



**RNA**  
*We handle it.*



## COMPONENTS

### **Conveyors**

- *Mini-band Conveyors*
- *Conveyors*
- *Accessories*
- *Control Boxes*
- *Special Conveyors*
- *Conveyor Applications*



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## Welcome to RNA Germany – your market leader in the field of feeding technology!

Rhein-Nadel Automation GmbH is a traditional family-owned enterprise that has its head office in Aachen, Germany. With seven production locations and an international network of partners, we are there for you worldwide. For many decades now, our name has stood for top-class performance regarding technology, quality and reliability.

Our two business segments are the development and manufacture of complete custom-made feeding systems and their corresponding components.

With many years experience in the automation and parts handling industry and nearly 2000 complete feeding systems supplied annually, RNA has earned a reputation for the most robust and reliable equipment on the market. Our commitment to research and development maintains our position at the leading edge of feeding technology. We provide an extensive range of the most efficient drive units, controllers and accessories for either standard or special requirements. All equipment is manufactured to the highest standards of quality upon which we have built our reputation. We offer first class service and standard equipment, immediate delivery from stock. Our product range is manufactured to meet the highest demands of the food and pharmaceutical industries and also includes equipment manufactured to UL and CSA standards. Quality has always been of central importance to RNA, with each employee committed to make their own personal contribution to the achievement of quality standards and customer satisfaction. We know that long term success in business can only be achieved by providing high quality equipment, which fulfils the customer's requirements.



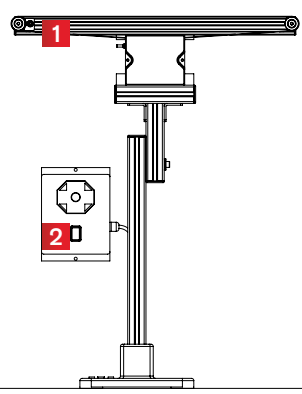
This catalogue represents our complete range of conveyors. This also includes the RNA mini-band conveyors type P15E and FP15D, with optional belt widths of 10, 20 or 30 mm and lengths of 200 to 2,000 mm. FK120 and FP120 conveyors are available in either steel or aluminium profile. These conveyors can offer belts from 50 to 400 mm in width and lengths of 500 to 12,000 mm. Accessories (e.g. knife edges, side guides etc.), control boxes and stands augment our

comprehensive range of equipment. Beyond the standard range we also manufacture according to specific customer requirements. Swan neck and Z-conveyors are just some of the options available to meet your special requirements.

Our experienced staff is available to provide advice and to offer a solution which meets your specific needs.

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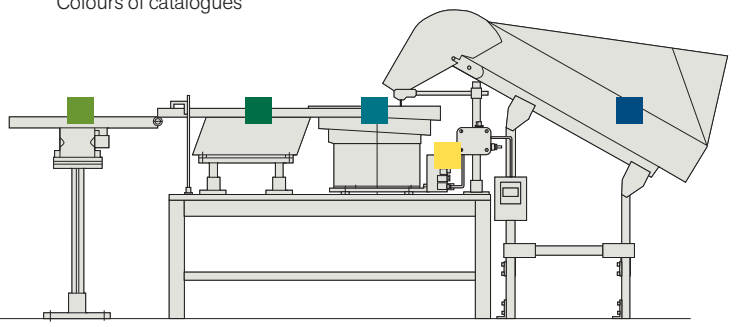


Special technical requirements are available on request. All measurements are in millimetres.

### More product catalogues from the RNA range of equipment

Conveyors	
Linear feeders	
Bowl feeders	
Control boxes	
Bulk hoppers	
Step feeders (not shown to the right)	

