

# Conveyor systems

## Chain conveyor



### Function:

Transports the load in a transverse direction;  
optional: lateral guide rails

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

max. 1,500 kg per pallet position

**Conveying speed:** 0.2 - 1 m/s

### Construction:

- ▶ Galvanised, height-adjustable feet
- ▶ Painted frame
- ▶ Galvanised support beams
- ▶ Duplex chain mounted in plastic runners
- ▶ Frequency-controlled drive
- ▶ Light barriers/sensors

## Roller conveyor



### Function:

Transports the load in a longitudinal direction;  
load guidance with wheel flanges

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

max. 1,500 kg per pallet position

**Conveying speed:** 0.2 - 1 m/s

### Construction:

- ▶ Galvanised, height-adjustable feet
- ▶ Painted frame
- ▶ Galvanised support beams
- ▶ Frequency-controlled drive
- ▶ Light barriers/sensors

## Accumulating roller conveyor



### Function:

Transports the load in a longitudinal direction with accumulation function; each pallet position with individual drive and control logic;  
load guidance with wheel flanges

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

max. 1,500 kg per pallet position

**Conveying speed:** 0.2 - 0.6 m/s

### Construction:

- ▶ Galvanised, height-adjustable feet
- ▶ Painted frame
- ▶ Galvanised support beams
- ▶ Galvanised steel rollers
- ▶ Frequency-controlled drive
- ▶ Light barriers/sensors
- ▶ Control module

## Transfer unit - turntable



### Function:

90° transfer of load from roller to roller conveyor or from chain to chain conveyor, without change of direction; throughput approx. 200 unit loads/hour

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

max. 1,200 kg

**Conveying speed:** 0.2 - 1 m/s

### Construction:

- ▶ Painted, height-adjustable frame fixed to floor
- ▶ High-quality bearing-mounted rotating platform
- ▶ Frequency controlled rotary drive
- ▶ Mounted conveyor module
- ▶ Limit switch
- ▶ Intrinsically safe design

## Transfer unit - lift table



### Function:

90° transfer of load from roller to chain conveyor or vice versa; lifting principle with eccentric; projecting external rollers; throughput up to 240 unit loads/hour

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

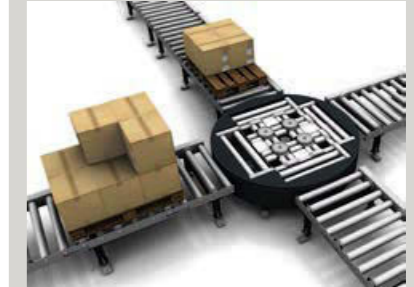
max. 1,500 kg

**Conveying speed:** 0.2 - 1 m/s

### Construction:

- ▶ Painted, height-adjustable frame fixed to floor
- ▶ Galvanised lifting element actuated by eccentric rollers and sliding guides
- ▶ Lifting drive with brake
- ▶ Mounted conveyor module
- ▶ Limit switch
- ▶ Intrinsically safe design

## Transfer unit - 4-way turntable



### Function:

90° transfer of load from roller to roller conveyor, without change of direction;  
loading/unloading without intermediate rotation; unrestricted angle of rotation; throughput approx. 240 unit loads/hour

### Load carriers:

Europallets, industrial pallets, special pallets

### Payload:

max. 1,200 kg

**Conveying speed:** 0.2 - 0.6 m/s

### Construction:

- ▶ Painted, height-adjustable frame fixed to floor
- ▶ High-quality bearing-mounted rotating platform
- ▶ Frequency-controlled rotary drive
- ▶ Mounted roller conveyor with crosswise driven rollers
- ▶ Limit switch
- ▶ Intrinsically safe design

Variants / conditions of use:

Standard versions for normal conditions. Special versions possible for: explosion protection, low temperatures down to -28°C, increased protection against corrosion, clean room conditions.

Other elements:

Swivel tables, pick-up/delivery station, depositing units, scissor lift tables, gravity roller conveyors, rotating/lifting elements, picking stations of all kinds, stacking units, scales, pallet checking and cleaning systems, integration of special machines, for example, stretch-wrapping machines.

