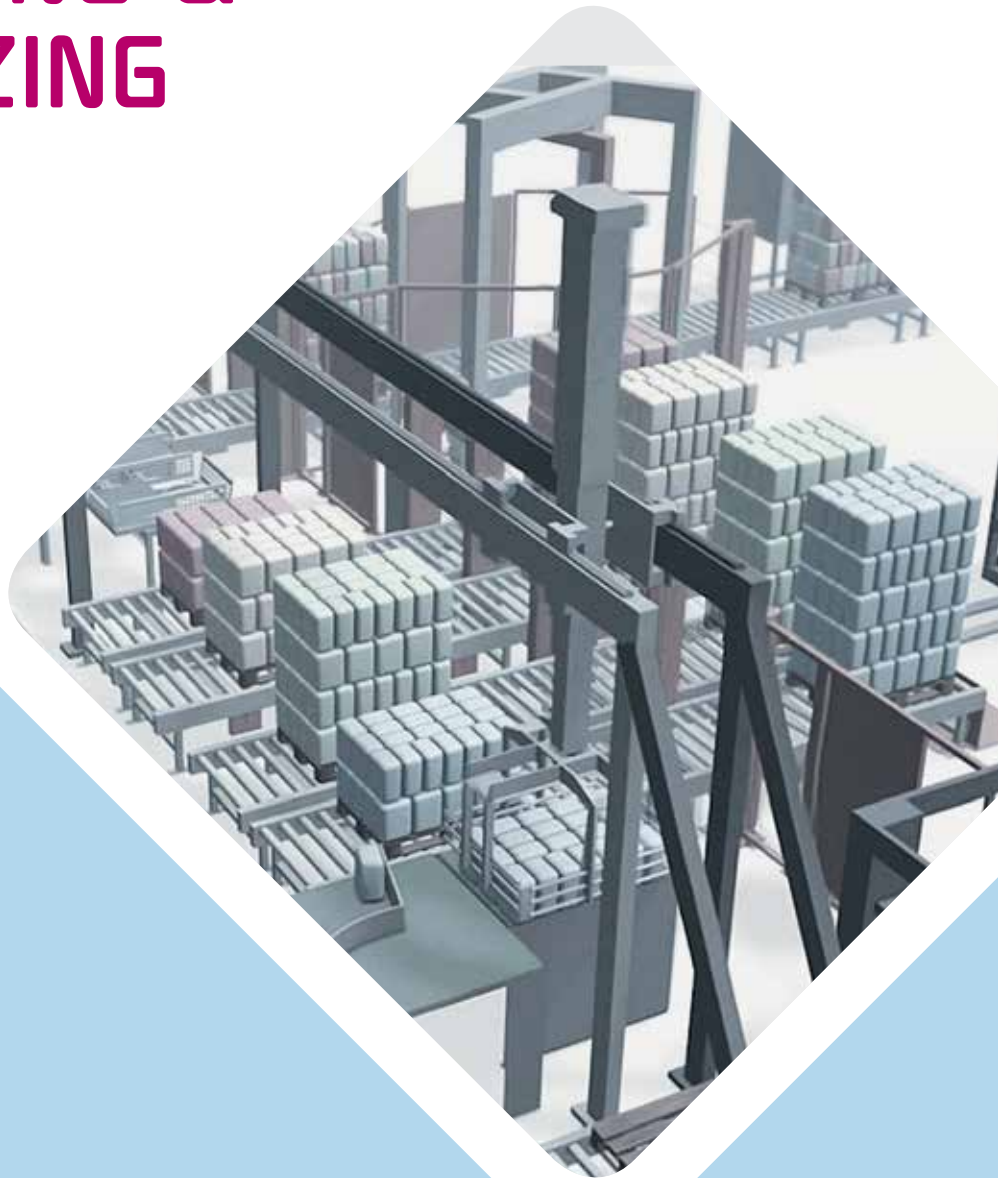


Harmony in Motion

CONVEYING & PALLETIZING





Quality, reliability, process stability and a long life cycle – that’s what palletizing robots from Langhammer stand for. A variety of infeeds and gripper systems make it possible to palletize almost any product. Due to their quick changeover times when it comes to different formats our palletizers are especially suited for handling high volumes and diverse packaging formats. Be it the stand-alone version or integrated in a palletizing center – high availability and a reliable high level of performance are the core characteristics of Langhammer machines.

Optimizing material flow results in faster cycle times, higher process exactness as well as improved working conditions, while at the same time reducing costs. Langhammer designs and builds tailor-made conveyor systems for inner plant trans-

port tasks. Our conveyor units transport our customer’s products to any given position within the plant – from processing to the warehouse, from the warehouse to shipping. Your unique and individually planned transport and conveying installation evolves from a multitude of Langhammer standard components.

Increasing productivity, optimizing processes and saving costs are factors which determine market success. An exact functioning system harmoniously integrated in a complete inner plant logistics forms the basis for optimal material flow. We are continually improving our components and adapting them to the needs of our customers to be able to constantly satisfy growing demands and requirements.



Palletizing in Perfection

High Performance Palletizing

| | |
|---------------------------------------|------------|
| Layer Palletizers PA8 | page 04/05 |
| Stack Palletizers PA14 & Stacker KST5 | page 06/07 |
| Layer Palletizers PA7 | page 08/09 |
| Linear Robots LR03 | page 10/11 |
| Gantry Robots PRO03, PRO04 | page 12/13 |
| Articulated Arm Robots | page 14/15 |
| Gripper Systems | page 16/17 |
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Customized Conveyor Technology

| | |
|---|------------|
| Customer Goods Conveyor Technology (roller, belt, chain conveyors) | page 20/21 |
| Vertical Lift Conveyors SPF1S, SPF1C | page 22/23 |
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System Integration

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The values given in the tables are maximum values. For special machine designs, please contact our sales department.



A



B



C

HIGH PERFORMANCE PALLETIZING

The Allrounder in Pallet Handling

Layer Palletizer PA8

Use and Application

The **PA8** Layer Palletizer is a high performance palletizer perfect for palletizing items such as bundles, cartons, and containers. Thanks to its small footprint and ease of operation it can be ideally combined, either as a single-line or multi-line palletizer, with other palletizers to form a palletizing center.

