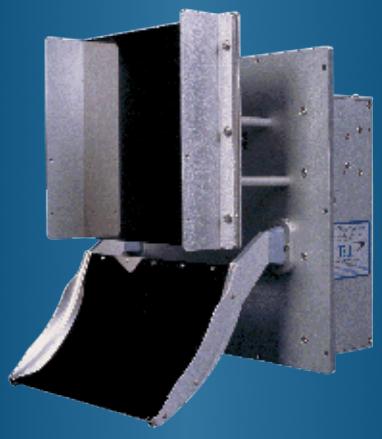
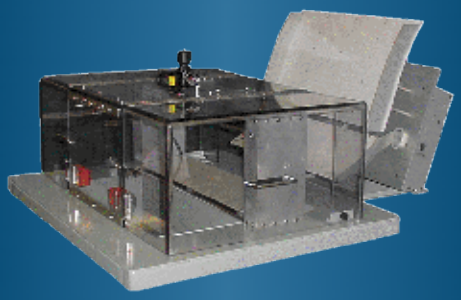
EASTERN INSTRUMENTS





SOLIDS HANDLING SOLUTIONS

EI

Precision Material Handling Equipment

Eastern Instruments
Material Handling Solutions

About Eastern Instruments

Eastern Instruments, a Certified Women's Business Enterprise, is an engineered solutions company located adjacent to the North Carolina International State Port in Wilmington, North Carolina. Since 1984, we have been engaged in the design and manufacture of devices that measure and control the flow of industrial bulk solids. These devices have been integrated into a variety of systems for regulating operations and improving efficiency across nearly every industrial sector. Every device within Eastern Instruments' solids flow measurement product line provides a high degree of accuracy, easy installation, a minimal footprint and extremely simple and intuitive operation and maintenance for both continuous and batch operations.

The following catalog is an overview of our solids material handling equipment. Additional catalogs for each of our product lines are available for more information on all of our products. If you are in need of quality material handling equipment, look no further; Eastern Instruments can help.

Contact us today.

Mildred R. Brandt
President and CEO

FOR MORE INFORMATION
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EASTERN
INSTRUMENTS

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The Principle of Centripetal Force and the Science Behind our Material Handling Equipment

Why are the solids flow measurement and control devices from Eastern Instruments so accurate? The secret lies in their zero-friction patented design, which is based on the principle of centripetal force.

Centripetal force is the inward force required to keep an object moving in a circular path. It can be shown that an object moving in a circular path has acceleration towards the center of the circle along a radius.

This radial acceleration, called the centripetal acceleration, is such that if an object has a linear or tangential velocity when moving in a circular path of radius (R), the centripetal acceleration is v^2/R. If the object undergoing the centripetal acceleration has a mass (M), then by Newton's second law of motion, the centripetal force (Fc) is in the direction of acceleration. This is expressed by the formula:

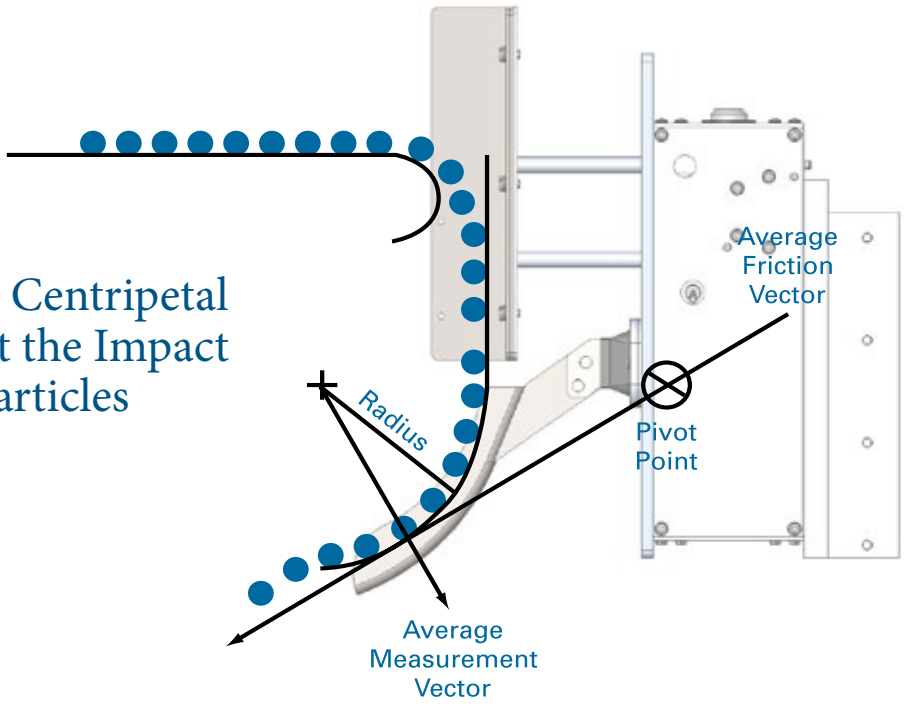
$$\textit{Force} = \frac{\text{Mass x Velocity}^2}{\text{Radius}}$$

From Newton's first law of motion, it follows that the natural motion of an object is one with constant speed in a straight line and that a force is necessary if the object is to depart from this type of motion. The force present when an object moves in a curve is called centripetal force.

