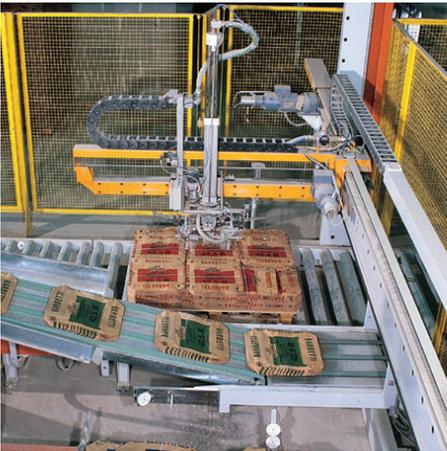


Empty bags handling



FLSmidth Ventomatic SpA offers a complete range of machines for the empty bags handling and placing empty valve bags onto in line and rotary packers.

- VENTOFEEED™ empty bags de-palletizer;
- INFILROT® bag applicators;
- NORIAMAT™ empty bag storage.



VENTOFEEED™ empty bag de-palletizer



INFILROT® BU SB HDPE mechanical arm bag applicator for stitched HDPE plastic bags



NORIAMAT™ empty bags storage

Bag applicators

The core of the empty bag handling is the automatic bag applicator designed for handling both glued and stitched bags manufactured in paper, plastic, woven polypropylene or other similar materials.

FLSmidth Ventomatic® automatic bag applicators can be classified according to two distinct design concepts:

- Mechanical arm type INFILROT® BU;
- Shooting type INFILROT® Z.

The choice depends on several factors such as: capacity, packer characteristics, bag dimensions, bag quality, environmental conditions etc...

TYPE OF EMPTY BAGS						
		APPLICATION CONCEPT	CAPACITY IN BAG PER HOUR	Glued paper	Glued WPP	Paper Stitched
MECHANICAL ARM	INFILROT® BU	~3000 (25/50 kg)	✓	✓		
	INFILROT® BU SB INFILROT® BU SB HDPE	~ 2400 (25/50 kg)			✓	✓
SHOOTING	INFILROT® Z 40	~ 5000 (25/50 kg)	✓	✓		
	INFILROT® Z 60	> 5000 (25/50 kg)	✓	✓		

FLSmidth Ventomatic SpA developed the mechanical arm type in 1976 based on the experience gained from the bag applicators realised for in line packers.

Through the acquisition in 1996 of the company UNISAC, which patented the first shooting type bag applicator

in 1977, FLSmidth Ventomatic is, as the only company, able to offer both concepts for rotary packer accordingly to the actual operative conditions.

The design of the shooting bags applicators INFILROT Z 40 and INFILROT Z 60 are based on a cross-pollination

of the best reliable components on the INFILROT BU and ZIPPER models and realised to match the increasing output of the rotary packers. These applicators are successfully working in many packing plants throughout the world with high reliability and efficiency ratio.

INFILROT® BU mechanical arm bag applicator



The INFILROT BU mechanical arm bag applicators include two models:

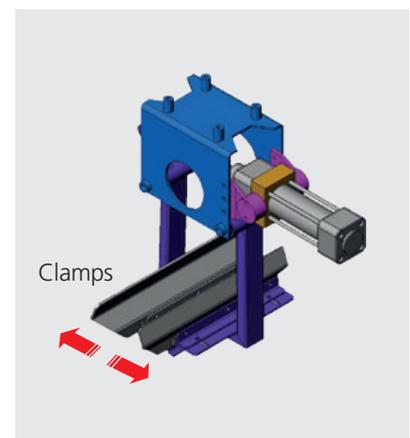
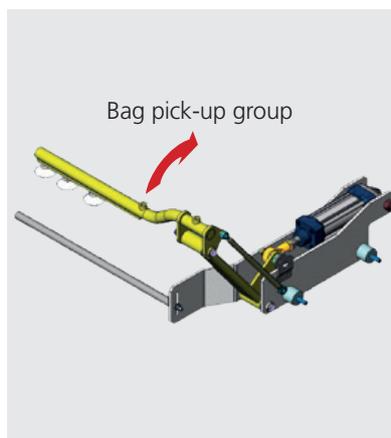
- INFILROT BU for glued paper and glued WPP bags;
- INFILROT BU SB for paper and plastic stitched bags.

Depending on the manufactured features of the empty bag, a specific clamp is applied.



