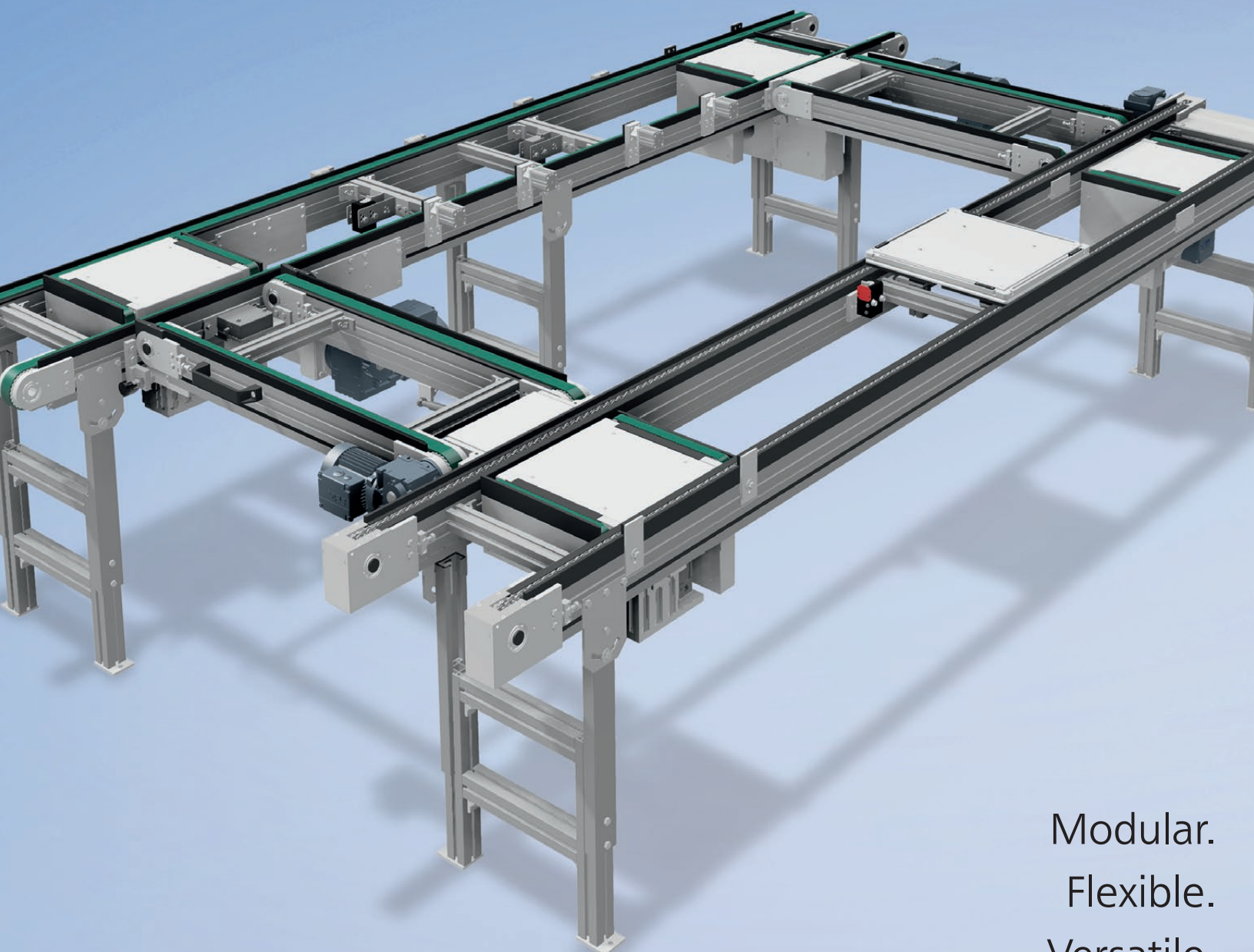




**versamove**  
pallet-handling systems

## Pallet-Handling Systems for Flexible Manufacturing



Modular.  
Flexible.  
Versatile.



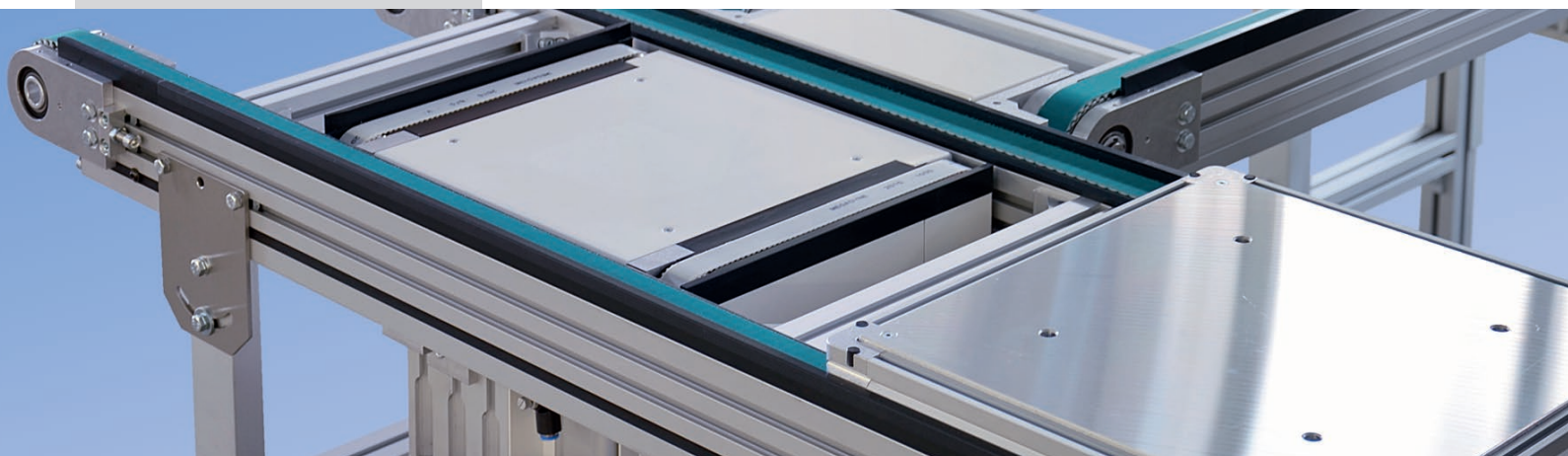
## *Introduction to mk*

mk North America is a member of the mk Technology Group and a leading worldwide manufacturer of pallet-handling systems, aluminum conveyors, stainless steel conveyors, and extruded aluminum framing.

Unsurpassed variety, maximum flexibility, superb quality and easy integration are reasons mk has become the supplier of choice for machine builders, system integrators and manufacturing companies around the globe.

With 30 years of diverse industrial know-how, superb quality, constant innovation and application engineering excellence, mk North America, Inc. offers you a perfect solution for any application.





**versamove**  
standard

**versamove**  
+plus

**versamove**  
ultra

## *better products. better solutions.*

### **Modular**




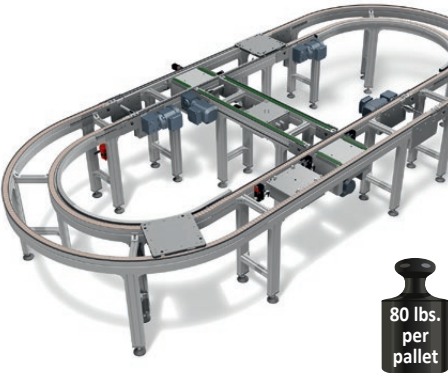

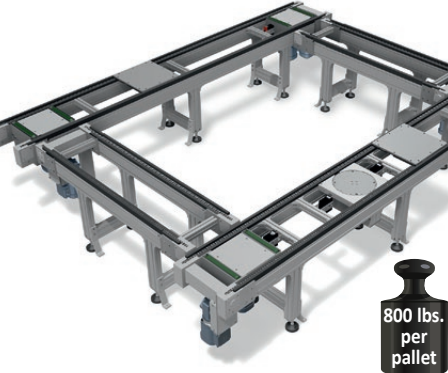
At mk North America, we believe in offering you better products and being your partner for better solutions. All of our pallet-handling conveyors are designed and constructed using pre-engineered elements that we call modules which can be combined as needed to create the ideal system for your application. This modular approach allows for easy expansion as well as reconfiguration and relocation of elements within the system, making mk VersaMove® conveyors easily adaptable to your changing needs.

### **Flexible**

mk's VersaMove pallet-handling systems are designed to improve manufacturing productivity while allowing for maximum process flexibility. The VersaMove systems come in three different size platforms and offers three different types of conveying media. The various platforms and conveyor types can be combined within a single system, allowing for maximum flexibility. Because the conveyors are built using mk's own extruded aluminum, it is easy to add and configure mk workstations and safety guarding thus adding value to your system.

### **Versatile**

With three different VersaMove pallet-handling platforms, running pallet payloads ranging from 1 to 800 pounds, mk has a conveyor system to meet just about any loading requirement. This means mk pallet-handling systems can be used in a wide variety of industries and applications. VersaMove components are offered as individual modules, mechanically complete, or as turnkey solutions. Furthermore, we assemble and test all of our conveyors at mk North America before shipping them to you, so you can get up and running quickly. We offer complete service, including installation, controls, and after-sales support. At mk, we offer not only better products but also better solutions — providing for a maximum return on your investment.

		
		
<b>Pallet sizes</b>		
240 x 240 mm to 400 x 400 mm	400 x 400 mm to 1,040 x 1,040 mm	640 x 640 mm to 1,200 x 1,200 mm
<b>Conveyor types</b>		
Flat top chain conveyors Timing belt conveyors Accumulating roller chain conveyors	Timing belt conveyors Accumulating roller chain conveyors	Timing belt conveyors Accumulating roller chain conveyors
<b>Special features</b>		
Curved conveyors available	Versatile options	High load capacity
<b>Conveyor speeds</b>		
Up to 90 fpm	Up to 90 fpm	Up to 80 fpm

## Always the right system

VersaMove is a non-synchronous workpiece pallet-based conveyor system designed to improve manufacturing productivity and product quality while allowing for maximum process flexibility.

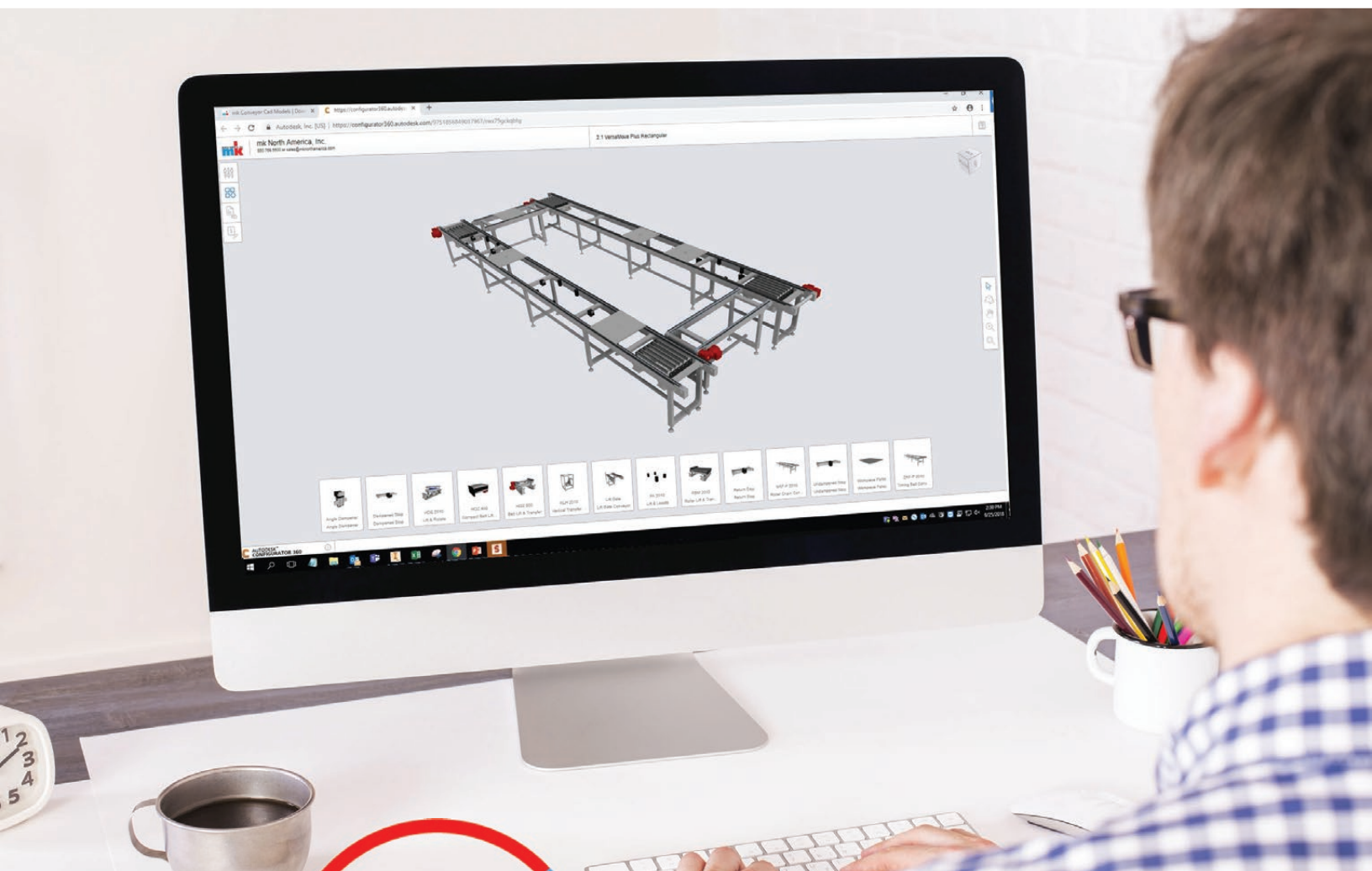
VersaMove conveyors are offered in three platforms: VersaMove Standard, VersaMove Plus and VersaMove Ultra to suit a wide range of applications. Each platform

offers a complete series of vertical and horizontal pallet-transfers, as well as positioning and control modules to satisfy the varied requirements of manual or automated assembly and testing operations.

VersaMove pallet-handling systems can easily and quickly be customized to meet your unique material handling needs.