The CentriFlow® Meter and all of the products in our Solids Flow Measurement Product Line actually measure the centripetal force exerted on the curved surface, in this case, the Measurement Pan, as particles travel over it. The meter does not measure the impact of particles because they never impact the Measurement Pan. Rather, they slide across the Pan for a longer duration, thus resulting in a significantly more accurate signal.

Based on the patented design of these unique devices, they are able to identify and cancel the friction component and, when combined with a velocity that is constant and a radius that is unchanging, the flow equals mass. In this manner, the flow signal from our devices is an actual mass flow, which is linear and accurate, and is not affected by density or slight particle size variations. This is Zero Friction Flow Measurement.

Measures Centripetal Force, not the Impact of Particles



Solids Flow Meters

The CentriFlow® Meter

The CentriFlow® Meter is the centerpiece of our flow measurement devices and has been a proven leader in solids mass flow measurement for over two decades. Perfect for nearly any industry where accurate and dependable mass flow measurement is required, the CentriFlow® Meter comes in a variety of styles and models to accommodate virtually any product ranging from smaller particles such as powders and feed pellets to bulky materials such as potato chips or whole crushed plastic bottles. No matter the application, there is a CentriFlow® Meter that will accurately measure your product.

The CentriFlow® Meter provides two standard outputs: a 4-20 mA signal proportional to flow and a totalizing pulse output. Additional available outputs include a weighted count output and various communications protocols (Ethernet/IP, ProfiBus, DeviceNet).

Success in Many Industries

- Plastics
- Pharmaceuticals
- Food Processing
- Animal Feed
- Bio-Energy Production
- Construction Supplies
- Minerals and Mining
- Agricultural
- and many more...

Different Types of CentriFlow® Meters

The CentriFlow® Meter comes in two main types, each corresponding to the way in which product is fed into the meters. Additionally, within each Meter Type are a variety of meter models, each designed to accommodate certain products or functions so that, as a whole, the CentriFlow® Meter product line can accurately measure nearly any flowable product. The two types of meters are the Type I Meter: fed primarily by horizontal feed devices and the Type II Meter: fed primarily by vertical feed devices.

Type I Meter: Horizontal Feed Devices

- Open Meter Style
- Fed by Vibratory/Belt Conveyor, etc
- For Free-Flowing Products
- Variety of models for any application

Type II Meter: Vertical Feed Devices

- Enclosed Style Meter
- Fed by Screw, Rotary Valve, Slide Gate, Bucket Elevator, etc
- Excellent for Pulsating Flows of powders and non-powders
- Variety of models for any application

CENTRIFLOW®: ACCURATE MEASUREMENT FOR MANY APPLICATIONS

Why choose the CentriFlow®?

Accuracy

Unlike existing technologies that *calculate* mass flow by making assumptions based on weight, speed, belt tension, or volume, the CentriFlow® Meter actually *measures* flowable solids in a process. This unique measurement ability allows the CentriFlow® Meter to have a typical ±0.25% accuracy full scale on virtually all flowable solids, significantly improving the industry standard.

Turndown Ratio

The CentriFlow® Meter can maintain its accuracy over a large turndown ratio and an additional Multiple Calibration option is available for extreme turndowns. Because the meter's unique design enables it to identify and cancel the friction component, the resulting mass flow signal = mass rate. This linear relationship allows the meter to measure at a typical accuracy of ±0.25% full scale and is unaffected by wide variances in rate.

Solid Construction / Low Maintenance

The CentriFlow® Meter's sturdy high-grade aluminum construction and stainless steel flow paths create a very low maintenance instrument. With no moving parts, it rarely requires recalibration and its solid-construction, low-maintenance design requires very few spare parts.

Plant Efficient Configurations

Designed to fit into nearly any existing process, the CentriFlow® Meter is available in multiple configurations that minimize the need for costly changes to your process. The Type I Configuration is designed to mount at the end of any existing horizontal feed system, while the Type II Configuration is designed for any in-line vertical feed system. Compared to alternatives, the CentriFlow® Meter's compact, space efficient design requires a small footprint.

Flexibility

The CentriFlow® Meter is not affected by changes in product elasticity, density, shape or friction and even fluctuations in flow rate don't impact its accuracy. The linearity of the zero friction formula underlying the meter's design allows the CentriFlow® Meter to measure at various densities and turndown ratios, while maintaining near perfect accuracy.

Continuous Measurement for Continuous Improvement

The CentriFlow® Meter's ability to provide an accurate and real-time, continuous mass flow measurement allows you to optimize your process like never before. The ability to measure gives you the control to manage.

