

ValuMAX® Bulk Bag Filler Product Specifications



Erie Technical Systems Inc.

Material Handling Equipment

4690 Iroquois Avenue

Erie, PA 16511

P: 814-899-2103

F: 814-899-2146

www.bulkfilling.com

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ValuMAX® Bulk Bag Filler

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A. ValuMAX® Bulk Bag Filler Overview

The ValuMAX® Bulk Bag Filler is designed for simple bulk bag filling applications. It is typically used for low volume bagging requirements and generally replaces the use of a forklift or other simple frame for filling bulk bags. It is designed to fill bulk bags with up to 2,204 pounds (1,000 kilogram) of product, although higher rated models are available.

The ValuMAX® filler is solidly built from heavy gauge steel. The filler is adjustable for different size bags and easily moved using a forklift or pallet jack. The open frame allows for quick loading and unloading.

The filler consists of the base frame, upright frame, H-frame, bag support arms, and fill head with inflatable bladder. All the base components are constructed of carbon steel and are painted with an industrial enamel in ETSI blue. Product contact surfaces and the fill head are the only exceptions to this, and they are made of 304 Stainless Steel.

ValuMAX® Bulk Bag Filler Ranges:

- **Bag Height:** 40" (1018mm) Minimum to 72" (1829mm) Maximum
Max height requires extended upright frame.
- **Bag Width/Depth:** 44" (1120mm) x 44" (1120mm) Maximum
- Note: Dimensions assume standard 5" (127mm) tall pallet and standard 10" (254 mm) loops.
- **Bag Weight:** 2204# (1,000 kg) maximum (2-Ton models are available).



Figure 1 - ValuMAX® Bulk Bag Filler with Pallet Jack for Transport

Note that these are the standard and most common ranges. Custom sizes and designs are available.

B. ValuMAX® Bulk Bag Filler Standard Mechanical Features

Upright Frame – The upright frame attaches to the base frame and supports the adjustable H-frame and bag support arms.

H-Frame – The H-frame supports the fill head and the bag arms. The H-frame is quickly adjusted for different bag heights using two quick-release pins.

Bag Support Arms – The bag arms support the bulk bag loops during the filling process. The arms are easily adjusted for different width bags. After filling, the bag and skid can be lifted and removed quickly by sliding the loops off the bag arms.



Figure 2 - ValuMAX® Bulk Bag Filler, Base Model

Base Frame – ValuMAX® base frame includes pre-drilled recessed plates for the addition of the optional load cell kit. The base frame features integral fork pockets to allow moving of the bag filler with a forklift or pallet jack. The base frame can accept pallets up to 48" x 48" (1,220 mm x 1,220 mm).

Fill Head - The fill head assembly is supported by the H-frame and provides a dust tight seal for filling bulk bags. The fill head assembly is designed with inner and outer tubes. The inner tube provides the product flow path. The outer tube holds a pneumatically actuated bladder. The bag spout slides over the outer tube and the bladder is inflated using a pneumatic toggle valve. The use of the inner and outer tubes provides an annular opening through which air can escape and be collected during filling.



Figure 3 – Standard Fill Head
with Manual Pinch Ring

- Inner fill tube with a 10" (254 mm) made from 304 SS. An optional 8" (203mm) inner flow tube is available upon request.
- Outer fill tube 12" diameter (304mm)
- Inflatable bladder with hand operated toggle solenoid valve and low-pressure regulator designed to seal up to standard 14" diameter (356 mm) bag spout.
- 2" FNPT diameter dust collection port for attachment to a customer supplied dust collection system
- Unpainted 304SS fill head.
- For bag spouts larger than 14" (356mm), an optional pinch ring can be supplied.

C. ValuMAX® Bulk Bag Filler Options

These additional standard options are available for the ValuMAX® bag filler and are priced separately.

a. Hinged Bag Spout Pinch Ring



Figure 4 - Hinged Bag Spout Pinch Ring

During filling, the inflatable bladder on the fill head will expand, creating a seal against fill spouts 14" in diameter or less. The hinged bag spout pinch ring option adds a quick opening band to the fill head, allowing the use of bags with larger than 14" bag necks up to full duffel top bags. The extra material is pinched between the inflatable bladder and the pinch ring before the bladder is inflated.

- Stainless Steel
- Quick opening latch

b. Fixed Hooks

This option adds the ability to hang the bags from a hook assembly but not release them pneumatically. This is ideal for hanging bulk bags with less than a 10" long hanging strap. The hook position on the support arm is adjustable for different width bags.