## Online Conveyor System Modeling



# CAD360!

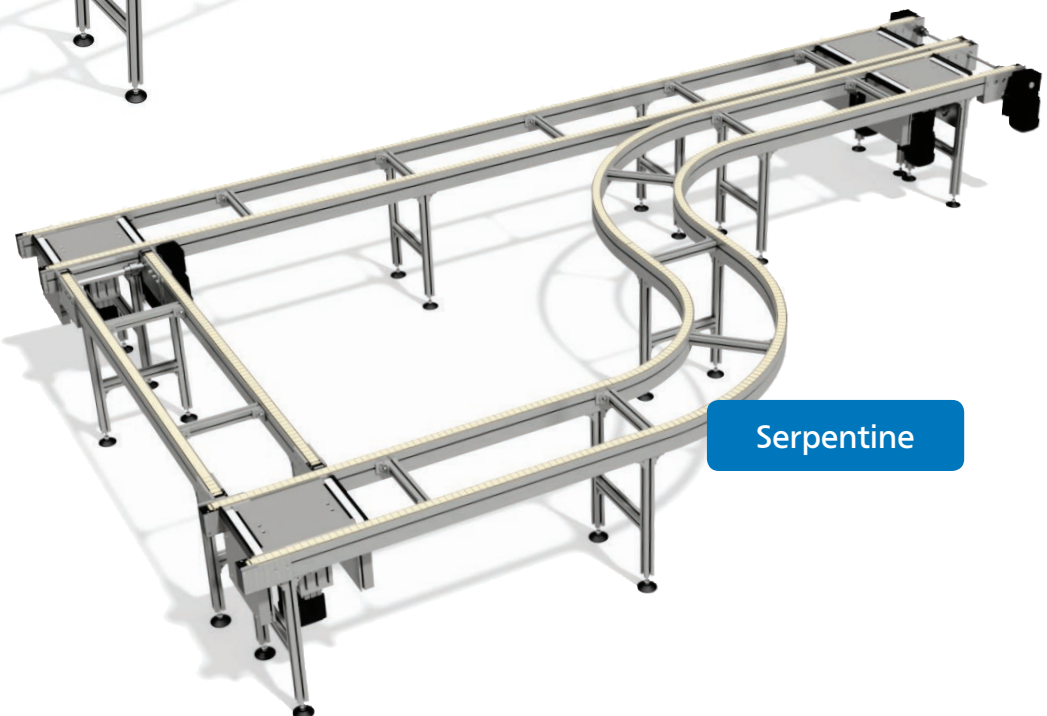
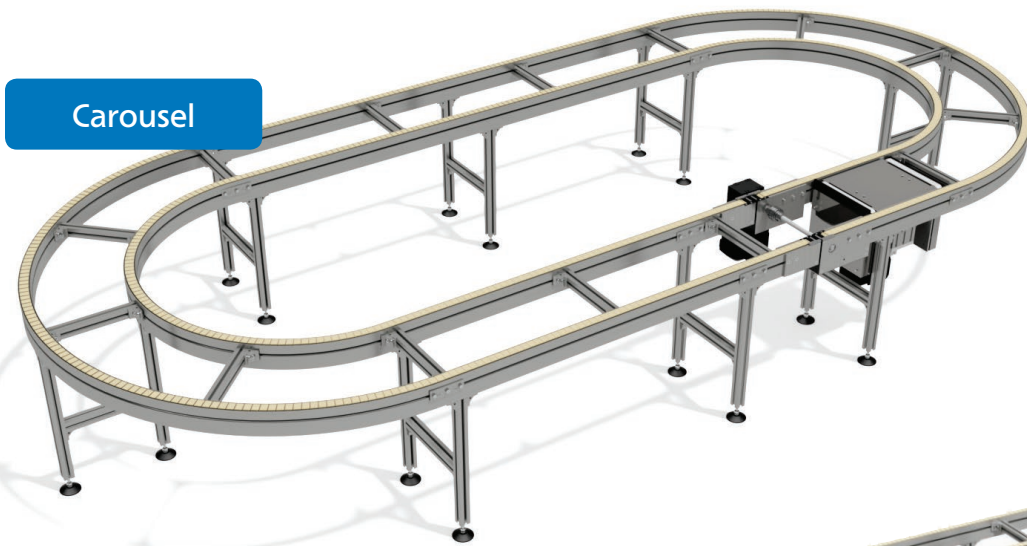
*Quickly and Easily Configure and Download CAD Models*

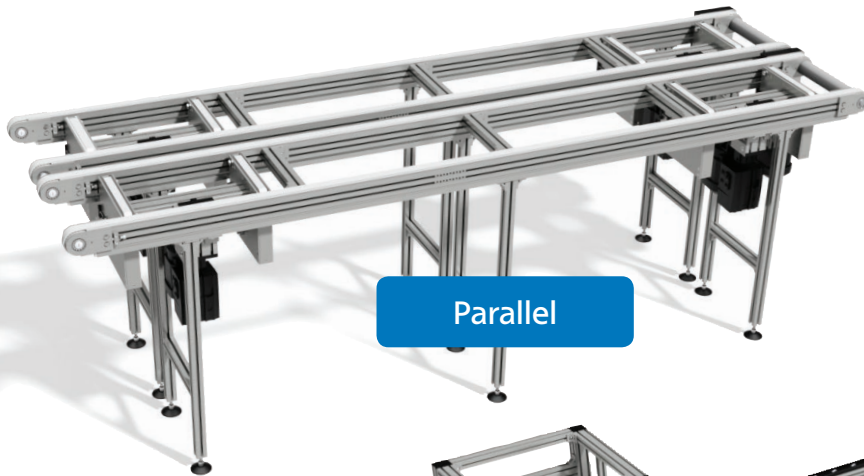
- Select from a wide range of pre-designed layouts or design your own, choosing from an expansive selection of conveyor options
- Drag and drop features allow for quick and easy system configuration
- Customize conveyor lengths, pallet sizes, drive locations and so much more
- A wide variety of download options including: 3D DWF, STP, 2D DWG, JPG and PDF files
- Usable on any device connected to the Internet

**[www.mkcad360.com](http://www.mkcad360.com)**

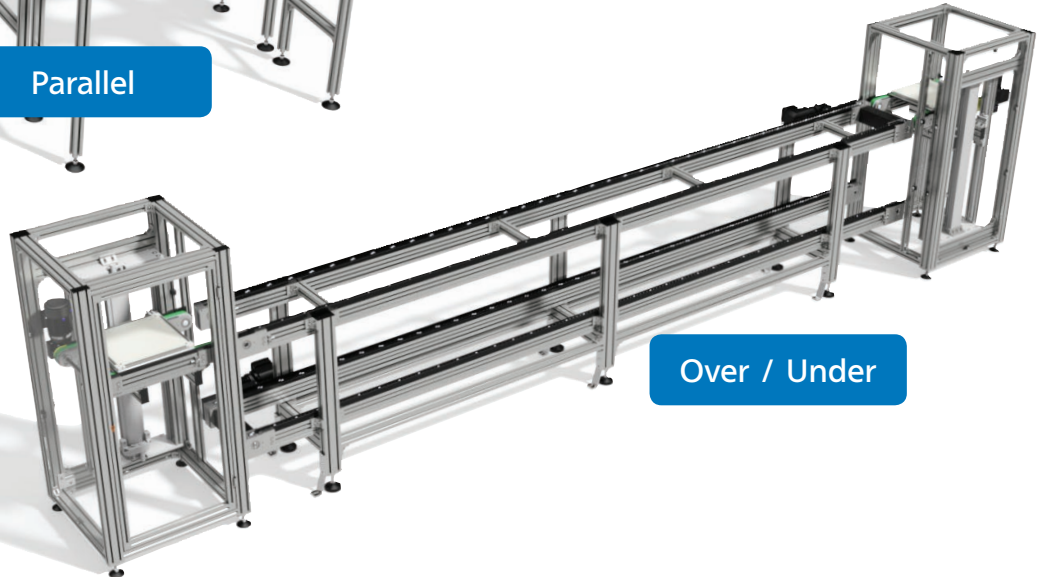
## Configuration Examples

mk offers six standard configurations which can be combined for even greater flexibility. This allows you to design a system that optimizes your production flow while minimizing the required footprint.

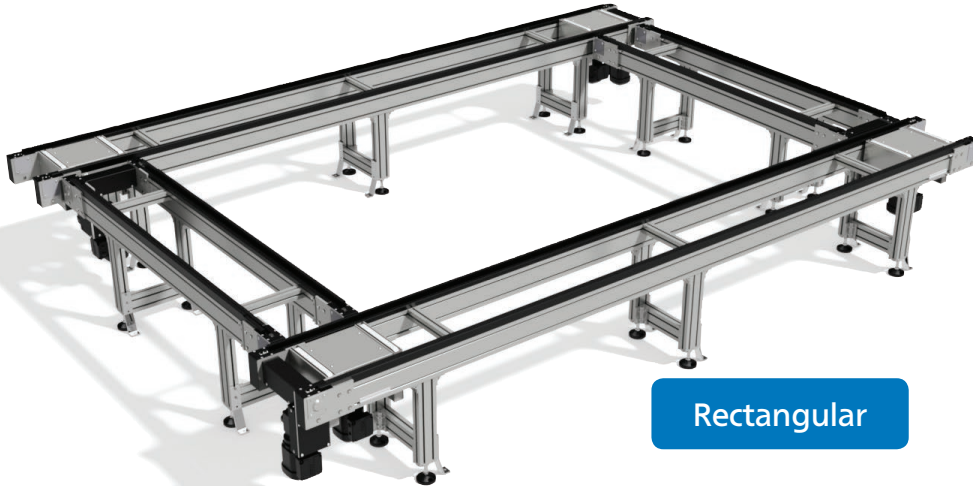




Parallel



Over / Under



Rectangular

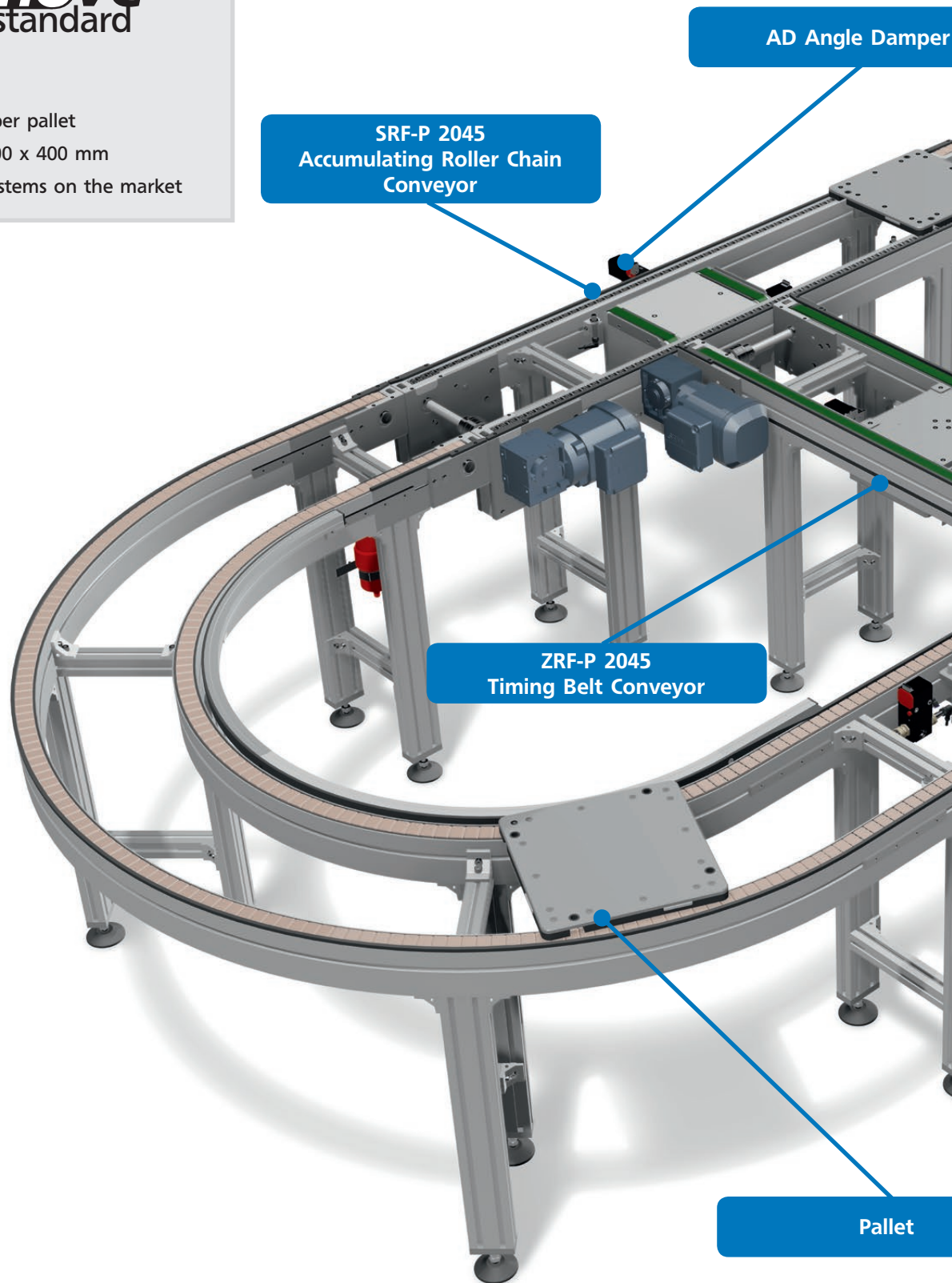
TYPE	CONFIGURATION DETAILS	versa move standard	versa move +plus	versa move ultra
In-Line	<ul style="list-style-type: none"> <li>Simple set-up in which product is moved in a straight line</li> </ul>	✓	✓	✓
Carousel	<ul style="list-style-type: none"> <li>Maintains leading edge by operating on the FPF-P 2045 platform</li> <li>Economical; no transfers required</li> </ul>	✓		
Serpentine	<ul style="list-style-type: none"> <li>Ideal for moving around fixed obstructions</li> <li>Requires the use of the FPF-P 2045 platform</li> </ul>	✓		
Over / Under	<ul style="list-style-type: none"> <li>Ideal when floor space is limited; pallet returns over or under the main-line</li> </ul>	✓	✓	✓
Parallel	<ul style="list-style-type: none"> <li>Ideal for operators on both sides of the line; compact and space saving design</li> </ul>	✓	✓	✓
Rectangular	<ul style="list-style-type: none"> <li>Ideal in systems that have a more complex process yet require flexibility</li> </ul>	✓	✓	✓

