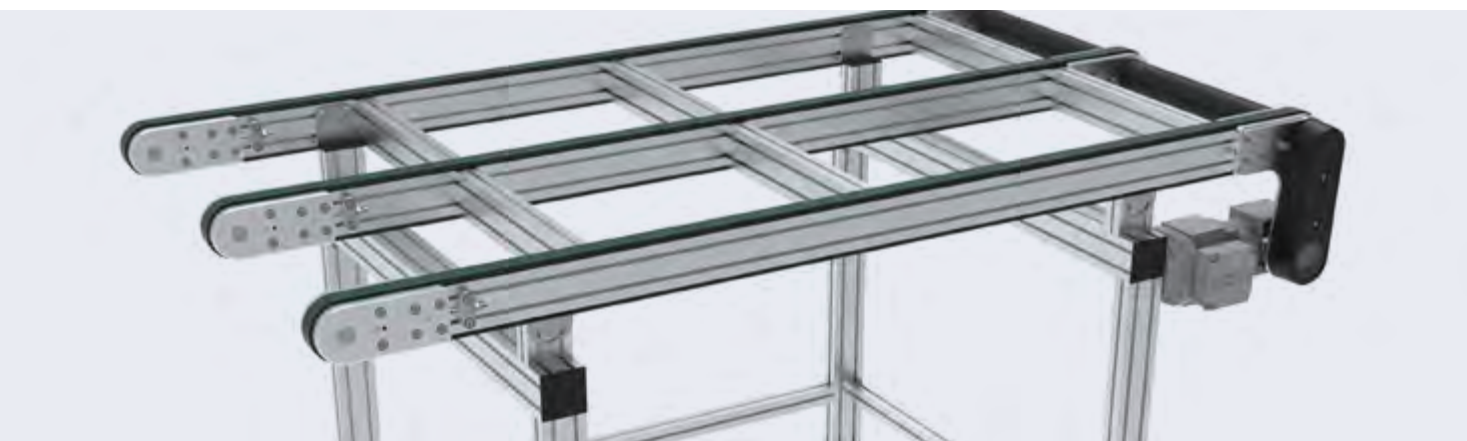




TIMING BELT CONVEYOR

For precise positioning and stable load handling.

Timing belt conveyor



Kanya's Timing belt conveyors are suitable for precise transport and positioning tasks in both continuous and cyclic operation. The positive-engagement toothed belt drive enables slip-free power transmission, high repeatability and stable load handling, even during dynamic processes. The modular design, based on the Kanya aluminium extrusion system, allows for easy integration and subsequent extension of the conveyor line.

Areas of application

Timing belt conveyors are used wherever conveyed goods need to be precisely positioned, guided synchronously or transferred in a synchronised manner. Typical applications include automation, assembly and testing technology, as well as interlinking with workpiece carriers. Depending on process requirements, single, double or multi-line solutions are available. For electrostatically sensitive applications, the timing belt conveyor is an ESD-compliant version.

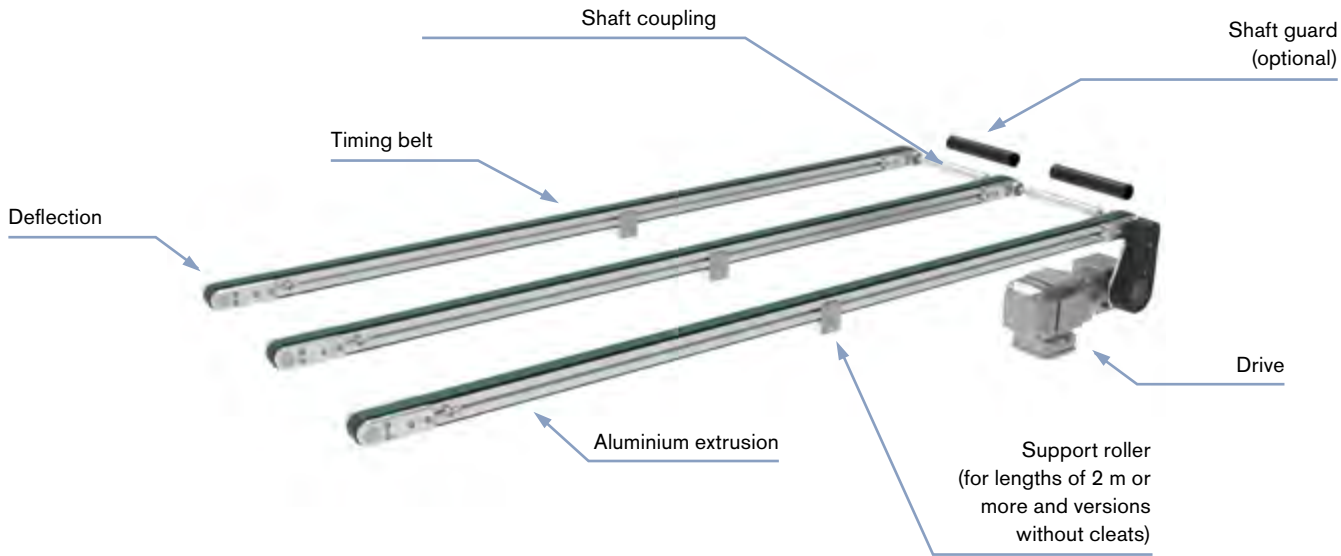
Key features of Timing belt conveyors

- Positive Timing belt drive
- Non-slip conveying and precise positioning
- High repeatability in cyclic operation
- Stable tracking thanks to V-guide belt tracking
- Single-line, double-line or multiple-line solutions
- Modular design within the Kanya modular system

