



SOLUTIONS for Big Bag & Octabin

EMPTYING

COMPACTING

MASSAGING



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

PALAMATIC PROCESS reserves the right to make changes in the design of the facilities listed in this commercial documentation



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

OBJECTIVES & ADVANTAGES OF PALAMATIC PROCESS RANGE

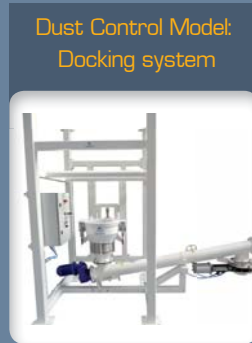
- Secured handling
- Suitable for all types of big bags
- Reduction of dust emissions (possibility of total containment)
- Extraction of poor flowing products
- Discharging rate
- Adaptability to different industrial sectors: petfood, food, chemicals, fine chemicals...



Standard model

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

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Dust Control Model: Docking system

- Big bag contained connection
- Extractor fan for hygiene

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Dust Control Model: Gloves box

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

Page 14



EasyFlow® High flow rate

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

Page 18



Customized model

- Customized solutions offered by our engineering office according to your needs

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EasyFlow® Flex Discharge by suction

- Big bag unloading by suction pipe
- Partial emptying, multi-product and integrated weighing

Page 30



Duopal® Big bag & sack discharging

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

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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	EasyFlow® Flex Suction pipe	Duopal® Hoist	Duopal® Forklift	Duopal® Low structure
Discharging rate (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	2	10 - 30	10 - 30	10 - 30
Compensation cross										
Hermetic telescopic connection tube				X			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	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

EasyFlow[®] Standard



EasyFlow[®]
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 m³/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 its access door at shoulder height, operators never work under a suspended load and the reach into the hopper to unite 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

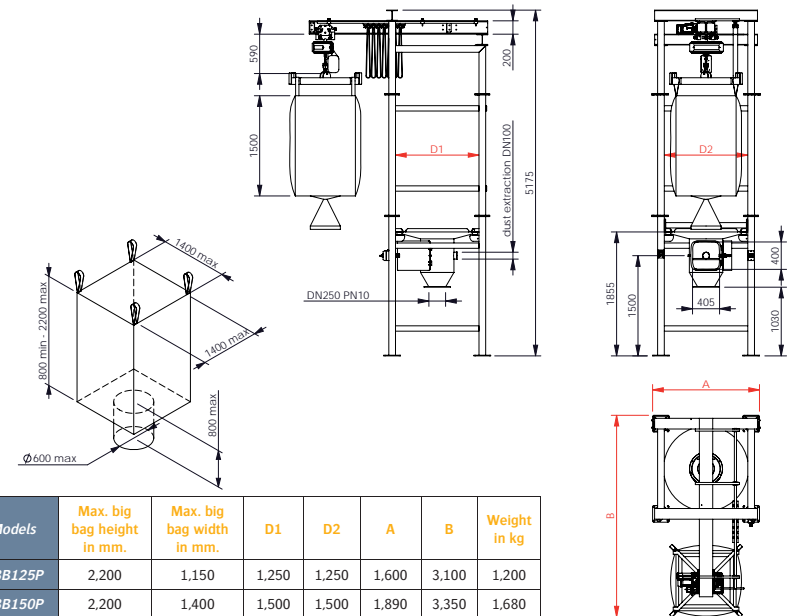


Pulsed vibration: if the material requires further inducement to achieve a steady flood feed state at its outlet, an electromechanical (or pneumatic) vibrator mounted to the hopper provides additional flow inducement



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

Advantages



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125P	2.200	1.150	1.250	1.250	1.600	3.100	1.200
VBB150P	2.200	1.400	1.500	1.500	1.890	3.350	1.680

Options



Massage paddles: disposal aid



Load cells

See all our options on pages 24-28

Big Bag Discharge Station

EasyFlow® Standard



EasyFlow®
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 m³/hr.*

*may vary according to the treated product

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



▶ **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

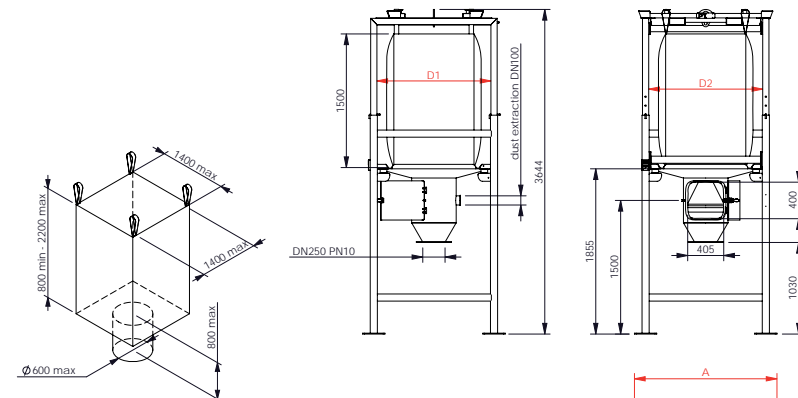


▶ **Frame adjustment of the station:** height adjustment by a manual system of rods. Thus, big bags with any dimensions are admissible on the station



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

Advantages



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125C	2,200	1,150	1,280	1,280	1,600	1,600	640
VBB150C	2,200	1,400	1,500	1,500	1,850	1,850	900

Options



Control valve



Dedusting ring

See all our options on pages 24-28

Big Bag Discharge Station

EasyFlow® Standard



EasyFlow®
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 m³/hr.*

*may vary according to the product

Ergonomic height to access big bag: 1.500 mm

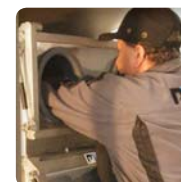


Equipment integrated on standard versions (excluding options):

- 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** ensures 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** ensures 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 consideration during the system design in order to improve operator's comfort. The movements at ground level, head, arms... have to be limited



▶ **Material flow:**
Motor: 0.1 Kw
The vibrating plate facilitates product extraction with the poor flowing characteristics



▶ **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



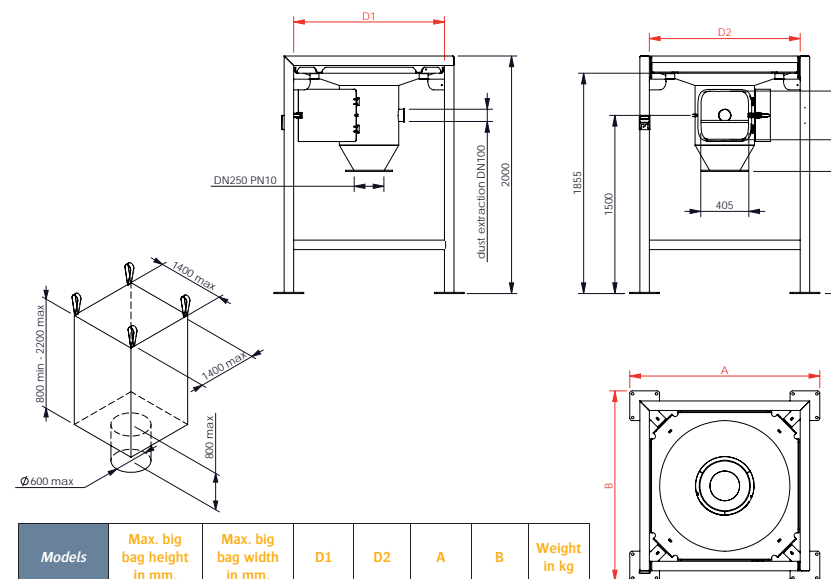
Equipment

TEST CENTER

Available



08



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125B	2.200	1.150	1.280	1.280	1.600	1.600	520
VBB150B	2.200	1.400	1.500	1.500	1.850	1.850	720

