

# MAGIC CUBE



**Fully automated storage and picking system for small parts, boxes, blisters and circuit boards**

**Automatic infeed and outfeed of individual parts or bulk material in boxes**

**Integrated, fully automated gripper exchange for variable geometries of stored parts**

**Modularly expandable for different quantities, sizes and volumes**

**Software-supported warehouse logistics with MES/ERP-system interfaces**

**Makes for a unique logistics concept in combination with the Magic Tower**



# MAGICAL MULTI-STORAGE SOLUTION

## INFEED AND OUTFEED TRACK FOR SINGLE PRODUCTS AND/OR BOXES

The input and output module for individual products or boxes is the connection to the conveyor systems between the storage areas or production. At this location the products are taken from the conveyors, aligned and fed into the storage system. Integrated reading systems verify the products and create data records for individual products or boxes.

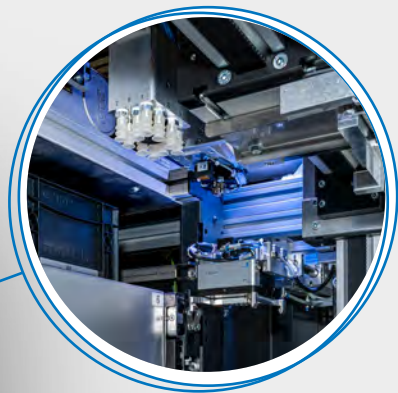


## HANDLING SYSTEM

The handling system consists of a 3-axis gantry with a special gripper solution that takes over the products, stores them on the drawers and retrieves them when required. Via the handling gantry, the product gripper can be positioned at any location in the system to pick or place products.

## PRODUCT GRIPPER

The Magic Cube can be equipped with different grippers to safely pick and transport products of different geometries, as well as storage boxes. The system can be equipped with variable functions, such as turning, panning, or gripper changing. When integrating an automatic gripper change system, grippers can be changed on-the-fly according to the product to be picked during an ongoing retrieval process.



## STORAGE DRAWERS

A wide variety of products are stored on drawers. Their spacing, weight-support and partitioning can be configured for each drawer as required – even at a later point in machine operation. The drawers can be equipped with various inserts and grids for better storage of products.

1853 G.  
= 466 STK.

## WEIGHING MODULE

A database-supported weighing module can be integrated into the Magic Cube. This allows, for example, KLT boxes with THT components to be weighed when they are returned to the storage system. This ensures that the warehouse inventory is checked and, if necessary, corrected before it is put back into storage.

## BASIC SYSTEM

The Magic Cube is not only modularly configurable in height for up to 5 m, but also offers many options for the individual basic elements. The multi-storage solution can be equipped with one, two or four drawer storage units and is thus available as a „Single“, „Duo“ or „Quattro“ variant. Storage takes place on drawers that can be configured variably in height and spacing. The storage items are transported via a 3-axis handling gantry.

Intelligent aides

## MAGIC TROLLEY



The Magic Trolley is a pick-per-light shelf for small load carriers that can be attached to an automated guided vehicle (AGV).

# The Magic Cube

is a fully automated picking and storage system for various products that are stored and retrieved fully automatically, with gapless track and trace and several integrated quality controls.

The system is primarily used in THT or final electronics assembly and stores and picks boxes, flat products or trays, as well as single products with various geometries like bottles, tubes, circuit boards and other items. By means of an innovative tool change system, different grippers can be used in one storage unit. Thanks to the intelligent multi-picking technology, variable products can be stored and picked in one system.

The Magic Cube ensures maximum product safety and minimizes manual intervention to avoid incorrect picking or items that cannot be found. The freely configurable system can be equipped with various additional modules, such as insert modules, weighing modules or connections to AGVs. Due to its unique flexibility, the Magic Cube grows with your requirements and can be expanded at any time - even across several floors.

The storage solution offers interfaces to a wide range of MES or ERP-systems and guarantees gapless track & trace for every product. In conjunction with the Magic Tower, almost all products and components for SMT and THT production can be stored and retrieved automatically and order-related. Hence, combined with the use of AGVs, almost all picking and transport tasks can be completely automated.

## YOUR BENEFITS:

- ✓ Modular and configurable storage and order picking system
- ✓ Innovative storage and picking technology
- ✓ Intelligent gripper change system
- ✓ Inhouse-developed software with interfaces for existing MES and ERP-systems
- ✓ High flexibility and efficient workflows
- ✓ Adjustable for varying storage products, quantities, sizes and volumes
- ✓ Expandable for future requirements

Individually expandable



Flexible adjustment for various product geometries







## Competence grown from expertise and know-how

With many years of experience in the development and production of machine systems and software solutions, our company offers innovative warehouse and logistics concepts for all Industry 4.0 requirements, which are already in use in installations worldwide. The focus of our intelligent warehouse automation concept is on our two storage and picking systems, Magic Tower and Magic Cube. In conjunction with various additional modules, these innovative systems represent a holistic warehousing concept from goods receipt, through storage and picking, to the withdrawal of all relevant components and production parts in the EMS sector. Our systems minimize manual intervention, avoid mispicking and untraceable products and thus offer real added value for future-oriented production and manufacturing environments.

## Innovation originating from tradition and passion

Founded in 1934, the Otto Kuennecke group with a staff of circa 180 dedicated employees worldwide offers intelligent solutions for various fields of application in machine automation. As the world market leader for processing and order picking of highly secure documents and products, such as ID cards or passports, our progressive family-owned company has a global service network and, with an export share of over 80%, supplies renowned government institutions and corporations. With the acquisition of MIMOT GmbH, we have combined our comprehensive know-how with in-depth market knowledge in electronic manufacturing and are continuously driving new technological developments with our innovative strength. In doing so, we always meet our customers at eye level and face every challenge with our proven ingenuity and our burning passion for what we do.



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