VISIT EASTERN INSTRUMENTS ON YouTube FOR PRODUCT VIDEOS

Type I Meter

CentriFlow®: Type I Models

The CentriFlow® Type I Meter is a solids mass flow meter designed to measure bulk solids continuously in a process and is specially designed to be installed directly after feed devices that move material in a horizontal direction such as belts or vibratory conveyors. Perfect for installation in both new construction or retrofitted into existing processes, the CentriFlow® Type I Meter has a minimal vertical footprint that can be installed within as little as 20" of height. With a wide variety of options for flow surfaces, the Type I meter can be optimized to measure nearly any product, from highly abrasive industrial materials to delicate foods such as chips.

As the CentriFlow® Type I Meter is an open style meter (not enclosed), it is typically used to measure products that are relatively free-flowing and non-powdery in nature. Examples of such products include granules, pellets or even bulky materials like snack food or chips. Its open concept even lends itself to processes that require periodic wash downs or frequent access to the product or the meter's flow surfaces.

The Type I Meter is available in several specialized models which range in scope from low flow and low density applications to very high flow and high density products or applications. With a variety of meter models and an abundance of options, the Type I Meter can be custom tailored to the characteristics of your particular product. The Type I Meter can be installed in several installation orientations as well, meaning that the meter can be customized for your particular product and installed in a way specific to your particular process. These orientations allow the product's flow to either continue flowing in the same direction as the feed device (In-Line), or in the opposite direction (Reverse Flow). Please see the following page for more information.

With a variety of customizable features and models to choose from, there is a CentriFlow® Type I Meter designed with your process in mind.

CFM Type I: Standard

- Open Meter Style
- Perfect for Most Applications
- Fed by Vibratory/Belt Conveyor
- For Free-Flowing Products

LDM Type I: Light Density

- Open Meter Style
- Fed by Vibratory/Belt Conveyor
- Perfect for Large, Bulky Materials
- For Light Density Materials

CFL Type I: Low Flow

- Open Style Meter with Shroud
- Perfect for Very Low Flow Rates
- Fed by Vibratory/Belt Conveyor
- For Free-Flowing Products

HDM Type I: Heavy Duty

- Open Meter Style
- Heavy, High-Density Materials
- Very High Flow Rates

CentriFlow® Type I Meter:

Scan the QR Code for a link to the Type I Meter on our website.

CentriFlow®: Type I Installations

Type I - In Line Flow

There are two ways to install the CentriFlow® Type I Meter, in the Reverse Flow orientation and in the In Line Flow orientation. An In Line Flow installation allows product travelling in a particular direction to continue travelling in that direction, even as it exits the CentriFlow® Meter. This type of installation ensures the least amount of damage to delicate products as the product flow slides continually through the meter without ever impacting or colliding with any meter flow surfaces. This orientation is ideal for delicate products such as chips or snack foods.

Installing the CentriFlow® Meter in the In-Line orientation typically requires some sort of transition between the feed device (installed before the CentriFlow® Meter) and the meter itself in order to ensure that product is properly presented to the meter. Transitions are often provided by Eastern Instruments, however, assistance can be provided with modelling and design of the transitions should the transitions be fabricated by a third party.

Type I - Reverse Flow

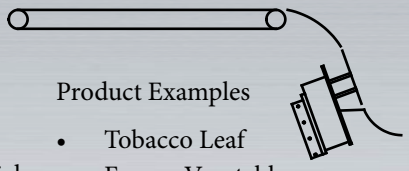
As with the In Line Flow installation, all models of the CentriFlow® Type I Meter can be utilized in the Reverse Flow orientation. The Reverse Flow orientation allows product travelling in a particular direction to reverse and continue flowing in the opposite direction as it exits the CentriFlow® Meter. The Reverse Flow orientation requires the least vertical space, as the meter can be positioned directly at the end of a belt or vibratory conveyor as illustrated below. In some instances, a meter can be installed with a vertical footprint of 20” or less depending on the installation.

Installing a CentriFlow® Type I Meter in the Reverse Flow orientation is the most basic installation of the CentriFlow® Type I Meter as transitions typically required for the In-Line Flow orientation are not required for CentriFlow® meters installed in the Reverse Flow orientation. There are some instances, however, in which a transition from a vibratory conveyor may be required in order to properly present product to the CentriFlow® Meter for measurement.