Options



Commercial dosing and weighing



Massage paddles to aid flow

See all our options on pages 24-28

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Big Bag Discharge Station

EasyFlow[®] Dust control



EasyFlow[®]
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 m³/hr.*

*may vary according to the material

Ergonomical access to the big bag: 1.600 - 1.200 mm

OPERATING SEQUENCE

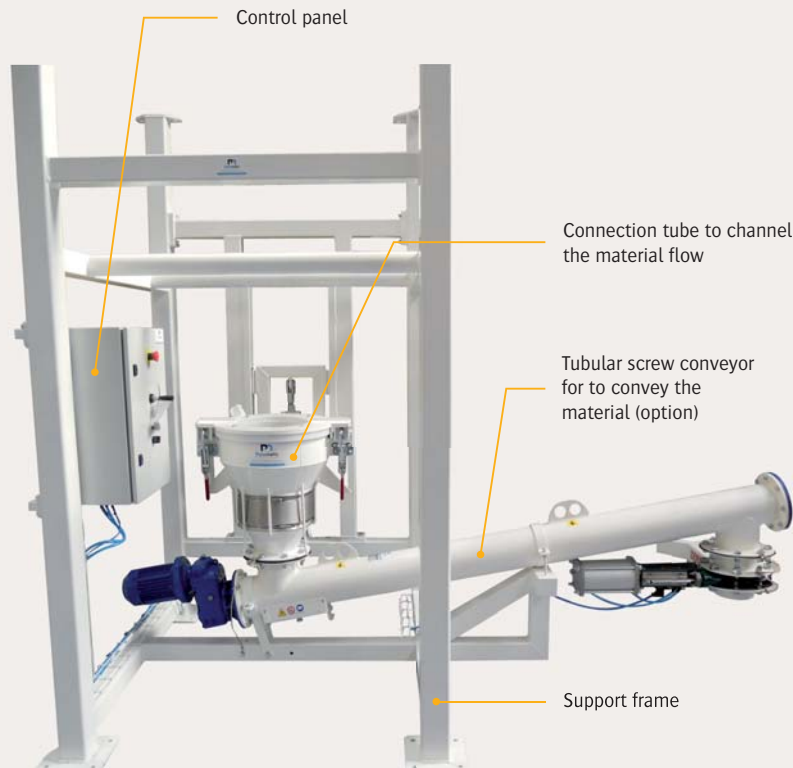
IMPLEMENTATION

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% containment of the material flow

Equipment

TEST CENTER

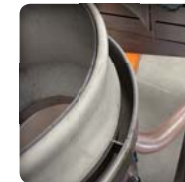
Available



➤ **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

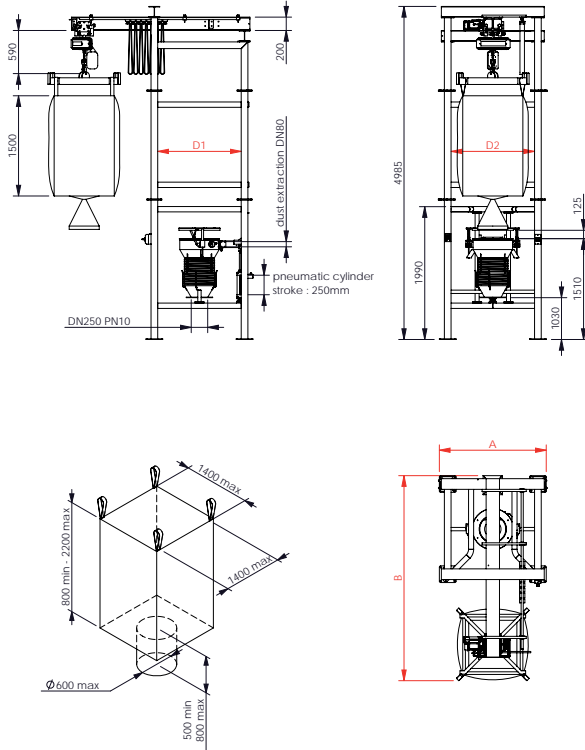
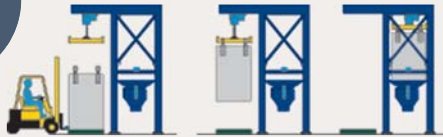
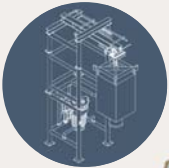


Extractor fan



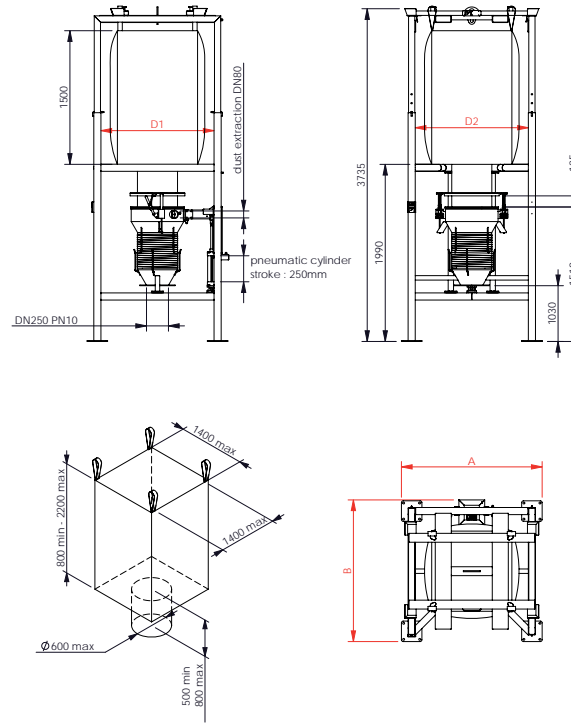
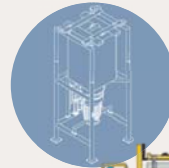
Control valve

Electric Hoist Loading



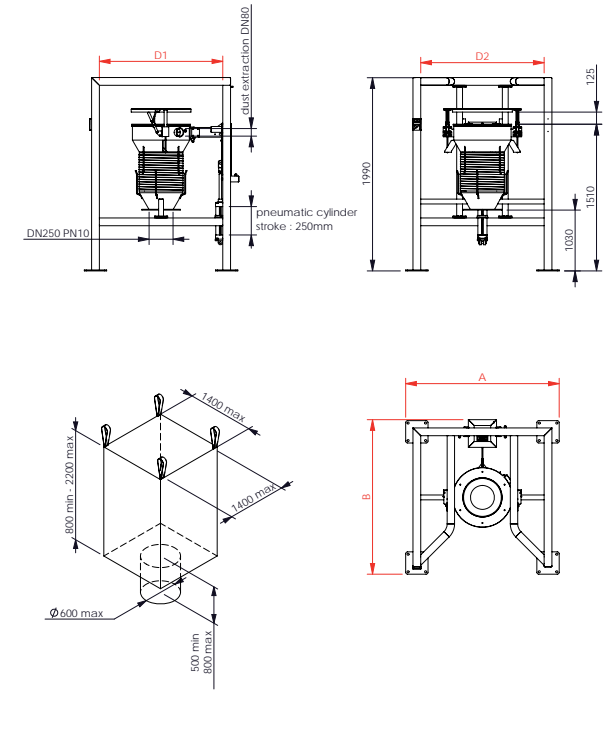
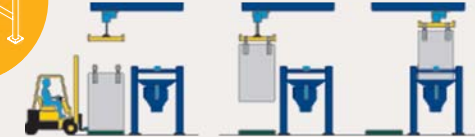
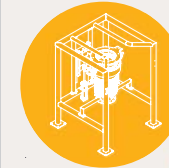
Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125PTUT	2,200	1,150	1,250	1,250	1,600	3,100	1,100
VBB150PTUT	2,200	1,400	1,500	1,500	1,890	3,350	1,580

Forklift Loading



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125CTUT	2,200	1,150	1,250	1,250	1,580	1,590	540
VBB150CTUT	2,200	1,400	1,500	1,500	1,830	1,840	800

Low Structure



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125BTUT	2,200	1,150	1,250	1,250	1,580	1,590	420
VBB150BTUT	2,200	1,400	1,500	1,500	1,830	1,840	620

Big Bag Discharge Station

EasyFlow[®] Dust control



EasyFlow[®]
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

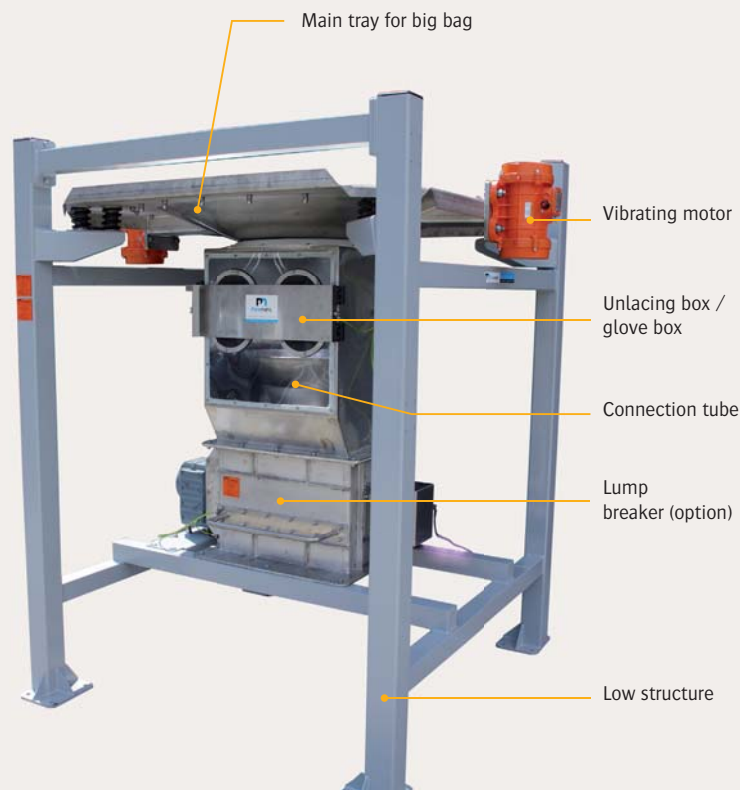
Installed power: 0.1 kW (according to the option)

