Partner for the petrochemical industry

Customer industries in our focus

Sales organization: Business units

AVENTUS business units (responsible world-wide for sales and results in the industry)

AVENTUS				NEWTEC BAG PALLETIZING		
Petro-chemical	**Salt**	**Chemical and mineral fertilizer**	**Chemicals, compounds, recyling**	**Pet food, animal feed**	**Agricultural products**	**Compost, energy, organical fertilizer**
H.-J. Volkmer S. Tebelius	R. Wiegel	F. Schnur	J. Griesel	A. Ozen	D. Dumazy	A. Bykov

Regional expert (responsible in the region for sales and results of the brand)

YOU / YOU

Petrochemicals – The definition

Petrochemicals are produced from crude oil or natural gas.

They are extracted in the refinery during destillation and cracking of the raw materials.

Main primary products:

- Benzene
- Ethylene
- Propylene
- Toluene

Petrochemicals – The definition

Petrochemicals can be roughly divided into:

- Olefins
- Aromatics

The synthesis of olefins and aromatics produces polymers.

Petrochemicals – The defintion

Typical polymers made of olefins:

- PE
- PP

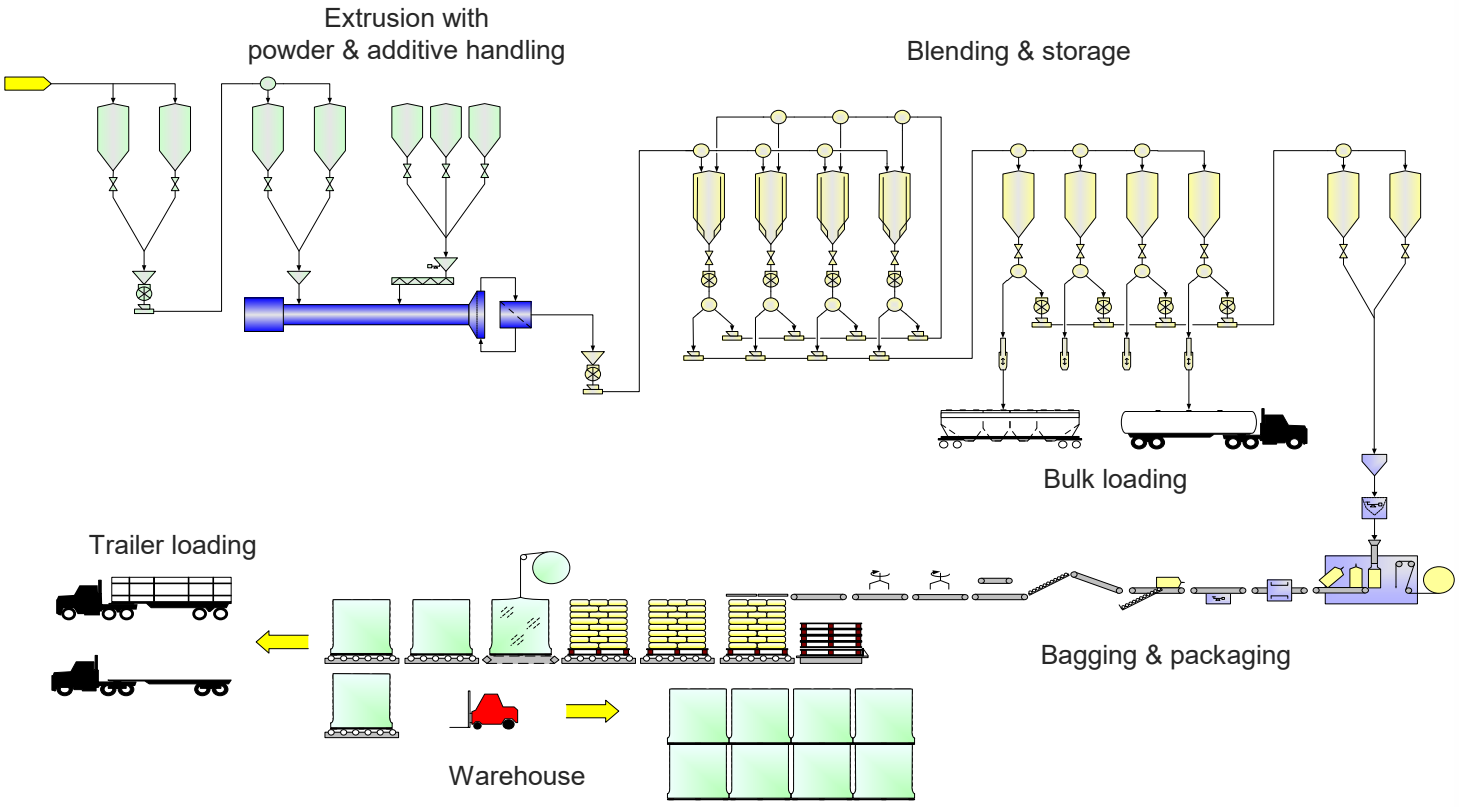
Typical polymers made of aromatics:

- PS
- PES
- PET
- PC
- Synthetic resins

Which products are petrochemicals?

- Polyethylene PE (HDPE, LDPE, LLDPE)
- Polypropylene PP
- Polyvinylchloride PVC
- Polystyrene PS
- Polytetrafluorethylene PTFE
- Polymethylmethacrylat PMMA
- Polyacrylnitril PAN
- Polyacryle PA and Polyacrylicacid PAA
- Polycarbonate PC
- Polyethylenterephthalat PET
- Polyethyleneglycol PEG
- Polyurethane PU
- Synthetic Resins
- Hydrocarbon Resins

Supply chain for polymers



Strategic cooperation

JSW

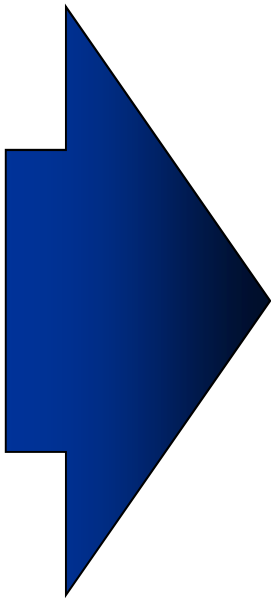
EXTRUSION,
COMPOUNDING,
PELLETIZING

ZEPPELIN®

REACTORS, POWDER HANDLING,
MIXING SILOS, STORAGE SILOS
PNEUMATIC & HYDRAULIC
CONVEYING SYSTEMS

AVENTUS

BAGGING & PALLETIZING SYSTEMS,
WAREHOUSE LOGISTIC SYSTEMS



PA

polymer alliance

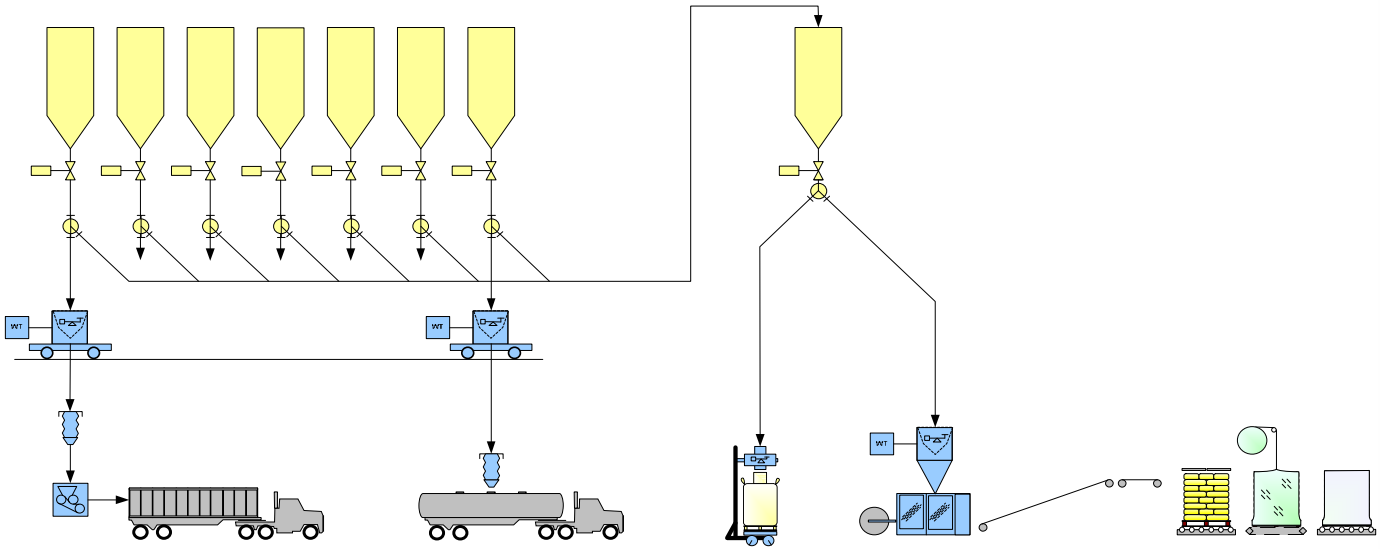
AVENTUS

How are polymers distributed?

	Bulk Truck	Bulk Railcar	Bulk Container	FIBC's & Boxes	Small Bags
North America	< 5	50	<5	10	30
South America	10	10	< 5	< 5	70
Europe	50 – 60	< 5	5 – 10	10	20 – 30
GUS	< 5	< 5	5 – 10	10 – 15	70 – 80
Middle East	5	0	10 – 15	5	80
India	< 5	0	< 5	< 5	80 – 90
China	0	0	10	5	85
Asia	0	0	10 – 15	10 – 15	70 – 80

Estimated form of global polymer shipment in %

Typical logistic concepts for polymer handling

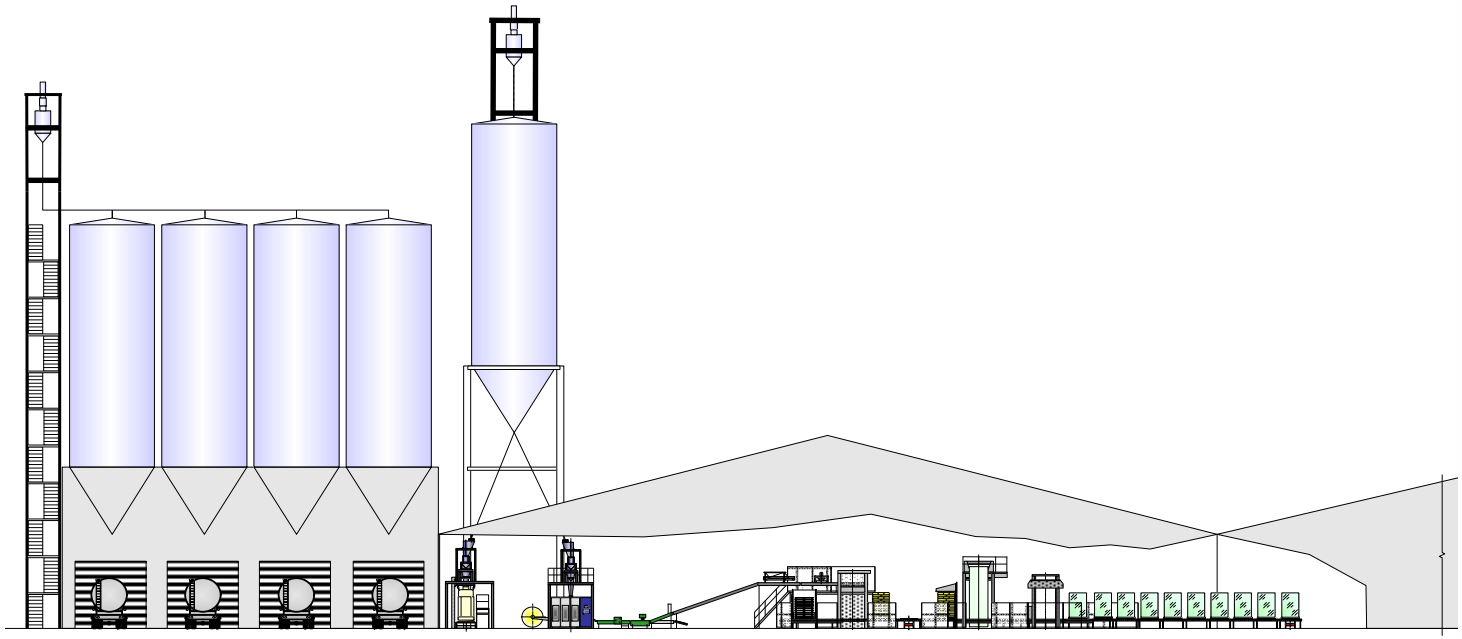


Bulk loading area

Bagging & packaging area

Single level plant concept

Typical logistic concepts for polymer handling



Bulk loading area

Bagging & packaging area

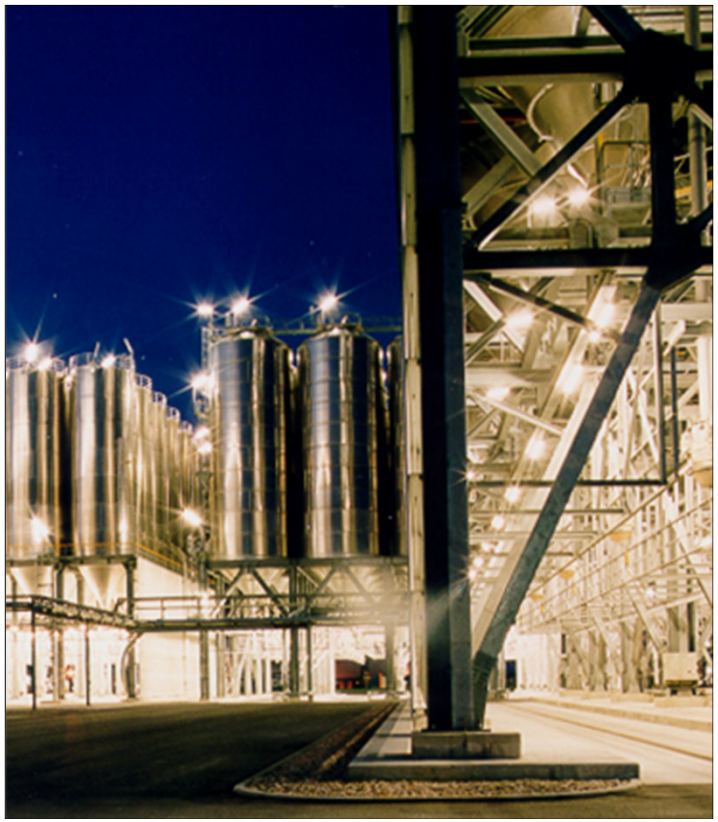
Warehouse area

Bulk loading
Railcars, seabulk containers, bulk tanker trucks

Packaging
Boxes, FIBCs, small bags

Warehouse
Storage and loading of packaged material

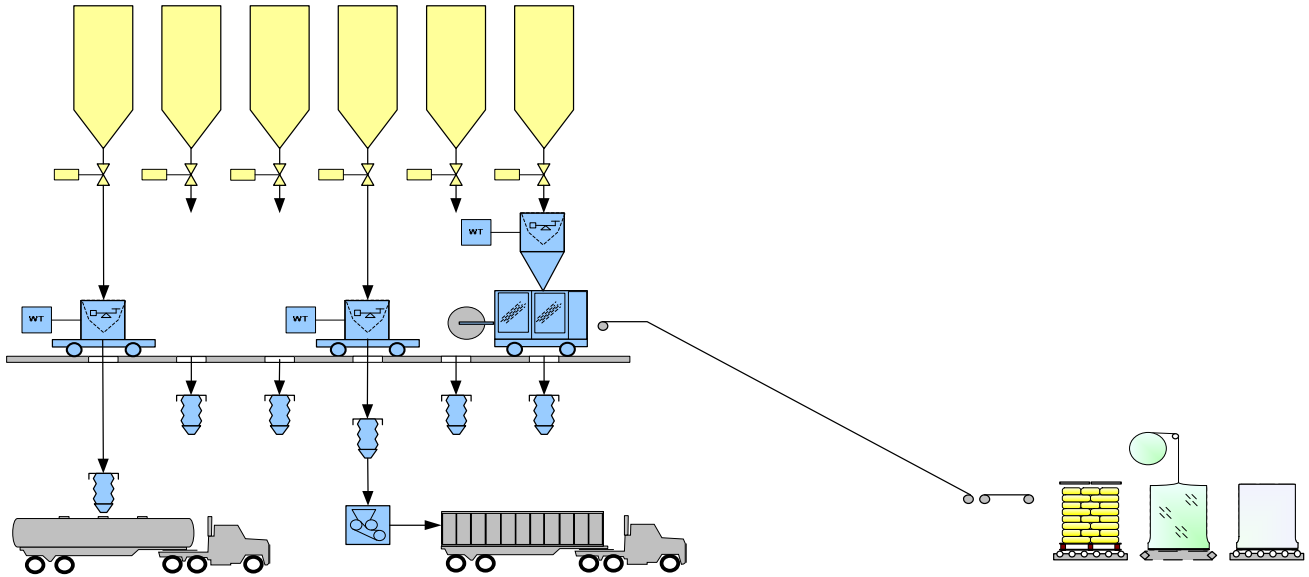
Typical logistic concepts for polymer handling



