

PRODUCT CATALOGUE



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Official website



Youtube



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Line

FAIRINO

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FAIRINO
ROBOT



Intelligent human-robot cooperation system solutions

According to different payload and range, FAIRINO collaborative robot product line has five models:

FR3, FR5,FR10,FR16& FR20.

The products are certified with CE, CR and ISO9001 quality management system, every robot joint has dual encoders so that can achieve higher precision. The open operating platform also lowers the barrier to use it in different scenarios.

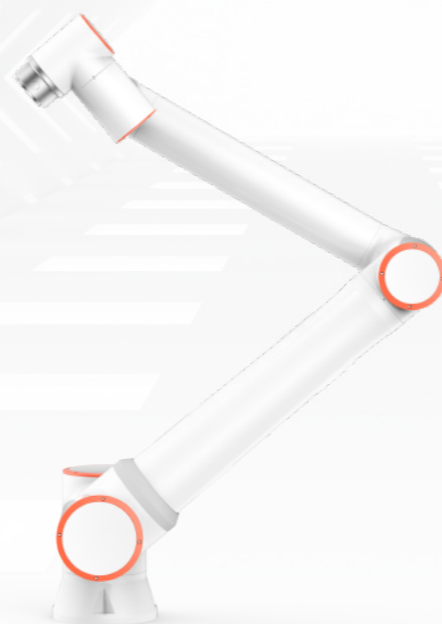
PRODUCT DISPLAY



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FR3



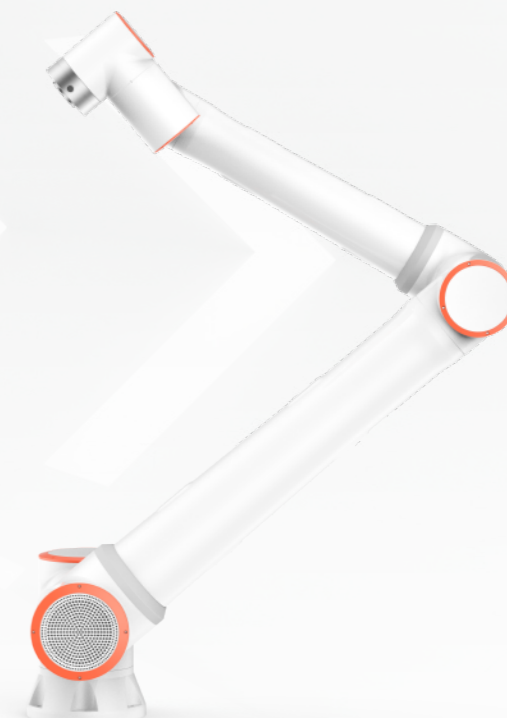
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FR5



▼
FR10



▼
FR16



▼
FR20



ROBOT ARM TECHNICAL SPECIFICATION

	FR3		FR5		FR10		FR16		FR20		
Specification	Payload	3kg		5kg		10kg		16kg		20kg	
	Reach	622mm		922mm		1400mm		1034mm		1854mm	
	Degrees of freedom	6 rotating joints		6 rotating joints		6 rotating joints		6 rotating joints		6 rotating joints	
	HMI	10.1 inch teach pendant or mobile terminal Web App				10.1 inch teach pendant or mobile terminal Web App					
Movement	Repeatability	±0.02mm		±0.02mm		±0.05mm		±0.03mm		±0.1mm	
	Pose repeatability per ISO 9283	±0.03mm		±0.03mm		±0.03mm		±0.03mm		±0.03mm	
	Axis movement	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed
	Base	±175°	±180°/s	±175°	±180°/s	±175°	±120°/s	±175°	±120°/s	±175°	±120°/s
	Shoulder	+ 85°/ - 265°	±180°/s	+ 85°/ - 265°	±180°/s	+ 85°/ - 265°	±120°/s	+ 85°/ - 265°	±120°/s	+ 85°/ - 265°	±120°/s
	Elbow	±150°	±180°/s	±160°	±180°/s	±160°	±180°/s	±160°	±180°/s	±160°	±120°/s
	Wrist 1	+ 85°/ - 265°	±180°/s	+ 85°/ - 265°	±180°/s	+ 85°/ - 265°	±180°/s	+ 85°/ - 265°	±180°/s	+ 85°/ - 265°	±180°/s
	Wrist 2	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s
	Wrist 3	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s
	Typical TCP speed	1m/s		1m/s		1.5m/s		1m/s		2m/s	
Features	IP classification	IP54 (IP66 Optional)		IP54 (IP66 Optional)		IP54 (IP66 Optional)		IP54 (IP66 Optional)		IP54 (IP66 Optional)	
	Noise	<65dB		<65dB		<65dB		<65dB		<70dB	
	Robot mounting	Any orientation		Any orientation		Any orientation		Any orientation		Any orientation	
	I/O Ports	(DI) 2	(DO) 2	(DI) 2	(DO) 2	(DI) 2	(DO) 2	(DI) 2	(DO) 2	(DI) 2	(DO) 2
		(AI) 1	(AO) 1	(AI) 1	(AO) 1	(AI) 1	(AO) 1	(AI) 1	(AO) 1	(AI) 1	(AO) 1
Tool I/O power supply	24V/1.5A		24V/1.5A		24V/1.5A		24V/1.5A		24V/1.5A		
Physical	Footprint	128mm		149mm		190mm		190mm		240mm	
	Weight	≈15kg		≈22kg		≈40kg		≈40kg		≈75kg	
	Operating temperature	0-45°C		0-45°C		0-45°C		0-45°C		0-45°C	
	Operating humidity	90%RH(non-condensing)		90%RH(non-condensing)		90%RH(non-condensing)		90%RH(non-condensing)		90%RH(non-condensing)	
	Materials	Aluminium, Steel		Aluminium, Steel		Aluminium, Steel		Aluminium, Steel		Aluminium, Steel	