## Transfer unit - roller-chain conveyor



### Function:

Transfer of load from roller to chain conveyor or chain to roller conveyor, with change of direction; throughput approx. 200 unit loads/hour

### Load carriers:

Europallets, industrial pallets

### Payload:

max. 1,200 kg

### Conveying speed:

0.2 - 0.6 m/s

### Construction:

- ▶ Painted, height-adjustable frame fixed to floor
- ▶ High-quality bearing-mounted rotating platform
- ▶ Galvanised lifting element actuated by eccentric rollers and sliding guides with chain conveyor and mounted roller conveyor
- ▶ Frequency-controlled rotary drive

## Vertical transfer units



### Function:

Vertical load transportation; load transfer with chain or roller conveyor; lifting height up to 25 m; throughput up to 180 unit loads/hour (at 5 m lifting height)

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

max. 1,500 kg

### Conveying speed:

up to 2 m/s

### Construction:

- ▶ Painted single-mast design with guide rails
- ▶ Frequency-controlled vertical drive mounted at top or bottom of mast
- ▶ Painted lift carriage with rope pulley
- ▶ Mounted conveyor module
- ▶ Limit switch/laser
- ▶ Optional arresting device

## Transfer carriage



### Function:

Horizontal load transportation; carriage with on-board or off-board drive; load transfer with chain or roller conveyor or telescopic fork; throughput up to 180 unit loads/hour (depending on transfer distance/variant)

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

max. 1,200 kg per load transfer

### Conveying speed:

up to 4 m/s

### Construction:

- ▶ Painted carriage with 4 wheels
- ▶ Guided by 2 pairs of pressure rollers
- ▶ Frequency-controlled drive unit (on-board or off-board)
- ▶ Handling of one or more loads
- ▶ Aisle equipment (rails, bus bar, positioning, end buffer and optical data couplers)

## Transfer carriage with lifting device



### Function:

Horizontal load transportation and distribution across several levels; load transfer with chain or roller conveyor or telescopic forks; throughput up to 120 unit loads/hour (depending on transfer distance/variant)

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Payload:

max. 1,200 kg per load transfer

### Conveying speed:

up to 2 m/s

**Hubhöhe:** up to 3 m

### Hubgeschwindigkeit:

up to 1 m/s

### Construction:

- ▶ Painted carriage with 4 wheels
- ▶ Guided by 2 pairs of pressure rollers
- ▶ On-board lifting frame
- ▶ Frequency-controlled drive unit (on-board or off-board)
- ▶ Load transfer for one or more loads

## Control devices



### Function:

Checking the load for:

- ▶ profile, using light sensors
- ▶ overload, using load cells
- ▶ pallet clearance, using light barriers or mechanical flaps

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets

### Construction:

- ▶ Aluminium frame with light barriers and sensors

## Electric monorail



### Function:

Overhead conveyor system with individually driven chassis; flexible adaptation of the guideway to complicated conditions. Performance dependent on length of track and number of vehicles.

### Load carriers:

Europallets, industrial pallets, special pallets, cage pallets, special formats

### Payload:

Modular construction:

max. 2,000 kg

**Conveying speed:** up to 2 m/s

### Construction:

- ▶ Rails
- ▶ Lifting and lowering station
- ▶ Lifting belt
- ▶ Transfer unit
- ▶ Lift carriages and frame
- ▶ Buffer and weights
- ▶ Frequency-controlled drives and points
- ▶ Position sensors
- ▶ Absolute positioning
- ▶ Communication via WLAN

Note: All data relate to our standard models. In addition, special models can be realised for load units with different dimensions, weights etc. We would be happy to advise you – just call us.