Operation pressure: 6 bars

Dust collecting flow rate required: 300 m³/hr.*

*may vary according to the material

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



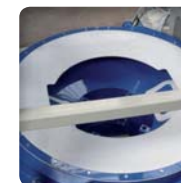
▶ **Containment and operator protection:** the glove box with a dust-proof door provides a secure and ergonomic access to the big bag spout. The respect of the sight height allows the operator to manipulate big bag without being in contact with potential toxic materials



▶ **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 of 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

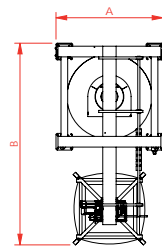
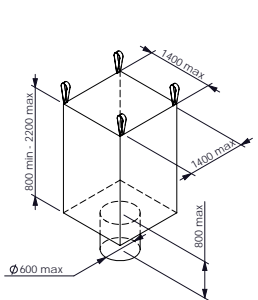
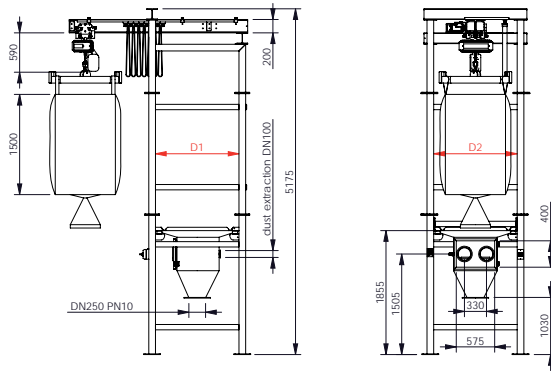


Big bag compactor



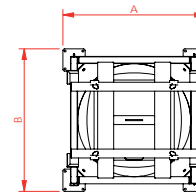
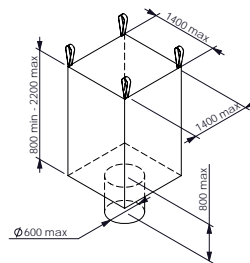
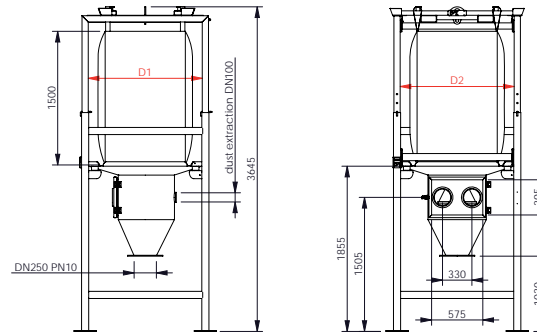
Lump breaker

Hoist Loading



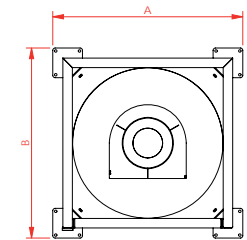
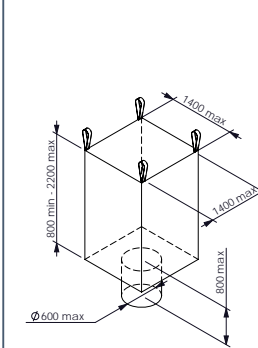
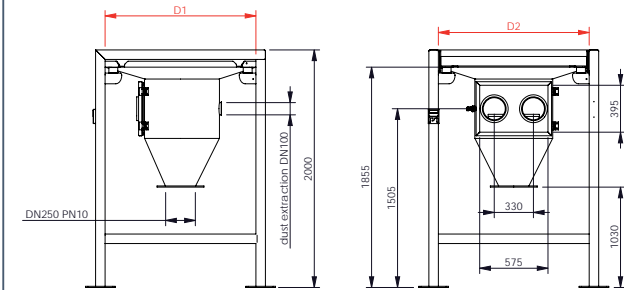
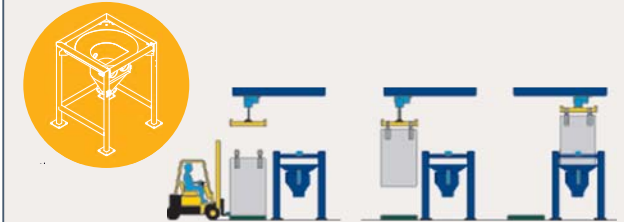
Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125PBG	2 200	1 150	1 250	1 250	1 600	3 100	1 200
VBB150PBG	2 200	1 400	1 500	1 500	1 890	3 350	1 680

Forklift Loading



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125CBG	2 200	1 150	1 280	1 280	1 600	1 600	640
VBB150CBG	2 200	1 400	1 500	1 500	1 850	1 850	900

Low structure



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
VBB125BBG	2 200	1 150	1 280	1 280	1 600	1 600	520
VBB150BBG	2 200	1 400	1 500	1 500	1 850	1 850	720

Big Bag Discharge Station

EasyFlow[®] High flow rate



EasyFlow[®]
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

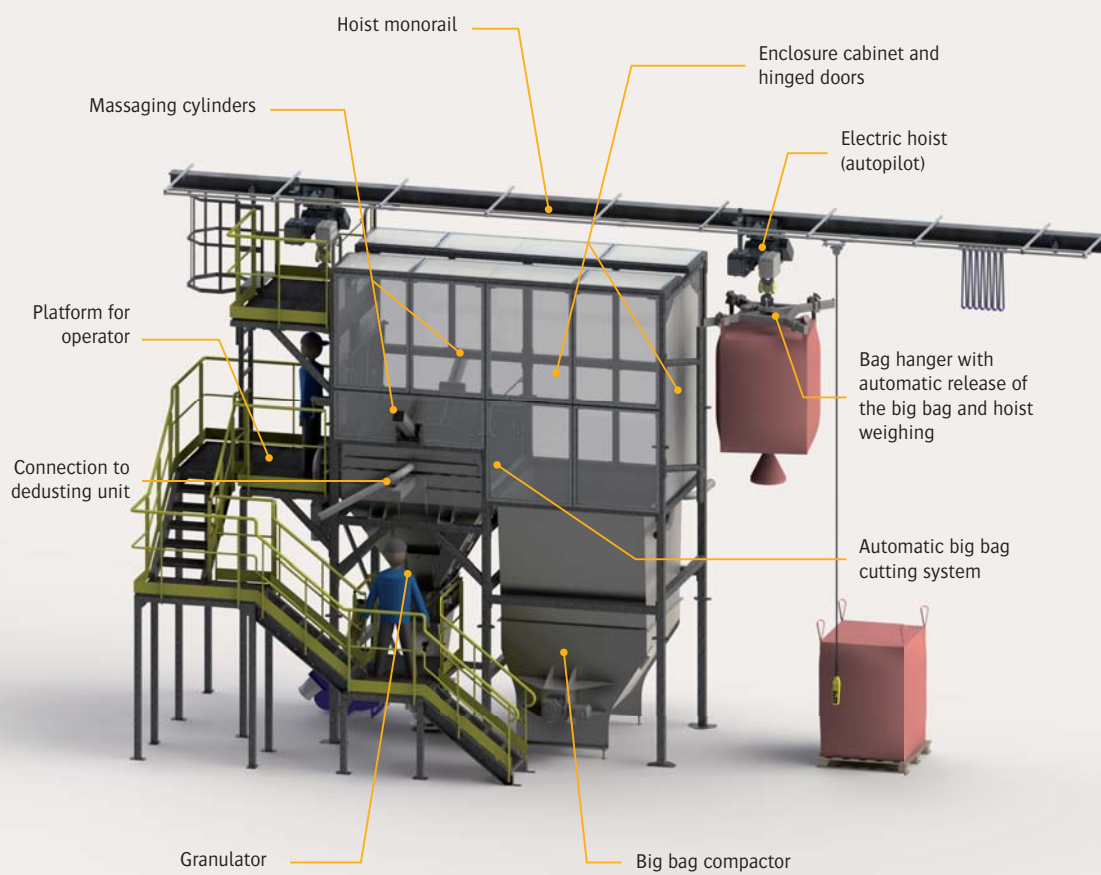
This FIBC discharger enables the automatic unloading of big bags without operator's intervention. The phases of cutting, handling and evacuating of the big bags are autonomous. The only task ensured by the operator is the fixation of big bag on the bag hanger.

