

# JAKA®

[www.jakarobotics.com](http://www.jakarobotics.com)



## JAKA Robotics Co., Ltd.

- JAKA China: Building 33-35, No. 610 Jianchuan Rd, Minhang District, Shanghai, China
- JAKA Germany: Siemensstr. 2-4, 90766 Fürth, Germany
- JAKA Japan: F Serebureito Aoi, 1-6-14 Aoi, Higashi-ku, Nagoya-shi, Aichi-ken, Japan
- JAKA Malaysia: 5-G, Jalan Borealis 3, Bandar Cassia, 14110 Simpang Ampat, Penang, Malaysia
- [marketing@jakarobotics.com](mailto:marketing@jakarobotics.com)

**400-006-2665**

Copyright © 2023 JAKA. All rights reserved.

Disclaimers:

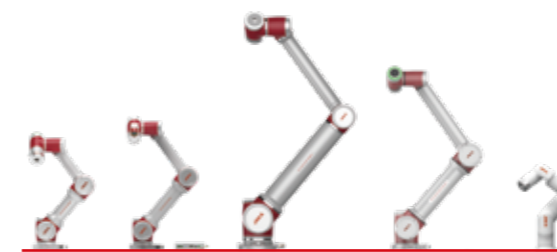
The copyright belongs to JAKA and cannot be copied or reproduced in any form without written permission.

The company reserves the right to interpret and update the contents of the materials without notice.

# JAKA®

## Just Always Keep Amazing

Global Leader in Flexible Intelligent Robotics



## PRODUCT SELECTION GUIDE



## No Teaching Pendant

Programming JAKA collaborative robots is made easy with our JAKA APP, available for Android and Windows devices. Traditional teaching pendants are no longer necessary.



## Wireless Connection

Say goodbye to messy wires! JAKA cobots can now communicate and receive task assignments via their own WiFi connection, leaving you with a clean and safe workspace.



## Safe Human-robot Collaboration

JAKA cobots are designed to work safely alongside humans, without the need for a safety fence, thanks to their collision detection module. Even the slightest bump can be detected, allowing the cobot to react and avoid causing harm.



## Graphic Programming

Our intuitive graphic programming software interface is designed for anyone to use, regardless of prior programming experience. Setting positions and tasks is a breeze with our user-friendly interface.



## Drag Teaching

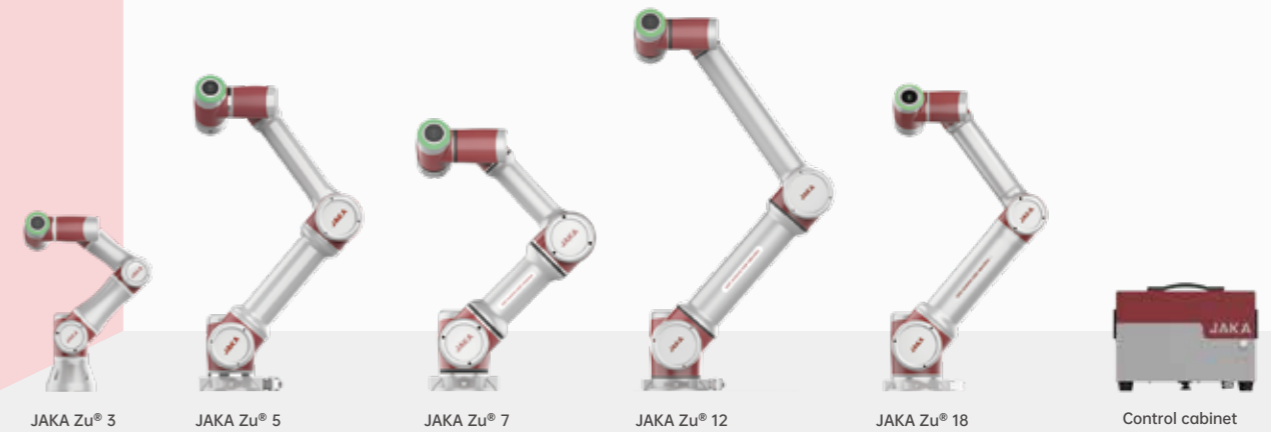
With our drag teaching function, users can deploy a cobot in just a few minutes. Simply move the cobot to any desired position, and it will instantly memorize it.



## Plug-and-play

Install a JAKA cobot in just a few minutes, and mount it in any position or inclination. Our cobots are lightweight and are compatible with a wide range of grippers and end effectors. This makes them highly versatile and able to be deployed and re-deployed in any production environment.

