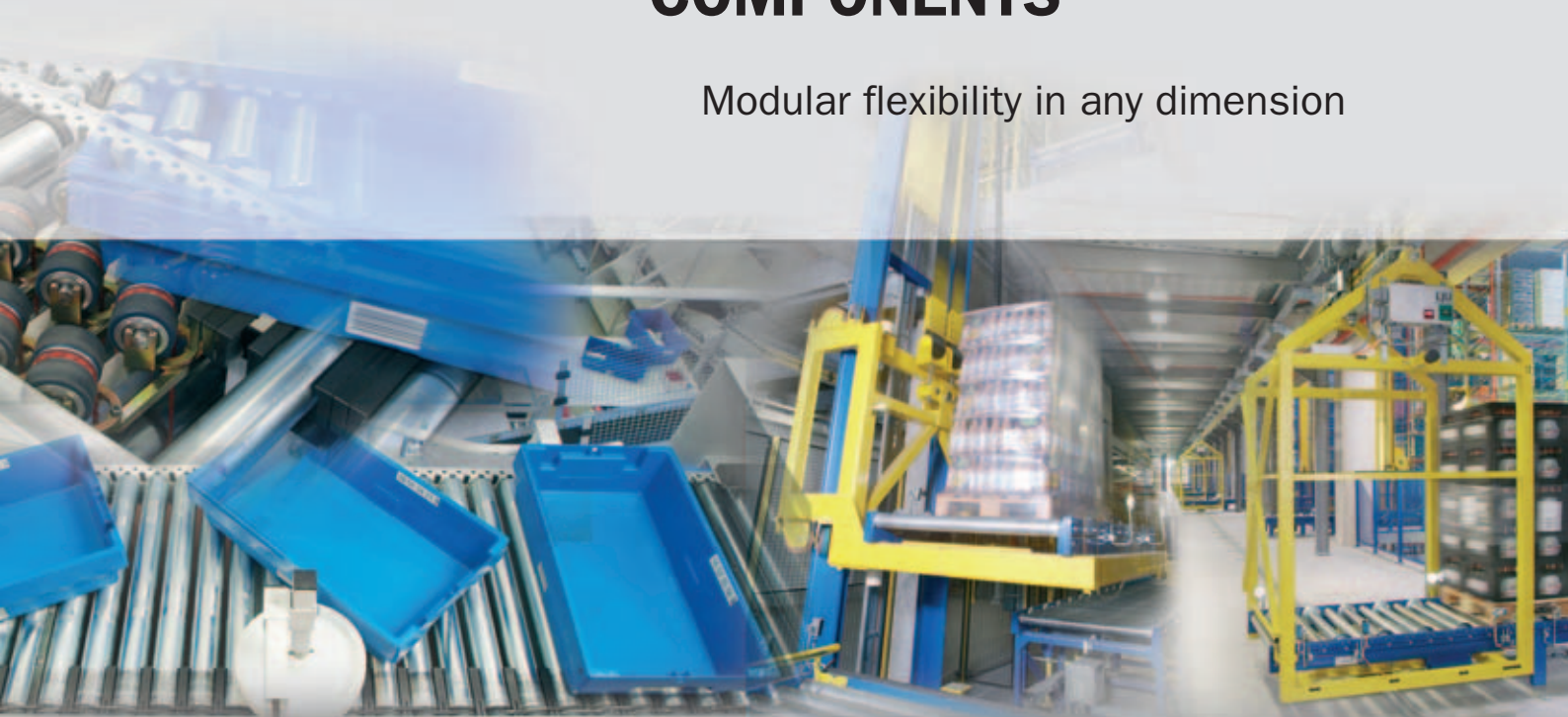


# CONVEYOR SYSTEM COMPONENTS

Modular flexibility in any dimension



# We move things – both large and small

A powerful conveyor system is essential for the efficiency and profitability of in-house material flows.

Wherever optimized material flows, high reliability, and durability of conveyor systems are required, we offer innovative materials handling technology and warehousing systems for customer-specific requirements.

Our in-house manufacturing guarantees consistent quality and maximum dependability of the end products.

SSI SCHAEFER provides individual solutions as desired: from planning and project management, warehousing, transport, and control systems to manufacturing and fast, responsive service.

## Scope of services

- System planning
- Mechanical equipment
- Control systems
- Assembly
- Commissioning
- Connection to subsystems
- Maintenance and Service



**SYSTEM CERTIFIED**

ISO 9001:2008

No.07908/0

## Safety

- Conveying elements and conveying systems meet international safety regulations
- Continuous enhancement and product update

## Comfortable maintenance

- Simple and proven elements in excellent design and modern technology reduce time and effort for servicing
- Low-maintenance components

## Reliability and quality

- Conveyor systems are powder-coated

## Quality advantage

due to in-house engineering and manufacturing in the SSI SCHAEFER Production and Competence Center

## Time advantage

due to preliminary start-up in the plant and completely prefabricated assembly modules, suitable for container shipping

## System advantage

modular design adapted to the relevant situation (new project, integration, modernisation)



# Today's solutions, tomorrow's visions

Success can be planned

## Global presence

SSI SCHAEFER attaches great importance to advice and service – worldwide. In over 53 countries, our staff members help and advise customers when it comes to planning and implementing demanding intralogistics projects.

In cooperation with the customer, competent expert advisors develop efficient overall solutions, which are precisely tailored to the relevant individual requirements.

## Comprehensive experience in the industry

Competence in developing successful logistics concepts – this includes expert knowledge as well as comprehensive knowledge of specific business processes in different industries.

SSI SCHAEFER customers benefit from an inter-branch range of services and many years of experience gained from projects for leading companies of all branches of industry.

## Logistics overall concepts

Growing throughput quantities, an increasing atomization of order and batch sizes, and high availability of items and systems – this demands a great deal of warehouses and logistics.

With a holistic consideration of processes, the proven range of services from SSI SCHAEFER allows a cross-system overall implementation of an optimal strategy with the most efficient systems. A solid basis also for future need-oriented development stages.



## Professional project management

The implementation of complex projects is based on the strict observance of deadlines, services, and budgets. Consequently, the implementation process of SSI SCHAEFER is based on a target-oriented implementation of harmonized project stages that are planned in detail.

SSI project managers on site ensure that these stages are adhered to.

## Individual planning service

With the planning service from SSI SCHAEFER, the right decisions are made already before the implementation of the project.

The use of the most modern technologies allows the visualization and verification of the equipment concept already in the planning stage. Thus, specific requirements can be integrated at an early stage and implemented in an optimal solution.

## Long-term protection of investment

With the availability guarantee from SSI SCHAEFER, customers are always on the safe side. The products from the current catalogs are still available years later.

In this way, a lasting, scalable, and future-proof investment is ensured.



# Pallet conveyor systems

## Point by point advantages



### Flexibility

- Special frame for chain and roller conveyors
- The design of the frame allows a modular arrangement
- All essential components can be added using clamps
- Conveyor components can be adapted to the most different kinds of load carriers such as cargo racks, pallets, skids, and furniture trolleys
- Chain and roller conveyors can be designed in individual lengths
- Suitable for use in deep-freeze areas up to  $-28^{\circ}\text{C}$

### Easy assembly

- Add-on parts and/or signalers can be mounted onto the conveyor frame thanks to integrated C-rails
- Complex elements (turntable, lifting transfer unit, ground-level discharging station, etc.) are delivered wired to the terminal box

### Convenient maintenance

- Low-maintenance lifting transfer unit and vertical conveyor
- Easy and fast replacement of carrying rollers due to tangential drive

### Transported material

Euro pallets:	DIN 13698-1
Industrial pallets:	DIN 13698-2
Skeleton box pallets:	DIN 15155
Dimensions:	800 x 1,200 mm
	1,000 x 1,200 mm
	1,200 x 1,200 mm
Individual weight:	max. of 1,500 kg

(other transported material: Euro pallets, Euro half pallets (Düsseldorf pallets); industrial, chemical, CHEP, EMA pallets)



### Skeleton container transport

Supply to and away from workstations in the production line of an automotive subsupplier



### Pallet transport

Standard Euro pallets



Conveyor system solutions for special frames and special pallets on request



# Individual solutions with perfectly adapted tote conveying system components

By developing standard components of modular conception which may be combined with each other and extended as required to suit specific needs, SSI SCHAEFER has reacted in good time to market requirements implementing them within a comprehensive scope of services aimed at efficient intralogistics solutions.

Perfectly tuned components and an ergonomic conveyor profile ensure highest system availability and provide for high throughput and diversion rates.

It is on this basis that individual solutions are developed to meet the complex and permanently changing requirements of intralogistics.

In addition, continuous further system development guarantees a steady supply of state-of-art-components with flexibility in application, extremely noiseless performance and simple maintenance.

## Transport units

Type:	totes, cartons or trays
Dimensions:	
Length:	240 – 800 mm
Width:	200 – 800 mm
Unit weight:	max. 50 kg

## Colour

Pallet and tote conveying system	
RAL standard:	powder coating 40 µm primer coating 50 µm top coating
Lateral elements:	RAL 5010 (gentian blue) RAL 9006 (white aluminium)
Supports:	RAL 5010 (gentian blue)
Motor:	manufacturer's standard
Sensor holder:	galvanized
Attachment parts:	RAL 1021 (rape yellow) RAL 1018 (zinc yellow)

