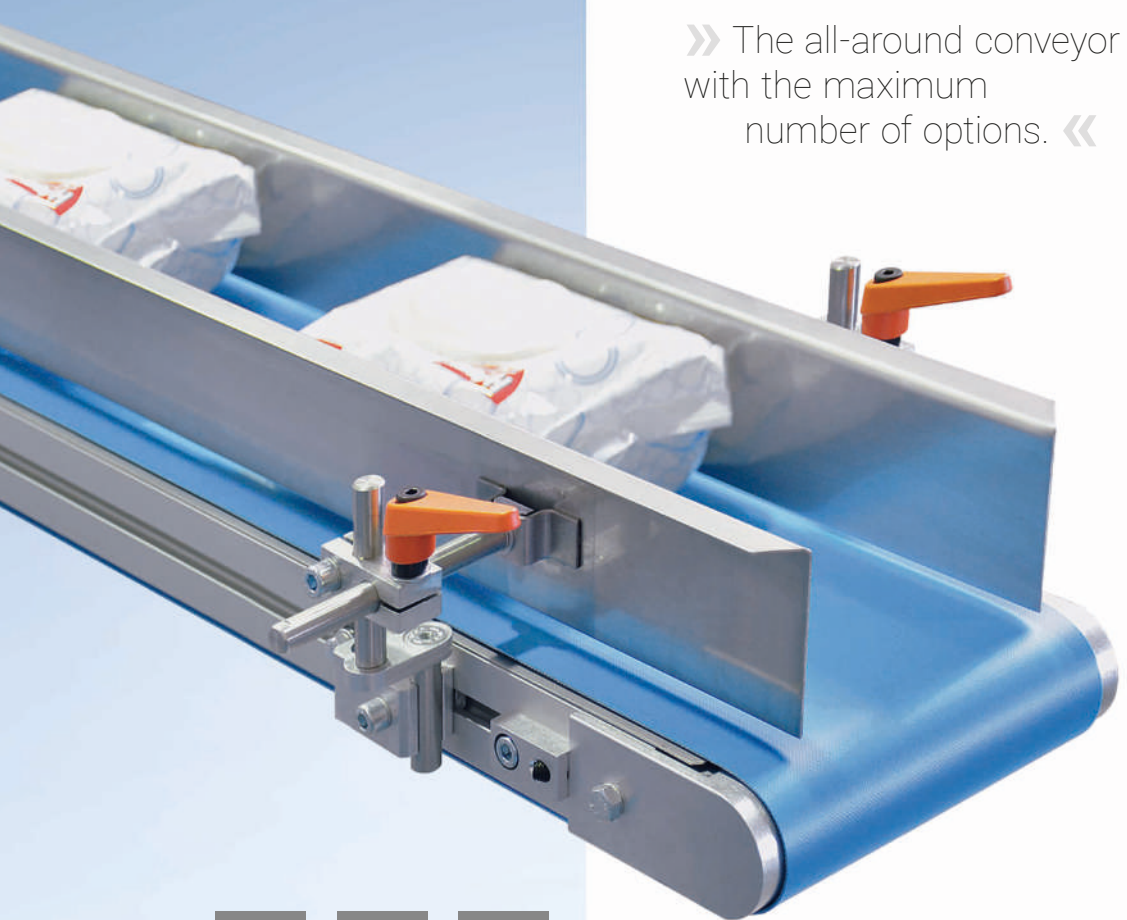


Belt Conveyor GUF-P 2000

2

» The all-around conveyor with the maximum number of options. «



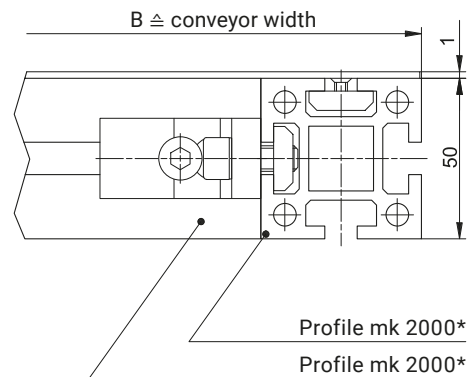
Benefits of the GUF-P 2000

- Wide range of different drives, tails, stands and belt types
- Built with the profile mk 2000 for a high load capacity and torsion-resistant structure
- Optionally available with a stationary or rolling knife edge
- Flexible operation in reverse, accumulated and cycling mode
- Very short delivery times

The combination of standard parts based on the profile mk 2000 results in a conveyor system that allows for the widest possible range of drives and tails and extremely short delivery times. Despite its low height of 50 mm and the \varnothing 53 mm driving roll, which can be coated with rubber according to the application, the conveyor offers a wide range of different belt types. As with all mk belt conveyor systems, the crowned roller of the driving and idler rollers make belt adjustment significantly easier.

T-slots running along both sides (10 mm slot width based on our profile technology) allow you to easily integrate the conveyors into existing machine frames or attach stands, side rails and other accessories. A further quality feature of this conveyor system is the stainless steel sheet installed below where the belt runs, which ensures long-term wear resistance of the belt. In addition to our wide selection of side rails and stands, we also offer a standard range of end stops and electrical accessories.

Cross Section



* For conveyor widths 75, 100, 150, 200 and 250 mm, custom profiles are used

Selecting a Drive

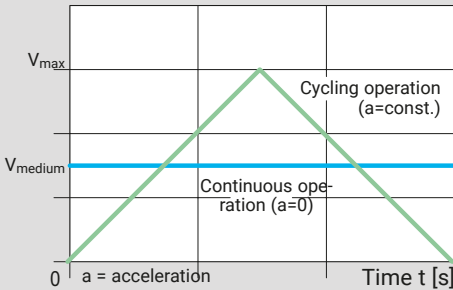
1

Speed – continuous operation compared to cycling operation

The diagrams show the need for a higher maximum speed in cycling operation compared to continuous operation. In addition, they show an example of the course of a cycling operation with soft start-up and standstill for a different action (e.g. to process the conveyed product).

