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.

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.

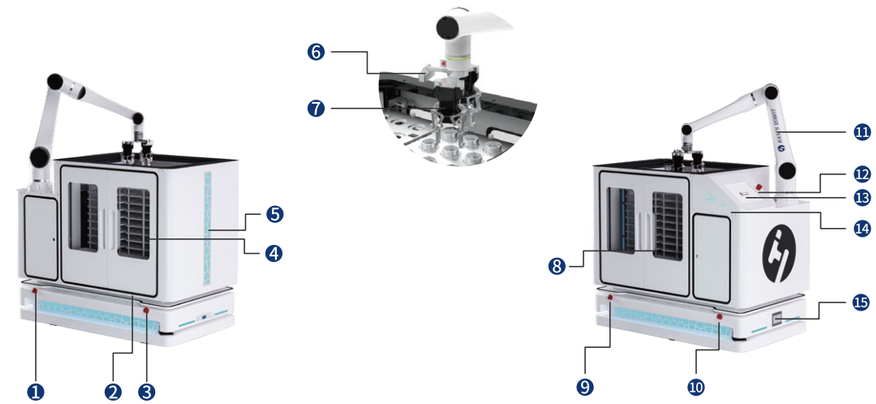
Stable performance

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.

Parts name



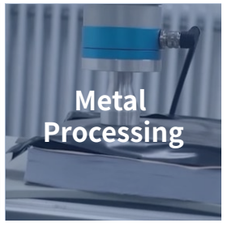
- E-STOP 1 3 9 10 12
- Drainage Outlet 2
- Lifting Unit 1 (To Be Processed) 4
- Singal Lights 5 14
- 3D Camera 6
- Electric Gripper 7
- Lifting Unit 2 (Finished Product) 8
- E10-L (Optional) 11
- 12" Touchscreen 13
- FR 15

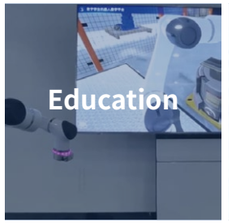
Tech Specs

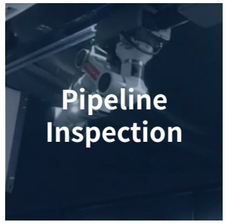
Model		STAR-S	STAR-L	STAR-M	STAR-H
Main body	Vehicles	HR150	HR300	HR600	HR1200
	Robot	E03/E05	E03/E05/E05-L/E10	E05-L/E10/E10-L/E15	E05-L/E10/E10-L/E15
Basic performance	Dimensions (Elfin Not Included)	700*500*630(mm)	950*650*900(mm)	1200*700*900(mm)	1530*965*1300(mm)
	Actuation	Differential Drive	Differential 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			

Han's Robot

Applications







↑ Industry applications:

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

↓ Process applications:

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