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特种机器人系统及解决方案

Special Robot +
System & Solutions

新松机器人自动化股份有限公司
SIASUN ROBOT & AUTOMATION CO., LTD.
中国沈阳浑南区全运路33号
NO.33 Quanyun Road, Hunnan District, Shenyang, P.R.China.
Tel: 400-800-8666 E-mail: market@siasun.com

新松服务号



新松订阅号



新松机器人自动化股份有限公司（以下简称“新松”），是一家以机器人技术为核心，致力于全智能产品及服务的高科技上市企业，是中国机器人产业前 10 名的核心牵头企业，也是全球机器人产品全的厂商，国家机器人产业化基地。新松公司成立于 2000 年，本部位于沈阳，在上海设有国际总部、在北京设有投资总部，在沈阳、上海、杭州、青岛建有产业园区，现已在全国多个经济热点区域构建了立体化的研发及服务网络。同时，积极布局国际市场，在中国香港、新加坡等区域设立子公司。公司现拥有 4000 余人的研发创新团队，形成以自主核心技术、核心零部件、核心产品及行业系统解决方案为一体的完整全产业链。目前，公司总市值位居国际同行业前三位，成长性机器人行业全球罕见！

作为中国机器人产业的翘楚和工业 4.0 的践行者与推动者，成功研制了具有完全自主知识产权的工业机器人、移动机器人、特种机器人、服务机器人四大系列百类产品，面向智能装备、智能物流、智能工厂、智能交通，形成八大产业方向，致力于打造数字化物联新模式。为全球 3000 余家国际跨国企业提供产业升级服务，已累计出口 32 个国家和地区，与“一带一路”17 个国家和地区有深切合作。其中，移动机器人综合竞争实力突出；洁净（真空）机器人打破国外技术封锁，填补中国在该领域的空白；工业机器人在国民经济重要领域广泛应用；服务机器人业已销往海内外。

新时代、新业态。新松未来将本着大产业、大平台发展战略，打造集创新链、产业链、金融链、人才链与一体的生态体系。助推智能产业裂变式发展，担当保障民族实业崛起之重任，惠享智时代！

SIASUN is a high-tech listed enterprise, which takes robotic technology as the core and focuses on providing intelligent products & services. It is TOP 10 leading enterprise in Chinese robotic industry, who has the most comprehensive robotic products line in the world. As the largest robot industrial base in China, SIASUN was established in the year of 2000. Its group HQ locates in Shenyang, international HQ locates in Shanghai and finance HQ locates in Beijing. With industrial parks established in Shenyang, Shanghai, Hangzhou and Qingdao, SIASUN has complete its national R&D and service network, which covers six major regions around China. In the meantime, SIASUN started to explore global market-branches are setup in Chinese Hong Kong and Singapore. The whole group has more than 4,000 R&D talents, and has formed a whole industrial value chain consists of core technologies, core components, leading products and industry solutions. At present, SIASUN market value is the 3rd in robotic industry globally, who has the fastest rate of growth.

As the leading enterprise in Chinese robotic industry, SIASUN has a unique advantages on providing digital manufacturing solutions. It has hundreds kinds of robot products belonging to four series (namely industry robot, mobile robot, special robot and service robot), and four intelligent integrated system divisions (namely intelligent equipment, intelligent logistics, smart factory and intelligent transportation). SIASUN has provided industrial updating services to more than 3,000 transnational enterprises. Products have been exported to 32 countries and areas. SIASUN has established cooperation with 17 countries on the Belt & Road. Mobile robot comprehensive competitive strength is the world leading; Clean room (vacuum) robot eliminates blockade on technology and fills up market blank; Industrial robots are batched used in high-end areas; Service robots have been exported to many countries.

New time, new business mode. SIASUN will carry out Big Industry & Big Platform development strategy, and form an ecosystem consisted of Innovation Chain, Industry Chain, Finance Chain and Talents Chain. SIASUN will promote the rapid development of intelligent industry and take the responsibility of leading the rise of national manufacturing industry.



新松特种机器人是为了满足不同行业客户对于机器人产品个性化定制的需求，融合机器人自动化技术开发的液压重载机器人（1-40 吨）、桁架机器人、钻井平台机器人以及各种特种环境应用的机器人，构建起了从自有技术到特种机器人产品再到特种数字化生产线的完整产业链，目前已广泛应用于国防、海洋及核工业等众多国民经济重点领域。

In order to meet the needs of different industries for customization of robot products, Special Robot BG has developed hydraulic heavy load robot(1-40t), truss robot, Drilling platform robot and other special environment robot based on robot automation technology. A complete industrial chain from autonomous technology, special robot product to digital production line is constructed. It has been widely used in many national economic areas, such as national defense, marine and nuclear industry.

