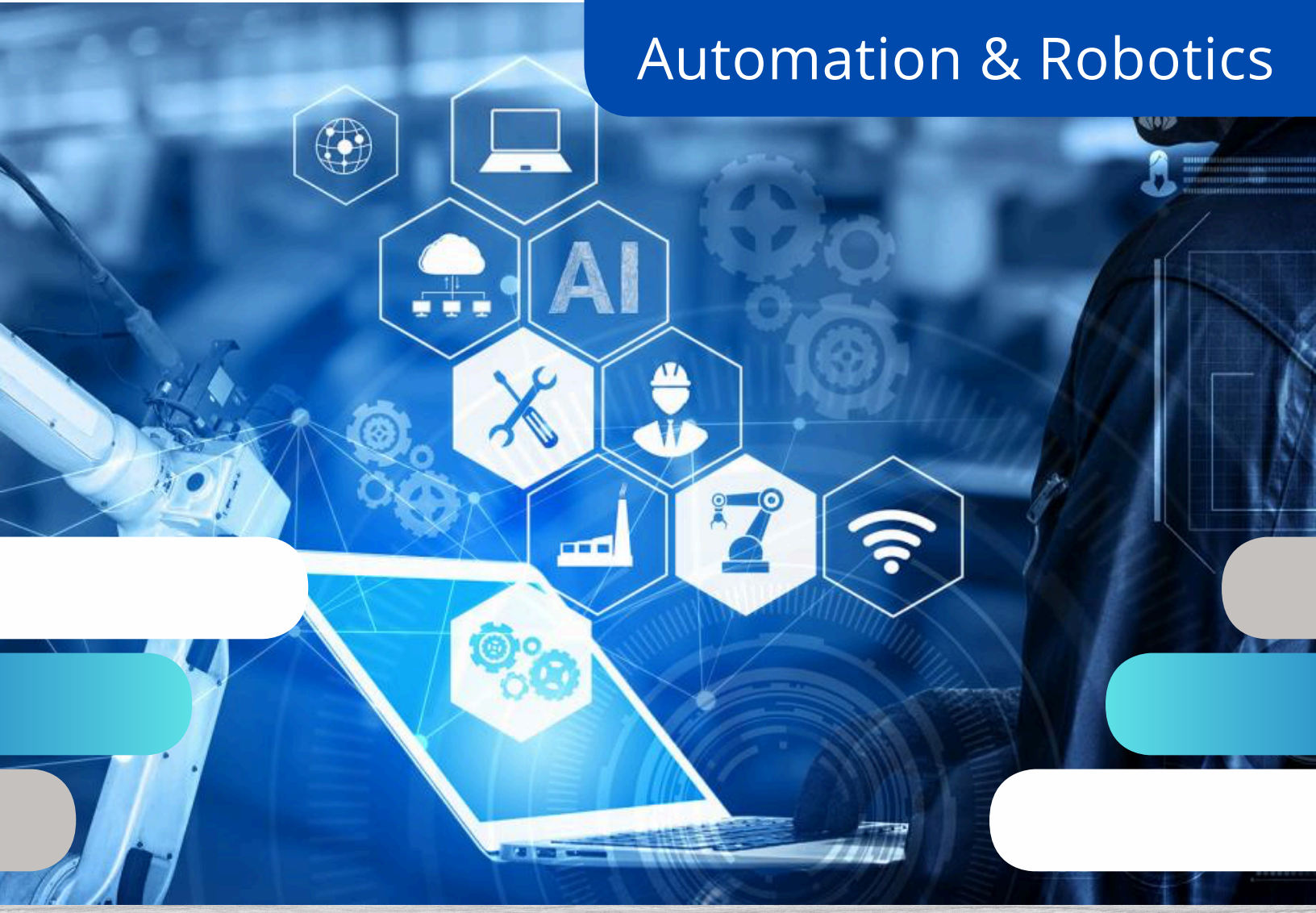
Automation & Robotics



CATT

Career and Technical Training, LLC

Experience the Power of Automation & Robotics.

How to Contact Us:

Call Us:

(970) 686-0379

Customer Service is available Monday through Friday from 8:00 AM to 5:00 PM MT. Our office is available to you from the initial planning stage through support, upgrading, and anything in between.

Send Your Request:

jslupe@catt-llc.com

This email address can be used to contact our sales team to request quotes, shipping, order processing instructions, and purchase order information.

