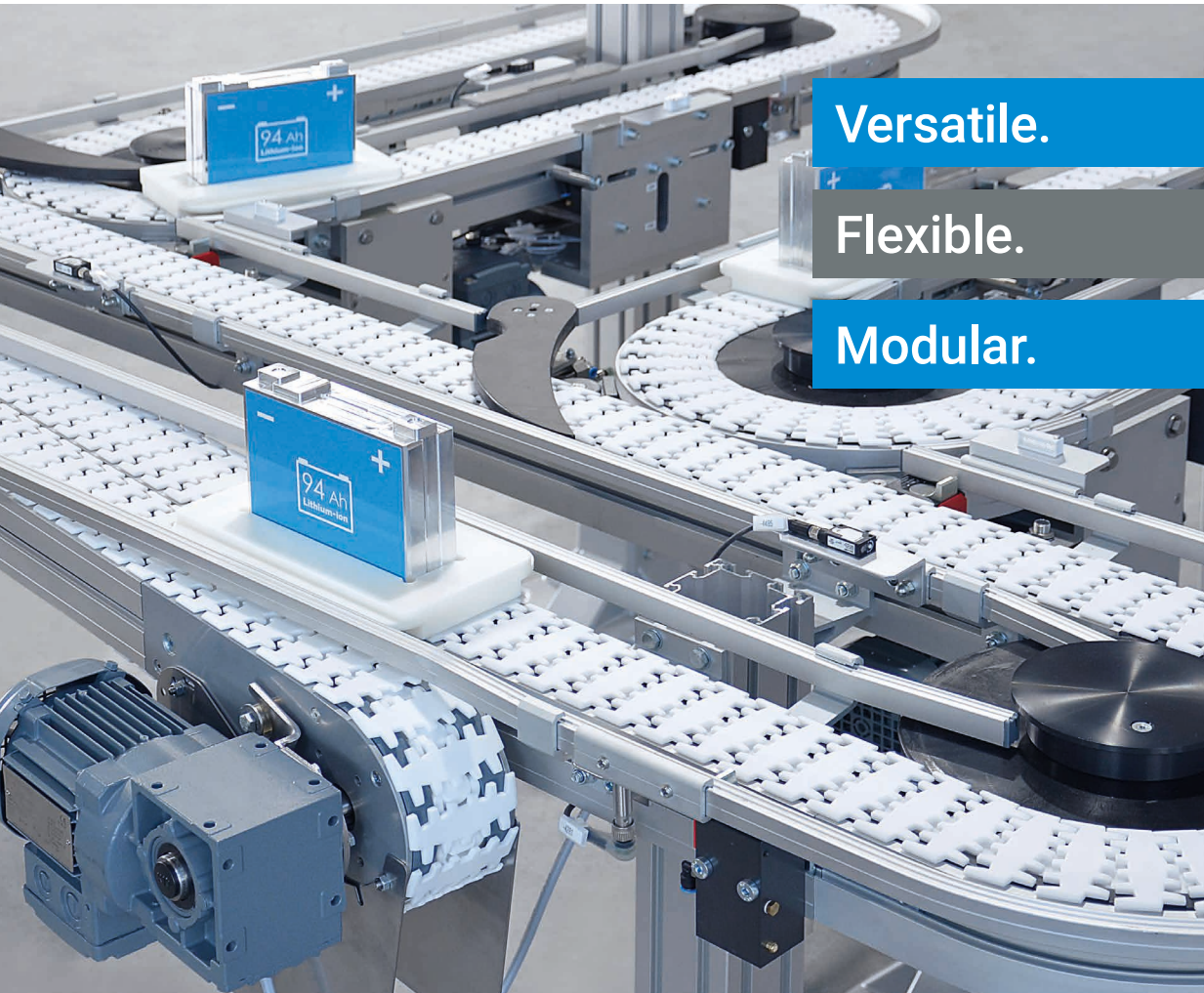


versaflex

Flat Top Chain Conveyor System



Versatile.

Flexible.

Modular.

Versaflex – versatile and flexible

» Flexible solutions from
the construction kit. «



The versatile and flexible Versaflex flat top chain conveyor system is designed based on modular principles. The standardised modules and components make the system simple and cost effective to configure and quick to integrate into any production process, as well as to adapt and expand it. Versaflex is a conveyor system that grows alongside your tasks. It is also compatible with existing systems on the market.

The single-track design and curve radii starting at 150 mm allow complex routes to be mapped in three-dimensional space. The chain runs on wear strips to ensure low wear and can only be operated with one drive at speeds of up to 50 m/min and system lengths of up to 40 m as standard.

Either as a turnkey solution or part of an assembly kit for assembly on site, the A04 to A29 system is extremely flexible and efficient and comes with chain widths of 44 mm to 295 mm and a large selection of drives, elbows, cams, side rails and other accessories. It can also be used for gentle transport and precise positioning with pallets as standard.

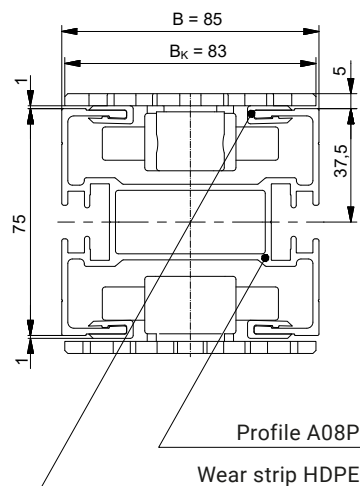
Versaflex has seen huge success in a wide variety of industry applications in recent years and transports a vast array of products to their destination with maximum reliability.

