SOLUTIONS for Big Bag & Gaylord box

- UNLOADING - COMPACTING

CONDITIONING



Palamalic



Bulk material & powder handling solutions

CONTENT

Equipment EST CENTER Available

Means that the equipment is available for testing at PALAMATIC PROCESS

Means that the equipment can be



AVAILABLE CUSTOM MADE

Means that design and options can be customised

installed in ATEX zone

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







RANGE OF BULK BAG DISCHAR EASYFLOW®

STANDARD

- Hoist loading
- Forklift loading
- Low structure

DUST CONTROL

- Docking system
- Glove box

HIGH FLOW RATE

Customized Bulk Bag Discharge S

BULK BAG DISCHARGE STATIOI EASYFLOW[®] & DUOPAL[®]

BULK BAG DISCHARGE STATIO

🕑 BULK BAG & SACK DISCHARGI

RANGE OF OCTABIN UNLOADE

Discharge system by gravity Suction pipe Tilting system Tipping system Turning system

AUTOMATION & ELECTRICITY

BULK BAG CONDITIONER

- BULK BAG COMPACTOR



GE STATIONS

GE STATIONS		
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STATION DUOPAL®	34	
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Bulk Bag Discharge Stations

Range

▶ OBJECTIVES & ADVANTAGES OF PALAMATIC PROCESS RANGE

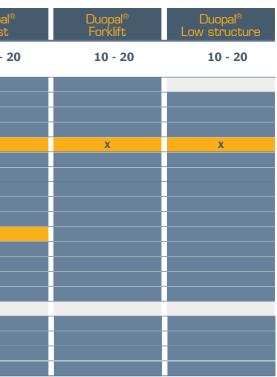
- Secured handling
- Suitable for all types of big bags
- **Reduction of dust emissions (possibility of total containment)**
- **Extraction of poor flowing products**
- **Discharging rate**
- Adaptability to different industrial sectors: petfood, food, chemicals, fine chemicals...



	Standard Hoist	Standard Forklift	Standard Low structure	Confined Telescopic tube	Confined Gloves box	High Rate	EasyFlow [®] Flex Suction pipe	Duopal [®] Hoist
Discharging rate (the highest rate may vary according to the volume of big bags and the available rate)	10 - 20	10 - 30	10 - 30	10 - 20	10 - 20	20 - 30	2	10 - 2
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	Х
Pneumatic massage system						X		
Control valve								
Commercial dosing and weighing								
Lump breaker								
Big bags compactor						Х		
Electric / pneumatic / manual hoist	х					X		х
Rubber seal						Х		
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 Hoist Loading EF01

IBC standard model loading by hoist arrow width of big bag;

Rate: 10 to 20 big bags/hr. Weight capacity: 2 tons/big bag **Objectives**: flexibility for big bags handling and

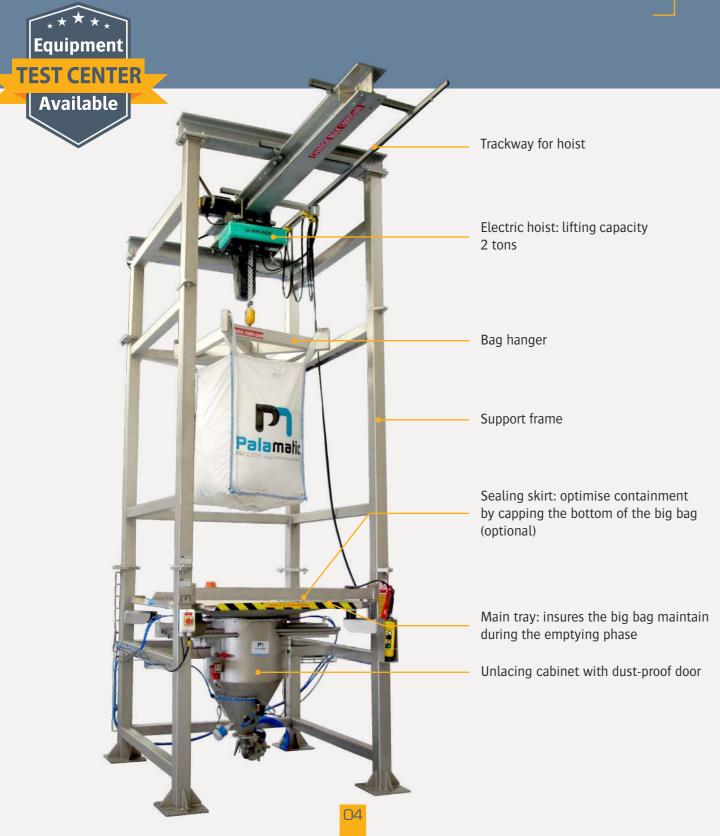
This station allows an ergonomical big bag discharging using an electric hoist. This enables a self-loading of big bags of different sizes on the station.

EasyFlow[®]Standard

TECHNICAL SPECIFICATIONS

Flow rate: 10 to 20 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





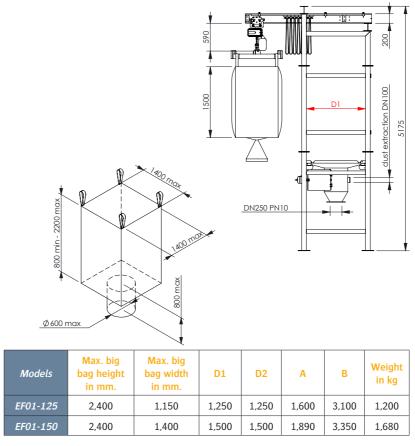
Hopper bulk bag discharger: Since the entire weight of the bulk bag is safely supported by the hopper and the discharger is designed so that the operator interfaces with its access door at shoulder height, operators never work under a suspended load and the reach into the hopper to unite the outer flop 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

requires further inducement to achieve a steady flood feed state inducement

75



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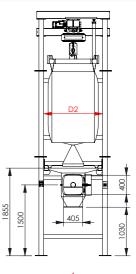
Pulsed vibration: if the material at its outlet, an electromechanical (or pneumatic) vibrator mounted to the hopper provides additional flow

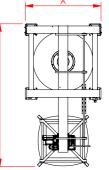


Bag strap holder allows fast, easy and secure insertion and remo val of bag straps

Advantages







Options



Massage paddles: disposal aid



Big Bag Discharge Station Forklift Loading EFO2

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 ducts and rods to fit different sizes of big bags.

EasyFlow[®]Standard

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





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)

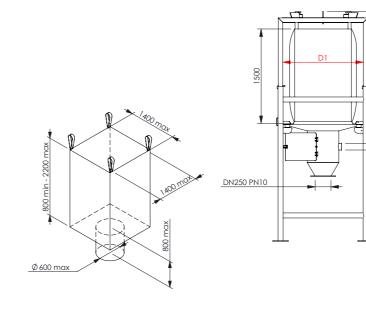
Control panel



> 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

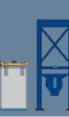
admissible on the station



Models	Max. big bag height in mm.	Max. big bag width in mm.	D1	D2	A	В
EF02-125	2,400	1,150	1,280	1,280	1,600	1,600
EF02-150	2,400	1,400	1,500	1,500	1,850	1,850



EasyFlow Standard Mode



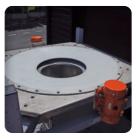








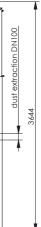
Frame adjustment of the station: height adjustment by a manual system of rods. Thus, big bags with any dimensions are

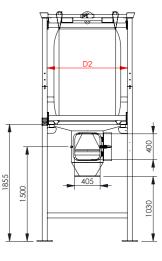


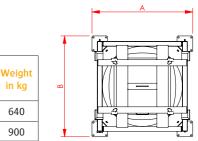
Rubber seal: to optimize the containment during the emptying phase (optional)

Advantages









Options



Control valv



Dedustina rin

Big Bag Discharge Station Low Structure EF03

Rate: 10 to 30 big bags/hr. Weight capacity: 2 tons/big bag **Objectives:** ergonomics & saving

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.

