CN: AUBO ROBOTICS TECHNOLOGY CO., LTD

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10TH FLOOR, HAIQING TOWER, NO.6 WEST NONGKEYUAN RD., HAIDIAN DISTRICT, BEIJING CITY, CHINA

"FACTORY ADDRESS"

3RD FLOOR, TOWER B ZHONGKECHUANGYE CENTER, CHANGZHOU SCIENCE AND EDUCATION TOWN,CHANGZHOU CITY JIANGSU PROVINCE, CHINA

info@aubo-cobot.com | info@aubo-robotics.cn | PBX: 400-863-5388

CN: & HK: DENKAR GLOBAL GROUP CO., LTD

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aubo@denkarglobalgroup.com | info@denkarglobalgroup.com | PBX: 00-86-739-5502259

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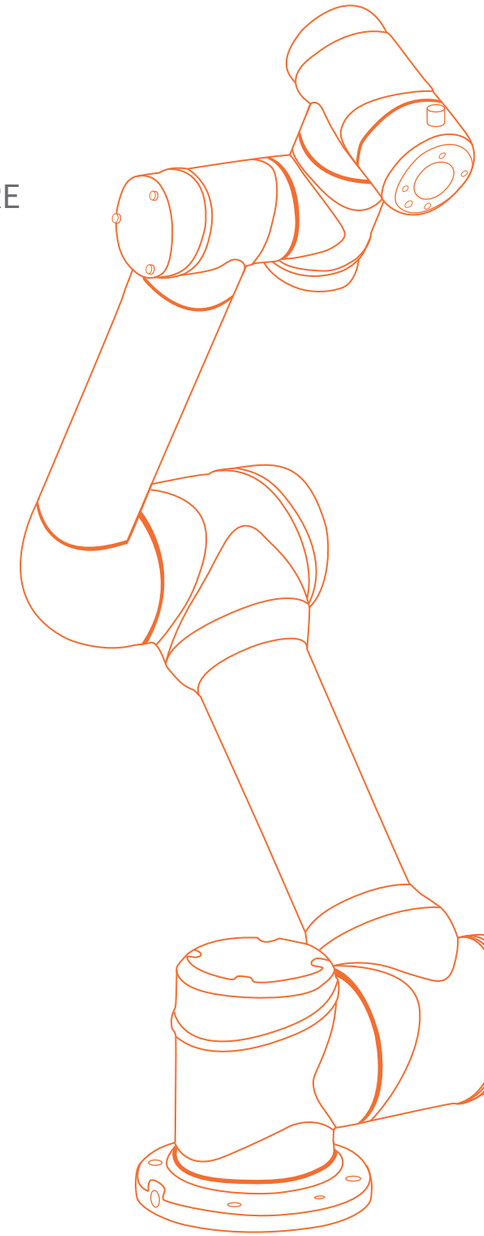
info@aubo-cobot.com.tr | info@roboraa.com | 00-90-850-346-9416

AUBO

COLLABORATIVE ROBOT

INTELLIGENCE CHANGES THE WORLD
COLLABORATION CREATES THE FUTURE



INTELLIGENCE CHANGES THE WORLD
COLLABORATION CREATES THE FUTURE

TABLE OF CONTENTS

Determined to become an
outstanding collaborative robot
enterprise in China and even the world

01

COMPANY PROFILE

Provider of Collaborative Robots

Established in 2015, AUBO Robotics is a national high-tech enterprise specialized in the research & development, production and sale of collaborative robots.

As a global leading provider of collaborative robots, AUBO has developed products with complete intellectual property rights, realizing full localization of core parts. AUBO collaborative robots have successively passed the certification of EN ISO 13849-1:2015(PL=d, CAT 3) , CE, UL, KCs, SEMI S2, Cleanliness class 5, etc. Featured by safety, stability and simple programming, the products are widely applied in the fields such as 3C, automobile, hardware and household appliances, sanitary appliances for kitchens and bathrooms, medical health, scientific research and education, catering, new retail, chemical products for daily use, and logistics.

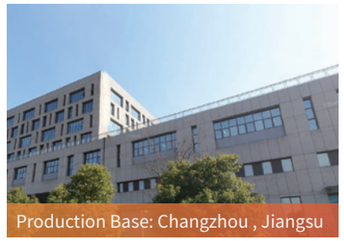
Looking forward to the future, with the body of collaborative robots as the core and ecological products as the link, AUBO will provide customers with “plug and play” one-stop solutions, build an ecological innovation system of the robot industry, and collaborate the upstream and downstream enterprises to boost the development of the collaborative robot industry.

Setter and promoter of industrial standards

Localization of core parts

One-stop collaborative robot ecosystem

Headquarters: Beijing


Production Base: Changzhou , Jiangsu


Production Base: Zibo, Shandong

MILESTONE

Start-up

2010
Commencement of R&D

The research and development of AUBO collaborative robot commenced

2012
Establishment of a R&D Center

Established a R&D center for independent research and development

2013
Debut of the first-generation product

The first-generation AUBO collaborative robots appeared

Development

2015
Establishment of the Chinese company

AUBO (Beijing) Robotics Technology Co., Ltd. was established

The angel round investment of RMB60 million was obtained

Subsidiaries in the USA , Germany, and offices in Shenzhen and Shanghai were established

AUBO-i5 collaborative robot was launched globally

2016
Putting into production

Jiangsu Changzhou Production Base was put into production

AUBO was approved to be National High-Tech Enterprise

AUBO-i5 collaborative robots were produced in batches

2017
Academician Ni Guangnan as the chief scientist of AUBO

Round-A financing of RMB60 million was obtained

New collaborative robots i3, i7 and i10 were launched globally

The products passed the certification of CE, UL, KCs

2018
The first enterprise in China to pass (PL=d, CAT 3) security certification

The first enterprise in China to pass the security certification of EN ISO 13849-1:2015(PL= D, CAT 3) in the field of collaborative robot industry

Approved National High-end Equipment Manufacturing Standardized Enterprise

Building the ecosystem

2019
Undertaking of projects under the National Key R&D Program

The “Working Group on Collaborative Robots of National Standard Commission” was established

Two “intelligent robot” projects under the National Key R&D Program were undertaken

AUBO i16 collaborative robot was launched globally

2020
The domestic first intelligent and flexible production line of collaborative robots was released

The first massage robot was released in China

2021
Sales exceeded 10,000 units

Sales exceeded 10,000 units

Products passed SEMI S2, Cleanliness class 5 certification

2022
AUBO Haina Series Debuts

AUBO Haina series mobile cobot, and AUBO i20 cobot released worldwide

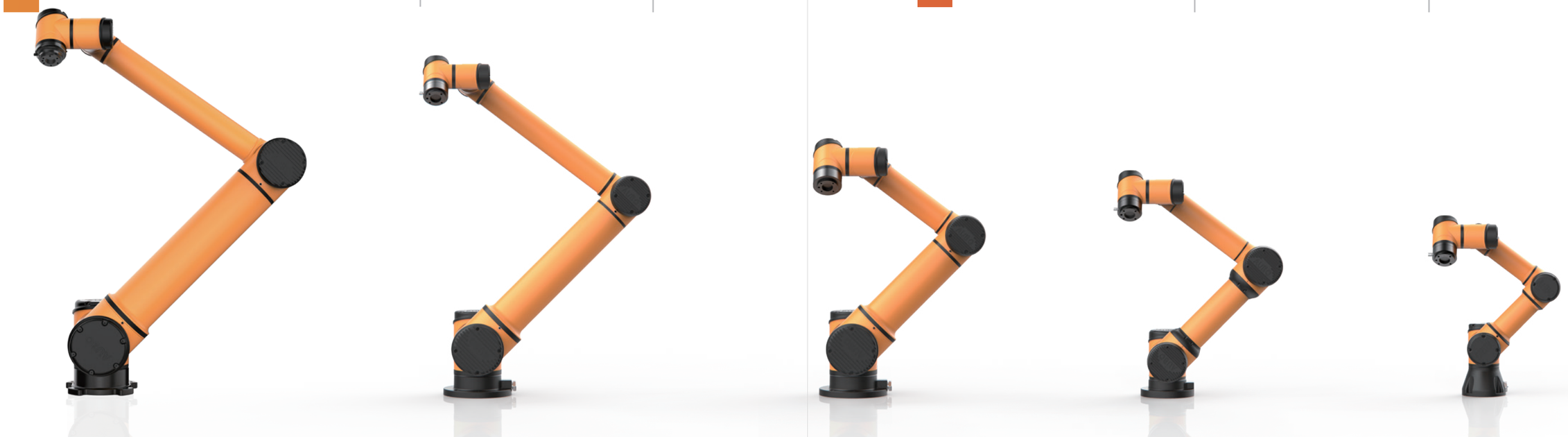
Establishment of the "People's Health System Engineering Robot Laboratory"

2023
ARCS Control System Unveiled

AUBO launches the iS, and new C series

AUBO S-series wins four prestigious awards worldwide

2024
AUBO iS35 New Product Launch



Intellectual Property

(as at the date of Jan, 2024)

213

Effectively authorized patents

48

Authorized patents for inventions

145

Authorized patents for utility models

57

Software copyrights

20

Appearance patents

QUALIFICATION HONOR

As a pioneer in the field of collaborative robot, AUBO has always focused on the needs in the field of collaborative robots, constantly improved its ability of innovation, promoted the application of scientific research results, and won a number of honors.

- **National High-Tech Enterprise**
- **The best-selling cobot of the year (2017/2018/2019/2021/2022) in China***
- **IEEE Global Most Potential Collaborative Robot Enterprise**
- **The First Prize of Award for Scientific and Technological Progress in Machinery Industry**
- **National Pilot Unit for Standardization of High-End Equipment Manufacturing Industry (2/98)**
- **Drafting Unit of National Standard for Collaborative Robots (GB/T36008-2018)**
- **Secretariat Unit of the Working Group on Collaborative Robots of the National Automation Standards Commission**
- **Member of Expert Group on the International Standard for Robot Modularization ISO-TC299/WG10**

*Data source: from MIR

AUBO ROBOTICS

R&D AND INNOVATION

Technical innovation is the core competitiveness of the enterprise. AUBO has always followed the road of being independent and controllable, and R&D and innovation. It has built an excellent technical innovation team, and established a normative product development process system. At present, more than 70% of team members are medium- and high-level technical and management talents.

