



# Autoweigh Feeder Series 400

A New Generation of Weigh Feeders



 **MILLTRONICS**  
Mass Dynamics Division



# Simply The Best Narrow Width Weigh Feeder Money Can Buy

## Precise Measurement

The Milltronics 400 Series is one of the most accurate in-motion weighing systems on the market. Specifically designed to weigh small amounts of material at very high accuracies, the 400 is a low capacity weigh feeder that handles a variety of process materials.



It provides rate and total information and feed rate control functions which help improve product quality and reduce waste. With its precision weigh bridge, the system attains weighing accuracies better than 99.5%.

## Accurate and Reliable

The overall design of the 400 eliminates areas of material build-up that can cause weighing inaccuracies.

A special device maintains belt tension at a minimum in critical, low capacity applications and helps prevent belt slippage.

The conveying section of the 400 consists of a light weight precision stainless steel or aluminum weigh deck combined with 304 stainless slider bed approach and retreat sections.

The weigh section is precisely located in the 400 frame for optimum alignment with the approach and retreat sections. Pre-set, factory adjusted mechanical overload stops prevent load cell damage from accidental overload.

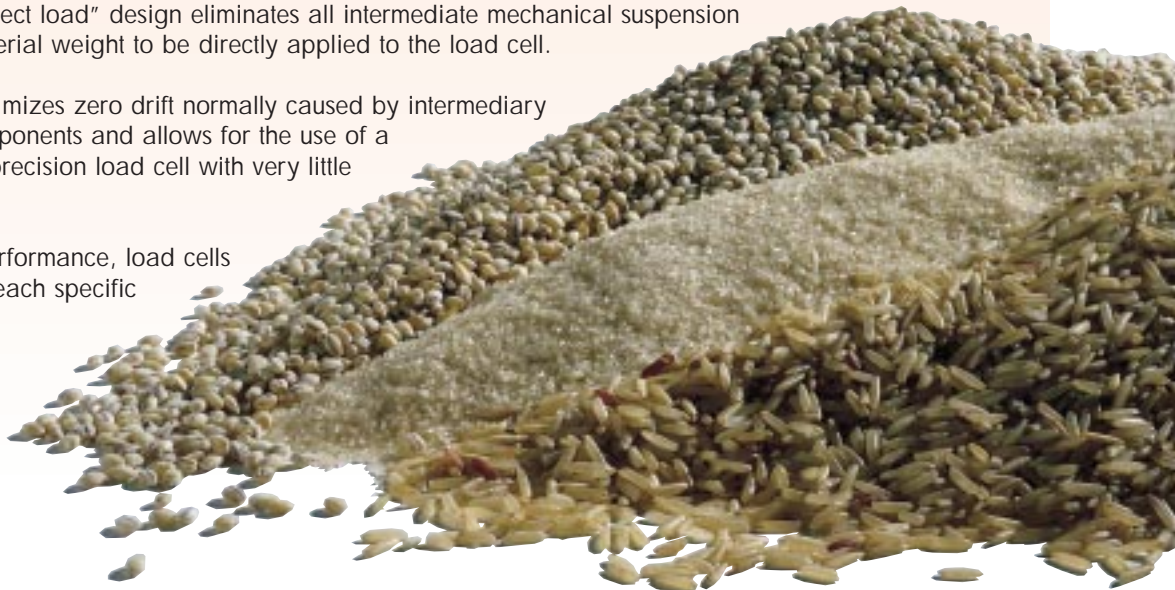
- Low Capacity
- Standard or Sanitary Duty
- Fast Installation
- Unique Platform Bridge

## Unique Design

The platform weigh bridge mounts directly to a corrosion resistant platform load cell. Our unique "direct load" design eliminates all intermediate mechanical suspension and allows material weight to be directly applied to the load cell.

This design minimizes zero drift normally caused by intermediary suspension components and allows for the use of a very sensitive, precision load cell with very little "dead load".

For optimum performance, load cells are chosen for each specific application.