Colours of catalogues

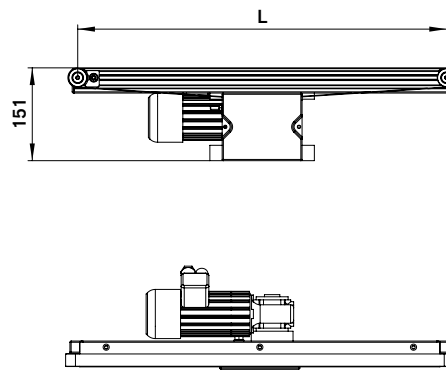


## Mini-band conveyors

### FP15 E and FP15 D

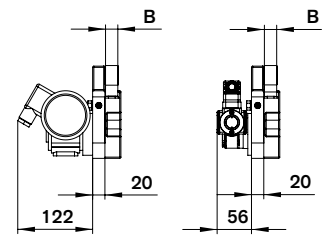
RNA mini-band conveyors type FP15 E and FP15 D are manufactured from aluminium profiles and are especially suitable in small confined spaces. The knife edge construction makes it possible to overcome potential problems at critical transfer points. The FP15 D is a twin-band conveyor used to transport hanging parts. A benefit of this unit is that the installation of escapements between conveyors is made easier.

FP15 E with guiding station



3-phase AC

DC

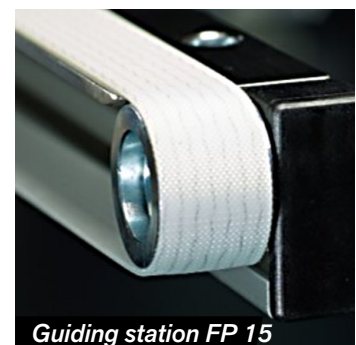


## Standard Equipment (Derivations on request)

Type	FP15 E	FP15 D
L= Centre distance	200 - 2,000mm	200 - 2,000mm
B=Belt width	10, 20, 30 or 40 mm	10, 20, 30, 40 mm or round belt
Roller diameter	30mm	30mm
V=Adjustable gap	-	5-25, 20-55 or 50-85mm
F=Body width	B+22mm	B+22mm
Conveyor load	5 - 10 kg	5 - 10 kg
Protection class	IP54	IP54



FP15



Guiding station FP 15

**Knife edges - both ends (rolling)** see page 5

### Conveyor belts

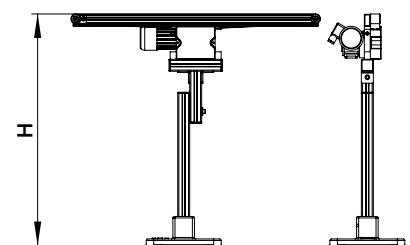
The belts are antistatic and FDA approved on request

Suitability of the belts: Back-pressure, continuous, wet operation

### Options | Floor Stands\*

Type	FZK15 B
H = Transport height (mm)	450 - 1,900
Adjustable gap (mm)	±30

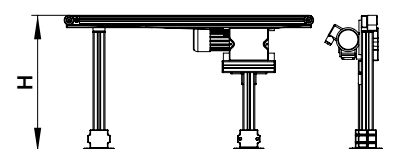
\*we recommend the use of two fixing points at a axial distance starting from 1,500 mm



Floor stand FZK15 B

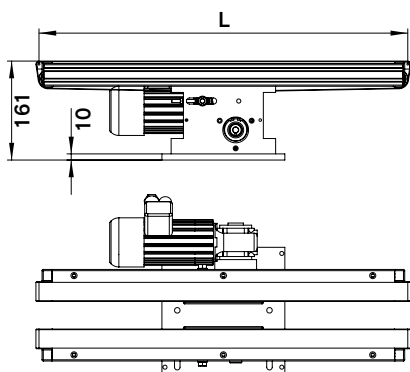
### Support Stands

Type	FZK15 S	FZK15 G
H = Transport height (mm)	450 - 1,900	450 - 1,900

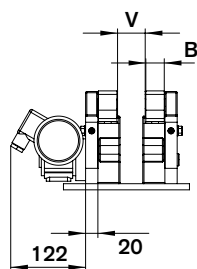


Support stand FZK15 S & FZK15 G

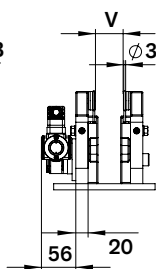
FP15 D with knife-edge



3-phase AC



DC



## Constant Belt speed

### 3 phase

#### Constant belt speed

Belt speed	9, 15, 21 or 37 m/min
Voltage	230/400 V 50 Hz
Recommended control	Motor safety switch PKZ M

