



# PRODUCT CATALOG

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SERVE HUMANITY WITH ROBOT TECHNOLOGY



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SERVE HUMANITY  
WITH ROBOT TECHNOLOGY



## 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. is a national high-tech enterprise invested in and established by Han's Laser Technology Industry Group Co., Ltd. (stock name: Han's Laser, stock code: 002008), and incubated based on more than 100 people from the R&D team of Han's Motor Robotics Research Institute. The company was established in September 2017 and its production and R&D base are located in Shenzhen City and Foshan City, with subsidiaries in Tianjin, Wuxi and Chengdu City. 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 & regions

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.

**500+**  
500+ Employees

**200+**  
200+ Professional engineers

## Milestones







## Han's Robot Product Advantages

Han's Robot has been constantly exploring the breadth and depth of serving humans by its self-developed leading collaborative robot technologies. The payload of the robots vary from 3kg to 25kg 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.



### EtherCAT<sup>®</sup> EtherCAT bus communication

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



### Each joint with a motion range of $\pm 360^\circ$

- 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 ✓



### 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 ✓



### Multi-terminal Graphical Control

- Support for handheld teach pendant, tablets, computers and other terminals ✓
- Graphical programming, intuitive and easy to understand ✓
- User-friendly interactive design ✓





### Innovative braking method

- ✓ The robot will automatically rebound and then stop when encountering any resistance.
- ✓ Output force and power controlled within the safety range to ensure personnel safety.
- ✓ Innovative braking 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



### IP66 protection rating

- ✓ Higher waterproof and dust-proof protection
- ✓ Suitable for harsher environments
- ✓ Protects against external objects and dust
- ✓ Applicable to more working conditions



### 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



### More than 20 years of industrial experience

- ✓ Incubated from the Robotics Research Institute team of Han's Motor
- ✓ More than 20 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



### 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



### Explosion-proof Certification

- ✓ Certified by the national instrumentation explosion-proof safety inspection station
- ✓ Can be used for special operations in explosive and combustible dust environments





# 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
- ATI
- KUNWEI

- SRI
- Robotiq

- Onrobot
- Hypersen

## Vision

- Micromatch
- Mech-Mind
- Keyence
- SOLOMON
- Aimooe

- Basler
- Cognex
- Hikvision
- Percipio
- SHINING 3D

- Cosmosvision
- Seizet
- UBSense
- Welinkirt

## Grippers

- |                 |                |              |
|-----------------|----------------|--------------|
| Robotiq         | SMC            | RobustMotion |
| Onrobot         | Schunk         | HIWIN        |
| dh-robotics     | SRT            | ChangingTek  |
| Jodell Robotics | INSPIRE-ROBOTS |              |

Scan code to join us

**Han's Robot Partner Ecosystem**  
To build an open, shared and win-win industrial ecosystem!





## "POSS" Concept

# The most reliable 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 most reliable body and the smartest brain.



Higher  
Performance



Smarter



More  
Open



Safer



## Overview →

STAR  
Mobile Manipulator



HR  
Multi-sensing Autonomous Vehicle

S Heavy Payload  
Collaborative Robot



Elfin  
Collaborative Robot



Elfin-Pro  
Collaborative Robot



Elfin-Ex  
Explosion-proof  
Collaborative Robot





# Elfin Collaborative Robot

## Overview

The Elfin collaborative robot can be used in automated integrated production lines, assembly, picking, welding, grinding, spraying and other applications, and has 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 on the market, but also provides more flexibility when working.



## 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 flexible 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



- Industries
- Electronics
- Automotive
- Renewable energy
- Metal processing
- Education and research

## Applications

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

## 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	3m/s	3m/s	2m/s	2.5m/s	2m/s
Repeatability	±0.02mm	±0.02mm	±0.02mm	±0.03mm	±0.03mm	±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 , ModbusTCP , Profinet (Optional) , Ethernet/IP (Optional)					
Programming	Graphical programming, remote call interface					
IP Classification	IP54/(IP66 Optional )					
Collaborative Operation	10 advanced security configuration functions					
Main Material	Aluminum alloy					
Working Temperature	0-50°C					
Power input	200-240V AC(Optional 110-240V AV),50-60Hz					

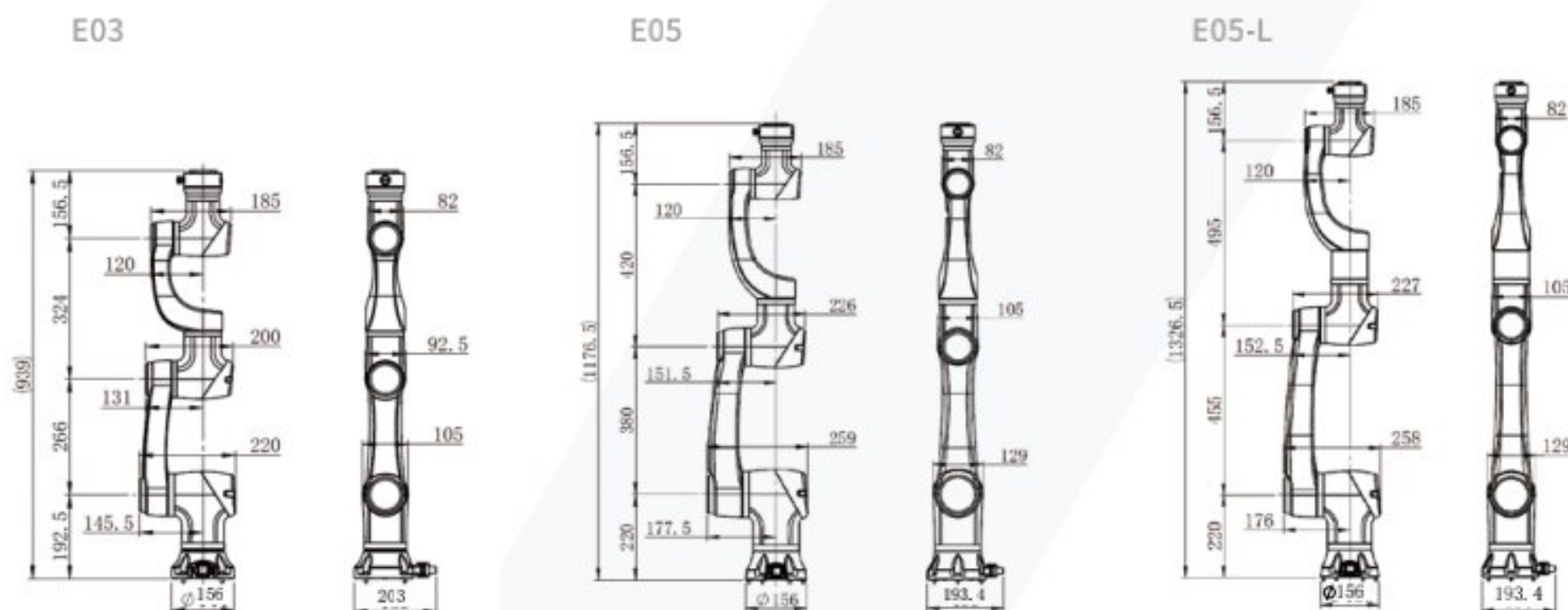
## Configuration Details

Configuration instructions	Robot	Control Box	Teach Pendant	Cable	Applications
Standard		Standard control box	Standard teach pendant (Resolution 1024×800, screen size 10.4 inches)	5m	/

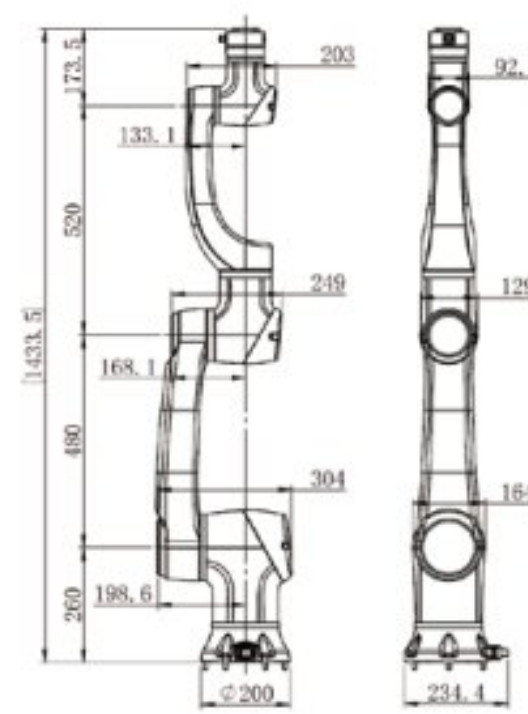
Mini control box		Mini control box Power module(Optional)	Tablet teach pendant (Optional)	5m	Applied for automation equipment, AGV, mobile robots, etc.
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<b>Control Box</b>	<b>Mini Control Box (Optional)</b>	<b>Teach Pendant</b>			
Dimensions	445.2mm x 318.8mm x (360+176)mm	Dimensions	327 mm x 230 mm x (45+22) mm		
Stand Height	176mm	Power Input	DC50~60V	Weight	2.7kg (Include Cable)
Weight	18.5kg	I/O Source	DC24V	Display	10.4"
Power Output	48V DC	I/O Port	Inputs 8 , Outputs 8	Resolution	1024 x 800
Working Temperature	0~50°C	IP Classification	IP20	E-stop Button	1
Working Humidity	90% Relative Humidity (non-condensing)	Communication	TCP/IP Modbus	IP Classification	IP54
IP Classification	IP20				

