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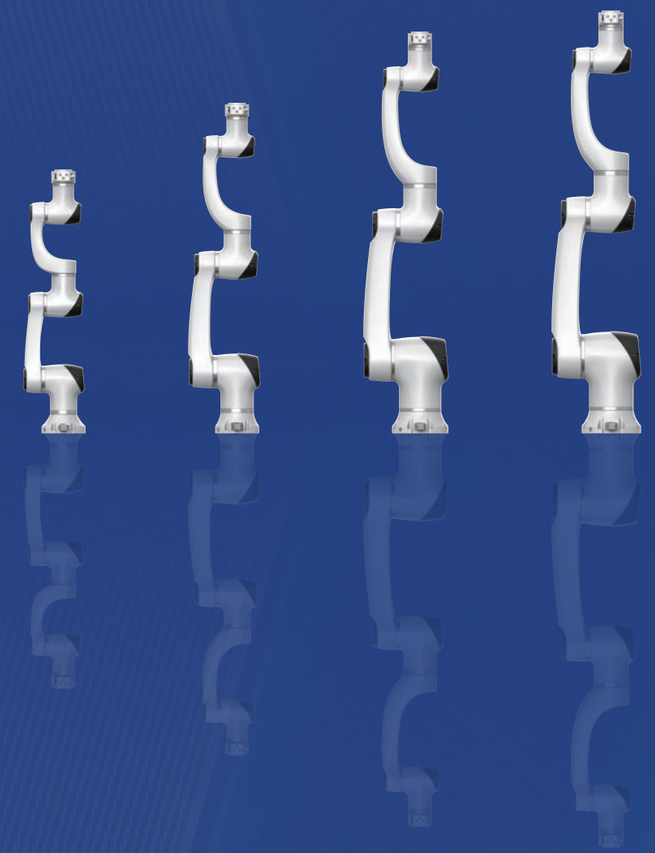
MOTION CONTROL PRODUCTS

HAN'S ROBOT 大族机器人



International service hotline

400-852-9898

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Shenzhen Han's Robot Co., Ltd.

www.hansrobot.net

Catalogue

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HAN'S ROBOT
大族机器人

Company Profile

Vision

To be the global leader in the era of intelligent robots

Mission

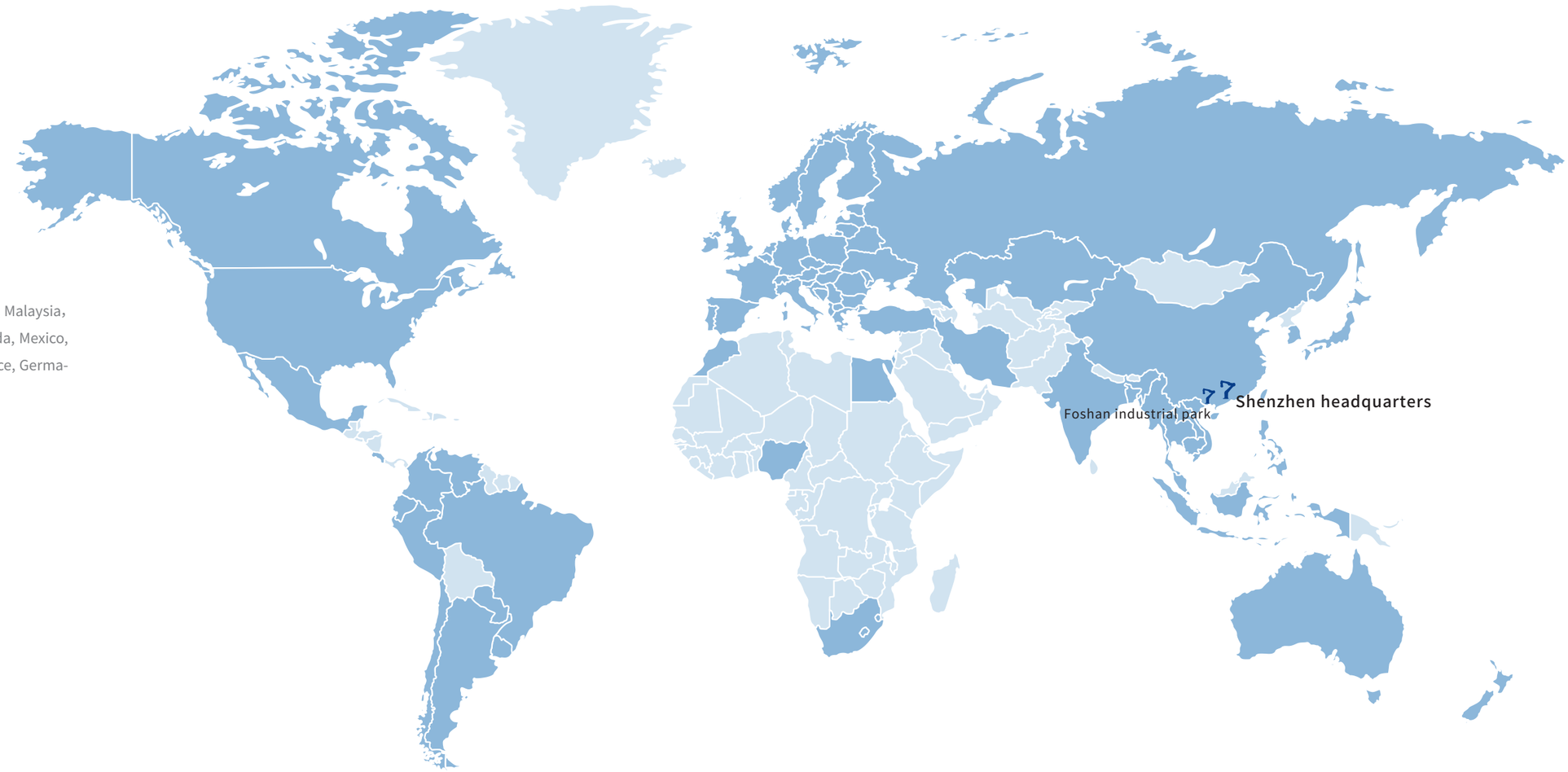
Serve humanity with robot technology

Values

Lead, fast-speed, service, sharing, passion, enthusiasm, curiosity

Shenzhen Han's Robot Co., Ltd., invested and established by Han's Laser Technology Group (stock name: Han's Laser, stock code: 002008), is a high-tech enterprise established on the basis of the Robot Division from Han's Motor. It was founded in August, 2017 with its headquarter and production base located in Han's Laser global intelligent manufacturing base, Bao'an District, Shenzhen. Han's Robot is dedicated to the development, promotion and application of intelligent robots in industry, healthcare, logistics, services and so on, becoming the global leader in the era of intelligent robots.

