

INSPIRED BY EFFICIENCY



# Catalog

## Conveyor Modules






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Smart handling of resources is mandatory for Interroll. Because we are convinced that efficiency is a fundamental value. It drives us to constantly improve products and processes. Efficiency inspires our daily activities.

**“Inspired by efficiency”** means: We develop products for internal logistics that perfectly adapt to the needs of our customers.

As global market leader in technology and innovation in our industry, we believe that strengthening the business of our customers in a significant and lasting way is our responsibility. For Interroll, the key to success is the consistent pursuit of efficiency.

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	Horizontal transport, incline/decline partially possible	
Sorting and distributing		

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

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-  Cardboard boxes
-  Containers
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# The Worldwide Interroll Group

The Interroll Group is one of the world's leading specialists for internal logistics.

The company, which is listed on the stock exchange and has its headquarters in Switzerland, employs some 1,800 people in 31 companies around the globe.



Our products can be found primarily in the food industry, in airport logistics, in the parcel, postal and courier sector, in distribution, and in various other industries. This includes: Easy-to-integrate drive solutions, such as drum motors for belt conveyors; conveyor rollers and DC drive rollers for roller conveyors; flow storage modules for compact pallet and container storage in distribution centers; crossbelt sorters, belt curves and other user-friendly conveyor modules for cost-efficient material flow systems.

With the acquisition of Portec in 2013, Interroll increases its customer presence and offers a greater product range in the airport and package sectors.

Among the 23,000 Interroll customers overall are plant manufacturers, system integrators and equipment manufacturers. Our products are in daily use at brands known throughout the world, such as Amazon, Bosch, Coca-Cola, Coop, DHL, Procter & Gamble, Siemens, Walmart, Yamaha, and Zalando.

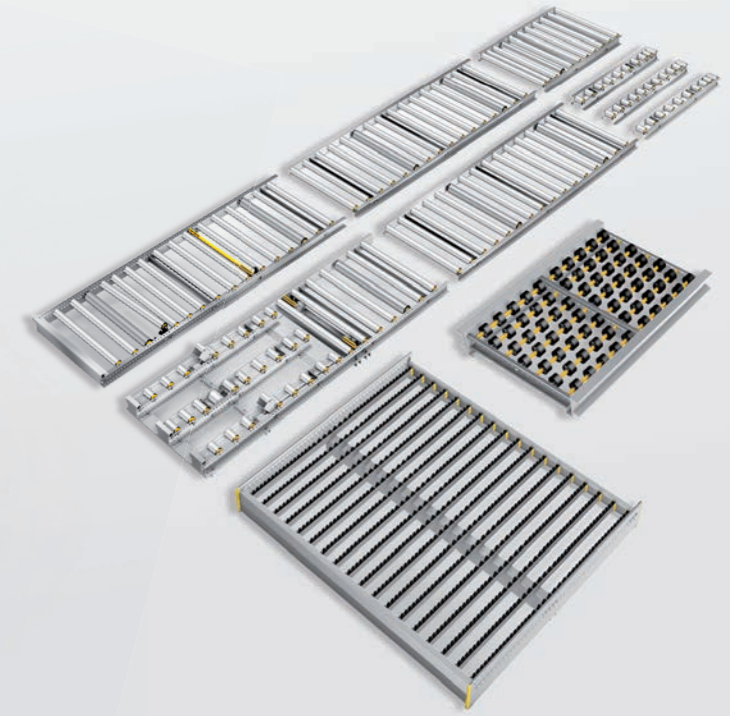
Regional Centers of Excellence and production, global know-how, financial stability and a solid market reputation make Interroll a strong business partner and attractive employer.

Furthermore, Interroll initiates global research projects in the logistics efficiency sector, and actively supports industry associations in the development of standards and in the more efficient utilization of resources.



# The Heart of Internal Logistics

With an experienced eye for the big picture, we offer you products that are versatile and essential building blocks in the portfolio of any successful planner or developer.



## Conveying

Versatile and reliable core products ensure a dynamic, efficient material flow across all continents and in all industries:

- Conveyor Rollers
- Drum motors and idler pulleys
- 24 V drives (RollerDrives)
- Controllers for RollerDrive and drum motors

They are used to convey, accumulate, feed or remove goods. Powered or with the force of gravity. With or without dynamic pressure. Easy-to-install drive solutions for new plants or for refurbishing existing plants. Excellent products that will pay for themselves and that you can rely on. In every respect.

## Transporting and distributing

Millions of different individual items travel through the world's flow of goods every day and must be delivered on time to the correct destination. This is a trend that requires a performance-based logistics system with efficient material flow systems. Interroll's innovative conveyor modules and subsystems are always ready for key locations in customers' systems:

- Crossbelt sorters
- Belt curves and belt merges
- Conveyor modules with zero-pressure accumulation
- Roller Conveyors
- Belt conveyor

Precisely pre-assembled and rapidly delivered for fast, simple integration into the complete system on site (plug and play). The conveyor modules and subsystems provide users with key assurances: excellent availability whilst being easy to use; outstanding efficiency even at low throughput volumes; efficient investment with a short period of return on investment; adaptability in the event of change.

## Storage and picking

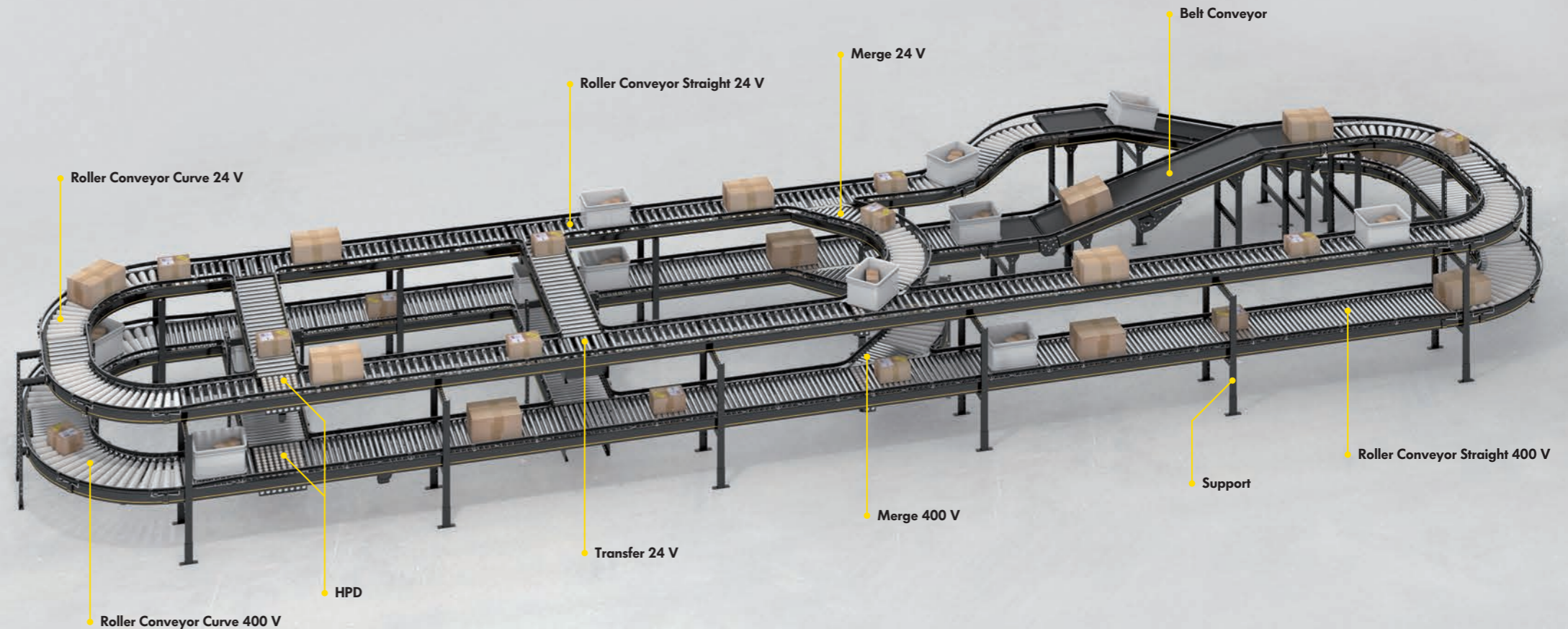
Economical and user-friendly: the dynamic storage solution that operates without power. It is designed for fast-moving goods (e.g. groceries) that have to be quickly picked and immediately conveyed to consumers. The principle is as simple as it is ingenious. It is known as FIFO, First in – First out, and guarantees that what has been stored first is also picked first. Or LIFO, Last in – First out, when what has been stored last is picked first. It means making maximum use of minimum space. And because the needs of our customers are as diverse as their products, our central and peripheral subsystems offer unlimited design options.

- Pallet Flow
- Carton Flow

The picking times can scarcely be beaten. The return on investment for the operator is two to three years and is integrated into "Just in Time".

# Interroll Platform for Conveyor Modules

The new generation of modules sets the standard for the efficient and state-of-the-art conveyor technology of the future.



The platform was developed by using an holistic approach to designing each process level – whether the ordering process, the planning of the conveyor system or its installation – as efficiently as possible. The modules themselves set a high standard for reliable and solid technical performance. This platform was designed for flexibility, modularity, attractive industrial design, simple handling during assembly and expansions.

## Standardized modules

With the new modules in three standard widths, all common materials can be transported reliably. This keeps the expenses for combining different modules into a conveyor solution low and reduces the customer's stocking of spare parts to a minimum.

## Efficient drive solutions

Customer needs, conditions on site, and type of materials to be conveyed define the requirements for a system. The Interroll conveyor modules can be designed for the most efficient solution for each task. Zero pressure accumulation conveying can be implemented with proven 24 V RollerDrives. For higher performance, efficient 24 V drives that enable efficient and future-proof zero pressure accumulation conveying are used together with roller conveyors with 400 V flat belt drives. Pneumatics, which creates high operating costs, is completely omitted here.

## Flexible and modular concept

Refined technical details and solutions offer lots of room for the flexibility of our customers. If changes to or expansions of the system should be necessary, the planning is simple. Thanks to the modular concept, the individual modules are perfectly matched and can be easily combined with each other.

## Quick installation

Largely pre-assembled modules accelerate the installation on site. Independently adjustable side guides, infinitely adjustable supports, integrated electrical conduits and an universally applicable master gauge for holes to attach add-on components are only a few of the details that reduce the installation effort.

## Reliable operation

The robust and extensively tested design of the new modules reduces the maintenance effort and ensures the reliable operation of a conveyor system.

## Simplest layout creation

The Interroll Layouter gives you a menu-driven tool that provides professional support in planning a conveyor system. Operating the software is very intuitive and makes it possible to compile an extensive 3D layout in DWG format from all Interroll conveyor modules.

The new platform offers a wide selection of modules and key elements so that the material flow can be planned efficiently. Everything from a single source and with expert consultation.

- Flexible and modular concept
- Energy-efficient 24 V conveyor technology
- High throughput
- Quick and easy installation
- Extremely quiet operation
- Easy maintenance
- Straightforward planning

Roller conveyor, see page 12  
 Belt conveyor, see page 38  
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# Interroll Platform for Conveyor Modules

## Performance in Detail

### Energy-efficient 24 V conveyor technology



The most efficient solution is selected for each conveyor task.

- Zero pressure accumulation conveying with 24 V drives
- Variant with 400 V main drive for high-performance applications
- Belt conveyor with Interroll drum motors
- No pneumatics required

### High throughput



Powerful conveyor technology.

- Transport speed up to 2 m/s
- Distribution output up to 3600 units/h possible
- Diverting without interrupting the material flow

### Scalability



Simple planning, implementation and expansion of conveyor systems.

- Modular concept
- Standard interfaces
- Quick and easy installation

### Crossbar



Rigid connection of side profiles, which also serves as an electrical conduit.

- As an electrical conduit, usable for up to ten cables
- Sealable against dirt and contamination

### Plastic clip for roller fixing



Simple and quick roller assembly and maintenance.

- Assembly and disassembly of rollers from the top
- Multi-use clip
- Simple subsequent adjustment of the roller pitch

### Universal support



For quick and flexible attachment of side guides, sensors, reflectors and other add-on components.

- Solid universal support, can be installed from the top
- Flexible universal support, freely installable at any point of the side profile

### Ergonomics



Well thought-out solutions for convenient and safe work.

- Quiet operation (< 60 dBA without conveyor belt)
- Safety due to 24 V technology
- Minimized tool demand for the entire platform

### Control



Future-oriented 24 V control concept for every need.

- Open interfaces with high-speed fieldbus
- Internal logic for reduced control effort

### Continuous side profile design



A side profile for all modules for flexible routing.

- High-quality powder-coated steel profile
- A multitude of fastening options on the profile
- Can be used as an electrical conduit

### Assembly from the top



Assembly and maintenance of all modules with little effort

- Maintenance of roller and belt conveyors from the top
- Easily accessible components and connections
- Tool-free roller assembly with roller clips

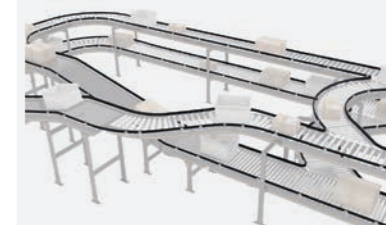
### Sensor holder



Precise positioning of sensors and reflectors for efficient material flow

- Reliable installation and protection of sensors
- Switching state always visible
- Fast repositioning

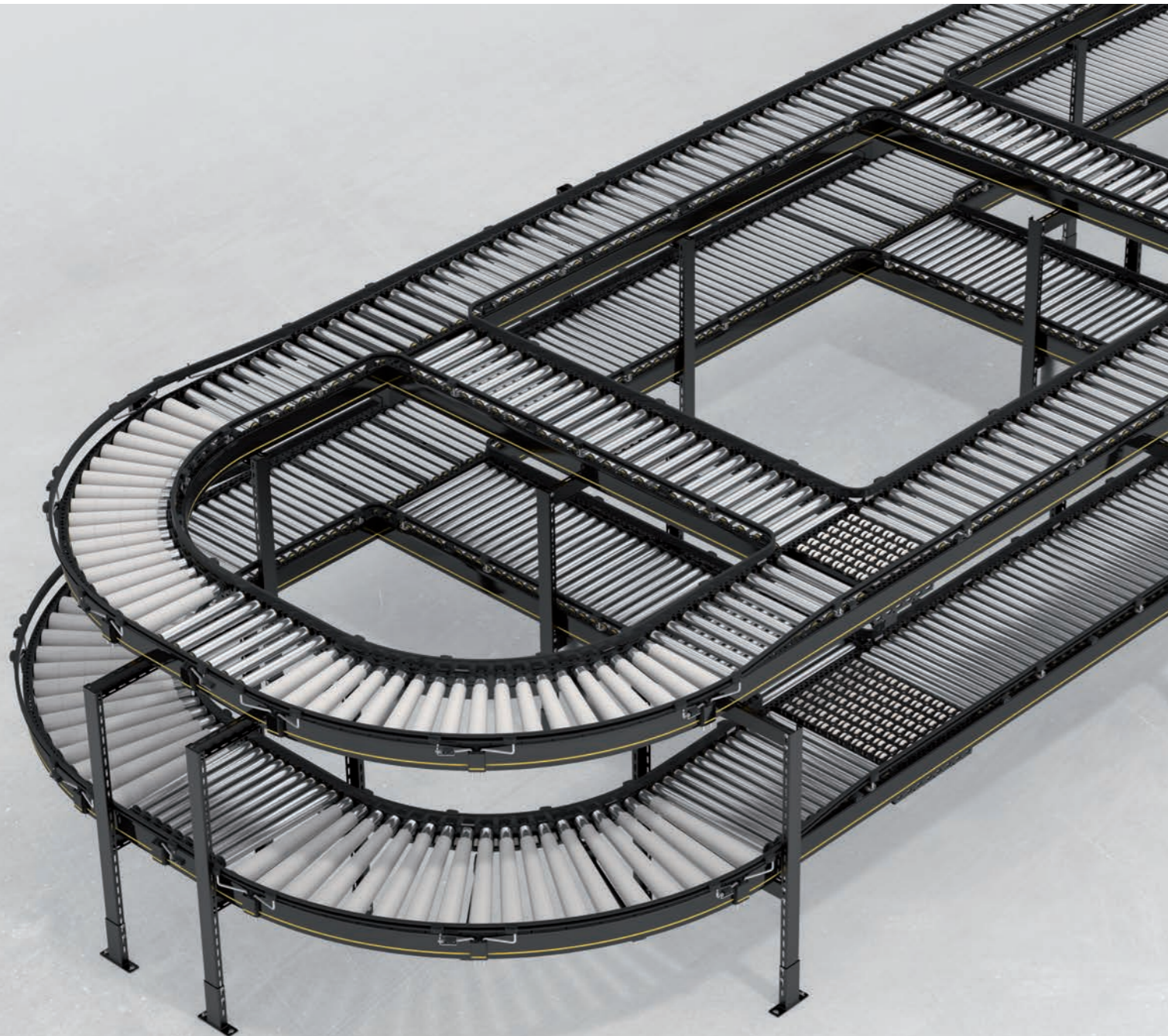
### Flexible side guides



Flexible and safe guidance of products

- Simple conversion to other material dimensions
- Flexible forming
- Continuous height adjustment

# Interroll Roller Conveyor



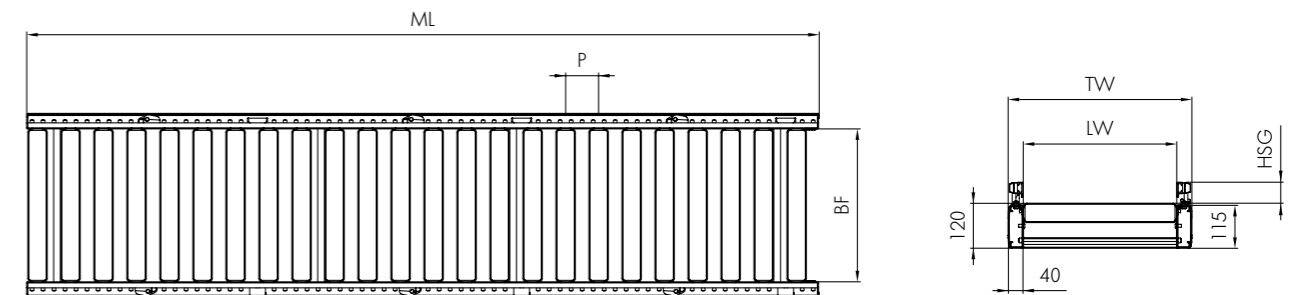
	Non-powered	24 V drive	400 V drive
Straight	 RM 8110, page 14	 RM 8310, page 22	 RM 8210/8212, page 30
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Ball table	 RM 8130, page 18		
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# RM 8110

Interroll Roller Conveyor  
Straight  
Non-Powered



## Dimensions



## Product Description

The non-powered straight roller conveyor transports materials either manually or via gravity down a slope and is used as an assembly and picking line.

The Magnetic Speed Controller 50 can be installed for controlled speed regulation. These gearless, mechanical eddy current brakes reliably decelerate materials from 0.5 kg up to 35 kg, and increase functionality and safety in the workplace. For more information, please contact your Interroll contact person.

## Technical data

General technical data	Max. load capacity	100 kg/m
	Incline/decline	Suitable for slopes
	Ambient temperature	-5 to +40 °C
Roller	Roller type	Interroll Series 1100, Smooth-Running Conveyor Roller Interroll Series 1700, Universal Conveyor Roller
	Roller diameter	50 mm
	Roller material	Steel, zinc-plated
		PVC

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	Max. 4080 mm
TW	Module width	BF + 80 mm
P	Roller pitch	60/90/120 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

- The module is fully assembled
- Please order support stands and end caps separately
- Please order the Magnetic Speed Controller 50 separately



# RM 8120

Interroll Roller Conveyor  
Curve  
Non-Powered



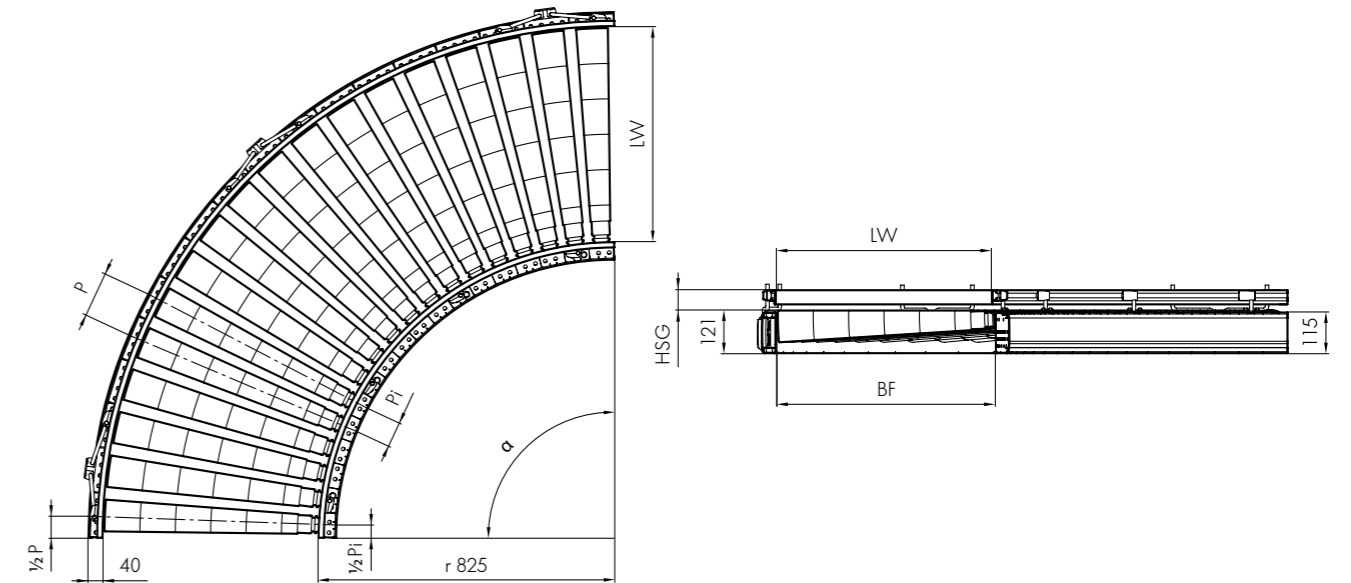
## Product Description

The non-powered roller conveyor curve changes the transport direction of materials. Material is manually pushed around the curve. The alignment of the material is maintained within the side frames by tapered rollers.