Advantages

- ✓ Precise cycling and positioning
- ✓ Long conveying distances of up to 12 m
- ✓ High total load capacity up to 400 kg
- ✓ ESD-complaint design
- ✓ Low-maintenance system

Structure and components of the timing belt conveyor



Overview of Timing belt models

Model	Version	Conveyor length (mm)	Belt width (mm)	Max. total load (kg)
ZF40/40	without drive, single-line	400 – 6000	32	160
ZF40/40	End drive indirect, single-line	400 – 6000	32	160
ZF40/40	End drive indirect, double-line	400 – 6000	32	160
ZF40/40	End drive indirect, three-line or multiple line	400 – 6000	32	160
ZF40/80	without drive, single-line	550 – 12000	32	400
ZF40/80	End drive indirect, single-line	550 – 12000	32	400
ZF40/80	End drive indirect, double-line	550 – 12000	32	400
ZF40/80	End drive indirect, three-line or multiple line	550 – 12000	32	400
ZF40/80	End dirve direct, single-line	550 – 12000	32	400
ZF40/80	End drive direct, double-line	550 – 12000	32	400
ZF40/80	End drive direct, three-line or multiple line	550 – 12000	32	400

ESD-compliant version available on request. Tested configuration in accordance with IEC 61340-5-1 available.

Timing belt conveyor ZF40/40

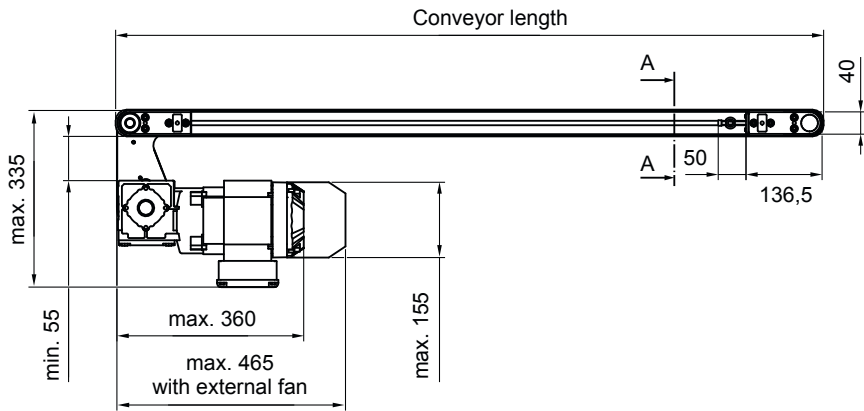


Technical data

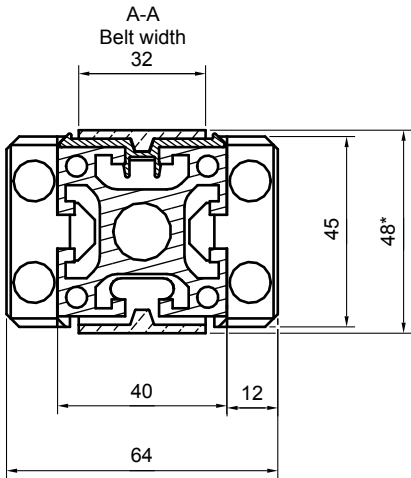
Properties	ZF40/40
Conveyor llength	400 – 6000 mm
Extrusion width	40 mm
Timing belt width	32 mm
Max. total load of conveyed goods	160 kg
Speed	3 – 44 m/min
Drive power	0.12 to 0.37 kW
Temperature range	5 to 45 °C
Number of teeth on the pulley	30

The ZF40/40 timing belt conveyor is the compact and cost-effective solution for precise conveying and positioning tasks in continuous and cyclic operation. The C02-1 aluminium extrusion, with a cross-section of 40 x 40 mm, allows for the flexible integration of additional components and substructures. Depending on the application, timing belts with various coatings are available as options.

End drive indirect (side view)