# Warehouse technology - MMove

## With MMove, fast and safe around your warehouse

**Height:** 150 mm  
**Load per shuttle:** 1,200 kg  
**Speed:**  
 without load: up to 3 m/s  
 with load: up to 2 m/s  
**Acceleration/braking:**  
 without load: up to 3 m/s<sup>2</sup>  
 with load: up to 2 m/s<sup>2</sup>  
**Lift time:** < 1 second  
**Range when fully loaded:**  
 < 350 metres

### Area of application

- Automatic movement of pallets, cage boxes, etc. inside and outside a warehouse

### Compatible

- The MMove is compatible with all Kardex Mlog storage and retrieval machines

### Efficient modules

- Automatic energy-saving mode
- "ZigBee" data communication - outside the WLAN network - no disruption to IT
- Binary interface
- Ethernet interface

The innovative MMove is the new universal transport platform for pallets and cages, etc. up to a weight of 1,200 kg. With reduced acceleration and speed, this increases to 1,500 kg. Thanks to its unique concept, the MMove can be used in a variety of applications:

- With storage and retrieval machines for storage at multiple depths
- With distribution vehicles for distribution and intermediate storage
- As a single transport system from A to B
- Multiple MMove in a single aisle
- The MMove can independently switch from one aisle to another

The energy supply is provided by powerful energy storage devices (Powercaps)<sup>1</sup> which enable up to 350-metre trips when fully loaded. The braking process is used intelligently for energy feedback. Via innovative and secure communication modules, the MMove communicates with its environment and provides information on current orders and statuses. The MMove transports your products quickly and safely. It grows to match your tasks - within the automatic warehouse or beyond.

<sup>1</sup> Powercaps with 8 times the normal battery life.



**Energy-efficient** high-performance energy storage with more than 8 times the normal battery life



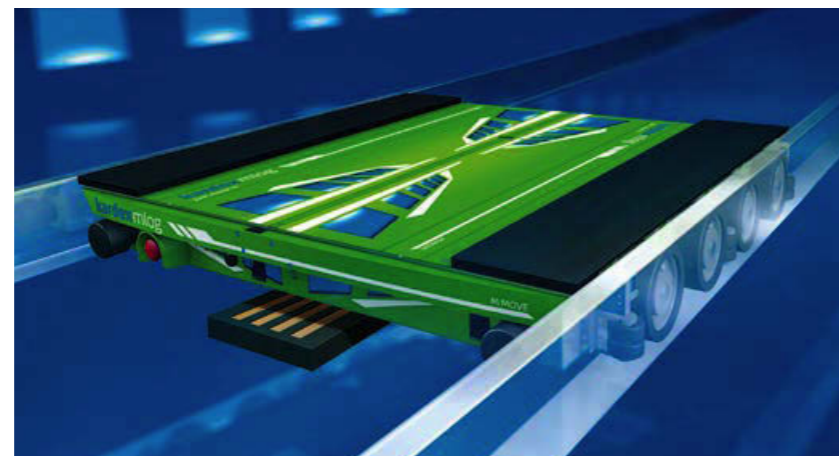
**"ZigBee"-communicator** Innovative and secure communication module



**≤ 10-second** charging time with the 400 volt energy charging module



**Maintenance-free** DC drives



Film: MMove - fast and safe around your warehouse.

