacement
- Inside and Outside Belt Scrapers
- Adjustable Screw-Type Belt Take-ups
- Dynaloc Positrac² Non-Slip, Self-Centering Pulleys
- Sealed, Corrosion Resistant Ball Bearings
- 10" Wide Polyester Reinforced Polyurethane Belt
- Adjustable Shear Gate and Side Skirts

Standard Drive Components

- 0.25 HP TEFC DC Motor, 90V Armature, Permanent Magnet, Washdown Duty
- Head Pulley Shaft Mounted Gear Reducer

Standard Controls

- Merrick XTRA[®] Variable Speed DC Motor Controller, PWM Rated (See XTRA Spec Sheet for Details) - Shipped Separate for Customer Installation
- Merrick MC³ Microprocessor Controller with Graphical, Touch Screen Operator Interface (See MC³ Brochure for Details)



Weight Sensing

- Static Weigh Deck (No Moving Parts)
- Precision 3-Point Alignment
- Single Strain Gauge Load Cell
 - Stainless Steel
 - Hermetically Sealed
 - Temperature and Pressure Compensated
 - 350 Ohm Bridge, 10-15 Volts Excitation

Speed Sensing

- NEMA 4 Optical Encoder
- 1,000 Pulses Per Revolution
- Tail (Idler) Pulley Shaft Mounted

Ambient Temperature Limits

- 32° - 170° F (0° - 77° C)

Accuracy

- ± 1% of Set Rate, ± 0.5% of Totalized Weight

Power Requirements

- 115/60/1 VAC, 15 Amps Service

Weight

- 270 Lbs (122 Kg) without Control Panel

Standard Accessories

- Calibration Chain

Available Options

- 304 or 316 Stainless Steel Enclosure
- 304 or 316 Stainless Steel Pulleys
- Inlet Adapters
- Inlet and Outlet Flex Connections
- AC Drives and Motors
- Connection Stub for Dust Collector
- Maintenance Gate
- Auto or Manual Discharge Sampling Valve
- Bottom Pan for Dust Confinement
- Carbon Steel or Stainless Steel Doors
- Hazardous Area Components
- 180 VDC or TENV DC Motor

FEEDRATES IN FT³/HR (M³/HR)

Shear Gate Height ² in Inches (MM)	Gear Reducer Ratio			
	100:1	200:1	500:1	1500:1
	Belt Speed in Feet/Min (Meters/Min)			
	17.8 (5.43)	8.9 (2.71)	3.6 (1.10)	1.2 (0.37)
0.6 (15.7)	27.6 (0.78)	13.78 (0.39)	5.42 (0.15)	1.84 (0.05)
1.0 (25.4)	44.52 (1.26)	22.26 (0.63)	8.96 (0.25)	2.99 (0.08)
1.5 (38.1)	66.74 (1.89)	33.37 (0.94)	13.44 (0.38)	4.48 (0.13)
2.0 (50.8)	88.99 (2.52)	44.51 (1.26)	17.92 (0.51)	5.94 (0.17)
2.5 (63.5)	111.25 (3.15)	55.63 (1.58)	22.36 (0.63)	7.43 (0.21)
3.0 (76.2)	133.51 (3.78)	66.74 (1.89)	26.84 (0.76)	8.92 (0.25)
3.4 (85.9)	149.97 (4.25)	75.00 (2.12)	30.17 (0.85)	10.03 (0.28)

² Shear Gate Height Must Be 2X Maximum Particle Size

