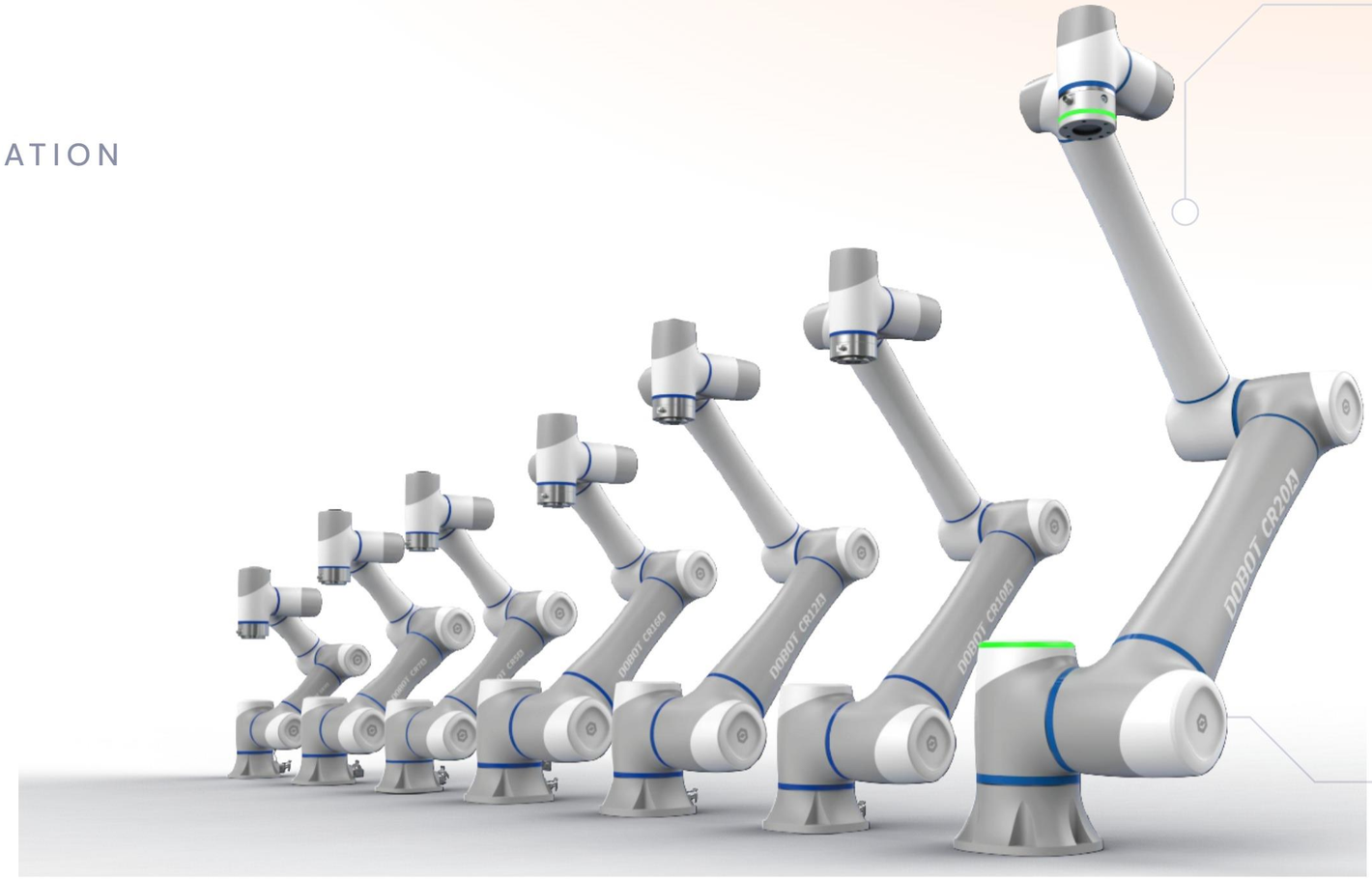
GATEIN TECHNOLOGY
جيت ان تكنولوجي

PRODUCT PRESENTATION · INDUSTRIAL AUTOMATION

DOBOT
CRA Series

Redefine Cobot



Dobot in Numbers

+68,000
ROBOTS SOLD GLOBALLY

100
COUNTRIES AND REGIONS

+15
INDUSTRIES COVERED

+350
DISTRIBUTORS GLOBALLY

0.5–20 kg
PAYLOAD LINE-UP, FIRST IN INDUSTRY

No. 1
INTELLECTUAL PROPERTY RIGHTS COUNT

Dobot Robotics

01 Founded in 2015, Dobot is the creator of the world's first desktop grade collaborative robot.

02 6 main product lines: CR, CRS, MG400, M1 Pro, Nova, and Magician, with over 10 collaborative robot models.

03 Leads the sales of lightweight collaborative robots globally, selling to 100 countries and regions.

04 Covers 15+ industries including consumer electronics, automotive, semiconductor, chemical, healthcare, metal processing, food and beverage, and retail.

05 Developed the SafeSkin, the world's first pre-collision wearable accessory for collaborative robots.

06 3 R&D centers and 3 overseas branches in the US, Germany, and Japan, with offices in Shenzhen, Shanghai, Suzhou, Beijing, Qingdao, and Chongqing.

PARTNERS Foxconn | BYD | Foton | Toyota | Sony | Samsung | Jabil | Johnson Controls and dozens of Fortune 500 companies

Why Dobot?

Simple Operation

Simple coding allows quick adjustments to be made easily, satisfying the needs for small batch and flexible production.

Quick Deployment

Compact, lightweight. Supports both upright and inverted installation for quick deployment.

Cost Reduction

Plug-and-play ecosystem accessories and solutions can greatly lower the cost for automation transformation.

Improved Efficiency

Workers collaborating with high performance cobots can more than double their productivity.

Safe Collaboration

Machine halt before collision and at power outage lets cobots work safely with workers without safety fences.

Consistent Quality

Cobots are highly reliable and perform repetitive tasks at a high accuracy to deliver consistent production quality.

01

CRA Series

Key Features

- Fast, accurate and safe
- Expandability and DobotStudioPro 4
- VX500 Smart Camera
- Multiple layers of protection



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CRA Series Redefine Cobot

The new generation of CRA series adopts a high performance all-in-one joint that increases its cycle time by 25% for optimal efficiency. With the brand new control box and operating software, human-machine collaboration is brought to a new height in terms of safety, stability and expandability.

- Chemical
- Metal processing
- Consumer electronics
- Semiconductor
- Healthcare
- Automotive
- Retail
- Renewable energy
- Textile and clothing
- Agriculture
- Sanitary ware
- Logistics



