



Containerized Mobile Weighing and Bagging Plants

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GENERAL DESCRIPTION



Containerized Mobile Weighing and Bagging Plant is an integrated system of Weighing and Bagging, which is designed on the request of bulk cargo handling with international advanced level. Adopting advanced industrial control and full electronic weighing technology, the machine has a series of advantages, such as: high weighing accuracy, fast bagging speed, high automatic level, stable and reliable performance, convenient use and maintenance, good environment flexibility, good moving mobility, good anti-impaction, compact structure and small occupied area, etc. Therefore it is the ideal equipment of weighing and bagging for variety of solid granular bulk cargo with good fluidity, such as fertilizer and grain, etc.

The plant is specially designed for the bulk cargo bagging operation at the side of ship (quayside), warehouse and storage yard.

Technical Characteristics



The Main Weighing and Bagging Machine comprises Interlock DCS Weighers, Containers, Gravity Feeding Hopper, Automatic Weighing Controllers, Power Distribution Panel, Internal Stitching Conveyors, Bag Sewing Machines, Pneumatic System, Pneumatic Vibrating Hammers (Optional), Dust Extraction System (Optional), Control Room, Air conditioner, Air Compressor and etc.

All the elements and components of Main Weighing and Bagging Machine are integrated in 2 Upper and Lower containers, which are international standard size 20' special designed containers for the convenience of shipment. The Upper and Lower container also have forklift pockets, and can be moved by forklift.

Each Weighing and Bagging Machine has 2 weighing-bagging lines which can run independently. The user can operate the 2 lines simultaneously, or only run either 1 line according to practical requirement.

Each weighing-bagging line comprises Double Interlock DCS Scales, Discharge Chute, Bag-Holder, Weighing Control Panel, Bag Sewing Machine, Internal Chain-Slat Conveyor and etc. When the line running, both of the DCS Scales can be fed and weigh independently, but each time only one of them can discharge material. The two sets of DCS Scales will complete in-feeding, weighing and discharging alternately, therefore the weighing-bagging speed will be increased greatly.

In order to solve the material blocking, there are Pneumatic vibrating hammers are mounted (Optional).

Dust Extracting System includes full set of dust collector, dust remover, pipes and all the accessories (Optional).

Technical Specifications and Parameters



- Materials : Variety of solid granular bulk cargo with good fluidity, such as fertilizer – DAP, Urea, MOP, Grain, Wheat, Barley, Soya Bean and etc.
- Bulk Density : 0.75 ~ 1.2 Ton/m³.
- Granular Size : 1 ~ 15 mm.
- Unit Bag Weighing : 15 ~ 65 Kg adjustable (As per user's request.)
- Max. Design Capacity : 2000 Bags/hour, 100 tons/hour (2 bagging lines with 4 scales, as 50kg/bag net.)
- Weighing Accuracy : ±0.1%(static); ±0.2%(dynamic); ±0.5%(dynamic loaded by touch open type grab).
- Air Pressure : 0.6Mpa.
- Electrical Supply
 - Power : 3Ph, 380V±15%, 50Hz±5%
 - Control Voltage : 1Ph, 220V±15%, 50Hz±5%
- Bag Type : Jute, cotton, polypropylene-woven or paper open mouth bag.
- Ambient Temperature : -15°C ~ +45°C. (Up to -30°C will be built with extra insulation. The machines are running in North China, Canada, Kazakhstan, Uzbekistan)
- Output of Conveyors : Double directions or Same direction at the ends of lower container. (As per user's request.)

Possibilitys



It is possible to choose between 2 different bagging Machines:

- Bagging Machine for small bags
- Bagging Machine for Bigbags

Scheme of Bagging operation is similar for both Machines

Scheme 1: Bagging operation at the side of ship (quayside) – Bulk cargo is loaded into Bagging Machine through the Top Feeding Hopper on upper container from vessel by Grab.

Scheme 2: Bagging operation at warehouse / storage yard – Bulk cargo is loaded into Bagging Machine through Infeed Conveyor and Ground Intake Hopper by shovel loader.

Note: The layout of all the equipments can be adjusted according to the actual situation of working site.

