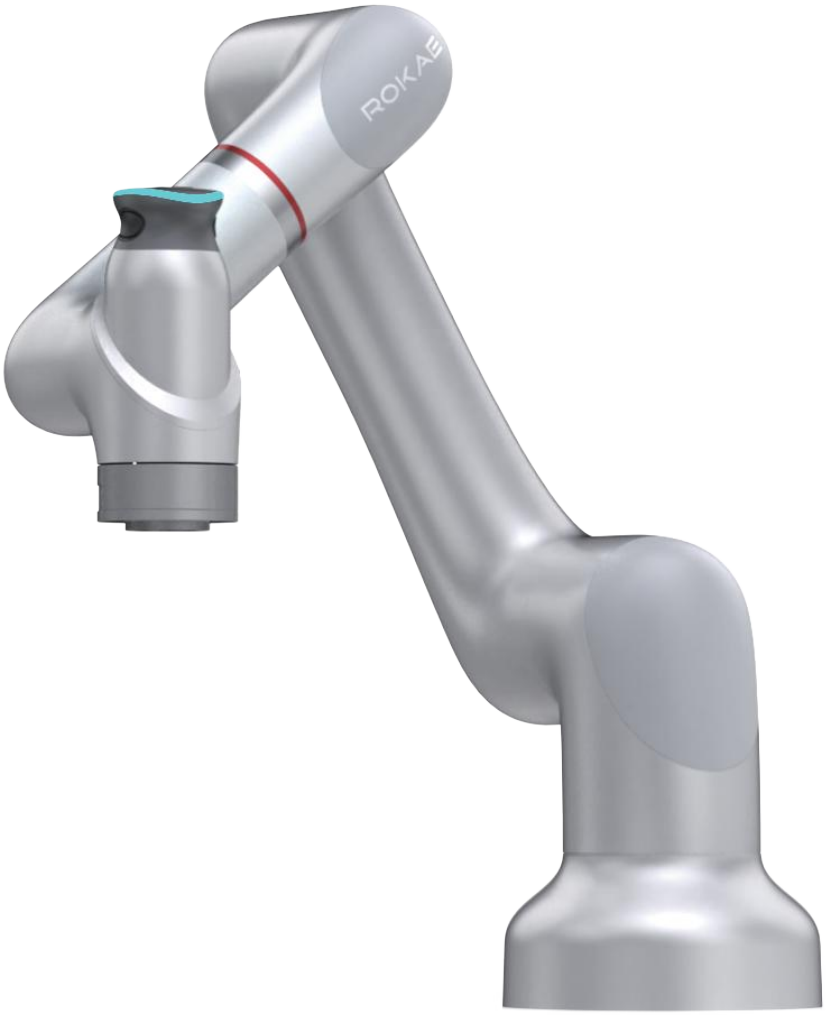
ROKAE

New-Generation
Flexible Collaborative Robot

xMate CR7-7/0.98

A Powerful Yet Flexible All-Rounder

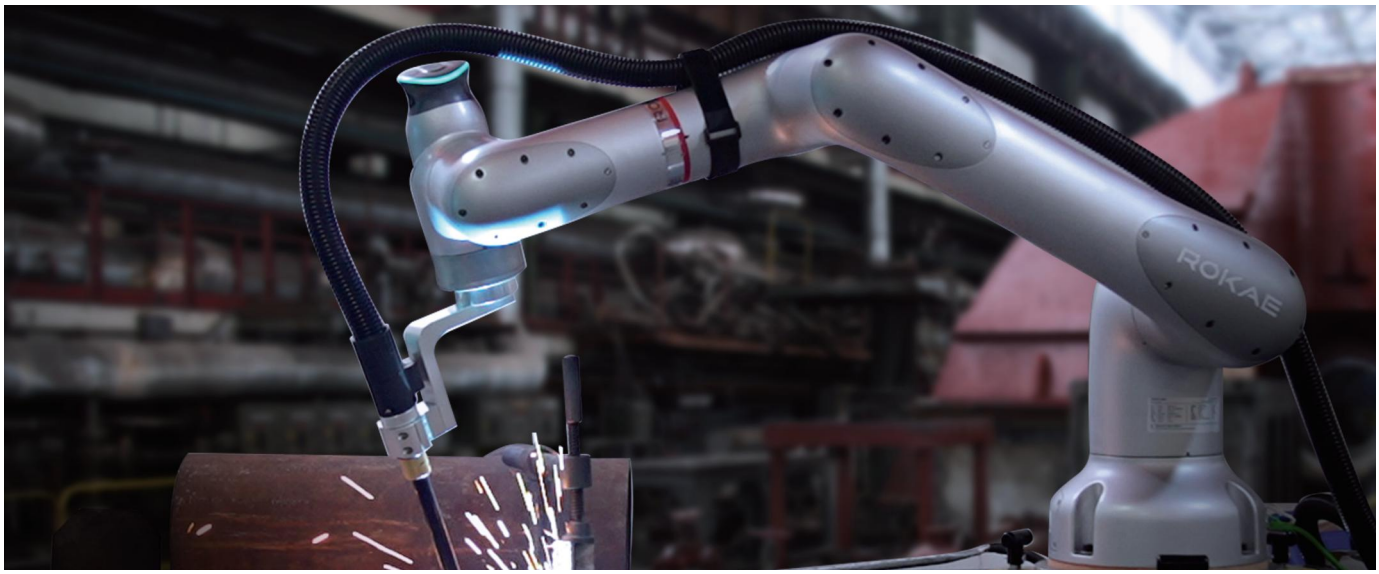


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2025-08-21

CR Series Collaborative Robot

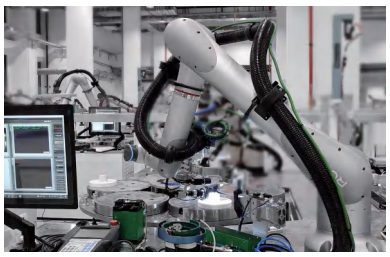
Next-Generation Flexible Collaborative Robots offers an integrated controller design option, which is more convenient for installation and deployment compared to the traditional robot + control cabinet method.

The CR series with different payload capacities and working ranges.Highly dynamic force control integrated into the joints increases the payload by 20% compared with competitors.Besides, the CR series is lighter, easier to use, safer, more precise, and more reliable. This makes it an ideal choice for different applications in various industries, helping enterprises implement flexible production quickly.



Applications







xMate CR series flexible collaborative robots can undertake a variety of tasks, including

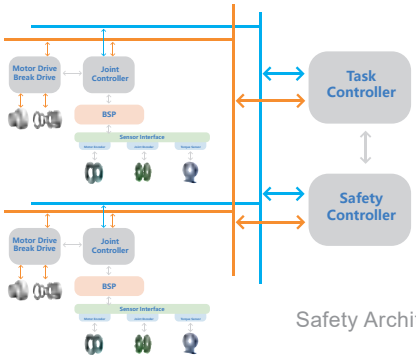
- Compliant assembly
- Screw locking
- Deburring and grinding
- Handling
- Loading and unloading
- Material removal
- Packaging and palletizing
- Welding
- Heavy workpiece handling and palletizing
- New energy assembly
- Flexible machining of large-size parts

Driving improved productivity and flexible automation for companies of all sizes.

