



## TUF-FLEX™ SERIES FEEDERS

AccuRate®'s economical and application-proven Tuf-Flex™ Dry Material Feeders handle a wide variety of fine powders, flakes, granules, chips and pellets. They are in operation worldwide in every major industry – chemicals, food, plastics, water treatment, foundries, pharmaceuticals, coatings, cement, building products and many more.

All AccuRate® Tuf-Flex™ feeders utilize a unique form of agitation. Instead of using the traditional internal stirring devices or vibration to keep material moving, AccuRate® manufactures a Tuf-Flex™ vinyl hopper. This flexible hopper is agitated on the exterior by two alternating paddles (one paddle on smallest unit).

The paddle action gently massages the material down into the metering screw, eliminating ratholing and bridging while conditioning material into a uniform bulk density. The helix flights are filled uniformly, resulting in excellent volumetric accuracy.

### MATERIALS OF CONSTRUCTION:

#### Contact materials –

- 304 stainless steel
- Food-grade and industrial vinyl hoppers
- UHMW polyethylene

#### Non-contact materials –

- 304 stainless steel

### FEED RATES:

- 100 Series – .000017 - .5 cubic feet per hour
- 300 Series – .000168 - 3.69 cubic feet per hour
- 600 Series – .0008 - 48 cubic feet per hour
- 900 Series – .1 - 280 cubic feet per hour

### HELIX SIZES:

- 100 Series – .125", .25", .38", .50", .75"
- 300 Series – .25", .38", .50", .75", 1.00"
- 600 Series – .50", .75", 1.00", 1.38", 1.75", 2.25"
- 900 Series – 2.25", 3", 4"

### VINYL HOPPER CAPACITY:

- 100 Series – .1 cubic feet
- 300 Series – .33 cubic feet
- 600 Series – .9 cubic feet
- 900 Series – 2.65 cubic feet

### HOPPER EXTENSIONS:

- 100 Series – .25 cubic feet
- 300 Series – 1 cubic feet
- 600 Series – 2.5, 5, 10, 20, 50 cubic feet
- 900 Series – 5, 10, 15, 20, 50 cubic feet  
(other sizes also available)

**NOTE:** Laboratory testing to determine actual, material specific feeding accuracy is recommended and available from SCHENCK AccuRate®.



### ELECTRICAL REQUIREMENTS:

- 100 Series – 110 VAC (220 VAC optional)  
50/60 Hz, single phase
- 300 Series – 110 VAC (220 VAC optional)  
50/60 Hz, single phase
- 600 Series – 110 VAC (220 VAC optional)  
50/60 Hz, single phase
- 900 Series – 220 VAC (110 VAC optional)  
50/60 Hz, single phase

### MOTOR SPECIFICATIONS:

- 100 Series – 1/60 HP, 24 volt DC, 45 RPM, shaded pole
- 300 Series – 1/8 HP, 90 volt DC, 1750 RPM, TENV, PM
- 600 Series – 1/4 HP (up to 1/2 HP optional),  
90 volt DC, 1750 RPM, TENV, PM
- 900 Series – 3/4 HP (up to 1-1/2 HP optional),  
180 volt DC, 1750 RPM, TEFC, PM

### STANDARD CONTROL: (Optional range of controls available)

- 100 Series – SCR control, 20:1 speed range,  
adjustable current limit
- 300 Series – SCR control, 50:1 speed range,  
adjustable current limit, UL recognition,  
touchpad potentiometer
- 600 Series – SCR control, 50:1 speed range,  
adjustable current limit, UL recognition,  
touchpad potentiometer
- 900 Series – SCR control, 50:1 speed range,  
adjustable current limit, UL recognition,  
touchpad potentiometer

**For more information, please contact us at  
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**TUF-FLEX™  
SERIES FEEDERS**

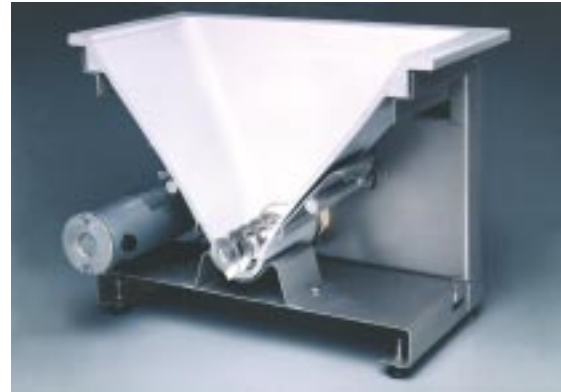
**VOLUMETRIC FEEDER SERIES SPECIFICATIONS**

