

Big Bag Discharge Station

Customized model



Mild steel, 304L stainless steel and 316L stainless steel structural framework manufacturing

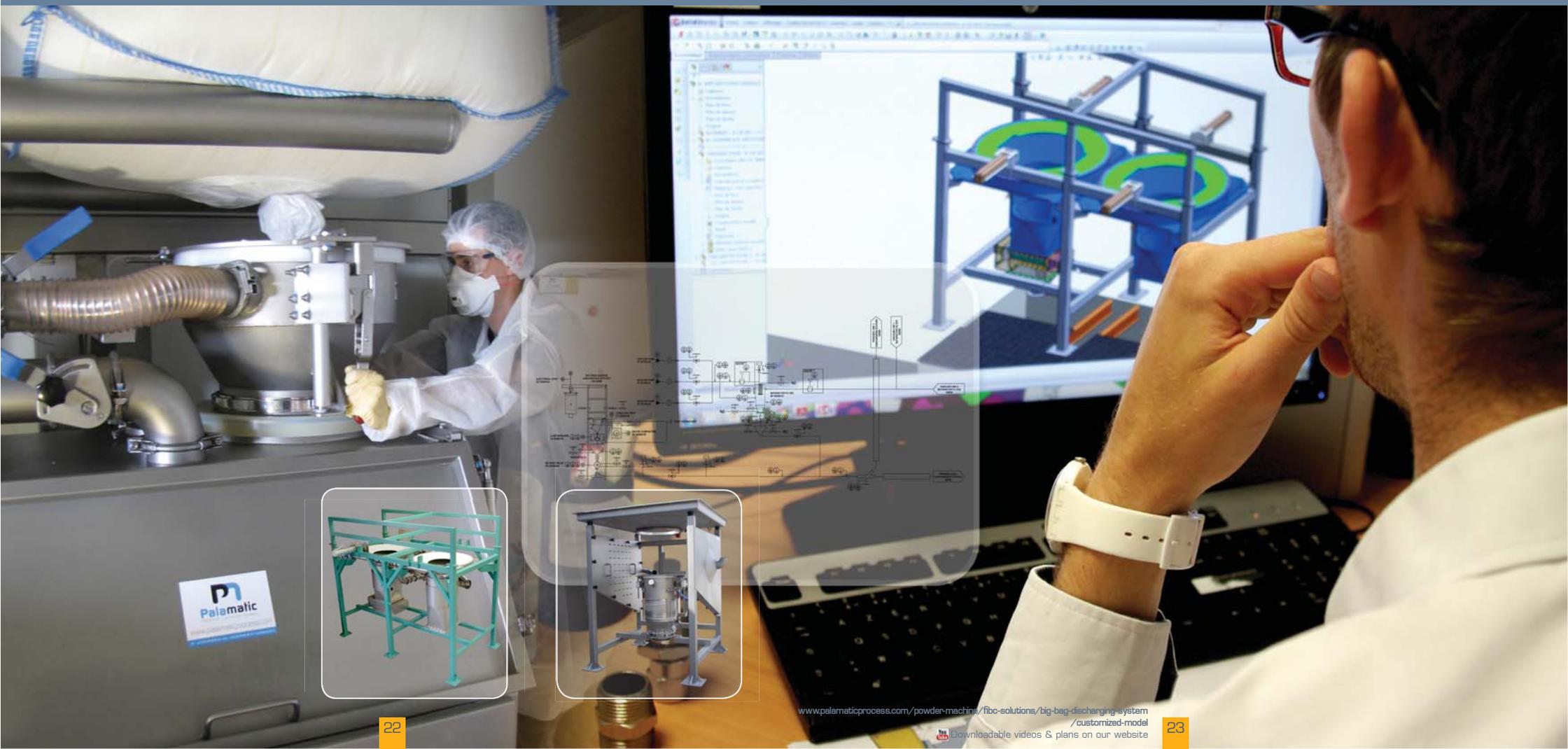
UNLOADING, ENSURING THE FLOW AND CONTAIN

The PALAMATIC PROCESS design office is able to offer very specific solutions adapted to your restrictions of use and implementation. We define with you the customized solution after visiting your site and according to your detailed specifications.