## Technical data

General technical data	Max. load capacity	100 kg/m
	Incline/decline	Not suitable
	Ambient temperature	-5 to +40 °C
Roller	Roller type	Interroll Series 1700KXO
	Roller diameter	50 mm
	Roller material	Steel, with gray tapered polypropylene sleeves
	Number of rollers max. per zone	6 for 30° 9 for 45° 12 for 60° 18 for 90°

## Dimensions



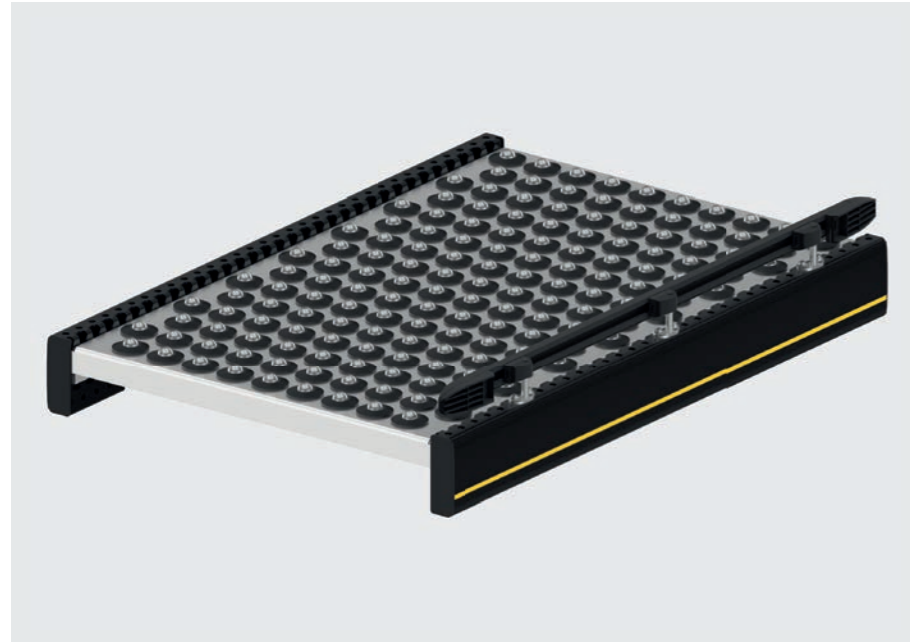
BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
$\alpha$	Angle	30°/45°/60°/90°
TW	Module width	BF + 80 mm
Pi	Roller pitch, inside	~72 mm
P	Roller pitch, outside	~(0.087 x LW) + Pi mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

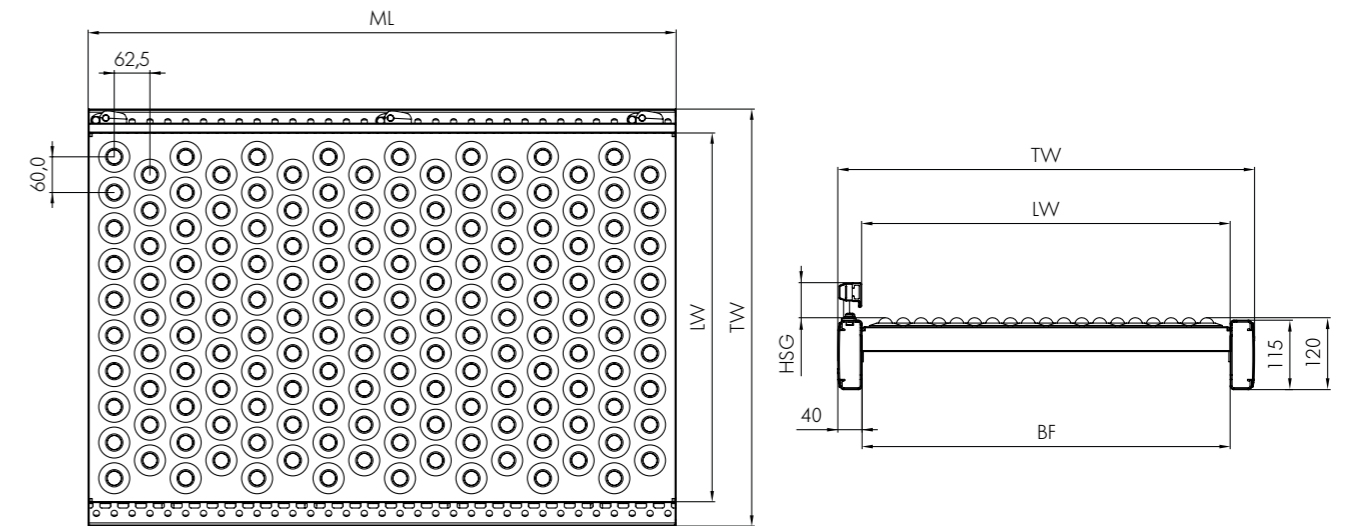
- The module is fully assembled
- Please order support stands and end caps separately

# RM 8130

Interroll Roller Conveyor  
Ball Table  
Non-Powered



## Dimensions



## Product Description

The ball table transports materials with a solid bottom in any direction using very little force. It is especially suitable for workstation & inspection areas. So that a ball table can be combined with other conveyors, it is installed in a standard side profile.

## Technical data

General technical data	Max. load capacity	100 kg/m
	Incline/decline	Not suitable
	Ambient temperature	-5 to +40 °C
Ball	Ball type	Interroll Series 5500
	Ball diameter	25.4 mm

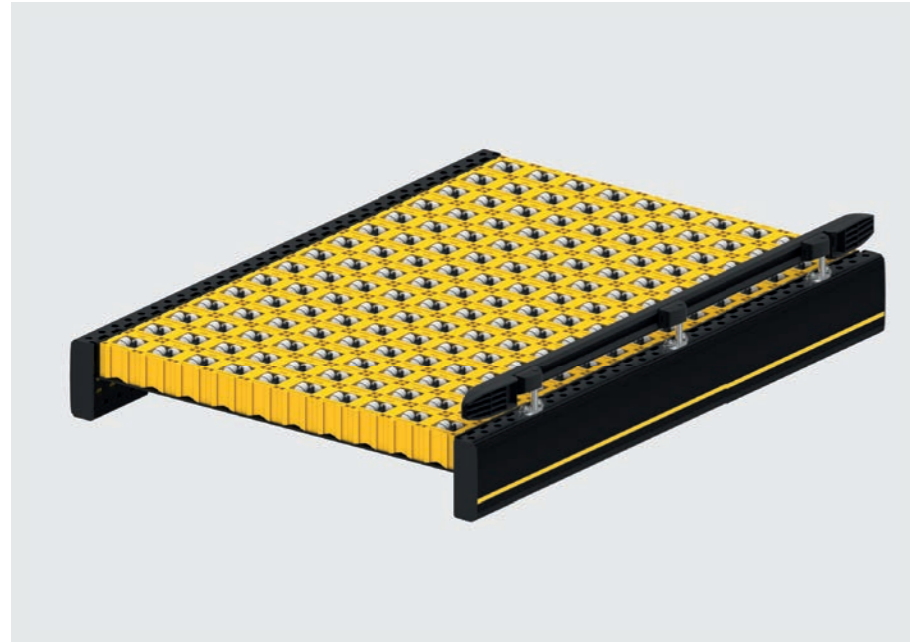
BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	Max. 2040 mm
TW	Module width	BF + 80 mm
P	Pitch	60 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

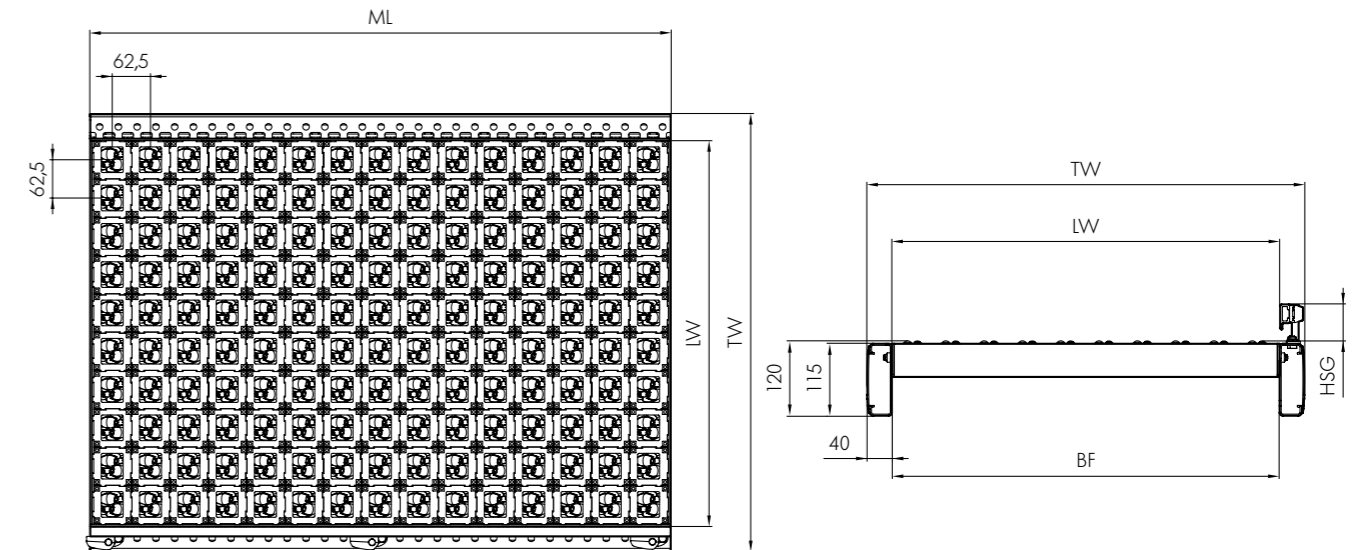
- The module is fully assembled
- Please order support stands and end caps separately

# RM 8140

Interroll Roller Conveyor  
 Omni Wheel Table  
 Non-Powered



## Dimensions



## Product Description

The omni wheel table with multi-directional wheels is particularly well suited for workstation and inspection areas and for materials with soft bottoms that can be moved in all directions with very little force.

## Technical data

General technical data	Max. load capacity	60 kg/m
	Incline/decline	Not suitable
	Ambient temperature	-5 to +50 °C
Roller	Roller type	Interroll Series 2800
	Roller diameter	48 mm
	Roller material	Polyamide, polypropylene housing

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	Max. 2040 mm
TW	Module width	BF + 80 mm
P	Pitch	62.5 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

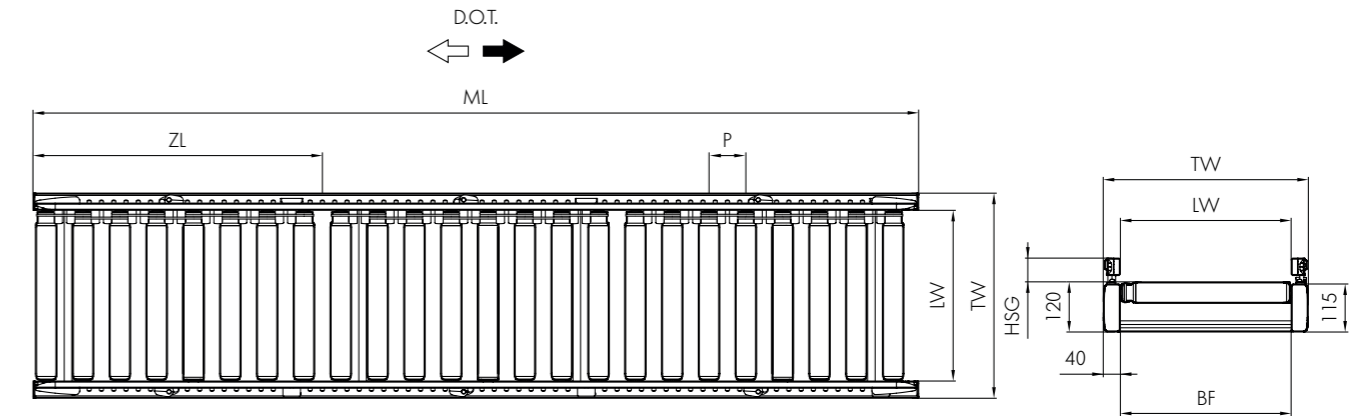
- The module is fully assembled
- Please order support stands and end caps separately

# RM 8310

Interroll Roller Conveyor  
Straight  
24 V powered



## Dimensions



## Product Description

The 24 V roller conveyor enables zero pressure accumulation transport of unit loads with the help of a controller. Each zone is powered by a RollerDrive that is connected to a fixed number of idlers via PolyVee belts.

## Technical data

General technical data	Max. load capacity*	50 kg/zone
	Conveyor speed*	0.1 to 1.0 m/s (at 35 kg) 0.1 to 0.8 m/s (at 50 kg)
	Incline/decline	Max. 4°
	Ambient temperature	+5 to +40 °C
Roller	Roller type	Interroll Series 3500
	Roller diameter	50 mm
	Roller material	Steel 1.5 mm, zinc-plated
	Number of rollers max. per zone	20
Drive	Rated voltage	24 V
	Motor type	Interroll RollerDrive EC310
	Drive medium	PolyVee belts
	Torque transmission	Roller-to-Roller
	Control	MultiControl

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	ZL x number of zones, max. 4080 mm
ZL	Zone length	Number of rollers x P
TW	Module width	BF + 80 mm
P	Roller pitch	60/90/120/150 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

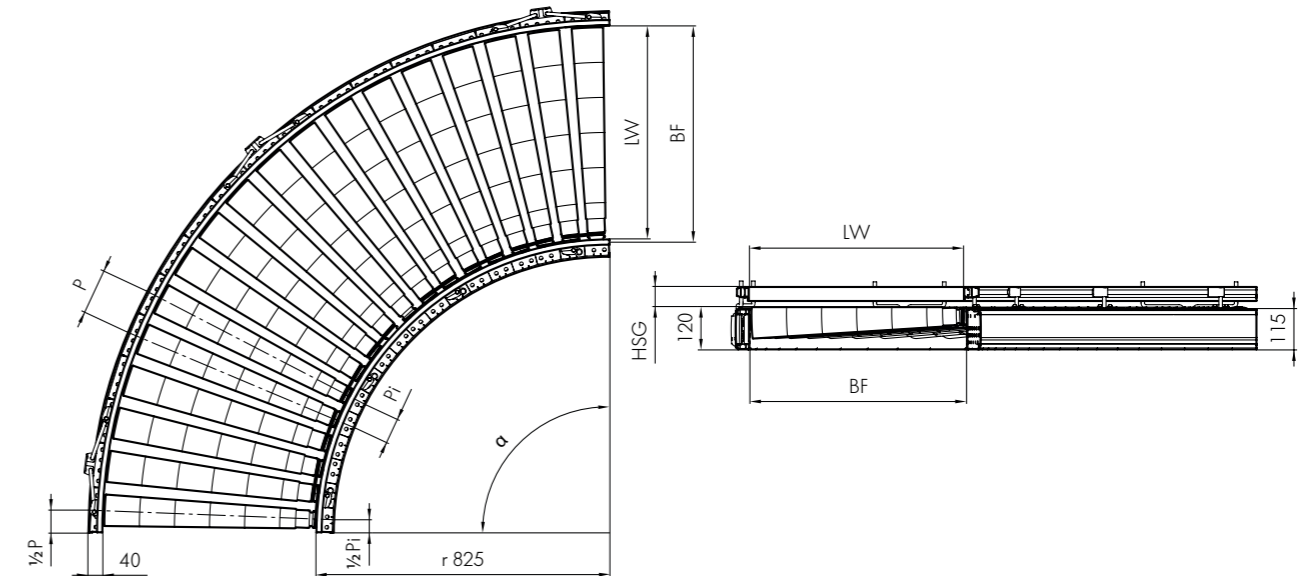
- Module is completely assembled and prewired
- Supply incl. 1 sensor per conveyor/zone
- Please order support stands and end caps separately
- Supply incl. bus (communication) cable

# RM 8320

Interroll Roller Conveyor  
Curve  
24 V powered



## Dimensions



## Product Description

The 24 V roller conveyor curves change the direction of transport of the material. The conical rollers retain the alignment of the materials between side frames. A controller enables zero pressure accumulation transport. Each zone is powered by a 24 V RollerDrive that is connected to a fixed number of idlers via round belts.

## Technical data

General technical data	Max. load capacity*	50 kg/zone
	Conveyor speed*	0.1 to 1.0 m/s (at 35 kg) 0.1 to 0.8 m/s (at 50 kg)
	Incline/decline	Not suitable
	Ambient temperature	+5 to +40 °C
Roller	Roller type	Interroll Series 3500
	Roller diameter	50 mm
	Roller material	Steel 1.5 mm, zinc-plated
	Number of rollers max. per zone	6 for 30° 9 for 45° 12 for 60° 18 for 90°
Drive	Rated voltage	24 V
	Motor type	Interroll RollerDrive EC310
	Drive medium	Round belt
	Torque transmission	Roller-to-Roller
	Control	MultiControl

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
$\alpha$	Angle	30°/45°/60°/90°
TW	Module width	BF + 80 mm
Pi	Roller pitch, inside	~72 mm
P	Roller pitch, outside	~(0.087 x LW) + Pi mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

- Module is completely assembled and prewired
- Supply incl. 1 sensor per conveyor/zone
- Please order support stands and end caps separately
- Supply incl. bus (communication) cable

# RM 8330

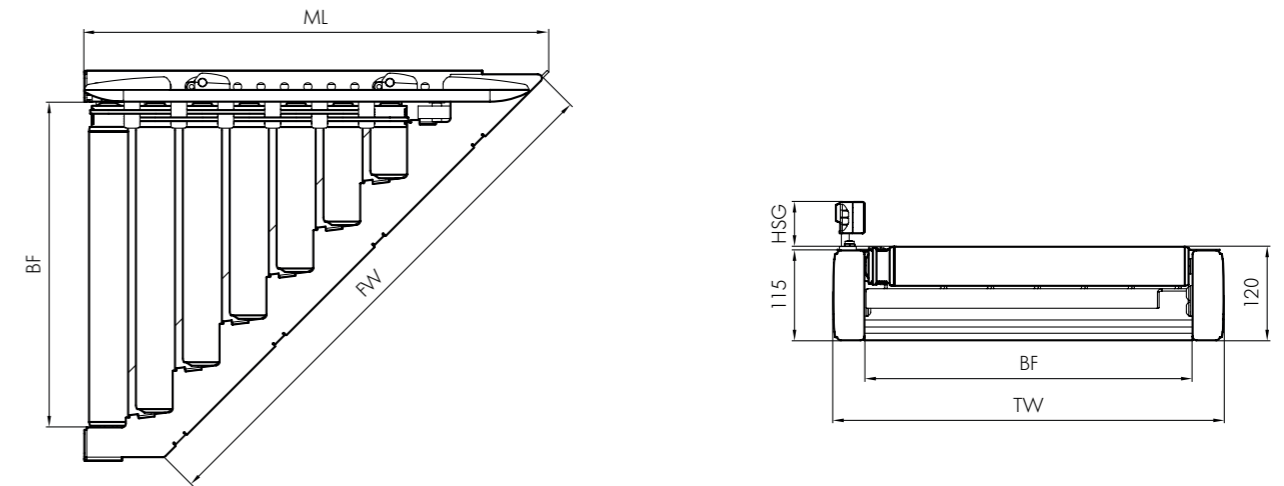
## Interroll Roller Conveyor

Merge

24 V powered



### Dimensions



### Product Description

The merge merges two conveyor lines by placing products in the gaps in the material flow. Alternatively, the merge diverts products from a straight conveyor, e.g., by using an HPD (High Performance Divert).

### Technical data

General technical data	Max. load capacity*	50 kg/m
	Conveyor speed*	0.1 to 1.0 m/s (at 35 kg) 0.1 to 0.8 m/s (at 50 kg)
	Incline/decline	Not suitable
	Ambient temperature	+5 to +40 °C
Roller	Roller type	Interroll Series 3500
	Roller diameter	50 mm
	Roller material	Steel 1.5 mm, zinc-plated
Drive	Rated voltage	24 V
	Motor type	Interroll RollerDrive EC310
	Drive medium	PolyVee belts
	Torque transmission	Roller-to-Roller
	Control	MultiControl

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	See application notes page 111
TW	Module width	BF + 80 mm
FW	Opening width	See application notes page 111
$\alpha$	Angle	30°/45°
P	Roller pitch	60 mm
HSG	Height side guide	35 - 65 mm

### Scope of supply

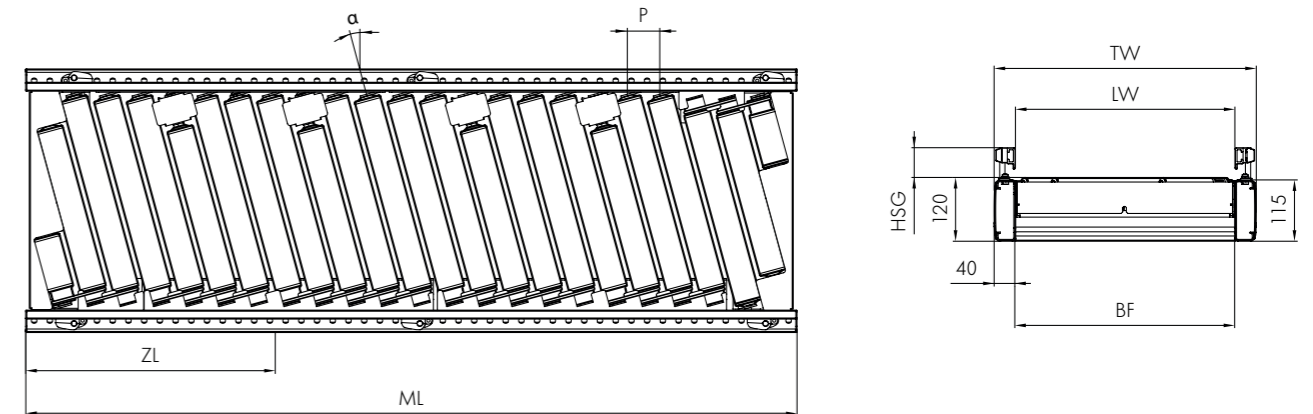
- Module is completely assembled and prewired
- Supply incl. 1 sensor per conveyor/zone
- Please order support stands and end caps separately
- Supply incl. bus (communication) cable

# RM 8340

Interroll Roller Conveyor  
Alignment Conveyor  
24 V powered



## Dimensions



## Product Description

The 24 V alignment conveyor guides products diagonally to the transport direction to a side frame, and aligns them to the side guide if necessary. The side guide must be suitable for this purpose.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Conveyor speed*	0.1 to 1.0 m/s (at 35 kg) 0.1 to 0.8 m/s (at 50 kg)
	Incline/decline	Not suitable
	Ambient temperature	+5 to +40 °C
Roller	Roller type	Interroll Series 3500
	Roller diameter	50 mm
	Roller material	Steel 1.5 mm, zinc-plated
Drive	Rated voltage	24 V
	Motor type	Interroll RollerDrive EC310
	Drive medium	PolyVee belts
	Torque transmission	Roller-to-Roller
	Control	MultiControl

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm on one side)
ML	Module length	ZL x number of zones
ZL	Zone length	depending on angle and measure between frames
TW	Module width	BF + 80 mm
P	Roller pitch	60 mm
$\alpha$	Angle of rollers	7°/15.2°
HSG	Height side guide	35 - 65 mm

## Scope of supply

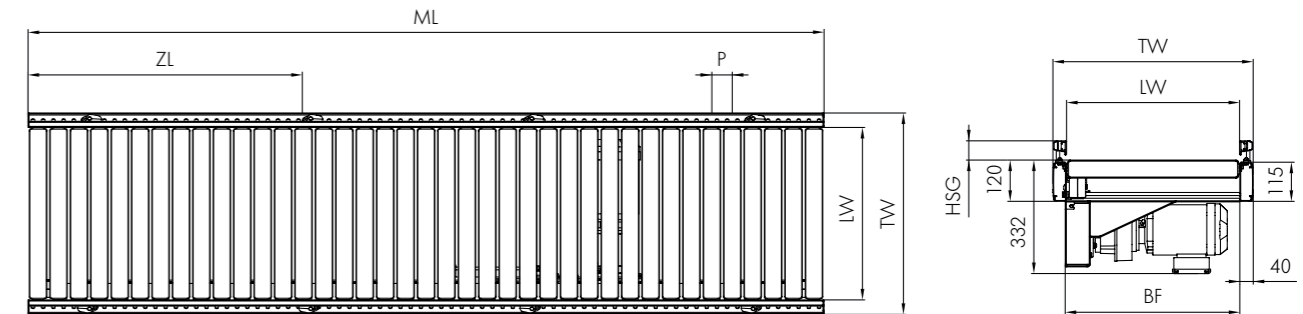
- Supply incl. rolling or gliding side guides on one side
- Module is completely assembled and prewired
- Supply incl. 1 sensor per conveyor/zone
- Please order support stands and end caps separately
- Supply incl. bus (communication) cable

# RM 8210 / 8212

Interroll Roller Conveyor  
Straight  
400 V powered



## Dimensions



## Product Description

The roller conveyor powered by 400 V is available in 2 operating modes.