Single level plant concept

Typical logistic concepts for polymer handling

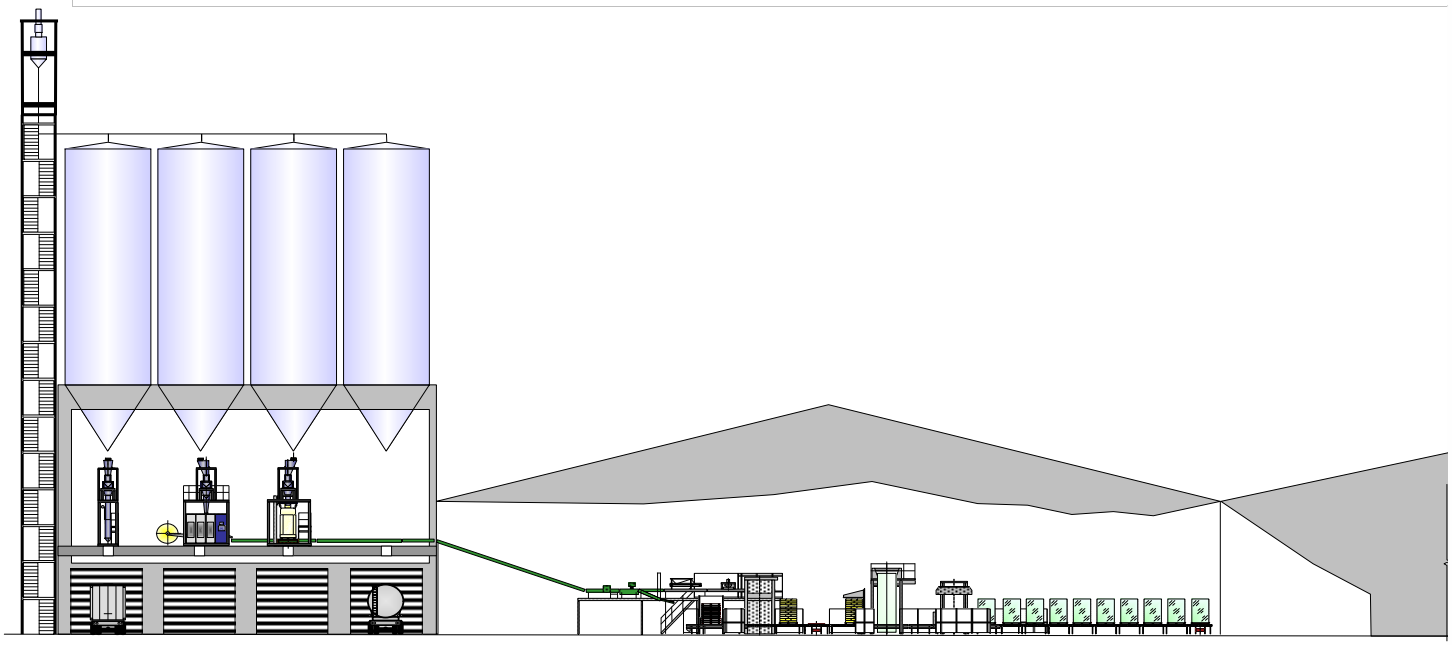
Multi-level plant concept



Bulk loading & bagging area

Packaging area

Typical logistic concepts for polymer handling



Bulk loading & bagging area

Packaging area

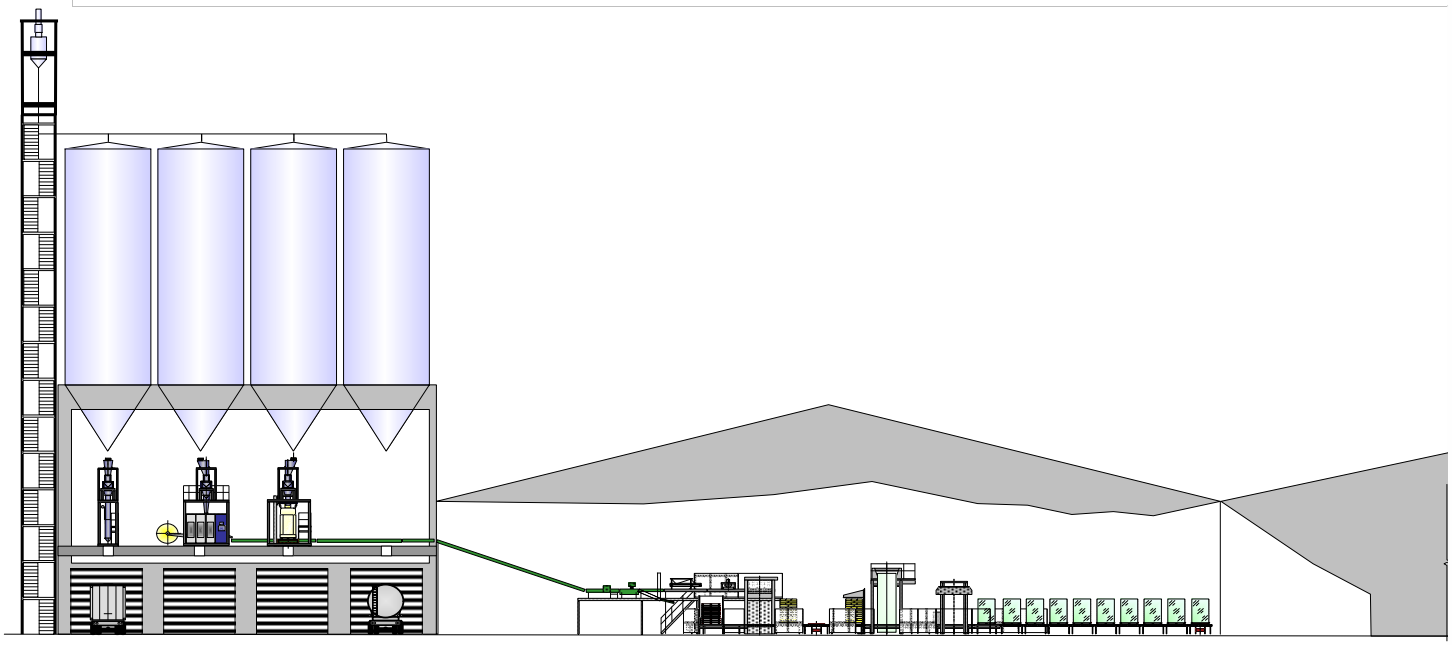
Warehouse area

Bulk loading
Railcars, seabulk containers, bulk tanker trucks

and

moveable filling systems for boxes, FIBCs and small bags

Typical logistic concepts for polymer handling



Bulk loading & bagging area

Packaging area

Warehouse area

Packaging
Fixed palletizing and packaging systems

Warehouse
Storage and loading of packaged material

Typical logistic concepts for polymer handling

Multi-level plant concept


vilex

Main competitors

- BL Bag Line Italy
- Payper Spain
- CONCETTI Italy
- Premier Tech Chronos Canada
- BEUMER (with PAYPER) Germany
- STATEC BINDER Austria
- HARBIN BOSHI China

Our solutions for the petrochemical industry

FFS bagging
- TOPAS
- FFS 600
- ISF1

Palletizing
- PLATINUM
- ARCUS
- TERRAM

Packaging
- ARGON

AVENTUS FFS technology

- Integrated diagnostic illumination
- Personalized RFID key access
- Automatic machine performance optimization through smart production monitoring
- Machine control by means of SIEMENS PLC S7-1500 for FFS 600 and INTEGRA ISF1 and with SIEMENS IPC for TOPAS
- Easy operation through HMI
- Easy access thanks to an open machine design
- Mobile machine execution on wheels or on rails

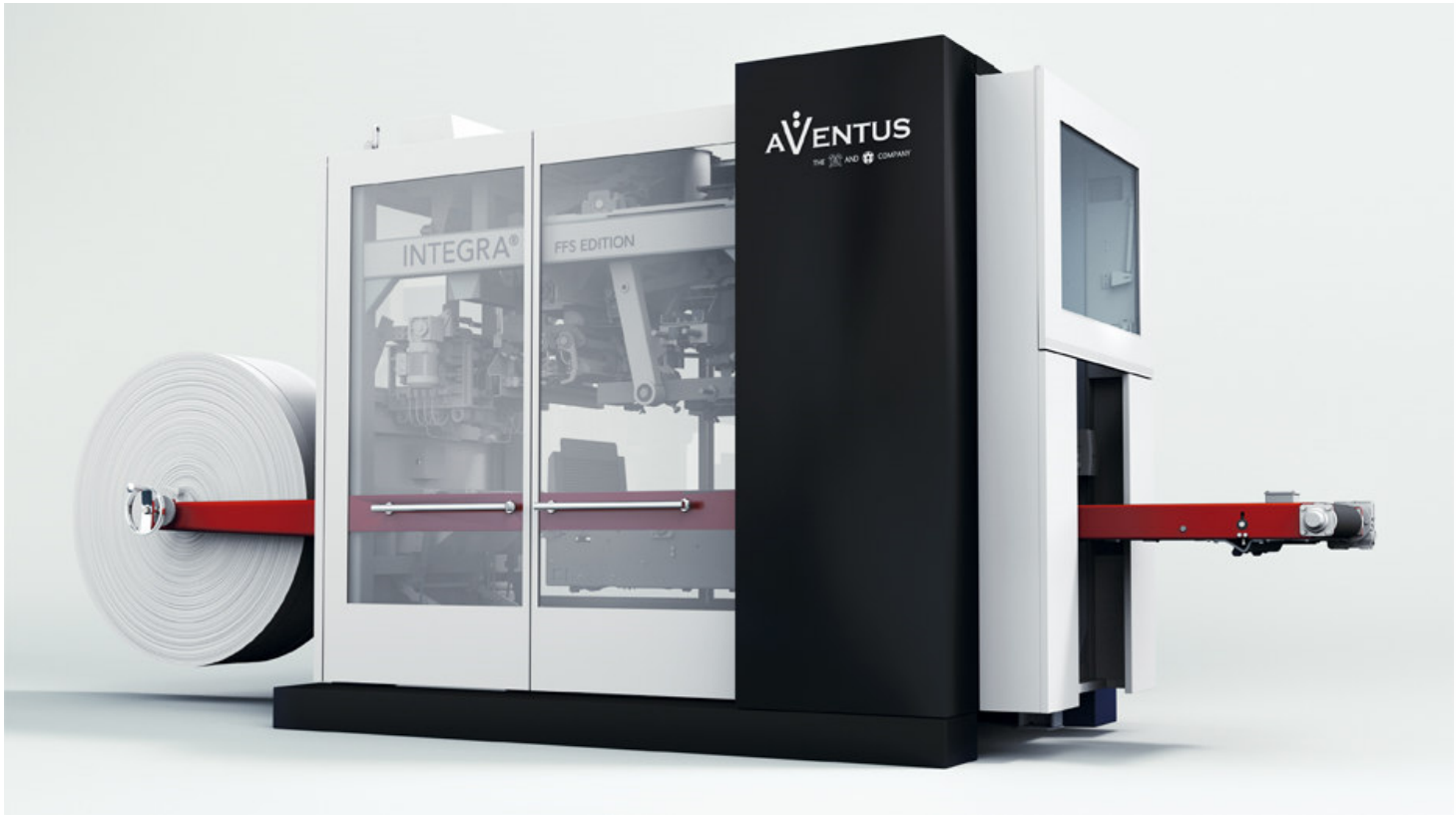
FFS 600

- Very compact design with small footprint
- Low capacity machine for up to 600 bags/h
- Gross & net weighing system
- Quattro monitoring for preventive maintenance

FFS 600 – Technical data

Performance	250 - 300 bags/h (gross) 450 - 600 bags/h (net)
Bag weights	5 – 50 kg
Empty bag sizes	Width: 300 – 370 mm | 350 – 420 mm Length: 350 – 850 mm | 500 – 1000 mm
Footprint	approx. 3700 x 1450 mm
Power consumption	10 – 15 kW
Instrument air consumption	45 – 70 Nm^3/h at 6 bar_G
Special design	• Hexagonal filling spout for dusty products • Stainless steel execution • Execution for salt, fertilizer or caprolactam • Dust-EX-proof design

INTEGRA ISF1



- Modular design
- Medium performance 600 – 2200 bags/h
- Quattro monitoring for preventive maintenance

INTEGRA ISF1 – Technical data

Performance	600 - 2200 bags/h
Bag weights	5 – 50 kg
Empty bag sizes	Width: 300 – 370 mm | 350 – 420 mm Length: 350 – 850 mm | 500 – 1000 mm
Footprint	approx. 4800 x 1900 mm
Power consumption	18 – 22 kW
Instrument air consumption	approx. 120 Nm^3/h at 6 bar_G
Special design	• Stainless steel execution • Execution for salt, fertilizer or caprolactam • Dust-Ex-proof design

TOPAS

- Modular design
- High performance up to 2600 bag/h
- Design for filling of S-PVC
- Easy control for remote monitoring and logbook

Automatic film roll changer

- Improved design
- Downtime (< 30 sec.)
- Accurate splicing of the web
- Automatic bag rejection

Increase of output by more than 1000 bags per shift, based on 2000 bags/h and 8-hour shift

TOPAS – Technical data

Performance	up to 2600 bags/h
Bag weights	5 – 50 kg
Empty bag sizes	Width: 330 – 440 mm Length: 500 – 950 mm
Footprint	approx. 4200 x 1700 mm
Power consumption	approx. 20 kW
Instrument air consumption	75 – 195 Nm^3/h at 6 bar_G
Special design	• Execution for salt, fertilizer or caprolactam • Design for bagging of S-PVC • Automatic film roll-changer

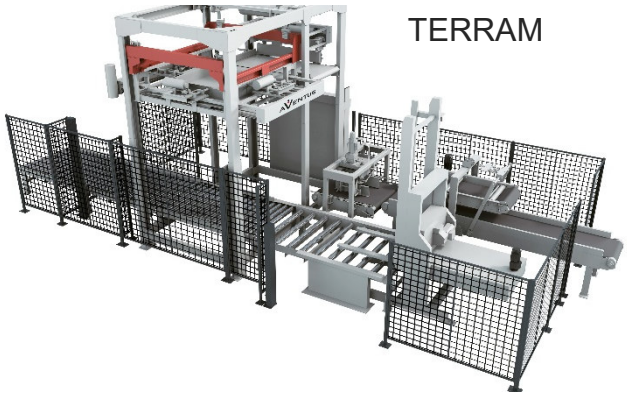
Options for AVENTUS FFS

- Air extraction before bag closing
- Top seam cleaning before bag closing
- Grip-handle former
- Pour-spout punch for simplified bag opening
- Wet cleaning system
- Integration of thermo-printer for bag printing

Quality control systems

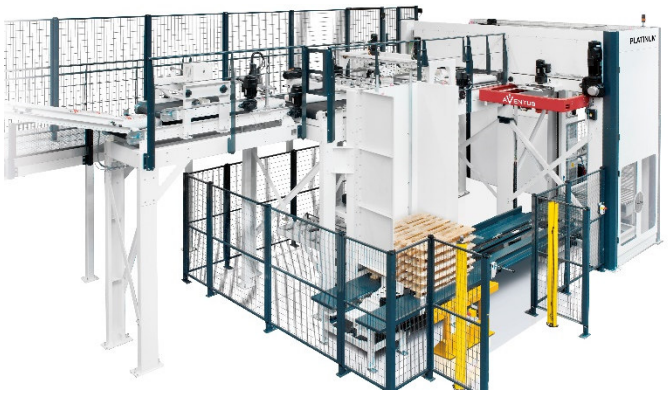
- Bag check weighing unit
- Metal detection system
- Bag printing
- Bag rejecting

Palletizing systems



TERRAM

ARCUS



PLATINUM

- **TERRAM floor-level palletizer** up to 1000 bags/h
- **ARCUS high-entry palletizer** up to 2500 bags/h
- **PLATINUM high-entry palletizer** up to 2800 bags/h

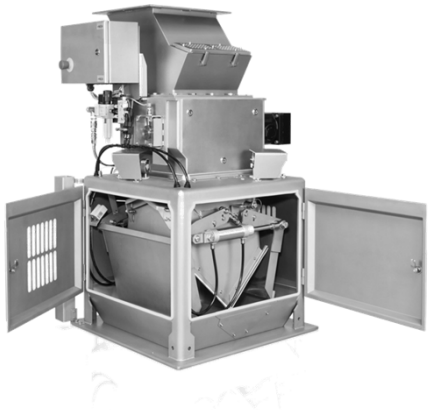
Packaging systems

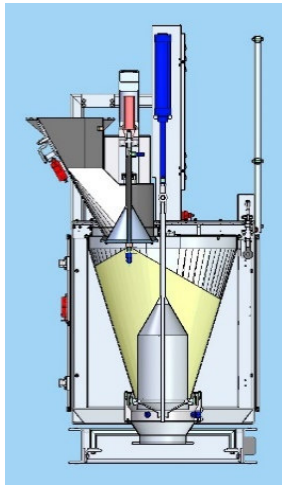
ARGON stretch hooding system manufactured by LACHENMEIER

Trailer & container loading systems

- Automatic operation including trailer alignement
- Loading cycle approx. 8 min
- Maximum total load 30 t
- Stack supply by conveyors, AGV’s or FLT

Weighing systems



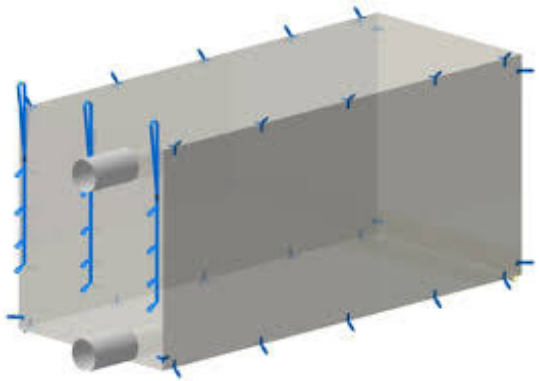


- High capacity weighing unit
- Cone weighing unit for optimized wet cleaning
- Container scale for bulk loading

Weighing systems – Technical data

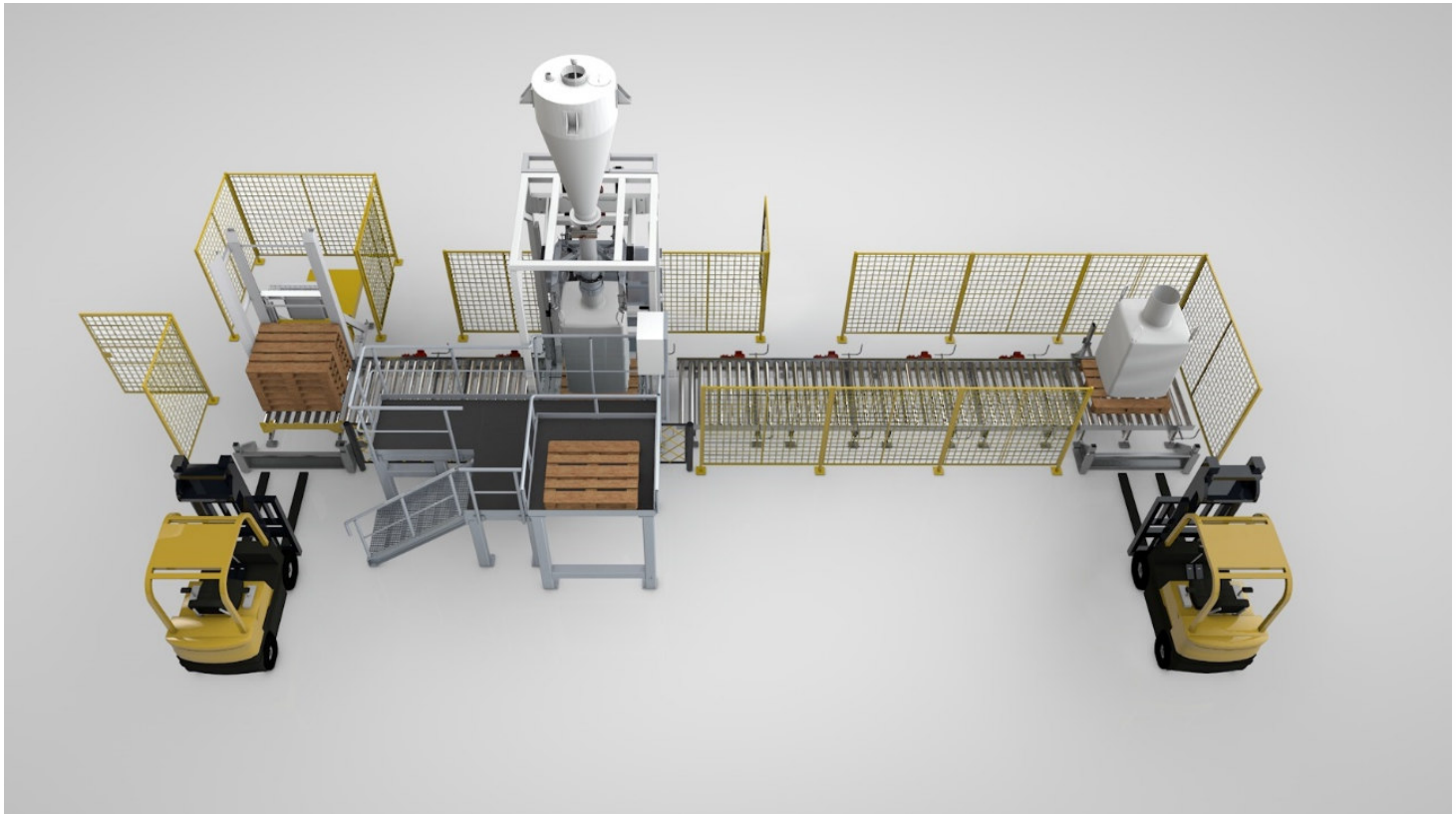
Performance	up to 2600 batches/h with the high capacity weigher up to 800 batches/h with the cone weigher up to 50 batches/ h with container scales
Batch weights	5 – 750 kg
Weight accuracy	σ = 20 g for batch weights up to 25 kg +/- 0,3 % as average of each individual weighing for container scales
Special design	• Execution for salt, fertilizer or caprolactam • Design for wet cleaning
Applications	FFS bagging systems, bulk loading systems, box & FIBC filling systems

