

PRODUCT CATALOG

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SERVE HUMANITY WITH ROBOT TECHNOLOGY

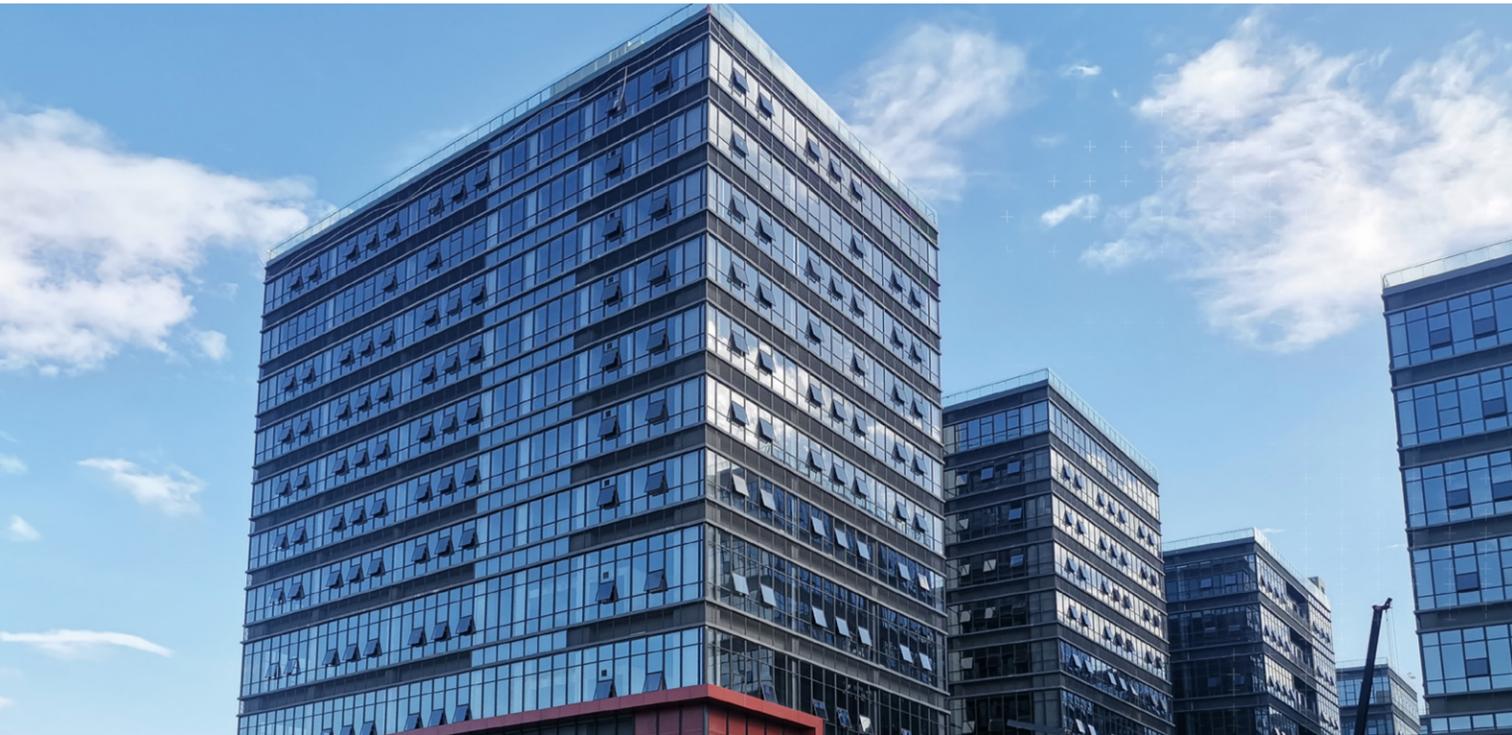


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SERVE HUMANITY
WITH ROBOT TECHNOLOGY

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

Han's Robot is a national high-tech enterprise and a national-level specialised and innovative SME that is incubated based on the research and development team of over 100 people at Han's Robot Research Institute, which is invested by Han's Laser Technology Industry Group Co., Ltd. The company was established in September 2017 and has production and R & D bases in Foshan and Shenzhen, as well as subsidiaries and offices in Tianjin, Wuxi, Chengdu and Stuttgart, Germany. The company is committed to the research, development, promotion and application of intelligent collaborative robots in the fields of industry, healthcare, logistics, education and service, and aims to become a global leader in the era of intelligent robots.

Global Service Network

Partners from more than **100+** countries & regions

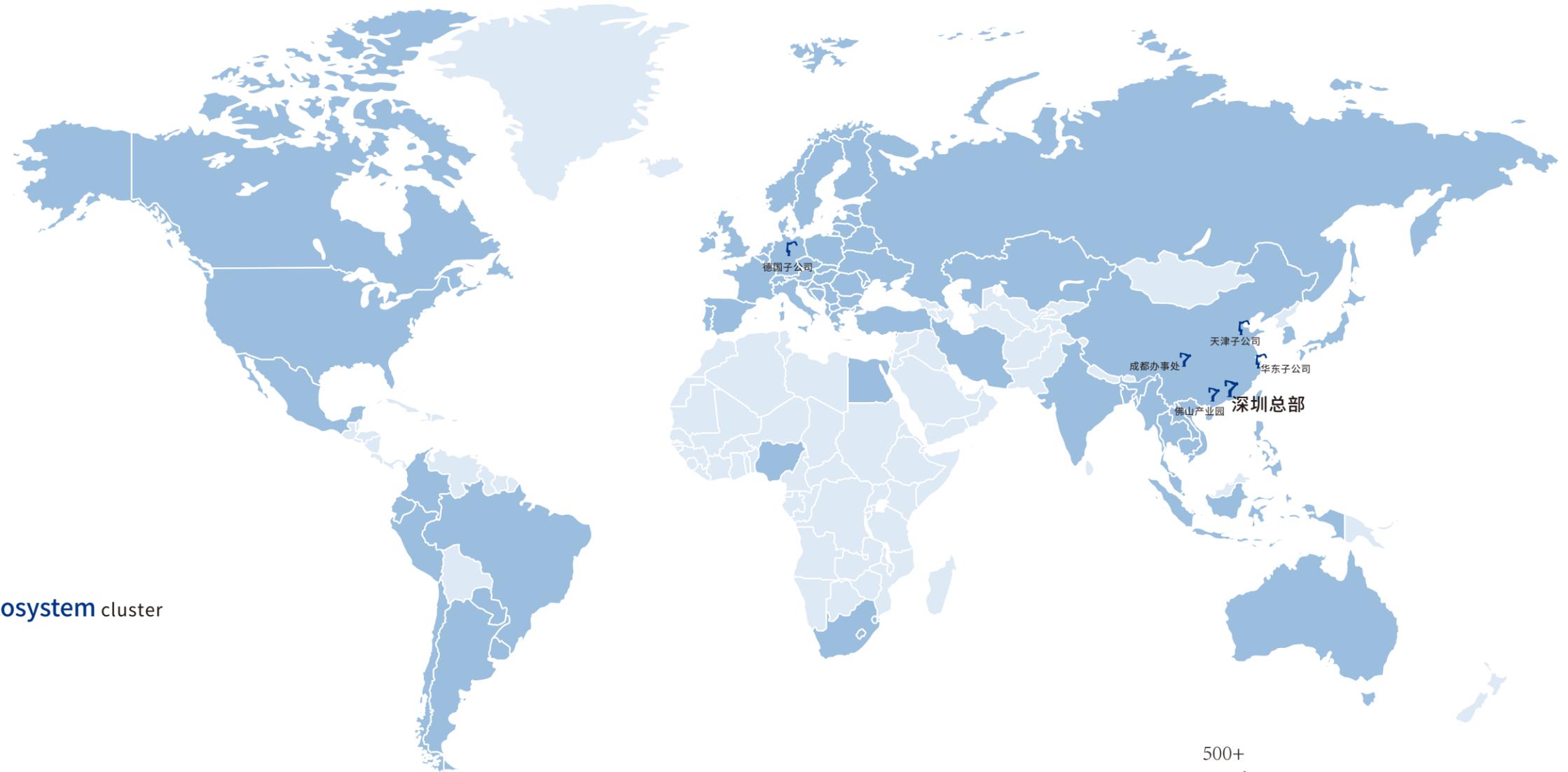
China, South Korea, Japan, Thailand, Singapore, Malaysia, Australia, New Zealand, the United States, Canada, Mexico, Brazil, Colombia, Argentina, Russia, Britain, France, Germany, Spain, the Netherlands, Italy, etc.