### AC

#### Constant belt speed

Belt speed	9 and 15 m/min
Voltage	230 V 50 Hz
Recommended control	Motor safety switch PKZ C



Knife edge FP15



Knife edge FP15

## Variable Belt speed

### 3 phase

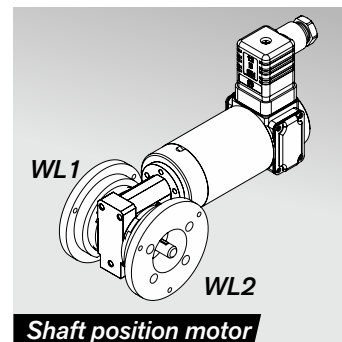
#### Variable belt speed

Belt speed	0,5 - 30 m/min with a control ratio of 1:4
Voltage	230/400 V 50 Hz
Recommended control	EBF 05

### VDC

#### Variable belt speed

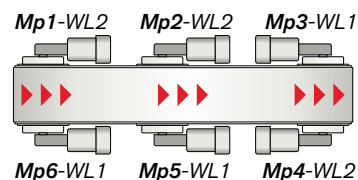
Belt speed	2 - 13 m/min with a control ratio of 1:4
Voltage	24 VDC
Recommended control	EBC 3000



Shaft position motor

## Motor Position (Mp1 - Mp6)

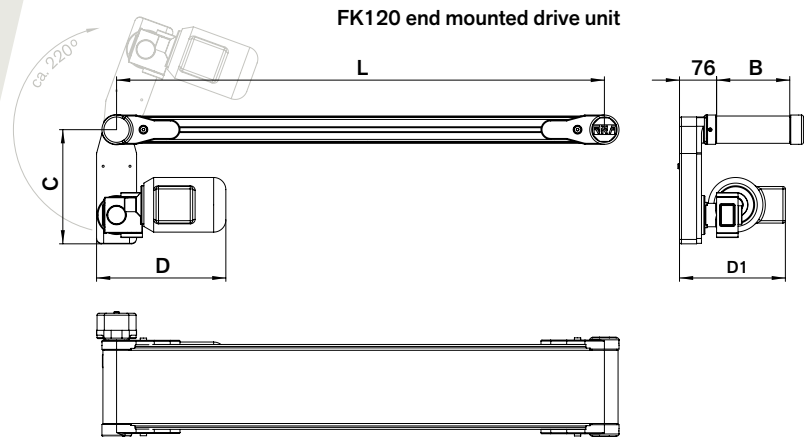
Please specify your requirements when ordering



# Conveyors

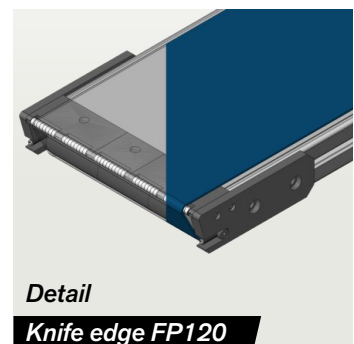
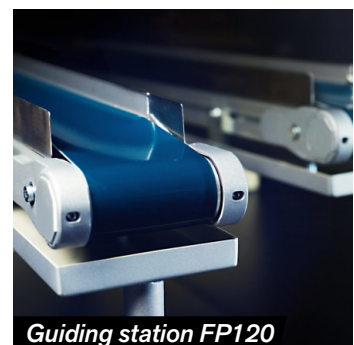
## FK120 and FP120

RNA conveyor systems FK120 and FP120 are suitable for all kinds of industries. Out standardised systems can easily be adapted to feed your parts in the most efficient way. The body of the FP120 consists of aluminium profile. Stainless steel systems and different types of belts are also available.