# ACCURATE® TUF-FLEX™ DRY MATERIAL FEEDERS: INDUSTRY LEADING ACCURACY AND DEPENDABILITY

## DESIGNED TO DELIVER ACCURACY

Features designed into all AccuRate® Tuf-Flex™ dry material feeders that contribute to their high degree of accuracy include:

- Large inlet to prevent bridging
- Seamless hopper with rounded corners for uninterrupted flow
- Four-way hopper flexing action
- Adjustable amplitude and frequency of the hopper flexing mechanism to gain optimum performance for each material



Volumetric metering deviations generally range from  $\pm .5$  to 3% for most materials. Loss-in-weight feeding systems are available for even more precise accuracies. (See back for testing information.)

## FOUR TUF-FLEX™ SERIES FEEDERS ARE AVAILABLE

AccuRate® Tuf-Flex™ feeders range in size from 8-1/2" square to 31-1/2" square and can deliver feed rates ranging from a few grams up to 280 cubic feet per hour.



### 100 SERIES

The smallest of the four series available is the 100. The 100 is commonly used for feeding soap powder, nutraceuticals, Arizona road dust, and colors in the production of glass like cobalt, iron oxide and gold. Many customers mount the 100 inside other pieces of equipment to dispense very low amounts.

### 300 SERIES

The 300 Series is often found in food processing and plastic compounding plants because of its ability to feed flour, salt, vitamins and colors used in the manufacture of plastic siding. It is also used in industrial applications with size and/or weight restrictions.

### 600 SERIES

The 600 Series, with its wide range of available helixes and feed rates, is the most versatile and consequently the most widely used series feeder.

### 900 SERIES

For higher feed rates, the 900 Series is used for applications up to 280 cubic feet per hour.

**STANDARD MODELS MEET MOST NEEDS**

Standard features on all AccuRate® feeders include easily removable outside panels, Tuf-Flex™ vinyl hoppers, digital touchpad potentiometers, SCR variable-speed control, DC motor control, stainless steel construction, lifetime lubricated bearings, double shaft seals to prevent powder leakage, and gasketed covers.

Optional features to meet specific needs include extended or specially designed helixes and mounted or free-standing carbon or stainless steel hopper extensions.

Descriptions of the standard models are listed below. Each two-digit number shown is preceded by a series number; for instance, the standard variable-speed feeder in the 300 Series is a Model 302.

**MODEL 02**

The AccuRate® Model 02 is a standard variable-speed dry materials feeder with 50:1 turndown.

**MODEL 04**

The Model 04 is the same basic design as the Model 02, but has a separate speed control for the dual mechanical devices that create the agitation on the Tuf-Flex™ hopper. The feed screw is also equipped with its own speed control. This unit allows the user to vary the agitation while maintaining a constant feed rate or vice versa.

**MODEL 10**

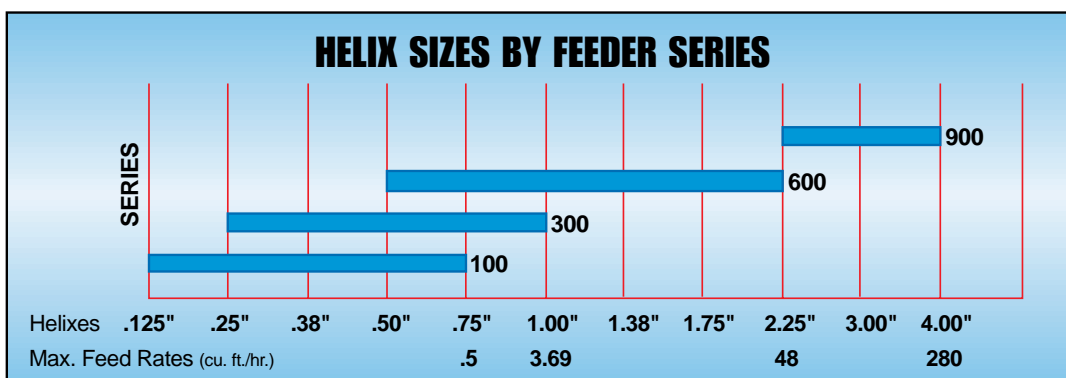
The AccuRate® Model 10 is capable of being easily disassembled for cleaning or for applications that require separate hoppers for different materials. The Tuf-Flex™ hopper in the Model 10 can be changed in less than two minutes without tools.