Benefits of Versaflex

- Economic solution for complex track layouts
- Quick and easy configuration and commissioning
- Suitable for all industries and compatible with existing systems
- Modular system of standardised components
- Turnkey system or assembly kit
- User friendly and low maintenance
- Can be quickly adapted to new production and environmental conditions
- Saves energy and space
- Large selection of system widths and chains

Cross Section

Example SBF A08

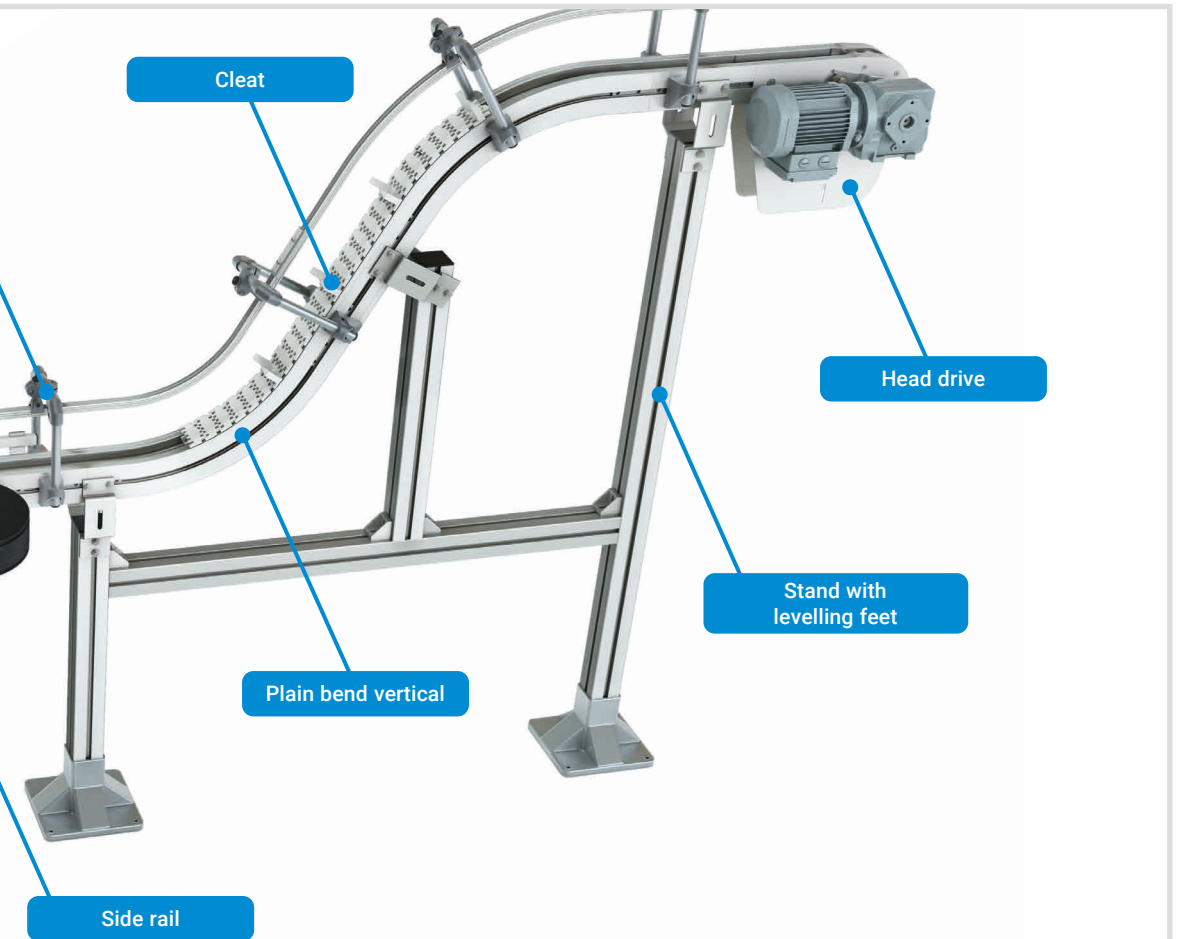


Versaflex – modular and standardised

The Benefits

- ✓ Economical realisation of complex track designs
- ✓ Simple and fast configuration and commissioning
- ✓ Suitable for all industries and compatible with existing systems





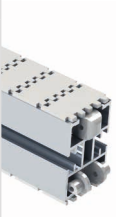
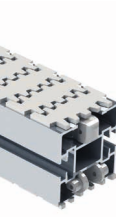
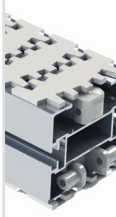
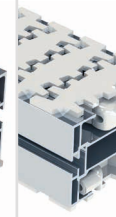


Areas of application

Primary and secondary-packaged products from, among others, the food, pharmaceutical, chemical or consumer goods industry. Also for the transport of pallets in assembly lines e.g. of the automotive industry and for the linking of machines in the manufacturing industry.



Versaflex – versatile and flexible

Overview of Options

System	A04*	A06	A08/P08	A10	A17	A29
						
Conveyor						
System width [mm]	45	65	85	105	182	300
System height incl. chain [mm]	72	73	85	86	95	95
Total load max. [kg]	150	150	200	200	200	200
Conveyor length max. [m]	30	40	30	30	30	30
Conveyor speed max. [m/min]**	50	50	50	50	50	50
Chain						
Chain width [mm]	44	63	83	103	175	295
Chain pitch [mm]	25.4	25.4	33.5	35.5	33.5	33.5
Chain traction force [N]	500	500	1250	1250	1250	1250
Product						
Product width [mm]	10-80	15-140	20-200/up to 150 (P08)	25-300	70-400	70-400
Product weight horizontal max. [kg]	2	10	15/10 (P08)	20	15	15
Product weight rising max. [kg]	1	2	10/- (P08)	15	10	10

* also available as option A045 with a system height of 52 mm for compact applications

** higher conveying speeds on request

Request/Order

We require the following information to design your Versaflex:

Product Properties

Product dimensions (LxWxH)

Product weight

Surface properties (smooth, sharp-edged, soft, hard, etc.)

Operating Properties

Conveyor speed ([m/min]; [piece/min])

Are the products accumulated?

Cycle operation [start-stop/h]

Process environment (hot, cold, dry, wet, dusty, dirty, etc.)

Conveyor System Data

Track layout

Upper edge of belt conveyor (floor supports, wall brackets, ceiling suspension)

Transitions (product transfer or discharge)

Control technology

Operating Temperature

Versaflex can be continuously operated in a temperature range between -20°C and $+60^{\circ}\text{C}$. It can also be briefly operated in temperatures of up to 100°C , e.g. for cleaning and rinsing.