+25% Cycle time improvement from the all-in-one joint

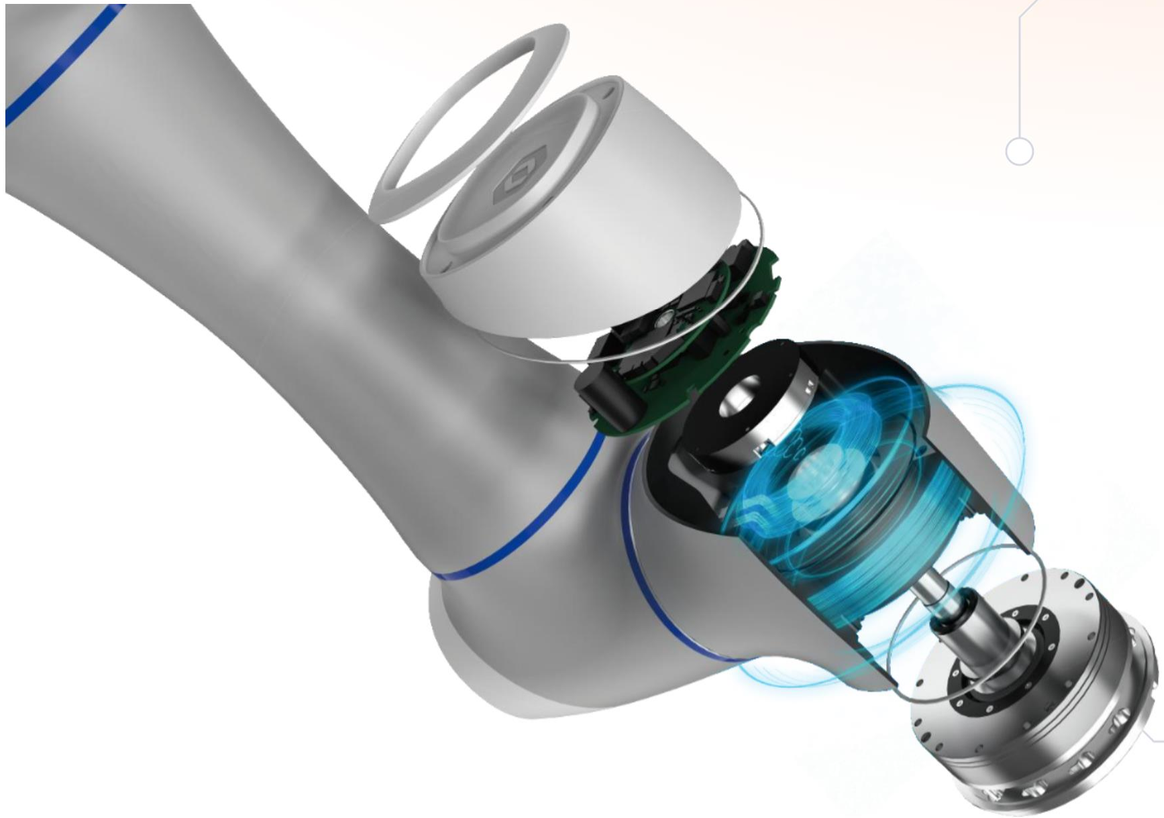
CRA Series Fast & Efficient

01 Adopts high performance harmonic reducer with high load capacity and rigidity.

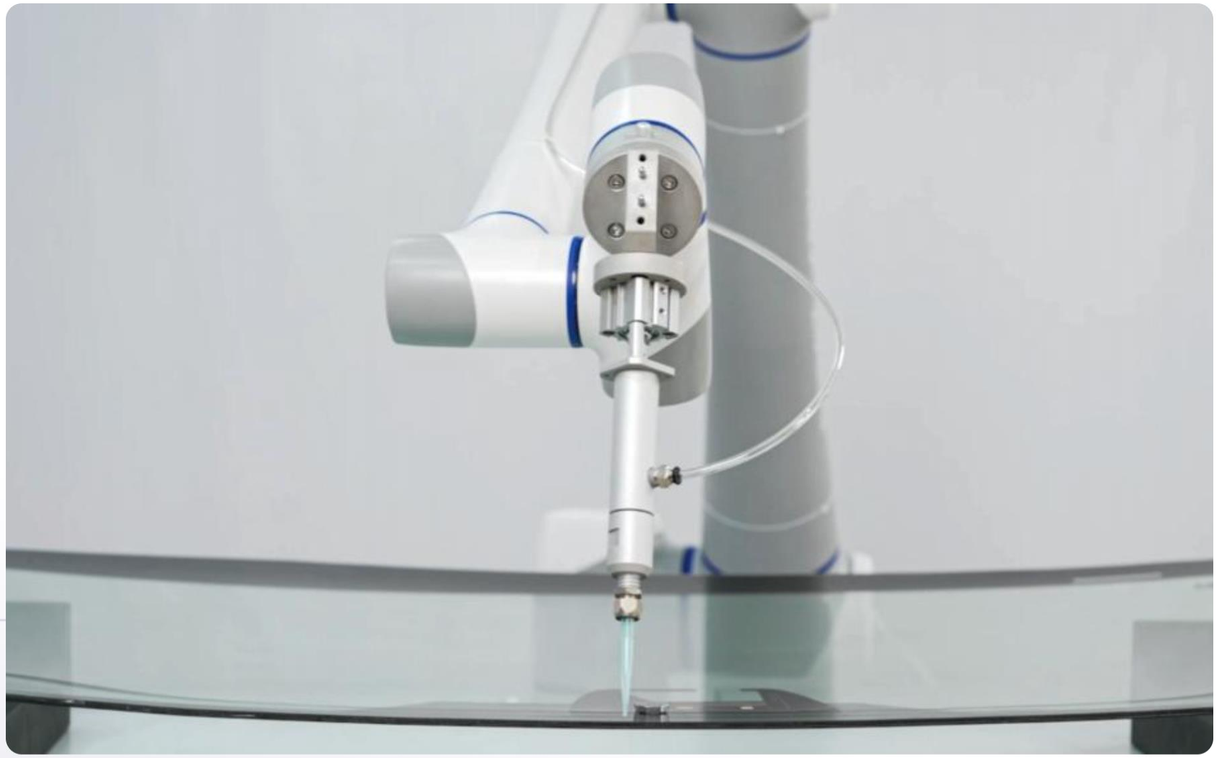
02 All-in-one design, compact and highly integrated.