POSSIBLE FEATURES

- Automatic big bag cutting (specific solutions for big bag with or without spout)
- Contained solutions adapted to your powders
- Extraction of very difficult materials (vibration, massage...)
- Implementation with reduced height
- Ergonomic post
- Empty big bags and sacks compacting system
- Nitrogen (N₂): discharging in a controlled atmosphere with continuous flow or by vacuum breaker

Customized model





▶ BAG HANGER

Keep the tension of the sides of the big bag throughout emptying.
This autonomous system ensures an optimum flow of product without operator intervention.
Tension stroke: 250 mm



▶ DUST-PROOF TELESCOPIC TUBE

To ensure a dust proof connection between the big bag and the discharge station.
The pneumatic cylinder enables the operator to adjust the connection height to fit different types of big bags. The dust-proof connection is made with a sealing ring. The double envelope telescopic tube ensures balancing of volumes.
It allows a containment at the opening of the spout of the big bag and thus offers more ergonomics and safety for the operators.



▶ DEDUSTING RING

To optimize containment by creating a suction flow in the periphery of the big bag (Pouyès ring).
Positioned at the top and in the periphery of the tray, the dedusting ring ensures the capture of dust emitted during the big bag discharging phase. This option is particularly suitable for very volatile products (low density) or for installations requiring a high level of containment. The two suction nozzles allow to capture the dust like a cyclone. Suction flow required: 1 800 m³/h.*



▶ «U» SHAPED SPIKE TO BURST THE BIG BAG

A blade assembly pierces the center of unspouted bags to allow the material discharge without any direct action from the operator.
It is especially used when using big bag with a spout («U» shaped spike).
Once the big bag is placed on the unloading station, the operator takes the big bag down thanks to a hoist and put it down on the main tray. The force applied by the weight of the material on the blades allows a direct cut of the bottom of the big bag.
In the case of very difficult materials, PALAMATIC PROCESS can also offer motorized rotating systems.



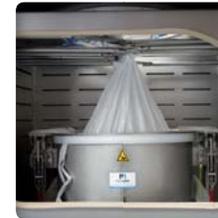
▶ «V» SHAPED SPIKE TO BURST THE BIG BAG

Dedicated to «full bleed» big bags, this «V» shaped spike enables to burst the bottom of the big bag.
The V shaped knife model consists of a robust frame and discharge dish with a knife to pierce the base of the bag. Our knife discharger can empty single trip bulk bags, which have no bottom spout, without waste or spillage, even those containing poor flowing products.



▶ PNEUMATIC OR HYDRAULIC MASSAGE

The bulk material flow is optimized thanks to a pneumatic massage system.
Each ram is actuated by a hydraulic or pneumatic cylinder that provides the force to effectively crush severely agglomerated lump into smaller chunks that can pass through the discharge spout of the bag (2, 4 or 6 actuators depending on the type of powder).
Stroke: 400 mm
Upper cylinders with adjustable height
Automatic and sequenced control cycle
Air consumption: 300 L/h.
Operating pressure: 6 bars



▶ CONTROL VALVE

This valve is actuated by 2 pneumatic cylinders and allows the operator to stop or to regulate the flow of the powders.
It also allows to change the product being handled.
Number of cylinders: 2
Stroke: 300 mm
Integrated guide unit
Automatic and sequenced control cycle



▶ COMMERCIAL DOSING AND WEIGHING

To inform the automaton and/or operator of the material amount extracted.
Downweighing of the big bag station for precise feeding of downstream process. The complete system operates on four load cells.
Unit capacity: 1 ton
Precision: ±150 grams
Inlet: 4-20 mA
Communication: profibus, ethernet, weighing history, traceability.



▶ LUMP BREAKER

Our lump breakers are the ideal solution for the crushing of materials that tend to form lumps.
The device permits to break the lumps that develop during the process of production or transport of friable materials in powder or grain. We offer 3 standard models of lump breakers (EC35, EC50, EC70) and 3 standard models of granulators (GR35, GR50, GR70). We also design customized solutions to suit all your requirements.