A Powerful Yet Flexible All-Rounder

Extreme Safety

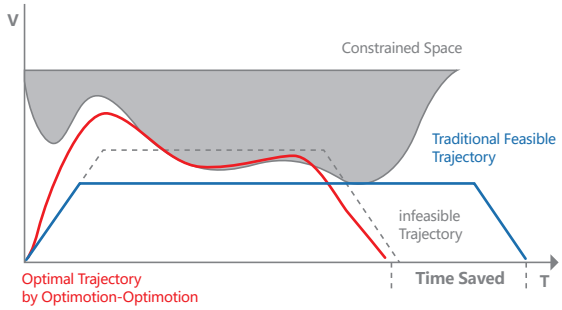
- Sensitivity improved by 10 times thanks to the collision detection by torque sensors
- More than 21 TÜV functional safety features, meets functional safety standards: ISO 13849-1, ISO 10218-1/PL d, Cat. 3; ISO 15066
- Dual-channel redundant monitoring of sensor information and an independently certified safety controller
- The position holding accuracy is better than ±0.1mm when power on and off, powered by suction contracting brake and dynamic feedforward compensation



Safety Architecture

Superior Performance

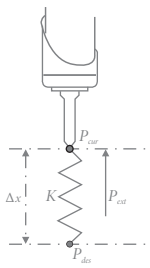
- Cutting-edge motion control technologies for industrial robots: OptiMotion, TrueMotion, and SyncMotion
- First-class robot path accuracy supported by dynamic feedforward compensation and dynamic modeling based on over 2000 parameters
- Payload capacity increased by 20% thanks to the customized motor drive control system



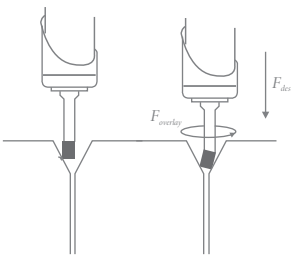
Optimal Takt Time

Compliant Flexibility

- Powerful yet flexible robot control based on patented unified force-position hybrid control framework
- Force control task efficiency improved by over 3 times through highly dynamic force control
- Fine grinding and precision assembly with no extension required thanks to built-in joint sensors and complete force control process kit



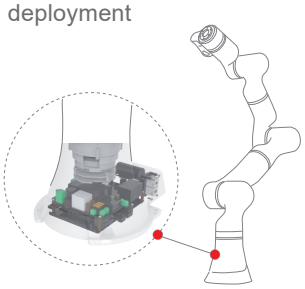
Impedance Control



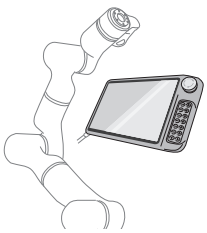
Controlled Force Assembling

Ease of Use

- Direct teaching control with 1N based on point position and continuous trajectory
- Graphical programming interface with flowcharts enables users to get started within 1 hour
- Friendly development and open ecosystem support 100+ ecosystem extension tools of 5 categories
- A control-cabinet-less design is available,reduces system weight by 50% and allows for fast installation and flexible deployment



Cabinet-free Design



Graphical Programming

Excellent Reliability

- Motion planning based on dynamics constraints delivers high performance, overload protection, and an extended service life
- 100+ design verification experiments, 20+ factory tests, and MTBF > 80,000 h
- IP67 protection level satisfies the demands of harsh industrial applications



Better Protection

xMate CR7-7/0.98

Specifications

Payload	7 kg
Reach	988 mm
Weight	About 27 kg
Degrees of freedom	6
MTBF	> 80,000 h
Power supply	Single-phase 90-264VAC, frequency 47-63Hz / 48VDC
Programming	Direct teaching control and graphical interface

Performance

Typical Power	300 w	
Safety	Over 21 adjustable safety features including collision detection, virtual walls, and collaboration mode (Optional for models 35kg and above)	
Certification	EN ISO 13849-1, EN ISO 10218-1/ PL d, Cat. 3; ISO 15066, and EU CE marking requirements, KCs marking requirements,EAC marking requirements	
Force sensing(tool flange)	Force，x-y-z	Torque，x-y-z
Force measurement resolution	0.1N	0.02Nm
Relative accuracy of force control	0.5 N	0.1 Nm
Adjustable range of Cartesian stiffness	0~6000N/m，0~1000Nm/rad	