Chain tensile force

In the following cases, the chain tensile force and the performance of the drive units must generally be calculated and monitored:

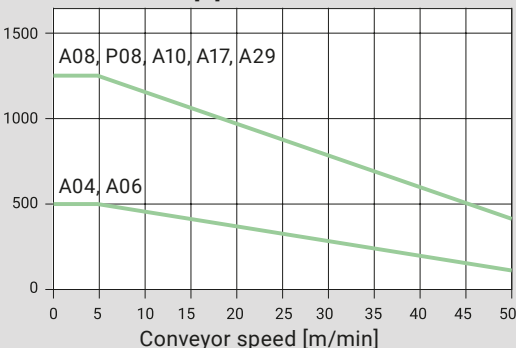
- High load
- Accumulation
- Vertical conveyors
- High conveyor speed
- Very long conveyors
- Conveyors with sliding bends (horizontal or vertical)
- Frequent starts and stops (cycle operation)
- Very high or low ambient temperatures

Make it simple and use our request form at

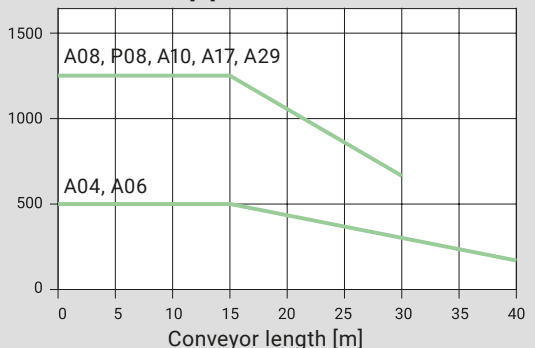
www.mk-group.com/service/download-center

Chain Tensile Forces Based on Conveyor Speed and Conveyor Length

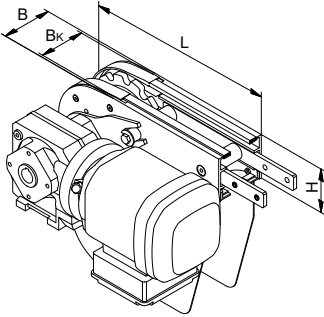
Chain tensile force [N]



Chain tensile force [N]



Versaflex module overview SBF A04 ... A29*

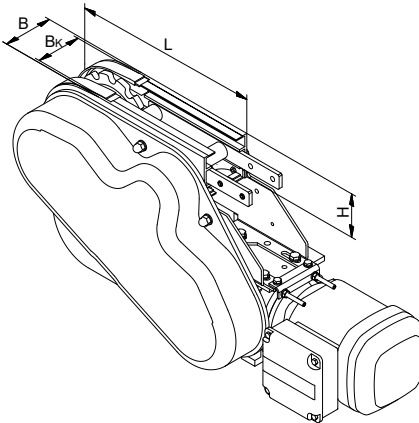


Direct End Drive DE1 and DE2

The direct end drive is available with chain slack or as a guided unit without chain slack. It is also available with (DE1) or without a friction clutch (DE2).

Conveyor speeds [m/min]: 5, 10, 15, 20, 25, 30, 40, 50 and 60. Others on request.

System	A04	A06	A08	A10	A17	A29
max. tensile force [N]	500		1250			

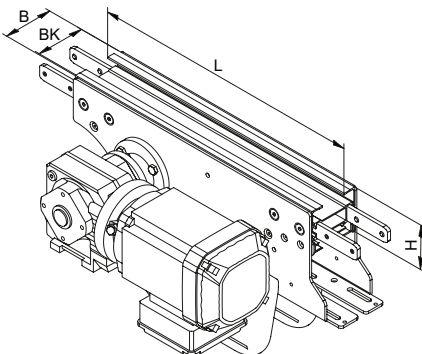


Indirect End Drive with Friction Clutch DE0

The indirect end drive is available with chain slack or as a guided unit without chain slack.

Conveyor speeds [m/min]: 5, 10, 15, 20, 25, 30, 40, 50 and 60. Others on request.

System	A04	A06	A08	A10
max. tensile force [N]	500		1250	



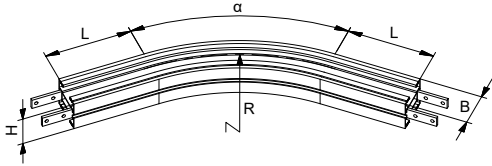
Direct Centre Drive

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.

Conveyor speeds [m/min]: 5, 10, 15, 20, 25, 30, 40, 50 and 60. Others on request.

System	A04	A06	A08	A10
max. tensile force [N]	500		1250	

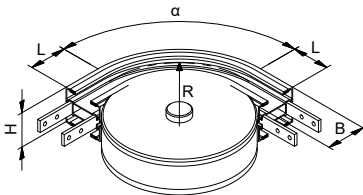
** The drive shown here has a maximum tensile force of 200 N



Sliding Curve

The sliding curve is available with angles of 30°, 45°, 60° and 90° as standard. Angles of up to 180° are available on request.

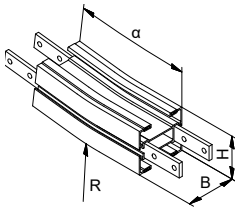
System	A04	A06	A08	A10	A17	A29
R_{min} [mm]			500			700
R_{max} [mm]			1500			



90° and 180° Rolling Curve

The rolling curve and rotating plastic washers on the inside of the curve significantly reduce the amount of friction that occurs in the conveyor system. This feature enables higher speeds, longer conveying paths and higher loads to be achieved.

System	A04	A06	A08	A10	A17	A29
Radius [mm]	150	150	160	170	-	-



Vertical Curve

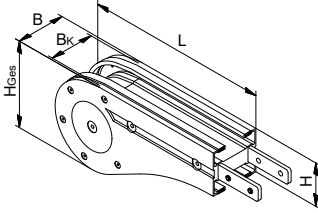
The curve can be used to overcome height differences at an angle of up to 90°. Depending on the product, we recommend using cleated chains to prevent the product from slipping back. Like in the curve segments, wear strips ensure that the chain runs safely and without much friction.

Radius R: 400 mm

Angle α : 5°, 7°, 15°, 30°, 45°, 60° and 90°.

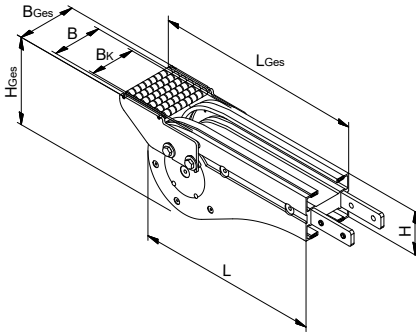
For the systems A17 and A29, only 5° and 7° angles are available.