Figure 5 - Fixed Bag Stirrup Hooks

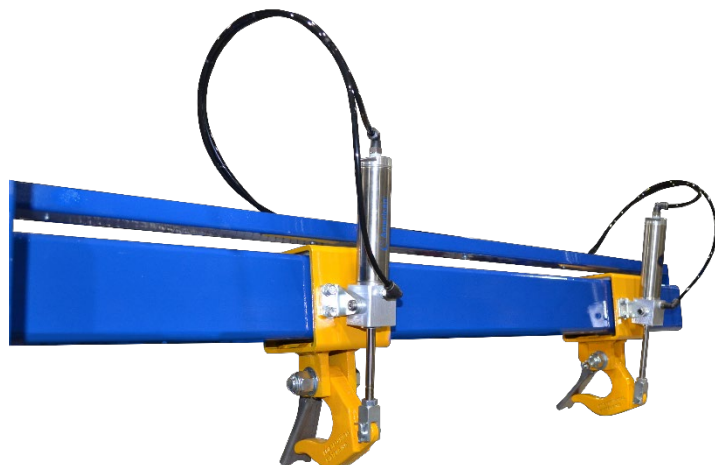


Figure 6 - Hooks Open / Close

c. Hooks Open/Close

This option adds four (4) bag support hook assemblies with pneumatic cylinders. The cylinders are actuated using a manual toggle valve. The manual toggle valve is replaced with a pushbutton-activated pneumatic solenoid if purchased with the automatic fill cycle.

Note: Fixed and Automatic Hook options will reduce the maximum bag height by approximately seven (7) inches.

d. Product Valve for Auto Fill Cycle (PV)

The automatic product valve option adds a 3-position large port roller gate valve. The valve allows for full open, filling to near target weight and a second dribble feed position for final filling. This keeps cycle times low and filling accuracy high. The PLC automatically controls the valve.

- Pneumatic actuation
- Orifice type self-cleaning material isolation plate
- 304 SS product contact surfaces
- Rated for up to 15 PSI pressure differential
- 10" square standard, other sizes available
- Three position operation for open, closed, and dribble position
- Adjustable dribble position for optimization of the fill
- Electronic reed switches for position sensing

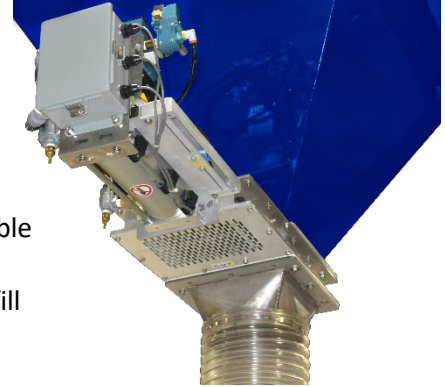


Figure 7 - Roller Gate Valve

e. Bag Inflation Blower with Isolation Valve Option

The bag inflation blower is used to pre-inflate the bag prior to starting the filling process. Bulk bags are shipped folded and stacked, often for extended periods of time. Inflating the bags prior to filling will eliminate creases in the bag, ensuring full use of the bag's capacity. The bag inflation blower will also reduce the amount of time an operator spends manually manipulating the bulk bags to get them open and staged for filling. If the bag has a liner, it will form the liner to the bag.

- 1.5 HP, 230/460V, 3 phase, 60hz drive premium efficiency motor
- For the manual system, the bag inflation blower motor starter must be supplied by others. For units equipped with the Auto Fill Option, a motor contactor and overload are supplied.
- Mounted with all connection hardware