CONTROL BOX TECHNICAL SPECIFICATION



DC MINI Control box

MINI Control box 2kw

Control box 6kw

	DC MINI Control box	MINI Control box 2kw	Control box 6kw	
Features	IP classification	IP54	IP54	IP54
	Operating temperature	0-45°C	0-45°C	0-45°C
	Operating humidity	90%RH(non-condensing)	90%RH(non-condensing)	90%RH(non-condensing)
	I/O Ports	(DI) 16 (DO) 16	(DI) 16 (DO) 16	(DI) 16 (DO) 16
		(AI) 2 (AO) 2	(AI) 2 (AO) 2	(AI) 2 (AO) 2
		High speed pulse input 2	High speed pulse input 2	High speed pulse input 2
	I/O power supply	24V/1.5A	24V/1.5A	24V/1.5A
	Communication	I/O、TCP/IP、Modbus_TCP/RTU	I/O、TCP/IP、Modbus_TCP/RTU	I/O、TCP/IP、Modbus_TCP/RTU
Development environment	C#/C++/Python/java/ROS	C#/C++/Python/java/ROS	C#/C++/Python/java/ROS	
Physical	L*W*H	245*180*44.5mm (No protrusions)	245*180*44.5mm (No protrusions)	320*183*100mm (No protrusions)
	Weight	2.1kg (Cable weight not included)	2.5kg (Cable weight not included)	6.5kg (Cable weight not included)
	Materials	Galvanized plate	Galvanized plate	Galvanized plate

TEACH PENDANT [Optional]



All operations are gathered in the hand

The teach pendant, computer, tablet or mobile phone is connected to the WebAPP system to realize the operation of the collaborative robot.

- The user interface is more intuitive
- Wide range of technological packages
- Cloud deployment provides greater convenience

Features	IP classification	IP54
	Operating humidity	90%RH(non-condensing)
	Display resolution	1280 x 800 pixels
Physical	L*W*H	268*210*88mm
	Weight	1.6kg
	Materials	ABS、PP
	Cable length	5m

SAFTY BOX



Human-cobot interaction tools for basic interaction functions. It can be linked with computers, tablets and other devices through the RJ45 interface, and directly log in to the Web App teaching interface.

- Simple to use
- Easy to operate
- Flexible to deploy

Features	IP classification	IP54
	Button function	Manual/Auto, Drag, Point Record, Match or Not with Safety Button Box, Start/Stop, Shutdown
	Communication	TCP/IP
	Network transfer rate	100M
	Power over ethernet	Standard POE
Physical	L*W*H	136*60*66mm (No protrusions)
	Weight	490g (Cable weight included)
	Materials	ABS
	Cable length	5m
	Number of keys	≥20W 次

INDUSTRY

Abundant welding process kits, with a variety of welding technologies, seam welding, straight welding, oscillating welding, arc welding, and multi-layer multi-pass welding. It also incorporates intelligent welding technologies for wire positioning and weld seam tracking, significantly enhancing welding efficiency and ensuring welding quality.