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 m³/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



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

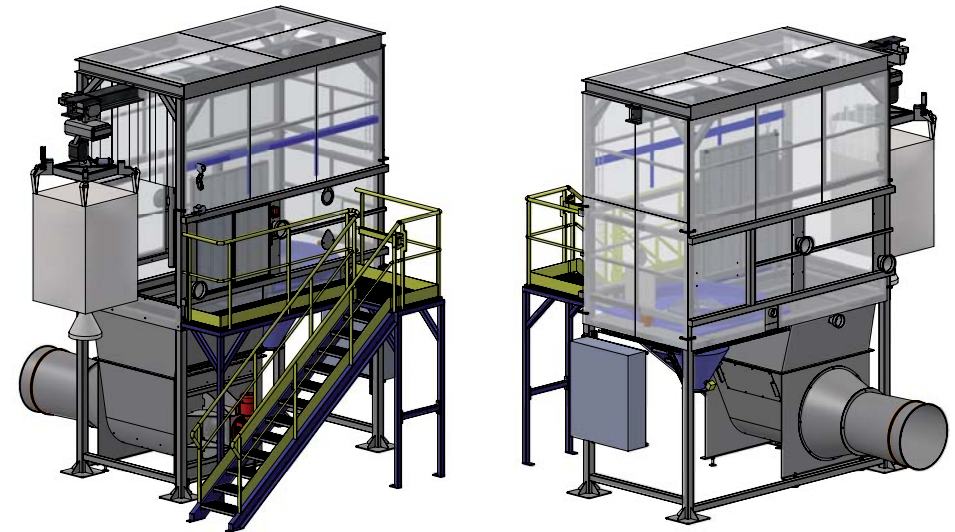
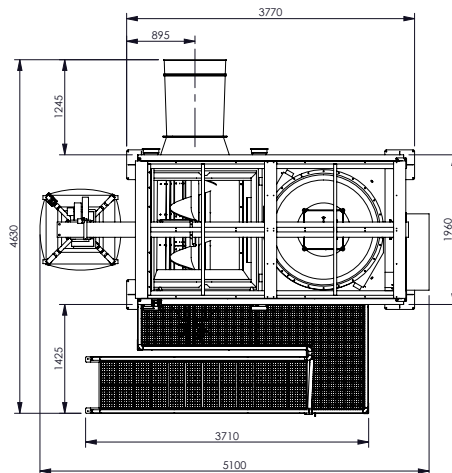
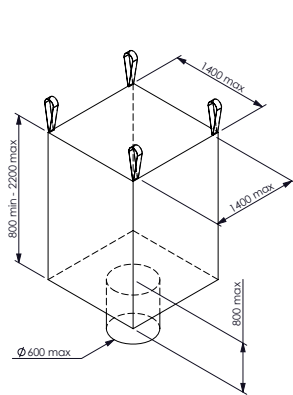
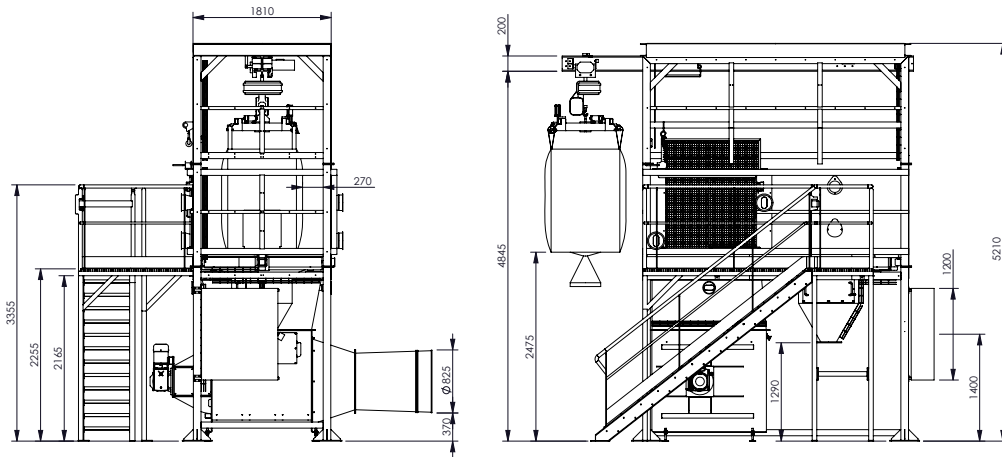
EasyFlow[®] High flow rate



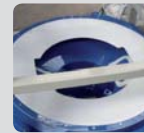
EasyFlow[®]
High flow rate

Dust control model

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



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 such as a cyclone. Suction flow required: 1.800 m³/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 are formed 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



EasyFlow®
Customized Model

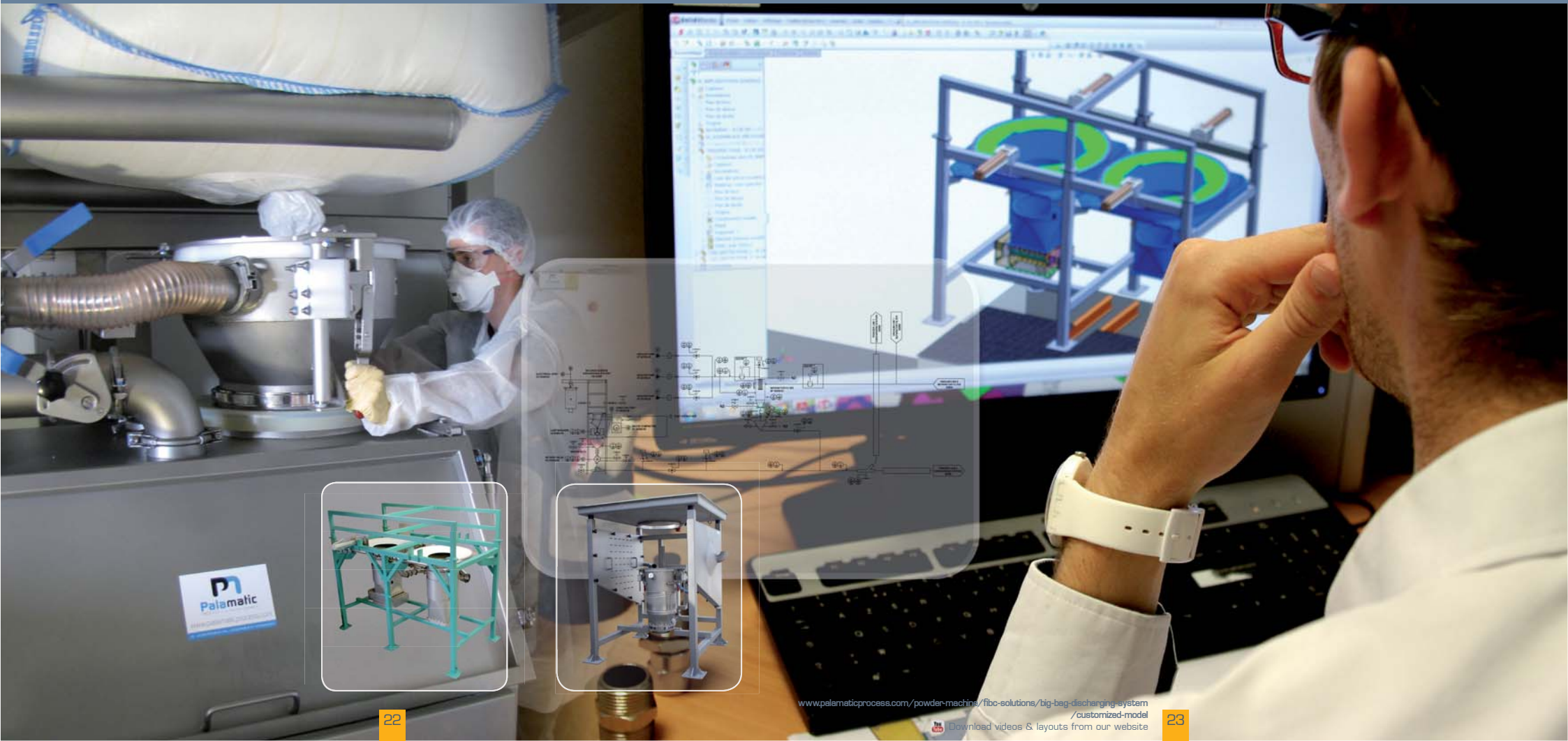
Mild steel, 304L stainless steel and
316L stainless steel structural framework manufacturing

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





▶ 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's 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 puts 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 case of very difficult materials, PALAMATIC PROCESS can also offer motorized rotating systems.



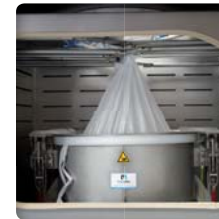
▶ «V» SHAPED SPIKE TO BURST THE BIG BAG

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 formed 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 material 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.

