



ASK THE EXPERT

Custom Pallet Handling Conveyors Meet the Demands of Modern Material Handling



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In today's fast-paced manufacturing environment, demand for efficient, reliable, and flexible material handling is high. Custom pallet handling conveyors help address these demands by optimizing space requirements, handling a wide range of sizes and weights, and seamlessly integrating with existing workflows as needed.

We spoke with **Michael Zampano, Mechanical Project Engineer** at mk North America about AP10, the latest pallet handling conveyor system in the VersaFlex lineup. The AP10 is ideal for conveying a wide variety of products across diverse industries. This aluminum-based pallet system is used for assembly, inspection, and testing, as well as machine tending applications. It is also suited for conveying machined parts, automotive assemblies; including battery modules, and small appliances—to name a few.

Where does a designer start when putting together a conveyor system?

A: When we first receive requests for picking out a system, we take a few factors into account: What is the product that's being moved, what is its weight and size, and what processes need to happen on the line. For example, there are several applications using the AP10 system for automotive assembly cells where customers are building parts piece by piece and adding a new piece at each station.

What kinds of applications are suited for the AP10 system?

A: A lot of the applications we see integrate manual operations and robotics, for example an operator on one side of the system and a robot tending on the other side, or a person performing an operation and then leading it into a robot cell. In these carousel or circular systems, the pallets recirculate, which helps reduce parts queuing, and many include kick out systems or lift and load options.

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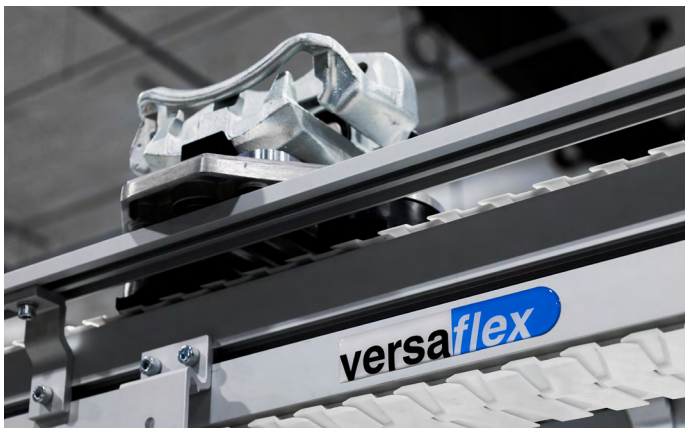
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There's a lot of use in the automotive industry including machining centers where they produce high volumes of parts and quite a few lines have hundreds of pallets in a system. In addition to automotive applications, these conveyor systems are used in manufacturing of assemblies, battery cell applications, and in inspection/testing cells. The AP10 system is a medium-duty line, bridging the gap between the heaviest and light-duty lines.

The flexibility and customization options of the AP10 are big advantages with this system; there's the adaptability to deal with space constraints such as getting around different machines and operations, and ability to customize the line with different components.

How do the conveyors integrate with other products on the line?

A: The AP10 has the ability to add on different sections so it can marry up to a machine or an existing conveyor, whether that includes a transfer plate, lift and locate module, pallet stops, vision inspection systems, or pallet diverters. An example might be connecting two existing machines on opposite sides; the new conveyor receives the product from one end and kicks it out on the other end. Or having a main loop that kicks into a smaller loop for a different operation, and perhaps pushed back into the main loop.



What are the specs of the VersaFlex AP10 system and what is included?

A: The AP10 is available in two different pallet sizes, 250 by 225 mm and 300 by 300 mm and can accommodate up to around 60 lbs per pallet. Speed is up to 120 ft/min and can be either constant or variable.

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A typical system includes a conveyor constructed with aluminum framing, finger-safe flat top chain, pallets, pallet guides, along with a conveyor drive that powers the system. Numerous options can be added including ground supports, table mounts, pallet stops, and lift and locate units with accuracies of +/- 0.1mm.

How much customization is available on these conveyors?

A: This is a great advantage of working with mk North America because we can do everything from small modifications to fully custom systems. When a customer comes to us with their application, we'll build out a solution that works for them. The flexibility of the AP10 and VersaFlex system in general gives us many options, whether the customer is designing a line around a pole or a column in the building, trying to get it around a machine, or other space constraints. Our systems thrive in those spaces because of the footprint and ability to build modularly.



How can designers get help setting up a system?

A: Many of mk's customers, whether they're machine builders or designers, will work directly with our applications team to come up with a plan. Some know exactly what they want and some only have a general idea of what they need to do. Very often we'll get involved in the beginning stages of projects with customers when they're designing their cell and together we can find the most economical solution.

Another popular option for users is our online CAD360 software, which allows using 3D modules to help visualize a system and then request a quote.

Where can I find out more information?

A: Discover more about the benefits of using the AP10 pallet conveying system at www.mknorthamerica.com/Products/versaflex-ap10.