Main features

- **Application concept with bag placing by clamp;**
- **Robotic arm (electrical axis concept);**
- **Real capacity up to 3000 bags/h and reliability not less than 99,5%;**
- **High flexibility for bags manufactured with different materials;**
- **Low sensitivity to bag manufacturing quality;**
- **Suitable for different bag dimensions.**



Sequence for picking up and application of glued paper and WPP bags

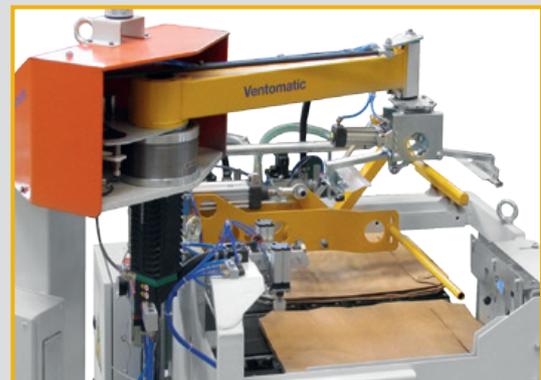


INFILROT® BU mechanical arm bag applicator



STEP 1 Preparation of the empty bag

The bundle of empty bag is carefully positioned from the NORIAMAT™ horizontal empty bags storage to the table under the picking device.



STEP 2 Pick up of the empty bag

The picking device picks-up the individual bag from the bundle.



STEP 3 Clamping and valve opening

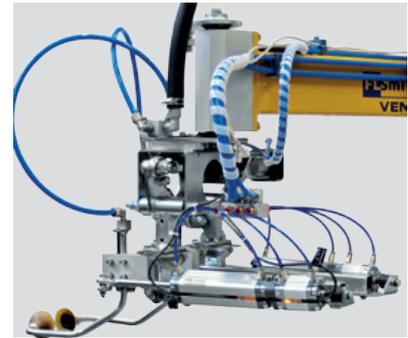


**STEP 4
Application of the bag to the spout**
With the valve opened, an arm moves the bag onto the nozzle. The movement is perfectly synchronised with the packer rotation by mean of an encoder.

Sequence for picking up and application of paper stitched bags



The characteristic on this clamp is the suction disc for opening the valve of the bag and positioned on both its two extensions.



INFILROT® BU SB mechanical arm bag applicator



STEP 1
Preparation of the empty bag



STEP 2
Pick up of the empty bag
The picking device picks-up the individual bag from the bundle.

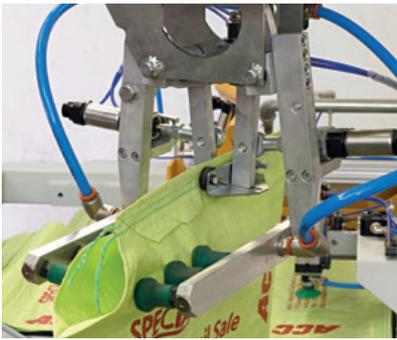


STEP 3
Valve opening
The valve is opened by the suction discs, during the transport towards the spout.

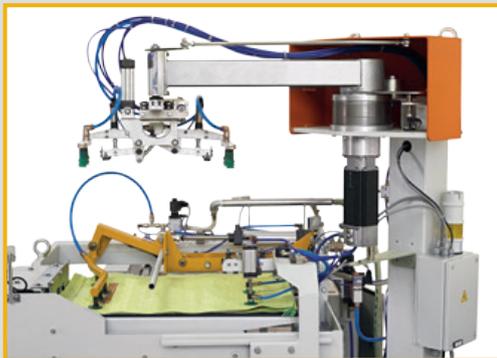


STEP 4
Application of the bag to the spout

Sequence for picking up and application of HDPE stitched bags



INFILROT® BU SB HDPE mechanical arm bag applicator



STEP 1 Preparation of the empty bag

The bundle of empty bags is carefully positioned from the horizontal bag storage NORIAMAT™ to the table under the picking device.



STEP 2 Pick up of the empty bag

The picking device picks-up the individual bag from the bundle.



STEP 3 Valve opening

A special clamp with suction discs opens the valve of the bag by means of a vacuum generating system.



