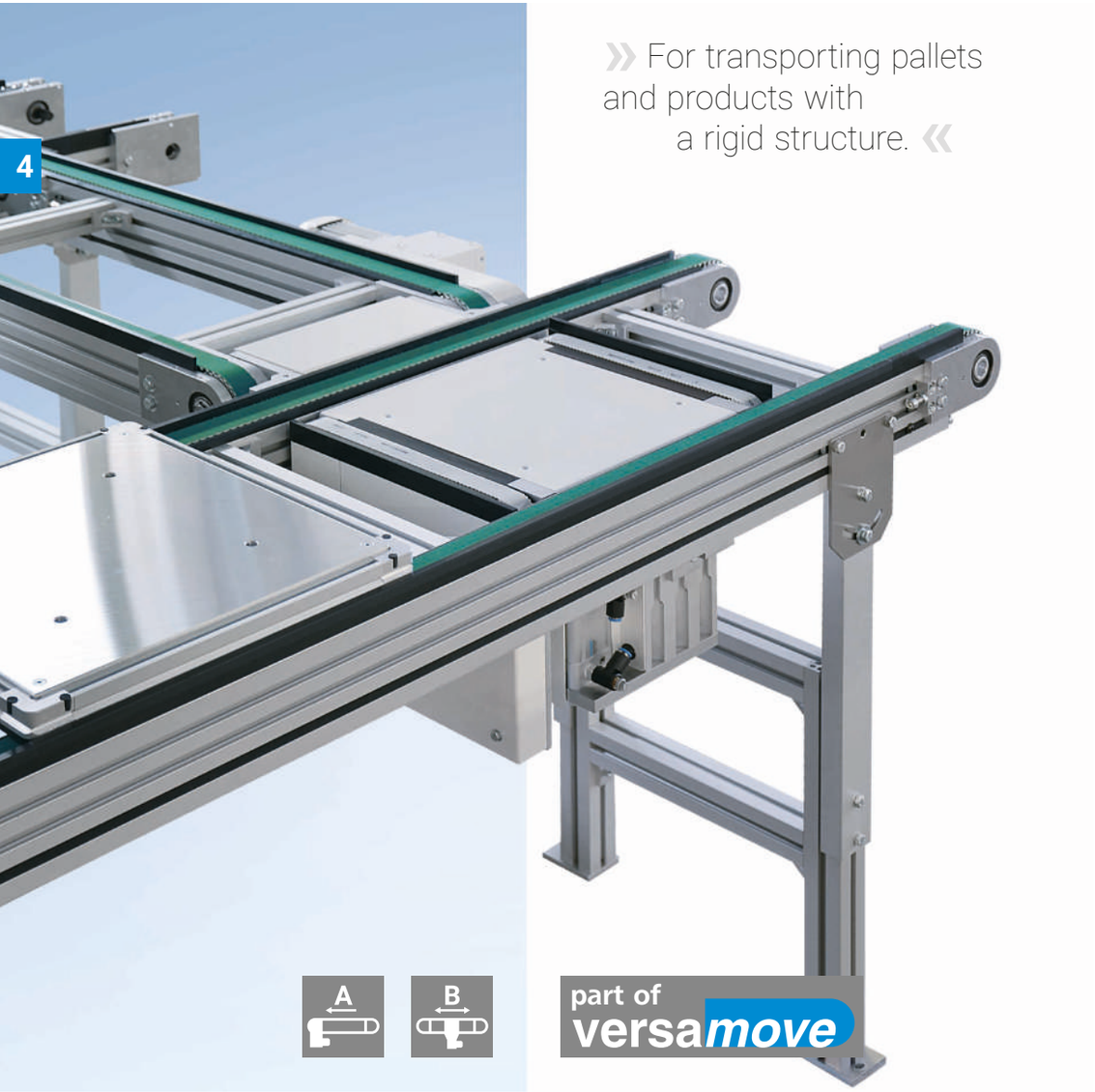
Timing Belt Conveyor ZRF-P 2010



» For transporting pallets and products with a rigid structure. «

The timing belt conveyor ZRF-P 2010 is particularly suitable as a double-line system for transporting pallets or products with a rigid structure in the Versamove pallet circulation system, for instance. The positive connection between the drive pulley and the timing belt ensures that the two conveyor lines are synchronised, making the system ideal for cycle operation.