Visit Our Website:

www.catt-llc.com

Our website is continually updated to serve your needs better and make product information easier to find. You'll find product specifications, images, and much more.

Call Us Direct
We Will Help You
Locate Your Local Dealer

CATT

About CATT llc...

- We market to a diverse customer base, offering storage and workplace solutions for industry, education, government, and healthcare. With over 5,000 furniture and training equipment-related products, we provide solutions that other companies cannot. From welding and cosmetology labs to modular storage cabinets and automotive workstations, we have the products to meet your requirements.

- Our company has been family-owned and operated for over 20 years, and we have a dedicated team of industry professionals. Our commitment to our customers through service and product quality symbolizes pride throughout our organization.

- Military training facilities, public educational schools, technical/vocational training centers, and leading auto engine manufacturing plants are all examples of where CATT products are relied upon nationwide.

Curriculums

Dobot Robotics Curriculum: Empowering STEM Education

Complete Ecosystem

- Optional Writing and Drawing Kit
- Robot Vision Kit
- AI Teaching Kit
- Basic AI Kit
- Sliding Rail Kit
- Conveyor Belt Kit

Key Aspects of Dobot's Curriculum:

- **Focus on STEM Education:**
  - It aims to provide hands-on learning experiences that teach students about robotics, programming, and automation.
- **Dobot Blockly:**
  - Dobot utilizes Blockly, a visual programming language, to make robotics programming accessible to students of various ages.
  - This programming language allows students to learn programming concepts without extensive coding knowledge.
- **Curriculum Resources:**
  - Dobot collaborates with educators to develop curriculum materials that align with educational standards.
  - These resources often include lesson plans, activities, and projects students can complete using Dobot robots.
- **Real-World Applications:**
  - Dobot's curriculum emphasizes the application of robotics in real-world scenarios, such as manufacturing, logistics, and research.
- **Variety of Educational Products:**
  - Dobot designs educational robotic products and curricula that work seamlessly with those robots, allowing for a more streamlined learning experience.

shown with optional accessories

Dobot Magician

ALL-IN-ONE ROBOT EDUCATION

A truly cutting-edge robotic arm can manipulate objects and 3D print, write, and draw. It has a graphical programming environment, multiple tool heads, and the capability to work with the Arduino platform. It's a robot for your creativity and desire to develop. With Dobot's exclusive tutorials and lessons, the Magician is the ideal way to learn about robotic arms, hardware development, coding, and automation. In the school's EM lab, students programmed the Dobot Magician to precisely sort colored blocks into designated bins, demonstrating the principles of robotic automation and color recognition.

- **Net Weight:** 8.8 lbs
- **Base Dimension (Footprint):** 6.2" x 6.2"
- **Material:** Aluminum Alloy 6061, ABS Engineering Plastic
- **Controller:** Dobot Integrated Controller
- **Robot Mounting:** Desktop
- **Packing Size (LxWxH):** 12" x 9" x 13"

BEST MULTI-FUNCTIONAL ROBOTIC ARM

The advantages of high precision (0.2mm) and switchable tool heads allow for many uses: 3D printing, pick-and-place, writing and drawing, and more. Combining them brings out even more fun, learning, and creativity through unlimited possibilities. Also, Dobot Magician is the first consumer-grade robotic arm that can 3D print.

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Dobot Magician E6

The Dobot Magician E6 is crafted to bridge the gap between learning and real-world applications. Designed specifically for education and scientific research, this desktop cobot provides an interactive platform for students and researchers. Its compact size and advanced capabilities make it a prime resource for teaching complex AI, robotics, and innovative Manufacturing concepts. For their advanced robotics project, the engineering students used the Dobot Magician E6 to simulate a small-scale assembly line, precisely manipulating components and illustrating industrial automation concepts with its enhanced reach and precision.

- **Net Weight:** 16 lbs
- **Base Dimension (Footprint):** 6.3" x 5" x 4"
- **Material:** Aluminum Alloy 6061, ABS Engineering Plastic
- **Controller Software:** DobotStudio Pro
- **Robot Mounting:** Desktop

Collaborative Robot

The Dobot Magician E6 is a desktop 6-axis collaborative robot designed for educational and research applications, effectively bridging the gap between theoretical learning and practical experience. Its 6-axis design enables complex movements, mirroring industrial robotic arms, while its user-friendly features like "no-code drag-to-teach" programming and graphical interfaces make it accessible for diverse users. Safety is paramount, with built-in collision detection and a light indicator ring. Primarily used in STEM education and research, the Magician E6 facilitates hands-on AI, smart manufacturing, and robotics learning, providing an immersive experience for simulating various automation scenarios. Its compact and lightweight design allows for easy deployment, making it a valuable tool for exploring the future of automation.