Ni, Guangnan Chief Scientist

Academician of Chinese Academy of Engineering

Wei, Hongxing Chairman

Member of the Institute of Electrical and Electronic Engineers (IEEE)

Member of Association for Computing Machinery (ACM)

Member of National Subcommittee for Robots and Robotic Devices

Head of Working Group on National Standards for Robot Modularization

Undertaken many projects in the field of robotics under National 863 and Natural Fund Programs

Won 5 provincial and ministerial level awards and Beijing New Star in Science and Technology

More than 100 papers, 2 monographs and 2 teaching materials

Setter of National Standard for Collaborative Robots

Relying on outstanding strength in technical R&D and distinctive status in the industry, AUBO has participated in the formulation of 28 national and industrial standards for robots, including 3 national standards it organized to formulate. AUBO has undertaken 21 projects under the National Key R&D Program, including 10 projects it organized to declare.

Titles of national standards it organized to formulate

《Design Specification of Industrial Robots for Human-Computer Collaboration》GB/T 39402-2020

《Universal Module Interface for Industrial Robots》 GB/T 38560-2020

《Code for Detection of Multidimensional Force / Torque Sensor for Robot》 20203656-T-604

Names of projects under the National Key Research & Development Program it organized to declare

《R&D and Integration Verification of Integrated Joints for Collaborative Robots》

《Application Demonstration of Collaborative Robot System for Typical Auto Parts Assembly》

3 Organized to formulate 3 national standards

28 Participated in the formulation of 28 national and industrial standards

10 Organized 10 projects under the National Key R&D Program of the Ministry of Science and Technology

21 Participated in 21 projects under the National Key R&D Program of the Ministry of Science and Technology

PRODUCTION CAPACITY

AUBO Production Base is located in Changzhou City, covers an area of 12,000㎡, and has an annual production capacity of 12,000 sets. In virtue of vertical integrated production capacity and complete supporting systems of the industry chain, AUBO can deliver high-quality products on schedule to meet customers' needs.

Production, process, quality, and supply chain integration of collaborative robots

01

Incoming Inspection

27 testing sections

Support for three-dimensional measurements
Full-size, full-function and total-quantity test coverage of key materials

02

Testing of Components

354 testing standards

126 kinds of testing equipment and tools

03

Testing of whole machine assembly

163 testing items

76 kinds of testing equipment and tools

04

Inspection of Finished Products

58 testing sections

21 kinds of testing equipment

Vibration test, high-temperature aging test, Dynalog repeatability test, noise test, and Leica laser calibration

Collaborative robots testing hall

The first intelligent and flexible production line of collaborative robots in China

PRODUCT GUARANTEE

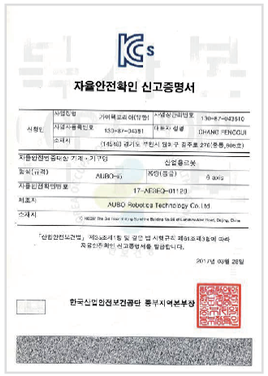
AUBO is committed to providing safe and reliable collaborative robot products for customers. The products have passed the certification of EN ISO 13849-1:2015(PL=d, CAT 3) , CE, UL, KCs, SEMI S2, Cleanliness class 5, etc., guaranteeing the safety and reliability of the products throughout the life cycle.

The First Enterprise Passing Security Certification of PL=d, CAT 3 in China

EN ISO 13849-1:2015(PL=d, CAT 3)

CE

UL



KCs

CR

SEMI S2

Cleanliness class 5

AUBO

AUBO-ROBOTICS

COLLABORATIVE ROBOT ADVANTAGES

Flexible Deployment

- Light, compact and small footprint.
- It takes only half a day in average to deploy the robot to execute new tasks.

Flexible Production

- With quick changeover of multiple function scenarios, human-machine collaboration, dual-machine collaboration and multi-machine collaboration, etc. can be adopted to realize flexible production.

Simple Programming

- It is available to master the programming method in half an hour, and complete simple programming in 1 hour.
- Dragging teaching and visualized programming to make the operation simple and efficient, you can operate robots easily without being proficient in programming language.

Wide Application

- The products have been applied in batches in the fields such as 3C, automobile, hardware and household appliances, sanitary appliances for kitchens and bathrooms, medical health, scientific research and education, catering, new retail, chemical products for daily use, and logistics.

Safety and Stability

- The products have passed the certification of EN ISO 13849-1:2015(PL=d, CAT 3), CE, UL, KCs, SEMI S2, Cleanliness class 5, etc.
- Level-10 collision detection and sensor safety testing are supported.
- The end does not drop in case of power failure, so the robots are safe and stable.
- 16 safe I/O interfaces are provided, so the safety function does not lose in case of single failure.

System Opening

- Connection of multi-language environments, multiple communication protocols, and deep integration with third-party plug-ins.
- Communication protocols: TCP/IP, Modbus-RTU/TCP, Profinet.
- Interface and openness: SDK (supporting the development of C/C++/C#/Lua/Python), API.
- Supporting Linux, Windows and Robot Operating System (ROS).

Modularization

- It’s available to realize fast dismantlement and replacement within 15 minutes.
- The repair and maintenance are quicker and more convenient.

High Return on Investment

- Key and core components are 100% manufactured in China.
- The investment cost can be recovered within 6~12 months on average.

High Precision

- Millisecond-level system response ensures repeatability.
- The repeatability can be up to ±0.02mm.

i SERIES
COLLABORATIVE ROBOT

AUBO i series collaborative robots with payload capacity of 3 to 20KG, which can cover different applications in each industry, and quickly adapt to the needs of application scenarios in various industries by means of abundant configuration options. They are ideal choices for improving the production efficiency and implementing the low-cost operation.

Product Advantages

01 **Safer** The products have passed the certification of EN ISO 13849-1:2015(PL=d, CAT 3), CE, UL, KCs, SEMI S2, Cleanliness class 5, etc., all core parts are localized, and level-10 collision detection and sensor safety testing are supported, so no safety protection is required.

02 **More open** The open system platform supports multiple communication methods：SDK and API, and can establish communication with multiple peripheral equipment such as end-of-arm tooling, vision and mobile robots.

03 **More precise** With repeatability of ±0.02mm, high-precision work can be completed continuously for a long time, thus greatly enhancing the production yield.

04 **Simpler** Robots can be operated by many methods including dragging teaching, coordinate positioning, path planning and offline programming. The visual interface is simple and easy to learn.

05 **Wider** The whole series products with payload capacity of 3 to 20KG, which can cover different applications in each industry and have a wide range of applications.

Application Fields

3C, automobile, hardware and household appliances, sanitary appliances for kitchens and bathrooms, medical health, scientific research and education, catering, new retail, chemical products for daily use, and logistics.

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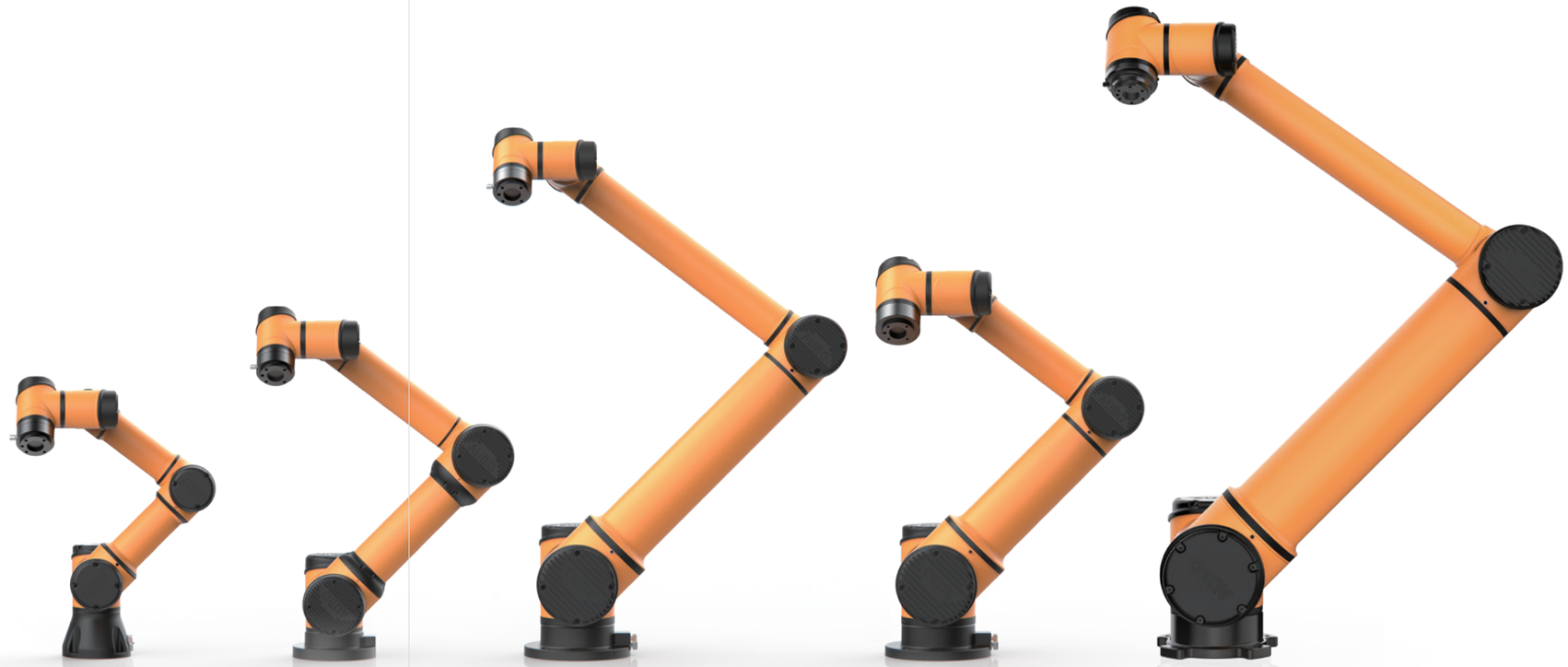


AUBO-i3
Payload：3kg
Weight：16kg
Repeatability：±0.02mm
Reach：625mm

AUBO-i5/i7
Payload：5kg/7kg
Weight：24kg
Repeatability：±0.02mm
Reach：886.5mm/786.5mm

AUBO-i10/i12
Payload：10kg/12kg
Weight：38.5kg/40kg
Repeatability：±0.03mm
Reach：1350mm/1250mm

AUBO-i16
Payload：16kg
Weight：38kg
Repeatability：±0.03mm
Reach：967.5mm

AUBO-i20
Payload：20kg
Weight：63kg
Repeatability：±0.1mm
Reach：1650mm

iS SERIES COLLABORATIVE ROBOT

AUBO iS series of high-performance collaborative robots, from 3 to 35kg, offering load capacities of 7kg, 10kg, 20kg, 25kg, and 35kg respectively. They can be widely applied across all industry scenarios, and they are particularly suitable for precision manufacturing, painting, and harsh, sensitive environments. Safe and convenient.

