



ROKAE Industry Robot

ROKAE 2025.02.17

ROKAE



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01 Product Platform Introduction

- Platform Introduction
- Mature Product Introduction



High-Performance Industrial Robots

Payload: 4 kg-220 kg Reach: 475 mm-3201 mm

8 major platforms, **35** sub-models



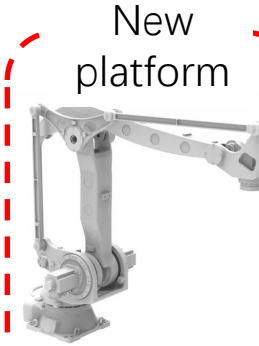
Product Platform Overview

Payload: 4 kg-220 kg Reach: 475 mm-3201 mm

Desktop Robot

Medium Payload Platform

Large Payload Platform



NB4

- NB4-4/0.47
- NB4h-4/0.58

XB7

- XB7
- XB7h
- XB7L
- XB10 R1206
- XB12 R707-3
- XB12 R906-3 LAR
- XB12 R906-4 LAR

NB10

- NB10-10/0.7
- NB10-10/0.9
- NB10-10/1.2

NB12

- NB12-16/1.1
- NB12-12/1.4
- NB12-10/1.6
- NB12-16/0.95-3
- NB12-16/0.95-4
- NB12h-12/1.4
- NB12h-10/1.6
- NB12-15/1.4

NB25

- NB25-30/1.6
- NB25-25/1.8
- NB25-35/1.8
- NB25-20/2.0
- NB25-12/2.1
- NB25h-25/1.8
- NB25h-35/1.8
- NB25h-12/2.2

NB80

- NB80-80/2.2
- NB80-50/2.6

NB185

- NB185-185/3.2-4

NB220

- NB220-220/2.7
- NB220-170/2.7
- NB220-150/3.2
- NB220R-150/3.2

New Models

Models To Be Discontinued

Domestic Sales

A History of Product Development

Payload: 4 kg-220 kg Reach: 475 mm-3201 mm

LIR3 Control System:
Predecessor of Titanite

XB6
XB4
XB7

XB4s
XB7s
XB7Ls

XB7XL
IP67

- XB20 Series:
- XB16
 - XB20
 - XB25
- XB10 Series
- XB10
 - XB12-3 (3 DOF)
 - XB12-4 (4 DOF)

- New Chapter
- NB12h
 - NB25h
 - NB185-4
 - NB10
 - NB8
 - NB300
 -



- NB4 Series
- XB4 Upgrade
- xCore Startup

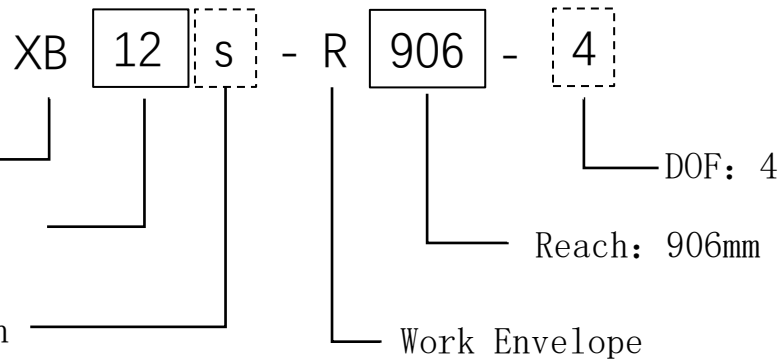
- NB12 Series
- XB10 Upgrade
 - 3 Models Added
 - NB12-12
 - NB12-10
 - NB12-16
 - 3 DOF,4DOF

- NB80:
- NB80-80
 - NB80-50
- xCore Release

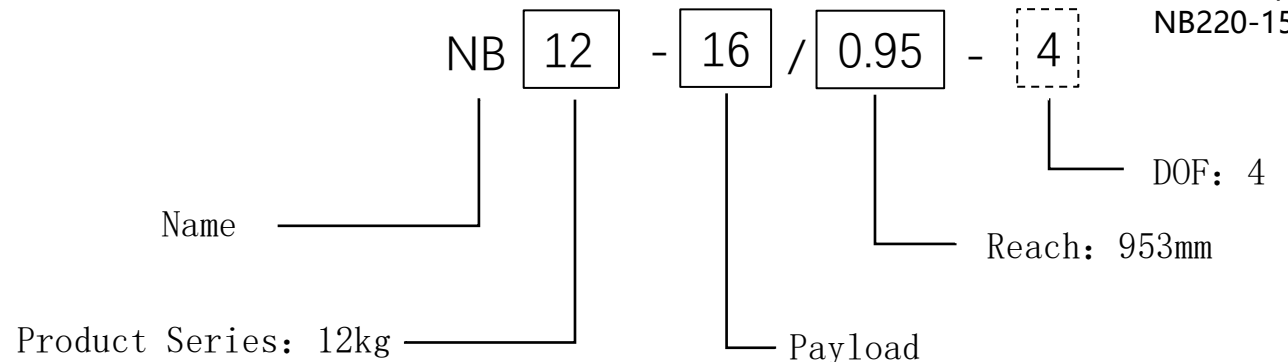
- NB25
- Upgraded to XB20
 - 5 Models Added
 - NB25-12
 - NB25-20
 - NB25-25
 - NB25-30
 - NB25-35

- NB220
- NB220-150
 - NB220-170
 - NB220-220

Example:
XB7: XB7s-R707
XB7L: XB7s-R906
XB7XL: XB7s-R1206
XB10-R1206



Example:
NB12-12/1.4
NB25-25/1.8
NB220-150/3.2



Robot Controller



XBC5M

- NB4 Series
- XB7 Series
- NB10 Series



XBC5

- NB4 Series (Option)
- XB7 Series (Option)
- NB10 Series (Option)
- NB12 Series
- NB25 Series



XBC5E

- NB80 Series
- NB185 Series
- NB220 Series

Note

- All subsequent models will be equipped with xCore V3.0 system released in December 2024 unless the customer has special requirements. Please see the control system introduction PPT for details.
- To adjust to customer needs, the XBC5M controller has fully started to separate the cables, and the XBC5 controller is expected to be officially introduced into production in mid-to-late January 2025, and new controllers will be shipped gradually.

Certification Status

Robot Model list		Certification Status								
Product Series	Model	CE	KCS	Q-Mark	EAC DOC	Functional Safety	SEMI	CR	Cleanliness	MTBF
NB4 Series	NB4-4/0.47	√	√	√	√	√	√	√		
	NB4-4/0.58	√	√	√	√	√	√	√		
	NB4h-4/0.58	√	√	√	√	√	√	√		
	EB4-4/0.47	√		√	√	√	√	√		
	EB4-4/0.58	√		√	√	√	√	√		
XB4 Series	XB4	√	√	√	√		√	√		
	XB4h	√		√	√		√	√		
	EB4 R596	√		√	√		√	√		
XB7 Series	XB7	√	√	√	√	√	√	√		
	XB7h	√	√	√	√	√	√	√		
	XB7L	√	√	√	√	√	√	√	√	√
	XB7XL	√	√	√	√	√	√	√		
	XB10 R1206	√	√	√	√	√	√	√		
NB12 Series	NB12-16/1.1	√	√	√	√	√	√	√		
	NB12-12/1.4	√	√	√	√	√	√	√	√	
	NB12-10/1.6	√	√	√	√	√	√	√		
NB25 Series	NB25-20/2.0	√	in progress	√	√	√	√	in progress		
	NB25-25/1.8	√	in progress	√	√	√	√	in progress		
	NB25-30/1.6	√	in progress	√	√	√	√	in progress		
	NB25-35/1.8	√	in progress	√	√	√	√	in progress		
	NB25-12/2.1	√	in progress	√	√	√	√	in progress		
NB80 Series	NB80-80/2.2	√	√		√	√		√		
	NB80-50/2.6	√	√		√	√		√		
NB220 Series	NB220-220/2.7	√	√		√	√		√		
	NB220-170/2.7	√	√		√	√		√		
	NB220-150/3.2	√	√		√	√		√		
XBC5 Controller	XBC5/XBC5M Controller (RSC)									
NB25h Series	NB25h-12/2.2	in progress	in progress		in progress	in progress		in progress		
	NB25h-25/1.8	in progress	in progress		in progress	in progress		in progress		
	NB25h-35/1.8	in progress	in progress		in progress	in progress		in progress		
NB12h Series	NB12h-12/1.4	in progress	in progress		in progress	in progress		in progress		
	NB12h-10/1.6	in progress	in progress		in progress	in progress		in progress		
NB185 Series	NB185s/4	Planning	Planning		in progress					

Some New Model Certification Plan

NO	Certification Plan	January	February	March	April	May	June	July	August	Sep	Oct	Nov	Dec
1	NB25h/NB12h CE Certification(EMC)	■											
2	NB25h/NB12h CE Certification (MD Mechanical Safety)	■	■	■									
3	NB25h/NB12h Functional Safety Certification	■	■	■	■								
4	NB25h/NB12h Russian EAC		■	■	■								
5	NB25s/NB25h/NB12h Korea KCS			■	■	■							
6	NB25s/NB25h/NB12h Korea CR												
7	NB185s/4 CE Certification(EMC)						■	■	■				
8	NB185s/4 CE Certification(MD Mechanical Safety)						■	■	■				
9	NB185s/4 Functional Safety Certification												
10	NB185s/4 Russian EAC		■	■	■								
11	NB185s/4 Korea KCS								■	■	■		

Comprehensive Certifications

Product Certifications

China CR, EU CE, South Korea KCs, US NRTL, Customs Union EAC certifications

Safety Certifications

ISO-15066, ISO-13849, Robot Information Security Certification, ≥21 Functional Safety Certifications

Quality and Reliability

MTBF 80,000 hours certification

Application Scenarios

SEMI, ESD, IP67, Cleanliness, IEC 60601 Medical Certification, NSF



1.1 Desktop-level robots



NB4 Series

Product Advantages

Light and Compact, Easy to Deploy

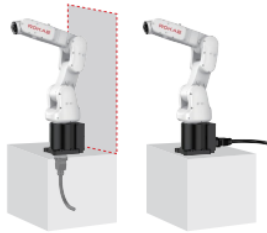
- Add bottom outlet configuration, can also be installed near the wall. Suitable for scenarios with demanding space requirements such as electronics factories and machine tools.

Faster, More Precise, and More Efficient

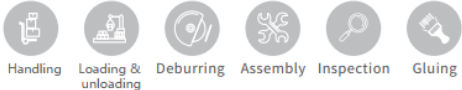
- Due to the faster running speed and shorter takt time, combined with the industry-leading repeatability, the robot guarantees high efficiency and high precision.

Better Protection, Excellent Reliability

- The robot features an overall IP67 protection rating for long-term stability and reliability even in the most demanding environment



Applications

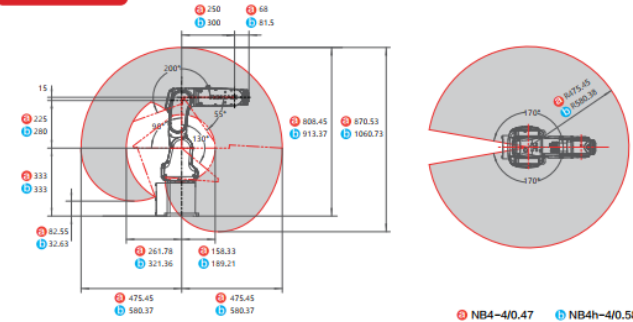


Specifications

Body Specifications

Model	NB4-4/0.47	NB4h-4/0.58
DOF	6	6
Reach	475 mm	580mm
Repeatability	±0.02 mm	±0.02mm
Payload	4 kg	4kg
Range of motion	Axis 1	-170° to +170°
	Axis 2	-90° to +130°
	Axis 3	-200° to +55°
	Axis 4	-170° to +170°
	Axis 5	-120° to +120°
	Axis 6	-360° to +360°
Maximum speed	Axis 1	450°/s
	Axis 2	360°/s
	Axis 3	360°/s
	Axis 4	550°/s
	Axis 5	450°/s
	Axis 6	860°/s
Operating temperature	0°C to +40°C	0°C~+40°C
Storage temperature	-10°C to +55°C	-10°C~+55°C
IP rating	IP67	IP67
Mounting method	Floor, Ceiling	Floor, Ceiling
Noise level	≤70dB(A)	≤75dB(A)
Weight	About 21 kg	About 22 kg
AIR	4-Φ4, 5bar	4-Φ4, 5bar
Signal	8 channels (30V, 0.5A)	8 channels (30V, 0.5A)

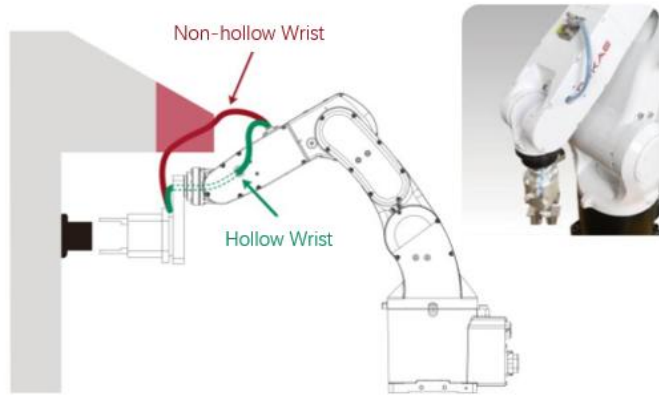
Working range



Core Features

- The whole body adopts die-cast aluminum alloy, and the appearance quality is greatly improved compared with XB4
- Compared to XB4, the footprint is reduced by 29% and the weight is reduced by more than 30 %, which is suitable for tight spaces
- Lightweight design, faster speed and shorter cycle time
- IP67 high protection level, which can cope with harsh environments with ease
- 580mm reach comes standard with a hollow wrist, which is convenient for wrist wiring and avoids contact with surrounding environmental interference
- Optional bottom outlet, which is suitable for compact layout space

