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Ingenuity for life

Delta kinematics made to measure

MAJAtronic GmbH relies on the SIMOTION motion control system for autonox24 HD robots in the food industry

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„It has to be hygienic and flexible!" According to this motto, MAJAtronic GmbH develops automation modules that are used wherever the highest degree of hygiene is of utmost importance – non-rusting materials, smooth surfaces and good cleanability.

MAJAtronic GmbH, based in Kehl, Germany, has been developing complex series-production machines, primarily for the meat industry, since 2002. An extensive line of robot components for diverse uses was created under the OEM brand autonox24.

The first choice for extreme conditions

The autonox24 hygienic design (HD) robots are the first choice wherever food safety and chemical stability are required and extreme contamination, moisture, or temperature conditions prevail. Their hygienic design has already proven itself in the meat industry and the bakery technology sector. A special lightweight line was designed for nonfood applications that require extreme acceleration and speed. The advantages of the consistent lightweight construction with Carbon Fibre Reinforced Plastic (CFRP) structural parts are seen, for example, in packaging tasks. Special design requests are possible even for small batches. A media supply system for the fourth axis (e.g. pneumatics) for which a patent has been applied for, inseparable arm joints, and minimized picking/suction and putting times with optimized valve technology complete the product features. In order to carry out the complex handling tasks, MAJAtronic relies on the SIMOTION motion control system and the SIMOTION Handling Toolbox.

Simplified engineering work

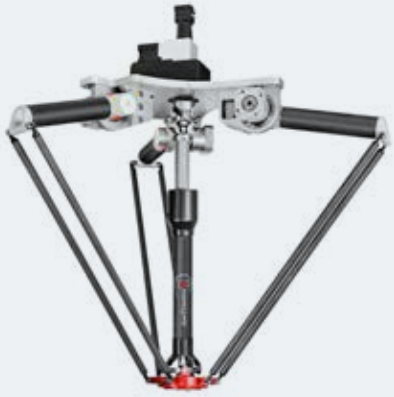
The standardized SIMOTION Handling Toolbox software library enables the highly efficient implementation of handling applications and is suitable for use on all SIMOTION platforms. All typical kinematics, such as Delta3 pickers, are already supported by the system. Customized kinematics can also be incorporated via a universal transformation interface. Several kinematics can be implemented together with software modules of other machines on one control system.

This dispenses with the need for synchronization with proprietary control architectures – real-time synchronization and integrated data management are now easily possible. Complex and lengthy familiarization with different programming languages for robot control isn't necessary anymore, as the system supports the standardized programming of all functions in accordance with IEC 61131-3.

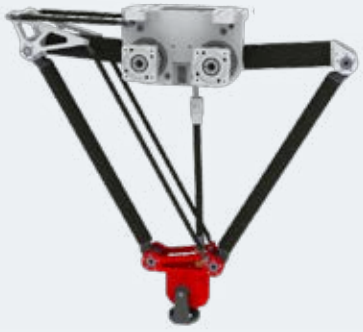
Handling with SIMOTION – advantages at a glance

- All common kinematics integrated within the system
- Integration of customized kinematics
- Workspace monitoring with restricted, alarm, and product areas
- Synchronization of up to 10 conveyor belts

Robot type	Standard DELTA Robot	Standard DuoPod Robot	HD DELTA Robot	HD DuoPod Robot
Axes	3 to 5	2 and 3	3 and 4	2
Loads	0.5 kg to 50 kg	3 kg to 80 kg	1 kg to 6 kg	0.5 kg and 350 kg
Working areas	Ø 200 mm to Ø2000 mm	200 mm to 1400 mm	Ø 800 mm to Ø 1200 mm	300 mm



Standard DELTA Robot:
RL4-T1-1400-20kg



Standard DuoPod Robot:
RVS3-1250-6kg

HD Delta Robot:
RL4-1000-6kg

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