03 Modular design allows quick disassembly for easy maintenance.

04 Built with electromagnetic brake device, brakes in 18 ms after power failure.



CRA Series Accurate & Stable



01 Micron-level anti-vibration technology allows the robot to stop quickly and steadily under high speed operation.

02 Optimized DH parameters compensation allows for spot on positioning accuracy.

03 TrueMotion function ensures trajectory accuracy during complex curved operations.

CRA Series All Round Safety

01 Dual CPUs monitor the status of robot's position, speed and safety I/O and more.

02 Collision detection, SafeSkin and virtual boundaries provide multiple layers of safety.

22 **Built-in safety features · ISO13849 and TS15066 certified**



CRA Series High Expandability

REAL-TIME

EtherCAT

Integrated EtherCAT for reliable real-time microsecond response.

PROTOCOLS

Modbus **Ethernet/IP** **Profinet**

Supports Modbus, Ethernet/IP and Profinet communication.

INTEGRATION

PC **PLC** **HMI**

Connects seamlessly with industrial automation systems including the PC, PLC, HMI and more.

CRA Series DobotStudioPro 4

01 Updated UI design with logical layout and simple operation.

02 Newly implemented virtual simulation allows intuitive collaboration.

03 Supports script programming and graphical programming for a range of needs.

04 Supports operation on PC, tablet, smartphone, teaching pendant and other terminals.



CRA Series VX500 Smart Camera



01 Dobot self-developed 2.5D spatial compensation technology can even grab slanted surfaces accurately.

02 Graphical programming for efficient solution deployment even without prior coding experience.

03 Supports 2D vision expansion features such as material positioning, identification, measurement and so on.

*This is an optional accessory.

Multiple Layers of Protection for Collaboration

5

Levels of adjustable collision detection settings for various application scenarios.

Halt

Built-in virtual boundaries set up operating space and support robot halt and deceleration.

10

Way safety I/O ports meet the needs of most safety control requirements with external devices.

02

CRAS Series

SafeSkin

- Pre-collision detection
- 3 kg, 5 kg and 10 kg models



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CRAS Series Overview

The CRAS Series is further improved by the addition of the SafeSkin for pre-collision detection to achieve better safety and collaboration efficiency, offering both safety and efficiency to end users.

3 kg
Payload

5 kg
Payload

10 kg
Payload







CRAS Series SafeSkin Features

15 cm

Proactive Protection

Senses obstacles within 15 cm in real time, and performs emergency stop or automatic evasion to avoid damages caused by collisions.

10 ms

Instant Response

Within 10 ms after sensing obstacles, it activates reaction procedures predetermined by the users, to stop or evade.

360°

Safety Protection

The first silicon wearable accessory in the industry. Soft on the touch to lessen collision impact; unaffected by clothing and plastic gloves. Wraps around the robotic arm.

4×

Efficiency Gained

Without deceleration warning, human-machine collaboration speed increases to 1 m/s, 4 times the international standard.

03

Ecosystem & Solutions

- Dobot+ open ecosystem of accessories
- Turnkey solutions
- Diverse application scenarios



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Dobot+ Open Ecosystem

Dobot+ actively cooperates with ecosystem partners to offer various end effector and peripheral accessories to simplify the deployment process while allowing secondary development for different needs.

+100

Plug-and-play end effectors supported for quick automation deployment.

RS485

One-way port on the end effector and on the control box, for flexible third-party accessory expansion.