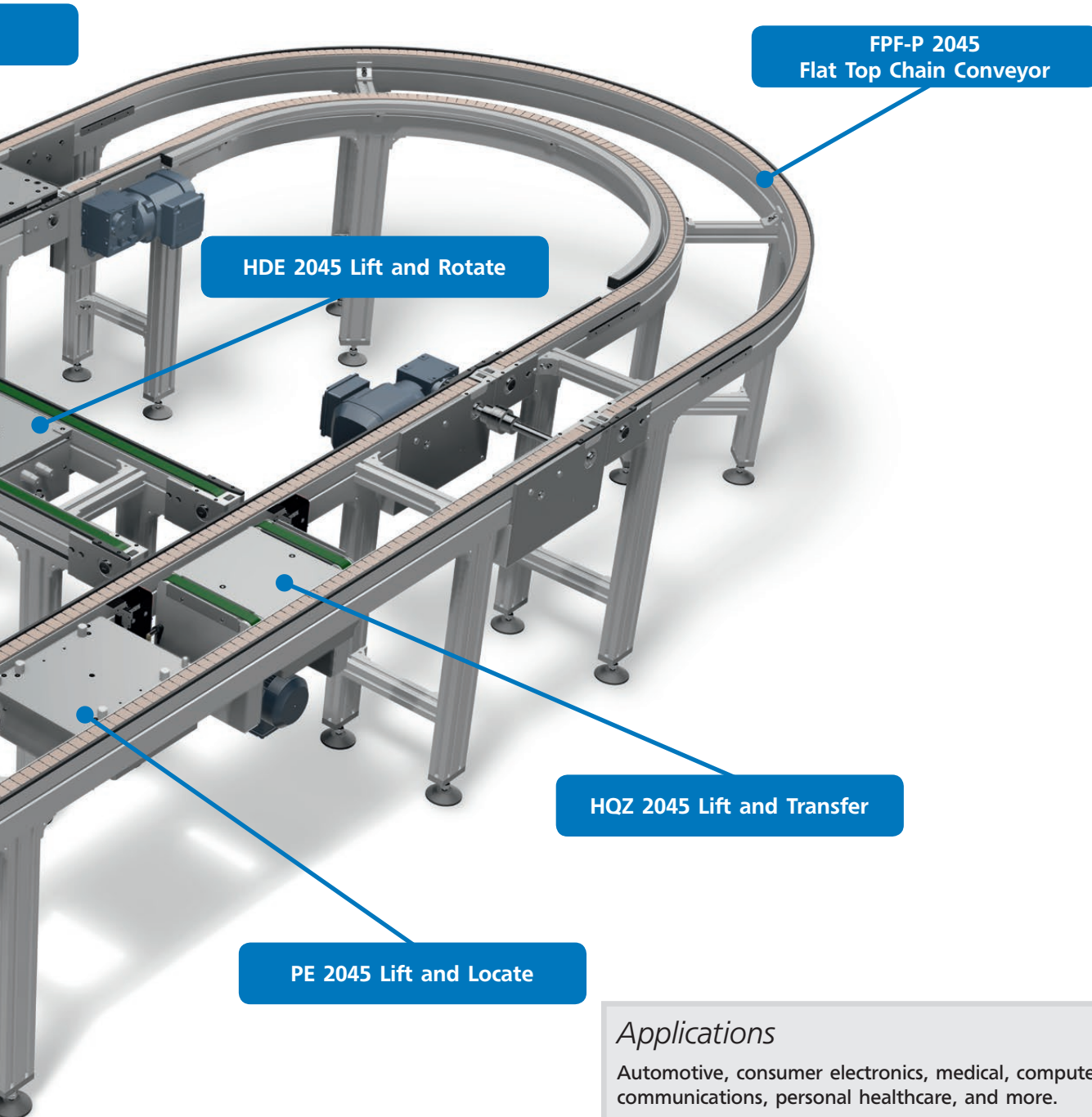




### Features

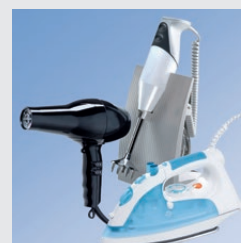
- ✓ Up to 80 lbs. total weight per pallet
- ✓ Pallet sizes: 240 x 240 to 400 x 400 mm
- ✓ Compatible with existing systems on the market



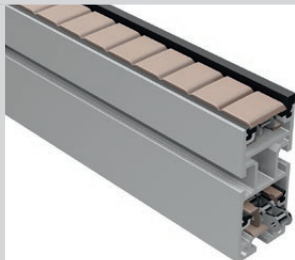
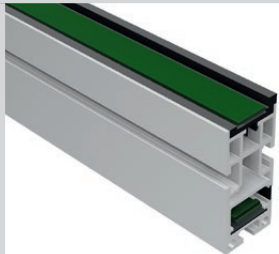
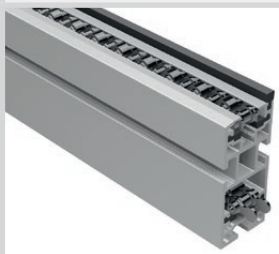

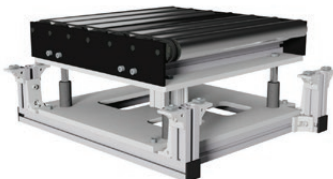


## *Applications*

Automotive, consumer electronics, medical, computer hardware, communications, personal healthcare, and more.

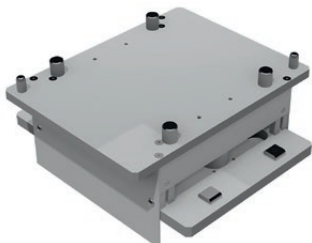

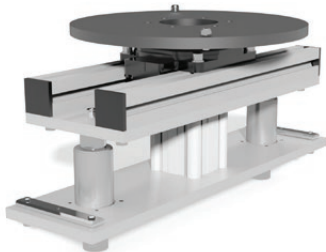

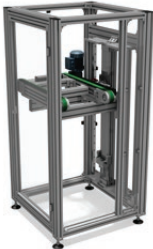








	Features	Technical Data
<b>FPF-P 2045 Flat Top Chain Conveyor</b>		
	<ul style="list-style-type: none"> <li>▪ Suitable for accumulating operation</li> <li>▪ Profile is 45 x 98 mm</li> <li>▪ 1-¼-inch wide chain</li> <li>▪ Curve module (minimum radius of 600 mm)</li> <li>▪ Curve angle 90° and 180°</li> <li>▪ Automatic chain tensioning included</li> <li>▪ Anti-static wearstrip</li> </ul>	<ul style="list-style-type: none"> <li>▪ Length: 500 to 20,000 mm</li> <li>▪ Loads: up 700 lbs./drive</li> <li>▪ Speeds: up to 90 fpm</li> </ul>
<b>ZRF-P 2045 Timing Belt Conveyor</b>		
	<ul style="list-style-type: none"> <li>▪ Designed for indexing applications and continuous movement</li> <li>▪ Profile is 45 x 98 mm</li> <li>▪ 25 mm wide timing belt</li> <li>▪ Coated timing belts for long life</li> <li>▪ Anti-static wearstrip</li> </ul>	<ul style="list-style-type: none"> <li>▪ Length: 500 to 15,000 mm</li> <li>▪ Loads: up to 550 lbs./drive</li> <li>▪ Speeds: up to 90 fpm</li> </ul>
<b>SRF-P 2045 Accumulating Roller Chain Conveyor</b>		
	<ul style="list-style-type: none"> <li>▪ Ideally suited for accumulating operation</li> <li>▪ Profile is 45 x 98 mm</li> <li>▪ ½-inch pitch accumulating roller chain</li> <li>▪ Accumulating rollers available in steel and plastic</li> <li>▪ Automatic chain tensioning</li> <li>▪ Anti-static wearstrip</li> <li>▪ Touch safe chain (optional)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Length: 500 to 20,000 mm</li> <li>▪ Loads: up to 1,650 lbs./drive</li> <li>▪ Speeds: up to 90 fpm</li> </ul>
<b>HQZ 2045 Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>▪ Conventional right angle transfer</li> <li>▪ 25 mm wide timing belt</li> <li>▪ Pneumatic lifting movement</li> <li>▪ Guidance using linear bearings and guide rods</li> <li>▪ Bi-directional</li> <li>▪ Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Loads: up to 80 lbs.</li> <li>▪ Speeds: up to 90 fpm</li> </ul>
<b>RBM 2045 Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>▪ Space saving powered roller conveyor design</li> <li>▪ 24 VDC powered roller</li> <li>▪ Includes control card and extension cable</li> <li>▪ Rollers are 1.9-inch diameter</li> <li>▪ Pneumatic lifting movement</li> <li>▪ Guidance using linear bearings and guide rods</li> <li>▪ Bi-directional</li> <li>▪ Standard sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Loads: up to 80 lbs.</li> <li>▪ Speeds: up to 90 fpm</li> </ul>

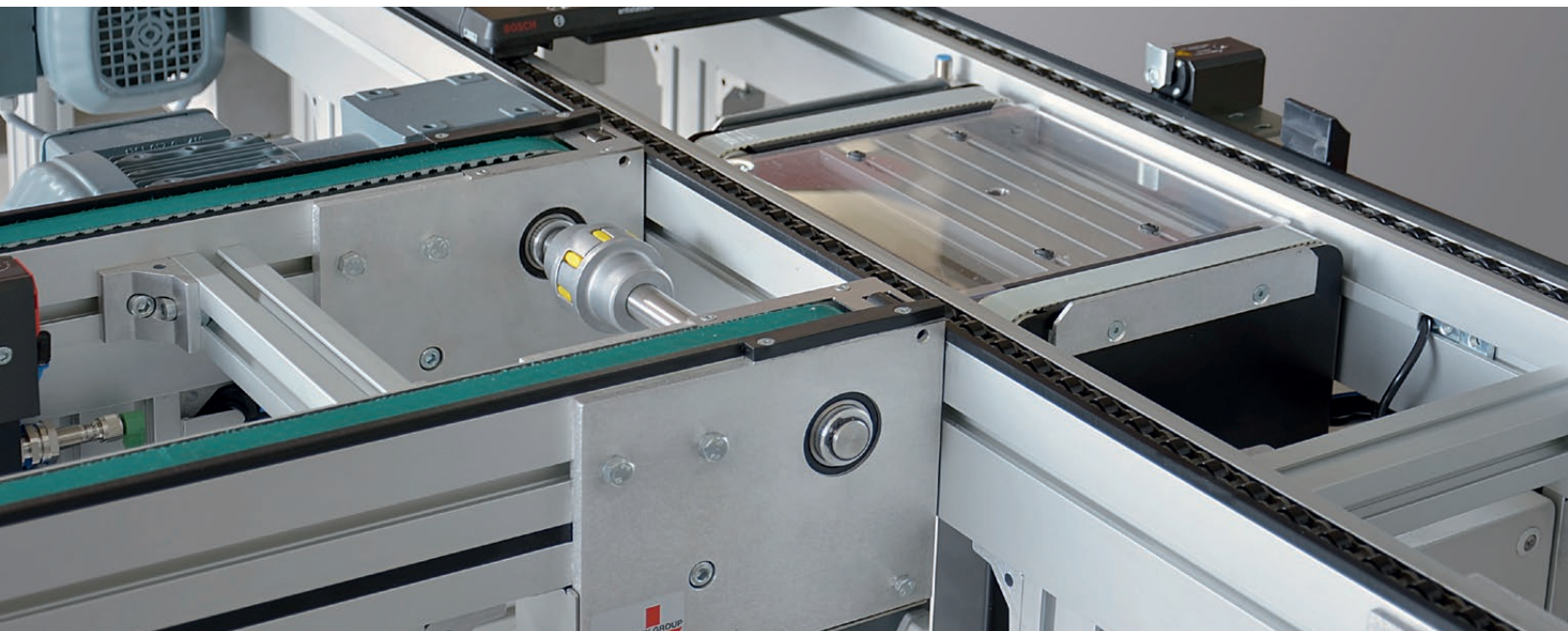


	Features	Technical Data
<b>KER 2045 - 90° Driven Curve</b>		
	<ul style="list-style-type: none"> <li>Designed to move pallets 90° between two conveyors positioned at a right angle</li> <li>Maintains leading edge of pallet</li> <li>Features a 230/460 VAC gearmotor</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 26 lbs./pallet</li> <li>Speeds: up to 60 fpm</li> <li>Loading on pallet must be centered</li> <li>Pallets must be square</li> </ul>
<b>KER 2045 - 180° Driven Curve</b>		
	<ul style="list-style-type: none"> <li>Designed to move pallets 180° between two parallel conveyors</li> <li>Maintains leading edge of pallet</li> <li>Features a 230/460 VAC gearmotor</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 26 lbs./pallet</li> <li>Speeds: up to 60 fpm</li> <li>Loading on pallet must be centered</li> <li>Pallets must be square</li> </ul>
<b>KER 2045 - 90° Slave-Driven Curve</b>		
	<ul style="list-style-type: none"> <li>Designed to move pallets 90° between two conveyors positioned at a right angle</li> <li>Maintains leading edge of pallet</li> <li>Curve is driven off other conveyors in the line</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 26 lbs./pallet</li> <li>Speeds: up to 60 fpm</li> <li>Loading on pallet must be centered</li> <li>Pallets must be square</li> </ul>
<b>KER 2045 - 180° Slave-Driven Curve</b>		
	<ul style="list-style-type: none"> <li>Designed to move pallets 180° between two parallel conveyors</li> <li>Maintains leading edge of pallet</li> <li>Curve is driven off other conveyors in the line</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 26 lbs./pallet</li> <li>Speeds: up to 60 fpm</li> <li>Loading on pallet must be centered</li> <li>Pallets must be square</li> </ul>
<b>PA 2045 Lift and Locate</b>		
	<ul style="list-style-type: none"> <li>Positioning via locating bushings within the pallet in the X, Y and Z directions</li> <li>Pallet is supported on one side and located on the other side while it is lifted</li> <li>Features one round and one diamond shaped locating pin</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Repeat accuracy: <math>\pm 0.15</math> mm</li> </ul>