Operation Scheme 1



Main equipments of the Bagging Unit:

- Weighing and Bagging Machine
- Stitching Conveyors
- Truck Loading Conveyors
- Top Feeding Hopper (for Operation Scheme 1)

Operation Scheme 2



Main equipments of the Bagging Unit:

- Weighing and Bagging Machine
- Stitching Conveyors
- Truck Loading Conveyors
- Infeed Conveyor with Ground Intake Hopper (for Operation Scheme 2)

Bagging Machine for small bags



Bagging Machine for small bags – Feeder



- The Feeder is fabricated with stainless steel 304.
- The Feeder has double-position Arc Gate (one position is for primary feeding, another is for fine feeding) and mounted with flow regulating board.
- Arc gate is driven by air cylinder and solenoid valve under the controller for primary and fine feeding to assure high weighing accuracy.



Bagging Machine for small bags – Loadcell system, Pneumatic discharge gate and weighing controller



It includes Weighing hopper, Loadcell system, Pneumatic discharge gate and weighing controller etc.



- Net weight style scale, adopts 2 steps (primary and fine) gravity feeding method to improve the weighing speed and accuracy.
- Automatic starting, automatic tare subtraction, automatic free fall compensation, controlled by Weighing Controller.

Bagging Machine for small bags - Discharge Chute with Bag-Holder and Bag Sewing Machine



- Stainless steel “Bird-Beak” type Bag-holder is pneumatically operated and easy to hold bag with high placing rate. The clamp surfaces are teeth shape and rubber board, so the clamping force is big, and the holder has high wearability and long using life.

- Automatic bag clamping checking device, ensure no filling when without bag or bag not be opened. Bag clamping switch with non-touch sensor made by P+F, Germany, ensure the electrical control reliable and long life under the badly working circumstance.



Sewing Machine made by NewLong, Japan with the most advanced performance at present. The mounting height on column can be adjusted.

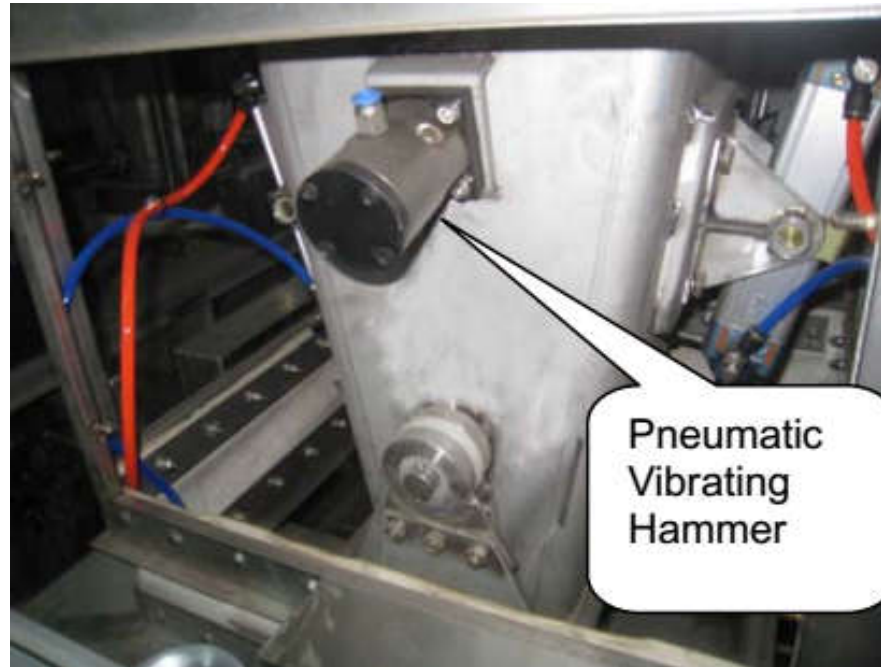
Bagging Machine for small bags – Conveyors



- Max. Conveying Distance : 3,800 mm
- Width of Conveyor : 400 mm
- Conveying Speed : 13 m/min
- Max. Load : 200 kg/m
- Max. Conveying Capability : 70 t/h



Bagging Machine for small bags – Pneumatic Vibrating Hammer



- Pneumatic Vibrating Hammers are mounted to prevent the blockage of material.
- Mounted on DSC-100 weighing scale (4pcs for each bagging unit).

Bagging Machine for small bags – Dust Extractor



- Dust Extracting System is mounted to minimize dust emissions during the bagging operation, so that it can create a dust-free condition for the operator.
- Dust Extracting System comprises Cyclone Dust Extractor, suction pipe, exhaust pipe, dust extracting inlets and etc.
- Dust extracting inlets are fitted to the Bag-holders

Bagging Machine for small bags – air Compressor and the controller system



Air Compressor and Pneumatic circuit

- Adopts 1 set of Ingersoll Rand two stages Piston-type Air Compressor Model 2545C10/12, with rated delivery capacity of 0.963m³ /min and rated output pressure of 1.2 Mpa. It is installed in upper container.