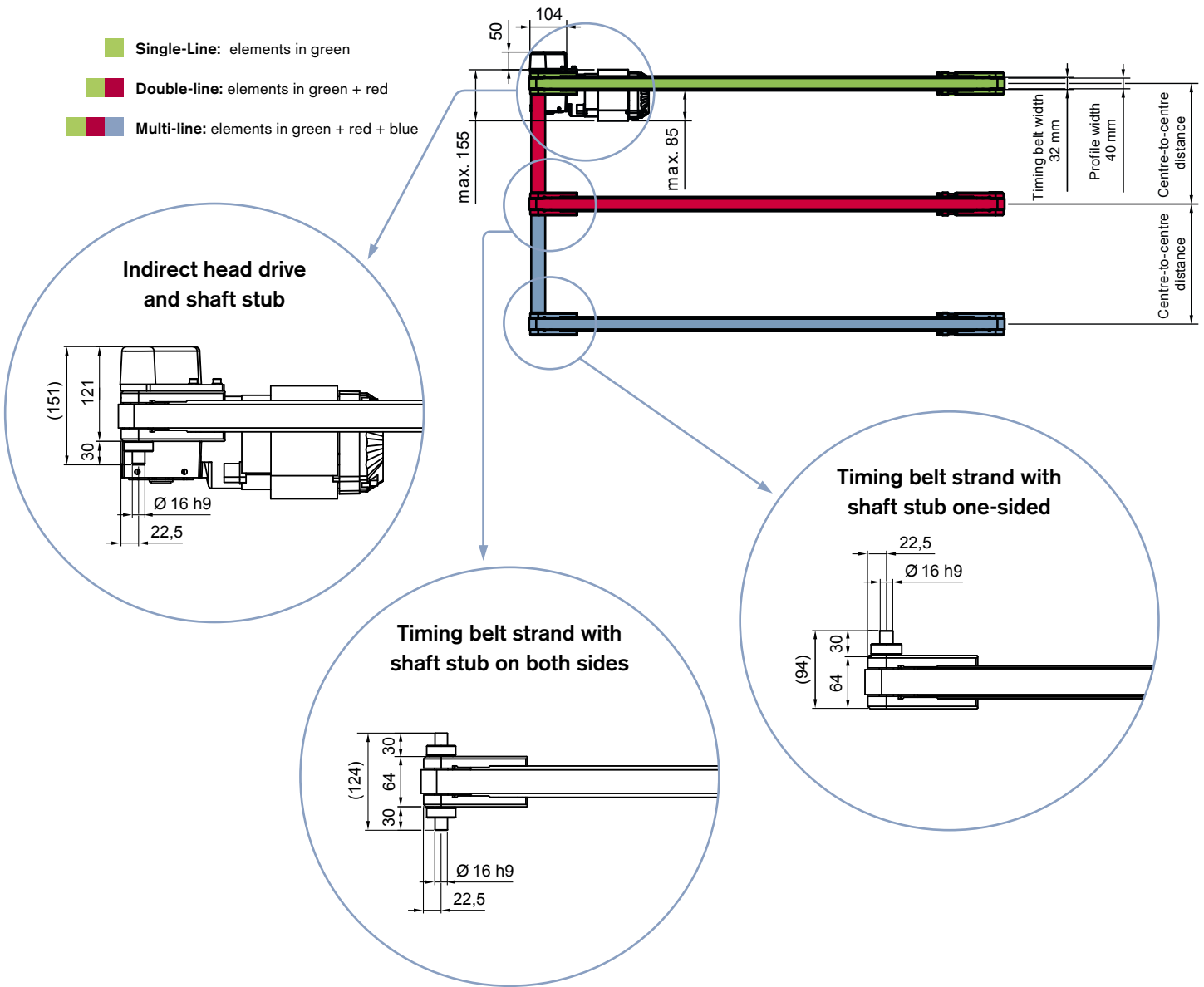
Base extrusion 40x40 (cross-section)



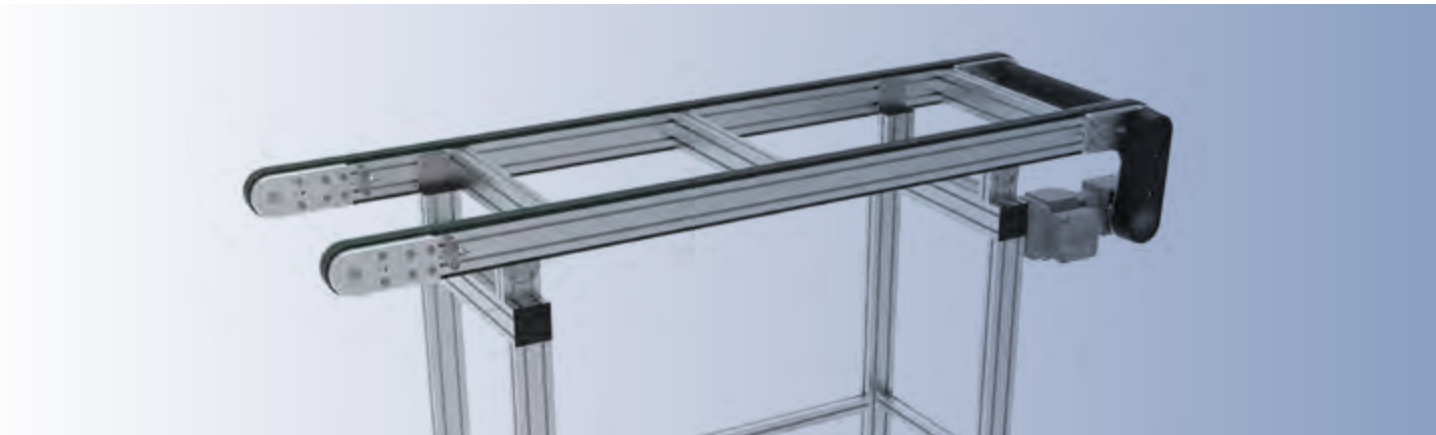
* depending on timing belt thickness

ZF40/40 Dimensions

	Single-line	Double-line	Multiple-line
Features	Narrow conveyor width, light to medium loads	Medium conveyor width, heavier loads	Wide conveying width, high total loads
Application	Precise positioning of individual items	Parallel transport of wide items	Transport of heavy or bulky items



