



SOLUTIONS for

# Big Bag & Octabin

EMPTYING

COMPACTING

MASSAGING



**Palamatic**  
PROCESS >>> machines • engineering

Powder Handling Solutions

# CONTENT



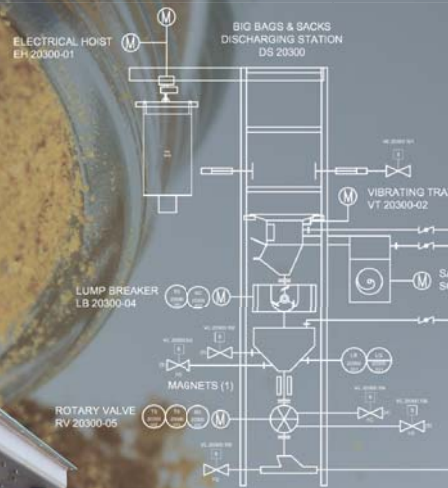
Means that the equipment is available for testing at PALAMATIC PROCESS



Means that the equipment can be installed in ATEX zone



Means that design and options can be customised



## RANGE OF BIG BAG DISCHARGE STATIONS 02

### STANDARD Models

- Hoist loading 04
- Forklift loading 06
- Low structure 08

### Dust Control Models

- Docking system 10
- Glove box 14

### High Flow Rate 18

### Customized Big Bag Discharge Station 22

## BIG BAG DISCHARGE STATION & DUOPAL® OPTIONS 24

## DUOPAL®: BIG BAG & SACK DISCHARGE STATION 30

## RANGE OF OCTABIN UNLOADERS 34

- Discharge system by gravity 34
- Suction pipe 35
- Tilting system 36
- Tipping system 37
- Turning system 38

## AUTOMATION & ELECTRICITY 41

## BIG BAG MESSAGE SYSTEM 42

## BIG BAG COMPACTOR 44

PALAMATIC PROCESS HAS DEVELOPED A RANGE OF BIG BAG DISCHARGE STATIONS TO MEET INDUSTRIAL NEEDS FOR ALL SECTORS

## OBJECTIVES & ADVANTAGES OF PALAMATIC PROCESS RANGE

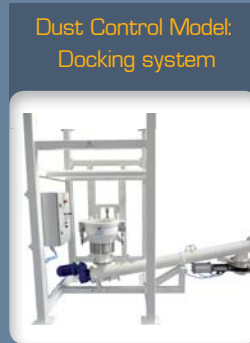
- Secured handling
- Suitable for all types of big bags
- Reduction of dust emissions (possibility of total containment)
- Extraction of poor flowing products
- Discharging rate
- Adaptability to different industrial sectors: petfood, food, chemicals, fine chemicals...



Standard model

- Loading big bags with: overhead crane, forklift, electric hoist, stacker

Page 4



Dust Control Model: Docking system

- Big bag contained connection
- Extractor fan for hygiene

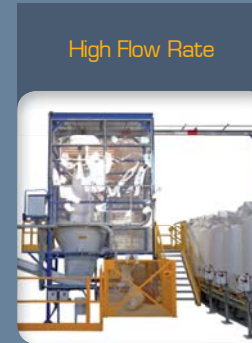
Page 10



Dust Control Model: Gloves box

- Containment of the unlacing box
- Handling of toxic chemical materials
- Ergonomical & comfortable for the operator

Page 14



High Flow Rate

- Automation of the discharging cycle
- Automatic big bag cutting
- Empty big bag compactor

Page 18



Customized model

- Customized solutions offers by our engineering offices according to your needs

Page 22



Duopal®: Big bag & sack discharging

- Big bag and sack unloading on the same discharging point
- Ergonomic workstation

Page 30

## Basic specifications of big bag discharge stations and applicable options

CAPTION: X Included in the model  Available as option  Not applicable

	Standard Hoist	Standard Forklift	Standard Low structure	Confined Telescopic tube	Confined Gloves box	High Rate	Duopal® Hoist	Duopal® Forklift	Duopal® Low structure
<b>Discharging rate</b> (the highest rate may vary according to the volume of big bags and the available rate)	10 - 30	10 - 30	10 - 30	10 - 20	10 - 20	20 - 40	10 - 30	10 - 30	10 - 30
Compensation cross									
Hermetic telescopic connection tube				X					
Dedusting ring						X			
«U» or «V» shaped spike to burst the big bag						X			
Reservation for a pneumatic massage	X	X	X	X	X	X	X	X	X
Pneumatic massage system						X			
Control valve									
Commercial dosing and weighing									
Lump breaker									
Big bags compactor						X			
Electric / pneumatic / manual hoist	X					X	X		
Rubber seal						X			
Vibrating plate									
Glove box					X				
Vacuum chamber									
CIP									
Station casing						X			
Automatic big bag release						X			
Big bag under vacuum				X					
Big bag with single handle									

Flow rates are given for information only and can vary depending on the treated product.

# Big Bag Discharge Station

# Standard model



Standard model

## Hoist loading

**BBD standard model loading by hoist**  
**Narrow width of big bag:**  
 1,250 & 1,500 mm

**Rate:** 10 to 30 big bags/hr.

**Weight capacity:** 2 tons/big bag

**Objectives:** flexibility for big bags handling and containment

This station allows an ergonomic big bag discharging using an electric hoist. This enables a self-loading of big bags of different sizes on the station.

Equipment

TEST CENTER

Available



Trackway for hoist

Electric hoist: lifting capacity 2 tons

Bag hanger

Support frame

Sealing skirt: optimise containment by capping the bottom of the big bag (optional)

Main tray: insures the big bag maintain during the emptying phase

Unlacing cabinet with dust-proof door

## TECHNICAL SPECIFICATIONS

**Flow rate:** 10 to 30 big bags/hr.

**Weight capacity:** 2 tons

**Structure framework manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Manufacturing of parts in contact with the product:** steel, 304L stainless steel, 316L stainless steel

**Installed power:** 0.1 kW vibration, 1,50 kW et 0,75 kW hoist

**Required flow rate for dust extraction:** 800 m<sup>3</sup>/hr.\*

\*may vary according to the treated product

**Ergonomic height to access to big bag:** 1.500 mm



**Hopper bulk bag discharger:** Since the entire weight of the bulk bag is safely supported by the hopper and the discharger is designed so that the operator interfaces with it access door at shoulder height, operators never work under a suspended load and the reach into the hopper to untie the outer flap and outlet spout is easy and strain-free



**Protection screen:** to limit the risk that foreign bodies contaminate powder. Mesh size: 50 x 50 mm" \*possibility to reduce on request

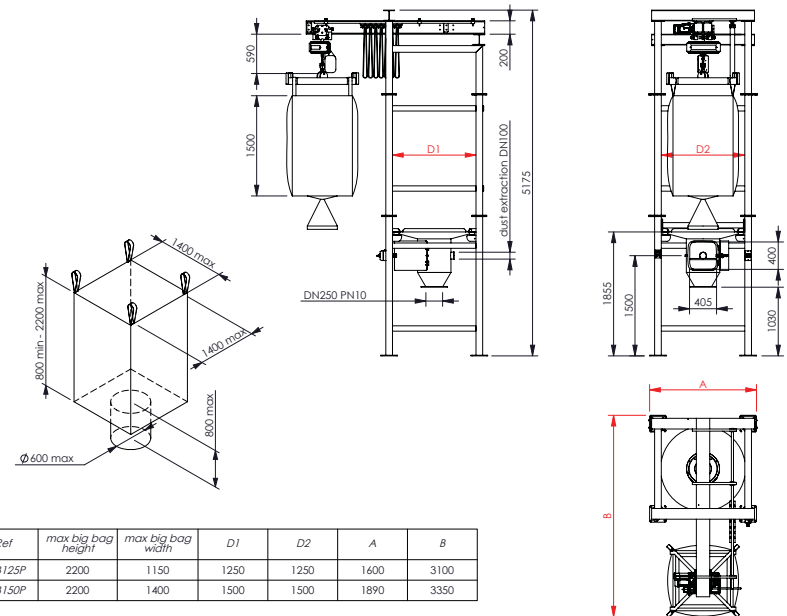


**Pulsed vibration:** if the material requires further inducement to achieve a steady flood feed state at its outlet, an electromechanical (or pneumatic) vibrator mounted to the hopper provides additional flow inducement



**Bag strap holder** allows fast, easy and secure insertion and removal of bag straps

## Advantages



## Options



Massage paddles: disposal aid



Load cells

See all our options on page 24

# Big Bag Discharge Station

# Standard model



## Forklift loading

**FIBC standard model when loading with forklift**  
**Clear width for big bag:**  
 1,250 & 1,500 mm  
**Rate:** 10 - 30 big bags/hr.  
**Weight capacity:** 2 tons/big bag  
**Objectives:** ergonomics & dust control

This big bag discharge station enables to unload ergonomically big bags by using forklift and a specific handling cross. The height of the structure is adjustable thanks to a system of ducts and rods to fit different sizes of big bags.

Equipment

TEST CENTER

Available



Bag hanger with 5 points: to set the big bags inner liner. A central hook can be implemented in order to handle a big bag with one handle

Handling sheaths to allow gripping by forklift

Adjustable height of the structure to fit different heights of big bag

Main tray: to maintain big bag during emptying process and to secure handling operations

Unlacing cabinet with dust-proof door: to offer a safe and ergonomic access to the spout of the big bag

Protection screen: to ensure powder feeding without foreign body (mesh size 50 x 50 mm)

Control panel

## TECHNICAL SPECIFICATIONS

**Flow rate:** 10 to 30 big bags/hr.

**Weight capacity:** 2 tons

**Structural framework manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Manufacturing of parts in contact with the material:** steel, 304L stainless steel, 316L stainless steel

**Installed power:** 0.1 kW

**Required flow rate for dust extraction:** 800 m<sup>3</sup>/hr.\*

\*may vary according to the treated product

**Ergonomic height to access to big bag:** 1,500 mm



Standard model



▶ **Anti-overflow tube:** to ensure the containment of product flow during the big bag cuff opening phase and to offer more ergonomics and safety to the operator



▶ **Pulsed vibration:** if the material requires further inducement to achieve a steady flood feed state at its outlet, an electromechanical (or pneumatic) vibrator mounted to the hopper provides additional flow inducement