# JAKA Zu Collaborative Robots



**Easy to Install**

Plug-and-play  
Simple deployment  
Small footprint

**Easy to Use**

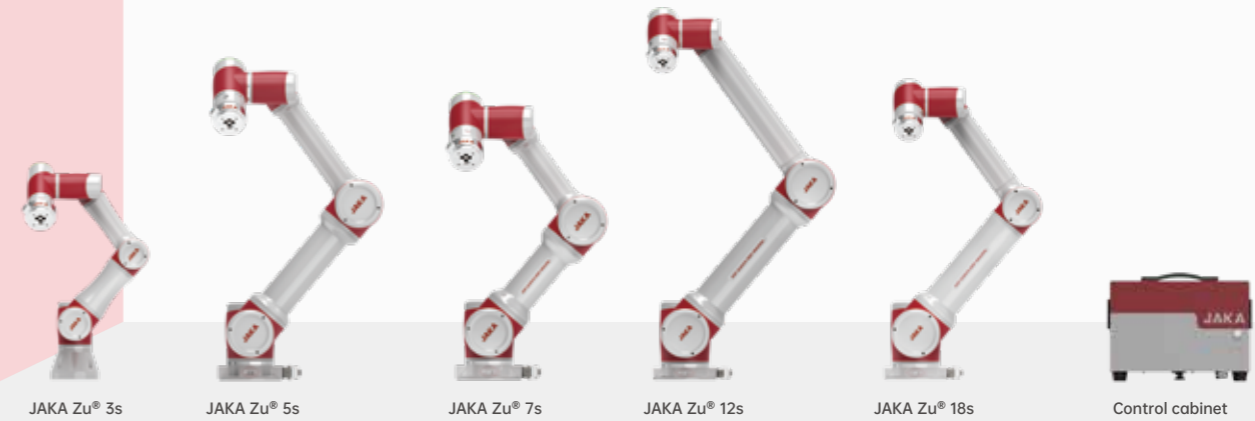
In-built torque feedback module  
Drag teaching  
Graphic programming

**Precise**

Excellent repeatability  
Great precision  
MTBF 50,000 hours

Parameter	JAKA Zu® 3		JAKA Zu® 5		JAKA Zu® 7		JAKA Zu® 12		JAKA Zu® 18		
	Maximum payload	3kg		5kg		7kg		12kg		18kg	
Weight	12kg		23kg		22kg		41kg		35kg		
Working radius	626mm		954mm		819mm		1327mm		1073mm		
Repeatability	±0.02mm		±0.02mm		±0.02mm		±0.03mm		±0.03mm		
Number of axis	6		6		6		6		6		
Programming	Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		
Teaching pendant	PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		
Working range and speed	Robot joint	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>
	Joint 1	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	120°/s	±360°	120°/s
	Joint 2	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	120°/s	-85°, +265°	120°/s
	Joint 3	±175°	180°/s	±175°	180°/s	±175°	180°/s	±175°	120°/s	±175°	180°/s
	Joint 4	-85°, +265°	220°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s
	Joint 5	±360°	220°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s
	Joint 6	±360°	220°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s
Maximum speed of the tool end	/	1.5m/s	/	3m/s	/	2.5m/s	/	3m/s	/	3.5m/s	
Specifications	Power consumption	150W		350W		350W		500W		500W	
	IP protection	IP54		IP54		IP54		IP54		IP54	
	Tool I/O ports	2 Digital inputs		2 Digital inputs		2 Digital inputs		2 Digital inputs		2 Digital inputs	
		2 Digital outputs		2 Digital outputs		2 Digital outputs		2 Digital outputs		2 Digital outputs	
	2 Analog input		2 Analog input		2 Analog input		2 Analog input		2 Analog input		
Base diameter	129mm		158mm		158mm		188mm		188mm		
Control cabinet	IP protection	IP44		IP44		IP44		IP44		IP44	
	I/O ports	16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs	
	Communication	TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP	
	Power	100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		100-240VAC, 50-60Hz	
	Size	410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)	
	Weight	13.5kg		15.4kg		15.4kg		18kg		18kg	