Timing belt conveyor ZF40/80

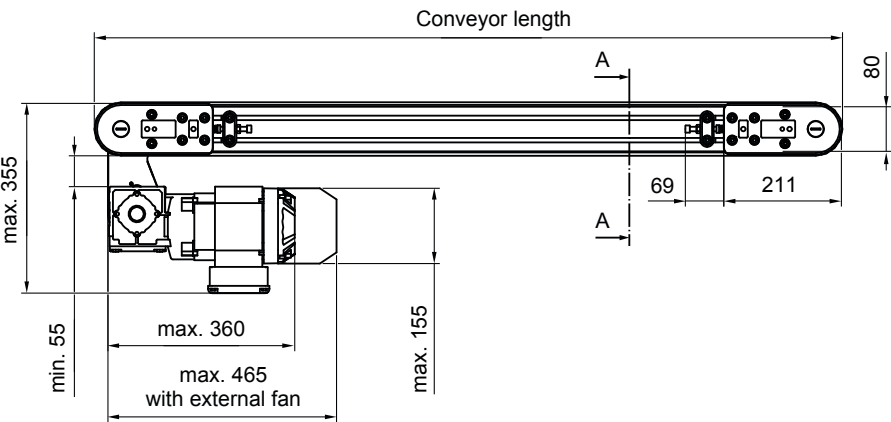


Technical data

Properties	ZF40/80
Conveyor llength	550 – 12000 mm
Extrusion width	40 mm
Timing belt width	32 mm
Max. total load of conveyed goods	400 kg
Speed	5 – 78 m/min
Drive power	0.12 bis 0.37 kW
Temperature range	5 bis 45 °C
Number of teeth on the pulley	30

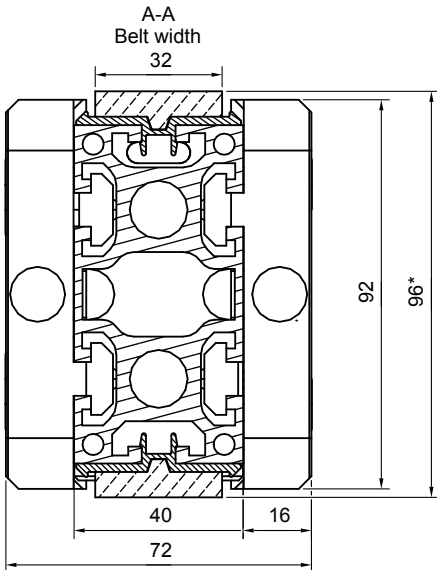
The Timing belt conveyor ZF40/80 is designed for conveying distances and higher loads. The 40x80 extrusion provides increased flexural rigidity and enables stable integration into machine frames and support structures. The timing belt surface and available options are selected to suit the conveyed product, the application and the process requirements.

End drive with timing belt (side view)