The **PA81** version is designed with a pallet run in the lengthwise direction – of importance when palletizing bags. The **PA82** version is constructed for palletizing heaviest pallet loads and pallets can run in the length or crosswise direction as required. A typical application is palletizing display pallets for the Hygienic Paper Industry.

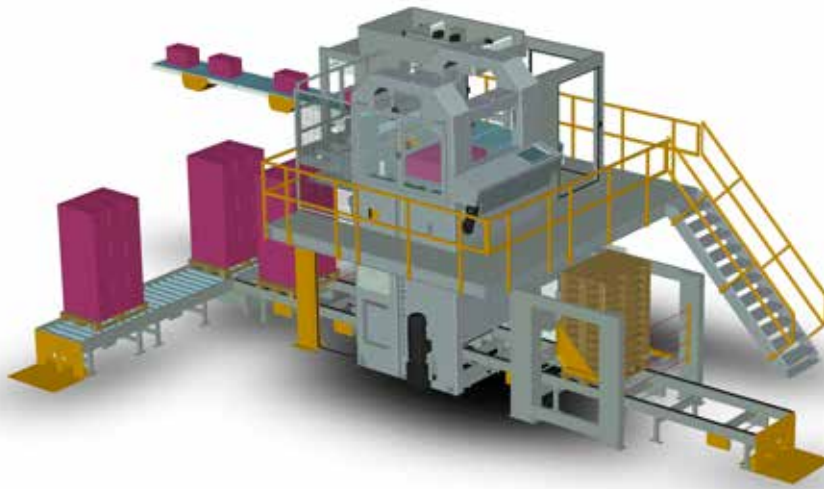
Function

Products are rotated and orientated in the infeed section as programmed in the HMI. The former pusher transfers the product in sections onto the sliding plate until a full layer has been completed. This sliding plate is located directly over the pallet bay. It opens and transfers the complete layer onto the pallet below, the pallet lift lowers the individual layers one by one, the sliding plate closes and the formation of the next layer begins.

Depending on the program selected, an interleaf sheet is now placed onto the new layer. Interleaf sheets can either come off a pallet, a roll or a dispenser. Discharge of the full pallet and positioning of the next empty one is effected automatically.

Advantages

- High output rate with a wide product range
- Precise operation allows for the direct production of sales pallets
- Simple and quick product changeovers due to toolless format changes
- Minimum space requirement facilitates the integration of the machine into existing production lines
- Modular palletizer design adapts easily to any given layout
- Extendable through the Langhammer building block system



| Type | | PA8 | PA81 | PA82 |
|---------------------------|---------|--------------|-----------------------------|-----------------------------|
| Dimensions | | | | |
| Length | mm | 2100 | 2000 | 2000 |
| Width | mm | 2100 | 2100 | 2200 |
| Height | mm | 4910 / 5310 | 4910 / 5310 | 4910 / 5310 |
| Pallet format | | | | |
| Min. footprint | mm | 600 x 800 | 600 x 800 | 600 x 800 |
| Max. footprint | mm | 1000 x 1200 | 1280 x 1360 | 1400 x 1400 |
| Pallet height | mm | 2100 / 2500 | 2100 / 2500 | 2100 / 2500 |
| Pallet handling | | transversely | lengthwise and transversely | lengthwise and transversely |
| Layer weight | kg | 250 | 250 | 250 |
| Pallet weight | kg | 1200 | 1200 | 1500 |
| Retail pack output | pcs/min | 210 | 210 | 210 |

HIGH PERFORMANCE PALLETIZING

The Versatile Duo For Limited Space Situations

Stack Palletizer PA14 and Stacker KST5

Use and Application

Within limited space situations the fully automatic stacking and palletizing unit is the first choice for the flexible handling of all market formats. The slimly designed **Stacker KST5** proves itself to be economical and maintenance friendly when it comes to stacking plastic cases, meat crates and nestable carton trays or ones with stacking corners or mixed pallet commissioning. It can also stack cartons and trays or bakery baskets without pallets. Necessary product and format changeovers are software controlled and require no tools.

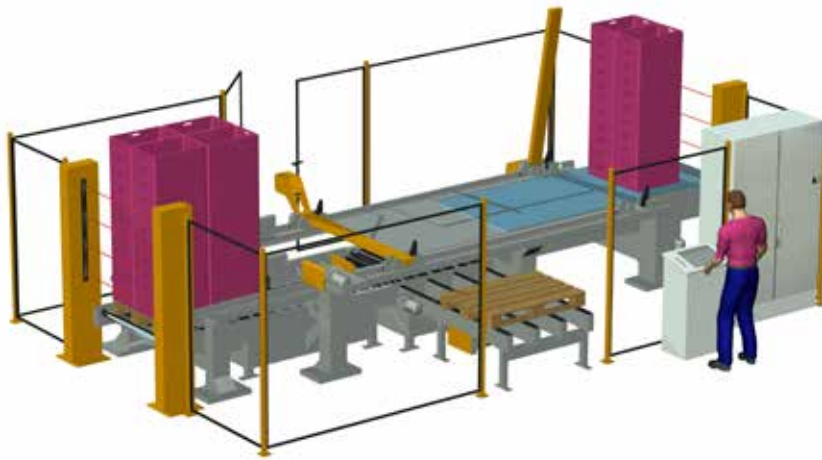
The **Stack Palletizer PA14** is ideally suited for palletizing pre-stacked containers and the upstream shuttle system allows for collecting different product stacks and creating mixed product pallet loads.

Function

Each **KST5** stacks the product in the form of a tower and buffers them in stack lanes which are aligned to the production lines. After four stacks or two stack pairs have been formed they are grouped into a single unit to be loaded onto pallets. The case stacks are transferred from the **KST5** onto the sliding apron of the **PA14**. The sliding apron moves over the empty pallet and the stacks are then lowered onto it. An electrically driven side compression prevents the stacks from falling over and positions them exactly. With the use of an optional supplementary compression it is possible to palletize smaller formats such as 8 or 6 stacks.