SDK

Standard SDK and rich demo source code for efficient project development.

Dobot+ Sensors & Cameras

FORCE SENSORS

Robotiq	FT 300-S Force Torque Sensor
Kunwei	KWR75B Multi-dimensional Force Sensor
ATI	Multi-Axis Force / Torque Sensors
Link-touch	ST Six-Axis Force Sensor
Onrobot	Hex 6 Axis Force Torque Sensor
XJCSENSOR	XJC-3F Adaptive 3-Axis Force Sensor

2D/3D CAMERAS

HIKROBOT	DS-2CD4065F-(A)(P) Camera
HIKROBOT	Industrial Encoder
HIKROBOT	Industrial 2D Camera
MECHMIND	Mech-Eye Industrial 3D Camera
ALSONTECH	AT-S1000-C
OMRON	QX-870 Series Laser Barcode Scanner
SOLOMON	AccuPick 3D
COGNEX	Vision Systems

Dobot+ Grippers & Mobile Platforms

GRIPPERS

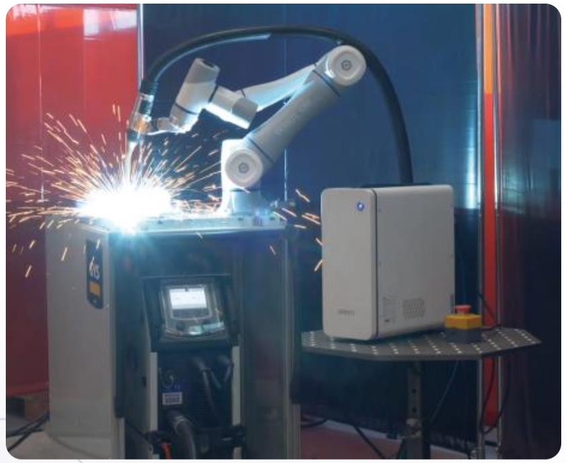
SCHUNK	EGH Series
SCHUNK	Co-act EGP Series
DH-Robotics	PGE Series
DH-Robotics	PGC Series
Tendertouch	Soft grippers
ROBOTIQ	2F-85 & 2F-140
OnRobot	RG2 & RG6
OnRobot	3-Finger Gripper

MOBILE PLATFORMS

Youibot	Trans Mobile Robot
Seer	AMB Series
Standard Robots	OASIS AMRs
AGILE.X	HUNTER 2.0

Turnkey Solutions

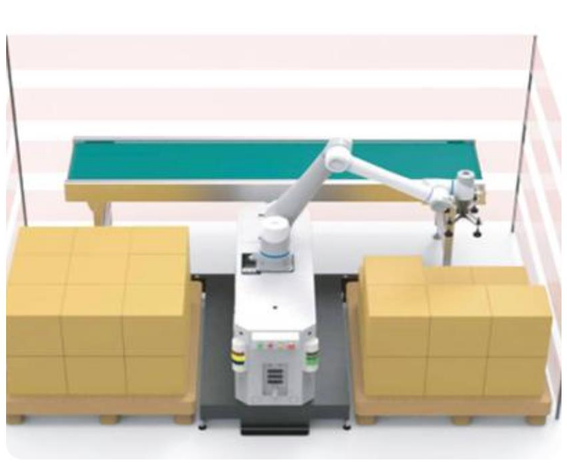
Dobot process package software for screwdriving, welding and palletizing builds automation processes through simple setups, significantly reducing development time and labor cost. The packages work with ecosystem accessories for small batch and flexible production.



Welding



Screwdriving



Palletizing



AMMR

Turnkey Welding & Screwdriving



Welding Solution

Set up arc/laser welding applications quickly with the welding process package and welding machine.

- Deploy in 30 Minutes
- Supports Various Arc Patterns
- Collision Protection Without Fence



Screwdriving Solution

Screwdriving process package and electric screwdriver allow flexible customization of various screwdriving tasks.

- Simple Setup, Easy to Familiarize
- Calibration in 2 Steps
- Consistent Quality & Capable Performance

Turnkey Palletizing & AMMR



Palletizing Solution

Complete task building in 2 to 4 hours with plug-and-play accessories and the palletizing process package.