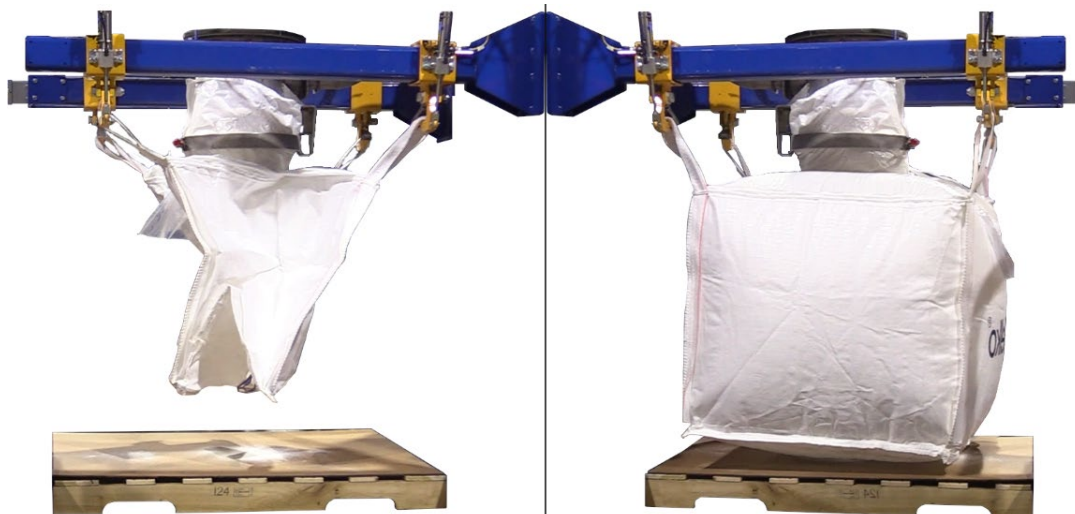


Figure 8 - Bag Inflation Blower Option - Uninflated Bag (Left) vs Inflated Bag (Right)

The blower is connected to the ValuMAX® fill head through an isolation valve, installed with the blower and used where bag inflation and dust collection are both required.

The valve is a 2-position, 3-port valve. In one position, the dust collection system is closed off and the optional bag inflation blower is ported into the fill head. In the second position, the blower is isolated and the dust collection system is connected to the product fill head.

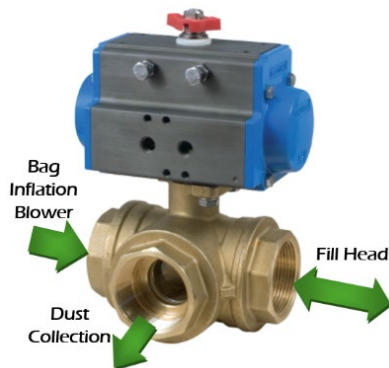


Figure 10 - Isolation Valve, 2" NPT

- Air-operated, 304 Brass 2" NPT Ball Valve
- Visual indication of position
- Connections between the blower, isolation valve, and ValuMAX fill head consist of food-grade flexible hose



Figure 9 - ValuMAX Blower

f. Pneumatic Lifting Cylinder Option (PL)

The pneumatic lifting cylinder option upgrades the manually adjustable standard bag hanging frame. With this option, the operator can raise and lower the bag hanging frame to adjust for different height containers. The operator raises the frame, re-positions the stop pins manually, then lowers the frame onto the stop pins.

- 4" bore x 32" stroke pneumatic cylinder
- Pin locations varying 5" between centers to adjust for multiple container sizes
- Manually adjustable stop pins hold the frame once in place, taking the load off of the cylinder once the desired height is set.

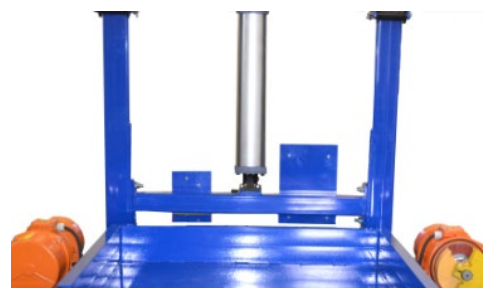


Figure 11 – Pneumatic Cylinder with Vibratory Flat Deck

g. Weight Scale and Digital Weight Indicator

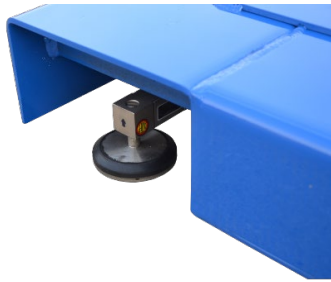


Figure 12 - Load Cell with Adjustable Leveling Feet Installed on ValuMAX

The weigh scale option includes an indicator and load cell kit designed for filling product up to 2,204 pounds (1,000kg). This option incorporates four 4,000 lb. load cells with integral leveling pads under the fill station. The digital weight indicator provides a local display of the weight on the scale. The weigh scale is integrated into the base frame to permit movement of the entire system with a forklift. 2-Ton and higher rated models are available upon request.