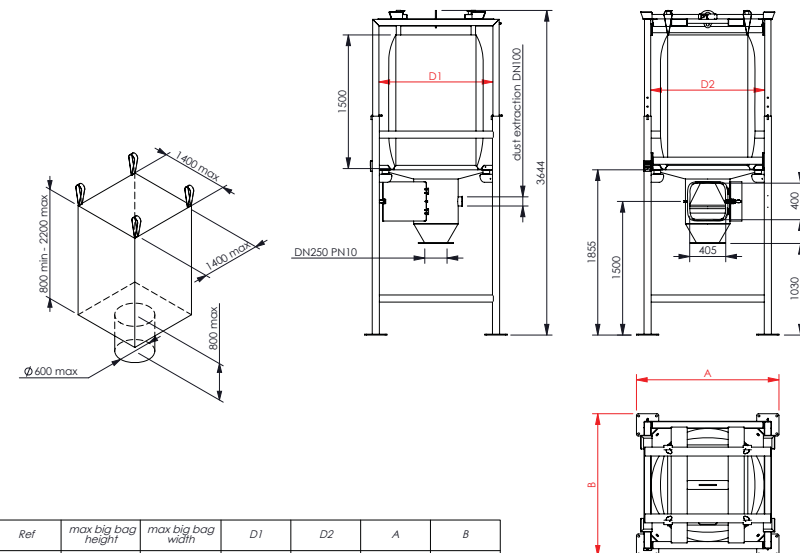


▶ **Frame adjustment of the station:** height adjustment by a manual system of rods. Thus, big bags with any dimensions are admissible on the station



▶ **Rubber seal:** to optimize the containment during the emptying phase (optional)

## Advantages



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1280	1280	1600	1600
VBB150P	2200	1400	1500	1500	1850	1850

## Options



Control valve



Dedusting ring

See all our options on page 24

# Big Bag Discharge Station

# Standard model



## Low structure

FIBC standard model with low structure

Narrow width of big bag:

1,250 & 1,500 mm

Rate: 10 to 30 big bags/hr.

Weight capacity: 2 tons/big bag

Objectives: ergonomics & saving

This big bag emptying station enables to unload big bags ergonomically. The big bag can be loaded on the discharge station by using a forklift, an overhead crane... The bulk bag is attached to a bag hanger for raising and positioning the bag into the bag unloader support frame and secured big bag handling operations.

## TECHNICAL SPECIFICATIONS

Flow rate: 10 to 30 big bags/hr.

Weight capacity: 2 tons

Structural framework manufacturing: mild steel, 304L stainless steel, 316L stainless steel

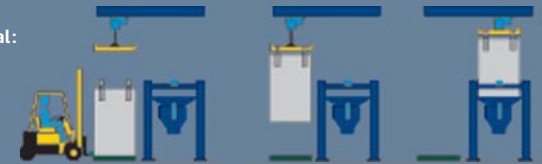
Manufacturing of parts in contact with the material: steel, 304L stainless steel, 316L stainless steel

Installed power: 0.1 kW

Required flow rate for dust extraction: 800 m<sup>3</sup>/hr.\*

\*may vary according to the product

Ergonomic height to access to big bag: 1,500 mm



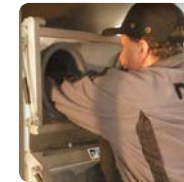
Standard model

### Equipment integrated on standard versions (excluding options):

- 1. Big bag implementation** is ensured by your own handling systems (forklift, overhead crane, jib crane...) and by using the big bag handling cross
- 2. Bag hanger with 5 points** allows to set the big bag inner liner. A central hook can be implemented to handle big bag with single handle
- 3. Main tray** ensures the holding of the big bag during the emptying process and secures handling operations
- 4. Sealing skirt:** to optimize emptying operation, a rubber seal is placed on the main tray for capping the bottom of the big bag
- 5. Vibrating motor** ensure the main tray vibration to help the powder extraction
- 6. Unlacing cabinet with dust-proof door** offers a secure and ergonomic access to the big bag spout
- 7. Anti-overflow tube** canalizes product flow into the unlacing box and facilitates the handling of the operator
- 8. Protection screen** ensure powder feeding without foreign body (mesh size 50 x 50 mm)



▶ **Control valve:** this flow regulation system works through two pneumatic cylinders. The operator can stop or regulate the flow of the powder



▶ **Ergonomics:** recommendations should be taken into count during the system design in order to improve operator comfort. The movements at ground level, head, arms... have to be limited

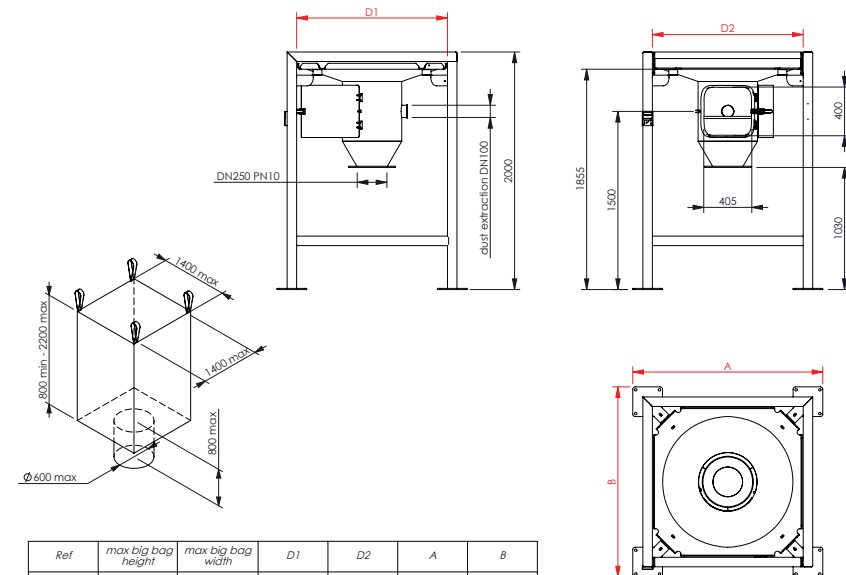


▶ **Material flow:**  
Motor: 0.1 Kw  
The vibrating plate facilitates powder flowing products extraction



▶ **Containment:** the rubber seal optimizes containment by capping the bottom of the big bag and enables to channel the air flow from dust collector

### Advantages



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB 125P	2200	1150	1280	1280	1600	1600
VBB 150P	2200	1400	1500	1500	1850	1850

### Options



Commercial dosing and weighing



Massage paddles to aid flow

See all our options on page 24

# Big Bag Discharge Station

# Dust control model



## Docking system

### BBD dust control model with docking system

**Rate:** 10 to 20 big bags/hr.

**Weight capacity:** 2 tons/big bag

**Objectives:** total dust control & flexibility of handling big bags

This FIBC unloader ensures the total containment during the big bag discharging step and maintains the big bag spout tension to permit easy flow while providing an ergonomical working station for the operator. Three versions are available: electric hoist, forklift loading or low structure.

### TECHNICAL SPECIFICATIONS

**Flow rate:** 10 to 20 big bags/hr.

**Weight capacity:** 2 tons

**Structural framework manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Manufacturing of parts in contact with the product:** steel, 304L stainless steel, 316L stainless steel

**Required rate for dust extraction:** 150 m<sup>3</sup>/hr.\*

\*may vary according to the material

**Ergonomical access to the big bag:** 1 600 - 1200 mm

### OPERATING SEQUENCE

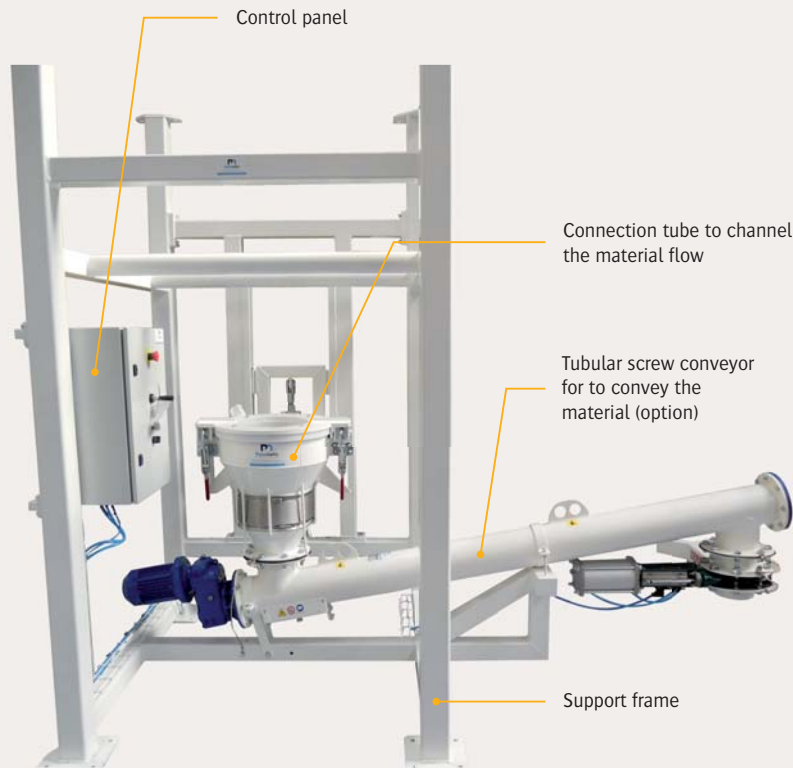
#### IMPLEMENTATION

1. Height adjustment of the connecting tube
2. Positioning the big bag spout into the double envelope tube
3. Set the big bag spout
4. Open the big bag unloading spout
5. 100% of containment of the material flow

Equipment

TEST CENTER

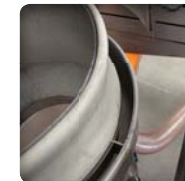
Available



➤ **Total dust containment with tensioning and docking cylinder:** it provides a dust-tight seal with the discharge spout of the big bag and eliminates the potential for contaminants to enter the process. The pneumatic cylinder enables the operator to adjust the connection height to fit different big bag sizes



➤ **Double envelope tube:** it ensures volumes balancing and thus avoids any pressure increase and/or flow problem



➤ **2 possible configurations for connecting the big bag spout:**  
 1. The inflatable seal is fitted on the double envelope tube with a reorientation ring  
 2. The "pinch" ring is activated manually or by pneumatic cylinders



➤ **Putting big bag under vacuum (optional):** at the end of emptying process, the operator can put the big bag under vacuum using dust collector to avoid dust emanation into production facilities