- Easily Create Automation Processes
- Supports External Light Curtains
- Remote Tracking of Live Status



AMMR Solution

Collaborative robot and AMR work together on transportation, loading and unloading between multiple stations, and inspections.

- Laser SLAM Navigation
- 2.5D Vision
- Completes Route Planning in 5 Minutes

Diverse Application Scenarios

Covering over 15 major industries including consumer electronics, automotive, semiconductor, food & beverage, chemical, healthcare and retail.



Robot Noodle Store



Inspection of Dangerous Chemicals



Inspection of Toilet Bowls



Depalletize Plastic Bottles

Application Scenarios by Industry

ELECTRONICS & ENERGY

- PCB Board Loading & Unloading
- PCB Board Burn-in Transportation
- Loading & Unloading New Energy Battery
- Semiconductor Plastic Packaging Loading and Unloading
- Energy Storage Screwdriving
- Laptop Back Case Polishing, Loading & Unloading
- Electronic Parts Inspection Loading & Unloading

AUTOMOTIVE & METAL

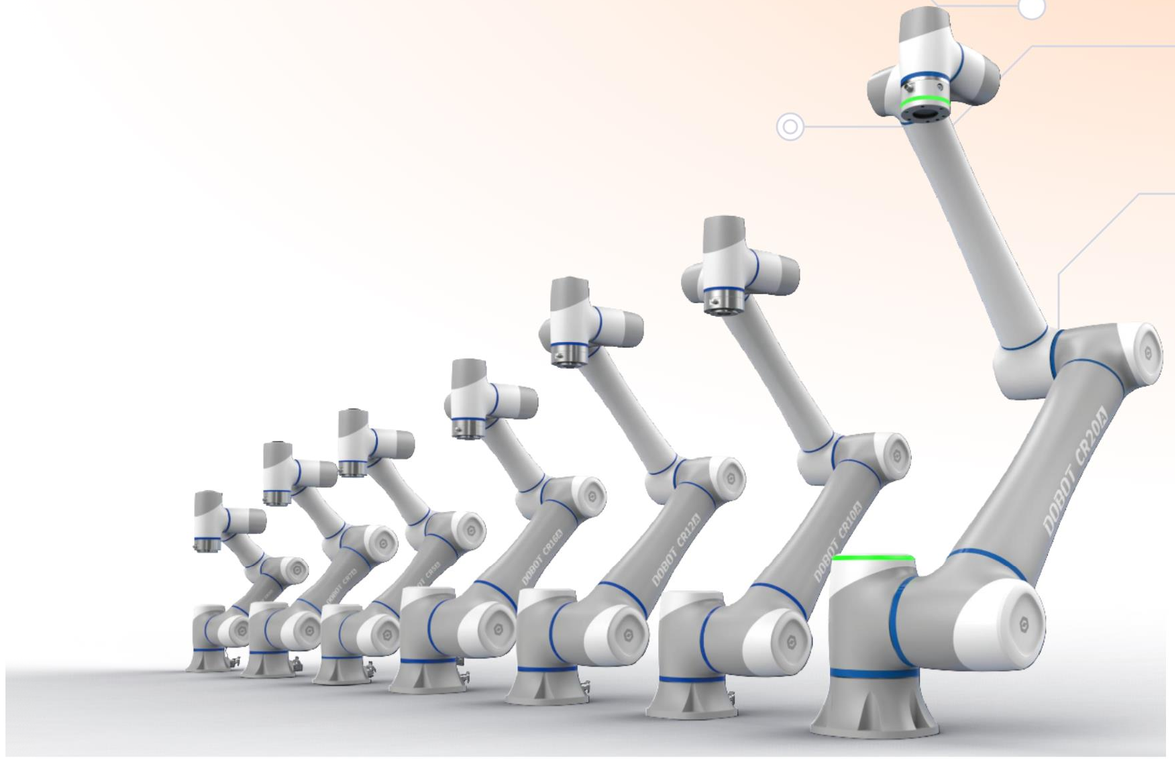
- Automotive Parts Assembly
- Gearbox Screwdriving
- Windshield Gluing
- Automotive Joint Sealing Ring Installation
- Automotive Oil Pipe Joint Installation
- CNC Machine Tools (SafeSkin)
- Machine Tools Loading & Unloading
- Metal Workpieces Processing

