

# Mini In-Line Sifter Model 611

Designed for direct insertion into a vacuum or pressure pneumatic conveying line as a quality assurance tool for removing a small amount of oversized impurities from the product.

This "mini" design is an economical solution for lower capacity applications. The operating elements are the same proven durable components used in our larger Model 611.

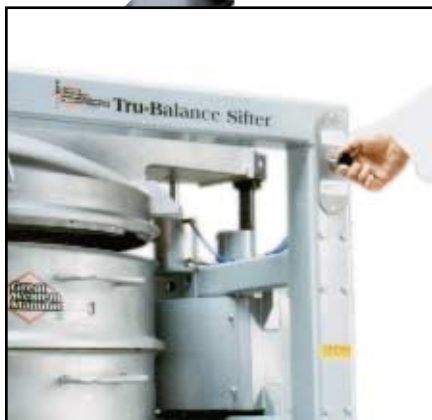
Placed in pneumatic unloading or transfer systems, it eliminates equipment such as cyclone receivers, airlocks, receiving hoppers and blowers which would be required if a standard (atmospheric pressure) sifter were utilized.



Great  
Western  
Manufacturing

## Our In-Line Tru-Balance Sifters provide:

- Direct insertion into pressure or vacuum pneumatic conveying lines. This eliminates the need for receivers, airlocks and additional blowers.
- Equalized air pressure above and below the sifting screens. No differential air pressure is exerted on the product or sifting screen that would force material through the screens.
- Gentle gyratory sifting. No unnatural physical or mechanical pressure to force product through the screens.
- "Filtered" air to insure there is no possibility of oversized impurities by-passing the sifter.
- Easy access for inspection or maintenance.
- Mechanically reliable design. No expensive gear boxes to leak or maintain. No knuckles to wear out.
- Standard motors and reduced power costs.
- Smooth, balanced operation. Virtually no vibration transmitted to the building means that the building structural design requirements are minimized.
- All product contact surfaces are fabricated of stainless steel which insures compliance with the most stringent sanitation standards.
- Versatile installation possibilities.
- Small space, sieves stack vertically.



① Activation of pneumatic cylinders elevates the upper dome drive frame.