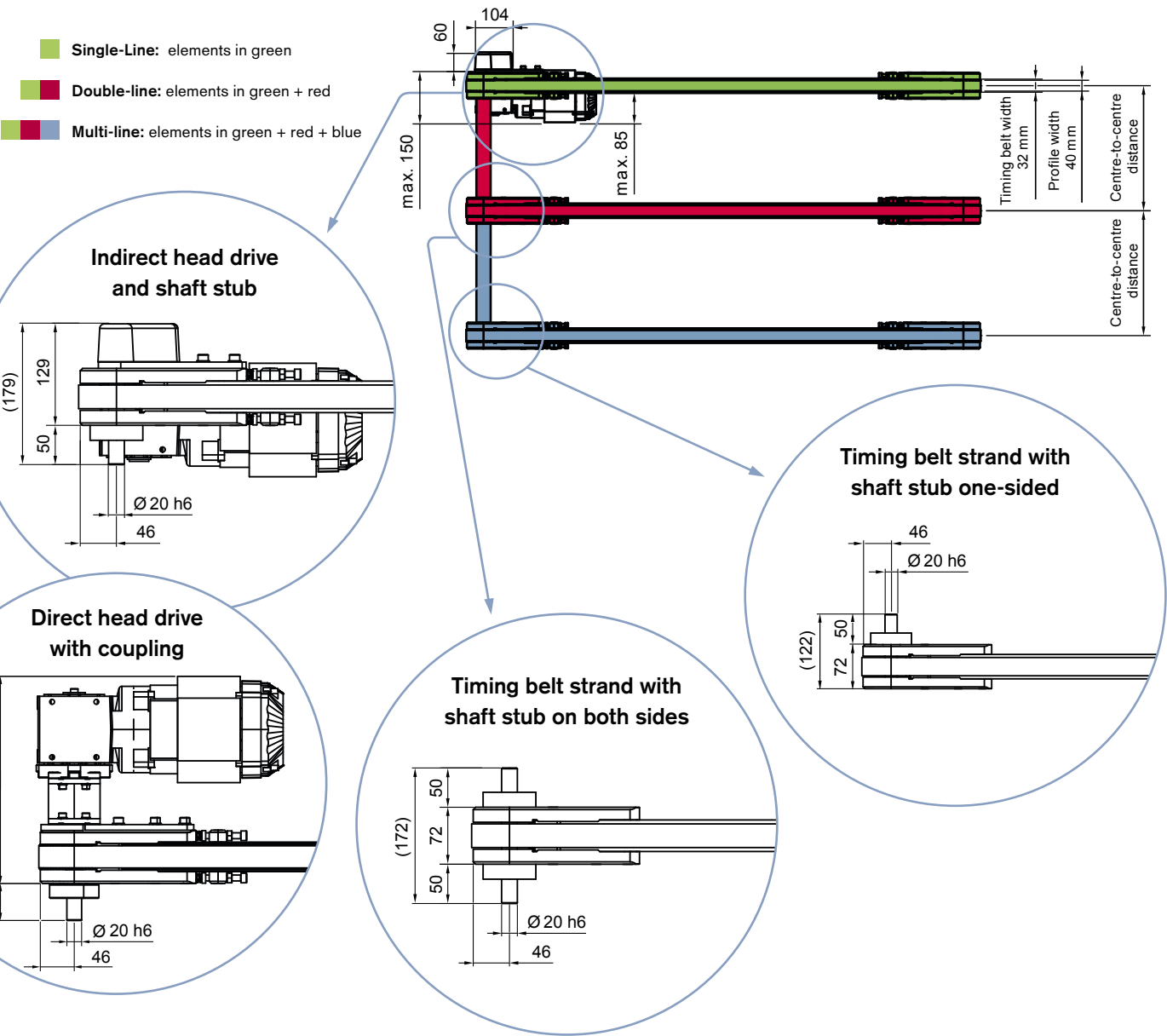
* depending on timing belt thickness

Base extrusion 40x80 (cross-section)



Timing Belt Conveyor Configurations and Dimensions

The Timing Belt configurations determine the layout, installation length and connection options of the timing belt conveyor. Depending on the application, single, double or multiple-line versions are available, matched to the conveying width, load capacity and stability of the conveyed product. The dimensions indicate the relevant interfaces, including shaft stubs, end drives and mounting points, enabling safe and clearly defined integration into the machine and support frame.



Timing belt

Timing belts form the central functional element of the conveyor system. They transmit forces via positive engagement, position with precision and can be designed for a variety of conveying tasks.

The standard version of the Kanya timing belt conveyor is fitted with a 32 mm wide belt. The design is adapted to the conveyor length and the planned total load of the conveyed goods.

Accumulating or adhesive surfaces are available, as well as food-grade FDA-Compliant variants for sensitive applications. For electrostatically sensitive goods, ESD-compliant timing belts and matching components are available. The tested version use in ESD protection zones in accordance with IEC 61340-5-1 standard. For higher speeds, friction- and noise-optimised coatings, such as PAZ (Polyamide fabric on tooth side), are available. For

synchronised processes, cams can be screwed on to position components with a positive fit. For single- or two-lane timing belt conveyors, the belt can be replaced quickly and without additional dismantling by loosening the tensioners at the idler end.



Selecting a Timing belt: key criteria

- Material to be conveyed: dimensions, weight, surface and sensitivity
- Environment: temperature, cleaning, dust, hygiene or cleanroom
- Electrical: ESD-compliant design where required
- Coating: Adhesion, friction and wear suitable for the application
- Process: Take into account speed, cyclic operation and positioning
- Service: Check access to the clamping system and belt replacement

Drive



End drive indirect

The timing pulley is connected to the drive via a Timing belt. This drive type ensures a minimal installations width and is used wherever a direct head drive is not possible due to space constraints.

Drive selection 400 V*: SEW, NORD
Model used with: ZF 40/40 and ZF 40/80

*24V drive also available

End drive direct

The drive is connected directly to the toothed pulley via a coupling. This drive type consists of a compact, economical assembly and transmits the torque directly to the drive shaft.