## Advantages



### Possible loading methods:



Electric hoist



Forklift



Low structure

## Options



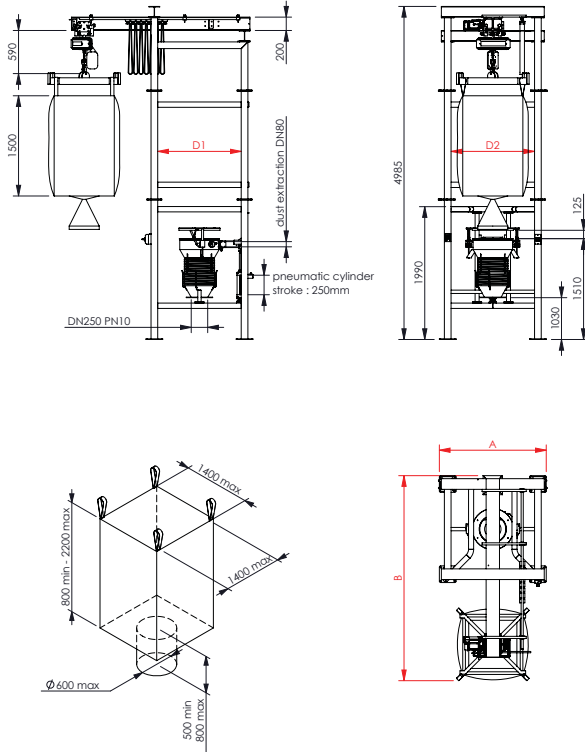
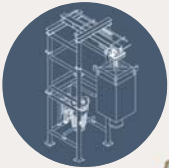
Extractor fan



Control valve

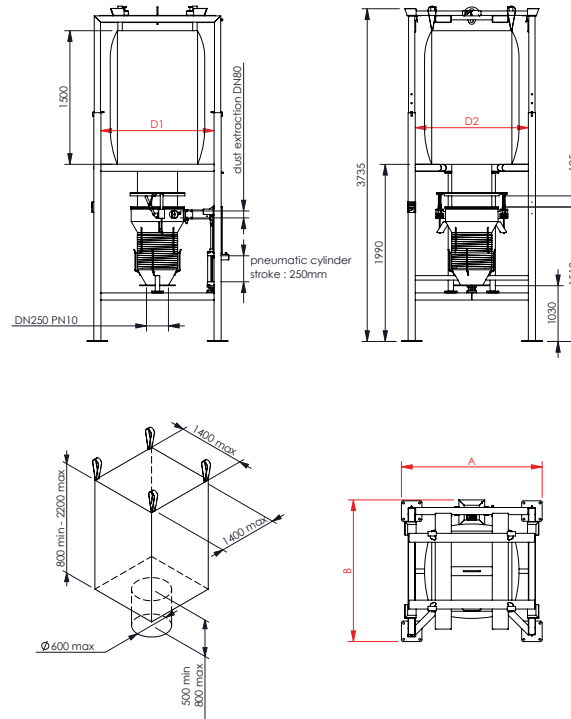
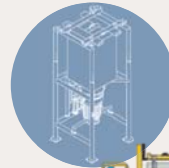
See all our options on page 24

## Electric Hoist Loading



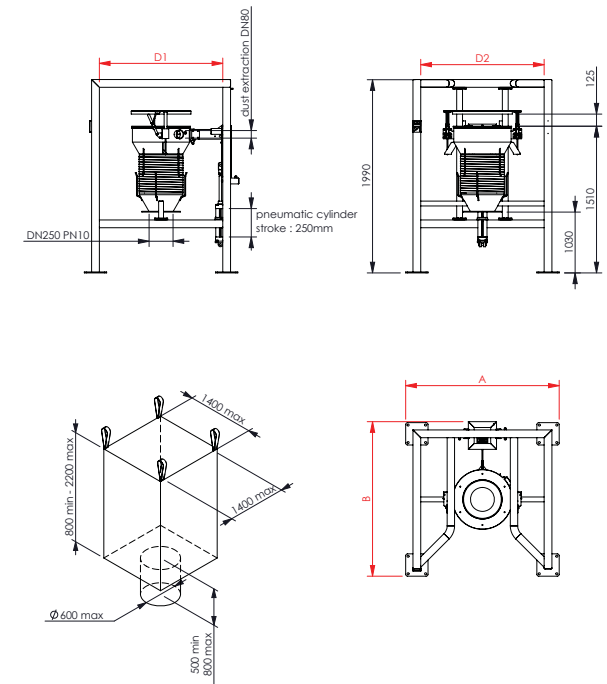
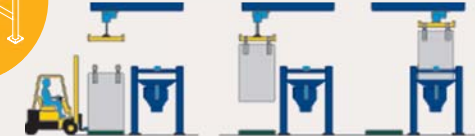
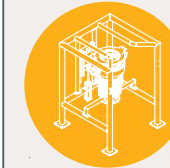
Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1250	1250	1600	3100
VBB150P	2200	1400	1500	1500	1890	3350

## Forklift Loading



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1250	1250	1580	1590
VBB150P	2200	1400	1500	1500	1830	1840

## Low Structure



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1250	1250	1580	1590
VBB150P	2200	1400	1500	1500	1830	1840



# Big Bag Discharge Station

# Dust control model



Dust control model

## Glove box

**FIBC dust control model with glove box**

**Rate:** 10 to 20 big bags/hr.

**Weight capacity:** 2 tons/big bag

**Objectives:** total containment & safety for operators

Big bag discharge station model integrates a glove box which prevents the operator from being in contact with the material, while maintaining a good visibility. Three versions are available: electric hoist, forklift loading or low structure.

## TECHNICAL SPECIFICATIONS

**Flow rate:** 10 to 20 big bags/hr.

**Structural framework manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Finishes:** RAL 9006, microblasted, electropolishing

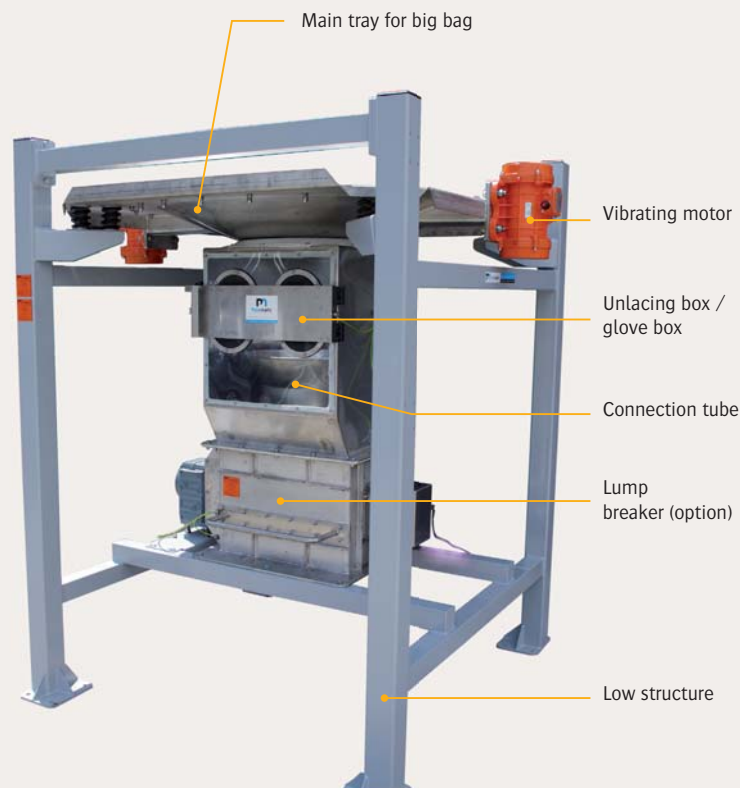
**Installed power:** 0.1 kW (according to the option)

**Operation pressure:** 6 bars

**Dust collecting flow rate required:** 300 m<sup>3</sup>/hr.\*

\*may vary according to the material

**Ergonomic height for access to the big bag:** 1.550 mm.



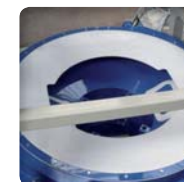
▶ **Containment and operator protection:** the glove box with a dust-proof door provides a secure and ergonomic access to the big bag spout. The respect of the sight height allows the operator to manipulate big bag without being in contact with potential toxic materials



▶ **Flow control (optional):** the PALAMATIC PROCESS control valve enables the operator to stop very flowing materials or to control the flow. This pneumatic valve strangles the big bag spout. It is actuated by pneumatic cylinders



▶ **Improvement of bulk material flow (optional):** the bulk material flow is optimized thanks to a pneumatic massage system. Pneumatic cylinders are implanted on the lower part of the structure, crush severely agglomerated lump into smaller chunks (2, 4 or 6 actuators depending on the type of powder)



▶ **Connection to the dedusting unit (optional):** the dedusting ring is mounted on the receiver plate and minimizes dust emissions. It is composed by a split tube and a pipe for connection to the dedusting unit. It is manually operated to adjust or close off the suction flow

## Advantages



## Possible loading methods:



Electric hoist



Forklift



Low structure

## Options



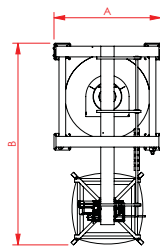
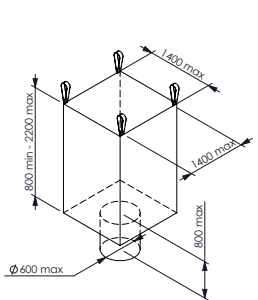
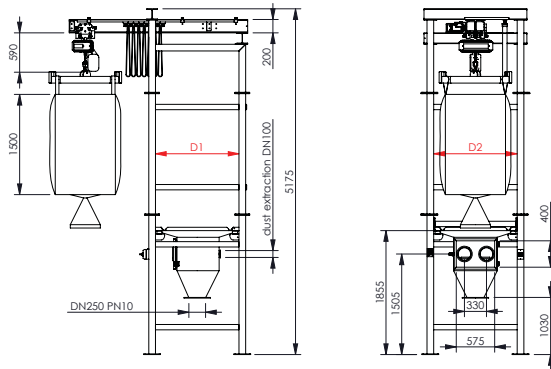
Big bag compactor



Lump breaker

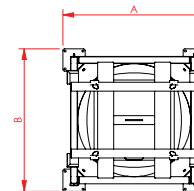
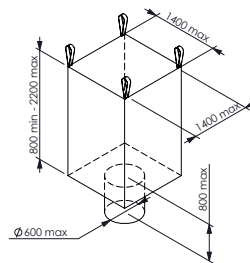
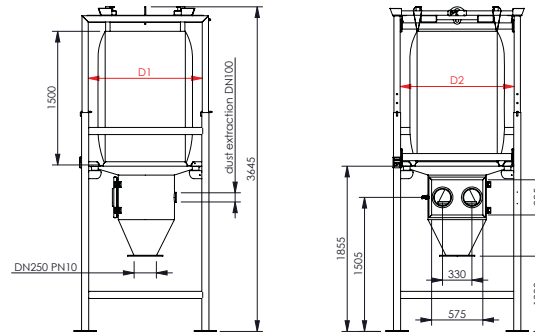
See all our options on page 24