### Standard Equipment *(Derivations on request)*

Type	FK120 and FP120
L = Length (mm)	500 - 12,000
B = Belt width (mm)	50 - 600
C = Height of motor top plate (mm)	Cmin=260 / Cmax=320
D = Drive unit (mm)	Dmin=356 / Dmax=402
D1 = Drive unit (mm)	D1min=172 / D1max=224
Roller diameter	52
Conveyor load (kg)	max. 100
Protection class	IP54



### Mid position motor

### Knife edge (rolling) diameter 8 mm

### Conveyor belts

The belts are antistatic and FDA approved on request

Suitability of the belt	Back-pressure, continuous, wet operation
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### Slat belts

K10 T20 L35

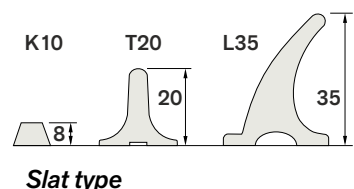
Slat belts are not suitable for mid-position motors and support rollers

### Underguarding and catchtray

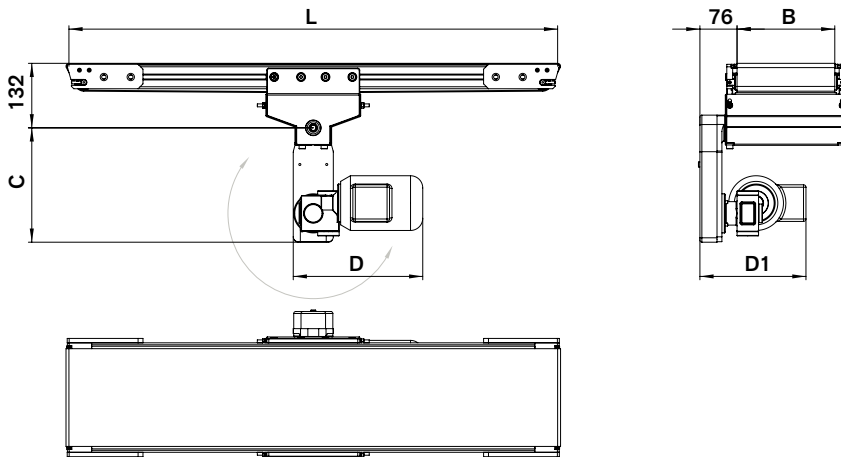
In accordance with our safety regulations we recommend underguarding when using a slat belt

A tank is used to catch liquid, fitted with a tap to connect a 3/4" hose pipe

Derivations on request



## FK120 with knife-edge



## Constant Belt speed

<b>3 phase</b>		<i>Constant belt speed</i>
Belt speed	0,5 - 100 m/min	
Voltage	230/400 V 50 Hz	
Recommended control	Motor safety switch PKZ M	
<b>AC</b>		<i>Constant belt speed</i>
Belt speed	0,5 - 30 m/min	
Voltage	230 V 50 Hz	
Recommended control	Motor safety switch PKZ C	



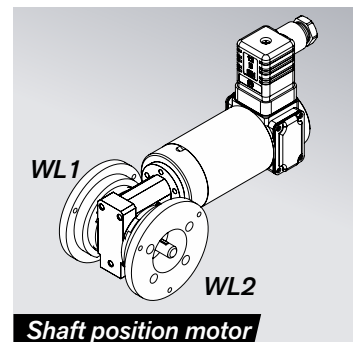
**FP120**



**Special model**

## Variable Belt speed

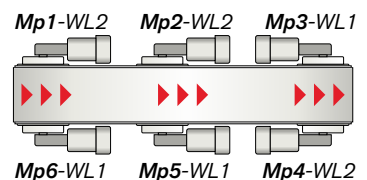
<b>3 phase</b>		<i>Variable belt speed</i>
Belt speed	0,25 - 80 m/min with a control ratio of 1:4	
Voltage	230/400 V 50 Hz	
Recommended control	EBF 05	
<b>VDC</b>		<i>Variable belt speed</i>
Belt speed	0,25 - 80 m/min with a control ratio of 1:4	
Voltage	180 VDC	
Recommended control	EBC 10	