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 securises 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)

EasyFlow[®]Standard

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



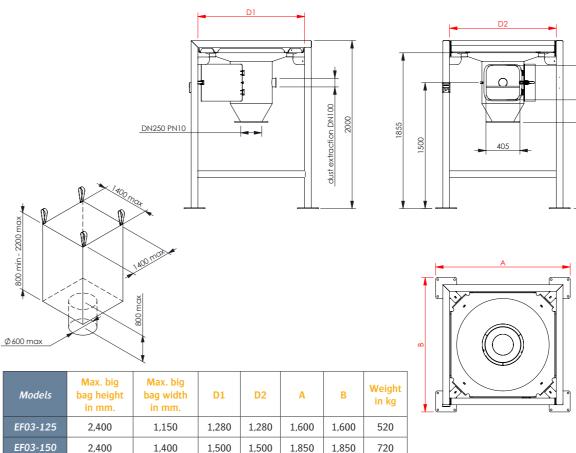
Control valve: this flow regulation system works through two pneumatic cylinders. The operator can stop or regulate the flow of the powder



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





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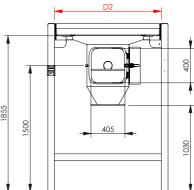


The vibrating plate facilitates product extraction with the poor flowing characteristics



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





Options





Massage paddles to aid flow

Big Bag Discharge Station Docking System EF11-EF12-EF13

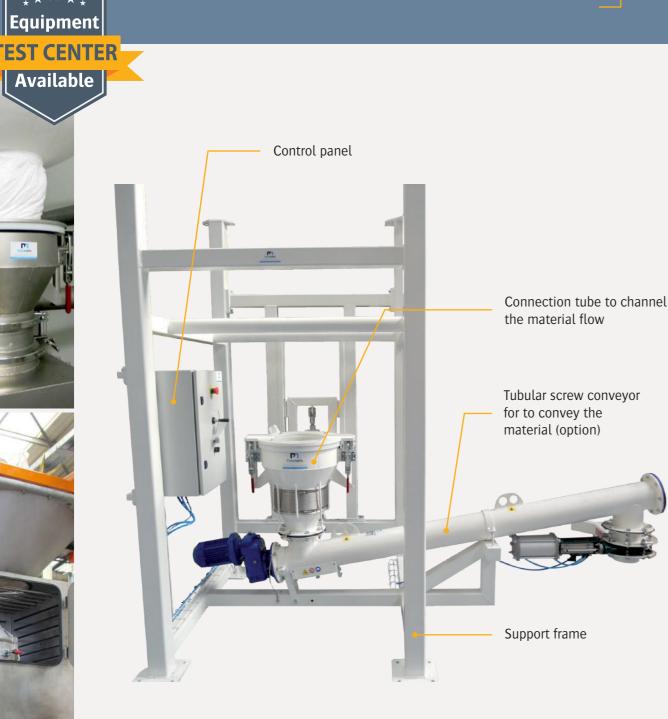
Rate: 10 to 30 big bags/hr. Weight capacity: 2 tons/big bag **Objectives:** total dust control & flexibility of handling big bags

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: eletric hoist, forklift loading or low

EasyFlow Dust Control

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 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



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 contaminates 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

spout: reorientation ring ders

Possible loading methods:





Forklift

OPERATING SEQUENCE

- **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



2 possible configurations for connecting the big bag

- 1. The inflatable seal is fitted on the double envelope tube with a
- 2. The "pinch" ring is activated manually or by penumatic cylin-