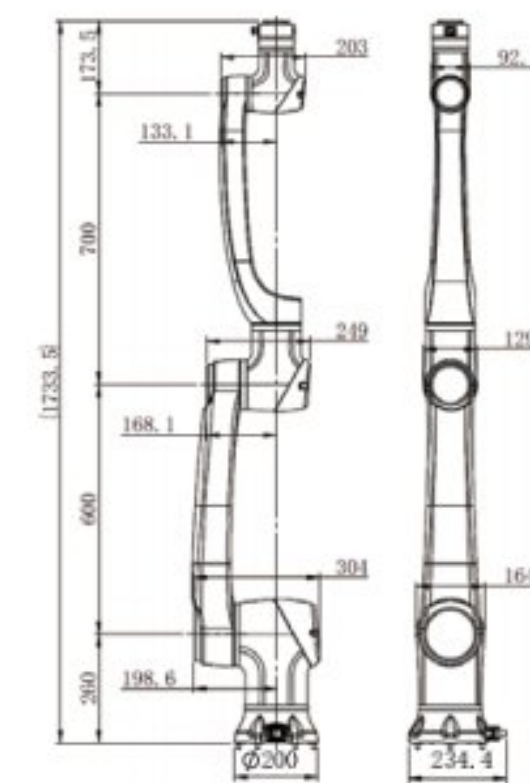
## Drawing



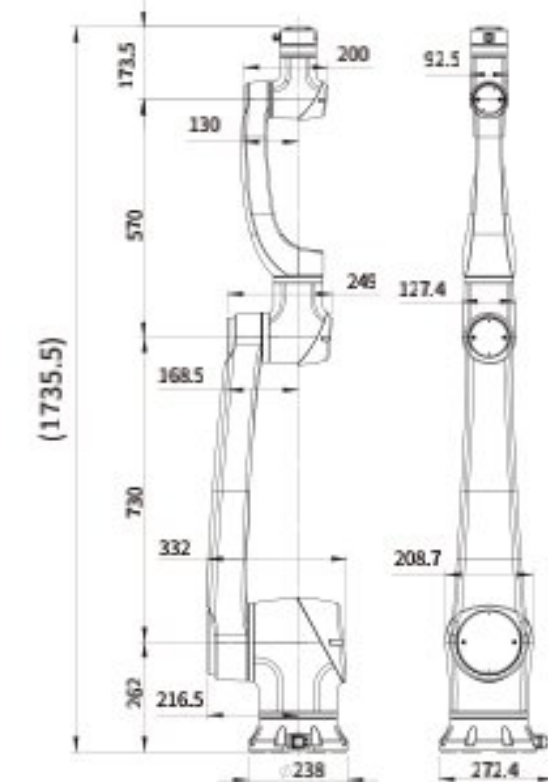
E10



E10-L



E15





# Elfin-Pro Collaborative Robot

## Overview

Elfin-PRO collaborative robot is developed on the basis of elfin collaborative robot. It not only has all the advantages of the elfin collaborative robot such as a variety models, easy deployment, high precision, high flexibility, double-joint module design and modular design, but also has upgraded the product capability through the integration of cutting-edge AI technology, end force control integration, end vision integration. In addition, it adopts a new elegant and practical surface treatment process which is more stable and reliable. With all these advantages, Elfin PRO offers a better human-robot collaboration experience and could support wider application scenarios.

E03-Pro  
590mm  
3KG



E05-Pro  
800mm  
5KG



E05L-Pro  
950mm  
3.5KG



E10-Pro  
1000mm  
10KG



E10L-Pro  
1300mm  
8KG



## Why Elfin-Pro

### Force Control Integration

- a. Internal wiring with better anti-interference ability
- b. Constant force control for perfect trajectory
- c. Fast programming
- d. Soft control with smooth free-drive teaching
- e. Force exploration suitable to intelligent assembly which makes the small batches and flexible production of multiple varieties to be possible.



### Camera System

- a. Internal wiring enables the robot to have better anti-interference ability and supports fast deployment
- b. AI application capabilities such as visual positioning, visual classification recognition, object detection and QR Code recognition
- c. Han's Robot's self-developed hardware and software which is easy to operate and pretty interactive and scalable.



### Internal Wiring

Han's robot is connected to the force control and AI vision system through internal wiring, which reduces the number and length of external cables, simplifies the wiring process, and avoids problems of tangled wires and signal interference.



### Higher Protection, more applications

With IP66 protection, E PRO robot can be adapted to different production environments which further extending the range of applications.



### High Sensitivity, much safer

E PRO robot realizes 1000Hz real-time control refresh frequency, which can achieve the industry-leading trajectory precision control, stable and reliable performance, faster response and safer human-machine collaboration.



## Industry

- Automotive
- Consumer
- Renewable energy
- Medical experiment
- Physiotherapy
- Precision machining

## Application

- Welding
- Massage
- Polishing
- Grinding
- Assembly
- Screen inspection

Joint Motions:





## Tech Specs

Model	E03-Pro	E05-Pro	E05L-Pro	E10-Pro	E10L-Pro
Weight	18kg	25kg	26kg	43kg	45kg
Payload	3kg	5kg	3.5kg	10kg	8kg
Reach	590mm	800mm	950mm	1000mm	1300mm
Joint Range	$\pm 360^\circ$				
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
Tool Speed	2m/s	3m/s	3m/s	2m/s	2.5m/s
Repeatability	$\pm 0.02\text{mm}$	$\pm 0.02\text{mm}$	$\pm 0.02\text{mm}$	$\pm 0.03\text{mm}$	$\pm 0.03\text{mm}$
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, analogue input: 2, analogue output: 2				
I/O Source	24V 2A				
Communication	TCP/IP, ModbusTCP, Profinet(external conversion), Ethernet/IP (external conversion)				
Programming	Graphical programming, remote calling interface				
Collaborative Operation	10 advanced security configuration functions				
Main Material	Aluminium alloy				
Working Temperature	0-50°C				
Power input	110-240V AC, 50-60Hz				
Cable	Cable to control box: 5m, cable to teach pendant: 5m				

## Force control parameters (optional)

Force control, tool flange	Force x-y-z, Torque x-y-z
Range	200N, 10Nm
Precision	2N, 0.1Nm
Accuracy	4N, 0.2Nm
IP Classification	IP54 or IP66

## Vision parameters (optional)

Focus height	100mm~500mm
Application accuracy	$\pm 0.2\text{mm}$
Hardware size	93.78mm x 54.45mm x 146.24mm
Camera pixels	6 million pixels
External vision	Laser sensor or RGBD camera
Communication interface	WiFi, network port
IP classification	IP54
Optional lens	8mm or 16mm

## Control Box



Dimensions	445.2mm x 316.8mm 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
Communication Frequency	1000Hz

## Mini Control Box (Optional)



Dimensions	325x221x80(mm)
Power Input	DC30~60V
I/O Source	DC24V
I/O Port	Inputs 8, Outputs 8
IP Classification	IP20
Communication	TCP/IP Modbus

## Teach Pendant



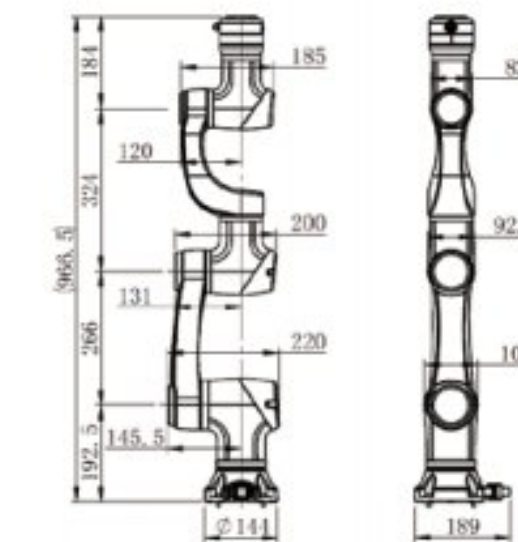
Dimensions	327 mm x 230 mm x (45+22) mm
Weight	2.7kg (Include Cable)
Display	10.4"
Resolution	1024 x 800
E-stop Button	1
IP Classification	IP54