Other RAL colours upon request



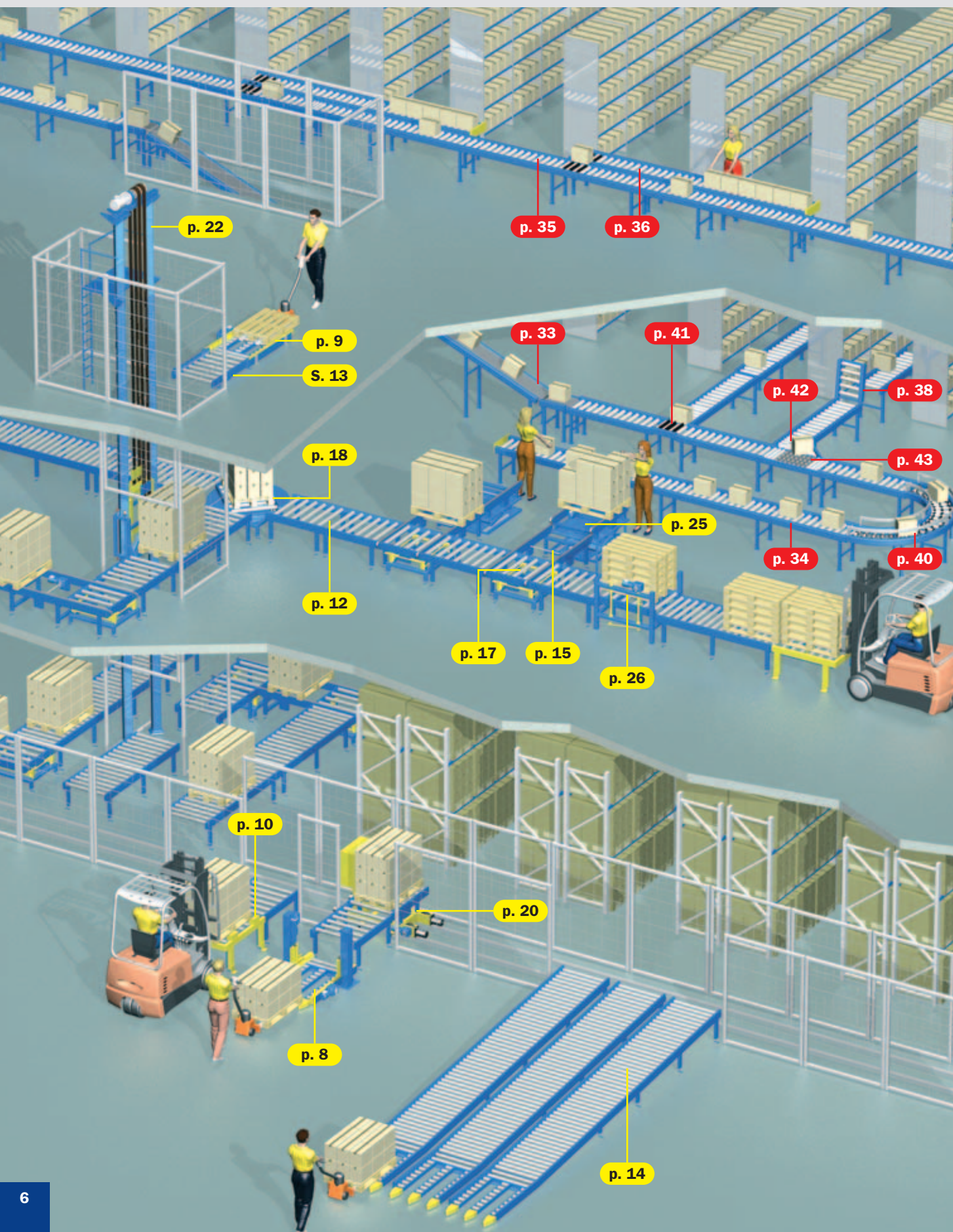
**Tote transport**



**Carton transport**



# Conveyor systems overview



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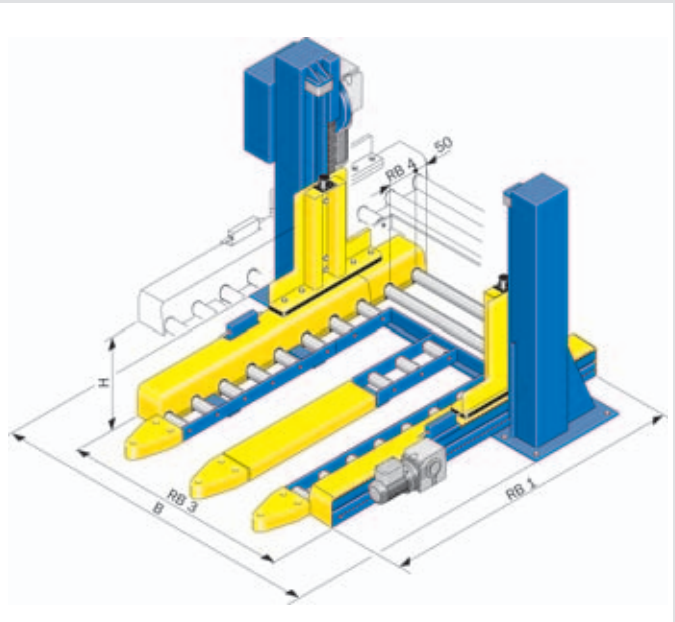
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### Attachment



## Ground-level roller conveyor with lift (EAS-RBmH)



### Brief description

With the ground-level infeed station with lift, transport units can be fed in or picked up using manual forklift trucks.

For the infeed of transport units, the infeed station is in its lower position at a conveying level of +75 mm to the floor level. Lifting is carried out by means of a chain drive with electric motor.

Of the three roller strips, the two outer ones are driven. The middle, non-driven roller strip is used to support the pallet.

### Safety equipment

- One light barrier with evaluation unit, which stops the hoist motor if the light beam is interrupted.
- Slipping clutch
- Stable infeed guide to protect the roller conveyor

### Accessories

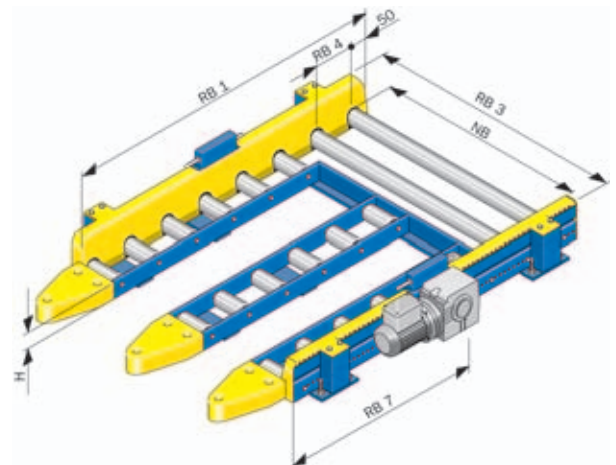
- Sensor holder

### Technical data

Lifting speed:	max. 0.07 m/s
Conveying speed:	max. 0.3 m/s
Drive power lift:	max. 1.5 kW
Drive power RB:	max. 0.37 kW
Conveying capacity:	max. 120 pal/h
Motor roller conveyor:	<ul style="list-style-type: none"> <li>- three-phase motor</li> <li>- Movimot</li> <li>- Moviswitch</li> <li>- pole switchable motor</li> </ul>
Motor lift:	<ul style="list-style-type: none"> <li>- three-phase drive with external frequency converter</li> <li>- Movimot</li> </ul>
Length of roller conveyor (RB1):	1,750 mm
Width of conveyor (RB3):	min. 1,250 mm max. 1,650 mm
Overall width (B):	RB3 + 800 mm
Nominal width (NB):	min. 880 mm max. 1,280 mm
Lift (H):	max. 600 mm
Roller diameter:	60 mm
Roller wall thickness:	3 mm
Roller pitch (RB4):	160 mm



## Ground-level roller conveyor without lift (EAS-RB)



### Brief description

With the infeed roller conveyor, transport units can be fed in or picked up using manual forklift trucks.

For the infeed of transport units, the infeed station is at a conveying level of +80 mm to the floor level. Lifting is carried out using a chain drive with electric motor.

Of the three roller strips, the two outer ones are driven by means of a tangentially acting chain drive.

The middle, non-driven roller strip is used to support the middle runner of the pallet.

Chain, sprockets, and deflection rollers are covered by protective plates to prevent unintentional contact.

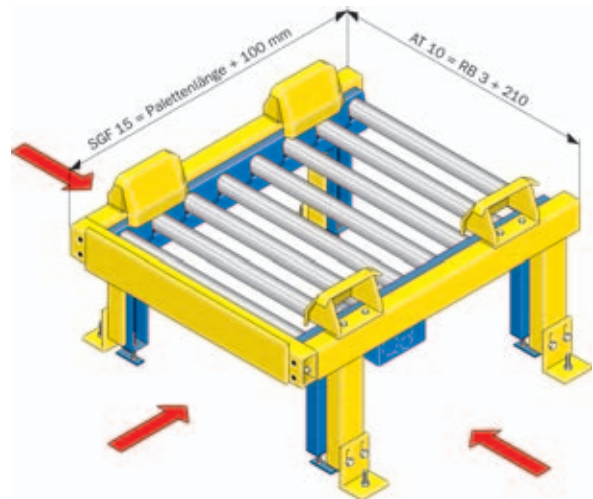
### Accessories

- Guide rollers
- Sensor holder

### Technical data

Conveying speed:	max. 0.3 m/s
Drive chain:	10B-1 (5/8" x 3/8" Simplex) DIN 8187
Drive power:	max. 0.55 kW
Motor:	- three-phase motor - Movimot - Moviswitch - pole switchable motor
Length of roller conveyor (RB1):	1,620 mm
Nominal width (NB):	min. 880 mm max. 1,280 mm
Width of roller conveyor (RB3):	NB + 200 mm
Position drive (RB7):	600 mm
Conveying height (H):	80 mm
Roller diameter:	60 mm
Roller wall thickness:	3 mm
Roller pitch (RB4):	160 mm

## Infeed/pick-up roller conveyor



### Brief description

With the infeed roller conveyor, transport units can be fed in or picked up using forklift trucks.

Ram protection and centering devices allow the safe positioning of transport units on the infeed roller conveyor.

The infeed roller conveyor is designed such that the extensions of forklift or pallet trucks can drive underneath the conveyor when delivering the transport units.

Drive chains, sprockets, and deflection rollers are covered by protective plates to prevent unintentional contact.

In case of picking up from the conveyor, there is no centering device on the ram protection.

### Accessories

- Sensor holder
- Wheel anti-ram protection

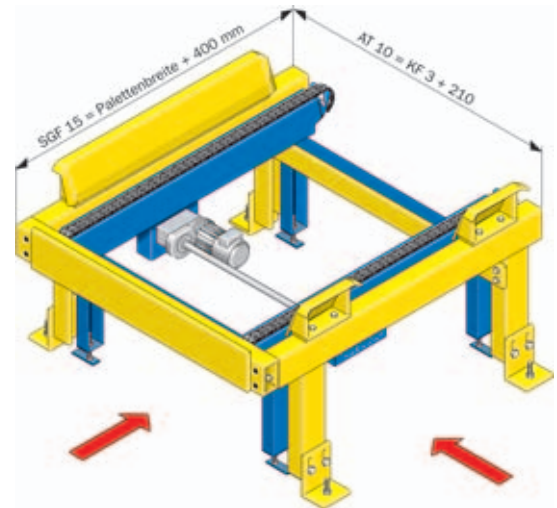
### Technical data

Outer width infeed (AT10):	RB3 + 210 mm
Outer length infeed (SGF15):	Pallet length + 100 mm

For technical data of the roller conveyor, see chapter "roller conveyor system"



## Infeed/pick-up chain conveyor



### Brief description

With the infeed chain conveyor, transport units can be fed in or picked up using forklift trucks.

Ram protection and centering devices allow the safe positioning of transport units on the infeed roller conveyor.

The infeed chain conveyor is designed such that the extensions of forklift or pallet trucks can drive underneath the conveyor when delivering the transport units.

Drive chains, sprockets, and deflection rollers are covered by protective plates to prevent unintentional contact.

In case of picking up from the conveyor, there is no centering device on the ram protection.

### Accessories

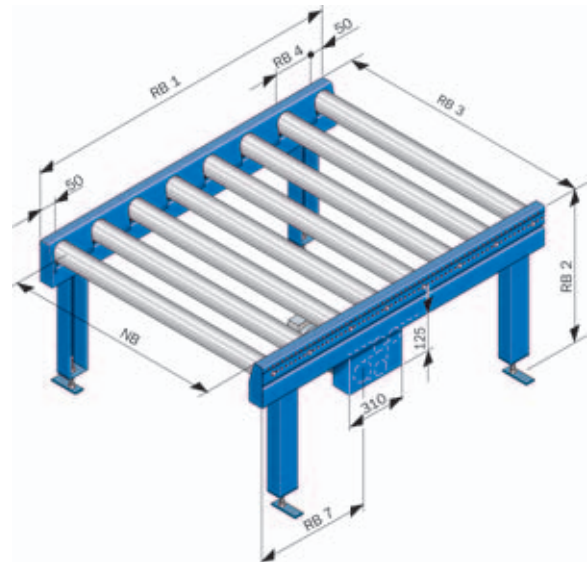
- Sensor holder
- Wheel anti-ram protection
- Cover plate between chain conveyor profiles (drive protection)

### Technical data

Outer width infeed (AT10):	$KF3 + 210 \text{ mm}$
Outer length infeed (SGF15):	Pallet length + 400 mm

For technical data of the chain conveyor, see chapter "chain conveyor system"

## Roller conveyor (RB)



### Brief description

The roller conveyor is used for the horizontal transport of load units.

The load carrier is forwarded on the driven carrier rollers which are moved by a tangentially effective chain drive.

Protective panels prevent unintentional contact with chain, sprocket wheels and deflection pulleys.

To compensate for unevenness of the ground, the support legs can be adjusted via tree rods ( $\pm 40\text{mm}$ ). Support legs and drive unit are traversable.

### Accessories

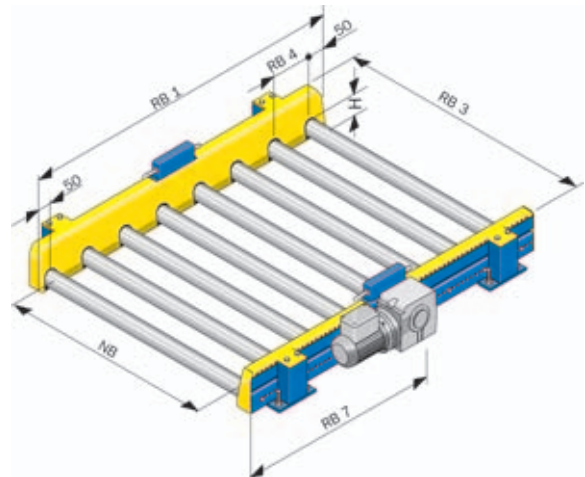
- Wheel flanges
- Guide rollers
- Sensor switch
- Limit stop

### Technical data

Conveying speed:	max. 0.3 m/s
Drive chain:	10B-1 (5/8" x 3/8" Simplex) DIN 8187
Drive power:	max. 0.55 kW
Drive:	- three-phase motor - Movimot - Moviswitch - pole switchable motor
Length of roller conveyor (RB1):	min. 720 mm max. 4,500 mm
Height of conveyor (RB2):	min. 350 mm ( $\pm 40\text{mm}$ ) max. 2,000 mm ( $\pm 40\text{mm}$ )
Rated width (NB):	min. 880 mm max. 1,280 mm
Width of conveyor (RB3):	NB + 200 mm
Position drive (RB7):	min. 370 mm
Diameter of rollers:	80 mm
Wall thickness of rollers:	3 mm
Pitch of rollers (RB4):	120 – 200 mm (20 mm increments)



## Ground-level roller conveyor (eRB)



### Brief description

The ground-level roller conveyor is used for the horizontal transport of load units at low conveying heights.