# JAKA Zu S Collaborative Robots



**Interactive**

Integrated force sensor  
Integrated force control

**Delicate**

Simple force control configuration  
Real-time force value display

**Simple**

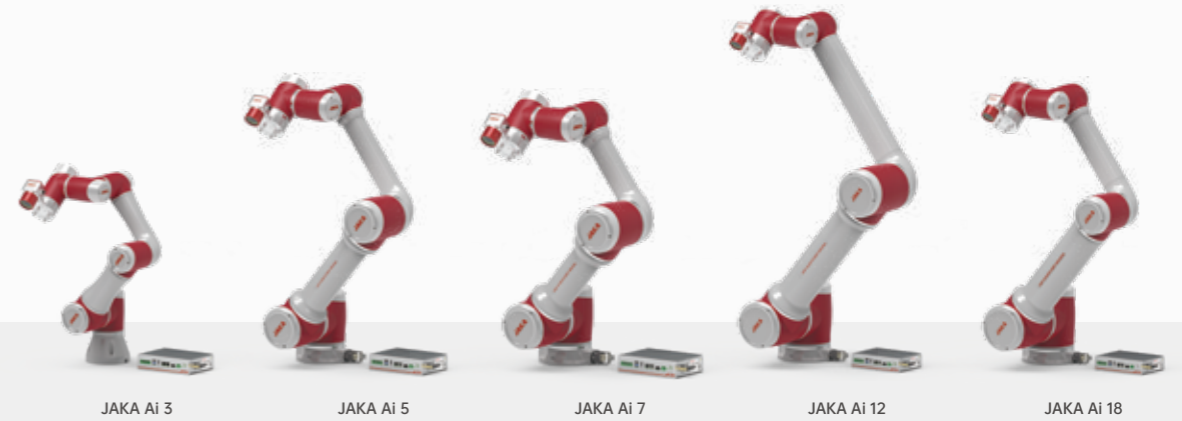
Various force control modes  
Option to install force sensor

**Safe**

Full-arm collision detection  
Self-learning monitoring

Parameters	JAKA Zu® 3s		JAKA Zu® 5s		JAKA Zu® 7s		JAKA Zu® 12s		JAKA Zu® 18s			
	Maximum payload	3kg		5kg		7kg		12kg		18kg		
Weight	12kg		23kg		22kg		41kg		35kg			
Working radius	626mm		954mm		819mm		1327mm		1073mm			
Repeatability	±0.02mm		±0.02mm		±0.02mm		±0.03mm		±0.03mm			
Number of axis	6		6		6		6		6			
Programming	Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming			
Teaching pendant	PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)			
Working range and speed	Robot joint	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	
	Joint 1	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	120°/s	±360°	120°/s	
	Joint 2	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	120°/s	-85°, +265°	120°/s	
	Joint 3	±175°	180°/s	±175°	180°/s	±175°	180°/s	±175°	120°/s	±175°	180°/s	
	Joint 4	-85°, +265°	220°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	
	Joint 5	±360°	220°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	
	Joint 6	±360°	220°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	
Maximum speed of the tool end	/	1.5m/s	/	3m/s	/	2.5m/s	/	3m/s	/	3.5m/s		
Specifications	Power consumption	150W		350W		350W		500W		500W		
	IP protection	IP54		IP54		IP54		IP54		IP54		
	Tool I/O ports	2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output		
	Base diameter	129mm		158mm		158mm		188mm		188mm		
Force sensor parameters	End tool	Range (Fx/Fy)	100N/250N	200N/400N	100N/250N	200N/400N	100N/250N	200N/400N	250N	400N	250N	400N
		Interface type	Ethernet interface	Serial port	Ethernet interface	Serial port	Ethernet interface	Serial port	Ethernet interface	Serial port	Ethernet interface	Serial port
		IP protection	IP64		IP64		IP64		IP64		IP64	
	Base	Range (Fx/Fy)	500N		1600N		1600N		4000N		4000N	
		Interface type	Ethernet interface		Ethernet interface		Ethernet interface		Ethernet interface		Ethernet interface	
		Voltage	24V		24V		24V		24V		24V	
IP protection	IP64		IP64		IP64		IP64		IP64			
Control cabinet	IP protection	IP44		IP44		IP44		IP44		IP44		
	I/O ports	16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		
	Communication	TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		
	Power	100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		
	Size	410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		
	Weight	13.5kg		15.4kg		15.4kg		18kg		18kg		