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









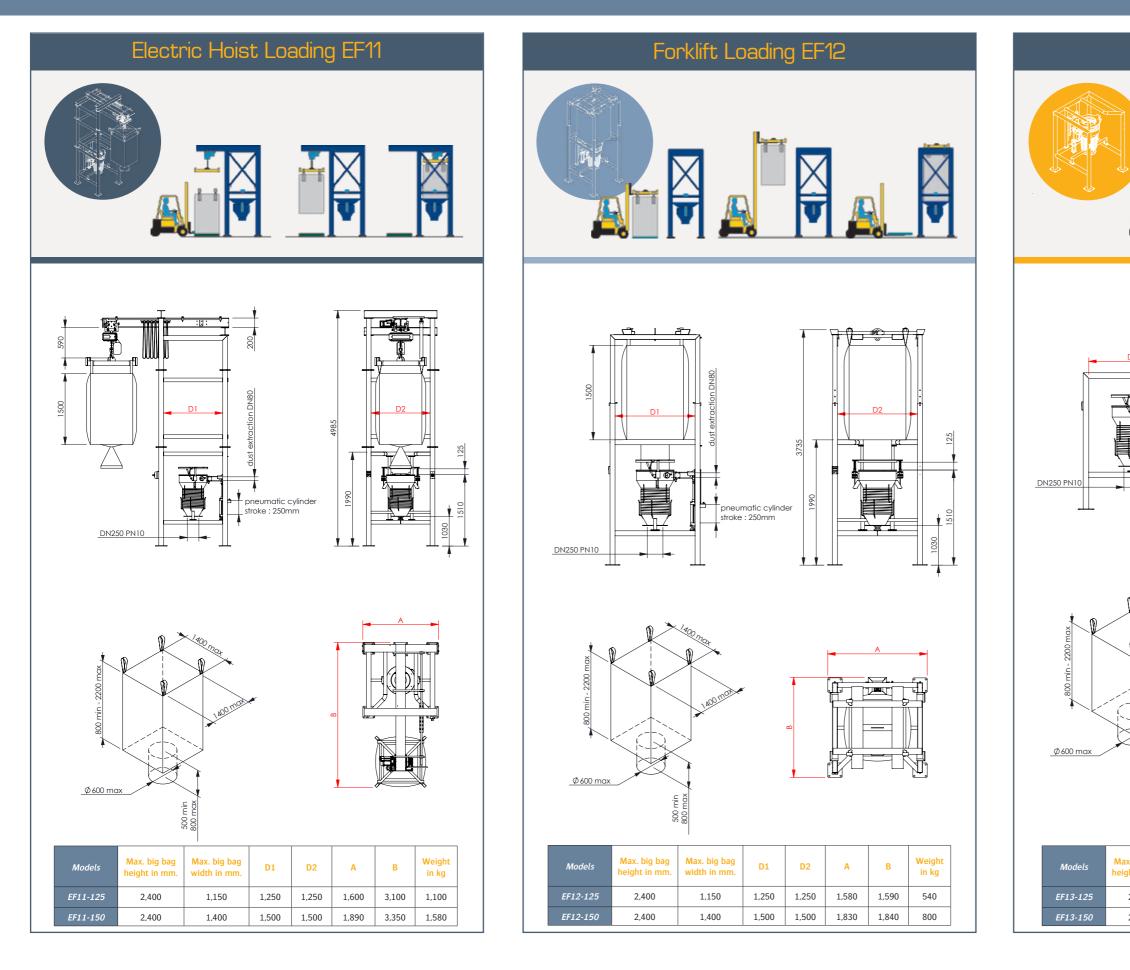
Extractor fai



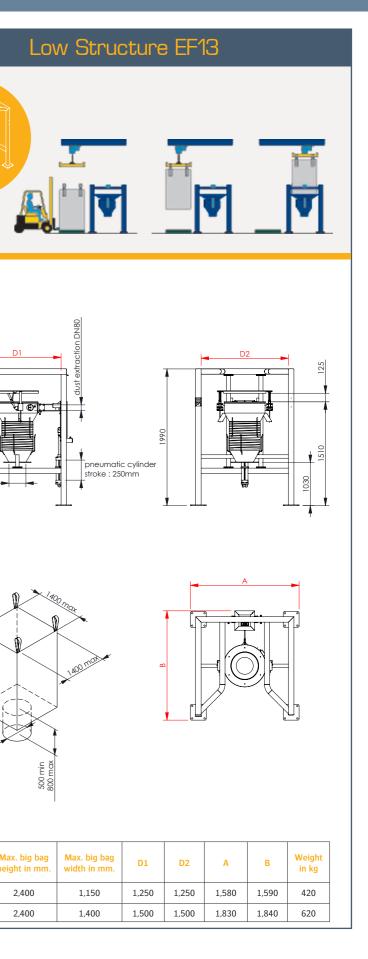
Control valve

Big Bag Discharge Station_____

Dust Control Docking System







13

Big Bag Discharge Station Glove Box EF21-EF22-EF23

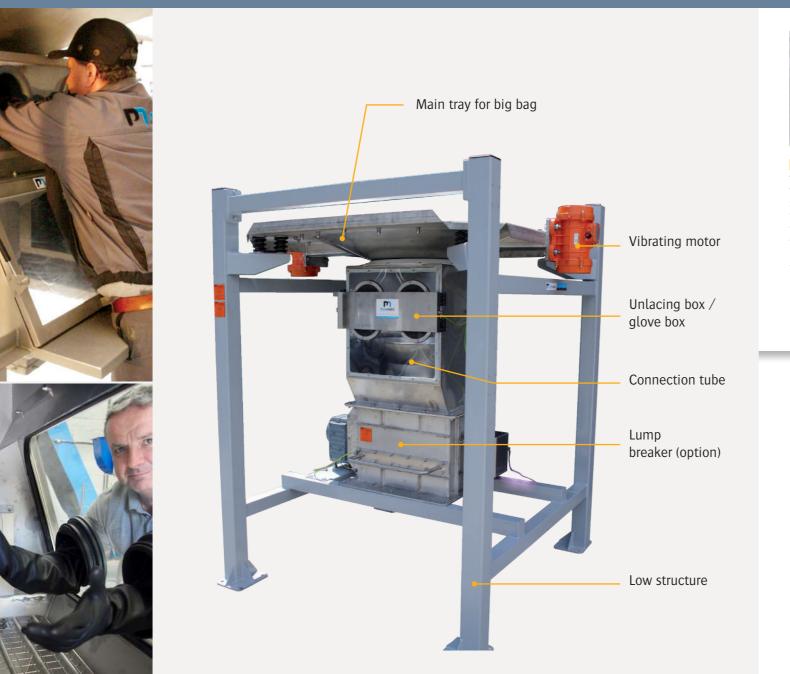
Rate: 10 to 20 big bags/hr. Weight capacity: 2 tons/big bag **Objectives:** total containment & safety for operators

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: eletric hoist, forklift loading or low structure.

EasyFlow Dust Control

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





Containment and operator'sprotection: 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

Main Improvement of bulk

Possible loading methods:







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





Options



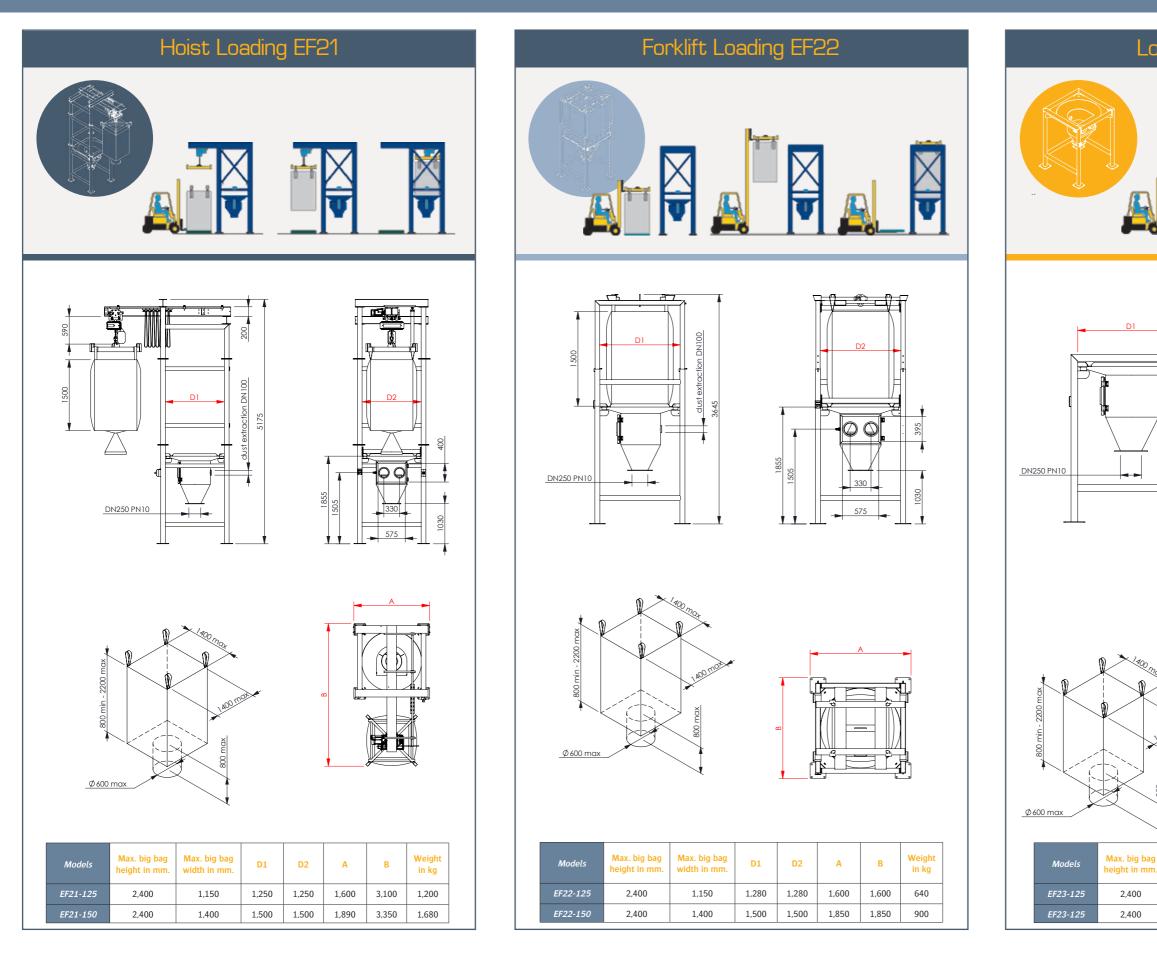
Big bag compacto



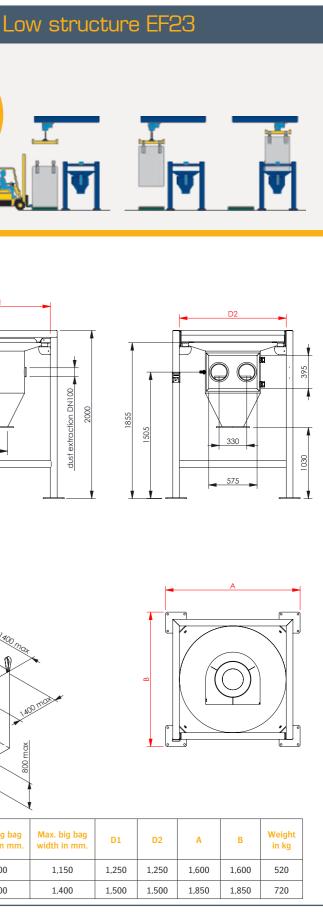
Lump breake

Big Bag Discharge Station

Dust Control_Glove Box_







_Bulk Bag Discharge Station Automatic unloading

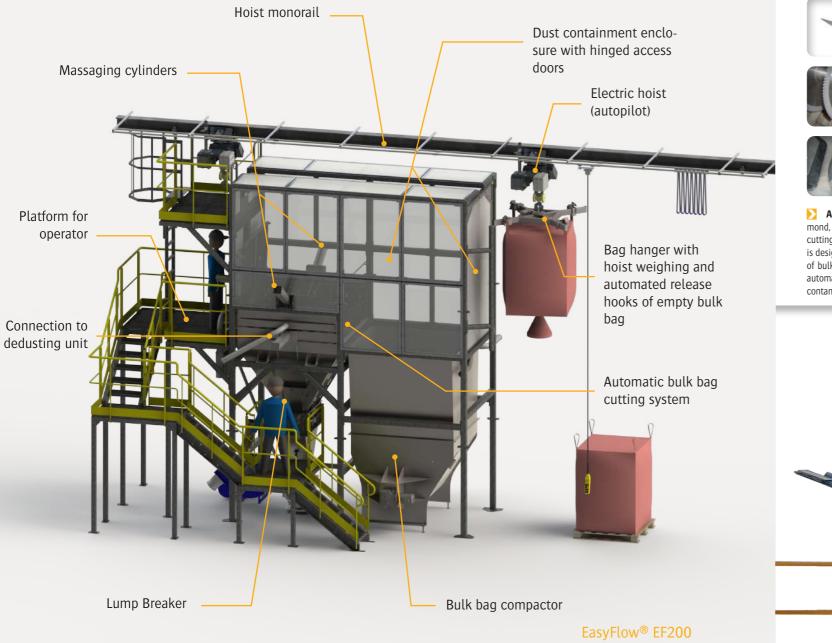
2 models :

EasyFlow[®] EF100 double electric hoist loading EasyFlow[®] EF200 contained with compactor

Flow rates: **EF100:** up to 30 bulk bags/hr. **EF200:** up to 20 bulkbags/hr.

Weight capacity: 2 tons/bulk bag **Objectives:** automatic cutting, containment and

This FIBC unloading system enables the automatic emptying of bulk bags without operator intervention. The operations involving handling, cutting and evacuation of the bulk bags are autonomous. The only task required by the operator is the attachment of the bulk bag handles to the bag handling hanger.



EasyFlow[®]High Flow Rate

TECHNICAL SPECIFICATIONS

Rate: 20 to 30 bulk 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**: 1,766 CFM *may vary according to the threated material Maximum big bag dimensions **Length x Width x Height**: 47.25" x 47.25" x 94.5" Custom made models are also available

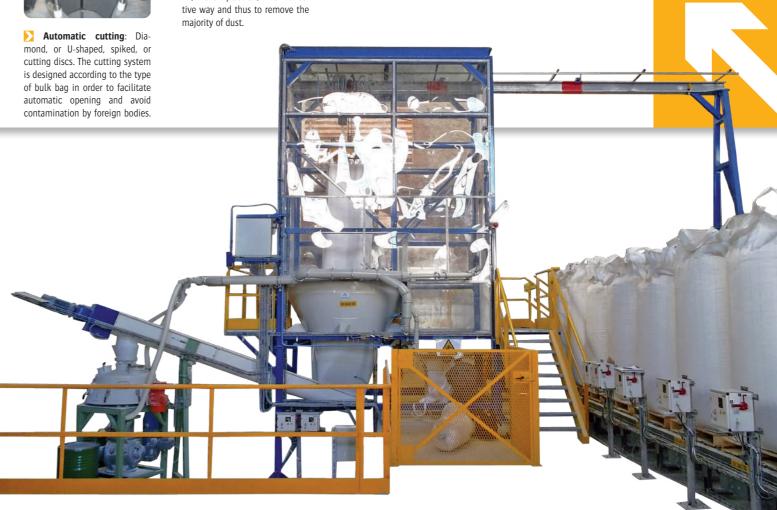






Integrated bulk bag compactor: it permits to collect and compress all types of bags (paper, PE, woven plastic...) in an effecmajority of dust.

the flow of difficult materials.





OPERATING SEQUENCE

1. Operator connects bulk bag to bag hanger **2**. Bulk bag is transferred to discharge station via autopiloted **3**. Automatic cutting and emptying of the bulk bag **4**. FIBC massage paddles assist in material flow (depending on options selected) 5. Bulk bag is transferred to waste bin and released (via automated hooks) 6. Empty bulk bag is compacted **7**. Automatic control of the next bulk bag to be emptied via roller conveyor

8. Empty pallet is stored in pallet stacker (stacked pallets to be removed by forklift)

Massage paddle: piloted pneumatic cylinders to promote



Automatic loading: steering of the hoist is controlled by the PLC and automatic weigh hooks.



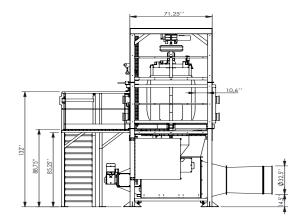
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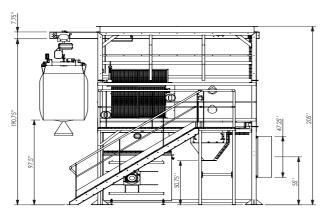
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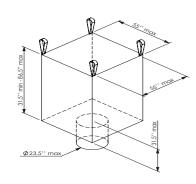
Bulk Bag Discharge Station Automatic unloading

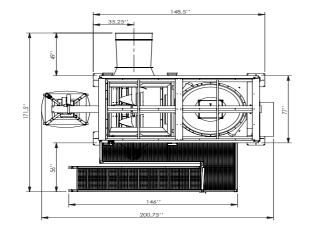
Rate: 20 to 30 bulk bags/hr. Weight capacity: 2 tons/bulk bag **Objectives:** automatic cutting, containment and safety

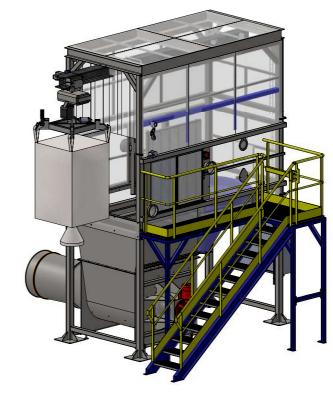














De-dusting ring: optimizes dust containment by creating a vacuum at the periphery of the bulk bag (pouyes ring). Positioned at the top and in the periphery of the bulk bag tray, the ring captures dust emissions during bulk bag unloading operations. This option is particularly suitable for volatile products (low density), or for installations where a high level of containment in needed. The recommend air flow is 1,060 CFM.



Granulator: the ideal solution for crushing materials that can form lumps. The granulator breaks up lumps of friable materials that form during the production process, transportation or storage phases. We offer 3 standard models of granluators (GR35, GR50, GR70) and 3 standard models of lump breakers (EC35, EC50, EC70). We also design customized solutions to suit all of your process requirements.