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Dobot MG400

The Dobot MG400 is a testament to innovation and compact design in robotics. With a smaller footprint than a piece of A4 paper, this desktop robotic arm is a space-saver without compromising functionality. It embodies the phrase "small but mighty," perfect for laboratories, small workshops, and educational environments where space is at a premium but the automation needs are high. In the vocational training workshop, students learned about advanced manufacturing by programming the Dobot MG400 to perform precise pick-and-place tasks, simulating real-world industrial applications with its larger workspace and higher payload capacity.

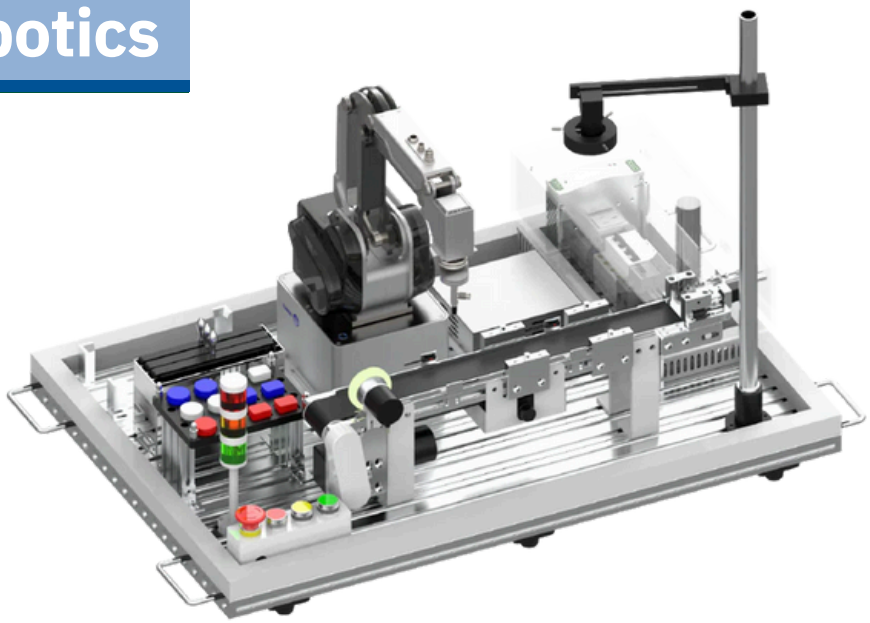
- **Net Weight:** 17 lbs
- **Base Dimension (Footprint):** 7" x 7"
- **Software:** DobotStudio 2020
- **Robot Mounting:** Desktop

Performance:

- Pick and Place
- Assembly
- Inspection
- Testing
- Dispensing

EASE OF USE AND PROGRAMMING FLEXIBILITY

Ease of use is paramount with the MG400. It caters to users of all levels with its intuitive programming options that range from simple drag-and-teach to more sophisticated Lua scripting. Whether you're taking your first steps into robotics or are a seasoned developer, the MG400 adapts to your skill level, allowing you to harness its full potential with minimal learning curve. The MG400 is not just adaptable in terms of space and programming; it's also designed to work collaboratively with human operators. It features advanced safety systems, including collision detection, ensuring a safe working environment. These features make the MG400 a reliable partner in tasks requiring human-robot collaboration, opening up new possibilities in the automation landscape.



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Dobot Robot Workstation for MG400 & E6

COLLABORATIVE ROBOT UNIVERSAL TRAINING PLATFORM

Collaborative Robot Universal Training Platform is a teaching platform for vocational schools and enterprise training that integrates a robot, control system, vision system, conveyor belt, and other components. It adopts a modular design and can be combined flexibly and efficiently for automation simulation, such as object detection, grabbing, handling, palletizing, and assembly, as well as teaching projects such as robot system calibration, trajectory tracking, and communication control. This helps students acquire skills related to smart robot systems and improve practical and innovative capabilities effectively.