▶ BIG BAG COMPACTOR

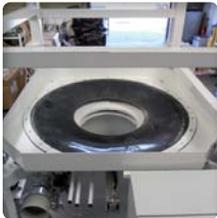
The PALAMATIC PROCESS big bag compactor reduces the volume of waste and keep a healthy atmosphere without dust.
Effective, with a compact design, the compactor is suitable for all types of bags (paper, PE, woven plastic ...), eliminating the majority of dust through the installation of a connection to the dedusting network, with the possibility of recovery of residual fine by specific tray.



▶ MANUAL/ELECTRIC/PNEUMATIC HOIST

The electric hoist allows the handling of big bags by all operators (autonomy of the workstation).

The pneumatic design allows implementations in ATEX zones.
Lifting capacity: 2 tons



▶ RUBBER SEAL

Provide dust containment performance during the materials unloading.

As the bulk bag is lowered into the hopper it passes through and seals with a rubber membrane that seals with the sides of the bulk bag. When the big bag is fully seated in the hopper the membrane creates a sealed enclosure within the hopper. The dust containment is optimized.



▶ BIG BAG VIBRATING FRAME

The pulsed vibration facilitates the extraction of poor flowing material.

Motor: 0,1 Kw



▶ GLOVE BOX

Glove box for untying bags containing hazardous material, preventing operator from exposure to material.

The gloves are installed on the door of the unlacing box and fitted on round PVC gloves. Spring clips ensure containment and closure. A neon implanted outside through a plexiglass facilitates the operations of opening the big bag.

The glove box allows the user to manipulate the big bag without being in contact with different products that may be toxic. Indeed, the glove box will allow the user to undo the knot of the big bag to allow its discharge.



▶ EXTRACTOR FAN

The vacuum cabinet helps to increase the level of hygiene during the phase of disconnection of the big bag. We propose a system that operates on three sides of the station.

Suction rate: 1 500 m³/h.
Can be dismantled for internal cleaning.



▶ CIP

Nozzles/rotary cleaning heads for cleaning in place (CIP)

To ensure the product changeover without cross contamination, washing nozzles are located in the big bag dump station.

Pressure of washing nozzles: 3 bars

Technology: 360° rotation

Centralized connection and connection to the network via clamp system



▶ BAG HANGER FOR OVERHEAD CRANE

This specific cross loads the big bag on the dump station using a crane without immobilization.

A removable lifting ring and a centering system enable the operation with any type of crane.



▶ STATION CASING

This solution provides total containment of the station during emptying phase.

A door and/or sas provides sealing of the enclosure. This set must be connected to the dedusting network for setting global vacuum.



▶ CAGE FOR BIG BAG PREPARATION

The massage cage prepares the big bag before the discharging phase.

Once in the cage, the big bag is massaged by several pairs of cylinders (up to 8 pairs / 16 cylinders depending on options). The pneumatic or hydraulic cylinders are used to break caking into the big bag for easy emptying. Several massage programs are available depending on the loading to ensure treatment of the entire volume of the big bag. The screened chamber allows safe operation of the system.



▶ AUTOMATIC RELEASE OF THE BIG BAG

Automatic hooks with latch spring simplify the implementation of the handle of the big bag.

Unit loading capacity: 500 kg

Service pressure: 6 bars

Force developed : 50 daN



▶ BIG BAG UNDER VACUUM

At the end of the discharge, the operator can, through the dust collector, vacuum the big bag and thus avoid the emission of dust in the production zone.

The tight connection to the double envelope telescopic tube is the perfect combination to work in a healthy and dust-free atmosphere.



▶ BIG BAG WITH SINGLE HANDLE

Emptying all types of big bags.

The discharge of big bags with one handle is possible thanks to the fifth point on the handling cross. A spike to burst "full bleed" big bag completes the device.



▶ WEIGHING - DOSING

To control the amount of powder introduced into the process, the emptying station is scheduled to be installed on load cell.

Number of load cells: 4

Weighing accuracy: < 1 kg

Establishment: anti-shock + fly-off device

Inlet: 4-20 mA

Possible communication: profibus + RS 232 + Ethernet