PRODUCT
CATALOGUE

CONTACT US

FAIR Innovation (Suzhou) Robot System Co.,Ltd.

R&D Center : No.209 Zhuyuan Road,New District,Suzhou,Jiangsu,PR.China
Manufacture Base 1 : No.5888 Zunxian Road,New District,Zibo,Shandong,PR.China
Manufacture Base 2 : No.36 Zijin Road,New District,Suzhou,Jiangsu,PR.China

+86 400-811-0929 www.fairino.com sales@frtech.fr

Official website Youtube Linkedin Download

TRIBOTS

SERVICE & TRADING IN VIETNAM _ *HOTLINE: 0945 878 069*
WWW.ROBOTSAIGON.COM
OFFICE: 3RD, AN PHU PLAZA, 117-119 LY CHINH THANG STREET, XUAN HOA WARD, HCMC
R&D CENTER: 12D CAO THI SAU STREET, CU CHI WARD, HCMC, VN

FAIRINO

FAIRINO

CONTENTS

01

PRODUCTS P 01

SPECIFICATION P 03

ACCESSORY P 07

02

APPLICATIONS P 09

03

ABOUT US P 15

04

DRAWINGS P 17

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

FAIRINO ROBOT

Intelligent human-robot cooperation system solutions

According to different payload and parameter, FAIRINO collaborative robots FR series are divided into nine models: FR3 (Optional Mirror Version) ,FR3-WMS,FR3-WML,FR3-C,FR5, FR10, FR16, FR20 and FR30.

To provide partners&customers with better quality assurance,FAIRINO has obtained a more comprehensive range of certificates through international certification organizations.

Quality Management System: ISO 9001

Product Certification: CR, CE, KCs, NRTL, RoHS 2.0, NSF, SEMI, IP65

ISO Functional Safety Certification: ISO 10218, ISO 13849, ISO 15066

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

PRODUCT DISPLAY

FR3 FR3-C FR3-WMS FR3-WML FR5 FR10 FR16 FR20 FR30

FR3 SERIES

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

ROBOT ARM TECHNICAL SPECIFICATION

>> FR3 SERIES <<

	FR3	FR3-C	FR3-WMS	FR3-WML	FR5	FR10	FR16	FR20	FR30
Payload	**3kg(Max:5kg)**	**3kg (peak:5kg)**	**3kg**	**3kg**	**5kg(Max:7kg)**	**10kg (Max:14kg)**	**16kg (Max:20kg)**	**20kg(Max:25kg)**	**30kg(Max:35kg)**
Reach	**622mm**	**622mm**	**622mm**	**922mm**	**922mm**	**1400mm**	**1034mm**	**1854 mm**	**1403 mm**
Degrees of freedom	6 rotating joints	6 rotating joints	6 rotating joints	6 rotating joints	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			10.1 inch teach pendant or mobile terminal Web App		10.1 inch teach pendant or mobile terminal Web App	
Dual arm robotics applications	Mirror versions available to build dual arm robots								
Pose repeatability per ISO 9283	**±0.02mm**	**±0.05mm**	**±0.02mm**	**±0.05mm**	**±0.02mm**	**±0.05mm**	**±0.03mm**	**±0.1mm**	**±0.1mm**

Axis movement	FR3 Working range	FR3 Maximum speed	FR3-C Working range	FR3-C Maximum speed	FR3-WMS Working range	FR3-WMS Maximum speed	FR3-WML Working range	FR3-WML Maximum speed	FR5 Working range	FR5 Maximum speed	FR10 Working range	FR10 Maximum speed	FR16 Working range	FR16 Maximum speed	FR20 Working range	FR20 Maximum speed	FR30 Working range	FR30 Maximum speed
Base	±175°	±180°/s	±175°	±150°/s	±175°	±150°/s	±175°	±150°/s	±175°	±180°/s	±175°	±120°/s	±175°	±120°/s	±175°	±120°/s	±175°	±120°/s
Shoulder	+85°/ – 265° (Dual Arm: – 85°/ + 265°)	±180°/s	+ 85°/ – 265°	±150°/s	+ 85°/ – 265°	±150°/s	+ 85°/ – 265°	±150°/s	+ 85°/ – 265°	±180°/s	+ 85°/ – 265°	±120°/s	+ 85°/ – 265°	±120°/s	+ 85°/ – 265°	±120°/s	+ 85°/ – 265°	±120°/s
Elbow	±150°	±180°/s	±150°	±150°/s	±150°	±150°/s	±150°	±150°/s	±160°	±180°/s	±160°	±180°/s	±160°	±180°/s	±160°	±120°/s	±160°	±120°/s
Wrist 1	+85°/ – 265° (Dual Arm: – 85°/ + 265°)	±180°/s	+ 85°/ – 265°	±180°/s	+ 85°/ – 265°	±180°/s	+ 85°/ – 265°	±180°/s	+ 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	0°~355°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s	±175°	±180°/s
Wrist 3	±175° (Optional ±360°)	±180°/s	±175°	±180°/s	±360°	±180°/s	±360°	±180°/s	±175°(Optional ±360°)	±180°/s	±175°(Optional ±360°)	±180°/s	±175°(Optional ±360°)	±180°/s	±175°	±180°/s	±175°	±180°/s