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EasyFlow[®]High Flow Rate





Options

Big Bag Discharge Station

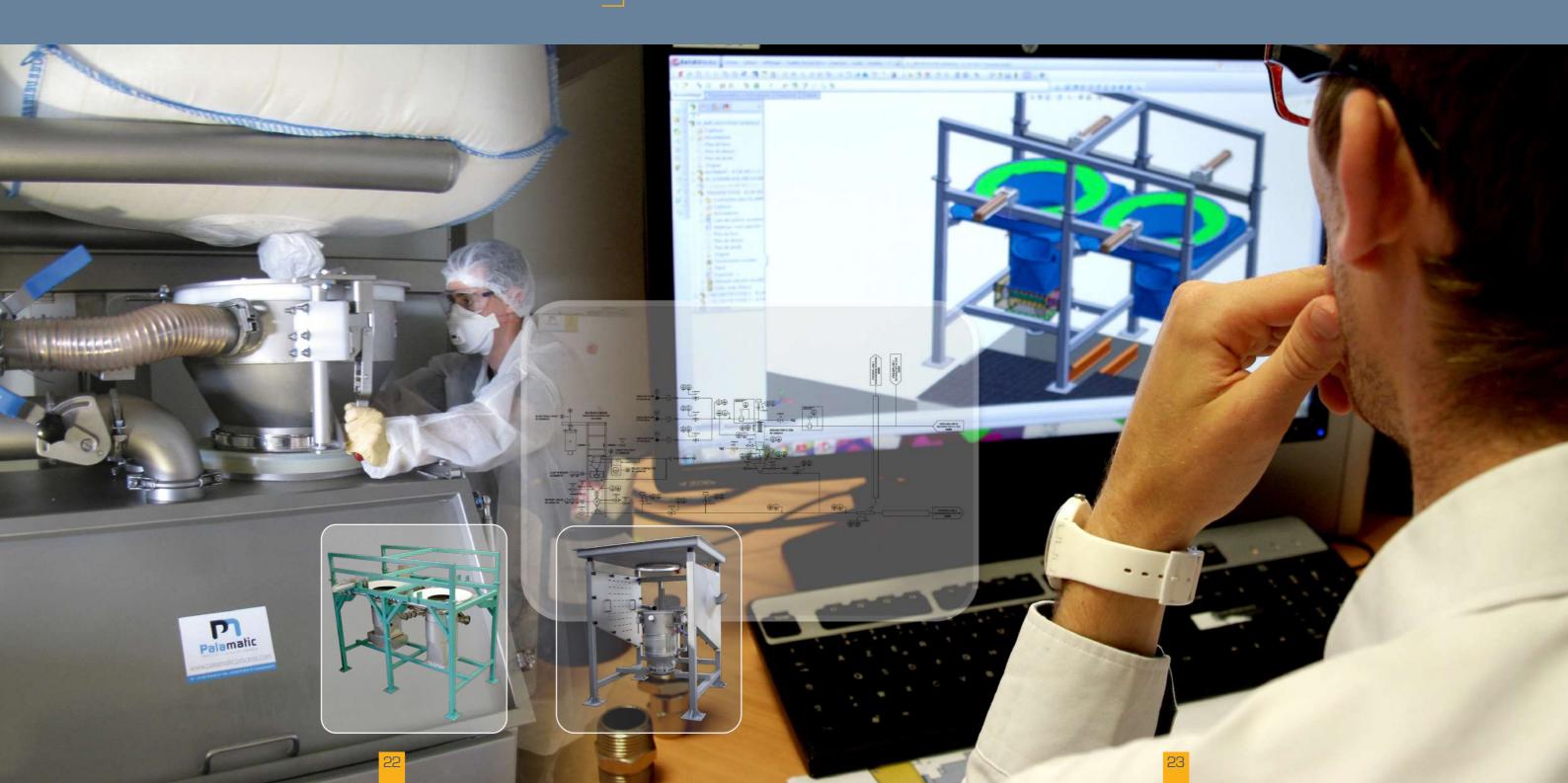
Mild steel, 304L stainless steel and **316L stainless steel structural framework manufacturing**

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

Customized Model

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_2) : discharging in a controlled atmosphere with continuous flow or by vacuum breaker







OPTIONS Big Bag Discharge Station EasyFlow® & Duopal®



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 (Pouvès 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).

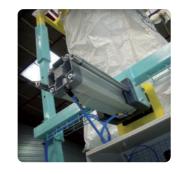
Once the big bag is placed on the unloading station, the operator takes the big bag down thanks to a hoist and puts it down on the main tray. The force applied by the weight of the material on the blades allows a direct cut of the bottom of the big bag

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

tors 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

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.





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 actua-

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

OPTIONS Big Bag Discharge Station EasyFlow® & Duopal®



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 encluse 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.



D 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

immobilization.



STATION CASING

setting global vacuum.

CAGE FOR BIG BAG PREPARATION

the big bag. The screened chamber allows safe operation of the system.

the big bag.

Unit loading capacity: 500 kg Service pressure: 6 bar Force developed : 50 daN





BAG HANGER FOR OVERHEAD CRANE

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

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

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

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

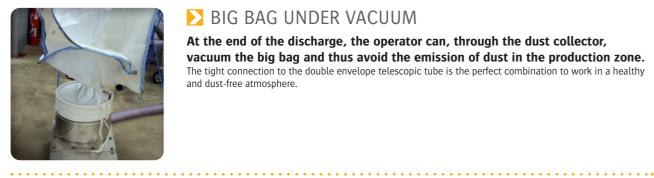
AUTOMATIC RELEASE OF THE BIG BAG

Automatic hooks with latch spring simplify the implementation of the handle of



OPTIONS Big Bag Discharge Station EasyFlow® & Duopal®

LOUR LAST REALISATIONS Unpacked materials



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.





Glue preparation

Nutrition - Peanuts



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





Cosmetic products

Activated carbon







Oil preparation







Paints





Pharmaceutical materials





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

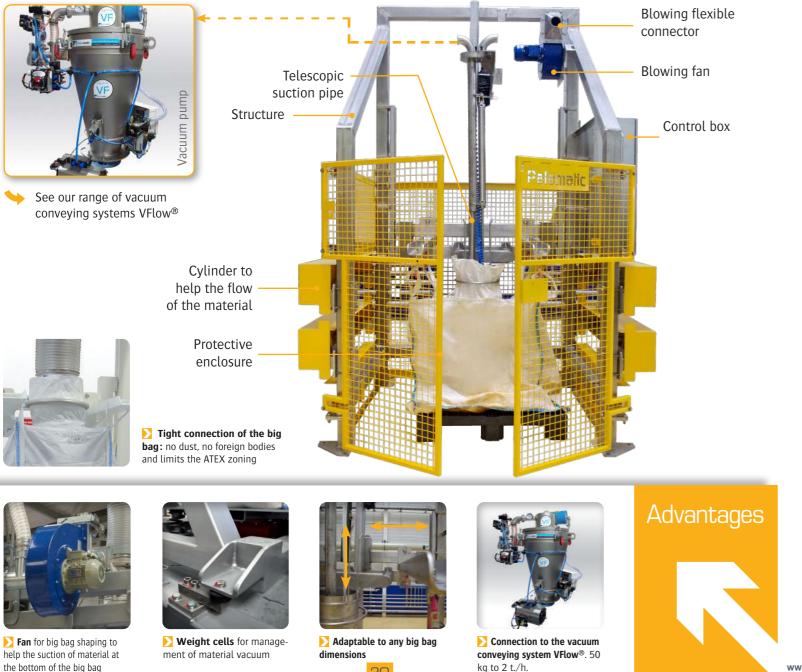
_Big Bag Discharge Station

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.