## Configuration Details

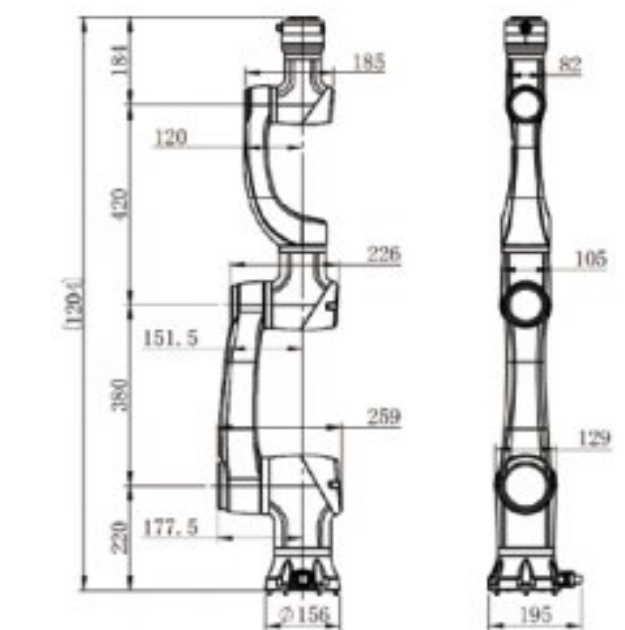
Configuration instructions	Robot	Control Box	Teach Pendant	IP Classification
Force control integration		Standard control box	Standard teach pendant	IP54 or IP66
Camera System integration (Standard control box)		Standard control box External WiFi (Optional)	Standard teach pendant	IP54
Camera System integration (Mini control box)		Mini control box Built-in WiFi	Standard teach pendant	IP54

## Drawing

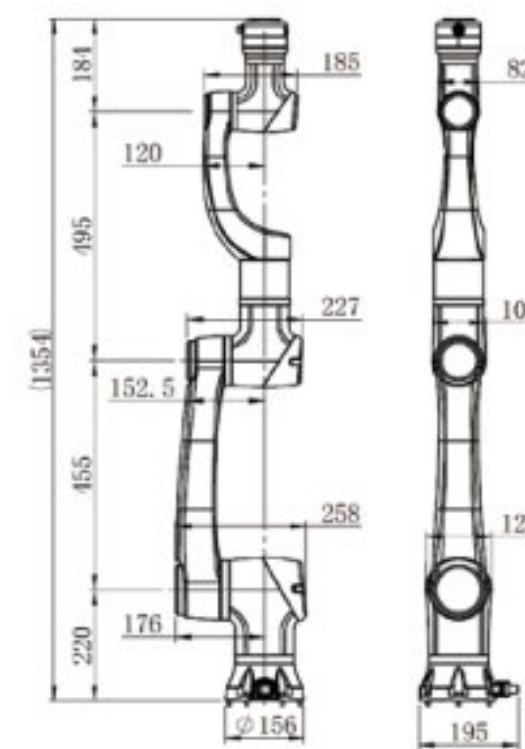
### E03-Pro



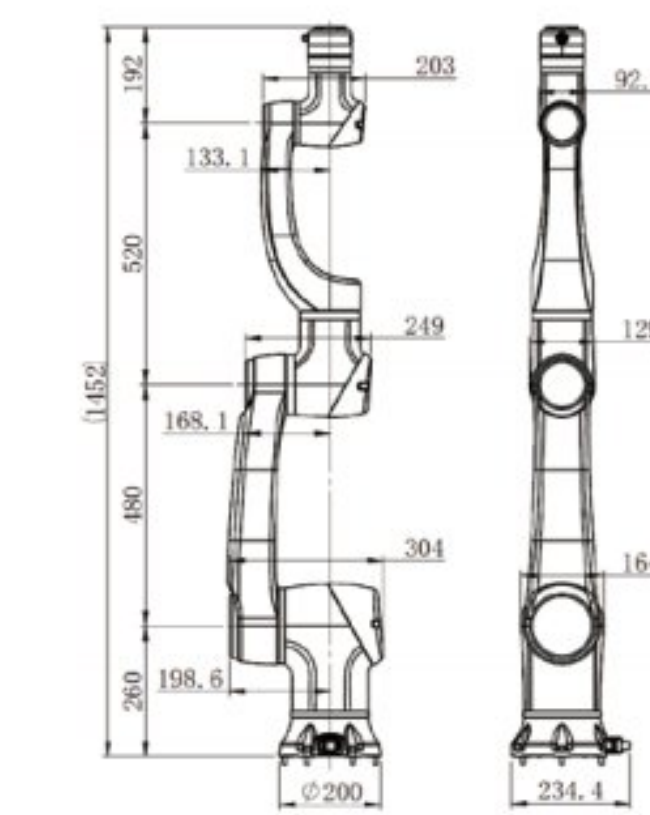
### E05-Pro



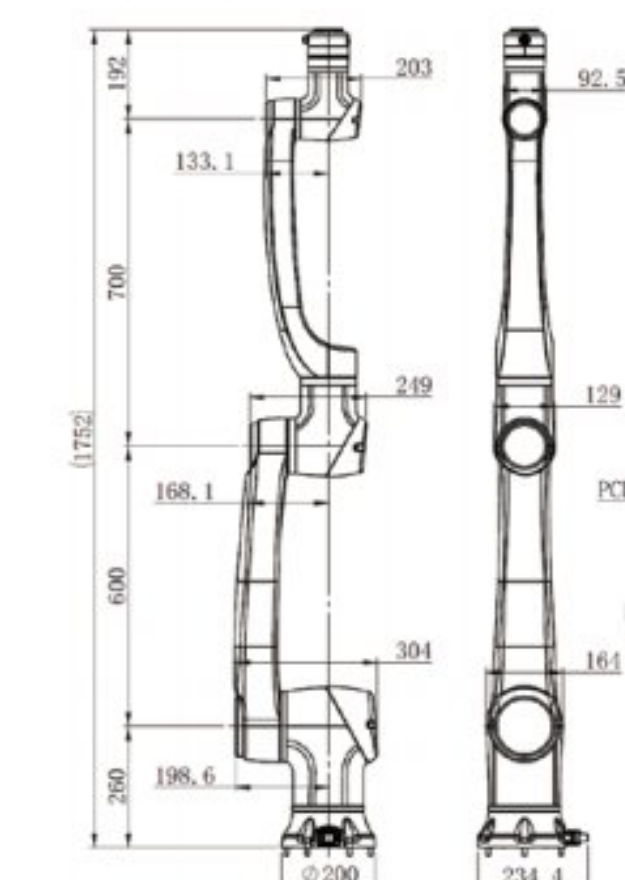
### E05L-Pro



### E10-Pro



### E10L-Pro





# S Heavy Payload Collaborative Robot

## Overview

Han's Robot S heavy payload collaborative robot with high payloads and long arm reach, which can easily handle a super heavy 30KG payload and 1700mm~1800mm working radius. It can be widely used in machine loading and unloading, palletizing, assembly and heavy load handling applications. Han's Robot S heavy payload collaborative robot is a great tool for users to improve their productivity comprehensively, with a qualitative leap in product performance, safety protection, response time and anti-interference capability.

## Why S

### Suitable for heavy load scenarios

With a rated load of 20kg-30kg and a maximum working radius of 1800mm, it can cover a wide range of complex and large load applications



### Security collaboration

Based on core independent research and development capabilities, it has 10 advanced safety configuration functions such as collision detection, making human-machine collaboration more secure and reliable



### Extremely fast response

End-to-end EtherCAT bus communication, compatible with high power supply and Gigabit Ethernet, real time control refresh frequency of 1000/5000 Hz and industry leading control accuracy



### Very low barrier to entry

Support pad, computer, instructor and other multi-terminal graphical control, 30 minutes to learn to change the programming methods, 1 hour to start operation



### Simple customisation and easy deployment

The modular design of the whole machine, from the module to the boom, can meet the individual needs of customers, easy to install and dismantle, to achieve flexible deployment and easy maintenance



## Industry

- Electronics
- Automotive
- Food & Daily Chemicals
- New Energy
- Metalworking
- Logistics

## Application



- Flexible and customised production
- Loading and unloading of machine tools
- Production line material handling
- Palletizing and depalletizing
- 3C Manufacturing
- Assembly



## Tech Specs

Model	S20	S30
Weight	64kg	93kg
Payload	20kg	30kg
Reach	1700mm	1800mm
Power consumption	800W typical application	1000W typical application
Joint Range	±360°	±360°
Joint Speed	J1-J2 90°/s	J1-J2 120°/s
	J3-120°/s	J3 150°/s
	J4-J6 180°/s	J4-J6 180°/s
Tool Speed	2.5m/s	3m/s
Repeatability	±0.1mm	±0.1mm
Degree of freedom	6	
End I/O port	Digital input: 3, digital output: 3, analogue input: 2	
Control box I/O port	Digital input: 16, digital output: 16, analogue input: 2, analogue 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	Aluminium alloy	
Working Temperature	0-50°C	
Power input	110-240V AC, 50-60Hz	