- Four (4) 4,000# load cells constructed from alloy steel which form a 10,000# load cell kit. Other materials and NTEP are available.
- Integral leveling pads
- NEMA 4X SS load cell summing box
- 25-foot (7.62 meter) home run cable to connect from load cell summing box to the weigh indicator



Figure 13 - Rice Lake Digital Weigh Indicator

h. Large Freestanding Hopper

This option adds a 40 cubic foot free-standing hopper to provide accumulation of material over top of the ValuMAX[®] bulk bag filler.

- Carbon steel support frame
- Carbon Steel or 304SS product contact surfaces
- 50" x 50" open top inlet
- 10" x 10" outlet
- Other sizes available upon request.



Figure 14 - 40 Cubic Foot Freestanding Hopper

i. Vibratory Flat Deck

The vibratory flat deck option adds a pneumatically isolated vibratory flat deck to the ValuMAX® bulk bag filler. It is designed to be loaded and unloaded from the front of the machine by forklift. The vibratory flat deck can be used to densify product and pack more material into each bag. This option includes:

- Carbon Steel Vibratory Flat Deck with industrial enamel paint
- Two (2) 1,200 rpm rotary electric vibrators 460V/3ph/60hz
- Four (4) Pneumatic air bag isolators raise the product's densification platform away from the DensiMAX™ base frame to isolate 99% of the vibratory force, allowing the material to be packed without damage to the fill station.
- Pneumatic toggle valve for deck up/down
- Deck up proximity switch to prevent vibrators from running without the airbags inflated.



Figure 15 – Vibratory Flat Deck with Bulk Bag

For faster-paced, higher-production densification processes, an upgrade to the DensiMAX® Bulk Bag Fill Station should be considered. The Vibratory Flat Deck Option for the ValuMAX® Bulk Bag Filler is intended to add densification to a mid-level production run. If product densification is a focus of your application, the link below will take you to the DensiMAX® Product Specifications Guide.



j. Controls / Automated Fill Cycle



Figure 16 – Example ValuMAX® Automated Fill Cycle Control Enclosure.

The Automated Fill Cycle option includes a fully integrated, wired, programmed, and tested Allen-Bradley based control panel, built in Erie Technical Systems' internal panel shop. The Automated Fill Cycle options is intended specifically to automate a substantial portion of the bulk bag filling process, freeing operators for other activities. The Weigh Scale option is used to automatically trigger an output when target weights are reached – depending on other options chosen. If the ValuMAX® system includes a Product Valve, the Automated Fill Cycle will trigger the Product Valve to slow to a dribble feed when approaching target weight and close completely when another target weight is reached. Densification can be

triggered at specific intervals with the Vibratory Flat Deck option, and the Hooks Open/Closed option can be used to automatically free the bag stirrups for easy bag removal. All chosen options are handled and controlled by an Allen Bradley Micro850 PLC control system based on your provided specifications.

- 36 x 30 NEMA 4 Control Enclosure
- Allen Bradley Micro850 PLC
- 7" Color Touch Screen HMI
- Managed Ethernet Switch for Device Connectivity
- 24VDC Integrated Power Supply
- SCT-20 Weight Transmitter
- Overloads, Fuses, and Relays
- Door Mounted Controls
- Emergency Stop
- Fill to selected target weight automatically
- Fast Fill and Slow Fill Outputs to feed devices (Conveyor/Product Valve/Elevator)

D. ValuMAX® Bulk Bag Filler Customization

Many of our ValuMAX® bulk bag filling systems are customized to the application in some way. While standard product specifications exist for each of our product lines, every application has unique needs that we are accustomed to accommodating. Below are some additional options that are often supplied with our ValuMAX® fillers.

- Product feed devices such as our FlexMAX™ flexible screw conveyors, belt conveyors, spiral elevators, vibratory conveyors and feeders.
- Feed Valves - Hand operated or pneumatic knife gate or orifice gate valves
- Weigh Scale Outputs can be added to control other devices. Analog or digital signals to feed equipment or to alert the operator of a completed cycle.
- Screeners can be introduced to remove activated chemicals or large materials from product flow prior to filling
- Diverter Valves can be installed to send the material to one bag filling station or another.
- Seamless controls integration with most major equipment, such as pin mixers, hammermills, dosing feeders, and more.



Figure 17 - ValuMAX Fill Station with Secondary Ingredient Fill Tube



Figure 18 – Simple Filling Station with Feed Hopper, Full Stainless Construction