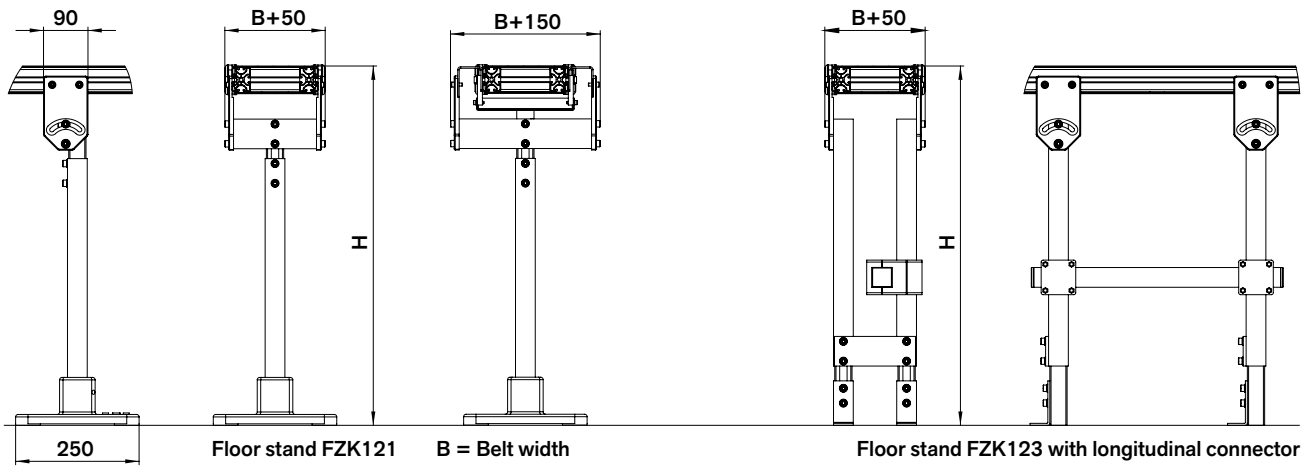
**Shaft position motor**

## Motor Position (Mp1 - Mp6)

Please specify your requirements when ordering



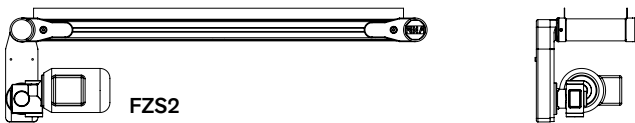
# Accessories



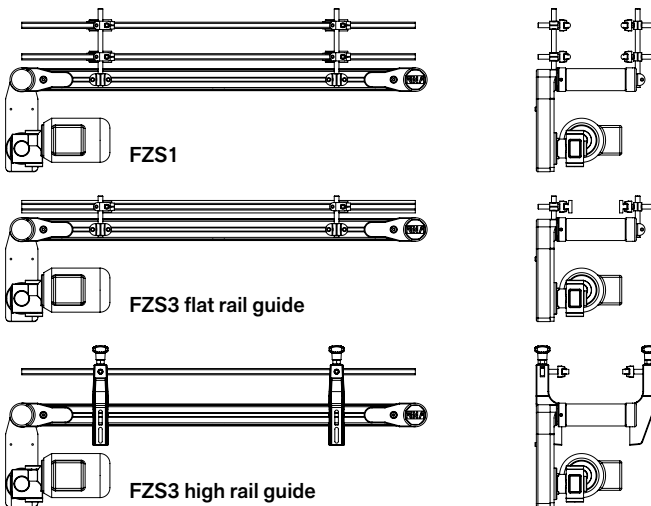
## Stands (drawing as above) FZK121 FZK123

H=Transport height (mm)	450 -1.900	450 - 1.900
Adjustable gap (mm)	±70	±70

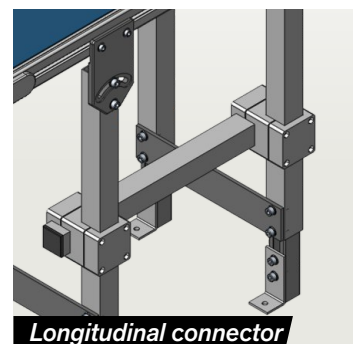
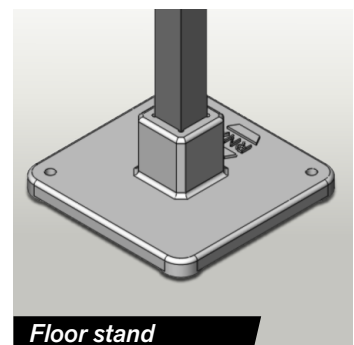
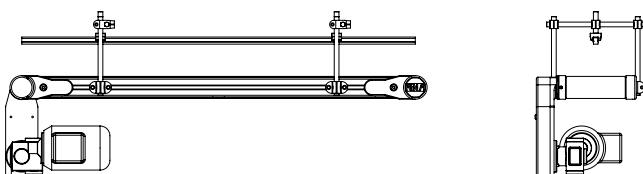
## Folded skid plate type FZS2