Top talents from **25+** countries & regions

500+ Employees
200+ Professional engineers
25+ Countries & regions

Creating a **global full-industry chain ecosystem** cluster

Based on Global Intelligent Manufacturing Center (Foshan) of Han's Robot a full-industry chain ecosystem cluster centered on collaborative robots has been formed, aiming to build a national-level digital intelligent manufacturing demonstration benchmark park.



500+ Employees

Milestones





Han's Robo The Unique Advantages of Collaborative Robots Products

Han's Robot has indepenently developed its own advanced collaborative robots technology, which is constantly expanding the breadth and depth of serving humanity. Its products covers the needs of different customers, with different load capacities ranging from 3KG to 20KG. Product development has progressed from the first generation of 6-axis collaborative robot (Elfin series) to the higher performance third generation (Elfin-Pro series).



Full Independence and Control of Core Components

- Motors, servo drives ✓
- Optical encoders ✓
- Six-dimensional force/torque sensors ✓
- Electromagnetic brakes, high-speed inverters... ✓



Unique Dual Module Set

- The first dual-joint module in China ✓
- Unique arm design and singularity optimization ✓
- Higher integration, higher flexibility ✓



With EtherCAT Bus

- High immunity to interference ✓
- High communication frequency and speed ✓
- High level of safety and precise movement trajectory ✓
- Fast docking to third party controllers ✓



All Joint Ranges of Motion up to $\pm 360^\circ$

- Achieving a range of motion of $\pm 360^\circ$ in each joint ✓
- Ensuring that the end reaches more and more difficult positions ✓
- High flexibility, high efficiency of movement and low power consumption ✓
- Enables more possibilities for production ✓



Multi-terminal Graphical Control

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



IP66 Protection Class

- Water and dust resistance greatly improved ✓
- Completely protected from foreign objects and dust ✓
- Works well even under strong water spray ✓
- Adaptable to more complex and harsher production environments ✓



Innovative Ways of Holding the Gate

- Short braking distances and short braking times thanks to electromagnetic brakes ✓
- In the event of collision with people/objects, emergency stop, power failure, etc., the robot's posture will immediately lock in place and the braking distance will be zero sliding ✓
- Zero power on and off displacement ✓



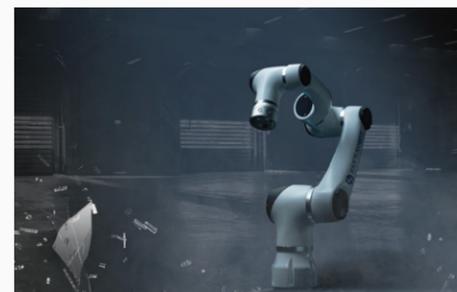
Cleanliness to ISO 5

- Excellent surface cleanliness of the entire machine and optimised structure of the internal components ✓
- ISO 5 certified cleanliness ✓
- Aerospace industrial standard for long-term use ✓



More Open Platform

- Rich software interface available ✓
- Full support for ROS systems ✓
- Meeting the needs of users for integrated development etc. ✓



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 ✓



10+ Years of Accumulated Industrial Experience

- More than 10 years of experience in motors ✓
- servers and motion control based on Han's Robot Research Institute team ✓
- Long-term partnerships with universities in China ✓
- and abroad to explore collaborative robots technology and applications ✓

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
	SOLOMON		Percipio		Welinkirt
	Aimooe				

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!



The "POSS" Concept

The most reliable body & the most intelligent brain

Han's Robot believes that the characteristics of a good collaborative robots can be summarised as **POSS**, and it is dedicated to the research and application expression of top-notch robotics, developing robots with the most reliable body and the most intelligent brain.



Higher
Performance



Smarter



More
Open

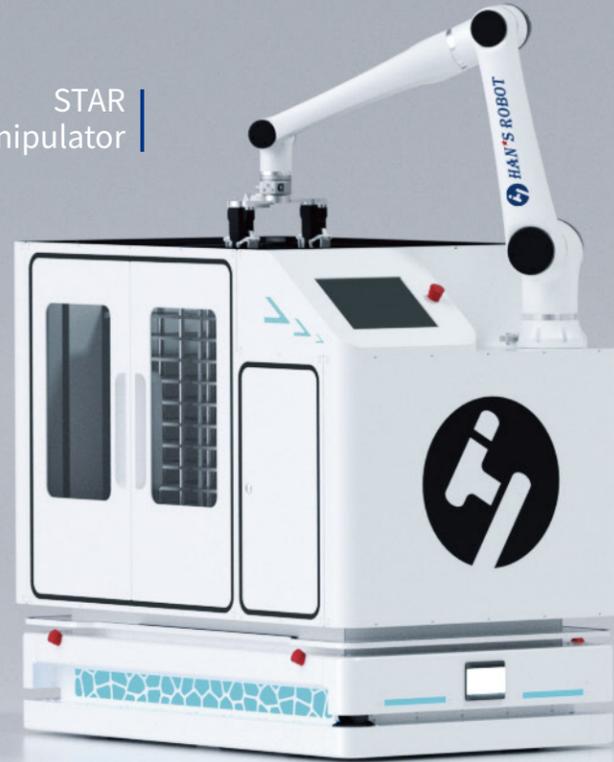


Safer



Han's Robot Product Overview →

STAR
Mobile Manipulator



FR
Multi-sensing Autonomous Vehicle



S Collaborative robot



Elfin
Collaborative Robot



Elfin-Pro
Collaborative Robot



Elfin-Ex
Explosion-proof
Collaborative Robot



Elfin Collaborative Robot

Overview 概述

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.