## Hoist Loading



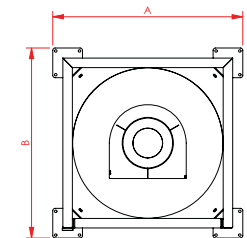
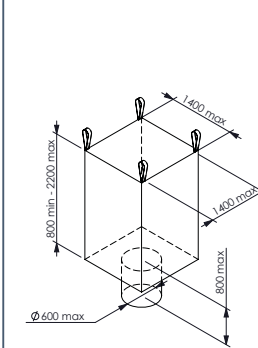
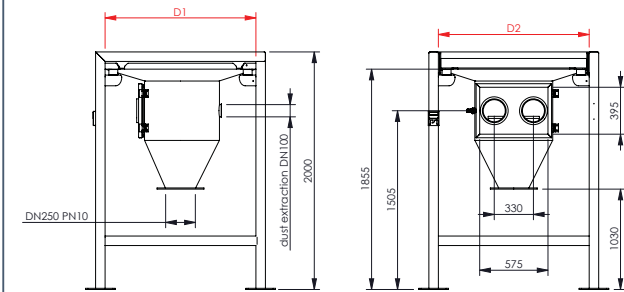
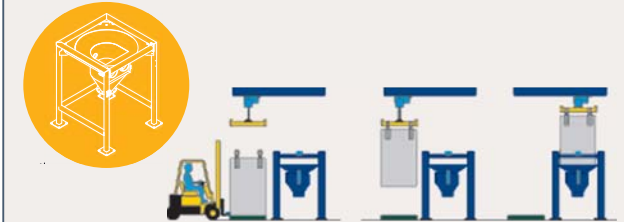
Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1250	1250	1600	3100
VBB150P	2200	1400	1500	1500	1890	3350

## Forklift Loading



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1280	1280	1600	1600
VBB150P	2200	1400	1500	1500	1850	1850

## Low structure



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1280	1280	1600	1600
VBB150P	2200	1400	1500	1500	1850	1850

# Big Bag Discharge Station

# High flow rate



## Dust control model

**Flow rate:** 20 to 40 big bags/h.  
**Weight capacity:** 2 tons/big bag  
**Objectives:** automatic cutting, containment and safety

This FIBC discharger enables the automatic unloading of big bags without operator intervention. The phases of cutting, handling and evacuating the big bags are autonomous. The only task ensured by the operator is the fixation of the big bag on the bag hanger.

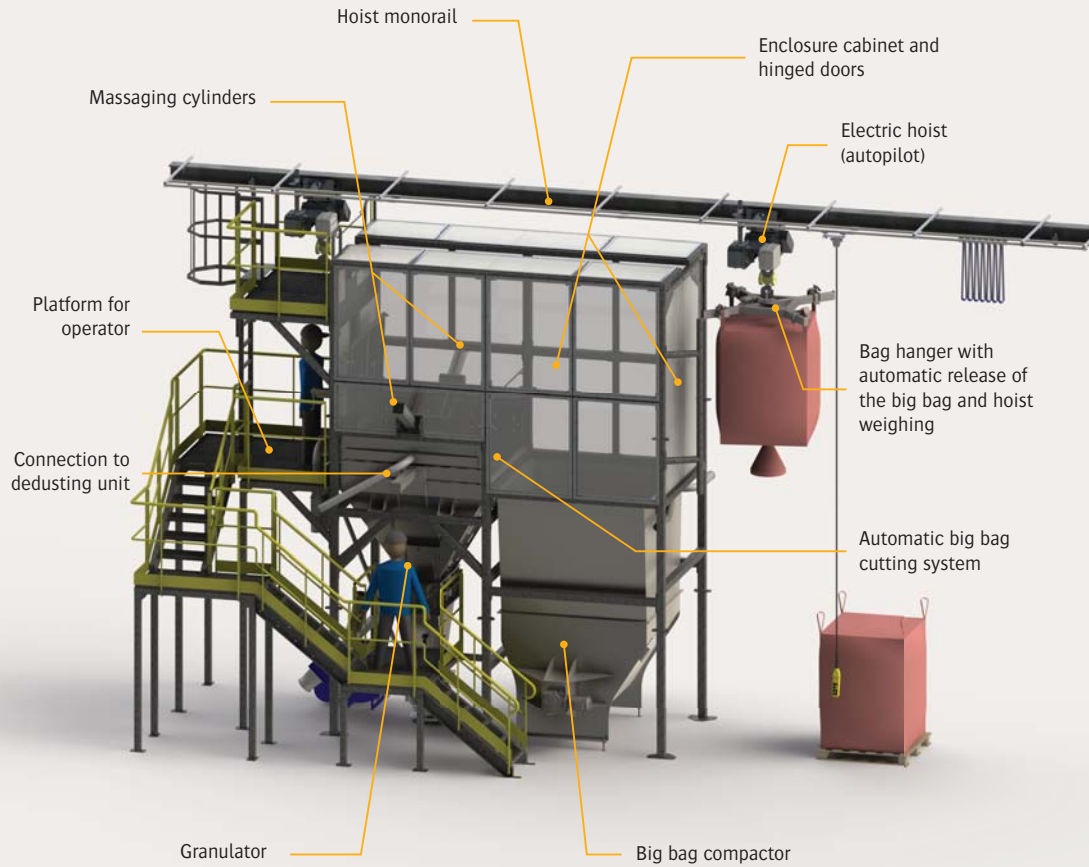
## TECHNICAL SPECIFICATIONS

**Rate:** 20 to 40 big bags/hr.  
**Manufacturing:** mild steel, SS304L, SS316L  
**Finishes:** RAL 9006, microblasted, electropolishing  
**Installed power:** 5 kW (according to the option)  
**Operation pressure:** 6 bars  
**Inlet:** 4-20 mA  
**TOR inlet :** 6  
**TOR outlet:** 4  
**Dust collecting flow rate required:** 3,000 m<sup>3</sup>/hr.\*  
 \*may vary according to the threatened material  
**Maximum big bag dimensions**  
**Length x Width x Height:** 1,200 x 1,200 x 2,400 mm  
 Custom made models are also available

## OPERATING SEQUENCE

1. Big bag connection and setting up by the operator
2. Big bag shifting inside the discharge station (autopilot hoist)
3. Automatic cutting and discharging of the big bag (automatic version)
4. FIBC massage (depending on option) and product crushing
5. Automatic big bag release
6. Empty big bag compacting
7. Automatic control of the big bag accumulation that must be emptied and automatic pallet stacker

High flow rate



➤ **Automatic cutting:** diamond «U» shaped spike and cutting discs. According to the type of big bag to be unloaded, the cutting system is designed to facilitate the opening and to avoid foreign bodies.



➤ **Integrated big bag compactor:** it permits to collect and compress all types of bags (paper, PE, woven plastic...) in an effective way and thus to remove the majority of dust.



➤ **Improvement of bulk material flow:** piloted pneumatic cylinders to optimize the bulk material flow.



➤ **Automatic loading:** the steering of the hoist is controlled via the button box and weighing hook.

## Advantages



# Big Bag Discharge station

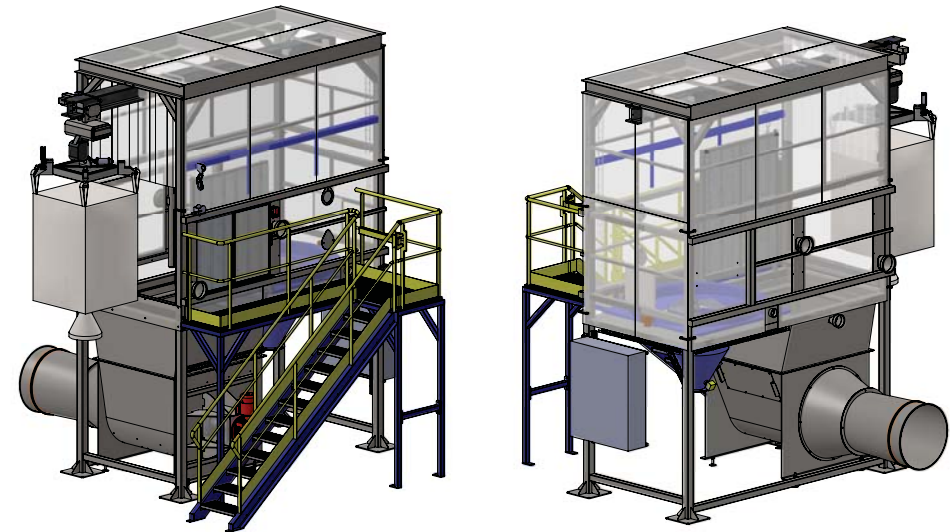
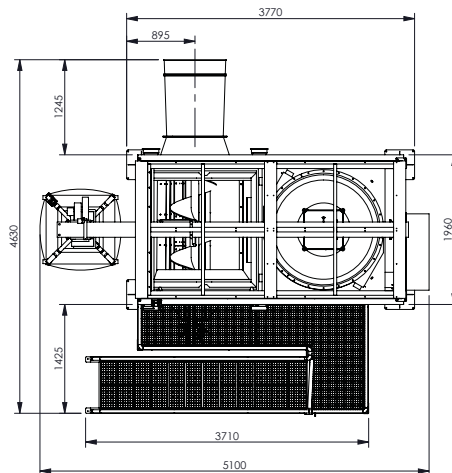
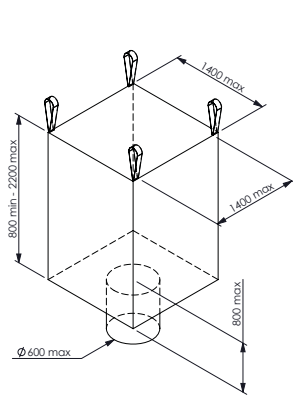
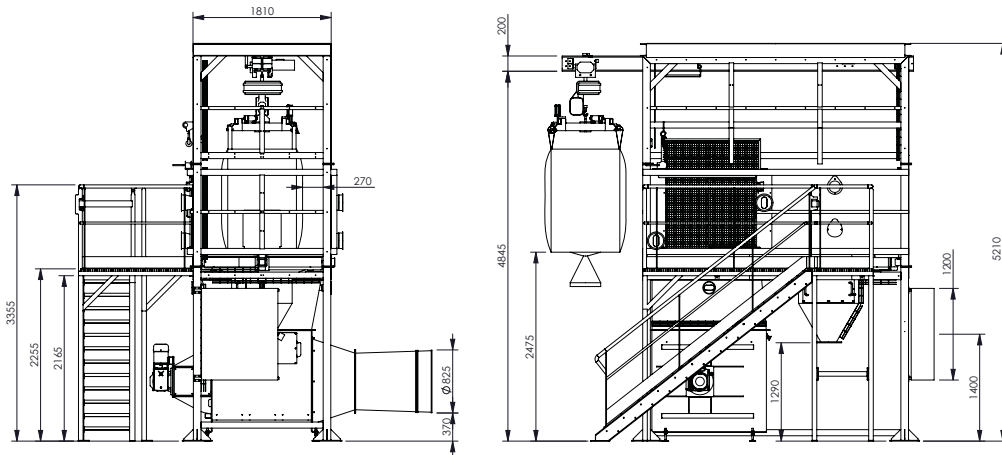
# High flow rate



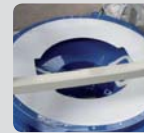
## Dust control model

**Rate:** 20 to 40 big bags/hr.  
**Weight capacity:** 2 tons/big bag  
**Objectives:** automatic cutting, containment and safety

High flow rate



## Options



**Pouyès ring:** optimizes containment by creating a suction flow at 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 the capture of the dust like a cyclone. Suction flow required: 1.800 m<sup>3</sup>/h.