Welding Solution

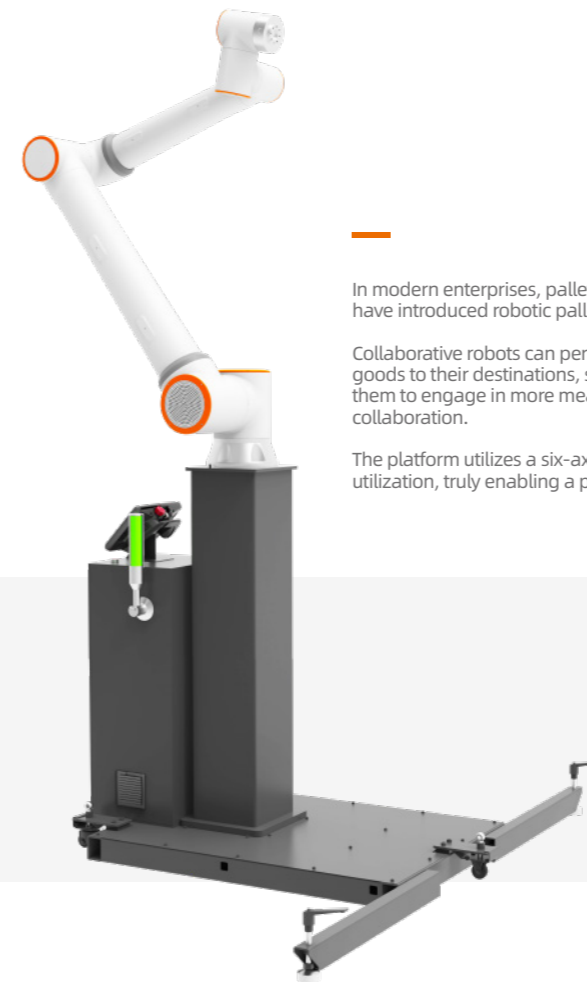
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- Ultimate safety
- Flexible deployment
- Reduced entry barriers
- Multi-axis coordination
- High production efficiency



Screw Tightening Solution

Combined with the end intelligent tightening device at the end, it achieves adjustable, controllable, and programmable torque, making it suitable for screw tightening in various scenarios. It can stably, efficiently, and accurately complete the production process, greatly reducing repetitive labor for workers and supporting data traceability.

- Safe and convenient
- Flexible deployment
- Flexible force control
- High efficiency in production



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In modern enterprises, palletizing work is very common. Due to the low efficiency of manual handling, many companies have introduced robotic palletizing systems to automate this task.

Collaborative robots can perform round-the-clock automated palletizing work, effortlessly and quickly transporting goods to their destinations, saving time and energy. This frees employees from fatigue and repetitive tasks, allowing them to engage in more meaningful work. Additionally, there is no need for safety barriers, enabling true human-robot collaboration.

The platform utilizes a six-axis collaborative robot to accomplish palletizing work, offering easy deployment and quick utilization, truly enabling a plug-and-play experience.

Palletizing Solution

APPLICATIONS



Conveyor Belt Solution

- Enhance work safety
- Real-time monitoring and feedback
- Reduce error rate and losses
- Improve production efficiency
- Data recording and traceability
- Accurate tracking and identification

Educational Solution

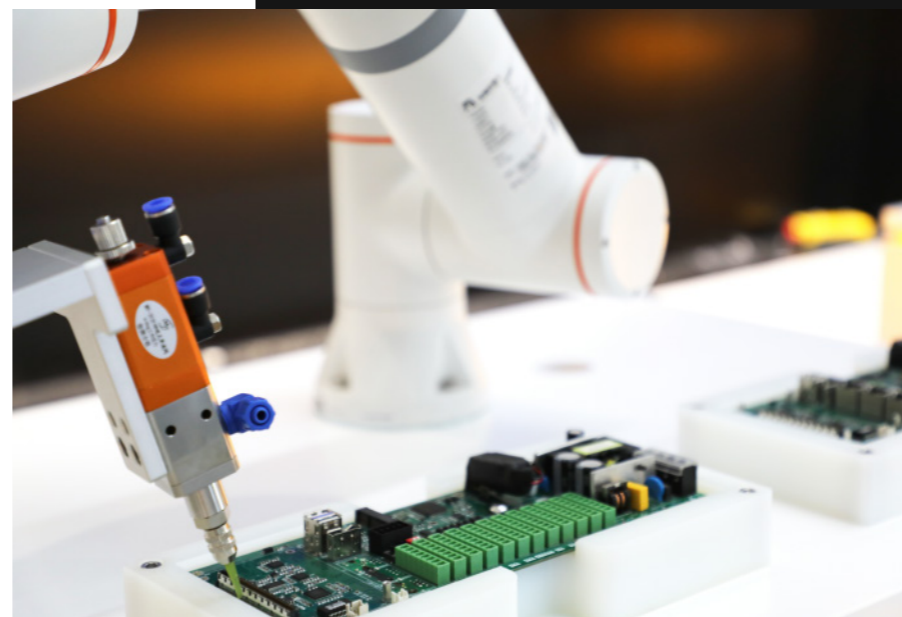


The platform includes common functions in the industrial field, such as gluing, tightening, and material handling, closely aligning with actual production line scenarios. It allows students to experience the real factory atmosphere up close in the classroom, making it an invaluable collaborative robot training platform in the field of education.