SERVICE, LAB & CONSUMER GOODS

- Robot Noodle Store
- Laboratory Assistant
- Latte Art Coffee Stand
- Loading & Unloading by AMMR
- Inspection of Dangerous Chemicals
- Loading & Unloading Plastic Caps
- Depalletize Plastic Bottles
- Inspection of Toilet Bowls
- Eyeglasses Polishing

CRA Series Models

Seven payloads and a range of reaches offer both safety and efficiency to end users. Payload and working radius shown per model.



CR3A	CR5A	CR7A	CR10A	CR12A	CR16A	CR20A
3 kg	5 kg	7 kg	10 kg	12 kg	16 kg	20 kg
620 mm	900 mm	800 mm	1300 mm	1200 mm	1000 mm	1700 mm

CRA Series Specifications

MODEL	CR3A	CR5A	CR7A	CR10A	CR12A	CR16A	CR20A
Weight	16.5 kg	25 kg	24.5 kg	40 kg	39.5 kg	40 kg	70 kg
Payload	3 kg	5 kg	7 kg	10 kg	12 kg	16 kg	20 kg
Working Radius	620 mm	900 mm	800 mm	1300 mm	1200 mm	1000 mm	1700 mm
Maximum Speed of TCP	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s
Repeatability	± 0.02 mm	± 0.02 mm	± 0.02 mm	± 0.03 mm	± 0.03 mm	± 0.03 mm	± 0.1 mm
Power Consumption	120W	150W	150W	350W	350W	350W	500W
Range of Motion · J1/J2	± 360°	± 360°	± 360°	± 360°	± 360°	± 360°	± 360°
Range of Motion · J3	± 155°	± 160°	± 160°	± 160°	± 160°	± 160°	± 165°
Range of Motion · J4/J5/J6	± 360°	± 360°	± 360°	± 360°	± 360°	± 360°	± 360°
Max Joint Speed · J1/J2	180° /s	180° /s	180° /s	150° /s	150° /s	150° /s	120° /s
Max Joint Speed · J3	223° /s	180° /s	180° /s	180° /s	180° /s	180° /s	150° /s
Max Joint Speed · J4/J5/J6	223° /s	223° /s	223° /s	223° /s	223° /s	223° /s	180° /s

CRA Series Common Specifications

ALL MODELS	
IP Rating	IP54
Noise	70dB(A)
Temperature Range	0℃ ~ 50℃
Installation Method	Any
Materials	Aluminum alloy, ABS plastic
End-Effector RS485	Supported

BY MODEL	CR3A–CR16A	CR20A
Cable length, main body to control box	6 m	5 m
End-Effector I/O · DI/DO/AI	2	4

CRA Series Control Box

PRODUCT NAME	CC262	CC263
Dimensions	345 x 345 x 145 mm	400 x 400 x 175 mm
Weight · AC Version	9.5 kg	15 kg
Weight · DC Version	8.5 kg	/
Input Power · AC	100 ~ 240V, 47 ~ 63Hz	100 ~ 240V, 47 ~ 63Hz
Input Power · DC	30 ~ 60V	/
Compatible Models	CR3A ~ CR16A	CR20A
Temperature	0 ~ 50℃	0 ~ 50℃
Humidity	≤ 95%, Non-condensing	≤ 95%, Non-condensing
IP Rating	IP20 (IP54 available upon choice)	IP20 (IP54 available upon choice)

I/O & COMMUNICATION	
DI/DO	24 Way (NPN/PNP)
AI/AO	2 Way, 0 ~ 10V, 4 ~ 20mA
I/O Power	24V, Max 3A, Maximum 0.5A for one way
Remote On/Off	Supported
WAN	2, for TCP/IP, Modbus TCP, Ethernet/IP
USB	2, for document import and export
485 Port	1, for RS485, Modbus RTU
Encoder	1, for ABZ incremental encoder
Teaching Method	PC, App (Android/iOS), teaching pendant
Cooling Method	Fan cooling

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