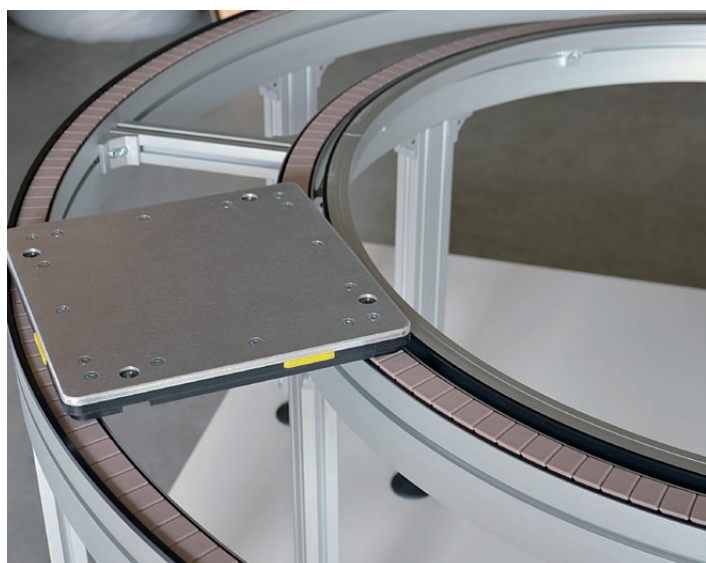
	Features	Technical Data
<b>PE 2045 Lift and Locate</b>		
	<ul style="list-style-type: none"> <li>Positioning via locating bushings within the pallet in the X, Y and Z directions</li> <li>Includes a support plate for the pallet</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Repeat accuracy: <math>\pm 0.1</math> mm</li> </ul>
<b>HDE 2045 Lift and Rotate</b>		
	<ul style="list-style-type: none"> <li>For rotating as needed based on operation</li> <li>Low overall height</li> <li>Individual rotation speeds</li> <li>Pneumatic lifting and rotating movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 80 lbs.</li> <li>Rotating movement - 90° and 180°</li> </ul>
<b>HDE-E 2045 Electric Lift and Rotate</b>		
	<ul style="list-style-type: none"> <li>Low overall height</li> <li>Individual rotation speeds</li> <li>Pneumatic lifting and electric rotating movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 80 lbs.</li> <li>Rotating movement - Any</li> </ul>
<b>WTZ 2045 Lift Gate Conveyor</b>		
	<ul style="list-style-type: none"> <li>Simple access to system interior via lift-gate conveyor</li> <li>Fast and safe maintenance</li> <li>Locking gas spring assisted</li> <li>Safety switch protects against unauthorized access (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Length: 1,500 mm</li> <li>Opening: 762 mm</li> </ul>
<b>KHL 2045 Vertical Transfer Unit</b>		
	<ul style="list-style-type: none"> <li>Designed to move pallets between multiple elevations</li> <li>Pneumatic, or electric, lifting and lowering options</li> <li>Adjustable vertical speed</li> <li>Features various conveyor types and options</li> <li>Polycarbonate or wire mesh safety guarding with an access door (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 160 lbs.</li> <li>Maximum vertical stroke, pneumatic version: 1,000 mm</li> <li>Maximum vertical stroke, electric version: 4,000 mm</li> </ul>

	Features	Technical Data
<b>SD Damping Pallet Stop</b>		
	<ul style="list-style-type: none"> <li>Typically used for vibration free damping</li> <li>Damped pneumatic stop</li> <li>Single or dual-acting</li> <li>Direct installation on conveyor frame</li> <li>Maintenance free</li> <li>Pneumatically adjustable damping</li> </ul>	<ul style="list-style-type: none"> <li>Total load is dependent on stop version and conveyor speed</li> <li>Working pressure: treated compressed air, 4 - 8 bar</li> </ul>
<b>SU Undamped Pallet Stop</b>		
	<ul style="list-style-type: none"> <li>Typically used for pallet singulation</li> <li>Undamped pneumatic stop</li> <li>Single or dual-acting</li> <li>Maintenance free</li> <li>High load capacity</li> <li>High cycle rate</li> </ul>	<ul style="list-style-type: none"> <li>Total load is dependent on stop version and conveyor speed</li> <li>Working pressure: treated compressed air, 4 - 8 bar</li> </ul>
<b>RS Return Stop</b>		
	<ul style="list-style-type: none"> <li>Reduces pallet settling time</li> <li>Maintenance free</li> <li>Spring force in upper position 2.2 N</li> <li>Spring force in lower position 9.1 N</li> </ul>	<ul style="list-style-type: none"> <li>Minimum pallet weight: 6.6 lbs.</li> <li>Maximum pallet weight: 80 lbs.</li> </ul>
<b>AD Angle Damper</b>		
	<ul style="list-style-type: none"> <li>Used with perpendicular pallet transfers</li> <li>Pneumatic damper</li> <li>Very soft damping</li> <li>Maintenance free</li> <li>Pneumatically adjustable damping</li> </ul>	<ul style="list-style-type: none"> <li>Working pressure: treated compressed air, 4 - 8 bar</li> </ul>

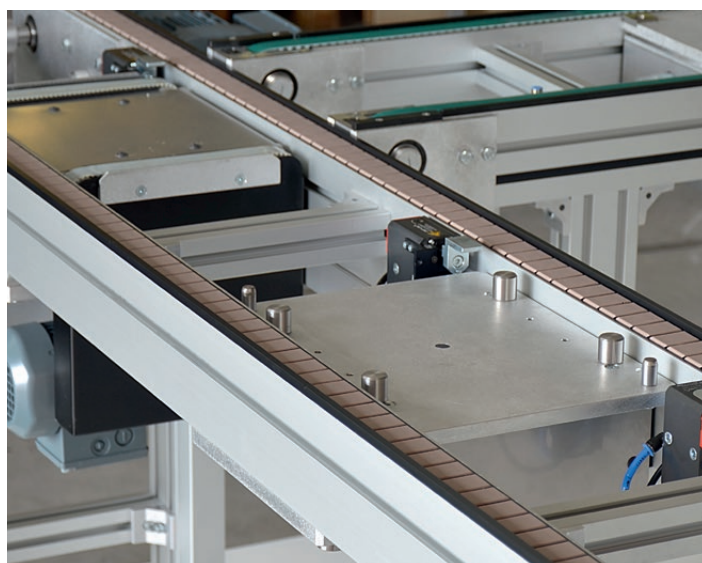




HQZ 2045 Lift and Transfer designed to transfer a pallet from a ZRF-P 2045 Timing Belt Conveyor to a SRF-P 2045 Accumulating Roller Chain unit.



VersaMove Standard FPF-P 2045 Flat Top Chain Conveyors can be made with curve sections, which maintain the leading edge of the pallet.

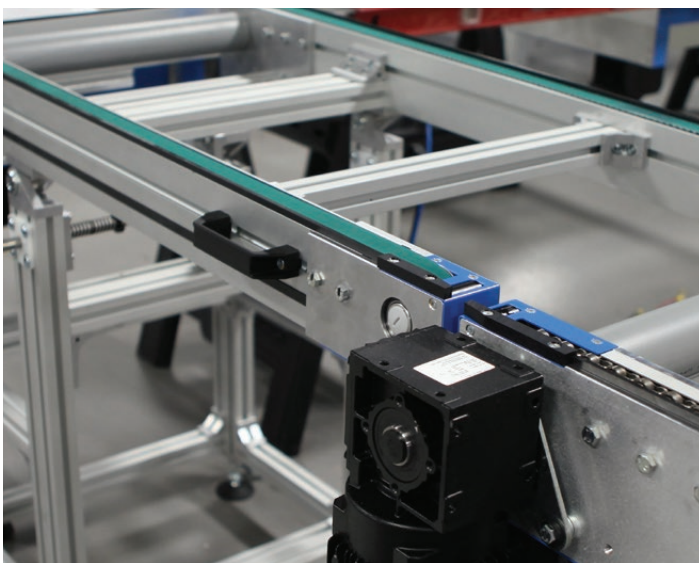


PE 2045 Lift and Locate with an SD Damping Pallet Stop mounted between the lanes of a FPF-F 2045 Flat Top Chain Conveyor.





A KER 2045 - 180° Slave-Driven Curve, easily moves pallets between two conveyors in a parallel system, while maintaining the pallet's leading edge.



WZT 2045 Lift Gate Conveyor provides access to the inside of this VersaMove Standard conveyor system.



Custom configurations, such as this vertical transfer unit with an integrated PE 2045 Lift and Locate module, are possible with the mk system.

# versamove<sup>+</sup>plus

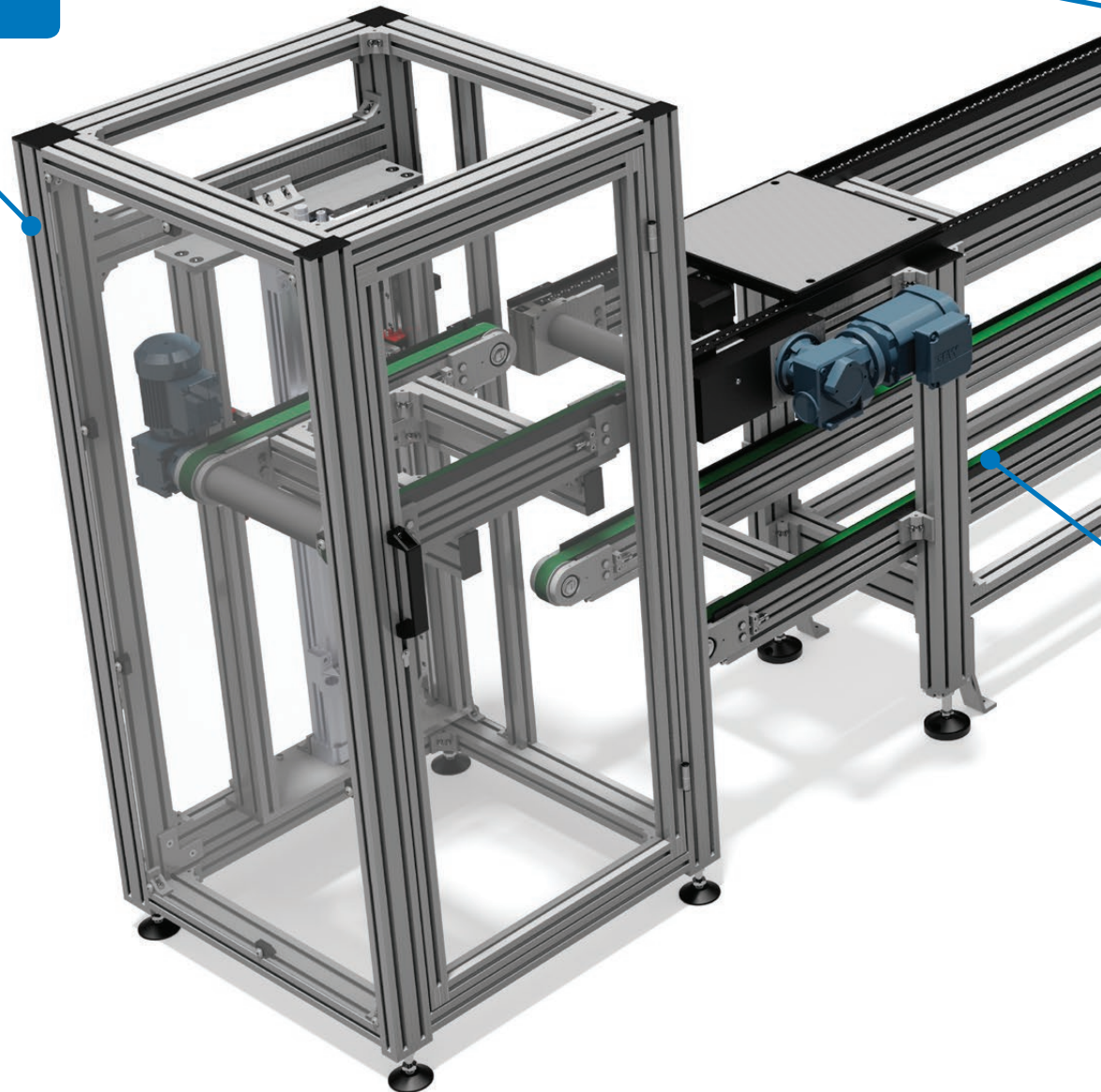
## Features

- ✓ Up to 250 lbs. total weight per pallet
- ✓ Pallet sizes: 400 x 400 to 1,040 x 1,040 mm
- ✓ Unparalleled versatility