A feature of this conveyor system are the wear strips which made from ultra-high-molecular weight polyethylene on which the timing belt runs and is guided. This material provides a low coefficient of friction and excellent wear characteristics.

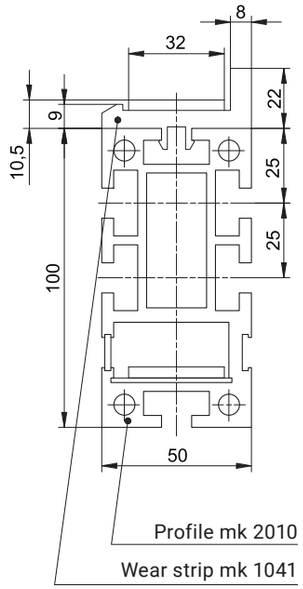
Another typical feature of this system is the recirculation of the laterally removable timing belt inside the profile frame. This reduces the risk of accidents to a minimum.

The profile offers t-slots (10 mm slot width) on three sides for connecting stands, side rails and stoppers. Combined with the wide range of different drive options, this makes the system the perfect basis for constructing complex interlinking and automation systems. Various coatings on the surface of the timing belt ensure optimal gripping of the workpiece for your specific application.

Benefits of the ZRF-P 2010

- Ideal for transporting pallets (Versamove) and products with a rigid structure
- Ideally suited for cycling operation, up to 250 kg
- Timing belt returns inside the profiles to produce a compact and safe design
- Various belt coatings for optimal gripping of the workpiece
- Dual-line and multiple-line conveyors available

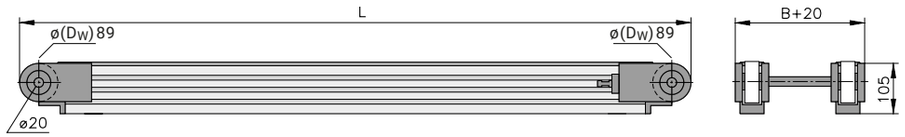
Cross Section



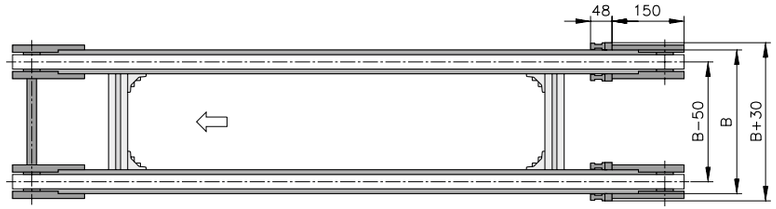
AA – Head drive without motor

B20.10.350

The AA version with no motor is suitable for connection to an existing conveyor with a drive, either in parallel or in series. This allows you to operate multiple conveyors with only one motor. Depending on the requirement, the conveyor is designed either with a hollow shaft or with a connecting shaft with shaft journal (ø 20 mm, usable length 34 mm, incl. DIN 6885 key) Since the timing belt returns within the profile, welded-on cams cannot be used. The ZRF-P 2040 should be used for this purpose.



For information about wear strip options, see page 168



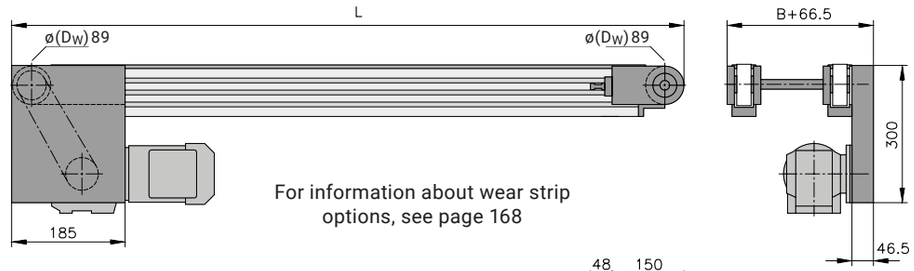
Technical data

Conveyor length L	individual from 500 to 6000 mm	
Conveyor width B	200 to 1000 mm	
Timing belt width	32 mm	p. 172
Drive and speed	up to 60 m/min, higher on request	p. 12
Stand and side rail		from p. 286
Standard total load	up to 250 kg	higher on request
Standard distributed load	up to 100 kg/m	