XB7Series



Models to be discontinued
 Domestic Sales

XB7	
•XB7	
•XB7h	
•XB7L	
•XB10 R1206	
•XB12 R707-3	
•XB12 R906-3 LAR	
•XB12 R906-4 LAR	



XB7/XB7h

- Payload: 7kg
- Reach: 707mm



XB7L

- Payload: 7kg
- Reach: 906mm



XB10 R1206

- Payload: 10kg
- Reach: 1206mm

PCB Planar Handling Model



- XB12 R906-3-LAR**
XB12 R906-4-LAR
- Payload: 12kg
 - Reach: 906mm



- XB12 R707-3**
- Payload: 12kg
 - Reach: 707mm

Advantages

- Standard payload is 7kg. Robots based on this platform with various working envelop, payloads and DOF can be developed, which makes it more flexible and ideal for multi-robot, multi-station handling and assembly tasks
- High speed and high precision, maximize production efficiency, optional IP67 high protection level to cope with harsh environments with ease
- 707mm reach with optional hollow wrist to avoid wiring and piping interference with surrounding equipment , free move between narrow space

The Application of NB4 And XB7 Series Robot

Key Industries:

- 3C (including PCB)
- Automobiles and Parts
- General Industry

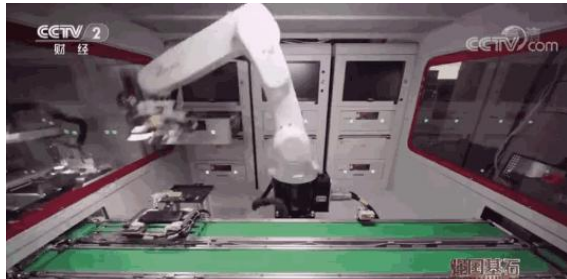
Brand		ROKAE		ESTUN	EFORT	INOVANCE
Model		NB4	NB4h	—	ER3	IR-R4
Characteristics	Weight	21Kg	22Kg	—	27Kg	24Kg
	Protection Level	IP67	IP67	—	IP40	IP40/IP67
	Hollow Wrist	—	√	—	—	—
	Bottom Outlet	√	√	—	—	—
	Key Industries	—	Machine Tools/Grinders	—	Education	—

Scenarios:

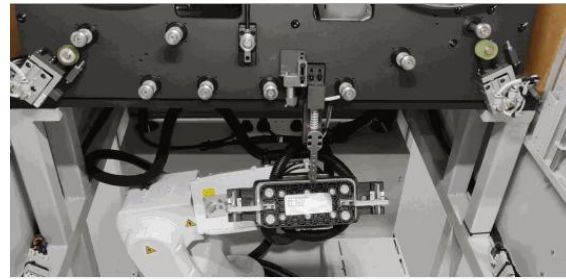
- Handling/ Loading and Unloading
- Grinding/ Deburring
- Gluing
- Assembly
- Detection
- Sorting

Brand		ROKAE			ESTUN		EFORT		INOVANCE
Model		XB7	XB7L	XB7h	ER7Series	ER8Series	ER7Series	ER8Series	IRS311
Characteristics	Weight	50Kg	52Kg	50Kg	48Kg	48Kg	38Kg	43Kg	40Kg
	Protection Level	IP67	IP67	IP67	IP65/IP67	IP65/IP67	IP67 for the wrist	IP65	IP65
	Hollow Wrist	—	—	√	—	—	—	—	√
	Cleanliness Level	—	Class 4	—	Class 5	Class 5	—	—	—
	Key Industries	—	—	Machine Tools/Grinders	—	—	—	—	Machine Tools/Grinders

NB4 Series, XB7 Series_3C Industry



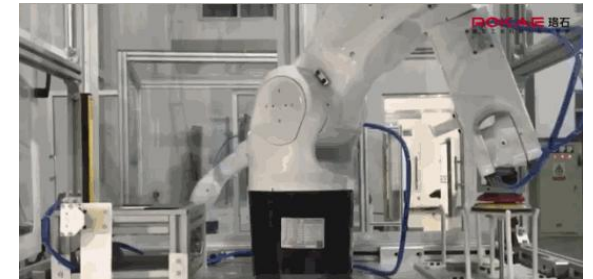
Mobile Phone Motherboard Detection



Mobile phone rug gluing



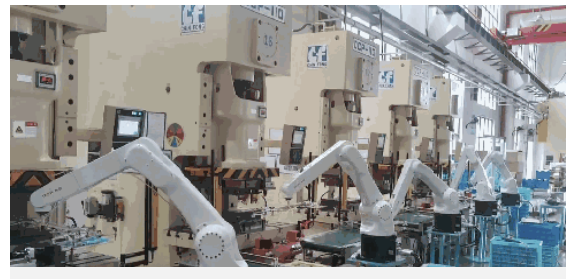
Mobile screen carving Loading and Unloading



Mobile phone back panel grinding



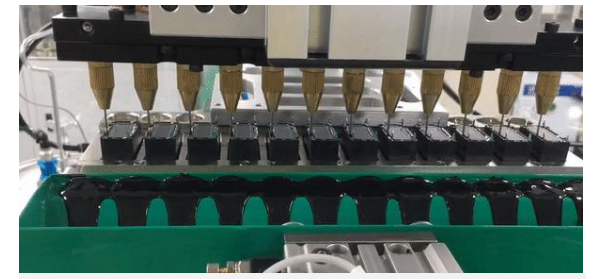
Laptop packaging labeling



Flat shell stamping Loading and Unloading



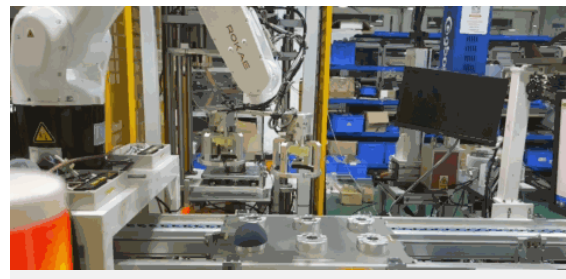
TV screen board Loading and Unloading



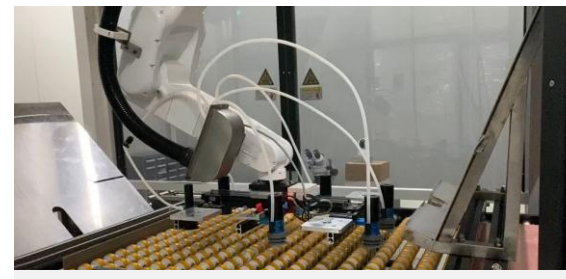
Relay sealing coating



Router inspection
一台机器人对应5个工位 人工成本大幅降低



Speaker grille die-casting

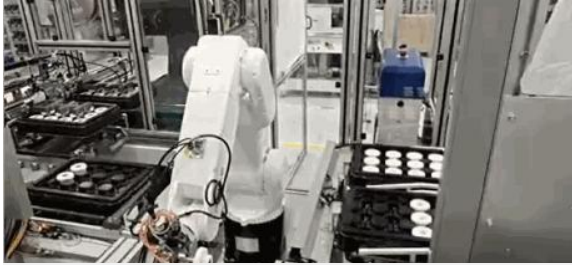


PCB three-axis single-station Handling

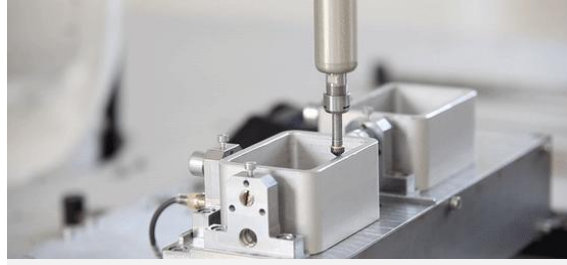


PCB four-axis single-station Handling

NB4 Series, XB7 Series _ Automobiles And Parts



Gear Machine Loading And Unloading



Deburring metal workpieces



Flexible inspection of automotive front-end modules



Car seat stitching



Gear reducer Assembly



Door handle plastic part mold line Grinding



Fork Grinding Deburring



Car speaker diaphragm locking screws



Casting deburring

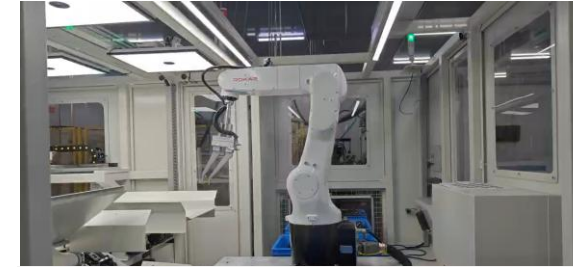
NB4 Series, XB7 Series_ Others



Machine Loading And Unloading



Medical Devices Assembly



Photovoltaic Bin Picking



Metal Deburring



injection molding Loading and Unloading



Machine Loading And Unloading



Gluing + Screwing



Logistics Sorting



Stamping Loading and Unloading and Inspection

1.2 Medum Payload Platform

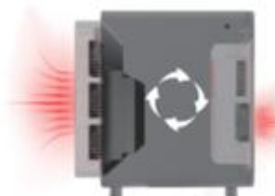


NB12 Series

Product Advantages

Brand New Design, Stronger Protection

- The NB12 series features an all-cast aluminum body that is about 20% lighter than the products in its class. Its body with an IP67 high protection rating and the controller cabinet with an IP54 protection rating that features dual-cycle heat dissipation provide adequate protection against even the most demanding environments.



Compact Design, Easy Deployment

- The NB12 series features a built-in motor and cables for a more compact design. The base installation dimension as small as 250x250 mm is 47% smaller than products of the same class, facilitating flexible deployment even in limited spaces for enhanced installation convenience.

Higher Payload, Flexible Choices

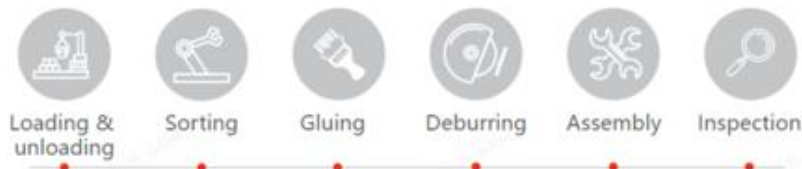
- The NB12 series contains three specifications with a broader working range and higher loading capacity that empowers immense possibilities in all kinds of working scenarios.



High Precision & High Speed, Efficient Production

- Increased by 20%, the working speed of the NB12 series enables rapid production and excellent capacity improvement.

Applications



Specifications

PCB Planar Handling Model

Body Specifications

Model	NB12-10/1.6	NB12-12/1.4	NB12-16/1.1	NB12-16/0.95-3	NB12-16/0.95-4
DOF	6			3	4
Reach	1602mm	1442mm	1102mm	953mm	953mm
Repeatability	±0.03mm			±0.03mm	
Payload	10kg	12kg	16kg	16kg	16kg
Range of motion	Axis 1	+170°~-170°		-125° ~ +110°	
	Axis 2	+145°~-105°		-210° ~ +70°	
	Axis 3	+70°~-210°		-135° ~ +135°	
	Axis 4	+270°~-270°		-360° ~ +360°	
	Axis 5	+135°~-135°		—	
	Axis 6	+360°~-360°		—	
Maximum speed	Axis 1	245°/s		245°/s	
	Axis 2	245°/s		290°/s	
	Axis 3	290°/s		450°/s	
	Axis 4	435°/s		705°/s	
	Axis 5	450°/s		—	
	Axis 6	705°/s		—	
Operating temperature	0°C~+45°C			0°C ~ +45°C	
Storage temperature	-10°C~+55°C			-10°C ~ +55°C	
IP rating	IP67			IP67	
Mounting method	Floor, Ceiling, Angle			Floor, Ceiling, Angle	
Noise level	≤75dB(A)			≤75dB(A)	
Weight	About 117kg	About 115kg	About 112kg	About 67kg	About 69kg
AIR	1-φ8+2-φ6, 8bar			1-φ8+2-φ6, 8bar	
Signal	24路 (30V, 0.5A)			12路 (30V, 0.5A)	

NB25 Series



Product Advantages

Broader Applications

- Longer reach than products of the same class helps easily address a wide range of automation requirements

Faster Speed

- ROKAE self-developed control system maximizes production efficiency while ensuring the service life

Higher Payload

- A 25% increase in payload over the previous model on average
- High inertia motion characteristics optimized for high inertia and fast beat applications

Stronger Protection

- IP67 high protection rating of wrists allows working in extreme environments thanks to the newly optimized sealing design

Applications



Photovoltaic typesetting



Loading and unloading



Sorting



Deburring



Assembly



Inspection

Specifications

Body Specifications

Model	NB25-20/2.0	NB25-25/1.8	NB25-30/1.6	NB25-35/1.8	NB25-12/2.1
DOF	6	6	6	6	6
Reach	2013mm	1813mm	1617mm	1813mm	2110mm
Repeatability	±0.05mm	±0.05mm	±0.05mm	±0.05mm	±0.05mm
Payload	20kg	25kg	30kg	35kg	12kg
Range of motion	Axis 1	-180°~+180°		-180°~+180°	-180°~+180°
	Axis 2	-99°~+156°		-99°~+156°	-99°~+156°
	Axis 3	-200°~+75°		-200°~+75°	-200°~+85°
	Axis 4	-180°~+180°		-180°~+180°	-180°~+180°
	Axis 5	-135°~+135°		-135°~+135°	-135°~+135°
	Axis 6	-360°~+360°		-360°~+360°	-360°~+360°
Maximum speed	Axis 1	204°/s		204°/s	204°/s
	Axis 2	186°/s		186°/s	186°/s
	Axis 3	182°/s		182°/s	182°/s
	Axis 4	492°/s		310°/s	492°/s
	Axis 5	450°/s		360°/s	450°/s
	Axis 6	705°/s		444°/s	705°/s
Operating temperature	0°C~+40°C				
Storage temperature	-10°C~+55°C				
IP rating	IP65(IP67 for wrist)				
Mounting method	Floor, Ceiling, Angle				
Noise level	≤75dB(A)				
Weight	约264kg	约256kg	约252kg	约256kg	约262kg
AIR	2-φ8, 8bar				
Signal	24路 (30V, 0.5A)				

Solar Panel Model

NB12 Series And NB25 Series

Key Industries:

- PCB
- Solar Panel
- Automobiles And Parts
- General Industry

Scenarios:

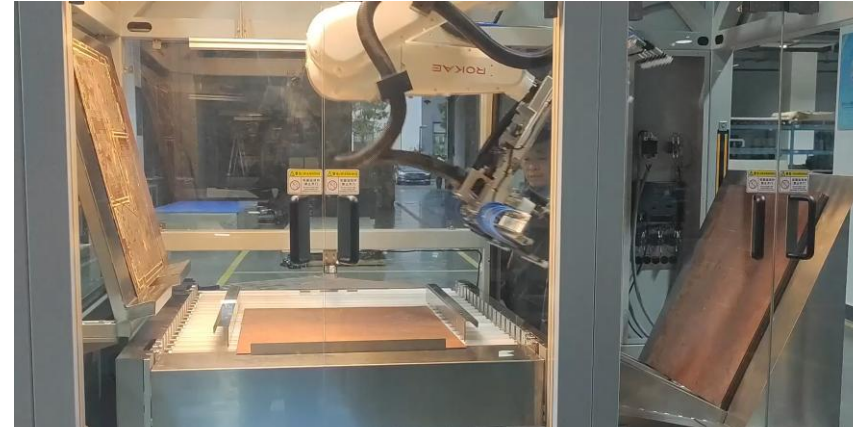
- Material Handling/Loading and Unloading (Basket Handling, Component Arrangement, Panel Handling, Machine Loading/Unloading)
- Grinding/Deburring
- Assembly
- Detection
- Sorting

Brand		ROKAE		ESTUN			EFORT		
Model		NB12	NB25	ER12B	ER20B	ER30/35	ER12	ER25	ER35
Feature	Weight	115Kg	256Kg	170Kg	273Kg	277Kg	90Kg	175Kg	240Kg
	Protection Level Of Body	IP67	IP67 for Wrist	IP67	IP65	IP54	IP67 for Wrist	IP67 for Wrist	IP67 for Wrist
	Protection Level Of Controller	Standard IP54	Standard IP54	_____	_____	_____	Optional IP54	Optional IP54	Optional IP54
	Special Features	Fully Enclosed	_____	Class 5	High Inertia/ Lithium Battery	Lithium Battery	Fully Enclosed	_____	_____

NB12 Series And NB25 Series_PCB Industry (China)



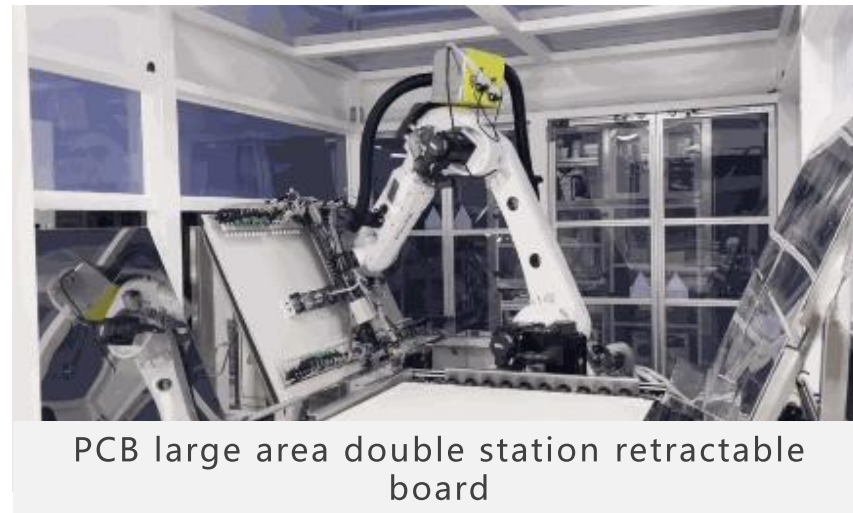
Inverted loading and unloading retractable plate



Four-axis single-station retractable plate

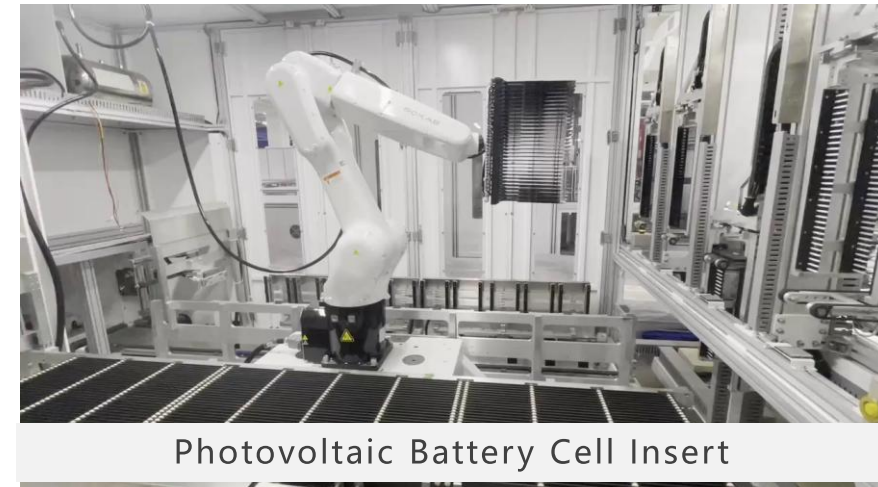


Double station retractable board



PCB large area double station retractable board

NB12Series,NB25Series_Photovoltaic (China)



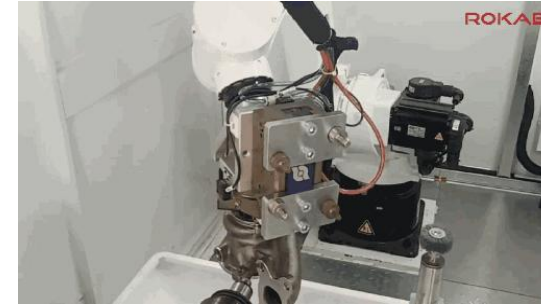
NB12 Series, NB25 Series _Automobiles And Parts



Automobile piston Grinding



Car spoiler Grinding



Turbine housing Grinding



B-pillar gluing



Automobile motor assembly



Injection molding buckle assembly



Car logo Loading and Unloading



Material Handling

NB12 Series, NB25 Series _General Industry



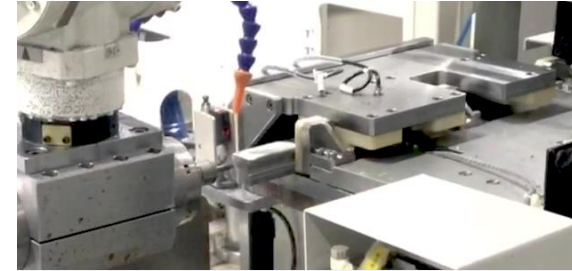
Stamping Machine Loading and Unloading



Machine Loading And Unloading



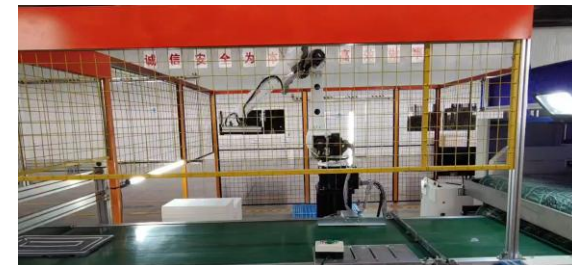
Carton Palletizing



Rail Grinding



Door and window switch test



Visually Guided Tile Patches

1.3 Large Payload Platform



NB80 Series

Product Advantages

Broader Applications

- Highest payload and longest reach among products of the same class helps easily address a wide range of automation needs

Higher Payload

- High inertia motion characteristics optimized for high inertia applications

Stronger Protection

- Higher protection level against even the most demanding environments

Applications



Weld



Gluing



Polish



Handling



Loading and unloading



Specifications

Body Specifications

Model		NB80-80/2.2	NB80-50/2.6
DOF		6	6
Reach		2,200 mm	2,598 mm
Repeatability		±0.06 mm	±0.08 mm
Payload		80 kg	50 kg
Range of motion	Axis 1	-185° to +185°	-185° to +185°
	Axis 2	-90° to +155°	-90° to +155°
	Axis 3	-210° to +80°	-210° to +80°
	Axis 4	-200° to +200°	-200° to +200°
	Axis 5	-130° to +130°	-130° to +130°
	Axis 6	-360° to +360°	-360° to +360°
Maximum speed	Axis 1	170°/s	170°/s
	Axis 2	145°/s	180°/s
	Axis 3	170°/s	180°/s
	Axis 4	285°/s	285°/s
	Axis 5	285°/s	285°/s
	Axis 6	285°/s	360°/s
Operating temperature		0°C to 45°C	0°C to 45°C
Storage temperature		-10°C to +55°C	-10°C~+55°C
IP rating		IP65 (Wrist IP67)	IP65 (Wrist IP67)
Mounting method		Floor, Ceiling	Floor, Ceiling
Weight		About 635 kg	About 645 kg
AIR		2-Φ12, 8bar	2-Φ12, 8bar
Signal		24 channels (30V, 0.5A)	24 channels (30V, 0.5A)

Application Of NB80 Series

Key Industries:

- Solar Panel
- Automobiles And Parts
- Warehouse Logistics
- General Industry

Scenarios:

- Handling/Loading And Unloading
- Grinding/Deburring
- Assembly
- Packing



Piston Assembly



Aluminum frame loading and unloading



Fiberglass Palletizing



Fiberglass Depalletizing



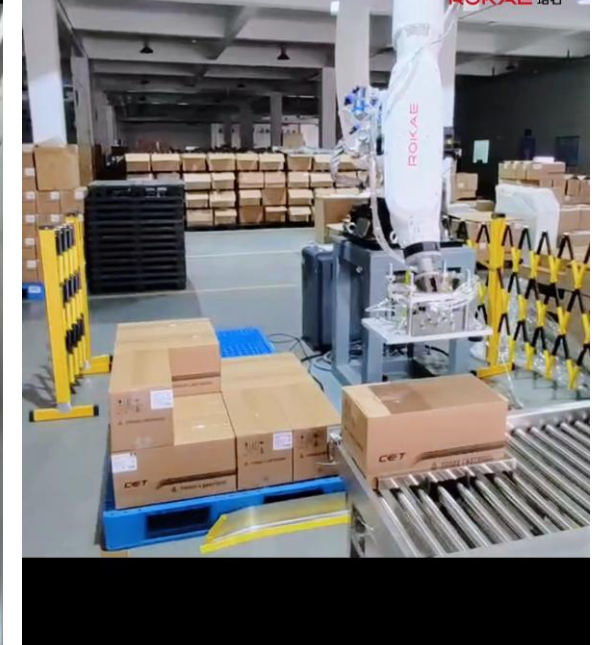
Thermal system component handling



Photovoltaic panel handling



New energy motor assembly



Carton palletizing

NB220 Series

Product Advantages

Large load

- Payload of 220 kg, with greater operating capacity under the same working conditions

Long arm span

- Reach of 3200 mm, cope with more application needs easily

More reliable

- The whole machine IP65, wrist IP67 protection, deal with harsh environment

Applications



Weld



Gluing



Polish



Handling



Loading a unloader



Specifications

Body Specifications

Model	NB220-220/2.7	NB220-170/2.7	NB220-150/3.2
DOF	6	6	6
Reach	2,705 mm	2,705 mm	3,201 mm
Repeatability	±0.07 mm	±0.07 mm	±0.08 mm
Payload	220 kg	170 kg	150 kg
Range of motion	Axis 1	-185° to +185°	-185° to +185°
	Axis 2	-65° to +85°	-65° to +85°
	Axis 3	-185° to +80°	-185° to +80°
	Axis 4	-200° to +200°	-200° to +200°
	Axis 5	-130° to +130°	-130° to +130°
	Axis 6	-360° to +360°	-360° to +360°
Maximum speed	Axis 1	120°/s	130°/s
	Axis 2	110°/s	115°/s
	Axis 3	110°/s	120°/s
	Axis 4	150°/s	180°/s
	Axis 5	150°/s	180°/s
	Axis 6	220°/s	260°/s
Operating temperature	0 to 45°C		
Storage temperature	-10°C to +55°C		
IP rating	IP65 (Wrist IP67)		
Mounting method	Floor		
Weight	About 1,138 kg	About 1,138kg	About 1,165 kg
AIR	2-Φ12, 8bar		
Signal	24 channels (30V, 0.5A)		

The Application Of NB220 Series

Key Industries:

- Photovoltaic
- Automobiles And Parts
- Warehouse Logistics
- General Industry
- Food And Beverage

Scenarios:

- Handling/Loading and Unloading
- Grinding/Deburring
- Assembly
- Packing

珞石大负载工业机器人
NB220
隧道水泥管片模具打磨



Tunnel cement segment mold grinding

珞石大负载工业机器人
NB220
机床上下料



Machine Loading And Unloading

ROKAE大payload工业机器人
NB220
零部件Palletizing



Parts Palletizing

珞石大负载工业机器人
NB220
锂电池搬运



Lithium battery handling

02 New Products

- NB12-15/1.4
- NB12hSeries
- NB25hSeries
- NB185 Four-axis palletizer
- NB220 Downward-Reaching Model
- NB10Series



NB12 Extended Model

NB12-15/1.4

Key Characteristics

- Improve the robot's load capacity, upgrade the NB12 payload to 15kg, and meet customers' large load requirements
- Add a built-in large air pipe ($\varnothing 16$) for the photovoltaic plug-in industry to achieve large airflow control (optional item)

Product Specifications

- Standard version, NB12-15/1.4, payload 15kg, reach 1.4m
- Customized Photovoltaic Insert, NB12-15/1.4-S3, payload 15kg, reach 1.4m, built-in large air pipe ($\varnothing 16$)