Versaflex module overview SBF A04 ... A29*



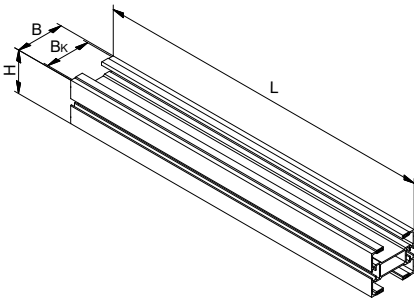
Tail

The plastic or aluminium tails safely and precisely guide the chain back into the upper run.



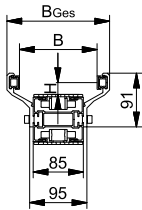
Transfer Segment

The roller bridge with an 11 mm roll diameter enables the frontal transfer of small products. The transfer segment can also have a driven design.



Line including Wear Strips

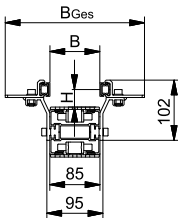
Conveyor frame profile made from high-quality aluminium with wear strips for reducing friction between the profile and chain. The wear strip is easy to screw on or rivet.



Side rail AGRM type 11

The side rail is available in different fixed heights and widths. It is quick and easy to assemble.

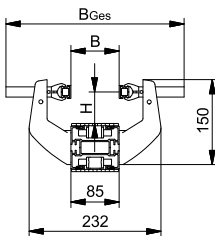
Available widths (B) 47 - 450 mm



Side rail AGRM type 2.3

The side rail is available in a number of different fixed heights. The width can be adapted slightly.

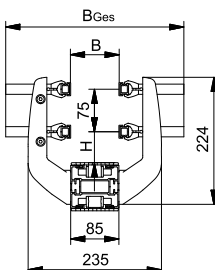
Available widths (B) 0 - 370 mm



Side rail AGRP type 1.0

The side rail is available in a number of different fixed heights. The holder can hold up to two side rail profiles. The width can be flexibly adapted.

Available widths (B) 0 - 314 mm

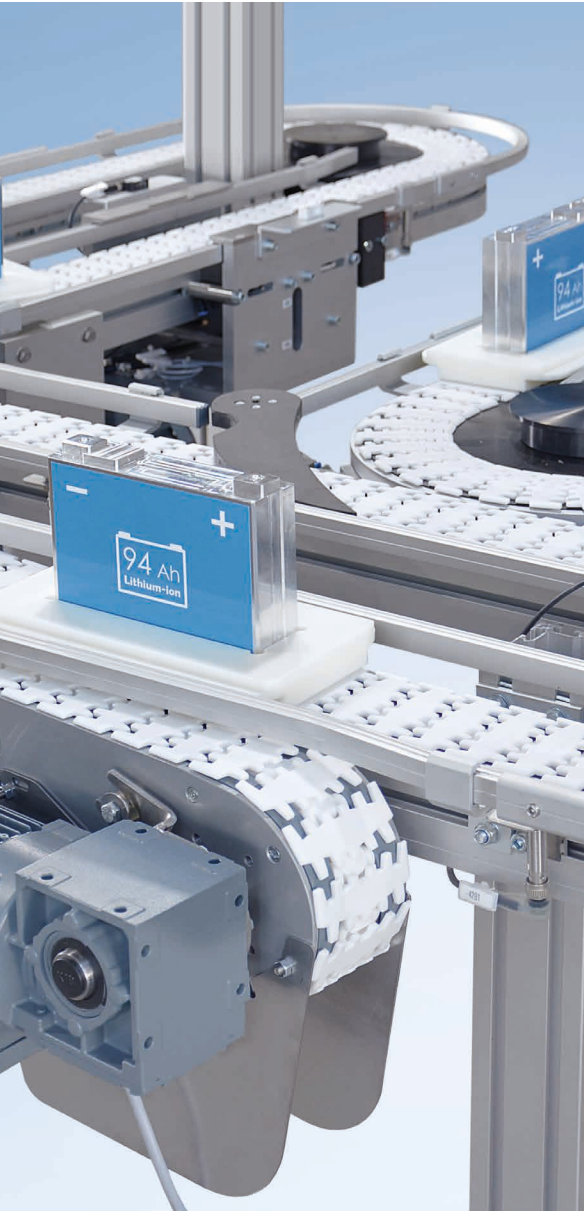


Side rail AGRP type 2.0

The side rail is available in a number of different fixed heights. The holder can hold up to four side rail profiles. The width can be flexibly adapted.

Available widths (B) 0 - 314 mm

Versaflex – also as pallet system



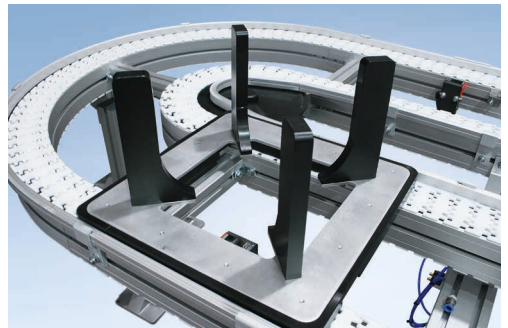
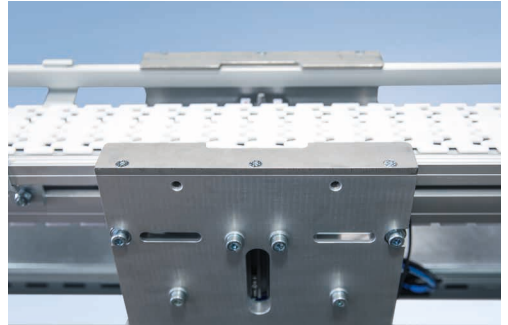
» Safe solution for automated processes. «

To ensure the precise positioning of products, pallets can also be transported on the A08 system. As described above, the system is 85 mm wide (chain width 83 mm) and is designed for products weighing up to 10 kg per carrier. The carriers have a standard width of 150 mm and are guided by side rails and positioned exactly in three levels in the locating stations. So the products are fixed, buffered and transported gently, safely and accurately.

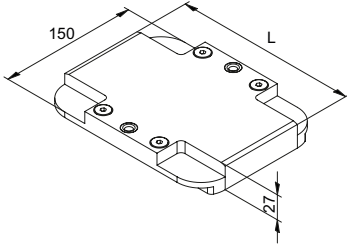
The pallet can be customised and equipped with individual fixtures. The locate station can be freely positioned without changing the side rails. A positional accuracy of ± 0.1 mm is achieved. Therefore the pallet is lifted off the conveyor chain.