Global Service Network



Partners from more than 100 countries

China, South Korea, Japan, Thailand, Singapore, Malaysia, Australia, New Zealand, the United States, Canada, Mexico, Brazil, Colombia, Argentina, Russia, Britain, France, Germany, Spain, the Netherlands, Italy, etc.

Top talents from 25+ countries & regions

400+	200+	25+
400+ Employees	200+ Professional engineers	Countries

Milestones

1996
Han's Laser established

2004
Han's Laser listed

2005
Han's Motor established

2014
Han's Robotics Research Institute established

2016
First-generation collaborative robot ELFIN released

2017
Shenzhen Han's Robot Co., Ltd. established

September 2020
165 million Series A round financing completed successfully

November 2020
Han's Robot Advanced Manufacturing Demonstration Park launched in Foshan

June 2021
395 million B1 round financing completed successfully

Han's Robot

Product Advantages

Han's Robot has been constantly exploring the breadth and depth for serving human by its self-developed leading collaborative robot technologies. The payload of the robots vary from 3kg to 18kg which can meet the requirements of various customers. Moreover, Han’ s Robot has developed products from the first generation 6-axis collaborative robots Elfin robot to the second-generation Elfin-P robot with higher performance.

Each joint with a motion range of ±360°

- High motion efficiency
- More possible positions of high difficulty
- Most flexible collaborative robot
- Low power consumption

Self-developed dual-joint modules

- Self-developed dual-joint modules
- Unique arm design, optimized singularity points
- Higher integration
- Higher flexibility

EtherCAT

EtherCAT bus communication

- Strong anti-interference ability
- High communication frequency and fast speed
- High safety, accurate motion trajectory
- Accessible data for all joints

Self-developed of core components

- Completely self-developed core components from Han’ s Group
- Complete set of motors, servo drive
- Grating encoder, 6-dimensional force/ torque sensor
- Electromagnetic brake, high-speed inverter

Advantages

Innovative brake method

- The robot will automatically rebound and then stop when encounter any resistance.
- Output force and power controlled within the safety range to ensure personnel safety.
- Innovative brake design. The robot will be locked immediately in case of a sudden power failure or emergency stop during operation. It will not slide, fall or move at all

More than 16 years of industrial experience

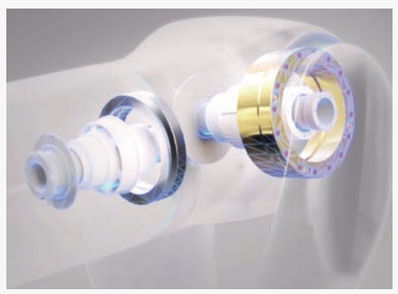
- Incubated from the Robotics Research Institute team of Han's Motor
- More than 16 years experience in motors, servo drives and motion control
- Long-term cooperation with famous universities at home and abroad
- Dedicated to collaborative robot technologies and applications

IP66 protection rating

- Higher waterproof and dust-proof protection
- Suitable for harsher environments
- And can avoid external objects and dust
- Applicable to more working conditions

More open platform

- Open source ROS interface, which allows users to control the robot joints in real time through EtherCAT under the ROS environment
- ROS platform, which greatly improves the robot's scalability. The robot can be controlled without an additional control box
- Used for ROS teaching in colleges and universities



ISO class 5 cleanroom

- The surface cleanliness of the whole robot is excellent due to the excellent waterproof and dust-proof performance
- Optimized structure of internal parts, low mutual friction, avoiding damage
- Excellent sealing of the whole robot, without impurities intrusion
- Automotive and aerospace industry standards, ensuring high quality

Graphical control

- Graphical software design, intuitive, easy to understand, easy to operate
- User-friendly interface logic design, easy to use
- The software controls the robot with instant reactions, without delay, out of control and other symptoms
- Remote control via touchscreen, excellent human-machine experience

Han's Robot

Plug & Play Tools

Adhering to the ecological concept of "all are friends in the world", Han's Robot has created a more complete and open collaborative ecosystem, and designed various IO and communication interfaces. These IO interfaces greatly expand the application scope of the robot and can support “plug and play” with most accessories in the industrial ecosystem, such as grippers, vision, and sensors, which can meet the needs of multiple scenarios such as loading and unloading, assembly, testing, handling, screw driving, grinding, spraying etc.

Force Sensor

 Link-touch	 SRI	 Onrobot
 ATI	 Robotiq	 Hypersen

Vision

 Micromatch	 Basler	 Cosmosvision
 Mech-Mind	 Cognex	 Seizet
 Keyence	 Hikvision	 UBSense

Grippers

 Robotiq	 SMC	 RobustMotion
 Onrobot	 Schunk	 HIWIN
 DH-Robotics	 SRT	

Scan code to join us

Han's Robot Partner Ecosystem

To build an open,shared and win -win industrial ecosystem!

"POSS" Concept

The smartest body, the smartest brain:

Han's Robot believes that the characteristics of a good collaborative robot can be summarized as POSS. We are dedicated to the research and application expression of cutting-edge robotics technology, and the development of robots with the smartest body and the smartest brain.