RICH FUNCTIONS

Use the system to teach robotic system calibration, trajectory tracking, communication, and more. With the workpiece models, tasks like object tracking, grabbing, inspection, transportation, palletizing, and assembly can be carried out. Users can easily create automation tasks by combining a lightweight collaborative robot (works with CR3/E6/MG400) and flexible modular units. The system covers robotic systems, robotic vision systems, and an optional PLC modular system. Users can deal with the majority of automation tasks after learning. The Conveyor Belt Kit can be used independently with the robotic arm itself.

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RD080N Robot

Light-Duty Palletizing

The palletizer series includes five unique robots, including the RD080N Robot, designed for palletizing applications. Additionally, Kawasaki's high-speed palletizing robots offer industry-leading work range and reliability. Consequently, they help companies improve production line efficiency and productivity. At the university's research lab, graduate students utilized the Dobot RD080N's advanced vision system to conduct experiments in autonomous navigation, teaching the robot to recognize and manipulate objects in complex, dynamic environments.

Palletizing Robots:

- Payload: – 80 kg
- Max. Reach: – 6.89'

CP Series Palletizing Robots

Heavy-Duty Palletizing

The CP series palletizing robots feature industry-leading cycle times, a broad motion range, a space and energy-saving controller, and easy-to-use palletizing software to program the robot's operation. The robots drive the flexible automation of end-of-line and distribution processes in various industries, and support the highest production line efficiencies. With the lightest maximum payload capacity, the CP180L model's throughput is the highest of the CP series palletizing robots. In the advanced logistics and automation course, students programmed the Dobot CP Series Palletizing Robot to efficiently stack boxes of varying sizes onto pallets, learning about real-world supply chain automation and optimizing for speed and stability.

Palletizing Robots:

- Payload: 80 – 700 kg
- Max. Reach : 6.89'– 10.68'

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UR20

With a 5.74" reach and 44 lbs payload capacity, this cobot handles more tasks, fits more applications, and assists in more environments than ever. The UR20, part of Universal Robots' next generation of industrial cobots, takes performance to new heights while maintaining UR's versatility, usability, and small footprint. In the advanced manufacturing lab, students used the UR20 collaborative robot to explore high-payload automation, programming it to perform complex material handling tasks, demonstrating the capabilities of industrial-grade cobots in a learning environment.

Heavy-Duty Applications

BIG THINKING. THAT'S FAR-REACHING.

The increased reach scales cobot automation and throughput gains for more demanding, heavier-duty applications. For picking, packing, and palletizing heavy parts, the UR20 boosts efficiency and productivity. It reaches standard EURO pallets and stacks up to 6.5' high. The UR20 processes larger dimension parts for machinery such as cutting, punching, drilling, machining, and forming. It mounts in any position and quickly moves around workplace objects, including machine tending doors. The software is redesigned from the ground up and brings unprecedented motion control capabilities to the joint architecture. It achieves up to 30% greater speed and 25% higher torque within a closed capsule. The UR20's greater payload allows heavier workpiece handling and the option to configure multiple end effectors for better cycle times. It is ideal for manufacturing and assembling large equipment such as diesel engines, drivelines, transmissions, and battery assemblies, often requiring human-robot collaboration.

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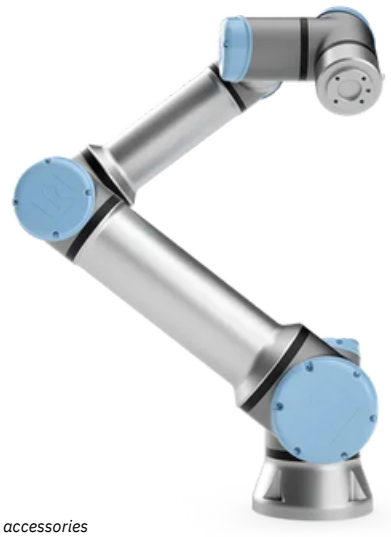

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UR16e Robot
(Heavy Duty)

The Universal Robots UR16e robot delivers an impressive 35.3 lbs of payload within a small footprint. It is ideal for use in heavy machine tending, material handling, packaging, and screw and nut driving applications. This powerhouse robot allows for heavier end-of-arm tooling and multi-part handling, and is especially useful for achieving shorter cycle times. In the robotics engineering class, students programmed the UR16e to perform a simulated quality control task. They used its high payload capacity and precision to sort and inspect heavy components, gaining practical experience with industrial collaborative robots.