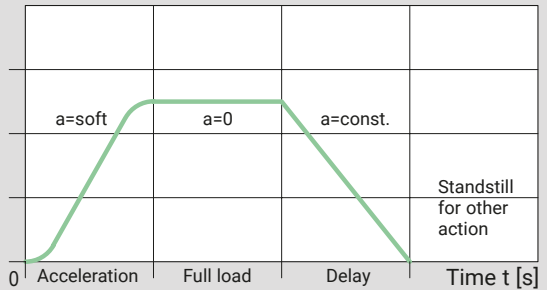
Continuous operation compared to cycling operation

Speed v [m/s]



Example of cycling operation

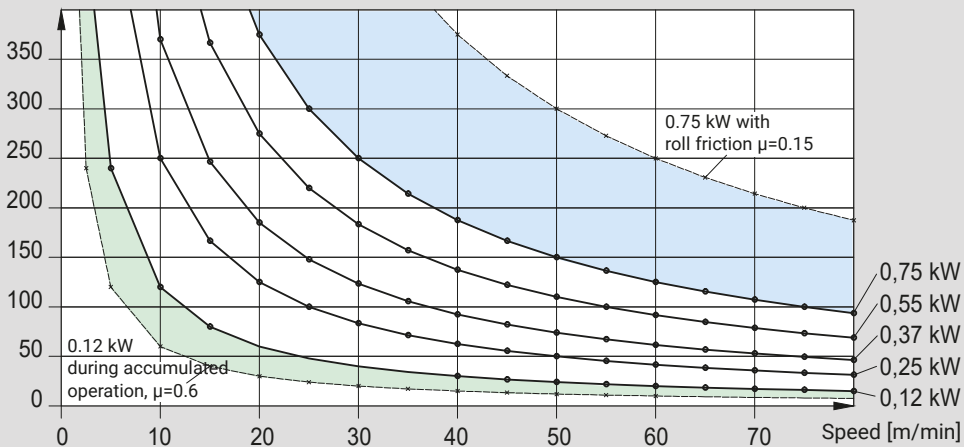
Speed v [m/s]



Selecting motors based on speed and load

This diagram can be used to determine the motor power required based on the total load (transported material + medium of transport) and the speed. The values shown correspond to a kinetic friction value of $\mu=0.3$, which is the friction between the belt and the underlying plate in a belt conveyor.

Total load m [kg]



■ Example of the effect on the permissible total load and speed when the friction coefficient is halved from a belt conveyor ($\mu=0.3$) to a roller conveyor ($\mu=0.15$)

■ Example of the effect on the permissible total load and speed when the friction coefficient is doubled from continuous operation ($\mu=0.3$) to accumulated operation ($\mu=0.6$)

Drive Location

The **head drive** is located on the discharge end of the conveyor and pulls the transport medium, e.g. the belt. This is the most common, safest and most affordable drive position. If you have location restrictions, you can also install a head drive on the infeed end for use as a rear drive (pushing). In this case, however, you must provide adequate pre-tension and prevent the transport medium from getting kinked.

Lower belt drives, which are also called centre drives, can be installed in various locations below the transport level. They enable limited, non-continuous reverse operation (reversible conveying direction), because the transport medium is constantly pulled, preventing problems that arise when the belt is pushed. You can achieve fixed installation lengths by selecting the design with a tensioning roller in the centre drive. Since two snub rollers are typically used, this drive is also known as an omega drive. A further benefit of this drive is the option to install knife edges on both the infeed and discharge ends for transferring small products.

Internal drives with a drum motor produce few obstructing edges, making them particularly popular for applications with limited installation space. They are also popular in clean environments, since they feature low particle emissions and have few surfaces on which dirt can deposit.

Drive Type

In the most commonly used **indirect drives**, force is transferred using a chain or timing belt. This additional option to adjust the transmission ratio allows you to achieve very fine speed increments and compensate for alignment errors. With servo and stepper motors, a timing belt can be used to dampen the abrupt, jerky starting behaviour.

With a **direct drive**, the motor is connected directly to the drive shaft, offering a compact and low-maintenance alternative.

Motor Selection

Our standard product range also includes a variety of different stock equipment motors from well-known manufacturers. These gearmotors, consisting of asynchronous AC motors as standard or DC motors, combined with a Spiroplan, helical-worm or helical gearbox, meet efficiency class 2 and IP 54. Custom motors, servomotors, UL-CSA approval and multi-range motors are also available as options.

From July 2021, a new EU ecological design requirement for electric motors will come into force that will result in a change to the dimensions of our standard motors. The motors will generally become slightly larger; the energy efficiency class is increased to IE 3 for this purpose.

Speeds

The maximum conveying speed depends on the motor selected, the load on the belt, the duty type and other influencing factors. The speeds provided here are nominal values and may deviate due to the speed tolerances of the motors (up to $\pm 10\%$). For indirect drives using chains or timing belts, the tolerance tends to be even higher, at up to 20% above the nominal speed. Higher speeds are also achieved when the system is operated on a 60 Hz grid, for example in the USA. If you need a precisely defined speed, this can be accomplished with a frequency inverter or reglomat.

Adjustment Ranges

The frequency inverter allows you to control the conveyor speed within a range of 1:7 (10-70 Hz), assuming an alternating current and the nominal speed at 50 Hz. For internal drives (drum motors), the adjustment range is 1:3 (20-60 Hz). For direct current with the reglomat, the range is 1:6 (0.25-1.5 A or 0.5-3 A). See page 314.

Selecting a Drive

1

A – Head Drives

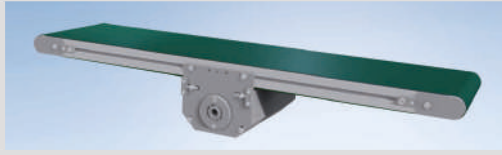


	AA	Head drive without motor This drive version with an open drive journal can be connected to a conveyor with a motor for parallel operation
	AC	Standard head drive Drive version with a variety of combination options for motors, gearboxes and sprocket wheels
	AF	Direct head drive Compact and low-maintenance drive version with a motor that is fitted directly on the drive shaft
	AD AG	Head drive, compact Drive version with minimal interference contours thanks to small gear motor, available with direct current motor or three-phase motor
	AM	Head drive, offset Thanks to the variably configurable offset head drive, there are no interference contours at the discharge end of the conveyor
	AS	Head drive, laterally on the outside, compact A drive version restricted to a minimum total height with motor mounted on the outside
	AU	Head drive, laterally on the outside Since the motor is mounted laterally on the outside, the space underneath and above the conveyor remains free of interference contours

B – Lower Belt Drives



1



BA

Lower belt drive without motor

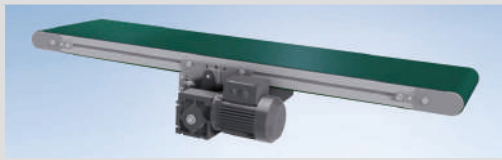
Drive unit variably mounted underneath the conveyor, enables connection on a conveyor with motor for parallel operation