Key Industries

- PCB
- Photovoltaic
- Metal Products
- Others

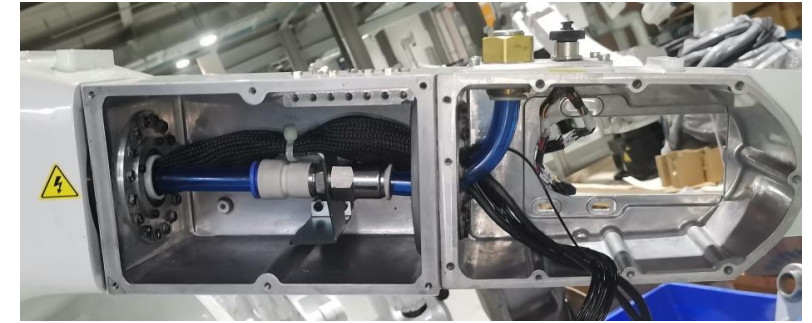
Scenarios

- Handling/Loading and Unloading
- Assembly
- Grinding/Deburring
- Others

Planning

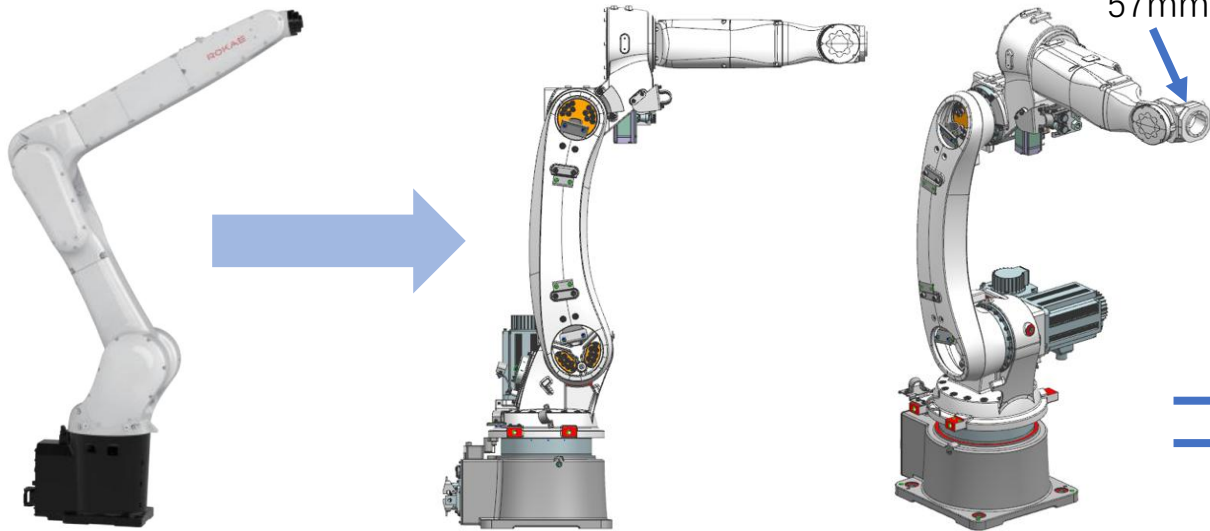
- Extended models, made to order, longer delivery time

	New Model
	Domestic Sales
NB12	
	•NB12-16/1.1
	•NB12-12/1.4
	•NB12-10/1.6
	•NB12-16/0.95-3
	•NB12-16/0.95-4
	•NB12h-12/1.4
	•NB12h-10/1.6
	•NB12-15/1.4



NB12 Series **New Product NB12h**

- A1/2/3 axis adopts RV transmission
- A4/5/6 adopts quasi-double gear transmission
- Increases structural rigidity and transmission stability
- Increases hollow structure of forearm and wrist, 57mm is the largest hollow in the industry
- Does not adopt the full wrapping structure of NB12, A1/A2 motor is exposed, and the wiring of the big arm is exposed (similar to NB25)



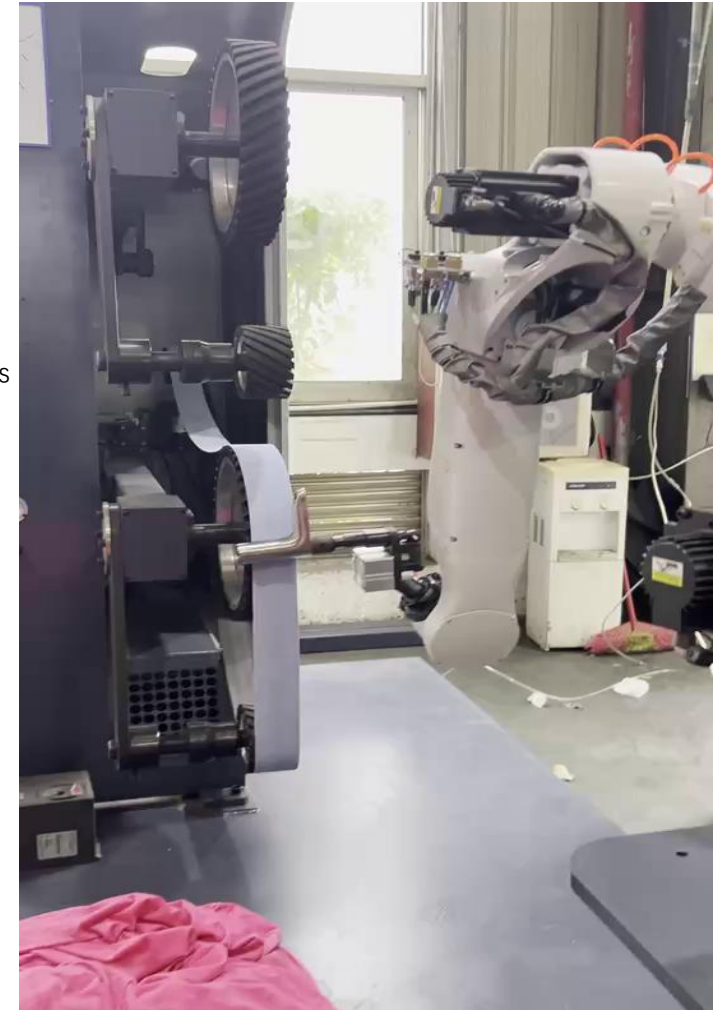
NB12 Standard Version

NB12h quasi-double gear Upgrade:

- Wrist Rigidity
- Wrist Overload
- Large Hollow Wiring

- New Model
- Domestic Sales

NB12
•NB12-16/1.1
•NB12-12/1.4
•NB12-10/1.6
•NB12-16/0.95-3
•NB12-16/0.95-4
•NB12h-12/1.4
•NB12h-10/1.6
•NB12-15/1.4



NB12 Series **New Product NB12h**

NB12h Quasi-double Gear Series

Key Characteristics

- Hypoid gear transmission achieves high transmission rigidity, more suitable for high rigidity operation
- Stronger wrist overload capacity
- 57mm large hollow wrist, compact space, simple wiring

Product Specifications

- NB12h-12/1.4, payload 12kg, reach 1.4m
- NB12h-10/1.6, payload 10kg, reach 1.6m

Key Industries

- Automobiles And Parts
- 3C Industry
- Metal Products
- Others

Scenarios (suitable for applications with high requirements on trajectory accuracy)

- Grinding
- Arc Welding
- Gluing
- Cutting
- Others

Planning

- Officially launched on July 1, 2025
- The counterparts of domestic brands are EFORT ER12h/ER15h

Body Specifications

Model		NB12h-12/1.4	NB12h-10/1.6
DOF		6	6
Reach		1473mm	1648mm
Repeatability		±0.03mm	±0.05mm
Payload		12kg	10kg
Range of motion	Axis 1	-180°~+180°	-180°~+180°
	Axis 2	-100°~+150°	-100°~+150°
	Axis 3	-200°~+75°	-200°~+75°
	Axis 4	-180°~+180°	-180°~+180°
	Axis 5	-180°~+180°	-180°~+180°
	Axis 6	-360°~+360°	-360°~+360°
Maximum speed	Axis 1	200°/s	200°/s
	Axis 2	185°/s	185°/s
	Axis 3	260°/s	260°/s
	Axis 4	430°/s	430°/s
	Axis 5	450°/s	450°/s
	Axis 6	720°/s	720°/s
Operating temperature		0°C~+40°C	0°C~+40°C
Storage temperature		-10°C~+55°C	-10°C~+55°C
IP rating		整体IP65, 手腕IP67	整体IP65, 手腕IP67
Mounting method		地面, 悬挂	地面, 悬挂
Noise level		≤75dB(A)	≤75dB(A)
Weight		约185kg	约187kg
Air		标准、打磨机型: 2-φ12气管 (8bar) 焊接机型: 2-φ8气管 (8bar)	
Signal		标准、打磨机型: 2-12路 (30V, 0.5A) 焊接机型: 6路 (焊枪碰撞检测信号传输使用)+16路 (适配焊机使用)	

NB25 Series **New Product NB25h**



New Model

NB25
•NB25-30/1.6
•NB25-25/1.8
•NB25-35/1.8
•NB25-20/2.0
•NB25-12/2.1
•NB25h-25/1.8
•NB25h-35/1.8
•NB25h-12/2.2



NB25Series **New Product NB25h**

NB25h Quasi-double Gear Series

Key Characteristics

- Hypoid gear transmission achieves high transmission rigidity, more suitable for high rigidity operation
- Stronger wrist overload capacity
- 57mm large hollow wrist, compact space, simple wiring

Product Specifications

- NB25h-25/1.8, payload 25kg, reach 1.8m
- NB25h-35/1.8, payload 35kg, reach 1.8m
- NB25h-12/2.2, payload 12kg, reach 2.2m

Key Industries

- Automobiles And Parts
- 3C Industry
- Metal Products
- Others

Scenarios (suitable for applications with high requirements on trajectory accuracy)

- Grinding
- Arc Welding
- Gluing
- Cutting
- Others

Planning

- Officially launched on July 1, 2025

Body Specifications

Model	NB25h-12/2.2	NB25h-25/1.8	NB25h-35/1.8	
DOF	6	6	6	
Reach	2,258 mm	1,836 mm	1,836 mm	
Repeatability	±0.04 mm	±0.03 mm	±0.04 mm	
Payload	12 kg	25 kg	35 kg	
Range of motion	Axis 1	-180° to +180°	-180° to +180°	±180°
	Axis 2	-99° to +156°	-99° to +156°	+156° to -99°
	Axis 3	-200° to +75°	-200° to +75°	+75° to -200°
	Axis 4	-215° to +215°	-215° to +215°	-215° to +215°
	Axis 5	-225° to +225°	-225° to +225°	-225° to +225°
	Axis 6	-450° to +450°	-450° to +450°	-450° to +450°
Maximum speed	Axis 1	200°/s	200°/s	180°/s
	Axis 2	185°/s	185°/s	180°/s
	Axis 3	180°/s	180°/s	180°/s
	Axis 4	430°/s	430°/s	420°/s
	Axis 5	460°/s	430°/s	360°/s
	Axis 6	730°/s	730°/s	450°/s
Operating temperature	0°C to +40°C	0°C to +40°C	0°C to +40°C	
Storage temperature	-10°C to +55°C	-10°C to +55°C	-10°C to +55°C	
IP rating	IP65 (Wrist IP67)	IP65 (Wrist IP67)	IP65 (Wrist IP67)	
Mounting method	Floor, Ceiling	Floor, Ceiling	Floor, Ceiling	
Noise level	≤75 dB(A)	≤75 dB(A)	≤75 dB(A)	
Weight	About 276 kg	About 272 kg	About 273 kg	
AIR	2-Φ12, 8bar	2-Φ12, 8bar	2-Φ12, 8bar	
Signal	2-12 channels (30V, 0.5A)	2-12 channels (30V, 0.5A)	2-12 channels (30V, 0.5A)	

NB25h Quasi-double Gear Series Accuracy Test



	NB25-12/2.1	NB25h-12/2.2	NB25-25/1.8	NB25h-25/1.8	NB25-35/1.8	NB25h-35/1.8
Positioning Absolute Accuracy	≤1.2	≤0.8	≤ 1.0	≤ 0.4	≤0.9	≤0.7
Positioning Repeatability	≤0.04	≤0.034	≤ 0.05	≤ 0.03	≤0.05	≤0.04
Path Absolute Accuracy	≤5.0	≤3.0	≤ 5.0	≤ 5.0	≤7.0	≤5.0
Path Repeatability	≤0.4	≤0.3	≤ 1.0	≤ 0.7	≤0.8	≤0.6

	ROKAE	FANUC	ABB	INOVANCE	ESTUN
12kg/2.0m	NB25h-12/2.2	M-10iD/8L(2.0)	IRB2600ID-8/2.0	IR-R12-201S7	ER20B/0-2010-HI
Positioning Repeatability	≤0.034	≤0.03	≤0.023	≤0.03	≤0.03
Path Repeatability	≤0.8(0.27)	-	≤0.27	-	-

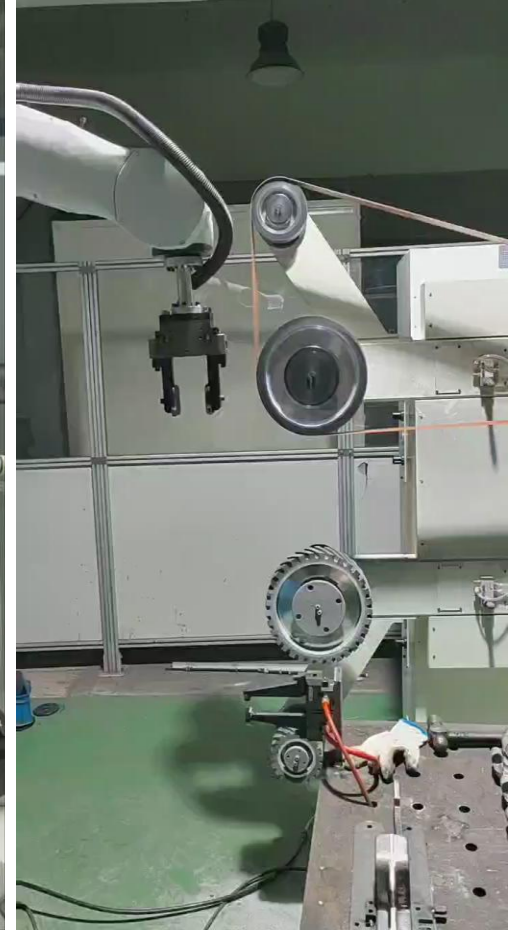
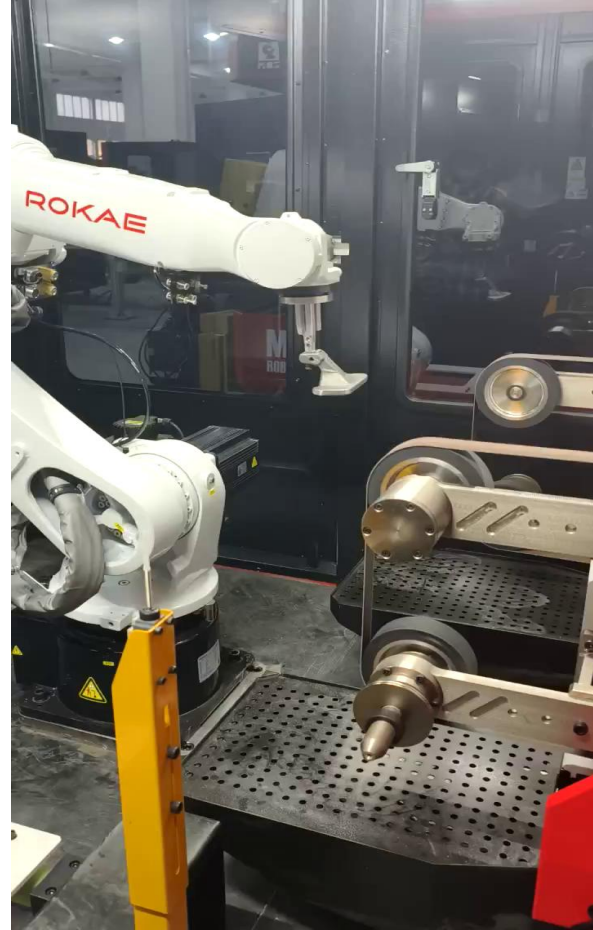
Compare with NB25 standard

- The Positioning Absolute Accuracy has been improved to more than 20%, and the performance of mainstream model known as 25/1.8 increases by 60%
- The Path Repeatability has improved to more than 20%, and the performance of mainstream model known as 25/1.8 increases by 30%

Compare with competing products

- For Arc Welding and Grinding scenarios, the path repeatability has achieved the same level as ABB **≤0.27mm**

NB12h Series, NB25h Series Application_ Grinding and Arc Welding



NB12h Series And NB25h Series Application_Grinding And Arc Welding



Arc Welding



Grinding



Grinding

NB12h And NB25h Quasi-double Gear Series Scenarios:

For general use, especially suitable for grinding, arc welding, gluing, cutting and other scenarios with high requirement on the wiring of forearm.