The permanently powered flat belt conveyor RM 8120 serves as a transport conveyor that requires only one 400 V drive for long distances up to 15 m.

With the use of electrical actuators, the conveyor can also be operated as zero pressure accumulation conveyor (RM 8212), either completely or partially. These actuators, which can also be retrofitted, are powered by 24 V drives and can be controlled by the Interroll controllers for zero pressure accumulation operation.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Transport conveyor speed*	0.1 to 2.0 m/s (at 50 kg/m or zone)
	Zero pressure accumulation conveyor speed	0.1 to 1.4 m/s
	Incline/decline	Not suitable
Roller	Ambient temperature	+5 to +40 °C
	Roller type	Interroll Series 1700 Interroll Series 3500 (zone conveyor)
	Roller diameter	50 mm
	Roller material	Steel 1.5 mm, zinc-plated
Drive	Rated voltage	400 V
	Rated voltage, actuator	24 V
	Drive medium	Flat belt (transport) PolyVee (zero pressure accumulation)
	Torque transmission	Roller-to-Roller (zero pressure accumulation)

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Transport module length	Max. 15,000 mm
	Zero pressure accumulation module length	Max. 6000 mm, ZL x number of zones (max. 6 zones per 400 V drive)
ZL	Zone length (optional)	Number of rollers x P
TW	Module width	BF + 80 mm
P	Roller pitch	60/90/120 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

- Module is completely assembled, except for the flat belt
- Please order support stands and end caps separately
- Zero pressure accumulation version is prewired
- Supply incl. 1 sensor per conveyor/zone
- Delivery without bus (communication) cable for zero pressure accumulation variant

Actuators for generating an accumulation zone can generally be retrofitted. When ordering, please remember that rollers with PolyVee head are required.

If a slave curve is driven by a straight conveyor, the max. module length is reduced by 3000 mm, for 2 curves by 6000 mm.

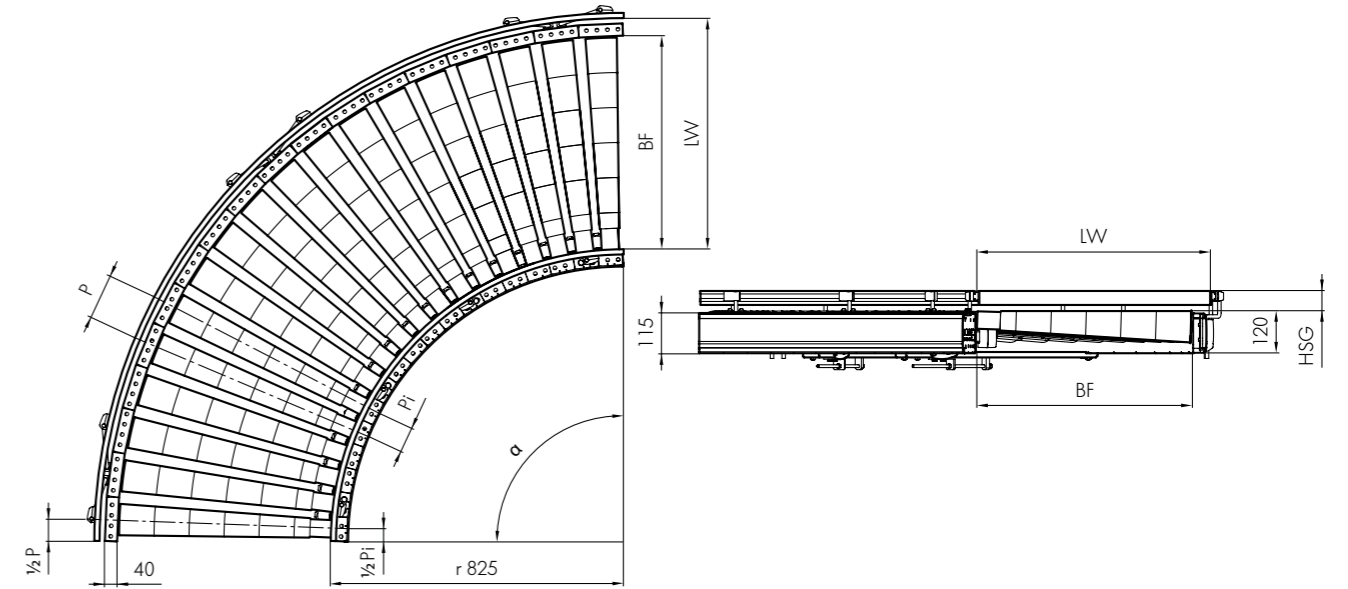


# RM 8220

Interroll Roller Conveyor  
Curve  
400 V powered slave



## Dimensions



## Product Description

The roller conveyor curves change the direction of transport of the material. The alignment of the material is maintained within the side frames by tapered rollers. The rollers are powered by a flat belt. The flat belt-driven curve is always powered by the adjacent straight module. Accumulation mode is not possible in powered 400 V curves.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Conveyor speed*	0.1 - 2.0 m/s
	Incline/decline	Not suitable
	Ambient temperature	+5 to +40 °C
Roller	Roller type	Interroll Series 1700
	Roller diameter	50 mm
	Roller material	Steel 1.5 mm, zinc-plated
	Number of rollers max. per zone	6 for 30°
		9 for 45°
	12 for 60°	
	18 for 90°	

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
$\alpha$	Angle	30°/45°/60°/90°
TW	Module width	BF + 80 mm
Pi	Roller pitch, inside	~72 mm
P	Roller pitch, outside	~(0.087 x LW) + Pi mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

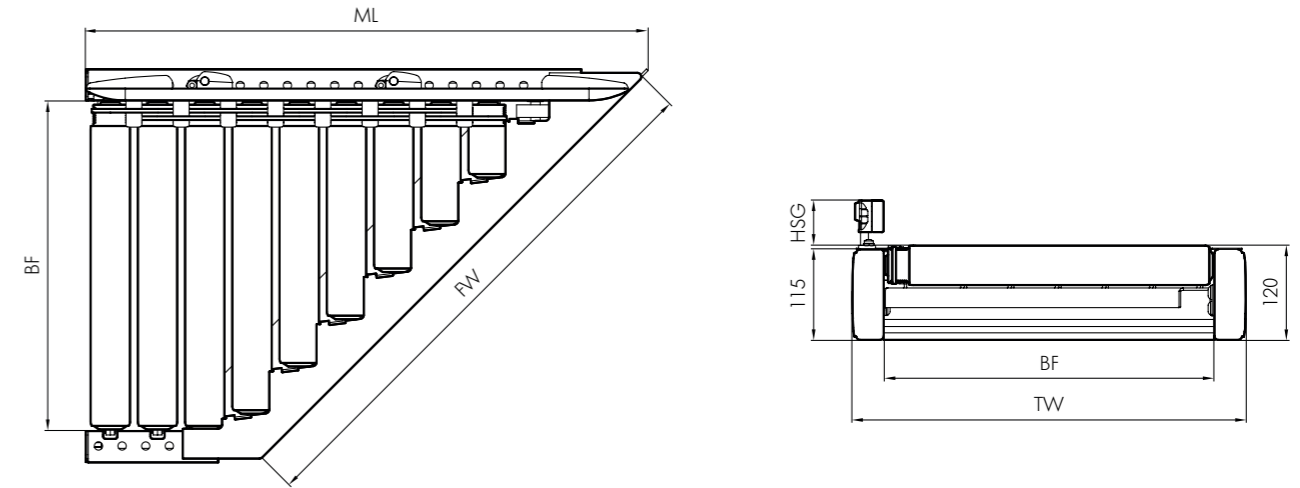
- Module is completely assembled, except for the flat belt
- Supply incl. 1 sensor
- Please order support stands and end caps separately

# RM 8230

Interroll Roller Conveyor  
Merge  
400 V powered slave



## Dimensions



## Product Description

The merge is used for connecting lateral roller tracks at an angle (30° or 45°) to the main track. This can be used for moving material off the track (e.g. with HPD (High Performance Divert)) or onto the track.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Conveyor speed*	0.1 to 2.0 m/s
	Incline/decline	Not suitable
	Ambient temperature	+5 to +40 °C
Roller	Roller type	Interroll Series 1700 Interroll Series 3500
	Roller diameter	50 mm
	Roller material	Steel 1.5 mm, zinc-plated

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	See application notes page 111
TW	Module width	BF + 80 mm
FW	Opening width	See application notes page 111
$\alpha$	Angle	30°/45°
P	Roller pitch	60 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

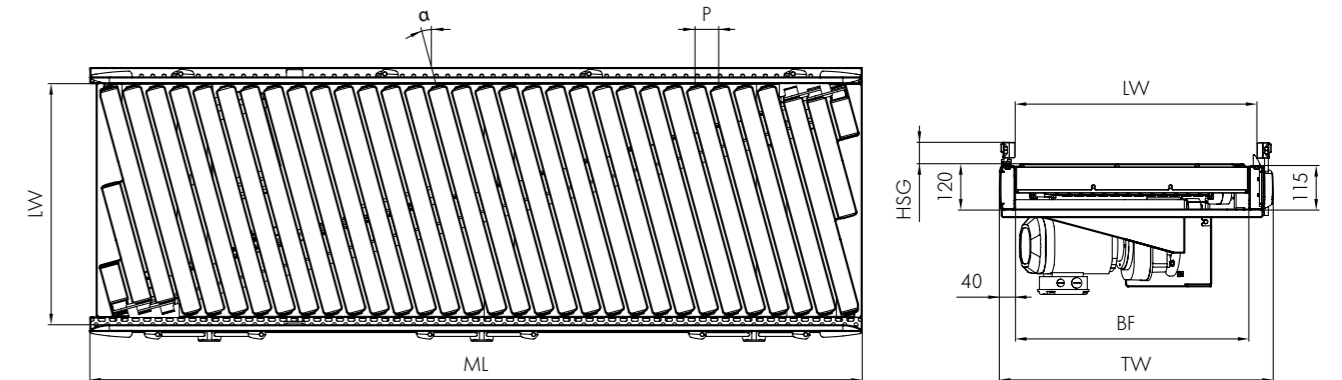
- Module is completely assembled, except for the flat belt
- Please order support stands and end caps separately
- Supply incl. 1 sensor
- Supply without bus (communication) cable

# RM 8240

Interroll Roller Conveyor  
Alignment Conveyor  
400 V powered



## Dimensions



## Product Description

The alignment conveyor guides products diagonally to the transport direction to a side frame and aligns them to the side guide, if necessary. The side guide must be suitable for this purpose.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Conveyor speed*	0.1 to 1.4 m/s (at 50 kg)
	Incline/decline	Not suitable
	Ambient temperature	-5 to +50 °C
Roller	Roller type	Interroll Series 1700 Interroll Series 3500
	Roller diameter	50 mm
	Roller material	Steel, zinc-plated
Drive	Rated voltage	400 V
	Drive medium	Flat belt

\* The combination of maximum values is not always possible.




BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	Max. 2040 mm
TW	Module width	BF + 80 mm
P	Roller pitch	60 mm
$\alpha$	Angle of rollers	7°/15.2°
HSG	Height side guide	35 - 65 mm

## Scope of supply

- Module is completely assembled, except for the flat belt
- Supply incl. 1 sensor
- Please order support stands and end caps separately

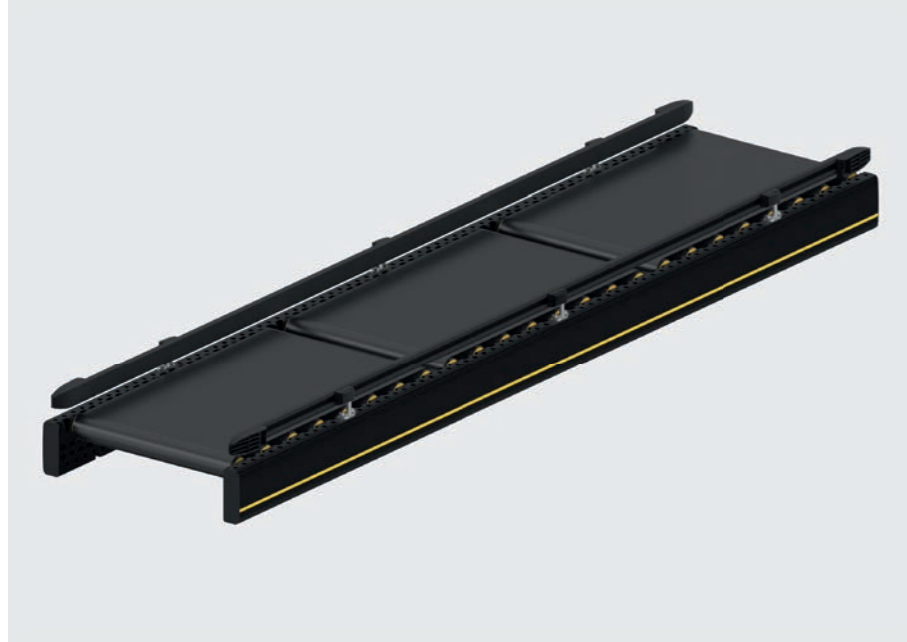
# Interroll Belt Conveyor



	24 V drive	400 V drive
Straight	 BM 8350, page 40	 BM 8410/8420, page 44
		 BM 8411/8421, page 46
		 BM 8432/8442, page 48
		 BM 8433/8443, page 50
		 BM 8434/8444, page 52
Curve	 BM 8360, page 42	 Interroll Portec Belt Curves, page 54
Merge		 BM 4430/4445, page 56

# BM 8350

Interroll Belt Conveyor  
Straight  
24 V powered



## Product Description

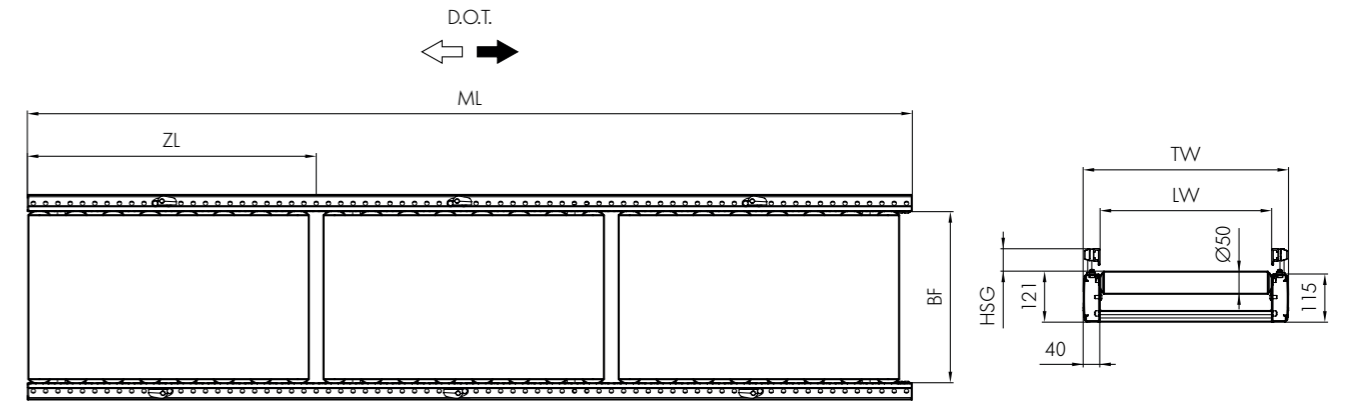
The Belt Conveyor Light is a belt conveyor that is divided into zones and operates with zero pressure accumulation; its drive is based on the 24 V RollerDrive. It is possible to transport and accumulate small products, as well as products not suitable for roller tracks. Not suitable for reversing operation.

## Technical data

General technical data	Max. load capacity per zone*	50 kg
	Conveyor speed*	Max. 0.8 m/s
	Incline/decline	Max. 15°
	Ambient temperature	+5 to +40 °C
Drive	Rated voltage	24 V
	Motor type	Interroll RollerDrive EC310
	Diameter of drive roller	50 mm
	Control	MultiControl
Material	Conveyor belt	Polyester with PVC coating
	Slider bed	Rollers, Interroll Series 1700

\* The combination of maximum values is not always possible.

## Dimensions



BF	Between frames	420, 620, 840 mm (min. 360 mm, max. 840 mm) others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
ML	Module length	ZL x number of zones, max. 4080 mm
ZL	Zone length	Number of rollers x P, max. 1980 mm
TW	Module width	BF + 80 mm
P	Roller pitch	90 mm under the belt, 60 mm between the zones
HSG	Height side guide	35 - 65 mm

## Scope of supply

- Module is completely assembled and prewired
- Supply incl. 1 sensor per zone
- Please order support stands and end caps separately

# BM 8360

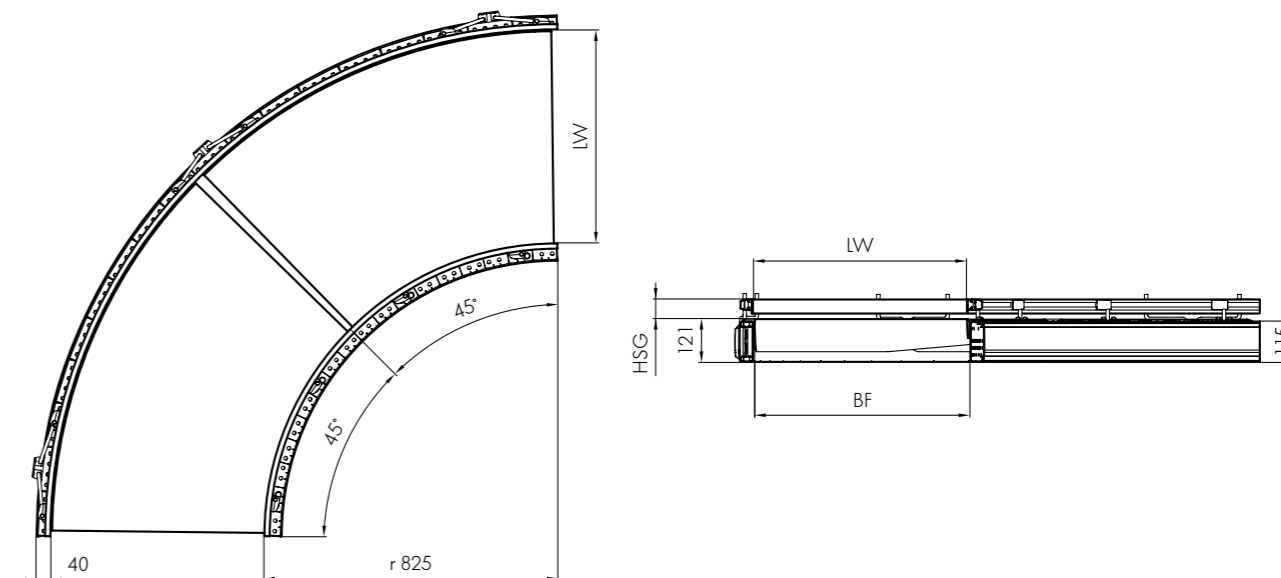
Interroll Belt Conveyor

Curve

24 V powered



## Dimensions



## Product Description

The Belt Curve Light is a belt curve that is divided into zones and operates with zero pressure accumulation; its drive is based on the 24 V RollerDrive. It is possible to transport and store small products, as well as products not suitable for roller tracks. Not suitable for reversing operation.

## Technical data

General technical data	Max. load capacity per zone*	20 kg
	Conveyor speed*	Max. 0.5 m/s
	Incline/decline	Not suitable
	Ambient temperature	+5 to +40 °C
Drive	Rated voltage	24 V
	Motor type	Interroll RollerDrive EC310
	Number of zones (N)	1 at 45° 2 at 90°
	Control	MultiControl
Material	Conveyor belt	Polyester with PVC coating
	Slider bed	Rollers, Interroll Series 1700

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620 mm others on request
LW	Lane width	LW (+120/-90 with flexible side guide)
$\alpha$	Angle	1 x 45°/90° (2 x 45°)
TW	Module width	BF + 80 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

- Module is completely assembled and prewired
- Supply incl. 1 sensor per zone
- Please order support stands and end caps separately

# BM 8410 / 8420

Interroll Belt Conveyor  
Straight  
Head Drive



## Product Description

The belt conveyor is used for the transport of unit loads that are not suitable for roller tracks, and for all types of unit loads in case of inclines and declines.

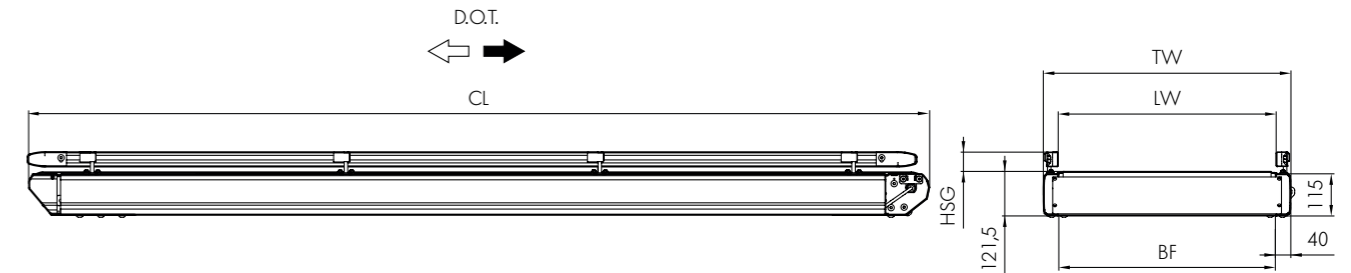
The standard belt conveyor is equipped with a drum motor (BM 8420), a gear motor is available as an option (BM 8410). Not suitable for reversing operation.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Max. load capacity per module*	220 kg
	Conveyor speed*	0.1 to 2.5 m/s (at 50 kg)
	Incline/decline	Max. 6°
	Ambient temperature	+5 to +40 °C (drum motor) -5 to +50 °C (gear motor)
Drive	Rated voltage	400 V
	Electrical power	Max. 1.1 kW
	Motor type	Drum motor/gear motor
Materials	Conveyor belt	Smooth, 2-layer, PVC, longitudinally grooved for incline
	Slider bed	Sheet steel 2 mm

\* The combination of maximum values is not always possible.

## Dimensions



BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
CL	Module length	650 - 3000 mm
TW	Module width	BF + 80 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

- The module is fully assembled
- Supply incl. 1 sensor
- Please order support stands separately

# BM 8411 / 8421

Interroll Belt Conveyor  
Straight  
Center Drive



## Product Description

The belt conveyor is used for the transport of unit loads that are not suitable for roller tracks, and for all types of unit loads in case of inclines and declines.

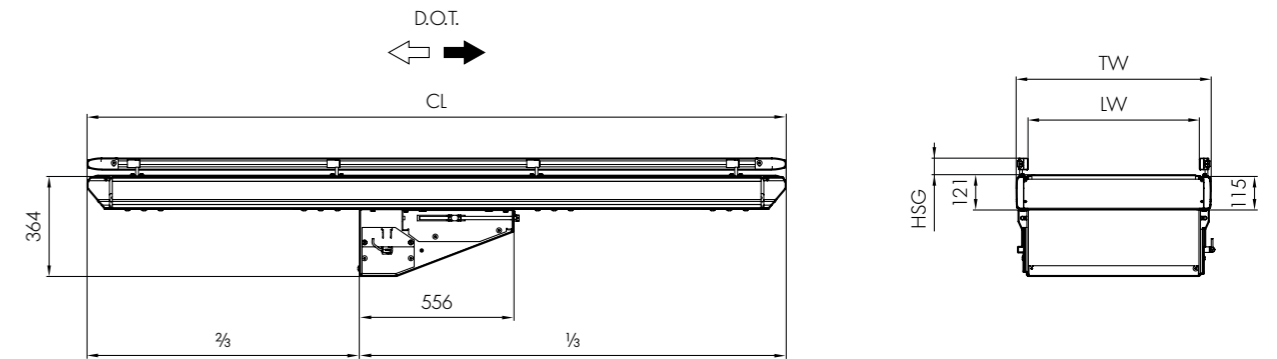
The standard belt conveyor is equipped with a drum motor (BM 8421), a gear motor is available as an option (BM 8411). Not suitable for reversing operation.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Max. load capacity per module*	550 kg
	Conveyor speed*	0.1 to 2.5 m/s (at 50 kg)
	Incline/decline	Max. 18°
	Ambient temperature	+5 to +40 °C (drum motor) -5 to +50 °C (gear motor)
Drive	Rated voltage	400 V
	Electrical power	Max. 3 kW
	Motor type	Drum motor/gear motor
Materials	Conveyor belt	Smooth, 2-layer, PVC, longitudinally grooved for incline
	Slider bed	Sheet steel 2 mm

\* The combination of maximum values is not always possible.