BC

Lower belt drive, standard

Possibility of limited reverse operation and configuration of knife edges, at both the infeed end and discharge end

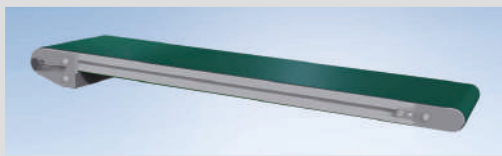


BF

Lower belt drive, direct

Compact and low-maintenance drive version with a motor that is fitted directly on the drive shaft

C – Internal Drives



CA

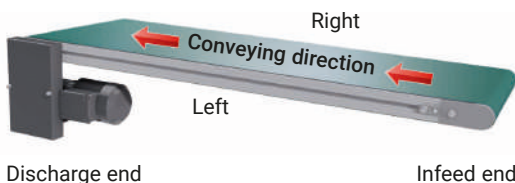
Drum motor

Maintenance-free and compact drive version without exterior interference contour with a drive version as a driving roll

The drive versions are shown on the belt conveyor in the example

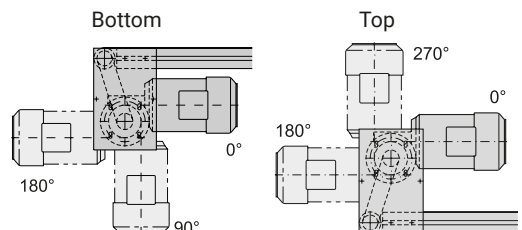
Drive Location

The drive location determines how and where the drive, including the motor, is installed. You can choose to position the drive on the infeed or discharge end, above or below the conveyor frame, on the left or on the right.



Motor Orientation

As shown in the figures, the motor orientation can vary between 0°, 90°, 180° and 270°. If the customer does not specify the drive location, the drive is delivered on the discharge end, on the left side, below the conveyor and with a motor orientation of 0°.

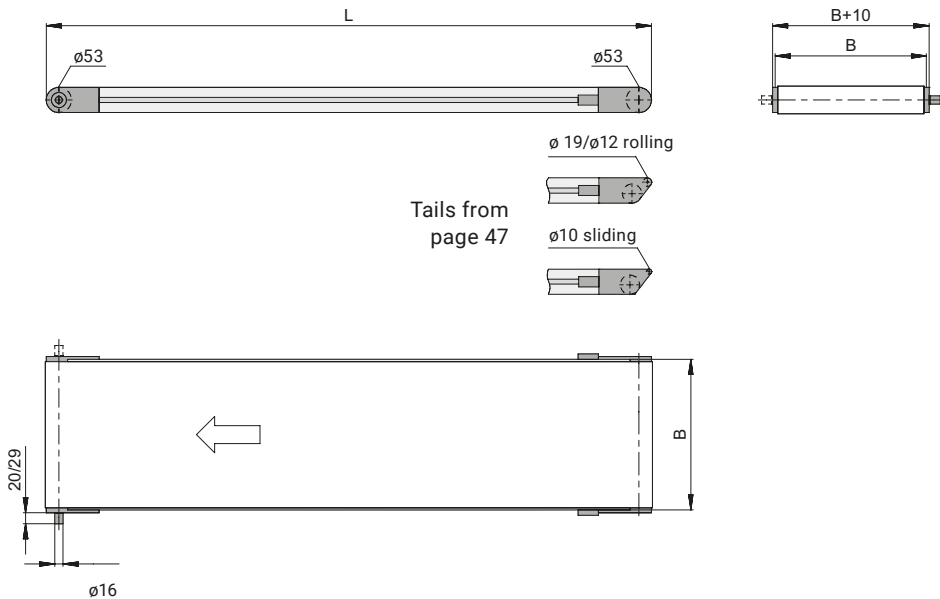


AA – Head drive without motor

B20.00.009

2

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. The compact conveyor frame design makes it easier to integrate the conveyor into existing systems. The driving roll $\varnothing 53$ mm has a crowned roller for simple belt control. Operation with cleated belts is possible with this version. The $\varnothing 16$ mm shaft journal has a usable length of 20 mm with a chain drive or 29 mm with a timing belt drive and is equipped with a DIN 6885 key.



Technical data

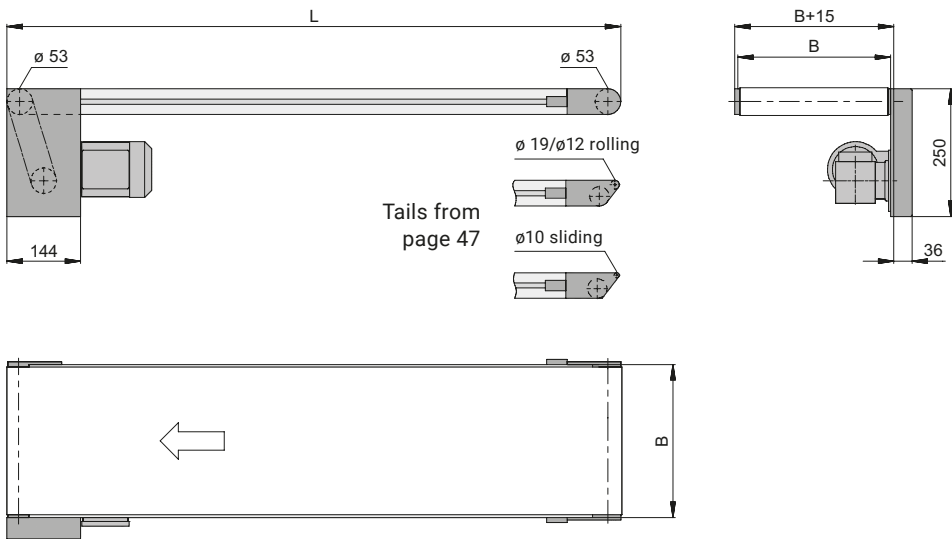
Conveyor length L	individual from 380 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive and speed	up to $v=80$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20



AC – Standard head drive

B20.00.002

The compact conveyor frame design with the most popular drive options makes it easier to integrate the conveyor into existing systems. The $\varnothing 53$ mm driving roller ensures excellent transmission of the motor power. Operation with cleated belts is possible with this version.