Industries

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



E03
590mm
3KG

E05
800mm
5KG

E05-L
950mm
3.5KG

E10
1000mm
10KG

E10-L
1300mm
8KG

E15
1300mm
15KG

Why Elfin 亮点

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



Applications

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

joint motions:



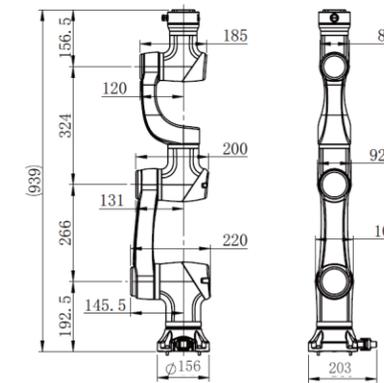
J6
J5
J4
J3
J2
J1

Technical Specifications

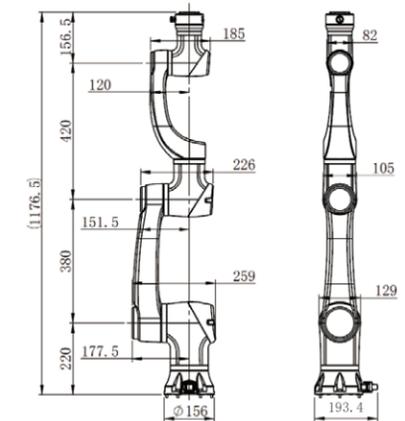
Model	E03	E05	E05-L	E10	E10-L	E15
Weight	18kg	25kg	26kg	43kg	45kg	60kg
Payload	3kg	5kg	3.5kg	10kg	8kg	15kg
Reach	590mm	800mm	950mm	1000mm	1300mm	1300mm
Power Consumption	100W typical application	180W typical application	180W typical application	350W typical application	350W typical application	600W typical 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	±0.02mm	±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					
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					

Drawing

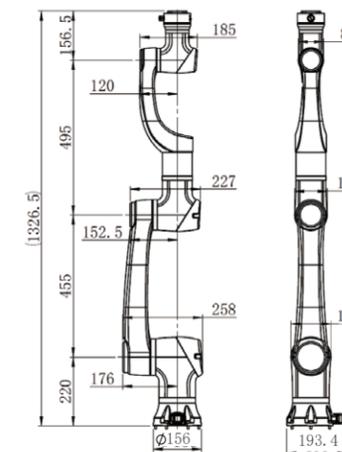
E03



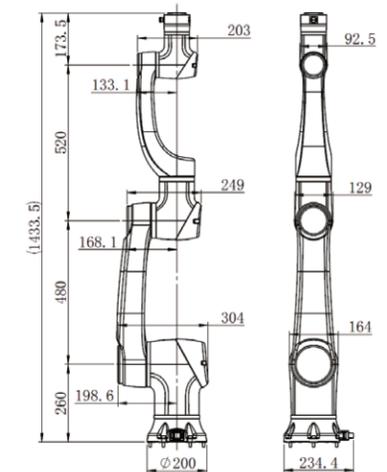
E05



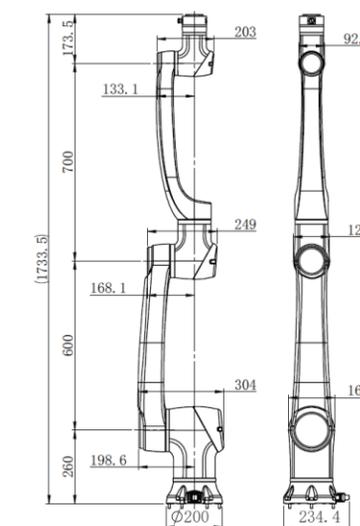
E05-L



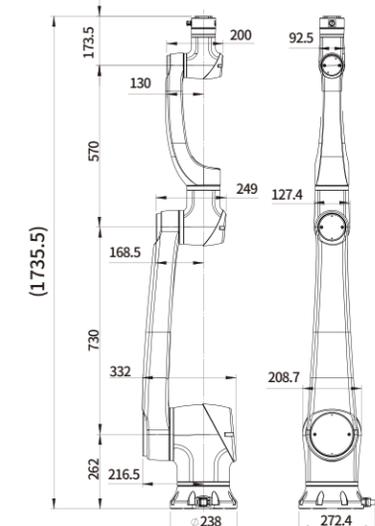
E10



E10-L



E15



Control Box	Mini Control Box (Optional)	Teach Pendant
		
Dimensions	445.2mm x 318.8mm x (360+176)mm	323x221x80(mm)
Stand Height	176mm	DC30~60V
Weight	18.5kg	I/O Source
Power Output	48V DC	DC24V
Working Temperature	0~50°C	I/O Port
Working Humidity	90% Relative Humidity (non-condensing)	Inputs 8 , Outputs 8
IP Classification	IP20	Resolution
		1024 x 800
		E-stop Button
		1
		IP Classification
		IP54

Elfin-Pro Collaborative Robot

Overview

The Elfin Pro series collaborative robots are developed on the basis of the Elfin series, which continues the advantages of the Elfin series such as complete product models, easy deployment, high precision, high flexibility and dual-joint module design, modular design, etc. At the same time, the product's capabilities are newly upgraded, integrating cutting-edge AI technology, realizing the integration of end force control and end vision, and adopting a new surface treatment process, which is both beautiful and practical, achieving more stable and reliable performance, safer human-robot collaboration and 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

Internal alignment, strong anti-interference capability, constant force control for trajectory following and fast programming; smooth control, smooth dragging of the demonstrator; force-controlled probing, intelligent assembly, enabling small-batch, multi-variety flexible production.



Visual Integration

Internal alignment for high interference immunity and fast deployment. With visual positioning, visual classification recognition, the object detection, QR code recognition and other AI application capabilities; based on Han's Robot's self-developed hardware and software platform, easy to operate, pretty interactive and scalable.