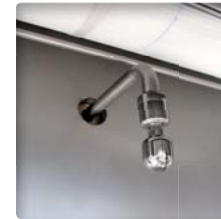
The glove box allows the user to manipulate the big bag without being in contact with different products that may be toxic. Indeed, the glove box will allow the user to undo the knot of the big bag to allow its discharge.



▶ 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 bar

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
Implantation: 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



▶ Oil preparation



▶ Discover our big bag discharge station on video on our YouTube channel:
www.youtube.com/user/Palamaticprocess

Big Bag Discharge Station

EasyFlow® Flex



Multi-products big bag vacuum discharge

PARTIAL EMPTYING, MULTI-PRODUCT AND INTEGRATED WEIGHING

The big bag discharge station EasyFlow® Flex was designed by PALAMATIC PROCESS for accurate emptying through a suction system a required amount of product (via a weighing device). The possibility to discharge a semi-started big bag is the main objective of this machine. With the EasyFlow® Flex system, a single station is sufficient to ensure a multi-products discharge. It is a combination of a VFlow® pneumatic vacuum system and a big bag discharge station. This station allows automatic emptying without operator's intervention. Big bags are positioned using a simple pallet truck or forklift.

Equipment
TEST CENTER
Available



See our range of vacuum conveying systems VFlow®



Tight connection of the big bag: no dust, no foreign bodies and limits the ATEX zoning



Fan for big bag shaping to help the suction of material at the bottom of the big bag



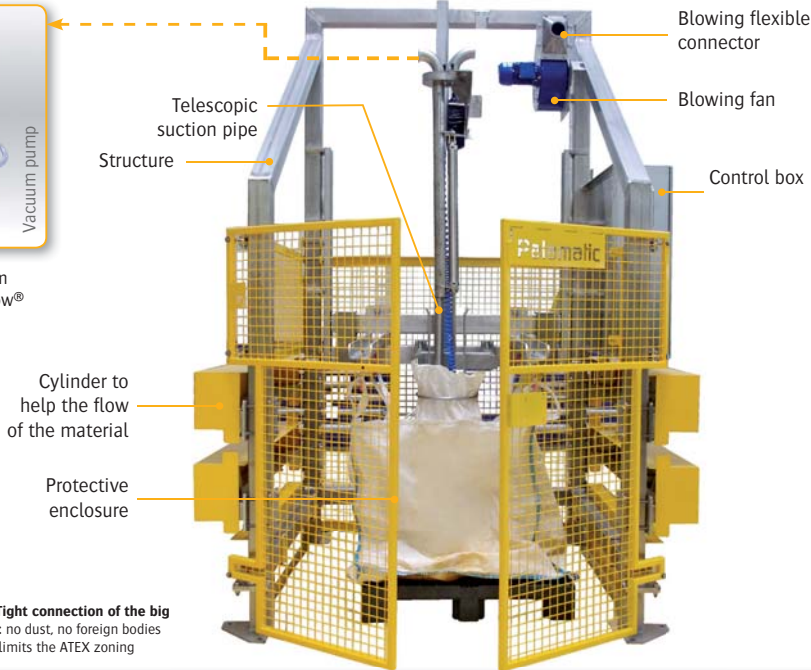
Weight cells for management of material vacuum



Adaptable to any big bag dimensions



Connection to the vacuum conveying system VFlow®, 50 kg to 2 t/h.



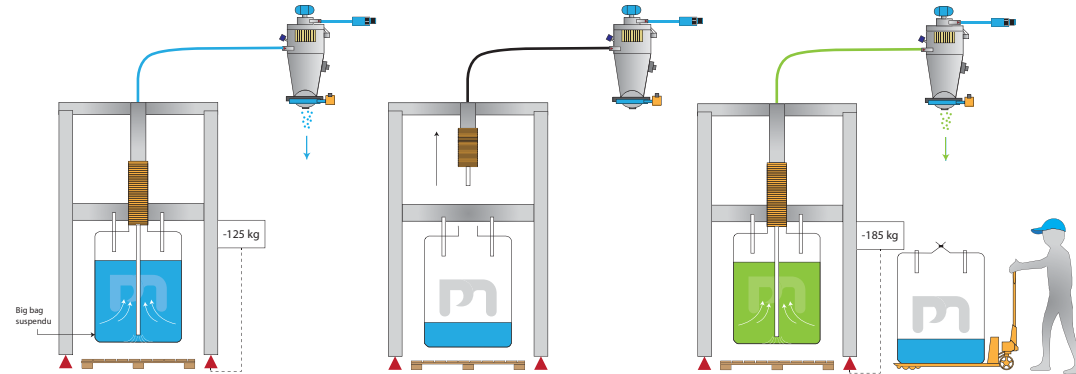
TECHNICAL SPECIFICATIONS

Capacity: 50 kg to 2 t/h.
Main structure manufacturing: mild steel, SS304L, SS316L
Manufacturing of parts in contact with the product: mild steel, SS304L, SS316L
Dosing accuracy: 500 grams*
* may vary according to the material treated

OPERATING MODE

1. The big bag is placed on the station with a truck. The operator connects the spout of the big bag
2. The telescopic suction pipe is connected to the vacuum conveyor and dips into the big bag
3. A big bag massaging device, connected to a ventilation system, allows the recentering of the material to ensure a complete emptying of the big bag
4. The big bag lifting device allows to achieve two objectives: 1) To ensure the weighing without interference ; 2) To optimize the product flow
5. Reclosing of the empty or semi-empty big bag

OPERATING MODE

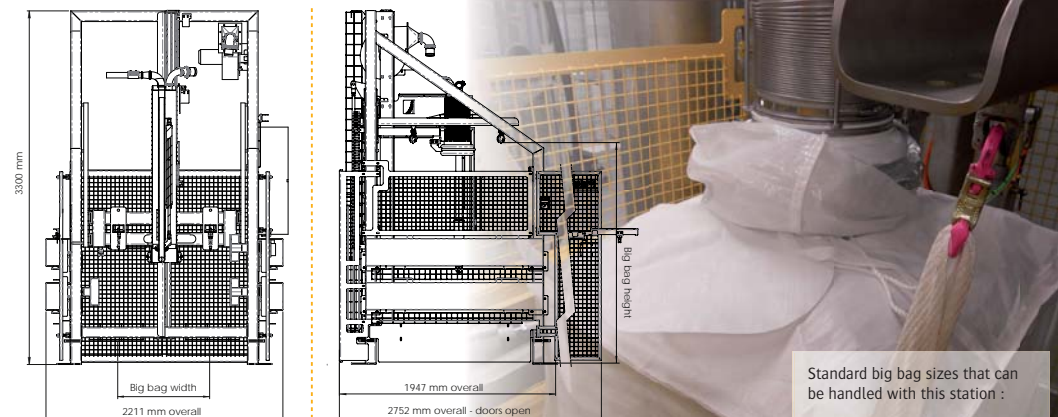


1. Placing of the big bag.
2. Aspiration of the amount needed for the recipe.

1. Stop of the vacuum.
2. Withdrawal of the suction pipe.

1. The started big bag is removed.
2. Change of product.

SKETCH



Standard big bag sizes that can be handled with this station :

- Length: 1300 mm
- Height: 1800 mm

Advantages

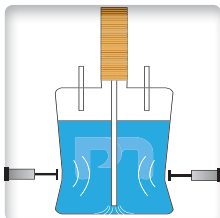




▶ SCREENED AREA

Operator protection zone

It does not permit the operator to access to the work area during a big bag emptying phase. The operator can make a request via the control unit and thus allow the opening of the door, preventing any movement of the big bag emptying station.



▶ BIG BAG MASSAGE SYSTEM

Helps the material to flow towards the center of the big bag

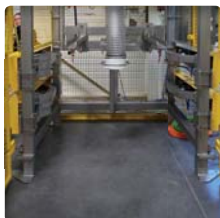
Pneumatic cylinders avoid caking of the powder.



▶ HYGIENIC SYSTEM

The guarantee of a «clean» product

To prevent cross contamination and allow discharge of multiple products on the same station, the suction pipe and the connection head are removable. Several sets are supplied.



▶ MOBILE STATION

Moving of the whole station



▶ MANAGEMENT OF THE HEIGHT OF THE BIG BAG

Motorized support system

The big bag is tightened progressively during the draining to recenter the material towards the middle of the big bag, thus limiting material residue inside the big bag.

▶ DOSING MATERIALS FOR EXTRUSION FEEDING

Customer: Manufacturing company of electric high-tech batteries

Product: Powders and granules (polymers)

Installation details:

The pneumatic conveying system sucks up the powder from a 200 l. drum or a big bag through an automated suction pipe. The maximum throughput of the installation is 100 kg/h.

The station consists of a supporting system adjustable in width to facilitate the setting up of the big bag. The big bag is supported on the station by means of quick hooks. The big bag filling spout is connected to an inflatable seal to ensure tightness of the assembly. A flexible cuff allows a tight compensation of the ascent/descent of the pipe. The cuff is fixed by clamp, easily removable for cleaning. The fork support system is motorized, allowing the constant tension of the big bag throughout its drain.