Advantages

- Economic and maintenance friendly articulated arm robot alternative
- Flexible plastic case and carton tray stacking heights
- Changeover times for gripper and format parts are eliminated due to automatic format changeovers
- Unit performance can be expanded through additional stackers
- Use of Euro pallets, Duesseldorfer half pallets, and industrial pallets



| Type | | PA14 | KST5 |
|--------------------------------|-----------|-------------|--------------------|
| Dimensions | | | |
| Length | mm | 7560 | 1650 |
| Width | mm | 2950 | 1300 |
| Height | mm | 2740 | 3700 |
| Pallet formats | | | |
| Min. footprint | mm | 800 x 600 | - |
| Max. footprint | mm | 1000 x 1200 | - |
| Pallet height | mm | 2200 | 2200 |
| Product size | | | |
| Length | mm | 590 - 640 | 590 - 640 |
| Width | mm | 370 - 540 | 370 - 540 |
| Height | mm | 80 -250 | 80 - 250 |
| Infeed / Outfeed | | - | S / C Form |
| Pallet / product weight | kg | 600 | 15 (150 per stack) |
| Output | | | |
| Pallets | Pallets/h | 100 | - |
| Boxes | Boxes/h | - | up to 1300 |

HIGH PERFORMANCE PALLETIZING

The Consumer Goods Specialist in Layer Handling

Layer Palletizer PA7

Use and Application

The **Layer Palletizer PA7** is ideal for universal use in the middle class range and for a large variety of applications and products - such as cartons, bags, packs, containers, plastic cases etc.

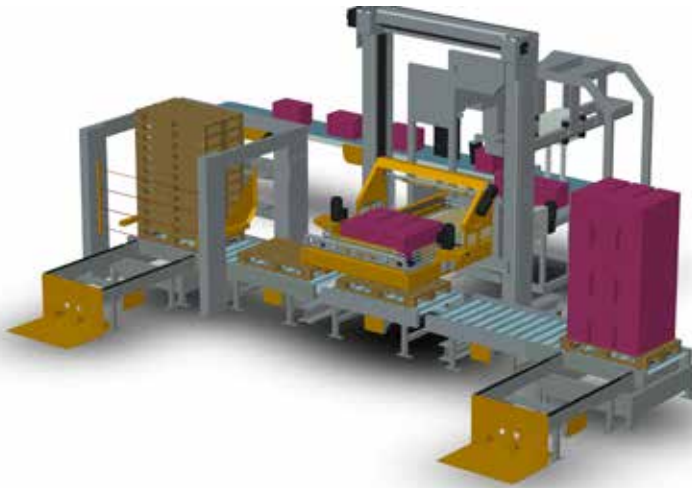
A typical application is its use as a line palletizer placed downstream from packaging machines, e. g. in the food industry. A variety of infeed versions and the patented integrated interleaf unit allow for a wide range of possibilities. For example, bags within a performance range of up to 1000 per hour can be palletized perfectly. The electrically driven gripper turning unit operates form-fittingly which makes for exact 90 degree right or left turns or 180 degree ones.

Function

Products are pre-arranged in the upstream infeed and transferred in rows to the sliding plate. As soon as a complete layer has been formed the lifting platform brings the loaded plate to the stacked pallet height. The sliding plate moves the layer horizontally over the pallet, the pusher is lowered and the sliding plate moves back and this new layer is placed on the pallet stack. The lift then moves down to receive the next layer. After the last layer has been completed the pallet leaves the palletizer and a new empty pallet moves into position.

Advantages

- Easy operation and monitoring from floor level
- Easy and quick product changes due to tool-less format changeovers
- Small footprint allows for integration into existing production lines
- Modular design eases adaptation to a variety of requirements
- Extendable through the Langhammer building block system



| Type | | PA73 | PA74 |
|---------------------------|---------|--------------|-------------|
| Dimensions | | | |
| Length | mm | 2700 | 3100 |
| Width | mm | 2400 | 2000 |
| Height | mm | 3675 / 4075 | 3870/4370 |
| Pallet formats | | | |
| Min. footprint | mm | 800 x 1200 | 800 x 1200 |
| Max. footprint | mm | 1000 x 1200 | 1000 x 1200 |
| Pallet height | mm | 2000 / 2400 | 2000/2400 |
| Pallet handling | | transversely | lengthwise |
| Layer weight | kg | 250 | 250 |
| Pallet weight | kg | 1250 | 1250 |
| Retail pack output | pcs/min | 60 | 60 |

Paper Feeder AN17

With the new feeder **AN17** interleaves of cardboard or paper can be placed on pallets. With a swivel range of 180° the swivel and lifting movements of the Z-axis are carried out by motor drives. Intermediate positions can also be targeted by the feeder. The swivel range of 180° makes it possible, e.g., for the feeder to supply two palletizers simultaneously. An automatic fall protection ensures that the mechanism does not drop down in the event of a power failure. A very useful device in the prevention of damage or accidents. The swivel direction of the feeder is monitored so that in a situation consisting of two separate cells one cell can continue to operate while in the other, for example, maintenance or service work is being carried out.



HIGH PERFORMANCE PALLETIZING

Perfect Flexibility

Linear Robot LR03

Use and Application

The **Linear Robot LR03** is a flexible palletizer and an economical solution for palletizing almost all products in the consumer goods industry and is ideally suited for palletizing bundles, boxes, bags, standard cases, bakery baskets and packs. In situations with low ceilings and limited space it is the perfect fit.

The **LR03** impresses with its solid construction, use of high quality components and maintenance friendly design and ensures easy operation. This robot sets standards with a load capacity of up to 500 kg and a possible palletizing height of up to 2800 mm.

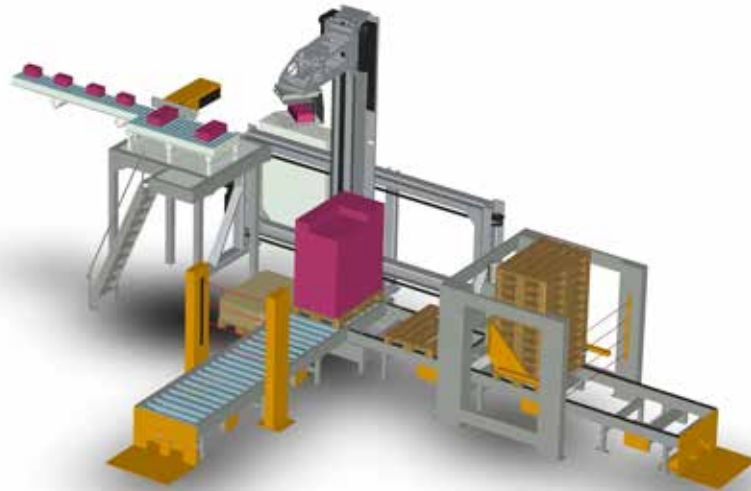
Function

The **LR03** can be combined with the typical suction, clamp and fork grippers for single and multiple picks and can handle any type of interleaf sheets and empty pallets. In addition layer grippers can grasp complete pallet layers with one pick.