Pick And Place Solution

Material handling robots can improve production efficiency, quality, and safety, reduce labor intensity, and provide flexibility and adaptability, bringing higher benefits and competitive advantages to businesses.



Glue Dispensing Solution

Paired with an intelligent dispensing device at the end effector, it enables precise operations and is suitable for precise gluing and dispensing tasks in various scenarios. It can achieve stable, efficient, and accurate adhesive application, ensuring the quality of the adhesive work. This greatly reduces repetitive labor for workers and protects their health.

COMMERCIAL

It has achieved integration of upper limb rehabilitation and lower limb exercise, reducing the barrier to entry through the reproduction of motion trajectories. By recording real-time feedback data, it significantly enhances safety performance. With various mode settings, it makes rehabilitation treatment more targeted, leading to a significant improvement in rehabilitation efficiency.

Rehabilitation Solution

- Ultimate safety
- Open platform
- Data traceability
- Reduced entry barriers



Moxibustion Solution

It fully replicates the five major moxibustion techniques, offering hovering moxibustion, sparrow pecking moxibustion, rotating moxibustion, reciprocating moxibustion, and meridian moxibustion, thus reducing the barrier to entry for moxibustion. With the latest certifications, it is equipped with end collision detection, temperature control, and infrared distance measurement, providing triple protection to ensure the safety of moxibustion. It also has a built-in suction device to prevent inhalation of smoke and dust during the moxibustion process.

- Ultimate safety
- Flexible deployment
- Efficient moxibustion
- Lower barrier to entry



Cooperative robots can be applied in various types of new retail scenarios and can be customized according to different scenario requirements. Benefits include:

- Cost-saving: They replace manual labor, reducing manpower costs while increasing work efficiency.
- Consistent tea brewing: They ensure consistent taste regardless of different operators or different time points, eliminating variations caused by human factors.
- Entertainment value: The robotic performance brings enjoyment to consumers, while employees can focus on more fulfilling and higher-paying jobs.
- Cost-effective: They have low costs and provide a quick return on investment, resulting in good economic benefits.
- Small footprint: They occupy less space, resulting in higher space utilization and adaptability to various innovative business models.

Automated Tea Solution

COMPANY PROFILE



FAIRINO ROBOT

FAIRINO is the collaborative robot company who has achieved independent R&D of all core components.

We focus on user experience and are dedicated to offering the industry with artificial intelligent robot system.

We provide customized components, complete machines and systems for industry customers, the open development platform provides more convenience and possibility for our partners.

FAIR, as always, provides values and grow together with customers and partners.

Welcome to the intelligent world of FAIRINO.

Lots of manufacturers have begun taking advantage of AIoT and human-machine collaboration. What can collaborative robots do for them?