Benefits of Versaflex pallet system P08

- Simple and accurate positioning for automated processes
- Stability even for products with unfavorable geometry
- Gentle product transport also for sensitive product surfaces
- Safe transport even with changes in position
- Higher machine autonomy
- Buffer function for cycle decoupling in manufacturing process

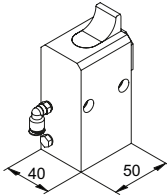


Versaflex module overview pallet system P08



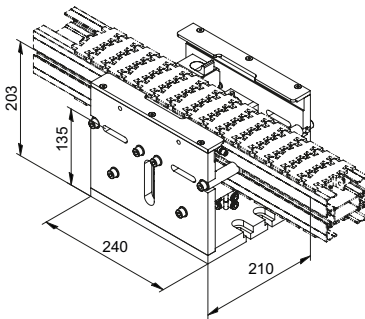
Pallet

Pallet with centring bushes and countersunk screws for position recognition. Locating holes can be made according to customer requirements. Width 150 mm, length 150, 200, 250 mm.



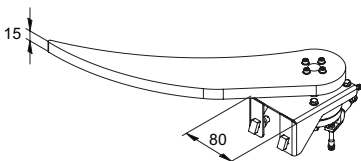
Stopper

In the depressurised state, the stopper is moved into the blocking position by a spring. Stoppers are available in single-acting and double-acting versions. Connection via \varnothing 6 mm push-in fitting, incl. fastening accessories.



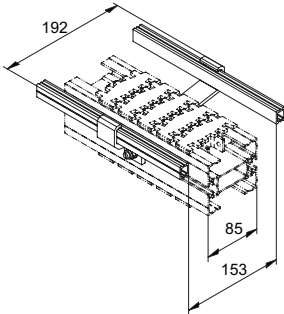
Positioning unit

Pallet positioning unit with stopper, incl. sensor holder. Positioning accuracy ± 0.1 mm. Maximum theoretical vertical force at 6 bar incl. pallet: 800 N.



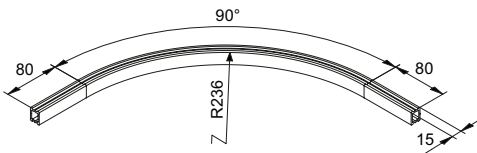
Switch

Switch with rotary actuator, pneumatic, double-acting, without sensor system, incl. fastening accessories.



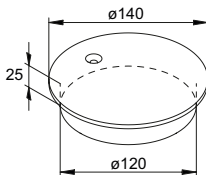
Side rail AGRM type 11

The side rail with a fixed height and a width of 153 mm consists of side rail holders and a side rail profile and is quick and simple to assemble and install.



Side rail for bend roller

The external side rail profile for the bend roller is available in four predefined angles: 30°, 45°, 90° and 180°. Other angles available on request.



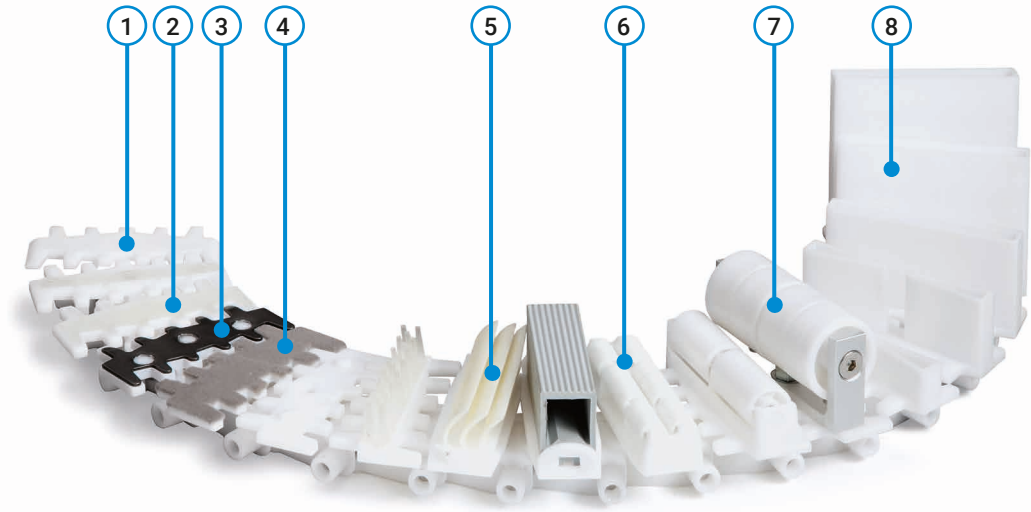
Guide disk

Guide disk as a side rail for mounting on a bend roller. Suitable for pallets with a length of 250 mm. For other pallets on request.

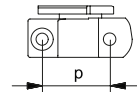
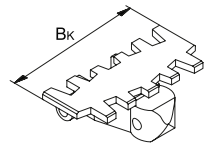
Versaflex Flat Top Chains

The conveyor chains are made from the material POM and are available in a wide variety of designs for virtually all applications – with an adhesive surface for inclines, with steel covering for sharp-edged parts or flocked for transporting very delicate items. In addition, a large number of

different cams are available – rolls in a wide range of dimensions for accumulating products, or flexible cams for implementing clamping conveyors. Furthermore, chain links with embedded magnets can be used to transport magnetisable parts.



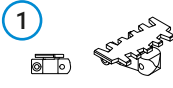
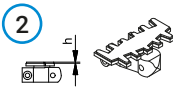
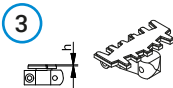
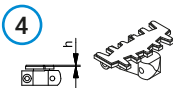
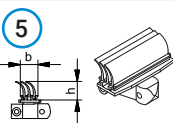
- 1 Smooth standard chain
- 2 Chain with hard surface
- 3 Chain with steel covering
- 4 Flocked chain
- 5 Chain with flexible cams or clamping elements



Project-specific on request

- 6 Accumulating roller chain
- 7 Cleated roller chain
- 8 Cleated chain

Chain Options

Chain option	Designation	Cam height h [mm]						Properties
		A04	A06	A08/P08	A10	A17	A29	
	... CH	none	none	none	none	none	none	Flat, smooth chain: direct transport or indirect via pallet
	... CF/ ... CF-A	none	none	none	none	none	none	High-friction chain/flat, high-friction chain: upward or downward inclines
	... CS	-	none	none	none	-	-	Chain with steel covering: parts with sharp edges, products with rough surfaces
	... CB	none	none	none	none	-	-	Flocked chain: gentle transport
	... CW-C	-	28	27.54	-	-	-	Chain with flexible cams, type C (clamping conveyor chain): different height levels