Vibratory Feed

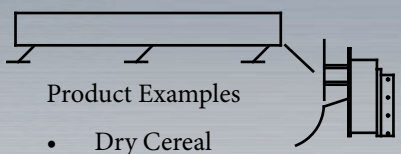
Product Types	Product Examples
• Bulky	• Potato Chips
• Large-Particle	• Tortilla Chips
• Fragile	• Nuts
• Free-Flowing	• Grains

Belt Feed



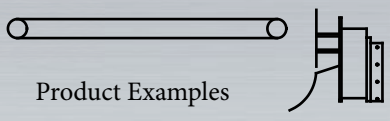
Product Types	Product Examples
• Bulky	• Tobacco Leaf
• Large-Particle	• Frozen Vegetables
• Fragile	• Dry Cereal
• Free-Flowing	• Grains

Vibratory Feed



Product Types	Product Examples
• Cohesive	• Dry Cereal
• Sticky	• Shredded Cheese
• Fragile	• Dried Parsley
• Light	• Frozen Vegetables

Belt Feed



Product Types	Product Examples
• Cohesive	• Wood Shavings
• Fragile	• Dry Cereal
• Heavy	• Aggregate
• Sticky	• Fertilizer

Type II Meter

CentriFlow®: Type II Models

The CentriFlow® Type II Meter is a solids mass flow meter designed to measure bulk solids continuously in a process and is specially designed to be installed directly after feed devices that move material in a vertical direction such as rotary valves, screw conveyors, bucket elevators, etc. Perfect for installation in both new construction, or retrofitted into existing processes, the CentriFlow® Type II Meter has a small, vertical footprint as compared to other metering devices on the market (with a vertical footprint of only 36" in height for the Standard Type II Meter). With a wide variety of options available for flow surfaces, the Type II meter can be optimized to measure nearly any product; from highly abrasive, industrial materials to flours and powders.

While the Type II Meter can be used to measure both free-flowing materials as well as powdery materials, the enclosure or housing of the Type II Meter lends itself perfectly to applications where measuring powders or other products can create a great deal of dust. In addition, many options are available to enhance the flow of particularly stubborn materials, or to protect against abrasion. Additional options for explosion hazards are also available for all models of the Type II Meter.

As mentioned, the Type II Meter is available in several specialized models (as shown to the right) which range in scope from low flow applications to very high flow, high density products. This allows for custom tailoring of the standard Type II Meter to specific products and their specific characteristics.

With a variety of customizable features and models to choose from, there is a CentriFlow® Type II Meter designed with your process in mind.

CentriFlow® Type II Meter:

Scan the QR Code for a link to the Type II Meter on our website.

CFM Type II: Standard

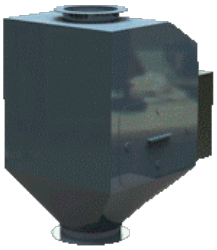
- Meter with Enclosure
- Perfect for Most Applications
- Fed by Rotary Valve, Screw Conveyor, Bucket Elevator, etc.
- For Free-Flowing Products

CFM Type II: Powder

- Meter with Enclosure
- Perfect for Powders
- Fed by Rotary Valve, Screw Conveyor, Bucket Elevator, etc.
- Powders or small particle materials

CFL Type II: Low Flow

- Completely Enclosed Meter Style
- Perfect for Very Low Flow Rates
- Fed by Rotary Valve, Screw Conveyor, Bucket Elevator, etc.
- For Free-Flowing or Powdery Materials



HDM Type II: Heavy Duty

- Meter with Enclosure
- Perfect for Heavy, High-Density Materials
- Fed by Rotary Valve, Screw Conveyor, Bucket Elevator, etc.
- For Free-Flowing or Powdery Materials

CentriFlow®: Type II Installations

The CentriFlow® Meter is typically installed directly after a feed device in order to ensure a consistent flow of product through your meter. Consistent however, does not mean continuous. Due to its rugged construction and unique design, the Type II Meter is perfect for installation after a variety of feed devices, including those that generate highly pulsating flows or surges of product. Some of the more common feed devices that the Type II Meter is installed after are listed below.

SCREW CONVEYOR: The pulsations of screw conveyors have little effect on the Type II Meter's accuracy. The high sample rate and instantaneous measurement of the meter ensures that surges in product will always be measured accurately.

BUCKET ELEVATOR: Because bucket elevators typically move product in a vertical direction, they are perfect for Type II Meters which require a vertical feed device. Product is typically transitioned from the bucket before entering into the CentriFlow®.

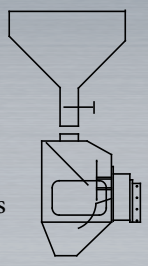
SLIDE GATE: Slide gates create a very consistent feed of product for the CentriFlow® Type II Meter and allow for very accurate measurement. If you require both flow measurement and control of your product, the CentriFeeder® with ICV combines a CentriFlow® Meter with an Integrated Control Gate for very accurate measurement and control of granular products. See our Feeder catalog for more information.

ROTARY VALVE: As with screw conveyors, flow out of rotary valves is often very pulsating and large rotary valves can cause an even greater likelihood of large pulsations. Even these large pulsations, however, have very little effect on the accuracy of the CentriFlow® Type II Meter. In the unlikely event that an extremely large surge floods the meter with product, the meter's enclosure is designed to allow the product flow to continue through the process without blockage so that production can continue unhindered by the unexpected surge in product.