Product Advantages

01 **Modular Design, Easy to Replace** AUBO iS series cobots feature an integrated modular design with six standard modules of different specifications, allowing for quick replacement and more convenient maintenance and repair.

02 **Enhanced Performance, Precision and Efficiency** Compared to the previous generation, there is an overall improvement in repeatability accuracy, absolute accuracy, and path accuracy, with the robot arm operating at a higher speed.

03 **New Design, Higher Protection Level** The highest load-to-self-weight ratio can reach 1:3.2. Core components have been optimized with new control algorithms; the fully enclosed structure allows for a maximum protection level of IP68.

04 **Compact and Flexible, Wide Application** The new teaching pendant weighs only 1kg, and the floor space of the new control cabinet is reduced by 50%; it comes standard with a multifunctional tool end, enabling a broader range of applications.

Application Fields

The iS series cobots are widely applicable across various industry scenarios and are particularly suitable for precision manufacturing, painting, and special circumstances such as harsh, sensitive environments.

AUBO-iS7
Payload：7kg
Weight：21.5kg
Repeatability：±0.02mm
Reach：886.5mm

AUBO-iS10
Payload：10kg
Weight：36kg
Repeatability：±0.03mm
Reach：1300mm

AUBO-iS20
Payload：20kg
Weight：64kg
Repeatability：±0.05mm
Reach：1647mm

AUBO-iS25
Payload：25kg
Weight：64kg
Repeatability：±0.05mm
Reach：1700mm

AUBO-iS35
Payload：35kg
Weight：155kg
Repeatability：±0.05mm
Reach：2100mm

AUBO HAINA SERIES COMPOSITE ROBOT

AUBO-AMR300

The AUBO Haina Series Composite Robot offer a range of capabilities, including flexible control of collaborative robots, a mobile base, visual systems, and end-of-arm grippers. The all-in-one control system provide a simple, convenient, secure, flexible, and highly efficient collaborative experience across various scenarios. It can adapt seamlessly to diverse work environments, simplifying operations and enabling the completion of complex tasks through coordinated manual, visual, and automated interactions.

Safety Deceleration/Emergency Stop

Real-time map display

Product Advantages

All-in-One The all-in-one control system allows flexible control of collaborative robots, mobile bases, visual systems, and more. Which also could simplify the operations and enabling one-touch experiences to users.

Instant Information Access Real-time access to the status of each device, with information delivered directly and seamlessly. The teach pendant can instantly retrieve the information such as the mobile base's position, speed, battery level, the display and control of I/O, the status of laser blocking, navigation, alarm logs, and more.

Highly Flexible Expansion Allows different combinations of collaborative robots, mobile bases, 2D/3D vision systems, end-of-arm tools, and so on.
Facilitating the cross-device collaboration and meeting the requirements of payload and scenario for various industries.

User-Friendly The Programming for collaborative robots, mobile bases, and vision systems are integrated to an individual software, with flowchart-based interface. The software includes task modules that users can program the behavior of robot which according to their specific needs. It also supports high-precision of visual positioning, making it compatible with traditional programming methods and reducing the complexity of system usage.

Secure Utilizing high-precision SLAM LiDAR for navigation and positioning, along with dual-wheel differential motion control, ensuring the smoother mobility.
LiDAR security features assist in maintaining safety; when personnel approach the mobile base, the robotic arm will slow down to ensure safety.

Collaborative Operations Through the integrated operating system by AUBO, it's possible to achieve collaborative control of collaborative robots, mobile bases, visual systems, and other devices. Supporting both standalone operation and multi-device scheduling solutions.

Basic Performance

Model	AUBO-AMR300
Exterior Dimensions (Length*Width*Height)	1000*700*600mm (excluding the height of the robotic arm), with a tolerance of ±2mm
Load Surface Dimensions (Length*Width)	650*620mm, with a tolerance of±2mm
Weight	250Kg (Excluding the robotic arm)
Maximum Load Capacity	300Kg (Including the weight of the robotic arm and payload)
Drive Method	Dual-wheel differential drive
Number of Laser Sensors	2

Motion Performance

Maximum Speed	1.3m/s
Working Speed	Forward: 1.0m/s (configurable), Reverse: 1.0m/s (configurable)
Turning Radius	0mm
Rotation Radius	550mm
Climbing Ability	6°
Obstacle Clearance Height	10mm
Gap Width	30mm
Ground Clearance	25mm
Walking Path Width	⩾ 900mm
Turning Path Width	⩾1300mm
Site Positioning Accuracy	±10mm
Ground Smoothness	6mm

Battery Performance

Battery Capacity	48V 52Ah, Lithium-ion Battery
Charger Power Supply Parameters	220V 800-1000W
Battery Life	6h (300Kg Fully Loaded)
Battery Lifetime	800 cycles (DOD 100%), with a capacity retention rate of 80%
Charging Method	Optional manual or automatic charging; maximum charging current of 15A
Charging Time	3 hours (from 15% to 95% charge)

Optional Equipment

Robotic Arm	Optional configurations include AUBO-i5H, AUBO-i12H, AUBO-i16H
2D Camera	Compatible with industrial 2D cameras using an eye-on-hand configuration, capable of achieving 2.5D positioning with an accuracy of up to 0.5mm
3D Camera	Compatible with structured light cameras, binocular 3D cameras, etc., using an eye-on-hand configuration, with 3D positioning accuracy of up to 1mm
Electric Gripper	Compatible with two-finger adaptive electric grippers, three-finger adaptive electric grippers, parallel two-finger electric grippers, and more

AUBO PALLETIZING WORKSTATION

It introduces the AUBO Palletizing Workstation, a user-friendly solution that revolutionizes palletizing. With its intelligent design and adaptability, it offers a personalized user experience. This versatile solution is efficient and easy to operate, making it a valuable addition to any palletizing scenario.

Product Advantages

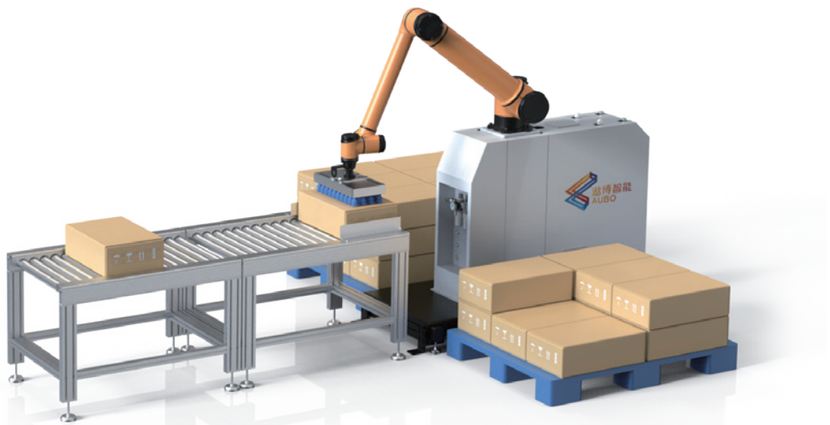
01 **Simplification and Easy Operation** The palletizing workstation features a one-push start function, allowing for easy generation of pallet patterns with a simple operation. It's easy to use, even for beginners.

02 **Comprehensive Monitoring, Safe and Reliable** It is equipped with safety vision monitoring and safety IO interfaces and possesses a collision stop function. With 360-degree comprehensive detection, it ensures the personal safety of operators and is stable and reliable.

03 **Controllable Solutions, Flexible Deployment** The independently developed palletizing workstation by AUBO Robotics is a highly integrated product. It can be professionally customized according to different industry characteristics, ensuring the overall solution is controllable. Deployment can be completed in 2 hours, saving operational costs and offering high cost-efficiency.

04 **Flexible Production, Widely Applicable** Taking into account the diversity of palletizing methods across industries, the palletizing workstation supports various types of pallet patterns, including overlapping and alternating styles. With a maximum height of 2.5 meters, it meets the diverse palletizing needs of different industries.

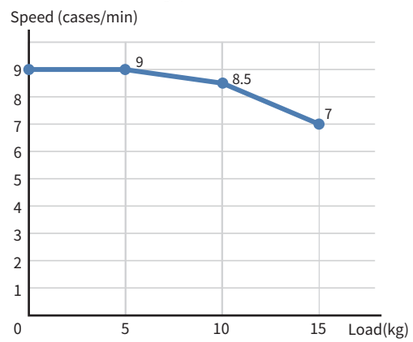
05 **Palletizing Process Package, Extremely Intelligent and User-Friendly** Each AUBO palletizing workstation comes standard with a palletizing process package. This includes both software and hardware cooperation, with strong inclusiveness. The process package is compatible with all models of AUBO collaborative robots, significantly increasing palletizing efficiency."



Technical Specifications

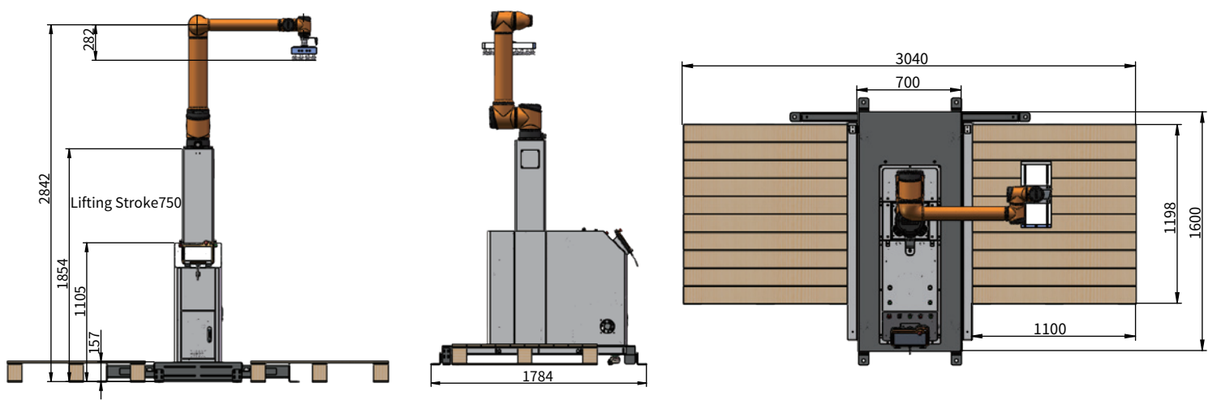
Basic Performance

Load	20kg
Working Radius	1647mm
Vertical Distance	Palletizing Height=2300mm
Palletizing Speed	Palletizing Speed Varies with Load

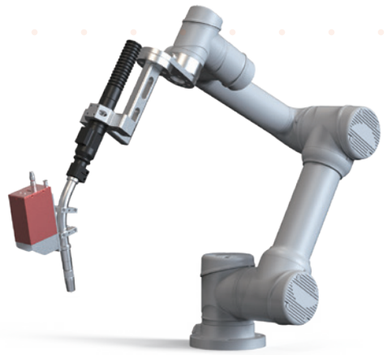


Repetitive Positioning Accuracy	±0.05mm
Communication Method	modbus tcp
IP Classification	IP54
Temperature Range	0-50°C
Maximum Power	3000W
Rated Voltage	Single-phase 220V
Total Weight	578kg
Maximum Allowable Size of Pallet	1200mm*1200mm
External Sensor Type	NPN

Dimensional Drawing



AUBO WELDING WORKSATION



Product Advantages

01 Simple layout, flexible movement Unlike traditional welding robots, the AUBO welding workstation is compact and easy to move. It can be combined with a magnetic base, gantry, truss, etc. Suitable for quick switching in welding scenes with small batches and a variety of products, deployment can be completed in 10-15 minutes.