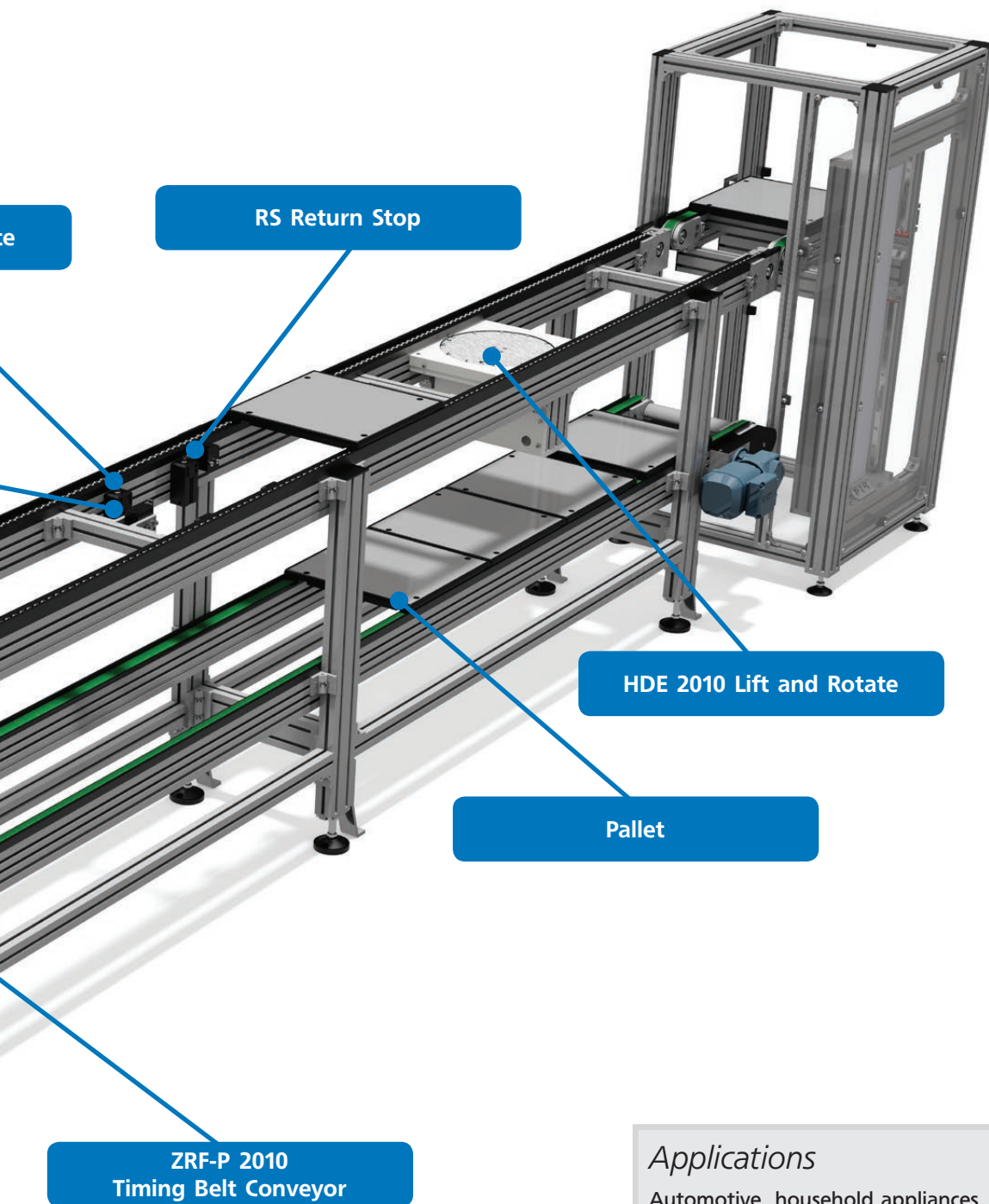
KHL 2010  
Vertical Transfer Unit

SD Damping Pallet Stop

PE 2010 Lift and Locate

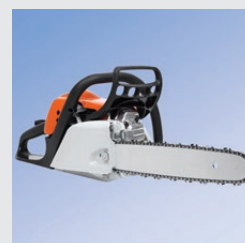




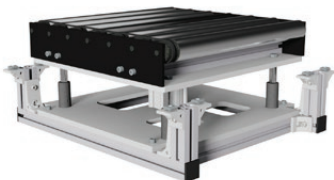



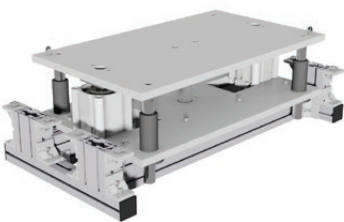
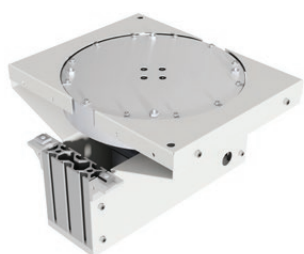
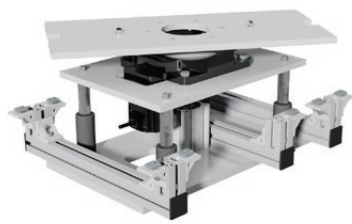

### *Applications*





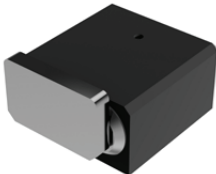
Automotive, household appliances, medical, electronics, order fulfillment, defense and consumer goods.



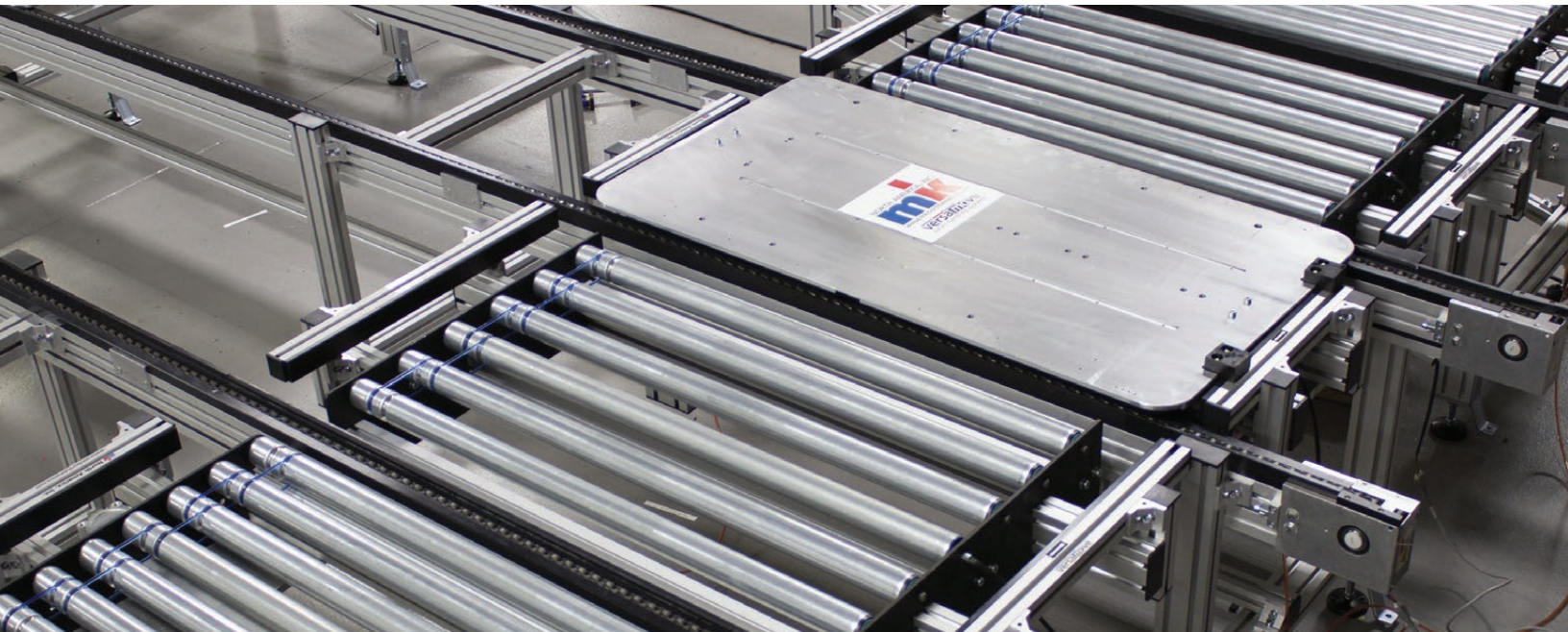


	Features	Technical Data
<b>ZRF-P 2010 Timing Belt Conveyor</b>		
	<ul style="list-style-type: none"> <li>Designed for indexing applications and continuous movement</li> <li>Profile is 50 x 100 mm</li> <li>32 mm wide timing belt</li> <li>Coated timing belts for long life</li> <li>Anti-static wearstrip (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Length: 500 to 15,000 mm</li> <li>Loads: up to 800 lbs./drive</li> <li>Speeds: up to 90 fpm</li> </ul>
<b>SRF-P 2010 Accumulating Roller Chain Conveyor</b>		
	<ul style="list-style-type: none"> <li>Ideally suited for accumulating operation</li> <li>Profile is 50 x 100 mm</li> <li>½-inch pitch accumulating roller chain</li> <li>Accumulating rollers available in steel and plastic</li> <li>Automatic chain tensioning</li> <li>Anti-static wearstrip (optional)</li> <li>Touch safe chain (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Length: 500 to 20,000 mm</li> <li>Loads: up to 2,000 lbs./drive</li> <li>Speeds: up to 90 fpm</li> </ul>
<b>HQZ 600 Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>Conventional right angle transfer</li> <li>32 mm wide timing belt</li> <li>Pneumatic lifting movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Bi-directional</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 250 lbs.</li> <li>Speeds: up to 90 fpm</li> </ul>
<b>RBM 2010 Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>Space saving powered roller conveyor design</li> <li>24 VDC powered roller</li> <li>Includes control card and extension cable</li> <li>Rollers are 1.9-inch diameter</li> <li>Pneumatic lifting movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Bi-directional</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 250 lbs.</li> <li>Speeds: up to 90 fpm</li> </ul>
<b>HQZ-D 2010 Dual Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>Free standing module, mounted between the lanes of two independent conveyors</li> <li>Designed for right angle transfers</li> <li>25 mm wide timing belts</li> <li>Guidance using linear bearings and guide rods</li> <li>Bi-directional</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 250 lbs.</li> <li>Speeds: up to 90 fpm</li> </ul>

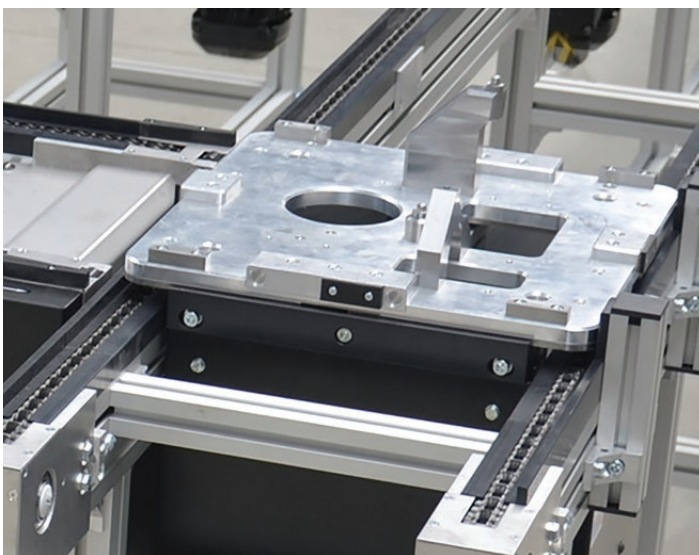
	Features	Technical Data
<b>PA 2010 Lift and Locate</b>		
	<ul style="list-style-type: none"> <li>Positioning via locating bushings within the pallet in the X, Y and Z directions</li> <li>Pallet is supported on one side and located on the other side while it is lifted</li> <li>Features one round and one diamond shaped locating pin</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Repeat accuracy: <math>\pm 0.15</math> mm</li> </ul>
<b>PE 2010 Lift and Locate</b>		
	<ul style="list-style-type: none"> <li>Positioning via locating bushings within the pallet in the X, Y and Z directions</li> <li>Includes a support plate for the pallet</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Repeat accuracy: <math>\pm 0.1</math> mm</li> </ul>
<b>HDE 2010 Lift and Rotate</b>		
	<ul style="list-style-type: none"> <li>For rotating as needed based on operation</li> <li>Low overall height</li> <li>Individual rotation speeds</li> <li>Pneumatic lifting and rotating movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 250 lbs.</li> <li>Rotating movement - 90° and 180°</li> </ul>
<b>HDE-E 2010 Electric Lift and Rotate</b>		
	<ul style="list-style-type: none"> <li>Pneumatic lifting with electric rotating movement</li> <li>Low overall height</li> <li>Individual rotation speeds</li> <li>Guidance using linear bearings and guide rods</li> <li>Standard sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 250 lbs.</li> <li>Rotating movement - Fixed predetermined intervals</li> </ul>
<b>WTZ 2010 Lift Gate Conveyor</b>		
	<ul style="list-style-type: none"> <li>Simple access to system interior via lift-gate conveyor</li> <li>Fast and safe maintenance</li> <li>Locking gas spring assisted</li> <li>Safety switch protects against unauthorized access (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Length: 1,500 mm</li> <li>Opening: 762 mm</li> </ul>

	Features	Technical Data
<b>KHL 2010 Vertical Transfer Unit</b>		
	<ul style="list-style-type: none"> <li>Designed to move pallets between multiple elevations</li> <li>Pneumatic, or electric, lifting and lowering options</li> <li>Adjustable vertical speed</li> <li>Features various conveyor types and options</li> <li>Polycarbonate or wire mesh safety guarding with an access door (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 250 lbs.</li> <li>Maximum vertical stroke, pneumatic version: 1,000 mm</li> <li>Maximum vertical stroke, electric version: 4,000 mm</li> </ul>
<b>SD Damping Pallet Stop</b>		
	<ul style="list-style-type: none"> <li>Typically used for vibration free damping</li> <li>Damped pneumatic stop</li> <li>Single or dual-acting</li> <li>Direct installation on conveyor frame</li> <li>Maintenance free</li> <li>Pneumatically adjustable damping</li> </ul>	<ul style="list-style-type: none"> <li>Total load is dependent on stop version and conveyor speed</li> <li>Working pressure: treated compressed air, 4 - 8 bar</li> </ul>
<b>SU Undamped Pallet Stop</b>		
	<ul style="list-style-type: none"> <li>Typically used for pallet singulation</li> <li>Undamped pneumatic stop</li> <li>Single or dual-acting</li> <li>Maintenance free</li> <li>High load capacity</li> <li>High cycle rate</li> </ul>	<ul style="list-style-type: none"> <li>Total load is dependent on stop version and conveyor speed</li> <li>Working pressure: treated compressed air, 4 - 8 bar</li> </ul>
<b>RS Return Stop</b>		
	<ul style="list-style-type: none"> <li>Reduces pallet settling time</li> <li>Maintenance free</li> <li>Spring force in upper position 2.2 N</li> <li>Spring force in lower position 9.1 N</li> </ul>	<ul style="list-style-type: none"> <li>Minimum pallet weight: 6.6 lbs.</li> <li>Maximum pallet weight: 250 lbs.</li> </ul>
<b>AD Angle Damper</b>		
	<ul style="list-style-type: none"> <li>Used with perpendicular pallet transfers</li> <li>Pneumatic damper</li> <li>Very soft damping</li> <li>Maintenance free</li> <li>Pneumatically adjustable damping</li> </ul>	<ul style="list-style-type: none"> <li>Working pressure: treated compressed air, 4 - 8 bar</li> </ul>

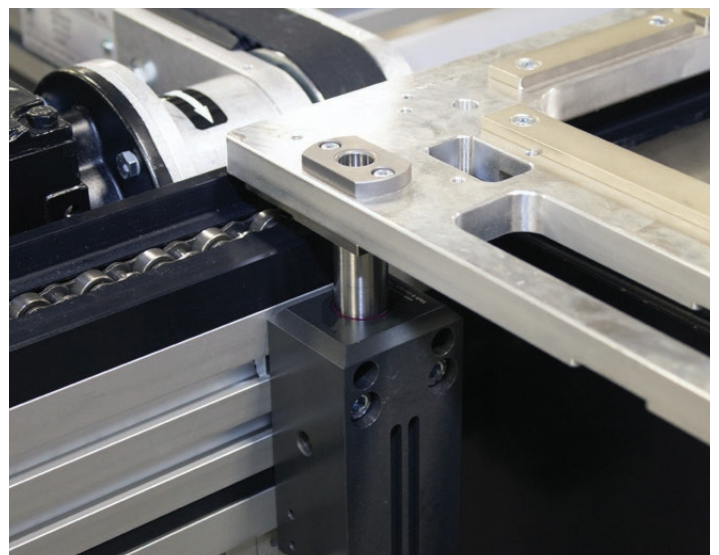




VersaMove Plus conveyor system with SRF-P 2010 main line conveyors, complete with RBM 2010 Lift and Transfer and spur conveyors.