- = Chain option unavailable for this system
... = System (A04, A06, A08, A10, A17, A29)

Technical data

System	A04	A06	A08/P08	A10	A17	A29
Chain width B _k [mm]	44	63	83	103	175	295
Chain pitch p [mm]	25.4	25.4	33.5	35.5	33.5	33.5
Chain tensile force [N]	500	500	1250	1250	1250	1250

Single Stands

Versaflex Stand type 1

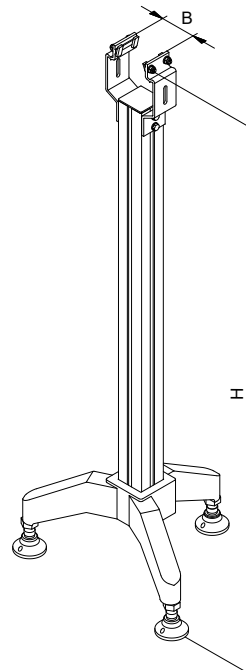
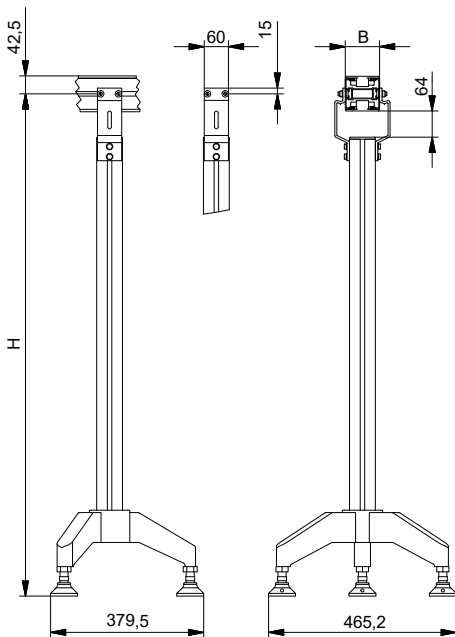
Height-adjustable single stand, can be used for the flat top chain conveyor SBF Versaflex.

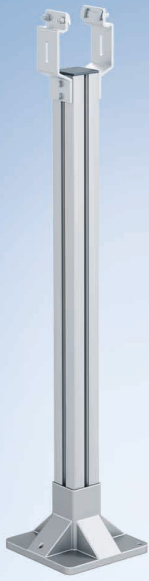
Standard heights:

H 500 mm - 1500 mm
± 50 mm

Standard width:

B 45 mm
B 65 mm
B 85 mm
B 105 mm





Versaflex Stand type 2

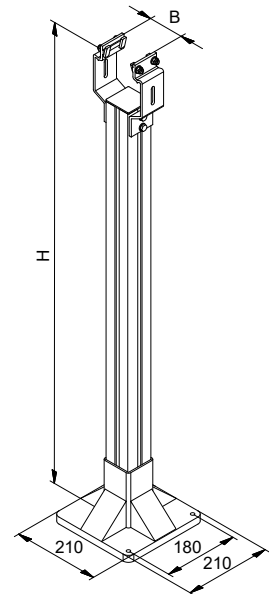
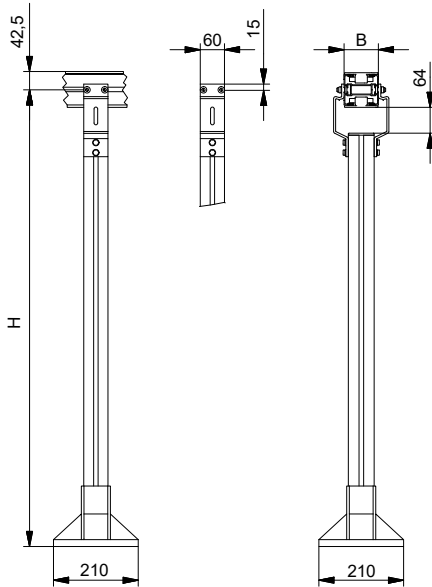
Height-adjustable single stand, can be used for the flat top chain conveyor SBF Versaflex.

Standard heights:

H 500 mm - 1500 mm
± 30 mm

Standard width:

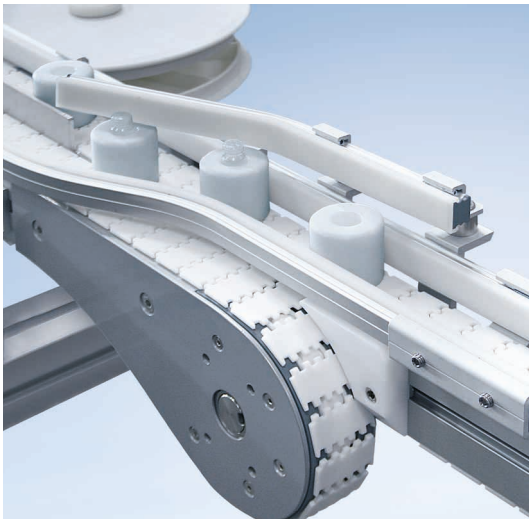
B 45 mm
B 65 mm
B 85 mm
B 105 mm



Versaflex – Application Examples



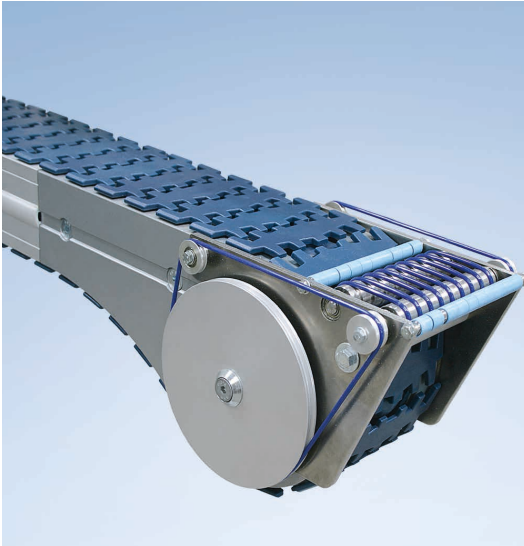
4-track Versaflex flat top chain conveyor A06 with cleats