Applications

- Machine tending (loading and unloading machines)
- Material handling (moving heavier parts)
- Packaging
- Material removal
- Screw and nut driving applications.

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UR10e Robot
(Medium-Sized)

The Universal Robots UR10e is an extremely versatile collaborative industrial robot arm with its high payload (22 lbs) and long reach capability. Its 4.26' reach spans wide workspaces without compromising precision or payload performance. UR10e addresses various applications in machine tending, palletizing, and packaging. In an advanced automation course, students utilized the UR10e robot to simulate a packaging process, programming it to pick, place, and assemble various items, demonstrating the versatility and adaptability of collaborative robots in industrial applications.

Applications

- Machine tending
- Quality inspection
- Palletizing
- Packaging
- Assembly

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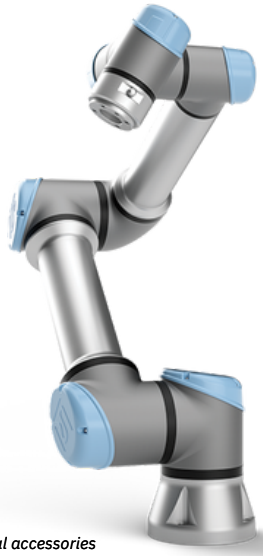

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UR5e Robot
(Lightweight)

Built with the future in mind, the UR5e robot is designed to grow in capability alongside your business, a spring board to improved product quality and productivity, so you will always be able to stay ahead of competition. Equipped with intuitive programming, versatile use and an almost endless list of opportunities for add-ons, the UR5e is able to complement production regardless of your industry, company size or product nature. In an introductory robotics workshop, students programmed the UR5e to perform a simple assembly task, learning the fundamentals of collaborative robot programming and demonstrating the robot's ease of use and flexibility.

Applications

- Light assembly
- Pick-and-place
- Quality inspection
- Machine tending
- Packaging

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UR3e Robot
(Ultra-Lightweight)

The UR3e robot is a smaller collaborative table-top robot, perfect for light assembly tasks and automated workbench scenarios. The compact table-top cobot weighs only 24.3 lbs (11 kg), but has a payload of 6.6 lbs (3 kg), ±360-degree rotation on all wrist joints, and infinite rotation on the end joint. In an automation lab, students used the UR3e to perform delicate pick-and-place operations with small electronic components, exploring the precision and dexterity of collaborative robots in intricate assembly tasks.

Applications

- Light assembly
- Pick-and-place
- Polishing
- Gluing
- Screw driving
- Laboratory work

shown with optional accessories

Designed primarily for assembly applications

duAro1 Robot

SCARA (Selective Compliance Assembly Robot Arm) technology

The innovative duAro1 robot is a dual-arm collaborative SCARA robot that works safely and efficiently next to humans in a variety of applications, including assembly, material handling, inspection, machine tending and dispensing.

The duAro1 collaborative robot from Kawasaki Robotics stands out with its distinctive dual-arm design, enabling it to perform tasks requiring two-handed dexterity, such as intricate assembly and delicate part handling. Utilizing SCARA technology, it achieves high speed and accuracy in horizontal movements, while maintaining a compact footprint suitable for space-constrained environments. Designed for safe human-robot collaboration, the duAro1 incorporates necessary safety features. Its applications span various industries, including small electronics assembly, material handling, and machine tending, where its unique capabilities offer enhanced precision and coordination.

Applications

- Assembly of small electronics
- Handling delicate parts
- Material handling tasks
- Machine tending

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Automation & Robotics

Designed for STEM Education

Applications

- Drawing and Writing
- Pick and Place
- Laser Engraving and Cutting (with optional module)
- 3D Printing (with optional module)
- Teaching and Learning

shown with optional accessories

Dobot Magician Lite

The Dobot Magician Lite includes numerous software and hardware interaction methods and expansion interfaces in order to maximize students' freedom to create. Through building and playing, students can learn how artificial intelligence and mechanics work. They will be introduced to a world of rudimentary knowledge of robotics and how they can be used in real-world applications.