Slide Gate/Orifice Valve

Product Examples

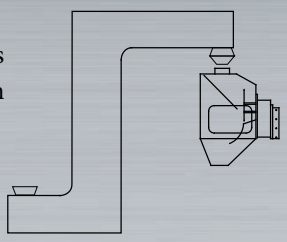
- Plastic Pellets
- Animal Feed
- Grains
- Coffee Beans
- Fertilizer
- Granules
- Pellets
- Milled Grains
- Chips/Chunks



Bucket Elevator

Product Examples

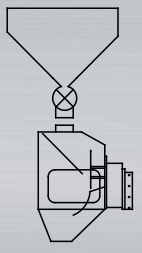
- Plastic Pellets
- Animal Feed
- Grains
- Coffee Beans
- Fertilizer
- Powders
- Gypsum
- Grains
- Cement



Rotary Valve

Product Examples

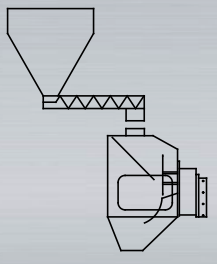
- Plastic Pellets
- Animal Feed
- Grains
- Coffee Beans
- Fertilizer
- Powders
- Gypsum
- Milled Grains
- Cement



Screw Conveyor

Product Examples

- Plastic Pellets
- Animal Feed
- Grains
- Coffee Beans
- Fertilizer
- Powders
- Gypsum
- Milled Grains
- Cement



Solids Feeders

The CentriFeeder®

The CentriFeeder® is the name given to Eastern Instruments' solids feeder line of products. These devices utilize the principal of Centripetal Force to measure the mass flow of product that passes through the feeder meter, but then goes a step further in order to control the flow of product using the mass flow signal. These devices come in a variety of styles and configurations.

No matter the type of CentriFeeder® the unit will provide two standard outputs: a 4-20 mA signal proportional to flow and a totalizing pulse output. Additional available outputs include a weighted count output and various communications protocols (Ethernet/IP, ProfiBus, DeviceNet).

Success in Many Industries

- Plastics
- Pharmaceuticals
- Food Processing
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- Construction Supplies
- Minerals and Mining
- Agricultural
- and many more...

CentriFeeder® Models

The CentriFeeder® comes in two main varieties depending on how product is moved. By creating a PID Control loop between the flow meter and the feed conveyor, the CentriFeeder® line of products is able to measure and control a variety of bulk solids.

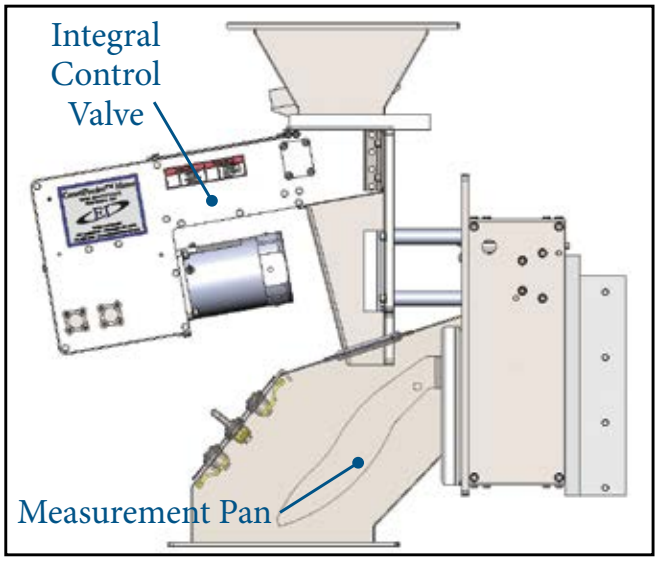
CentriFeeder® w/ VIB: Integrated Vibratory Control

- For Materials Typically Conveyed by Vibratory Conveyors
- Great for Delicate Products or Bulky Materials
- Multiple Units Can Be Used for Blending Multiple Ingredients

CentriFeeder® ICV: Integrated Control Valve

- For Materials Typically Controlled by Slide Gates
- Great for Granular Products
- Both Measures and Controls the Flow of Granular Material

CENTRIFEEDER®: ACCURATE FEEDING OF GRANULAR PRODUCTS



Great for Delicate Products

Utilizing a product's natural tendancy to bridge, the CentriFeeder's Virtual Flow Stop allows for positioning of the Integrated Control Valve's blade so that flow can be stopped without completely closing the Integrated Control Valve, thus minimizing damage to delicate products and to the valve itself.