## Dimensions



BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
CL	Module length	1500 to 20,010 mm
TW	Module width	BF + 80 mm
HSG	Height side guide	35 - 65 mm

## Scope of supply

- Module is completely assembled, maybe split into sections
- Supply incl. 1 sensor
- Please order support stands and end caps separately



# BM 8432 / 8442

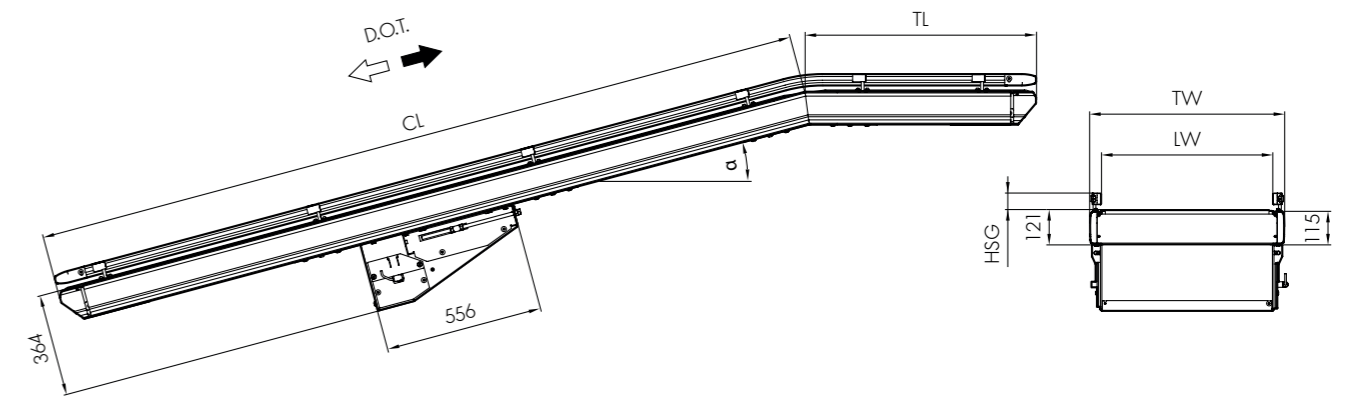
Interroll Belt Conveyor

Straight

Center Drive + Top Arch



## Dimensions



## Product Description

The belt conveyor with top arch is used for transporting all types of unit loads in case of inclines or declines. The arch reduces noise and the impact of materials as they pass over it.

The standard belt conveyor is equipped with a drum motor (BM 8442), a gear motor is available as an option (BM 8432). Not suitable for reversing operation.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Max. load capacity per module*	550 kg
	Conveyor speed*	0.1 to 2.5 m/s (at 50 kg)
	Incline/decline	Max. 18°
	Ambient temperature	+5 to +40 °C (drum motor) -5 to +50 °C (gear motor)
Drive	Rated voltage	400 V
	Electrical power	Max. 3 kW
	Motor type	Drum motor/gear motor
Materials	Conveyor belt	Grooved longitudinally, 2-layer, PVC
	Slider bed	Sheet steel 2 mm

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
CL	Module length	1500 to 20,010 mm
TL	Top length	720 to 2160 mm
TW	Module width	BF + 80 mm
HSG	Height side guide	35 - 65 mm
$\alpha$	Incline/Decline angle	6°/9°/12°/15°/18°

## Scope of supply

- Module is completely assembled, maybe split into sections
- Supply incl. 1 sensor
- Please order support stands and end caps separately

# BM 8433 / 8443

Interroll Belt Conveyor  
Straight  
Center Drive + Feed



## Product Description

The belt conveyor with feed is used for transporting all types of unit loads in case of inclines or declines. The feed enables a smooth transition at the lower kink of the belt conveyor, e.g., at the interface with a roller conveyor.

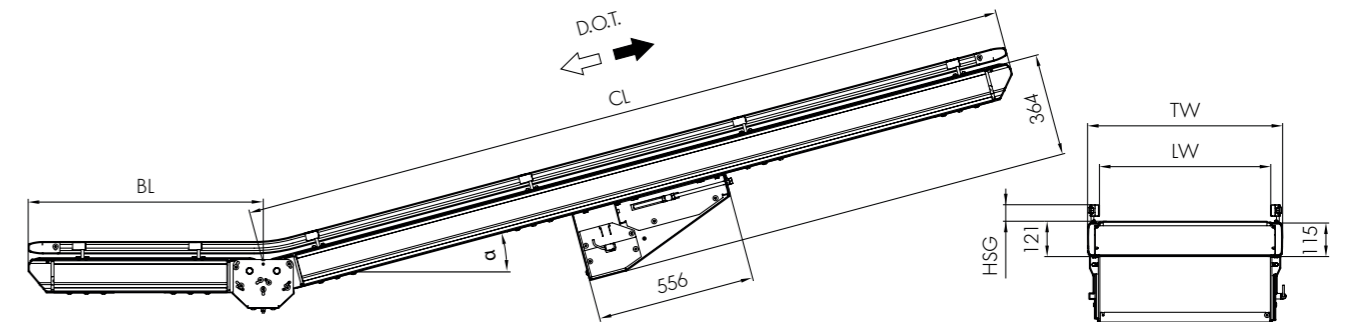
The standard belt conveyor is equipped with a drum motor (BM 8443), a gear motor is available as an option (BM 8433). Not suitable for reversing operation.

## Technical data

General technical data	Max. load capacity*	50 kg/m
	Max. load capacity per module*	550 kg
	Conveyor speed*	0.1 to 2.5 m/s (at 50 kg)
	Incline/decline	Max. 18°
	Ambient temperature	+5 to +40 °C (drum motor) -5 to +50 °C (gear motor)
Drive	Rated voltage	400 V
	Electrical power	Max. 3 kW
	Motor type	Drum motor/gear motor
Materials	Conveyor belt	Grooved longitudinally, 2-layer, PVC
	Slider bed	Sheet steel 2 mm

\* The combination of maximum values is not always possible.

## Dimensions



BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
CL	Module length	1500 to 20,010 mm
BL	Bottom length	720 to 2160 mm
TW	Module width	BF + 80 mm
HSG	Height side guide	35 - 65 mm
α	Incline/Decline angle	6°/9°/12°/15°/18°

## Scope of supply

- Module is completely assembled, maybe split into sections
- Supply incl. 1 sensor
- Please order support stands and end caps separately

# BM 8434 / 8444

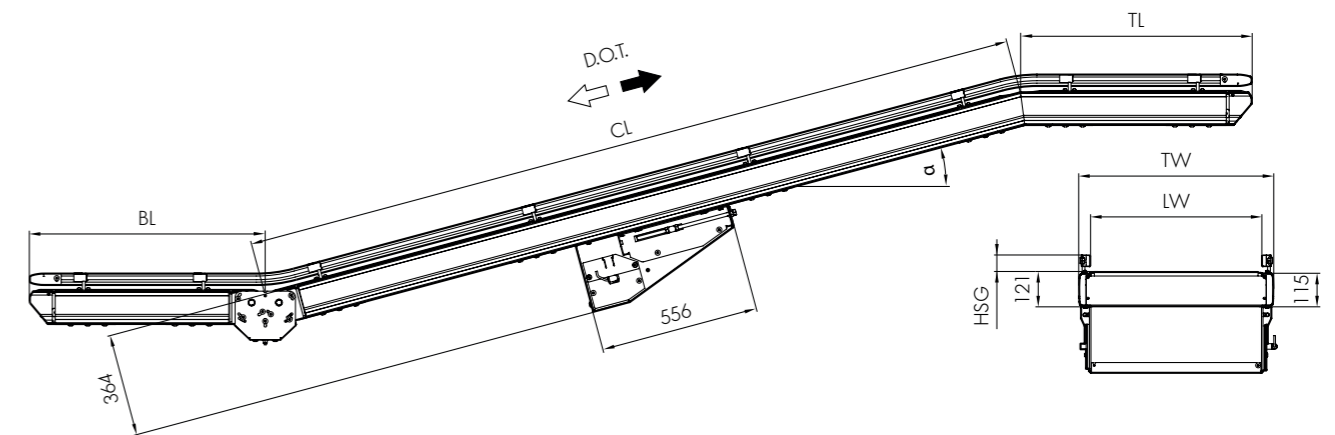
Interroll Belt Conveyor

Straight

Center Drive + Top Arch + Feed



## Dimensions



### Product Description

The belt conveyor is used for transporting all types of unit loads in case of inclines and declines. Arch and feed allow a smooth and quieter transition at the upper and lower kink.

The standard belt conveyor is equipped with a drum motor (BM 8444), a gear motor is available as an option (BM 8434). Not suitable for reversing operation.

### Technical data

General technical data	Max. load capacity*	50 kg/m
	Max. load capacity per module*	550 kg
	Conveyor speed*	0.1 to 2.5 m/s (at 50 kg)
	Incline/decline	Max. 18°
	Ambient temperature	+5 to +40 °C (drum motor) -5 to +50 °C (gear motor)
Drive	Rated voltage	400 V
	Electrical power	Max. 3 kW
	Motor type	Drum motor/gear motor
Materials	Conveyor belt	Grooved longitudinally, 2-layer, PVC
	Slider bed	Sheet steel 2 mm

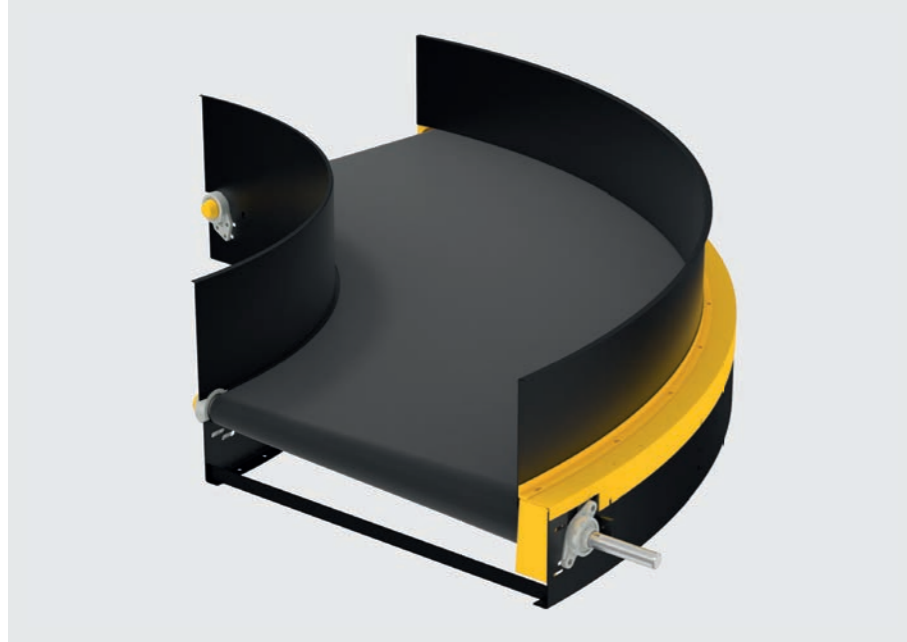
\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
LW	Lane width	BF (+120/-90 mm per side with flexible side guide)
CL	Module length	1500 to 20,010 mm
TL	Top length	720 to 2160 mm
BL	Bottom length	720 to 1020 mm
TW	Module width	BF + 80 mm
HSG	Height side guide	35 - 65 mm
$\alpha$	Incline/Decline angle	6°/9°/12°/15°/18°

### Scope of supply

- Module is completely assembled, maybe split into sections
- Supply incl. 1 sensor
- Please order support stands and end caps separately

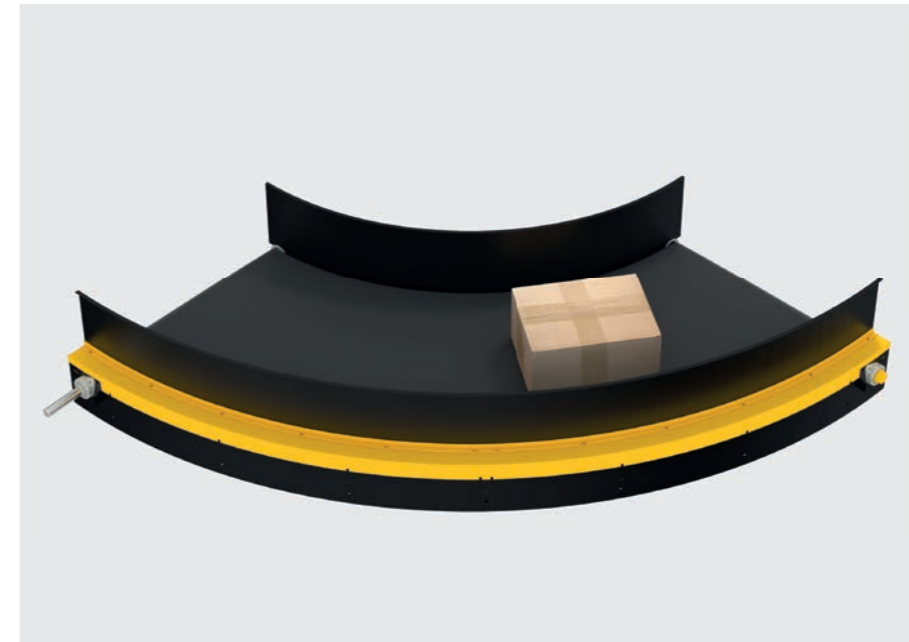
# Interroll Portec Belt Curve



## Product Description

With a conveyor speed of more than 2 m/s, the Interroll Portec belt curve is designed for high performance and trouble-free operation in different applications. The curves are available in several widths, angles and weight classes.

The Interroll Portec belt curves can be operated in higher and lower temperature ranges, which represents a significant advantage compared to common solutions, such as friction-driven conveyors. Another advantage is the fast belt change. Thanks to the sophisticated construction, the drive station does not have to be removed for the belt change, thereby saving time.



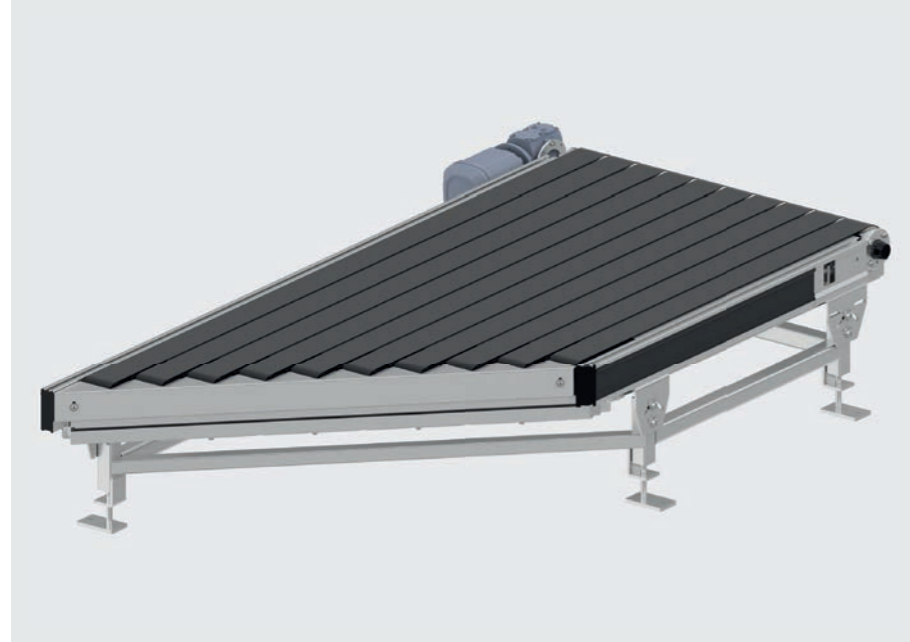
## Technical data

General technical data	Max. load capacity*	75 kg/m
	Rated voltage	400 V
	Conveyor speed*	Max. 2 m/s
	Ambient temperature	-15 °C to 55 °C
Dimensions	Cam angle	30°/45°/60°/90°
	Inside radius	1000/800/800/800 mm
	Lane width	1100/900/700/500 mm
	Lane center length	1550/1250/1150/1050 mm
Material	Conveyor belt	FLEXAM EF 10/2 0+A22 BLACK AS FR others upon request
	Slider bed	3 mm sheet steel

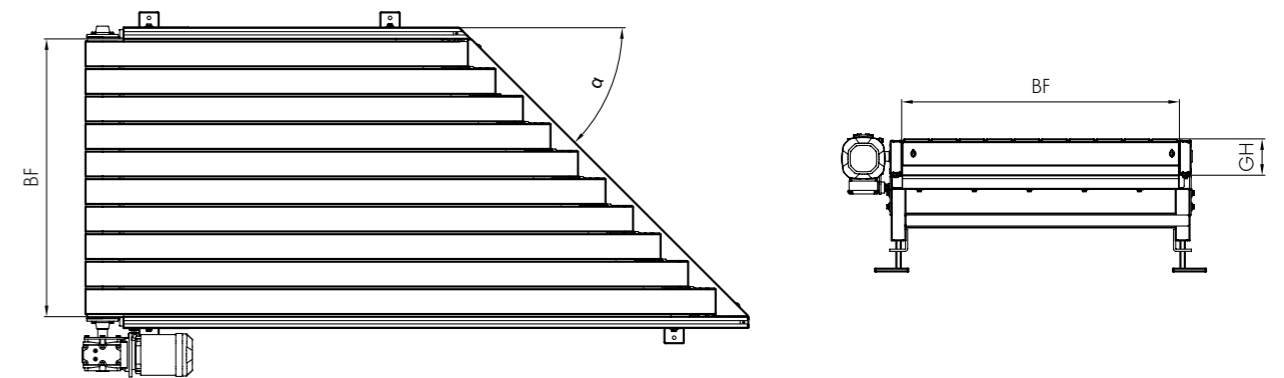
\* The combination of maximum values is not always possible.

# BM 4430/4445

## Interroll Belt Conveyor Merge



### Dimensions



### Product Description

The belt merge is a belt conveyor with a 30° or 45° angled connecting edge. This conveyor element enables the merging of two conveyor lines at the corresponding angle. With the use of supplementary sorting elements, belt merges also enable the separation of conveyor flows. The conveying belts are available in widths of 90 mm and 40 mm for especially small materials. The belt merge has an especially low overall height at 120 mm.

### Technical data

General technical data	Max. load capacity*	50 kg/m
	Max. load capacity per module*	100 kg
	Conveyor speed*	0.1 to 2.0 m/s
	Incline/decline	Not suitable
	Ambient temperature	-5 to +40 °C
Drive	Rated voltage	400 V / 50 Hz / 3 phase
	Electrical power	0.37 to 1.10 kW
	Motor type	Geared motor 0.37 kW to 1.10kW
	Diameter of drive roller	80 / 120 mm
	Diameter of idler pulley, straight side	80 / 120 mm
Materials	Conveyor belt	Structured surface Flame resistant in compliance with DIN EN 20340 (optional) Other surfaces on request Belt width 90 or 40 mm
	Slider bed	Polymer slide profiles
	Side profile	Height side guide 120 mm Other side guides on request

\* The combination of maximum values is not always possible.

α	Angle	30°/45°
BF	Between frames	420, 620, 840, 1020 mm others on request
GH	Overall height	200 mm
	Medium length	See application notes, page 121

### Scope of supply

- The module is fully assembled
- Supply incl. 1 sensor
- Please order support stands and end caps separately

# Key products



**RM 8711/8712**, page 60



**RM 8731**, page 62



**ST 6110**, page 64



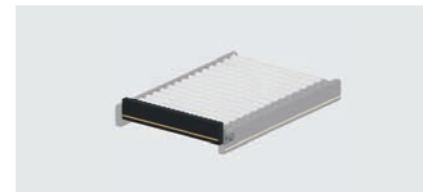
**RM 8830**, page 66



**RM 6006**, page 68



**RM 6008**, page 70



**RM 8811**, page 72



**RM 8812**, page 74



**MultiControl**, page 76

**RM 8711** Interroll High Performance Divert (HPD) 24 V Master  
**RM 8712** Interroll High Performance Divert (HPD) 400 V Master



**Product Description**

The High Performance Divert (HPD) is used for diverting unit loads, preferably with smooth bottom surfaces, at different angles onto a lateral track to the right or to the left. The HPD is available in two drive variants:

- HPD 24 V master, for which 24 V motors are used as travel and swivel drives
- HPD 400 V master, for which the travel drive from the flat belt conveyor is used, and the swivel drive is powered by a separate 24 V motor

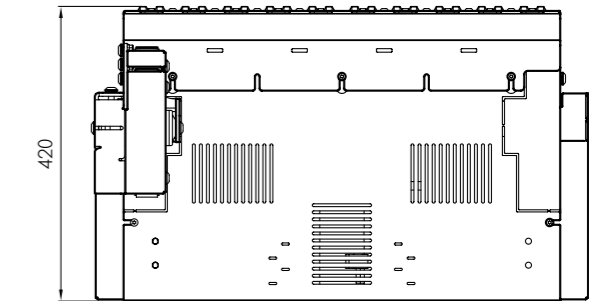
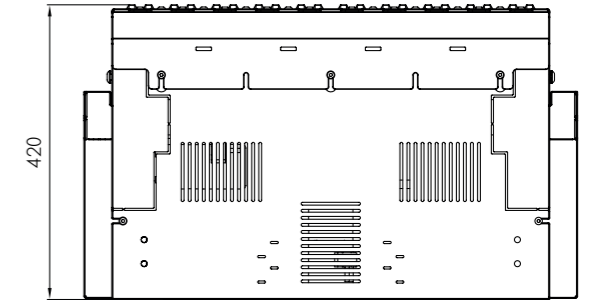
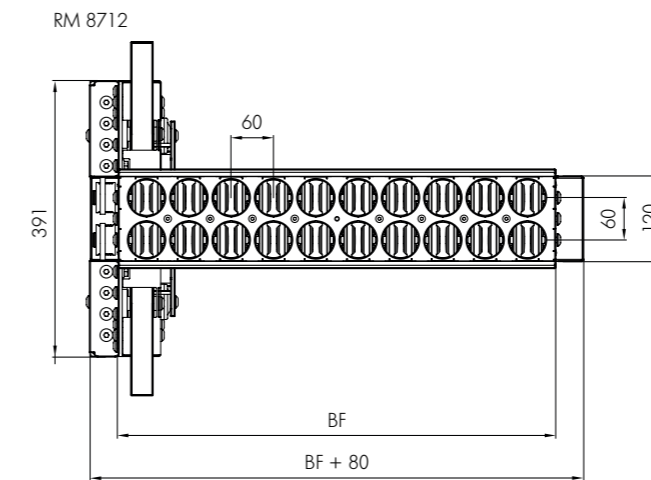
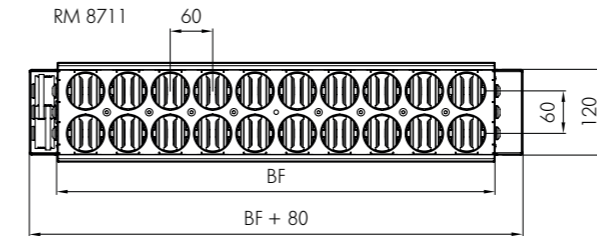
One HPD module can consist of several cassettes, each 120 mm long, depending on the size of the product.