The loading aid is conveyed on driven carrying rollers by means of a tangentially acting chain drive.

Chain, sprockets, and deflection rollers are covered by protective plates to prevent unintentional contact.

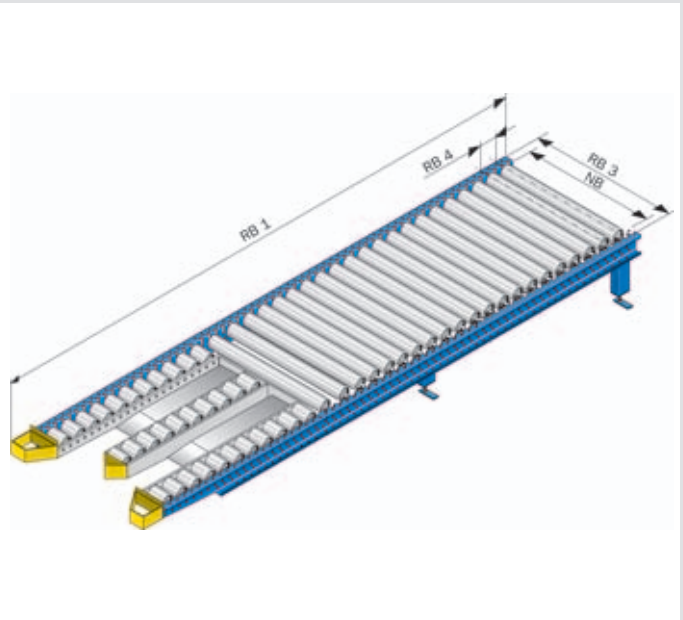
### Accessories

- Guide rollers
- Sensor holder

### Technical data

Conveying speed:	max. 0.3 m/s
Drive chain:	10B-1 (5/8" x 3/8" Simplex) DIN 8187
Drive power:	max. 0.55 kW
Drive:	- three-phase motor - Movimot - Moviswitch - pole switchable motor
Length of roller conveyor (RB1):	min. 720 mm max. 4,500 mm
Nominal width (NB):	min. 880 mm max. 1,280 mm
Width of roller conveyor (RB3):	NB + 200 mm
Position drive (RB7):	600 mm
Conveyor height (H):	75 mm
Roller diameter:	60 mm
Roller wall thickness:	3 mm
Roller pitch (RB4):	120 – 200 mm (20 mm increments)

## Gravity roller conveyor (SRB)



### Brief description

Gravity roller conveyors are mainly used at end positions of conveyor systems and in pallet flow racks.

The downward slope of a gravity roller conveyor is approximately 4 %. With the help of brake rollers, the speed of the conveyed material can be slowed down.

At the end of the roller conveyor, the conveyed material can be picked up using manual forklift trucks or forklift trucks.

Depending on the forklift trucks, the gravity roller conveyor can be used with or without tripartite runout rollers. Long gravity roller conveyors are provided with one or several brake rollers.

### Accessories

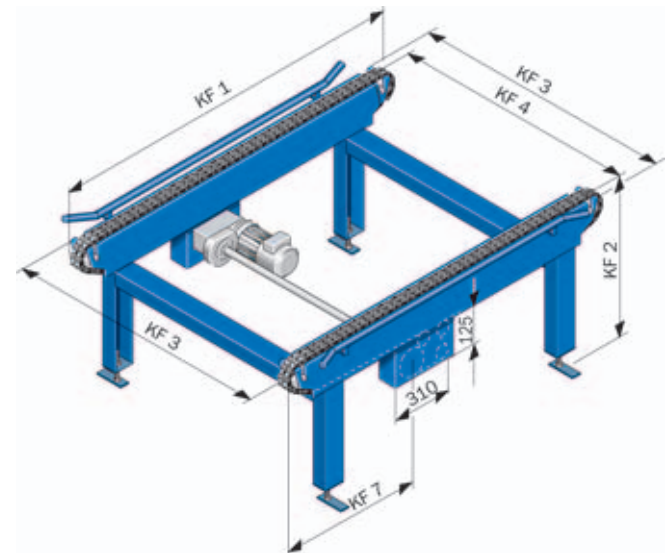
- Flanges
- Guide rollers
- Sensor holder
- Brake rollers/brake carrying rollers
- Bipartite/tripartite infeed and outfeed
- Pallet separating feature at the pick up point
- Infeed alignment
- Roller protection profile
- Electric manual forklift truck pick up

### Technical data

Drive:	gravity
Required downward slope:	approx. 4 %
Length of roller conveyor (RB1):	min. 720 mm max. approx. 10,000 mm
Conveying height (RB2):	min. 350 mm max. 1,000 mm
Nominal width (NB):	min. 880 mm max. 1,280 mm
Conveyor width (RB3):	NB + 70 mm
Roller diameter:	60 mm
Roller wall thickness:	2 mm
Roller pitch (RB4):	156 mm



## Chain conveyor (KF)



### Brief description

The chain conveyor is used for the horizontal transport of load units. The loading aid is conveyed on two driven chain strands.

One duplex high-performance roller chain per chain strand serves as the transport chain.

To balance uneven surfaces, the support feet are height-adjustable by means of threaded rods (+ 40 mm). Supports and drive unit can be moved.

The width of the lateral guides, which are mounted onto the chain conveyor as a standard feature, is continuously adjustable.

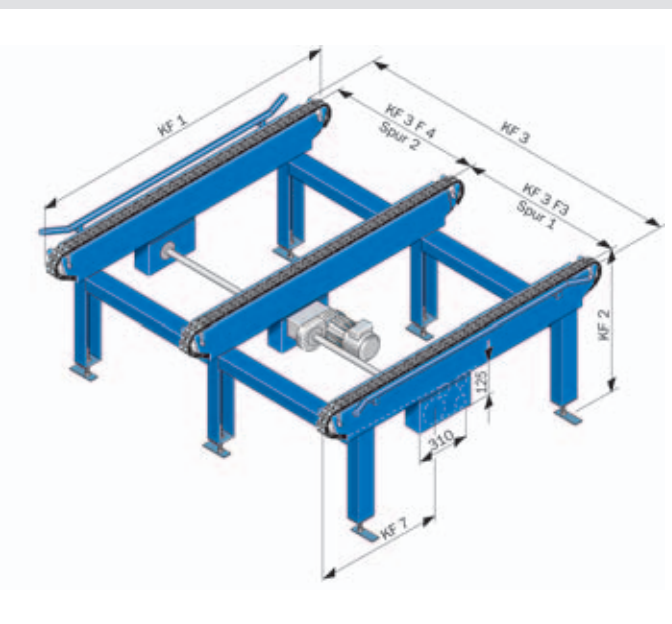
### Accessories

- Sensor holder
- Central roller rail
- Limit stop

### Technical data

Conveying speed:	max. 0.3 m/s
Transport chain:	10B-2 (5/8" x 3/8" Duplex) DIN 8187
Drive power:	max. 1.5 kW
Drive:	- three-phase drive - Movimot - Moviswitch - pole switchable motor
Conveyor length (KF1):	min. 860 mm max. 6,000 mm
Conveyor height (KF2):	min. 300 mm (± 40mm) max. 1,990 mm (± 40mm)
Conveyor width (KF3):	KF4 + 70 mm
Gage of the track (KF4):	1,080 mm
Position drive (KF7):	470 mm

## Triple-strand chain conveyor (3KF)



### Brief description

The triple-strand chain conveyor is used for the horizontal transport of load units. The loading aid is conveyed on three driven chain strands. One duplex high-performance roller chain per chain strand serves as the transport chain.

The triple strand chain conveyor is used for “mixed” transports of Euro and Düsseldorf pallets or for the transport of long pallets.

To balance uneven surfaces, the support feet are height-adjustable by means of threaded rods (+ 40 mm). Supports and drive unit can be moved.

The width of the lateral guides, which are mounted onto the chain conveyor as a standard feature, is continuously adjustable.

### Accessories

- Sensor holder
- Limit stop

### Technical data

Conveying speed:	max. 0.3 m/s
Transport chain:	10B-2 (5/8" x 3/8" Duplex) DIN 8187
Drive power:	max. 1.5 kW
Drive:	- three-phase drive - Movimot - Moviswitch - pole switchable motor
Conveyor length (KF1):	min. 860 mm max. 6,000 mm
Conveyor height (KF2):	min. 300 mm (± 40mm) max. 1,990 mm (± 40mm)
Conveyor width (KF3):	K3F3+K3F4 +70 mm
Gage of the track 1 (K3F3):	540 mm
Gage of the track 2 (K3F4):	min. 540 mm
Position drive (KF7):	470 mm



## Lifting transfer unit with roller conveyor (HRB)



### Brief description

For perpendicular transfer, infeed, or staging of load units, an eccentric lifting transfer unit is used together with a roller and a chain conveyor.

The roller conveyor on top is moved vertically to the transfer height by means of an eccentric hoist unit, and the load unit is transferred from a chain conveyor track, for example, to a roller conveyor.

The lifting movement is carried out by means of a gear motor, which activates the eccentric shafts with connecting rods. The entire lifting unit is a low-maintenance unit.

For Düsseldorf / Euro half pallets, triple-strand chain conveyors are used. For technical data of the chain conveyors, see chapter "chain conveyor system".

Lifting transfer unit (roller conveyor) and chain conveyor form an assembly unit.

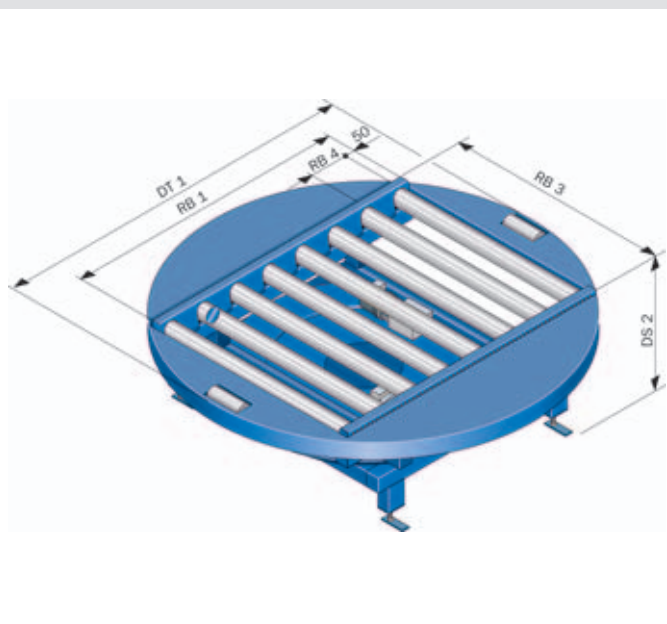
### Accessories

- Sensor holder
- Limit stop

### Technical data

Lifting time:	2.2 s
Drive power:	max. 0.55 kW
Conveying capacity:	max. 220 pal/h
Drive lift:	- three-phase motor - Moviswitch
Drive roller conveyor:	- three-phase motor - Movimot - Moviswitch - pole switchable motor
Total eccentric lift:	50 mm
Lift height of load unit:	10 mm
Height of lifting transfer unit (HS3):	min. 450 mm
Roller conveyor length RB1)	1,000 mm
Nominal width (NB):	min. 880 mm max. 1,280 mm
Conveyor width (RB3):	NB + 200 mm
Roller diameter:	80 mm
Roller wall thickness:	3 mm
Roller pitch (RB4):	160 – 200 mm

## Turntable with integrated roller conveyor (DRB)



### Brief description

The turntable with integrated roller conveyor is used to change directions and/or turn load units that are transported in longitudinal direction.

Standard turns are 90° and 180°.

The turning movement is carried out by means of a pinion directly on the motor shaft, which enables a continuously adjustable rotation angle through the sprocket of the rotary joint. Swiveling is achieved by means of a rotary joint.