The aim is to bring the powder towards the center of the big bag, where the suction pipe plunges. The big bag never rests on the ground during the discharge phase. The suction pipe is also mounted on a motorized translation post. The descent of the pipe can be driven continuously (single application) or controlled by the level sensor fixed at the end of the pipe for detecting the «lack of product.»

The adjustment of the conveying by means of the suction pipe is provided by the air intake valve and by the addition of compressed air directly into the tube. The adjustment of the dilution is an essential parameter for the efficiency of the conveying process.

The big bag inflating fan ensures a constant shaping of the big bag to facilitate its complete draining (no creases). The fan system is preferred to air by inflation because of its speed and a much lower energy balance.

Massage cylinders complete the installation to ensure a constant supply of the suction pipe. The product is regularly brought towards the center of the big bag under the action of massage plates.

The entire big bag emptying station EasyFlow® Flex is equipped with a screened enclosure securing the installation and preventing access (guard locking) to the station during operation.



Duopal®: Big Bag & Sack Discharge Station



Duopal®

UNLOADING OF SACKS AND BIG BAGS ON THE SAME DISCHARGING POINT

PALAMATIC PROCESS designed 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 the ergonomical deconditioning big bags and sacks using an electric hoist, a forklift or a bridge crane and is available in «low structure» version.

EQUIPMENT EMBEDDED IN 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

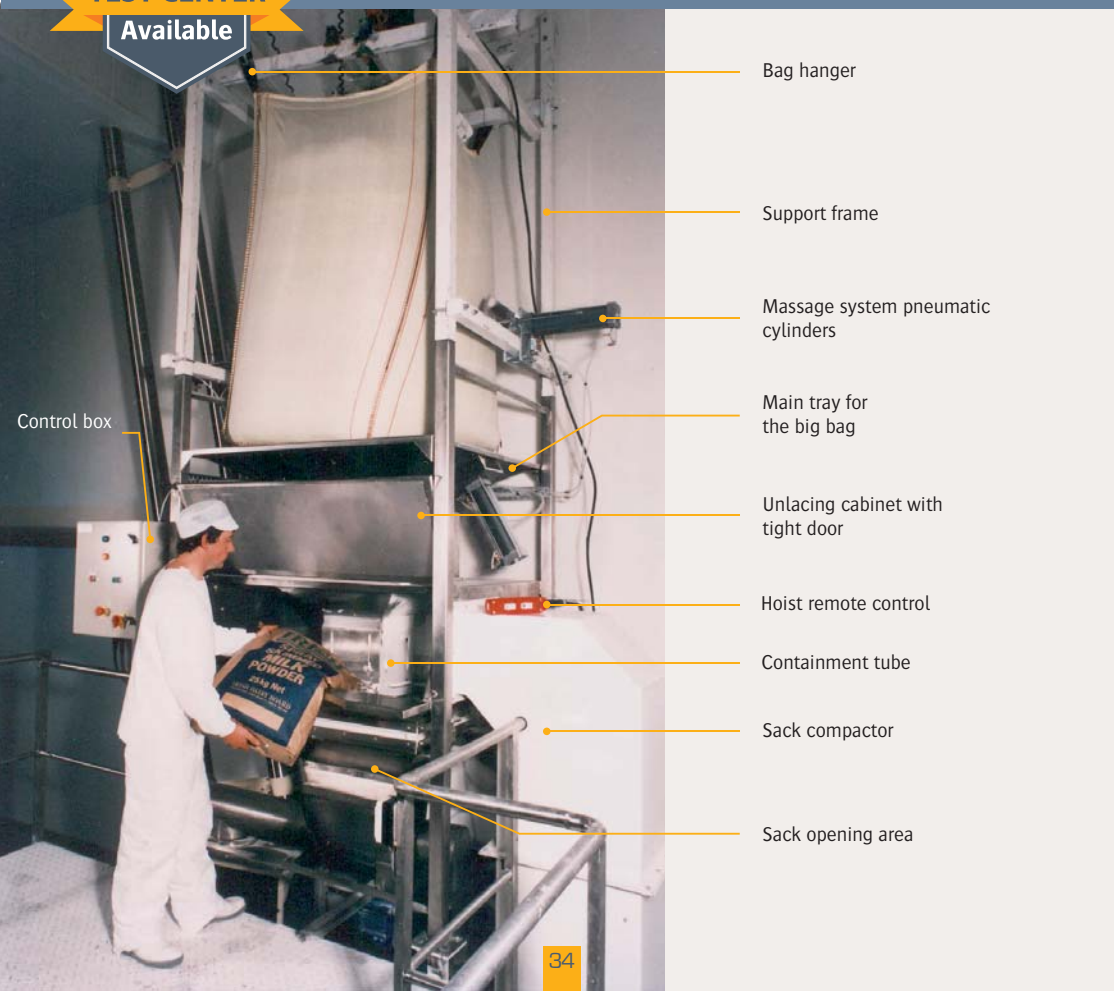
Rubber seal: to optimize containment by capping the bottom of the big bag

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 facilitate the handling for the operator

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



- 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



Possible ways of loading:



Electric hoist

Forklift

Low structure



Commercial weighing and dosing

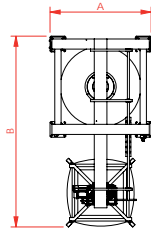
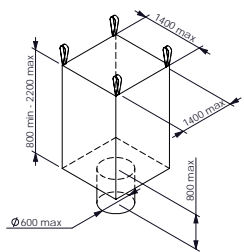
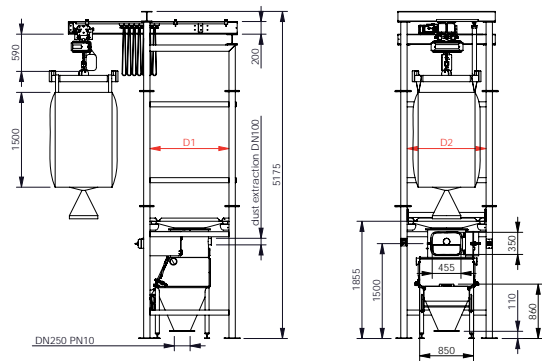


Grate

See all our options on pages 24-28

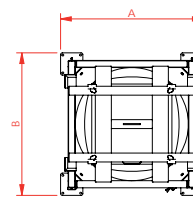
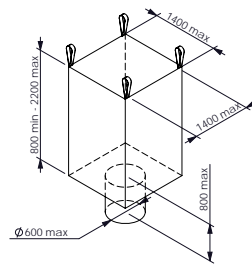
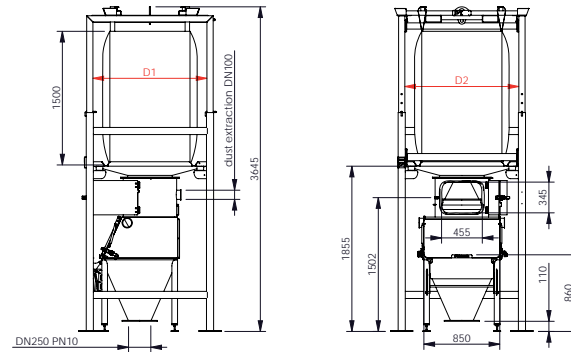
Duopal®: Big Bag & Sack Discharge Station

Electric Hoist Loading



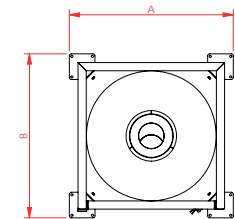
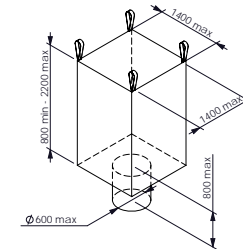
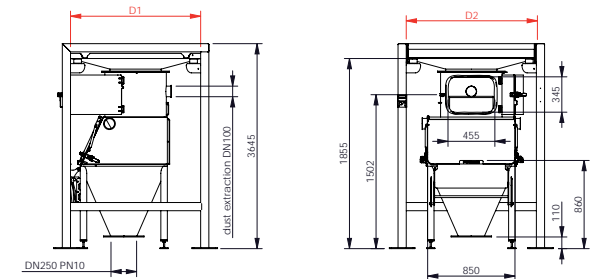
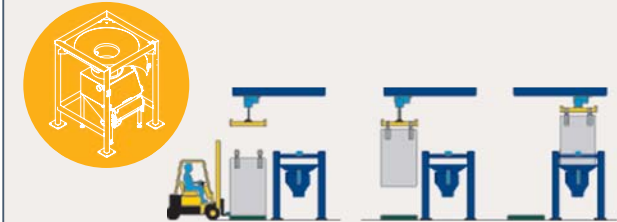
Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
DP125P	2,200	1,150	1,250	1,250	1,600	3,100	1,350
DP150P	2,200	1,400	1,500	1,500	1,890	3,350	1,890