Higher Performance

More Open

More Smart

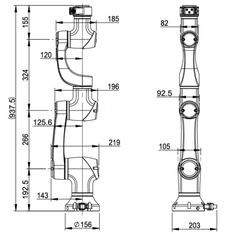
More Safe

Overview

Model	E03	E05	E05-L	E10	E10-L	E15	P03	P05	P05-L	P10	P10-L
Weight	18kg	25kg	26kg	43kg	45kg	60kg	19kg	26kg	27kg	45kg	48kg
Payload	3kg	5kg	3.5kg	10kg	8kg	15kg	3kg	5kg	3.5kg	10kg	8kg
Reach	590mm	800mm	950mm	1000mm	1300mm	1300mm	590mm	800mm	950mm	1000mm	1300mm
Power consumption	100W typical application	180W typical application	180W typical application	350W typical application	350W typical application	600W typical application	100W typical application	180W typical application	180W typical application	350W typical application	350W typical application
Joint range	±360°								±360°		
Joint speed	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J2 100°/s J3-J4 150°/s J5-J6 180°/s	J1-J2 100°/s J3-J4 150°/s J5-J6 180°/s	J1-J2 80°/s J3-J4 120°/s J5-J6 150°/s	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J2 120°/s J3-J4 135°/s J5-J6 180°/s	J1-J2 100°/s J3-J4 135°/s J5-J6 180°/s
Tool speed	2m/s								2m/s		
Repeatability	±0.03mm	±0.03mm	±0.03mm	±0.05mm	±0.05mm	±0.1mm	±0.02mm	±0.03mm	±0.03mm	±0.05mm	±0.05mm
Degrees of freedom	6								6		
Control box size	536*445*319mm								536*445*319mm		
End I/O port	Digital input: 3, digital output: 3, analog input: 2								Digital input: 3, digital output: 3, analog input: 2		
Control box I/O port	Digital input: 16, digital output: 16, analog input: 2, analog output: 2								Digital input: 16, digital output: 16, analog input: 2, analog output: 2		
I/O source	24V 2A								24V 2A		
Communication	TCP/IP and Modbus								TCP/IP and Modbus		
Programming	Graphical programming, remote call interface								Graphical programming, remote call interface		
IP rating	IP54								IP66		
Collaborative operation	10 advanced security configuration functions								10 advanced security configuration functions		
Main material	Aluminum alloy								Aluminum alloy		
Working temperature	0-50°C								0-50°C		
Power input	200-240V AC, 50-60Hz								200-240V AC, 50-60Hz		
Cable	Cable to the control box: 5 m, cable to the teach pendant: 5 m								Cable to the control cabinet: 5 m, cable to the teach pendant: 5 m		

Drawing

E03



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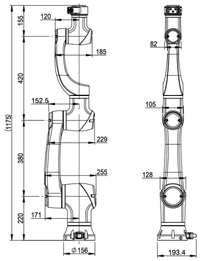
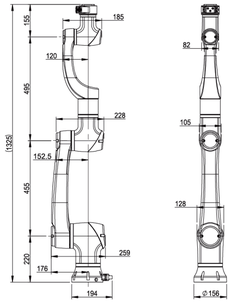


E05-L



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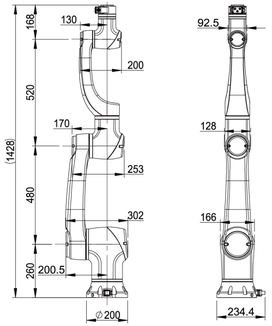

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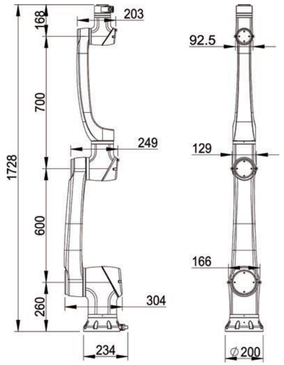

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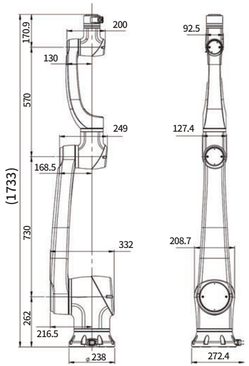

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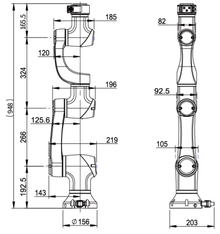

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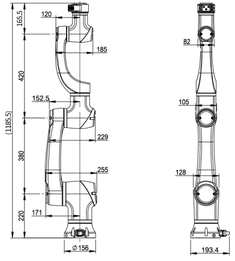

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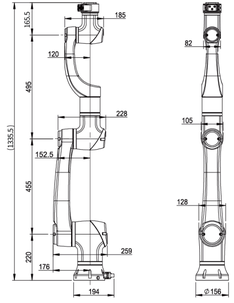

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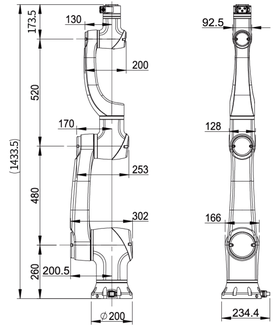

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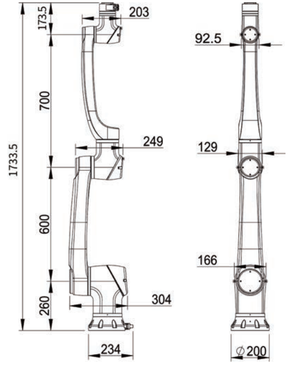
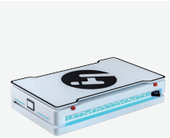


Han's Robot Product Details →

Elfin
Collaborative Robot

Elfin-P
Collaborative Robot



FR
Multi-sensing Autonomous Vehicle

STAR
Compound Robot

Elfin Collaborative Robot

Overview

The Elfin 6-axis collaborative robot can be used in automated integrated production lines, assembly, picking, welding, grinding, spraing and other applications, and have been exported to more than 100 countries and regions. It adopts a unique double-joint module design, where one motion module contains two joints to form a unique kinematic structure, which not only differs from most collaborative robots in the market, but also provides more flexibility when working.

E03
590mm
3kg

E05
800mm
5kg

E05-L
950mm
3.5kg

E10
1000mm
10kg

E10-L
1300mm
8kg

E15
1300mm
15kg

Industries

- Electronics
- Automotive
- Metal processing
- Semiconductor
- Education and research

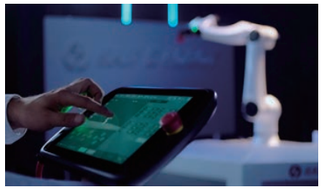
Applications

- Loading and unloading
- Assembly
- Picking
- Welding
- Palletizing
- Glue dispensing
- Inspecting

Why Elfin

Optimized Singularity

The unique arm design not only avoids the product homogeneity, but also reduces the singularity.



First dual-joint module design in China

The unique kinematic design enables the robot to have high flexibility. The highly integrated modular design minimizes the arm weight.