**Technical data**

	RM 8711	RM 8712	
General technical data	Max. load capacity*	50 kg	50 kg
	Max. roller speed*	1.4 m/s	Same as roller conveyor
	Swiveling time	0.3 s per 90°	0.3 s per 90°
	Discharge angle	30°/45°/90°	30°/45°/90°
	Ambient temperature	+5 to +40 °C	+5 to +40 °C
Swivel motor drive	Rated voltage	24 V	24 V
Travel motor drive	Rated voltage	24 V	Slave-driven from 400 V flat belt conveyor
	Control	MultiControl	MultiControl

\* The combination of maximum values is not always possible.

**Dimensions**



BF	Between frames	420, 620, 840 mm others on request
ML	Module length	120 mm x load-dependent number of cassettes

**Scope of supply**

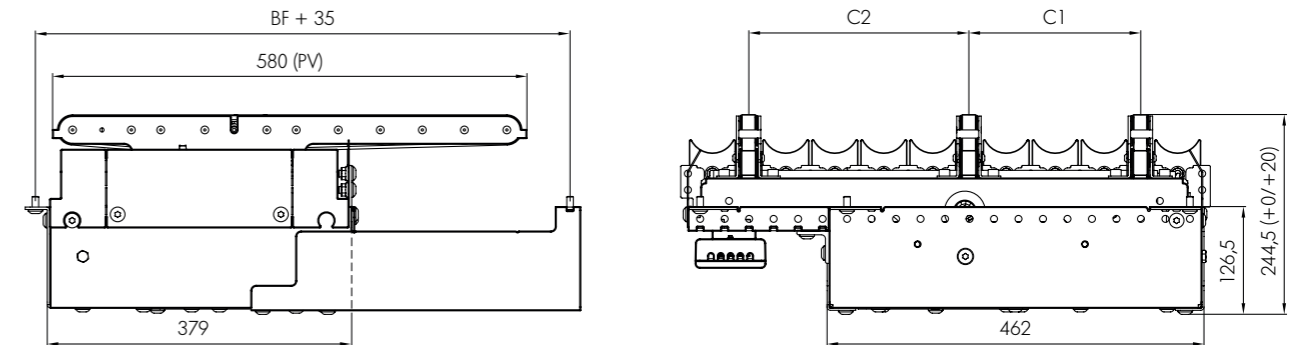
- Supply incl. fastening set, side guide kit and control card
- When used in zone conveyor, supply incl. sensor kit and cable set
- Supply without roller conveyor

# RM 8731

## Interroll Transfer 24 V



### Dimensions



### Product Description

The Transfer 24 V is used for diverting or merging onto a roller track suitable material at a 90° angle. In the process, the unit load changes direction and its orientation, i.e. the side of the product will now be the leading edge after the transfer.

### Technical data

General technical data	Max. load capacity*	50 kg
	Belt speed	1.0 m/s
	Lifting time	0.3 s
	Incline/decline	Not suitable
	Ambient temperature	+5 to +40 °C
Stroke and belt drive	Rated voltage	24 V
	Control	MultiControl

\* The combination of maximum values is not always possible.

BF	Between frames	420, 620, 840 mm others on request
C1 to C5	Blade distance	Flexible distances in multiples of 60 mm or 90 mm
	Number of blades	max. 5

### Scope of supply

- Supply incl. fastening set, side guide kit and control card
- When used in zone conveyor, supply incl. sensor kit and cable set
- Supply without roller conveyor



# ST 6110

## Interroll Pusher



### Product Description

The push crank diverter pushes materials away at a 90° angle to the conveying direction. This is done gently despite high speeds, thanks to the electrically powered crank mechanism.

### Technical data

General technical data	Max. load capacity*	50 kg/m
	Max. startup current	1,500 items/h (depending on material)
	Ambient temperature	+5 to +40 °C
Dimensions	Angles	90°
	Suitable conveyor modules	Belt conveyor Roller conveyor
Drive	Pusher drive	400 V gear motor

\*The combination of maximum values is not always possible.

# RM 8830

## Interroll Lift-Up Gate



### Product Description

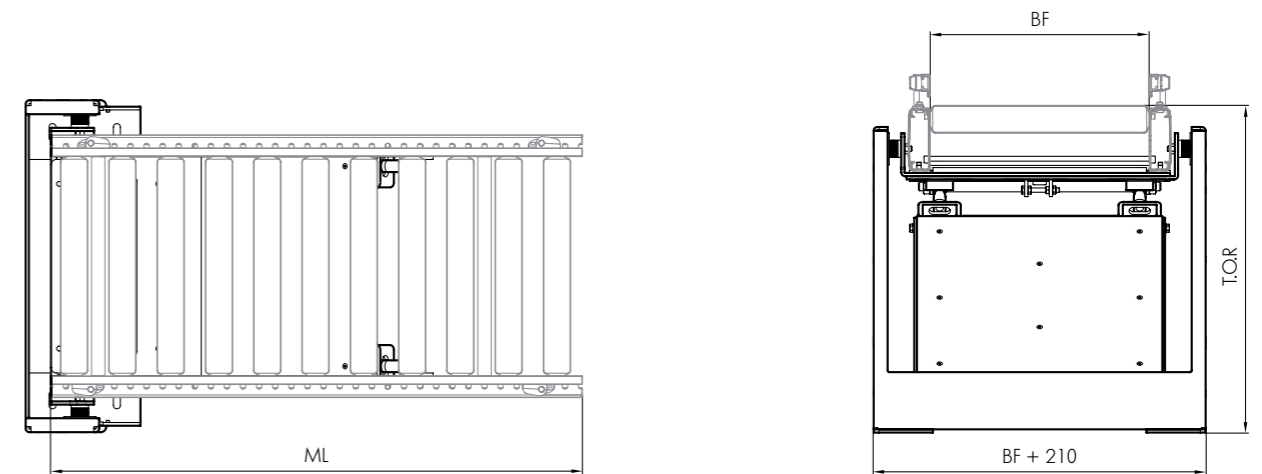
The lift-up gate swivels upward to provide a walkway, or access from one side of the conveyor to the other. This allows access to the rear of the conveyor, and the ability to plan quicker escape routes, in case of an emergency. The pivoting movement is operated by an innovative rotary mechanism.

### Technical data

General technical data	Max. load capacity*	100 kg (incl. fitted module)
	Ambient temperature	-5 to +40 °C
	Incline/decline	Not suitable

\* The combination of maximum values is not always possible.

### Dimensions



BF	Between frames	420, 620, 840 mm others on request
T.O.R.	Min. height of top edge of roller	700 mm
ML	Module length	1000 to 1300 mm
	Channel width	ML - 220 mm

### Scope of supply

- The module is fully assembled
- Please order fitted conveyor module separately

# RM 6006

## Interroll Lift



### Product Description

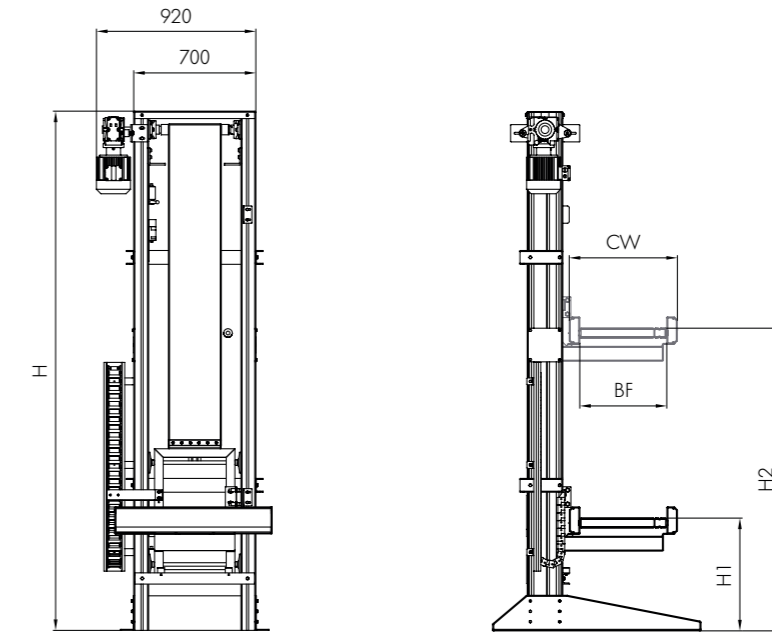
The lifting station consists of a column construction and a carriage upon which a roller conveyor is mounted. A worm gear motor with brake is used as a drive unit to raise and lower the carriage via a belt.

### Technical data

General technical data	Max. load capacity*	150 kg
	Stroke velocity	0.1 to 0.6 m/s
	Ambient temperature	-5 to +40 °C
	Max. stroke height	6000 mm
	Startup position	2
	Lifting column	200 x 80 mm (aluminum profile)
Drive	Motor type	Worm gear motor with brake, frequency regulation on site
	Rated voltage	400 V/50 Hz/3 phase
	Max. electrical power	2.2 kW
	Drive medium	Belt

\* The combination of maximum values is not always possible.

### Dimensions



BF	Between frames	420, 620, 840 mm (when using Interroll modules)
H1	Lower level dimension	Min. 300 mm
H2	Upper level dimension	H1 + stroke height
H	Overall height	H2 + 600 (max. 8000 mm)
CW	Width of mounted conveyors	Max. 1300 mm

**Note:** The upper part of the lifting station must be supported on site above an overall height of 4000 mm.

### Scope of supply

- The module is fully assembled, including sensor system, but is not electrically cabled.
- Energy chain is pre-installed
- Please request protective grid and safety elements separately
- Without conveyor module

# RM 6008

## Interroll Lift



### Product Description

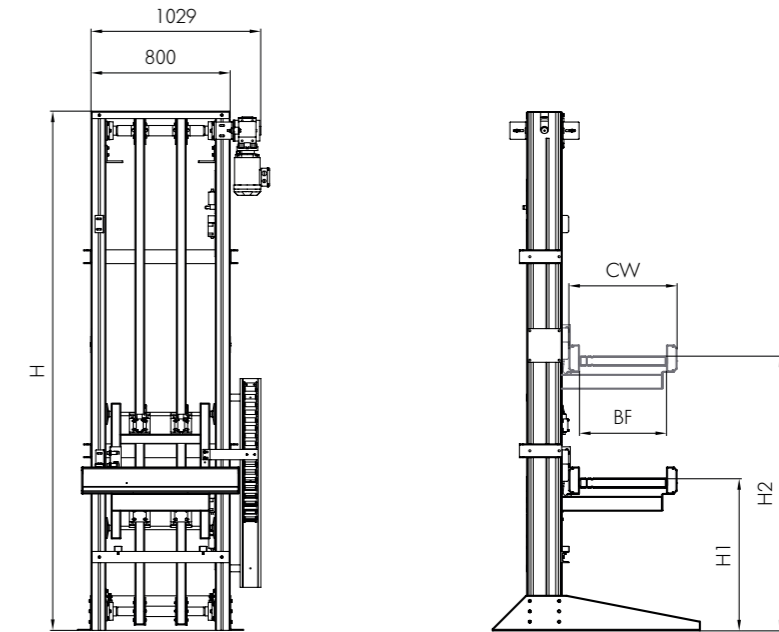
This vertical conveyor consists of a column construction and a carriage upon which conveyor components can be mounted. Lifting motion is performed by two toothed belts. The planned drive is located at the top. Integrating an encoder is possible. This lift can optionally be used at higher speeds and in several approach positions.

### Technical data

General technical data	Max. load capacity*	250 kg
	Stroke velocity	0.1 to 1.0 m/s
	Ambient temperature	-5 to +40 °C
	Max. stroke height	6000 mm
	Startup position	Min. 2
	Lifting column	200 x 80 mm (aluminum profile)
Drive	Motor type	Worm gear motor with brake, frequency regulation on site
	Rated voltage	400 V/50 Hz/3 phase
	Max. electrical power	2.2 kW
	Drive medium	Toothed belt

\* The combination of maximum values is not always possible.

### Dimensions



BF	Between frames	420, 620, 840 mm (when using Interroll modules)
H1	Lower level dimension	Min. 500 mm
H2	Upper level dimension	H1 + stroke height
H	Overall height	H2 + 800 (max. 8000 mm)
CW	Width of mounted conveyors	Max. 1300 mm

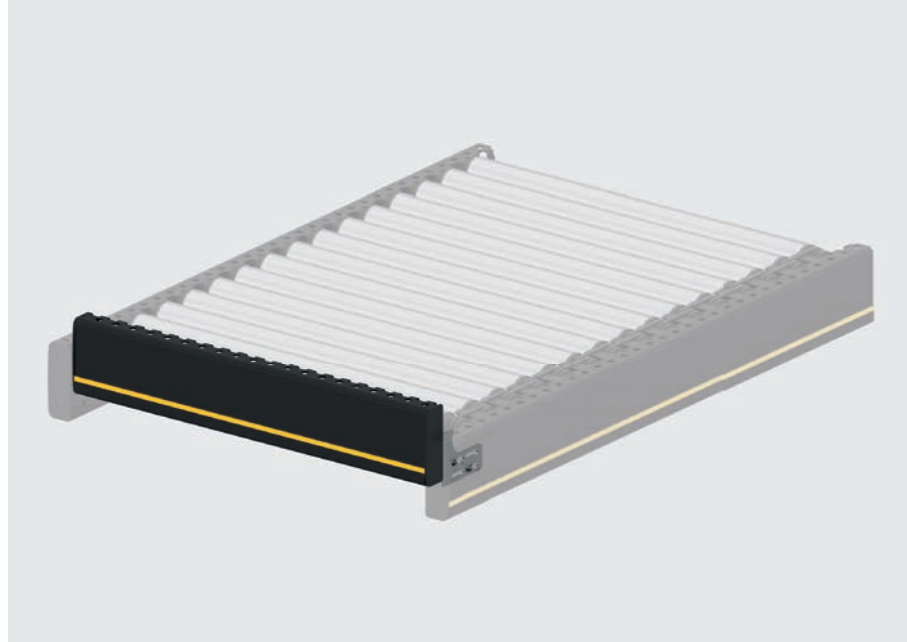
**Note:** The upper part of the lifting station must be supported on site above an overall height of 4000 mm.

### Scope of supply

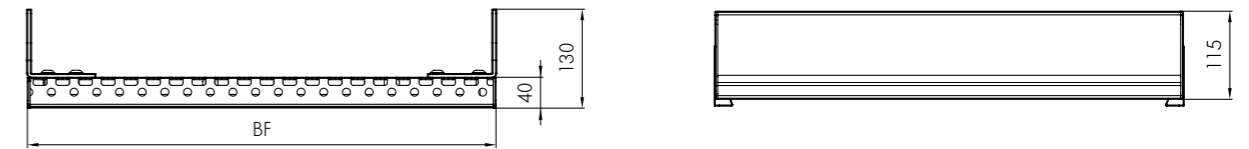
- The module is fully assembled, including sensor system, but is not electrically cabled.
- Energy chain is pre-installed
- Please request protective grid and safety elements separately
- Without conveyor module

# RM 8811

## Interroll End Stop



### Dimensions



### Product Description

The end stop is a permanently mounted attachment, for stopping and accumulating of approaching material. The end stop is used at the end of sloped or friction roller conveyors, or as a secure termination of all other conveyor lines.

### Technical data

General technical data	Maximum accumulation pressure	300 N
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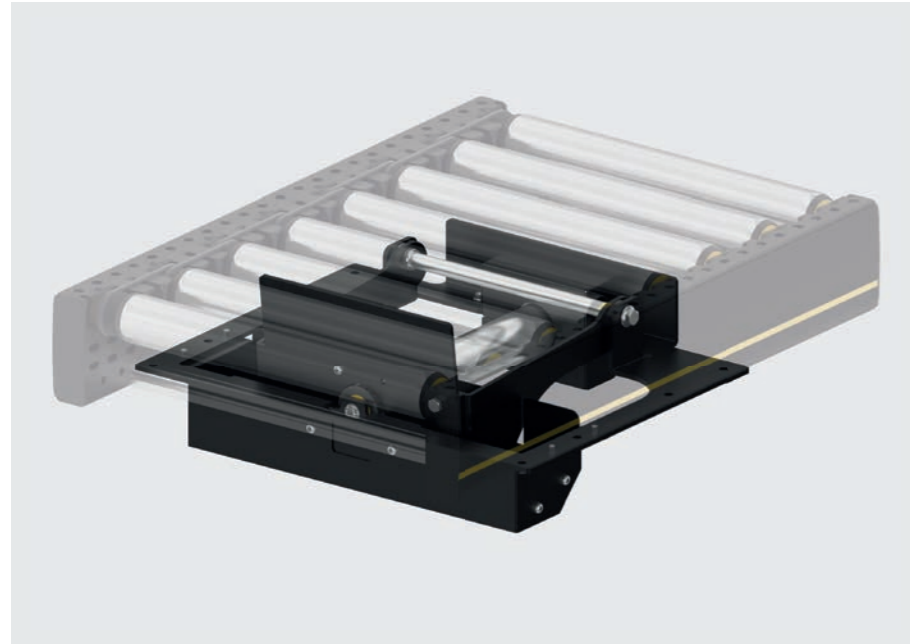
BF	Between frames	420, 620, 840 mm others on request
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### Scope of supply

- End stop, incl. fastening material

# RM 8812

## Interroll Blade Stop



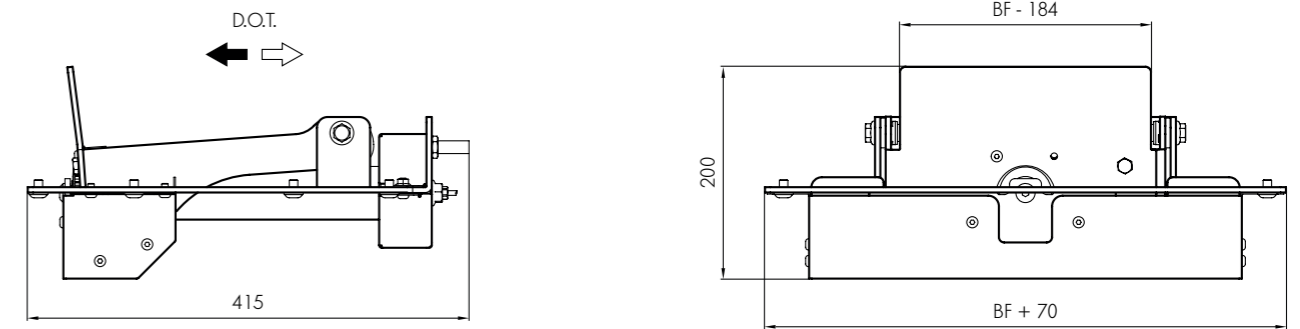
### Product Description

The Interroll blade stop is an electrically operated stop that is raised between the roller pitches in order to stop or accumulate material. Stops are often used in conjunction with conveyor components, such as transfers and pushers, to align products or coordinate processes.

### Technical data

General technical data	Maximum accumulation pressure	100 N
	Ambient temperature	+5 to +40 °C
Drive	Rated voltage	24 V

### Dimensions



BF	Between frames	420, 620, 840 mm others on request
P	Min. roller pitch	90 mm
$\Delta S$	Stroke	25 mm (5 mm below top edge of roller up to 20 mm above top of roller)

### Scope of supply

- Module is fully assembled, incl. sensor system and control card

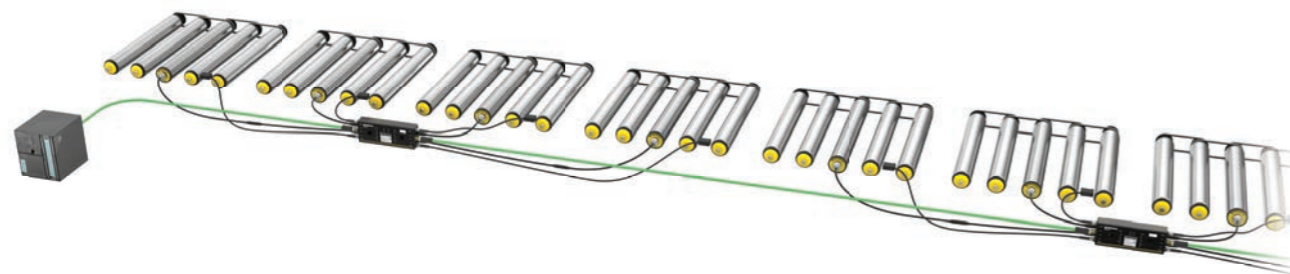
# Interroll MultiControl



## Product Description

With the help of MultiControl, sensors and RollerDrive are directly integrated at the fieldbus level. No additional sensor/actuator level is necessary. Interroll 24 V conveyor modules equipped with MultiControl also contain the logic for zero pressure accumulation conveying.

MultiControl is a certified network card for PROFINET, EtherNet/IP and EtherCat for controlling the RollerDrive EC310. With a single MultiControl, it is easy to choose any one of these different field buses. This provides enormous flexibility - for warehousing as well as for planning and installation of conveyors.



A standard ribbon cable is used for power wiring. Stopping connected RollerDrives without losing the position information of materials is possible if sensors and MultiControl are supplied via a second ribbon cable.



The MultiControl can control four conveyor zones, allowing four RollerDrives and four sensors. Even complex conveyor modules, such as Transfer or High Performance Divert, can be controlled by MultiControl. Four additional, individually configurable I/Os can be connected by using a y-shaped cable.

The addressing and naming is done over PLC software, a web user interface, or with the Interroll Teach-In method. With the Teach-In method, automatic addressing and configuration of all MultiControls is possible. In addition, the sequence of all MultiControls in the conveying line can be determined. This saves time during the commissioning on site. The MultiControl communicates with the PLC in real time, is easy to handle and works for nearly all applications.