02 Easy-to-use welding software Combining welding technology and practical experience, the parameters are simplified, and the settings are digitalized. Ordinary workers can also complete welding tasks with different trajectories, materials, and process requirements through the parameter setting interface, meeting most welding scenarios.

03 Low cost, high return on investment The core components are made in China, with an average investment payback period of 6-12 months.

04 Equipped with a 6D mouse, efficient and smooth dragging Equipped with a self-developed 6D mouse with a patented design, it is easy to operate and highly controllable, greatly improving the precision of the collaborative robot's drag teaching; an integrated vision function is optional, with an integrated design, realizing drag-free vision-guided teaching.

05 Safety and stability are guaranteed Supports Level 10 collision detection and sensor safety checks, ensuring the end doesn't drop when powered off, making the product safe and stable.

06 High precision Millisecond-level system response speed ensures positioning accuracy, with a repeat positioning accuracy of up to ±0.1mm.

Parameters

Robot	
Degrees of Freedom	6
Reach	886.5mm
Payload	5kg
Weight	24kg
Mounting Surface Diameter	ϕ172mm
Repeatability	±0.05mm
Liner Velocity	⩽3.4m/s
Average Power	200W
Peak Power	1500W
Ambient Temperature	0-50°C
Ambient Humidity	90% RH (Non-condensing)
Installation Orientation	Any ceiling, floor, wall
IP Classification	IP54

Industry Applications

- Steel Structure Industry
- Heavy Machinery Welding
- Coal Mining Industry
- Shipbuilding Welding
- Bridge Welding
- Aerospace

Success Cases

Welding in the Steel Industry

A large steel factory uses AUBO Robotics welding workstations. These robots are lightweight, flexible in movement, and capable of quick layout changes. They can complete the welding layout for new products in just 10 minutes. A single operator can manage multiple welding robots, saving on labor costs.

Ship Welding

Thanks to the compact size, AUBO Robotics welding workstations can enter the narrow and hot spaces of shipbuilding workshops to perform welding tasks. While increasing welding efficiency, they also ensure the quality of welding.

AUBO SCREWDRIVING ROBOT

AUBO screwdriving robot can be easily deployed onto various machines, eliminating the necessity for external electric screwdrivers and significantly simplifying the screwdriving integration process. The programming process is made straightforward for all users including those with limited technical expertise in industrial screwdriving. AUBO screwdriving robot offers an intuitive user interface and customized project templates specifically designed for screwdriving applications; allowing for quick and easy set up of the robot for the job. AUBO's innovative screwdriving robot brings in a reliable, maintenance-free and cost-effective solution for our clients who want to improve their productivity with more automation.

FLEXIBLE DEPLOYMENT

AUBO screwdriving robot can be easily deployed on any machine and is ready to use without the extra need or hassle of integrating and configuring any electric screwdrivers. The simplified equipment integration process makes your production line more flexible and efficient, as well as keeping the long-term maintenance cost low.

EASY PROGRAMMING

AUBO screwdriving robot has a well-designed and intuitive user interface as well as project templates to enhance the user experience. Regardless of your technical background in industrial screwdriving, you can easily and quickly set up the robot to begin the production process.

QUICKINVESTMENT RETURN

AUBO screwdriving robot is integrated with an efficient screw bit locking module, which eliminates the need for separate electric screwdrivers and controllers. This reduces the initial cost of investment and significantly improves operational efficiency and equipment reliability, resulting in a quicker return on investment.

Product Advantages

- The fully integrated cobot-screwdriver significantly reduces the overall hardware costs.
- Powerful high-torque servo motors ensure excellent repeatability and versatility in your operations.
- The innovative and optimized system provides controllable and traceable torque and speed.
- The cobot-screwdriver features low noise, low vibration, long life, and high reliability.
- A two-in-one controller and software with a simplified interface and convenient operation.
- A library of tightening strategies provides rich customizability according to your needs.

Application Fields

Human-Robot Collaboration in

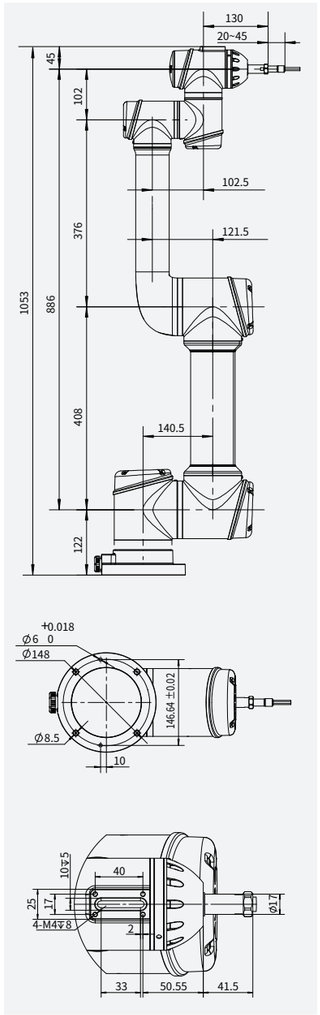
Automatic Screwdriving Solution

Parameters

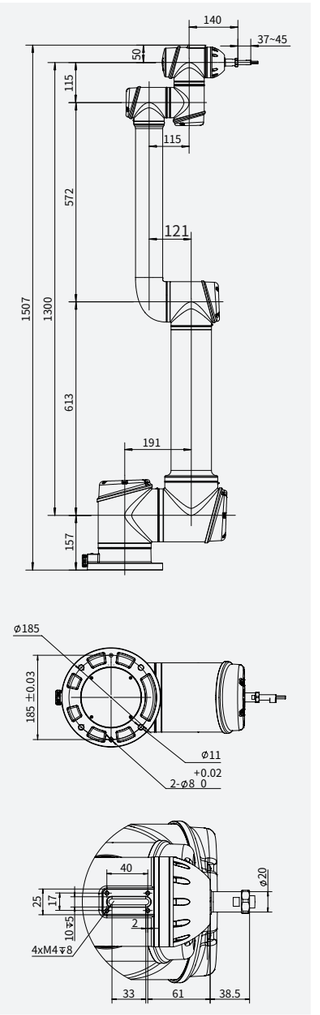
Model	iT-40-15	iT-60-30	iT-80-5	iT-60-15
Torque range (Nm)	2-15	3-30	5-50	2-14
Maximum speed (RPM)	750	650	500	1300
Motor power (W)	470	690	1000	690
Angle accuracy	±5%	±5%	±5%	±5%
Built-in spring extension length (mm)	25	25	25	25
Screw bits/socket size	Hex (6.35mm)	Hex (6.35mm) /Square W3/8"	Square W1/2"	Hex (6.35mm) /Square W3/8"
Reach (mm)	850	1300	1600	1300
Weight (Kg)	21.5	35	61	35
Repeatability	±0.05	±0.05	±0.05	±0.05

Dimensional Drawing

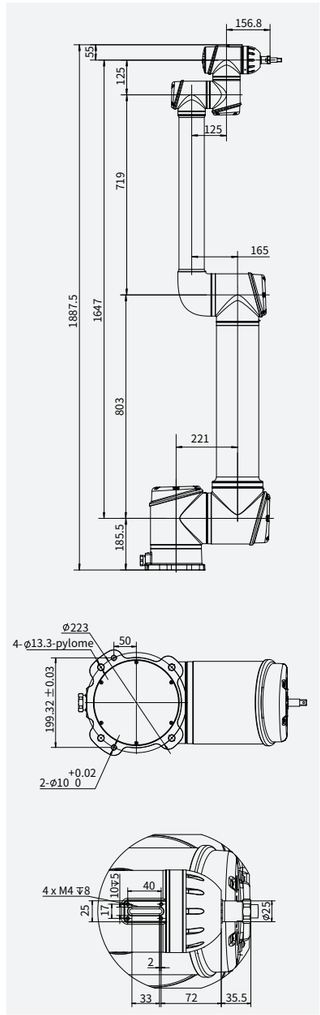
iT-40-15



iT-60-30/iT-60-15



iT-80-5



RECOMMENDED INDUSTRIES

AUBO collaborative robots are designed for a variety of industrial processes and can be operated with simple training.