The clear design of the color touch-panel makes for easy operation. With the optional MultiPack-Software designing new patterns is done in a matter of minutes. The open control system is based either on Siemens or Rockwell technology, whichever the customer prefers.

Advantages

- Economic articulated arm robot alternative
- Conversion of braking energy into electrical current saves resources and the environment
- Easy and cost saving installation as no support foundation is required
- Easy operation due to clearly defined working area
- Flexible application due to compact and modular design
- Open control system allows for the installation of new pallet configurations at any time



| Type | | LR03 |
|---|-----------|--------------------|
| Dimensions | | |
| Length (X) | mm | 3980 - 7655 |
| Min. width (Y) depends on gripper | mm | 2850 / 3050 / 3250 |
| Height (Z) | mm | 3340 - 5110 |
| Travel paths | | |
| X-axis (grid 105 mm) | mm | 2330 - 6005 |
| Y-axis | mm | 1000 / 1200 / 1400 |
| Z-axis (grid 400 mm) | mm | 2000 - 3600 |
| Pallet height depends on gripper | mm | 2800 |
| Working load including gripper | | |
| Movable Y-axis | kg | 150 |
| Stiff Y-axis | kg | 500 |
| Output depends on travel path | Picks/min | 6 |

HIGH PERFORMANCE PALLETIZING

Perfect Palletizing of Consumer Goods

Gantry Robots **PRO03**, **PRO04**

Use and Application

The **Gantry Robots PRO03** and **PRO04** can be used for palletizing almost all products such as bundles, boxes, bags, standard cases, bakery baskets and packs. Equipped with a maintenance-free axis system, fixed lifting axis or telescopic lifting axis they are predestined for heavy-duty usage in the palletizing field. What characterizes our gantry robots is their high flexibility, wide operating range and precision in handling.

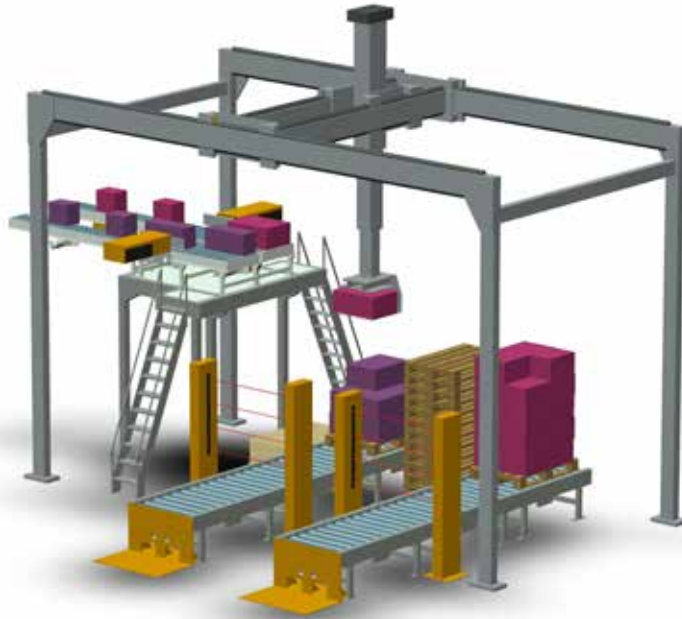
The Langhammer gantry robot system meets the requirements needed for increasing the variety of handled products. In this way unit costs are optimized and processing safety heightened. The system's flexibility increases the machine's uptime and makes it possible to react faster to market requests. With these robots Langhammer offers a flexible, reliable and economical automatic solution.

Function

The **PRO03** moves along 3 different axes: the X-axis (lengthwise movement), the Y-axis (crosswise movement) and the Z-axis (up and down movement) which is telescopic in design. The **PRO04** differs from the **PRO03** primarily as regards the use of a rigid Z-axis instead of a telescopic one, this makes possible the lifting of heavier loads - up to 500 kilos.

Advantages

- High uptimes due to a maintenance-free guidance of the main axes
- Low headroom with optional telescoping axis
- Handling of very heavy loads with optional rigid Z-axis
- Highly flexible due to the use of a variety of grippers
- Interleaf and pallet handling possible



| Type | | PRO03 | PRO04 | |
|--|----|------------|---------|-----|
| Dimensions | | | | |
| Length | mm | 8440 | 8440 | |
| Width | mm | 6520 | 6520 | |
| Height | mm | 5960 | 8000 | |
| Travel paths* | | | | |
| X-axis | mm | 6000 | 6000 | |
| Y-axis | mm | 4000 | 4000 | |
| Z-axis | mm | 3000 | 3000 | |
| Pallet height | | | | |
| With empty pallet handling | mm | 2800 | 2300 | |
| Without empty pallet handling | mm | 2900 | 2500 | |
| Z-axis Version | | telescopic | stiff | |
| Working load incl. gripper | | kg | 100/350 | 500 |
| Output depends on travel path and gripper | | Picks/min | 6 | 6 |

* Special designs on request

HIGH PERFORMANCE PALLETIZING

Solutions For High Demands

Articulated Arm Robots

Use and Application

Articulated Arm Robots offer highly flexible palletizing possibilities and are thus a real economical alternative. Especially profitable when with the corresponding performance two end packaging lines can be palletized by one machine.

Articulated Arm Robots from Langhammer come delivered with the complete material flow environment in exact accordance with customer preferences. A turnkey installation from a single source.