Weighing systems for bulk loading



- For advanced filling of bulk carriers
- Utilized by means of batch weighing
- Performance up to 90 t/h

FIBC & box filling systems



- Suitable to fill boxes & FIBC’s
- Available as gross or net weighing system
- Performance up to 40 units/h
- Stationary & moveable design for maximum flexibility

FIBC & box filling systems – Technical data

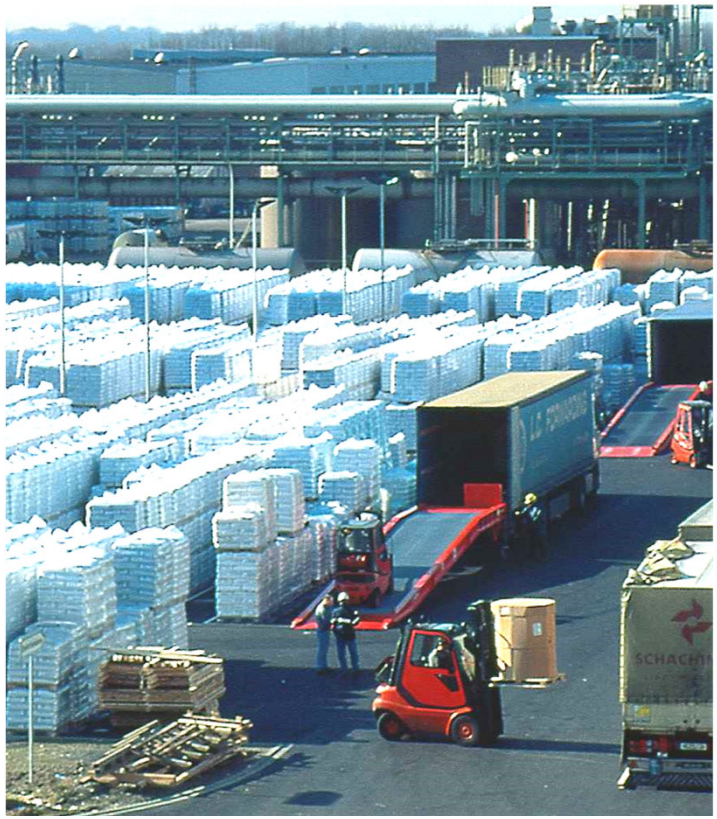
Performance	up to 30 units/h with gross weighing system up to 40 units/h with container scales
Batch weights	250 – 1500 kg
Weight accuracy	+/- 0,3 % as average of each individual weighing for container scales
Special design	• Execution for salt, fertilizer or caprolactam • Dust EX-proof design

Process control systems

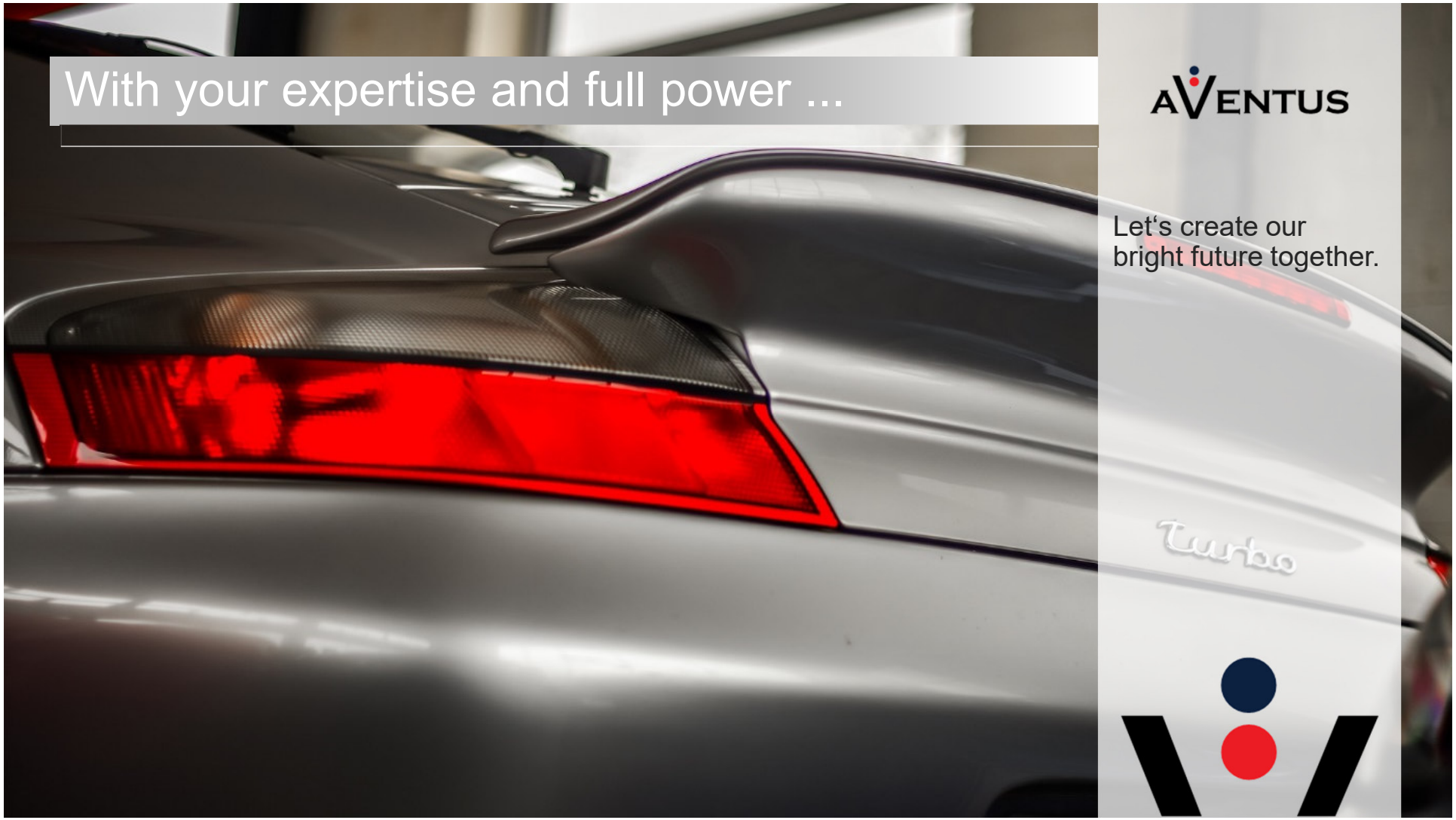
Increase of plant performance

- Plant control
- Process control
- Order management
- Batch management
- Remote service

Warehouse management systems



- Order generation for bulk shipment
- Generation of packing orders
- Inventory control
- Tracking of packed stacks, trucks and bulk containers


With your expertise and full power ...
AVENTUS
Let‘s create our
bright future together.
Turbo

NEWTEC BAG PALLETIZING

AVENTUS

The Summary

AVENTUS

I. History and key figures
II. A complete product range
III. General technical description
IV. Summary of all important basic technical details
V. Our strengths
VI. Machines delivered/projects realized

This is Newtec Bag Palletizing

Foundation
- 1972
- More than 48 years of know-how
- Over 1,800 references in the world

Location
Illzach, Alsace at the German and Swiss border

Employees
90 people

Turnover
25 million € in 2019

A complete product range

Gripper type

Pusher type

Available technologies

- Gripper type
- Pusher type

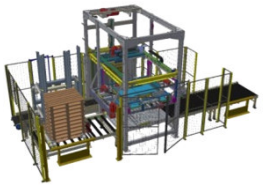
We have the solution for your needs

AVENTUS

TERRAM

TERRAM 300 G & 600 G

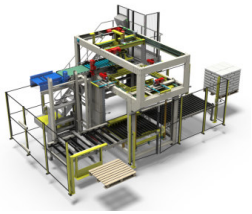
TERRAM 800 G



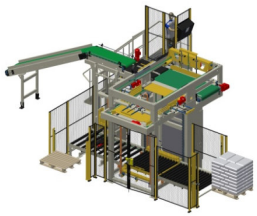
TERRAM 1000 P/C

ARCUS

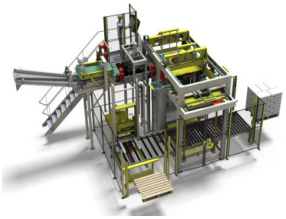
ARCUS 1000 G



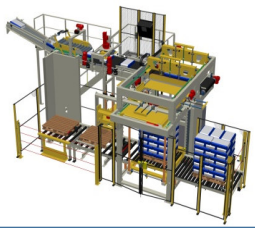
ARCUS 1000 P/C



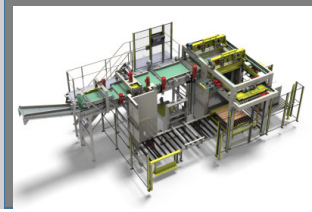
ARCUS 1500 P/C



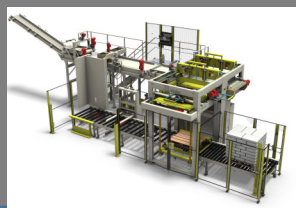
ARCUS 2500 P



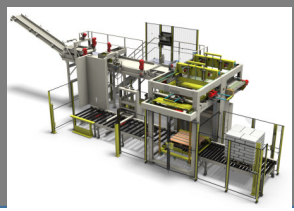
ARCUS 2500 B



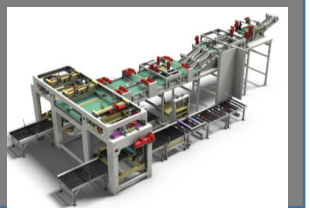
ARCUS 3000 B



ARCUS 4000 B

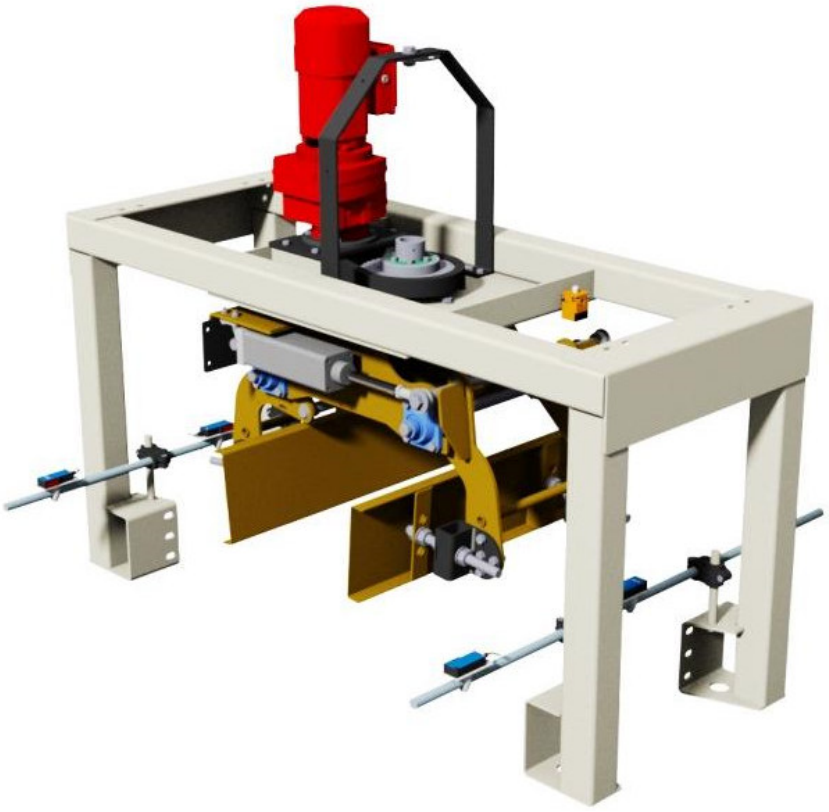


ARCUS 5000 B



- Adapted to every industry
- All known bag types

NEWTEC turning clamp: General description

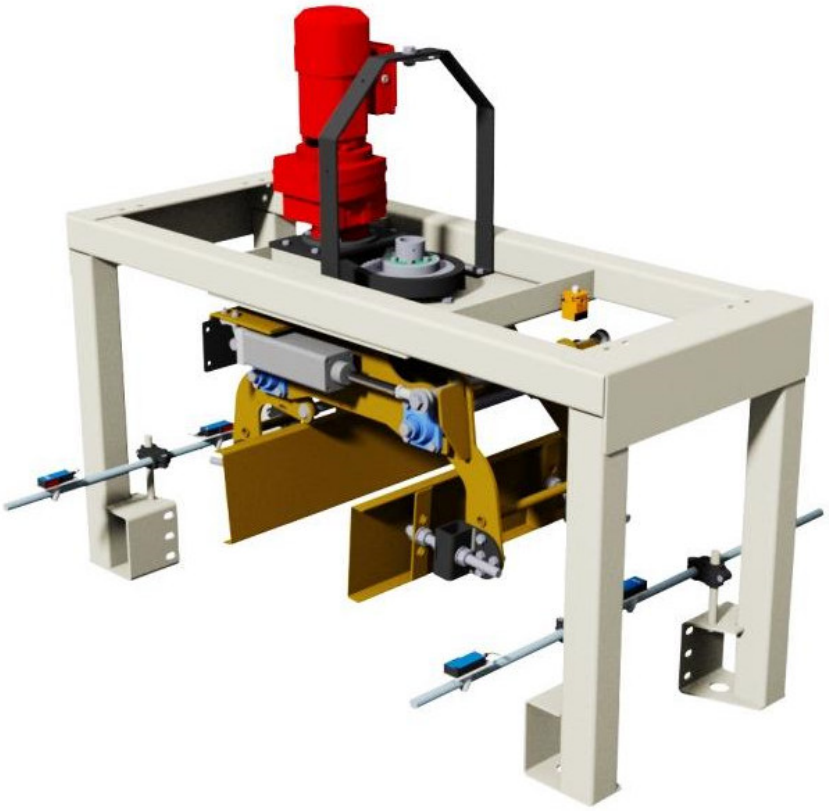


Bags:
- FFS bags
- Open-mouth bags made of paper, PE or PP

Bag weights:
5 – 50 kg

Capacity:
600 – 2600 bags/hour
(depending on the palletizing pattern)

NEWTEC turning clamp: General description

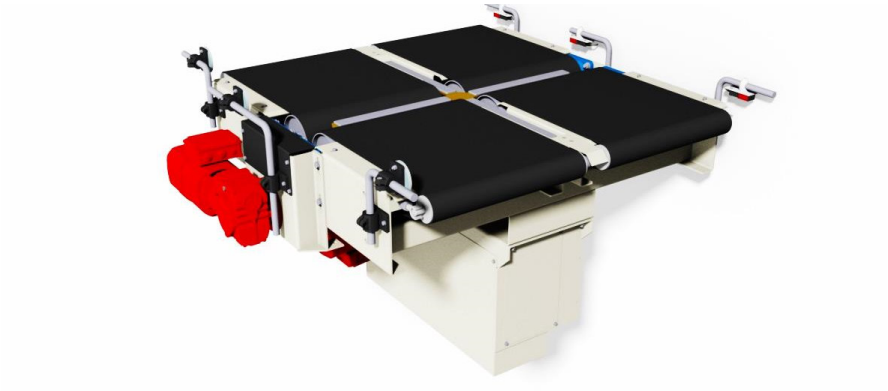


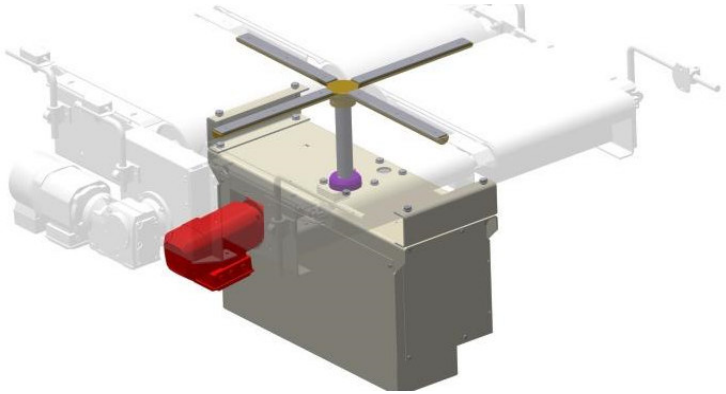
Bag orientation:
0°, 90°, 180°

Driven by:
Brushless motor

NEWTEC turning clamp: General description

NEWTEC turning cross: General description



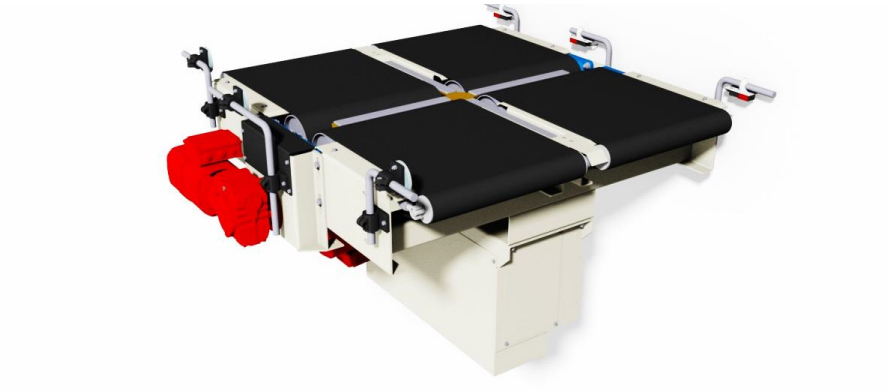


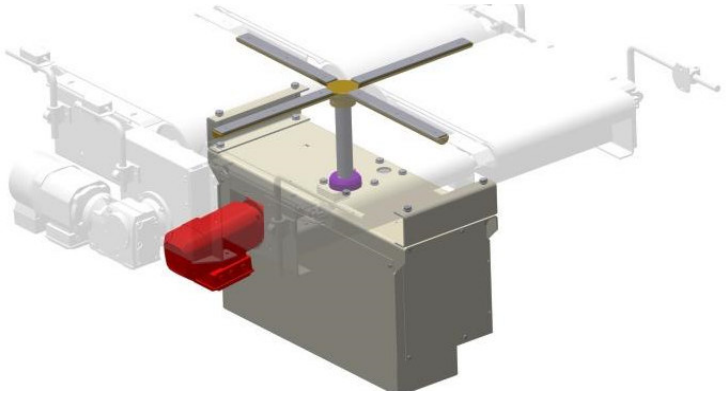
Bags:
- FFS bags
- Open-mouth bags made of paper, PE or PP