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重载机器人

HEAVY LOAD ROBOT

重载机器人 Heavy load robot

重载机器人产品依托新松公司拥有自主知识产权的野外车载重载机器人技术来实现，采用垂直多关节形式机器人结构，实现重载机器人高精度多轴复合运动，可满足不同规格负载吊装、转载、搬运等需求。系统采用先进的激光扫描、视觉识别等技术进行目标定位与识别；控制系统集成运动规划、位置伺服、数据采集处理等功能；液压系统采用比例双阀组控制模式，高效运转。相对于传统起重设备，重载机器人更加智能、高效、灵活。根据使用工况要求，单臂和双臂两种工作模式可供选择。

Heavy load robot product is realized by the field vehicle heavy load robot technology with SIASUN's independent intellectual property rights. It uses a vertical multi joint robot structure to achieve high-precision multi axis compound motion. It meets different specification of load lifting, reloading and handling. System using laser scanning and visual recognition technology to target positioning and recognition; Control system integrates motion plan, position servo, data collection and other functions; Hydraulic system adopts the control pattern of double proportion valve group, which is able to ensure high-speed operation for system. Compared with traditional hoisting equipment, heavy load robot is more intelligence, highly efficient and flexible. According to the working condition of demand, the heavy load robot supports single arm mode and double arms modes.

型号 Type	40t重载机器人 40t heavy load robot	20t重载机器人 20t heavy load robot	5t重载机器人 5t heavy load robot	
结构形式 Structure	垂直多关节 Vertical multi-joint	垂直多关节 Vertical multi-joint	垂直多关节 Vertical multi-joint	
自由度 DOF	3+1	3	6	
额定载荷[t] Rated Weight	40	20	5	
额定起吊力矩[tm] Rated lifting torque	240	80	30	
最高速度(空载/带载)[mm/s] Max Speed (no-load/full-load)	200/50	80/40	200	
视觉(激光)定位精度[mm] Visual positioning accuracy(by laser)	±2	±5(激光)	±2	
点动位移[mm] Inch displacement	1	1	1	
各关节性能参数 Performance parameters of each joint	I轴 Axle I	±185°	±185°	±185°
	II轴 Axle II	-5°~70°	-8°~75°	0°~75°
	III轴 Axle III	-172°~0°	-173°~0°	-140°~0°
	IV轴 Axle IV	±150°	自由 every	-110°~75°
	V轴 Axle V	—	—	±50°
	VI轴 Axle VI	—	—	±170°
自重[t] Weight	16	8	6	
驱动方式 Drive mode	液压/电气伺服 Hydraulic/electric servo	液压/电气伺服 Hydraulic/electric servo	液压/电气伺服 Hydraulic/electric servo	
液压系统工作压力[MPa] Working pressure of hydraulic system	31	31	21	

40t重载机器人
40t heavy load robot



20t重载机器人
20t heavy load robot



5t重载机器人
5t heavy load robot

管处理机器人 Grasp arm grab robot

折臂抓管机器人主要安装在船甲板或海洋钻井平台上，采用机器人自动化技术，与鹰爪机之间协调配合工作，将管场中水平放置的钻杆移运到猫道机上，再由鹰爪机翻转为竖直状态；或者将井口上方拆卸下的竖直钻杆，翻转并移运到管场。该产品通过了中国船级社认证。折臂抓管机器人在运移钻具过程中，抓管靴中钳头与钻杆盒中钻杆保持平行状态，实现钻杆在空间范围内按规划轨迹的移运。

The grasp arm grab robot is mainly installed on the ship deck or offshore drilling platform, collecting robot automation technology, coordinating the work with the hawk machine, moving the drill rods placed horizontally in the field to the cat, and then turning the hawk machine into the vertical state, or the vertical drill rod disassembled above the wellhead, and turning and turning. Move to the pipe yard. The product has passed the certification of China Classification Society. In the process of moving the drilling tool, the grasping arm robot holds the balance between the pipe pliers and the drill pipe, and realizes the movement of the drill pipe in the space range according to the planned trajectory.