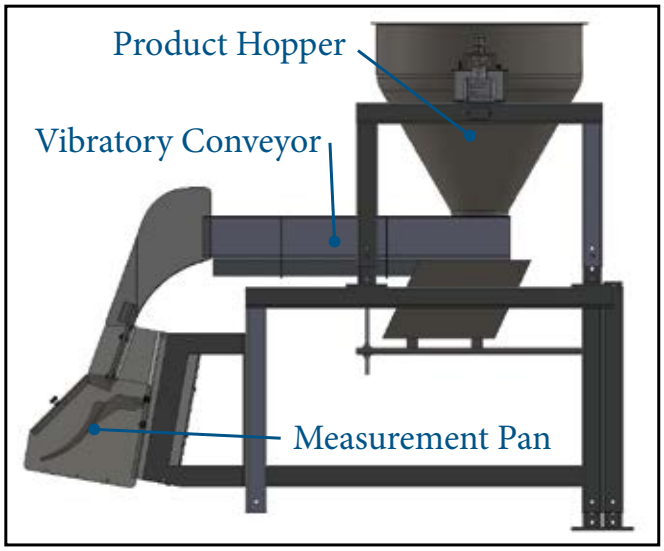
CentriFeeder® with ICV

Accuracy

The accuracy of the CentriFeeder® with ICV begins with the feeder's Mass Flow Measurement. The instantaneous flow measurement is used to create a PID control loop that controls the Integral Control Valve (Controllable Slide Gate) which modulates in order to control the product's flow for either batching or continuous blending applications. The feeder's unique measurement ability and quick response PID control loop ensures that the CentriFeeder® with ICV has a typical accuracy of ±0.50% of reading on virtually all granular solids.

Low Profile Design

The CentriFeeder® offers flow measurement and control in a single multi functioning device. The CentriFeeder® can be installed directly under a storage bin or silo and compared to alternative devices, the CentriFeeder® utilizes a compact, space efficient design, that requires a very small footprint. Typically the vertical footprint is less than 24".



Continuous Process Capability

The Product Hopper can be equipped with a high/low level indicator that will keep the product hopper full of product without starving the feeder or overfilling the product hopper.

CentriFeeder® with VIB

Accuracy

As with the CentriFeeder® with ICV, the CentriFeeder® with VIB begins by measuring the flow of product passing through the feeder. The instantaneous flow measurement is used to create a PID control loop that controls the Vibratory Conveyor by modulating the velocity of the product in the vibratory tray. The feeder's unique measurement ability and quick response PID control loop ensures that the CentriFeeder® with VIB has a typical accuracy of ±0.50% of reading on virtually all granular solids.

Customizable Configurations

From the hopper size and the length of the conveyer to the flow surfaces of the Measurement Pan, the CentriFeeder® with VIB is highly customizable to your specific product and process.

Solids Fillers

The CentriFill™

The CentriFill™ Series of fillers utilizes a specialized version of the CentriFeeder® in order to accurately fill containers, boxes, bags, or even larger vessels such as gaylords, bins or railcars. Because the CentriFill™ systems are dynamic systems that weigh product in process, the product never needs to slow down or dribble feed in order to maintain accurate fills.

The CentriFill™ also has a learn mode which enables it to increase accuracy and speed with each run ensuring that each fill is precise and perfectly filled every time. Simply enter your target weight and begin filling.

The CentriFill™ is available in a variety of configurations for easy installation into any process. From Semi-Automatic fillers in which the fill cycle is initiated via a contact closure, to fully automatic filling where the fill cycle is initiated by a series of optic sensors, the CentriFill™ series of filling devices has a filling solution for you. As with all products Eastern Instruments manufactures, the CentriFill™ series of fillers is highly customizable and can be perfectly tailored for nearly any application and for nearly any process.

CentriFill™ Series of Fillers

CentriFill™ 1000: Fill-To-Weight Filler

- Great for Granular Solids
- Fill Cycle Initiated via Contact Closure
- No slow dribble fills
- Customization Options Available

CentriFill™ 2000: Bulk Filler

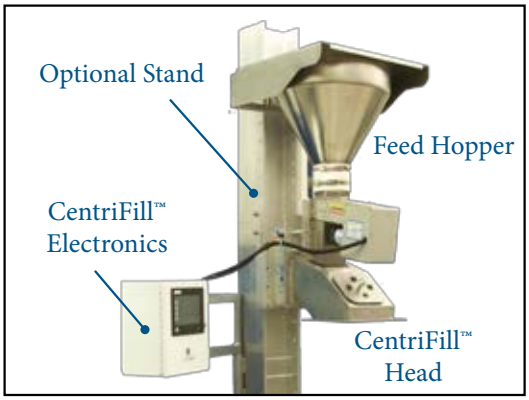
- Great for Granular Solids
- Fill Cycle Initiated via Contact Closure
- No slow dribble fills
- Easy Fill Spout for Drum and Barrel Filling

CentriFill™ 3000: Automatic Filler

- Great for Granular Solids
- Optic Sensor Initiates Fill Cycle Automatically
- No slow dribble fills
- Customization Options Available

CENTRIFEEDER®: ACCURATE FEEDING OF GRANULAR PRODUCTS

CentriFill™ 1000: Fill-To-Weight Filler System



The CentriFill™ is available in a variety of configurations for easy installation into nearly any process. The CentriFill™ 1000 is a gravimetric Fill-To-Weight filler designed to deliver a specific, weighed quantity of product. The CentriFill™ 1000 quickly and accurately fills any bag, box or container 10 lb or more in weight without the tedious and time consuming "bulk and dribble" that most fillers are plagued with. Fill cycles can be initiated manually via a contact closure, or can be controlled through a PLC via Ethernet/IP communication. Sophisticated, "smart" controls allow for simple, automatic error correction and accept/reject tolerance control.

