

KRONES PalCo Pallet conveyor



Gentle product conveyance

KRONES PalCo

Reliable palletising and depalletising pay a crucial contribution to the function of the entire filling and packing line. The PalCo pallet conveyor is an absolutely safe, low-noise, low-energy way of conveying both empty and full pallets to the palletisers and removal stations. With special function units, the pallets can be turned, stacked, or inspected for signs of wear and tear. Thanks to its intelligent controller, the conveyor provides the best basic conditions for a smooth palletising process and, in its role as a buffer, it easily bridges palletiser downtimes. To accommodate the individuality presented by each line, any of its modules can be combined with one another and integrated seamlessly in each line.



Design features

- Maximum working load per setting position: 13 kN
- Conveyance heights:
 - Standard height 1: 550 mm
 - Standard height 2: 650 mm
 - Minimum conveyance height: 450 mm
 - Larger heights on request
- Conveyor speed:
 - 0.25 to 0.5 metres per second
 - Other speeds upon request
- Maximum system throughput: Approx. 200 full size pallets per hour



Roller conveyor

- Four system widths
- Two support roller pitches possible:
 - Coarse pitch of 190 mm
 - Fine pitch of 95 mm
- Lengths: From 400 mm to 4,000 mm in graduations of 190 mm
- Low drive-side frame section and idler-side frame section
 - Lateral pallet infeed and discharge
 - Stretcher application



Chain conveyor

- Versions from two to five lanes
- Chain pitch: 700, 800, 900, 1,000 or 1,260 mm and non-standard pitches
- Lengths: From 800 mm to 3,600 mm in graduations of 200 mm
- Cross-over chains between the chain segments for fully supported, non-impact pallet transfer

Modules for direction changes

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Corner transfer units and turntables are used to couple two or more conveyor sections (L-type coupling, T-type coupling, or combination), which are preferably arranged in a right angle to each other. When turntables are used, the pallet operating direction remains the same; with corner transfer units, it always changes from short-side leading to long-side leading.



Turntables

- Modified conveyors (roller and chain conveyors, turntable corner station) on 4 rollers, centrally arranged on pivot base
- 90° rotation with slider crank mechanism
- Smooth, sinusoidal swinging motion
- Exact final positions
- Turn exceeding 90° with central drive
- Cross-over rollers at the end, without drive or driven as required
- Can be combined with:
 - Rails/end stop
 - Stoppers
 - Centring units
- Rotating roller with integral guard
- Rotary chain with separate guard



Corner stations

- Combination of a roller lifting segment with a chain conveyor from two to five lanes
- Roller lift mechanisms via crank gear combined with friction-bearing lifting arms
- Special design: Double angular transfer unit for splitting up or creating double-lane conveying sections



Turntable corner stations

- Turntable corner station with rollers and chain lift compensation for permanent or optional changing from pallet short-side leading to pallet long-side leading or vice-versa
- All drives motorised
- Chain pitch, number of lanes, and transfer rollers supplied to suit the chain conveyor
- Can be combined with rail/end stop
- Separate protective fence



LPM-EE pallet magazine

- Equipped with one-sided, or complete pallet latching through forks of forklift
- Capacity: 15 intact pallets or 10 faulty pallets
- Maximum stacking and destacking speed: 120 pallets per hour
- Suitable for direct stack infeed
- Stacking of half pallets onto carrier pallets possible



LPM-ZE pallet magazine

- Equipped with two-sided pick-up
- Capacity: 15 intact pallets or 10 faulty pallets
- Maximum stacking and destacking speed: 200 pallets per hour
- Processing difficult pallets with high dimension tolerances and low slide-in openings for forklift
- Easy change-over to other pallet dimensions



Empty pallet inspection unit

- With nail press rollers for protruding nails
- Can be combined with pallet brushing unit
- Infinite adjustment of test pressure
- Standard tests:
 - Bottom boards and bottom crossboards
 - Top boards running lengthwise and across
 - Indirect wedge inspection
- Optional tests:
 - Dimension check
 - Prong and clearance check
 - Separate bottom board inspection with loaded pallet

Two-sided centring unit

- For centred orientation of empty and full pallets in palletisers/depalletisers and other machines
- Fully synchronous clamping jaw movement
- Can be delivered with attachment for lower layer centring unit