	FR3	FR3-C	FR3-WMS	FR3-WML	FR5	FR10	FR16	FR20	FR30
Typical TCP speed	1m/s	1m/s	1m/s	1m/s	1m/s	1.5m/s	1m/s	2m/s	2m/s
IP classification	IP54 (IP65 Optional)	IP54	IP54 (IP65 Optional)	IP54 (IP65 Optional)	IP54 (IP65 Optional)	IP54 (IP65 Optional)	IP54 (IP65 Optional)	IP54 (IP65 Optional)	IP54 (IP65 Optional)
Noise	<65dB	<65dB	<65dB	<65dB	<65dB	<65dB	<65dB	<70dB	<70dB
Robot mounting	Any orientation	Any orientation	Any orientation	Any orientation	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	(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	(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	24V/1.5A	24V/ 1.5A	24V/ 1.5A	24V/ 1.5A
Footprint	128mm	125mm	128mm	128mm	149mm	190mm	190mm	240mm	240mm
Weight	≈15kg	≈10kg	≈10.5kg	≈11.25kg	≈22kg	≈40kg	≈40kg	≈85kg	≈85kg
Operating temperature	0-45 ℃	0-45℃	0-45℃	0-45℃	0-45℃	0-45 ℃	0-45℃	0-45℃	0-45 ℃
Operating humidity	90%RH(non-condensing)	90%RH(non-condensing)	90%RH(non-condensing)	90%RH(non-condensing)	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	Aluminium 、Steel	Aluminium 、Steel	Aluminium 、Steel	Aluminium 、Steel
Black Optional	no	no	no	no	yes	yes	no	no	no

■ Typical power test payload settings, different loads are set according to robot models, payload configuration parameters are as follows :

	FR3	FR3-C	FR3-WMS	FR3-WML	FR5	FR10	FR16	FR20	FR30
	FR3 payload setting: 3kg, Z-axis: 18mm	FR3C payload setting: 3kg, Z-axis: 18mm	FR3WMS payload setting: 3kg, Z-axis: 18mm	FR3WML payload setting: 3kg, Z-axis: 18mm	FR5 payload setting: 5kg, Z-axis: 30mm	FR10 payload setting: 10kg, Z-axis: 60	FR16 payload setting: 16kg, Z-axis: 96mm	FR20 payload setting: 20kg, Z-axis: 120mm	FR30 payload setting: 30kg, Z-axis: 200mm

Select aging test program, connect robot's total power to power meter, set robot to automatic mode, set global speed to 100, click run, if there are no abnormalities after running two cycles, start continuous testing for 24 hours. After 24 hours, respectively, record the peak and average power of the power meter, and then statistically analyze each model :

	FR3	FR3-C	FR3-WMS	FR3-WML	FR5	FR10	FR16	FR20	FR30
Typical average power	220W	200W	90W	140W	260W	300W	310W	620W	600W
Typical peak power	280W	230W	130W	240W	310W	500W	410W	810W	910W

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

CONTROLLER TECHNICAL SPECIFICATION




	DC MINI Controller 2kW	DC Controller 5kW	AC MINI Controller 2kW	AC Controller 5kW
Features				
IP classification	IP54	IP54	IP54	IP54
Operating temperature	0-45℃	0-45℃	0-45℃	0-45℃
Operating humidity	90%RH(non-condensing)	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	(DI) 16 (DO) 16
	(AI) 2 (AO) 2	(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	High speed pulse input 2
I/O power supply	24V/1.5A	24V/1.5A	24V/1.5A	24V/1.5A
Standard communication	I/O、TCP/IP、Modbus_TCP/RTU	I/O、TCP/IP、Modbus_TCP/RTU	I/O、TCP/IP、Modbus_TCP/RTU	I/O、TCP/IP、Modbus_TCP/RTU
Optional communication	CC-Link IE Field Basic、Profinet、Ethernet/IP、EtherCAT	CC-Link IE Field Basic、Profinet、Ethernet/IP、EtherCAT	CC-Link IE Field Basic、Profinet、Ethernet/IP、EtherCAT	CC-Link IE Field Basic、Profinet、Ethernet/IP、EtherCAT
Communication Board Optional Configuration	MiniPCI Express - real-time Ethernet PC Board	MiniPCI Express - real-time Ethernet PC Board	MiniPCI Express - real-time Ethernet PC Board	MiniPCI Express - real-time Ethernet PC Board
Software development kit	C#/C++/Python/ROS/ROS2	C#/C++/Python/ROS/ROS2	C#/C++/Python/ROS/ROS2	C#/C++/Python/ROS/ROS2
Physical				
L*W*H	245*180*44.5mm (No protrusions)	245*180*89 mm (No protrusions)	245*180*44.5mm (No protrusions)	245*180*89mm (No protrusions)
Weight	2.1kg (Weight without wire)	2.957kg (Weight without wire)	2.5kg (Weight without wire)	3.6kg (Weight without wire)
Materials	Galvanized plate	Galvanized plate	Galvanized plate	Galvanized plate
Power supply	30-60VDC	30-60VDC	100-240VAC / 10A / Single-phase / 50-60Hz	100-240VAC / 16A / Single-phase / 50-60Hz
Output power	48VDC / 42Amax	48VDC / 104Amax	48VDC / 42Amax	48VDC / 104Amax
Applicable Robot	FR3,FR3-WMS,FR3-WML,FR5,FR10,FR16	FR20/FR30	FR3,FR3-WMS,FR3-WML,FR5,FR10,FR16	FR20/FR30