Bag weights:
5 – 50 kg

Capacity:
600 – 1800 bags/hour
(depending on the palletizing pattern)

NEWTEC turning cross: General description





Bag orientation:
0°, 90°, 180°

Driven by:
Brushless motor

NEWTEC turning cross: General description

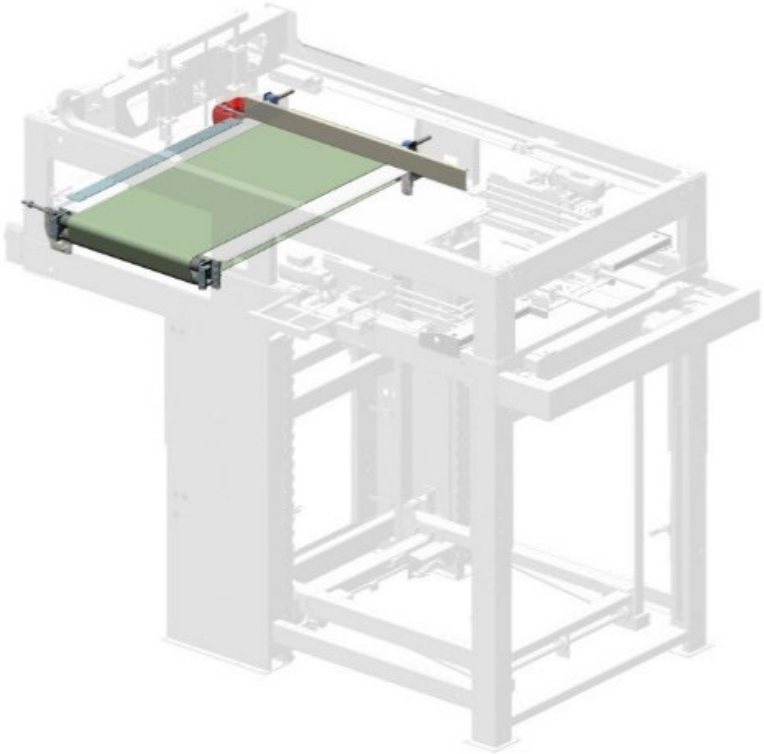
Characteristics – optimized to petrochemicals

For hot products > 70 °C:
Belt with cotton (orientation and grouping belt)

Coating on stripper plates:
- HD 300 (polytethylene)
- Stainless steel
- Fluidisation with air

Hot or cold gluing system:
- Depending on the bag type
- Teflon protection under the stripper plates

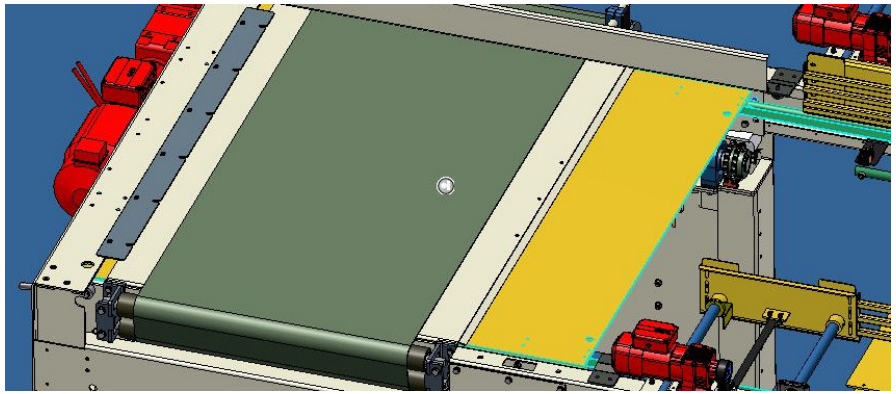
The NEWTEC strengths

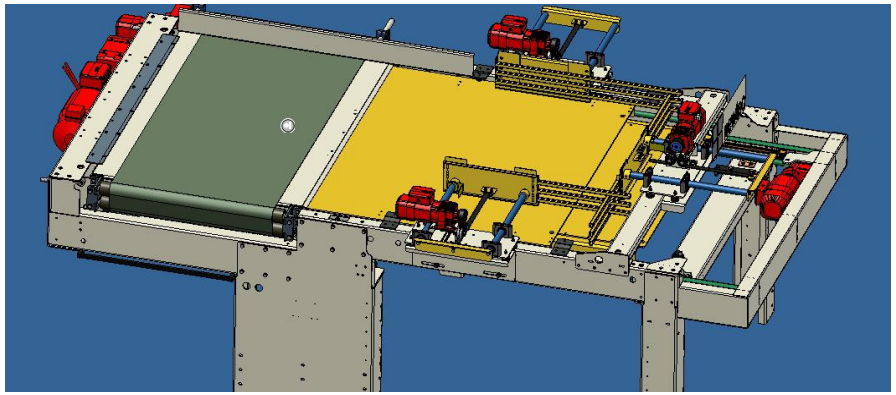


Grouping belt

New design
for faster and easier bag handling

The NEWTEC strengths





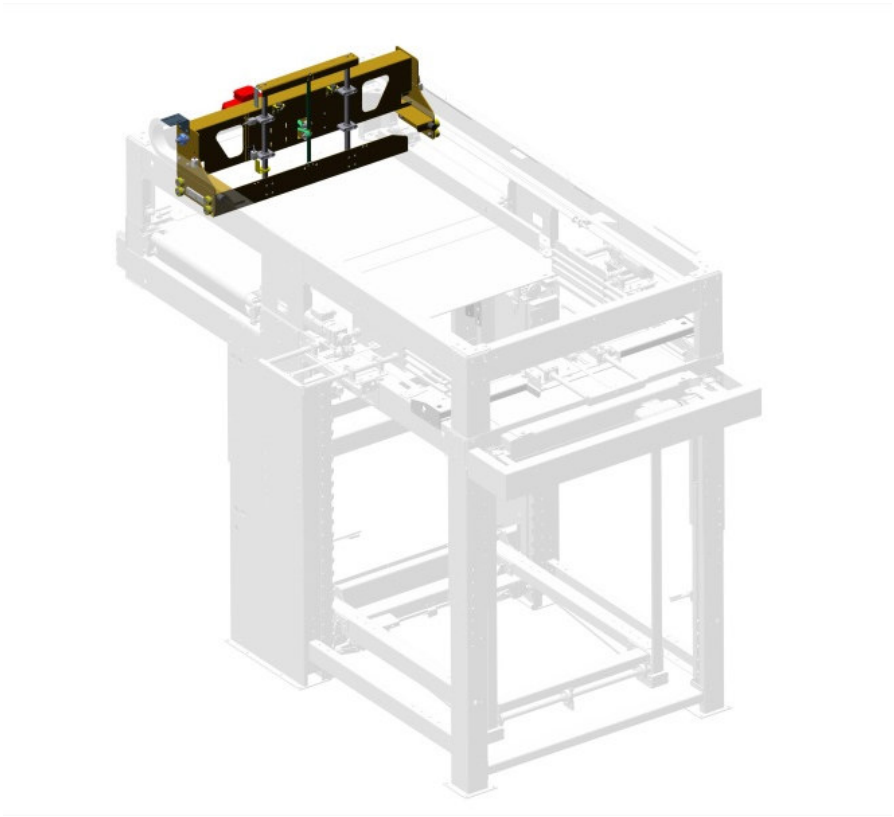
Stripper plates

Perfect and attractive bag pallet shape
Bag transport with the stripper plates.

The bag rows and layers are prepared on the stripper plates and moved forward.

The plates open to properly deposit the bags on the empty pallet.

The NEWTEC strengths



Row pusher

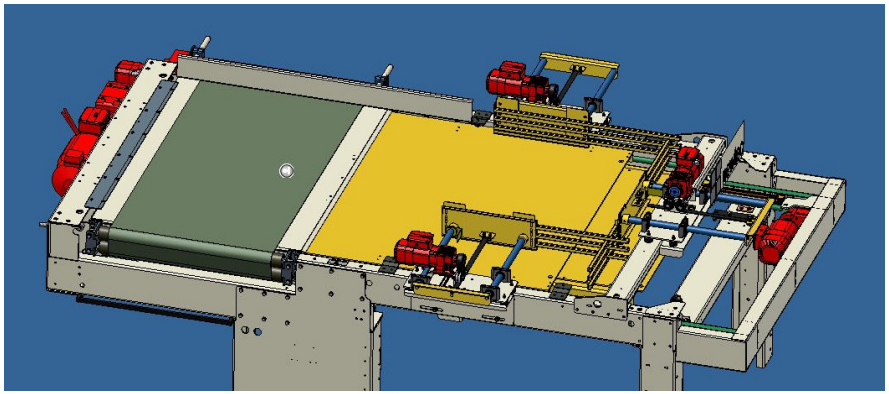
The row pusher is on top of the grouping belt conveyor.

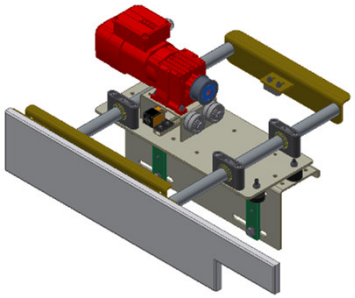
The NEWTEC strengths

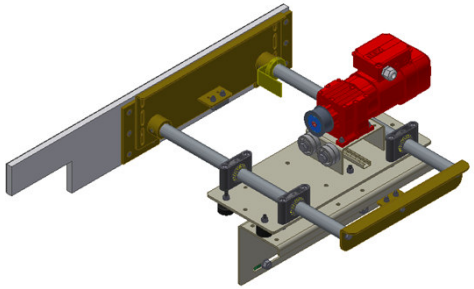
Row pusher

- Only a single row is pushed, never the complete layer.
- The bag design remains perfect.

The NEWTEC strengths



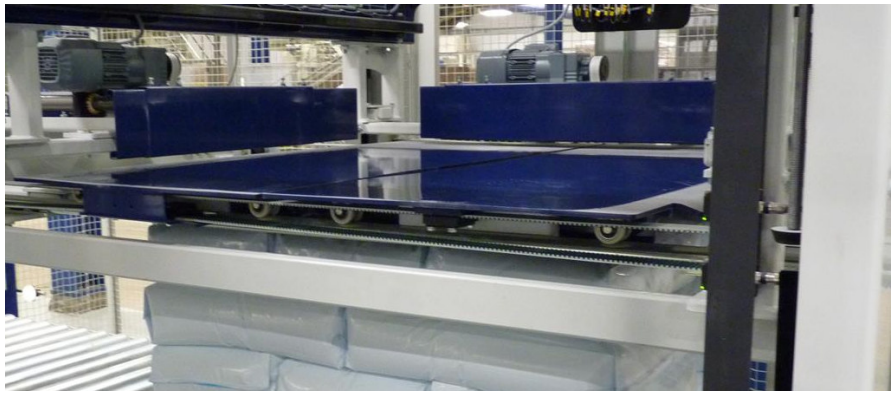




Sliding & conforming plates

- Major advantages against our competitors
- Available for all bags types

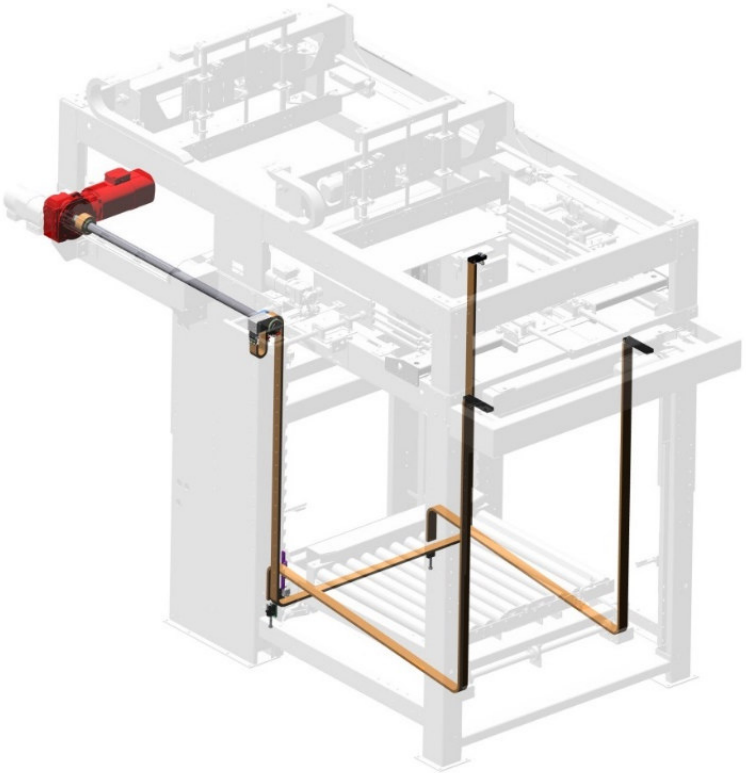
The NEWTEC strengths



Sliding & conforming plates

- High stacking quality
- Proper and smooth bag handling without any damage

The NEWTEC strengths



The bag elevator

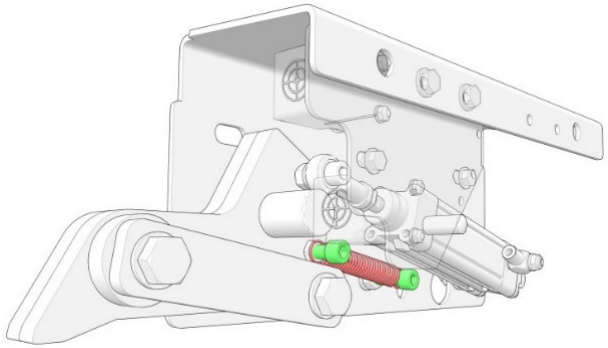
- The elevator is maintained at four points.
- The elevator is driven by inverter.

The NEWTEC strengths

The bag elevator

- Critical vibrations are eliminated.
- Smooth and proper handling of slippery bags or bags filled with unstable products.