Notes:

Compared with the forearm of harmonic gear robots, the quasi-double gear forearm costs more. So quasi-double gear forearm will not be used unless in arc welding, grinding and other scenarios insensitive to the cost. The harmonic gear robots will be used in general scenarios. In the short term, NB12 and NB25 with harmonic gear forearm coexist with NB12h and NB25h with quasi-double gear forearm.

NB185 Series **New Product**

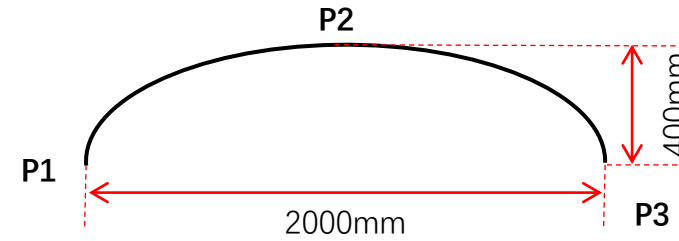
Cycle Time Test

- Test Conditions

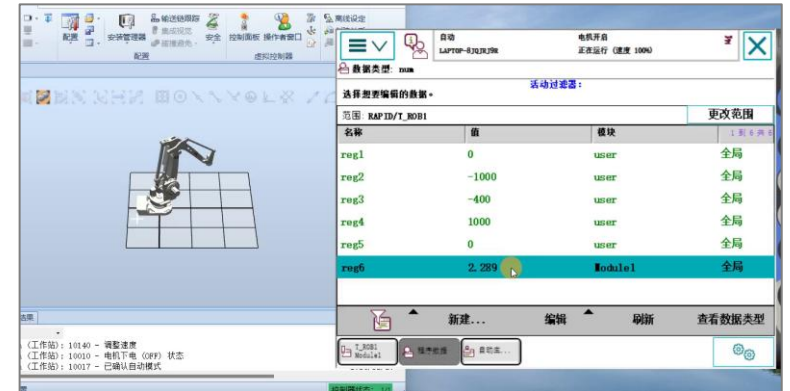
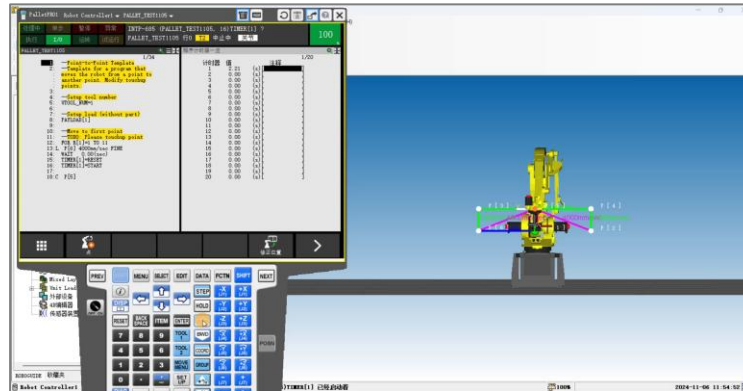
- Robot trajectory is shown in the right picture : 400*2000*400mm. Arc instruction is used and one cycle includes P1→P2→P3→P2→P1
- 180kg load, offset in the Z direction by about 100mm

- Planning

- Officially launched on July 1, 2025



	ROKAE	FANUC	ABB
Cycle time (s)	2.42	2.27	2.28
Number of Cycles (1h)	1488	1585	1579



NB185 Series **New Product**

New Platform NB185-185/3.2 Four-Axis Palletizer

Key Characteristics

- NB185 Series benchmarking the counterpart of ABB and FANUC, achieving fast palletizing

Product Specifications

- NB185-185/3.2-4

Key Industries

- Food and Beverage
- Warehouse Logistics
- Building Materials Industry
- Metal Products
- Others

Scenarios

- Material Handling
- Palletizing and Depalletizing /Packing

Planning

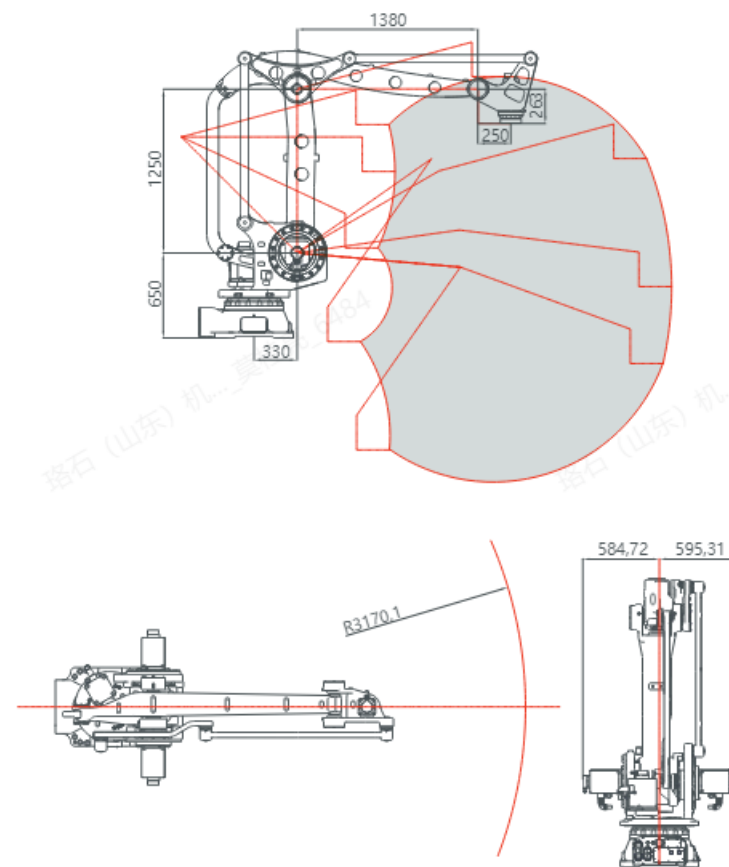
- Officially launched on July 1, 2025

Specifications

Body Specifications

Model		NB185-185/3.2-4
DOF		4
Reach		3,170 mm
Repeatability		±0.05 mm
Payload		185 kg
Range of motion	Axis 1	-185°~ +185°
	Axis 2	-45°~ +95°
	Axis 3	-15°~ +125°
	Axis 4	-360°~ +360°
Maximum speed	Axis 1	140°/s
	Axis 2	115°/s
	Axis 3	140°/s
	Axis 4	360°/s
Operating temperature		0°C ~ +40°C
Storage temperature		-10°C ~ +55°C
IP rating		IP54, (Wrist IP67)
Mounting method		Floor
Noise level		≤75 dB(A)
Weight		About 1,200 kg
AIR		2-Φ12, 8bar
Signal		2-12 channels (30V,0.5A)

Working range



NB220 Series **Special Model**

NB220R-150/3.2 **Down-Reaching Model**

Market Target

- 220kg 6-axis down-reaching version to meet customer needs in injection molding and die-casting scenarios
- Currently, only ROKAE and ESTUN have dedicated down-reaching versions among domestic brand

Product Specifications

- NB220R-150/3.2, payload 150kg, reach 3.2m

Key Industries

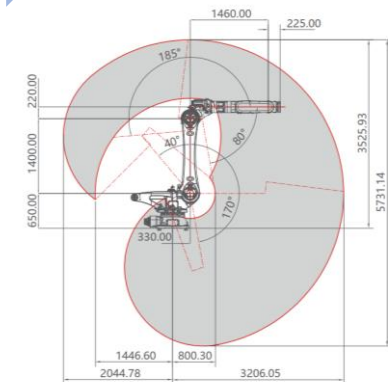
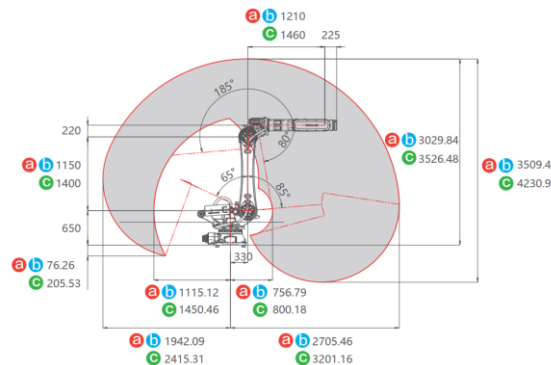
- die-casting
- injection molding

Scenarios

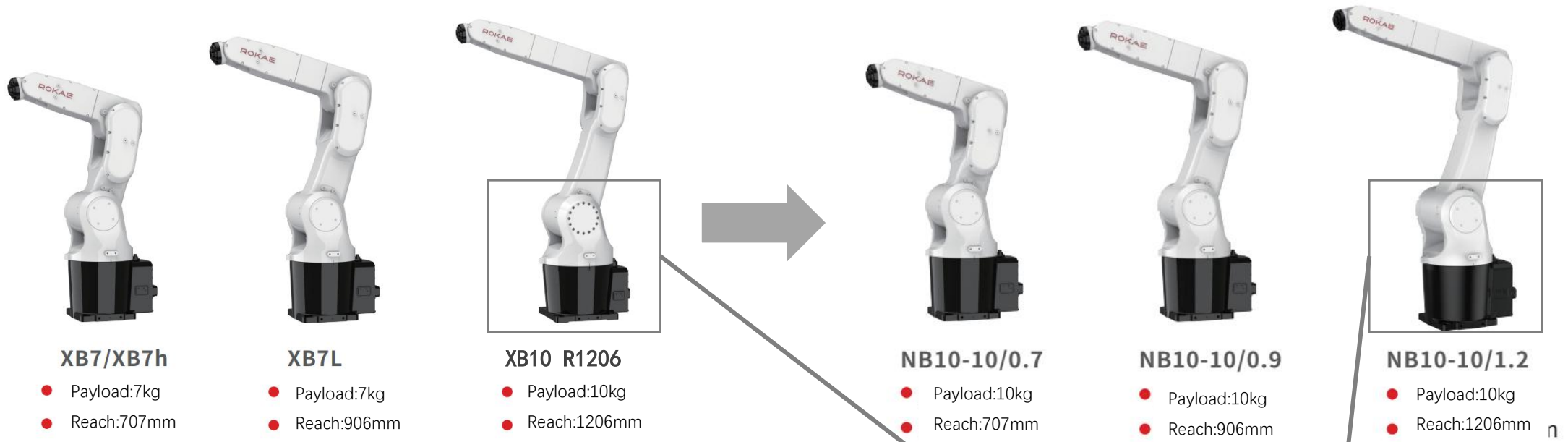
- Handling/Loading and Unloading

Planning

- Subject to market demand



NB10 Series **New Product**



Upgrade

- XB7 upgraded to NB10-10/0.7, the appearance remains unchanged
- XB7L upgraded to NB10-10/0.9, the appearance remains unchanged
- NB10-10/1.2 is developed based on XB7L to replace the XB10 R1206, and the body weight can be reduced from 76kg to 55kg while the weight of the counterpart of EFFORT is 78kg
- XB7 Series and NB10 Series will exist at the same time, while XB7 Series will be replaced gradually by NB8 Series in the future



NB10 Series **New Product**

NB10 Series

Key Characteristics

- Desktop robot with large payload capacity and good performance

Product Specifications

- NB10-10/0.7, payload 10kg, reach 0.7m
- NB10-10/0.9, payload 10kg, reach 0.9m
- NB10-10/1.2, payload 10kg, reach 1.2m

Key Industries

- 3C Industry
- Automobiles And Parts
- Metal Processing
- General Industry

Scenarios

- Handling/Loading and Unloading
- Grinding/Deburring
- Gluing
- Assembly
- Detection
- Sorting
- Others

Planning

- Officially launched in the first quarter, 2026

Body Specifications

Model	NB10-10/0.7	NB10-10/0.9	NB10-10/1.2	
DOF	6	6	6	
Reach	707mm	906mm	1206mm	
Repeatability	±0.02mm	±0.03mm	±0.03mm	
Payload	10kg	10kg	10kg	
Range of motion	Axis 1	-170°~+170°	-170°~+170°	-170°~+170°
	Axis 2	-96°~+135°	-96°~+130°	-96°~+130°
	Axis 3	-195°~+65°	-195°~+65°	-195°~+65°
	Axis 4	-170°~+170°	-170°~+170°	-170°~+170°
	Axis 5	-120°~+120°	-120°~+120°	-120°~+120°
	Axis 6	-360°~+360°	-360°~+360°	-360°~+360°
Maximum speed	Axis 1	355°/s	355°/s	300°/s
	Axis 2	300°/s	355°/s	220°/s
	Axis 3	355°/s	355°/s	340°/s
	Axis 4	480°/s	480°/s	480°/s
	Axis 5	450°/s	450°/s	450°/s
	Axis 6	705°/s	705°/s	705°/s
Operating temperature	0°C~+40°C	0°C~+40°C	0°C~+40°C	
Storage temperature	-10°C~+55°C	-10°C~+55°C	-10°C~+55°C	
IP rating	IP67	IP67	IP54	
Mounting method	Floor, Ceiling, Angle	Floor, Ceiling, Angle	Floor, Ceiling, Angle	
Noise level	≤70dB(A)	≤70dB(A)	≤70dB(A)	
Weight	约50kg	约52kg	约55kg	
AIR	4-φ4气管 (5bar)	4-φ4气管 (5bar)	4-φ4气管 (5bar)	
Signal	12 channels (30V,0.5A)	12 channels (30V,0.5A)	12 channels (30V,0.5A)	