Technical data

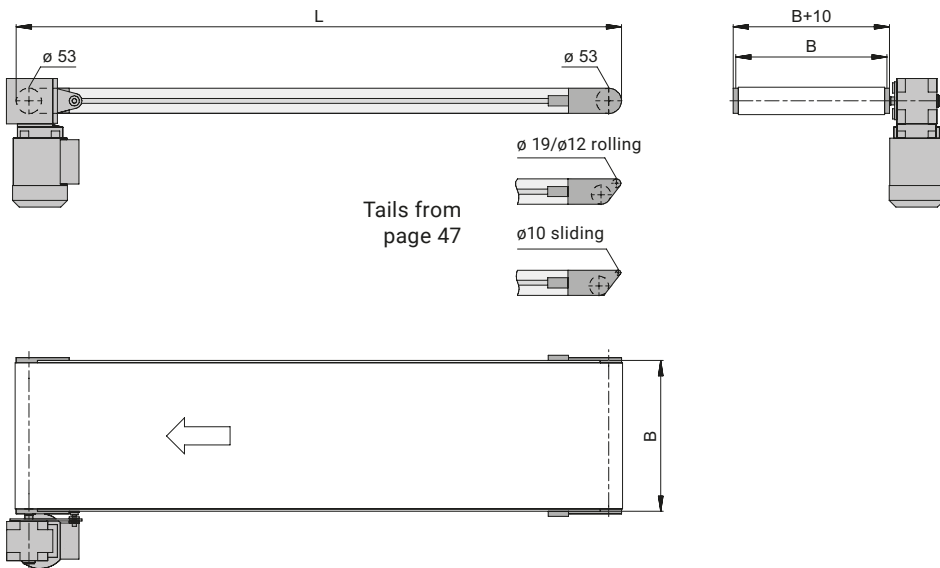
Conveyor length L	individual from 410 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	discharge end left/right, underneath/above; infeed end on request	
Drive and speed	up to $v=80$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20

AF – Direct head drive

B20.00.011

2

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.



Technical data

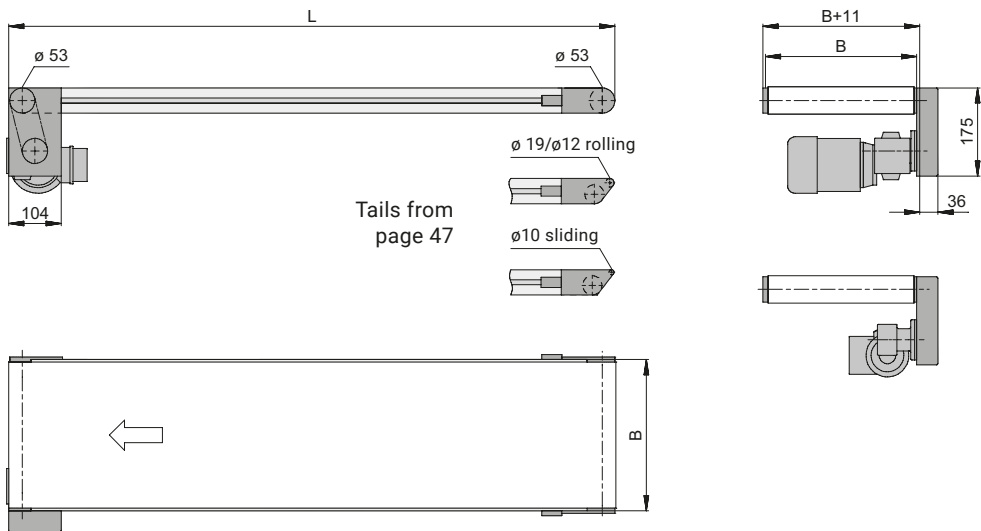
Conveyor length L	individual from 410 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	discharge end left/right; infeed end on request	
Drive and speed	2.8; 3.7; 4.5; 5.5; 6.7; 7.9; 8.9; 11.2; 13.2 and 15.2 m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 30 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20



AG – Head drive, compact

B20.00.005

The compact drive version AG for small gearmotors (direct current or three-phase motors) has fewer interfering edges in comparison to the AC drive version thanks to the gearbox type used. The compact conveyor frame design makes it easier to integrate the conveyor into existing systems. Without a snub roller, the $\varnothing 53$ mm driving roller enables the use of cleated belts. In comparison to the drive version AC, the dimensions of the drive are much more compact.



Technical data

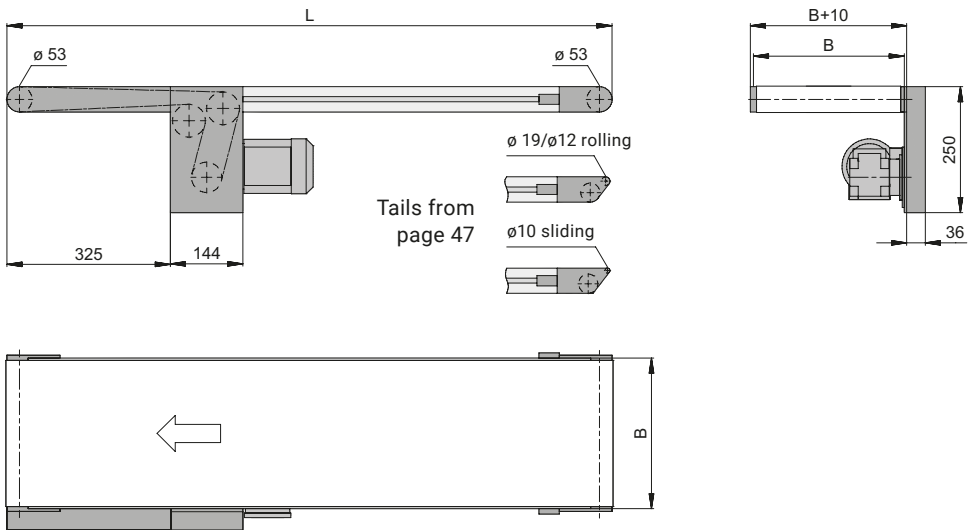
Conveyor length L	individual from 380 to 6000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	discharge end left/right, underneath/above	
Drive and speed	up to $v=15$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 30 kg AC/15 kg DC	p. 20
Standard distributed load	up to 25 kg/m	p. 20

AM – Head drive, offset

B20.00.003

2

The compact conveyor frame design with the offset head drive makes it easier to integrate the conveyor into existing systems. The $\varnothing 53$ mm driving roller ensures excellent transmission of the motor power. Operation with cleated belts is possible with this version.