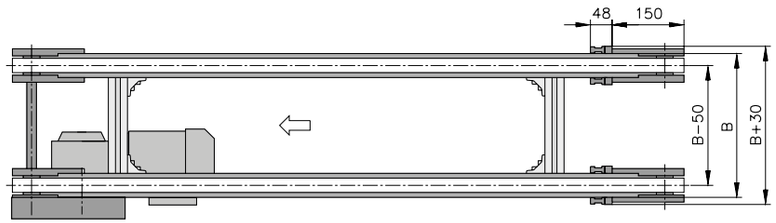
AC – Standard head drive

B20.10.351

The timing belt pulley ensures excellent transmission of the motor power. Since the timing belt returns within the profile, welded-on cams cannot be used. The ZRF-P 2040 should be used for this purpose.



For information about wear strip options, see page 168



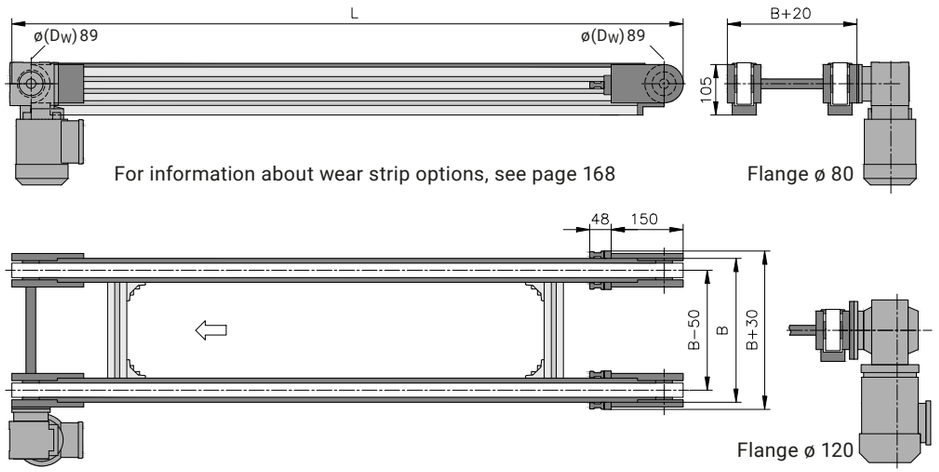
Technical data

Conveyor length L	individual from 500 to 6000 mm	
Conveyor width B	200 to 1000 mm	
Timing belt width	32 mm	p. 172
Drive location	discharge end left/right, underneath	
Drive and speed	up to 60 m/min, higher on request	p. 12
Stand and side rail		from p. 286
Standard total load	up to 250 kg	higher on request
Standard distributed load	up to 100 kg/m	

AF – Direct head drive

B20.10.357

Since the motor is fitted directly onto the drive shaft, the space requirements and maintenance effort for this drive version are reduced to a minimum. Since the timing belt returns within the profile, welded-on cams cannot be used. The ZRF-P 2040 should be used for this purpose.