Higher Protection Wider Application

IP66 level of protection, which can be adapted to different production environments, further extending the application scenarios of collaborative robots



High Sensitivity High Security

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



joint motions:



- Industry
- Cars
- Consumer
- Semiconductor
- Medical experiment
- Physiotherapy
- Precision machining
- Application
- Welding
- Massage
- Polishing
- Grinding
- Assembly
- Screen inspection

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
Power Consumption	536*445*319mm				
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
Tool Speed	2m/s				
Repeatability	±0.02mm	±0.02mm	±0.02mm	±0.03mm	±0.03mm
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				
IP Classification	IP66				
Collaborative Operation	10 advanced security configuration functions				
Main Material	Aluminium alloy				
Working Temperature	0-50°C				
Power input	200-240V AC, 50-60Hz				
Cable	Cable to control box: 5m, cable to teach pendant: 5m				
Communication frequency	1kHz				

Force control parameters (optional)		Vision parameters (optional)		protection (optional)
Force control, tool flange	Force x-y-z, Torque x-y-z	All functions	Image classification, object detection	Class IP66
Range	200N, 10Nm	Application	Positioning	
Precision	2N, 0.1Nm	Positioning accuracy	2D, 0.2mm	
Accuracy	4N, 0.2Nm	Hand-eye camera	5 megapixels, working distance 100mm~∞	
		External vision (optional)	Laser sensor or a depth RGBD camera	

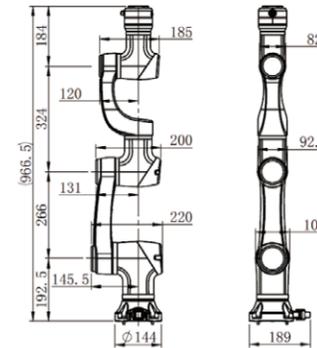
Control Box	
Dimensions	445.2mm x 318.8mm x (360+176)mm
Stand Height	176mm
Weight	18.5kg
Power Output	48V DC
Working Temperature	0~50°C
Working Humidity	90% Relative Humidity (non-condensing)
IP Classification	IP20

Mini Control Box (Optional)	
Dimensions	323x221x80(mm)
Power Input	DC30~60V
I/O Source	DC24V
I/O Port	Inputs 8 , Outputs 8
IP Classification	IP20
Communication	TCP/IP Modbus

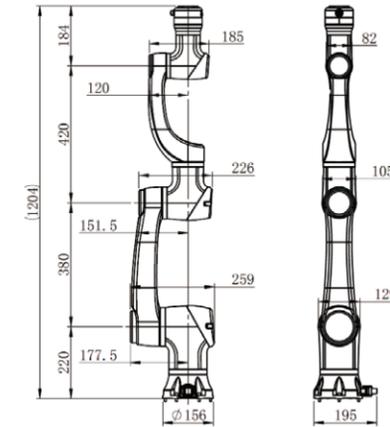
Teach Pendant	
Dimensions	327 mm x 230 mm x (45+22) mm
Weight	2.7kg (Include Cable)
Display	10.4"
Resolution	1024 x 800
E-stop Button	1
IP Classification	IP54

Drawing

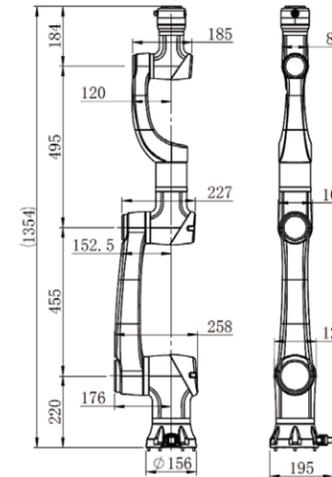
E03-Pro



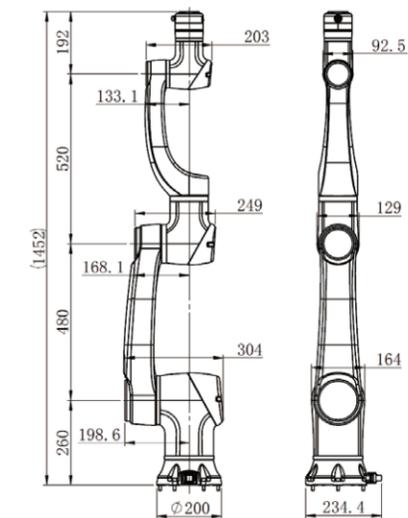
E05-Pro



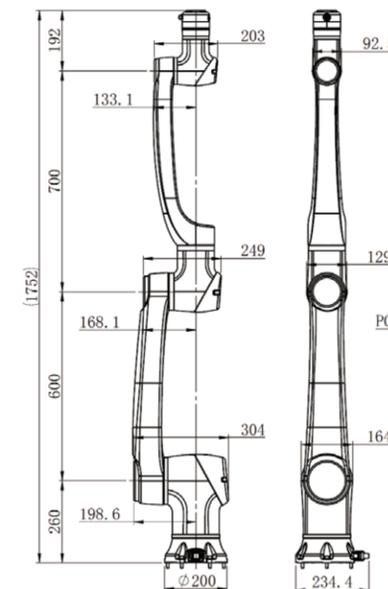
E05L-Pro



E10-Pro



E10L-Pro



S collaborative robot

Overview 概述

Han's Robot S series collaborative robot with high payloads and long arm reach, which can easily handle a super heavy 20KG payload and 1300mm~1700mm working radius. It can be widely used in machine loading and unloading, palletizing, assembly and heavy load handling applications. The Han's Robot S15 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 亮点

Suitable for heavy load scenarios

With a rated load of 15kg~20kg and a maximum working radius of 1700mm, 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

- 3C
- Automotive
- Semiconductors
- 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	S15	S20
Weight	64kg	63kg
Payload	15kg	20kg
Reach	1700mm	1300mm
Power consumption	800W typical application	800W typical application
Joint Range	±360°	±360°
Joint Speed	J1-J2 90°/s J3-120°/s J4-J6 180°/s	J1-J2 90°/s J3-J4 120°/s J5-J6 180°/s
Tool Speed	1.8m/s	1.6m/s
Repeatability	±0.1mm	±0.1mm
Degree of freedom	6	
Control box dimension	536*445*319mm	
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	200-240V AC, 50-60Hz	
Cable	Cable to control box: 5m, cable to 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