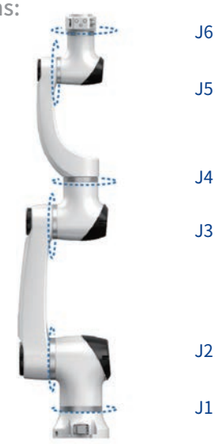
Highly Flexibility 6-DOF collaborative robot

The collaborative robot with 4/6-axis coaxial structure has almost reached the flexibility of 7-DOF robots

Modularity

All-in-one module of fully self-developed reducer, motor, encoder, drive and software

Joint motions:



Technical Specifications

Model	E03	E05	E05-L	E10	E10-L	E15
Weight	18kg	25kg	26kg	43kg	45kg	60kg
Payload	3kg	5kg	3.5kg	10kg	8kg	15kg
Reach	590mm	800mm	950mm	1000mm	1300mm	1300mm
Power consumption	100W typical application	180W typical application	180W typical application	350W typical application	350W typical application	600W typical application
Joint range	±360°					
Joint speed	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J2 100°/s J3-J4 150°/s J5-J6 180°/s	J1-J2 100°/s J3-J4 150°/s J5-J6 180°/s	J1-J2 80°/s J3-J4 120°/s J5-J6 150°/s
Tool speed	2m/s					
Repeatability	±0.03mm	±0.03mm	±0.03mm	±0.05mm	±0.05mm	±0.1mm
Degree of freedom	6					
End I/O port	Digital input: 3, digital output: 3, analog input: 2					
Control box I/O port	Digital input: 16, digital output: 16, analog input: 2, analog output: 2					
I/O Source	24V 2A					
Communication	TCP/IP and Modbus					
Programming	Graphical programming, remote call interface					
IP classification	IP54					
Collaborative operation	10 advanced security configuration functions					
Main material	Aluminum alloy					
Working temperature	0-50°C					
Power input	200-240V AC, 50-60Hz					
Cable	Cable to the control box: 5m; cable to the teach pendant: 5m					

Control box

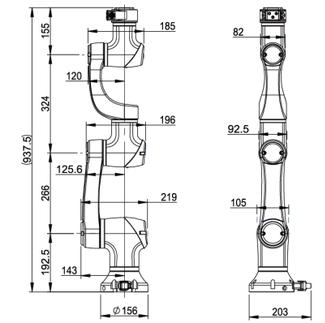
Dimensions	445.2mm x 318.8mm x (360+176)mm
Stand height	176mm
Weight	18.5kg
Power output	48V DC
Working temperature	0~50°C
Working Humidity	90% relative humidity (non-condensing)
IP classification	IP20

Teach pendant

Dimensions	327 mm x 230 mm x (45+22) mm
Weight	2.7kg (include cable)
Display	10.4"
Resolution	1024 x 800
E-stop button	1
IP classification	IP54

Drawing

E03



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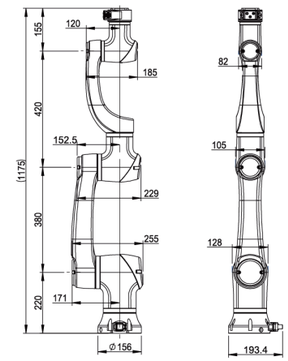

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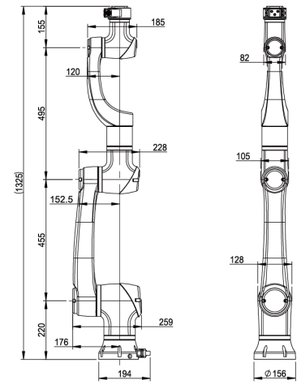

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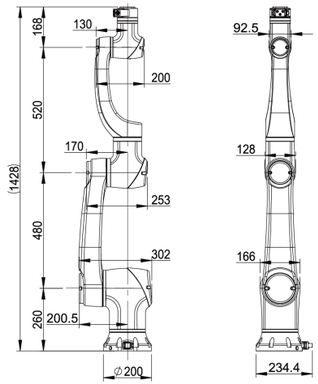

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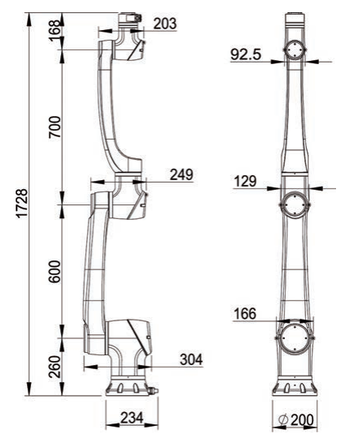

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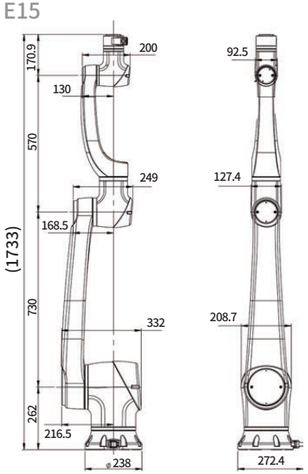
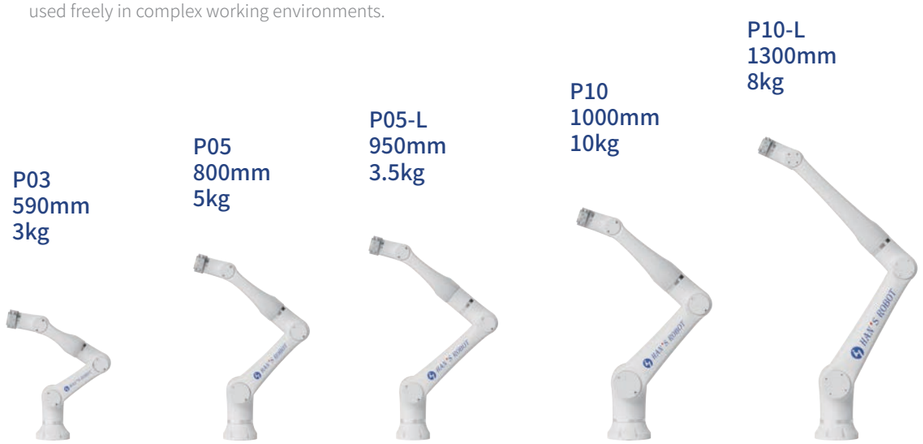


Elfin-P Collaborative Robot

Overview

Elfin-P is a lightweight 6-axis collaborative robot developed based on Elfin that can be used in automated integrated production lines, assembly, picking, welding, grinding, spraying, dispensing, inspecting and other applications. The high repeatability and protection rating ensures it can be used freely in complex working environments.