New Product Status

Platform	Series	Model	Product Requirements	Release Time	Scenarios
NB12	NB12	NB12-15/1.4	Payload upgraded to 15kg	Already released	General Use
		NB12-15/1.4-S3	Built-in φ16 air	Already released	Photovoltaic Insert
	NB12h	NB12h-12/1.4	New Product, dedicated to Arc Welding and Grinding	2025.7.1	Arc Welding, Grinding, Gluing, Cutting, General Use
		NB12h-10/1.6		2025.7.1	
NB25	NB25h	NB25h-25/1.8	New Product, dedicated to Arc Welding and Grinding	2025.7.1	Arc Welding, Grinding, Gluing, Cutting, General Use
		NB25h-35/1.8		2025.7.1	
		NB25h-12/2.2		2025.7.1	
NB185	NB185	NB185-185/3.2-4	New Product	2025.7.1	Palletizing, Handling
NB220	NB220	NB220R-150/3.2	New Application	—	injection molding loading and unloading, die-casting loading and unloading
NB10	NB10	NB10-10/0.7	Payload upgraded	2026.3.30	General Use
		NB10-10/0.9	Payload upgraded	2026.3.30	General Use
		NB10-10/1.2	XB10 R1206 upgraded	2026.3.30	General Use

03 High-Performance Control System



Unified Control System Platform-xCore

Higher Speed OptiMotion



- High-precision dynamics modeling and parameter adjustment to achieve optimal planning based on the full dynamics model and **maximize the performance of the hardware**

Application: Photovoltaic Insert, Arc Welding, Handling

More Accurate TrueMotion



- Speed-independent path planning technology, the teaching path is completely consistent with the actual running path, **what you see is what you get**
- Global rigid-flexible error identification and compensation, high precision in the entire workspace

Application: Gluing, Cutting, Grinding, Arc Welding

Smoother SoftMotion



- **Direct force control** technology
- **Full body soft control** and high dynamic force control
- **Full body force sensing** technology

Application: Assembly, Arc Welding, Grinding, Massage therapy

Unified Control System Platform-xCore

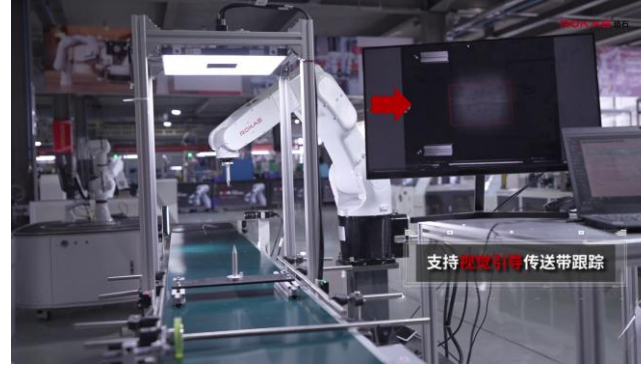
More Secure SafeMotion



- Joint torque sensors are standard on all collaborative robots
- Independent safety controller
- More than 20 safety functions certified by authoritative organizations

Application: Assembly, Grinding, Arc Welding, Medical, Commercial

More Collaborative SyncMotion



- Synchronizes with external axes including extra linear rails and linear conveyor tracking.

Application: Sorting, Palletizing, Arc Welding

More Open ROKAE Control Interface



- C++, C#, Python, Java
- Comprehensive instructions including motion, force control, logic and process control
- Real-time underlying interface, 1000Hz communication frequency

Application: Customized Scenarios when clients need direct control of robots

High-Performance Industrial Robots | Make Smart Manufacturing More Efficient

4 Core Features



Higher Speed

- Self-developed underlying control system fully utilizes hardware performance
- Industry-leading underlying control technology ensures faster robot operation



More Reliable

- The core components are designed to operate reliably in the long term from the perspective of software and hardware.
- The products have passed comprehensive certifications such as IP67/CR/CE



More Sophisticated

- Fully enclosed arms and hollow wrists make installation easier
- Rich control cabinet interfaces make integrated applications more convenient



Easier To Use

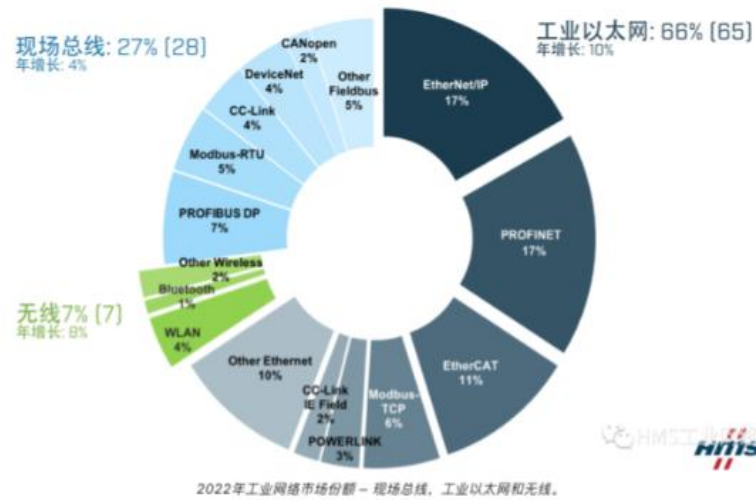
- Simple maintenance
- Timely, professional and efficient service

Communication With External Devices

Introduction

- Communicate with external devices such as PLC through fieldbus, industrial Ethernet and various physical interfaces such as DI/DO

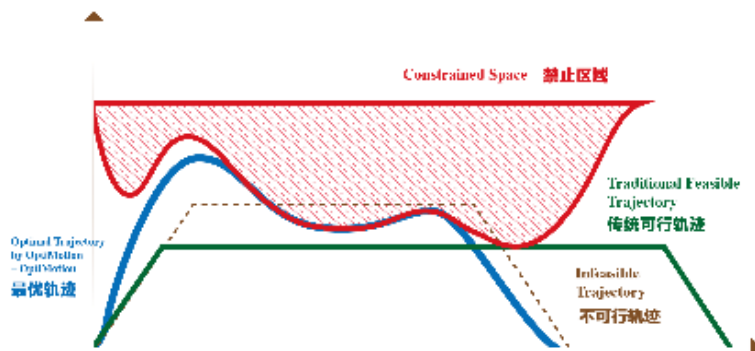
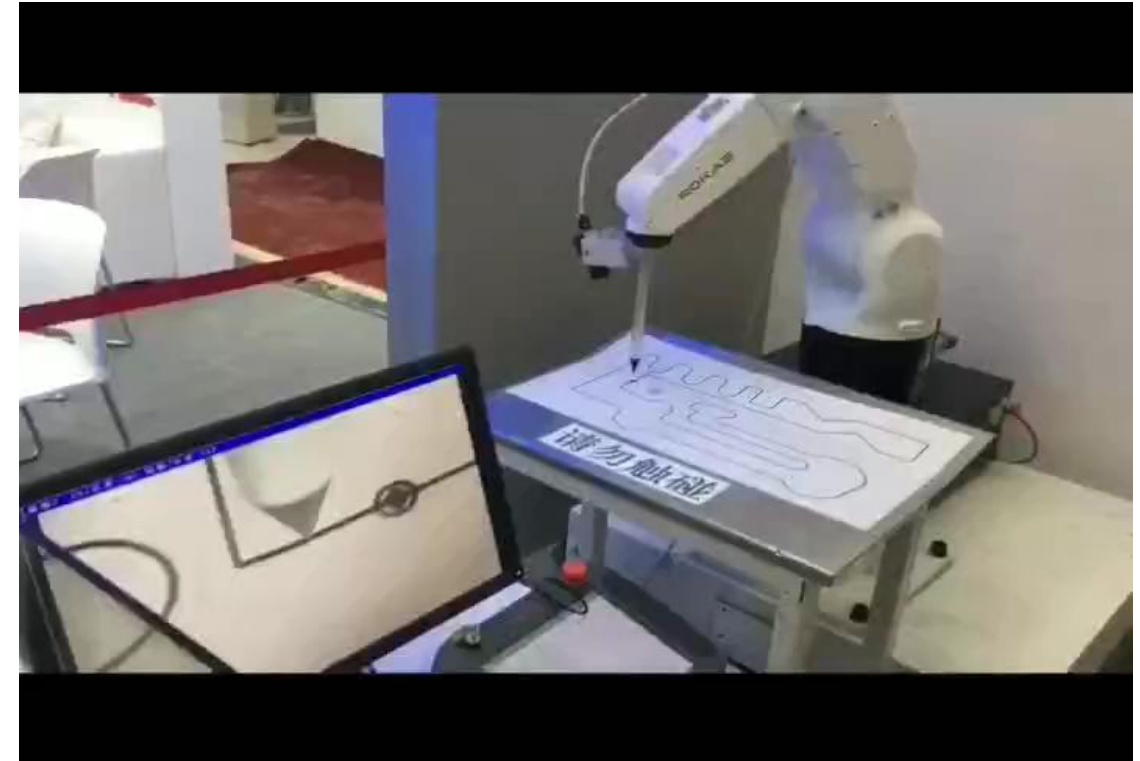
Overview of Mainstream Buses



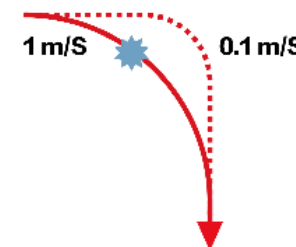
Type	Bus Protocol	Robot	Extra Hardware	Note
Fieldbus	Modbus RTU	IR	No	• Serial Port is needed
	CC-Link	IR+CR	Gateway Module	• CC-Link to Modbus TCP gateway module
	PROFIBUS	IR+CR	Gateway Module	• PROFIBUS to Modbus TCP gateway module
	DeviceNet	IR+CR	Gateway Module	• DeviceNet to Modbus TCP gateway module
Industrial Ethernet	PROFINET	IR+CR	No	• Robot serve as a device
	Modbus TCP	IR+CR	No	
	CC-Link IE Fieldbus Basic	IR+CR	No	
	EtherNet/IP	IR+CR	No	• Robots serve as a slave
	EtherCAT	IR+CR	Gateway Module	• Robots normally serve as EtherCAT master. • A gateway module is needed if robots serve as EtherCAT slave; • Cobots with external controller are necessary to use EtherCAT
	OPC UA	IR+CR	No	• Robots serve as servers

High speed and High precision

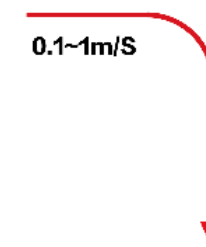
- Maximize The Hardware Capacity
 - **OptiMotion**: Dynamically calculate the motion constraints of the joints in the current position, and **plan the trajectory based on the maximum performance of the hardware to ensure the high-speed movement of robot.**
 - **TrueMotion** : speed-independent path generation technology and dynamics feedforward, **maintaining high accuracy at high speeds**
- Customized motor drive and control system, the robot's movement ability with load is increased by 20%
- **100+** dynamic parameter modeling, motion planning based on component capacity constraints, get high performance while preventing component overload fatigue



Traditional Pattern



TrueMotion Pattern



High speed and High precision

SR5-C,CR7-C,CR12-C

All Parameters Accuracy Compensation Version:

- The error of the X,Y and Z axis around TCP is less than 0.8mm;
- The robot remains stable without shaking when the welding torch approaches the welding points, and the linear path accuracy is less than 0.8mm;
- IP54 controller, and the robot itself has been tested at **55°C** and the arc welding can still be completed successfully

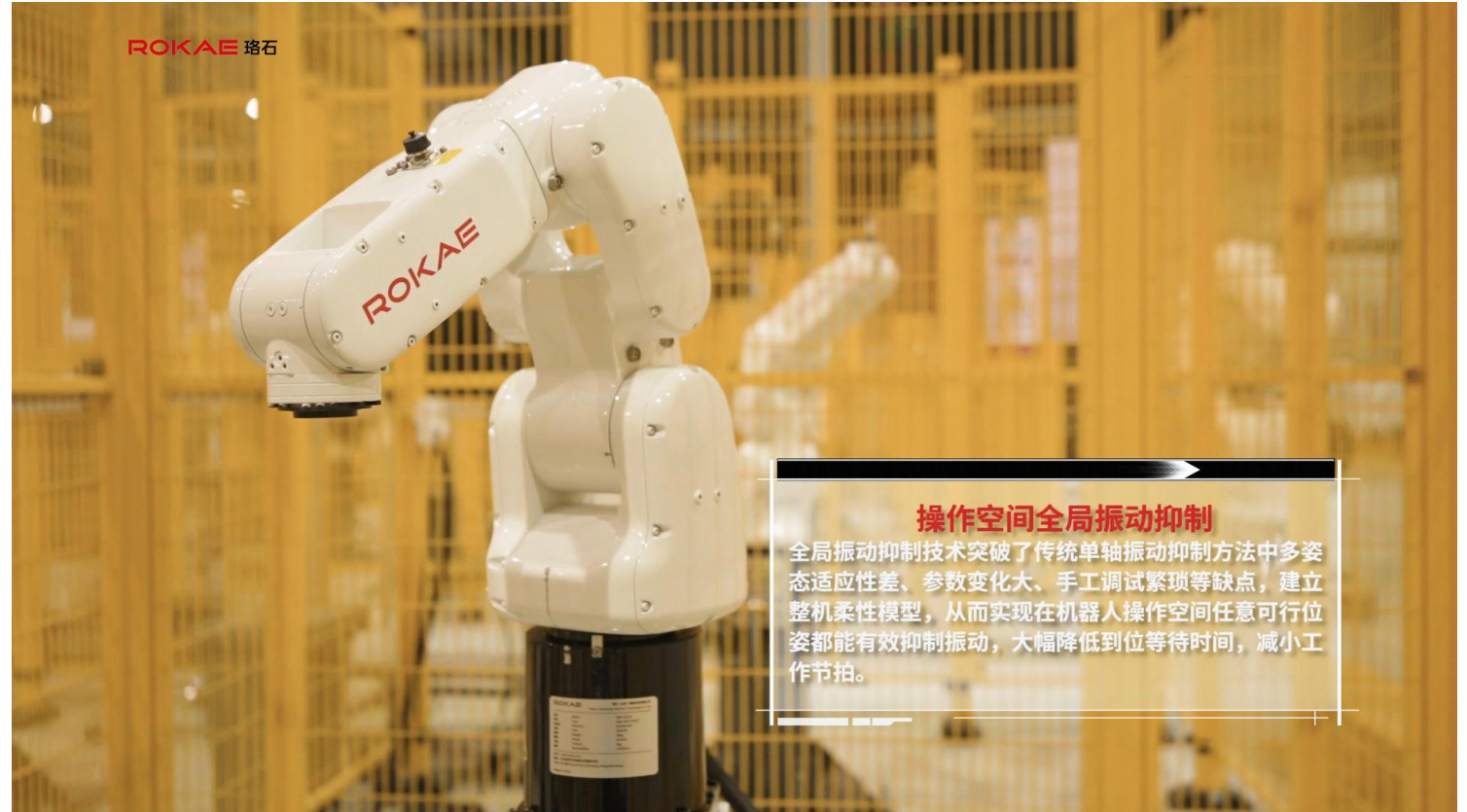
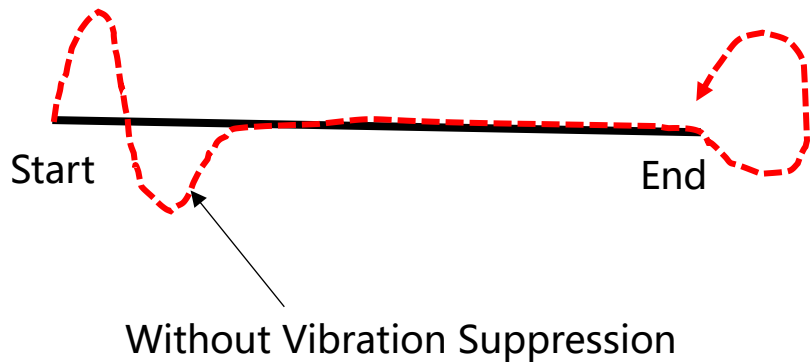