The NEWTEC strengths



Elevator safety

The pneumatic safety device automatically blocks the elevator

- in case of emergency
- as soon as a safety door is opened

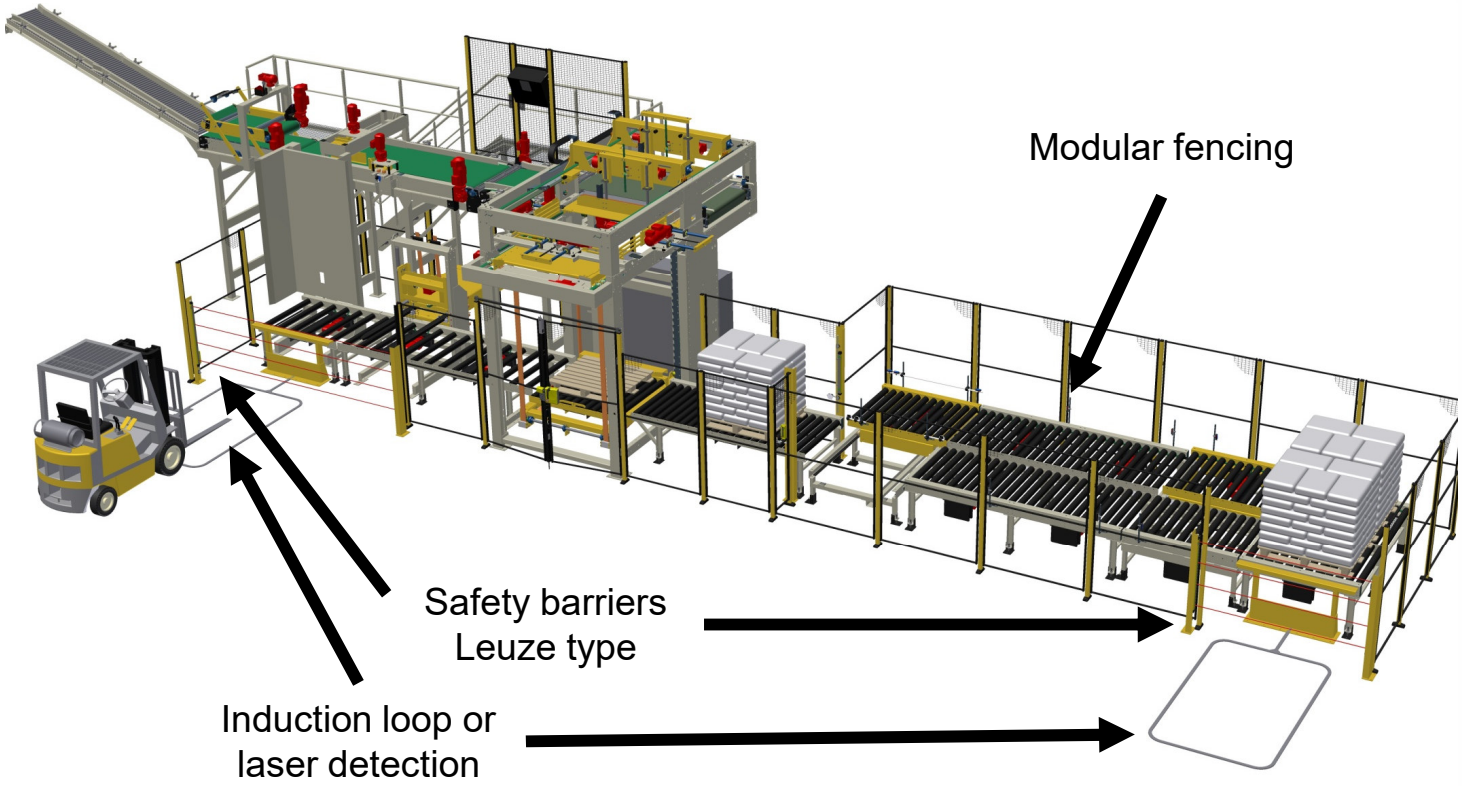
The NEWTEC strengths

Safety fences & doors

Axelent type
In standard

Fortress type
On demand for higher level of security

The NEWTEC strengths



Your Process: Our Concern

Local suppliers
For quick response times

Your machine - Our priority
All the machines are tested in Illzach

FAT in France
With your product

The friendliest palletizer in the world

AVENTUS

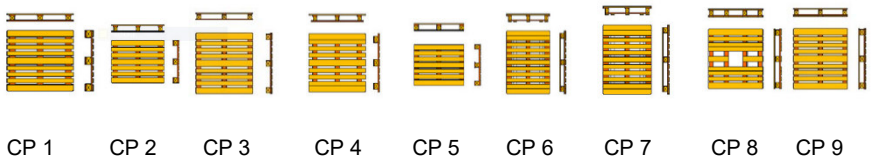
End-of-line solutions: PLATINUM

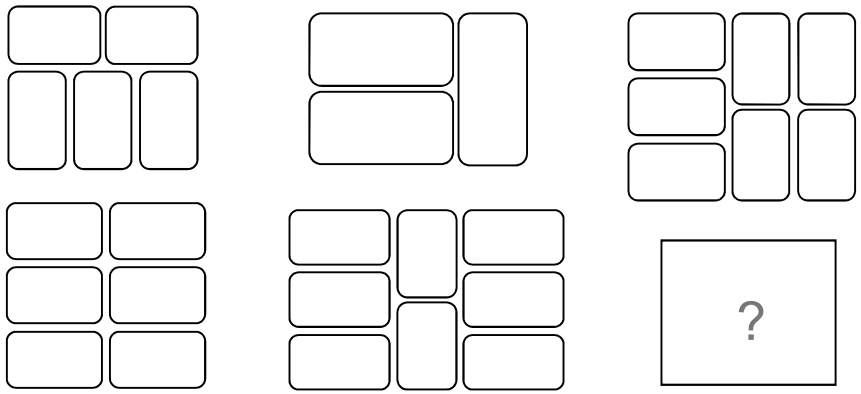
PLATINUM: Design standard

Wide range of bag sizes

- Full range of all FFS bags
- 10 – 50 kg

PLATINUM: Design standard





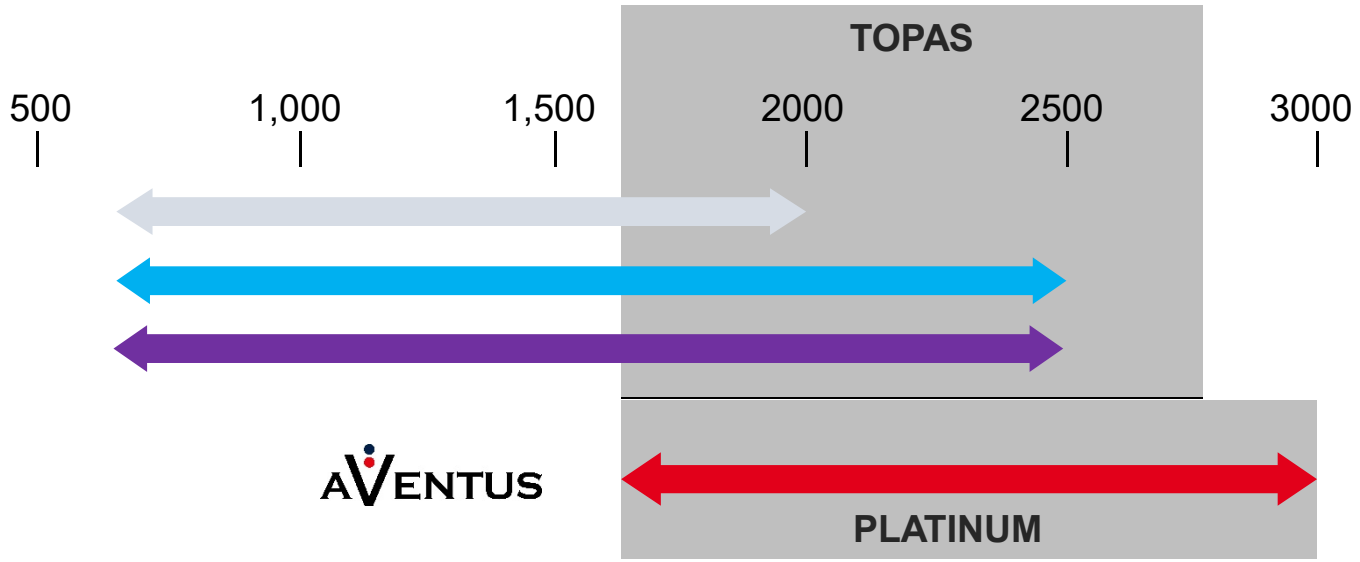
Wide range of pallet sizes

- Length: 1,000 – 1,00 mm
- Width: 760 – 1200
- Version available for US pallets

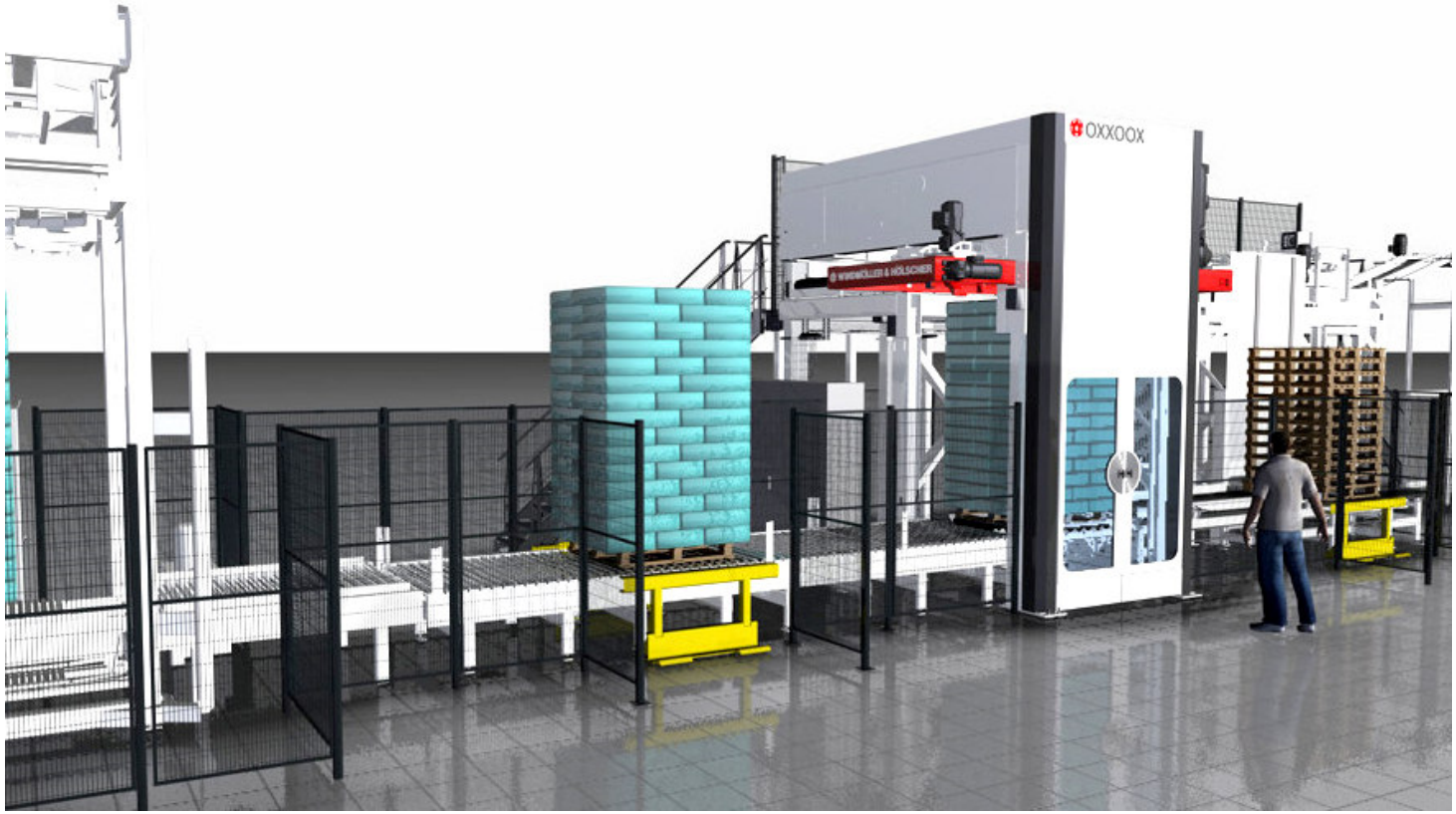
Most palletizing patterns

- Wide variety of bag layer patterns
- Up to 2400 mm stack height

PLATINUM: Design speed (bags/hour)



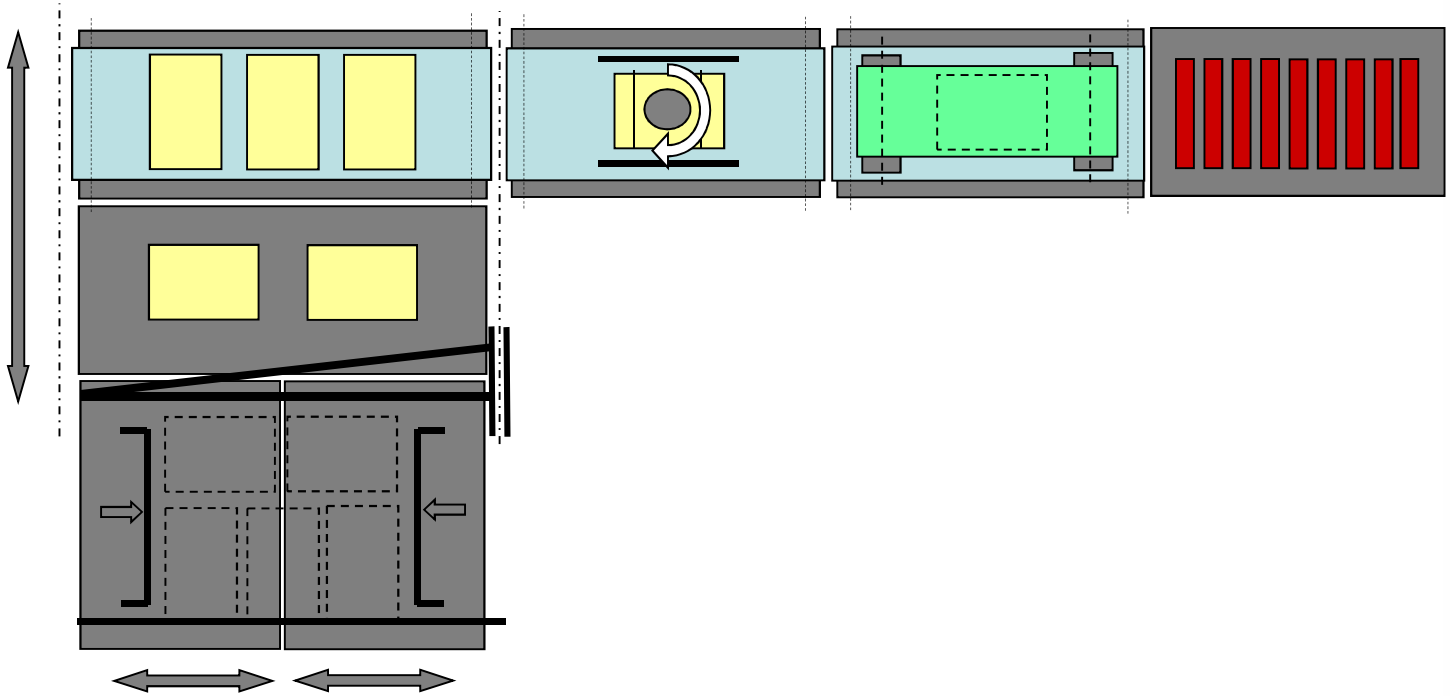
PLATINUM: Average output configuration



3 models

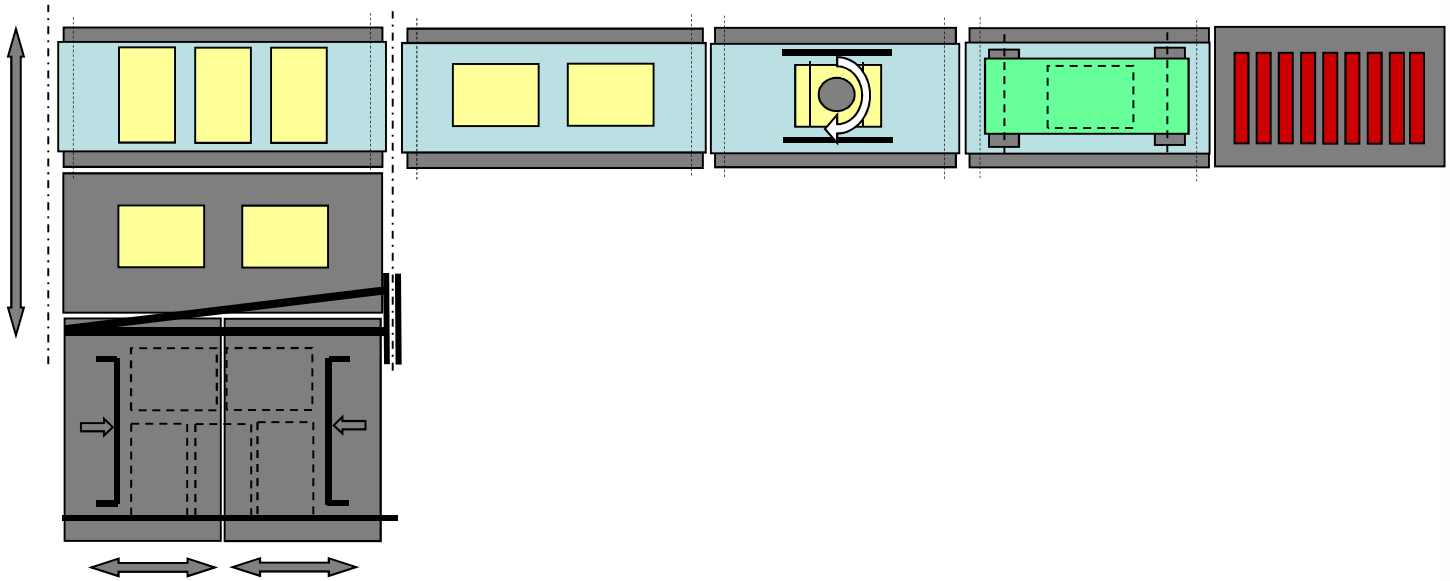
- 1800 bags/hour
- 2300 bags/hour
- 2800 bags/hour

PLATINUM: Configuration – Version 1800



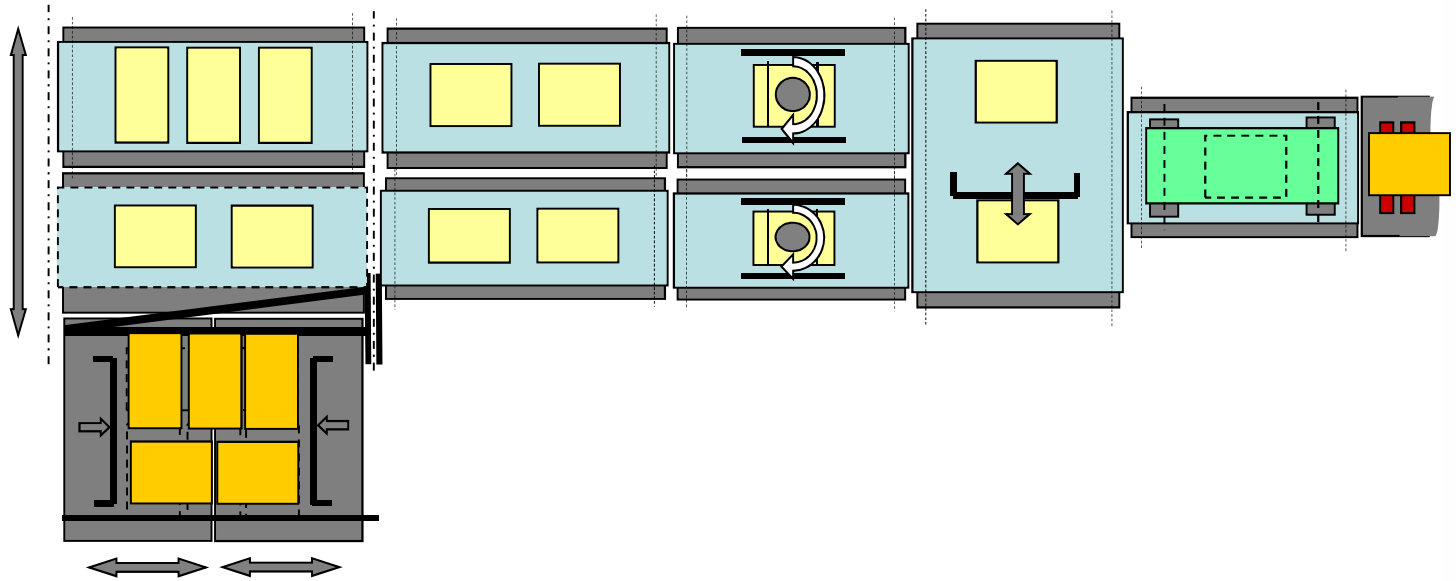
- Design speed: 1800 bags/hour
- Maximum palletizing speed: 1800 bags/hour
- Effective FFS speed: 1600 bags/hour