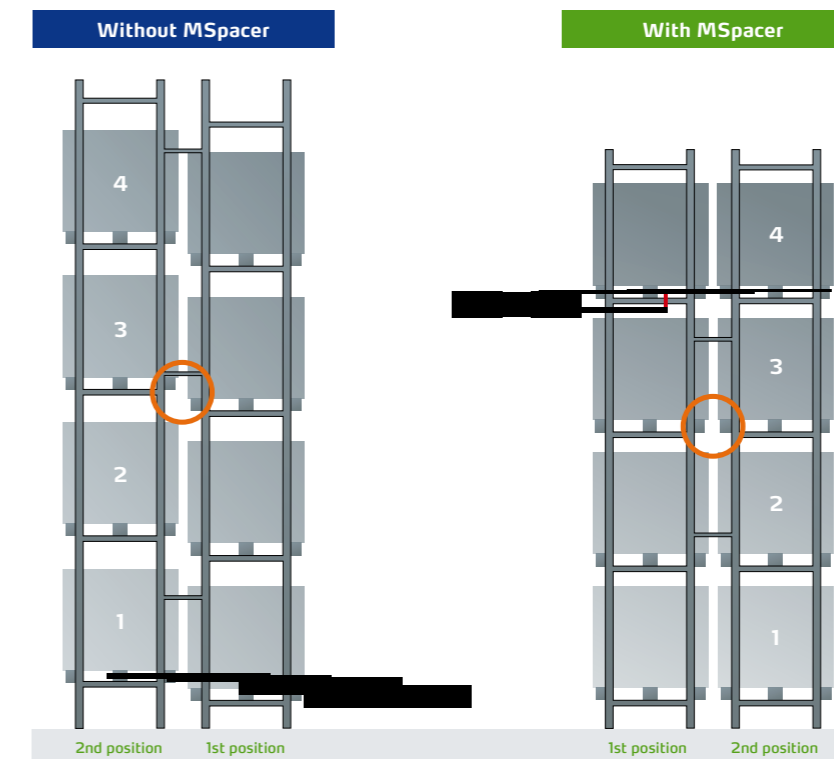


# MSpacer

## Approx. 10% space savings in your high-bay warehouse

The new MSpacer technology reduces the space requirement by approx. 10% compared to a conventional high-bay warehouse with double-deep storage. This is now possible with a new innovative telescopic fork which has been developed jointly with leading German research institutes. With MSpacer, you can store the pallets in the back row on the same level as those in the front row. This means that the additional blocks normally required at the back are no longer necessary. This reduces your costs and ensures more efficient use of your storage space.

- Cost savings through storage volume reduction (roof, wall, floor panel • steel racking • energy costs)
- Performance increase through shorter distances
- More storage spaces with the same warehouse volume



**Load per fork:**  
 1st position: 1,000 kg  
 2nd position: 600 kg  
**Telescope speed single-deep**  
 without load: 80 m/min  
 with load: 50 m/min  
**Acceleration/braking:**  
 without load: 1,6 m/s<sup>2</sup>  
 with load: 0,8 m/s<sup>2</sup>  
**Telescope speed double-deep**  
 without load: 80 m/min  
 with load: 50 m/min  
**Acceleration/braking:**  
 without load: 1,6 m/s<sup>2</sup>  
 with load: 0,8 m/s<sup>2</sup>



**≤ 100 mm height gain with the MSpacer** on each level

### Your advantage

- Low costs
- Greater performance
- Better use of space

### Compatible

- The MSpacer is compatible with all Kardex Mlog storage and retrieval machines



Film: MSpacer - Reducing unused storage space.



## Modular conveying technology

The function-based conveying technology modules are the perfect complement to our system solutions for pallet handling. The following modules are available for the storage, retrieval, and picking functions:

### Storage:

- ▶ Feed point with pallet check and NOK handling
- ▶ Operation with forklift truck / electric pallet truck
- ▶ Lateral connection to the racking
  
- ▶ Feed point with depositing unit, pallet check and NOK handling
- ▶ Operation via manual pallet truck
- ▶ Lateral connection to the racking
  
- ▶ Feed/pick-up point with pallet check and NOK handling
- ▶ Operation with forklift truck / electric pallet truck
- ▶ Frontal connection to the racking

### Picking:

- ▶ Picking station with pallet check and NOK handling
- ▶ Lateral connection to the racking
  
- ▶ Gravity roller track with picking station for permanent staging
- ▶ Lateral connection to the racking
  
- ▶ Picking station with pallet check and NOK handling
- ▶ Frontal connection to the racking

### Retrieval:

- ▶ Pick-up point
- ▶ Operation with forklift truck / electric pallet truck
- ▶ Lateral connection to the racking
  
- ▶ Pick-up point with depositing unit
- ▶ Operation via manual pallet truck
- ▶ Lateral connection to the racking
  
- ▶ Gravity roller track with permanent staging in shipping area
- ▶ Lateral connection to the racking
  
- ▶ Feed/pick-up point with pallet check and NOK handling
- ▶ Operation with forklift truck / electric pallet truck
- ▶ Frontal connection to the racking