High-Level Dynamics Algorithms Of Vibration Suppression

The vibration suppression algorithm can significantly reduce the vibration of the robot when starting and stopping.

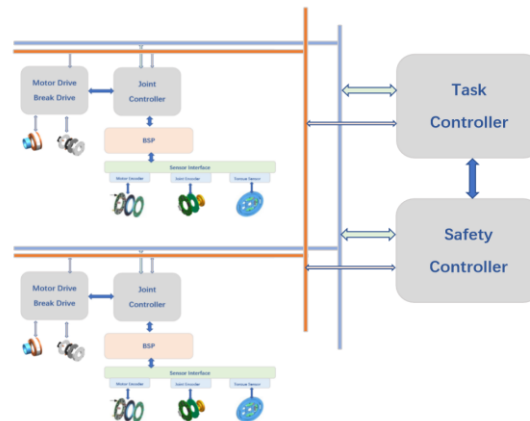
Typical Scenarios:

- Handling fragile products like battery cell
- Take photos with vision: quickly stabilize the body when stopped to take photos
- Special Scenarios like gluing and arc welding



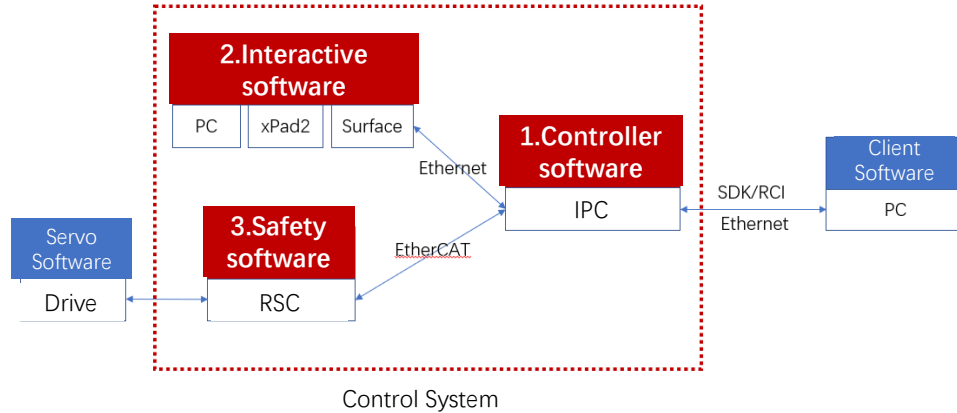
Ultimate Safety

	ROKAE	other	优势
Collision Detection	Sensitivity < 10N	Sensitivity > 50N	Greatly reduces the risk of abnormal collisions between personnel and equipment, reducing the losses
Safety Function	21 Features	17 Features	Multi-dimensional abnormality monitoring to ensure the safety and control of robots
Fall Distance during power failure	No Fall Down	Fall Down Distance > 5mm	Reduce damage to surrounding equipment and materials caused by the robot falling during abnormal power outages
Certifications	EAC, CE, Safety Function (TUV) -ISO TS 15066	EAC , CE , CR	Authoritative and comprehensive certification to ensure product quality



ID	Safety functions (TÜV)	(21 items)
1	Emergency stop mode 0	✓
2	Emergency stop mode 1	✓
3	Enable	✓
4	Mode selection	✓
5	safety door stop	✓
6	Emergency stop output	✓
7	Joint position restrictions	✓
8	joint speed limit	✓
9	Joint torque settings	✓
10	pose restrictions	✓
11	TCP speed limit	✓
12	TCP force limit	✓
13	momentum limit	✓
14	joint power limit	✓
15	Machine power limit	✓
16	Status output during robot movement	✓
17	Robot not stopped status output	✓
18	Speed down mode	✓
19	Drag mode	✓
20	Collision force limit	✓
21	Safe return to Home	✓

Independent Safety Controller



Certified independent RSC safety controller, dual-channel redundant monitoring architecture

- 21 certified safety functions
- Excellent collision detection capability and motor runaway protection
- 4 safety zones
- Human-machine collaboration

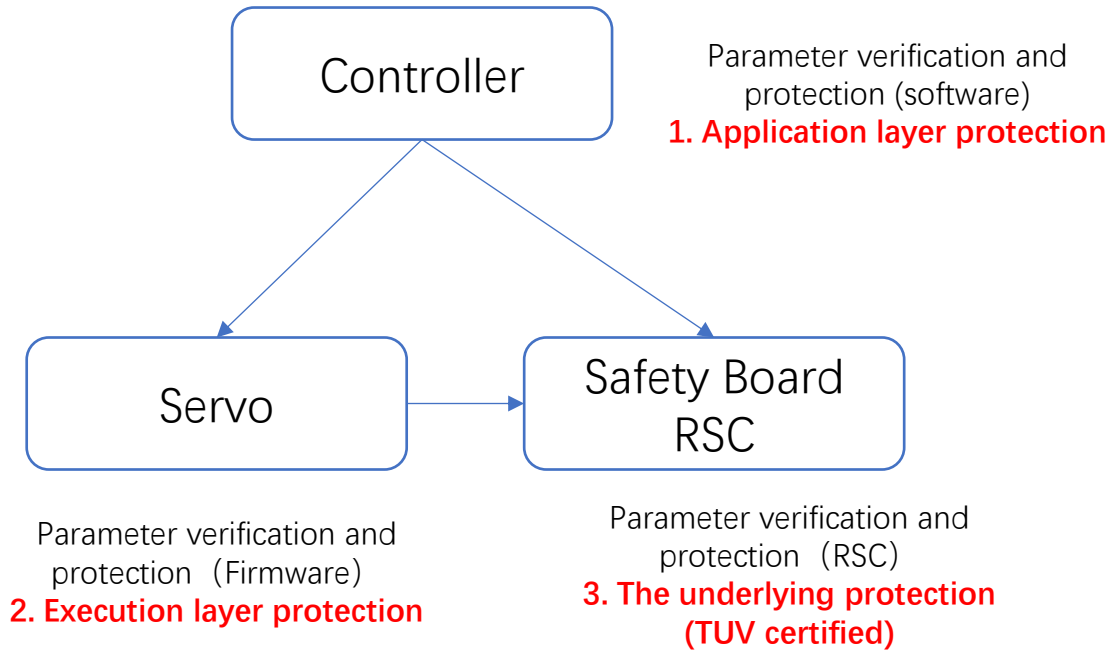
Key Industries/Clients

- Automotive, Automobiles And Parts
- Overseas Clients
- Foreign companies, joint ventures



Motor Runaway Protection

Extreme safety, three-layer protection



Without Runaway Protection



With Runaway Protection

This test is simulated by modifying the software and servo program

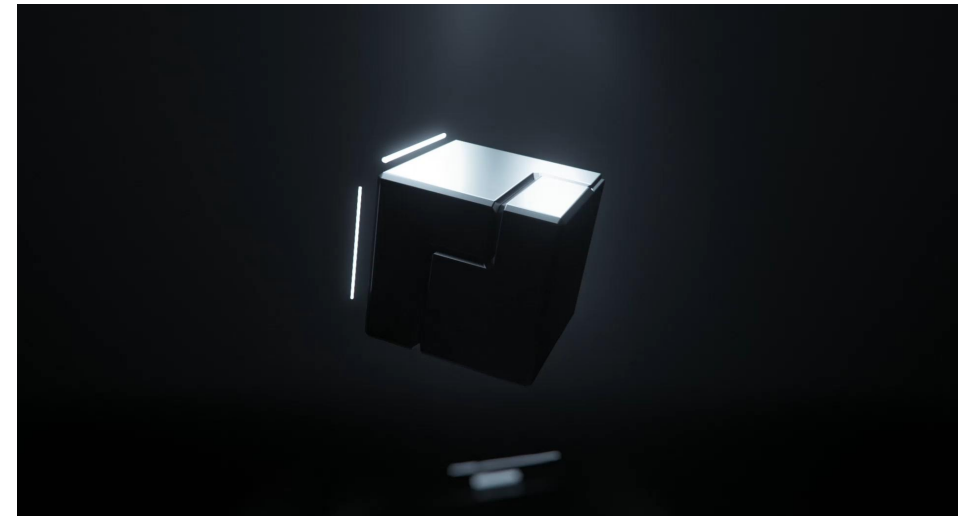
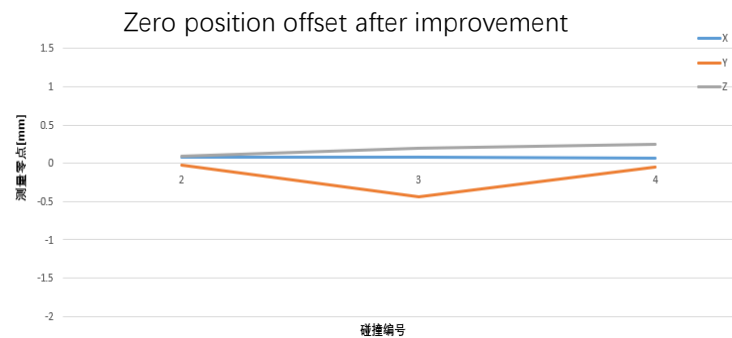
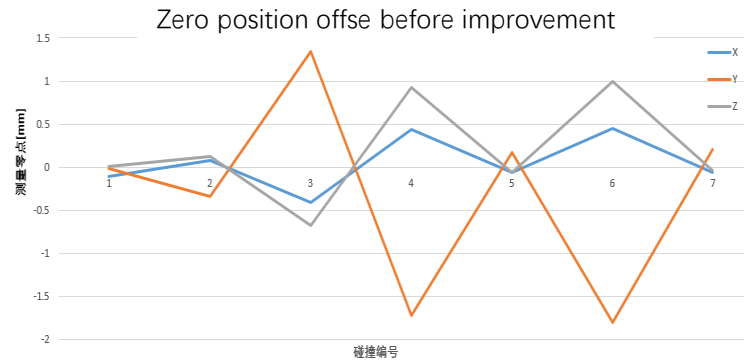
- 1. Software (fault injection)**
- 2. Servo (fault injection)**
- 3. RSC (remove the RSC module)**

Three-layer protection

Collision Detection

Movement After Collision Detection:

- **Soft stop:** The control system works in conjunction with the servo to instantly reduce the rigidity of the robot and quickly buffer the impact force.
- **Retraction:** Retract a short distance in the opposite direction of the collision to release the squeezing force and avoid equipment damage.