For information about wear strip options, see page 168

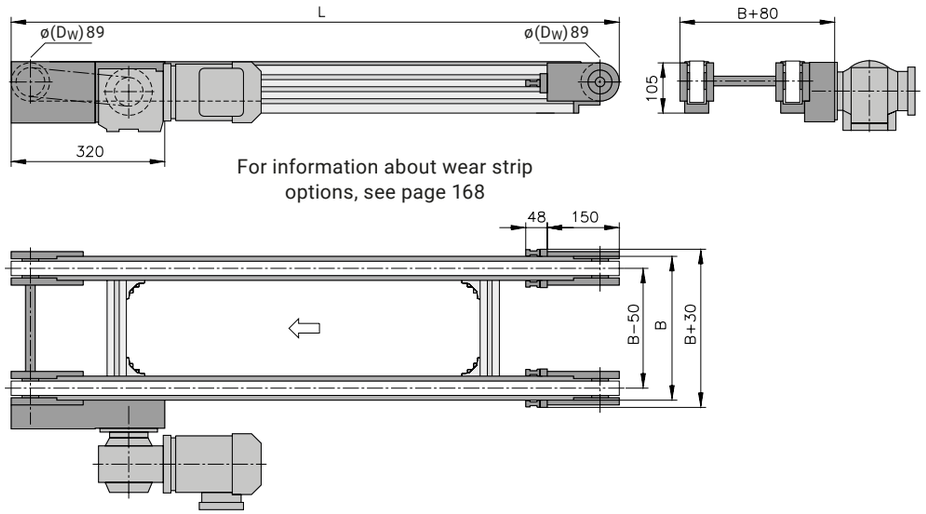
Technical data

Conveyor length L	individual from 500 to 6000 mm	
Conveyor width B	200 to 1000 mm	
Timing belt width	32 mm	p. 172
Drive location	discharge end left/right	
Drive and speed	up to 60 m/min, higher on request	p. 12
Stand and side rail		from p. 286
Standard total load	up to 250 kg	higher on request
Standard distributed load	up to 100 kg/m	

AS – Head drive, laterally on the outside, compact

B20.10.355

The drive positioned laterally on the outside allows the total height of the conveyor to be restricted to a minimum. Since the timing belt returns within the profile, welded-on cams cannot be used. The ZRF-P 2040 should be used for this purpose.



For information about wear strip options, see page 168

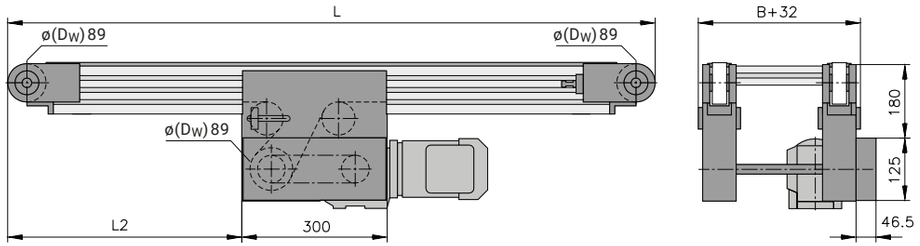
Technical data

Conveyor length L	individual from 700 to 6000 mm	
Conveyor width B	200 to 1000 mm	
Timing belt width	32 mm	p. 172
Drive location	discharge end left/right	
Drive and speed	up to 60 m/min, higher on request	p. 12
Stand and side rail		from p. 286
Standard total load	up to 250 kg	higher on request
Standard distributed load	up to 100 kg/m	

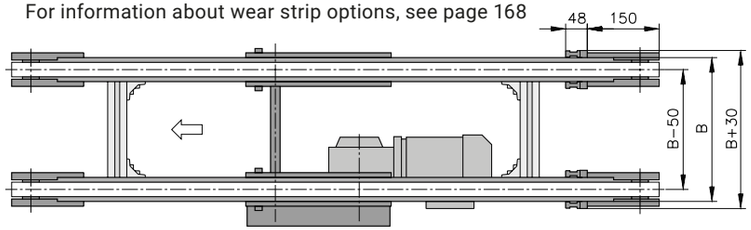
BC – Lower belt drive, standard

B20.10.356

The compact conveyor frame design and the ability to freely select the drive position over the entire length of the conveyor make it easier to integrate the conveyor into existing systems. The timing belt pulley combined with the snub rollers ensures excellent transmission of the motor power. Since the timing belt returns within the profile, welded-on cams cannot be used. The ZRF-P 2040 should be used for this purpose.