# JAKA All-in-one Collaborative Robots



**Attentive**

Equipped with vision system for environment perception

**Integrated**

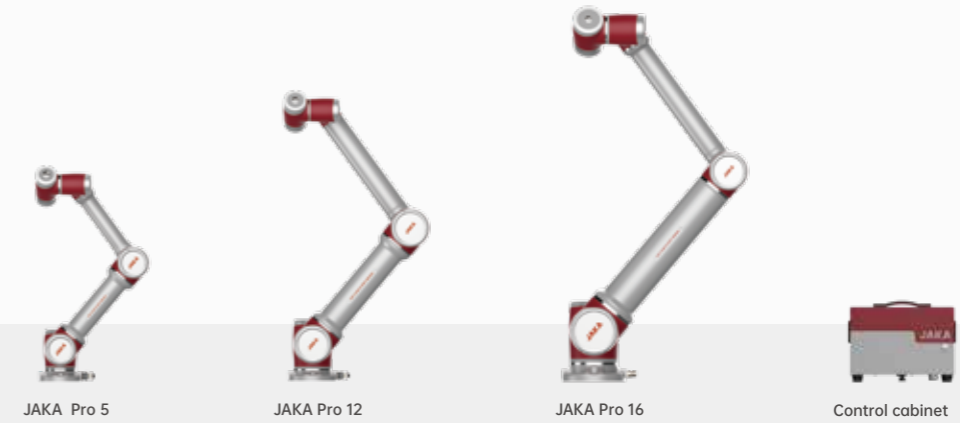
Vision control and configuration interfaces are all software by JAKA

**Compact**

Includes the smallest control cabinet in the market

Parameters	JAKA Ai 3		JAKA Ai 5		JAKA Ai 7		JAKA Ai 12		JAKA Ai 18		
	Maximum payload	3kg		5kg		7kg		12kg		18kg	
Weight	12kg		23kg		22kg		41kg		35kg		
Working radius	626mm		954mm		819mm		1327mm		1073mm		
Repeatability	±0.02mm		±0.02mm		±0.02mm		±0.03mm		±0.03mm		
Number of axis	6		6		6		6		6		
Programming	Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming		
Teaching pendant	PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		PC, mobile (PAD/mobile)		
Working range and speed	<b>Robot joint</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>	<b>Working range</b>	<b>Maximum speed</b>
	Joint 1	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	120°/s	±360°	120°/s
	Joint 2	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	120°/s	-85°, +265°	120°/s
	Joint 3	±175°	180°/s	±175°	180°/s	±175°	180°/s	±175°	120°/s	±175°	180°/s
	Joint 4	-85°, +265°	220°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s
	Joint 5	±360°	220°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s
	Joint 6	±360°	220°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s	±360°	180°/s
Maximum speed of the tool end	/	1.5m/s	/	3m/s	/	2.5m/s	/	3m/s	/	3.5m/s	
Specifications	Power consumption	150W		350W		350W		500W		500W	
	IP protection	IP54		IP54		IP54		IP54		IP54	
	Tool I/O ports	2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output		2 digital input, 2 digital output, 2 analog output	
	Base diameter	129mm		158mm		158mm		188mm		188mm	
JAKA Lens 2D parameters	Lens focal length	8mm	16mm	8mm	16mm	8mm	16mm	8mm	16mm	8mm	16mm
	Color mode	B&W/Color		B&W/Color		B&W/Color		B&W/Color		B&W/Color	
	Vision	>70mm*50mm	>35mm*25mm	>70mm*50mm	>35mm*25mm	>70mm*50mm	>35mm*25mm	>70mm*50mm	>35mm*25mm	>70mm*50mm	>35mm*25mm
	Precision	>0.08mm	>0.04mm	>0.08mm	>0.04mm	>0.08mm	>0.04mm	>0.08mm	>0.04mm	>0.08mm	>0.04mm
	Communications interface	Ethernet interface (TCP/IP protocol)		Ethernet interface (TCP/IP protocol)		Ethernet interface (TCP/IP protocol)		Ethernet interface (TCP/IP protocol)		Ethernet interface (TCP/IP protocol)	
	Resolution	2592×1944		2592×1944		2592×1944		2592×1944		2592×1944	
	Frame rate	24FPS		24FPS		24FPS		24FPS		24FPS	
MiniCab cabinet	Input power	DC30-60V				DC30-60V					
	Input current	≤40A				≤40A					
	Size	180×28×47 mm (L×W×H)				180×28×47 mm (L×W×H)					
	IP protection	IP20				IP20					
	I/O ports	7-way port; Input and output configurable				7-way port; Input and output configurable					
	Communication	TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP				TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP					
	Weight	About 1.7 kg (including accessories)				About 1.7 kg (including accessories)					