Forklift Loading



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
DP125C	2,200	1,150	1,280	1,280	1,600	1,600	790
DP150C	2,200	1,400	1,500	1,500	1,850	1,850	1,110

Low Structure



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	B	Weight in kg
DP125B	2,200	1,150	1,280	1,280	1,600	1,600	670
DP150B	2,200	1,400	1,500	1,500	1,850	1,850	930

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 bar

Required dust collecting flow rate: 300 m³/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 Unloader



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)

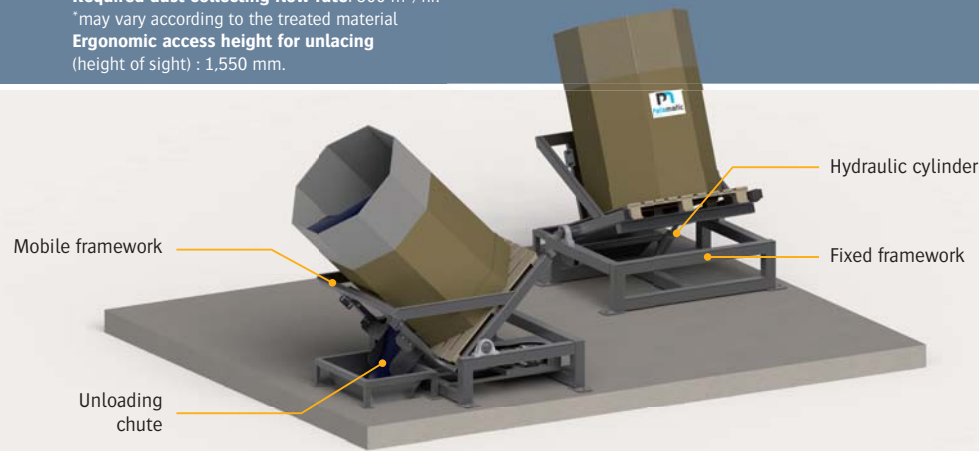
Operation pressure: 6 bar

Required dust collecting flow rate: 300 m³/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

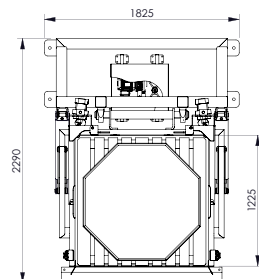
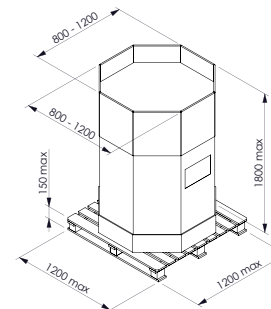
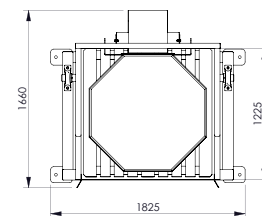
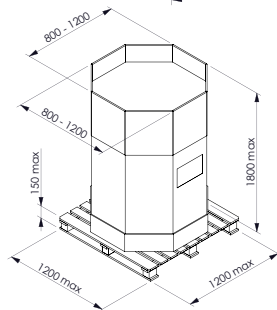
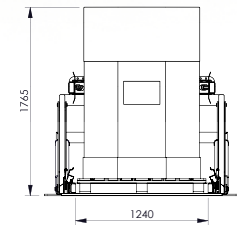
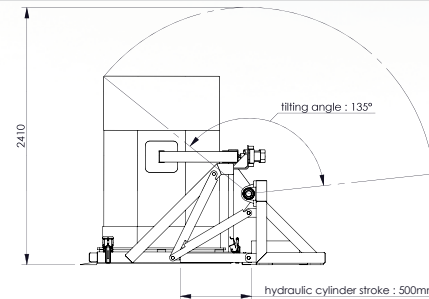
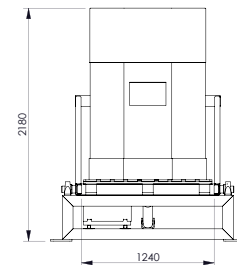
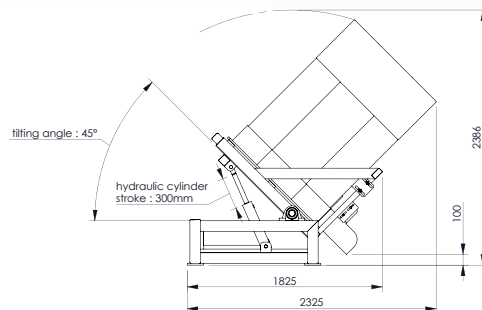
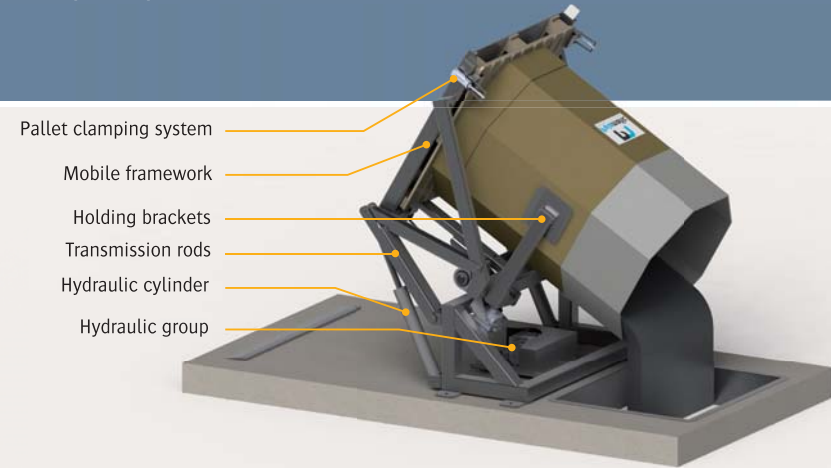
Flow rate: 30 to 50 octabins/hr.

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

Finishes: RAL 9006, microblasted, electropolishing

Installed power: 1.5 kW

Operation pressure: 6 bar



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 permit to invert octabins safely.

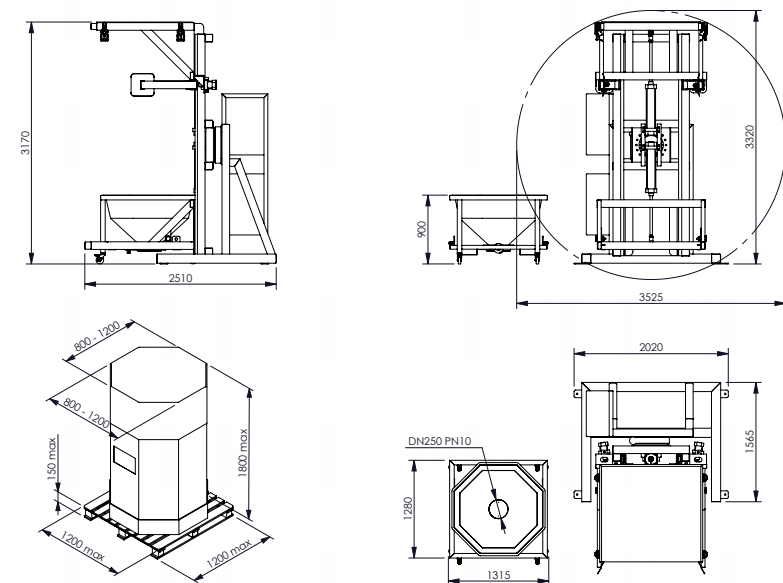
TECHNICAL SPECIFICATIONS

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 Nm³/hr.
Operation pressure: 6 bar
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 TIME 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 of the empty pallet, then positioning of a new octabin



EXAMPLES OF INSTALLATIONS

Material containment



Chemicals - Resins



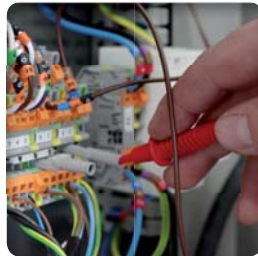
Food - Sugar



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

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 for us as the result. This is why our automation 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