Power supply to the turning top is ensured using an energy chain.

### Accessories

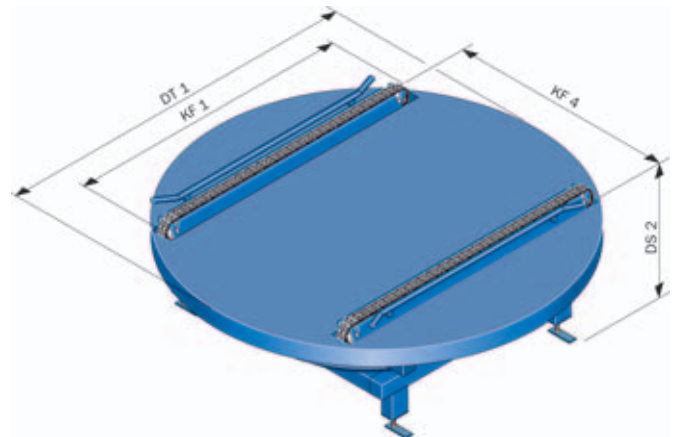
- Sensor holder
- Flanges
- Guide rollers
- Limit stop

### Technical data

Turning and positioning time 90°:	5 s
Rotation angle:	max. 270° (+90°; -180°)
Drive power:	max. 0.37 kW
Conveying capacity 90°:	max. 180 pal/h
Energy supply:	cable chain
Drive turntable:	- Movimot - pole switchable motor
Drive roller conveyor:	- three-phase motor - Movimot - Moviswitch - pole switchable motor
Roller conveyor length (RB1):	1,500 mm
Conveyor height (DS2):	min. 450 mm (± 40mm) max. 1,000 mm (± 40mm)
Nominal width (NB):	min. 880 mm max. 1,280 mm
Conveyor width (RB3):	NB + 200 mm
Turntable diameter (DT1):	1,800 mm
Roller diameter:	80 mm
Roller wall thickness:	3 mm
Roller pitch (RB4):	120 – 200 mm (20 mm increments)



## Turntable with integrated chain conveyor (DKF)



### Brief description

The turntable with chain conveyor on top is used to change directions and/or turn load units that are transported in transverse direction. Standard turns are 90° and 180°.

The turning movement is carried out by means of a pinion directly on the motor shaft, which enables a continuously adjustable rotation angle through the sprocket of the rotary joint. Swiveling is achieved by means of a rotary joint

Power supply to the turning top is ensured using an energy chain.

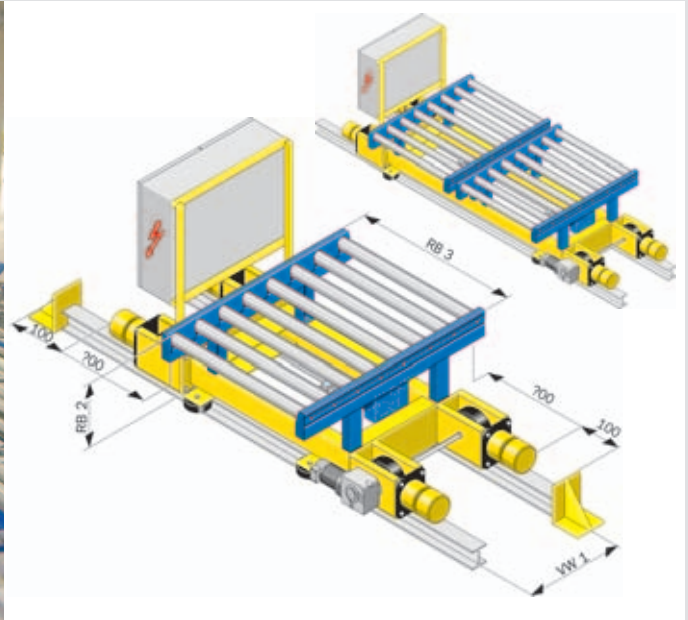
### Accessories

- Sensor holder
- Flanges

### Technical data

Turning and positioning time 90°:	5 s
Rotation angle:	max. 270° (+90°; -180°)
Drive power:	max. 0.37 kW
Conveyor capacity 90°:	max. 180 pal/h
Energy supply:	cable chain
Drive turntable:	- Movimot - pole switchable motor
Drive chain conveyor:	- three-phase motor - Movimot - Moviswitch - pole switchable motor
Chain conveyor length (KF1):	1,500 mm
Conveyor height (DS2):	min. 450 mm (± 40mm) max. 1,000 mm (± 40mm)
Gage of the track (KF4):	min. 1,080 mm max. 1,280 mm
Conveyor width (KF3):	NB + 200 mm
Turntable diameter (DT1):	1,800 mm

## Shuttle vehicle with roller conveyor (VW-RB\* /DVW-RB\*)

**Brief description**

With the shuttle vehicle, transport units at one conveying level are distributed laterally to several adjacent conveying tracks.

A plug-type, frequency-controlled gear brake motor, which activates the drive shaft directly, is used as the traction drive.

For accelerations exceeding  $1.0 \text{ m/s}^2$ , the drive provided is an Omega type drive with toothed belt.

A cable chain or busbar can be used for energy supply.

Carrying and guide wheels are with Vulkollan lining to reduce the noise level and improve running smoothness.

On top of the shuttle vehicle, one or two roller conveyors are provided to carry the load.

**Accessories**

- Protective fencing
- Access door contact switch
- Sensor holder
- Flanges
- Guide rollers
- Tilting station for transfer onto the gravity roller conveyor

**Technical data**

Traveling speed:	max. 3.5 m/s
Acceleration:	$1.0 \text{ m/s}^2$ max. $2.0 \text{ m/s}^2$ (Omega drive with toothed belt)
Drive power:	max. 4.0 kW (VW-RB*) max. 7.5 kW (DVW-RB*)
Energy supply:	cable chain or busbar
Data transmission:	cable chain or data light barrier
Drive shuttle vehicle:	three-phase motor with frequency converter
Roller conveyor width (RB3):	pallet width + 200 mm
Roller conveyor length (RB1):	1,700 mm
Gage of the track shuttle vehicle (VW1):	900 mm
Conveyor height (RB2):	min. 450 mm max. 1,000 mm

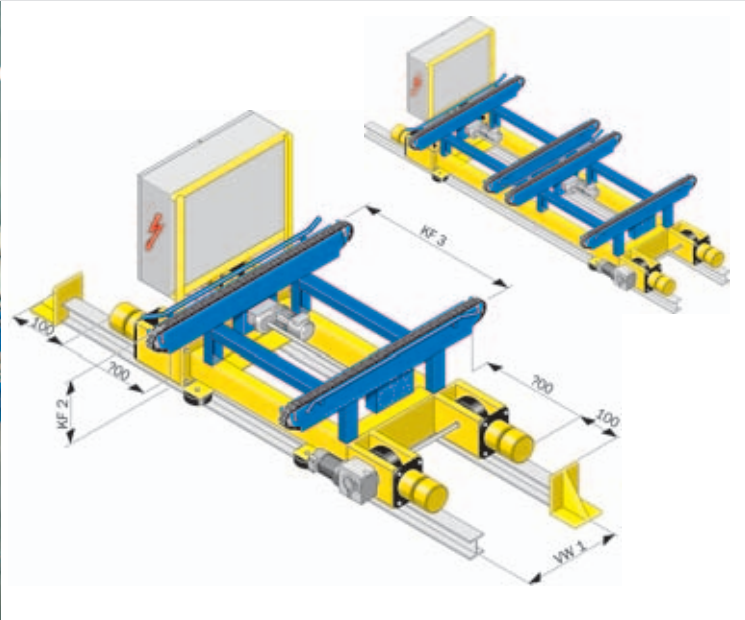
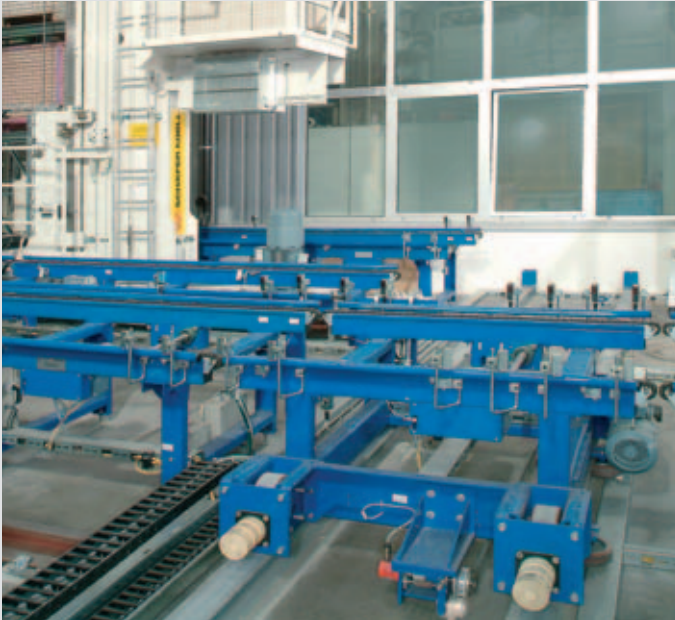
For technical data of the roller conveyor, see chapter "roller conveyor system"

\*VW-RB= Shuttle vehicle with one roller conveyor

\*DVW-RB= Shuttle vehicle with two roller conveyors



## Shuttle vehicle with chain conveyor (VW-KF\* /DVW-KF\*)



### Brief description

With the shuttle vehicle, transport units at one conveying level are distributed laterally to several adjacent conveying tracks.

A plug-type, frequency-controlled gear brake motor, which activates the drive shaft directly, is used as the traction drive.

For accelerations exceeding  $1.0 \text{ m/s}^2$ , the drive provided is an Omega type drive with toothed belt.

A cable chain or busbar can be used for energy supply.

Carrying and guide wheels are with Vulkollan lining to reduce the noise level and improve running smoothness.

Running rails can be installed in the floor, if required. On top of the shuttle vehicle, one or two chain conveyors are provided to carry the load.

### Accessories

- Protective fencing
- Access door contact switch
- Sensor holder
- Folding bridge at chain conveyor for transfer to adjacent chain conveyors

### Technical data

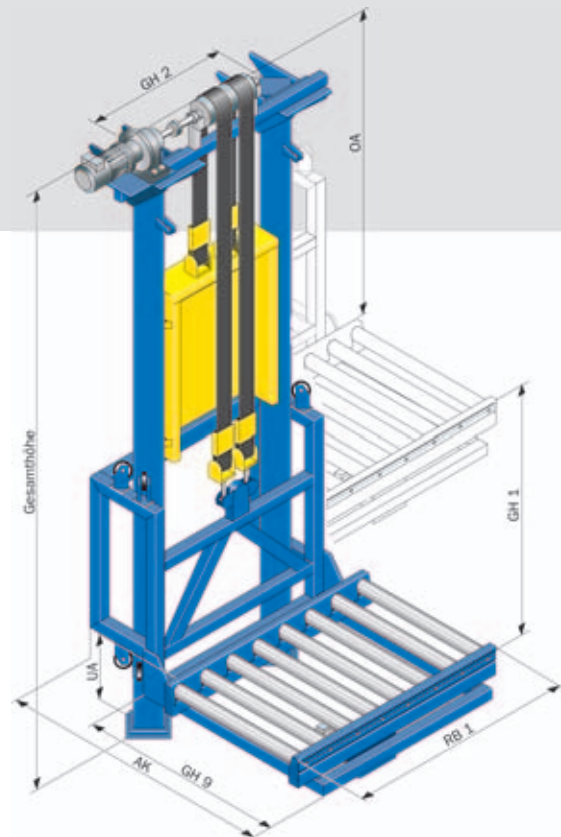
Traveling speed	max. 3.5 m/s
Acceleration:	1.0 $\text{m/s}^2$ max. 2.0 $\text{m/s}^2$ (Omega drive with toothed belt)
Drive power:	max. 4.0 kW (VW-KF*) max. 7.5 kW (DVW-KF*)
Energy supply:	cable chain or busbar
Data transmission:	cable chain or data light barrier
Drive shuttle vehicle:	three-phase motor with frequency converter
Gage of the track KF (KF4):	1,080 mm
Conveyor width (KF3):	KF4 + 70 mm
Gage of the track shuttle vehicle (VW1):	900 mm
Conveyor height (KF2):	min. 450 mm max. 1,000 mm

For technical data of the chain conveyor, see chapter "chain conveyor system"

\*VW-KF= Shuttle vehicle with one chain conveyor

\*DVW-KF= Shuttle vehicle with two chain conveyors

## Twin mast lift (2SF-RB\*/2SF-KF\*)



### Brief description

The twin mast lift with roller conveyor is used for the vertical transfer of transport units to different levels.