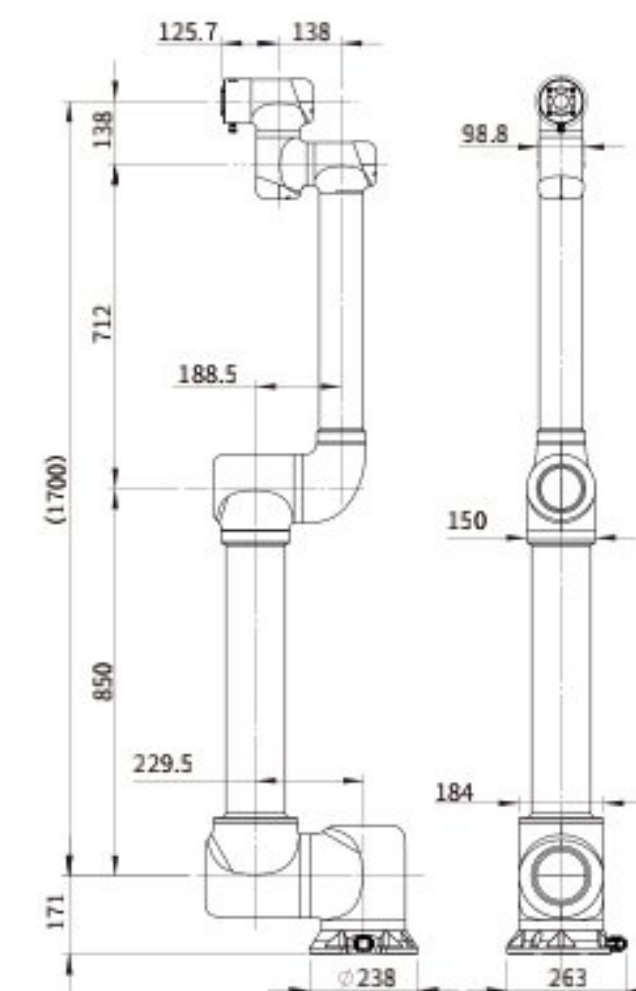
## Configuration Details

Configuration instructions	Robot	Control Box	Teach Pendant	Cable	Applications
<b>Standard</b>		Standard control box	Standard teach pendant (Resolution 1024×800, screen size 10.4 inches)	5m	/
<b>Mini control box</b>		Mini control box Power module (Optional)	Tablet teach pendant (Optional)	5m	For automation equipment, AGV, mobile robots, etc.

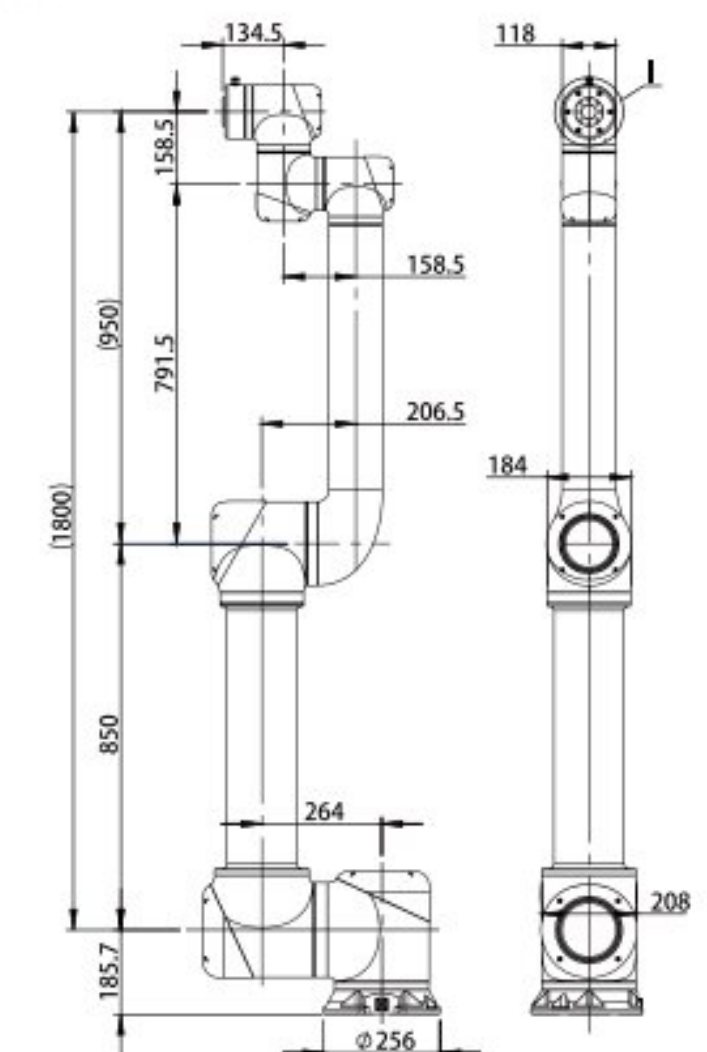
					
Control Box	Mini Control Box (Optional)	Teach Pendant			
Dimensions	445.2mm x 518.8mm x (560+176)mm	Dimensions	523x221x80(mm)	Dimensions	327 mm x 250 mm x (45+22) mm
Stand Height	176mm	Power Input	DC30~60V	Weight	2.7kg (Include Cable)
Weight	18.5kg	I/O Source	DC24V	Display	10.4"
Power Output	48V DC	I/O Port	Inputs 8 , Outputs 8	Resolution	1024 x 800
Working Temperature	0~50℃	IP Classification	IP20	E-stop Button	1
Working Humidity	90% Relative Humidity (non-condensing)	Communication	TCP/IP Modbus	IP Classification	IP54
IP Classification	IP20				

## Drawing

S20



S30





# Elfin-Ex Explosion-proof Collaborative Robot

## Overview

Han's Robot introduces the explosion-proof collaborative robots, which have received national certification for explosion protection. It can replace workers and work in explosive hazardous environments to significantly reduce operational risks.

The series adopts a leak-compensated positive pressure explosion-proof system with medium isolation of the ignition source, and the shell is designed with multiple sealing structures, thus realising a compound explosion-proof structure of intrinsic safety and positive pressure; equipped with a positive pressure monitoring system, the positive pressure protection gas pressure of the robot can be monitored in real time and provides power failure protection, blocking explosive combustible gases and dust from entering the robot to avoid the risk of explosion.

E05F  
800mm  
5KG



E10F  
1000mm  
10KG



E10F-L  
1300mm  
8KG



E15F  
1300mm  
15KG



## Basic Configuration



### Positive pressure explosion-proof robots -proof demonstrator

Built-in pressure sensor, positive pressure explosion -proof construction



### Intrinsically safe and explosion Positive pressure explosion-proof

Intrinsically safe and explosion-proof



### Electric Control Cabinet

Robotic arm control module, explosion-proof cabinet with pressure monitoring system to ensure normal operation of the arm in real time and protection against power failure in case of pressure abnormalities



- Industry
- Automotive
- Petrochemicals
- Civil explosives
- Military industry
- Spraying

## Application

- Military production
- Powder and paint spraying
- Vehicle refuelling and filling
- Transfer of flammable and Explosive substances
- Polishing
- Grinding



### 1 Say "no" to explosions with multiple blast protection

A leak-compensated positive-pressure explosion-proof system with medium isolation of the ignition source is used for reliable sealing performance; the shell is sealed with multiple seals, thus realising an intrinsically safe, positive-pressure and other composite explosion-proof structure; equipped with an air pressure monitoring system for full process detection, reducing the risk of explosion to zero.

### 2 Reliable sealing against water and dust ingress

The robot is designed with a reliable and highly hermetic structure to achieve IP66 level of protection against water and dust.

### 3 Easy to use, flexible and convenient

No professional knowledge of explosion-proofing and programming is required, even if you have no basic knowledge you can easily get started; fast drag-and-drop operation, automatic programming, high intelligence

### 4 Full range of models and loads to choose from

The E05F, E10F-L, E10F and E15F models are available in four payload options of 5KG, 8KG, 10KG and 15KG to meet the needs of more scenarios and industries.

### 5 Wide range of applications, easy to expand

**Petrochemical industry:**  
Petroleum refining, hazardous gas transfer, environmental inspections

**Painting industry:**  
Painting and powder coating of metal and plastic surfaces

**Service industry:**  
e.g. automatic refuelling and filling of cars

Also suitable for scenarios with a lot of dust and significant liquid splashing

### 6 Low investment, high return

Cost-effective product; virtually maintenance-free; low consumables; high yield, high return

### 7 Compact size and light weight

Easy handling and small space




## Economic Explosion-Proof Cobot

Configuration 1			
	<b>Explosion-proof robot arm body</b> Built-in pressure sensor, positive pressure explosion-proof construction	<b>Economic version of electric control box</b> Wireless router and audible and visual alarms, with wireless ipad operation, body pressure monitoring and power failure protection in abnormal conditions	<b>Explosion-proof iPad</b> Intrinsically safe explosion-proof

The Economic version of electric control box must be placed in a safe environment, and the robot arm and control box must be debugged in a non-explosion-proof environment. The maximum length of the connection cable between the robot arm and electric control box is 20 meters, and the maximum wireless communication distance of the explosion-proof ipad is 50 meters.

## Standard Explosion-Proof Cobot

Configuration 2			
	<b>Explosion-proof robot arm body</b> Built-in pressure sensor, positive pressure explosion-proof construction	<b>Explosion-proof Electric Control Box</b> Robotic arm control module, explosion-proof cabinet with pressure monitoring system to ensure normal operation of the arm in real time and protection against power failure in case of pressure abnormalities	<b>Explosion-proof iPad</b> Intrinsically safe explosion-proof

Can be used in explosive environments.

Configuration Descriptions	Standard version: Both the robot arm and electronic control box have positive pressure explosion-proof function, can be placed in explosive hazardous areas, to meet the requirements of explosion-proof certification, and have explosion-proof certificates.
	Economic version: The robot arm has positive pressure explosion-proof function, the electronic control box does not have explosion-proof function, and should be placed in the safe area; it meets the requirements of explosion-proof certification, and has an explosion-proof certificate.
	Customized version: Customized development of explosion-proof function according to customers' requirements, to meet the special requirements of customers.