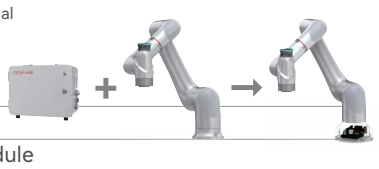
Motion

Repeatability	±0.02 mm	
Motion joint	Working range	Maximum speed
Axis 1	±360°	180°/s
Axis 2	±360°	180°/s
Axis 3	±360°	234°/s
Axis 4	±360°	240°/s
Axis 5	±360°	240°/s
Axis 6	±360°	240°/s
Maximum speed at tool end	≤3.2m/s	

Physical properties

IP rating	IP54
ISO cleanroom class	5
Noise	≤ 70 dB(A)
Operating ambient temperature	0℃~50℃
Humidity	≤ 93% RH (non-condensing)
Robot installation	At any angle
Tool I/O ports	2 Digital outputs, 2 Digital inputs, 2 Analog inputs
Tool communication interface	RS485(Alternative with two analog input pins, can not be used simultaneously)
Tool I/O power supply	12V/24V 1A

Considering the upgrade of the product, the actual parameters of the product shall be subject to the corresponding hardware installation manual

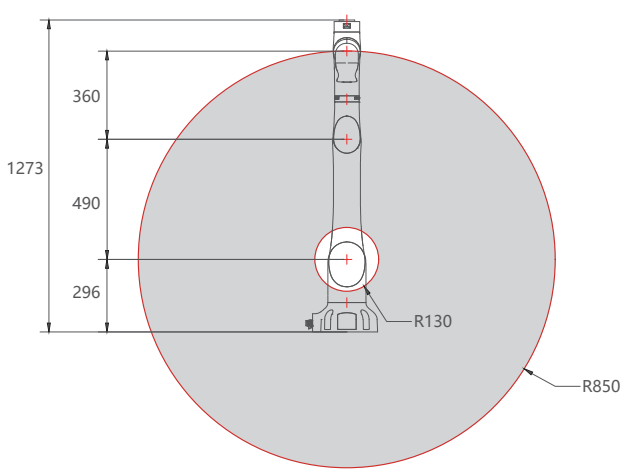


Robot-Integrated Controller

Controller	Built-in controller
Operator interface	Notebook/PAD/Drag Interactive Module
Safety protection device	1 handheld enable / 1 handheld emergency stop
Communication protocols	TCP/IP 1000Mbit, Modbus TCP, Profinet, Ethernet/IP,DeviceNet, CC-Link, CC-Link IE Field Basic
External control interface	Highly dynamic external control; low-level force/position control;robot model library and API
Input power	48VDC
Base I/O ports	4 Digital outputs, 4 Digital inputs, 2 safety input, 1 safety output
Base communication interface	1 channel Ethernet
Base output power supply	24V,1.5A

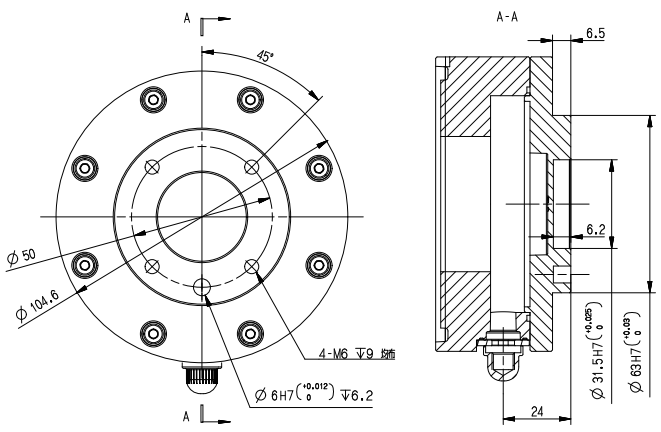
Working range

Dimensions: mm



Output flange

Dimensions: mm



Wrist load curve