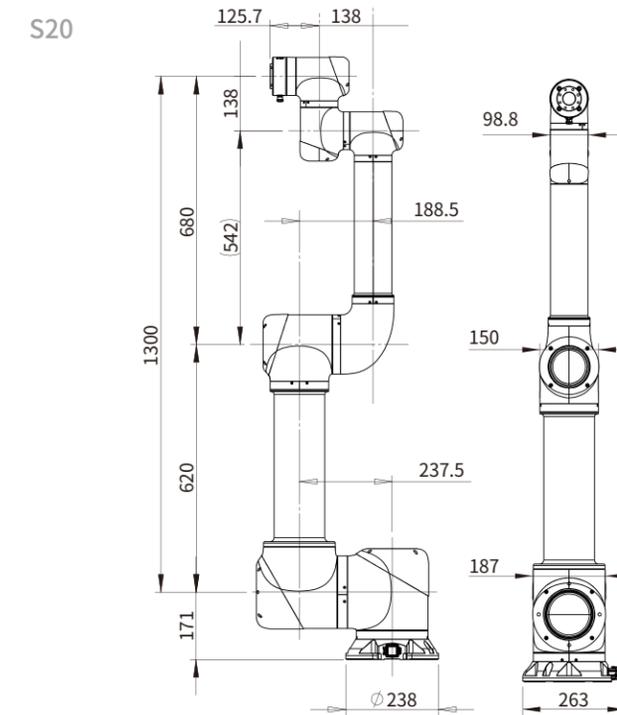
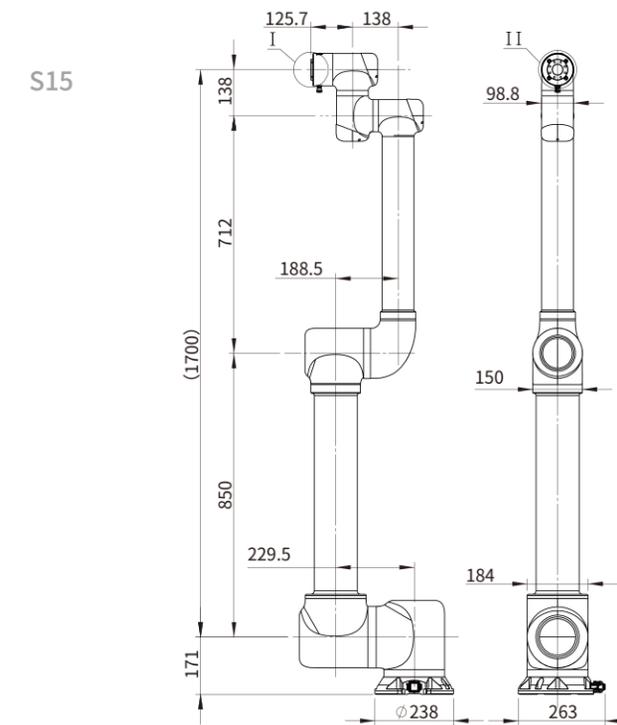


Mini Control Box (Optional)	
Dimensions	323x221x80(mm)
Power Input	DC30-60V
I/O Source	DC24V
I/O Port	Inputs 8, Outputs 8
IP Classification	IP20
Communication	TCP/IP Modbus



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

Drawing



Elfin-Ex Explosion-proof Collaborative Robots

Overview 概述

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 基础配置



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

- Coal mining
- Petrochemicals
- Civil explosives
- Military industry
- Automotive
- Flour mill

Application

- Military production
- Surface coating
- Vehicle refuelling and filling
- Civil explosives - transfer of flammable and explosive substances
- Complete vehicle painting
- Powder and paint spraying

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 realizing 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 load 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:

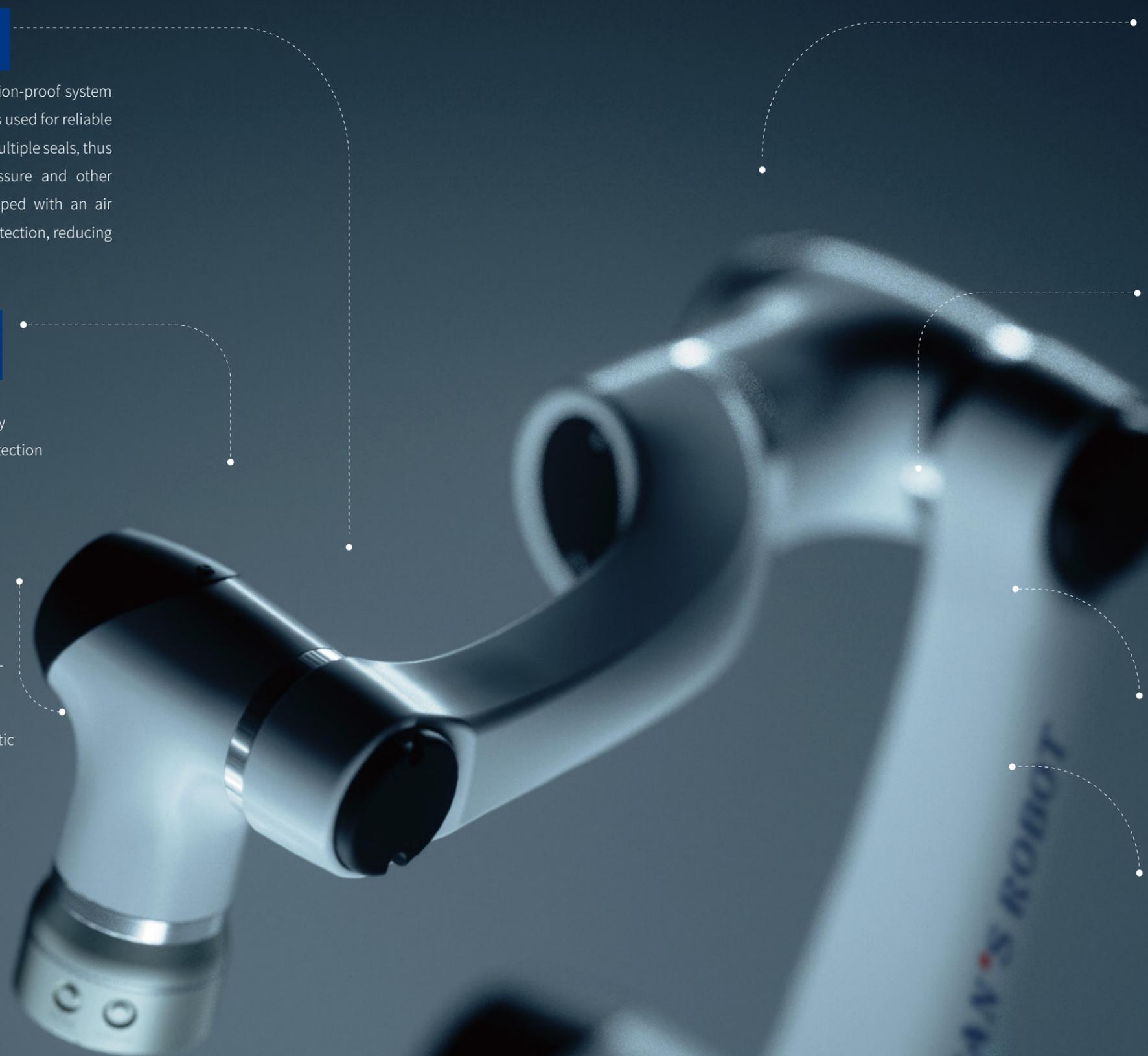
e.g. automatic refuelling and filling of cars
Also suitable for scenarios with a lot of dust and significant liquid splashing