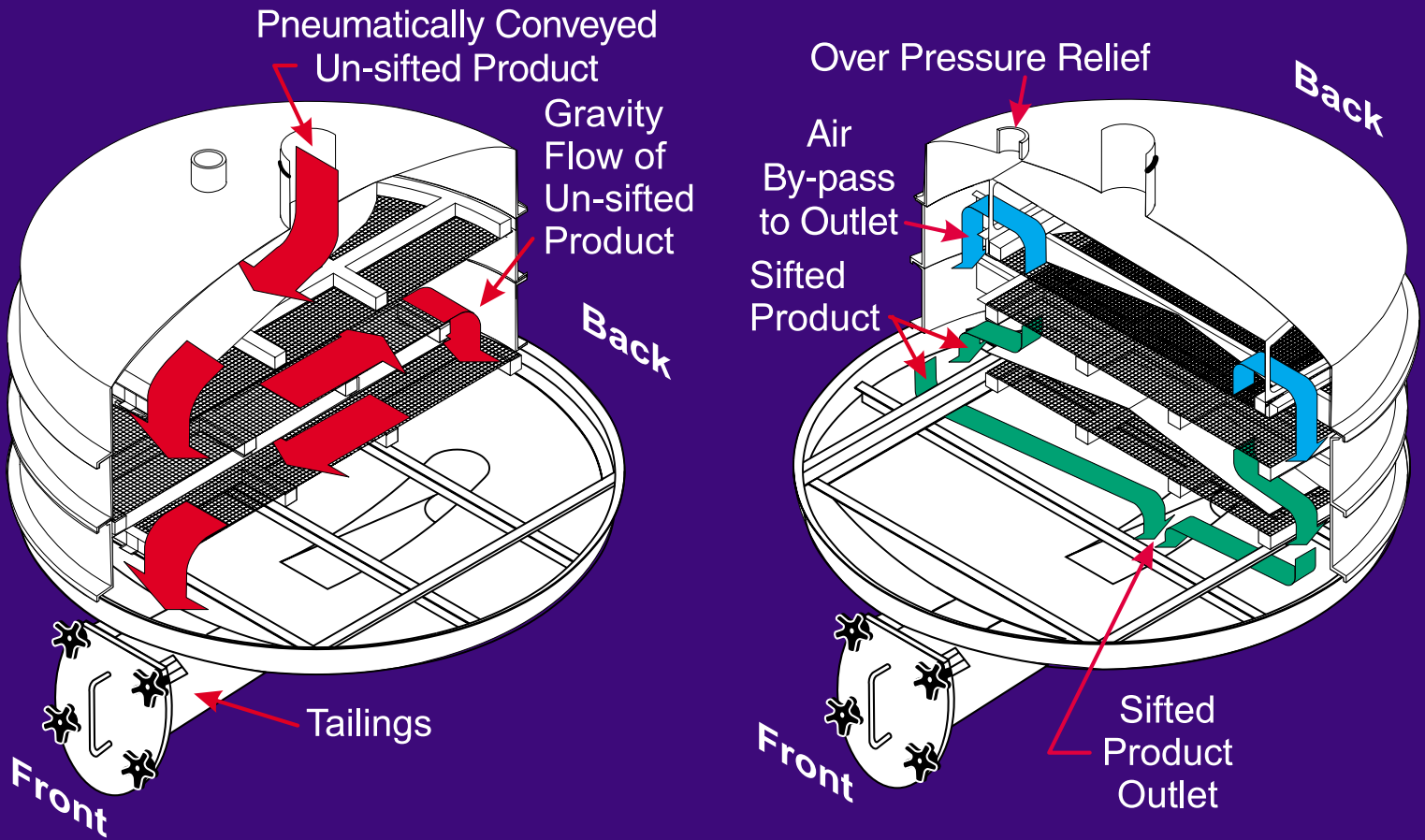


② Sieves slide out for inspection, cleaning, or maintenance.



③ Each intermediate sieve contains a lift out tray with clothing and cleaners.

# Mini In-Line Tru-Balance Flow Scheme



## Precision Construction Simplifies Operation

The machine is built to be easily opened for inspection, cleaning or maintenance. Nest-together sieve frames are stacked one on top of the other on the lower dome drive frame. Six tie rods compress the stack of sieves between the upper and lower dome drive frames to create a pressure-tight unit. Pneumatic cylinders ❶ are used to elevate the upper dome drive frame to enable the removal ❷ of the sieve frames.

The upper and lower dome drive frames are supported within a tubular frame and are connected to the drive components on the two ends of the machine. A standard T-frame motor and V-belts turn the two counterweights positioned on the left and right sides of the machine. These weights straddle the machine's center of gravity and counterbalance the mass of the rotating sifter housing. This unique drive mechanism insures a smooth, balanced operation and minimizes building structural demands.

The shake stays in the sifter!

## Flow Scheme

The product is gently sieved without being forced through the screens by the conveying air and without any mechanical beaters or impellers. The air is "filtered" separate from the product to insure that no oversize impurities can by pass the protection of the sifter.

As the product is conveyed into the sifter inlet, it enters an expansion chamber. As its velocity decelerates the product loads the uppermost sieve frame. The expansion chamber and large sieves cause the incoming product to lose conveying velocity and the product naturally begins to separate from the conveying air. As the product settles out from the low velocity conveying air, it forms a layer on the sifting screens. This layer of product creates a resistance to the flow of air through the sifting screens. The conveying air seeks the path of least resistance through the air bypass screen positioned directly above sieve #1. This air bypass screen is the same mesh as is used for sieving the product but acts

more like an air filter than as a sieve. This filtering effect insures that there is no possibility that oversize impurities can bypass a screen of the required mesh size and allows the air pressure to equalize on both sides of the sifting screens so that there is no pressure differential that would force product through the sifting screen.