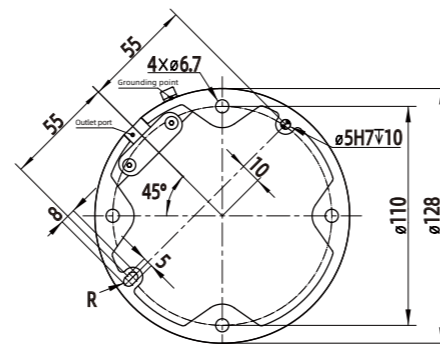
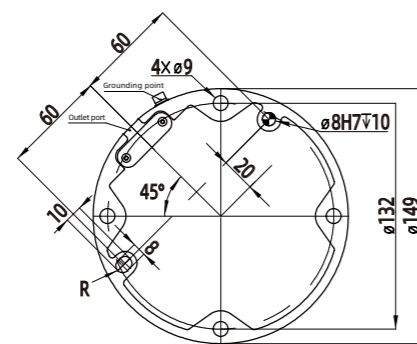
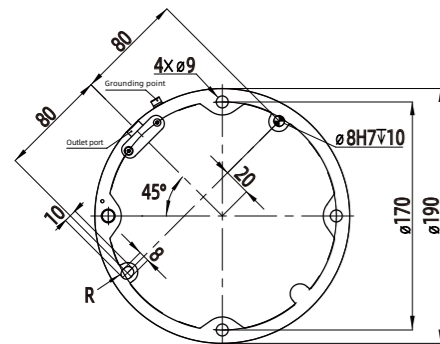
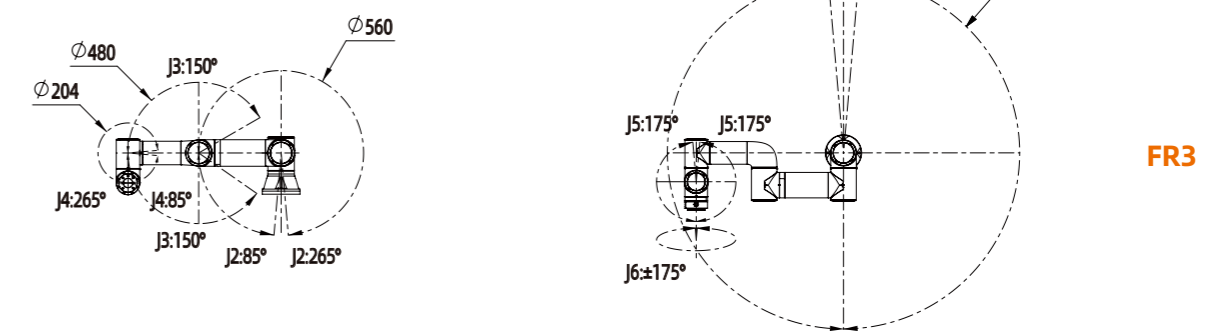
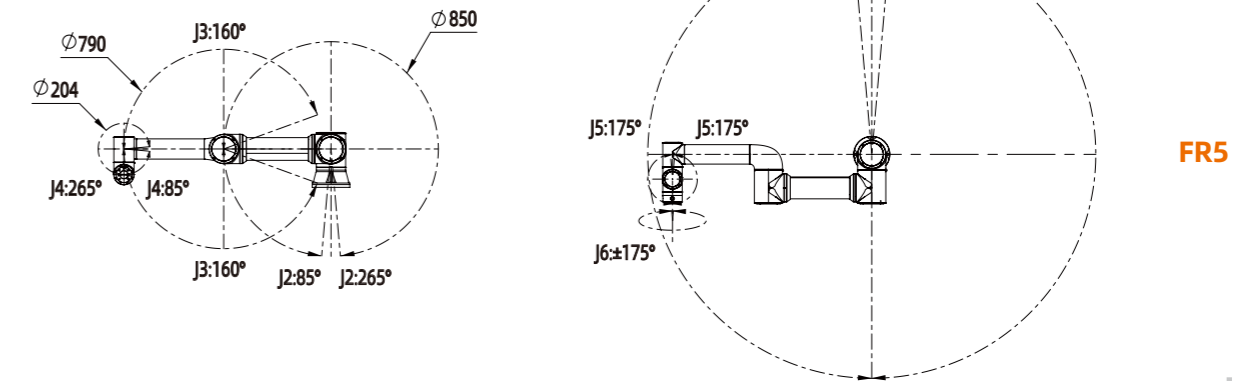
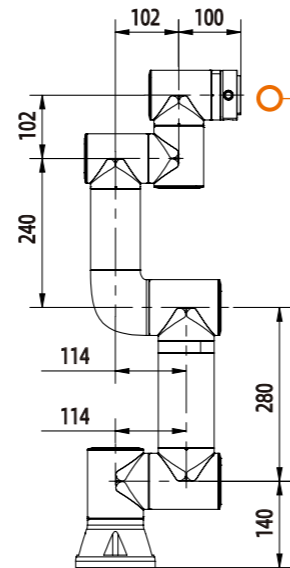
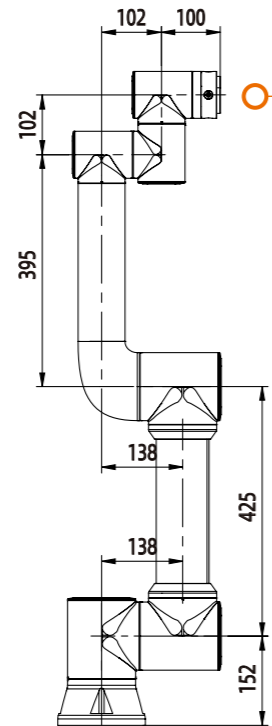
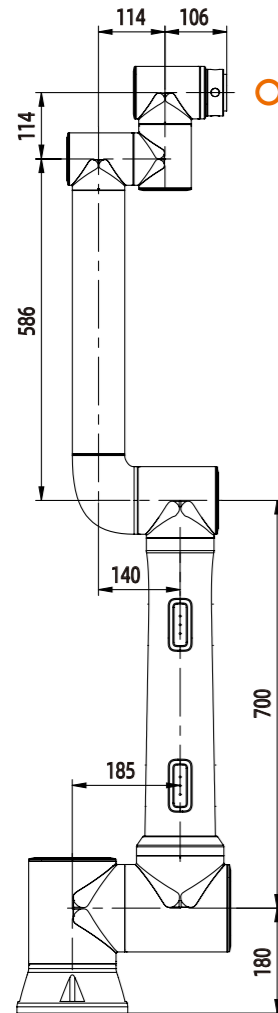
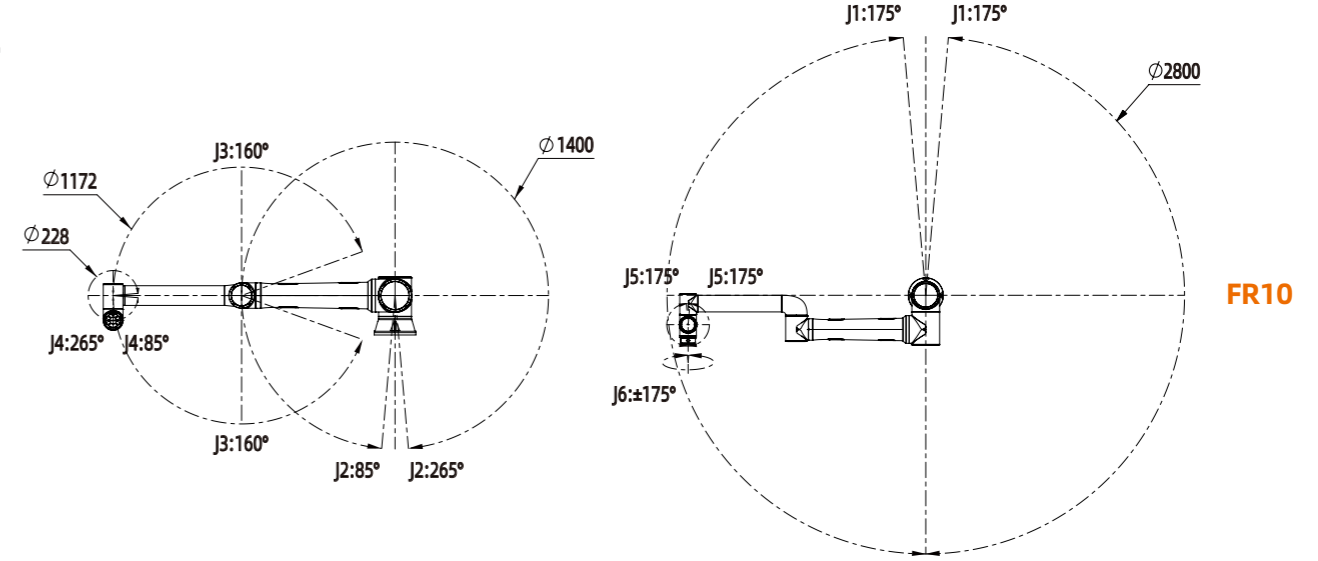
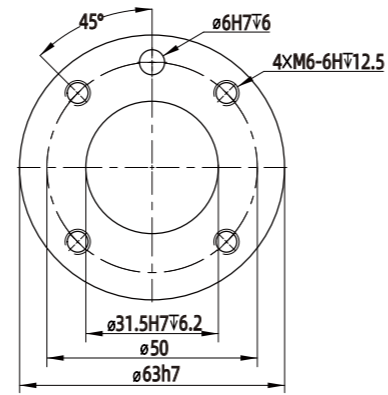
Collaborative robots decrease manufacturing costs, increase the efficiency of production and enhance the skills of employees. They also offer better service quality and improve the customer experience. By providing the standardized functions and low deploying costs, cobots are widespread in commercial scenarios such as household chores, room cleaning and cooking.