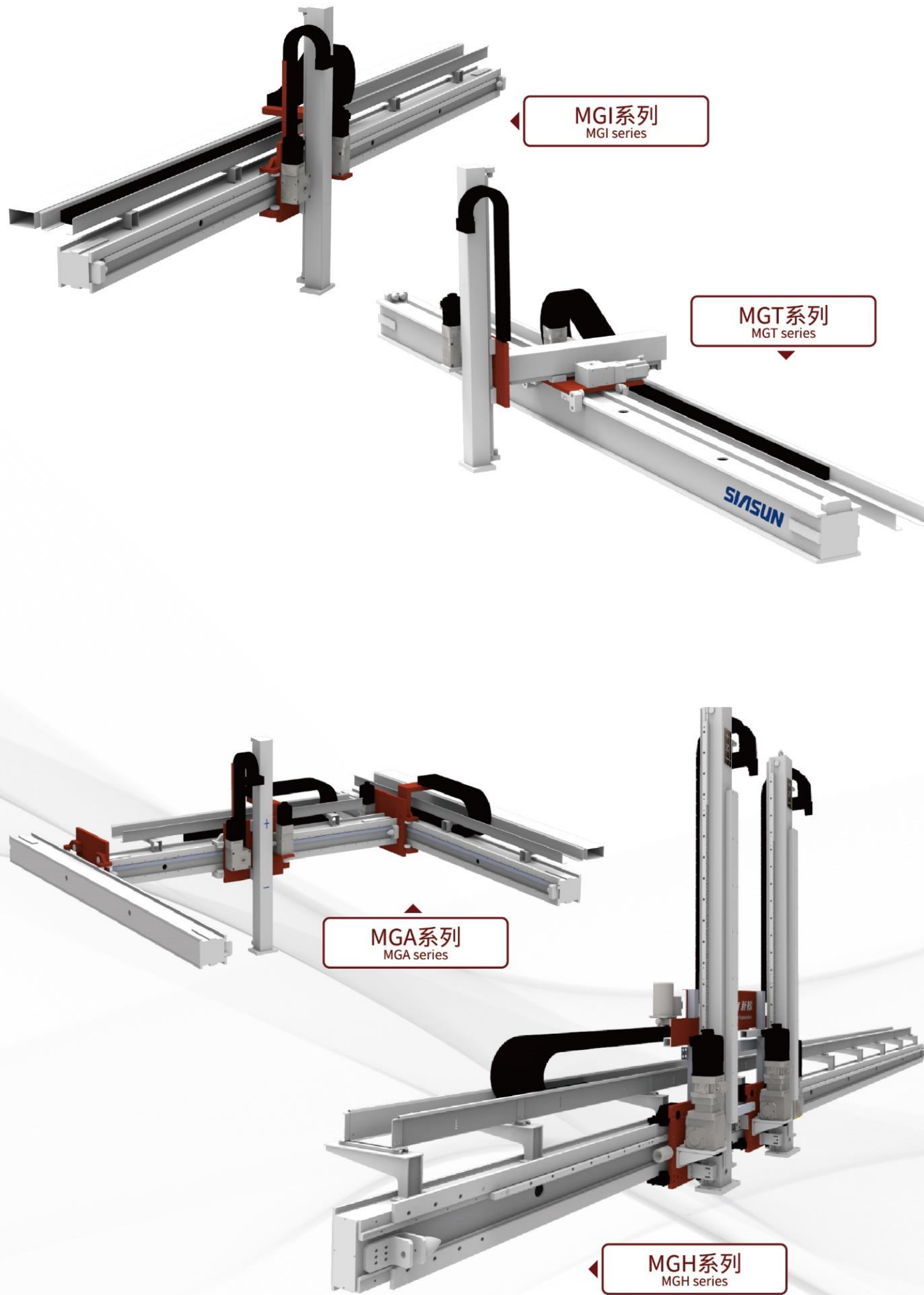


技术参数 Technical parameters			
结构形式 Structure	多关节型 multi-joint type	抓取钻具直径范围[in] Diameter range of grabbing the drilling tool	4 1/2" ~ 8 1/4"
自由度 DOF	6	抓取钻具长度范围[mm] Length range of grabbing the drilling tool	3000~9500
最大负荷[t] Max Payload Weight	3	本体自重[t] Weight	12
常规工作负荷[t] Normal Payload Weight	0.5	工作风速[m/s] Work Wind Speed	36
最大工作范围[mm] Max Contact Range	11500	自存风速[m/s] Wind Speed in itself	55
重复定位精度[mm] Repeated Positioning Accuracy	±9	功率[kW] Power	110

- ☑ 大载荷、高精度的重复定位及运动控制
Repetitive positioning and motion control with large loads and high accuracy
- ☑ 实现空间位置的无干涉运动
Non interfering motion of space position
- ☑ 操作简便，一键式操作
Simple one key operation
- ☑ 设置备用泵组，保障连续工作
Set up a spare pump unit to ensure continuous work