## Economic version of electric control box (Optional)



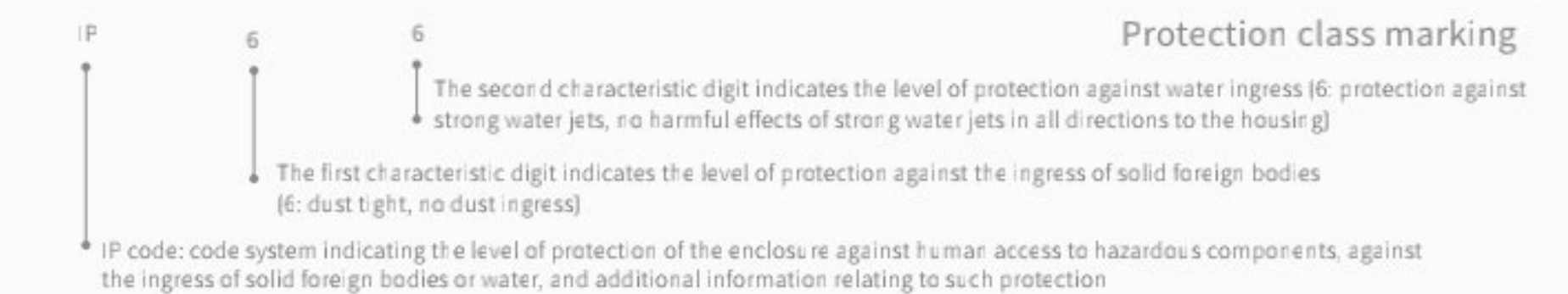
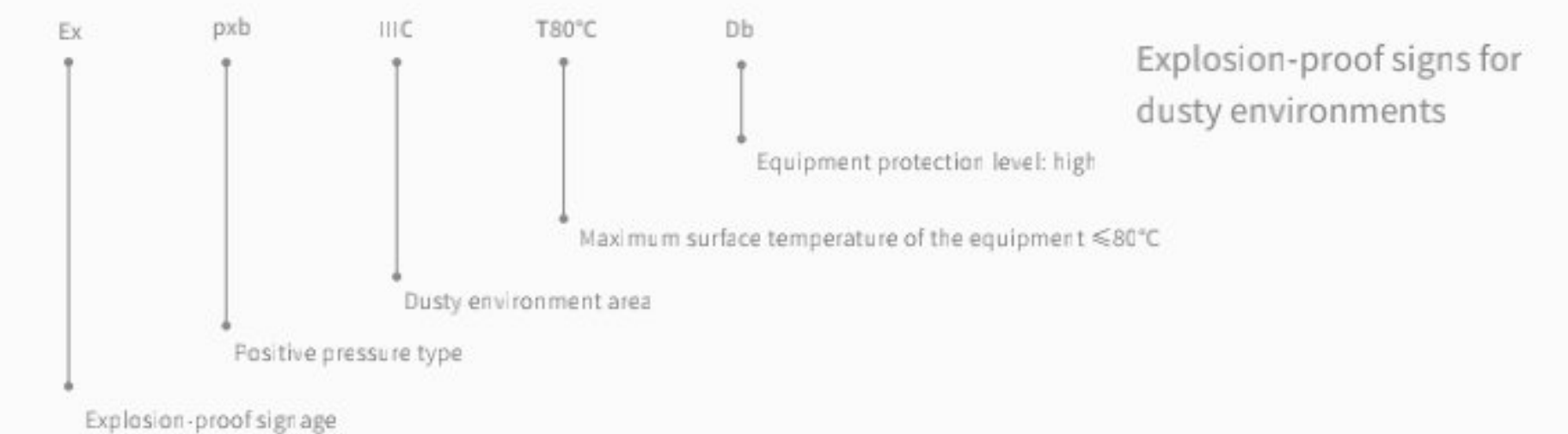
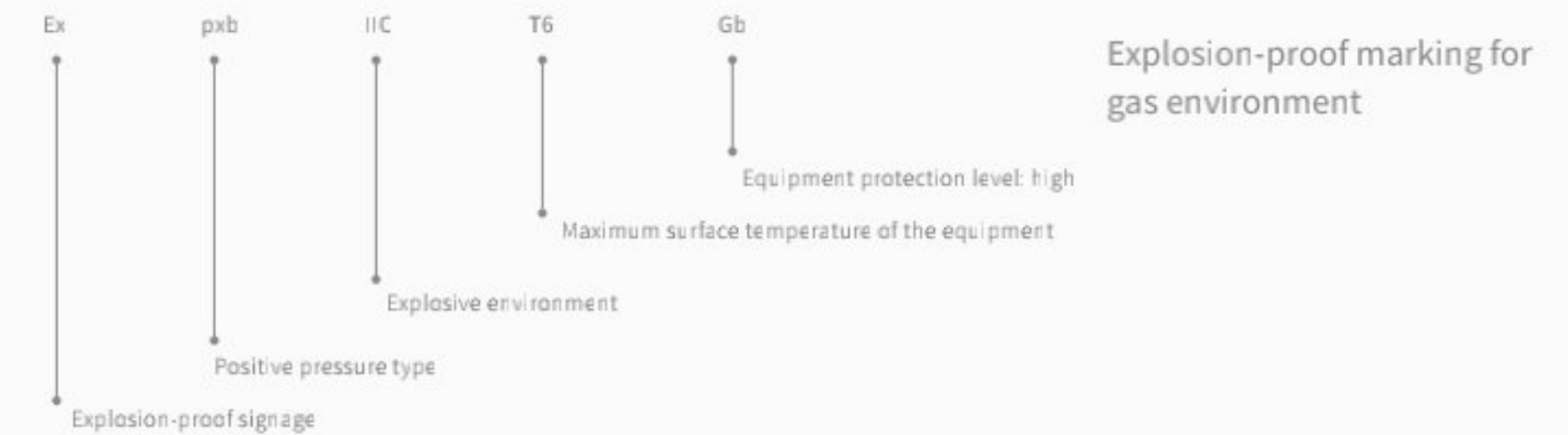
Dimensions	600x350x655(500+155)(mm)
Power Input	AC220V
Weight	50kg
Explosion-proof IP Classification	Ex pxb IIC T6 Gb Ex pxb IIC T80°C Db
IP Classification	IP66

## Explosion-proof Electric Control Box (Optional)



Dimensions	650x400x800(mm)
Power Input	AC220V
Weight	100kg
Explosion-proof IP Classification	Ex pxb IIC T6 Gb Ex pxb IIC T80°C Db
IP Classification	IP66

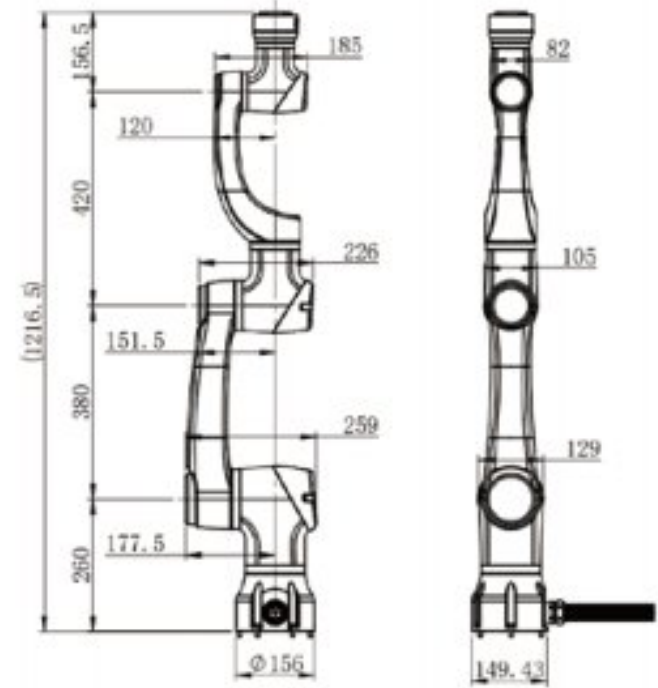
- 1 Certified by the national instrumentation explosion-proof safety inspection station
- 2 Complies with GB3836/GB12476 national standards
- 3 Meets the requirements for normal operation in Zone 1 and Zone 2 explosive gas environments and Zone 21 and Zone 22 explosive dust environments
- 4 Can be used for special operations in explosive and combustible dust environments