EasyFlow®Flex_

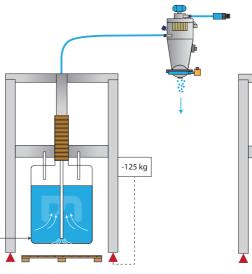
TECHNICAL SPECIFICATIONS

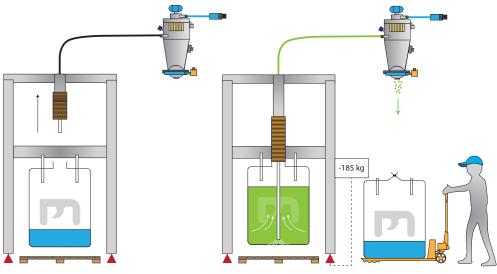
Capacity: 50 kg to 4 t./hr Main structure manufacturing: mild steel, SS304L, SS316L Manufacturing of parts in contact with the product: mild steel, SS304L, SS316L Dosing accuracy: 500 grams* * may vary according to the material treated

OPERATING MODE

The big bag is placed spout of the big bag
 The telescopic successful to the big bag
 A big bag massagi recentering of the mathematical sector of the big bag lifting weighing without int
 Reclosing of the end sector of the sector of

OPERATING MODE

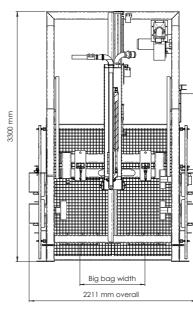


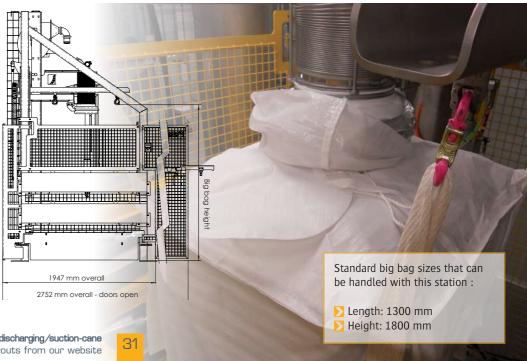


Placing of the big bag.
 Aspiration of the amount needed for the recipe.

Stop of the vacuum.
 Withdrawal of the suction pipe.

SKETCH





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 ${\bf 1}.$ 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

The started big bag is removed.
 Change of product.

Big Bag Discharge Station

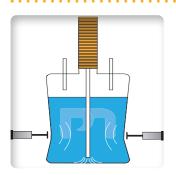
EasyFlow®Flex Case Study



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:

product.»

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 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 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 station consists of a supporting system adjustable in The station consists of a support system is motorized. The big bag inflating fan ensures a constant shaping of 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 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

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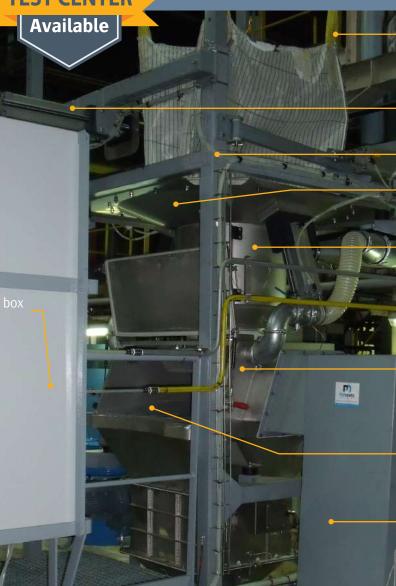






_Duopal[®]: Bulk Bag & Sack Discharge Station







PALAMATIC PROCESS designed standard unloading stations to accommodate the needs of various industries that require the emptying of bulk bags and sacks (50 / 100 lbs) on the same station.

This discharge station allows the ergonomic deconditioning of bulk bags and sacks using either an electric hoist, forklift or a bridge crane. The station can accommodate production lines with restrictive floor space and is available in a low structure design.



Massage system pneumatic cylinders

Support frame

Bulk bag main tray

Containment tube

Dust tight unlacing cabinet

Sack opening area

Sack compactor

STANDARD AND OPTIONAL FEATURES:

Self-supporting structure with adjustable height and centering device: allows the positioning of the bulk bag on the unloading station. The height of the station is adaptable to accommodate bulk bags of various heights and the centering device secures the loading process.

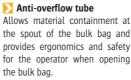
5 points handling cross: to help load and set the bulk bag by its handles Main tray: to secure the bulk bag and sacks while unloading and handling **Rubber seal:** optimizes dust containment by sealing the bottom of the bulk bag as it rests on the tray **Vibrating tray:** vibrating motor on the main tray facilitates flow of difficult powders Unlacing cabinet with dust proof door: provides a secure and ergonomic access to the bulk bag discharge

Anti-overflow tube: channels the flow of material and prevents material spillage within the unlacing cabinet Security screen: provides minimal protection against foreign bodies during material unloading (50x50 mm mesh size)



Telescopic 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.

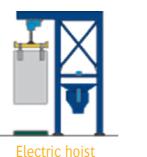




Pneumatic massage paddles system

rial bridges.

Loading methods:





Forklift

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Provides optimal material flow via the pneumatic actuation of lower and upper paddles that break up agglomerates and mate-



Integrated bag dump station

The bag dump station allows the deconditioning of various containers including sacks, boxes, buckets, etc. The sack tray provides ergonomics for the operator to rest the container on the station and dumping the material with minimal effort.



Options



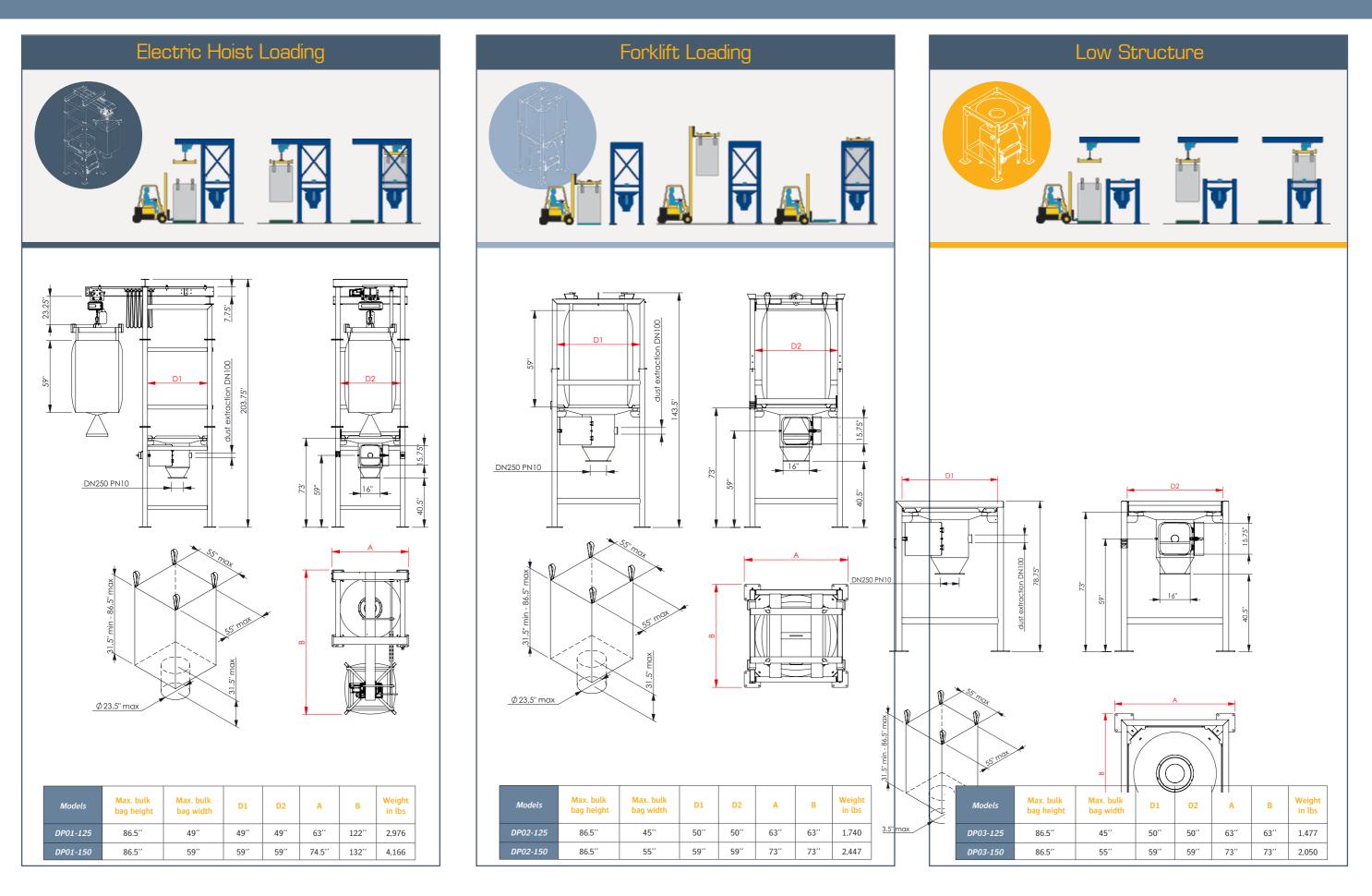
nercial weigh and dosing



Safety grid



LDuopal[®]: Bulk Bag & Sack Discharge Station





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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.