- 3C
- Automobile
- Hardware and Household Appliances
- Machining
- Sanitary Appliances for Kitchens and Bathrooms
- Chemical Products for Daily Use
- New Retail
- Catering
- Medical Health
- Agriculture
- Logistics
- Scientific Research and Education
- Others

TYPICAL PROCESS

Industrial	Pick & Place Injection Molding	Assembly Gluing	Bagging & Palletizing Inspection	Screwing Soldering	Polishing & grinding
New-retail	Ice Cream Maker	Beverage Maker	Liquor Maker	Catering Robot	Smart Kitchen
Healthcare	Massage Robot	Auxiliary Puncture	Scanning	Moxibustion	
Mobile Cobot	Logistics Sorting	Pick & Place	Inspection	Patrol Robot	
Research and Education	Intelligent Production Line	Scientific Research and Development	Discipline Construction	Education Platform	

APPLICATION CASES

Industrial Field


3D Scanning and inspection


Inspection of parts


mobile phone camera detection


Appearance inspection of auto parts


Inspection of circuit boards


Instrument assembly


Assembly and screwing of white household appliances


Rubber assembly of auto electronic control systems


Intelligent assembly of auto parts


Welding


Gluing of vehicle windows


Palletizing


Vacuum cup stretching line


Frame coating


Machine Tending


Machine Tending

APPLICATION CASES

NEW RETAIL / SERVICES

Latte art robot

Beauty mystery box picking

Milk tea workstation

HEALTHCARE

Massage robot

Surgical robot

Reagent testing

MOBILE COBOT

Inspection robot

Intelligent archives

5G Patrol robot

RESEARCH AND EDUCATION

Robot with digital twin technology

Music box assembly line

Education and training platform

OTHER FIELDS

Agricultural picking

High-voltage distribution cabinet operation

Hygiene & cleaning

AUBO ROBOTICS

www.aubo-cobot.com

APPLICATION CASES

Automobile

Glass Gluing & Sealing

This is the window glass gluing & sealing project customized for a well-known automobile company. Industrial robots or manual gluing is adopted on the traditional production lines. Due to safety restrictions, traditional industrial robots need to be separated from workers by guardrails, and the utilization rate of the production line is limited. It is difficult for manual gluing to control the accuracy and quality.

Quick deployment and small footprint with human-machine collaboration. Uniform gluing speed and glue type control precision of ±0.5mm.

Continuous Efficient Operation

Since being put into use in August 2019, the cobot has been running efficiently in good condition for 16 hours a day, and can completely replace manual labor.

Automobile

Engine Screwing

This is the engine assembly line renovation project of a well-known automobile company. Previously, the screw locking operation was mainly completed by manual labor. Manual operation is labor-intensive, assembly quality is not consistent enough, and it is difficult to improve the yield of finished products. The workshop space is relatively narrow, and the volume and freedom are highly limited. In addition, the screwing has a fixed sequence, the screws are divided into 5 categories and more than 100 sub-models, requiring visual identification of common features. Precise screw torque and high positioning repeatability are required.

The terminal screwing device adopts a screw gun with controllable torque, and it has compact structure and high torque control accuracy. The “eye-to-hand” vision system is selected, and the vision sensor is independently fixed on the bracket to ensure high positioning repeatability.

Reduced Manpower and Increased Productivity

Since operation in April 2019, the production efficiency has been increased by 18%, the product yield has been increased by 12%, the number of personnel has been reduced by 50%, and the labor cost has been reduced by 30%.

3C

Mobile Phone Camera Testing

This is the camera function testing process of a well-known mobile phone manufacturer. Previously, the testing operation was performed by manual labor. The testing environment is divided into indoor and outdoor, and a variety of products, statuses and angles are involved, which are difficult to control for manual labor. The testing is cumbersome and labor-intensive, needs long continuous operation time.

AUBO adopts the mobile cobot solution (AGV + collaborative robot) to work in the live-action studio according to the specified shooting angles.

Stable and Efficient

24-hour operation is possible, and more comparative data can be captured in the same time period, so the efficiency is significantly improved.

Machining

Machine Tending

This is the machining production line renovation project of a well-known company. The company mainly produces precision machinery parts, such as various industrial sewing machine parts, power tool parts and auto parts. With the growth of business volume, manual operation can no longer meet the production demands.

There are a wide range of products, and one person can only handle 2 machines for original production equipment, cannot accurately complete all tasks. Problems such as on-site environment and equipment noise have led to a series of common problems in traditional manufacturing industry, such as labor shortage and increasing labor cost.

Flexible Deployment

The reach of the collaborative robot used in this solution can be up to 1350mm, and the customer can directly deploy on the original factory without changing the layout of the production line. Flexible pick & place of parts is achieved in the narrow working space, and one robot is working for 2 machines. In the original production process, one person can operate up to 2 machines at the same time. After the deployment of collaborative robots, two persons can handle 12 machines at the same time. In this way, the production scale has tripled, while the personnel have not undergone major changes.

APPLICATION CASES

Medical Health

Massage Robot

Traditional Chinese Medical Massage has always been one of the first choices for people to carry out cervical and lumbar care or pain management. But the shortage of professional massagist has been a major problem in the industry. AUBO developed the massage therapy robot together with our partner, committed to proving safe, temperature-controlled, efficient and standard services in the full process of massage.

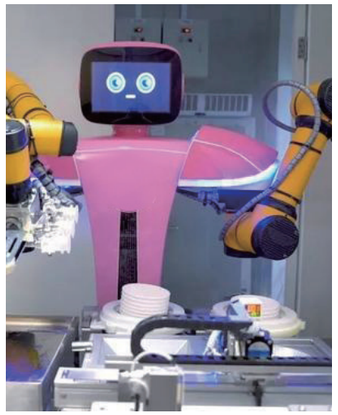
The end of the cobot is equipped with a force sensor, a 3D vision, a massage head and a thermal imaging, when the robot arm walks the massage track on the human body, it can ensure the safe and stable operation of the robot without hurting the human body accidentally. And there are different types of strengths that can be switched automatically during the massage according to customers' force preference.

New-retail

Dual-Arm Hamburger Robot

In smart catering industry, AUBO has started business operation officially by cooperating with many restaurants at present. In addition to hamburger robots, the application of robots in restaurants includes stir-fry robots, soup rice robots, drinks robots, frying robots, dessert robots and meals-delivery robots, etc.

In this case, two sets of AUBO i3 cobots are installed inversely, which can be compatible with two collaborative robots to make hamburgers at the same time. After a customer places an order by scanning the QR code, the upper computer sends a signal to the cobots to start the making of hamburger. One cobot mainly grabs bread pieces from the material silo and sends them to the heating furnace, and cooperates with the sauce machine to pour the sauce onto the heated bread pieces; the other cobot takes vegetables and returns the tray. Then, the cobots complete the combination of the upper and lower pieces of bread. After packing, the cobot places the packed hamburger onto the conveyor belt. The customer can scan the QR code to open the pickup window. Here, the purchase process is completed.



Mobile Cobot

Semiconductor Handling

This is the logistics automation renovation project in the packaging and testing workshop of a semiconductor industry. At present, the industry is mainly based on manual labor. Manual handling has problems such as large vibration, being easy to cause particle pollution, discontinuous operation, wrong handling and poor consistency. The workshop has a high level of cleanliness, a complex layout, a narrow space and a wide variety of equipment with discrete production processes and complex technological processes. The industry order demands are flexible, and it is impossible to form a simple and effective flow-line production.

The mobile cobot and the intelligent dispatching logistics control system help the factory realize an intelligent unmanned production workshop. The mobile cobot is based on the hybrid positioning and natural navigation technology of the laser natural navigation. The indoor positioning repeatability of ±5mm can be achieved without environment modification while the dust-free operation meets the standard. Equipped with a 360°-scanning dual safety lidar, obstacles can be identified intelligently and avoided actively, ensuring safe, high-speed and smooth operation. Target positions such as cartridge holder and tray can be positioned and captured accurately through AI algorithm, 3D visual positioning, force sensor and collaborative robot.

24-hour Operation and Labor Liberation

The solution realizes the die bond among various processes, and 24-hour continuous operation is possible so as to liberate labor, solve information flow conversion, and realize workshop production visualization and production process operation control.

Electric Power Industry

Distribution Room Inspection

This is the automatic distribution room inspection project of a power industry user. At present, the industry is mainly based on manual inspection. The automation equipment in the distribution room operates all the year round, so the failure rate is high. The inspection frequency is high, the work is cumbersome, and the manual inspection burden is heavy. The switch on the low-voltage side of the distribution room cannot be remotely controlled, and automation cannot be achieved through the equipment in the cabinet.

In cooperation with China Unicom, a dedicated 5G channel ensures safe and stable operation of the robots. The big data image recognition intelligently distinguishes equipment fault signals, and provides intelligent safety monitoring for the robot manipulation equipment to prevent misoperation and faults. The inspection robot can independently complete more than ten functions such as equipment inspection, device panel control, faulty part replacement, device restart, and switch opening & closing. The historical alarm records in the device can be viewed to make up for the shortcomings of the inability to collect alarm information when the equipment in the station malfunctions.

Unmanned Operation

The inspection robot has the characteristics of low cost, high reliability, high safety and strong universality, and can be maturely applied to most scenarios in which unmanned equipment operation is required, such as distribution rooms, computer rooms and industrial enterprises.

GLOBAL SERVICES

Around the global headquarters and manufacturing bases, AUBO has established sales centers in the eastern region, southern region and northern region, etc. of China, and overseas after-sales service centers in the USA and Germany, etc. Now, AUBO has more than 200 distributor partners from more than 50 countries in the world, and can provide efficient and convenient professional services for you.

Integrated Services

To provide technology evaluation, accessory selection and debugging services.

Training Services

To provide product usage trainings to distributors free of charge regularly, and cultivate professional robot engineers for customers.

Communication Platforms

To realize real-time technology answers and resource sharing by technical forum and hotline.

Maintenance

To provide lifetime repair and customized maintenance of robots, and provide software upgrading package to customers and instruct them how to install.

	Model	i3		i5		i7		i10		i12		i16		i20	
Robot	Degrees of Freedom	6		6		6		6		6		6		6	
	Reach (mm)	625		886.5		786.5		1350		1250		967.5		1650	
	Payload (kg)	3		5		7		10		12		16		20	
	Weight (kg)	16		24		24		38.5		40		38		63	
	Mounting Surface Diameter (mm)	Ø140		Ø172		Ø172		Ø220		Ø220		Ø220		Ø260	
	Repeatability (mm)	±0.02		±0.02		±0.02		±0.03		±0.03		±0.03		±0.1	
	Linear Velocity (m/s)	⩽1.9		⩽3.4		⩽3.0		⩽4.0		⩽3.8		⩽3.0		⩽2.6	
	Average Power (W)	150		200		200		500		500		600		1000	
	Peak Power (W)	1000		2000		2000		2000		2000		2000		3000	
	Ambient Temperature (°)	0-50		0-50		0-50		0-50		0-50		0-50		0-50	
	Ambient 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)	
	Installation Orientation	Any ceiling, Floor, Wall		Any ceiling, Floor, Wall		Any ceiling, Floor, Wall		Any ceiling, Floor, Wall		Any ceiling, Floor, Wall		Any ceiling, Floor, Wall		Any ceiling, Floor, Wall	
	IP Classification	IP54		IP54		IP54		IP54		IP54		IP54		IP54	
	ISO 14644-1 Cleanliness Class	5		5		5		5		5		5		5	
Axis Movement		Working Range (°)	Maximum Speed (°/s)	Working Range (°)	Maximum Speed (°/s)	Working Range (°)	Maximum Speed (°/s)	Working Range (°)	Maximum Speed (°/s)	Working Range (°)	Maximum Speed (°/s)	Working Range (°)	Maximum Speed (°/s)	Working Range (°)	Maximum Speed (°/s)
	joint 1	±360	178	±360	223	±360	223	±360	178	±360	178	±360	178	±360	93
	joint 2	±360	178	±360	223	±360	223	±360	178	±360	178	±360	178	±360	93
	joint 3	±360	178	±360	223	±360	223	±360	223	±360	267	±360	267	±360	178
	joint 4	±360	237	±360	237	±360	237	±360	178	±360	178	±360	178	±360	178
	joint 5	±360	237	±360	237	±360	237	±360	237	±360	178	±360	178	±360	178
	joint 6	±360	237	±360	237	±360	237	±360	237	±360	178	±360	178	±360	178

*Each joint has the ability of ±360°, but limited by the application scenario, part of the joints may not be reached.