PLATINUM: Configuration – Version 2300



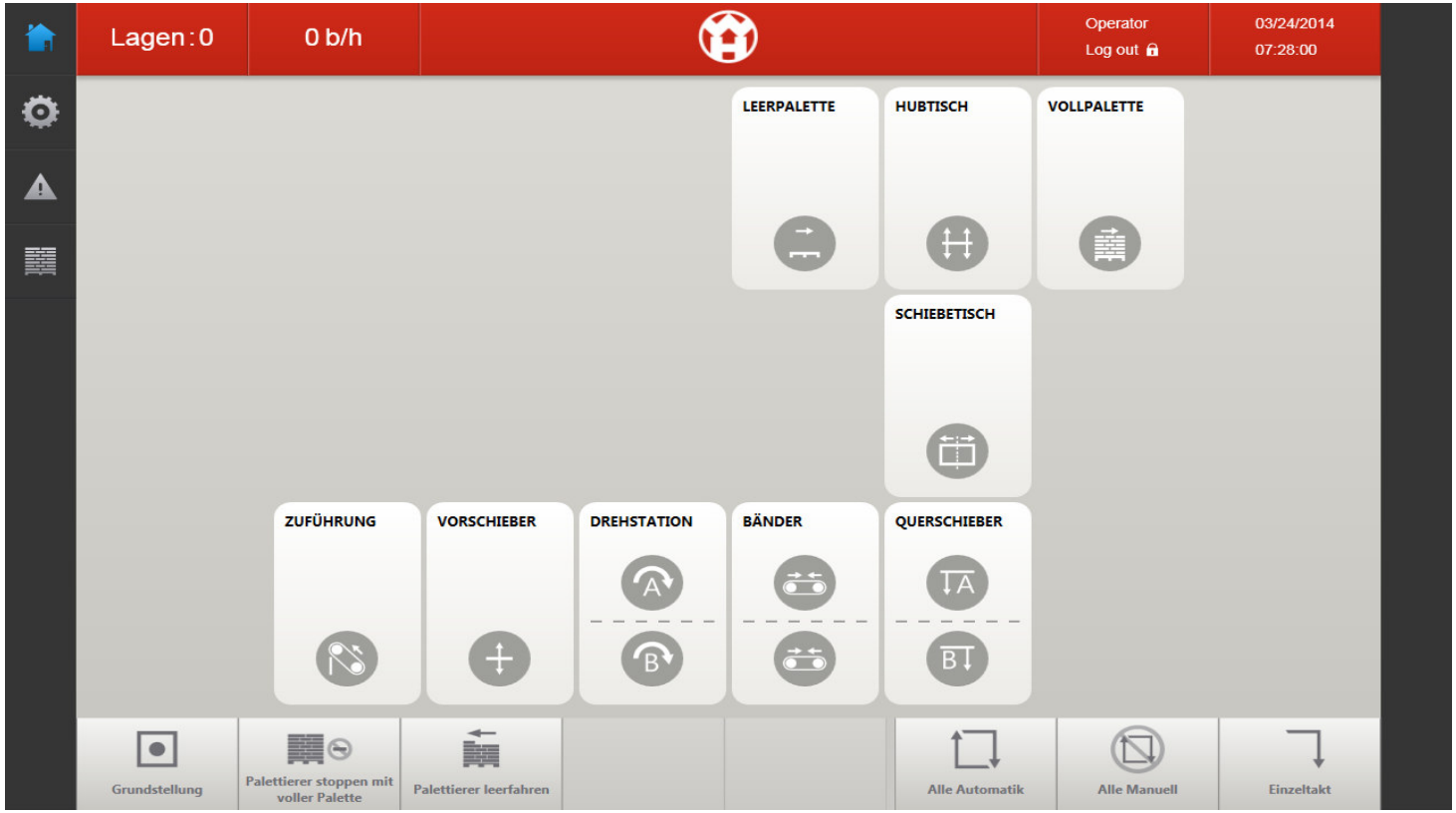
- Design speed: 2300 bags/hour
- Maximum palletizing speed: 2300 bags/hour
- Effective FFS speed: 2200 bags/hour

PLATINUM: Configuration – Version 2800



- Design speed: 3000 bags/hour
- Maximum palletizing speed: 2800 bags/hour
- Effective FFS speed: 2600 bags/hour

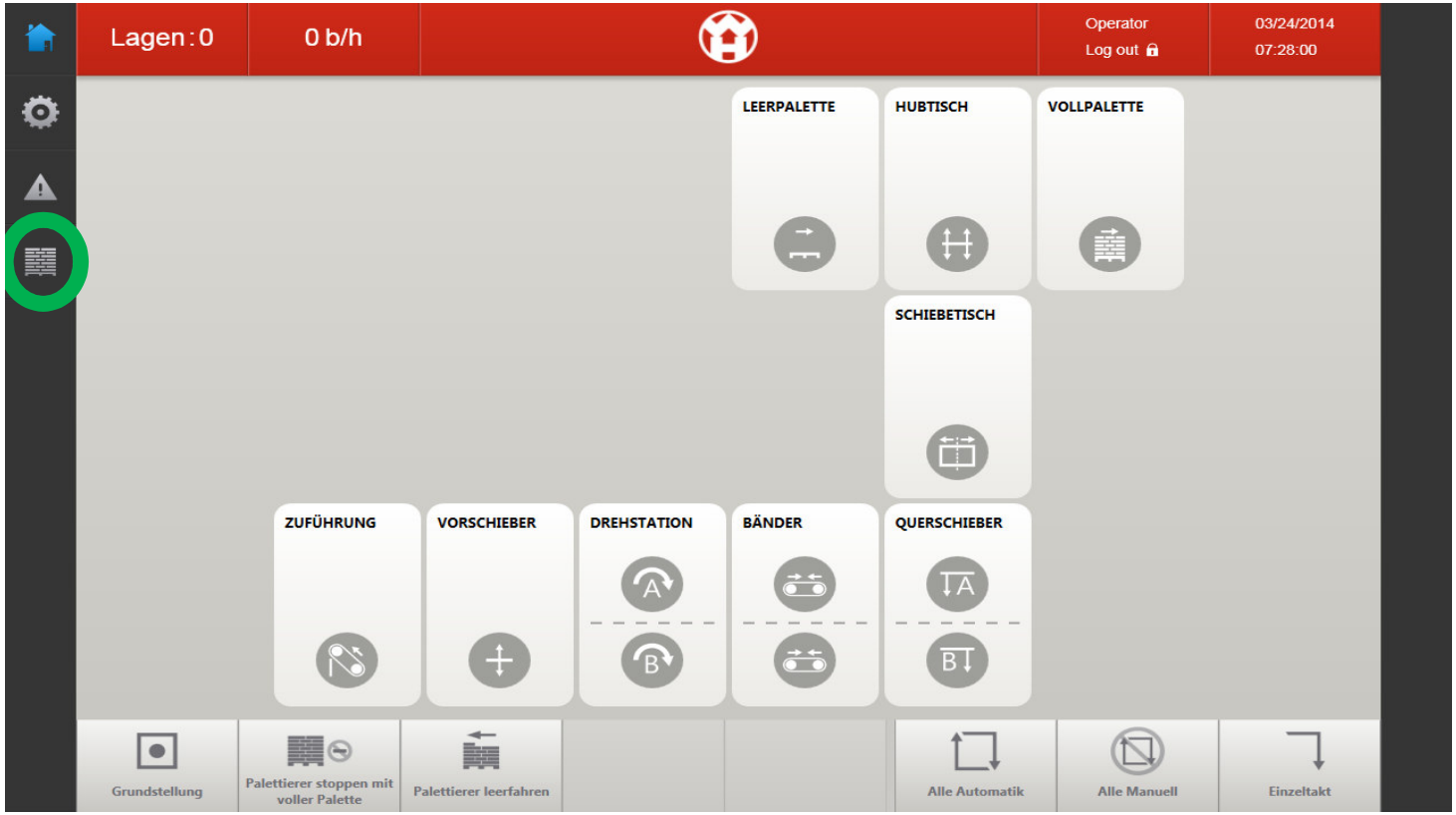
PLATINUM: HMI (Human Machine Interface)



An usual operation task:

Definition of a pallet

PLATINUM: HMI (Human Machine Interface)



An usual operation task:

Definition of a pallet

Select the corresponding main menu

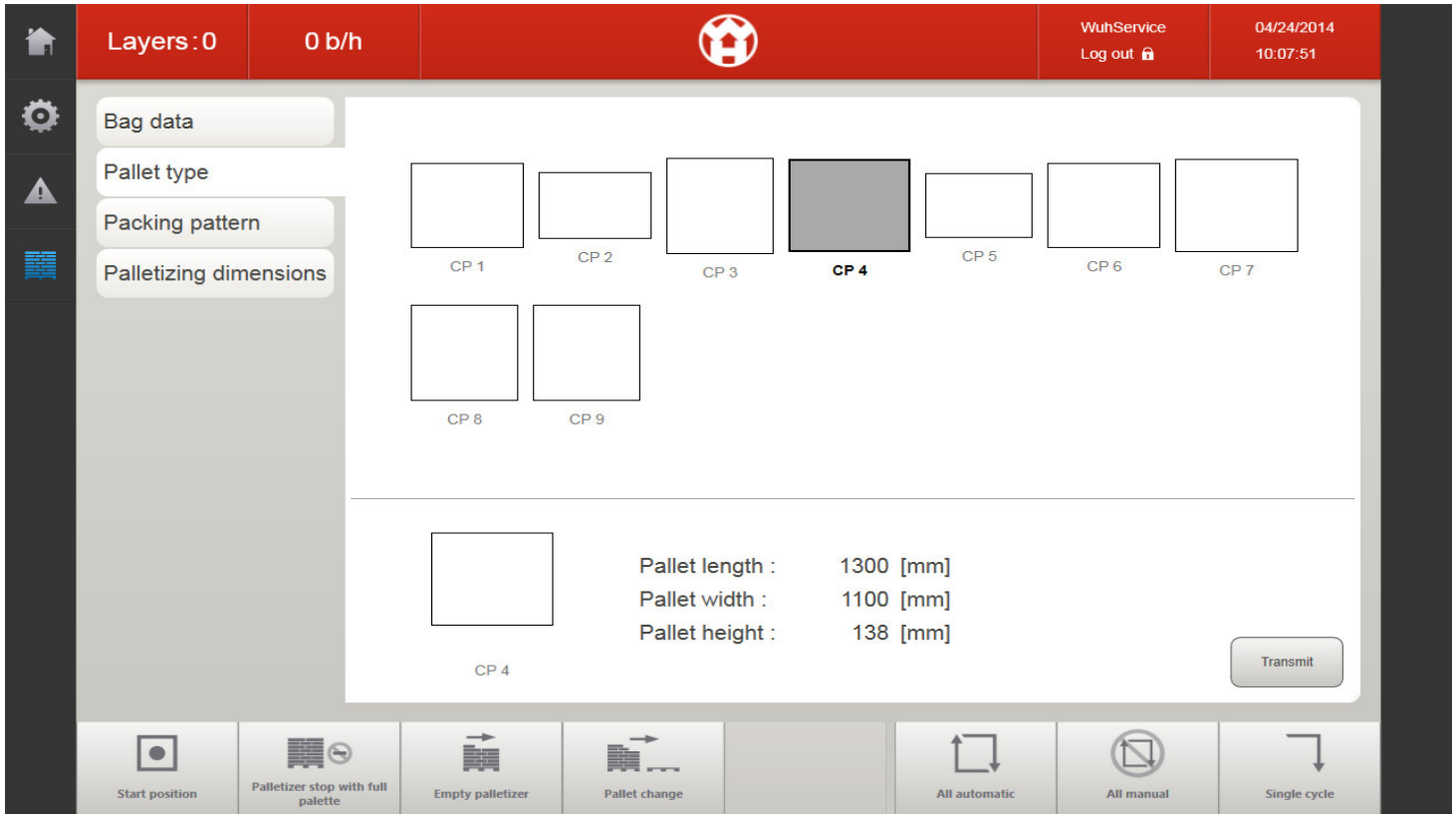
PLATINUM: HMI (Human Machine Interface)

An usual operation task:

Definition of a pallet

Input bag dimensions

PLATINUM: HMI (Human Machine Interface)

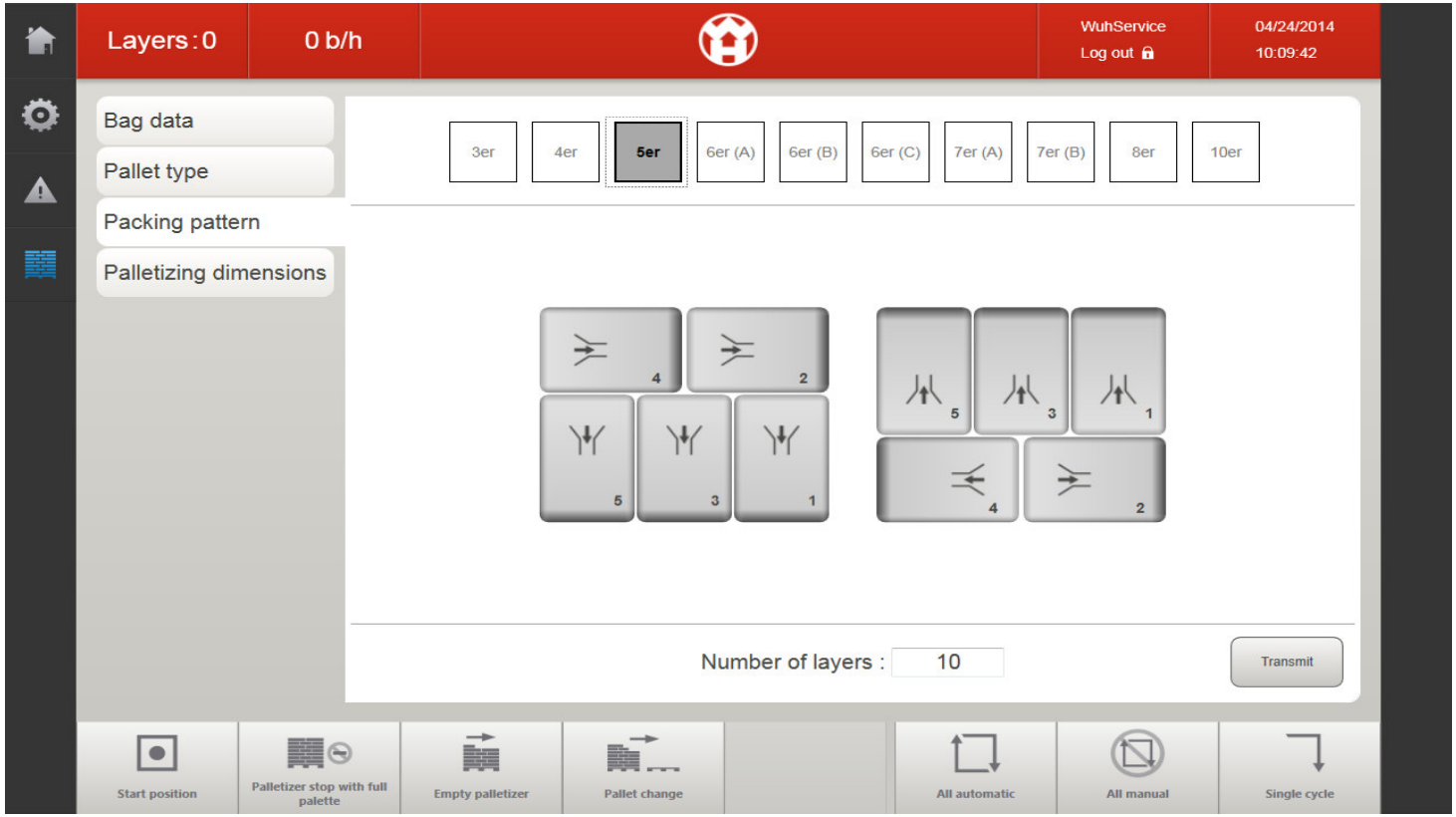


An usual operation task:

Definition of a pallet

Select a pallet type

PLATINUM: HMI (Human Machine Interface)

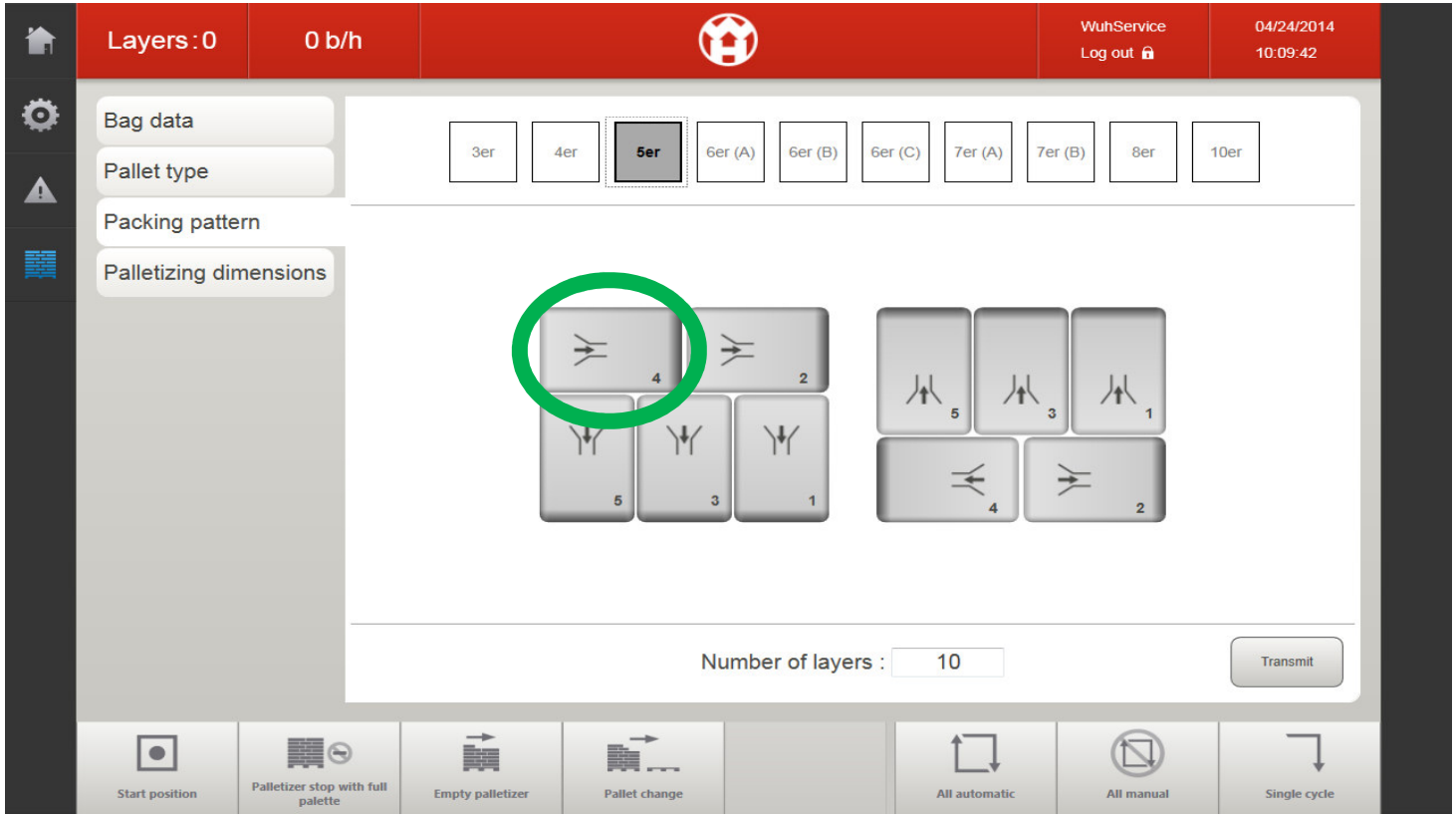


An usual operation task:

Definition of a pallet

Select a pattern

PLATINUM: HMI (Human Machine Interface)