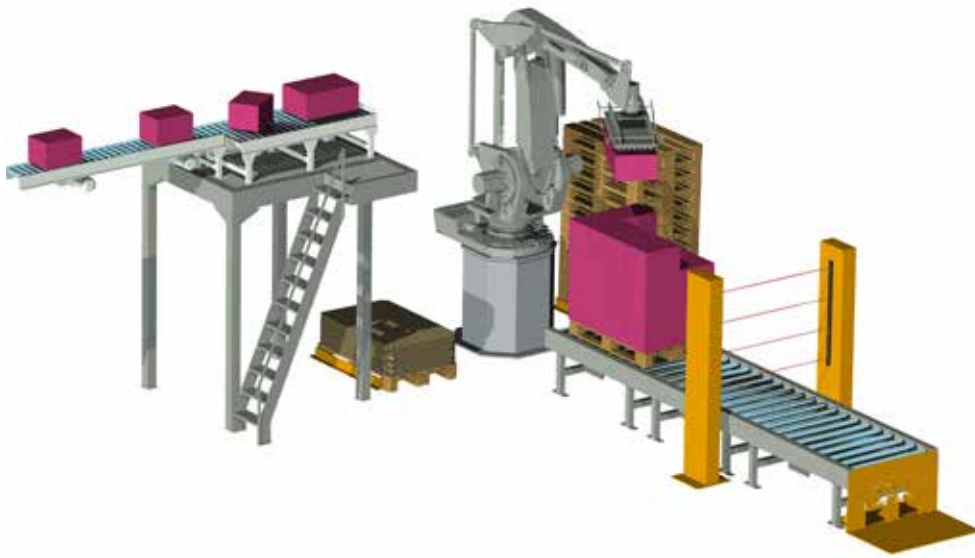
Function

The long range of the robot arm makes it possible to palletize several lines at once (up to four) with one machine.

Depending on the required task 4 or 6 axis robots can be employed. Thanks to an optimized drive technology these robots belong to the fastest in their class and can handle heavy loads. Their extreme precision allows for high quality palletizing and due to their easy programmability they can be adapted to new tasks within the shortest time.

Advantages

- Highly flexible palletizing solutions due to quick and easy re-configurations
- Extremely precise operation ensures high quality palletizing
- Use of a great variety of grippers makes for high flexibility
- Coordinated concept including material flow environment



A



HIGH PERFORMANCE PALLETIZING

A Large Variety

Gripper Systems

Use and Application

Grippers are usually used for palletizing with robots. Almost all possible products like cartons, boxes, baskets, trays, bags, foil packs, buckets or bottles can be handled. The right choice of the matching gripper is crucial for the palletizing result.

Of most importance is the required task which determines the design of the gripper. The more complex a palletizing task is, the higher the requirements on the gripper are. For exceptional products we develop special grippers as a special solution. Contact us!

Function

The gripper ensures that the product can be handled by the palletizing robot. Utmost priority lies in the safe and secure gripping of the product and prevention of damage to the product and the surrounding area during the palletizing procedure.

Grippers for palletizing applications can be generally classified in the following functional groups:

- Clamping grippers
- Fork grippers
- Suction grippers
- Magnetic grippers

Advantages

- Large assortment of gripper types for a variety of usages/applications
- Clean pallet configuration through use of appropriate gripper
- Format changeovers possible without changes on the gripper for the majority of grippers
- Most grippers also handle interleaves and pallets thus reducing the number of machines required



Bag Gripper GR07

The **Bag Gripper GR07** gently grasps bags from the sides and below directly on the roller conveyor. The gripper fingers are adapted to the bags in such a way that no bag deformations result through the gripping action.



Box Gripper GR16

With the suction gripper for boxes, boxes can be grasped and placed. Due to the multiple suction zones which can be controlled separately the gripper is able to lift boxes with varying formats alternatively.



Layer Gripper GR171

The layer gripper can grasp complete product layers consisting of 4 bakery baskets, meat market cases/E2 containers, box trays with insertion plates and base cut-outs or simple boxes of 4 to 8 pieces per layer and place these by centering the previous layer exactly on or in each other.



Clamp Gripper GR24

Springy carbon fingers clamp the product gently on its sides. The high quality servo drive technology allows for high speeds during the gripping and placing movements of the gripper. In this way high palletizing performance as well as palletizing exactness is possible.



Fork Gripper GR25

With the universally usable fork gripper **GR25** a variety of products such as closed boxes, open box trays, bags, foil wrapped bundles, and containers can be palletized. With additional units on the gripper it is also possible to handle interleaves or empty pallets.



Bucket Gripper GR26

With exchangeable hooks that are adapted to the to be palletized product the GR26 can palletize buckets or bucket stacks of various shapes and sizes. The gripper can also handle empty pallets and paper or cardboard interleaves to form double pallets.



Layer Gripper GR27

Complete layers of a wide variety of products can be handled with the universal layer gripper. Palletizing as well as depalletizing tasks can be carried out.



Clamp Gripper GR40

Cartons and boxes in different formats can be palletized with the clamping gripper. Interleaves can be handled as well.



HIGH PERFORMANCE PALLETIZING

Conveyor and Layer Gripper
Combined "Simply"

Layer Handling System **TheWave**

Use and Application

TheWave is a unique combination of a conveyor element with a layer gripper resulting in a machine that can take complete product layers arriving from the conveyor lane and – independent of product type and configuration – place them safely onto a pallet.

TheWave can be used in all sectors of the consumer industry branch and for almost all products. Its compact design makes it possible – in contrast to the usual systems using fork or clamp grippers – to save enormously on floor space.