Four-sided centring unit

- For orientation of all sides of product on pallet
- Highly recommended for improving
 - The quality of conveyance following the infeed of pallets with empties
 - The reliability of stabilising material removal stations

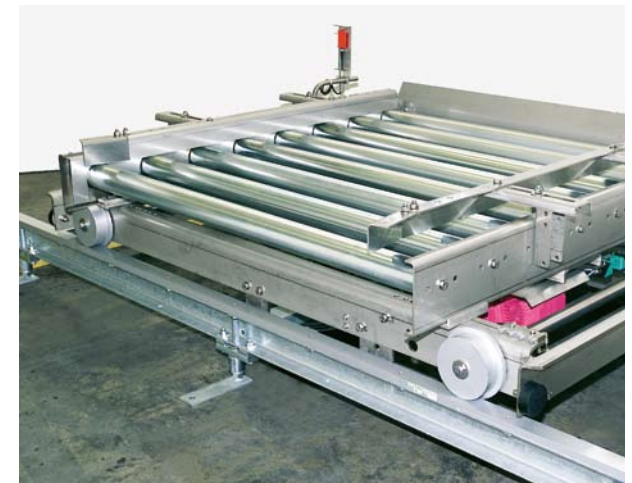
Multiple infeed and discharge

- Robust infeed and discharge unit for compact pallet formations consisting of several single pallets
- Pallet infeed:
 - A pallet formation is split up into rows using liftable and transversely-travelling lifting rakes
 - The pallets are passed on by an integral roller conveyor
- Pallet discharge:
 - The pallets are fed by an integral roller conveyor
 - Row-by-row grouping by the lifting rake
- Maximum throughput: 200 full size pallets per hour
- Comprehensive guard concept



Rail-bound modules

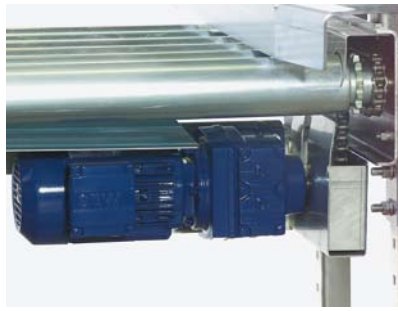
- Travelling rails are mounted on a travelling frame or, when needed, set in concrete
- Travelling speeds: 0.5 to 2 metres per second
- Possible energy or signal transmissions:
 - Drag chain
 - Cable conveyor
- Contact rail or optical data link





Controller

The intelligent control of the entire line is absolutely necessary if high availability is to be achieved. This is why KRONES has developed a clearly structured control system which enables optimal capacity utilisation. The effective arrangement of pallet storage positions and of the functional units achieves optimum pallet handling. This then prevents palletiser downtimes to a large extent. On request, each segment can be equipped so that the controller will allow manual control. As an additional option, each unit can be equipped with a reversible drive. The frequency inverters are controlled via Profi-Bus or Ethernet.



Drive technology

- Drive with spur gears
- Installation below the feed rollers and conveyor chains
- Options:
 - Laterally installed drive with bevel gears or work gears
 - Frequency inverter with decentralised technology via ET200



Operation

- Comfortable touch-screen operation with simple menu guidance and clear graphics
- Diagnostics system for fault detection via line overview screen
- Diagnostics support with drawings, images and help texts
- Assistant for trouble-shooting
- Remote maintenance via tele-service possible
- Optionally available with control station function
- Optionally available with operation by mobile panel



Your benefits

- **Fast installation and commissioning**

Almost all of the components are already preassembled in the factory. The “plug and play” principle behind it means the conveyor is ready for operation within the shortest possible time.

- **Flexibility**

The individual PalCo modules can be combined at will to form a tailor-made pallet conveyor system.

- **High operational reliability**

The sturdy design and use of functional mechanisms which have been tested over many years ensure that the PalCo operates completely smoothly.

- **Robust construction**

Its stainless steel construction gives the conveyor a long service life and protects it against corrosion.

- **Low maintenance requirement**

The stable conveyor proves during its everyday operation that it is extremely low-maintenance.