OctoFlow

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

OctoFlow[®] O1 - Tilting

For octabins with lateral emptying flap

TECHNICAL SPECIFICATIONS

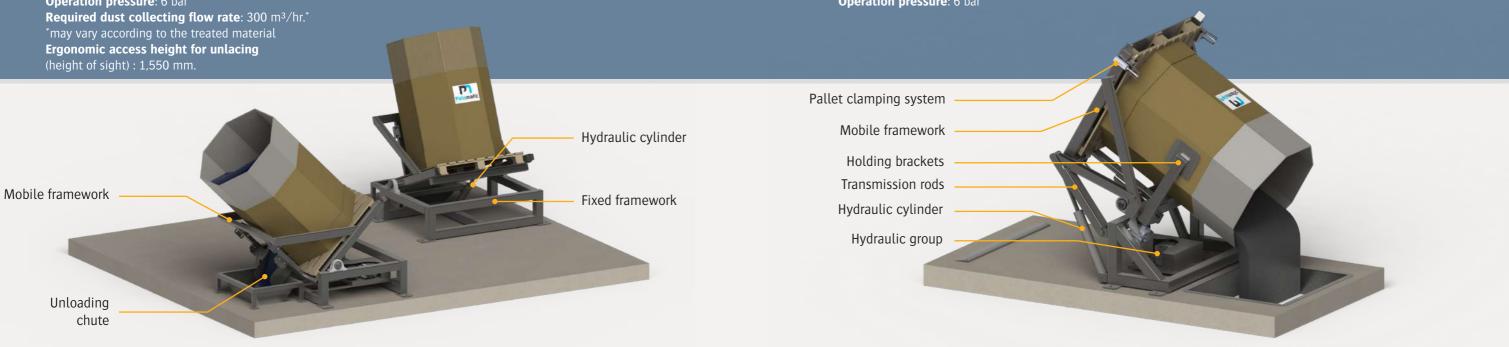
Flow rate: 10 to 20 octabins/hr. Manufacturing: mild steel, 304L stainless steel, 316L stainless steel Finishes: RAL 9006, microblasted, electropolishing **Installed power**: 1.5 kW (according to options) **Operation pressure**: 6 bar **Required dust collecting flow rate**: 300 m³/hr.* (height of sight) : 1,550 mm.

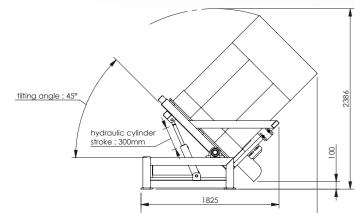
OctoFlow[®]

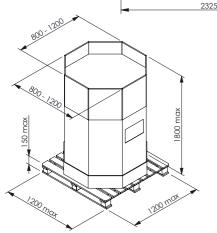
OctoFlow® 02 - Dumping For all types of octabins

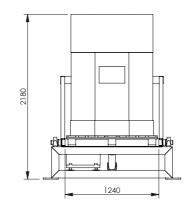
TECHNICAL SPECIFICATIONS

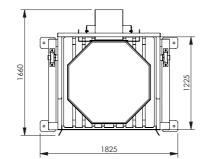
Flow rate: 30 to 50 octabins/hr. Manufacturing: mild steel, 304L stainless steel, 316L stainless steel Finishes: RAL 9006, microblasted, electropolishing **Installed power**: 2.5 kW **Operation pressure**: 6 bar



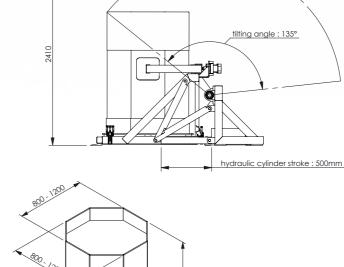






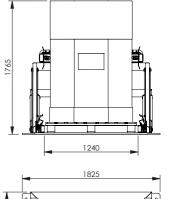


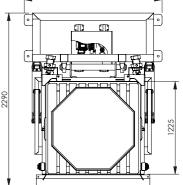
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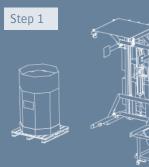




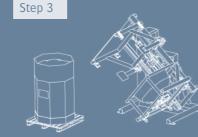


Octabin Unloader OctoFlow® 03 - Inverting

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.







OctoFlow[®]

TECHNICAL SPECIFICATIONS

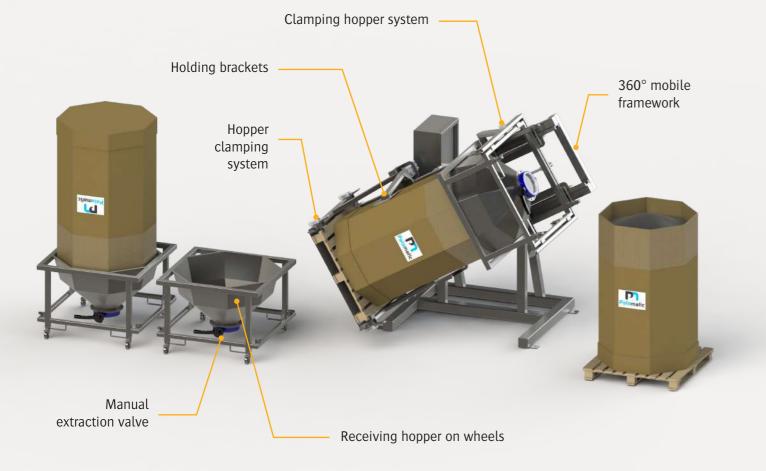
Flow rate: 20 to 30 octabins/hr. Manufacturing: mild steel, 304L stainless steel, 316L Finishes: RAL 9006, microblasted, electropolishing **Installed power**: 5.5 kW Average power consumption: 0.8 kW **Air comsuption**: 0.2 Nm³/hr. **Operation pressure**: 6 bar Inlet TOR: 3 **Oulet TOR**: 7 Maximum dimension of octabins Length x Width x Height: 1.200 x 1.200 x 1.800 mm

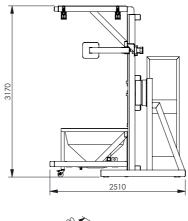


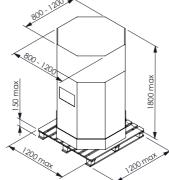
Custom-made models are also available

Step 4









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OPERATING SEQUENCE

- **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. Extarction of the hopper carrying the octabin, manually or with a

8. Manual positioning of the empty hopper on wheels

9. Clamping, lifting and inverting of the hopper

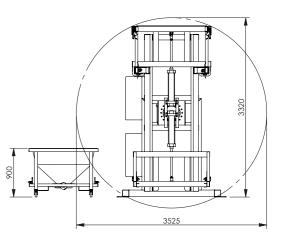
10. Lowering and releasing of the empty pallet

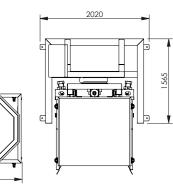
11. Removing of the empty pallet, then positioning of a new octabin