Lifting carriage and counter weight are guided on the mast and connected above the driving drum by means of two flat belts with steel reinforcement.

Drive by means of friction connection.

Guide wheels are with Vulkollan lining to reduce the noise level and improve running smoothness.

A roller or chain conveyor can be used as a load-carrying unit.

Support is provided by a mezzanine, steel construction, or building.

### Accessories

- Protective fencing
- Access door contact switch
- Flanges
- Guide rollers
- Sensor holder
- Maintenance platform

### Technical data

Acceleration:	max. 0.6 m/s <sup>2</sup>
Traveling speed:	max. 1.5 m/s
Drive power:	max. 7.5 kW
Drive lift:	three-phase motor with frequency converter
Energy supply:	cable chain
Conveying capacity:	precise figures on request!
Conveyor length (RB1/KF1):	1,740 mm
Mast spacing (GH2):	min. 1,200 mm
Width of lifting carriage (GH9):	min. 1,390 mm max. 1,590 mm
Outer edge lift (AK):	min. 2,000 mm
Lower approach height (UA):	min. 470 mm
Upper approach height (OA):	min. 2,300 mm
Total lift (GH1):	max. 10,000 mm
Overall height:	UA + GH1 + OA

For technical data of the roller conveyor, see chapter "roller conveyor system"

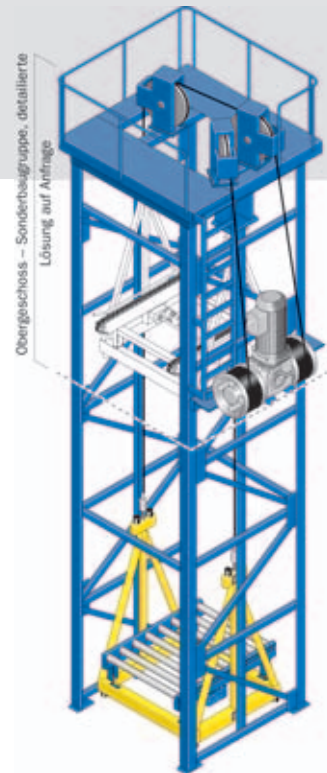
For technical data of the chain conveyor, see chapter "chain conveyor system"

\*2SF-RB= Twin mast lift with roller conveyor

\*2SF-KF= Twin mast lift with chain conveyor



# Quadruple mast lift (4SF-RB\*/4SF-KF\*)



## Brief description

The quadruple mast lift is used for the vertical transfer of transport units to different levels.

The lift cage is moved up and down using two parallel ropes. Here, the lift cage slides smoothly in maintenance-free guide shoes in the rails.

A roller or chain conveyor can be used as a load-carrying unit.

A quadruple mast lift is predominantly used for very high lifting heights and when several pallets are to be handled.

## Accessories

- Protective fencing
- Access door contact switch
- Flanges
- Guide rollers
- Sensor holder
- Maintenance platform

## Technical data

Acceleration:	max. 0.6 m/s <sup>2</sup>
Traveling speed:	max. 1.5 m/s
Drive power:	max. 7.5 kW
Drive lift:	three-phase motor with frequency converter
Energy supply:	cable chain
Conveying capacity:	precise figures on request!
Conveyor length (RB1/KF1):	1,740 mm
Width of lifting carriage (GH9):	min. 1,380 mm max. 1,780 mm
Outer edge lift (AK):	min. 2,000 mm
Lower approach height (UA):	min. 450 mm
Upper approach height (OA):	height on request
Total lift (GH1):	height on request
Overall height:	UA + GH1 + OA

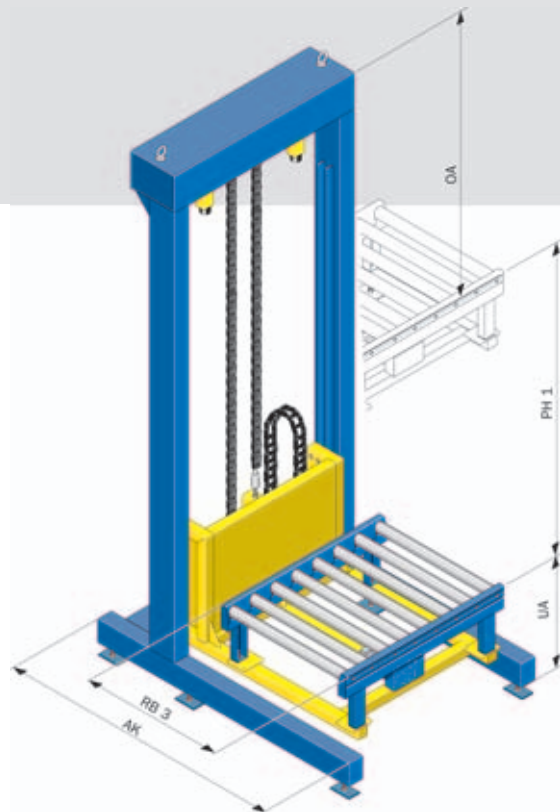
For technical data of the roller conveyor, see chapter "roller conveyor system"

For technical data of the chain conveyor, see chapter "chain conveyor system"

\*4SF-RB= Quadruple mast lift with roller conveyor

\*4SF-KF= Quadruple mast lift with chain conveyor

## Pallet lift (PH-RB\*/PH-KF\*)



### Brief description

The pallet lift is used to bridge low heights. Maximum lifting height is 1.5 meters.

A roller or chain conveyor can be used as a load-carrying unit.

Possible fields of application:

- To bridge low heights of up to 1.5 meters
- At order-picking workplaces for the infinite, optimal adjustment of reaching and pick-up heights. For this purpose, the unit is provided with the appropriate safety equipment.

### Accessories

- Protective fencing
- Access door contact switch
- Flanges
- Guide rollers
- Sensor holder

### Technical data

Acceleration:	max. 0.4 m/s <sup>2</sup>
Lifting speed:	max. 0.2 m/s
Drive power:	max. 4 kW
Drive:	three-phase motor with frequency converter
Lifting chain:	20 B-2, DIN 8187-1
Energy supply:	cable chain
Conveyor length (KF1):	1,700 mm
Outer edge lift (AK):	min. 2,000 mm
Lower approach height (UA):	min. 370 mm
Upper approach height (OA):	min. 860 mm
Total lift (PH1):	max. 1,500 mm
Overall height:	UA + GH1 + OA

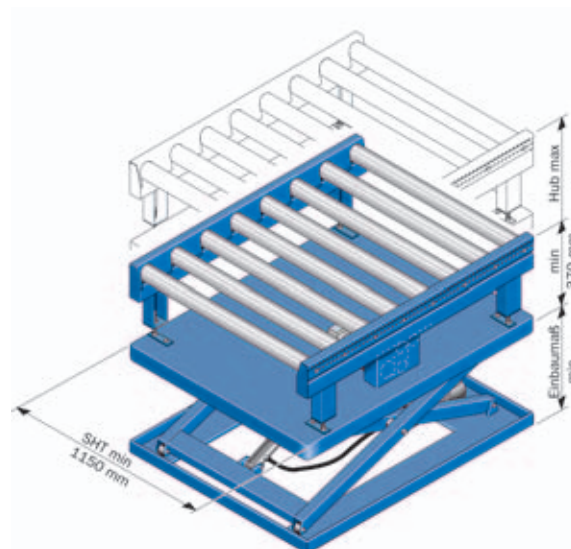
For technical data of the roller conveyor, see chapter "roller conveyor system"

For technical data of the chain conveyor, see chapter "chain conveyor system"

\*PH-RB= Pallet lift with roller conveyor

\*PH-KF= Pallet lift with chain conveyor

## Scissors-type lifting table (SHT-RB\*/SHT-KF\*)



### Brief description

The scissors-type lifting table with roller or chain conveyor is used for the vertical transfer of transport units in different levels. A roller or chain conveyor can be used as a load-carrying unit.

### Accessories

- Protective fencing
- Access door contact switch
- Flanges
- Guide rollers
- Sensor holder

### Technical data

Lifting speed:	max. 0.07 m/s
Drive:	compact hydraulic aggregate
Width of the lifting table:	min. 1,150 mm
Length of the lifting table:	depending on the lifting height
Conveyor length (RB1/KF1):	depending on the lifting height
Roller conveyor height (RB2):	min. 370 mm
Total lift:	max. of 1,500 mm

For technical data of the roller conveyor, see chapter "roller conveyor system"

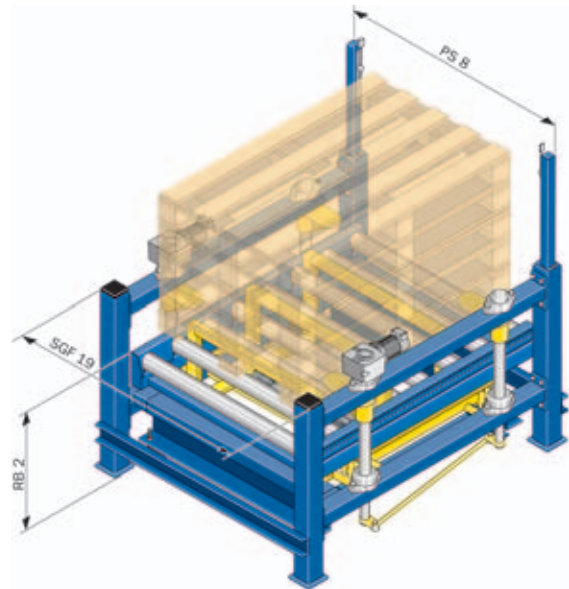
For technical data of the chain conveyor, see chapter "chain conveyor system"

\*SHT-RB= Scissors-type lifting table with roller conveyor

\*SHT-KF= Scissors-type lifting table with chain conveyor



## Pallet storage unit (PS-RB\*/PS-KF\*)



### Brief description

The pallet storage unit, which is integrated in a conveyor track, is used to stack and destack pallets as well as to load and unload load units onto system pallets.

Pallets are transported using a roller or chain conveyor, which is positioned in the pallet storage unit. The pallet is lifted by an eccentric lifting station.

With the gripping system, pallets are separated one after the other and incoming single pallets are stacked on top of each other.

### Accessories

- Sensor holder

### Technical data

Capacity:	15 empty pallets
Lifting time:	2.5 s
Swivel time:	1.5 s
Drive power swivel:	2 x 0.37 kW
Drive power lift:	max. 1.5 kW
Drive swivel:	- three-phase motor - Moviswitch
Drive lift:	- three-phase motor - Movimot - Moviswitch
Width of pallet storage unit (SGF19):	min. 1,210 mm max. 1,610 mm
Conveyor height (RB2/KF2):	min. 500 mm
Total eccentric lift:	240 mm

For technical data of the roller conveyor, see chapter "roller conveyor system"

For technical data of chain conveyor, see chapter "chain conveyor system"

\*PS-RB= Pallet storage unit with roller conveyor

\*PS-KF= Pallet storage unit with chain conveyor

## Ram protection (RS)



### Brief description

The purpose of the ram protection is to protect conveyors, supports, and wall and rack edges from damage by forklift or pallet trucks. The ram protection is available in different designs. It can be retrofitted for conveyor systems and for the protection of other equipment.



### Shape control

The purpose of the shape control is to check if a pallet meets the criteria for automatic storage.



#### Shape control across corners / through portals:

- When a transport unit on the roller conveyor enters the control frame, it is scanned by width and height light barriers. After passing the lifting transfer unit and the continuation of travel on the chain conveyor, length control is carried out.

Several heights, widths, lengths, and weight can be checked.

If a criterion is not met, the relevant transport unit will be routed to a reject spur.

Shape controls can be carried out across corners or through portals.

#### Shape control with light grid:

- When a transport unit on the roller conveyor enters the control frame, it is scanned by a light grid.

If a criterion is not met, the relevant transport unit will be routed to a reject spur.



#### Fork clearance control and bottom deck board control:

- With this control, form and clearance of pallets are checked.
- Fork clearance control  
The required entry clearance for the telescopic forks of storage and retrieval machines is checked for automatic storage.
- Bottom deck board control  
The bottom deck board control checks the runners of a pallet for damage. The pallet is checked in longitudinal direction during transport on the conveyor.