# Flexibility

The simple design of the 400 Series Weigh Feeder allows easy field reconfiguration of the capacity and application. Simple changes to the drive sprockets and/or load cell can give users access to the full range of capabilities of the weigh feeder. A full line of accessories and options to fit any application include:

- Flexible infeed connections
- Set point controllers
- Sample valves
- Ratiometric controllers



## How It Works

The weigh feeder is used to deliver an accurate mass flow rate of material. The material is profiled by an adjustable mechanical shear gate which fixes the correct material bed depth for a given material particle size. The feed rate is then maintained and adjusted by varying the speed of the belt.

The system consists of three components: weight and speed sensing, integration and control and the mechanical conveying system.

Using the belt load and the belt speed sensors, small incremental totals of weight are measured and then the flow rate is calculated. The measured flow rate is compared against the desired flow rate and the on board PID controller makes necessary corrections to the belt speed.



# Stainless or Mild Steel Construction

The 400 Series is available in mild steel or stainless steel, open or enclosed construction, with constant or variable speed motors.

Originally designed for use in the food processing industry, users have found the combination of its unique design, sanitary construction and easy belt removal at clean-up time to be the perfect blend of features for their sanitary and food grade applications.

For these applications, the 400 meets or exceeds all USDA and FDA requirements for materials of construction and contact areas.

For sanitary applications, a wash down duty motor and gear reducer replace the standard chain driven gear motor. Also, a stainless steel IP67 rated load cell is used to allow the entire unit to be washed down without damage.

Wash down duty units will typically use a magnetic speed pick-up mounted between the motor and the gear reducer.



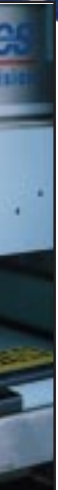
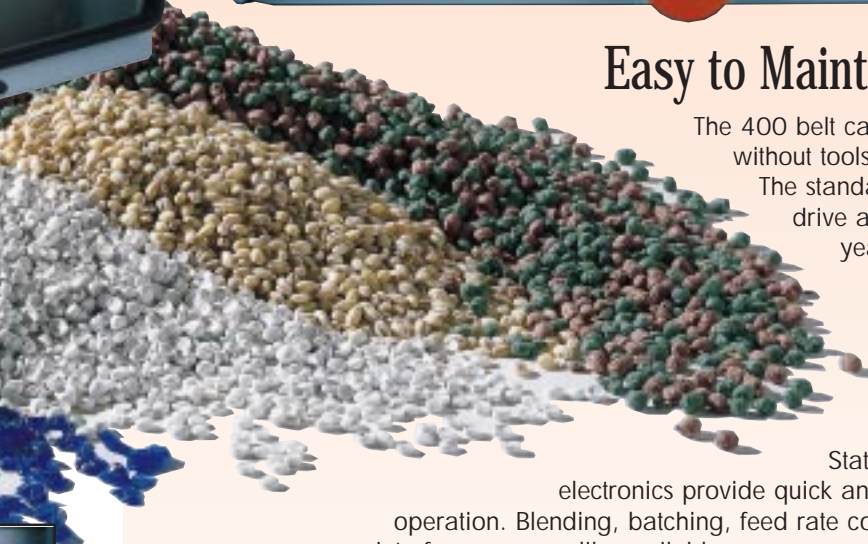
## Easy to Maintain

