

COMPACT SIX-AXIS INDUSTRIAL ROBOT

Precision in a small footprint.

Meca500 combines articulated motion with a compact body for precision handling, assembly and inspection.



5 μ m

POSITION REPEATABILITY

500 g

RATED PAYLOAD

330 mm

REACH AT FLANGE

Precision assembly • Electronics handling • Photonics positioning
Inspection and testing • Laboratory automation

Repeatability describes return consistency; it is not an absolute positioning accuracy rating.

MECA500 / R3 & R4

Technical specifications

Robot architecture	6-axis articulated industrial robot
Position repeatability	0.005 mm (5 µm)
Rated payload	0.5 kg
Robot weight	4.6 kg, without cables
Maximum reach	330 mm at flange
Mounting orientation	Any angle
Power input	24 V DC; maximum input current 5.5 A
Ambient temperature	5 to 35°C
Relative humidity	10-80%, non-condensing
Cleanroom classification	ISO Class 6, per manufacturer robot specification
Joint ranges J1 / J2 / J3	±175° / -70° to +90° / -135° to +70°
Joint ranges J4 / J5 / J6	±170° / ±115° / ±36,000°

INTEGRATION INTERFACES

TCP/IP API • EtherCAT • EtherNet/IP • PROFINET

Select the protocol and configuration for the supplied firmware and PLC/IPC.

Payload selection must include tooling and workpiece mass, centre of gravity and inertia. Confirm performance for the planned trajectory and robot revision. Cleanroom classification does not automatically qualify the complete machine.

FROM ROBOT TO AUTOMATION CELL

Plan around the process.

Precision assembly

Handling and positioning small parts with controlled approach directions.

Photonics & optics

Positioning components for alignment workflows; verify process accuracy with the chosen metrology.

Electronics & inspection

Presenting parts to cameras, test stations and assembly fixtures.

Medical & laboratory

Configurable handling workflows; process-specific validation remains part of the project.

DEFINE THE APPLICATION

Provide part and tool mass, centre of gravity, process tolerance, cycle-time target, layout, utilities, communication protocol and cleanroom requirements. Review guarding, emergency stops and interlocks as part of the complete robot cell.

Thorthek CM (Thailand) Co., Ltd.

THOR_{THEK} PLATFORM / PRECISION ROBOTICS

Robot manufacturer: Mecademic Inc. | Model: Meca500

Technical references: Mecademic Meca500 User Manual, technical specifications; Programming Manual, communication interfaces. Confirm the supplied revision at quotation.