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

FAIRINO

SAFETY BOX

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
L*W*H	136*60*66mm (No protrusions)
Weight	490g (Cable weight included)
Materials	ABS
Cable length	5m
Number of keys	≥20W

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.

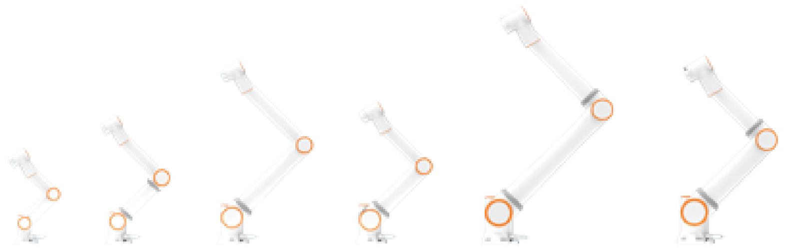
TEACH PENDANT 【Optional】

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

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

EXPLOSION-PROOF CABINET 【Optional】

Explosion-Proof Cabinets (Integral Explosion-Proof)



Robot (full range explosion-proof)

It has good technical performance. The cabinet must be resistant to vibration, impact, corrosion, dust, water, and radiation to ensure stable and reliable operation of devices. Good usability and safety protection facilities, easy operation, installation and maintenance, and to ensure the safety of the operator.

IP classification	IP65
Operating Environment Temperature	0°C-45°C
Minimum Positive Pressure	100pa
Maximum Positive Pressure	1000pa
Rated Input Voltage	100−240Vac
Maximum Leakage	15L/Min
L*W*H	682*500*1100(Includes alarm light 1286)
Weight	75kg
Materials	Carbon Steel + Stainless Steel
Cabinet Volume	126L
Ventilation Flow Rate	120L/min
Ventilation Time	14min
Protective Gas	AIR
Explosion-proof Cabinet Certificate	CE22.7131

FAIRINO

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.

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.

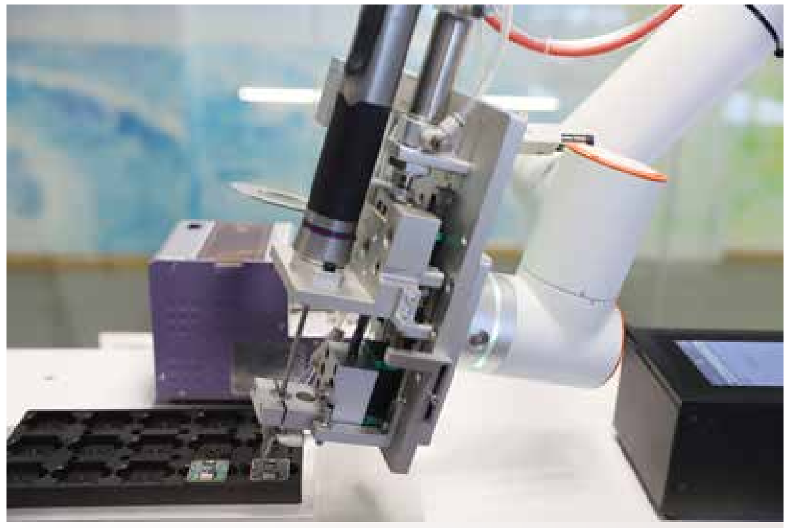
Palletizing Solution

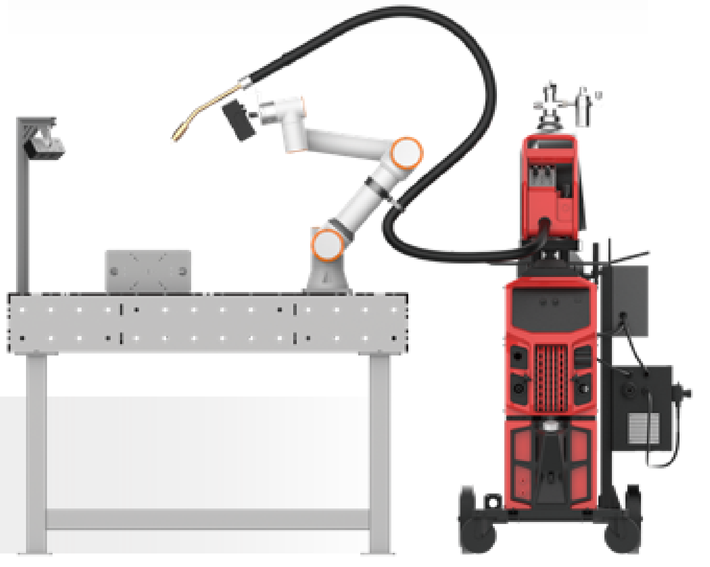
Screw Tightening Solution

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

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





3D Vision Programming-free Welding Solution

3D Vision Programming-Free Welding Solution integrates FAIRINO robot, AIRLab, and 3D camera, equipped with a comprehensive welding process package. By leveraging 3D camera scanning and point cloud algorithms for workpiece positioning and weld seam recognition, it utilizes AI deep learning for dynamic path planning and welding process matching, enabling intelligent welding.