**Granulator:** our granulators 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 transportation of friable materials in powder or in grain. We offer 3 standard models of granulators (GR35, GR50, GR70) and 3 standard models of lump breakers (EC35, EC50, EC70). We also design customized solutions to suit all your requirements.

# Big Bag Discharge Station

# Customized model



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

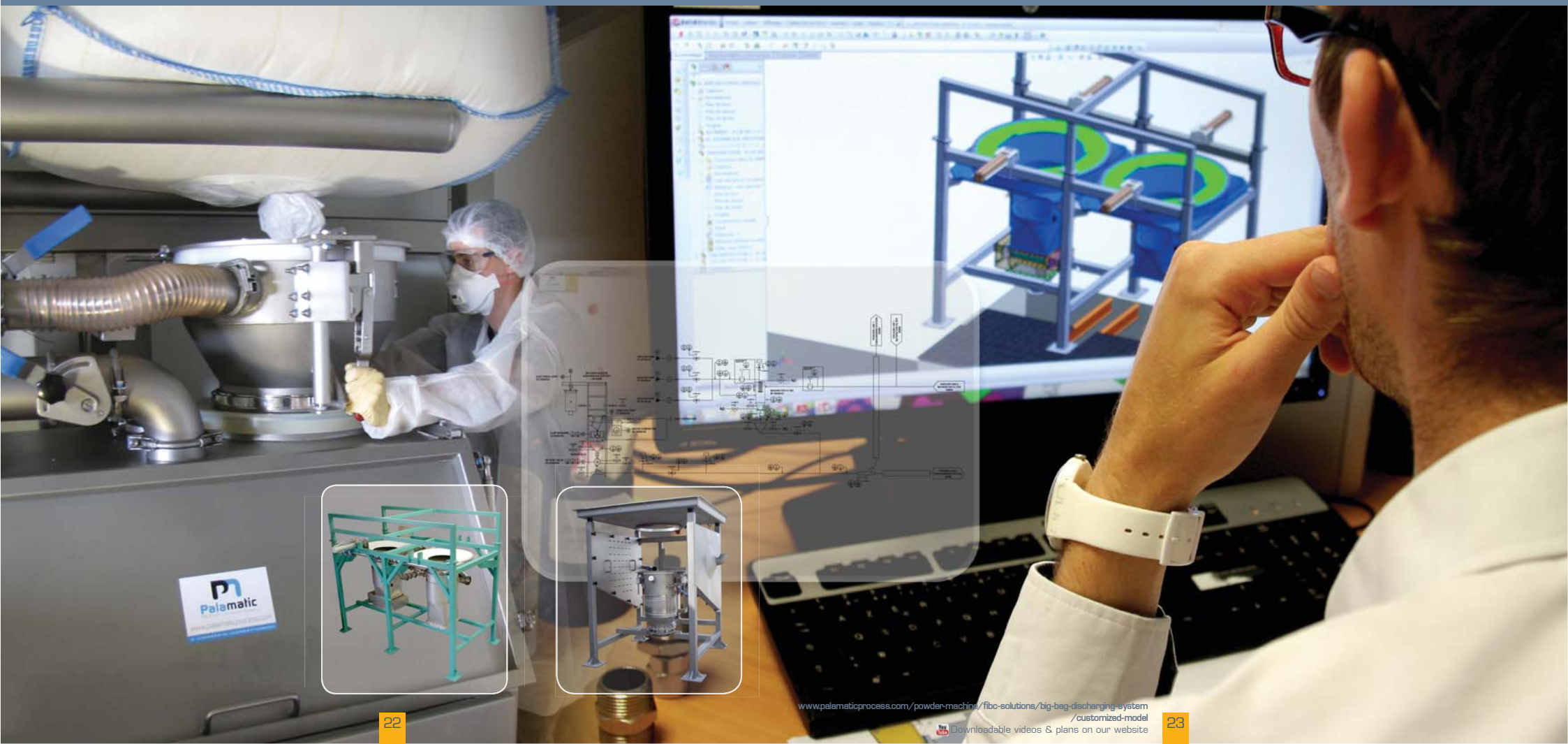
## UNLOADING, ENSURING THE FLOW AND CONTAIN

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 (N<sub>2</sub>): 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 m<sup>3</sup>/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.



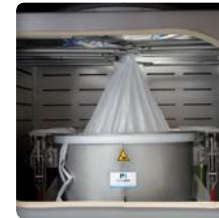
## ▶ «V» SHAPED SPIKE TO BURST THE BIG BAG

**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.**

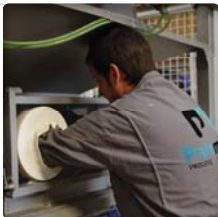
As the bulk bag is lowered into the hopper it passes through and seals with a rubber membrane that seals with the sides of the bulk bag. When the big bag is fully seated in the hopper the membrane creates a sealed enclosure within the hopper. The dust containment is optimized.



## ▶ 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.

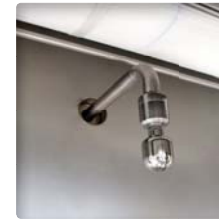
The glove box allows the user to manipulate the big bag without being in contact with different products that may be toxic. Indeed, the glove box will allow the user to undo the knot of the big bag to allow its discharge.



## ▶ 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 m<sup>3</sup>/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



▶ Glue preparation



▶ Nutrition - Peanuts



▶ Paints



▶ Cosmetic products



▶ Chemical products



▶ Pharmaceutical materials



▶ Activated carbon



▶ Oils preparation



▶ Discover our big bag discharge station on video on our YouTube channel:  
[www.youtube.com/user/Palamaticprocess](http://www.youtube.com/user/Palamaticprocess)



# Duopal®: Big Bag & Sack Discharge Station



## UNLOADING OF SACKS AND BIG BAGS ON THE SAME DISCHARGING POINT

PALAMATIC PROCESS developed standard bulk bag unloaders to meet the needs of industries loading their process with big bags and sacks (25/50 kg) on the same discharging point.

This FIBC discharge station allows deconditioning big bags and sacks ergonomically using an electric hoist, a forklift or a bridge crane and is available in «low structure» version.

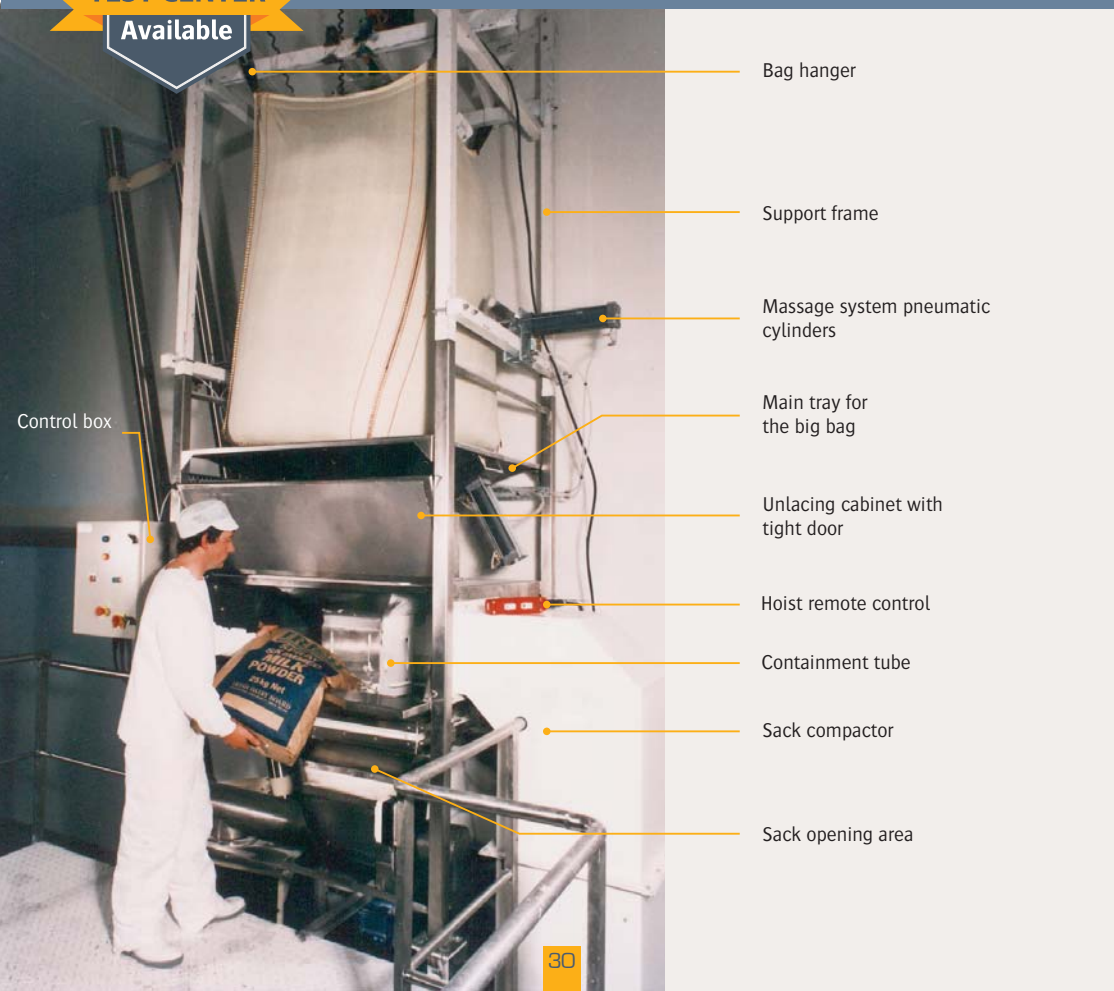
## EQUIPMENTS INTEGRATED ON STANDARD VERSIONS (EXCLUDING OPTIONS):