Category		Control Box
Control Box	Model	AUBO-CB-M
	Dimensions	390mm*370mm*265mm/410mm*390mm*285mm (i20)
	Weight	15kg/16kg (i20)
	Cabling Connecting the Robot	5m (customizable,up to 8m)
	Cabling Connecting the Teach Pendant	4m
	Cabling Connecting the Power	5m
	Communication	Ethernet、ModBus-RTU/TCP、Profinet (optional)
	Interface	SDK (support C/C++/C#/Lua/Python)、support ROS、API
	Power Supply	100-240VAC, 50-60Hz
	IP Classification	IP43

AUBO-CB-M

Control Box I/O/Tool I/O		Control Box	Tool End
I/O Port	Digital In	16 (general) /16 (safe)	4 (optional)
	Digital Out	16 (general) /16 (safe)	4 (optional)
	Analog In	4	2
	Analog Out	4	-
I/O Power	Output Voltage	24V	0V/12V/24V
	Output Current	3A Max	0.8A

Teach Pendant		
	Model	AUBO-TP
	Dimensions	322*236*45.2mm (Excluding E-Stop Button)
	Weight	2.56kg (Including Cable)
	IP Classification	IP43

Teach Pendant

Technical Specifications

	Model	iS7	iS10	iS20	iS25	iS35
Robot	Degrees of Freedom	6	6	6	6	6
	Reach (mm)	886.5	1300	1647	1700	2100
	Payload (kg)	7	10	20	25	35
	Weight (kg)	21.5	36	64	64	155
	Mounting Surface Diameter (mm)	Ø170	Ø218	Ø255	ϕ282	Ø425
	Repeatability (mm)	±0.02	±0.03	±0.05	±0.05	±0.05
	Linear Velocity (m/s)	⩽3.6	⩽4.0	⩽4.2	⩽4	<6
	Average Power (W)	200	500	1000	1000	2000
	Peak Power (W)	2000	2000	3000	3000	6000
	Ambient Temperature (°)	0-50	0-50	0-50	0-50	0-50
	Ambient Humidity	90% RH (Non-condensing)	90% RH (Non-condensing)	90% RH (Non-condensing)	90% RH (Non-condensing)	90% RH (Non-condensing)
	Installation Orientation	Any ceiling, Floor, Wall	Any ceiling, Floor, Wall	Any ceiling, Floor, Wall	Any ceiling, Floor, Wall	Any ceiling, Floor, Wall
	IP Classification	IP67 (up to IP68)	IP67 (up to IP68)	IP67 (up to IP68)	IP67 (up to IP68)	IP67 (up to IP68)
	ISO 14644-1 Cleanliness Class	5	5	5	5	5
Axis Movement		Working Range (°) Maximum Speed (°/s)	Working Range (°) Maximum Speed (°/s)	Working Range (°) Maximum Speed (°/s)	Working Range (°) Maximum Speed (°/s)	Working Range (°) Maximum Speed (°/s)
	joint 1	±360 237.6	±360 178	±360 148.7	±360 148.7	±360 148.7
	joint 2	±360 237.6	±360 178	±360 148.7	±360 148.7	±360 148.7
	joint 3	±162 237.6	±167 237.6	±168 178	±360 178	±168 178
	joint 4	±360 296.3	±360 296.3	±360 296.3	±360 296.3	±360 296.3
	joint 5	±360 296.3	±360 296.3	±360 296.3	±360 296.3	±360 296.3
	joint 6	±360 296.3	±360 296.3	±360 296.3	±360 296.3	±360 296.3

*Each joint has the capability of ±360 degrees, with joints 2, 3, 4, and 5 software-locked to ±175 degrees. If required by the customer, joints 4 and 5 can be unlocked to enable the full range of ±360 degrees; however, joints 2 and 3 will not be unlocked.

	Category	Control Box
Control Box	Model	AUBO-IS-CB-M
	Dimensions	400mm*320mm*160mm
	Weight (kg)	12.5
	Cabling Connecting the Robot	5m(customizable,up to 8m)
	Cabling Connecting the Teach Pendant	4m
	Cabling Connecting the Power	5m
	Communication	Ethernet, ModBus-RTU/TCP, Profine(t Optional)
	Interface	SDK (C++/Pyhton/JavaScript Windows + Linux), support ROS/ROS2
	Power Supply	100-240V AC, 50-60Hz
	IP Classification	IP43

AUBO-IS-CB-M

	Control Box I/O/Tool I/O		Control Box	Tool End
	I/O Port	Digital In	8 (general)/ 8 (safe)	4(optional)
		Digital Out	8 (general)/ 8 (safe)	4(optional)
		Analog In	2	2
		Analog Out	2	-
		RS485	1	1
	I/O Power	Output Voltage	24V	0V/12V/24V
		Output Current	2A	2A (Peak 3A)

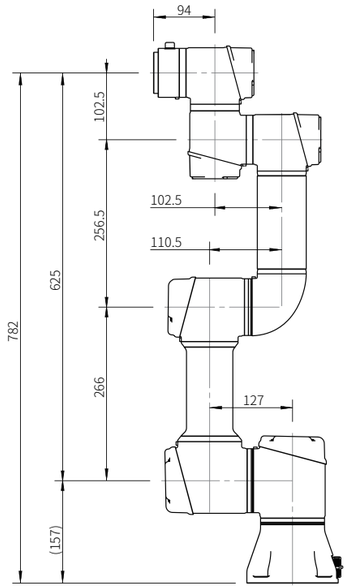
Teach Pendant	Model	AUBO-IS-TP
	Dimensions	254*213.1*40.8mm
	Weight	1.0 kg
	IP Classification	IP43
	Color	Orange + Black