Expanding Capabilities: Laser and 3D Printing
The Dobot Magician Lite enhances its educational capabilities with optional laser engraving/cutting and 3D printing modules. The laser, typically in the 500mW to 1600mW range, handles thin materials like paper and wood, teaching digital design and CAM, while the 3D printer creates small objects, introducing 3D modeling and additive manufacturing. Primarily for educational use, these features offer hands-on learning with limitations in power and materials, and require strict safety precautions.

Graphical Programming (Software)
With the new DOBOT Scratch software platform, students can program and create games by simply dragging and dropping coding blocks together, allowing control of the robot's every move while learning how AI works.

Available kits include:

- Drawing kits
- Industry 4.0 kits
- AI vision kits
- Wireless kits
- Sensor kits

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shown with optional accessories

Applications

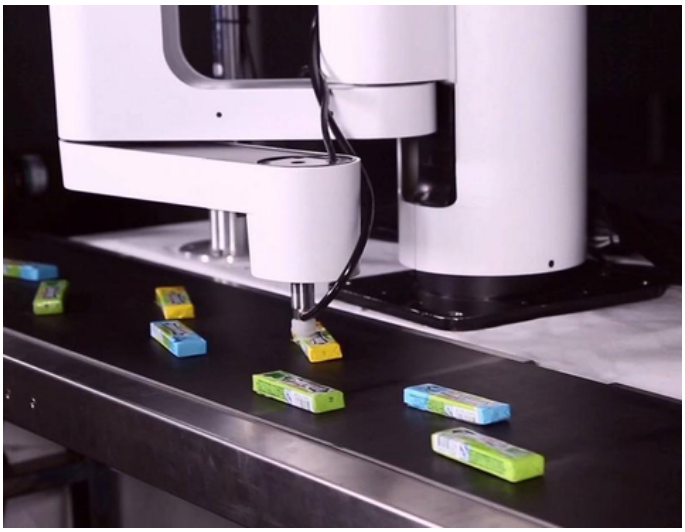
- **Electronics:** PCB assembly, soldering, small device manufacturing.
- **Prototyping:** Product prototyping.
- **Manufacturing:** Light assembly, quality control.
- **Creative:** Laser engraving, writing, automated art.
- **General:** Precision pick-and-place

Dobot M1

The Dobot M1 is a desktop robotic arm designed to automate precision tasks in light industrial and creative environments. It excels at tasks like soldering, dispensing, and light-duty assembly, particularly for small electronic components and PCB prototyping, emphasizing accuracy and repeatability. Beyond manufacturing, it also caters to creative applications such as laser engraving, writing, and drawing. Its material handling capabilities include pick-and-place operations and precise dispensing of adhesives and solder paste, all driven by user-friendly software. With its compact design and focus on high precision, the Dobot M1 bridges the gap between hobbyist robots and industrial automation, making it a versatile tool for both professionals and makers.

INTEGRATED MACHINE DESIGN
The integrated machine design greatly improves the work efficiency between the servo drive and the control system.

INTELLIGENT INTERFACE, WIDE APPLICATION
Standardized intelligent interface and open programming language make the M1 highly extensible. With different accessories, the M1 can realize diverse functions.



Kit Includes:

- Arm
- Power
- Emergency Switch
- Network cable
- Serial port line
- Screw driver

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shown with optional accessories

Meca500 Robot

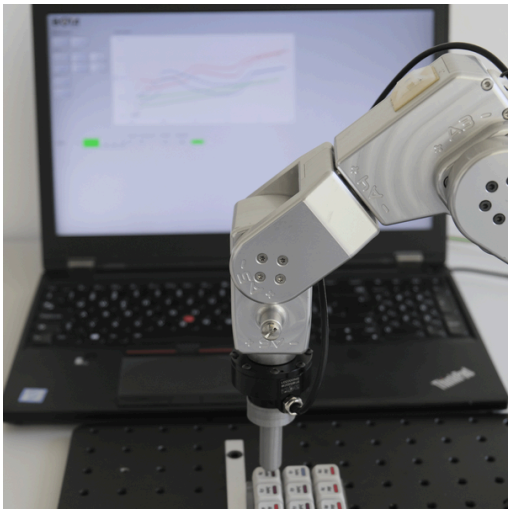
The Meca500 is a distinctive industrial robot characterized by its ultra-compact design, enabling seamless integration into confined workspaces and existing production lines. Engineered for high precision and repeatability, it excels in applications demanding accurate movements, such as precision assembly, inspection, and laboratory automation. Its Ethernet-based control system simplifies integration with other devices, adhering to a "robot as a component" philosophy. This approach streamlines the incorporation of robotic automation into various workflows. As a 6-axis robot, the Meca500 offers a wide range of motion, making it suitable for tasks in electronics manufacturing, testing, and measurement, where its accuracy and minimal footprint are highly valued.