# JAKA Pro Collaborative Robots



**Resistant**  
IP68 degree of protection against dust, and water. The highest in the market

**Reliable**  
Repeatability of ±0.02 mm  
Work without supervision 24/7

**Versatile**  
Is able to perform in the most challenging environments

Product features	Parameters	JAKA Pro 5		JAKA Pro 12		JAKA Pro 16	
	Maximum payload		5kg		12kg		16kg
Weight		23.5kg		41kg		74kg	
Working radius		954mm		1327mm		1713mm	
Repeatability		±0.02mm		±0.02mm		±0.03mm	
Number of axis		6		6		6	
Programming		Drag teaching and graphic programming		Drag teaching and graphic programming		Drag teaching and graphic programming	
Teaching pendant		PC,Mobile device (PAD/mobile)		PC,Mobile device (PAD/mobile)		PC,Mobile device (PAD/mobile)	
Working range and speed	Robot joint	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed
	Joint 1	±360°	180°/s	±360°	120°/s	±360°	120°/s
	Joint 2	-85°, +265°	180°/s	-85°, +265°	120°/s	-85°, +265°	120°/s
	Joint 3	±175°	180°/s	±175°	120°/s	±175°	120°/s
	Joint 4	-85°, +265°	180°/s	-85°, +265°	180°/s	-85°, +265°	180°/s
	Joint 5	±360°	180°/s	±360°	180°/s	±360°	180°/s
	Joint 6	±360°	180°/s	±360°	180°/s	±360°	180°/s
Maximum speed of the tool end	/	3m/s	/	3m/s	/	3.9m/s	
Specifications	Power consumption	350W		500W		750W	
	IP protection	IP68		IP68		IP68	
	Tool I/O ports	2 Digital inputs		2 Digital inputs		2 Digital inputs	
		2 Digital outputs		2 Digital outputs		2 Digital outputs	
		2 Analog input		2 Analog input		2 Analog input	
Base diameter	158mm		188mm		246mm		
Control cabinet	IP protection	IP44		IP44		IP44	
	I/O ports	16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs		16 digital inputs, 16 digital outputs, 2 analog inputs or outputs	
	Communication	TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP		TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP	
	Power	100-240VAC, 50-60Hz		100-240VAC, 50-60Hz		100-240VAC, 50-60Hz	
	Size	410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)		410×307×235 mm (W×H×D)	
	Weight	15.4kg		18kg		18kg	




## JAKA Lens 2D

### JAKA Lens 2D

#### Product description

The JAKA Lens 2D camera is equipped with a high-resolution industrial camera, a light source module, and an optional camera lens to provide our collaborative robots with machine vision capabilities. Despite its small and delicate appearance, this camera is highly effective. It can be installed either in a fixed position or at the end of the cobot.



 <b>Convenient</b> <small>Compatible with any JAKA cobot</small>	 <b>Customizable</b> <small>Optional camera lens Various functions are available</small>	 <b>Practical</b> <small>The camera uses JAKA software, no need for additional licenses</small>
---	---	--

#### Product Features

<b>Integrated design</b>	<b>Easy operation</b>	<b>Scenario-adaptable</b>
<p>The 2D camera consists of three key components: a camera, a lens, and a light source. It is able to communicate with a JAKA robot control cabinet through the web, making it an easy-to-use and highly effective addition to our cobots.</p>	<p>Our control cabinet is embedded with intelligent vision algorithms. Additionally, it features flexible communication interfaces that are able to adapt to the robot body, ensuring that it is a highly versatile and adaptable tool.</p>	<p>Our 2D camera also supports third-party camera extensions and custom external light sources, making it highly versatile and adaptable to a wide range of application scenarios.</p>

#### Technical aspects




Parameters	Lens 2D CGC500-F08	Lens 2D CGC500-F16
Resolution	2592×1944	2592×1944
Max frame rate	24fps	24fps
Data interface	Gige	Gige
Color mode	Black and white / color	Black and white / color
Lens focal length	8mm	16mm
Object distance	>100mm	>100mm
Vision	>70×50mm	>35×25mm
Precision	>0.08mm	>0.04mm
Image processing	Soft-trigger image acquisition, single frame processing time within 1s	Soft-trigger image acquisition, single frame processing time within 1s