Drive selection 400 V*: SEW, NORD
Model used with: ZF 40/80

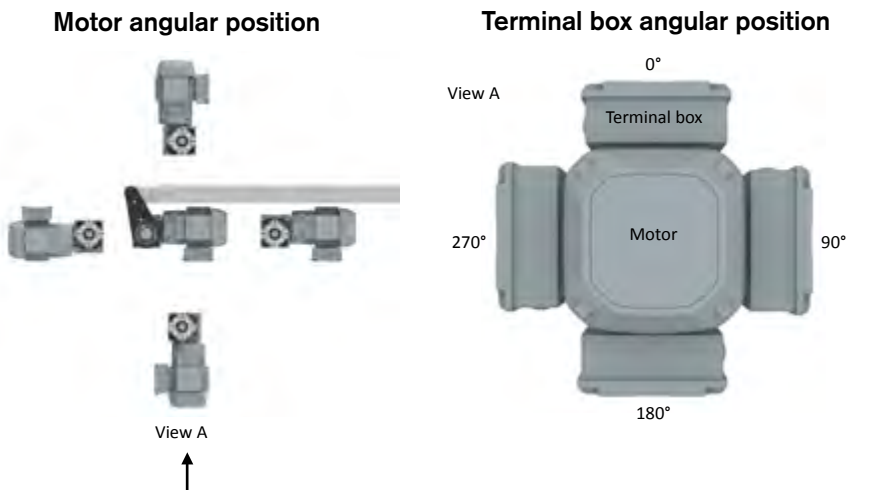
*24V drive also available

Without drive

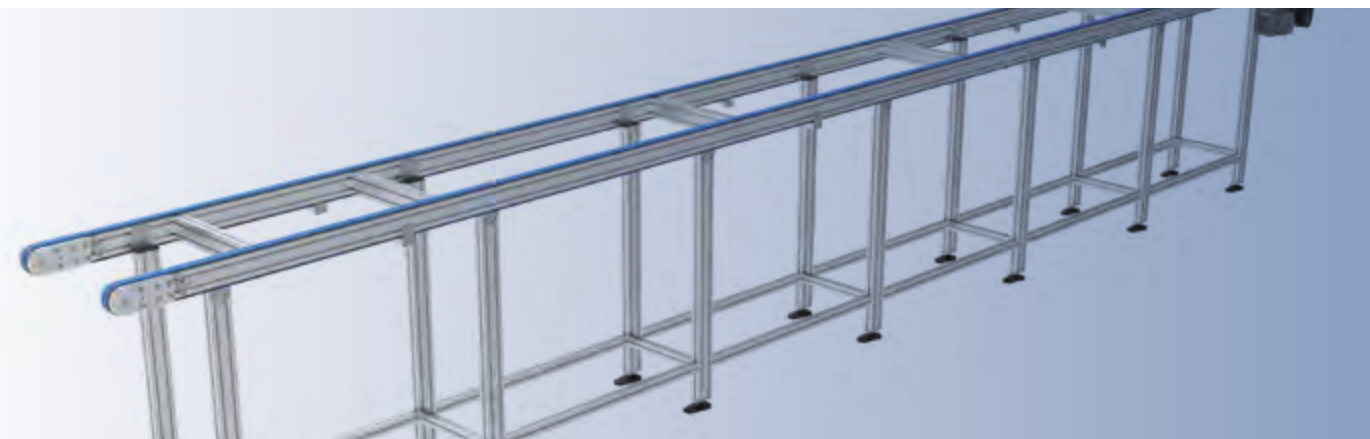
The cost-effective solution for multi-line systems: several conveyors are mechanically coupled via connecting shafts and operated in perfect synchronisation. Ideal for expanding existing systems or for connecting the customer's own motors via a flange.

Motor and terminal box positioning

For optimum integration into the system, the drive can be mounted on either the left or right-hand side of the conveyor. Maximum flexibility and excellent accessibility are achieved through the independent alignment of the motor and terminal box: both can be individually positioned in precise 90° increments. This modular design enables space-saving integration even in demanding production environments.



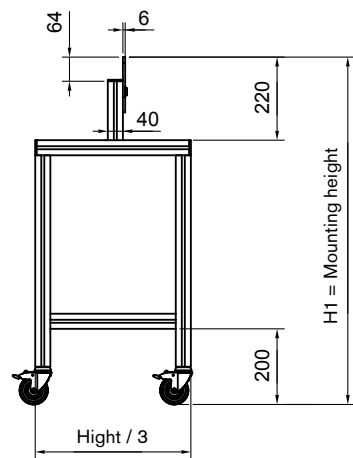
Base frame



The base frame provides a stable foundation for the Timing belt conveyor and ensures precise, low-vibration operation. It is available in the 40 and 80 series and is designed for single-line and multi-line configurations in various lengths and inclines. The construction, made from anodised aluminium extrusions, offers high dimensional stability and corrosion.

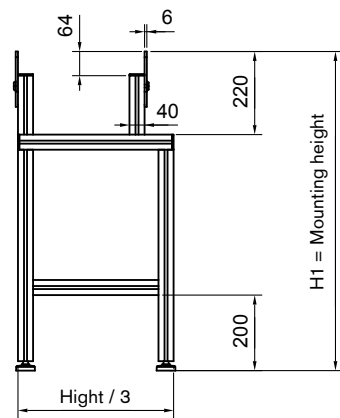
Levelling feet enable stationary use, whilst castors with brake allow for mobile applications. Mounting brackets allow for rigid attachment to machine frames or the floor. Installation via a connecting plate simplifies alignment and reduces commissioning time.

Single-line base frame



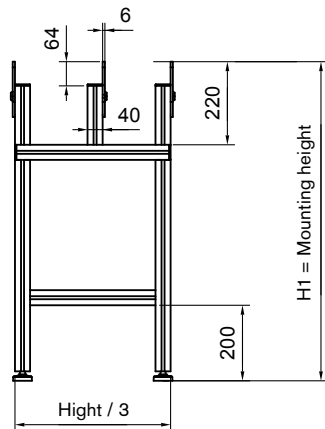
* H = height of toothed belt conveyor (mm):
H1 (ZF 40/40) = H - 14mm
H1 (ZF 40/80) = H - 42mm

Double-line base frame



Height adjustment ± 20mm

Multi-line base frame



Height adjustment ± 20mm

Floor mounting elements



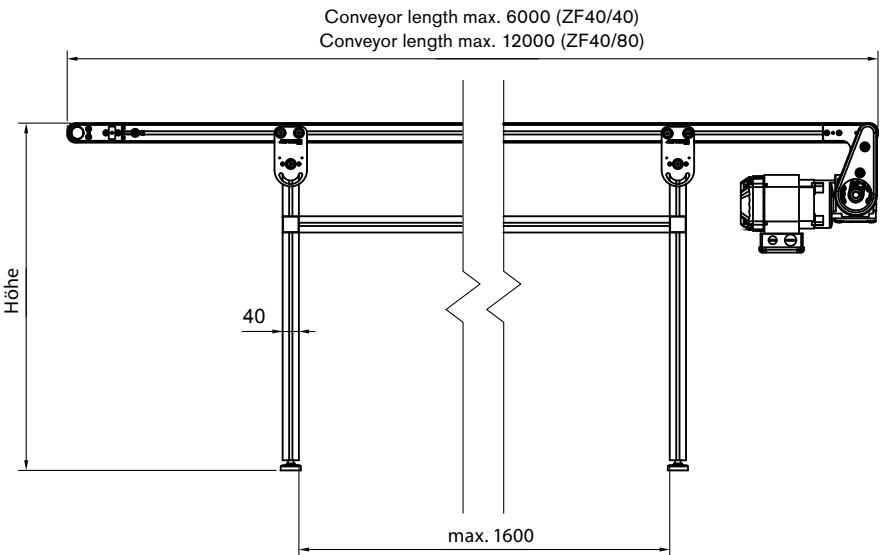
Levelling feet

High-adjustable feet (+/- 20mm) to compensate for uneven floors; these can also be screwed into the floor for secure fixing.