STEP 4 Application of the bag to the spout

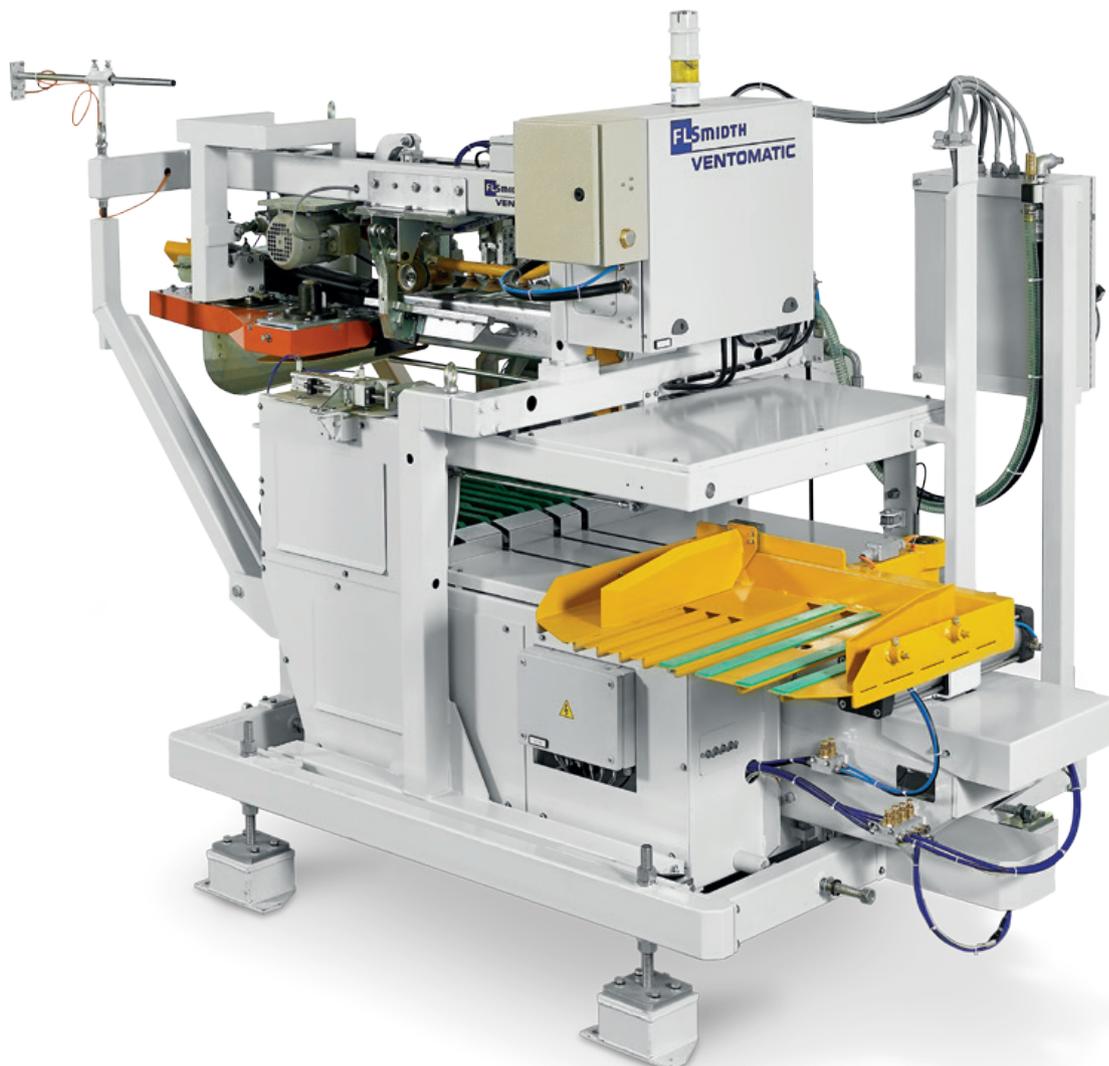
With the valve opened, an arm moves the bag onto the nozzle. The movement is perfectly synchronised with the packer rotation by means of an encoder.