Collision Detection



Features

- By developing a high-precision full-dynamic model of industrial robots, we can achieve both sensitive and robust collision detection
- provide a rich and effective collision handling strategy

Effect

- **No zero point is lost in collision, no need for repeated programming**
- Already verified in actual grinding production

Key Industries

- Automotive, Automobiles And Parts
- Metal Products
- Photovoltaic/PCB
- Overseas Clients

Scenarios

- Arc Welding
- Grinding
- Handling
- Loading and Unloading

Collaborative Control—Linear Rail

Function Introduction

- The robot controller directly controls the external rails to expand the robot's working range
- Perfectly synchronizes with extra rail
- No need for PLC, reducing overall costs

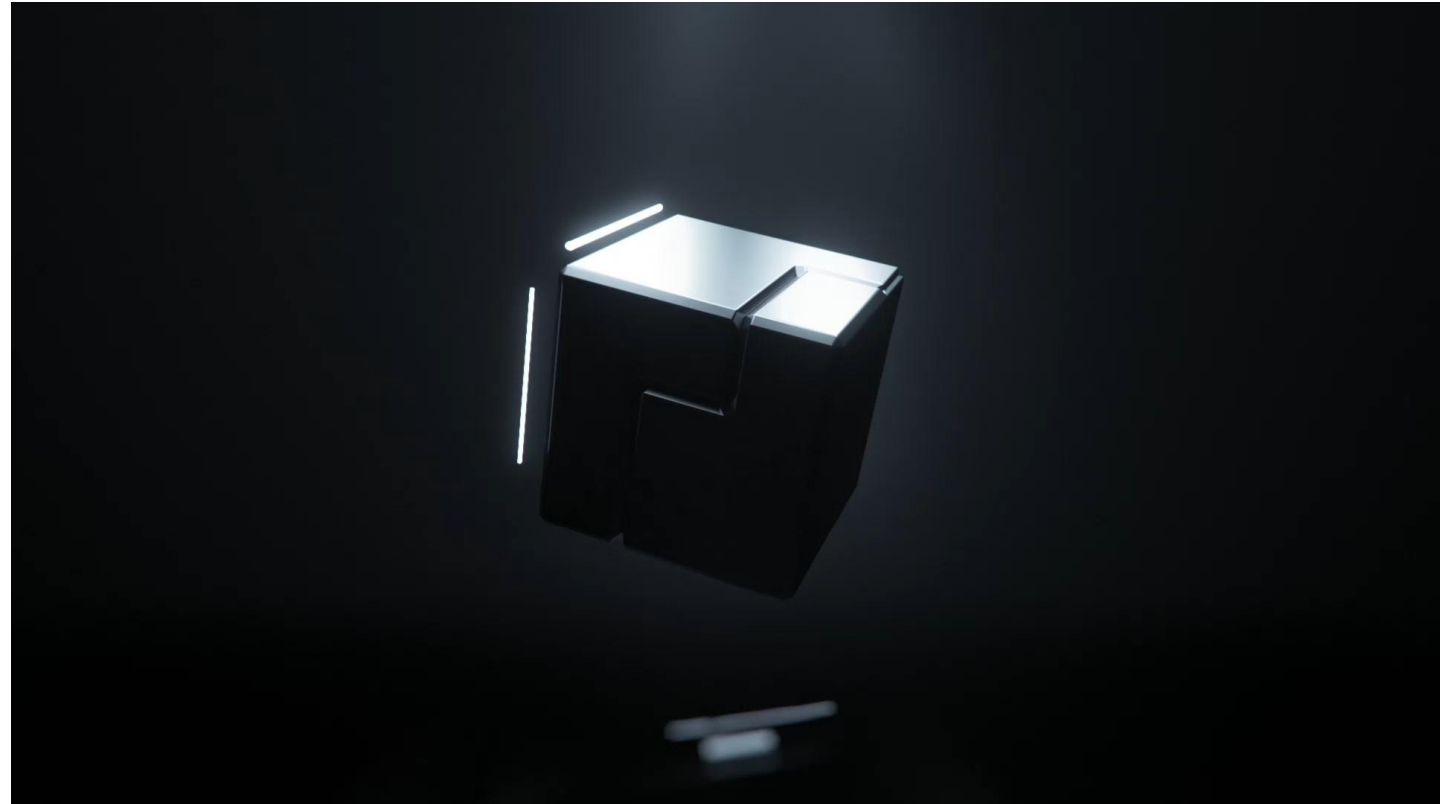
第七轴方案:

机型	电机功率	驱动器	注意点
NB4-XB7	高创 0.75KW	高创 CDHD	中继线需要变更为 柔性线缆
NB12-NB25	高创 3KW	清能 RD-1A20	中继线需要变更为 柔性线缆
NB80-NB220	高创 5.8KW	清能 RD-1A20	中继线需要变更为 柔性线缆

附：导轨轴使用驱动器均已适配汇川 SV630N 系列、清能 RA、清能 RD、高创 CDHD/BDHD

第七轴的供电线有以下部分组成

- 1.电机驱动引出两根线:一根编码器线，一个动力线都是连在电机上
- 2.驱动器跟控制柜连接线，24V 电源供电，还有一根网线插到驱动器上，然后都是从控制柜下面的泡棉走
- 3.还有需要驱动器的 380V/220V 供电线。



Collaborative Control—Conveyor Linear Tracking

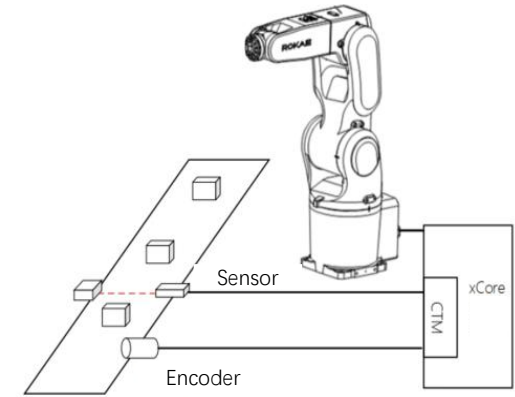
Function Introduction

- The robot dynamically tracks the object on the conveyor belt with the help of the encoder
- If the posture of the object is fixed, it is generally triggered by a photoelectric sensor; If the posture of the object is disordered, the posture is generally identified by vision;



Typical Scenarios

- Tracking, picking and placing the workpiece in the industry like food and 3C
- Screwing on a moving conveyor



Item	Note
Speed	Conveyor speed should be less than 12m/min
Robt Instruction Restriction	Trigger instructions are not supported
Trigger pattern	<ul style="list-style-type: none"> • photoelectric sensor; • 2D Camera (Hikvision VM 2D Vision is available, other cameras need to be integrated);
Accuracy	<ul style="list-style-type: none"> • Triggered by photoelectric sensor: Average Error+/-1.5mm, Max Error+/-3mm • Triggered by 2D Camera: Average Error+/-1.5mm, Max Error+/-5mm
conveyor	Only for linear tracking, not for circular tracking
Repeated path accuracy	Path accuracy error is more than 2mm
机型	<ul style="list-style-type: none"> • Only for industrial six-axis robots , not for industrial three-axis or four-axis robots • Only for cobots with external controller

✓ Triggered by photoelectric sensor

✓ Triggered by vision

- **There is no standard solutions for the vision tracking yet. New projects need to be evaluated by ROKAE to select the vision system.**

04 Key Applications



Arc Welding



1) Product portfolio :

Product one: The whole solution

- Robot +arc welding control system+welding torch+Arc Welding power supply+peripheral devices
- Arc welding software

Product Two : robot+SDK

- High-performance body, high precision, high rigidity
- A variety of optional models: IR+CR

2) Release Order:

- Arc Welding CR7,CR12,SR3-C,SR4-C,SR5-C
- Arc Welding NB25h-12/2.2, NB25h-25/1.8, NB12h-12/1.4

3) Within the scope of business:

- Medium and thick plates (3~20mm)
- Electrode Welding-CO2/MAG; MIG
- Industry: Steel structure (building steel structure, bridge), shipbuilding (large and small, cavity)

4) Not Within the scope of business :

- Electric vehicles, sheet metal, hardware furniture, fitness equipment, furniture, etc.

Palletizing

Product portfolio :

- Cobot palletizing workstation
- Cobot+SDK
- Cobot+palletizing Package for general scenarios
- 4-axes Industrial palletizing robot with large payload

High Payload and High Takt

- The maximum payload is 25 kg, and the maximum palletizing height is 2,550 mm, meet the stacking needs of industries such as food, beverage, and medicine.
- Five-axis flexible collaborative robot for palletizing to avoid singularity, with a palletizing speed of 9-13 boxes/minute, which significantly improves production efficiency.
- Based on joint multi-sensor fusion vibration suppression technology, the robot runs smoothly without abnormal jitter during high-speed and heavy-payload operations.

Ease of Use

- Self-developed intelligent palletizing process package, featuring graphical guidance, touch screen interaction, and operation process with 0 code and 0 programming, can complete the first deployment through one-time direct teaching, even if zero-basis employees can immediately operate.
- It supports one-click start, and can automatically generate palletizing type and palletizing path based on input product and pallet to quickly adjust the palletizing type when switching different products.

Safety and Reliability

- Equipped with an industrial grade torque sensor, independent certified safety controller, and two-channel redundant monitoring, it will lose the safety function in the event of a single failure.
- It supports more than 21 adjustable safety functions such as collision detection based on the torque sensor, virtual wall, and collaborative mode, and has vacuum detection and anti-drop function.
- It is equipped with multiple safety IO interfaces, and can be externally connected to safety radar and safety grating to provide multiple guarantees for production safety.
- It passes the ISO 13849-1/PLd Cat.3, ISO/TS 15066, ISO 12100, ISO 10218-1, and ISO 10218-2 series standards, and meets CE and UL certifications, with trustworthy safety.

Flexible Deployment

- It adopts high integration and modular design and supports plug and play, with an area of approximately 2 m². Just connected to the power source and air source, it can complete the first deployment in 30 minutes.
- Reserve a fork angle position for easy movement. It can flexibly move between production lines, fast line switch and redeployment within 10 minutes.

Flexible Production

- It supports multiple production line layouts, peripheral equipment (lifting column, suction cup type) scheme configurations, and fast switch palletizing schemes.
- It supports products of various sizes, weights, and materials, as well as overlapping, forward and reverse staggered, and rotating staggered palletizing types, to meet diverse palletizing needs of all industries.
- It can quickly switch multiple functional scenarios, and adopts human-machine collaboration mode, dual machine collaboration mode, multi-machine collaboration mode for flexible production.

Economic Practicality

- The investment costs can be recovered within 6 to 12 months on average, reducing operational and maintenance costs.

Portable base

Palletizing height :
1950mm--2550mm

Roller conveyor
(Option)

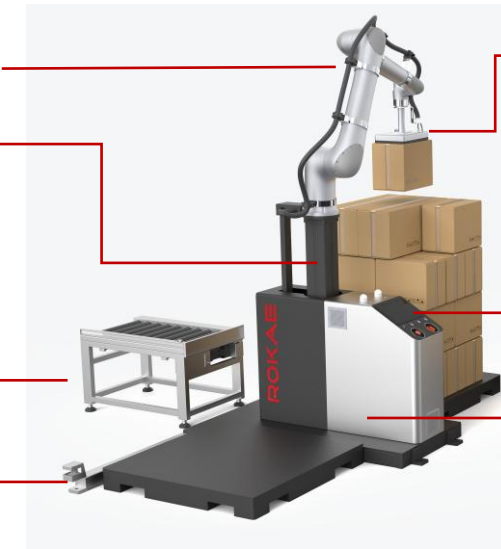
Safety Lidar
(Option)

COBOT

End Suction Cup

Palletizing
Package

Electric cabinet



palletizing workstation



17-35kg

4 Palletizing Cobots,

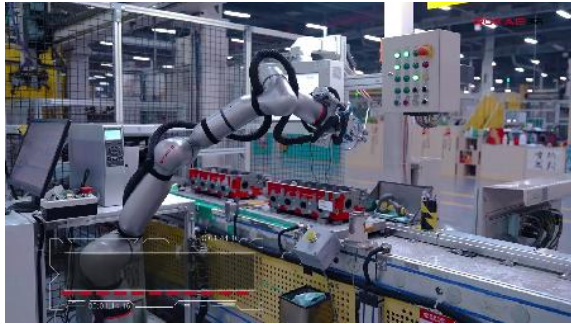
5 DOF/6 DOF

50-220kg

7 Palletizing Industrial robots

4 DOF/6 DOF

Automobiles And Parts



Engine production line: tightening, deburring, detection, labeling



Car roof gluing



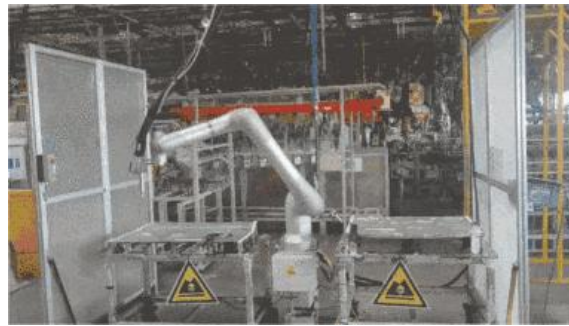
Engine Components Assembly



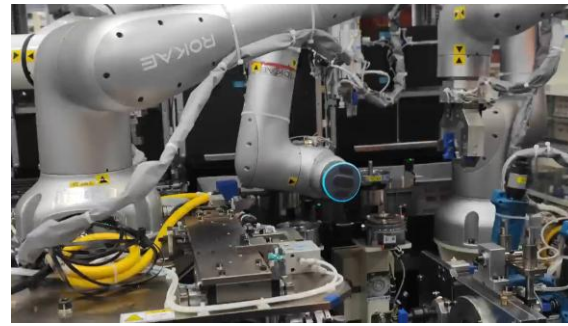
Electrical inspection



Automatic cooling water tank automatic Assembly



Car bottom plate gluing



Engine Components Assembly



Vision Detection

Automobiles And Parts. Rich cases: screw tightening/loosening, deburring, detection, labeling, assembly, gluing



Metal Processing

Mid-to-high-end machine tools are usually equipped with robots Loading and Unloading

- One operator can take care of 3 machine tools at the same time
- Reduce the cost of hiring additional personnel for loading and unloading.

Challenges faced by the machine tool industry

- High employment requirements, professional operators are needed
- Many types of processing, frequent production changes
- Long-term repetitive labor
- Humid environment, high requirements for equipment protection

Product Features

- High speed and high precision
- Optional hollow wrist, simpler and safer wiring
- IP67 body+IP54 controller, stable and reliable
- Tray process package, user-defined interface, easy interaction

Scenarios

- Grinding machine
- CNC
- Machining center
- injection molding



Grinding

1) Product Portfolio:

NB25h Series, NB12h Series, CR Series.etc

2) Application:

- Deburring aluminum castings
- Welding Seam grinding
- Sand core grinding

3) Sales Strategy :

- The grinding project attaches great importance to process requirements, and the key work is to evaluate the process.
- The project is mainly based on the sales of robots, and is implemented in conjunction with local integrators.
- If the overall solution needs to be provided, Chinese integrators will be introduced for implementation



De-gating
aluminum parts



Casting
deburring



welding seam
Grinding



Metal
chamfering



Deburring of
cut workpieces



Sand Core
Grinding



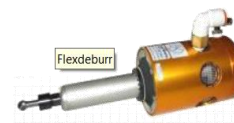
Plastic
Grinding



Wood
polishing



Vision System



Floating
grinding head



Torque sensor



Peripheral Devices

05 Future Product Planning



Planning

NB8 Series (New Products released in 2026, to replace XB7 and XB7L, to improve the speed and accuracy)

- NB8-8/0.7, payload 8kg, reach 700mm, to replace XB7
- NB8-8/0.9, payload 8kg, reach 900mm, to replace XB7L

NB185 Series (New Products released in 2025 , Enrich Palletizing models)

- NB185-140/2.8, payload 140kg, reach 2800mm

NB300 Series (New Products released in 2026, Add large payload models)

- NB300-300/2.7, payload 300kg, reach 2700mm
- NB300-220/3.2, payload 220kg, reach 3200mm
- NB300-350





THANK YOU