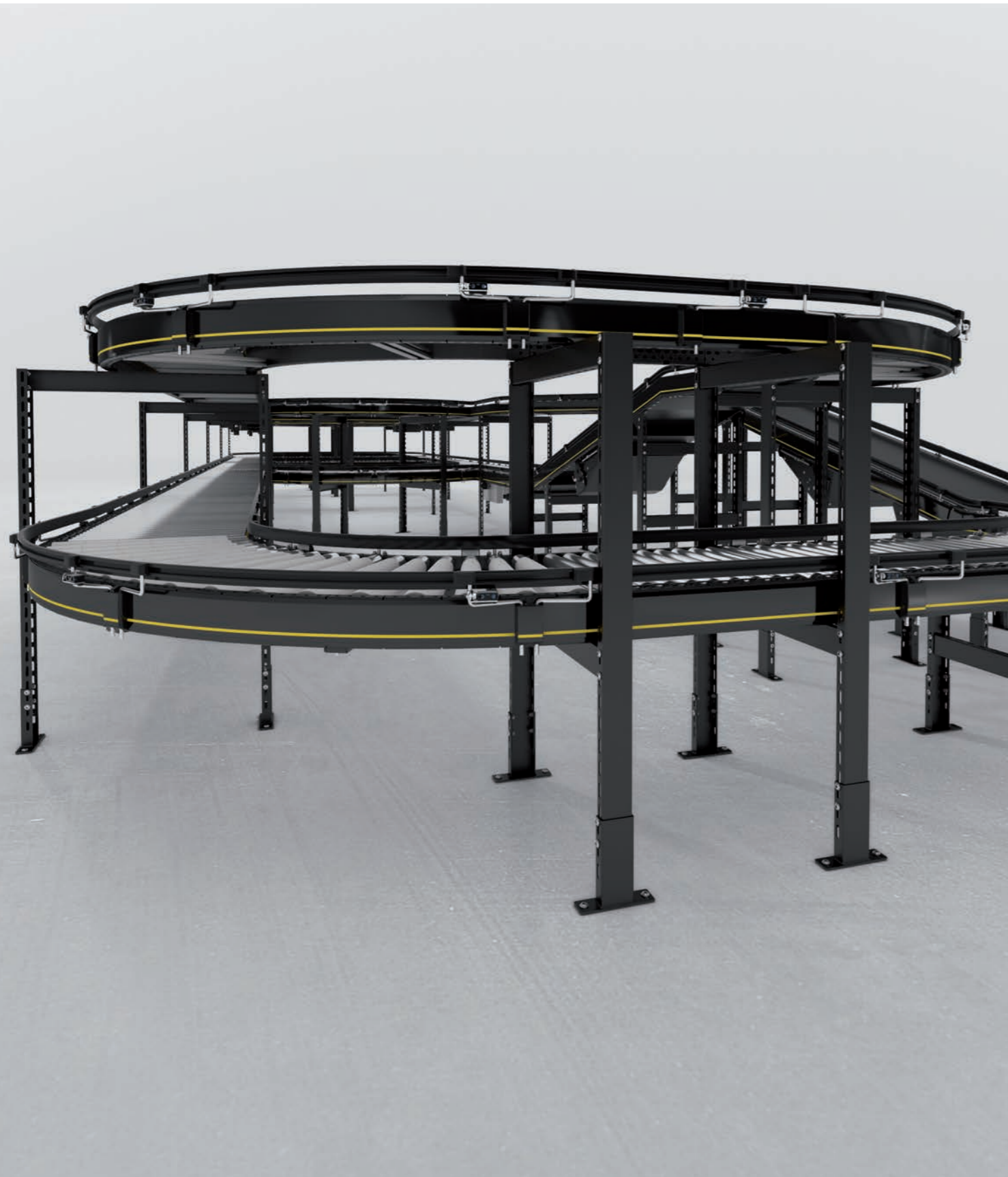
## Benefits

- Logic control for zero pressure accumulation conveying for Interroll conveyor modules
- Easy handling – one control card for PROFINET, EtherNet/IP and EtherCat
- Functional safety thanks to the certified network card
- Independent power supply possible for RollerDrive and sensors
- Also usable as individual controller for special applications
- Plug & Play in case of replacements

## Features

- Connection of 4 RollerDrive EC310, 4 sensors and 4 additional inputs/outputs
- Power supply via standard ribbon cable
- Configuration of RollerDrive parameters such as speed, direction of rotation or start & stop ramps via a web user interface or PLC
- All digital I/Os can be configured
- IP54 protection rating
- Ambient temperature from -30 °C to +40 °C
- Status LEDs for all functions and I/Os
- UL-certified

# Accessories



RM 8841 supports, page 80



Power supply, page 82



Sensor kit, page 82



Reflector kit, page 83



Universal support, fixed, page 83



Universal support, flexible, page 84



Side guide, page 84



Side guide holder, page 85



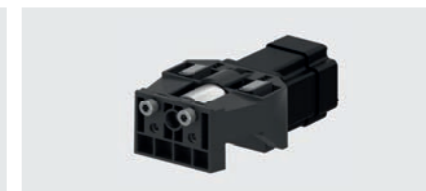
Side guide connector, page 85



End cap for side guide profile, page 86



End cap for side profile, page 86



Actuator, page 87



Magnetic Speed Controller 50, page 87

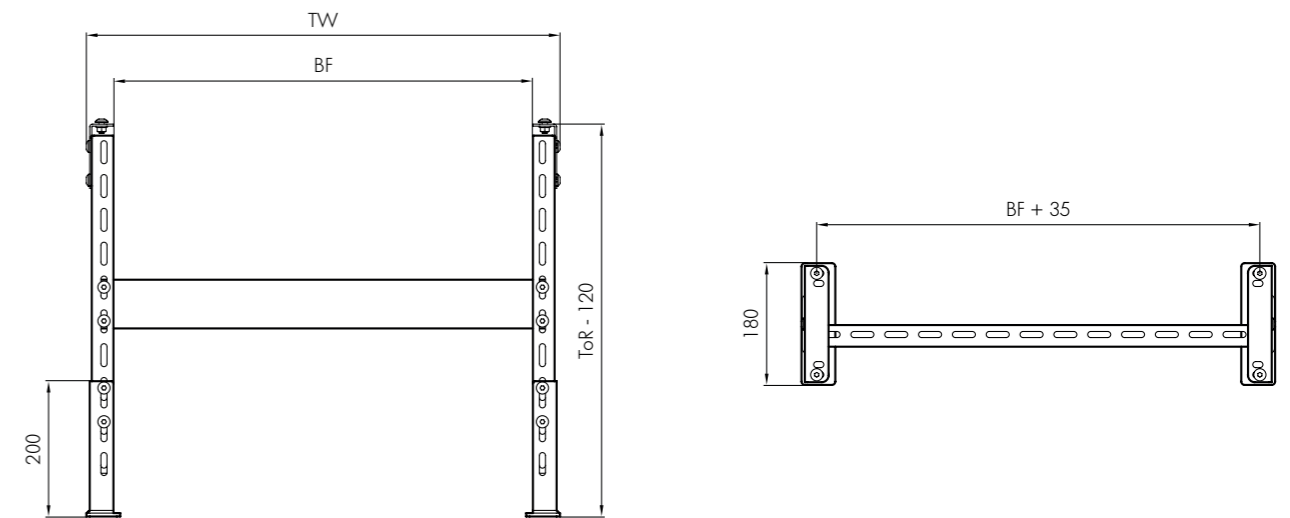


# RM 8841

## Interroll Support



### Dimensions



### Product Description

The support is intended for fastening the conveyors to the floor or lift floor. The support foot is infinitely adjustable. A simple height adjustment via threaded spindle can be ordered as an add-on.

### Technical data

General technical data	Max. load capacity	200 kg
	Min. support height	350 mm
Side profile	Dimensions	77 x 32 mm
	Number of crossbars	1 for 370 to 800 mm height of roller top edge
		2 for 800 to 1400 mm height of roller top edge
	3 for 1400 to 2000 mm height of roller top edge	

BF	Between frames	420, 620, 840 mm others on request
TW	Module width	BF + 80 mm
T.O.R.	Top of roller height	370 to 2000 mm
	Adjustment range	+/-50 mm

### Scope of supply

- Support fully assembled
- Infinite height adjustment with optional threaded spindle

As an alternative to the supports, Interroll also offers ceiling hangers. Please contact your customer representative.

# Accessories

## Power supply



A power supply is available for 24 V and zero pressure accumulation 400 V conveyors. The power supply units are installed in a robust cabinet, and each power supply has a main switch and internal fuse.

Designation	Dimensions	Reference number
Power supply 24 V/20 A	380 x 380 x 211 mm	1015147
Power supply 24 V/40 A	380 x 380 x 211 mm	1015148

## Sensor kit



Sensors detect materials on the conveyors and determine their position. Reflex light barriers are used, which require a reflecting mirror (reflector) on the opposite side of the light barrier in order to return the light beam. The sensor kit consists of the sensor and the matching plastic housing, including fastening clip. The housing can be attached directly to the roller conveyor or to a universal support.

Designation	Dimensions	Reference number
Sensor kit	43 x 26 x 18 mm (L x W x H) (H 26 mm with studs)	63010249

## Reflector kit



The reflector kit returns the light beam back to the sensor. The kit includes a fastening clip and can be attached directly to the roller conveyor or to an universal support.

Designation	Dimensions	Reference number
Reflector kit	54 x 18 x 30 mm (L x W x H) (H 39 mm with studs)	64000905

## Universal support, fixed



Side guides, sensors, reflectors and other add-on components, such as scanners, are attached to the fixed universal support. Fixed universal supports are attached directly to the side profile. Sensor holder

Designation	Dimensions	Reference number
Universal support, fixed	60 mm (55 mm above T.O.R.)	1015014

# Accessories

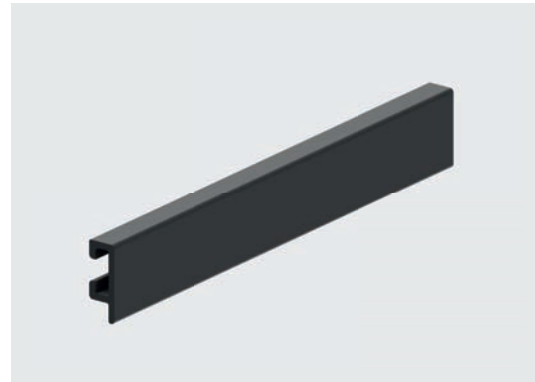
## Universal support, flexible



Side guides, sensors, reflectors and other add-on components, such as scanners, are attached to the flexible universal support. Flexible universal supports are attached laterally to the profile. Each of these holders can accommodate two flexible universal support brackets.

Designation	Dimensions	Reference number
Universal support, flexible	200 mm (55 mm above T.O.R.)	63010032

## Side guide



Side guides are used for reliably guiding the product on roller conveyors and belt conveyors, as well as on the corresponding components. In particular, because of the flexible material (polymer), the guides can be adjusted to the material flow in curves, as well as when merging and diverting.

Designation	Dimensions	Reference number
Side guide	40 x 15 x 2000 mm	63010049

## Side guide holder



The side guide profile is attached to the universal support with the side guide holder.

Designation	Dimensions	Reference number
Side guide holder	46 x 28 x 22 mm	63010248

## Side guide connector



Side guides are connected to each other at the transition of two modules with the side guide connector.

Designation	Dimensions	Reference number
Side guide connector	70 x 28 mm	63010050

# Accessories

## End cap for side guide profile



An end cap is attached to the end of a side guide. The contour prevents products from being caught.

Designation	Dimensions	Reference number
End cap for side guide profile	100 x 40 x 40 mm	63010039

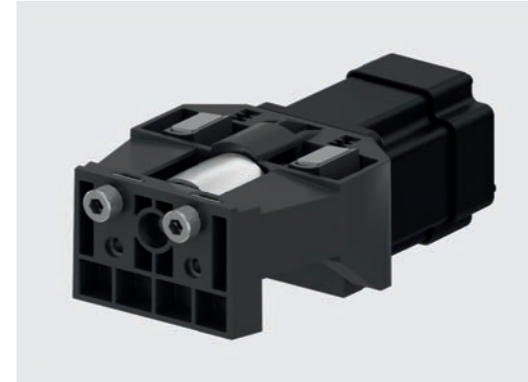
## End cap for side profile



The end cap closes a side profile at the front.

Designation	Dimensions	Reference number
End cap for side profile	115 x 35 x 3 mm	64000900

## Actuator



By using 24 V actuators, a 400 V roller conveyor can be operated as a zone conveyor. The actuators can be controlled for zero pressure accumulation mode via the Interroll controllers. Additional components are required to change a transport conveyor into a zone conveyor. Please contact your Interroll customer representative.

Designation	Dimensions	Reference number
24 V actuator	177 x 100 x 65 mm	63010261

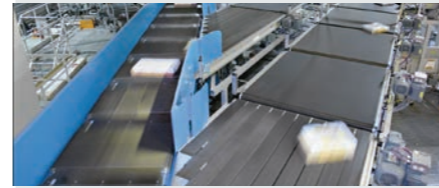
## Magnetic Speed Controller 50



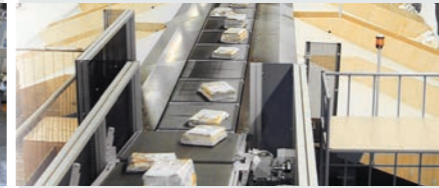
The Magnetic Speed Controller 50 is a purely mechanical speed controller that ensures a controlled, slow speed on gravity conveyors with materials weighing from 0.5 kg to a maximum of 35 kg. The magnetic speed controller operates without a gear box, thus enabling startup for very lightweight containers. Heavy containers are transported at a controlled speed thanks to the consistently high braking performance.

Designation	Dimensions
Magnetic Speed Controller 50	Min./max. installation length (EL): 210–1,400 mm Tube diameter: Steel 51 mm, steel with PU sleeve 54 mm

# Appendix



Horizontal crossbelt sorter, page 90



Vertical crossbelt sorter, page 92

# Interroll Horizontal crossbelt Sorter



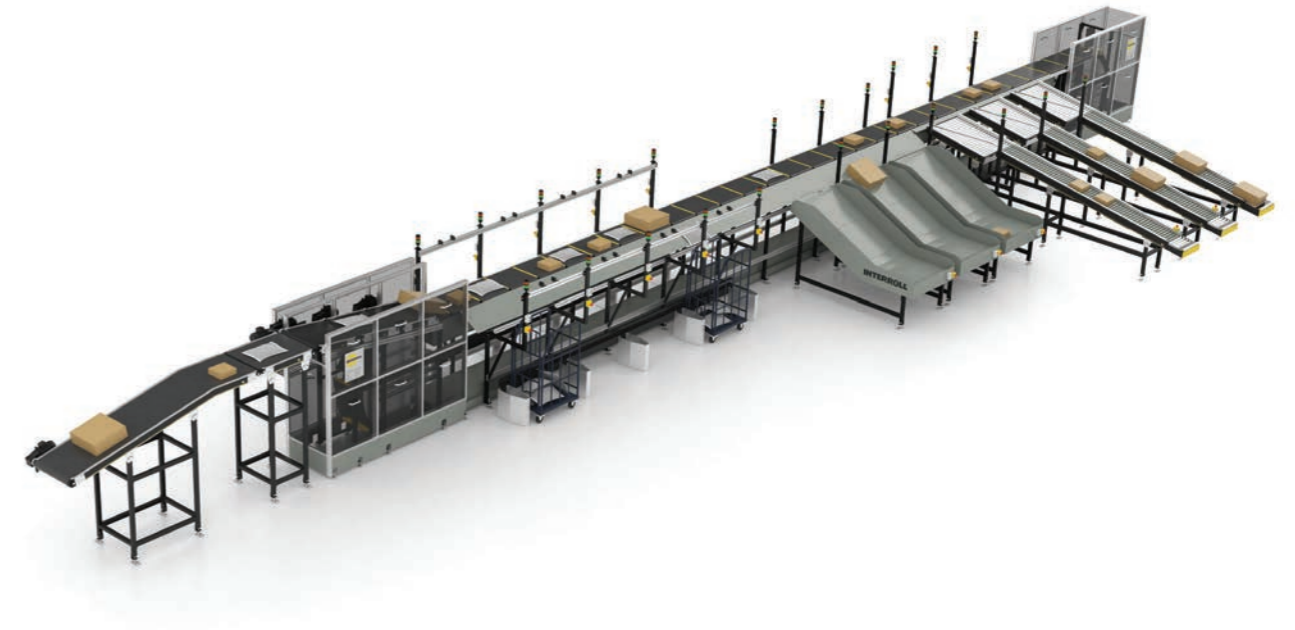
## Product Description

Horizontal crossbelt sorters are characterized by their flexible, space-utilizing routing with curves that also conquer inclines and slopes. Feeds and destinations can be arranged in various ways and optimized to increase the system's performance. With an appropriate layout, it is possible to create several sorting areas with just one cycle. The horizontal crossbelt sorter is also perfectly suited for small spaces. For example, two crossbelt sorters with identical routes can be installed one on top of the other, i.e., doubled up. Horizontal crossbelt sorters can recirculate goods that have either not been recognized by identification technology or have not been discharged because all destinations were full.

## Technical data

General technical data	Items	
	Items	Cardboard boxes, small packages, padded envelopes, packaged food, catalog goods, manila envelopes, multimedia products, clothing, etc.
	Dimensions/unit weight	Min. (L x W x H): 150 x 100 x 5 mm 100 g Max. (L x W x H): 600 x 500 x 500 mm 35 kg
	Double carriers max. (L x W x H)	Max. 1200 x 700 x 700 mm 35 kg
	Power/speed (examples)	Cross belt carriage 340 x 400: 14000 carriages/h at 1.7 m/s Cross belt carriage 460 x 700: 10000 carriages/h at 1.65 m/s

# Interroll Vertical crossbelt sorter



## Product Description

The main feature of Interroll's vertical crossbelt sorter with linear, straight routing ("above – below") is its distinctive space-saving design because of its compact, modular approach. A minimum width of 1.7 m is already sufficient, e.g., for a vertical sorter with a crossbelt carriage measuring 400 x 400 mm. This configuration can also save valuable space, if full containers are transported into the sorter. This is unique on the market. The infeed on the vertical sorter usually starts with an accumulating conveyor in front of the actual sorter - a simple conveyor belt. Operators are able to manually feed goods directly onto this accumulating conveyor - a cost-effective and ergonomic solution. The accumulating conveyor can, of course, also be loaded via semi-automated or fully-automated infeeds.

## Technical data

General technical data	Items	
		Cardboard boxes, small packages, padded envelopes, packaged food, catalog goods, manila envelopes, multimedia products, clothing, etc.
	Dimensions/unit weight	Min. (L x W x H): 100 x 80 x 5 mm 100 g
	Double carriers max. (L x W x H)	Max. (L x W x H): 600 x 600 x 500 mm 35 kg
	Power/speed (examples)	Max. (L x W x H): 1200 x 800 x 800 mm 35 kg
		Cross belt carriage 335 x 300: 15,000 carriages/h at 1.65 m/s
		Cross belt carriage 600 x 800: 8500 carriages/h at 1.7 m/s

# Application Notes

## What are application notes used for?

The application notes support you during the planning and dimensioning of conveyor systems, as well as during the selection of Interroll conveyor modules.

The application notes offer the following:

- Basic rules for a trouble-free transport
- Decision-making aids for product selection
- Calculation examples for the dimensioning of the conveyor modules and drive performances

In addition, your Interroll customer representative will be happy to assist you in the selection of conveyor modules, especially if you require specific measures due to special materials or environmental conditions.

You should answer three questions before selecting a conveyor module:

Which tasks should the conveyor technology handle?

- Transporting and/or storing
- Sorting and/or distributing

What properties does your transport material have?

- Length, width and height: Minimum and maximum dimensions of the transport materials which are conveyed together on one line
- Weight: Minimum and maximum weight of unit loads; ideally assigned to the dimensions
- Condition and surface of the bottom of the transport material: The bottom determines, e.g., the suitability of roller conveyors

Does the condition of your transport material or the surroundings require special measures?

- For example, are there extreme temperatures, high humidity or chemical influences?
- Does electrostatic charging pose a problem?
- Is the transport material fragile or problematic in any way?

## Transport material

The platform is suitable for transporting unit loads. These are characterized by the following general specifications:

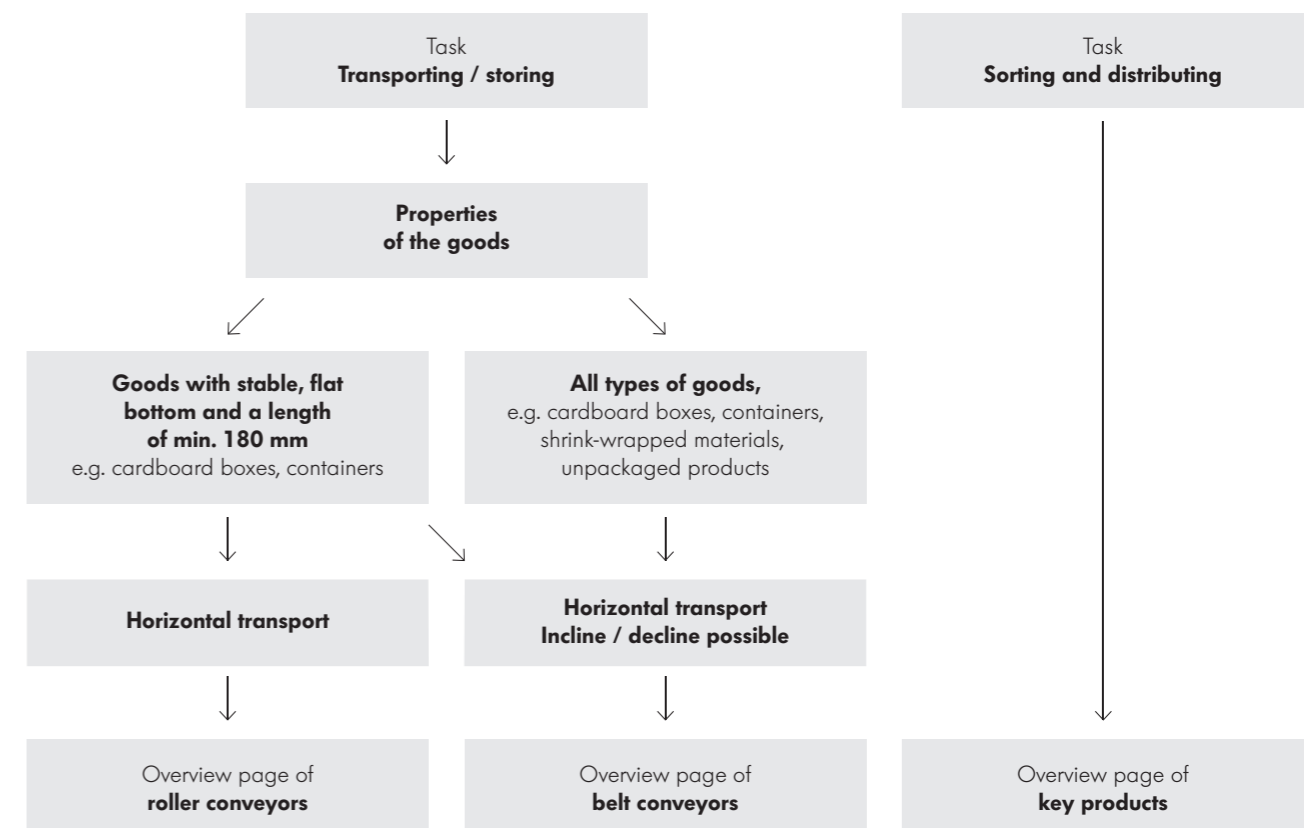
- Suitable bottom for transport on roller conveyors:  
The bottom must be suitable for transport on roller conveyors. In particular, this means that it is smooth, perfectly closed or at least homogeneously ribbed, or in similar conditions. Indentations (e.g. with surrounding edges at the bottom, ribs, stacking aids) complicate the transport, particularly on transfers, HPD, ball transfer units, and must be tested for transportability. Bent bottoms, especially hollow or pot-bellied bottoms (concave/convex), have negative effects on the transport.
- The stability of the bottom must be sufficient for the loading.
- The material must be uniformly and continuously closed above the rollers on at least one long side up to a height of 5 cm. This helps optical sensors to detect the product. When transferring at 90°, detection must be possible on two sides (length and width).
- The weight of the materials must not exceed 50 kg/m or 50 kg per accumulation zone.
- The smallest product for transporting:  
On straights: 180 mm long. If the product changes its orientation (e.g., with 90° diverting), then length and width are at least 180 mm  
In curves: The roller pitch is greater at the outside radius than at the inside radius. We will be happy to test your product on a curve.
- The largest product for transporting:  
On straights: 800 mm width  
In curves: The formula applies to page 97

• Typical products:

- Plastic containers with the usual dimensions for internal goods and warehouse transport, such as cardboard boxes, e.g., in the sizes 200 x 300 mm, 300 x 400 mm, 400 x 600 mm, 600 x 800 mm
- Cardboard boxes with stable bottoms suitable for roller conveyors
- Other trays with corresponding properties
- The ratio of base area to height, particularly the position of the center of gravity, affects the secure standing of the product, especially on inclines. The center of gravity should be no higher than 1/3rd of the length of a product.

## Product Selection

The task that the conveyor technology is to meet in your case, leads directly to the three main sections of this catalog via the following chart: roller conveyors, belt conveyors and key products.





# Application Notes

## Roller Conveyors

### Roller Conveyors

Interroll classifies roller conveyors according to weight classes and drive technology.