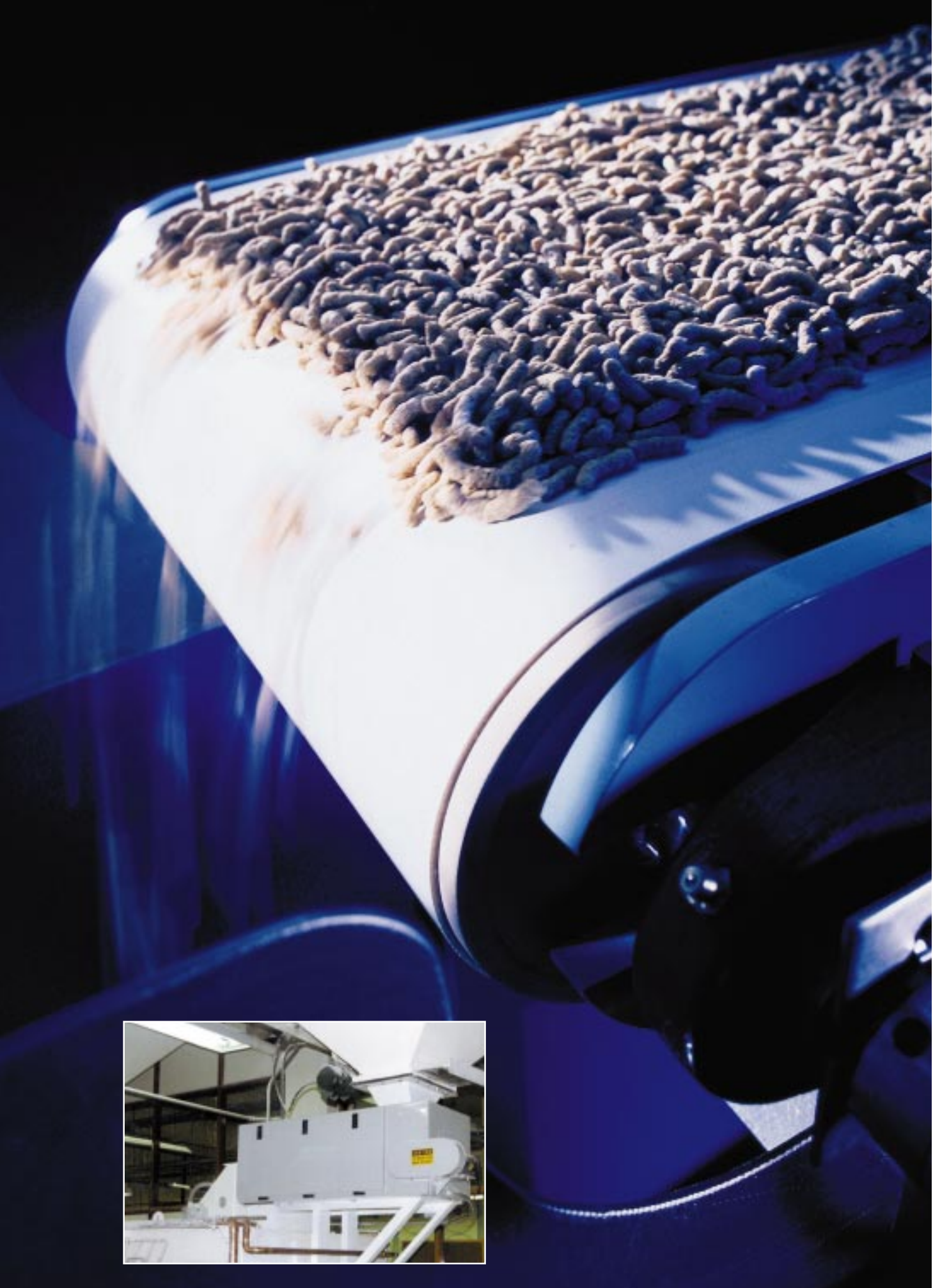
The 400 belt can be removed and replaced, without tools, in less than a minute.

The standard integral gear motor and chain drive assembly is designed to provide years of trouble free service with virtually no maintenance.

The 400's simple design provides easy access to major components.

State-of-the-art microprocessor based electronics provide quick and easy set-up, calibration and operation. Blending, batching, feed rate control, special outputs and interfaces are readily available.