Technical data

Conveyor length L	individual from 750 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	discharge end left/right, underneath; infeed end on request	
Drive and speed	up to $v=80$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20

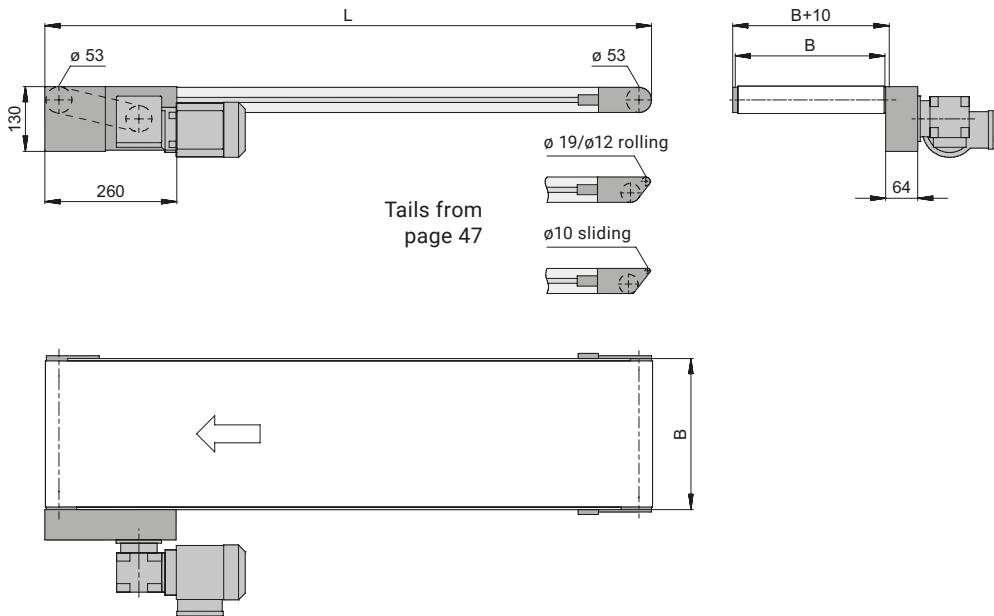


AS – Head drive, laterally on the outside, compact

B20.00.008

The drive located laterally on the outside allows the total height of the conveyor to be restricted to a minimum. The $\varnothing 53$ mm driving roller ensures excellent transmission of the motor power. Operation with cleated belts is possible with this version.

2



Technical data

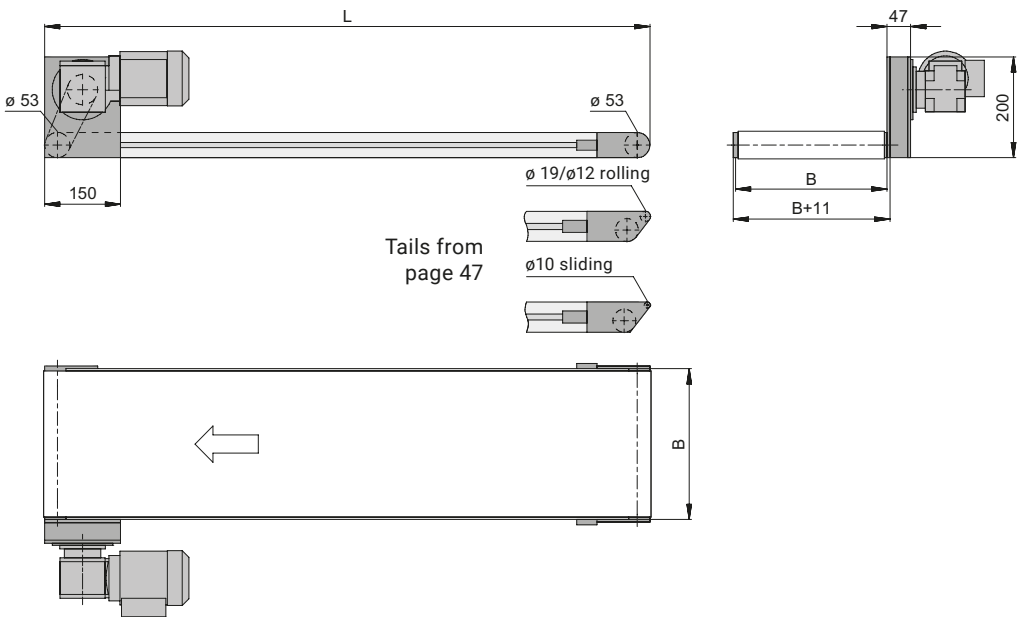
Conveyor length L	individual from 550 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	discharge end left/right; infeed end on request	
Drive and speed	up to $v=80$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20

AU – Head drive, laterally on the outside

B20.00.020

2

The advantage of the drive version AU is that the motor is fitted on the outside of the conveyor belt, which protects it from dirt. This drive version can transport even very tall products with ease. The $\varnothing 53$ mm driving roller ensures excellent transmission of the motor power. Operation with cleated belts is possible with this version.



Technical data

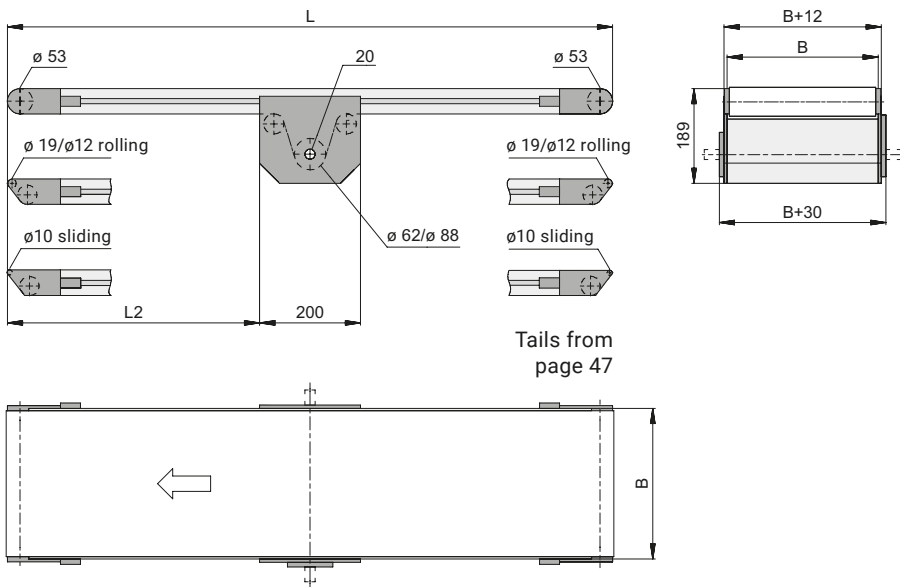
Conveyor length L	individual from 430 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	discharge end left/right, underneath/above; infeed end on request	
Drive and speed	up to $v=80$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20