Why Elfin-P

Higher protection rating

IP66 protection rating is designed to be dust-proof and waterproof, ensuring that it can be used freely in harsh environments such as oil and moisture

Faster response

The EtherCAT communication between the controller and each joint enables real-time control of the refresh frequency of 1000Hz for industry-leading trajectory accuracy control

Stronger anti-interference ability

Stronger electromagnetic compatibility, which ensures that the robot can still operate properly in a strong electromagnetic interference environment

Joint motions:

Industries

- Electronics
- Automotive
- Semiconductor
- Metal processing
- Education and research

Applications

- Loading and unloading
- Assembly
- Picking
- Welding
- Palletizing
- Dispensing
- Inspecting

Technical Specifications

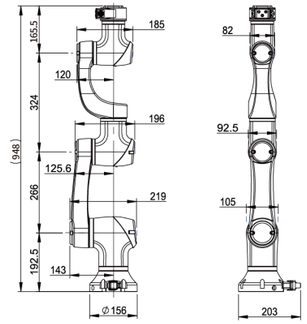
Type	P03	P05	P05-L	P10	P10-L
Weight	19kg	26kg	27kg	45kg	48kg
Payload	3kg	5kg	3.5kg	10kg	8kg
Reach	590mm	800mm	950mm	1000mm	1300mm
Power consumption	100W typical application	180W typical application	180W typical application	350W typical application	350W typical application
Joint range	±360°				
Joint speed	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J4 180°/s J5-J6 200°/s	J1-J2 120°/s J3-J4 135°/s J5-J6 180°/s	J1-J2 100°/s J3-J4 135°/s J5-J6 180°/s
Tool speed	2m/s				
Repeatability	±0.02mm	±0.03mm	±0.03mm	±0.05mm	±0.05mm
Degree of freedom	6				
End I/O port	Digital input: 3, digital output: 3, analog input: 2				
Control box I/O port	Digital input: 16, digital output: 16, analog input: 2, analog output: 2				
I/O source	24V 2A				
Communication	TCP/IP and Modbus				
Programming	Graphical programming, remote call interface				
IP classification	IP66				
Collaborative operation	10 advanced security configuration functions				
Main material	Aluminum alloy				
Working temperature	0-50°C				
Power input	200-240V AC, 50-60Hz				
Cable	Cable to the control cabinet: 5m; cable to the teach pendant: 5m				

Control box	
Dimensions	445.2mm x 318.8mm x (360+176)mm
Stand height	176mm
Weight	18.5kg
Power output	48V DC
Working temperature	0~50°C
Working Humidity	90% relative humidity (non-condensing)
IP classification	IP20

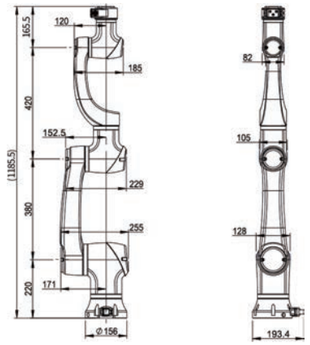
Teach pendant	
Dimensions	327 mm x 230 mm x (45+22) mm
Weight	2.7kg (include cable)
Display	10.4"
Resolution	1024 x 800
E-stop button	1
IP classification	IP54

Drawing

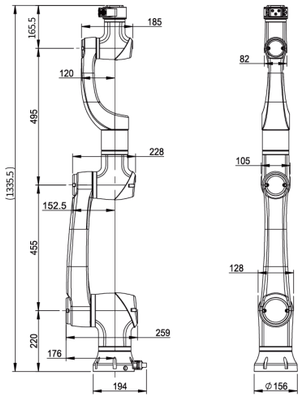
P03



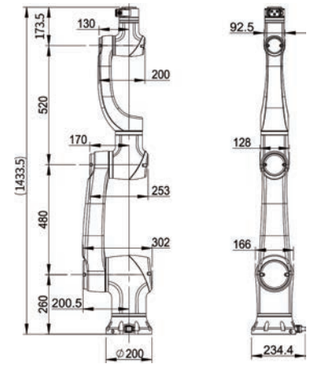
P05



P05-L



P10



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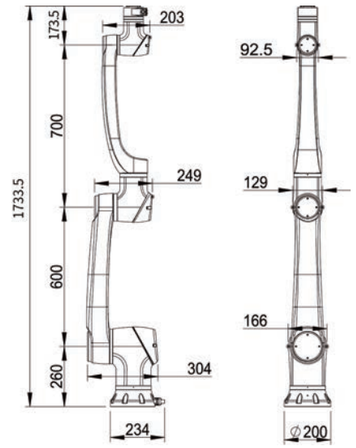


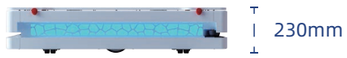
FR Multi-sensing Autonomous Vehicle

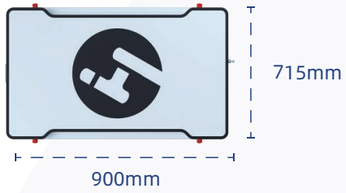
Overview

FR is a new generation of multi-sensing autonomous vehicles from Han's Robot, used for indoor intralogistics tasks. It can autonomously transport items and navigate freely in its environment. As a mobile robot, it makes the labor of the workers easier and improves business efficiency. This robot is also equipped with obstacle avoidance radar, which can work continuously and safely without interruption. Moreover, it has built-in autonomous navigation system and dispatching software, which enable multiple FR to serve simultaneously, keep the production running and maintain the flexibility of its manipulation.