FAIRINO

APPLICATIONS

Conveyor Belt Solution

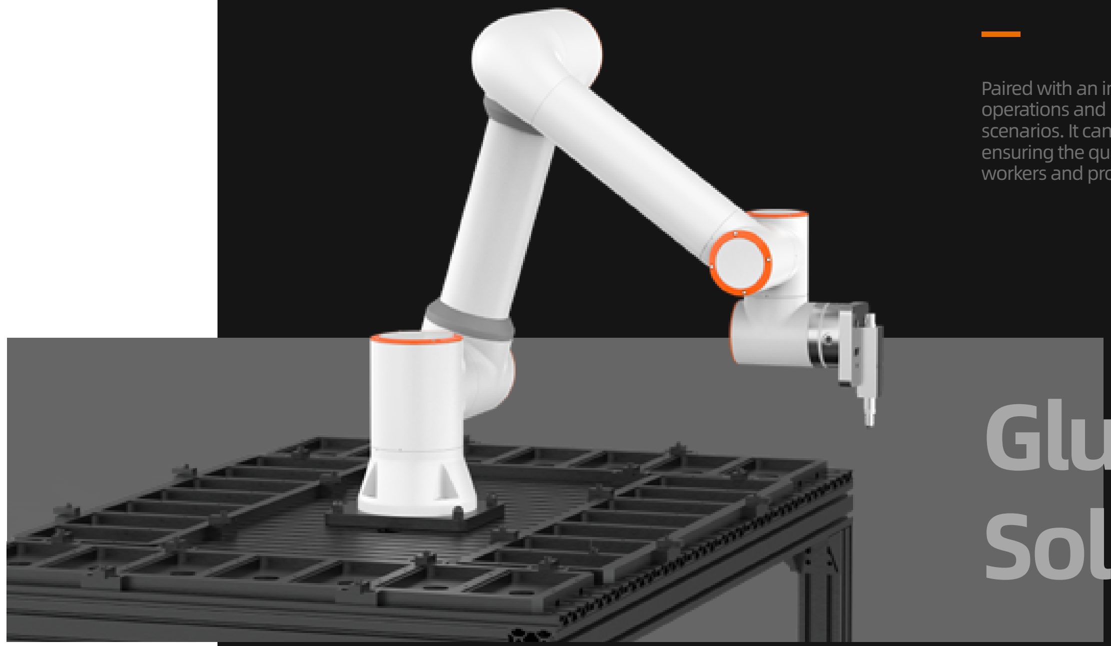
- Enhance work safety
- Real-time monitoring and feedback
- Reduce error rate and losses
- Improve production efficiency
- Data recording and traceability
- Accurate tracking and identification

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.

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.



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.

Glue Dispending Solution

FAIRINO

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

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

Collaborative 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

FAIRINO

TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

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.

FAIRINO remains committed to the philosophy of advancing together with partners and customers, continuously delivering extraordinary value to them.

FAIRINO invites you to explore together and open up a diverse intelligent world.

In the era of intelligent manufacturing, how can collaborative robots redefine value?

·**Business Efficiency:** Reduce costs, enhance quality, empower skill upgrading, and drive lean manufacturing.

·**Commercial Upgrade:** Optimize service experiences, meet customer needs precisely, and build differentiated competitiveness.

· **Craft Heritage:** Standardize artisanal processes, balance efficiency and quality, and revitalize traditional craftsmanship.

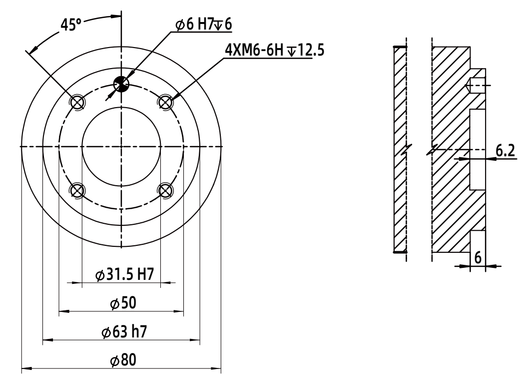
·**Life Companion:** Intelligently handle household chores, customize cleaning and cooking solutions, and infuse technology into daily life.

From industrial manufacturing to commercial services, from artisan workshops to smart homes, FAIRINO Robotics continues to expand the boundaries of application, making future scenarios tangible today.