For information about wear strip options, see page 168



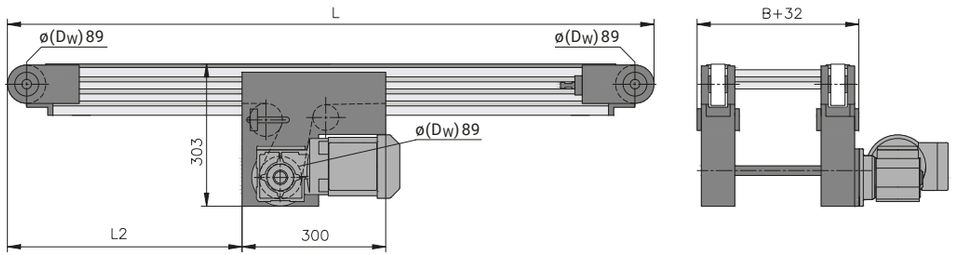
Technical data

Conveyor length L	individual from 700 to 6000 mm	
Conveyor width B	200 to 1000 mm	
Timing belt width	32 mm	p. 172
Drive location	left/right underneath	
Drive and speed	up to 60 m/min, higher on request	p. 12
Stand and side rail		from p. 286
Standard total load	up to 250 kg	higher on request
Standard distributed load	up to 100 kg/m	

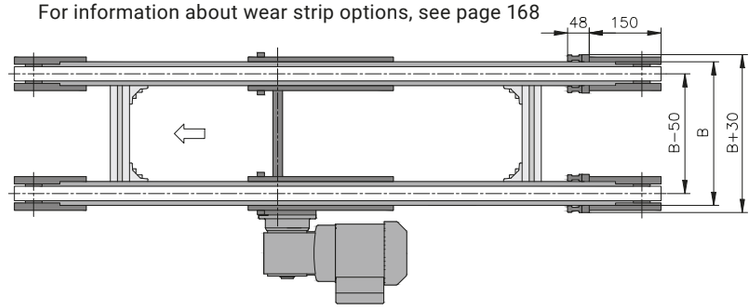
BF – Lower belt drive, direct

B20.10.359

Since the motor is fitted directly onto the drive shaft, the space requirements and maintenance effort for this drive version are reduced to a minimum. The compact conveyor frame design and the ability to freely select the drive position anywhere along the entire length of the conveyor make it easier to integrate the conveyor into existing systems. The conveying direction is reversible. Since the timing belt returns within the profile, welded-on cams cannot be used. The ZRF-P 2040 should be used for this purpose.



For information about wear strip options, see page 168



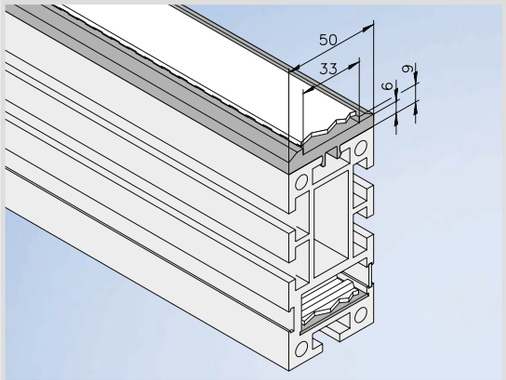
Technical data

Conveyor length L	individual from 700 to 6000 mm	
Conveyor width B	200 to 1000 mm	
Timing belt width	32 mm	p. 172
Drive location	left/right underneath	
Drive and speed	5; 6.3; 8; 9.5; 11.5; 13.5; 15.2; 19.3; 23; 26; 36.6; 45.7 and 57 m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 250 kg	higher on request
Standard distributed load	up to 100 kg/m	

ZRF-P 2010 Wear Strips

Wear and guide strips from mk ensure low friction.
The wear strips are made from PE-UHMW (PE-1000). Max. temperature 65° C.