#### Weight classes

In general, Interroll groups conveyors by the weight of the transport material into the following classes:

- Up to 35 kg: Light
- Up to 500 kg: Medium
- Up to 1500 kg: Heavy

This catalog includes materials up to 50 kg, i.e., up to part of the medium weight class.

Transport material	Cardboard boxes, plastic containers, trays, etc.
Load capacity	Up to 50 kg/m
Conveyor speed	0.1 to 2.0 m/s
Between frames BF	420, 620, 840 mm (special sizes on request)
Roller pitch P	60, 90, 120, 150 mm
Rollers	Interroll Series 1700, Interroll Series 3500 and Interroll Series 1100 in PVC or steel, zinc-plated (special types on request)
Ambient temperature	+5 to +40 °C or +5 to +40 °C (depending on the product)

#### Drive classes

In general, Interroll groups conveyor modules by drive technology into the following classes:

- Non-powered roller conveyors
- Powered roller conveyors at 24 V
- Powered roller conveyors at 400 V

Non-powered gravity conveyors are used as low-cost, simple solutions for many conveying areas. The transport material is moved by gravity (angle of conveyor) or manually. Optional speed controllers brake the conveying speed of the transport material on inclined roller conveyors.

Powered conveyors are used for continuous transport, or for zero pressure accumulation of transport materials whose throughput can be precisely calculated. Merging and diverting of transport materials is implemented by using our powered key products.

#### Working with maximum values

Minimum and maximum performance data are listed at many points in this catalog. These extreme values, e.g., maximum permissible weight and maximum permissible speed, cannot always be combined with each other without restrictions. If you have any doubts, please contact your Interroll customer representative.

### Basic principles for trouble-free transport

In order to transport material flawlessly on a roller conveyor, the following basic principles must be followed

#### Roller pitch

The roller pitch must be selected so that at least three conveyor rollers are underneath the transport material at any given time:

$$P \leq \frac{L}{3}$$

P	Roller pitch in mm
L	Transport material length in mm

#### Load capacity

The weight of the transport material must be distributed onto as many carrying conveyor rollers as necessary so that the maximum load capacity of each individual conveyor roller is not exceeded. This may mean that more than three conveyor rollers must support the transport material.

More information about conveyor rollers is available in Interroll's conveyor roller catalog.

#### Lane width and measure between frames

The parameter (BF) is a measure between the side frames. The lane width (LW) is the measure between the side guides. With fixed side guides, LW = BF.

With flexible side guides, the LW measurement can be larger or smaller than BF in order to flexibly guide products, e.g. in curves. On each side, the use of flexible side guides can change the LW measure by -90/+120 mm.

The lane width of the conveyor for straight paths is at least the width of the transport material + 20 mm:

$$LW \geq B + 20 \text{ mm}$$

LW	Lane width in mm between the side guides
B	Transport material width in mm

In the following cases, a larger lane width, possibly deviating from the measure between the frames, must be selected:

- For conveyors into which transport material is being merged.
- For curves:

#### Lane width in curves

In general, the lane width (LW) must be greater in curves than for straight conveyor paths; for this purpose, the flexible side guide is adjusted accordingly without additional components.

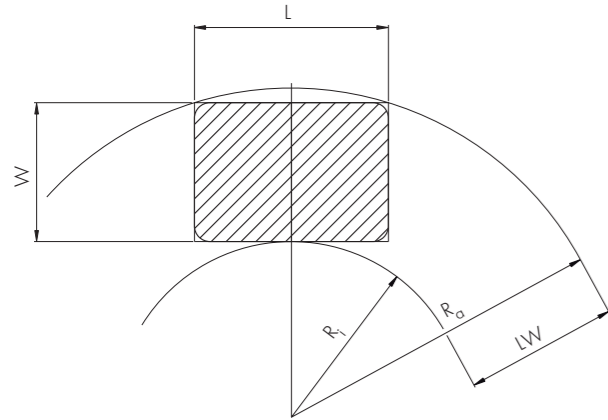
The minimum required outside radius of the side guide ( $R_o$ ) can be calculated as follows with a given inside radius:

$$R_o = \sqrt{(R_i + W)^2 + (L / 2)^2}$$

# Application Notes

## Roller Conveyors

The inside radius for our curves is always 825 mm and is measured at the inside edge of the profile.



L	Maximum length of transport material in mm
W	Maximum width of transport material in mm
LW	Lane width in mm
R <sub>o</sub>	Outside radius of curve for rectangular transport material in mm
R <sub>i</sub>	Inside radius* of curve in mm

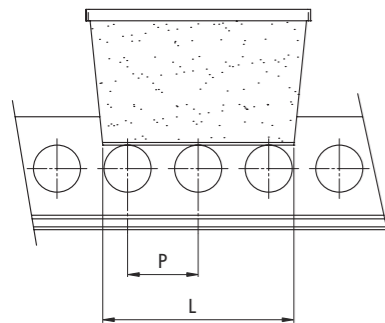
Curve modules from Interroll are available in 420, 620 and 840 mm measure between frames (BF). A side guide is equipped with flexible mounting brackets and allows for expanding the lane width (LW) by 120 mm compared to the measure between frames of the rollers.

### Trouble-free transport

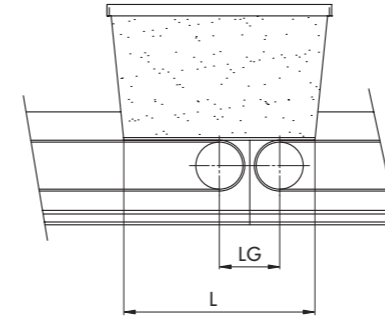
The roller pitch and the dimensions of the transition gap between two conveyors are very important for trouble-free transport.

Transport disturbances can be prevented by taking the following measures:

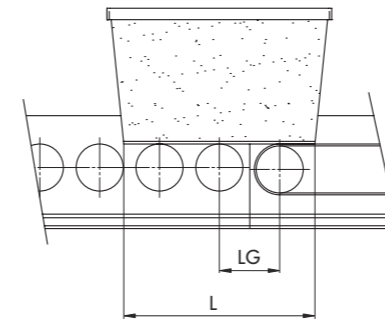
- Select roller pitch P so that at least three rollers are located below the transport material.



- Select the transition gap LG for all conveyors so that the gap measures less than one third of the transport material length.



- With a transition between belt and roller conveyors, the roller pitch P and transition gap LG should be selected so that the gap is less than one third of the transport material length, and so that at least two conveyor rollers are below the transport material when material exits a conveyor.



LG	Transition gap in mm
L	Length of transport material in mm
P	Roller pitch in mm

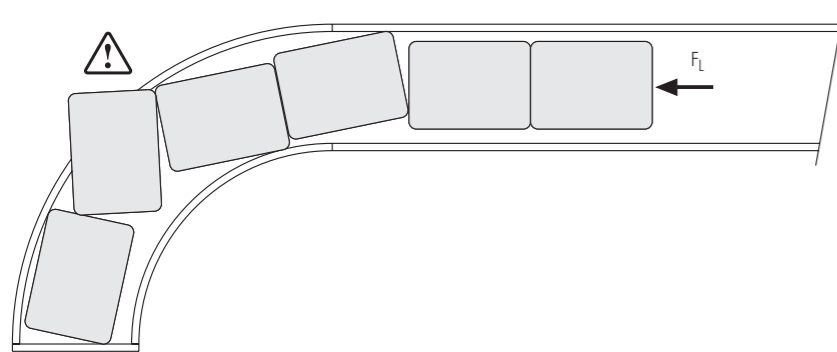
# Application Notes

## Roller Conveyors

### Ejection of transport material in curves

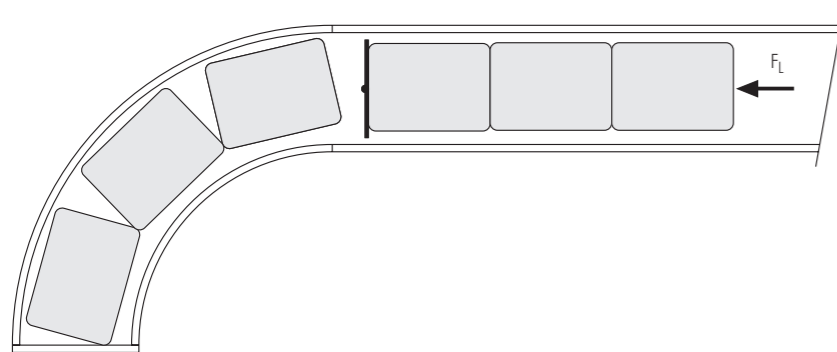
Interroll recommends not accumulating any transport materials in curves – except for zero pressure accumulation conveyor systems .

Since accumulation pressure generates externally acting forces in the curve, transport materials in the curve area could be pushed beyond the conveyor edge. This may damage transport materials and cause personal injury.



The accumulation pressure in a curve may be prevented by taking the following measure:

- An additional stop directly in front of the curve



## Calculations

### Throughput

The throughput  $T_p$  of a conveyor system is given in units/hour and depends on the size of the transport material, the conveying speed and the cycle times of merging and diverting units.

The window size  $T$  is required for calculating the throughput. The window size  $T$  is the distance from the front edge of a transport material to the front edge of the following transport material, irrespective of the actual length of the transport material or zone length.

For the precise calculation of the power capacity  $T_p$ , please contact your Interroll customer representative.  $T_p$  for straight paths can roughly be calculated as follows:

$$T_p = \frac{3.600 \cdot v}{T}$$

$T_p$	Throughput in units/hour
$v$	Conveying speed in m/s
$T$	Window size in m.

With merging and diverting, throughput is additionally influenced by the actual length and weight of the transport material as well as the transfer cycle. Please contact your Interroll customer consultant for calculations.

# Application Notes

## General technical information

### Side profile

Interroll solves conveying tasks with only one side profile. Exceptions are belt curve and belt merge.

Steel profile 115 x 35 x 2.5 mm

- Standard profile for all straight roller and belt conveyors
- Standard profile for all roller conveyor curves and Belt Curve Light
- Roller-formed steel profile with powder coating
- The upper roller edge or the upper edge of the conveyor belt is always 5 mm higher than the upper profile edge
- Cover made of black PVC
- The space behind the cover can be used as electrical conduit and for housing controller components
- The profile has a continuous hole pattern in a grid of 30 mm for attaching all the required add-on components

### Crossbar and electrical conduit

Side profiles are connected with crossbars made of aluminum profile with plastic cover at regular intervals. They also serve as electrical conduit between the two side profiles.

### Side guide

Side guides can be attached to the side profile. They guide the product on the track and prevent products from falling off. Please take the variants of the side guide into account when ordering conveyors.

The Interroll side guides are offered in two variants:

- Fixed side guide  
The side guide profile is attached to the top side of the side profile with the help of universal supports. The guide area of the profile is aligned with the inside of the side profile.
- Flexible side guide  
The side guide profile is attached to the side of the side profile with the help of flexible universal supports. The guide area of the profile can be positioned +120/-90 mm offset parallel to the side guide with the help of a Z-shaped holder. This must be taken into account especially in curves for implementing the increased space requirement with the constant measure between frames of the conveying profiles. Products that are smaller as well as larger than the actual conveyor width can be guided with precision.  
With the help of the flexible side guide, materials can also be guided or aligned at an angle to the direction of transport.

Two side guide profiles can be fastened above each other on one mounting bracket. This creates a continuous closed side guide with a height of 80 mm from the upper roller edge.

Each conveyor includes two connectors for connection to the side guide of the next module.

### Profile connectors

The side profiles of the modules are connected form-fit with a profile connector. Each conveyor module includes 2 profile connectors.

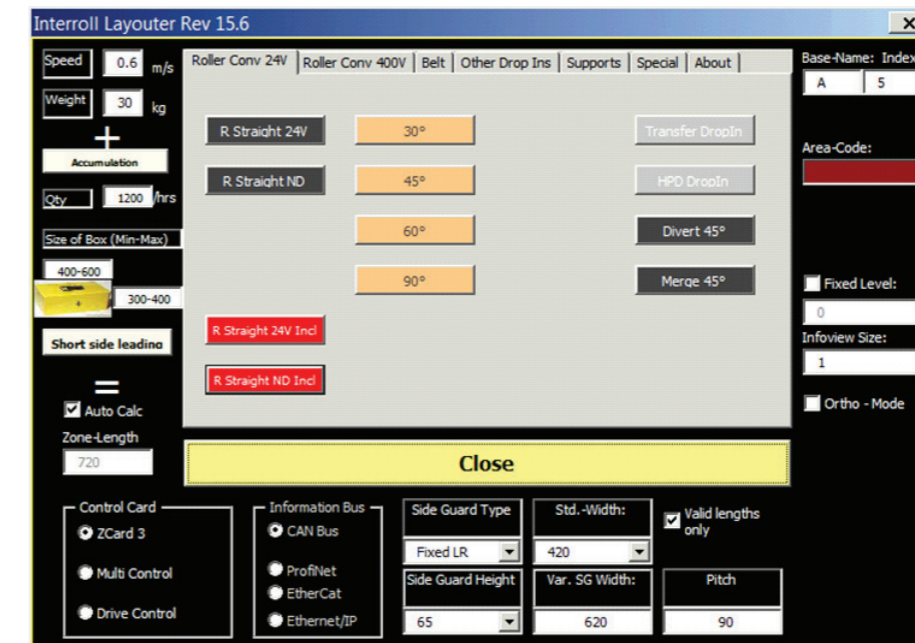
### Sensors / reflectors

Sensors and reflectors can be installed in two ways:

- Firmly installed directly on the side profile
- Flexibly installed on a flexible universal support with additional assembly plate

In both variants, the studs of the sensor holder are fed through two adjacent holes and secured on the opposite side with the fastening clip. The clip engages noticeably through lateral movement and secures the sensor holder in place. The reflector holder is installed in the same way. Our standard design of the sensor is Sick GL6.

## Interroll Layouter



The Interroll Layouter gives you a menu-driven tool that provides professional support in planning a conveyor system. Operating the software is very intuitive and makes it possible to compile an extensive 3D layout in DWG format from all Interroll conveyor modules.

All drawn conveyor modules automatically feature a complete parameter set that makes it possible to simplify the electrical engineering process at the Integrator as well as the mechanical engineering process at Interroll. All parameters are exported to an Excel conveyor list which Interroll can use as the basis for creating price quotations, quickly and reliably.

System requirements:

- AutoCAD 2014 full version
- Microsoft Office 2010

The Interroll Layouter is available as a plugin for AutoCAD where it can be launched and used via a separate menu.

For additional information and operational support, please contact your Interroll customer representative.

# Application Notes

## 24 V roller conveyor product information

### 24 V conveyor with single-position controller

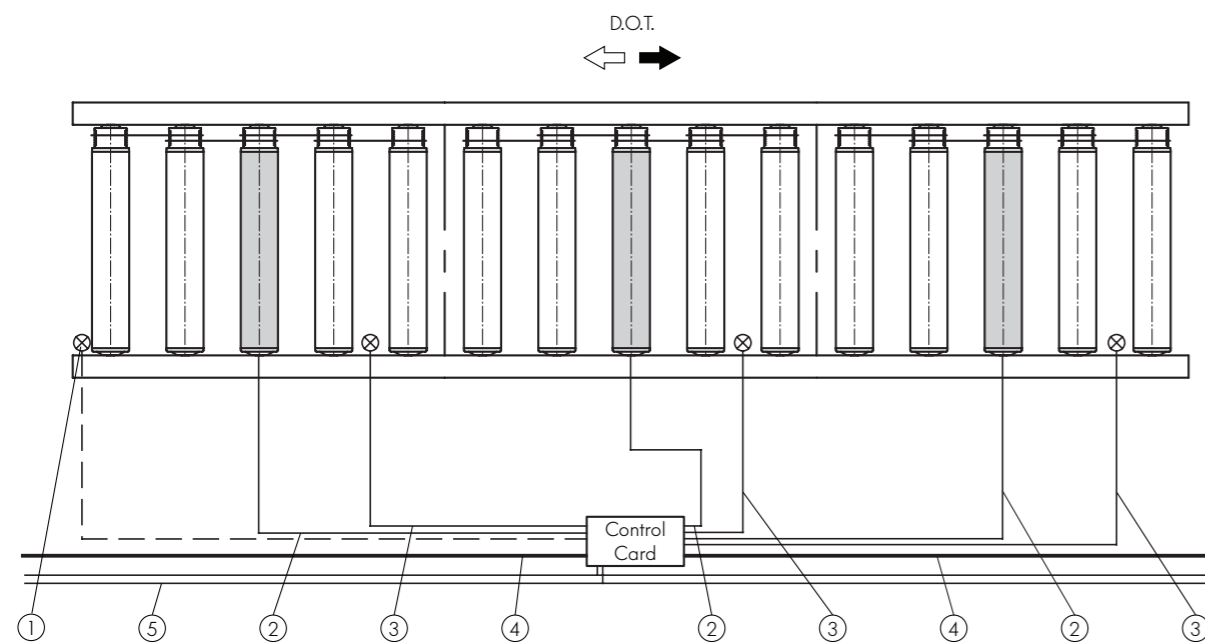
As a conveyor with single-position controller, the 24 V conveyor simplifies the transport of unit loads. Its internal control transforms a roller conveyor into a single-position conveyor that assigns each transport material its own zone in the flow. In this way unit loads can be buffered without contact and transported onwards as needed in order to achieve a continuous transport flow.

#### Zones

Each conveyor line is divided into zones that are matched to the maximum length of the transport material.

Each zone has:

- A RollerDrive (24 V motor installed in the pipe)
- Idlers driven via belts
- An internal control card that controls a maximum of four zones at the same time
- A sensor/reflector



D.O.T.	Direction of transport
1	Start photo cell (optional)
2	RollerDrive connection
3	Photo cell connection
4	Communication cable (Ethernet)
5	24 V power bus

One to four zones form a pre-installed conveyor module with complete cabling which can be connected with other modules.

#### Drive

Interroll uses RollerDrive EC310 as a drive in the 24 V conveyors.

RollerDrive EC310:

- Internal commutation electronics (brushless motor)
- 9 gear stages
- Constant conveyor speed
- Energy recovery in braking
- Electronic holding brake
- Motor cable with 5-pole snap-in plug

Technical data:

General technical data	Mechanical power	32 W
	Noise level	55 dB (A)
Electrical data	Rated voltage	24 V DC
	Voltage range	18 to 28 V DC
	Idle current	0.4 A
	Rated current	2.0 A
	Max. start-up current	5.0 A
	Permissible voltage undulation	< 5 % recommended: < 1 %
Dimensions	Protection rate	IP54
	Tube diameter	50 mm
	Wall thickness	1.5 mm
Ambient conditions	Max. reference length	1,500 mm
	Ambient temperature in operation	0 to +40 °C
	Ambient temperature during transport and storage	-30 to +75 °C
	Max. air humidity	90 %, non-condensing

Gear stages:

Gear ratio	Max. conveyor speed in m/s	Rated torque in Nm	Start-up torque in Nm	Zero motion hold in Nm
9:1	1.75	0.45	1.10	0.36
12:1	1.31	0.61	1.46	0.48
16:1	0.98	0.81	1.95	0.64
20:1	0.79	1.01	2.44	0.80
24:1	0.65	1.21	2.92	0.96
36:1	0.44	1.82	4.38	1.44
48:1	0.33	2.42	5.85	1.92
64:1	0.25	3.23	7.80	2.56
96:1	0.16	4.84	11.69	3.84

For further information please use our Catalogue for Rollers, RollerDrives, DriveControls.

#### Start photo cell

At the beginning of a line is an optional photo cell (accessories, page 82) that starts the system.

# Application Notes

## 24 V roller conveyor product information

### Control

Each control communicates with its adjacent controls via a data cable. This cable transmits signals to the start, for accumulation, for error detection and for the execution of specific control processes along the conveyor system.

A fieldbus control has four additional connectors for incoming signals, e.g., for starting merging and diverting processes.

An Ethernet bus connector is available for the connection to a master control; the entire system can be controlled via this connector and status information can be read. The Ethernet/IP, PROFINET and Ethercat protocols are available.

The drive side and the electrical side with the control can be selected for the straight 24 V conveyor and must be specified when ordering. The control is typically located in the profile for curves at the outside radius.

### Selection of the drive medium

Four drive media are available:

PU round belt  $\varnothing$  5 mm

- For curves
- For transport materials up to 50 kg/zone at max. 1.0 m/s
- For max. 11 idlers per zone (i.e. 11 round belts per zone)

PolyVee Belt

- For straights
- For transport materials up to 50 kg/zone at max. 1.0 m/s
- For max. 20 idlers per zone (i.e. 20 PolyVee belts per zone)
- Hardly any slippage, therefore very good acceleration and braking performance

Flat belt (400 V main drive, 24 V zone control)

- For straights and curves
- For transport materials up to 50 kg/m at max. 2.0 m/s
- Suitable for transport and accumulation function (no accumulation function in curves)

Belt with rolling divert

- For zero accumulation pressure transport of units that are unsuitable for roller conveyors
- Also for compact transport units
- Closed belt
- Available for straights and curves

# Application Notes

## 400 V roller conveyor product information

### 400 V Roller Conveyor

#### Operating modes

Driven roller conveyors with flat belt drive and 400 V motor can be used in 2 operating modes:

- Transport conveyor
- Zero pressure accumulation conveyor with zone control

#### Drive

The rollers are driven by a flat belt tangentially guided at the bottom. Pressure elements secure the contact between belt and roller.

#### Modules

The conveyors consist of 3 different modules:

- Drive module with 400 V drive, once at the beginning of the conveyor, incl. belt deflection
- Intermediate module, multiple possible
- End module, once at the end of the conveyor, incl. belt deflection

#### Length

The length of a flat belt-driven conveyor is limited to 15,000 mm. The dimensioning of the motor output is handled by Interroll according to the speed and weight requirements.

#### Functions

The selection and arrangement of the pressure elements determine the function of the conveyor. Depending on the application, the functions can be combined within a power train.

- Transport conveyor:
  - Fixed pressure element in upper fastening position, after every 2nd Roller
- Zero pressure accumulation conveyor:
  - Actuator pressure element, 1 x per zone, the rollers of the zone are driven via PolyVee. A control module with 24 V is also required for controlling the zones.

#### 400 V roller conveyor

Flat belt-driven curves always have a fixed drive. Accumulation on a curve is not possible.

Curves are available at 30°, 45°, 60° and 90° angles. A drive station in curves is not possible. If a conveyor path starts with a flat belt-driven curve, a drive station must be planned in a short straight before the curve.

Per drive, a maximum of two 90° curves in the same direction of rotation or one 90° curve with attached straight is possible.

#### Drive and deflection stations

For modules with flat belt drive, the drive side (left or right in direction of transport) as well as the position of the deflection units must be specified. The following representations clarify the possible drive sides and positions of the terminals.