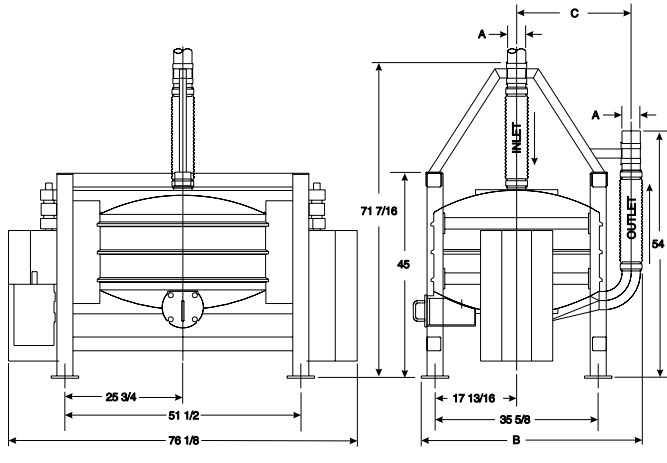
As the product is gently sieved it falls on a stainless steel sieve pan. The sloping pan is designed to gather and direct the sieved product to the two channels on each side of the sieve frames. The sifted product joins the bypassed air and falls to the lower dome of the sifter. Product that was not able to pass through the screen is conveyed on to the next sieve until all of the fines are removed. The oversize impurities are conveyed on to the sealed tailings container.

To protect the sifter housing from over pressure conditions (or low pressure conditions for vacuum systems) the sifter is equipped with an appropriate spring-loaded relief valve.



# Model 611 Mini

Inlet/ Outlet Dia. A	B	C
3"	47 11/16	24 1/2
4"	48 3/16	25



- Sieve size: 36" diameter
- Net Cloth Area 4.6 ft<sup>2</sup> / sieve
- 2 sieves
- Net sieving area 9 ft<sup>2</sup>
- One - 1½HP motor with V-belt drive
- Drive guards
- 3" or 4" Ø conveying lines
- Inlet and discharge support brackets
- Tailings drawer with optional manually operated butterfly valve
- Rates to 250 lbs/min on hard wheat flour with 30 mesh screens

Indicative dimensions for typical arrangements shown. Contact Great Western for exact dimensions for your application.

## Standard Features

- Engineered to handle high capacity quality assurance sifting applications gently and efficiently.
- Ball or cube cleaners prevent blinding.
- Stainless steel construction of all product contact areas.
- Standard top vertical inlet and discharge simplifies installation.
- Standard inlet and discharge support brackets eliminate custom fabrications.
- Pneumatic cylinders elevate the upper dome drive frame for ease of access.
- Simple clamping system with tie rods securely seal the nest-together sieve rings.
- Nest-together sieve frames eliminate the need of a housing and enables the machine to be quickly and completely dismantled in minutes.
- Individual sieve rings contain a lift-out tray frame which has mechanically stretched and glued-on clothing for the utmost in performance and sanitation.
- Lift-out tray frames can be re-clothed indefinitely.
- Over-pressure relief valve eliminates expensive single-use rupture disks.
- Reliable Tru-Balance drive straddles the sifter's center of gravity and keeps the sifting motion in the machine.

## Who Are We?

Great Western Mfg. Co., Inc., designs and manufactures custom industrial processing machinery. Our line of sifters, the Company's primary product, are used for scalping, grading and fines removal from dry, free-flowing powders and granular materials. We serve the cereal grain processors, mix plants, bakeries and snack food producers, spice processors, and the pet food, chemicals and plastics, and mineral industries.

**Design Engineering**—Each of our sifters is engineered for the customer's specific application. Many options are available that allow the sifters to be customized to meet his specific need.

**Test Lab**—We maintain a complete testing laboratory to evaluate product samples and make equipment recommendations. There is no charge or obligation for this service. Contact Great Western to discuss testing requirements.



P.O. Box 149  
2017 S. 4th Street  
Leavenworth, KS 66048-0149  
(913) 682-2291  
Fax: (913) 682-1431  
Web Site: [www.gwmfg.com](http://www.gwmfg.com)  
E-Mail: [sifter@gwmfg.com](mailto:sifter@gwmfg.com)