Option A

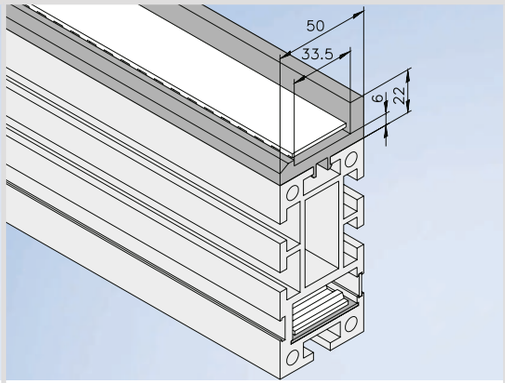


Top wear strip mk 1042
22.42.2000

Bottom wear strip mk 2010
21.14.0001

Closure strip
K10230/12

Option B

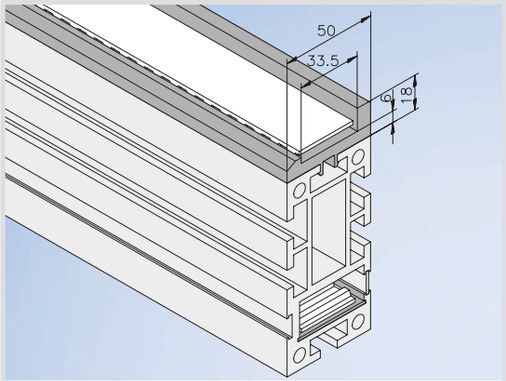


Top wear strip mk 1041
22.41.2000

Bottom wear strip mk 2010
21.14.0001

Closure strip
K10230/12

Option C



Top wear strip mk 1110
B20.10.359.600

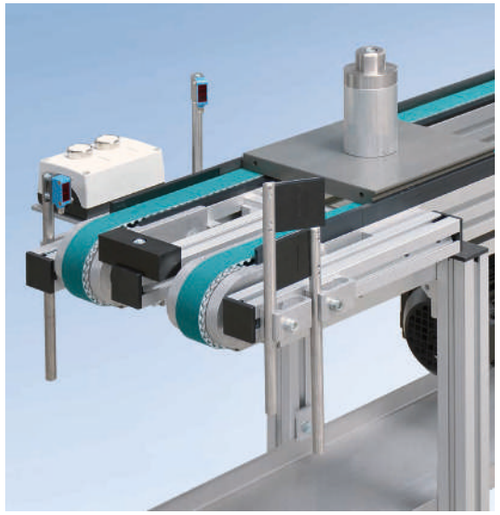
Bottom wear strip mk 2010
21.14.0001

Closure strip
K10230/12

Notes

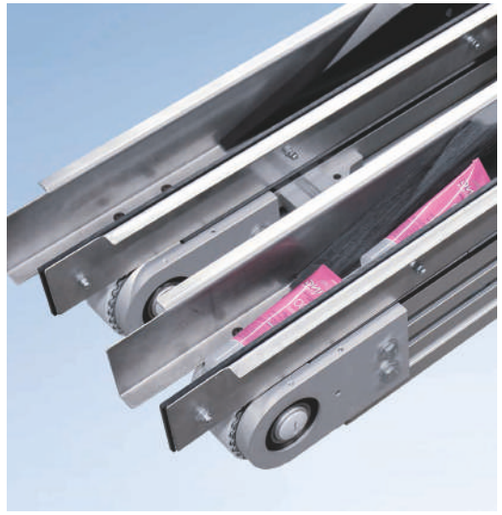
Application Examples ZRF-P 2010

Timing belt conveyor ZRF-P 2010 in antistatic design with lift-and-transfer conveyor



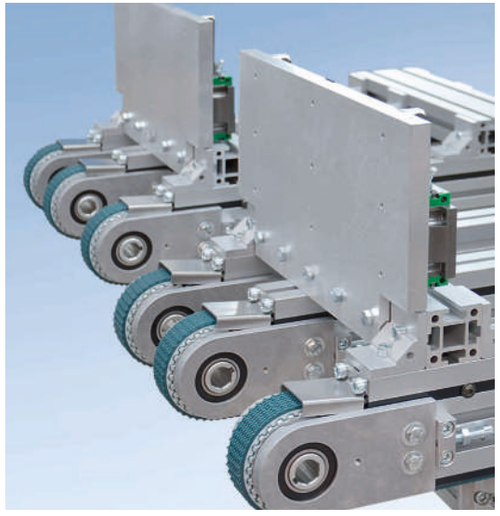
ZRF-P 2010 with photoelectric sensors for detection and button for feeding in or discharging the part