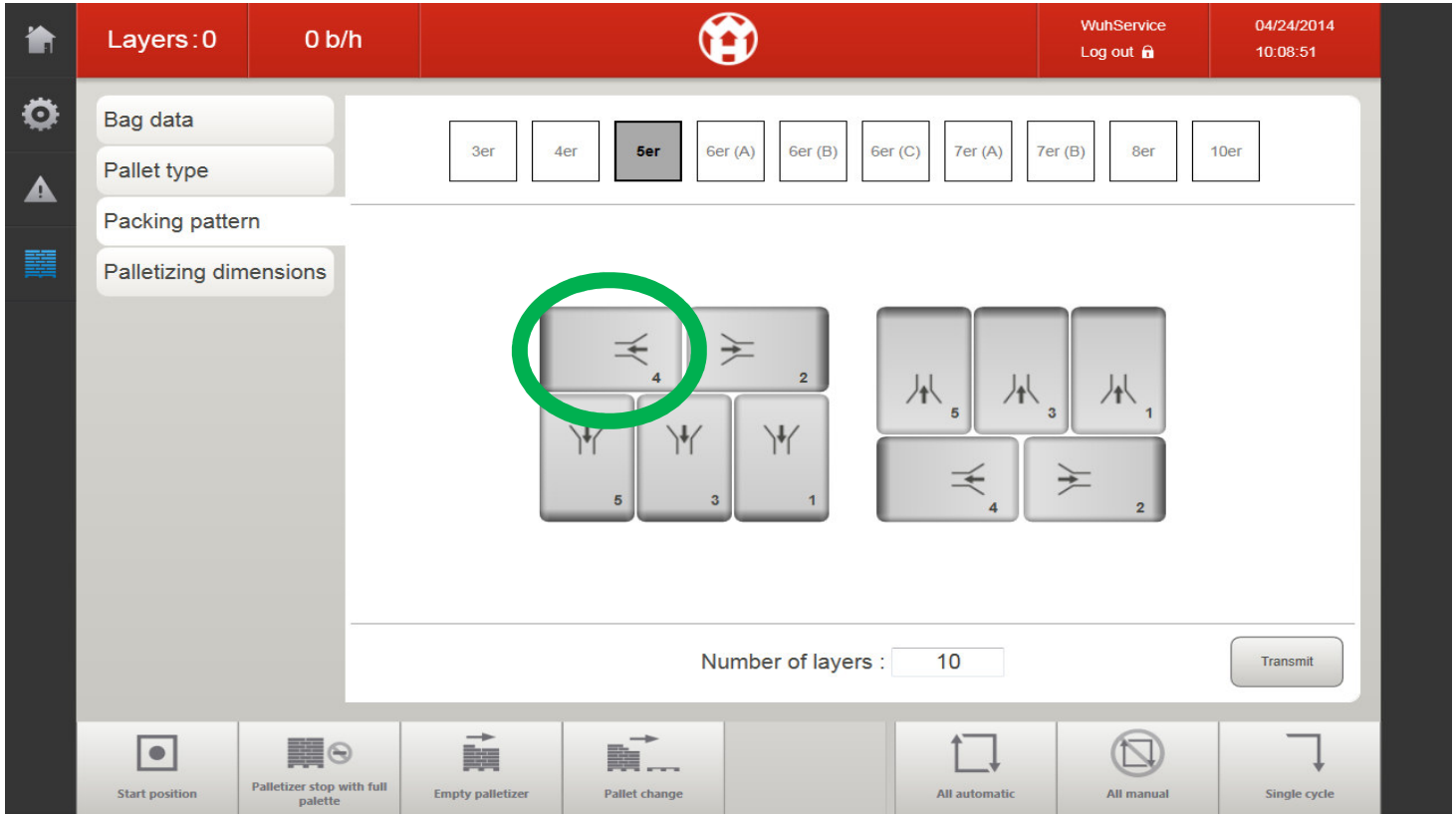
An usual operation task:

Definition of a pallet

Select a pattern

Maybe change the orientation of the bottom of the bag

PLATINUM: HMI (Human Machine Interface)



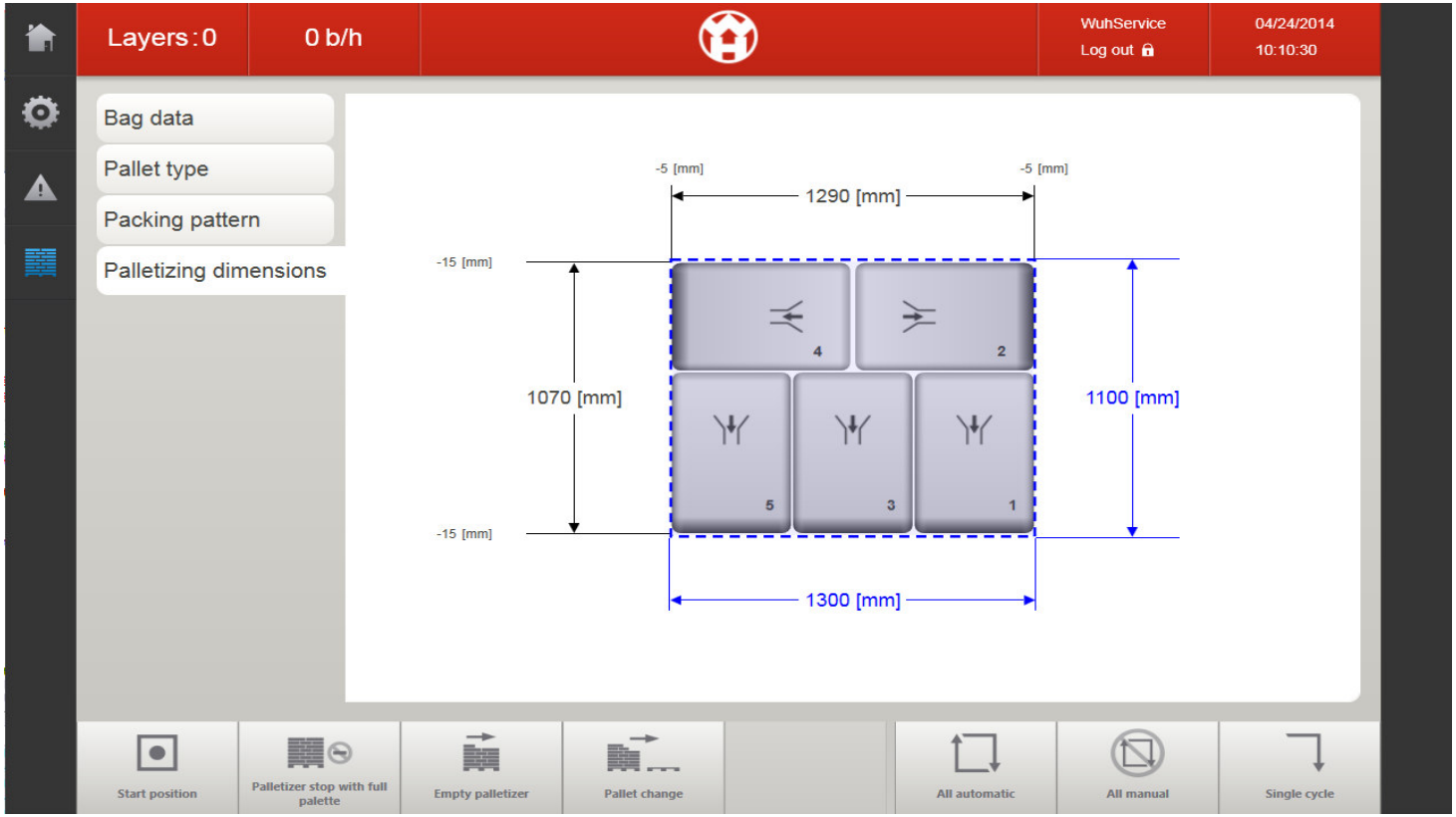
An usual operation task:

Definition of a pallet

Select a pattern

Maybe change the orientation of the bottom of the bag

PLATINUM: HMI (Human Machine Interface)



An usual operation task:

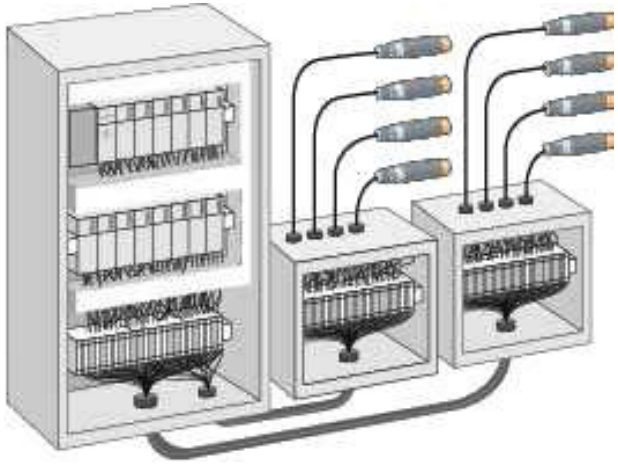
Definition of a pallet

Check the dimensions of the result

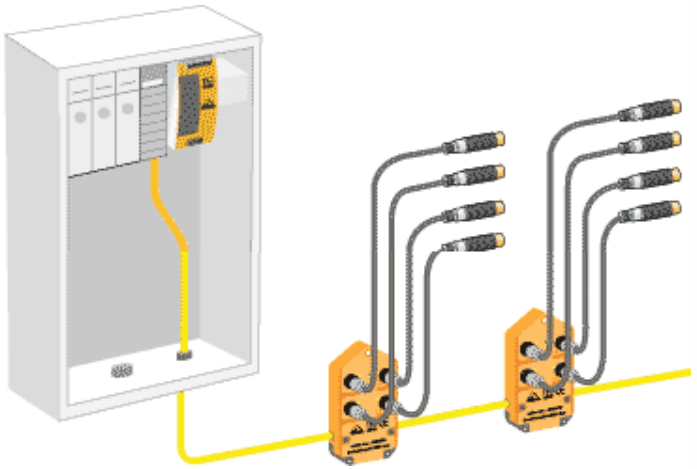
PLATINUM: Easy control of a complete line

- Check weigher
- Inkjet printer
- Metal detector
- Label applicator
- …

PLATINUM: AS-Interface – Simplified wiring

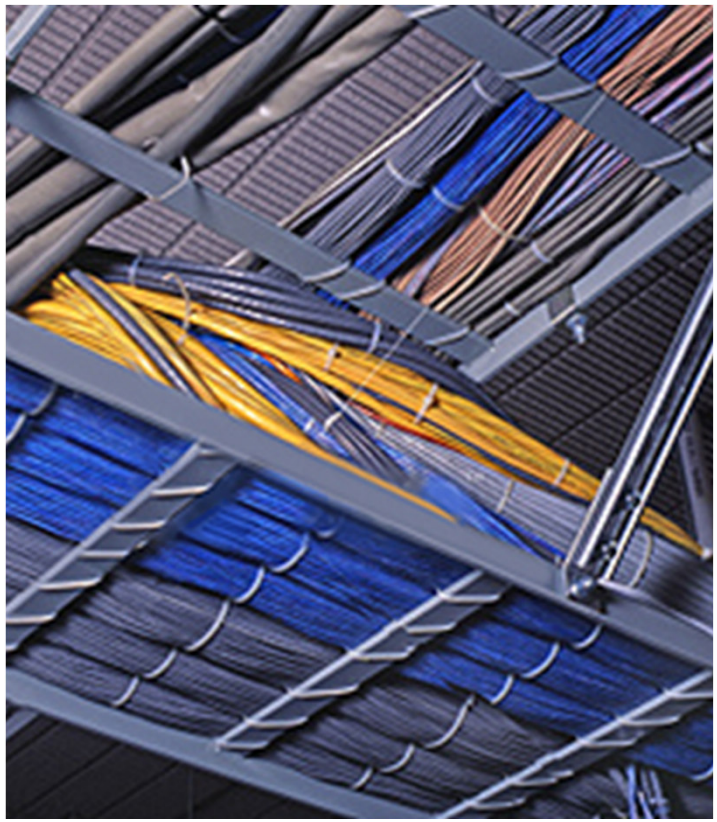


Example connection without AS-i

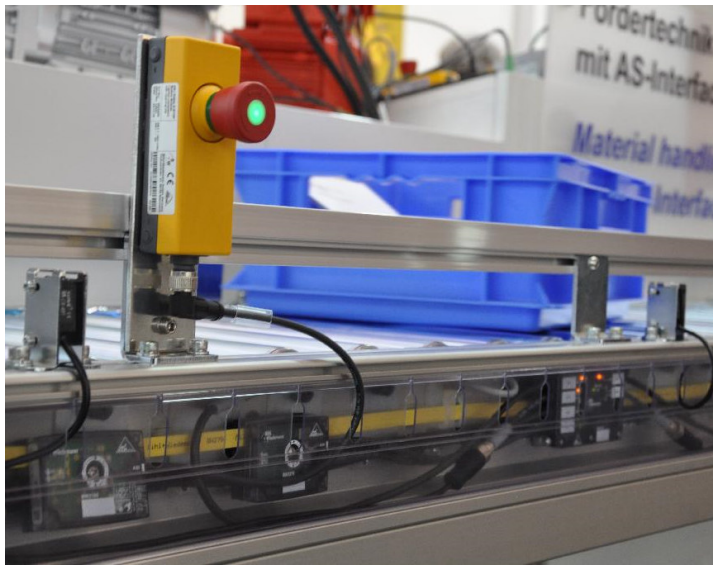


Example connection with AS-i

PLATINUM: Without AS-Interface



PLATINUM: With AS-Interface



Main advantages of AS-Interface

Each connection block has its own address

- Quick troubleshooting compared to conventional wiring.
- Conventional wiring only allows trouble shooting in zones (for ex. bag pressing station, empty pallet supply, etc.).
- Troubleshooting made easier via remote diagnostics.

Easy to expand with new components (quick connection)

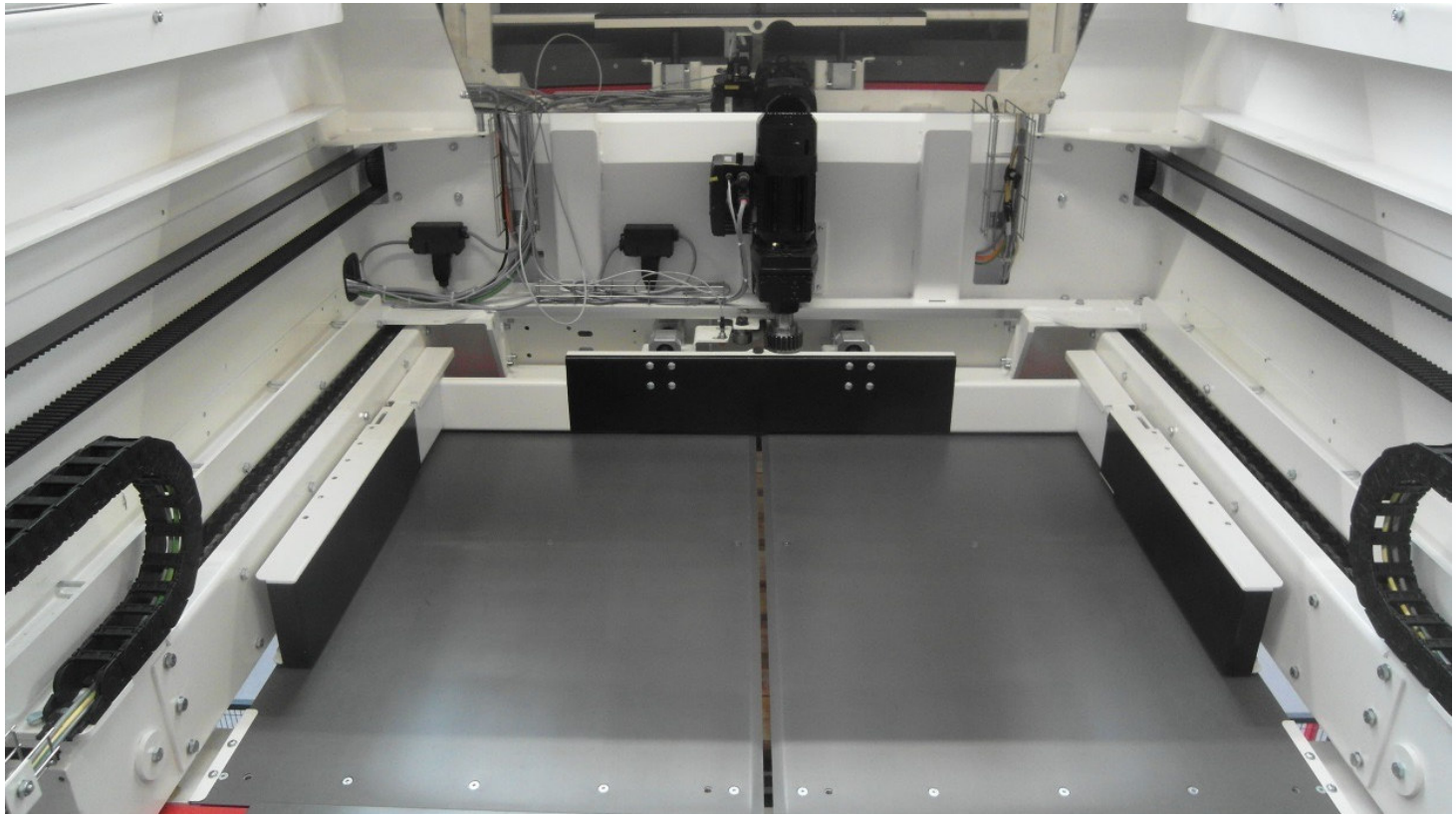
Lower repair/exchange time of damaged components

Takes only 25 – 50 % of the time compared to conventional wiring.

Simplicity of electrical system

Does not necessarily require an electrician to replace an electronic component

PLATINUM: Bag positioning on layer table

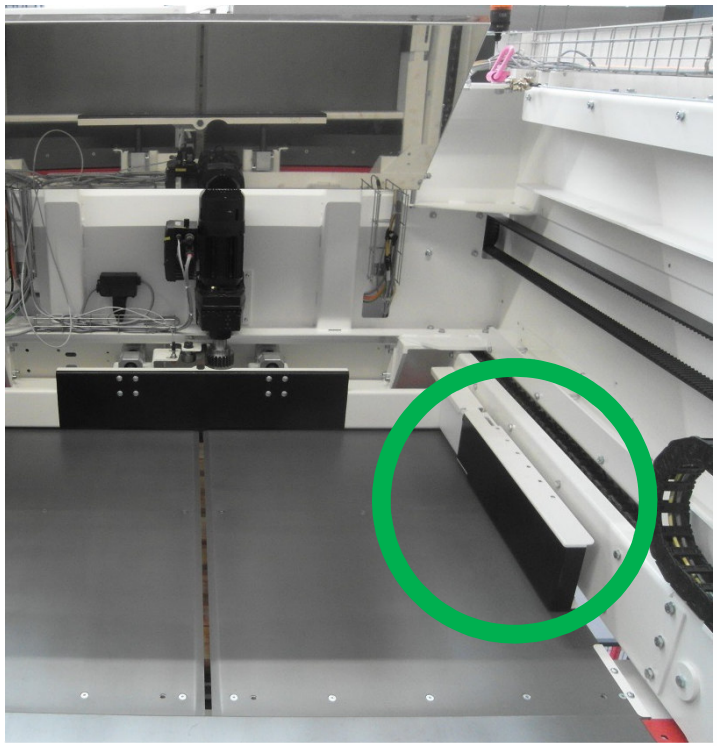


Precise bag positioning

All movements needed for bag handling are frequency or servo driven.

PLATINUM: Bag positioning on layer table

Competitors‘ approach



PLATINUM

PLATINUM

Anti-friction coating or aerated layer stacking table

ARGON STRETCH HOOD SYSTEM

Manufactured by

ARGON

Why Lachenmeier?