直角坐标机器人

CARTESIAN ROBOT



		MGT-1系列产品		MGT-2系列产品			MGT-3系列产品			MGT-4系列产品		MGT-5系列产品						
Z轴轴向中心最大负载[Kg] Maximum load of the axial center of the Z axis		16	25	25	40	63	63	100	160	160	250	250	400	630				
行程[m] Route	X轴 X axis	≤100		≤100			≤100			≤100		≤100						
	Y轴 Y axis	0.2~0.4		0.4~1			0.8~1.2			1~1.6		0.3~0.8						
	Z轴 Z axis	≤1		0.25~1.25			0.25~1.25			0.25~1.6		0.25~1.6						
最大速度[m/min] Maximum Speed	X轴 X axis	180	120	180	180	120	180	180	120	180	120	180	120	120				
	Y轴 Y axis	120	120	120	120	120	120	120	120	120	120	120	120	120				
	Z轴 Z axis	60	40	100	60	40	100	60	40	60	40	100	60	40				
重复定位精度[mm] Repeated Positioning Accuracy[mm]		±0.10~0.20																
驱动方式 Driving Mode		伺服电机 Servo Motor Brand																
		MGI-1系列产品			MGI-2系列产品		MGI-3系列产品			MGI-3S系列产品		MGI-4系列产品			MGI-5系列产品		MGI-6系列产品	
Z轴轴向中心最大负载[Kg] Maximum load of the axial center of the Z axis		16	25	40	40	63	63	100	160	160	250	160	250	400	400	630	630	1000
行程[m] Route	X轴 X axis	≤100			≤100		≤100			≤100		≤100			≤100		≤100	
	Z轴 Z axis	≤0.7			≤1		≤1.6			≤1.6		≤1.6			≤1.6		≤1.6	
最大速度[m/min] Maximum Speed	X轴 X axis	240	180	120	240	120	240	180	120	180	120	180	120	90	180	120	120	90
	Y轴 Y axis	120	120	120	120	120	120	120	120	120	120	120	120	90	60	90	60	30
	Z轴 Z axis	120	120	120	120	120	120	120	120	120	120	120	120	90	60	90	60	30
重复定位精度[mm] Repeated Positioning Accuracy[mm]		±0.10~0.20																
驱动方式 Driving Mode		伺服电机 Servo Motor Brand																
		MGA-1系列产品			MGA-2系列产品		MGA-3系列产品			MGA-4系列产品			MGA-5系列产品		MGA-6系列产品			
Z轴轴向中心最大负载[Kg] Maximum load of the axial center of the Z axis		16	25	40	40	63	63	100	160	160	250	400	400	630	630	1000		
行程[m] Route	X轴 X axis	≤30			≤30		≤50			≤80			≤100		≤100			
	Y轴 Y axis	≤2.5			≤3		≤4			≤6			≤8		≤8			
	Z轴 Z axis	≤0.7			≤1		≤1.2			≤1.6			≤1.6		≤1.6			
最大速度[m/min] Maximum Speed	X轴 X axis	150	120	75	120	75	150	90	60	150	100	60	120	75	75	42		
	Y轴 Y axis	150	120	75	120	75	150	90	60	150	100	60	120	75	75	42		
	Z轴 Z axis	120	75	45	75	45	90	60	42	100	60	36	75	42	42	30		
重复定位精度[mm] Repeated Positioning Accuracy[mm]		±0.10~0.20																
驱动方式 Driving Mode		伺服电机 Servo Motor Brand																
		MGH-1系列产品			MGH-3系列产品			MGH-3S系列产品			MGH-4系列产品							
Z轴轴向中心最大负载[Kg] Maximum load of the axial center of the Z axis		16	25	40	40	63	63	100	160	160	250	400						
行程[m] Route	X轴 X axis	≤100			≤100			≤100			≤100							
	Z轴 Z axis	≤0.7			≤1			≤1.6			≤1.6							
最大速度[m/min] Maximum Speed	X轴 X axis	180	180	120	180	120	180	180	120	180	120	90						
	Z轴 Z axis	120	90	60	120	60	120	90	60	120	90	60						
重复定位精度[mm] Repeated Positioning Accuracy[mm]		±0.10~0.20																
驱动方式 Driving Mode		伺服电机 Servo Motor Brand																

特种环境应用机器人

SPECIAL ENVIRONMENT APPLICATION ROBOT

特种野外巡察机器人 UGV

新松特种野外巡察机器人有轮式、履带式和轨道式三种形式，以适应不同地形。巡察机器人能够远距离遥控或者沿规划路径自主行走，同时将监控信息实时传回到控制室，遇到异常情况自主报警。搭载可见光和热红外两种摄像头，能够全天候、全时域巡逻侦察。

Unmanned Ground Vehicles (UGV) of SIASUN is based on three kinds of mobile platform: wheeled, caterpillar track and orbital to adapt to different terrain. UGV can be controlled remotely or move on planning route, and send monitor information back to control room. It will trigger alarm automatically when it encounters exception. UGV has two types of cameras, visible and thermal infrared, can patrol and reconnoiter in all-weather and full time domain.



