

Easily configured – quick to assemble –
simple to program

MAXOLUTION® parallel arm kinematics kit



Effortlessly build your parallel kinematics robot yourself

Mechatronic kinematics solution as an assembly kit

The industry has an ever growing demand for higher flexibility, precision and time-efficiency. Stakeholders appreciate when they obtain reliable modules and support straight from one manufacturer. We automate kinematics solutions with a mechatronic subsystem that serves as a kit for parallel arm kinematics robots:

These new MAXOLUTION® parallel arm kinematics kits consist of a controller, axis and mechanics package and can be seamlessly integrated into your machine applications, independently integrated into your production processes or operated as a standalone solution. The modular structure and independent design of the individual system

packages enable you to achieve perfectly coordinated kinematics in just a few simple steps. Furthermore, the new parameterizable MOVIKIT® Robotics software module enables a quicker and easier startup.

As with all our solution packages, we also use state-of-the-art drive technology components from SEW-EURODRIVE in this kit.

The mechatronic parallel arm kinematics kit consists of three individual packages:

- 1 Controller package
- 2 Robot axis package
- 3 Robot mechanics package



WE AUTOMATE

→ Whether an individual package or as a kit:
MAXOLUTION® parallel arm kinematics kits are easy to configure, quick to assemble and easy to program!



1 Controller package

consisting of:

- Controller, e.g. MOVI-C® CONTROLLER UHX85A-R
- Visualization and software: MOVIRUN® software platform and MOVIKIT® Robotics software module from the MOVI-C® modular automation system

Easy

The MOVIKIT® Robotics parameterizable software modules incl. 3D simulation make programming extremely easy – of course, the pick-and-place control modules are PackML-compatible (PackML = Packing Machine Language).

Flexible

Open, pre-programmed interfaces enable the optimum integration of common peripherals, camera systems and grippers.



② Robot axis package

consisting of:

- Axis modules, e.g. MOVIDRIVE® modular
- Power supply module
- Servomotors, e.g. synchronous motors from the CMP.. series including cabling

Energy efficient

Component packages that are optimally tailored to the application ensure resource-conserving, efficient solutions and streamlined systems.



3 Robot mechanics package

consisting of:

- Robot mechanics and PxG® planetary servo gear unit, compatible with conventional robot kinematics

Precise

High positioning accuracy thanks to perfectly harmonized mechanics and drive technology.

Cleanliness

Hygienic design available as an industry-specific, machine automation package with a sealed stainless-steel housing.



① + ② + ③

Simplicity meets maximum
positioning accuracy

since the three packages are optimally harmonized
as a group.

① or ② or ③

means flexibility for your
application

because the three packages can also be used individually.

Economical

With a MAXOLUTION® parallel arm kinematics kit, you yourself determine the added value in your application. The kit gives you the freedom to handle everything yourself, from planning your own design to integration in the machine and even programming and starting up the machine.

Common application examples in the industry

The best: Together with you, SEW-EURODRIVE examines your entire machine to find the best solution for your specific application. Our primary focus is on applications for food and beverage production, packaging technology, and intralogistics handling systems.



Food production

The MAXOLUTION® parallel arm kinematics kit offers

- high precision standards with up to 0.1 mm repeat accuracy

Optimally suited for use in robots

- In fish and meat processing
- For filleting or cutting food

→ e.g. in a stainless steel kinematics solution in a fully hygienic design for product-sensitive areas, equipped with a water jet cutter



Packaging

MAXOLUTION® parallel arm kinematics kit enables

- high cycle rates up to 200 "picks" per minute

Optimally suited for use in packaging technology for food in handling tasks such as

- Assembling
- Stacking
- Sorting of secondary or final packaging
- Bonding
- Positioning

➔ e.g. in a kinematics solution with three motion axes and a vacuum gripper



Machines in intralogistics

The MAXOLUTION® parallel arm kinematics kit is

- also useful for handling high loads up to 50 kg

Optimally suited for use in intralogistics machines and handling systems, e.g. in drink manufacturing for applications in the following areas

- Handling/alignment
- Grouping
- Order picking

➔ e.g. in a kinematics solution with three motion axes and an additional rotary axis and gripper

Technical information

Example variants of the parallel arm kinematics kit

Designation	Number of arms	Rotary axis	Inclination axis	Hygienic design ³⁾	Work envelope ¹⁾²⁾ mm	Load capacity kg	Cycles per minute
D2	Two	optional	–	no	1000 x 342	50	50
				no	1500 x 347	30	45
D4	Three	optional	–	no	500 x 200	2	200
				yes	650 x 270	3	200
				yes	800 x 250	3	200
				yes	1100 x 250	3	180
				yes	1300 x 250	3	150
				yes	1600 x 350	12	100
D5	Three	optional	Standard	no	800 x 250	1.5	130
				no	1300 x 250	1.5	120

¹⁾ 2 arms: Width × height

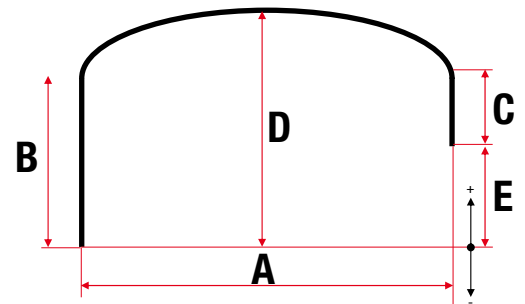
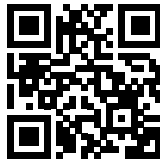
²⁾ 3 arms: Diameter × height

³⁾ Mechanics are also available in a stainless steel version



Design template for a MAXOLUTION® parallel arm kinematics kit

→ Feel free to contact us online as well:
machine.automation@sew-eurodrive.de



Machine type/description

Number of kinematic models per machine:	<input type="text"/>
Prototype yes/no:	<input type="text"/>
Average number of machines per year:	<input type="text"/>
Robot Type / D2, D4 or D5:	<input type="text"/>
Number of axes:	<input type="text"/>
A – Path length:	<input type="text"/>
B – Minimum vertical output length ¹ :	<input type="text"/>
C – Minimum vertical final length ¹ :	<input type="text"/>
D – Minimum Z-height ² :	<input type="text"/>
E – Height difference between the pick-up and set-down position	<input type="text"/>
Product pick-up time:	<input type="text"/>
Product set-down time:	<input type="text"/>

Where is the product picked up?

Rotation yes/no:	<input type="text"/>
If yes, up to which degree?	maximum <input type="text"/>
Product load capacity:	<input type="text"/>
Product load capacity (only with rotation):	<input type="text"/>
Gripper load capacity:	<input type="text"/>
Gripper load capacity (only with rotation):	<input type="text"/>
Required throughput time (from pick-up to set-down position):	<input type="text"/>

¹ The vertical initial/final length is the minimum length required to avoid a collision with an object near the pick-up/set-down position. Please be aware that a large vertical initial/final length significantly reduces the maximum achievable throughput time.

² The minimum height for preventing a collision with an object. Codian Robotics chooses the optimum Z-height for the application.

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How we're driving the world



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