Custom machined pallets can be supplied by mk North America, as shown in this example on an Accumulating Roller Chain Conveyor.

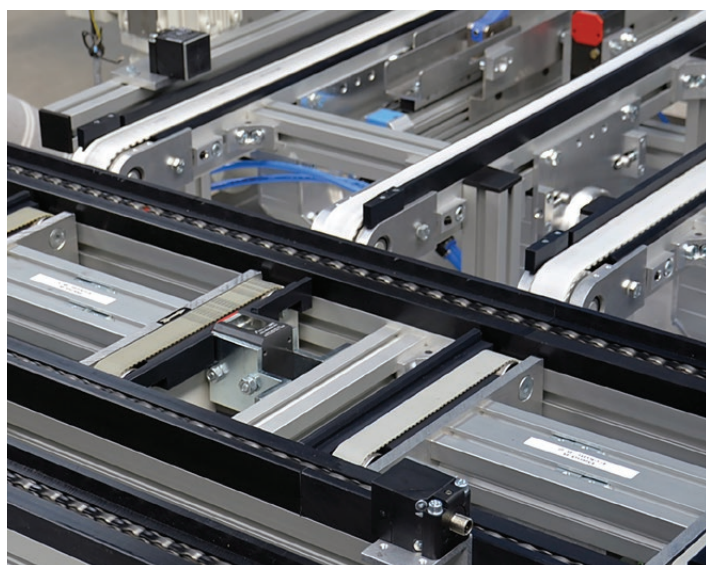


A detailed look at a locating pin within the PA 2010 Lift and Locate engaging with the bushing on the pallet.





A VersaMove Plus system featuring timing belt and accumulating roller chain conveyors, with a variety of modules including a WZ 2010 Lift Gate.



Lift and Transfer Conveyors are typically used to move pallets off the main line and onto spur lines to operators.

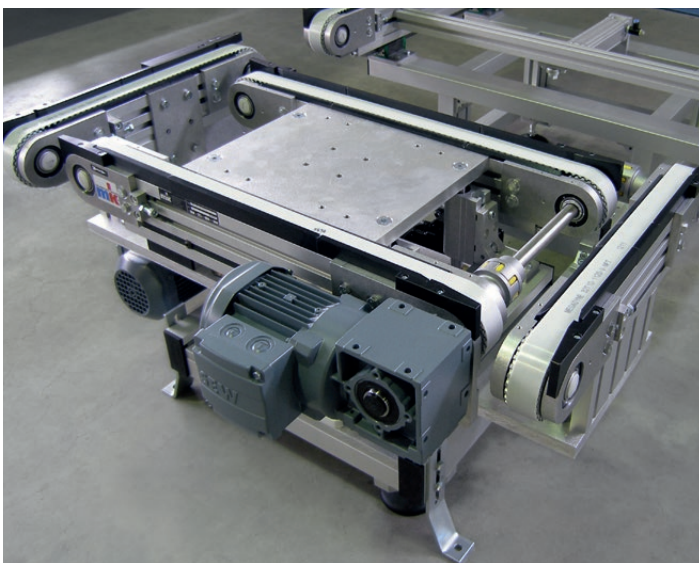


KHL 2010 Vertical Transfer Unit, with optional guarding, is used to move pallets between various elevations.





SRF-P 2010 main line Accumulating Roller Chain Conveyors, with ZRF-P 2010, Timing Belt Conveyor, bi-directional spur conveyors.



An HQZ 600 Lift and Transfer is mounted into a short section of a ZRF-P 2010 Timing Belt Conveyor.



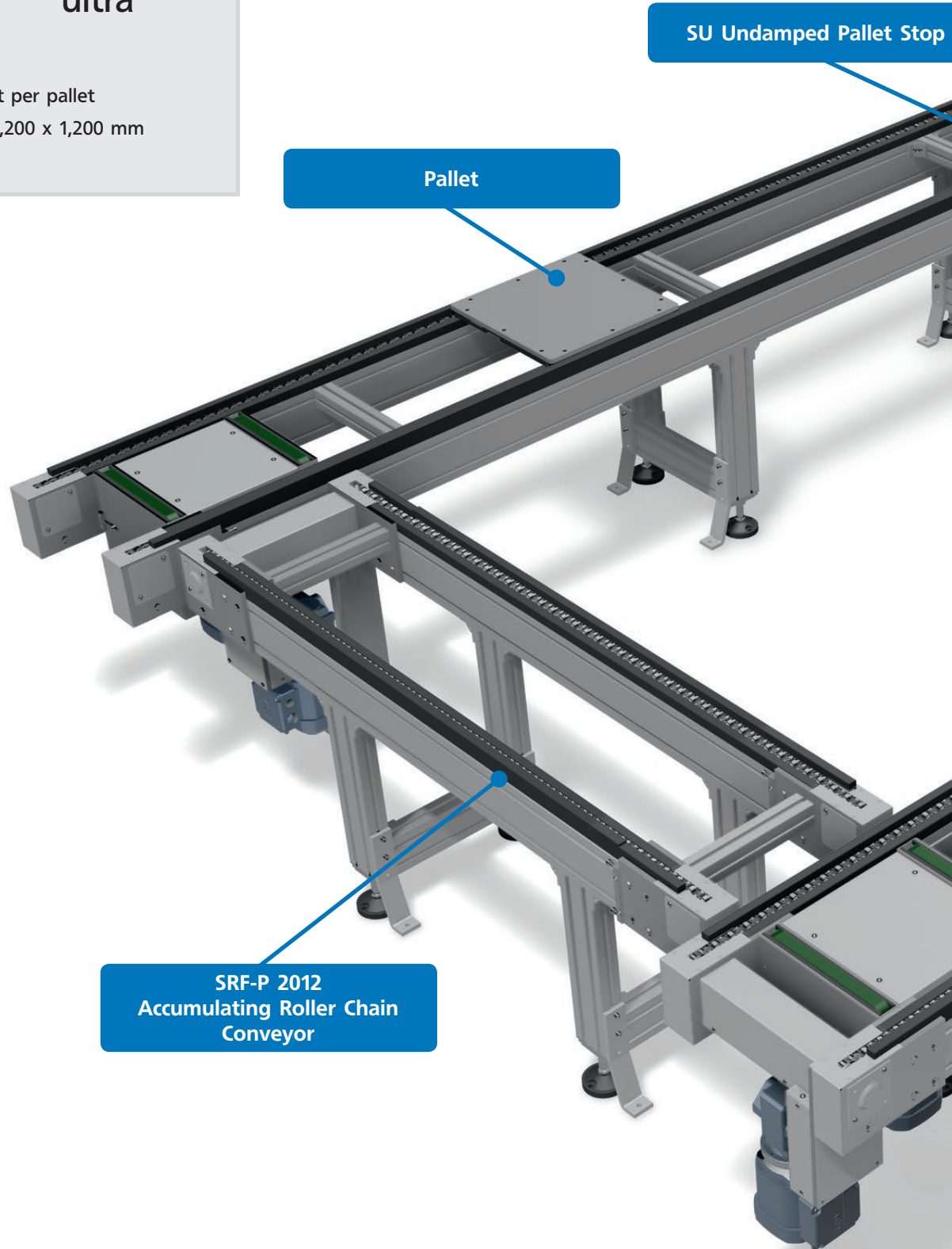
mk is able to accommodate many customizations including custom transfers, such as this dual lift and transfer.

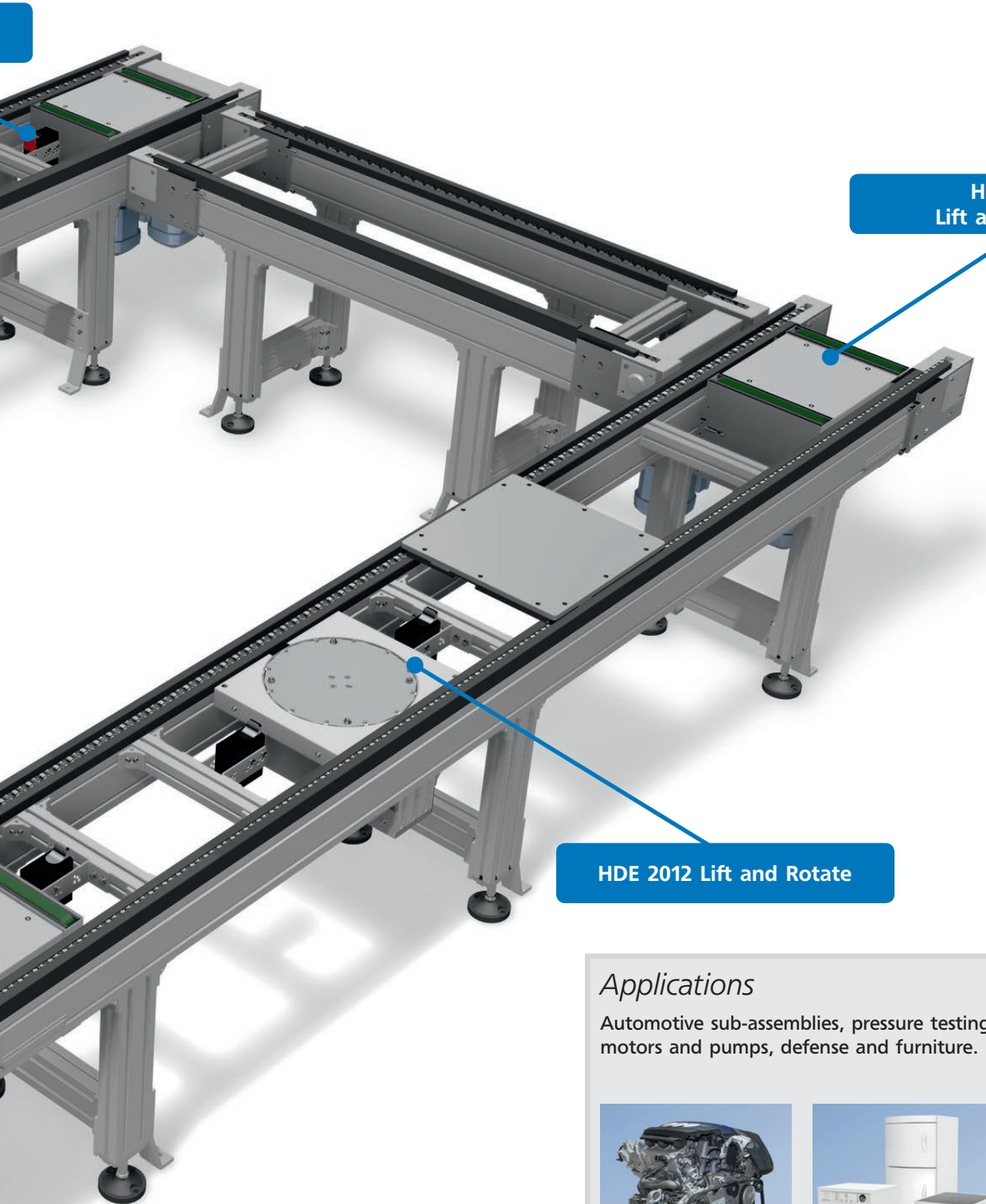


# versamove ultra

## Features

- ✓ Up to 800 lbs. total weight per pallet
- ✓ Pallet sizes: 640 x 640 to 1,200 x 1,200 mm
- ✓ Rugged and dependable





HDE 2012 Lift and Rotate

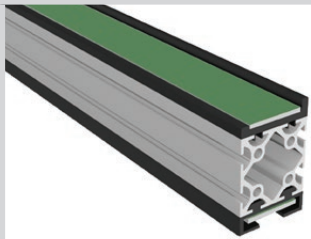

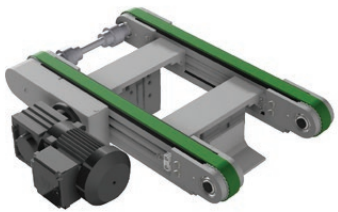

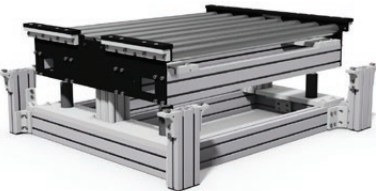
HQZ 2012  
Lift and Transfer

### *Applications*



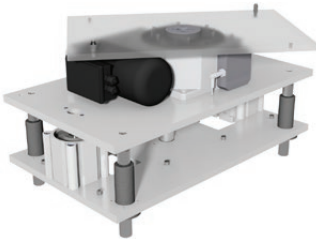


Automotive sub-assemblies, pressure testing, large appliances, motors and pumps, defense and furniture.