EXAMPLES OF INSTALLATIONS

Unpacked materials

AUTOMATION & ELECTRICITY



Chemicals - Resins



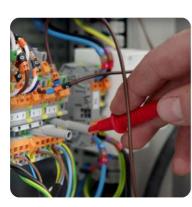
Food - Sugar



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

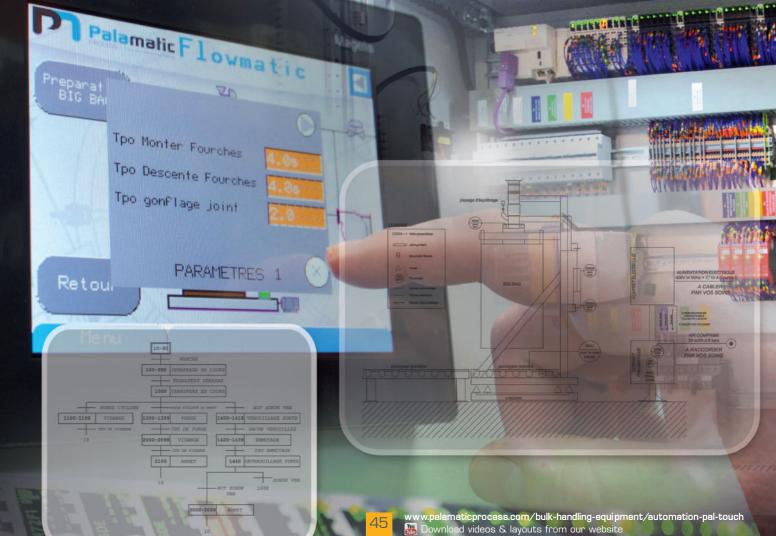


FRANCE and ABROAD

The automation design office is the guarantor of the proper functioning of your industrial automatons. In conjunction with the design office, it carries out the following operations:

- PLC programming (Siemens under TIA PARTAL V15, Schneider under Unity and SoMachine, Rockwell under CCW and Logic designer)
- Creation of supervision notices
- Analysis of customer specifications
- Permanent search for technical solutions
- Permanent updates of our programming standard.
 - Our automation staff will visit your plant to install your equipment.

The documentation provided includes all operating and maintenance procedures. It allows your teams to optimally manage your industrial production line.



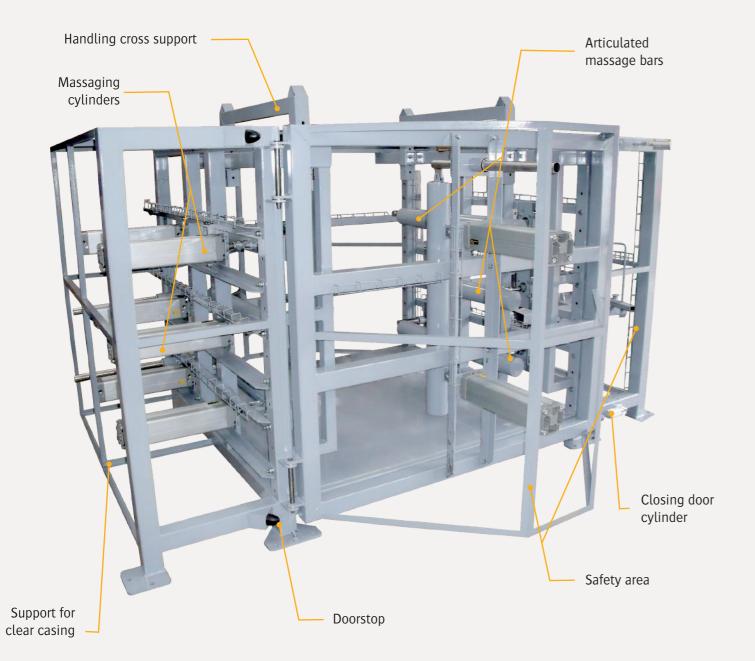


- Creation of operator screens (Siemens, Schneider, Rockwell, Beijer)

Big Bag Side Puncher

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 fonctioning 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



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

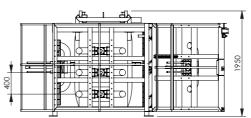
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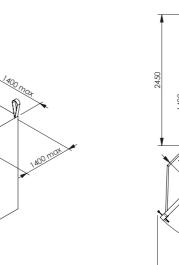
with forklift or elevator







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OPERATING SEQUENCE

- **1**. The big bag is placed on the handling cross

- 2. The big bag is placed on the handing closs
 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

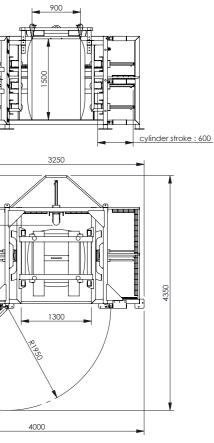


Adjustable height by rod



>> Overview of the unit for massage of the 4 sides







Safety area to protect cylinders



Cylinders articulation for a better action

Options

Hoist or liftfork loading, lifting table, door automa tion, hydraulic massage.

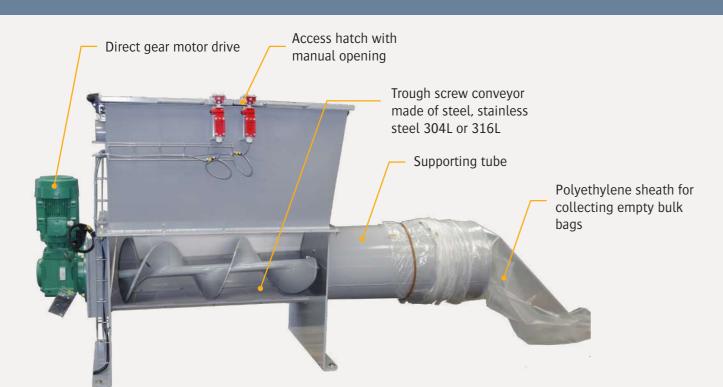
Bulk Bag Compactor

Objectives: dust control & management of empty bulk bags

Compression rate: 4 to 10 bulk bag/m.*

With an efficient and compact design, the compactor is suitable for all types of bulk bags, 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 the collection of empty bulk bags while minimizing their volume.



2 VERSIONS



Dedustina

ring

48

INDEPENDANT COMPACTOR



INTEGRATED COMPACTOR



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

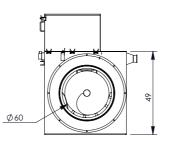


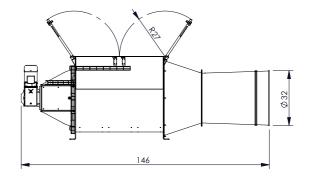
Compacting screw



Suitable for all types of big bags

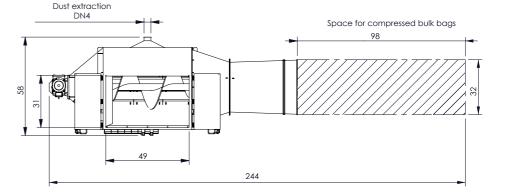
residual fines by specific tray





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min - 87 |





A polyethylene sheath positioned at the end of the compacting tube allows the collection of empty bulk 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 completly confined area.



> 100% hermetic contaiment sheath, clean working environment and possibility to recover



Ergonomic access door for the operator



Our expertise:

- FILLING SOLUTIONS FOR BULK BAG AND GAYLORD BOX To fill
- EMPTYING SOLUTIONS BULK BAG AND GAYLORD BOX To discharge, compact and massage
- SACK, DRUM AND CARDBOARD FILLING SOLUTIONS To fill, package, handle
- SACK AND DRUM EMPTYING SOLUTIONS To discharge, 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





contact@palamatic.fr Sales Department: +33 (0)2 22 93 63 08 ZA La Croix Rouge • 35530 Brécé • France Tel: +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