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 footprint



Mini electrical box customised explosion-proof robot

配置一	 <p>Explosion-proof robot arm body Built-in pressure sensor, positive pressure explosion-proof construction</p>	 <p>Mini electric control box Wireless router and audible and visual alarms, with wireless ipad operation, body pressure monitoring and power failure protection in abnormal conditions</p>	 <p>Explosion-proof iPad Intrinsically safe explosion-proof</p>
	 <p>Explosion-proof robot arm body Built-in pressure sensor, positive pressure explosion-proof construction</p>	 <p>Mini electric control box Wireless router and audible and visual alarms, with wireless ipad operation, body pressure monitoring and power failure protection in abnormal conditions</p>	 <p>Non-explosion-proof iPad/laptop Wireless connection, no explosion protection, to be used in non-explosive environments (optional on request)</p>

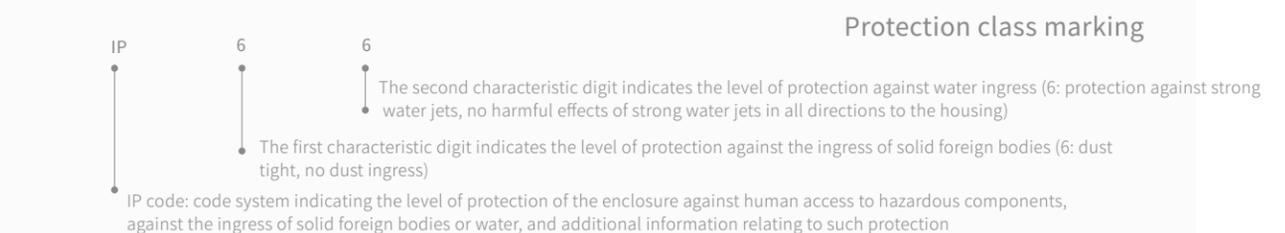
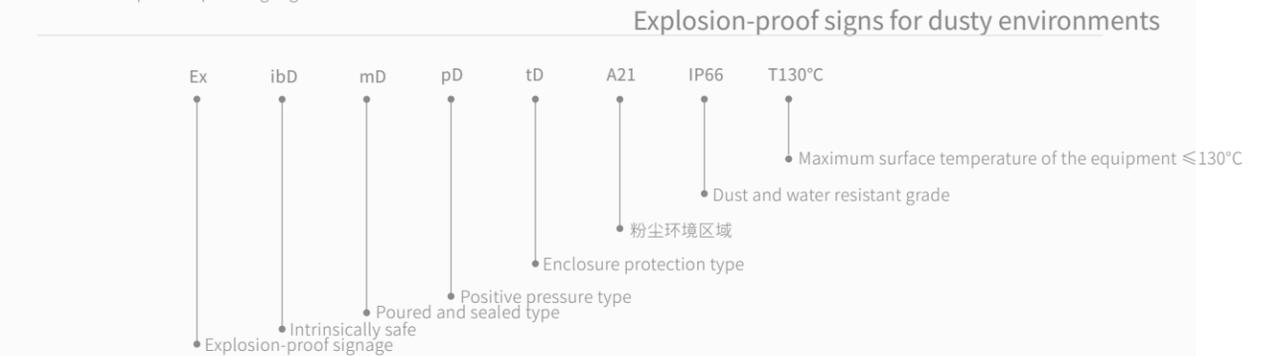
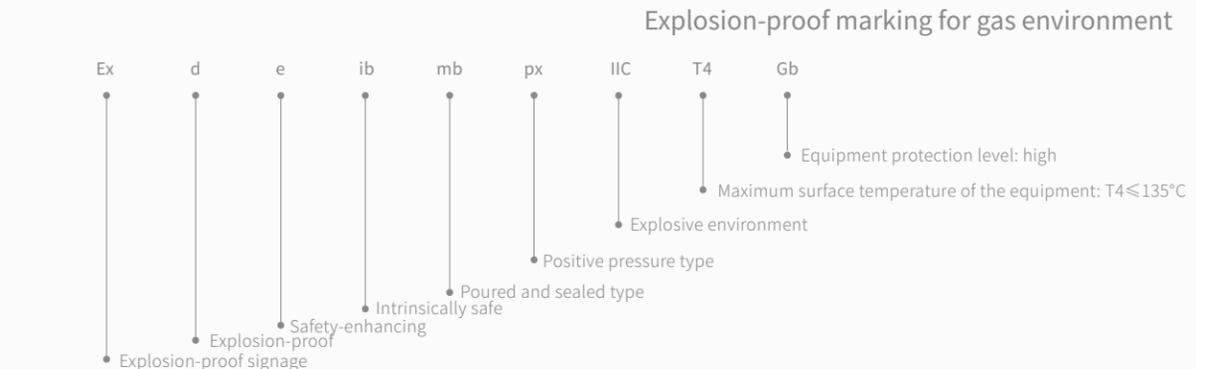
Customised explosion-proof robot with standard electric control box

配置一	 <p>Explosion-proof robot arm body Built-in pressure sensor, positive pressure explosion-proof construction</p>	 <p>Standard electric control box Wireless router and audible and visual alarms, with wireless ipad operation, body pressure monitoring and power failure protection in abnormal conditions</p>	 <p>Explosion-proof iPad Intrinsically safe explosion-proof</p>
	 <p>Explosion-proof robot arm body Built-in pressure sensor, positive pressure explosion-proof construction</p>	 <p>Standard electric control box Wireless router and audible and visual alarms, with wireless ipad operation, body pressure monitoring and power failure protection in abnormal conditions</p>	 <p>Non-explosion-proof demonstrator Wired connection, not explosion-proof, to be used in non-explosive environments</p>

Explosion-proof control cabinet version of the explosion-proof robot

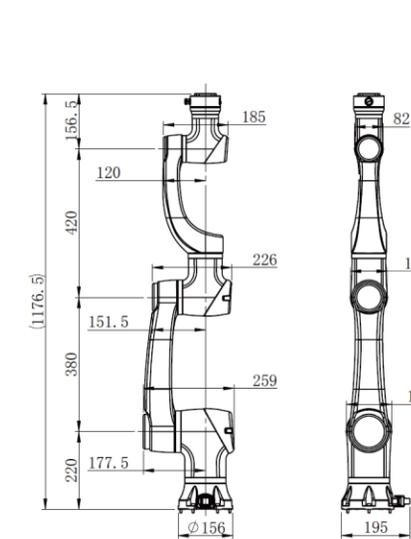
配置一	 <p>Explosion-proof robot arm body Built-in pressure sensor, positive pressure explosion-proof construction</p>	 <p>Explosion-proof control cabinet Robotic arm control module, explosion-proof cabinet with pressure monitoring system to ensure normal operation of the arm in real time and protection against power failure in case of pressure abnormalities</p>	 <p>Explosion-proof iPad Intrinsically safe explosion-proof</p>
	 <p>Explosion-proof robot arm body Built-in pressure sensor, positive pressure explosion-proof construction</p>	 <p>Explosion-proof 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</p>	 <p>Non-explosion-proof iPad/laptop Wireless connection, no explosion protection, to be used in non-explosive environments (optional on request)</p>