BA – Lower belt drive without motor

B20.00.001

The BA version with no motor is suitable for parallel connection to an existing conveyor with a drive. This allows you to operate multiple conveyors with only one motor. 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. Limited reverse operation is available on request. Knife edges can be configured on both the infeed and discharge end. Operation with cleated belts is not possible with this version. The driving roller has a hollow shaft design with $\varnothing 20$ mm with keyway in accordance with DIN 6885.



Technical data

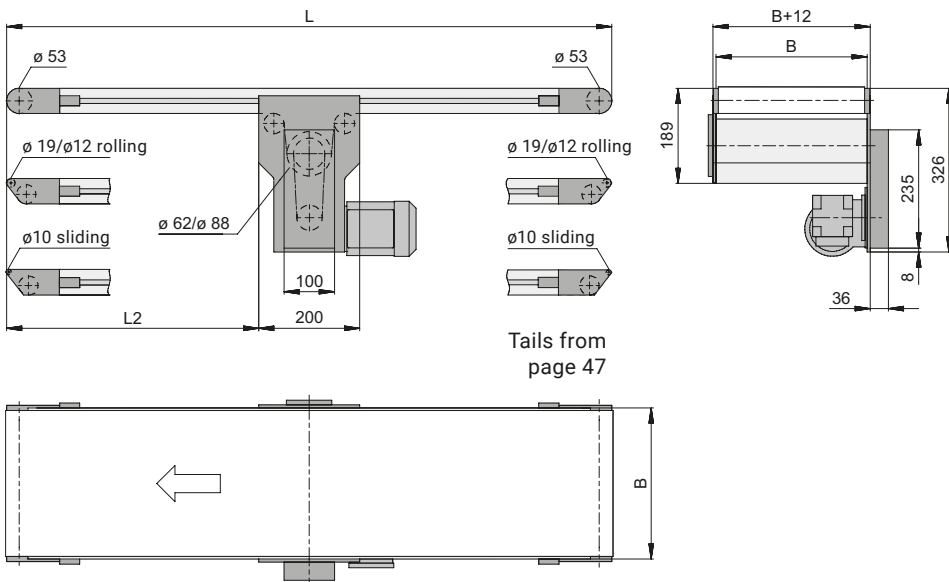
Conveyor length L	individual from 700 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive and speed	up to $v=80$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20

BC – Lower belt drive, standard

B20.00.004

2

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. Limited reverse operation is available on request. Knife edges can be configured on both the infeed and discharge end. Operation with cleated belts is not possible with this version.



Technical data

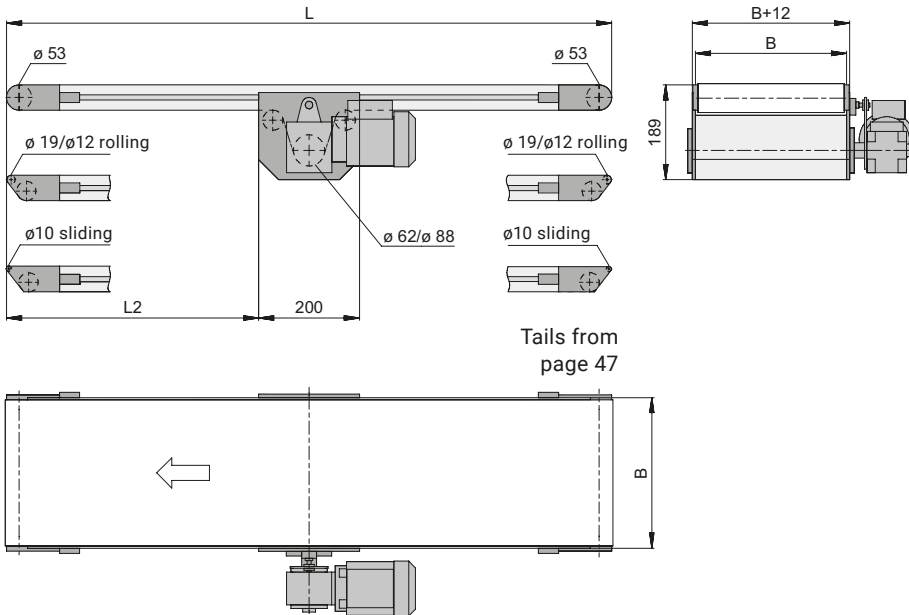
Conveyor length L	individual from 700 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	left/right underneath	
Drive and speed	up to v=80 m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20



BF – Lower belt drive, direct

B20.00.012

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 over the entire length of the conveyor make it easier to integrate the conveyor into existing systems. Limited reverse operation is available on request. Knife edges can be configured on both the infeed and discharge end. Operation with cleated belts is not possible with this version.



Technical data

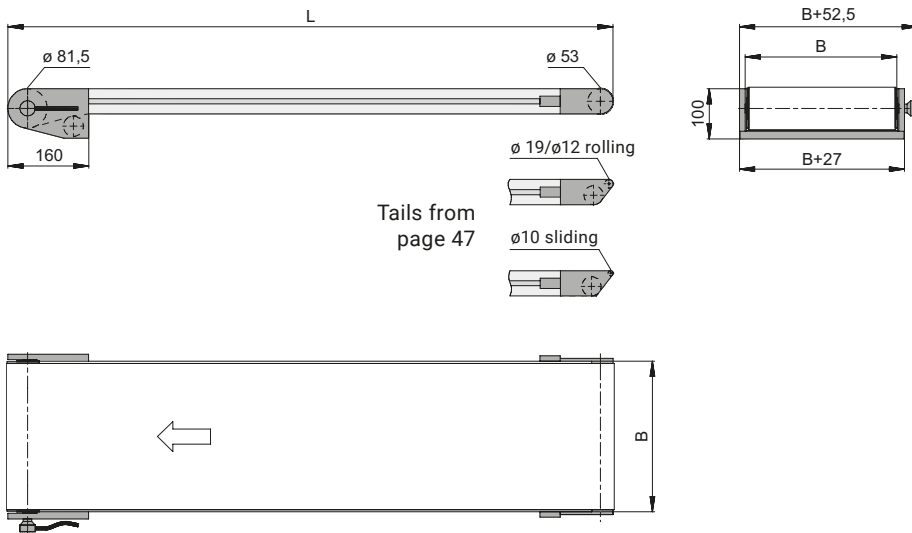
Conveyor length L	individual from 700 to 10000 mm	
Conveyor width B	50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 700, 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	left/right underneath	
Drive and speed	5; 6.3; 8; 9.5; 11.5; 13.5; 15.2; 19.3; 23; 26; 36.6; 45.7 and 57 m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 75 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20

