## Glass palletizing systems





### **Quick link to**

- MSK Innovation
- → MSK Stacker
- → MSK Palletizer models
- → MSK Robot palletizing
- → MSK Accessories

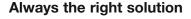
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## MSK Innovation







An MSK Palletizer is as individual as a glass production. No matter which performance is required, whether partly or fully automatic, whether with robots or conventionally, MSK's palletizing range offers customised solutions. MSK palletizers can process a high variety of glass container shapes and allow for great flexibility in the laying out of palletizing systems.



MSK palletizing head

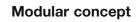
Thanks to patented MSK innovations, the new universal palletizing head MSK Unitech handles even very demanding glass container shapes without downtime for job changes. It can also be used for cardboard box palletizing. Especially in combination with the popular swivel arm palletizer MSK Triotech, it makes a powerful team.







New



At MSK, the building block principle is used to put together a customised palletizing system. This offers a high level of flexibility, allowing for efficient expansion with minimum maintenance and spare part demands, in addition to a constant operational concept and good accessibility of all elements. MSK palletizers can be equipped with gripper tube head, suction plate or the universal head.



## MSK Stacker







The MSK Stacker works with parameter-controlled path optimisation and ensures the **best possible preparation of the bottle layers**. The execution of up to six rows combines high performance with quiet operation. The **bottle in-feed** works fully automatically and guarantees the best possible layer preforming. A special MSK technique ensures the robust and quick adjustment **during** operation and the **lowest job change times**. The space-saving construction offers the best accessibility for daily operation.



#### Pushing and pick-and-place

The servo-driven pushing, or pick-and-place models work reliably and flexibly, fitting to all requirements. The quick and easy replacement of tools is guaranteed.

### Palletizer models







#### High performance portal

The MSK Quintech was developed as a portal system for high performance, with a performance up to 4 layers a minute. Thanks to the sophisticated construction, the movable mass of the transfer slide has been cut in half. Toothed belts provide low-maintenance operation and impeccable glass hygiene.

#### MSK turn arm system

The MSK Triotech is the best-selling MSK palletizer in the performance category, with up to 3 layers a minute. The column does not move, just the arm swivels. New

Thanks to the use of a new direct drive, the swivel arm is now rotatable by 180°. Not only does it allow for completely new layout alternatives, especially for tight spaces, but the new MSK technology also offers higher flexibility and greater performance.

### Palletizer models







The MSK Duotech was developed for a performance of up to 2 layers a minute. Similar to the MSK Triotech type, the column does not move, just the arm swivels. Simplicity in construction and good accessibility makes this MSK palletizer an attractive space-saving solution.



### Ideal for simple applications

The distinctive feature of the MSK Semitech is the combination of a parallelogram and belts. This allows the stacker to remain open at the top for manual access. It still does not begin to swing even after the acceleration and deceleration phases. The MSK Semitech is the ideal machine for the lower performance category, with up to 1.5 layers a minute.

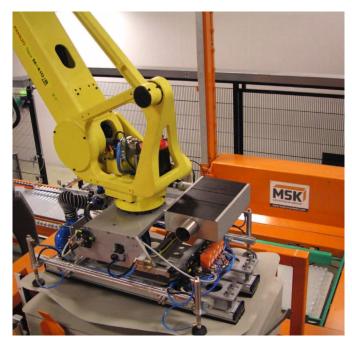
## Robot palletizing







MSK Palletizing robots offer the possibility of creating basically every desired layer arrangement on the pallet for palletizing units such as clean packs and bottle layers. Thanks to robot technology and different gripping systems, high performance can be flexibly realised in small spaces. The dynamic movements are exactly reproducible at all times, while they are attended by minimal maintenance effort and very little wear.



Flexibility in trays

MSK palletizing robots also apply intermediate trays.

### Accessories







The MSK Looptech secures every desired layer of bottles for internal transport. The machine can be integrated in the palletizing process (layer version) or is available as a stand-alone version positioned after the palletizer.



MSK Centring frame with tier sheet inserter

Thanks to the separately controlled sides (lengthwise and diagonally) of the centring carriage, the MSK Centring frame and the integrated tier sheet inserter can optimally position themselves according to the respective layer dimensions.

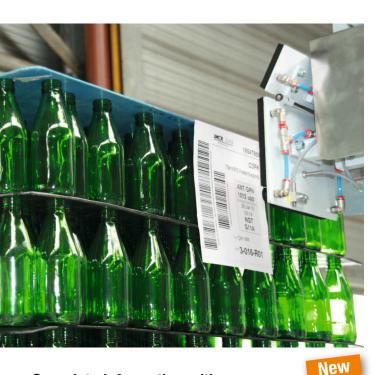


**Tray erection with MSK Traytech** 

The MSK Traytech produces trays from flat cardboard in a fully automated workflow, with a performance of 3.5 layers per minute. The cardboard is set in from the outside, thus securing the layer formations of the glass containers. Depending on the requirements, the trays are placed on the pallets as a top-bottom tray or bottom-top tray.

### Accessories







### Complete information with **MSK** Labeller

An innovative, MSK-developed labelling system makes it possible to seamlessly trace pallets right after leaving the palletizer. Compared to common solutions, the new labelling system stands out due to cost-effective material costs. The MSK Labeller has been especially developed for pallets with plastic trays as well.

#### Visualisation and control with MSK EMSY

The visualisation software MSK EMSY simplifies the control of complex palletizing systems. All parameters essential to production are managed, in relation to product and batch. This saves time when changing jobs or retrofitting. Beside parameter settings, MSK EMSY also offers connection to all well-known control systems, full possibilities of internal information networking, support with fault-finding, service and maintenance, and much more.