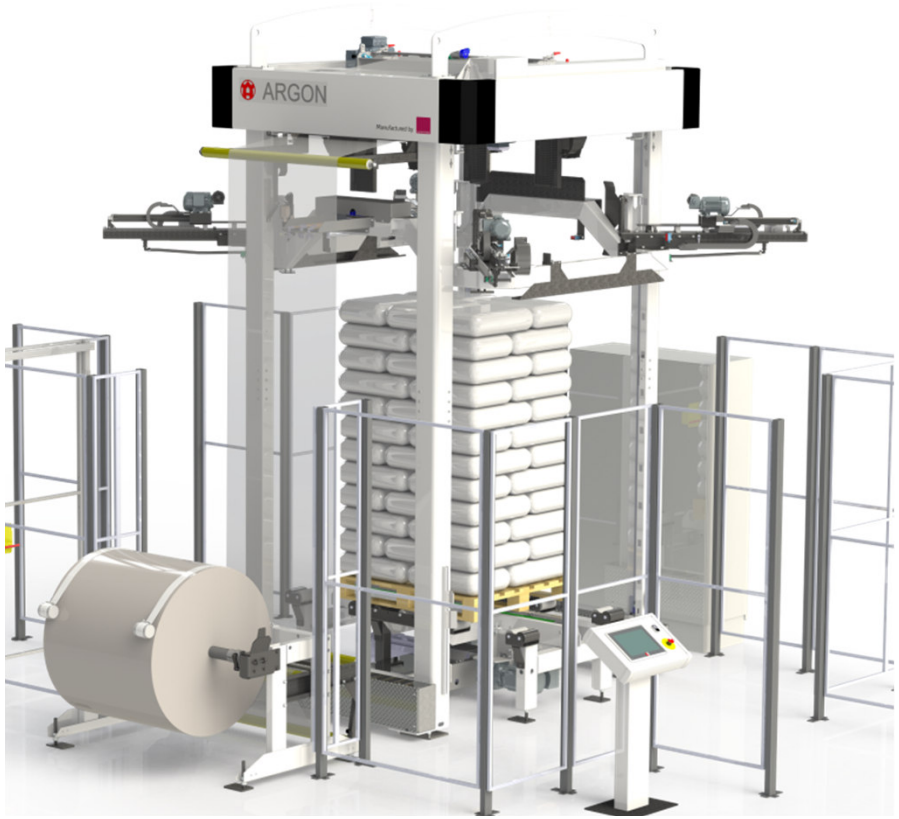
- More than 1500 machines in the market
- 100 % dedication to stretch hood
- Market leader process technology and innovation

ARGON: Service

Full service by AVENTUS

- 24 h hotline
- Full line service
- Short response time

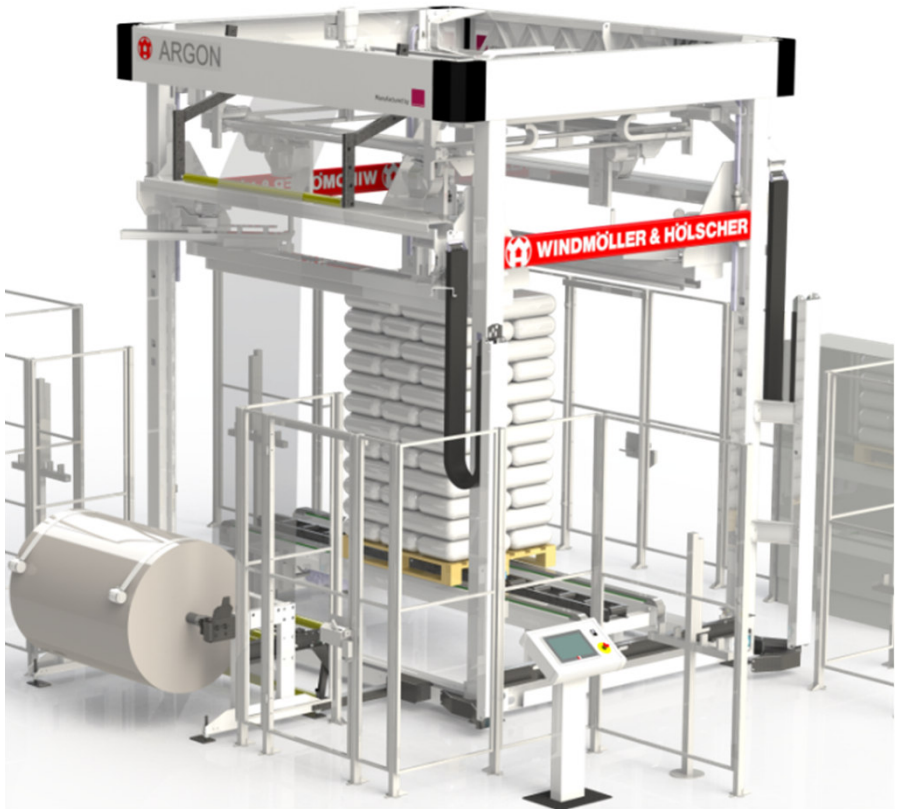
ARGON: Design speed



ARGON – Version T1

- Designed for 1 – 2 pallet sizes
- Less flexible stretching
- Speed:
  60, 80, 100 packages per hour

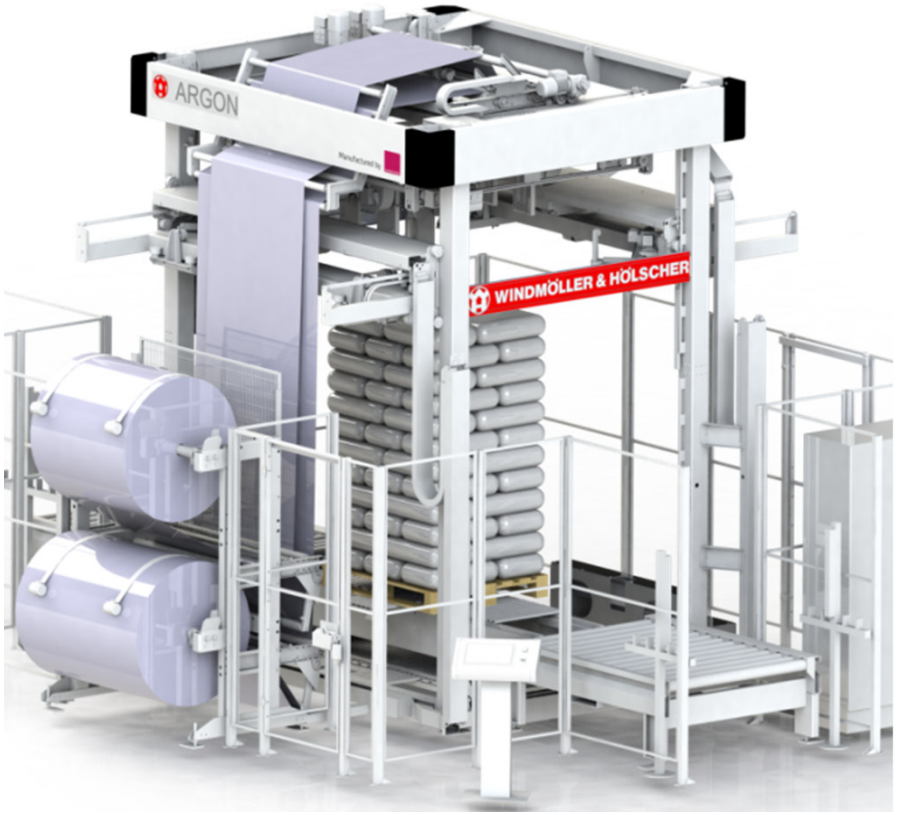
ARGON: Design speed



ARGON – Version TL

- Designed for 1 – 2 pallet sizes
- Less flexible stretching
- Speed:
  100, 180 packages per hour

ARGON: Design speed



ARGON – Version X1

- Designed for multiple pallet sizes
- Flexible stretching
- Speed:
  100, 180 packages per hour

ARGON: Accessibility

Service at floor level

- Patented top-down feature
- Easy access

ARGON: Accessibility

Service at floor level

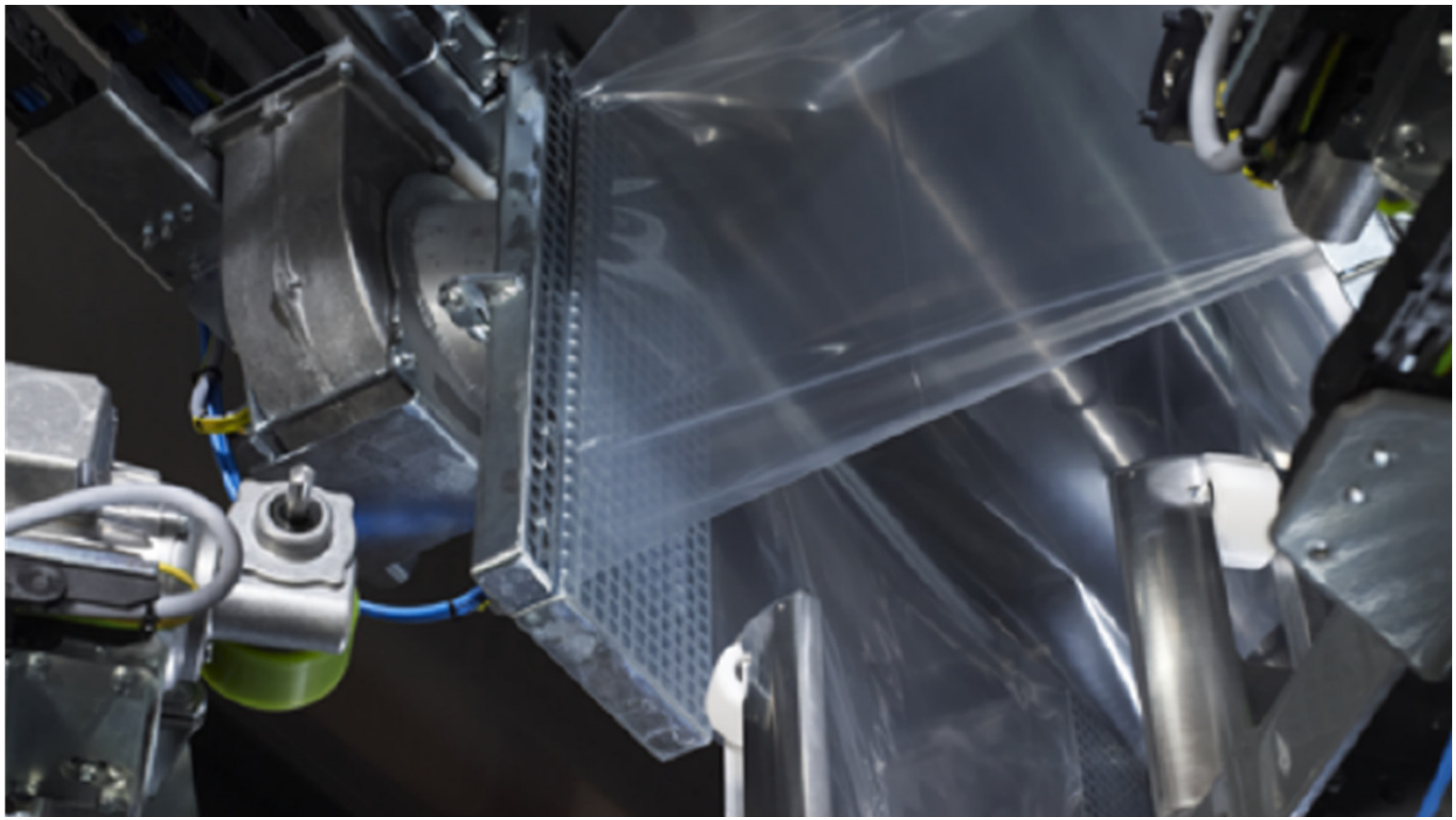
- Lock the frame at any desired service height
- World class safety features:
  No ladder needed
  No need to carry tools or parts to the top

ARGON: Easy maintenance

Accessibility

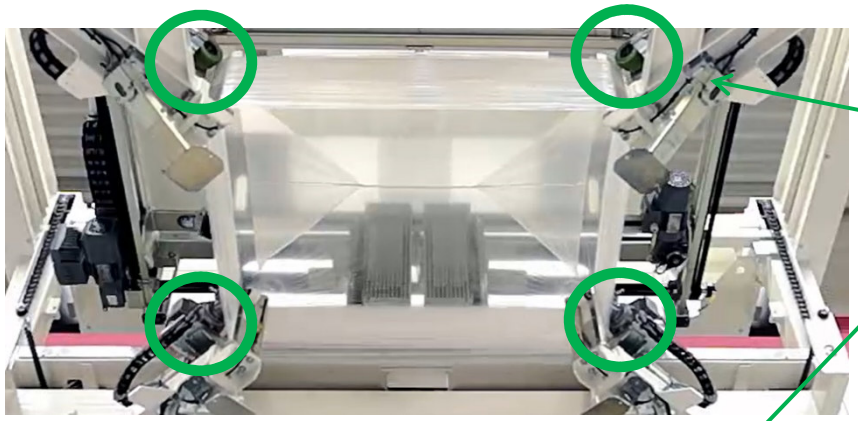
- Easy replacement of sealing bar and knife
- Only one tool needed

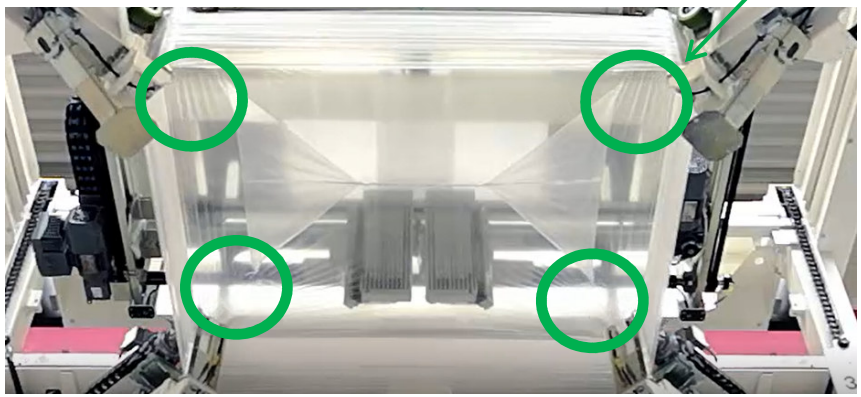
ARGON: Film opening system



- Most secure opening system in the market
- Combined vacuum and mechanical fixation

ARGON: Horizontal stretch





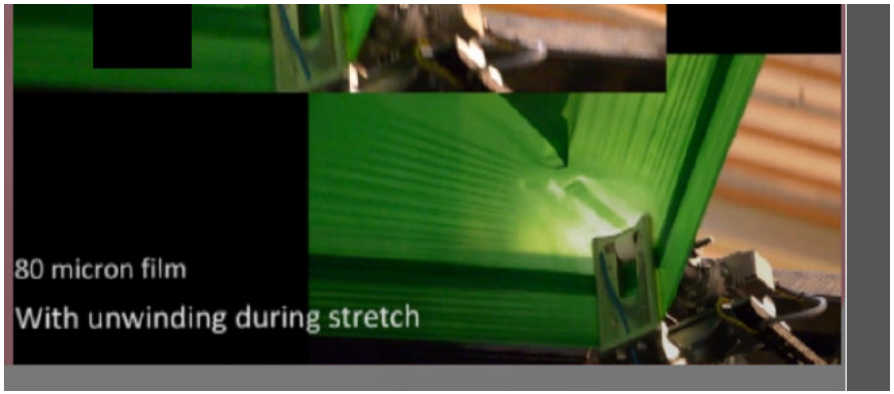
Patented system

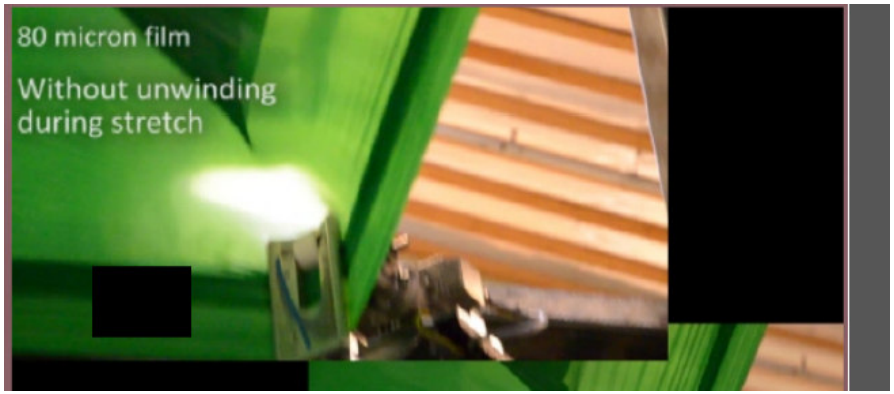
Wheels roll off film during stretch.
= Stronger corners, secure hoods.

Competitors block wheels and stretch film more.

= Weaker corners, easier to break.

ARGON: Horizontal stretch





Patented system

- Stronger corners, secured hood:
  Wheels roll off film during stretch.

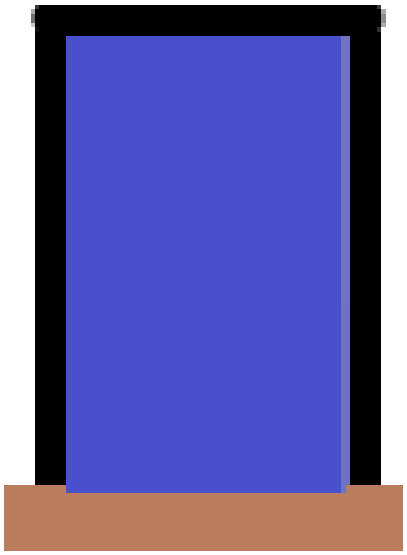
- Weaker corners, easier to break:
  Competitors block wheels and stretch film more.

ARGON: Vertical stretch

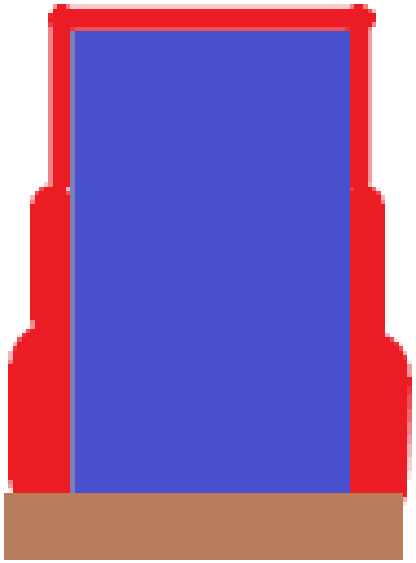
Stretch system

- Film unwinding during stretching.
  Control of every inch of film during stretching.
- Most reliable system with thinner films and different film qualities.
- Possible film saving of 10 % and more

ARGON: Vertical stretch



ARGON



Competitor

Petrochemical industry: Questions - answers