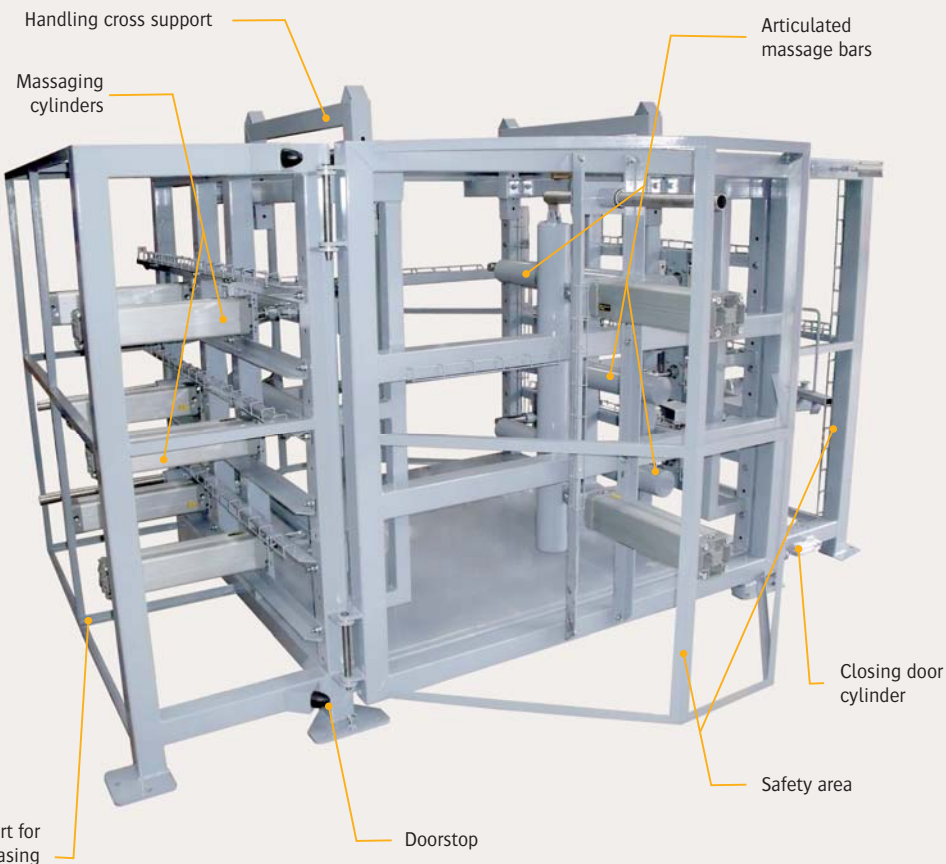
The massage system prepares the big bag before the discharge process. Once the big bag is inside the cage, it is massaged by several pairs of cylinders (until 8 pairs/16 cylinders depending on options). Pneumatic or hydraulic cylinders help to break the agglomerated material into the big bag and facilitate 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 Nm³/hr.
- Service pressure:** 6 bar
- 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 OF 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



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



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

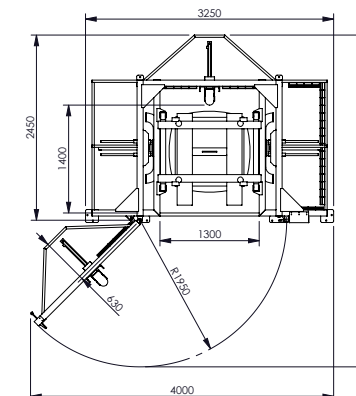
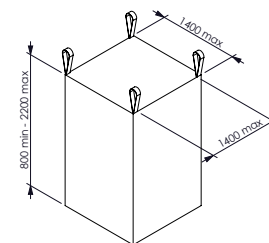
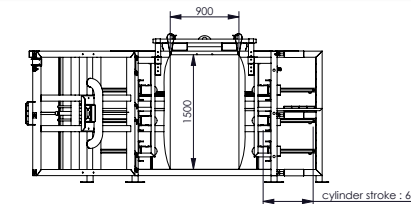
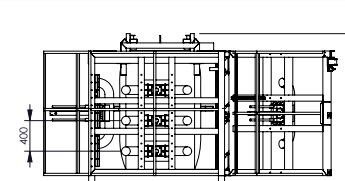


▶ **Adjustable height by rod**



▶ **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

Compression rate: 4 to 10 big bags/m.*
*Depending on the type of big bags

SIMPLE AND EASY SOLUTION TO REDUCE WASTE VOLUME AND FOR 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 to recover 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.

TECHNICAL SPECIFICATIONS

The compacting screw "pushes" the empty bags inside the dust-proof sheath. With an efficient and compact design, the compactor is suitable for all types of bags (paper, polyethylene, plastic, woven plastic, hessian bags...)

Characteristics

- . Mild steel, 304L stainless steel, 316L stainless steel
- . Motor 2.2 kW (direct coupling)
- . Applied bearing

A polyethylene sheath positioned at the end of the compacting tube allows to collect the empty bags at the output of the compactor. The tensioning ring of the sheath permits a completely dust-proof compression of the bag fragments. A dedusting nozzle optimizes the cleanliness of the work station. The compaction takes place in a completely confined area.



▶ Compacting screw



▶ Suitable for all types of big bags

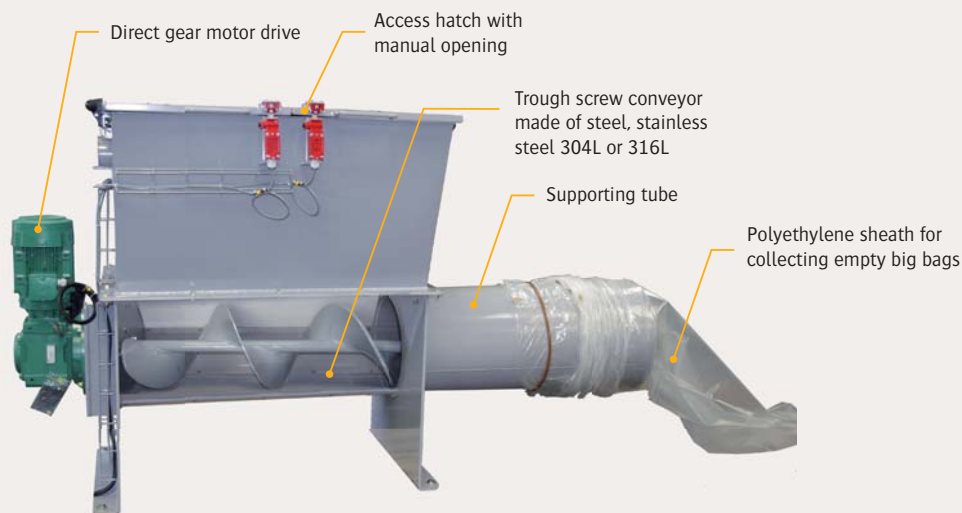


▶ 100% hermetic containment sheath, clean working environment and possibility to recover residual fines by specific tray



▶ Ergonomic access door for the operator

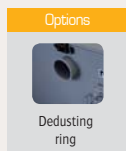
Advantages



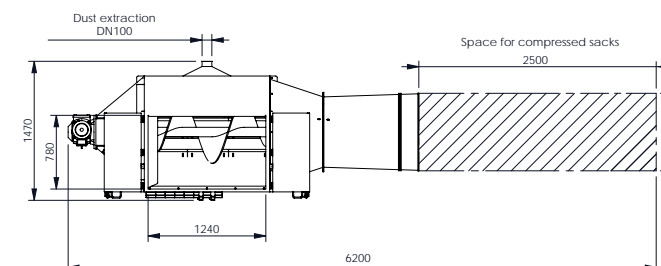
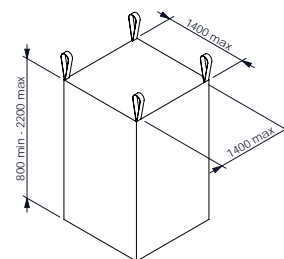
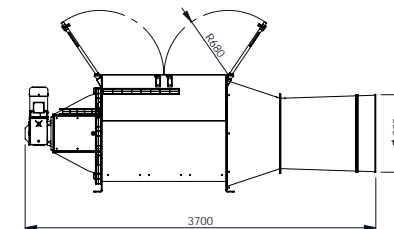
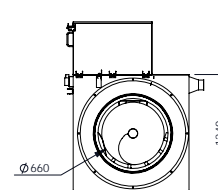
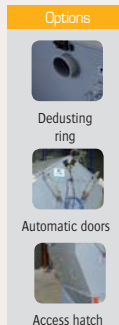
2 VERSIONS



INDEPENDANT COMPACTOR



INTEGRATED COMPACTOR



Our expertise:

FILLING SOLUTIONS FOR BIG BAG AND OCTABIN

To fill

EMPTYING SOLUTIONS FOR BIG BAG AND OCTABIN

To empty, compact and massage

SACK, DRUM AND CARDBOARD FILLING SOLUTIONS

To fill, package, handle

SACK AND DRUM EMPTYING SOLUTIONS

To empty, compact, handle, discharge

SOLUTIONS FOR PNEUMATIC CONVEYING

Vacuum, pressure

SOLUTIONS FOR MECHANICAL CONVEYING

To transfer with screw, belt conveyor, bucket elevator, aeromechanical or vibratory conveyor, truck loading spout

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



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