## Rail guides type FZS1 und FZS3



## Top rail



Guide sections to be chosen for rail guides and top rails

- Section 1  
- Section 2  
- Section 3  



For the power supply of all conveyors RNA offers optimal control designs, from the simple motor circuit breaker up to an intelligent control box with frequency converter. An intelligent processing of peripheral sensor technology, which is adapted to feeding technology is available just as the communication with superior control systems. Furthermore, all control boxes are available with CE and CSA/UL certificates.

### Motor protection switch for fixed speed conveyors

**PKZ**

- Types FP15, FK/FP120, FK/FP300
- Manual operated switch with thermal and magnetic trips
- Complete main cable with plug CEE-switch 16A
- Plastic housing with flange mounting
- Voltage 230/400 V 50-60Hz protection class IP54
- Also available with single-phase capacitor motor with 230 V 50 Hz



### Controller for RNA variable speed conveyors

**EBC 3000**

- Types FP15 E and FP15 D
- Output voltage on the control panel adjustable from 10% to 100%
- Pulse width setting with high clock frequency
- Remote Start/Stop facility built in with potential-free input on the circuit board
- Scoop proof safety extra-low voltage through power transformer according to VDE 0551
- Motor connection via plug on front plate
- Aluminium housing
- Voltage 230 V 50-60Hz, protection class IP54



### Controller for RNA variable speed conveyors

**EBC 10**

- Types FK/FP120 and FK/FP300
- Min/max revolutions to be set to 1:4 ratio and by the use of the electronic current limit stable through internal I x R compensation
- Over current switch with interruption LED
- Separate adjustable start-up and return flow integrator
- Remote de-energisation through potential-free contact or 24 VDC signal
- Adjustable slow start and stop
- Useable status signal via opto-coupler
- Motor and power cable hard-wired
- Metal housing with flange mounting
- Voltage 230 V 50-60Hz, protection class IP54



### Frequency controller for conveyors/hoppers with variable speed

**EBF 05**

- Types FP15, FK/FP120, FK/FP300 and step feeder STS
- Motor currents max. 370 or 750 watts
- External switch-off possible
- Speed settings using internal potentiometer
- Integrated EMV-filter
- Aluminium housing
- Voltage 230 V, 50-60 Hz, protection class IP54



## Special conveyors

RNA also responds to individually customer requirements:

Conveyors especially for heavy parts, swan-neck or Z-conveyors and conveyors with anti-slip belts as well as accessories offers you an alternative solution for your special task. On the basis of the RNA product program our project engineers create solution concepts for your specific requirements. Our longstanding experience gives you the certainty of an expert advice. We are more than happy to make you an offer.

### Swan-neck and Z-conveyors

These type of conveyor is used in small confined spaces. The conveyors are specially designed by our project team to meet specific requirements.



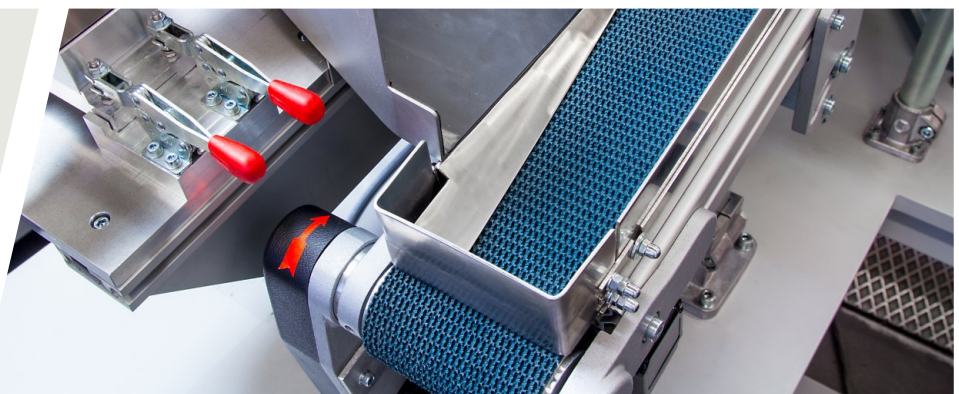
### FK300 and FP300

The conveyor type FK/FP300 can be used for a total area load up to 40 kg and belt widths up to 1,500 mm. The distance between centres can go up to 12,000 mm.