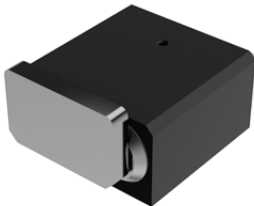




	Features	Technical Data
<b>ZRF-P 2040 Timing Belt Conveyor</b>		
	<ul style="list-style-type: none"> <li>Designed for indexing applications and continuous movement</li> <li>Profile is 80 x 80 mm</li> <li>60 mm wide timing belt</li> <li>Coated timing belts for long life</li> <li>Anti-static wearstrip (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Length: 1,000 to 15,000 mm</li> <li>Loads: up to 1,500 lbs./drive</li> <li>Speeds: up to 80 fpm</li> </ul>
<b>SRF-P 2012 Accumulating Roller Chain Conveyor</b>		
	<ul style="list-style-type: none"> <li>Ideally suited for accumulating operation</li> <li>Profile is 60 x 135 mm</li> <li>¾-inch pitch accumulating roller chain</li> <li>Accumulating rollers available in steel and plastic</li> <li>Automatic chain tensioning</li> <li>Anti-static wearstrip (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Length: 1,000 to 20,000 mm</li> <li>Loads: up to 3,500 lbs./drive</li> <li>Speeds: up to 80 fpm</li> </ul>
<b>HQZ 600 Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>Conventional right angle transfer</li> <li>32 mm wide timing belt</li> <li>Pneumatic lifting movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Bi-directional</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 400 lbs.</li> <li>Speeds: up to 80 fpm</li> </ul>
<b>HQZ 2012 Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>Heavy duty right angle transfer</li> <li>60 mm wide timing belt</li> <li>Pneumatic lifting movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Bi-directional</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 800 lbs.</li> <li>Speeds: up to 80 fpm</li> </ul>
<b>RBM 2012 Lift and Transfer</b>		
	<ul style="list-style-type: none"> <li>Heavy duty powered roller conveyor design</li> <li>24 VDC powered roller</li> <li>Includes control card and extension cable</li> <li>Rollers are 1.9-inch diameter</li> <li>Pneumatic lifting movement</li> <li>Guidance using linear bearings and guide rods</li> <li>Bi-directional</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 800 lbs.</li> <li>Speeds: up to 80 fpm</li> </ul>

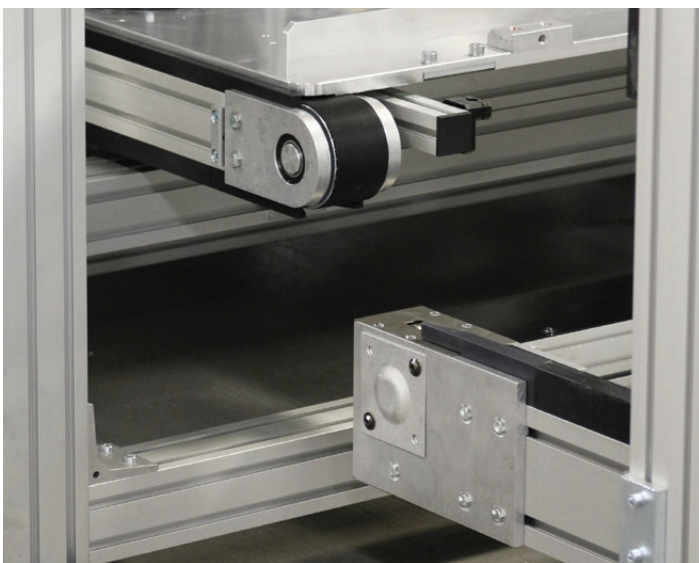


	Features	Technical Data
<b>PA 2012 Lift and Locate</b>		
	<ul style="list-style-type: none"> <li>Positioning via locating bushings within the pallet in the X, Y and Z directions</li> <li>Pallet is supported on one side and located on the other side while it is lifted</li> <li>Features one round and one diamond shaped locating pin</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Repeat accuracy: <math>\pm 0.3</math> mm</li> </ul>
<b>PE 2012 Lift and Locate</b>		
	<ul style="list-style-type: none"> <li>Positioning via locating bushings within the pallet in the X, Y and Z directions</li> <li>Includes a support plate for the pallet</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Repeat accuracy: <math>\pm 0.2</math> mm</li> </ul>
<b>HDE-E 2012 Lift and Rotate</b>		
	<ul style="list-style-type: none"> <li>Fixed position cam driven motion indexer on a pneumatic vertical actuator</li> <li>Guidance using linear bearings and guide rods</li> <li>Individual rotating speeds</li> <li>Cylinder sensing (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 800 lbs.</li> <li>High position repeatability</li> </ul>
<b>KHL 2012 Vertical Transfer Unit</b>		
	<ul style="list-style-type: none"> <li>Designed to move pallets between multiple elevations</li> <li>Pneumatic, or electric, lifting and lowering options</li> <li>Adjustable vertical speed</li> <li>Features various conveyor types and options</li> <li>Polycarbonate or wire mesh safety guarding with an access door (optional)</li> </ul>	<ul style="list-style-type: none"> <li>Loads: up to 800 lbs.</li> <li>Maximum vertical stroke, pneumatic version: 1,000 mm</li> <li>Maximum vertical stroke, electric version: 4,000 mm</li> </ul>
<b>SD Damping Pallet Stop</b>		
	<ul style="list-style-type: none"> <li>Typically used for vibration free damping</li> <li>Damped pneumatic stop</li> <li>Single or dual-acting</li> <li>Direct installation on conveyor frame</li> <li>Maintenance free</li> <li>Pneumatically adjustable damping</li> </ul>	<ul style="list-style-type: none"> <li>Total load is dependent on stop version and conveyor speed</li> <li>Working pressure: treated compressed air, 4 - 8 bar</li> </ul>

	Features	Technical Data
<b>SU Undamped Pallet Stop</b>		
	<ul style="list-style-type: none"> <li>▪ Typically used for pallet singulation</li> <li>▪ Undamped pneumatic stop</li> <li>▪ Single or dual-acting</li> <li>▪ Maintenance free</li> <li>▪ High load capacity</li> <li>▪ High cycle rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ Total load is dependent on stop version and conveyor speed</li> <li>▪ Working pressure: treated compressed air, 4 - 8 bar</li> </ul>
<b>RS Return Stop</b>		
	<ul style="list-style-type: none"> <li>▪ Reduces pallet settling time</li> <li>▪ Maintenance free</li> <li>▪ Spring force in upper position 2.2 N</li> <li>▪ Spring force in lower position 9.1 N</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minimum pallet weight: 6.6 lbs</li> <li>▪ Maximum pallet weight: 800 lbs.</li> </ul>
<b>AD Angle Damper</b>		
	<ul style="list-style-type: none"> <li>▪ Used with perpendicular pallet transfers</li> <li>▪ Pneumatic damper</li> <li>▪ Very soft damping</li> <li>▪ Maintenance free</li> <li>▪ Pneumatically adjustable damping</li> </ul>	<ul style="list-style-type: none"> <li>▪ Working pressure: treated compressed air, 4 - 8 bar</li> </ul>



A ZRF-P 2040 Timing Belt Conveyor with an SRF-P 2012 Accumulating Roller Chain Conveyor receive pallets from an RBM 2012 Lift and Transfer.



A KHL 2012 Vertical Transfer unit lowers to deliver a pallet to an SRF-P 2012 Accumulating Roller Chain Conveyor.



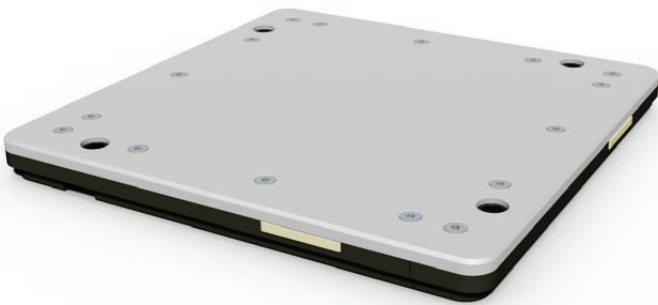
mk is able to accommodate many customizations including custom transfers such as custom vertical transfer units featuring roller conveyors.



## Standard Workpiece Pallets

VersaMove pallets act as carriers for workpieces as they move around the conveyor system. Pallets can be tooled with fixtures to secure products for manual or automated operations. Pallets contain a set of precision bushings.

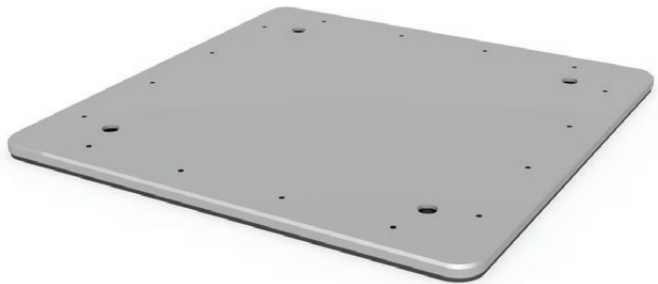
*Framed Pallets*



### **Framed Pallet Features and Benefits:**

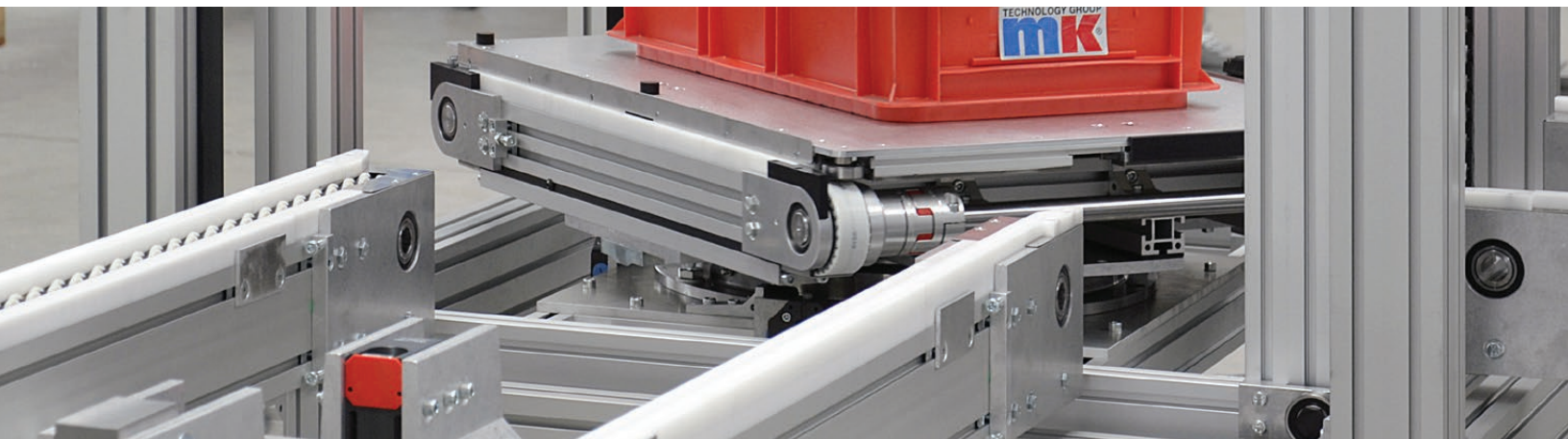
- ✓ A variety of sizes: 240 x 240 to 400 x 400 mm
- ✓ Anti-static wear surface in contact with conveyor
- ✓ A wide variety of surface plate materials
- ✓ Surface plates can be machined to accept fixtures and additional tooling
- ✓ Pallets can be stopped on any edge making it easy to accumulate, queue and singulate pallets
- ✓ Pallets are equipped with sensing features and are RFID tag ready

*Single-piece Pallets*



### **Single-piece Pallet Features and Benefits:**

- ✓ Standard material is aluminum cast plate
- ✓ A variety of thicknesses and materials available
- ✓ Works in conjunction with any of the mk pallet handling system modules
- ✓ Easily machined to accept fixtures and tooling
- ✓ Pallets can be equipped with a variety of features including bumpers, sensing features and RFID tag locations.
- ✓ Custom machining available



## *Support*

mk North America believes in supporting our customers from the initial inquiry through the delivery of their system. We have a dedicated sales and engineering staff to manage your project. All orders include detailed 3D and 2D models for your review and approval of the entire system. mk assembles and tests all pallet-handling systems prior to shipping. mk also offers FAT, start up assistance and installation as well as all spare parts.

## *Customizations*

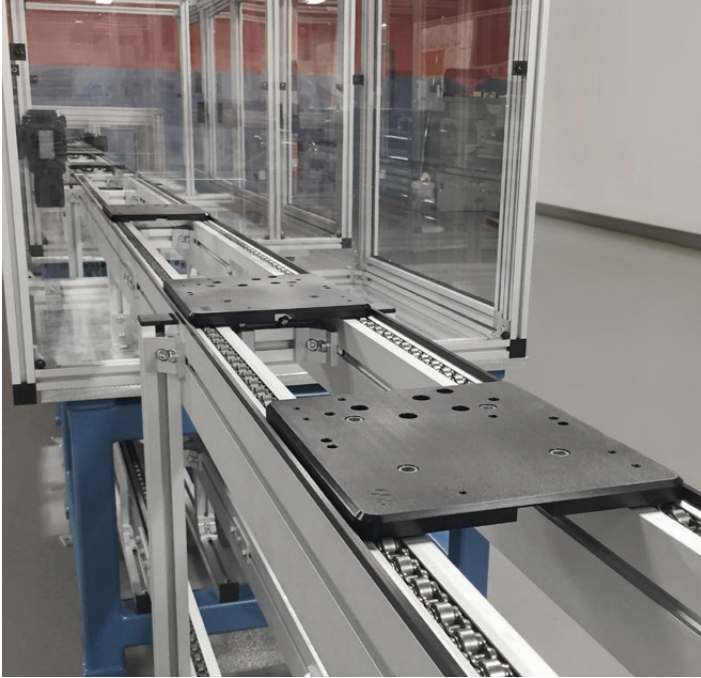
mk North America believes in offering not only a better product, but also a better solution. We understand how the performance of your production line affects your business. Regardless of what makes your material handling application unique – temperature, environmental concerns, handling requirements, or space constraints – mk can provide a custom conveyor solution that meets your needs and keeps your business moving.