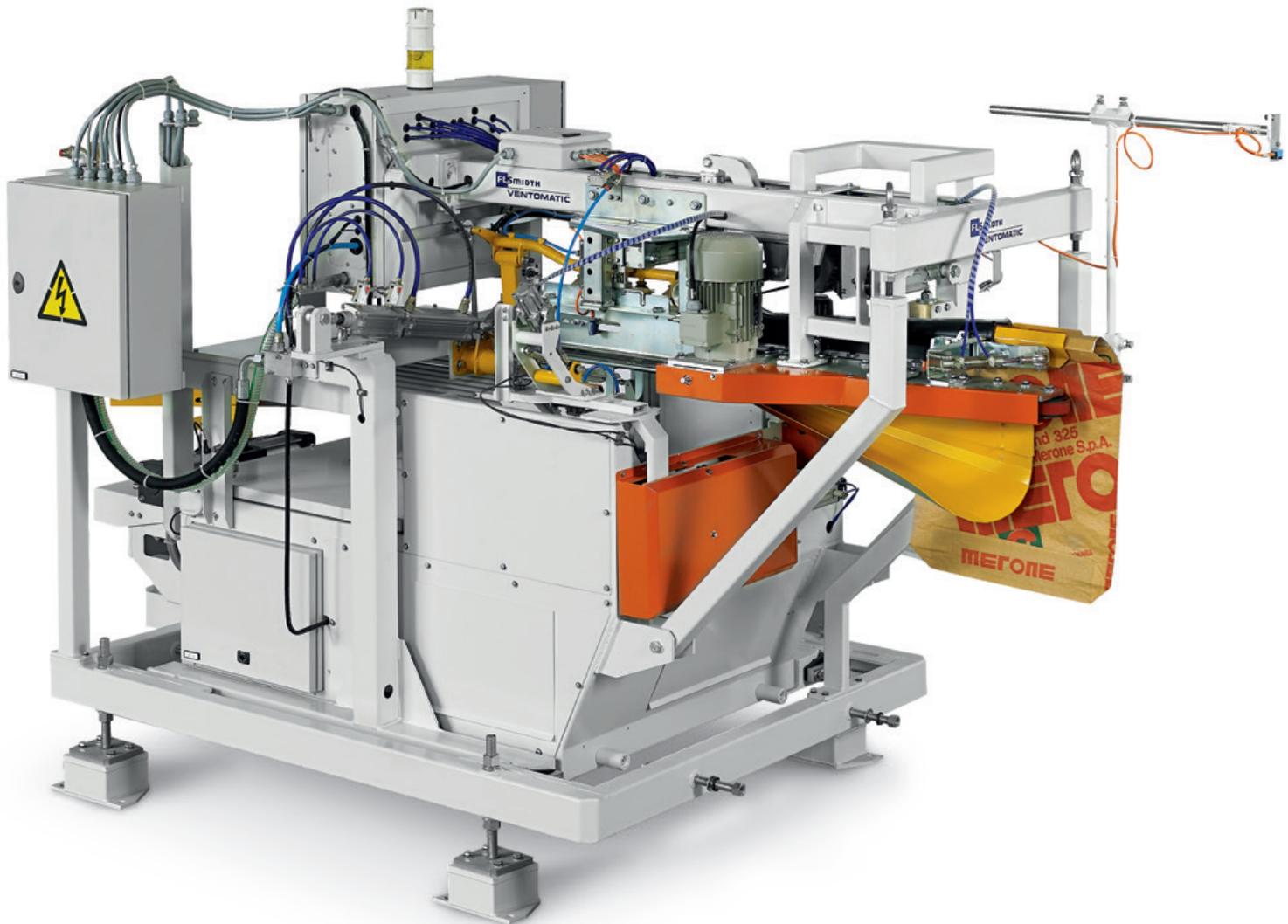
INFILROT® Z

shooting bag applicators

Main features

- Capacity up to 5000 bags/h and reliability not less than 99,5%
- Suitable for different bag dimensions with full automatic adjustment
- HMI system for recipes, timers, parameters and manual/automatic controls
- Cabinet with PLC to control the automatic cycle and the automatic calibration and synchronisation with rotary packer