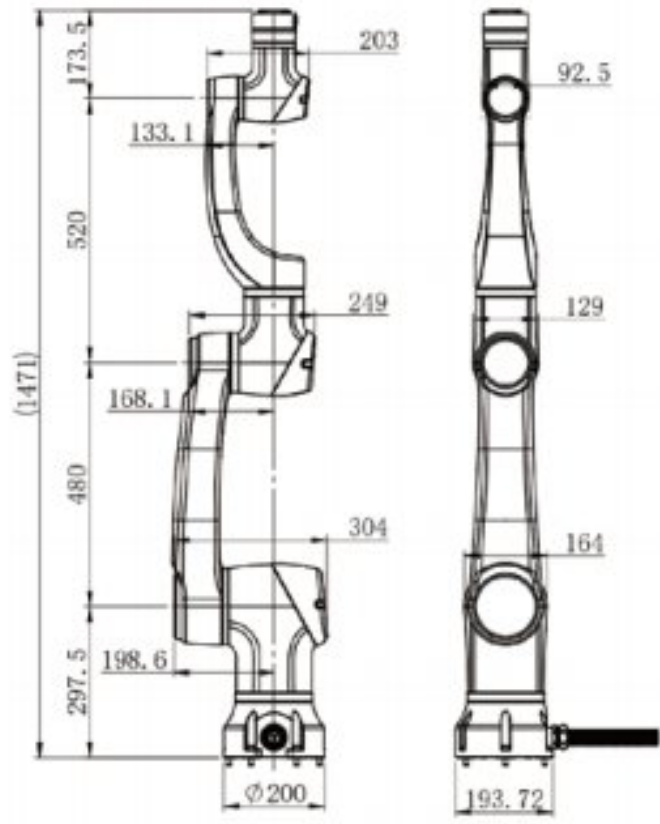


Model	E05F	E10F	E10F-L	E15F
Weight	25kg	43kg	45kg	60kg
Payload	5kg	10kg	8kg	15kg
Reach	800mm	1000mm	1300mm	1300mm
Joint Range	J1-J6 ±360°			
Joint Speed	J1-J4: 180°/s	J1-J2: 100°/s	J1-J2: 100°/s	J1-J2: 80°/s
	J5-J6: 200°/s	J3-J4: 150°/s	J3-J4: 150°/s	J3-J4: 120°/s
		J5-J6: 180°/s	J5-J6: 180°/s	J5-J6: 150°/s
Maximum tool speed	3m/s	2m/s	2.5m/s	2m/s
Repeatability	±0.02mm	±0.03mm	±0.03mm	±0.05mm
Explosion-proof IP Classification	Ex pxb IIC T6 Gb / Ex pxb IIIC T80°C Db			
Degree of freedom	6			
Control box I/O port	Digital input: 16, digital output: 16, analogue input: 2, analogue output: 2			
Communication	TCP/IP , ModbusTCP , Profinet (Optional) , Ethernet/IP (Optional)			
Programming	Graphical programming, remote call interface			
IP Classification	IP66			
Collaborative operation	10 advanced security configuration functions			
Main material	Aluminium alloy			
Working Temperature	-20—40°C			
Power input	200-240V AC, 50-60Hz			
Cable	Maximum length customizable 15-20m			

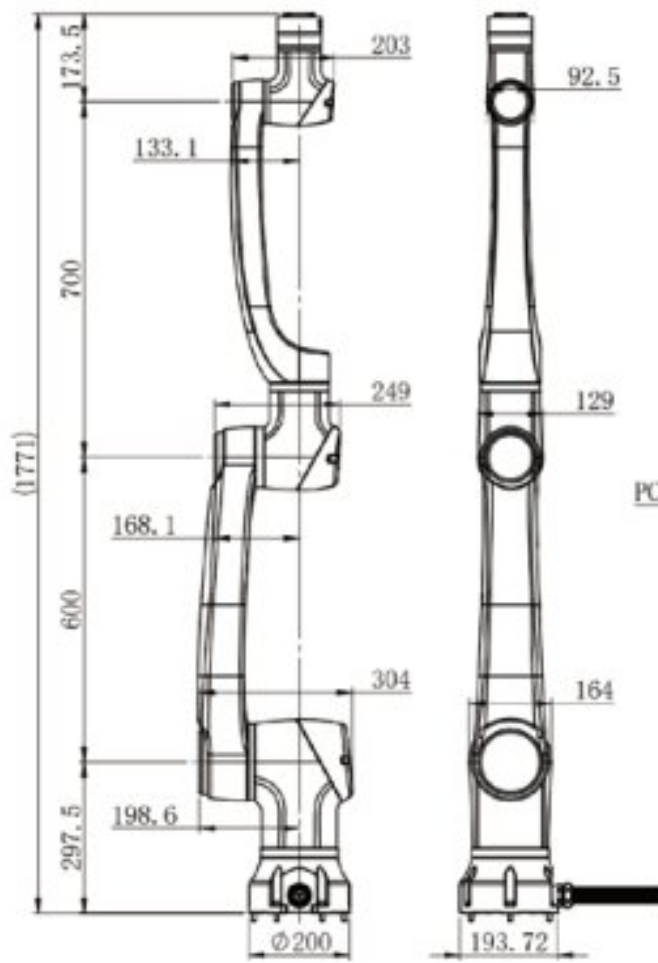
E05F



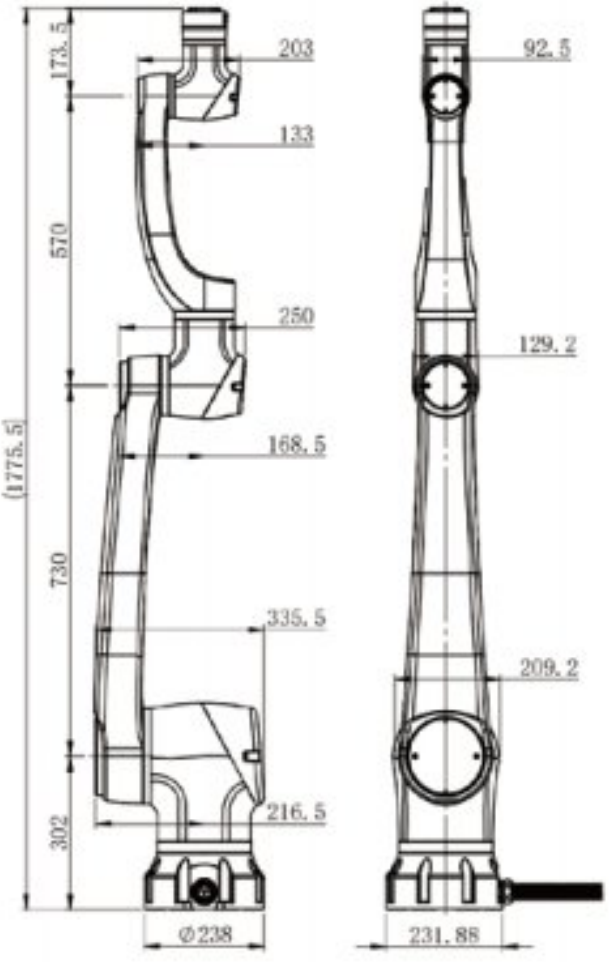
E10F



E10F-L



E15F





# HR Multi-sensing Autonomous Vehicle

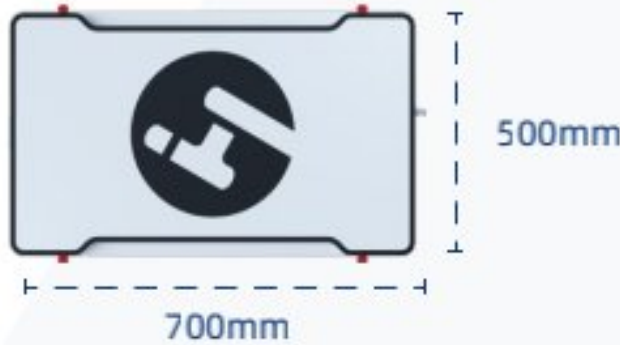
## Overview

HR 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 HR to serve simultaneously, keep the production running and maintain the flexibility of its manipulation.