**MODEL 12**

The Model 12 is a sanitary design, encompassing quick disassembly features for easy cleaning.



Top to bottom: Models 102, 302, 602 and 902.



**EXTENSION HOPPERS**

AccuRate® offers hopper extensions and storage bins ranging in size from 1/4 cubic foot up to 50 cubic foot. Standard hoppers are provided in stainless steel and have gasketed covers.



Hopper extensions (1/4 - 10 cubic foot) fit down inside the feeder's Tuf-Flex™ hopper, as well as form a lip overlapping the outside of the feeder. A gasket inside the lip prevents material leakage.

Larger capacity storage hoppers (20 - 50 cubic foot) are free standing. Available in stainless or carbon steel, these hoppers angle down to a guillotine slide gate. Sanitary storage hoppers have no cracks or crevices with continuously welded and ground corners.

Special hoppers are also available such as 2 and 4 cubic foot round stainless hoppers for sanitary applications, and bag dump hoppers for easy handling of bagged products up to 100 pounds.

Dimensional drawings on each hopper are available upon request.

**STANDARD UNIT SIZE**

- 100 Series Feeder – Unit size:  
8.5" (216 mm) x 8.5" (216 mm) x 7.63" H (194 mm)
- 300 Series – Unit size:  
14.5" (368 mm) x 14.5" (368 mm) x 11.75" H (299 mm)
- 600 Series – Unit size:  
21.74" (552 mm) x 21.74" (552 mm) x 15.62" H (397 mm)
- 900 Series – Unit size:  
31.55" (801 mm) x 28.44" (722 mm) x 23.35" H (593 mm)

**WEIGHT**

- 100 Series – 15 lbs.
- 300 Series – 65 lbs. (70 lbs. with dual drive)
- 600 Series – 140 lbs. (155 lbs. with dual drive)
- 900 Series – 495 lbs. (545 lbs. with dual drive)

Note: Dimensions subject to change without notice. Please contact sales for detailed drawings.

**CONTROL MODULES**

A wide range of standard optional controls can be specified. These include:

**Loss-in-weight control:** Feeders can be equipped with a scale and loss-in-weight controller to obtain excellent accuracies and verification of the amount fed.

**Tach feedback:** Keeps motor RPM at a constant speed where plant voltages fluctuate, headloads vary, or accuracy is critical over long continuous feeding periods.

**Batch timer:** Allows feeder to automatically shut off after dispensing proper amount of material; accurate to .01 second; various range timers available.

**Dual touchpad potentiometers:** Used for fast and dribble feed rates.

**Automatic input control:** For applications where automatic control is necessary; a fluctuating signal speeds up or slows down feeder as necessary.

**Dual controls:** Separate control of agitation speed and screw speed (see Model 04).

**Totalizer:** Total number of screw revolutions are multiplied by amount of material dispensed on each revolution, giving total amount of material dispensed over a long period of time.

**Special enclosures:** AccuRate® controls can be mounted in special enclosures, ranging from NEMA or IP-rated dust-tight to full explosion-proof boxes.

**TESTING FOR VERIFICATION**

AccuRate® and most AccuRate® affiliates around the world have test facilities to prove how AccuRate® feeders can meter your material.

Trained personnel will review your individual requirements and duplicate them with customer-supplied materials. We will provide complete laboratory reports showing the individual test sample weights with computations at 2 Sigma, the industry norm. Also provided are graphs of your sample weights plotted so you can actually see trends of the material being fed.

With the hundreds of materials AccuRate® has successfully metered, chances are we've already solved a problem the same as yours. Challenge us by comparing AccuRate® 2 Sigma accuracy results to any other feeder on the market.