Flat top chain conveyor SBF P04 with switch for separation



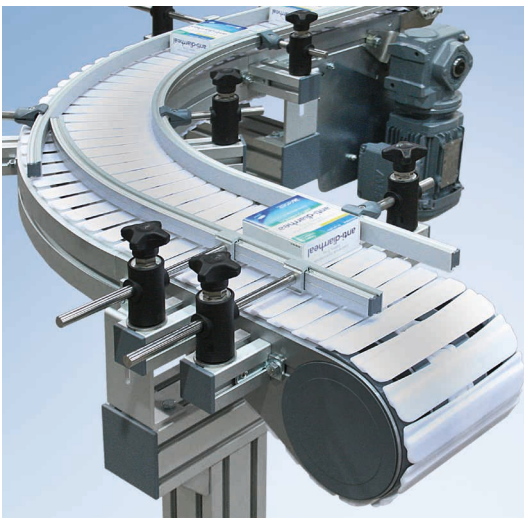
Versaflex SBF A08 with height and width-adjustable side rail



Versaflex flat top chain conveyor
with driven transfer



Versaflex flat top chain conveyor
as clamping conveyor

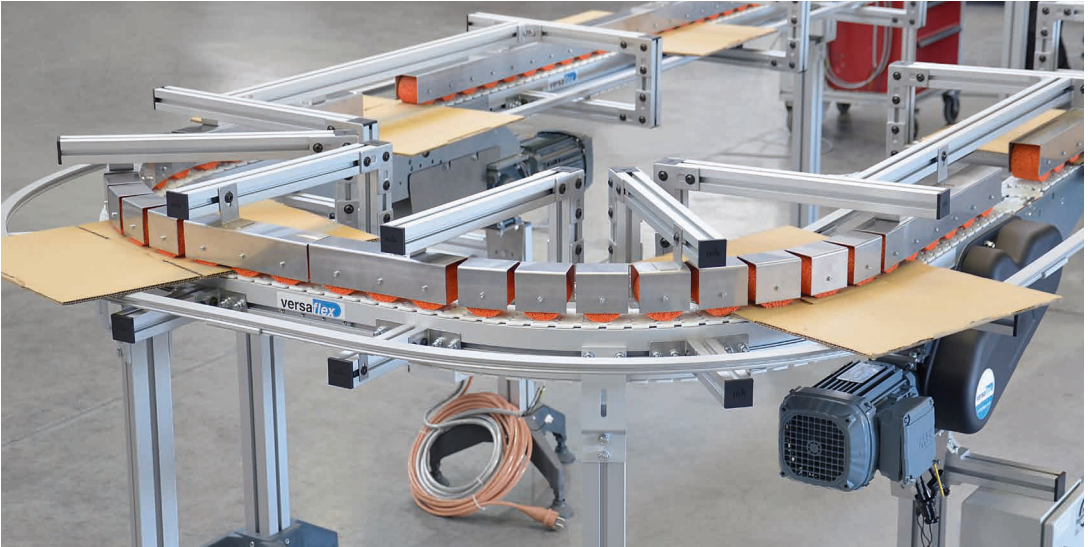


Flat top chain conveyor SBF A17
with width-adjustable side rail



Flat top chain conveyor SBF A08 with driven transfer
tail and pressure rollers for vertical transport

Versaflex – Application Examples



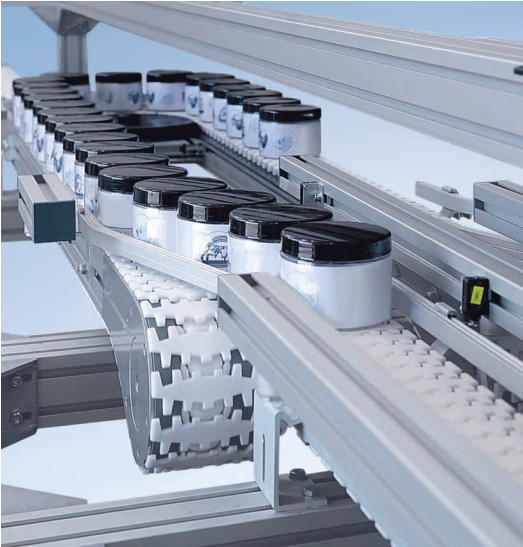
Versaflex SBF A08 for transferring cardboard boxes with pressure rollers for reliable transport in a stable position



Versaflex flat top chain conveyor with guide rollers for vertical transport



Versaflex SBF A10 for conveying open storage boxes to the workstations



SBF Versaflex with adjustable side rails



Versaflex SBF A08 with magnetic chain for vertical transport



Versaflex flat top chain conveyor as a parallel multi-line system



Versaflex flat top chain conveyor with roller bridge

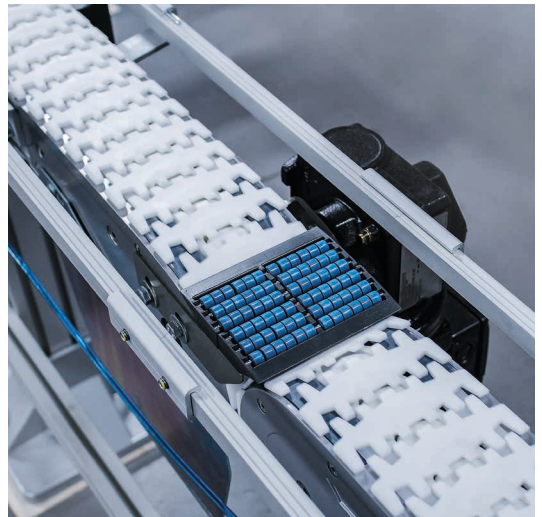
Versaflex – Application Examples



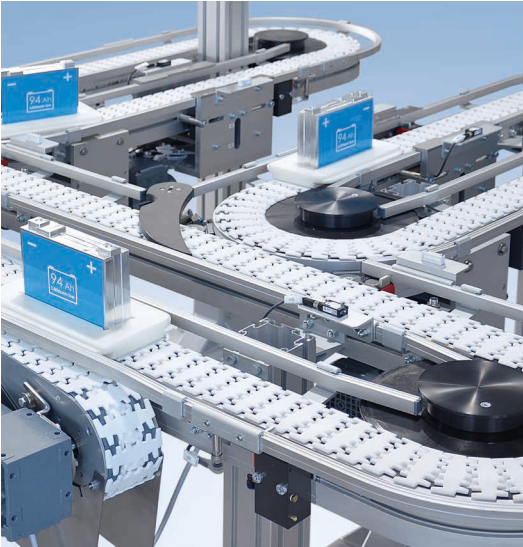
P08 pallet system based on SBF Versaflex A08 with separator