- **Self-supporting structure with adjustable height and centering device:** it allows the positioning of the big bag on the discharging system. The height of the station is adjustable to fit to various heights of big bag with a centering device to secure the loading process
- **5 points handling cross:** to set the inner liner of the big bag and for big bag with single handle
- **Main tray:** to maintain the big bag and sack when emptying and secures handling operations
- **Rubber seal:** to optimize containment by capping the bottom of the big bag
- **Vibrating motor:** to ensure the vibration of the main tray to help the extraction of the powder
- **Unlacing cabinet with dust-proof door:** to provide a secure and ergonomic access to the spout of the big bag
- **Anti-overflow tube:** to channel the flow of product into the unlacing box and facilitates the handling for the operator
- **Protection screen:** to ensure the feeding of powder without foreign body (mesh size 50 x 50 mm)

Equipment

TEST CENTER

Available



- Bag hanger
- Support frame
- Massage system pneumatic cylinders
- Main tray for the big bag
- Unlacing cabinet with tight door
- Hoist remote control
- Containment tube
- Sack compactor
- Sack opening area



▶ **Connecting tube** (depending on version): This tube offers a contained connection between the big bag and the discharging station. The pneumatic cylinder allows the operator to adjust the height of connection to adapt to different types of big bags



▶ **Dust proof tube:** It allows containment at the opening of the spout of the big bag and thus offers more ergonomics and safety to the operators when opening sacks



▶ **Tray with massage system.** The bulk material flow is optimized thanks to a pneumatic massaging system. Pneumatic actuators implanted on the lower part of the structure crush agglomerated lump



▶ **Cardboard boxes deconditioning:** The opening of the dump station allows the deconditioning of different types of containers, bags, boxes... From an ergonomic point of view, the tablet allows to put down the cardboard and empty it effortlessly

## Advantages



## Possible ways of loading:



Electric hoist

Forklift

Low structure



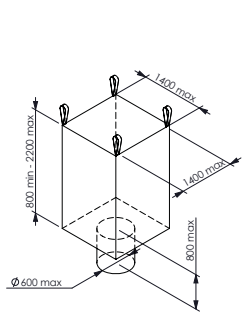
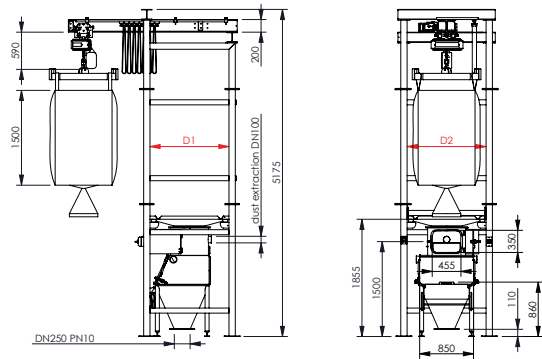
Commercial weighing and dosing



Grate

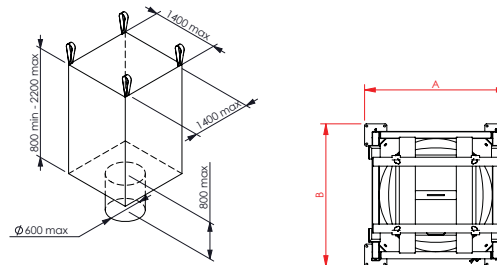
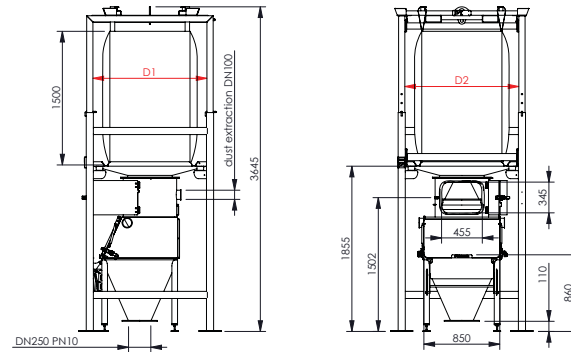
# Duopal®: Big Bag & Sack Discharge Station

## Electric Hoist Loading



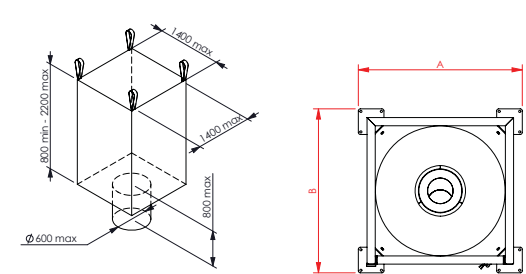
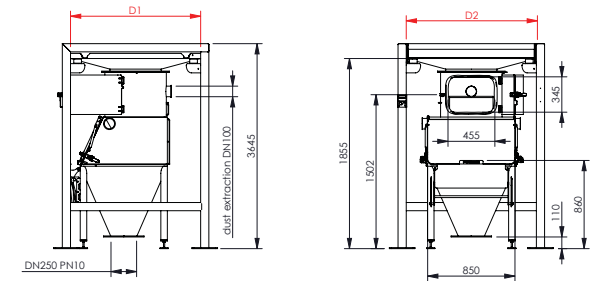
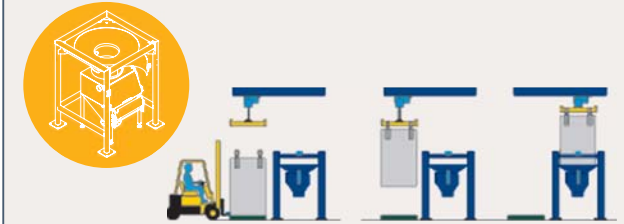
Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1250	1250	1600	3100
VBB150P	2200	1400	1500	1500	1890	3350

## Forklift Loading



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1280	1280	1600	1600
VBB150P	2200	1400	1500	1500	1850	1850

## Low Structure



Ref	max big bag height	max big bag width	D1	D2	A	B
VBB125P	2200	1150	1280	1280	1600	1600
VBB150P	2200	1400	1500	1500	1850	1850

# Octabin Unloader

## Discharge system by gravity

For octabins with lower trapdoor

### TECHNICAL SPECIFICATIONS

**Flow rate:** 10 to 20 octabins/hr.

**Manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Finishes:** RAL 9006, microblasted, electropolishing

**Installed power:** 0.1 kW (according to options)

**Operation pressure:** 6 bars

**Required dust collecting flow rate:** 300 m<sup>3</sup>/hr.\*

\*may vary according to the treated material

**Ergonomic access height for unlacing** (height of sight): 1,550 mm



## By suction pipe

For all types of octabins

### TECHNICAL SPECIFICATIONS

**Flow rate:** 10 to 15 octabins/hr.

**Manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Finishes:** RAL 9006, microblasted, electropolishing

This system is meant to be coupled with our VFlow® range of vacuum pumps, you can find more information in our Pneumatic Conveying documentation.