CA – Drum motor

B20.00.025

2

The drive version CA with drum motor is the most compact option of the conveyors in the GUF-P 2000 system. Since the motor is integrated into the driving roller, no obstructing edges protrude over the conveyor frame structure. The conveyor can therefore easily be integrated into existing systems. Operation with cleated belts is not possible with this version.



Technical data

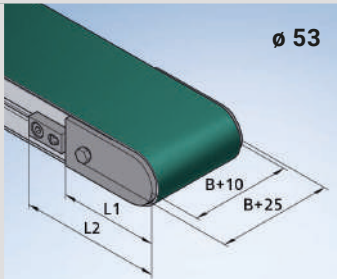
Conveyor length L	individual from 440 to 10000 mm	
Conveyor width B	200, 250, 300, 350, 400, 500, 600, 700 and 800 mm	others on request
Belt width	B-10 mm	from p. 98
Drive location	discharge end left/right	
Drive and speed	up to $v=60$ m/min	p. 12
Stand and side rail		from p. 286
Standard total load	up to 55 kg	p. 20
Standard distributed load	up to 25 kg/m	p. 20

GUF-P 2000 Tails

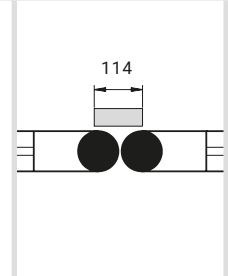
2

Tail 01

B80.00.001



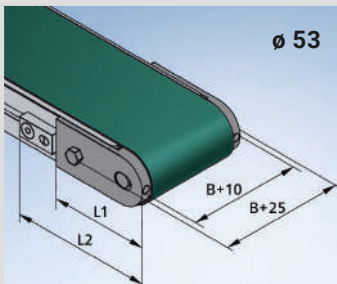
- Crowned roller, $\varnothing 53$ mm
- Ball bearing 2RS1
- Belt tensioning and adjustment on the side using the tensioning elements
- Min. length of the conveyed product for transfer of 114 mm



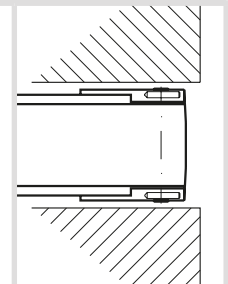
Conveyor length L	Conveyor width B	L1	L2	Head part material
$\leq 2,900$ mm	≤ 300 mm	105 mm	145 mm	Plastic
$\leq 2,900$ mm	> 300 mm	105 mm	145 mm	Aluminium
$> 2,900$ mm	≤ 800 mm	155 mm	195 mm	Aluminium

Tail 09

B80.00.005



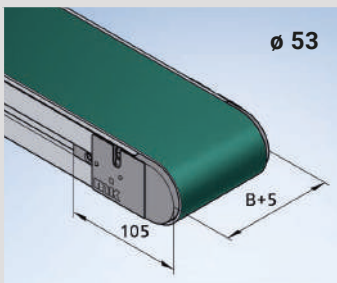
- Crowned roller, $\varnothing 53$ mm
- Ball bearing 2RS1
- Belt tensioning via head parts
- Belt adjustment from the front using threaded pins
- Obstructing edge-optimised tail
- Min. length of the conveyed product for transfer of 114 mm



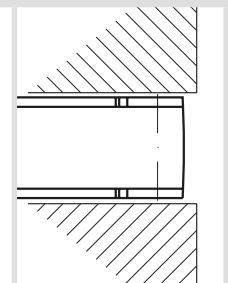
Conveyor length L	Conveyor width B	L1	L2	Head part material
$\leq 3,000$ mm	≤ 800 mm	105 mm	—	Aluminium

Tail 11

B80.00.007



- Crowned roller, $\varnothing 53$ mm
- Ball bearing 2RS1
- Belt tensioning and adjustment on the side using the head parts (approx. 35 mm of clearance required on each side)
- Flush head parts
- Obstructing edge-optimised tail
- Min. length of the conveyed product for transfer of 114 mm



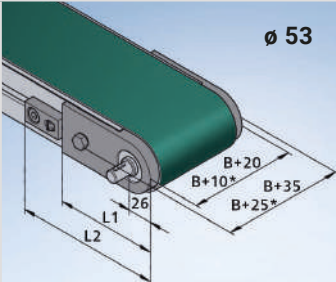
Conveyor length L	Conveyor width B	L1	L2	Head part material
$\leq 3,000$ mm	≤ 800 mm	105 mm	—	Aluminium

GUf-P 2000 Tails

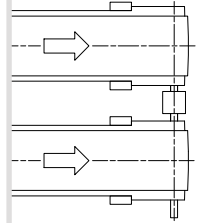
2

Tail 19

B80.00.006



- Crowned roller, $\varnothing 53$ mm
- Ball bearing 2RS1
- $\varnothing 16$ mm shaft journal, usable length of 20 mm with roller for chain drive or 30 mm with roller for timing belt drive, keyway in accordance with DIN 6885
- Connection of two conveying lines through one drive
- Output shaft available on the right, left or both sides

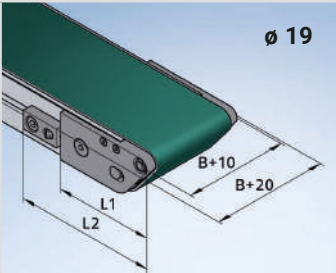


Conveyor length L	Conveyor width B	L1	L2	Head part material
$\leq 2,900$ mm	≤ 300 mm	105 mm	145 mm	Plastic
$\leq 2,900$ mm	> 300 mm	105 mm	145 mm	Aluminium
$> 2,900$ mm	≤ 800 mm	155 mm	195 mm	Aluminium