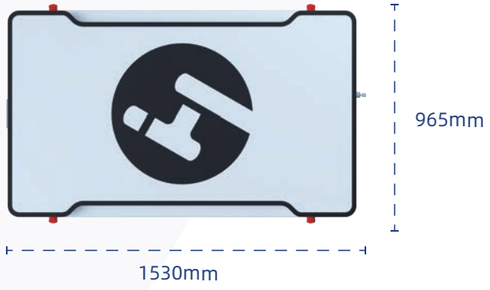
Dimensions

FR-200
200kg
46AH





FR-1200
1200kg
125AH



Features

Payload 200kg / 1200 kg

High speed charging and long endurance

MAX Speed 1.5 m/s

3D Visual Sensor (optional)

Artificial Intelligence
Path Optimization, Smart Interaction

Safe Human Detection
Touchless Sensor Technology

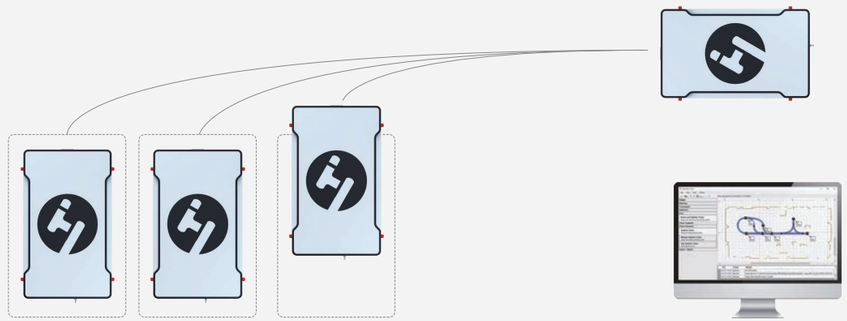
Status Visualization
LED lights can show the robot'sworking status

Expand application

FR+Elfin-P

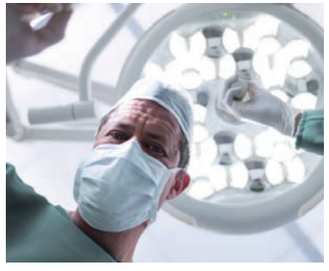
FR for Logistics

FR+Elfin

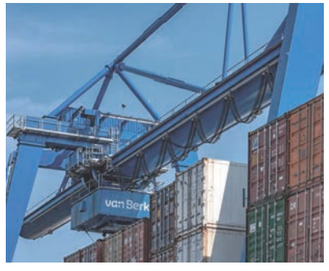


Intelligent Fleet Management: Formation Driving and Dynamic Planning

Recommended Industries



Healthcare



Logistics

3C Products

Tech specs

Model		FR-200	FR-1200
Basic parameters	Payload	200 kg	1200 kg
	MAX Loading Current	20A	95A
	Actuation	Differential Drive	
	MAX Velocity	1.5 m/s	
	Communication Interface	TCP/IP , Modbus	
	Outbound Interface	WiFi , 1 x RJ45	
	IP Classification	IP54	
	Weight	(100/120) kg(without / with lifting units)	(280/310) kg(without / with lifting units)
	Dimensions	L900×W715×H230(mm)	L1530×W965×H310(mm)
	Positioning Accuracy	±10mm	
	Safety Laser Scanner 360°	PLd/ Category 3 (ISO 13849– 1)	
	Navigation Mode	Laser SLAM	
	Lifting Units	1x200kg , 1 x 0-60mm	4x400kg , 4 x 0-50mm
Battery parameters	Battery Voltage	DC 48V	
	Battery Capacity	46AH	125AH
	Charging Voltage	AC220V , 50-60Hz	
	Charging Time	2hrs (Automated) / 1.5hrs(Manual)	2.5hrs (Automated) / 2hrs(Manual)
	Running Time (no load)	15hrs	24hrs
	Charging Mode	Automated / Manual	
Sensor	Vision (optional)	RealSense – D415 Camera	
	Safety	Touchless Safe Human Detection | Safety Scanners	
Software	Operating Software	Robot application software / Dispatching software	
	Open Architecture	AGV API	
	Safety Features	Safe Human Detection, Safe Speed Control	
Programming Features	Human-Robot-Interaction	Motion tracking, PC based GUI	
	Environment Visualization	Dynamic Mapping (SLAM)	
	Fleet Management	Formation Driving, Fleet Monitoring Tool	
Others	Warranty	12 months	

STAR Compound Robot

Overview

The STAR compound robot is an intelligent mobile robot, which combines the self-developed mechanical arm and mobile robot FR, vision system, gripper and other components to perform mobile operations to achieve functional applications such as grasping, handling, assembly, and detection of materials. According to the customer's on-site use environment, it can match the corresponding scheduling system for flexible scheduling and rapid deployment. The core units of the STAR are independently developed, with high cost performance and strong system scalability, which can connect to the customer's MES (or other systems) and provide rich solutions according to different needs of customers. It can serve the future intelligent manufacturing industry 4.0.

It is mainly used in industries (such as electronics, metal products, auto parts, electricity, new energy, ships, aerospace), healthcare, family services, file management and other applications.

Intelligent scheduling

Based on the self-developed architecture and intelligent planning algorithm, the large-scale scheduling of robots is realized to ensure the efficient operation of the system.

Strong Scalability

It efficiently connects to the enterprise's MES/WMS information system and can quickly install application function modules according to requirements.

Intelligent obstacle avoidance

Equipped with sensors such as lidar and visual camera (optional), it can intelligently identify obstacles, actively park and avoid obstacles.

Stable performance

With independent development of core components, it shows the perfect combination of body and arm, and the performance is more stable.

Automatic lifting

The internal materials are automatically lifting, which can maximize the use of body space, store more materials in a limited space, and reduce material transfer.

Features

Rapid Deployment

Based on the SLAM navigation technology, without the scene transformation, the environment map is automatically generated, the scheduling planning service is realized, and the deployment is fast.

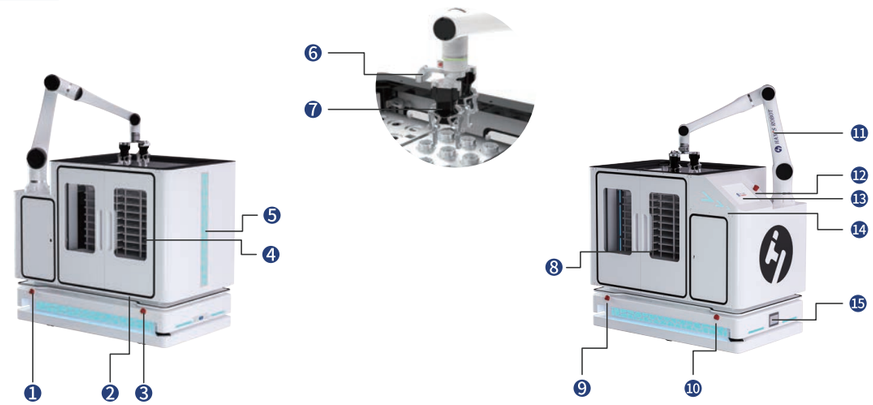
Self-check

It can obtain the robot hardware and operating status in real time, which realizes self-check and fast fault diagnosis.