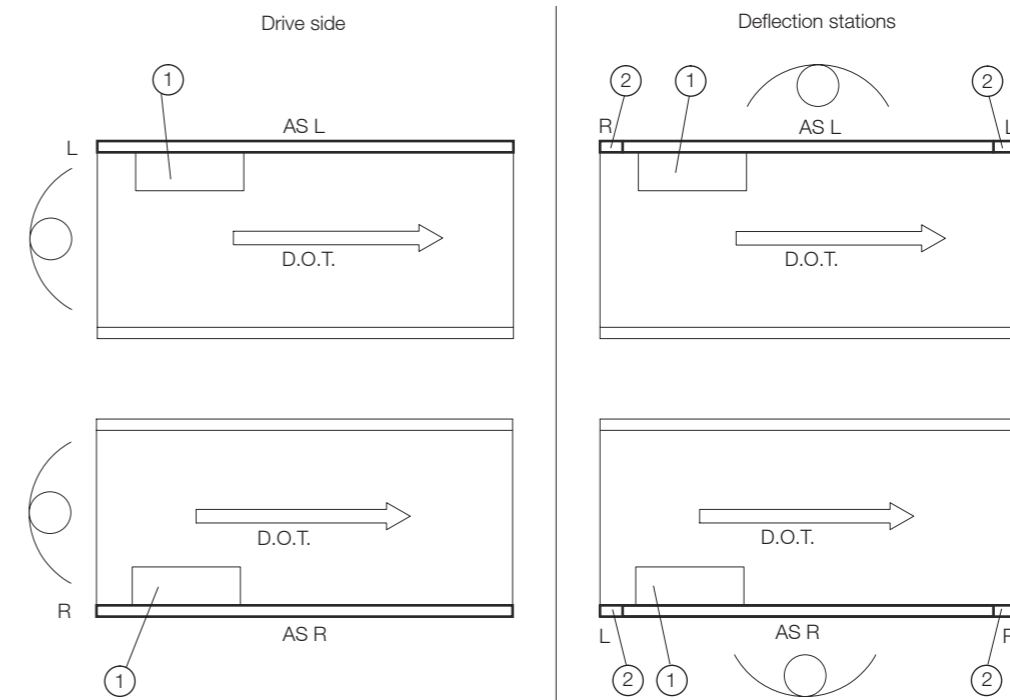


Fig.: Drive side right (R) and left (L) and terminals

D.O.T.	Direction of transport
1	Motor
2	Terminal
AS R	Drive side right
AS L	Drive side left

# Application Notes

## 400 V roller conveyor product information

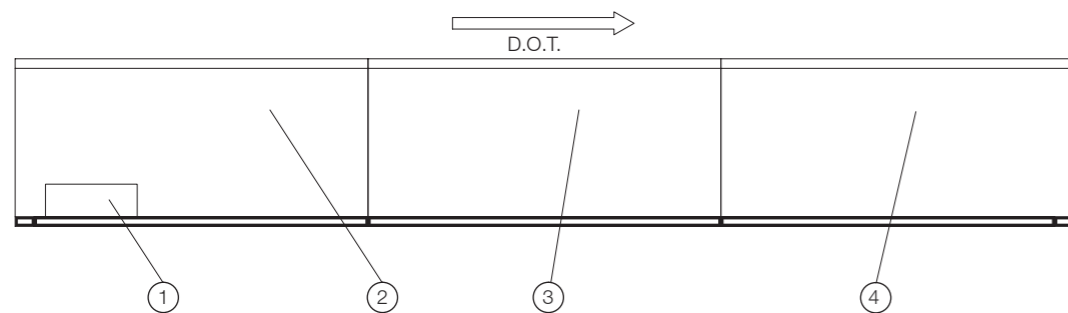


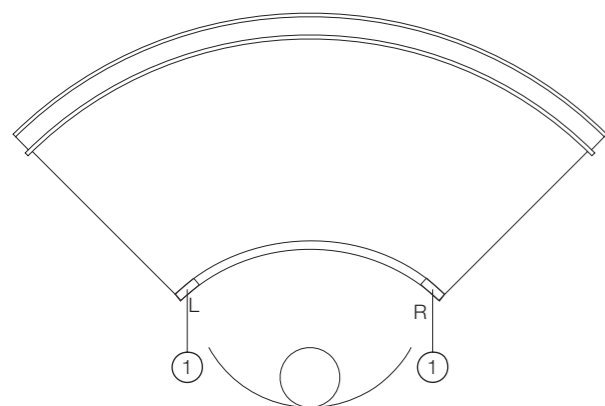
Fig.: Example of a conveyor line with three modules

D.O.T.	Direction of transport
1	Motor
2	Drive module, terminal left: DL; drive side right: R
3	Intermediate slave module: SI; drive side right: R
4	Slave module, terminal right: SR; drive side right: R

### Curves with flat belt drive

In principle, the drive side of the curve is at the inside radius. The position of the terminals must be specified when ordering; they are always determined viewed from the curve center.

A maximum of two curves in the same direction of rotation are possible per drive. The max. length of the straight portion of the conveyor is reduced by 3000 mm for each curve.



1 Terminal

## Roller merge dimensions

The angle and lane width of a merge or diverter module define the dimensions of the module.

The following table shows the standard dimensions of the merge/diverter modules (merges).

Between frames BF in mm	Module length ML in mm	Opening width FW in mm	Module length ML in mm	Opening width FW in mm
	For angle $\alpha = 45^\circ$ and roller pitch $P = 60$ mm		For angle $\alpha = 30^\circ$ and roller pitch $P = 60$ mm	
	24 V	400 V	24 V	400 V
420	510	630	810	930
620	690	810	1140	1260
840	930	1050	1540	1660

## Note about transfer 24 V and HPD

Transfer 24 V and HPD are supplied with the following equipment if the installation is performed by the customer:

- Control card
- Sensor/reflector assembly kit incl. cabling



# Application Notes

## 400 V roller conveyor product information

Belt conveyors are primarily used for transport tasks that cannot be handled with roller conveyors or only under difficult conditions.

Interroll belt conveyors are suitable for the following applications:

- Incline and decline conveyors
- Acceleration conveyors
- Conveyors for materials with uneven bottom
- Conveyors for compact or irregularly-shaped transport material
- Conveyors for high conveyor speeds

Interroll belt conveyors are not suitable for outdoor operation or for the transport of bulk material.

## General technical information

### Drive

Standard Interroll belt conveyors are driven by a head drive or center drive with Interroll drum motors.

Advantages of Interroll drum motors:

- Plug and play:  
Interroll drum motors are much quicker and easier to install than conventional drive systems. Fewer components mean reduced costs for conveyor design and purchasing of parts.
- Hard-wearing:  
Interroll Drum Motors keep operating at 100% even under aggressive environmental conditions, such as water, dust, grit, chemicals, grease, oil and even during high pressure wash-down procedures.
- Hygienic design:  
Due to the smooth, stainless steel finish and the hermetically sealed and totally enclosed design, Interroll drum motors are much easier to clean and therefore reduce the risk of contamination in food processing.
- Energy efficient:  
Compared with many other drives commonly used in industry today, Interroll asynchronous drum motors use up to 32% less energy and when using synchronous drum motors up to 45% less energy, thus significantly reducing energy bills and the global carbon footprint.
- Space saving:  
Because the motor, gearbox and bearings are mounted within the drum shell, the drum motor takes up much less space.
- Safe:  
As a self-contained component without protruding parts and with fixed external shafts, an Interroll drum motor is probably the safest drive unit available for state-of-the-art material handling equipment.
- Maintenance-free:  
The totally enclosed motors ensure that the internal parts are unaffected by external conditions and maintain trouble-free operation for all kinds of applications.

Technical data:

	80D	138i	165i	217i
Technology	Synchronous Drum Motor	Asynchronous Drum Motor		
Diameter	81.5 mm 89.0 mm with lagging	138.0 mm	164.0 mm	217.5 mm
Gear material	Steel	Steel	Steel	Steel
Rated power	0.145 to 0.425 kW	0.074 to 1.000 kW	0.306 to 2.200 kW	0.306 to 3.000 kW
Belt pull	1.8 to 60.0 Nm	14.7 to 174.4 Nm	28.1 to 365.2 Nm	28.1 to 533.6 Nm
Speed of the pipe	43 to 1472 N	216 to 2527 N	347 to 4453 N	261 to 4907 N

For further information, please use our Catalog for drum motors.

### Conveyor belts

2-layer polyester belts with PVC or PU coating are used as conveyor belts. Incline, decline and acceleration conveyors are equipped with laterally grooved surface structures to avoid slippage of the transport material. Others on request.

### Slider bed

Interroll belt conveyors are equipped with zinc-plated sheet steel as slider beds. Other slider beds are available on request.

# Application Notes

## Belt conveyor

### Classification of Interroll Belt Conveyors

Interroll belt conveyors are classified according to the following features:

- Use as a horizontal conveyor or incline/decline conveyor
- Conveyor length
- Lane width
- Conveyor speed
- Max. load capacity / m
- Max. overall load capacity / drive
- Not suitable for reversing operation

Transport material	Boxes, packages, plastic containers, plastic parts, trays, etc.
Load capacity	Up to 50 kg/m
Max. total load capacity	550 kg
Conveyor speed	0.1 to 2.5 m/s
Lane width	420, 620, 840 mm, others on request
Conveyor length	700 to 30,000 mm
Incline/decline	Max. 18°
Ambient temperature	-5 to +50 °C

#### Horizontal belt conveyors

Horizontal Interroll belt conveyors can be supplied completely assembled up to a length of 4080 mm. Longer conveyors are always made up of several module segments. These segments must be assembled and adjusted on-site.

The required power capacity depends upon the conveyor length, the belt speed and the belt load of the conveyor. Calculation of the required power capacity is carried out by Interroll in accordance with your specifications. As a point of reference, you can calculate the power capacity with the simplified formula on page 118.

Head drive with drum or gear motor is possible for Interroll belt conveyor BM 8410 if the overall weight of the transport material is less than 220 kg and the conveying speed does not exceed 2.5 m/s. If higher loads and/or speeds are required, a center drive is used.

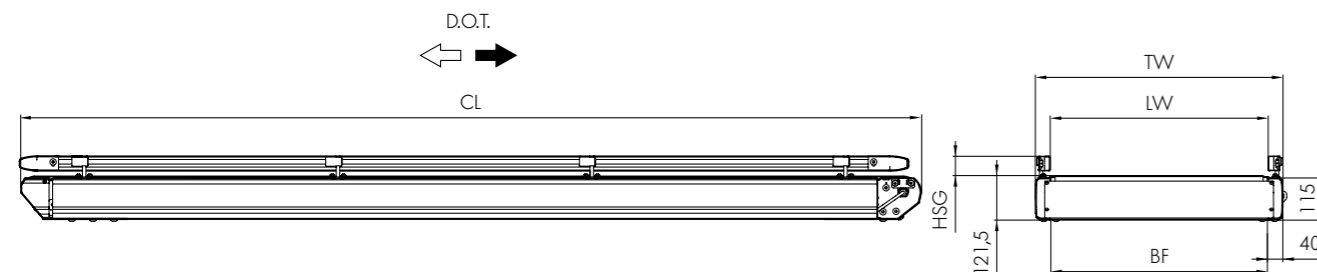


Fig.: Interroll Belt Conveyor BM 8410 (head drive)

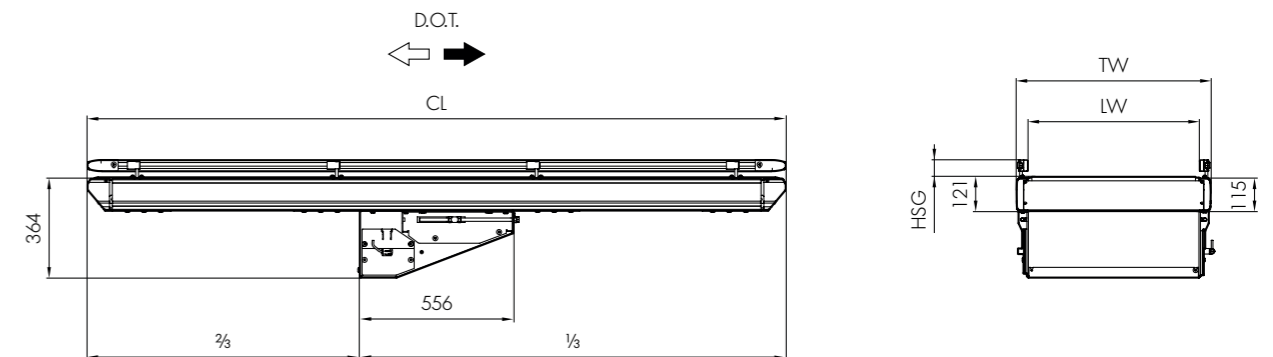


Fig.: Interroll Belt Conveyor BM 8411 (center drive)

CL	Conveyor length
D.O.T.	Direction of transport

#### Incline and decline conveyors

Interroll Belt Conveyors BM 843x with incline/decline are used if height differences have to be managed. The conveyors can be equipped above with a horizontal component with a fixed angled frame as well as below with an incline power feeder or decline power feeder.

The maximum angle of incline or decline depends on the material to be conveyed. For containers and cardboard boxes, the angle should be max. 15° to ensure a trouble-free transport.

The drive type is a center drive with drum motor or shaft-mounted gear motor. The motor typically has a brake with a brake voltage of 400 V.

The required power capacity depends upon the conveyor length, the construction form of the belt conveyor, the belt speed and the belt load of the conveyor. The calculation of the required power capacity (in kW) is performed by Interroll according to your specifications.

# Application Notes

## Belt conveyor

Note about supports:

For incline and decline conveyors please use the RM 8841 steel supports (page 80). With an infeed height or discharge height T.O.B. > 2000 mm, cross bracing is provided by Interroll for stability.

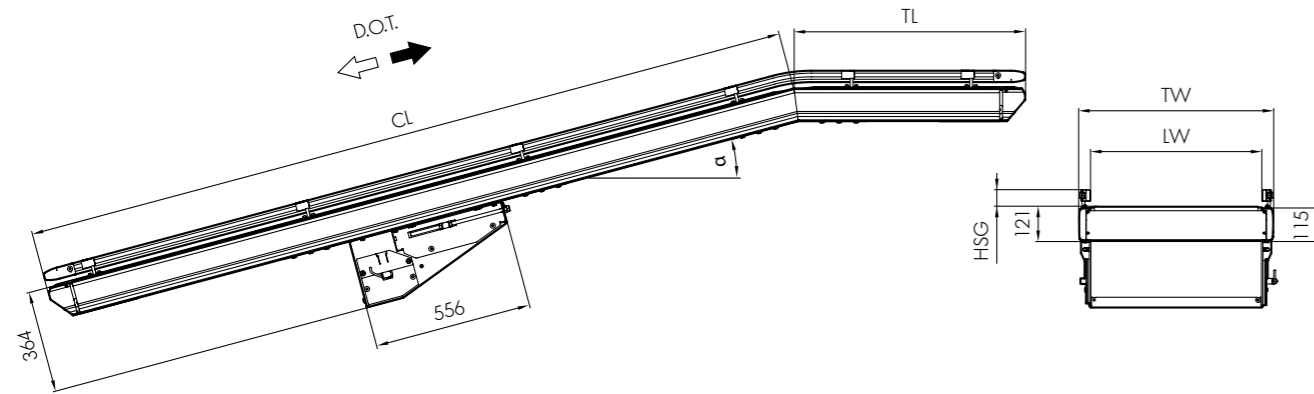


Fig.: Interroll Belt Conveyor BM 8432 center drive + top arch

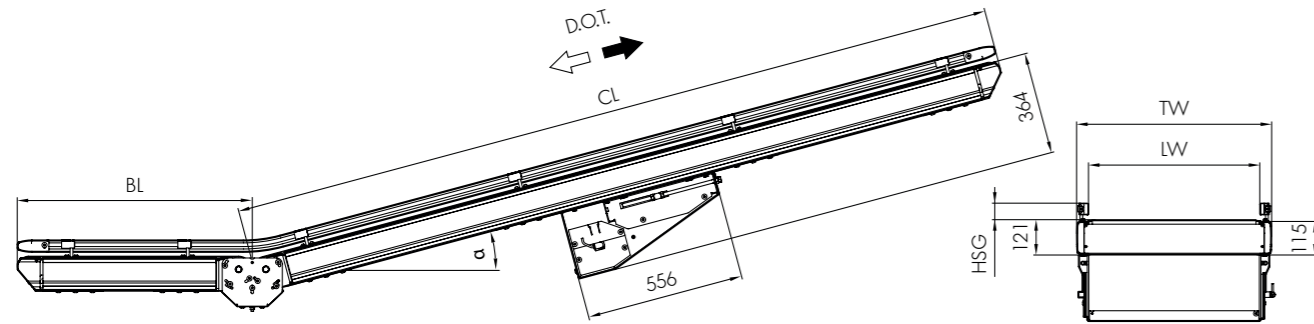


Fig.: Interroll Belt Conveyor BM 8433 center drive + incline

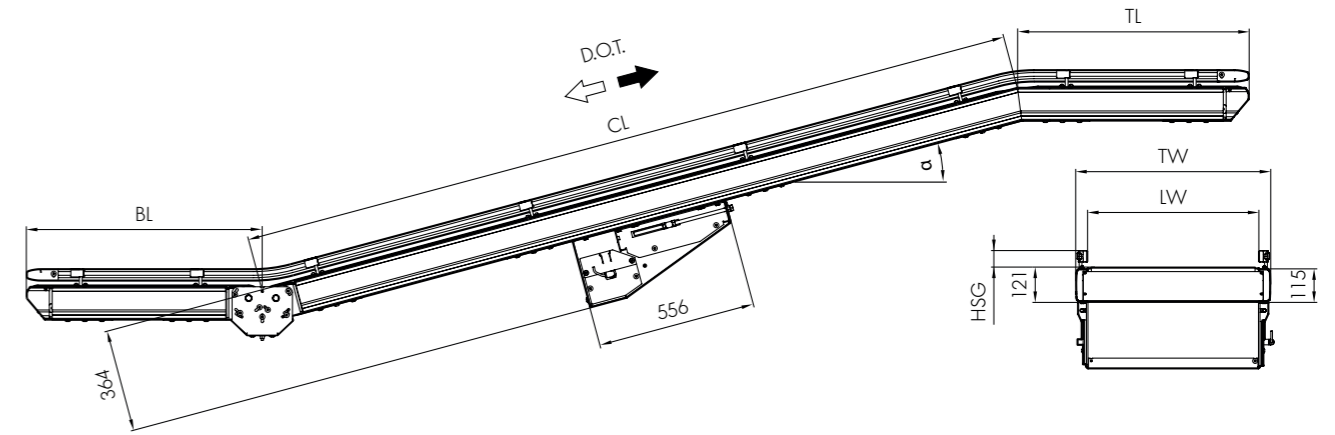


Fig.: Interroll Belt Conveyor BM 8434 center drive + top arch + incline

CL	Conveyor length
BL	Bottom length
TL	Top length
D.O.T.	Direction of transport
T.O.B.	Onload/discharge height
$\alpha$	Angle, max. 18°

# Application Notes

## Belt conveyor

### Calculations

#### Throughput

The throughput  $T_p$  of a belt conveyor is given in units/hour and depends on the transport material dimensions and conveying speed.

The window size  $T$  is required for calculating the throughput. The window size  $T$  is the distance from the front edge of a transport material to the front edge of the following transport material, irrespective of the actual length of the transport material or zone length.

For the precise calculation of the power capacity  $T_p$ , please contact your Interroll customer representative.  $T_p$  for straight paths can roughly be calculated as follows:

$$T_p = \frac{3.600 \cdot v}{T}$$

$T_p$	Throughput in units/hour
$v$	Conveying speed in m/s
$T$	Window size in m

With merging and diverting, throughput is additionally influenced by the actual length and weight of the transport material as well as the transfer cycle. Please contact your Interroll customer consultant for calculations.

#### Power capacity

The power capacity  $P$  of an Interroll belt conveyor (applies only to horizontal conveyors) is specified in kW. The power capacity depends on the overall weight  $m$  of the transport material in kg and the conveying speed  $v$  in m/s.

For the precise calculation of the power capacity  $P$ , please contact your Interroll customer representative.  $P$  can be calculated with the simplified formula:

$$P = v \cdot m \cdot 0,005$$

$p$	Power capacity in kW
$v$	Conveying speed in m/s
$m$	Overall weight of transport material in kg

For example, the power capacity  $P$  at a conveying speed of 0.5 m/s and an overall weight of 200 kg is calculated as follows:

$$P = 0,5 \frac{\text{m}}{\text{s}} \cdot 200 \text{ kg} \cdot 0,005 = 0,50 \text{ kW}$$

Since the actual power capacity should always be higher than the calculated value, the selection of a power capacity of at least 0.55 kW is recommended for the example.

Interroll reserves the right to select a drive that meets the factory standard.

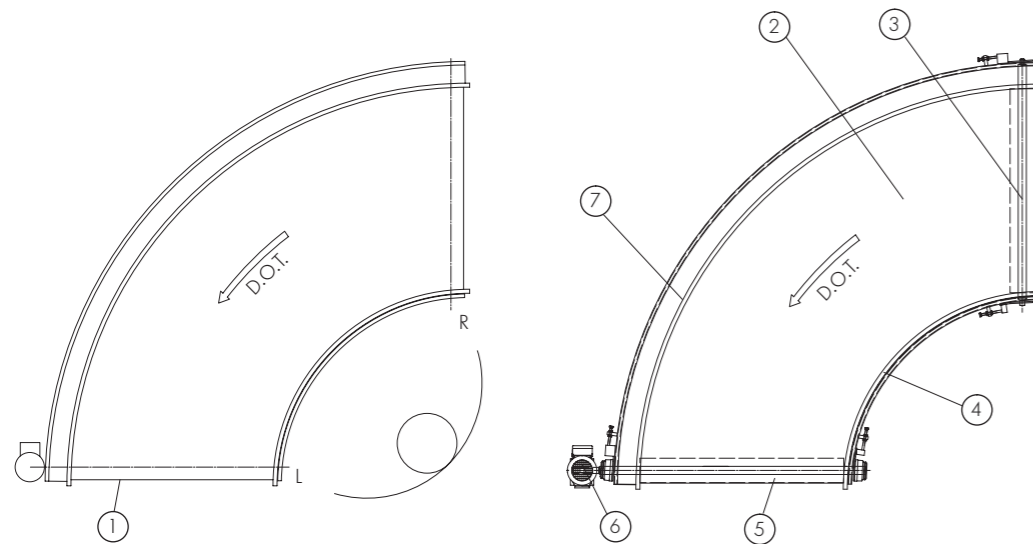
# Application Notes

General technical information about belt curves and merges

## Definition of the direction for an order

With belt curves, the direction is defined relative to the inside radius of the belt curve:

The left side is seen from counterclockwise direction and the right side from a clockwise direction (see the following diagram).



D.O.T.	Direction of transport
R	Clockwise
L	Counterclockwise
1	Drive roller
2	Belt
3	Idler pulley
4	Inner side guide
5	Drive roller
6	Gear motor
7	Outer side guide

## Table of dimensions – belt merge (BM 4430 / 4445)

The standard dimensions depend on the lane width and the angle of the merge.

Lane width LW in mm	Opening width FW at 45° in mm	Opening width FW at 30° in mm
310 to 460	1000	1200
510 to 810	1500	1700
860 to 1010	1800	2000

## Table to determine the average length (BM 4430 / 4445)

30°		45°	
410	1155	410	1005
510	1245	510	1055
610	1330	610	1105
710	1415	710	1155
810	1505	810	1205
910	1590	910	1255
1010	1675	1010	1305
1110	1765	1110	1355
1210	1850	1210	1405

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# Center of Excellence for modules and subsystems



The Interroll Center of Excellence in Sinsheim, Germany, near Heidelberg, concentrates on subsystems and modules implemented at key internal logistics points. These include roller conveyors and belt conveyors, belt curves and crossbelt sorters. In this product sector, the company is responsible within the global Interroll Group for all technical concerns ranging from development and application engineering to production and support for local Interroll companies and customers.

The 15,700 square-meter (169,000 square feet) center is where the in-house design and manufacture of the entire product range takes place. This vertical integration allows us to control the quality of our products from A to Z and offer custom engineering support for our customers.

Conveyor modules, crossbelt sorters and other key products for material flow systems can be seen in the new customer center as demonstration systems. At our Interroll test center, customers can experience firsthand the testing of our custom-made configurations for new projects.

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## **About Interroll**

Established in 1959 Interroll has grown to become the world's leading supplier of key products for internal logistics. Whether boxes, pallets or soft goods are to be handled, no other supplier has such a complete product range on offer.

That is why system integrators, OEMs and operators select Interroll as their partner for their internal logistics business. Worldwide.

The Interroll global network ensures quick delivery and superior service for every local customer. We inspire our customers and provide opportunities for them to increase efficiency.

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