- 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

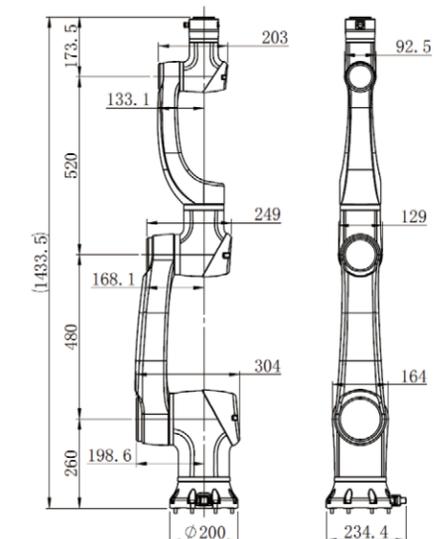


Model	E05F	E10F	E10F-L	E15F
Weight	25kg	43kg	45kg	60kg
Payload	5kg	10kg	8kg	15kg
Reach	800mm	1000mm	1300mm	1300mm
Joint Range	J1-J6 ±360°			
Joint Speed	J1-J4: 180°/s J5-J6: 200°/s	J1-J2: 100°/s J3-J4: 150°/s J5-J6: 180°/s	J1-J2: 100°/s J3-J4: 150°/s J5-J6: 180°/s	J1-J2: 80°/s J3-J4: 120°/s J5-J6: 150°/s
Maximum tool speed	2m/s			
Repeatability	±0.02mm	±0.03mm	±0.03mm	±0.05mm
Explosion-proof IP Classification	Ex d e i b m b p x IIC T4 Gb Ex i b D m D p D t D A21 IP66 T130°C			
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, Profine (t O p t i o n a l), Ethernet/IP (Optional)			
Programming	Graphical programming, remote call interface			
IP Classification	IP66			
Collaborative operation	10 advanced s e c u r i t y configuration functions			
Main material	Aluminium alloy			
Working Temperature	0-50°C			
Power input	200-240V AC, 50-60Hz			
Cable	Maximum length customizable 15-20m			

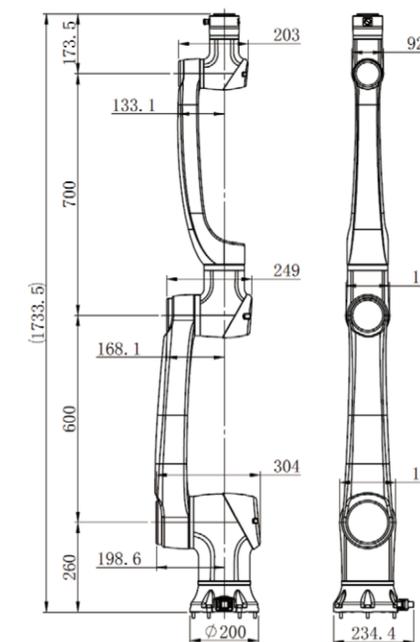
E05F



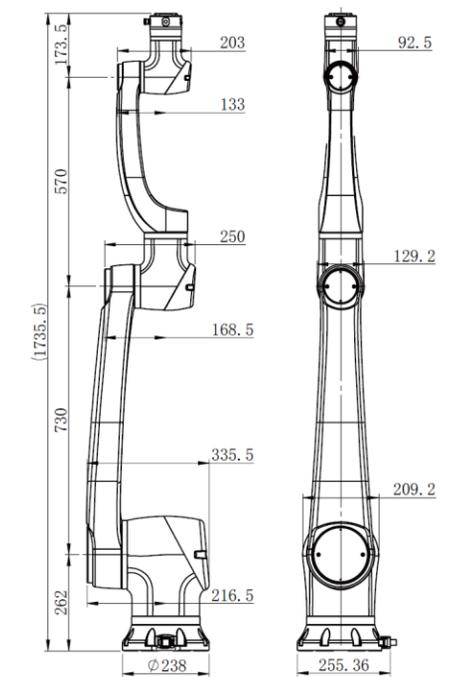
E10F



E10F-L



E15F



FR Multi-sensing Autonomous Vehicle

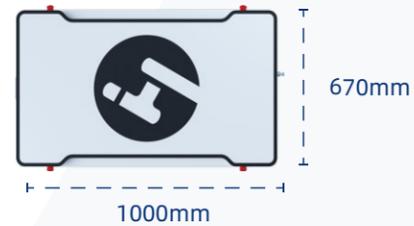
Overview

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.