Cobots are believed to have unlimited potential and would be introduced to more scenarios in the future.

DRAWINGS

Unit : mm

ROBOT END-EFFECTOR COMPATIBLE WITH INDUSTRIAL ROBOT END-EFFECTOR CONNECTION METHODS



FR10 Pedestal diagram

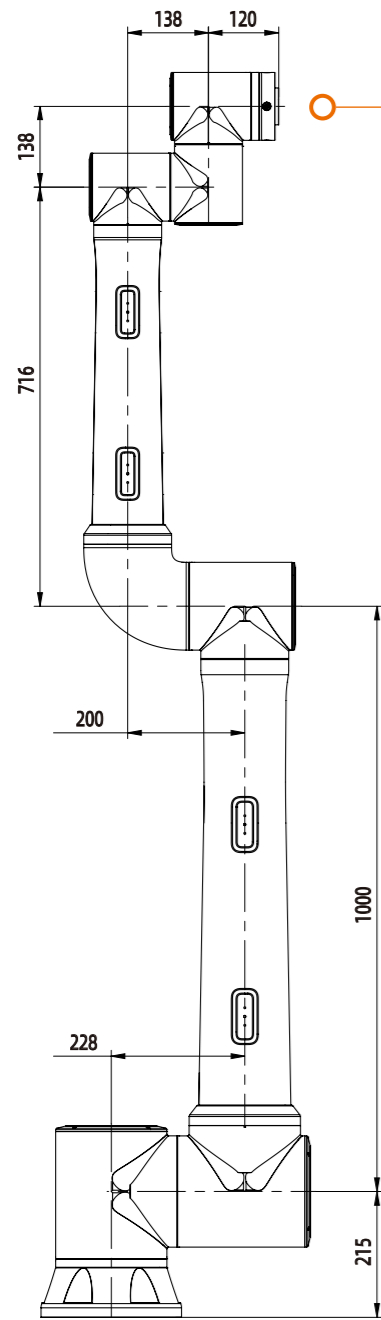
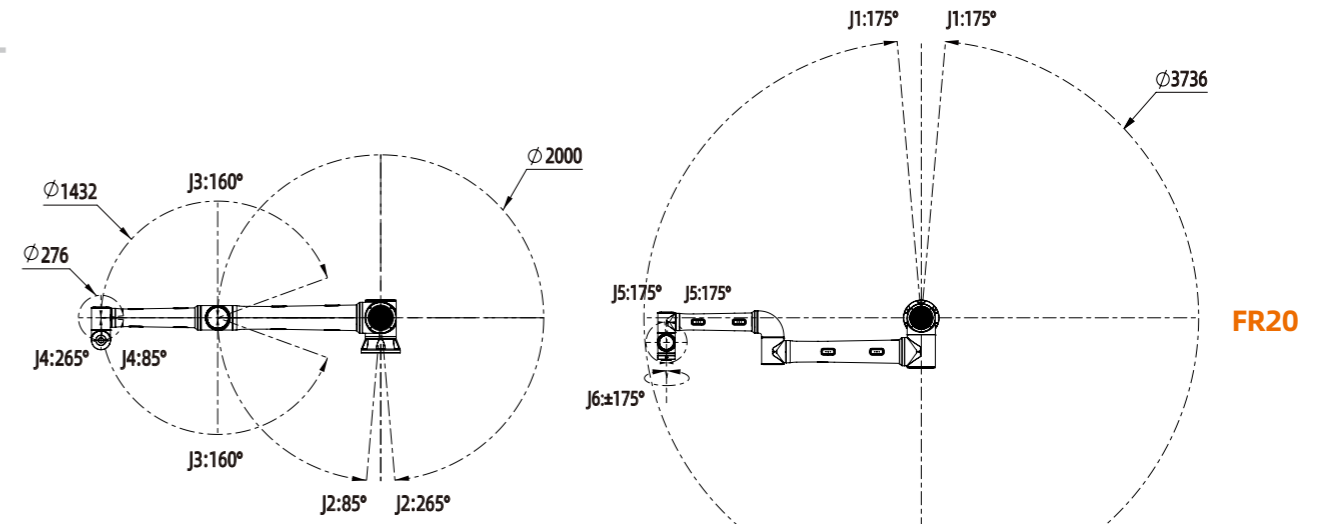
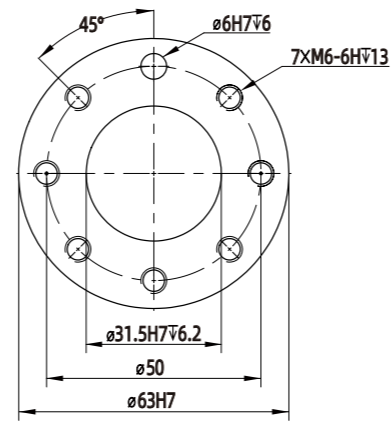
FR5 Pedestal diagram