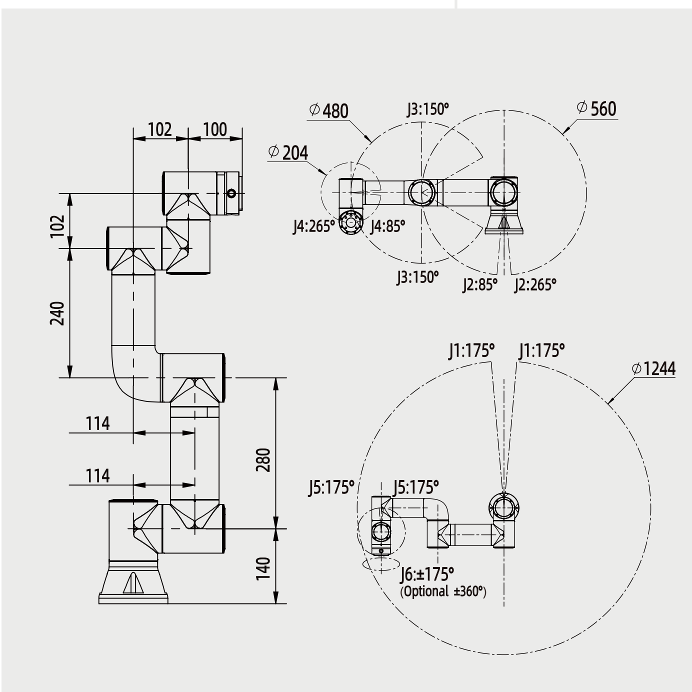
TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

DRAWINGS

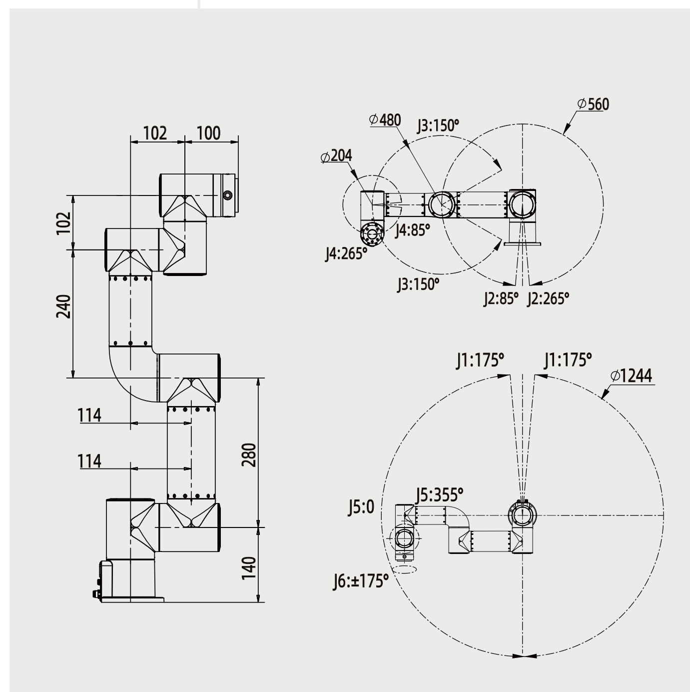
Unit : mm



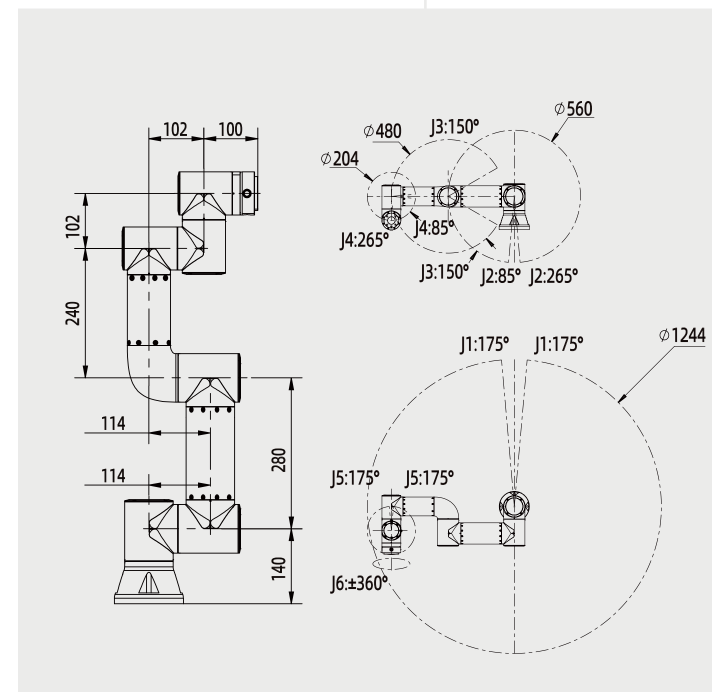
ROBOT END-EFFECTOR COMPATIBLE WITH INDUSTRIAL ROBOT END-EFFECTOR CONNECTION METHODS