### Conveyors with anti-slip belts

or with drive belts are particularly suited for separation and careful feeding of sensitive parts. Additionally, the parts can be transported in an oblique position.



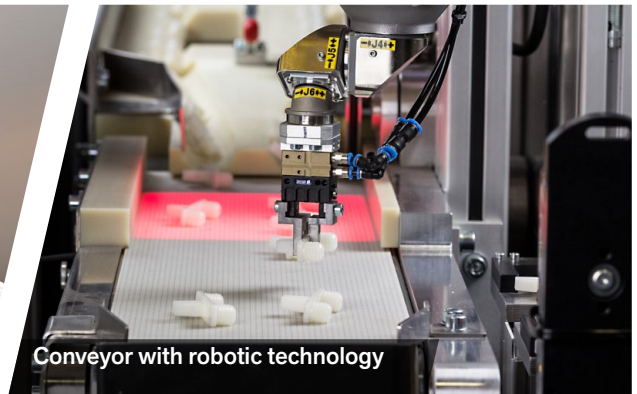
The images below show a range of RNA conveyors in use and clarify the various specifications and requirements of our customers. Different materials, parts and products are conveyed reliably, precisely and trouble-free to the subsequent production process.

## Order form for conveyors

The order form for conveyors you will find at <http://en.rna.de/components/conveyors/>



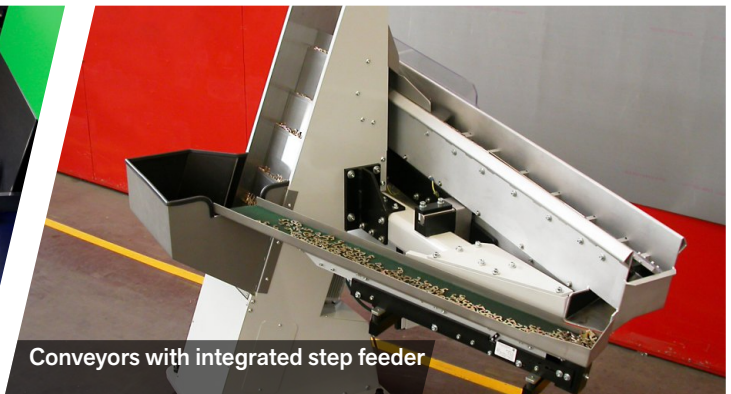
Complete conveyor systems



Conveyor with robotic technology



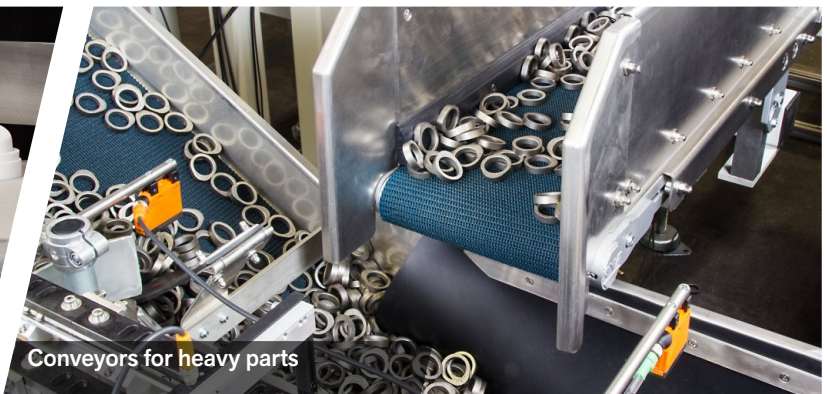
Conveyors for food industry



Conveyors with integrated step feeder



Conveyors with defined space for approval



Conveyors for heavy parts



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