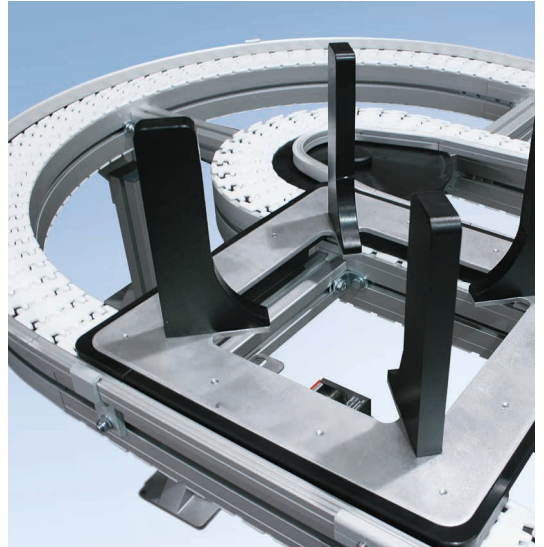
P08 pallet system based on Versaflex SBF A08 with customer-specific sleeve joint



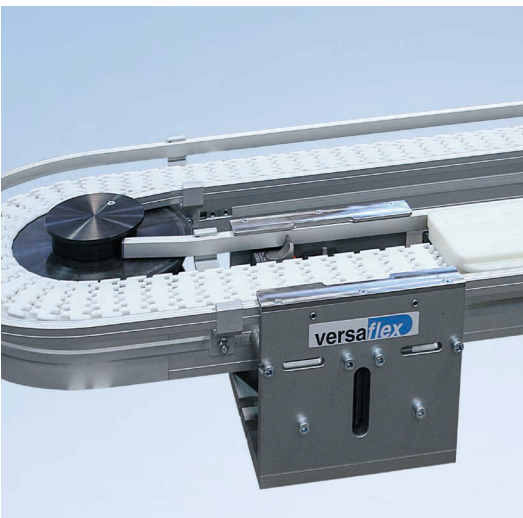
P08 pallet system based on Versaflex SBF A08 with roller bridge



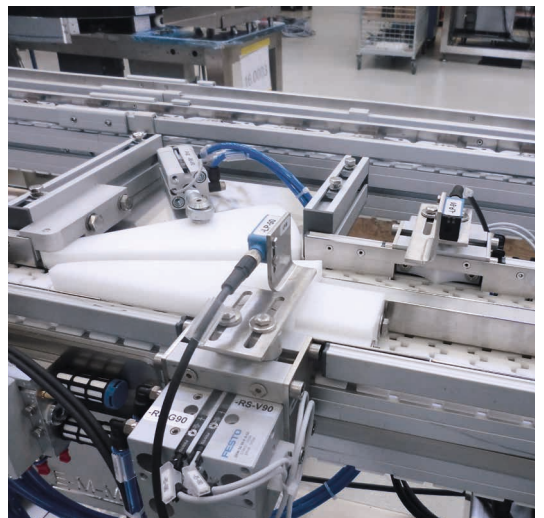
P08 pallet system based on SBF Versaflex A08 with curves, switches and positioning units



Flat top chain conveyor SBF P08 as double-line pallet circulation system with sliding 180° curve



P08 pallet system based on Versaflex SBF A08 with positioning unit



Versaflex flat top chain conveyor with customised separation

Our service – your benefit



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» Dependable consulting and technical support throughout the entire life cycle. «

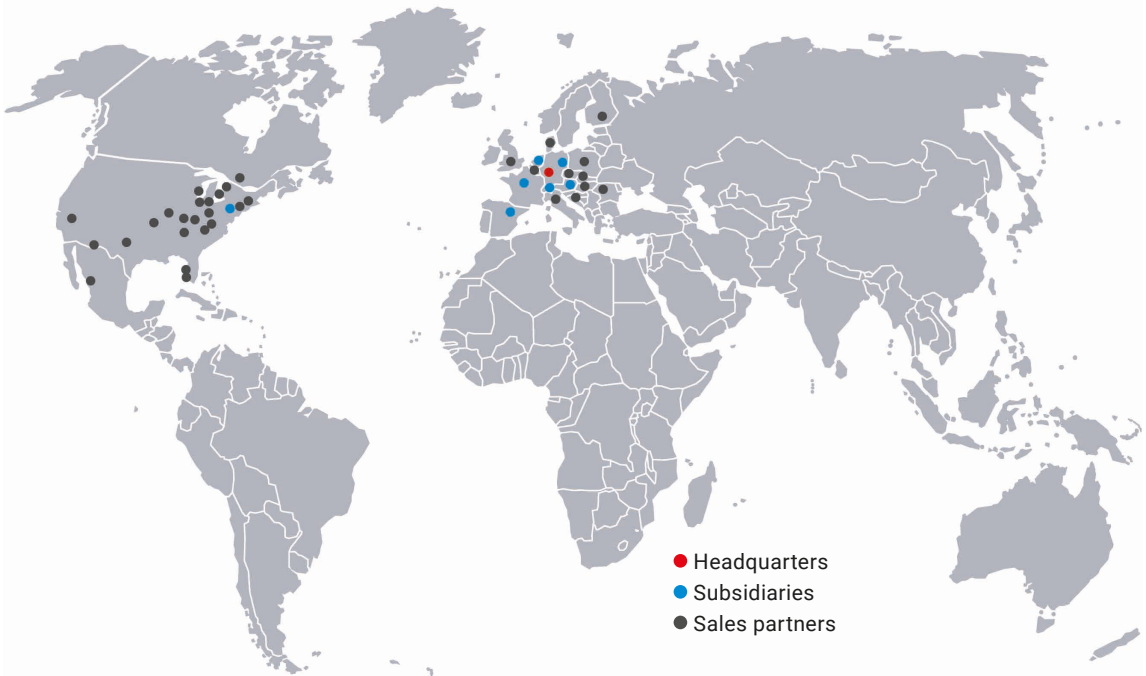
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