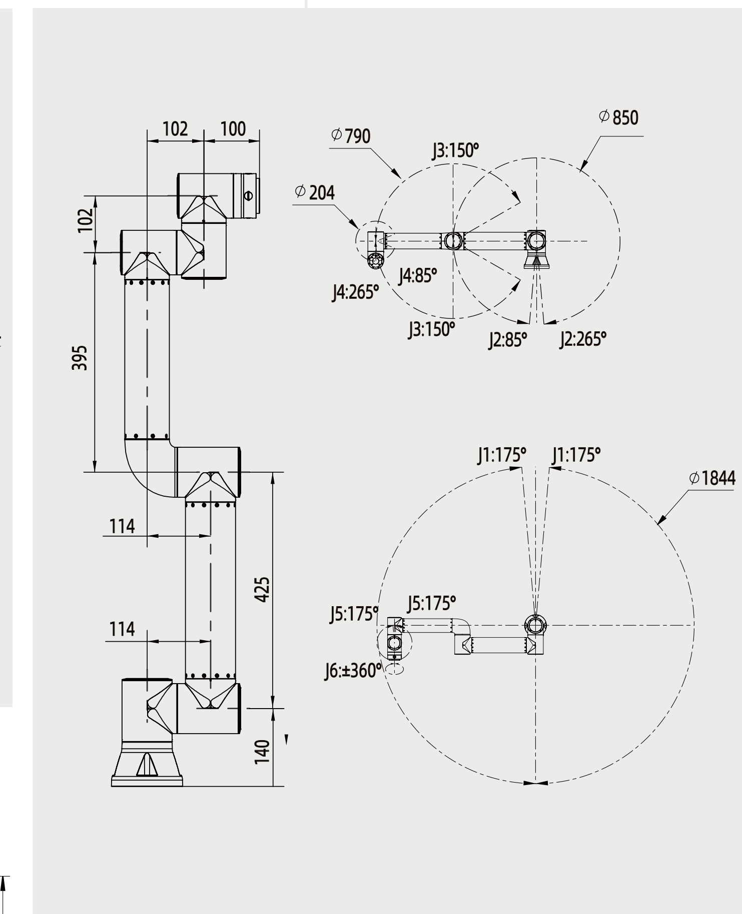
FR3



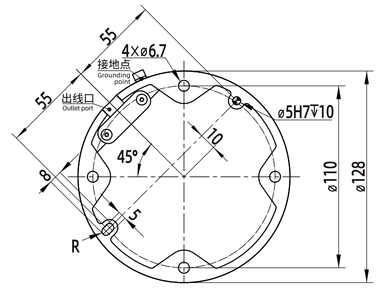
FR3-C



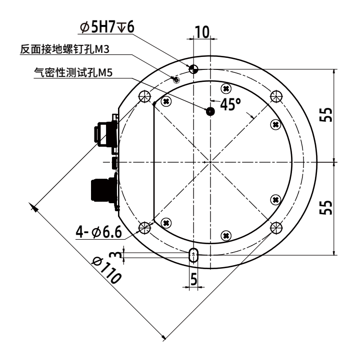
FR3-WMS



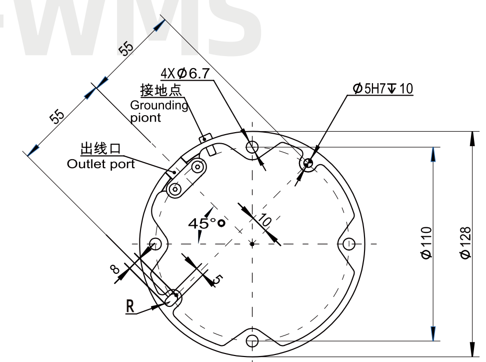
FR3-WML



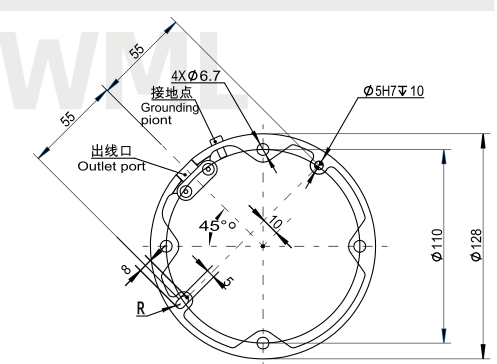
FR3 Pedestal diagram



FR3-C Pedestal diagram



FR3-WMS Pedestal diagram

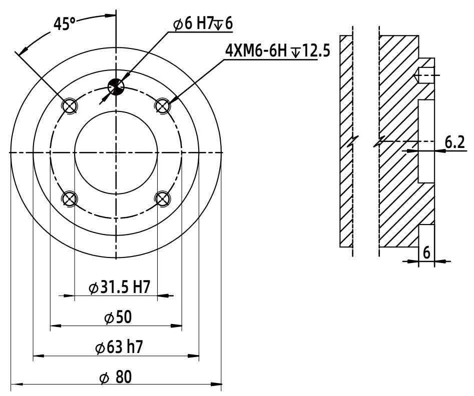


FR3-WML Pedestal diagram

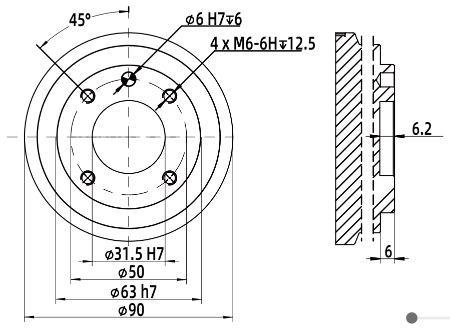
TRIBOTS
SERVICE & TRADING IN VIETNAM