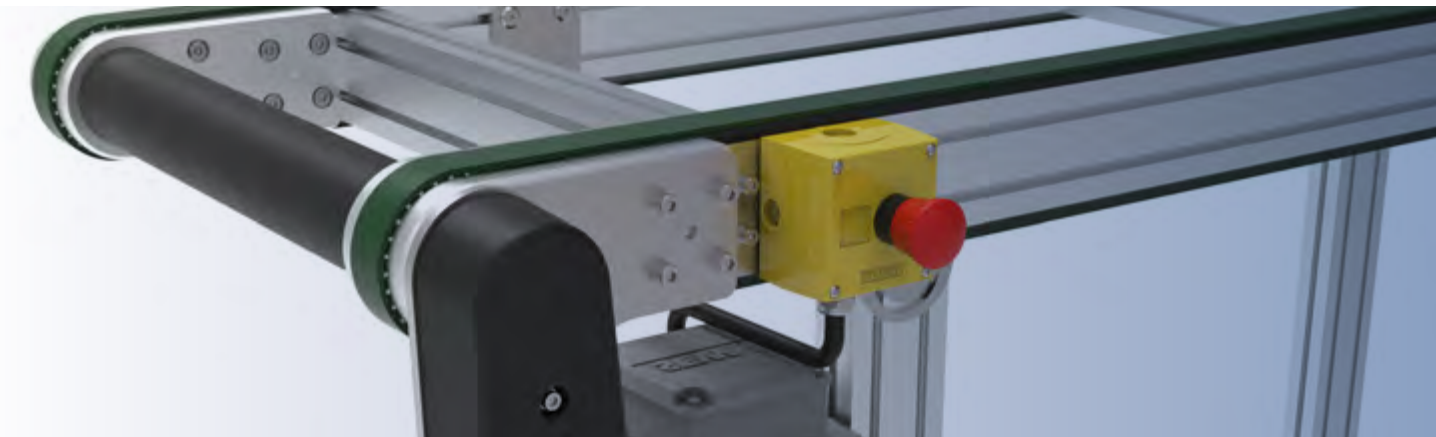


Castors

Swivel castors with or without brakes for easy mounting on the base frame.



Accessories



The accessories expand the range of functions of the Timing belt conveyor and support the safe, process appropriate handling of the conveyed material. Side rails stabilise sensitive or narrow workpieces and ensure controlled movement. The shaft guard protects moving components and reduces the risk of contact during operation. Emer-

gency stop switches enhance functional safety and enable the system to be stopped immediately. The selection is application-specific and designed for integration into existing conveyor lines and machines.



Frequency converter
Centralised and decentralised frequency converters are available for flexible speed control. The configuration is application-specific and adapted to the control system of the conveyor section.



Side rails
Adjustable side rail (clearance and height) for controlled movement of the conveyed material. Available in black PVC-U and stainless steel 1.4301.