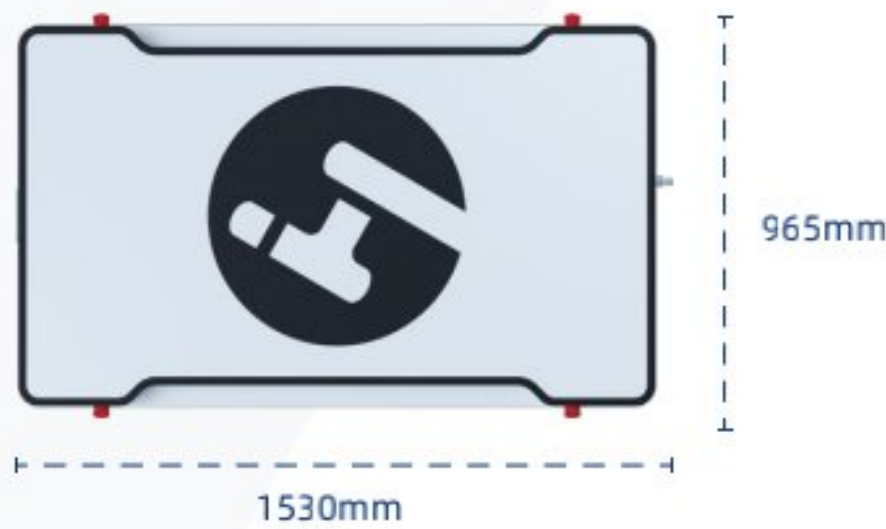


## Dimensions

HR-150  
150kg  
30AH



HR-1200  
1200kg  
125AH



## Features



Payload 150kg / 1200 kg



High speed charging and long endurance



HR 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's working status



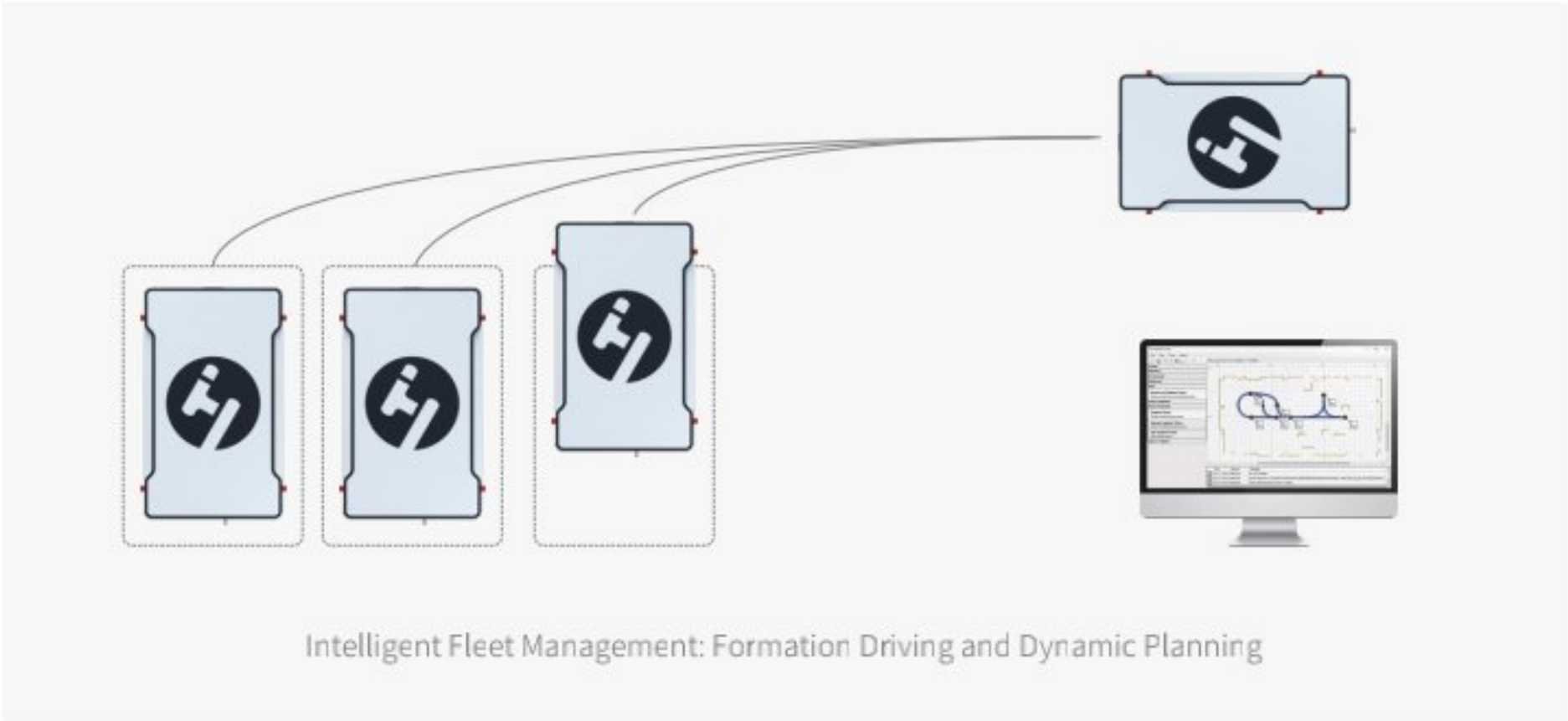
Expand application



HR+Elfin



HR for Logistics



Recommended Industries



Healthcare



Logistics



3C

Tech specs

Model		HR-150	HR-300	HR-600	HR-1200
Basic parameters	Payload	150 kg	300kg	600kg	1200kg
	Dimensions	700*500*255(mm)	950*650*350(mm)	1200*700*280(mm)	1530*965*295(mm)
	Navigation Mode	Laser SLAM, Hybrid Navigation (Fusion Vision) (Optional)			
	Actuation	Differential Drive	Differential Drive	Steering Wheel	Differential Drive
	MAX Velocity	1.5m/s	1.5m/s	1.1m/s	1.5m/s
	Positioning Accuracy	±10mm			
	Communication Interface	TCP/IP, Modbus TCP			
	Outbound Interface	WiFi, 1XRJ45, 5G Internet			
Battery parameters	Lifting Units (Optional)	Customizable	1X200Kg,1X0-60mm(included)	Customizable	4X400Kg,4X0-50mm (included)
	Battery Voltage	DC 48V			
	Battery Capacity	30AH	67AH	72AH	125AH
	Charging Time	≤2 hours	≤2 hours	≤2 hours	Manual Charging≤2.5 hours
	Charging Mode	Automated / Manual	Automated / Manual	Automated / Manual	Manual / Wireless
Software	Running Time (no load)	>6h	10h	12h	12h
	Operating Software	Han' s Robot application software / Dispatching software (optional)			
Others	Warranty	12 Months			



# STAR Mobile Manipulator

## Overview

The STAR mobile manipulator is an intelligent mobile robot, which combines the self-developed mechanical arm and mobile robot, 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.

## 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.



### 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.



### Stable performance

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



### Strong Scalability

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



### Automatic lifting

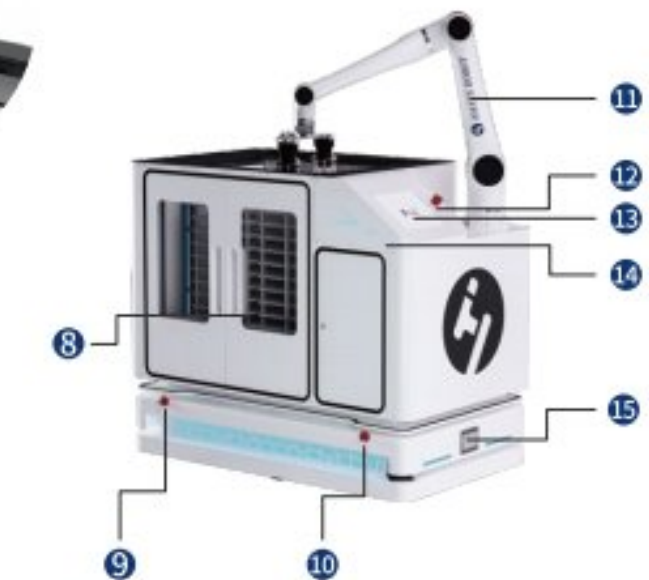
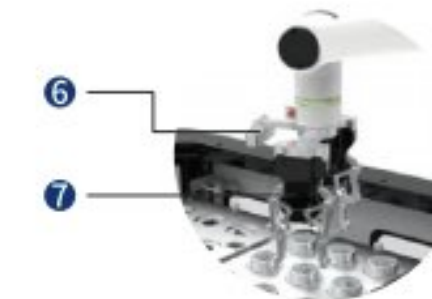
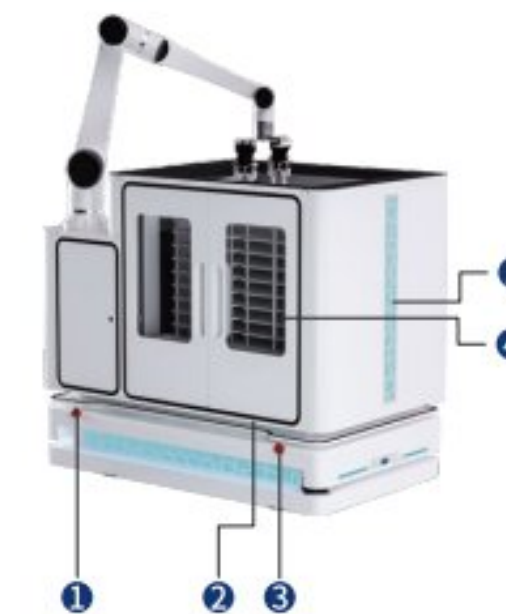
The internal materials are automatically lifting, which can maximize the use of body space, store more materials in a limited space, and reduce material transfer.