WWW.ROBOTSAIGON.COM

DRAWINGS

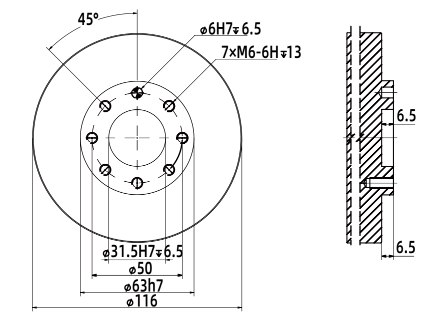
Unit : mm



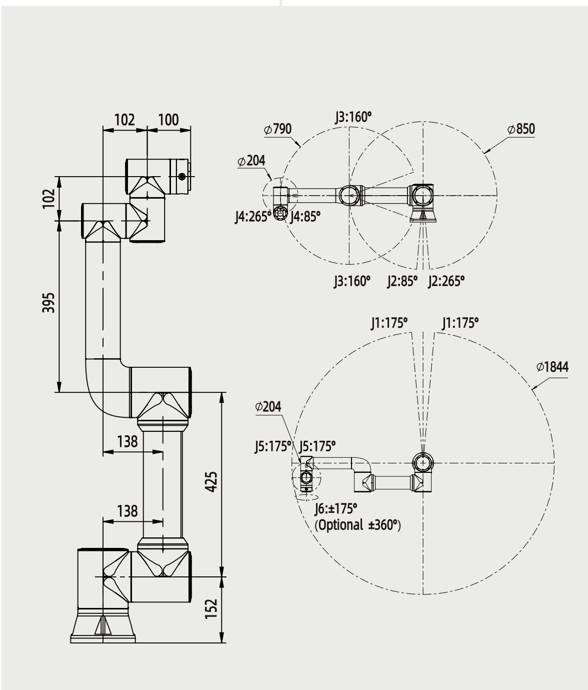
ROBOT END-EFFECTOR COMPATIBLE WITH INDUSTRIAL ROBOT END-EFFECTOR CONNECTION METHODS



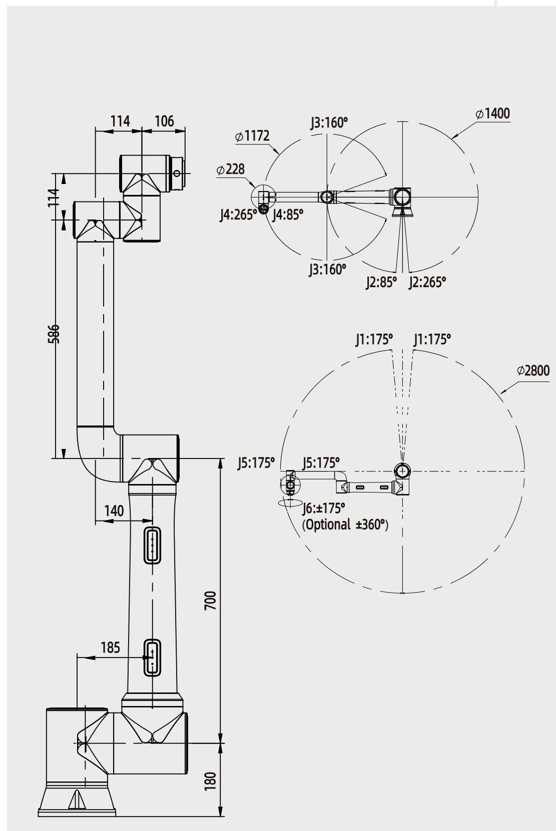
ROBOT END-EFFECTOR COMPATIBLE WITH INDUSTRIAL ROBOT END-EFFECTOR CONNECTION METHODS



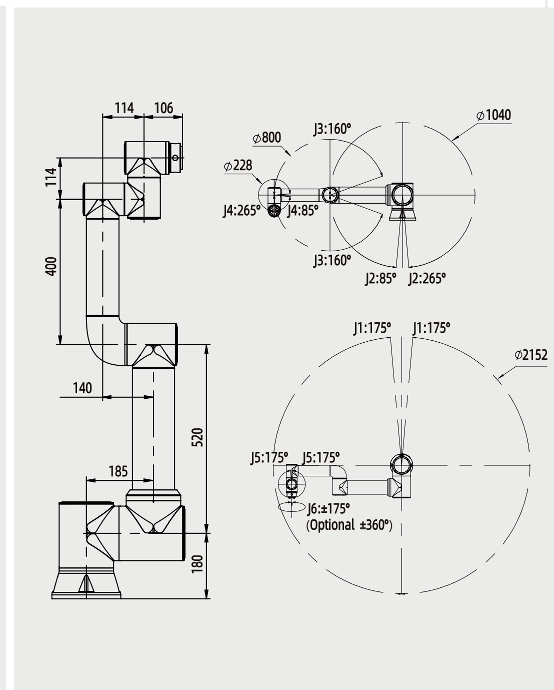
ROBOT END-EFFECTOR COMPATIBLE WITH INDUSTRIAL ROBOT END-EFFECTOR CONNECTION METHODS