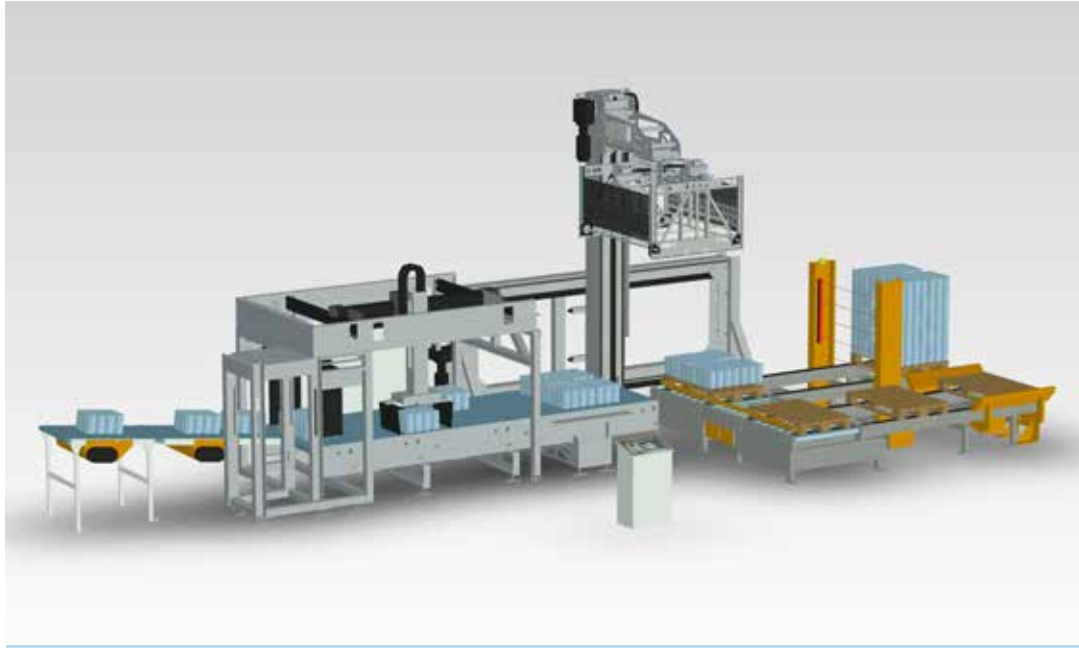
Function

The principle applied in **TheWave** is as simple as it is fascinating: Carried on the gentle wave of the conveyor belt the product is taken up by the split gripper apron. The four-sided compression aligns the layer formation exactly on all four sides. Positioned on the gripper apron and held in place by the compression unit the product layer is transported to the waiting pallet and gently placed onto it. It makes no difference if the layer pattern contains gaps or if full or half pallets are to be transported.

The standard clamp systems exert pressure on the product layer and require exchangeable format parts for layers including gaps. **TheWave** requires no such parts for configurations with gaps and positions the layer gently and without pressure.

Advantages

- Optimal use of space due to its compact design
- Reduction of the footprint by more than 40% in comparison to fork gripper systems
- Gentle handling of complete product layers
- Handling of a variety of pallet configurations with only one gripper
- Format parts are not required, thus reducing complexity and freeing warehouse space

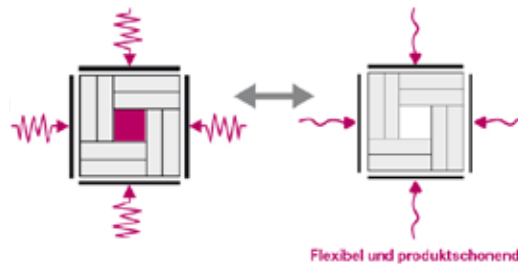
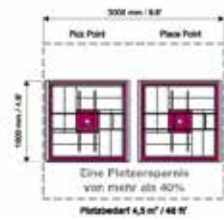
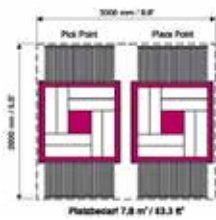


Fork Gripper

TheWave

Fork Gripper

TheWave



| Type | | TheWave | TheWave | TheWave |
|--------------------------------------|------------|-------------|-------------|-------------|
| Dimensions | | | | |
| Length | mm | 1620 | 1800 | 2000 |
| Width | mm | 1871 | 1868 | 2068 |
| Height | mm | 1330 | 1330 | 1330 |
| Layer size | | | | |
| Min. footprint | mm | 740 x 740 | 740 x 740 | 800 x 800 |
| Max. footprint | mm | 1000 x 1400 | 1400 x 1400 | 1600 x 1600 |
| Product height | | | | |
| Min. dimension | mm | 100 | 100 | 100 |
| Max. dimension | mm | 600 | 600 | 600 |
| Layer weight | | | | |
| | kg | 200 | 200 | 160 |
| Output depends on travel path | | | | |
| | Layers/min | 4 | 4 | 4 |

CUSTOMIZED CONVEYOR TECHNOLOGY

Optimal Material Flow

Product and Consumer Goods Transport

Use and Application

Product transportation is an essential element of in-plant logistics. Exact and precise handling is a prerequisite for optimal material flow.

Belt conveyors are ideal for transporting light to moderately heavy products. There are a variety of drive and tension units to choose from depending on the belt length and load weight. Roller conveyors can be adapted to a variety of space conditions. They are used for transporting light as well as heavy products, are impervious to dust and thus ideal for use in dusty environments.

Function

The drives used in our conveyor technology are gear brake motors with safety clutches. The conveyors are electrically pre-installed and readied for connection to a PLC controller.

Advantages

- Quick throughput times, high processing exactness as well as improved working conditions through optimally planned material flow
- Compatible components reduce interfaces
- Large assortment of standard components:

Belt Conveyors

- Curved Belt Conveyors
- Small Belt Conveyors
- Inclined Belt Conveyors

Roller Conveyors

- Wheel Conveyors
- Light Roller Conveyors
- Roller Conveyor Curves
- Gravity Roller Conveyors
- Driven Roller Conveyors

Chain Conveyors

- Chain Conveyors
- Traction Lifts

All-Round Solutions



Roller Conveyors for Transport and Buffering Lines

The simplest and most economical solution for the horizontal transport of light products such as packs, containers, cases, boxes and so on is the roller conveyor without drive. More sophisticated transport and distribution tasks are done with our driven roller conveyors. Our roller curve conveyors ensure that your product gets safely around the corner.



Belt Conveyors for Transporting Consumer Goods

The belt conveyor **F81** is the right choice for light consumer goods. When transporting moderately heavy goods the **F126** comes into play. There are a variety of drive and tension stations available depending on the belt length and load. Our extensive building block system also offers other elements such as leader belts, frame bends and curved idlers.



Wide Assortment of Building Block Accessories

Our building block design ensures that you can apply our products in a countless number of ways. Langhammer supports, hangers and guide rails can be combined with all the elements of our standard program. The most important settings and adjustments can all be carried out with a single wrench.



CUSTOMIZED CONVEYOR TECHNOLOGY

Moving Precisely Up and Down

Vertical Lifts **SPF1S**, **SPF1C**

Use and Application

Vertical lifts make material flow across several levels possible and are used wherever goods need to be transported vertically - they are ideal for the vertical transport of boxes, trays, plastic containers, bundles, pallets, and bags within automatic conveyor systems.

Vertical Lift SPF1S: Transport direction in S form. Outfeed side always opposite the infeed side.

Vertical Lift SPF1C: Transport direction in C form. Outfeed side always on the infeed side.