Such controls are necessary for the trouble-free storage of pallets in fully automatic high bay warehouses, for example.



## Conveyor crossovers



### Brief description

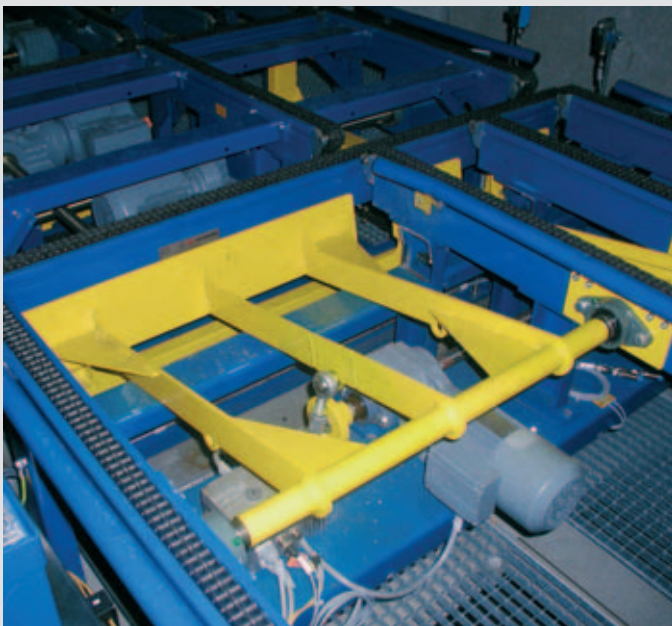
Crossovers are available in different designs for roller and chain conveyor systems. They allow the crossing of conveyors for maintenance and service purposes.

## Limit stops

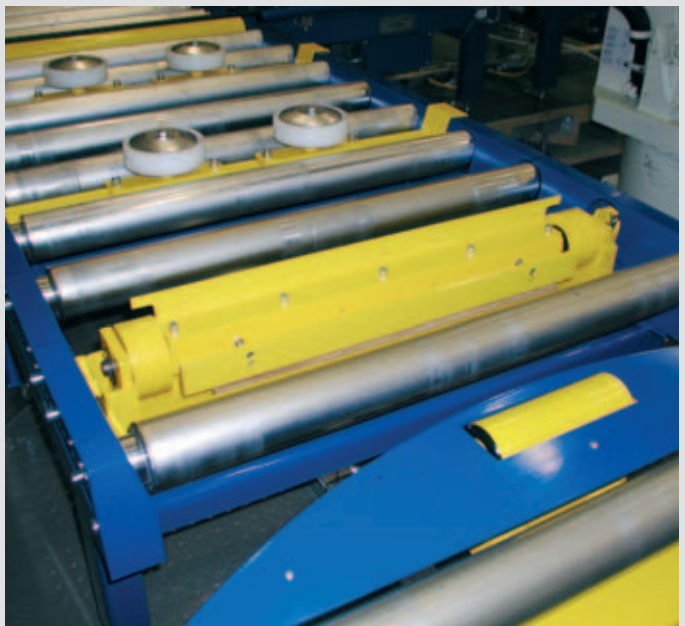
Fixed stop



Fixed stop



Movable stop



Movable stop

### Brief description

Limit stops are used to align loading aids on the conveyor system. Here, fixed and movable limit stops are available.

Movable stops are used for corner transfers with material flow that is passing through. The movable limit stop can be moved electromechanically or pneumatically.



## Safety equipment

Safety grid



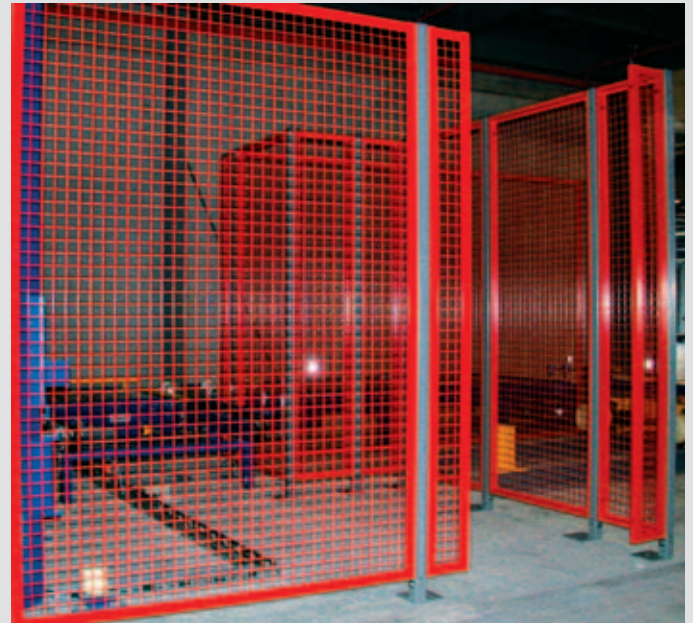
Safety net



Safety door



Safety fence



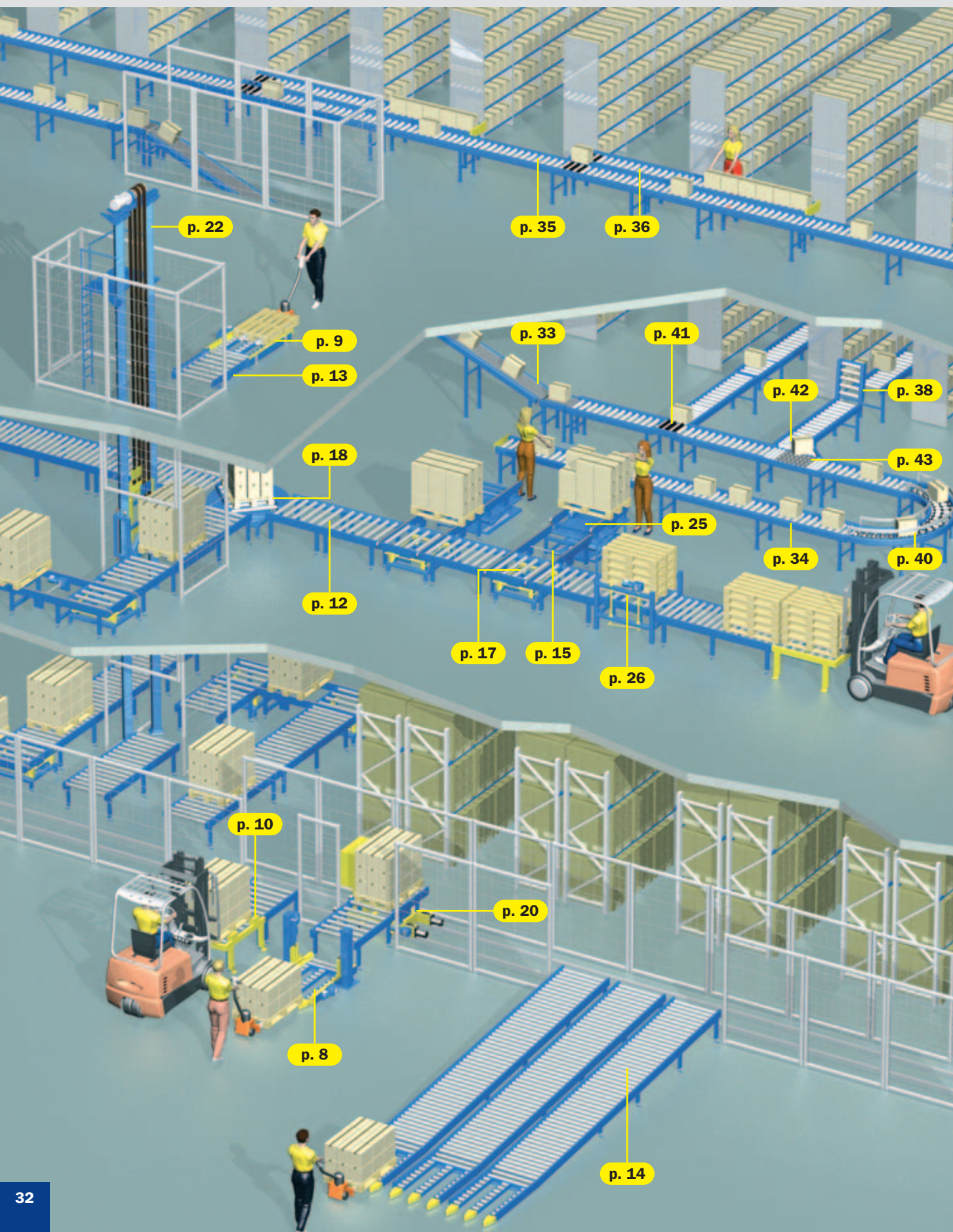
Safety fence

### Brief description

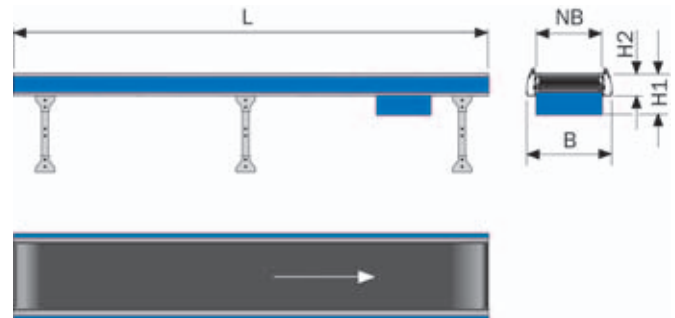
The safety equipment is designed for the protection of persons. With the safety equipment, access to hazardous areas in the conveying system (e.g. access to vertical conveyors, aisles, etc.) is prevented or impeded.



# Conveyor system overview



## Conveyor belt



### Brief description

A conveyor belt is a line where transport units are conveyed by a powered conveyor belt that covers almost the entire nominal width.

Conveyor belts are used for horizontal transport and for ascending and descending conveyor lines.

An inclination of  $18^\circ$  should, however, not be exceeded.

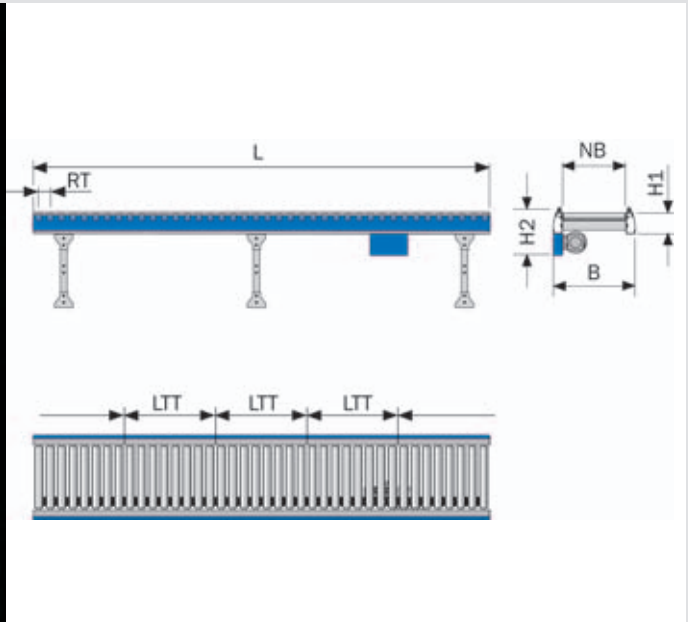
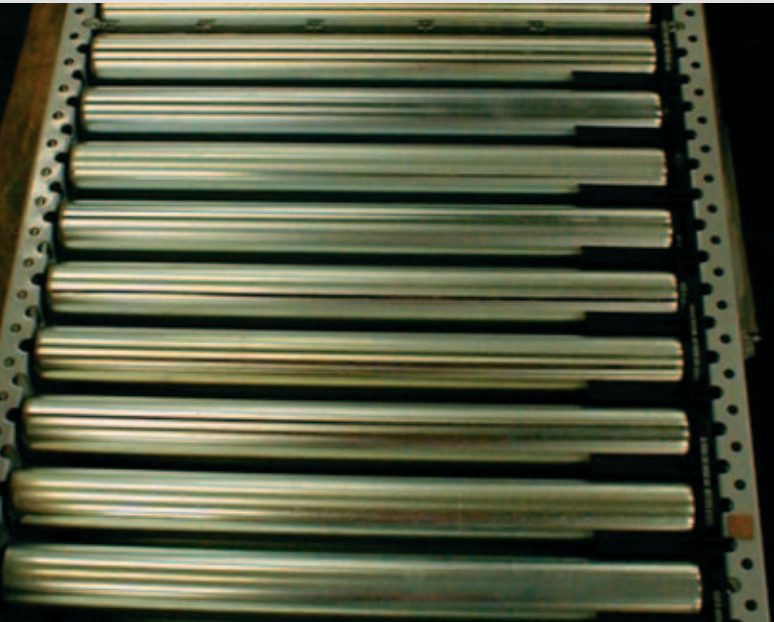
Belts with different surface characteristics may be used. Belts with fine grooves are, for example, used for inclinations of  $10^\circ$  or more.