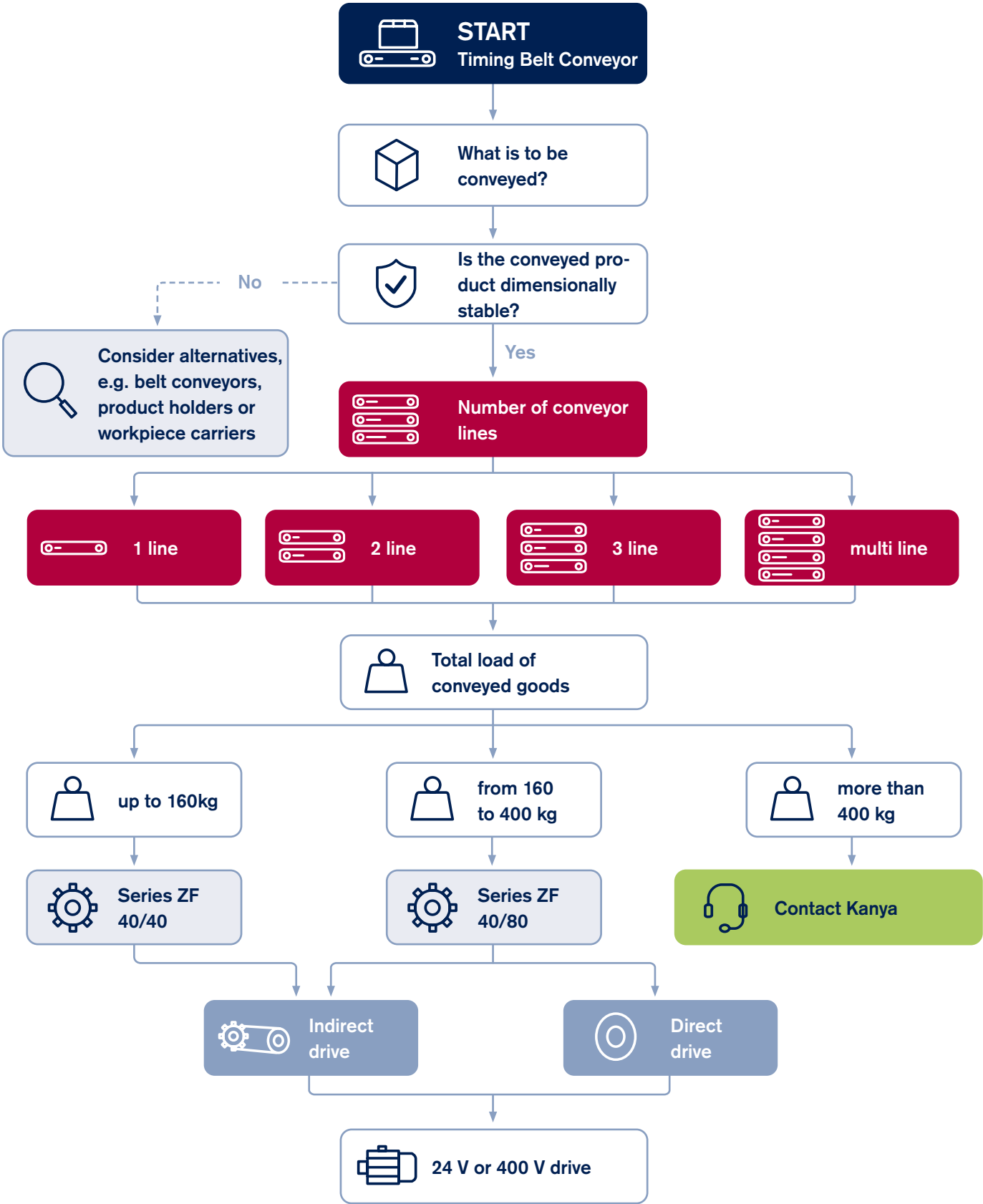


Shaft guard
Protective cover in the shaft area of the timing belt conveyor. It reduces the risk of entanglement with moving components and is recommended when no separate protective device is provided.



Emergency stop switch
Safety option for the immediate stoppage of the conveyor. The emergency stop switch is positioned according to the specific application and integrated into the conveyor line's control system.

Timing Belt Conveyor Selection Guide



Timing belt conveyor

Customer data			
Company:		Telephone number:	
Contact person:		Date:	Discount:
E-mail:		Offer information:	

Conveyed goods and ambient conditions			
Total conveyor load (kg):			
Conveyed material:		Conveyed material weight (kg/m):	
Conveyed material Dimensions (mm) Length:		Width:	Height:
Ambient temperature (°C):		Conveyed material temperature (°C):	

Timing belt conveyor			
Number of conveyors (pieces):		Number of strands (pieces):	
m = Center distance strands (mm):		Conveyor length (m):	
Typ: ☐ 40/40		☐ 40/80	
Drive type:		Drive type:	
☐ direct (ZF 40/80)		☐ pulling	
☐ indirect (ZF 40/40, ZF 40/80)		☐ pushing	

Variant:

Head drive lefts

Head drive right

Head drive left

Head drive right

Number per Conveyor:

m = center-to-center spacing of strands

Operating mode			
Operating mode:			
☐ Continuous operation	☐ Cycle operation:	Cycles/min	Travel time (s):
☐ Lateral loading/unloading	☐ Accumulation operation:	Accumulated load (kg):	

Drive			
Motor:		☐ Without motor with flange (suitable for SEW and NORD)	
☐ SEW	☐ NORD	☐ SEW	☐ NORD
Mains voltage:		☐ Motor (230 V AC/Y 400 V AC, 50 Hz)	
Conveying speed (m/min):		☐ Constant:	
Speed controller (FU)		☐ unwired (enclosed loose)	
Options:		☒ Thermal sensor TF (standard)	
☐ Mounting plate		☐ On/Off switch	
☐ Emergency stop button		☐ Thermal contact TH (bimetal)	

Angled motor position:	Angled terminal box position:	Cable outlet:
		Cable: ☐ without ☐ with
		Cable length (m):
		☐ Cable end open
		CEE plug: ☐ 32A ☐ 16A

Side guide	
☐ Adjustable	
Clear width (mm):	
Height (mm):	
Guide: ☐ Stainless steel 1.4301 ☐ PVC-U black	

Toothed belt			
☐ slightly adhesive	☐ medium adhesive	☐ highly adhesive	☐ accumulative
☐ electrically conductive			
Other:			

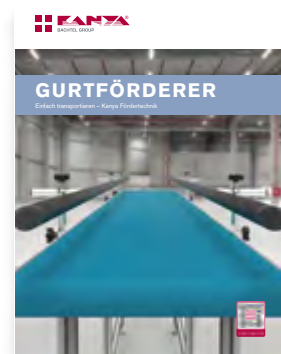
Underframe		Inclination (°): Starting height (m) End height (mm): Installation length Inclination ° Starting height Conveying length End height Installation length = conveying length / sin (inclination in °)
☐ mounted	☐ enclosed loose	
☐ without	☐ 1-strand ☐ 2-strand ☐ 3-strand	
H = height of timing belt conveyor (mm):		
H1 (ZF 40/40) = H – 14mm		
H1 (ZF 40/80) = H – 42mm		
☐ with adjustable feet	☐ with swivel castors	
Quantity:		
Notes:		



Kanya Portrait



Workingplace systems



Belt conveyor



Safety door solutions



Suspension console



Belt conveyor configurator

Kanya AG
Neuhofstrasse 9
8630 Rüti
Switzerland
T +41 (0)55 251 58 58
info@kanya.com
www.kanya.com



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