FR3 Pedestal diagram

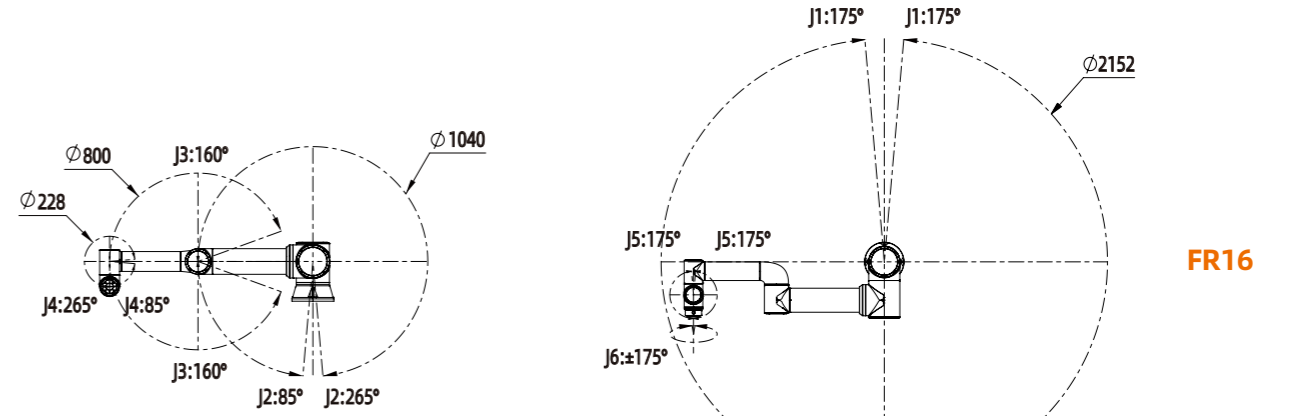
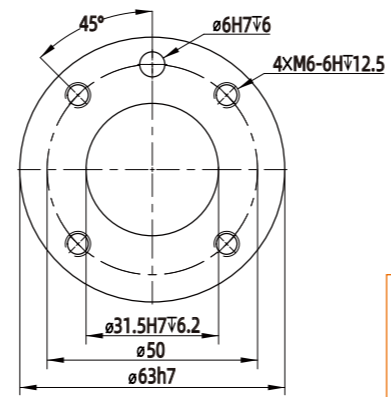
DRAWINGS

Unit : mm

ROBOT END-EFFECTOR COMPATIBLE WITH INDUSTRIAL ROBOT END-EFFECTOR CONNECTION METHODS

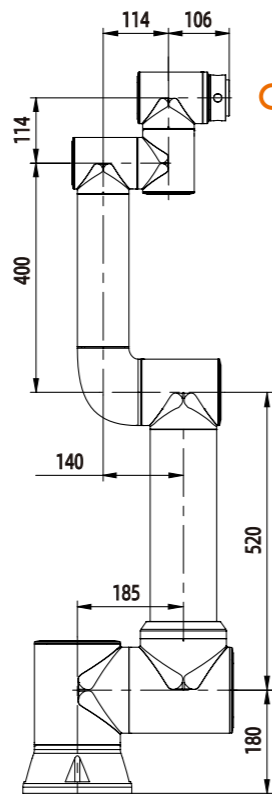


FR20

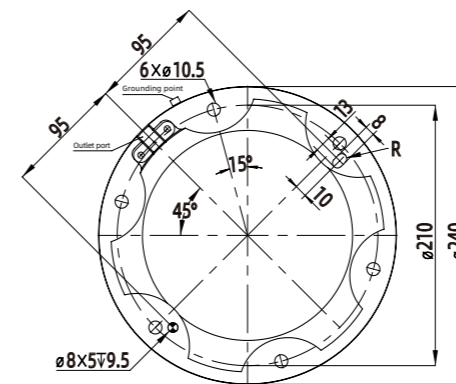


FR16

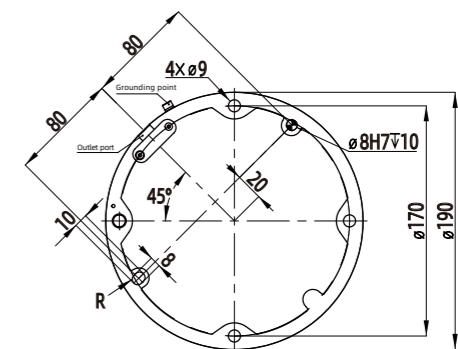
ROBOT END-EFFECTORS ALL ADOPT INTERNATIONAL STANDARDS



FR16



FR20 Pedestal diagram



FR16 Pedestal diagram