## Octabin tilting system

For octabins with lateral emptying flap

### TECHNICAL SPECIFICATIONS

**Flow rate:** 10 to 20 octabins/hr.

**Manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Finishes:** RAL 9006, microblasted, electropolishing

**Installed power:** 0.1 kW (according to options)

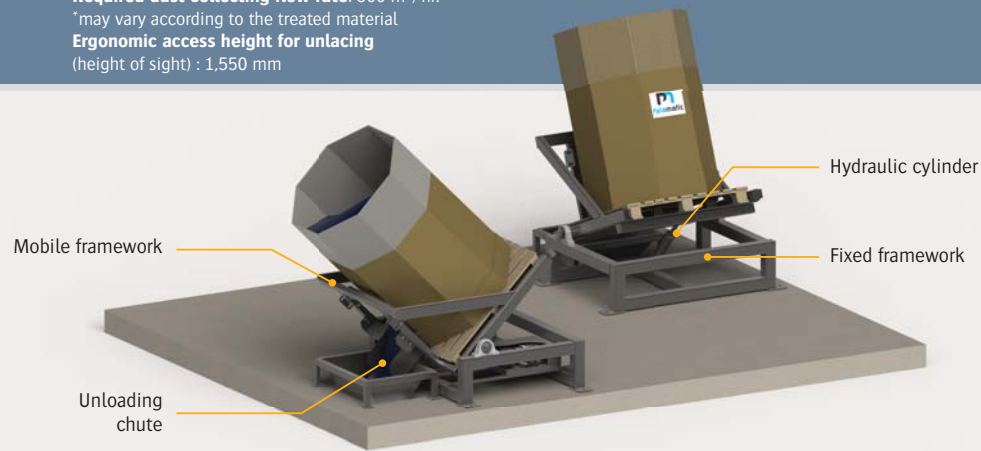
**Operation pressure:** 6 bars

**Required dust collecting flow rate:** 300 m<sup>3</sup>/hr.\*

\*may vary according to the treated material

**Ergonomic access height for unlacing**

(height of sight) : 1.550 mm



## Octabin dumping system

For all types of octabins

### TECHNICAL SPECIFICATIONS

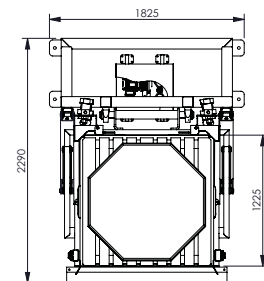
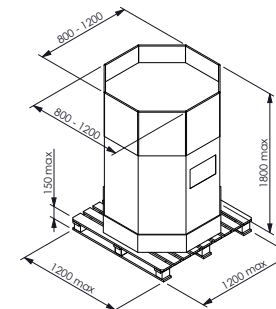
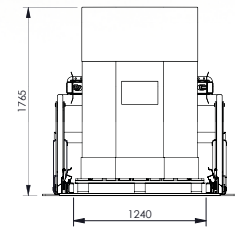
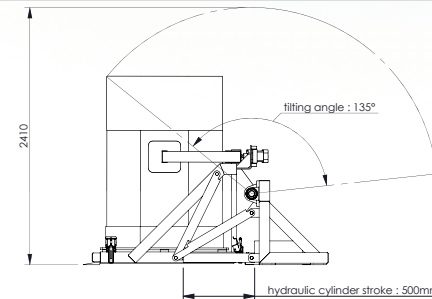
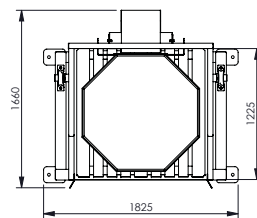
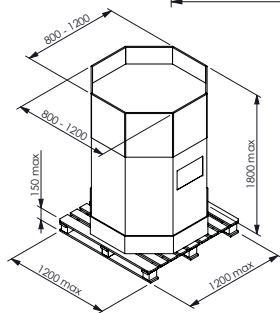
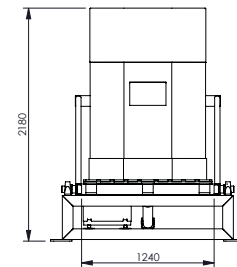
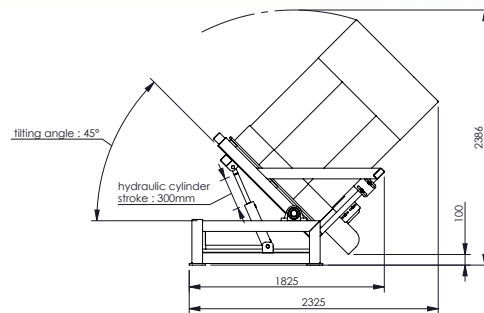
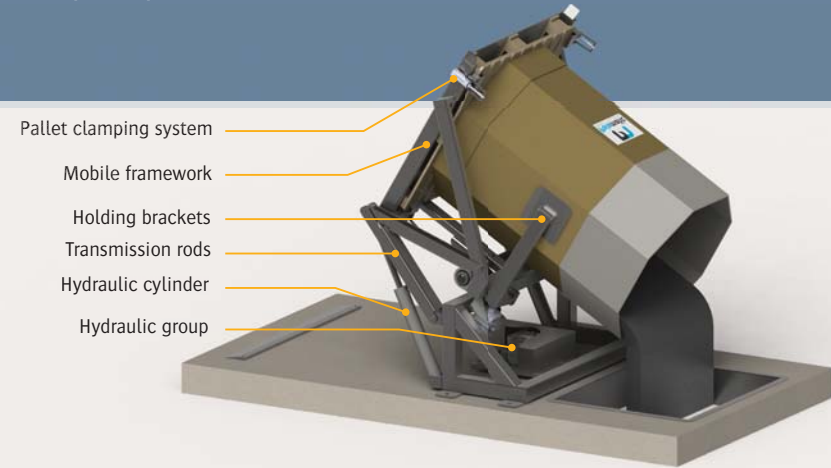
**Flow rate:** 30 to 50 octabins/hr.

**Manufacturing:** mild steel, 304L stainless steel, 316L stainless steel

**Finishes:** RAL 9006, microblasted, electropolishing

**Installed power:** 1.5 kW

**Operation pressure:** 6 bars



# Octabin Unloader



## Octabin inverting system

### THE SOLUTION FOR EMPTYING YOUR OCTABINS FROM ANY FEEDING POINT

This unload station permits to transfer temporarily the content of your octabins into a receiving hopper. These hoppers with wheels can be manipulated by a user or by a forklift to be emptied onto your various loading points. Hopper and pallet clamping systems, holding brackets and gearwheel with highly resistant bearing enable to invert octabins safely.

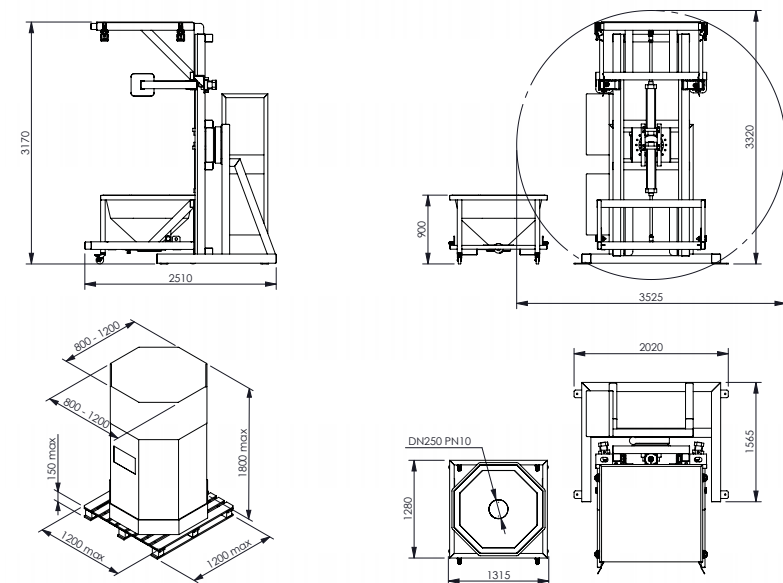
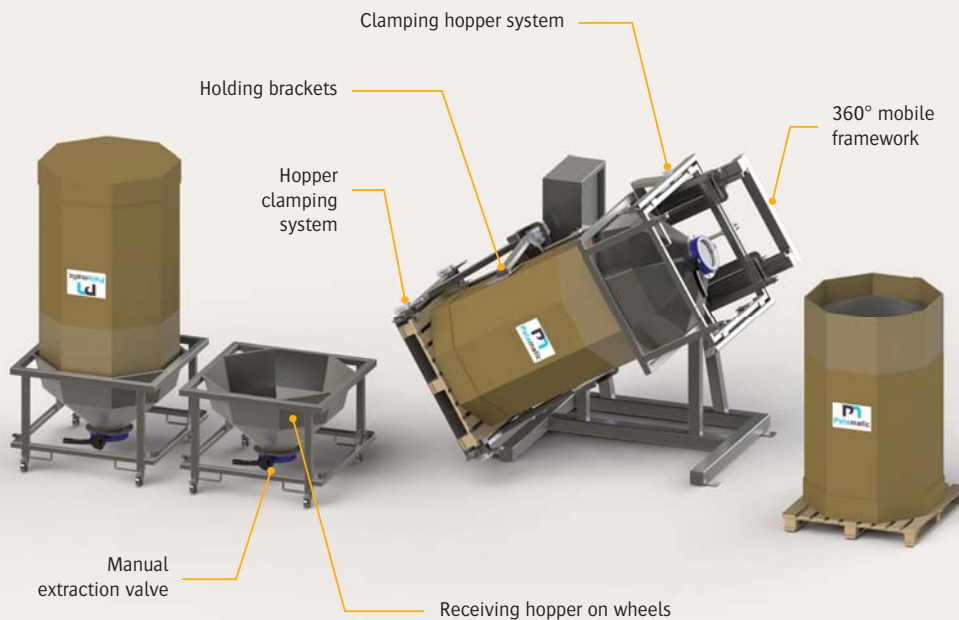
### TECHNICAL SPECIFICATIONS

**Flow rate:** 20 to 30 octabins/hr.  
**Manufacturing:** mild steel, 304L stainless steel, 316L stainless steel  
**Finishes:** RAL 9006, microblasted, electropolishing  
**Installed power:** 1.5 kW  
**Average power consumption:** 0.8 kW  
**Air consumption:** 5.2 Nm<sup>3</sup>/hr.  
**Operation pressure:** 6 bars  
**Inlet TOR:** 3  
**Outlet TOR:** 7  
**Maximum dimension of octabins**  
**Length x Width x Height:** 1,200 x 1,200 x 1,800 mm  
 Custom made models are also available

### OPERATING SEQUENCE

**AVERAGE DURATION OF A COMPLETE CYCLE: 4 MIN.**

1. Manual positioning of the empty hopper on wheels
2. Clamping, lifting and inverting of the hopper
3. Octabin positioning on its pallet through a pallet truck or forklift
4. Pallet clamping by 4 jaws and holding of the octabin with 2 holding side brackets
5. Docking the hopper which fits over the octabin, then turning of the whole system
6. Release of the octabin overturned on the hopper (the pallet stays on the top)
7. Extraction of the hopper carrying the octabin, manually or with a forklift
8. Manual positioning of the empty hopper on wheels
9. Clamping, lifting and inverting of the hopper
10. Lowering and releasing of the empty pallet
11. Removing the empty pallet, then positioning a new octabin



# EXAMPLES OF INSTALLATIONS

Materials containment



Chemicals - Resins



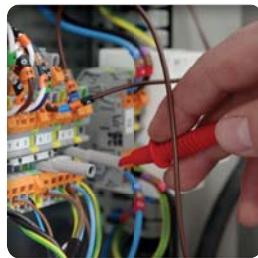
Food - Sugar



Control of a urea skid



Control cabinet



Wiring



Pharmaceutical materials



Industrial plaster



Discover your big bag discharge stations video on our YouTube channel: [www.youtube.com/user/Palamaticprocess](http://www.youtube.com/user/Palamaticprocess)

**500**  
+ 500 installations  
of big bag discharge stations in  
**FRANCE** and **ABROAD**

# AUTOMATION & ELECTRICITY



## PAL'TOUCH® TECHNOLOGY

As a designer of specific equipment, PALAMATIC PROCESS associates to its production units some automats ergonomically and visually programmed. The production monitoring is as important as the result. This is why our automatician and software engineers integrate fool-proofing of raw material inputs, batch traceability, operator identification and dosing reliability. The production line steering screens provides ergonomics and comfort with continuous dialogue during the project execution phase between your production team and our design office.

**Equipments and programs treated:** Schneider, Siemens, Rockwell, Omron, Philips, Intouch, Pc Vue, VijeoDesigner, ...



# Big Bag Massage System



**Objectives:** to prepare and break agglomerated lump before the discharge

The massage system prepares the big bag before the discharge process. Once the big bag is inside the cage, it is massaged by several pair of cylinders (until 8 pairs/16 cylinders depending on options). Pneumatic or hydraulic cylinders help to break the agglomerated material into the big bag and facilitate its emptying process through the spout. Several massage programs are available according to the loading in order to ensure the treatment of the entire big bag volume. The protection screen enables a safety functioning of the installation.