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Conveyor width (W):	N + 80 mm
Conveyor height (H1):	290 mm (conveyor drive small)
(H1):	380 mm (conveyor drive big)
(H2):	100 mm
Conveyor length (L):	20,000 mm (depending on weight, transport units and speed)
Load capacity:	max. 100 kg/rm
Conveyor speeds (v):	0,3 ; 0,6 ; 0,9 ; 1,2 m/s
Inclination degree:	max. $18^\circ$
Noise level (without transport units):	max. 65 dB ( v ≤ 0,6 m/s)



## Accumulation roller conveyor



### Brief description

The accumulation roller conveyor is used as a zero-pressure conveyor for transport units. Rollers are stopped specifically to avoid collision when one transport unit comes to a standstill.

Accumulation roller conveyors are ideally used in areas where there is risk of jams and in buffer zones. Accumulation roller conveyors may be driven by a powered belt or by motor rollers SMR.

The accumulation roller conveyor is used as a zero-pressure conveyor for transport units. According to its functional principle, single conveyor segments are disconnected if the next segment is occupied by a transport unit. Each segment is controlled by light sensors mounted between the rollers.

\*SMR = Schaefer Motor Roller

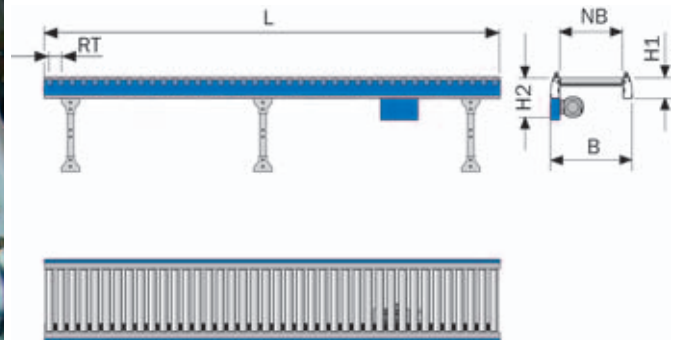
### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Conveyor width (W):	N + 80 mm
Conveyor height (H1):	100 mm
(H2):	325 mm
Conveyor length (L):	21,000 mm (depending on weight, transport units and speed)
Roller spacing (RT):	60, 90, 120 mm
Roller diameter:	50 mm
Length of accumulation place (LTT)* <sup>1</sup> :	360, 540, 660, 720, 900 (mm)
Load capacity:	max. 100 kg / m
Conveyor speeds (v):	0,3 ; 0,6 ; 0,9 m / s
Noise level (without transport units):	max. 65 dB (v ≤ 0,6 m/s) max. 70 dB (v ≥ 0,6 m/s)

\*<sup>1</sup> Depending on roller spacing. Other lengths upon request.



## Live roller conveyor



### Brief description

The live roller conveyor is used for conveying transport units in areas where there is no risk of accumulation. In this case, the conveyor flow is continuous.

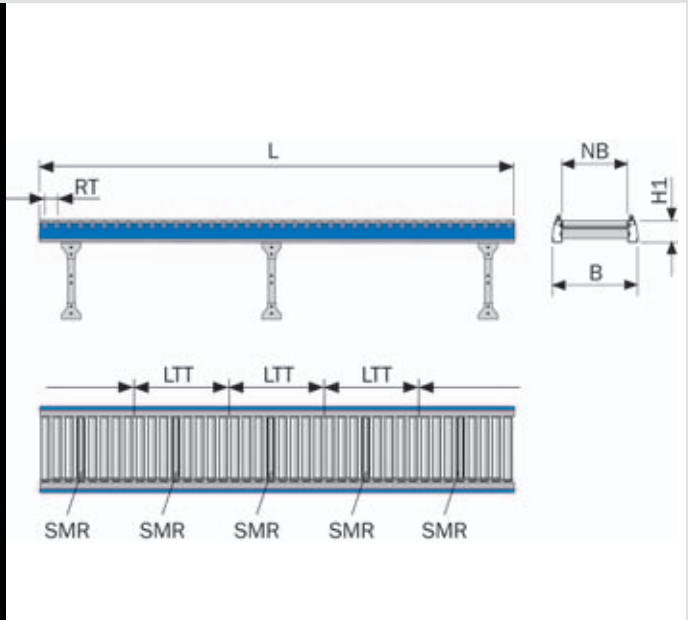
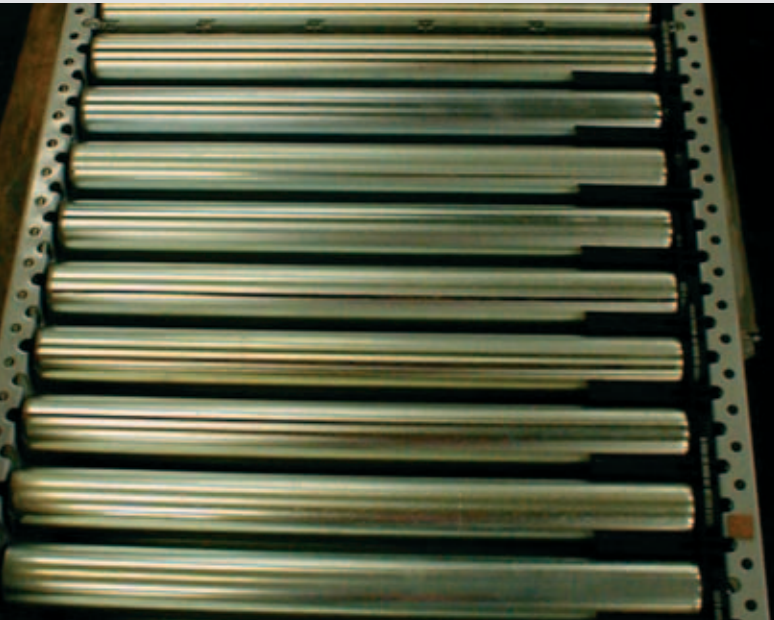
In case of a jam the conveyor drive is disconnected.

Thanks to the standardized modular design of the SSI SCHAEFER conveying systems, live roller conveyors may be retrofitted to accumulation roller conveyors easily and at a low cost.

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Conveyor width (W):	N + 80 mm
Conveyor height (H1): (H2):	100 mm 325 mm
Conveyor length (L):	21,000 m (depending on weight, transport units and speed)
Roller spacing (RT):	60, 90, 120 mm
Roller diameter:	50 mm
Load capacity:	max. 100 kg/rm
Conveyor speeds (v):	0,3 ; 0,6 ; 0,9 ; 1,2 m/s
Noise level (without transport units):	max. 65 dB ( $v \leq 0,6$ m/s) max. 70 dB ( $v \geq 0,6$ m/s)

## SMR conveyor



### Brief description

The Schaefer Motor Roller (SMR) is a development of SSI SCHAEFER.

Conveyors with SMR drive are used for short sections, inclined roller conveyors, curves and gates.

The drive of an SMR conveyor is based on a direct current motor integrated into the conveyor roller. Power transmission to adjacent rollers is carried out by Poly-V belts.

#### Control:

The SMR units have a decentralized control; the SMR is controlled by the "Quatronic" unit developed by SSI SCHAEFER. One Quatronic unit may control up to 4 SMR.

#### Supply:

The power supply is carried out via a decentralized mains power unit mounted under the roller conveyor.

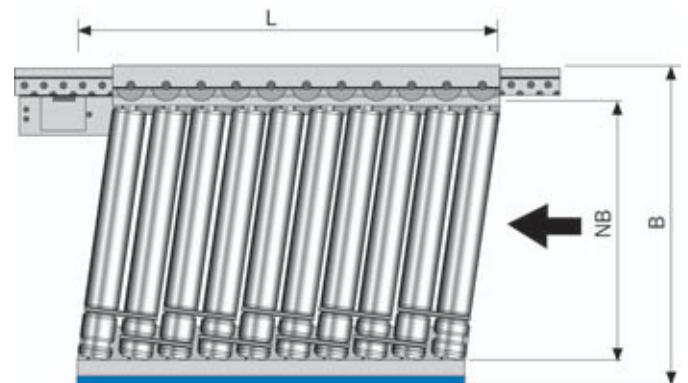
The use of the Schaefer Motor Roller offers the following advantages:

- zero-pressure conveying
- decentralized control
- low construction height
- flexible application thanks to simple modular design
- possibility of speed adjustment of the SRM roller

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Conveyor width (W):	N + 80 mm
Conveyor height (H1):	100 mm
Conveyor length (L):	21,000 mm (depending on weight, transport units and speed)
Roller spacing (RT):	60, 90, 120 mm
Roller diameter:	50 mm
Length of accumulation place (LTT):	360, 540, 660, 720, 900 mm
Load capacity:	max. 100 kg/rm
Conveyor speeds (v):	0,3 – 1,2 m/s (for accumulation function) 0,3 – 2,0 m/s (for continuous flow)
Speed adjustment steps:	0,1 m/s
Number of co-powered rollers:	max. 11 rollers
Noise level (without transport units):	max. 65 dB ( v ≤ 0,6 m/s)

# Inclined roller conveyor



## Brief description

The inclined roller conveyor is used for aligning the transport units along the right or left edge of the conveyor lane.

This alignment of transport units is achieved by the inclined position of the track rollers. Rubberized rollers positioned on the lateral edge of the conveyor lane guarantee smooth transport of the units and avoid their being damaged.

Inclined roller conveyors are used in front of stations where printers placed on one side of the lane apply labels or barcodes on the totes travelling by and where it is necessary to guarantee a determinate distance between printer and tote.

The inclined roller conveyor is powered by Schaefer Motor Rollers. The adjacent rollers are co-powered by the SMR through round belts.

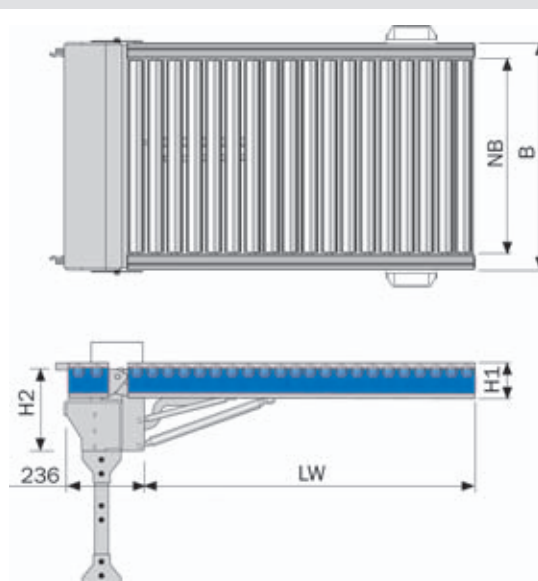
An inclined roller conveyor can be retrofitted without any problem in front of any SSI SCHAEFER conveyor line.

## Technical data

Nominal widths (NB):	425, 525, 625, 825 mm
Conveyor width (W):	N + 80 mm
Conveyor height (H):	100 mm
Segment length (L1):	540 mm
(L2):	660 mm
Roller spacing (RT):	60 mm
Roller diameter:	50 mm
Load capacity:	max. 100 kg/rm
Conveyor speeds (v):	0,3 ; 0,6 ; 0,9; 1,2 m/s
SMR drive:	0,3 - 1,2 m/s
Roller inclination:	8°
Noise level (without transport units):	max. 65 dB ( v ≤ 0,6 m/s)



## Gate



### Brief description

A gate is used within all conveyor lines where free passage is necessary.

It is powered by the Schaefer Motor Roller. Thanks to being powered by SMR, SSI SCHAEFER gates may also be used within accumulation lines.