CentriFill™ 2000: Bulk Filler System

The CentriFill™ 2000 is a gravimetric, Semi-Automatic Fill-To-Weight filler designed for larger containers including drums, bulk bags, gaylords or even trucks and railcars. The CentriFill™ 2000 has a modular design so that the base can be customized for nearly any application. As with the CentriFill™ 1000, fill cycles can be initiated locally via a contact closure, or can be controlled through a PLC via Ethernet/IP communication. Sophisticated, "smart" controls allow for simple, automatic error correction and accept/reject tolerance control. Customizable rotating discharge spouts are also available for drum filling applications in which multiple barrels on a pallet are being filled.

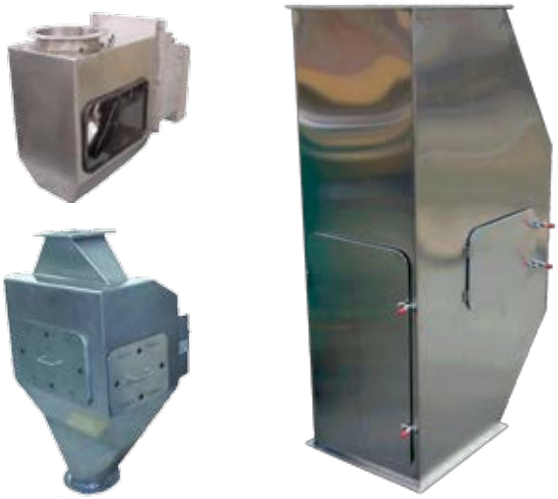
CentriFill™ 3000: Automatic Filler System

The CentriFill™ 3000 is a fully automatic filling system that integrates a CentriFill™ head with a mounted, motorized conveyor system, and the required sensors and electronics controllers required to accurately move, position and fill containers, boxes or bags and then move the filled containers onward through your process. The fill cycle is fully automated and all of the processes are controlled with the integrated CentriFill™ electronics package. The automatic fill cycles can be controlled locally via the CentriFill™ electronics or can be integrated into your process' PLC control system. A variety of custom options are available for the CentriFill™ 3000 filler system as well.

System Solutions

UNLIMITED CUSTOMIZATION

Eastern Instruments' Solids Material Handling devices are very versatile and can be customized for nearly any application. From wear coatings and food grade designs to custom meter enclosures and transitions, Eastern Instruments' engineering team will design a solution that is perfect for your particular application.



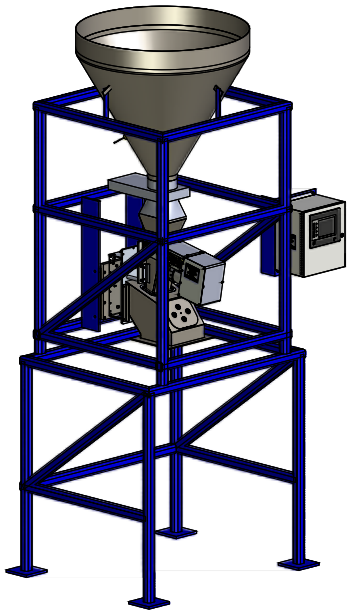
Custom Enclosures for a Variety of CentriFlow® Flow Meters

Not only do the flow measurement experts at Eastern Instruments offer world class flow meters, feeders and fillers, but, utilizing Eastern Instruments' experienced engineering team who specialize in bulk solids handling, we have also designed and implemented a variety of highly specialized bulk handling systems. These systems incorporate our devices with other bulk material handling equipment as well as specially designed electronics and controllers in order to create systems that not only improve automation, but also offer more control of your process. When integrated into your overall process, Eastern Instruments' Systems Solutions will increase quality and decrease the cost of your process by reducing waste or unusable product.

Listed here are just a few of the Systems Solutions that Eastern Instruments has designed over the years. If you have a need for something that isn't listed here, don't worry, our engineering team is ready to assist in designing a solution with your process in mind.

BULK DENSITY MEASUREMENT SYSTEM

The Dynamic Bulk Density Measurement System is a gravimetric measurement system used to dynamically measure the bulk density of granular flowable solids while in process. Offering a true bulk density output as well as outputs for both mass flow rate and totalization, the BDM gives you the ability to manage your process by monitoring or controlling the product stream's bulk density or by maintaining a throughput of a specified density of product in order to control blends of different densities of materials. The Dynamic Bulk Density Meter is a true bulk density meter that actually measures, rather than calculates, the bulk density of a flow of material.