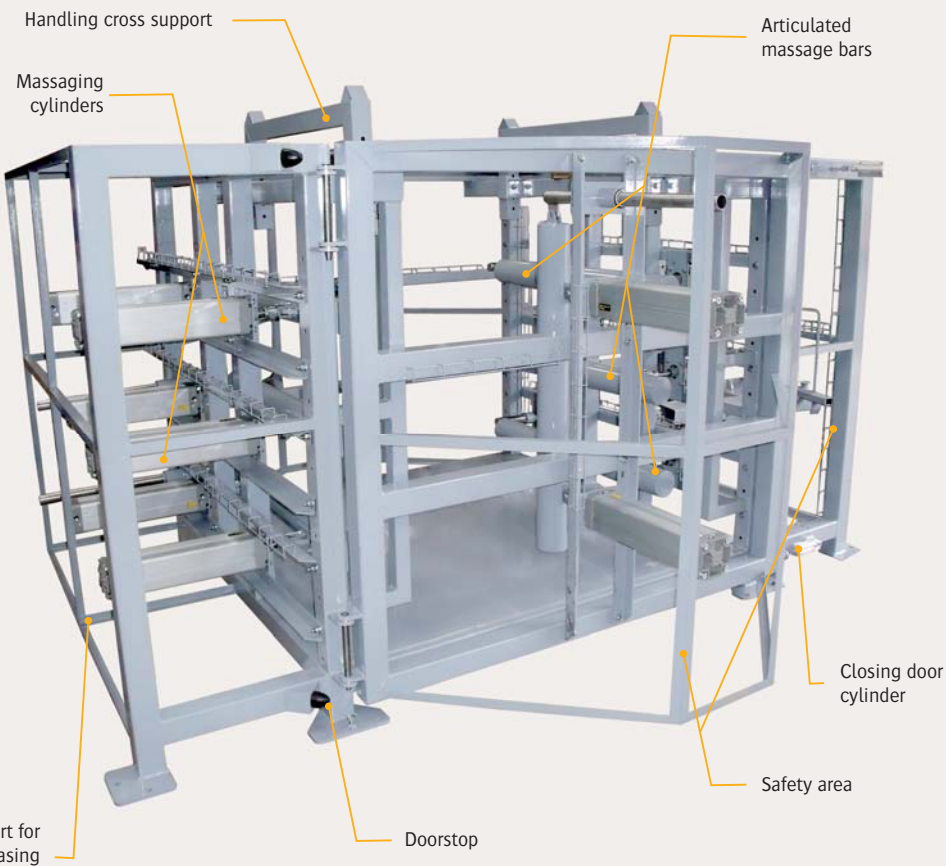
## TECHNICAL SPECIFICATIONS

**Manufacturing:** mild steel, 304L stainless steel, 316L stainless steel  
**Finishes:** RAL 9006, microblasted, electropolishing  
**Compressed air consumption:** 1.2 Nm<sup>3</sup>/hr.  
**Service pressure:** 6 bars  
**Input TOR:** 16  
**Output TOR :** 6  
**Cylinders control by a laser sensor** to avoid big bag packaging damage  
**Maximum dimensions of big bags**  
**Length x Width x Height:** 1,300 x 1,300 x 2,000 mm  
**Action in the heart of the big bag** with distribution of effort on to each sidewall of the big bag

## OPERATING SEQUENCE

- AVERAGE TIME FOR A COMPLETE CYCLE: 5 MIN**
1. The big bag is placed on the handling cross
  2. The bag hanger is lifted up by a forklift or a hoist
  3. The big bag is positioned into the cage
  4. Massage cycle starting by elevating the big bag (with hoist or elevator table)
  5. End of the cycle and door opening
  6. Big bag removal with forklift or hoist

Massage System



▶ **Profiled push-buttons and control of dynamic strokes** to avoid tearing the fabric of the big bag



▶ **Handling cross for loading with forklift or elevator**

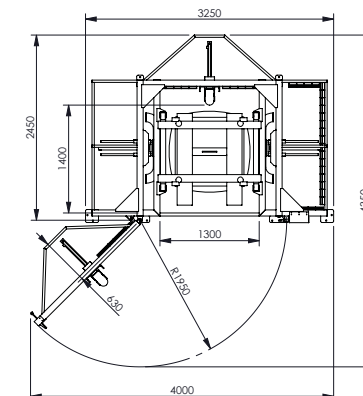
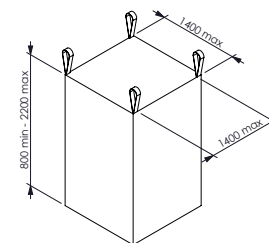
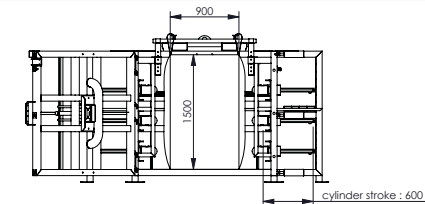
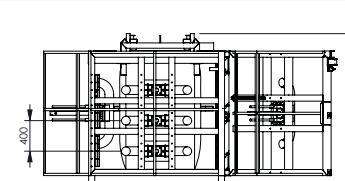


▶ **Adjustable height by rod**

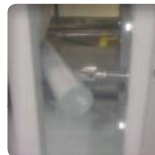


▶ **Overview of the unit for massage of the 4 sides**

## Advantages



▶ **Safety area** to protect cylinders



▶ **Cylinders articulation** for a better action

## Options

Hoist or Liftfork loading, lifting table, door automation, hydraulic massage.

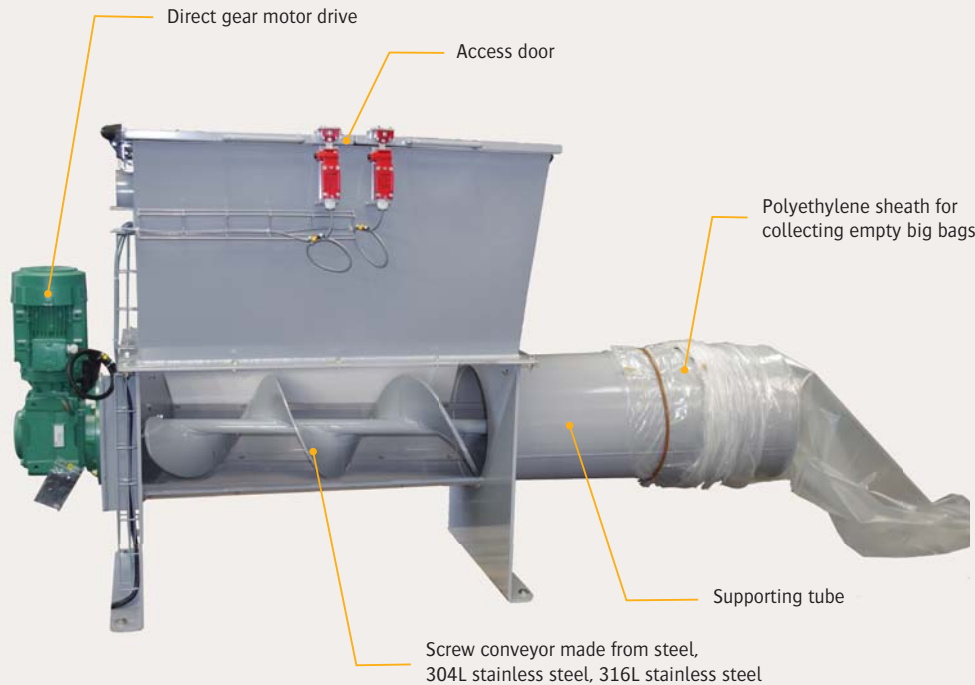
See all our options on page 24

# Big Bag compactor

**Objectives:** dust control & management of empty big bags

## A SIMPLE AND EASY SOLUTION TO REDUCE WASTE VOLUME AND FOR THE DUST-FREE HANDLING

With an efficient and 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 fines by specific tray. A polyethylene sheath positioned at the end of the compacting tube allows to collect empty big bags while minimizing their volume.



▶ **Compacting screw**



▶ **Handling wheels** for mobility of the equipment (optional)

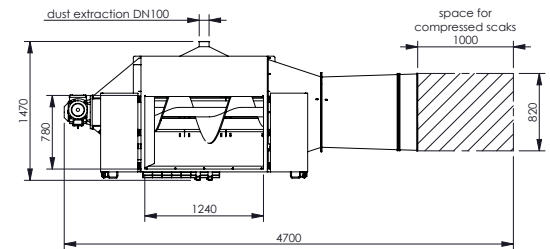
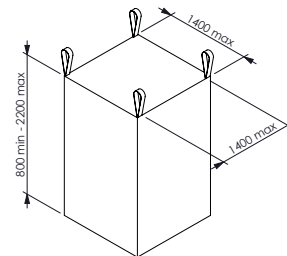
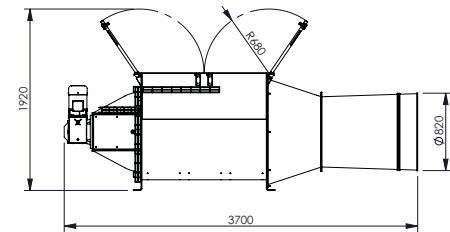
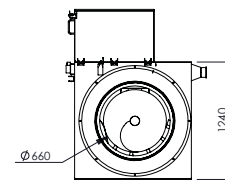


▶ **100 % hermetic containment sheath**, clean working environment and possibility to recover residual fines by specific tray



▶ **Ergonomic access door** for the operator

## Advantages





# Our expertise:

## **FILLING SOLUTIONS FOR BIG BAG AND OCTABIN**

To fill

## **EMPTYING SOLUTIONS FOR BIG BAG AND OCTABIN**

To empty, compact and massage

## **SACK SOLUTIONS**

To empty, compact, handle, fill

## **CARDBOARD AND DRUM SOLUTIONS**

To fill, condition, empty

## **PNEUMATIC TRANSFER EQUIPMENT**

Vacuum, pressure

## **MECHANICAL TRANSFER EQUIPMENT**

To transfer with screw, belt conveyor, bucket elevator, aeromecanic or vibratory conveyor

## **CRUMBLING AND GRINDING EQUIPMENT**

To granulate, crumble, grind, pound, micronise, disagglomerate

## **SIFTING EQUIPMENT**

To sift, segregate, sieve, protect

## **CONTAINERS AND STORAGE SOLUTIONS**

To fill, charge, empty, contain

## **DOSING EQUIPMENT**

To control, regulate, empty, extract

## **MIXING EQUIPMENT**

To homogenise, incorporate, fluidify, stir, mix

## **FLOW AND CONNECTION**

To vibrate, fluidise, unclog, drain, facilitate extraction, control the descent, prevent stacks and vaults, connect

## **INDUSTRIAL DUST COLLECTING EQUIPMENT**

To filter, clean, confine, secure



[contact@palamatic.fr](mailto:contact@palamatic.fr)

ZA La Croix Rouge • 35530 Brécé • France

Tél. : +33 (0) 2 99 86 06 22 • Fax : +33 (0) 2 99 86 08 10

SAS au capital de 331 822 euros • R.C.S. Rennes B 384 894 093 • APE 4669B • N° T.V.A. : FR 14 384 894 093