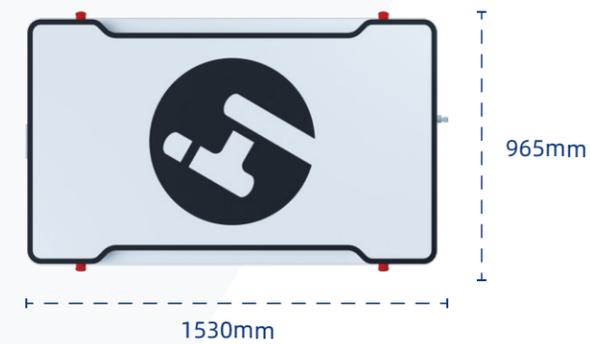


Dimensions

FR-200
200kg
46AH



FR-1200
1200kg
125AH



Features



Payload 200kg / 1200 kg



High speed charging and long endurance



FR 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



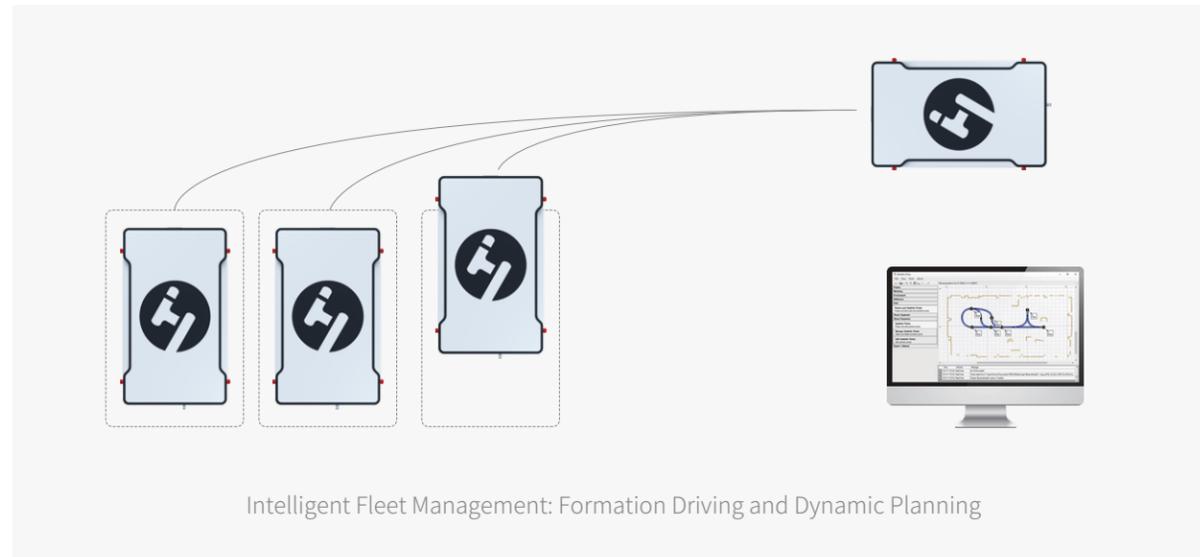
FR+Elfin-P



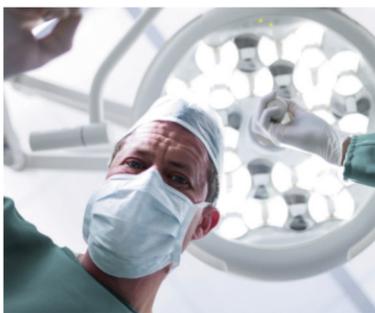
FR for Logistics



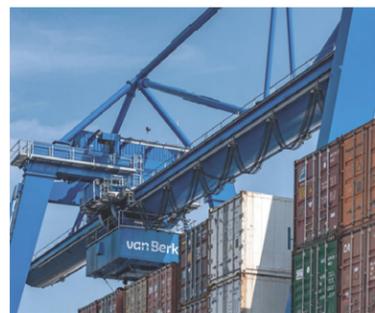
FR+Elfin



Recommended Industries



Healthcare



Logistics



3C

Tech specs

	Model	FR-200	FR-1200
Basic parameters	Payload	200 kg	1200 kg
	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	L1000×W670×H230(mm)	L1530×W965×H310(mm)
	Positioning Accuracy	±10mm	
	Safety Laser Scanner 360°	PLd/ Category 3 (ISO 13849- 1)	
	Navigation Mode	Laser SLAM	
	Battery parameters	Lifting Units	1x200kg , 1 x 0-60mm
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)		8h	12h
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 Mobile Manipulator

Overview

The STAR mobile manipulator 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

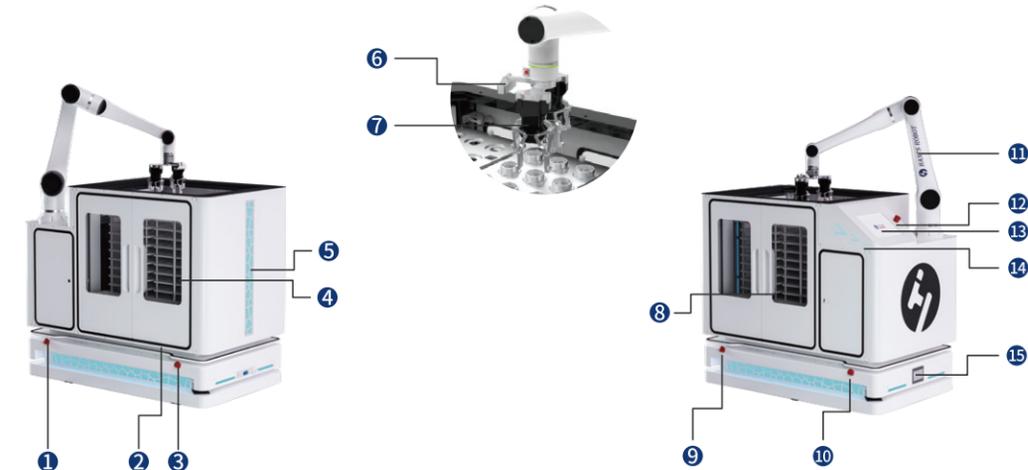
It can obtain the robot hardware and operating status in real time, which realizes self-check and fast fault diagnosis.



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 | Singal Lights | 5 14 | Lifting Unit 2 (Finished Product) | 8 |
| Drainage Outlet | 2 | 3D Camera | 6 | E10-L (Optional) | 11 |
| Lifting Unit 1 (To Be Processed) | 4 | Electric Gripper | 7 | 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			
	Outbound Interface	12 Months			



↑ 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 Easy to operate

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.

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 Orthopaedic drilling and nail

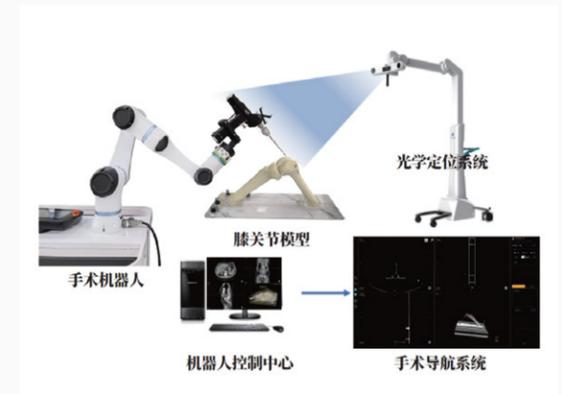
The orthopaedic drilling and stapling robot, in conjunction with the optical positioning system and other equipment, achieves a more intelligent and reliable surgical plan, a more precise and humane surgical execution, and an improved level of service in orthopaedic drilling and stapling surgery.

Accuracy: The robot can be positioned with an accuracy of up to 0.02 mm, 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: Piercing

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 Energy saving and low consumption

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

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

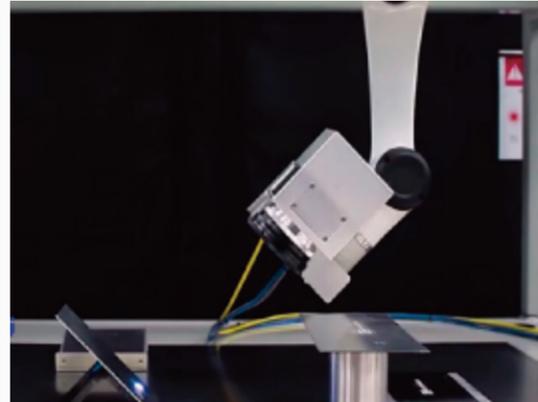
Laser Marking

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.

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 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.