- Air Dryer is Optional.

- Extend the draining tap of the air tank of compressor, and mount a draining system.

- Total mount 3 pneumatic clean ports for clean purpose.

In the upper container, there is also 1 pneumatic clean port fitted, and with a 10m flexible hosepipe with 1 air blow gun for cleaning.

The pneumatic circuit is hosepipe. The air blow gun is mild steel, but the connecting

ports and air valves are stainless steel.

Total 2 sets of air blow guns are supplied for each bagging unit

Bagging Machine for small bags – the controller system



The controller system function includes the followings:

- Digitally dynamic display
- Revise graduation value (e): e=10g
- Display for accumulative total quantity (with external counter - OMRON)
- Visual alarm for overload and underload
- Auto zero subtraction
- Auto free fall compensation
- Calibration and remnant material treatment
- Auto/manual tare subtraction
- Emergency switch

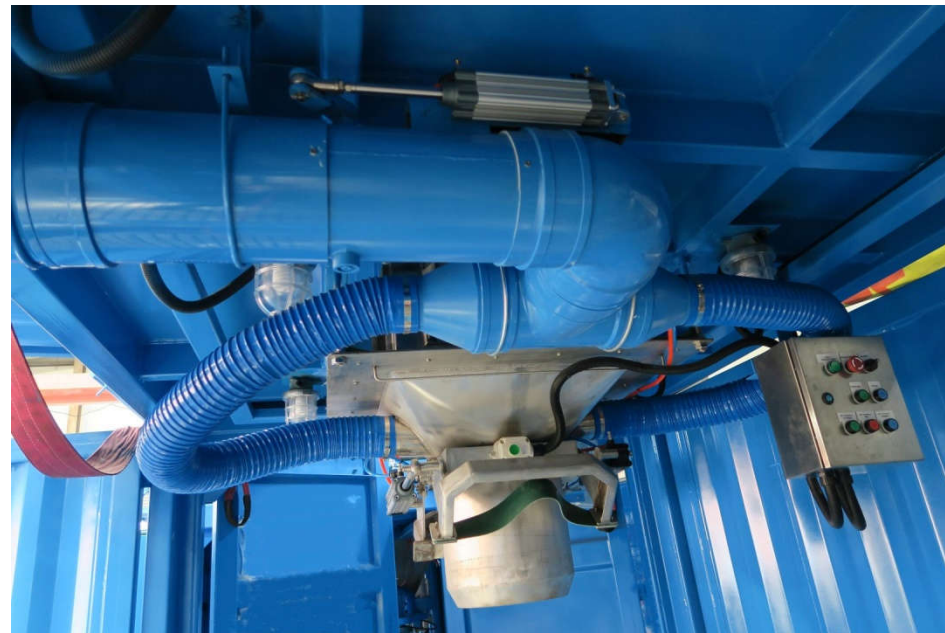
Bagging Machine for Bigbags



Bagging Machine for Bigbags – Conveyors



Bagging Machine for Bigbags – weighing controller, Discharge Chute with Bag-Holder



Moving Unit of Towing and Support Jacks and Top Feeding Hopper



Moving Unit of Towing is mounted beneath the lower containers. It includes tow axle, tow bar and wheels. 2 rear wheels are fixed mounted, and 2 front wheels are mounted on a pivoted axle with tow bar, enable the container system can be moved at quayside by towing.

During the bagging operation, 4 pcs of Support Jacks should be lowered to ground manually to ensure the stability of the bagging unit.



External Conveyor



Length of Conveyor : 6,500 mm

- Width of Conveyor : 700 mm
- Lifting Height : 2.5m ~ 3.5m (or as per user's request)
- Conveying Speed : 25 m/min
- Max. Load : 100 Kg/m
- Max. Conveying Capacity : 70 t/h
- Power : 380 V, 50 Hz



General conditions



Time for technical task for offer:

By a standard equipment machine - a week, special request - 2 weeks.

Payment conditions:

- 1) 30% Value shall be paid by T/T as down payment immediately upon signing the order
- 2) 60% Value shall be paid by T/T when the equipments are ready for shipment
- 3) 10% Value shall be paid by T/T upon successful commissioning and test running of equipments

Delivery:

Within 60 days upon receipt of down payment



We are pleased to offer you our services
to prepare a quotation

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