Teach Pendant

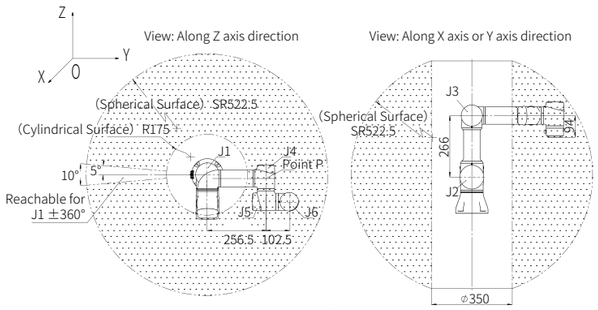
Technical Specifications

i3

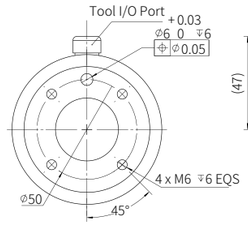
DIMENSIONAL DRAWINGS



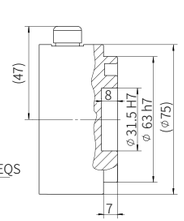
AUBO-i3 Dimensions

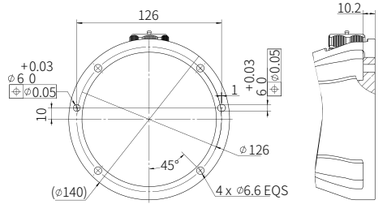


AUBO-i3 Moving Range of Point P



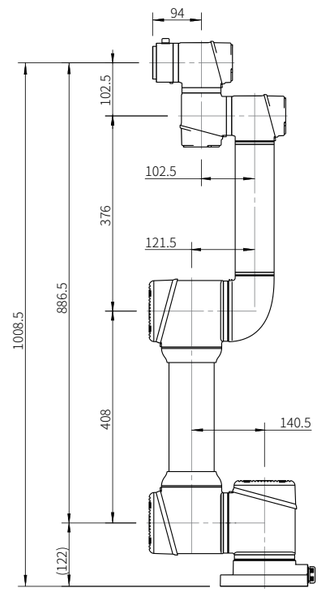
AUBO-i3 Tool End Flange



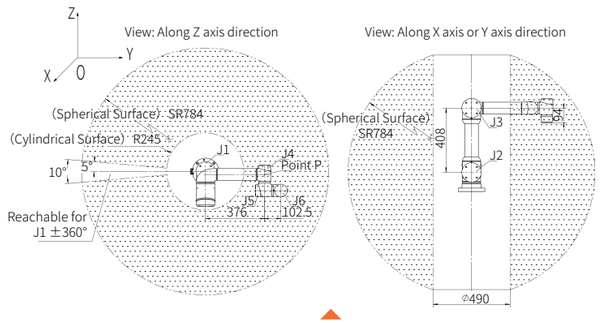


AUBO-i3 Top View of Base

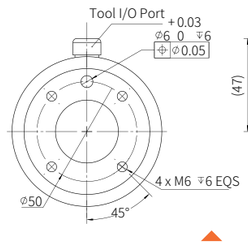
i5



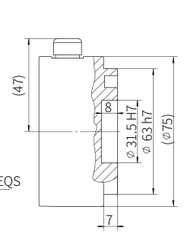
AUBO-i5 Dimensions

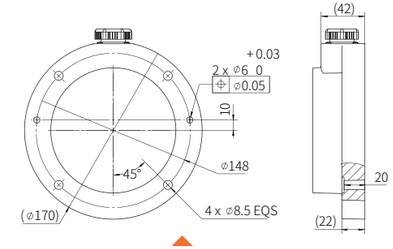


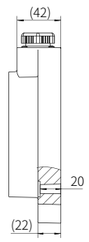
AUBO-i5 Moving Range of Point P



AUBO-i5 Tool End Flange



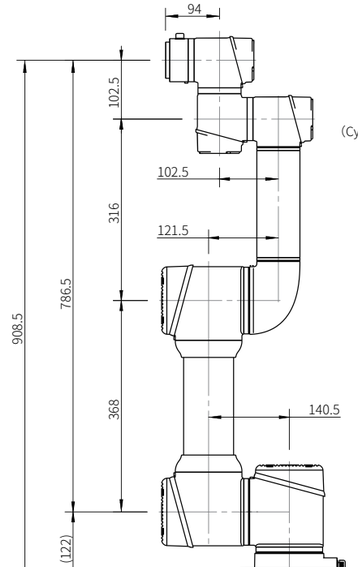




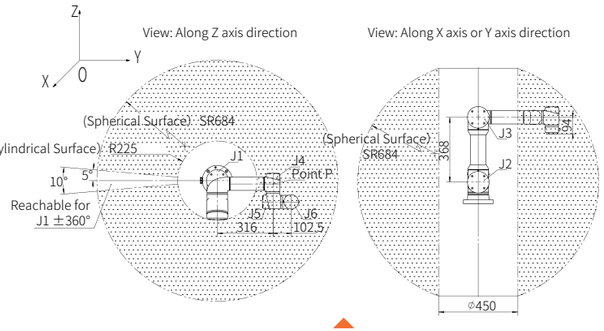
AUBO-i5 Top View of Base

i7

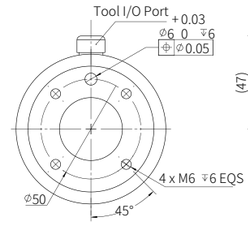
DIMENSIONAL DRAWINGS



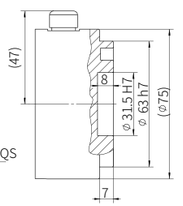
AUBO-i7 Dimensions

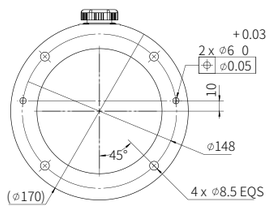


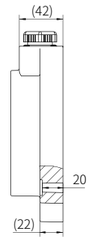
AUBO-i7 Moving Range of Point P



AUBO-i7 Tool End Flange

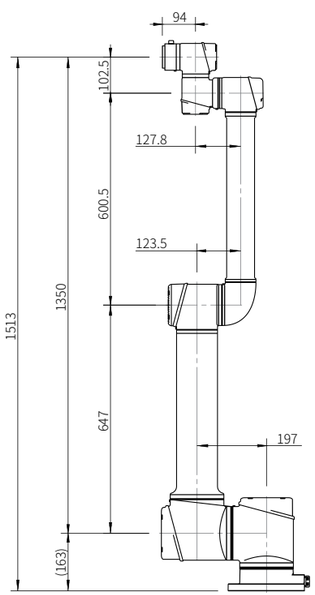




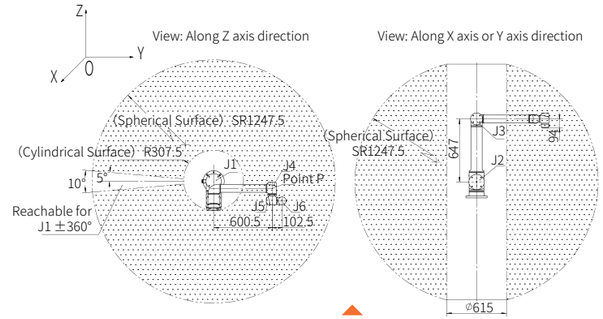


AUBO-i7 Top View of Base

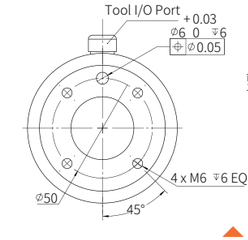
i10



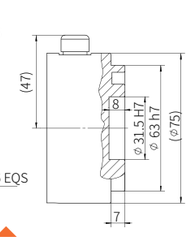
AUBO-i10 Dimensions

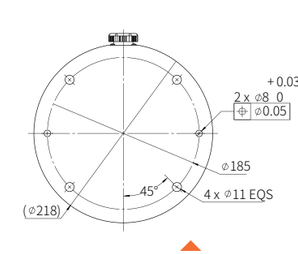


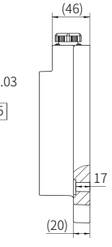
AUBO-i10 Moving Range of Point P



AUBO-i10 Tool End Flange



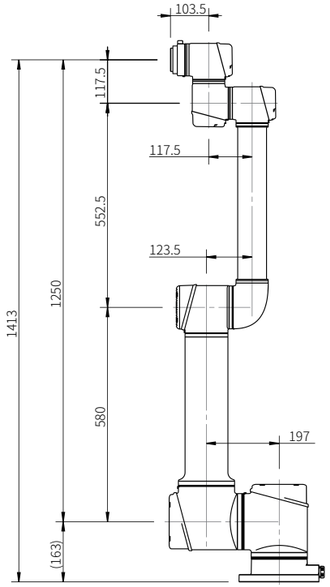


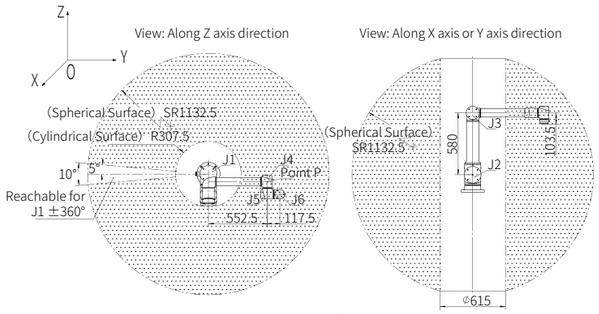


AUBO-i10 Top View of Base

i12

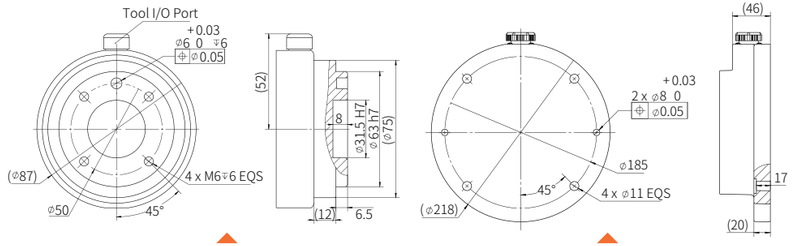
DIMENSIONAL DRAWINGS





AUBO-i12 Moving Range of Point P

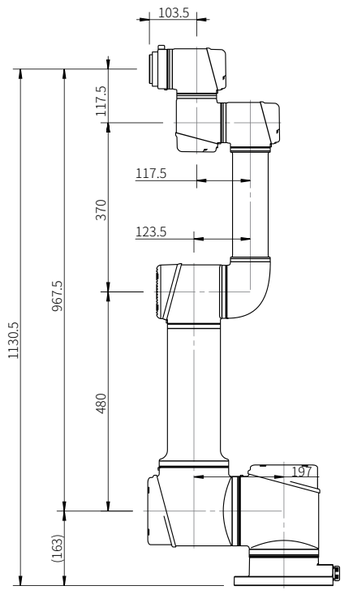
AUBO-i12 Dimensions

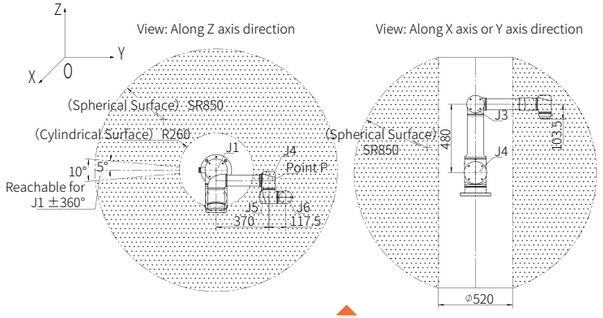


AUBO-i12 Tool End Flange

AUBO-i12 Top View of Base

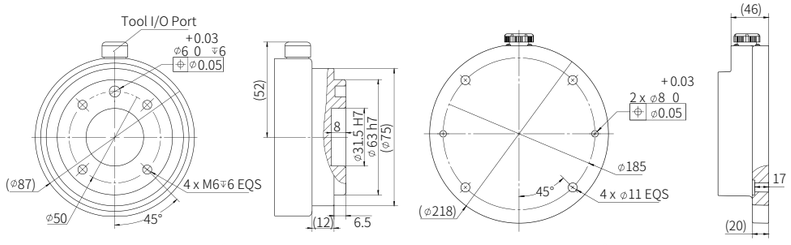
i16





AUBO-i16 Moving Range of Point P

AUBO-i16 Dimensions