### Intelligent obstacle avoidance

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

## Parts name



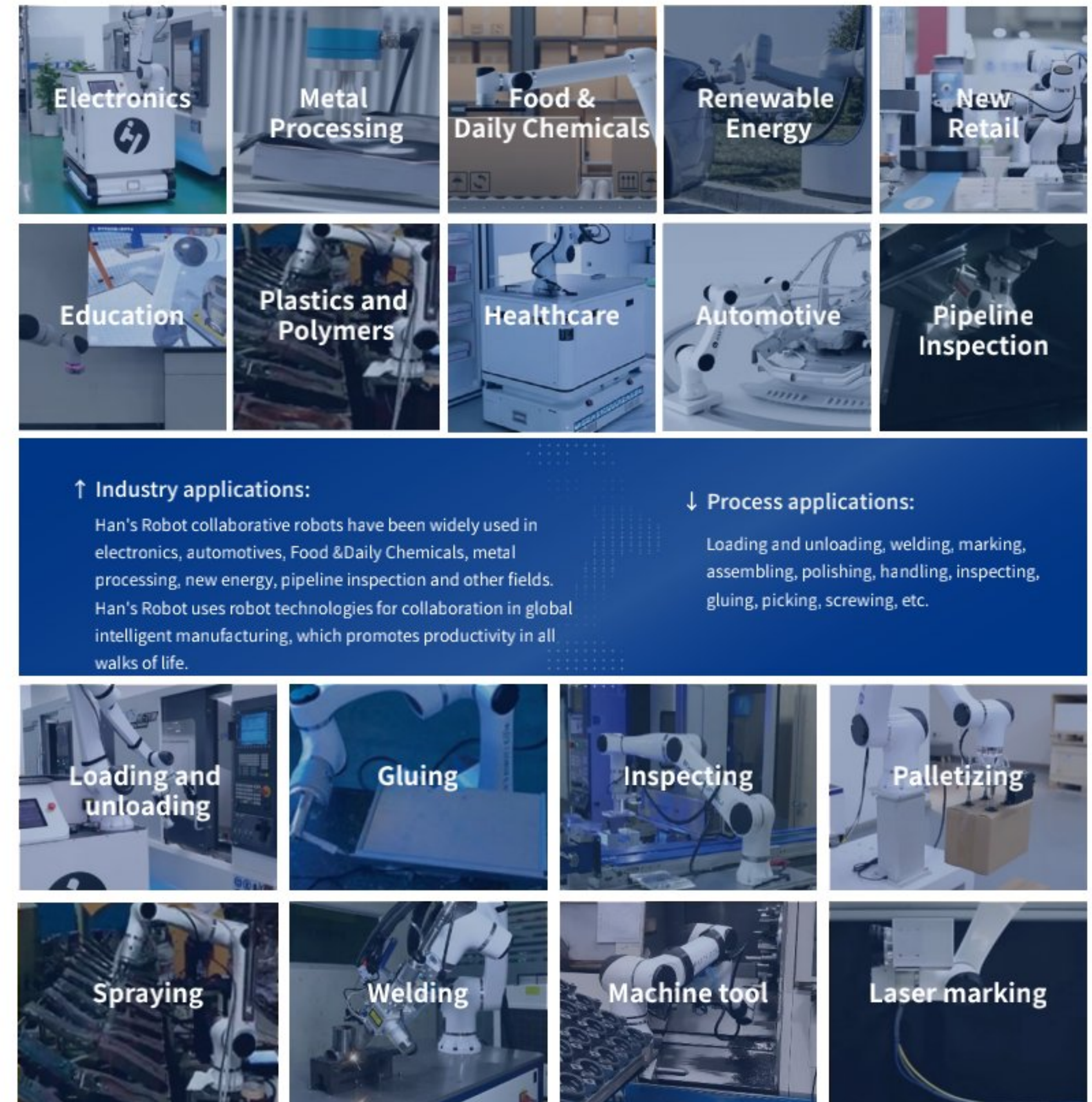
E-STOP 1 3 9 10 12  
Drainage Outlet 2  
Lifting Unit 1 (To Be Processed) 4

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



Model		STAR-S	STAR-L	STAR-M	STAR-H
Main body	Vehicles	HR150	HR300	HR600	HR1200
	Robot	E03/E05	E03/E05/E05-L/E10	E05-L/E10/E10-L/E15	E05-L/E10/E10-L/E15
Basic performance	Dimensions (Elfin Not Included)	700*500*630(mm)	950*650*900(mm)	1200*700*900(mm)	1530*965*1300(mm)
	Actuation	Differential Drive	Differential Drive	Steering Wheel	Differential Drive
	Tray Lifting Unit	Customizable			
Running performance	MAX Velocity	1.5m/s	1.5m/s	1.1m/s	1.5m/s
	Navigation Mode	Laser SLAM, Hybrid Navigation (Fusion Vision) (Optional)			
Vision performance	Vision (Standard Mode)	Camera (Customizable)			
	Positioning Accuracy	±0.5mm			
Software	Operating Software	Han's Robot application software / Dispatching software (optional)			
	Development Platform	Windows/Linux			
Endurance performance	Battery Voltage	DC 48V			
	Running Time (with load)	>6h	>10h	>12h	>12h
	Charging Time	≤2 hours	≤2 hours	≤2 hours	Manual Charging≤2.5 hours
External Interface	Standard Communication Interface	TCP/IP, HTTP, SDK			
	Warranty	12 Months			



#### ↑ Industry applications:

Han's Robot collaborative robots have been widely used in electronics, automotives, Food & Daily Chemicals, 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.

## Healthcare industry

### Medical Surgical Robot

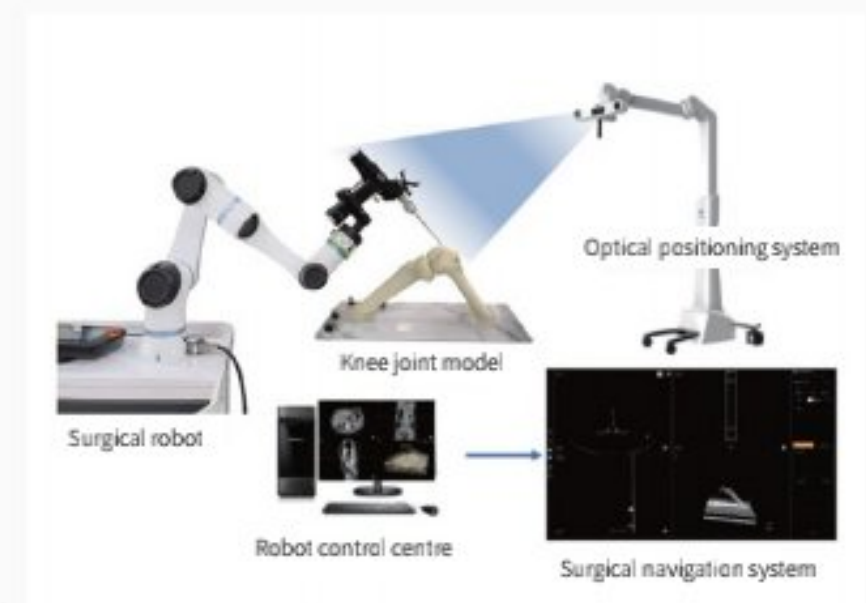
The orthopaedic drilling and stapling robot, in conjunction with the optical positioning system and other equipment, achieves a more intelligent and reliable surgical plan, a more precise and humane surgical execution, and an improved level of service in orthopaedic drilling and stapling surgery.

**Accuracy:** The robot can be positioned with an accuracy of up to 0.02mm, enabling precise reproduction of the position and force of the billion dollar operation, ensuring precise and accurate surgery.

**Safety:** The safety of human-machine collaboration is ensured through advanced safety functions such as collision protection, motion area restriction and check pressure protection; at the same time, surgical safety is guaranteed based on the advantages of high precision and high sensitivity.

**Humanisation:** Soft movement control and real-time pressure tracking control for expert-like results and reduced patient stress.

**Efficiency:** The robot is stable, safe and easy to use and can perform continuous surgery.



**More scenarios:** puncture, dental implant, neurosurgery, abdominal puncture, hip replacement surgery, 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.

## Hybrid robot

### CNC loading and unloading

In this case, the mobile manipulator moves intelligently in the same workshop to support multiple production 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

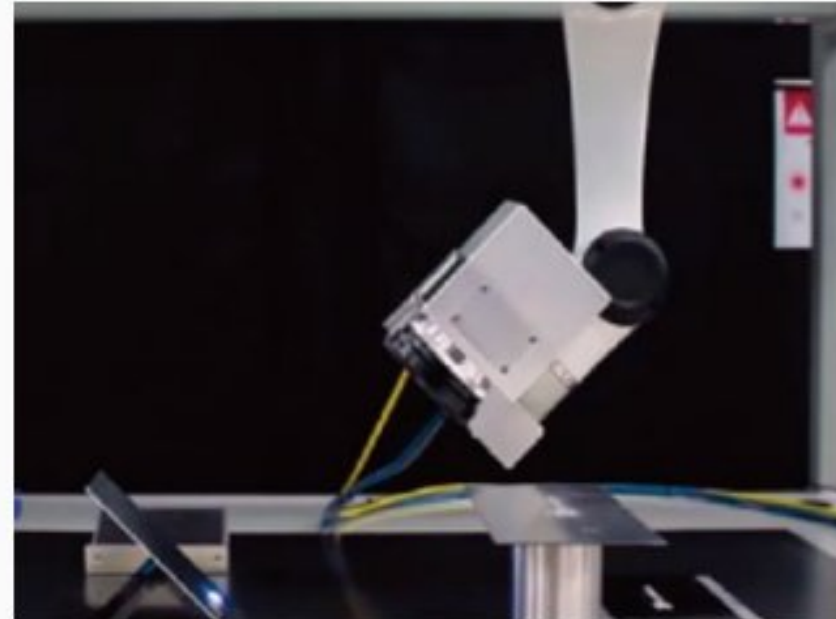
### Laser Marking

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      Easy to operate

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

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.

## Renewable Energy Industry

### Tightening the Screws

In the power battery production line, the customer uses 3 sets of Elfin-10L to automatically tighten M6 screws with a maximum torque of 40 N·m. In addition to the advantages of high torque, the Elfin-10L is easy to deploy and can meet the needs of long-time, uninterrupted and efficient screwing operations without the need to modify the existing production line.

#### 7 times bearing torque

Meets the needs of high torque tightening applications, torque up to 100N·m.

#### Anti-jitter technology

The robotic arm is precise and efficient, with no jitter when running at full load and speed.



## 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      Less risks

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

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.