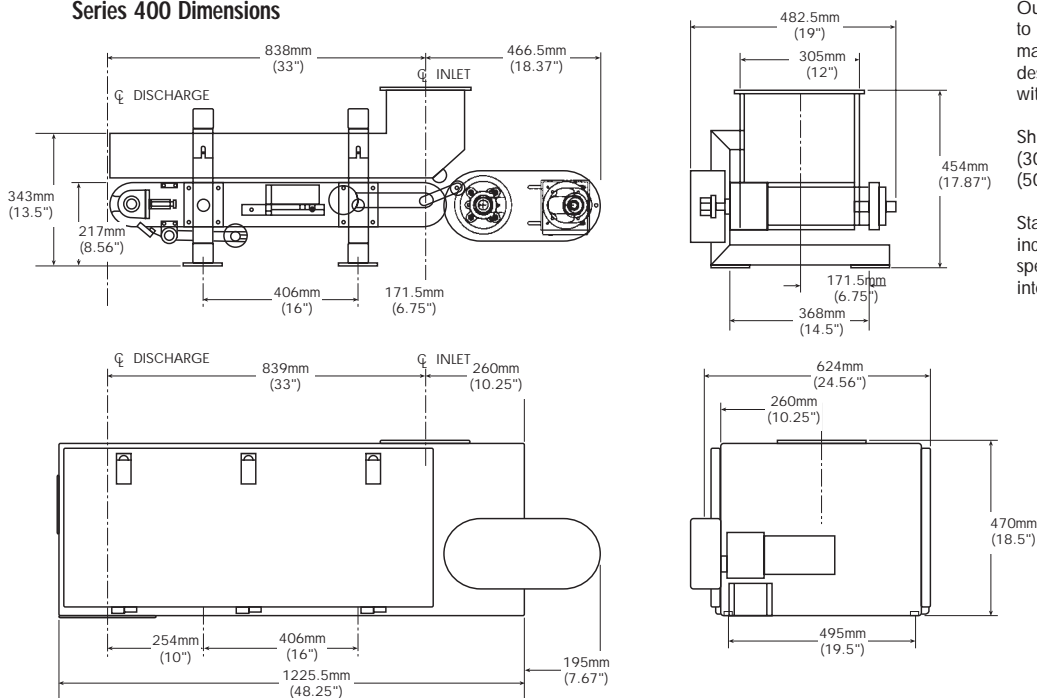


# Specification

|                       |                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------|
| Accuracy              | ±0.5% to ±0.25%                                                                                                           |
| Operating Temperature | -10°C to 40°C (14°F to 104°F)                                                                                             |
| Materials             | Mild steel or stainless steel contact surfaces.                                                                           |
| Load Cells            | One (1) single point, aluminium platform (standard). Stainless steel for corrosive and wash down environments (optional). |
| Speed Sensor          | Optical encoder, driven pulley mounted.                                                                                   |
| Framework             | Precision machined, stainless or mild steel. Cantilevered design for easy belt removal.                                   |
| Pulleys               | 115mm (4.5") diameter, crowned and lagged.                                                                                |
| Belt Tension          | Counter weighted stainless tensioning idler for consistent tension, required for high accuracy weighing.                  |

|               |                                                                                                                                                                                          |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Belting       | Polyester carcass with polyurethane top cover and endless finger splice for maximum weighing consistency (standard).<br>Variety of different belts for specific applications (optional). |
| Drive         | Standard - 0.19 kW (0.25 hp) AC or DC gear motor with chain and sprocket.                                                                                                                |
| Washdown      | 0.19 kW (0.25 hp) AC or DC washdown duty motor with direct coupled shaft or flange mounted gear reducer.<br>Custom configurations available.                                             |
| Belt Cleaning | Delrin blade type with counterweight at the head pulley for cleaning product side of belt. Return plow optional.                                                                         |

## Series 400 Dimensions



Our continuous program to improve our products may result in changes to design and specifications without notice.

Shipping weight 140 kg (300 lbs.) to 230 kg (500 lbs.) maximum.

Standard components include belt weigh bridge, speed sensor, test weights, integrator and packaging.



Mass Dynamics is dedicated to the sales and development of continuous weighing and motion sensing instrumentation. Launched in 1997 as a new business division of Milltronics Ltd., Mass Dynamics offers a range of belt scales, solids flowmeters, weigh feeders, acoustic sensors and motion sensing equipment. Designed to withstand the sustained rigours of heavy primary industries, these products have proven their reliability in a wide range of harsh applications including the mining, mineral processing and cement industries. They are also used extensively in wet and dry food processing and petrochemicals.



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