Function

The vertical lift consists of a frame structure with all-round protective housing. The lift platforms are hung into circulating roller chains and during the return movement are guided vertically.

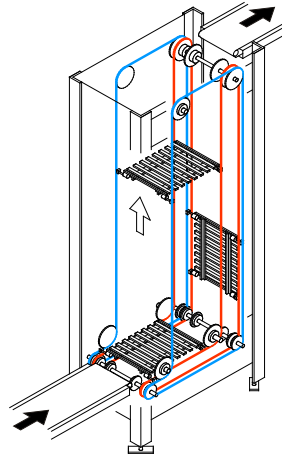
The vertical conveyor runs continuously. Goods are received from a connected infeed conveyor. The drive is via a gear-brake motor with safety clutch. The vertical lift comes with complete electrical installation and is ready for connection to an external control cabinet.

Advantages

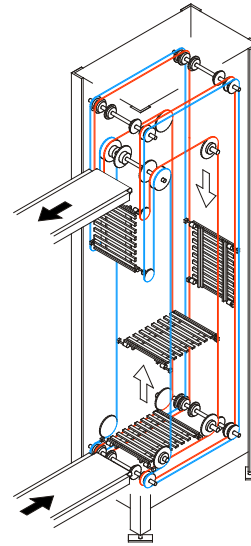
- Gentle transport of products and high performance due to continuous chain run
- Intermediate buffering of several products possible
- Up and down movement with same side or opposite side infeed/outfeed



SPF1S



SPF1C



| Type | | SPF1S | SPF1C |
|-------------------------|-----|-----------------------|------------------|
| Dimensions | | | |
| Length | mm | 1252 - 2014 | 1252 - 2014 |
| Width | mm | 620 - 1220 | 620 - 1220 |
| Min. height* | mm | 2450 - 6450 | 3400 - 7400 |
| Product size | | | |
| Length | mm | 200 - 1169 | 350 - 1169 |
| Width | mm | 800 | 800 |
| Height* | mm | 650 | 650 |
| Conveyor height | | | |
| Min. infeed height | mm | 350 | 350 |
| Lifting height* | mm | 2000 - 6000 | 2000 - 6000 |
| Infeed / Outfeed | | opposite sides S Form | same side C Form |
| Product weight* | kg | 30 | 30 |
| Conveyor speed | m/s | 0,3 - 0,7 | 0,3 - 0,7 |

* Special designs on request

CUSTOMIZED CONVEYOR TECHNOLOGY

Components That Get Things Moving

Pallet Transport Technology

Use and Application

Stacking or separating empty and full pallets, transporting pallets on different transport levels - these are just some of the tasks for which Langhammer offers the right solution. The wide range of roller conveyors available start with economical models without drive and continue onto driven roller conveyors with reversible transport direction and high pulling power.

Driven roller conveyors, e.g. for the lengthwise transport of Euro pallets, are ideally suited for low-est building heights, such as the manual shuttle car transfer level.

Transfer units and turntables make flexible pallet transport possible in the first place. They connect transport lines and change the transport direction of the pallet as required. Fully automatic pallet shuttle cars are used in modern palletizing systems and in the front zone of high-bay warehouses. In this case several material flow sources can be flexibly combined with an almost endless number of material flow targets.

Function

The drives used in our transport technology are gear brake motors with a safety clutches. The conveyors are electrically pre-installed and readied for connecting to a PLC controller.

Advantages

- Complete building block system with modular standard components
- Individually planned conveyor units, fine-tuned to task requirements
- Large assortment of pallet transport technology:

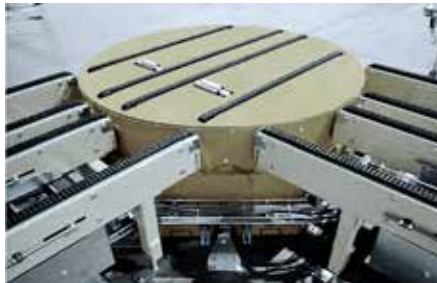
- Pallet Roller Conveyors
- Pallet Chain Conveyors
- Pallet Buffer Conveyors
- Pallet Turntables
- Pallet Transfer Units
- Pallet Shuttle Cars
- Empty Pallet Dispensers
- Empty Pallet Testers
- Pallet Lifts

All-Round Solutions



Pallet Conveyors for Length and Crosswise Transportation

The power driven pallet roller conveyor is the right solution for transporting empty and full pallets in the lengthwise direction. The large roller diameter and the narrow roller spacing guarantee quiet and smooth pallet transportation - even when transporting heavy pallet loads. Pallet chain conveyors are the right choice for transporting in the crosswise direction. The double chain with straight chain links has a high load capacity. Small idlers make for jerk-free transfers at connection points.



Transfer Units / Turntables for Changing Direction Flow

When the transport direction needs to be changed at a 90° angle parallel lifts or swivel lift transfer units are the ideal solution. The pallet direction changes from lengthwise to crosswise - or the other way around - at the transfer station. The turntable makes any angle within the track run possible. The pallet transport orientation of either lengthwise or crosswise remains. The pallet turntable with continuous turn drive is ideal for use with large rotation angles, e.g. for all-round labeling or all-round visual inspection.



Building Block Modules as Supplement and Completion

- Pallet lifts for pallet placement/removal via manual shuttle car
- Pallet shuttle cars for distribution or lane connection
- Platforms and crossovers for operating personnel
- Pallet dispensers for empty pallet distribution
- Accumulation roller lanes for buffering and provision
- Tailor-made designs for your special requirements



SYSTEM INTEGRATION

Solutions From a Single Source

Hardware, Software, System Integration

Complete Solutions

Increasing productivity, optimizing processes, and reducing costs are all factors which determine market success. A perfectly functioning system, harmoniously integrated into the complete inner-plant logistics forms the foundation for an optimal material flow. We are constantly improving and adapting our components to meet our customers' needs and to be able to fulfill increasing market requirements.

Qualified Advice

Creative sales engineers and qualified project managers find the right solutions that match our customers' requirements for complex tasks.

You can count on:

- Development of system solutions
- Creation of technical specifications
- On-site advice
- AutoCAD layouts
- Presentations
- Calculations and quotes
- Negotiations
- Order confirmations
- Project support

Development, Project Support, Production

Designer, technicians and engineers develop innovative ideas and enable new solutions. Experienced teams in production and assembly provide timely and customer-oriented realization of projects.