Features:

- Length of Meca500 arm is 332 mm and weighs 4.5 kg
- Rated Payload: 0.5 kg (5 micron repeatability)
- Maximum Payload: 1.0 kg (under special conditions)
- Controller is embedded in base
- Plug-and-work automation component

Applications

- Precision assembly
- Inspection and quality control
- Laboratory automation
- Electronics manufacturing
- Testing and measurement



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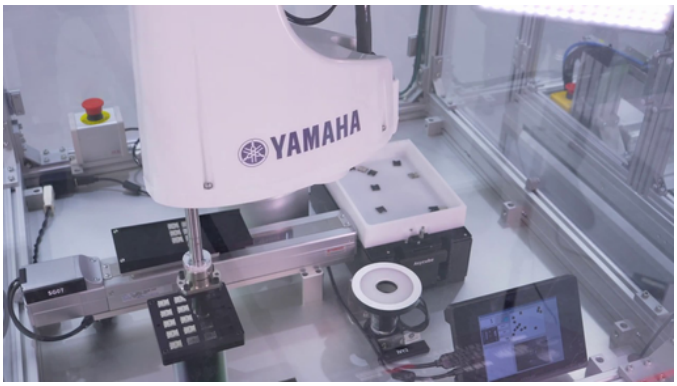
SCARA Economy XE Series

The SCARA Economy XE Series robots are designed to deliver cost-effective, high-speed automation for precision assembly and material handling tasks. As SCARA robots, they excel in rapid and accurate horizontal movements, with vertical rigidity crucial for precise insertions. Their "Economy" designation signifies a balance between performance and affordability, catering to applications requiring reliable automation without high-end features. These robots minimize cycle times, maximizing throughput, and are particularly effective in electronics assembly, automotive component assembly, packaging, pharmaceuticals, and consumer goods manufacturing. With user-friendly programming and a focus on reliability, the XE Series provides essential automation solutions for various industries.

Key features:

- High-Speed Operation
- Variety of applications
- Maximum Payload: 8.8 - 22 lbs
- Affordable Price and Improved Performance



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Applications

- Electronics Assembly (PCBs, devices)
- Automotive Component Assembly
- Packaging (pick-and-place, labeling)
- Pharmaceuticals (dispensing, assembly)
- Consumer Goods Assembly
- Injection Molding (part removal)
- General Manufacturing (inspection, machine tending)

Robotic Comparison Chart

Robot Name	Robot Type	Mounting Options	Software	Applications	
Dobot Magician	Educational Robot	Desktop	DobotStudio	Education	
Dobot Magician E6	Collaborative Robot	Desktop	DobotStudio	Education	
Dobot MG400	Collaborative Robot	Desktop	DobotStudio	Education	
Dobot Magician Lite	Educational Robot	Desktop	DobotStudio	Education	
Dobot M1	Industrial Collaborative Robot	Desktop	DobotStudio	Education	
RD080N Robot	Palletizing Robot	Floor Foundation	Kawasaki AS	Palletizing	
CP Series Palletizing Robot	Industrial Palletizing Robot	Floor Foundation	Kawasaki AS	Palletizing	
duAro1 Robot	Dual-Arm Collaborative Robot	Floor Standing	Kawasaki AS	Assembly	
UR20 Robot	Collaborative Robot	Work Surface	PolyScope	Machine Tending	
UR16e Robot	Collaborative Robot	Work Surface	PolyScope	Machine Tending	
UR10e Robot	Collaborative Robot	Work Surface	PolyScope	Machine Tending	
UR5e Robot	Collaborative Robot	Work Surface	PolyScope	Machine Tending	
UR3e Robot	Collaborative Robot	Work Surface	PolyScope	Machine Tending	
Meca500 Robot	Industrial Robot	Work Surface	Standard Controllers	Precision Assembly	
SCARA Economy XE Series	Selective Compliance Assembly Robot Arm	Machine Base	Yamaha RCX-Studio	Pick and Place	

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