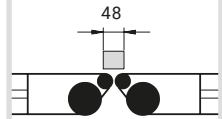
*Does not apply for the drive end

Tail 13

B80.00.018



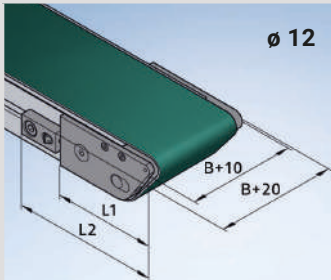
- Rolling knife edge
- Ball bearing 2RS1, $\varnothing 19$ mm roller
- Belt tensioning on the side using tensioning elements
- Adjustment using tensioning elements
- Min. length of the conveyed product for transfer of 48 mm
- Note the min. bend radius for the desired belt



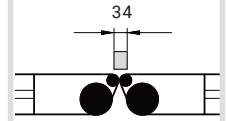
Conveyor length L	Conveyor width B	L1	L2	Head part material
$\leq 3,000$ mm	≤ 800 mm	116 mm	156 mm	Aluminium
$> 3,000$ mm	≤ 800 mm	166 mm	206 mm	Aluminium

Tail 10

B80.00.017



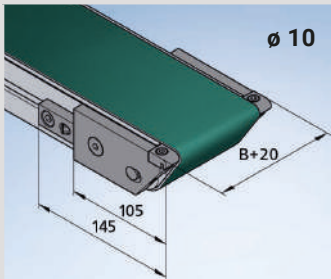
- Rolling knife edge
- Ball bearing 2RS1, $\varnothing 12$ mm roller
- Belt tensioning on the side using tensioning elements
- Adjustment from the front using tensioning roller
- Min. length of the conveyed product for transfer of 34 mm
- Note the min. bend radius for the desired belt
- Max. conveying speed of 30 m/min
- Max. load capacity of 5 kg per 50 mm conveyor width



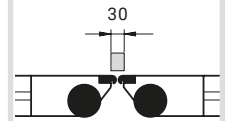
Conveyor length L	Conveyor width B	L1	L2	Head part material
$\leq 3,000$ mm	≤ 300 mm	111 mm	151 mm	Aluminium
$> 3,000$ mm	≤ 300 mm	161 mm	201 mm	Aluminium

Tail 17

B80.00.002



- Stationary knife edge $\varnothing 10$ mm
- Belt tensioning on the side using tensioning elements
- Adjustment from the front using tensioning roller
- Min. length of the conveyed product for transfer of 30 mm
- Note the min. bend radius for the desired belt
- Max. conveying speed of 10 m/min
- Requires driving roller with rubber coating



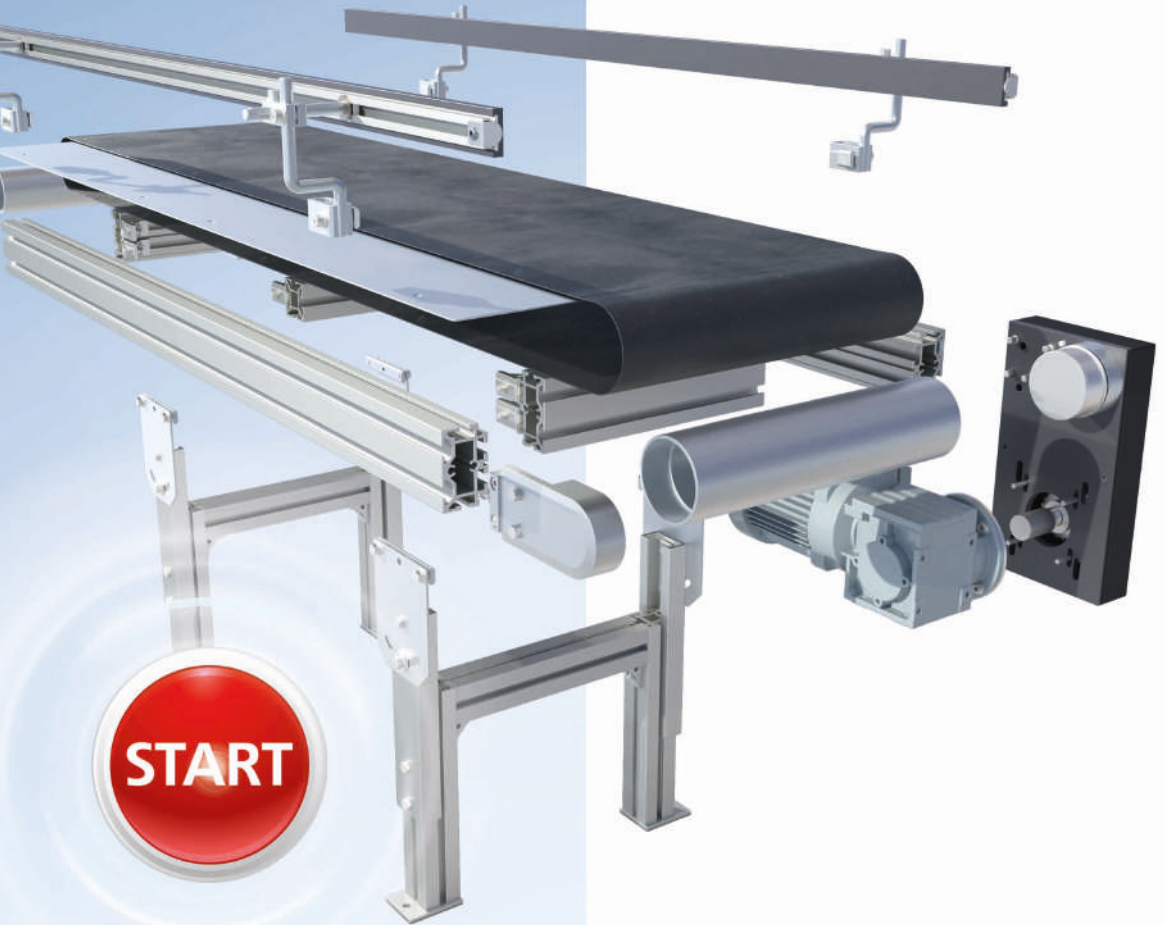
Conveyor length L	Conveyor width B	L1	L2	Head part material
$\leq 3,000$ mm	≤ 300 mm	105 mm	145 mm	Aluminium

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