## JAKA Lens VPS

#### Product description

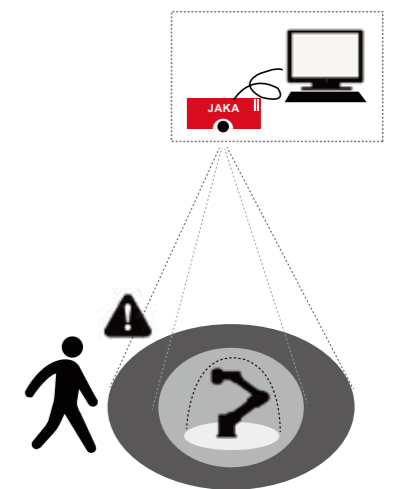
JAKA Lens VPS 2.0 is a cutting-edge technology that utilizes a high-performance AI-SoC chip, along with high-speed and large-capacity memory and storage. It is equipped with a high-performance acceleration engine, which can perform target detection, object recognition, human pose point extraction, and behavior understanding. The VPS is designed to be installed at the top of the cobot's working area, allowing the camera to monitor the behavior of inspected objects (both people and objects) in real time, ensuring the safety of both people and equipment. The camera also features a Gigabit Ethernet port, which supports data extraction and video visualization.



 <b>High reliability</b> <small>Isolate external factors The protection effect is stable and reliable</small>	 <b>High performance</b> <small>High speed combined with high storage capacity</small>	 <b>Convenient</b> <small>No complicated software installation required Simple to install</small>
--	---	--

#### Product Features

- ⏸
Built-in neural network accelerator for AI recognition and analysis of video
- 📅
Event recording function, which can record key video segments, eliminate redundant information, trace back, and analyze more conveniently
- 🌐
Plug and play, no need to install software, access settings via browser
- 🧠
It can perform AI detection functions such as helmet wearing, personnel target tracking, personnel labor intensity, and video scoring calculation



Visual protection system working diagram

#### Basic parameters

Hardware platform	CMOS camera, embedded system, DSP, AI engine, etc.
Dimensions	101.7×72×51.1mm
Installation method	Directly above, sideways (suggested install at 45°)
Communication interface	Ethernet interface, RS485, PNP optocoupler isolation DI and DO

#### Visual parameters


Resolution	8.3 MP
Response time	200 ms
Installation height	≥2.5 m (suggested)
Coverage surface	4 m x 2.1 m (adjustable)

# JAKA MiniCobo


## Product introduction ▾

The JAKA MiniCobo is a small, rounded robot that is perfect for applications where appearance is important. Thanks to its built-in communication port, it doesn't require any external cables and can be easily connected to any tool that is compatible with JAKA. Additionally, JAKA's MiniCobo incorporates intelligent control algorithms, giving it a superior performance compared to its competitors. The MiniCobo operates quietly, making it an ideal solution for a range of industries including hospitality, education, retail, services, and entertainment, among others.







**Cost-effective**



**Lightweight**



**Intelligent interconnection**




**Weight**

**9.4kg**



**Payload**

**1.0kg**



**Working radius**

**580mm**



**Repeatability**

**±0.1mm**

## Application cases ▾



	Parameter	MiniCobo	
	<b>Product features</b>	Payload	1kg
Weight		9.4kg	
Work radius		580mm	
Repeatability		±0.1mm	
Axis		6 axes	
Programming		Graphical programming, free-drive	
Teach pendant		MT (Pad/Mobile) App	
Collaborative operation		Accordance with GB 11291.1-2011	
<b>Working range and speed</b>	Robot joint	Working range	Maximum speed
	Joint1	±360°	180°/s
	Joint2	±120°	180°/s
	Joint3	±130°	180°/s
	Joint4	±360°	180°/s
	Joint5	±120°	180°/s
	Joint6	±360°	180°/s
Maximum speed of the tool end	/	1.5m/s	
<b>Specifications</b>	Rated power	150W	
	Temperature range	0-50°C	
	IP Protection	IP40	
	Installation	At any angle	
	Tool I/O	2 Digital inputs	
		2 Digital outputs	
		2 Analog input	
	Tool I/O power	24VDC	
	Tool I/O size	M8	
	Materials	Aluminum, PC	
	Base diameter	124mm	
	Cable length	6m	
<b>MiniCab cabinet</b>	Power input	20-60VDC	
	Current	0-11.67A	
	Size	180×128×47 mm (L×W×H)	
	IP Protection	IP20	
	I/O	7 Digital input: I/O configurable	
	I/O Power	24VDC	
	Installation	Panel/Guide Rail	
	Communication	TCP/IP, Modbus TCP, Modbus RTU, Profinet, Ethernet/IP	
	Weight	1.1kg	
	Material	Aluminum, Steel	