Timing belt conveyor ZRF-P 2010 with head drive AC and side rail for extra-wide products

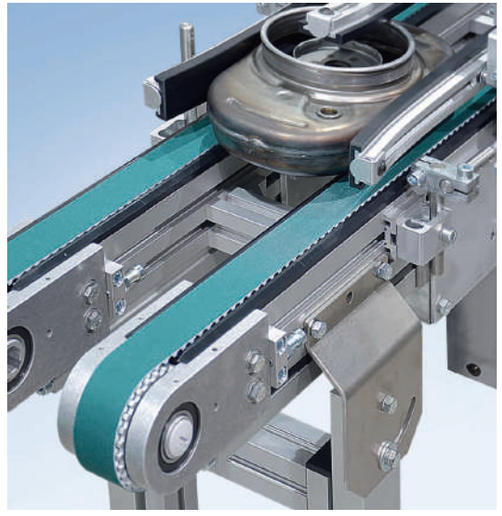


Dual-line timing belt conveyor ZRF-P 2010 with side rail

Timing belt conveyor ZRF-P 2010 with head drive AF and lift-and-transfer conveyor



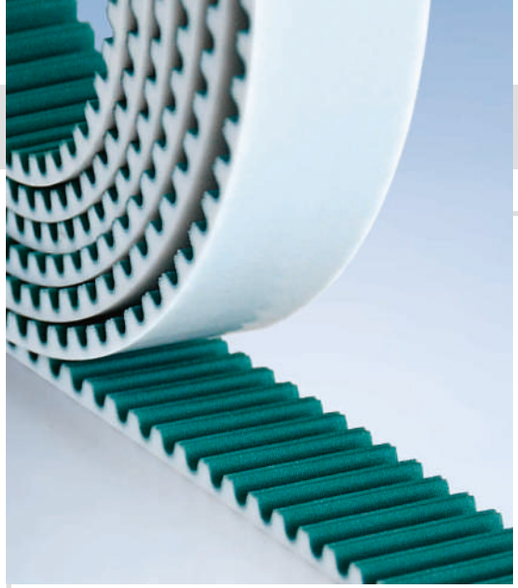
Three-line timing belt conveyor ZRF-P 2010 for crosswise discharge



Timing belt conveyor ZRF-P 2010 with side rail SF01

Timing belt conveyor ZRF-P 2010 with coupled lift and transfer conveyor

Custom applications
from page 404



Timing Belts

The standard timing belts are made from polyurethane reinforced with high-strength steel cords. The belts have the T10 partition and a width of 32 mm (others available on request). To ensure optimal transport, different surface coatings can be used. An additional coating on the teeth side (PAZ = polyamide tooth side) is recommended for conveying speeds above 30 m/min as well as to reduce friction and noise.

Timing belt material

	Basic material	Surface coating			
Properties	**Polyurethane**	**Polyamide PAR/PAZ****	**PVC, white, FDA**	**Rubber structure (Supergrip)***	**Linatex*****
Resistance to moisture	+				+
Resistance to oil and grease	+		+ -	+	+ -
Suitable for contact with food (FDA compliant)			+		
Abrasion resistance	+				+ -
Wear resistance				+	
Adhesion property (inclined conveying)				+	+ +
Anti-frictional property (accumulated operation)	-	+			-
Cut resistance	+				
Low noise levels		+ (PAZ)			
Colour	Various	Green	White	Green	Red
Temperature resistance	-20 to +60° C	-20 to +60° C	-40 to +100° C	-10 to +90° C	-40 to +70° C
Hardness	90 Shore A		65 Shore A	40 Shore A	40 Shore A

*Not suitable for use in ZRF-P 2010 except as a special version with conveyor frame open on the bottom
**PAR = polyamide rear (carrying) side; PAZ = polyamide tooth side
***Counter-bending, such as in lower belt drives, is not permitted

Notes