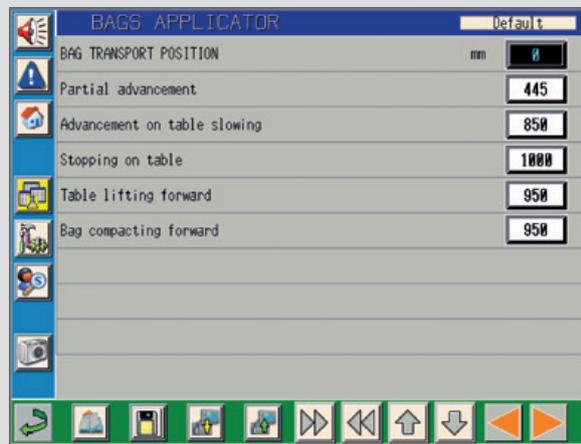
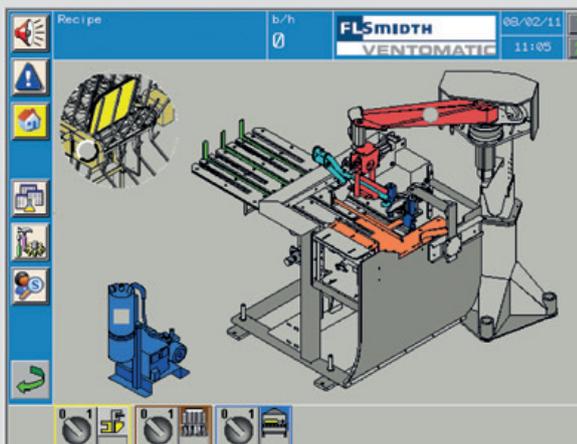
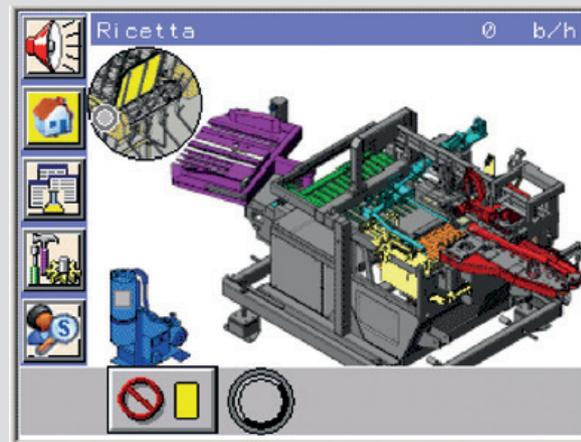




Operator panel

Main features

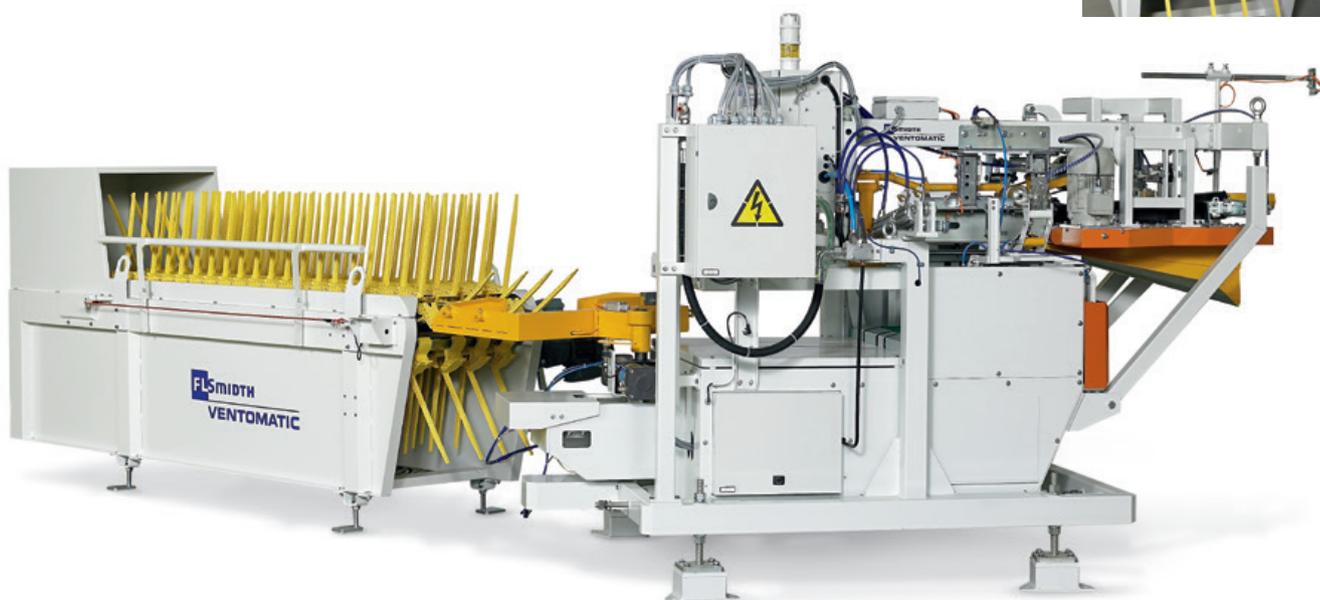
- HMI system for recipes, timers, parameters and manual/automatic controls
- Cabinet with PLC to control the automatic cycle and the automatic calibration and synchronisation with rotary packer