Automatic charging

The STAR can automatically go back to charging pile for recharging, which ensures the robot to achieve 7*24 all-day operation and high-frequency fast response between tasks.

Parts name



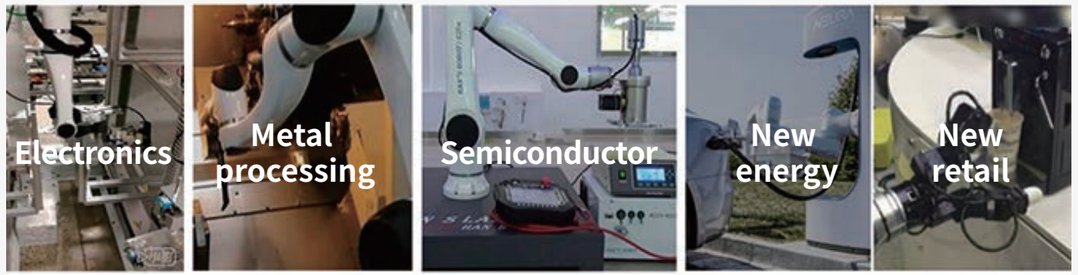
- E-STOP 1 3 9 10 12
- Drainage Outlet 2
- Lifting Unit 1 (To Be Processed) 4
- Singal Lights 5 14
- 3D Camera 6
- Electric Gripper 7
- Lifting Unit 2 (Finished Product) 8
- E10-L (Optional) 11
- 12" Touchscreen 13
- FR 15

Technical Specifications

	Model	STAR-L	STAR-H
Main body	Robot	E03 / E05	E10-L
	Vehicle	FR-200（payload 200kg）	FR-1200（payload 1.2t）
Basic performance	Dimensions (Elfin Not Included)	L900×W715×H950(mm)	L1530×W965×H1304(mm)
	Weight (Shelf Included)	200kg	900kg
	MAX Payload	100kg	600kg
	Lifting Unit (Customizable)	10 Layers,15 PCS/Layer	
Running performance	MAX Velocity	1.5m/s	
	Navigation Mode	Laser SLAM	
	Actuation	Differential Drive	
Vision performance	Vision (Standard Mode)	Camera (Customizable)	
	Positioning Accuracy	±0.5mm	
Software	Operating Software	Robot application software / Dispatching software (optional)	
	Development Platform	IPC ubuntu 20	
Endurance performance	Battery Voltage	DC 48V	
	Battery Capacity	46AH	125AH
	Running Time (with load)	8hrs	12hrs
	Charging Mode	Automated / Manual	
	Charging Time	2hrs (Automated) / 1.5hrs(Manual)	2.5hrs (Automated) / 2hrs(Manual)
External Interface	Standard Communication Interface	TCP/IP, Modbus	
	Outbound Interface	WiFi,1 x RJ45	

Han's Robot

Applications

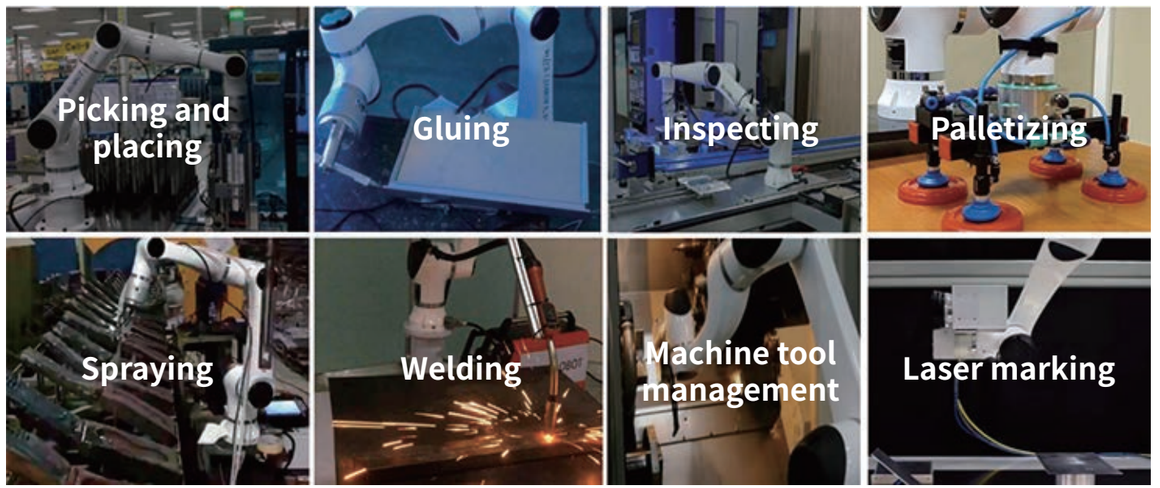


↑ Industry applications:

Han's Robot collaborative robots have been widely used in electronics, automotives, semiconductors, metal processing, new energy, pipeline inspection and other fields. Han's Robot uses robot technologies for collaboration in global intelligent manufacturing, which promotes productivity in all walks of life.

↓ Process applications:

Loading and unloading, welding, marking, assembling, polishing, handling, inspecting, gluing, picking, screwing, etc.



Electronics manufacturing industry

Laser cutting

One robot is used for loading and unloading for four laser cutting machines at the same time. The four cutting machines are placed in pairs, and a 7-axis guide rail is used in the middle to realize the motion of the collaborative robot between the machines. A vision camera is integrated to the robot to realize the positioning for loading and unloading as the required unloading precision of the laser cutting machine is about 0.1 mm.

Space-Saving

The overall layout is compact which occupies a small area, and there is no need to do great changes to the original plant. Moreover,the equipment deployment is easy.

Easy to operate

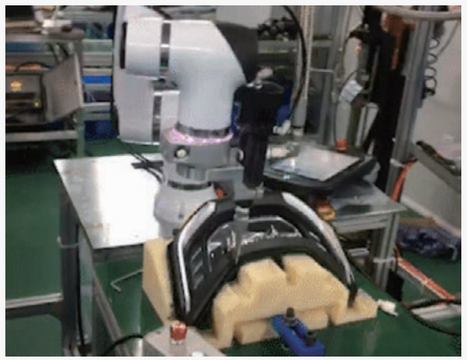
It is easy to operate the collaborative robots. Customers can switch products or debug new products by themselves after simple training, which greatly reduces the cost of product replacement.