We develop and plan mechanics, hardware and software.

This means:

- optimized project support
- avoidance of communication errors
- mechanics, hardware and software are all coordinated in the best possible way

- **We manufacture more than 200 different machines in an unlimited number of varieties**
- **We build complete systems with our flexible building block system**
- **We adapt ourselves to your requirements**

CUSTOMER SERVICE

We Are There For You When You Need Us

Service and After Sales

Our customers can count on machines and systems from Langhammer. Best quality and easy maintenance guarantee reliable operation and long life cycles. Our service technicians are there for you should any problems arise with your system. We get your system up and running again, pragmatically, competently and fast.

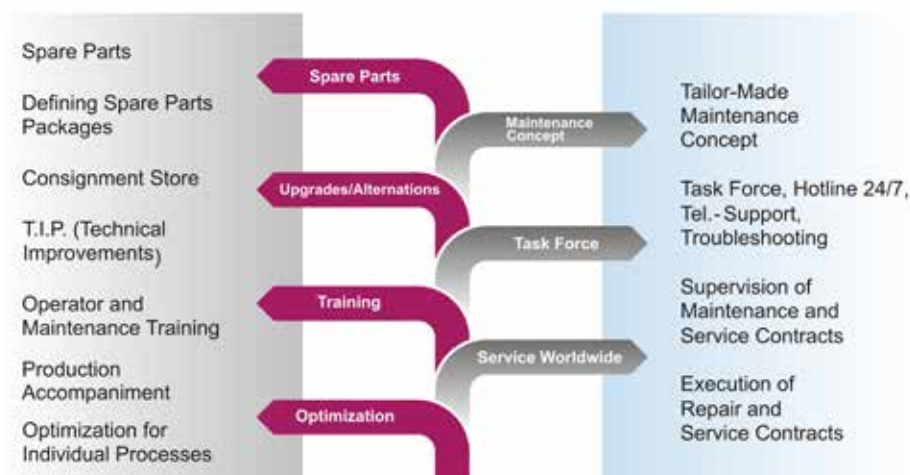
- Spare parts
- Individual maintenance program
- Upgrades, modifications, retrofitting
- Task Force, hotline, troubleshooting
- Training for users and maintenance staff
- Production support
- Worldwide service
- Optimization of individual processes

Customer Service and Help Desk

We will gladly answer your service questions:
Email: service@langhammer.de

Eisenberg and Freiberg:
Tel. +49 6351 900 190
Fax +49 6351 900 180

Customer Service and After Sales Benefits



SYSTEM INTEGRATION

Customized Solutions

Ready for Each Branch of Trade

Are you interested in our Case Studies?

Our longstanding experience is reflected in the optimized solutions carried out for satisfied customers. We would like to share our experience with you and offer a huge choice of case studies.

We would be pleased to send you the product of your choice!

Feel free to contact us:

Tel. +49 6351 900 0

Email: eisenberg@langhammer.de



| No. | Case Studies | Branch | Palletizer |
|-------|--|----------|-------------------------------------|
| CS 01 | Palletizing Baked Goods | Bakery | |
| CS 02 | The Versatile Duo for Limited Space Situations | Bakery | KST5 + PA14 |
| CS 03 | A Stacker for All reasons | Food | KST5 |
| CS 04 | Optimized Space, Simplified Operation, Maximized Flexibility | Food | LR03 |
| CS 05 | Clean-Compact-Central - The Palletizing Solution for the Dairy Industry | Dairy | LR03 + Articulated Arm Robot |
| CS 06 | All-Purpose Palletizer - High Speed for Every Size | Tissue | PA8 |
| CS 07 | SMART - The Compact Packaging and Palletizing Solution | Tissue | TheWave |
| CS 08 | The Simple Palletizing Solution | Tissue | LR03 |
| CS 09 | Gantry Robot System | Beverage | PRO04 |

The Essential Thing is Happy Customers

We deliver solutions based on high quality and excellent craftsmanship and guarantee good and well-designed results.



| | | | |
|-------------------|--------------------|---------------------|----------------|
| Arla | DMK | Mercadona | Sasol |
| Aryzta | Fresh Start Baker. | Metsä Tissue | SCA |
| BASF | Georgia-Pacific | Miele | Schwartau |
| Beiersdorf | Hansgrohe | Mondi | Stiebel Eltron |
| Berlyscorporation | Harry Brot | Naturin | Südzucker |
| Birkel | Kimberly-Clark | Nestlé | Unilever |
| Bürger | Lieken | Ospelt | Vinda |
| BW Papersystems | Mars | Pepsico | Wacker Chemie |
| Copoba | M-Back | Philip Morris Intl. | Weidler |
| Degussa | Melitta | Procter & Gamble | Wepa |

WERK 1

Take us on as
a solution provider
for your individual
demands and
requirements

About Us

Langhammer GmbH is a leading contractor of transport and palletizing systems. Langhammer's special strength lies in the modular construction of systems in the areas of palletizing, pallet transport and load unit conveyor technology, resulting in automation solutions for various industries that are custom-tailored to the needs of the individual customer. The primary industries are paper, tissue, and bakery, but the food, chemical, cosmetic, and dairy industries also belong to Langhammer's customers. The company has approx. 200 employees at sites in Eisenberg (Palatinate) and Freiberg (Saxony).

Langhammer belongs to the logistics systems business sector of the international technology corporation Körber. The companies of the business sector – Aberle GmbH, Aberle Software GmbH, Consoveyo S.A., Langhammer GmbH, Inconso AG, and Qubiqa Logistics – realize the automation and control of logistical processes for renowned industry leaders. Integrated solutions with the specific process know-how of these companies are increasingly in demand outside of Europe as well.



Körber AG – A Strong Partner

Körber AG is the holding company of an international technology Group with over 11,500 employees around the world. It comprises leading-edge technology companies and over 100 production, service and sales entities. At locations around the globe, Körber combines the benefits of a globally-present organization with the strengths of highly-

specialized, flexible, medium-sized enterprises that offer their customers solutions, products and services in the Business Areas of Automation, Logistics Systems, Machine Tools, Pharma Systems, Tissue, Tobacco and Corporate Ventures.



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