NORIAMAT™ empty bags storage

Main features

- Stock capacity up to 1600 bags
- Easy maintenance with the new plastic forks
- 3 or 6 mt length available
- New design for granting more stability to the bag bundle



VENTOFEED™ empty bags de-palletizer

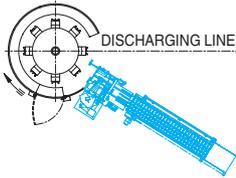
Main features

- Completely automatic depalletiser for empty bag bundles
- Compatible with several bags sizes, pattern layers
- Suitable for operating with any type of automatic bag placers
- 8- hour shift system autonomy
- Operates with strapped bag bundles, palletized as usual
- Operates on all bundles of each pallet including the bottom layer
- Optional empty pallet stacker



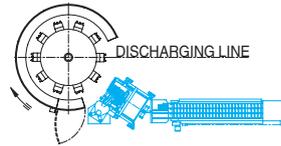
Typical application

**Capacity up to 2400 bags/hour
Single discharge**



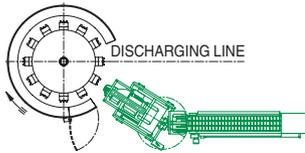
**INFILROT® BU
mechanical arm
bag applicator**
with NORIAMAT™ H
horizontal empty
bags storage

**Capacity up to 3000 bags/hour
Single discharge**



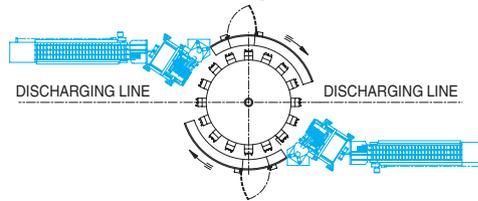
**INFILROT® BU
mechanical arm
bag applicator**
with NORIAMAT™ H
horizontal empty
bags storage

**Capacity up to 4200/4600 bags/hour
Single discharge**



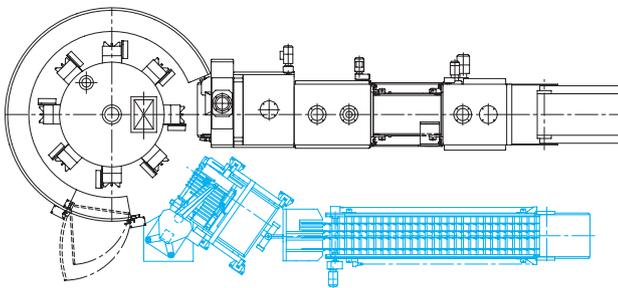
INFILROT® Z 40 shooting bag applicator
with NORIAMAT™ H horizontal empty bags storage installed
on 12-spout rotary packer

**Capacity up to 5600 bags/hour
Double discharge**

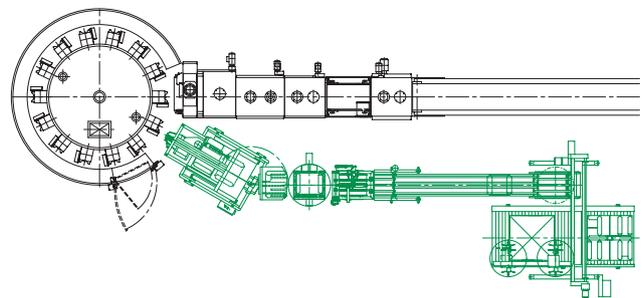


INFILROT® BU bag applicator
with NORIAMAT™ H horizontal empty bags storage installed
on 16-spout rotary packer with double discharging points

**Layout with INFILROT BU
mechanical arm bag applicator
and NORIAMAT empty bag storage**



**Layout with INFILROT Z 40 shooting
bag applicator and VENTOFEEED™
empty bags de-palletizer**



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