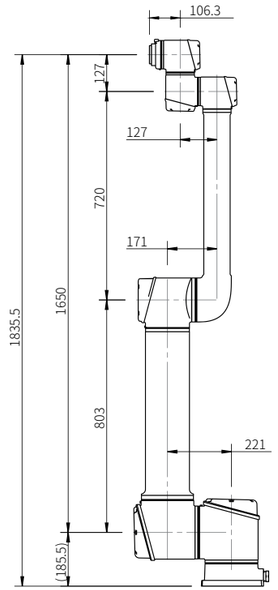


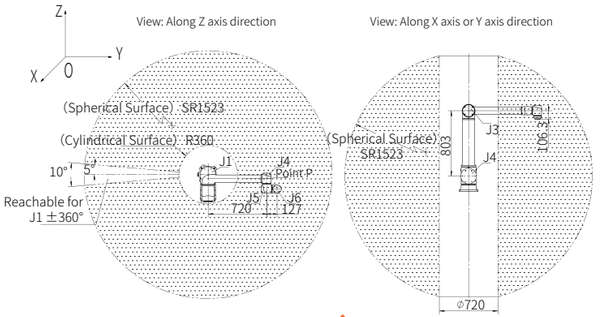
AUBO-i16 Tool End Flange

AUBO-i16 Top View of Base

i20

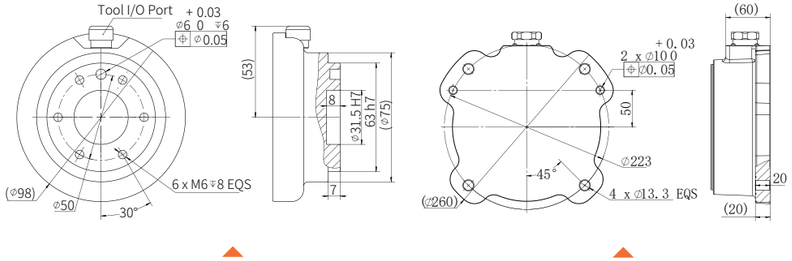
DIMENSIONAL DRAWINGS





AUBO-i20 Moving Range of Point P

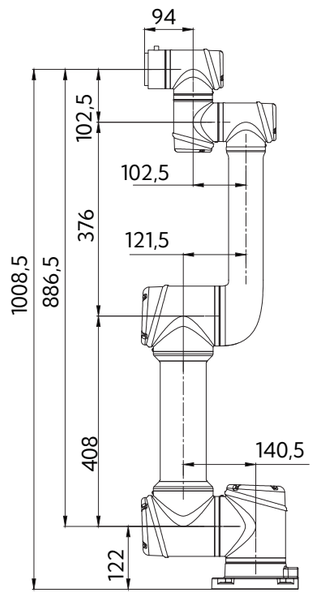
AUBO-i20 Dimensions

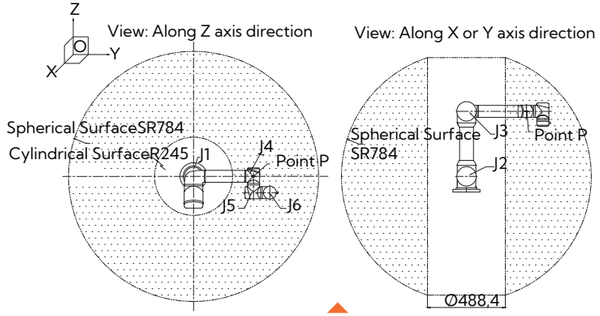


AUBO-i20 Tool End Flange

AUBO-i20 Top View of Base

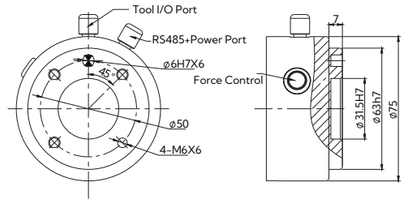
iS7



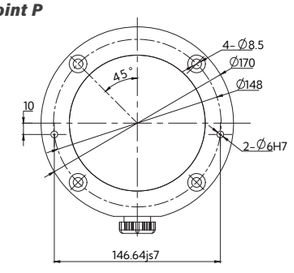


AUBO-iS7 Moving Range of Point P

AUBO-iS7 Dimensions



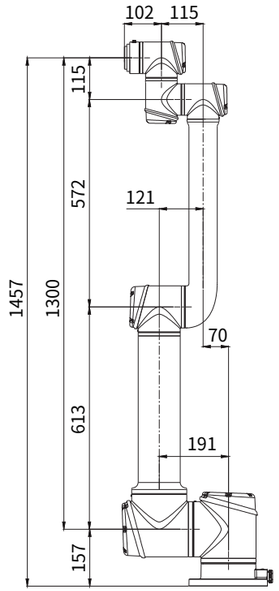
AUBO-iS7 Tool End Flange

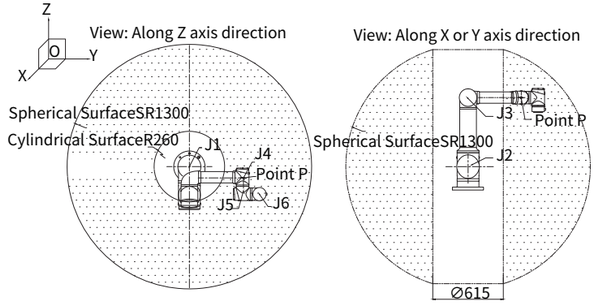


AUBO-iS7 Top View of Base

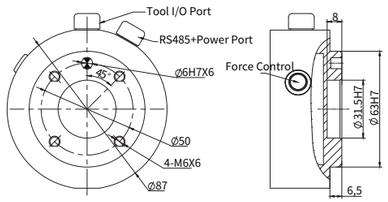
iS10

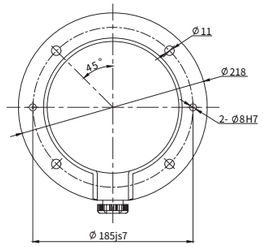
DIMENSIONAL DRAWINGS





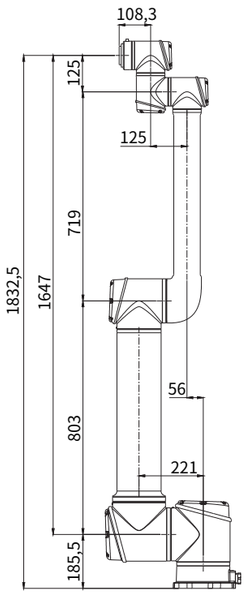
AUBO-iS10 Moving Range of Point P

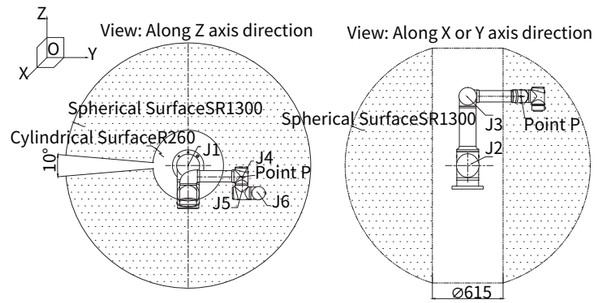




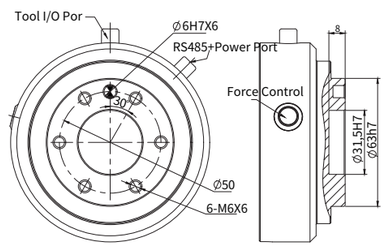
AUBO-iS10 Dimensions | *AUBO-iS10 Tool End Flange* | *AUBO-iS10 Top View of Base*

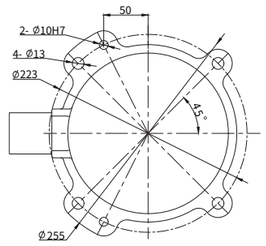
iS20





AUBO-iS20 Moving Range of Point P

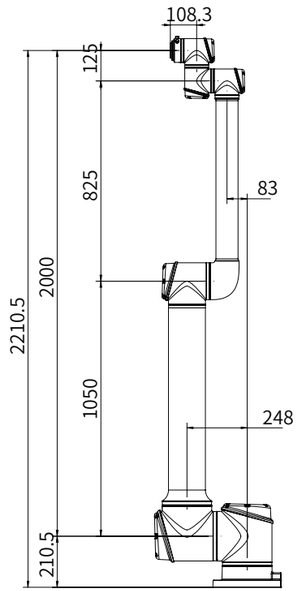


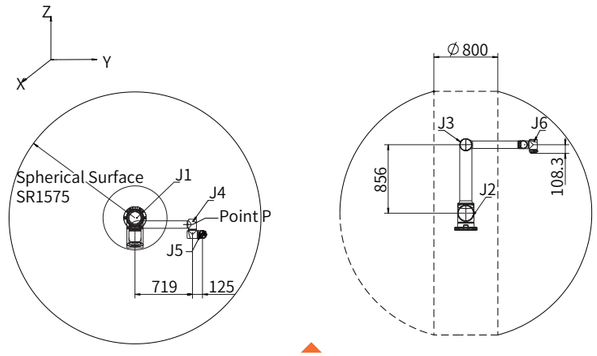


AUBO-iS20 Dimensions | *AUBO-iS20 Tool End Flange* | *AUBO-iS20 Top View of Base*

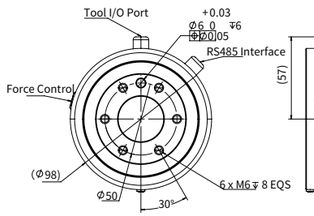
iS25

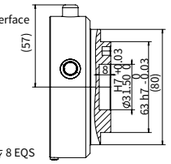
DIMENSIONAL DRAWINGS

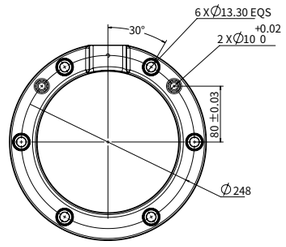


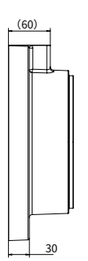


AUBO-iS25 Moving Range of Point P



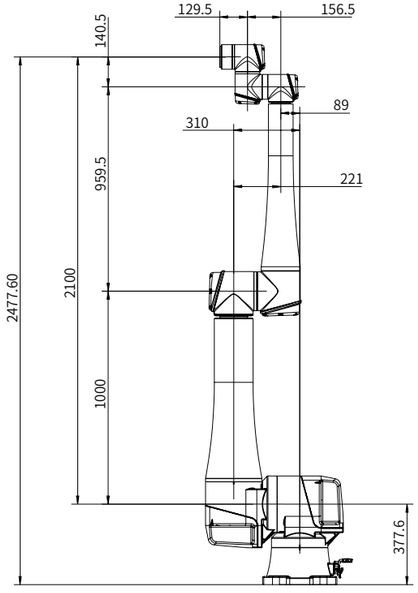


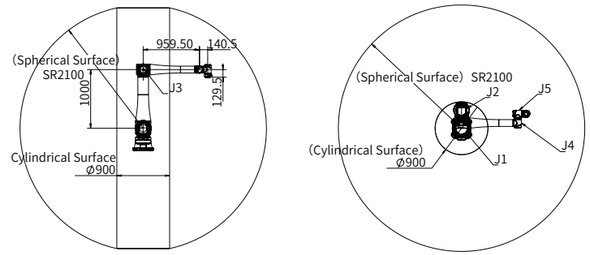




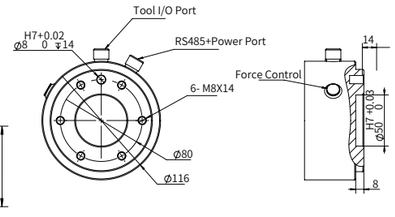
AUBO-iS25 Dimensions | *AUBO-iS25 Tool End Flange* | *AUBO-iS25 Top View of Base*

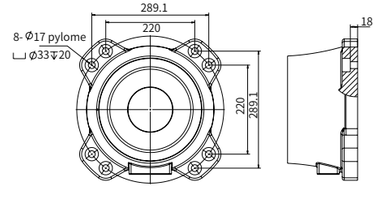
iS35





AUBO-iS35 Moving Range of Point P





AUBO-iS35 Dimensions | *AUBO-iS35 Tool End Flange* | *AUBO-iS35 Top View of Base*

AUBO