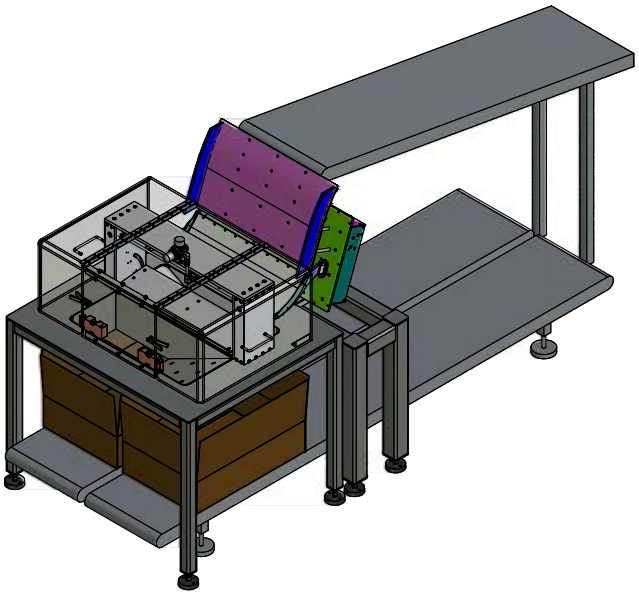


Dynamic Bulk Density Measurement System

Accurate and dependable bulk density measurement is rooted in an accurate mass flow measurement. Utilizing patented CentriFlow® mass flow measurement technology which is based on the principal of Centripetal Force, a true mass flow measurement is obtained as the entire product stream passes over the Measurement Pan (no sampling). Meanwhile, the Integrated Control Valve, which is controlled to within 1 part in 1000 (based on stroke) ensures an extremely precise real time measurement of the volume of product while its mass flow is being measured. The result is a highly accurate, dynamic, bulk density measurement.

HIGH SPEED DIVERTER SYSTEM

The CentriFlow® Meter and High Speed Diverter system integrates the patented CentriFlow® Meter with a High Speed Diverter that can rapidly and accurately fill boxes and containers, readying them for delivery. The High Speed Diverter System is perfect for loose materials such as loose nuts or candies, or for packaged materials such as snack bars or pouches of candies or fruit snacks. The High Speed Diverter System will quickly and accurately fill boxes with material readying them for a co-packer.

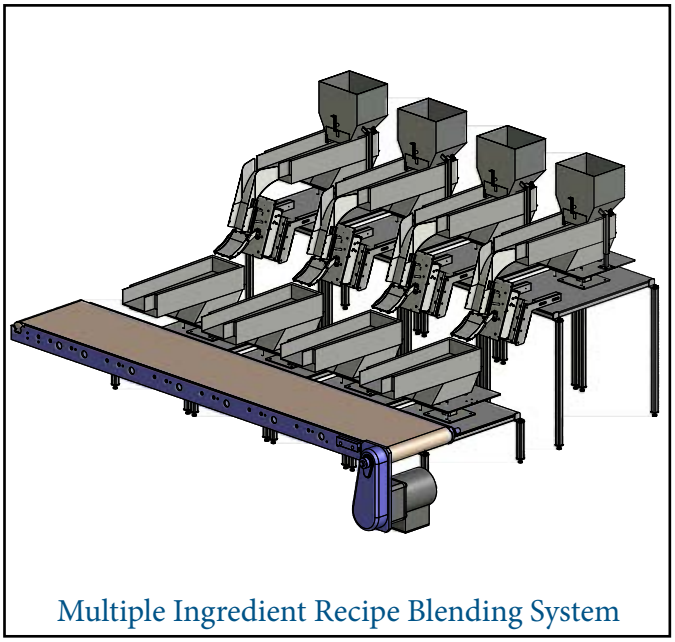


CentriFlow® Meter w/ High Speed Diverter System

As the picture above illustrates, product is fed from a belt conveyor, through a CentriFlow® Meter and High Speed Diverter system which diverts product into boxes on either side of the diverter system. This setup allows a box to be filled while the box on the opposite conveyor is being sealed, removed from the conveyor and another box is readied for filling. The High Speed Diverter system allows for continuous filling of boxes while at the same time being much more accurate. The picture illustrates two parallel discharge conveyors that run side by side, underneath the diverter's stand, however the discharge belts can also be oriented perpendicular to the feed belt as well, depending on the layout of your process.

MULTIPLE INGREDIENT RECIPE BLENDING

The Multiple Ingredient Recipe Blending System incorporates multiple CentriFeeder® units together to control the flow of multiple ingredients as they are being blended, readying them for packaging. Each feeder has a separate controller so that they can be individually calibrated and the individual flow rates set, however, the ratios of the different products can be controlled either via a master HMI with custom programming, or by a PLC or other controller, in order to deliver the correct ratio of the individual products for a perfect blend of product every time. The Recipe Blending System is great for continuous blending, but is also perfect for short or long duration batching applications as well.



Multiple Ingredient Recipe Blending System

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