More scenarios: **loading and unloading, inspecting, grinding, spraying, assembling, marking, etc.**

Automotive manufacturing industry

Gluing for car lights

By adopting one-to-two structure integration, one cold glue device supplies can glue for two collaborative robots. The double-station free gluing improves the gluing efficiency and quality and avoids the impact on the personnel health, which greatly reduces labor and equipment costs.



Safe and flexible

High-precision linear gluing, harmless operation, improved yield rate.

Energy saving and low consumption

The cold glue does not require heating, which greatly reduces energy consumption.

More scenarios: **loading and unloading, spraying, assembling, inspecting, picking, marking, etc.**

Healthcare industry

Remote ultrasound diagnosis and treatment

The remote ultrasonic diagnosis and treatment robot realizes remote consultation of experts in different places by using teleoperation technologies, which meets the increasingly demand for diagnosis resources in the grassroots hospitals.

Precision: The robot accurately reproduces the doctor's operating position and strength, which ensures the quality of ultrasound imaging;

Friendly:Gentle motion control, real-time pressure tracking control, to achieve a friendly patient experience comparable to professional examination methods;

Safe: Ensure the safety of human-computer interaction through high-level safety functions such as robot motion area limitation, inspection pressure protection, and collision protection;

Efficient: High-speed remote communication realizes high-definition ultrasound image transmission, and remote real-time control of robotic arms, which ensures the efficiency and precision of doctors' diagnosis;

More scenarios: **drug packaging, test tube pickup and placing, sterilization, testing, surgical assistance, etc.**

Hybrid robot

CNC loading and unloading

In this case, the composite robot moves intelligently in the same workshop to support multipleproduction links: CNC production workshop material transfer project Automatic loading and unloading items of materials

Case features

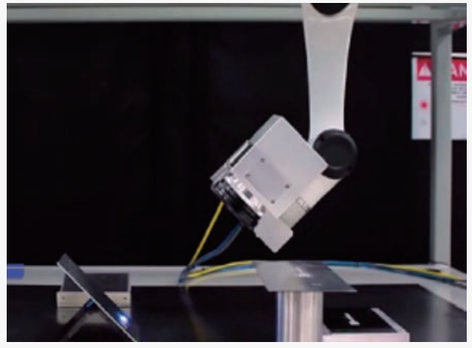
Han's robot 6-axis collaborative robot + intelligent mobile robot, with its large capacity and automatic lifting mechanism, can load more materials at one time, freely shuttle in the workshop, ensure the normal operation of multiple equipment in the workshop, and help customers to automate production needs

More scenarios: **warehousing, packaging, assembling, testing, pickup, etc.**

Metal processing industry

Laser Marking

Han's marking robots can realize multi-directional automatic marking, from loading and unloading to marking, which meets the unmanned, automated, and flexible use requirements, improves the delivery efficiency, and reduces production costs.



Flexible and efficient

Realize flexible, efficient, multi-angle, multi-material free marking.

Easy to operate

Graphical programming and robot program editing are simple and easy.

More scenarios: **marking, rust removal, grinding, screwing, welding, etc.**

Sanitary industry

Spin welding

Solve the pain points of ultrasonic welding with high noise and inconsistent manual feeding pace
Less labor and higher efficiency, easy to operate, stable robot production

More scenarios: **visual grasping, gate polishing, assembling, picking and placing, hot plate welding, loading and unloading, etc.**

Semiconductor Industry

Wafer handling

Han's hybrid robots interwork with wafer processing equipment to provide MES whole-factory automated wafer handling solutions, and fully independent IPR upper-computer scheduling system and planning.

Fast and robust

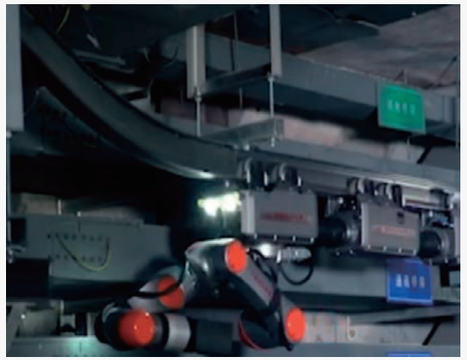
One robot is connected to five wafer processing devices for loading and unloading, and the efficiency is 68% higher than manual operation. The fully automated black light factory works automatically in a controllable manner. Multiple devices can be independently scheduled in 24-hour operation.

More scenarios: **lithography, cleaning, etching, precipitation, equipment care, grinding, etc.**

Pipeline inspection industry

Pipeline equipment inspection

In this application, Han's Robot is integrated with various sensors to realize 24-hour visual automatic inspection in the pipeline. The 6-DOF joint design allows the robot to be better planned for complex motion paths, increases the monitoring scope and precision, and achieves no-blind-angle monitoring.



Diverse applications

Used in power, energy, petroleum, transportation, smart buildings, etc.

Less risks

Less safety risks and labor costs compared with traditional manual inspections

More scenarios: **electricity, energy, construction, transportation, minerals, marine**

Education industry

VR training

1. VR industrial robot task training system based on virtual reality. It realizes multi-brand, multi-robot, multi-scene robot task operation training, including robot welding training, robot spraying training, robot casting training, robot palletizing training, robot loading and unloading training, and robot mobile phone assembly training.
2. Learn and master the operations of industrial robots through the VR robot system, and practical training of physical collaborative robots, which further deepens and consolidates the basic knowledge and skill training results of industrial robots, and greatly improves the teaching and training effects.

More scenarios: **teaching platform, cyclic assembly line, mobile robot application, SCARA application, laser marking robot loading and unloading workstation, disassembly and installation of collaborative robot, robot integrated standard workstation**

New retail industry

Milk tea robot

In this application, a new tea flagship store uses Han's robots in the beverage production area to collaborate in tea making, blending, and delivery, which adds value (such as freshness, attractiveness, and customer experience) to its service and image and greatly speeds up beverage production.

Fresh experience

One-click self-service, widely used in airports, hotels, restaurants, stations, shopping malls, and other places

Save kitchen labor

Less labor and higher efficiency, easy operation, convenient maintenance, short time period of cost recovery

More scenarios: **massage, coffee latte, unmanned sales, etc.**