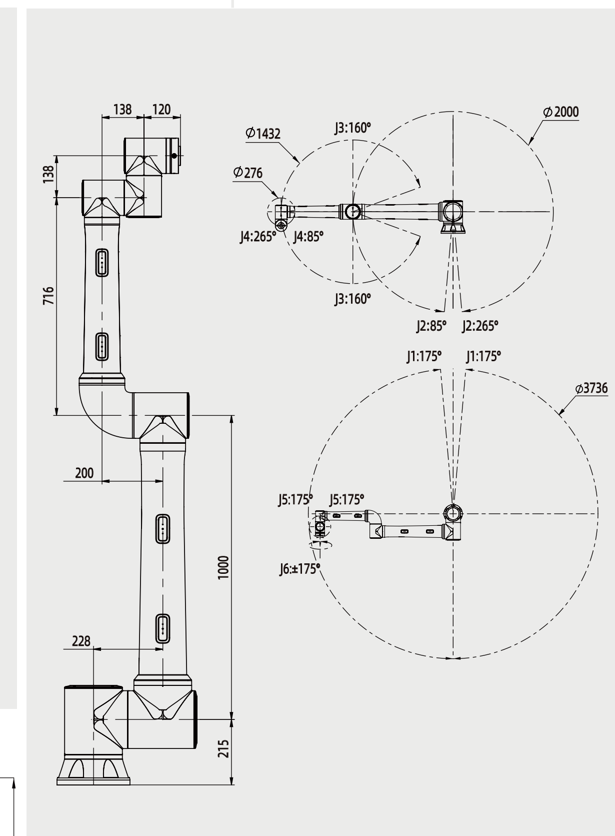
FR5



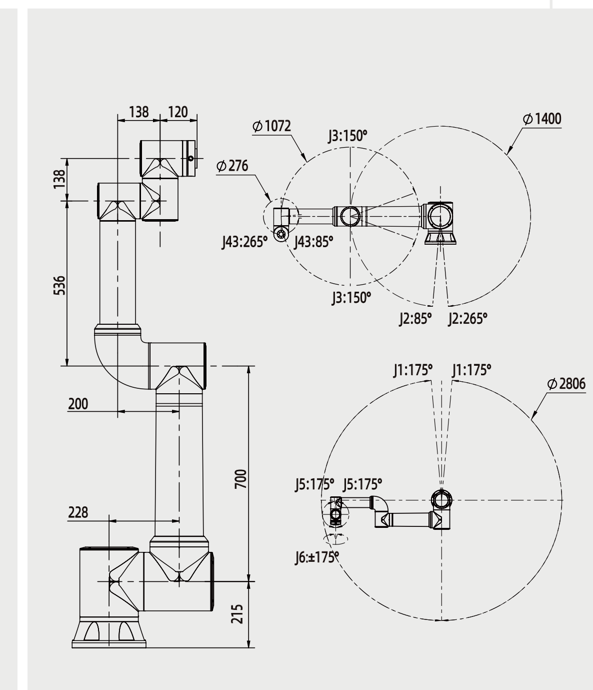
FR10



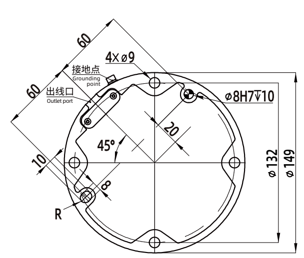
FR16



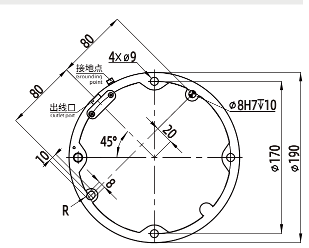
FR20



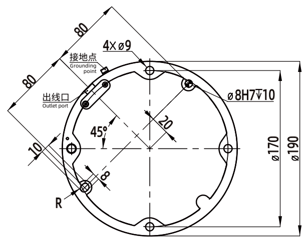
FR30



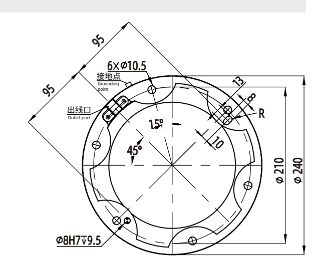
FR5 Pedestal diagram



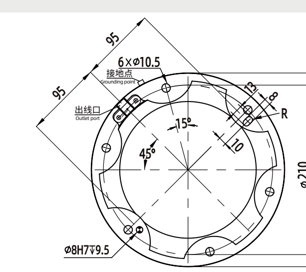
FR10 Pedestal diagram



FR16 Pedestal diagram



FR20 Pedestal diagram



FR30 Pedestal diagram