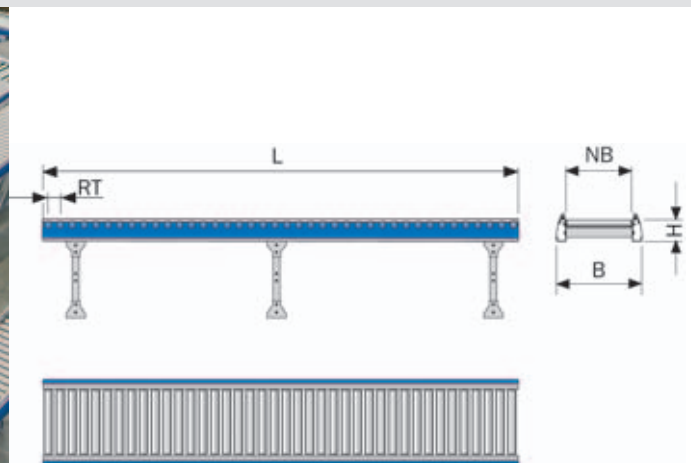
Thanks to pressure dampers, the gate opens and closes very easily.

When the gate is opened, the drive is disconnected automatically.

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Conveyor width (W):	N + 144 mm
Height (H1):	100 mm
Height (H2):	350 mm
Roller spacing (RT):	60 mm
Roller diameter:	50 mm
Clear opening width (LW):	725, 1025 mm (single-winged); 1450, 2050 mm (double-winged)
Fitting length (FL):	LW + 236 mm
Load capacity:	max. 100 kg/rm
Conveyor speeds:	0,3; 0,6; 0,9; 1,2 m/s
SMR drive:	0,3 - 1,2 m/s
Noise level (without transport units):	max. 65 dB ( $v \leq 0,6$ m/s) max. 70 dB ( $v \geq 0,6$ m/s)

# Roller conveyor



## Brief description

Roller conveyors are used for non-powered transport of conveying goods. They run very smoothly thanks to rollers equipped with ball bearings.

Dead roller conveyors are used in areas where totes can be moved manually, such as in shipping areas.

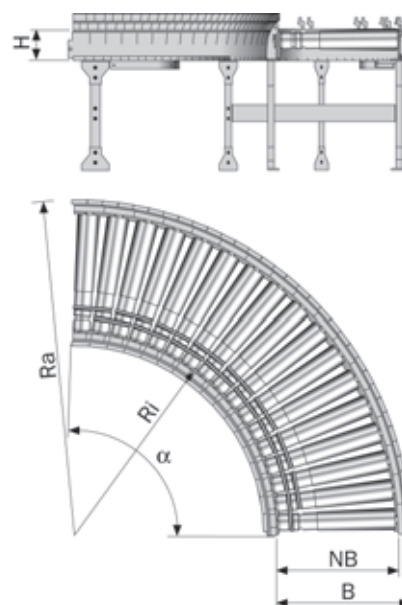
Gravity roller conveyors are descending in the conveying direction. The transport totes proceed along the conveyor line thanks to its inclination.

Steel or plastic rollers are used.

## Technical data

Nominal widths (NB):	425, 525, 625, 825 mm
Conveyor width (W):	N + 80 mm
Conveyor height (H):	100 mm
Length (L):	upon request
Roller spacing (RT):	60, 90 mm
Roller diameter:	50 mm
Inclination for gravity roller conveyor:	2 – 5 ° (depending on weight, transport units and speed)
Load capacity:	max. 100 kg/rm

## Curve



### Brief description

Within live or accumulation roller conveyors, curves are used for turning totes while guaranteeing a continuous flow.

Thanks to the use of Schaefer Motor Rollers, it is also possible to create an accumulation area in curves being part of accumulation roller conveyors.

Based on three basic curve segments, it is possible to build eleven different curves within a range of 30° to 180°.

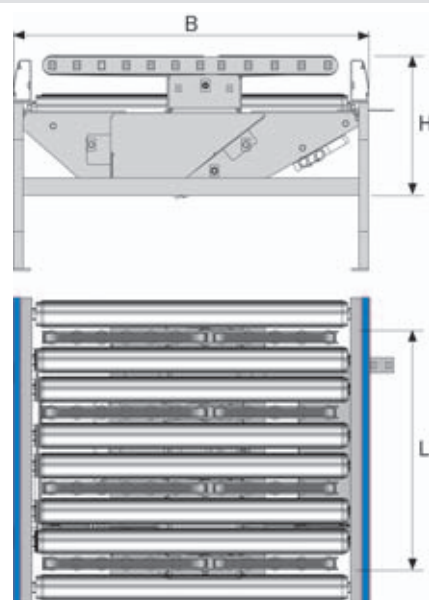
By combining different curve segments, it is also possible to build S-curves.

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Width (B):	N + 40
Basic segments:	30°, 45°, 60°, 90°
Possible curve degrees (α):	30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180°
Inner radius (Ri):	650 mm
Outer radius (Ra):	Ri + N + 40 mm
Conveyor speeds:	0,3 ; 0,6 ; 0,9 ; 1,2 m/s
SMR drive:	0,3 - 1,2 m/s
Noise level (without transport units):	max. 65 dB ( $v \leq 0,6$ m/s) max. 70 dB ( $v \geq 0,6$ m/s)
Load capacity of the curve:	max. 100 kg/rm



## Belt diverter



### Brief description

By means of a belt diverter the transport unit is pushed over at a right angle to the conveying direction, ending up on a parallel conveyor line at the right or left side.

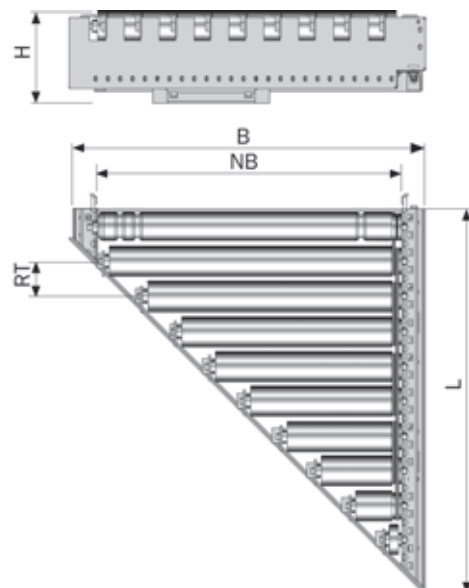
Diversion is carried out by lifting the transport unit and pushing it over to the adjacent line. Depending on the length of the transport units and the characteristics of the bottom side of the belt, the belt diverter is equipped with 2 or 5 belt supports.

The belt diverter may be retrofitted without problems into an existing live or accumulation roller conveyor.

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Roller diameter:	50 mm
Gap widths: (clear width between parallel conveyor lines)	70, 135, 200 mm
Length (L):	400 mm
Width (B):	N + 70 mm
Height (H):	300 mm
Compressed air supply:	6 bar
Compressed air:	0,08 l/stroke
Diversion speed:	max. 1 m/s
Throughput (gap width of 70 mm and tote size 600 x 400 mm):	max. 1,800 totes/h
Noise level (without transport units)	max. 65 dB ( $v \leq 0,6$ m/s) max. 70 dB ( $v \geq 0,6$ m/s)

## Roller junction



### Brief description

The roller junction is used as a diversion or insertion element for accumulation or live roller conveyors and for RSW diverters.

The transport unit is always diverted or inserted at an angle of 30 or 45 degrees.

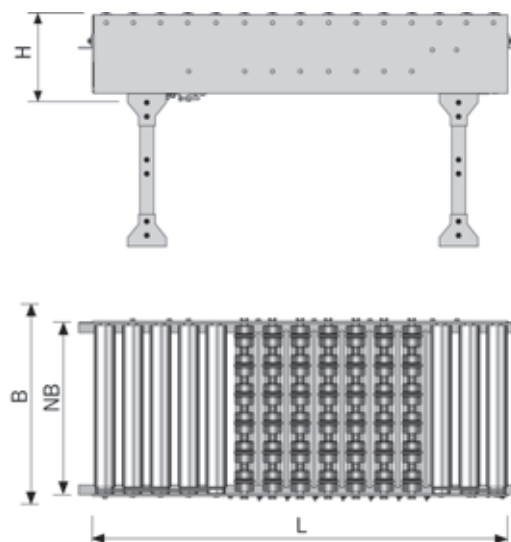
The Roller junction is powered by a Schaefer Motor Roller.

If necessary, a short conveyor line can be co-powered by the roller junction. Depending on the system design, roller junctions may be used for diversion to the right or to the left.

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Width (B):	N + 80 mm
Height (H):	160 mm
Roller diameter:	50 mm
Roller distance:	60 mm
Load capacity of the conveyor:	max. 100 kg/rm
Conveyor speeds:	0,3 - 2 m/s
Noise level (without transport units):	max. 65 dB ( $v \leq 0,6$ m/s) max. 70 dB ( $v \geq 0,6$ m/s)

## Roller switch RSW



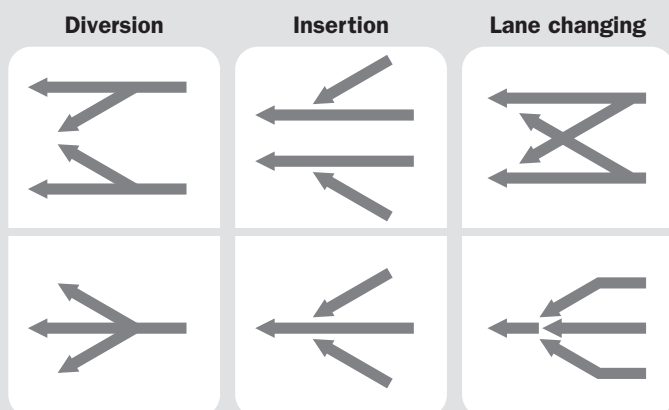
### Brief description

The roller switch diverter (RSW) is a modular insertion and diversion unit for medium and high throughput requirements.

It allows for fast and easy insertion and diversion of transport units at an angle of 30 or 45 degrees.

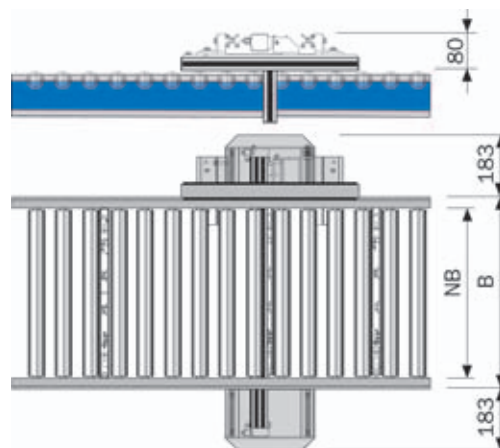
### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625, 825 mm
Gap widths:	30, 70 mm
Length (L):	1200 mm
Width (B):	N + 80 mm
Height (H):	230 mm
Gear motor drive power:	0,55 kW
Compressed air supply:	6 bar
Noise level (without transport units)	max. 65 dB ( $v \leq 0,6$ m/s) max. 70 dB ( $v \geq 0,6$ m/s)
Min. conveyor system top edge (FOK):	300 mm





## Pneumatic diverter



### Brief description

By means of a pneumatic diverter the transport unit is pushed over at a right angle to the conveying direction, ending up on a parallel conveyor line at the right or at the left side.

The pneumatic diverter is a space saving and smooth running diversion device, thus suited especially for cartons.

Single diverters are used to divert single totes and cartons. The so-called double or triple diverters are able to push over single totes at 2 or 3 different positions.

### Technical data

Nominal widths (NB):	275, 325, 375, 425, 525, 625 mm
Width (B):	N + 80 mm
Roller diameter:	50 mm
Gap widths:	70, 135, 200 mm
Compressed air supply:	6 bar
Compressed air:	approx. 2 l/hoist for 425 mm
Throughput:	max. 1,000 totes/h

# Request for advice

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Zip code/City: D-97232 Giebelstadt	
Telephone: 09334/979-344	Fax: 09334/979-100
Email: Komponenten@ssi-schaefer-noell.com	

**We would like to ask for advice on the following topics:**

## Pallet conveyor system

- ☐ In general
- ☐ Roller components
- ☐ Shuttle systems
- ☐ Lifting systems
- ☐ Control systems

## Tote conveying system

- ☐ In general
- ☐ Belt conveyor
- ☐ Roller conveyor
- ☐ Transfer unit/diverter
- ☐ Special machines

## Miscellaneous

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Customer number (if applicable):
Place of consultation if different from the sender's address:

City/date:
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