### *Custom Options Include:*

- ✓ Custom modules for positioning, transferring and locating
- ✓ Design and materials custom tailored for specific environments, such as clean-rooms and explosive areas
- ✓ Pallet sizes and materials
- ✓ Powder coating of sheet metal components in colors of your choosing
- ✓ A variety of sensing options
- ✓ Customer specific accessories such as drip pans, motor and controller types, chain lubrication stations, and many more

***Find your local mk representative at  
[www.mkversamove.com](http://www.mkversamove.com)***

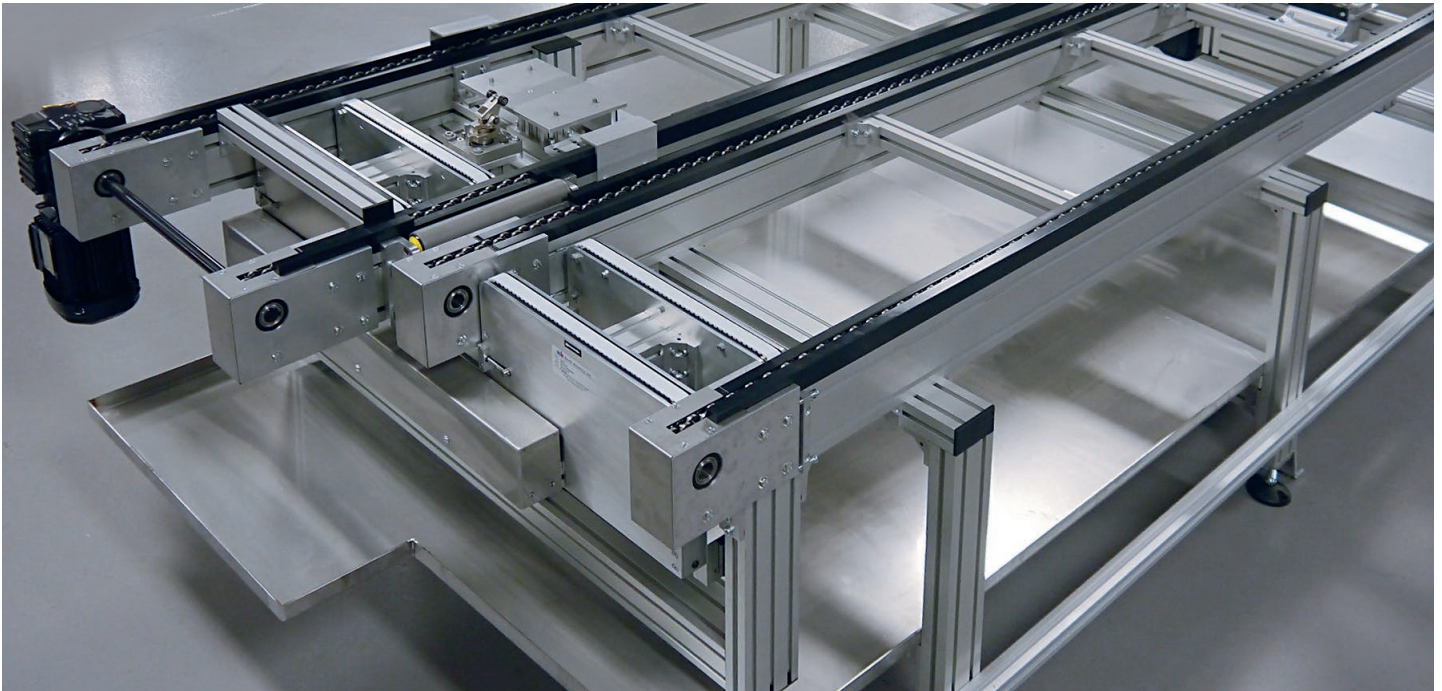
## Application Examples



VersaMove pallet-handling systems from mk can include safety guarding; custom size and material pallets are also available.

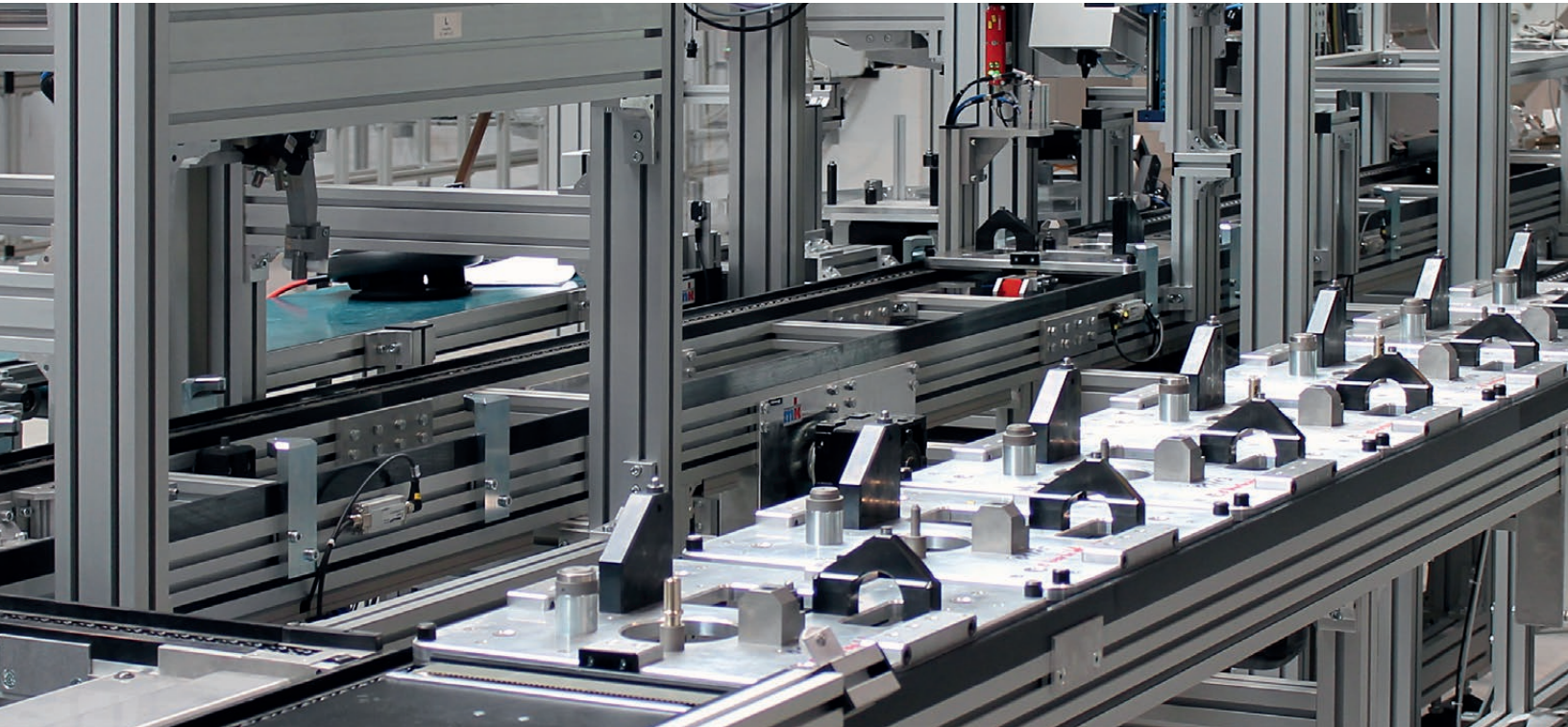


mk offers a wide variety of standard and custom vertical transfer units, as well as electrically driven options.

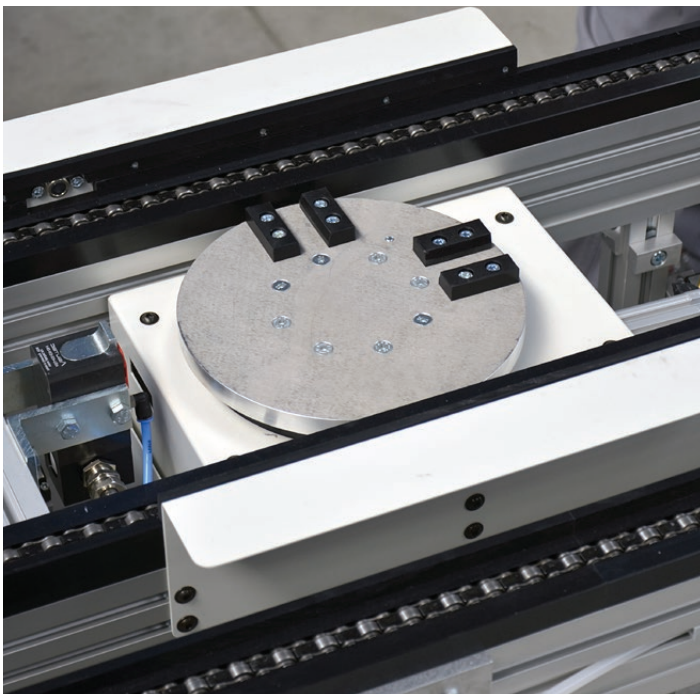


Stops and locating features, as well as product catch pans, are just some of the custom options available from mk.





mk assembles and tests all systems prior to shipping.  
 FAT and installation assistance is available.

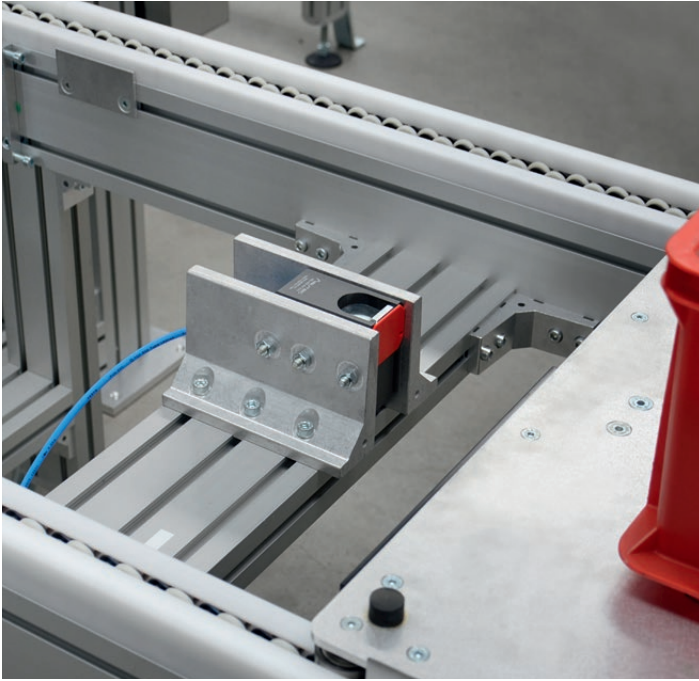


Lift and Rotate modules can be equipped with pallet locating features.  
 Pneumatic stops are required for use with Lift and Rotate modules.

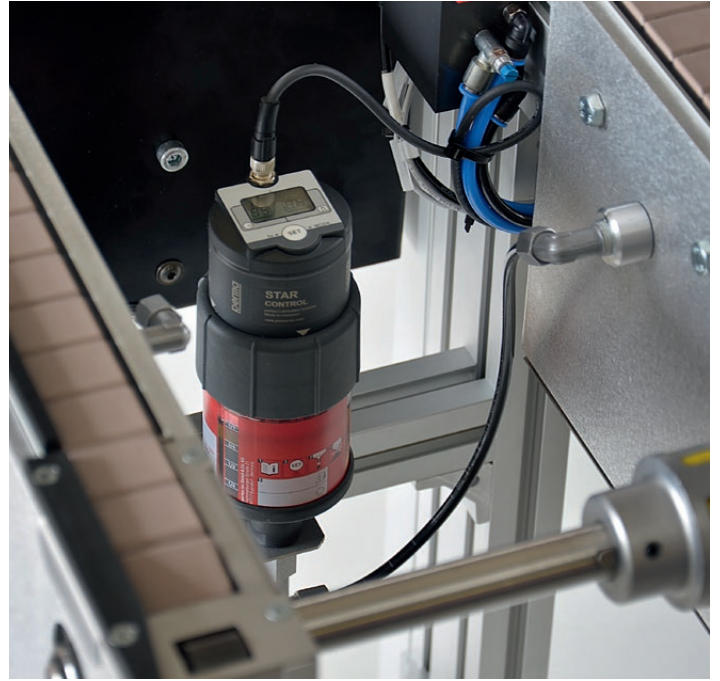


mk offers a variety of custom modules such as Lift and Tilt modules,  
 as shown here tilting a large single-piece pallet.





An SU Undamped Pallet Stop is mounted between the lanes of a VersaMove Ultra SRF-P 2012 accumulating roller chain conveyor.



Automatic chain lubrication stations are available for the VersaMove Standard FPF-P 2045 (shown here) and the SRF-P 2045.



mk North America offers a full line of guarding and workstations, which makes mk a single source for all of your material handling needs.

## Our Other Products

### Aluminum Conveyors

With over 20 different conveying systems, mk offers a product variety which is unsurpassed in the marketplace. Our broad offering, and more than 30 years of experience in material handling, leads to robust solutions that feature long life and reliable operation while maintaining all the advantages of modular design and expandability.

Our innovative conveying solutions, both standard and custom, have proven themselves in automotive, manufacturing, machine builder & integrators, metal working, packaging, pharmaceutical and printing industries.



### CleanMove Stainless Steel Conveyors



CleanMove is a full line of sanitary stainless steel conveyors designed for the specific needs of the food and pharmaceutical industries. The state-of-the-art cleanability, performance and reliability, along with their design, truly meet the standards of these industries. With three different conveyor system platforms and so many recommended applications, CleanMove makes it easy to satisfy industry and specific government compliance standards.



### Extruded Aluminum Framing

mk Aluminum Framing Systems feature over 200 different profile shapes and more than 2,700 connectors and system components, all engineered for a precise fit and maximum rigidity. Forget the hassles and inflexibility of steel — the welding, grinding, painting and waiting. mk offers you fast assembly, easy reconfiguration and unlimited flexibility.

With mk Aluminum Framing you can build just about anything you can imagine. Whether it be machine bases, safety enclosures, perimeter guards, tool racks, robot stands, carts, workstations, display units or something else, with mk's aluminum framing the possibilities are nearly limitless.



**View all of our products and request a quote at**  
**[www.mknorthamerica.com](http://www.mknorthamerica.com)**





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