

Wallace & Tiernan® Dry Chemical Feed Systems Series 32-215 Volumetric Belt Feeder

Introduction

The Wallace & Tiernan® Series 32-215 is a simple, high capacity volumetric belt feeder. It gives reliable long term feeding and requires little maintenance. It easily handles materials from fine powder to 1 1/2 inch lumps. Its design and operation is simple and uncomplicated and provides reliable feeding at minimum cost. This volumetric feeder is ideal for industrial and municipal water and wastewater treatment systems or for systems treating industrial-process water.

Features

Manual or Automatic Control

Feed rate is controlled by varying the height of a manually positioned vertical gate at the feeder inlet and by varying belt speed. The variable speed belt provides a 20:1 standard operating range. Belt speed can be controlled manually or automatically from a remote 4-20 mA control signal.

Simple and Straightforward Volumetric Feeding to 840 cu ft/hr (24 m³/hr)

Three different size inlet sections, 5 gearboxes and 4 driven sprockets provide a wide range of capacity selection and flexibility. Maximum rates cover virtually all water and wastewater chemical feed requirements.

Simple, Automatic Belt Tension and Tracking

Constant and uniform tensioning of the feed belt is achieved by the use of counterweights acting on the moveable front (discharge) roll. A self-adjusting belt tracking device automatically reacts to belt mis-tracking by guiding the belt back to its proper operating position. Both of these mechanisms function together to provide accurate and reliable feeder operation.

Key Benefits

- Manual or Automatic Control
- Simple and Straightforward volumetric feeding to 840 cu ft/hr (24 m³/hr)
- Easy to install and maintain
- Self adjusting belt tracking

Easy to Install and Maintain

All feeders are factory calibrated and tested prior to shipment. The feeder housing is dust-tight. Side and top covers are gasketed and easily removed. The product zone is easily accessible and can be air cleaned. Sealed bearings are used throughout. Six scrapers, spaced on both sides of the belt and on the rollers, keep the belt transport free of product build up. The belt transport system is cantilevered for easy belt removal without tools.



Product Sheet

Operation

Material is supplied to the belt feeder by gravity from an overhead storage bin or hopper. The material is introduced to the belt through the inlet chute. As the belt moves, the material is sheared by a manually adjusted vertical gate which sets the material bed depth. Gate position is adjustable over a 10 to 1 range. Belt speed is adjusted over a 20 to 1 range by a manual potentiometer or automatic milliamp control signal sent to the DC variable speed drive.

General

Feeder Accuracy: With uniform free flowing materials, an accuracy of 1 % to 2% of full scale can be achieved over a 20:1 range.

Feed Rates and Operating Ranges: Maximum volumetric rate: 840 cubic feet per hour (24 m³/hr)

Maximum product density: 100 pounds per cubic foot

Maximum operating range: Belt speed 20:1

Material depth: 10: 1

Maximum recommended combined range: 100: 1

Material Characteristics: Particle size, 300 mesh US to 1½" lumps.

Inputs/Outputs

Digital Inputs: Remote start/stop from a customer supplied contact closure.

Digital Outputs: A relay provides unpowered NO & NC contacts for external indication of Feeder Running. A second relay provides one NO contact as a composite alarm for motor overload (standard), belt motion fault (optional) and material flood (optional). Relay contacts are rated 10 amps at 28 VDC or 120 VAC with 80% power factor, or 6.7 amps at 240 VAC with 80% power factor.

Analog Inputs: Remote control input via 4-20 mA.

Temperature Limits

Ambient: 14 to 122° F (-10 to 50° C)

Material: 14 to 195° F (-10 to 90° C) standard 0 to 338° F (-18 to 170° C) optional.

Electrical

Power Requirements: 115 volts ± 10%, 15 amps, single phase, 60 Hz.

Belt Drive Motor: ½ hp, 90 VDC, permanent magnet, TENV, controlled by SCR drive with tachometer feedback.

Tachometer: Analog, 20.8 VDC/1000rpm, TENV.

Electrical Enclosures: Rated NEMA 4X (IP65)

Maximum Distance from Controls to Feeder: 1000 feet (300 meters).

Materials of Construction

Materials in contact with the product flow include 304ss, nickel plated steel, neoprene, Hypalon® inlet seals, and feed belt of polyester substrate with a polyurethane topcoat. The feeder enclosure is gray epoxy painted mild steel.

Dimensions and Shipping Weight			
	Height	Width	Length
Feeder	21"* (533 mm)	19" (483 mm)	52" (1321 mm)
SCR Enclosure	16" (406 mm)	16" (406 mm)	8" (203 mm)
		Pounds	Kgs
Weight		260	118
Shipping Weight		300	136

*(18¼ inches inlet to discharge)

Dimensions: See WT.320.215.100.UA.CN



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Literature No.: EP.320.215.000.UA.PS.1208
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