技术参数(履带式) Technical parameters (Caterpillar Track)			
外形尺寸[mm] Size	1800×1100×1200	无线通讯距离[km] Wireless Range	10
重量[Kg] Weight	460	续航里程[km] Biggest continue voyage course	20
整机功率[kW] Power	4.3	探测单元 Probe unit	可见光+热红外 Visible and thermal infrared
速度[m/h] Speed	5	探测距离[m] Detection Range	200
越障宽度[mm] Width of crossing obstacle	400	避障距离[mm] Length of crossing obstacle	3000
越障高度[mm] Height of crossing obstacle	180	动力源 Power Producer	锂电池 Lithium Battery
导航方式 Navigate Mode	卫星导航+惯性导航 Satellite navigation + inertial navigation	电池容量[Ah] Lithium Battery Capacity	300
定位精度[mm] Positioning Accuracy	±150	充电时间[h] Charging Time	3.5



- 采用履带底盘，地形适应好，越野能力强
Using a caterpillar chassis, strong cross-country ability
- 整机防护等级IP65，满足室外工作环境
IP 65 protection grade to meet outdoor working environment
- 工作环境温度-10° ~ 50°
Working temperature range -10° ~ 50°
- 履带底盘可以搭载多种功能部件
The caterpillar chassis can carry a variety of functional components
- 动力电池采用锂电池，噪音小
Using lithium battery, small noise
- 远程语音交互
Remote voice interaction

蛇形臂机器人 Snake Arm Robot

蛇形臂机器人是新松公司自主研发的具有(24+1)个自由度的连续型机器人。主要应用在狭小空间和恶劣环境，使用不同工具能够完成多种复杂作业，如飞行器翼肋隔舱狭小环境内的钻孔作业、核电站反应堆冷却管路的检修作业、越过视野障碍对军事目标的侦查作业、地震现场被困人员的搜救作业等。

Snake arm robot is a continuous robot with (24+1) degrees of freedom independently developed by SIASUN Corporation. Snake arm robot mainly used in narrow space and harsh environment, it can use different tools to complete many complex tasks. Such as drilling task in the narrow environment of the wing rib compartment of the aircraft, maintenance task of reactor cooling pipeline in nuclear power plant, the investigation of military targets over the field of view, the rescue task of the trapped people at the earthquake site etc.



蛇形臂机器人参数 Snake arm robot parameter			
臂总长[mm] Total length	2269	臂直径[mm] Diameter	125
关节数 Number of joints	12	自由度 Degree of freedom	24+1
最大弯曲角 Maximum bending angle	180°	单节弯曲角 Single bending angle	22°
弯曲半径[mm] Bending radius	591-639	直线运动行程[mm] Linear motion stroke	2300
直线运动速度[mm/s] Linear motion speed	100	长*宽*高[mm] Length * width * height	3800*800*1550
中心高[mm] Height of center	1200	重量[kg] Weight	1400
负载[kg] Load	5	P点重复定位精度[mm] Point repeat positioning accuracy	±1
控制模式 Control mode	关节控制/末端牵引/路径规划 Joint Control / NoseFollowing / Path Planning	控制方式 Control method	无线遥控手柄 Wireless remote control handle
供电电源 Power supply	单相AC 220V Single phase AC 220V	额定电流[A] Rated current	20
工作温度[°C] Operating temperature	0-40		



- 关节柔性高，空间适应能力强，狭小空间可以作业
High joint flexibility, strong spatial adaptability, able to work in a narrow space
- 关节采用钢丝绳牵引驱动，严苛环境下可工作
The joint is pulled by wire rope and can work in harsh environment
- 远程无线遥控操作
Remote wireless control operation
- 可搭载在多种移动平台
Support multiple mobile platforms
- 定制化产品，可以根据客户需要定制
Customized product, it can be customized according to customer needs

机器人化装备

ROBOTICS EQUIPMENT

修井作业自动化装置 Automation equipment for work over operation

在进行大修作业过程中、反复起下钻、排放立根、倒换吊卡操作液压钳上卸扣等是整个作业过程中最大的部分，尤其二层台操作工人需要在高空反复开关吊卡，推拉钻柱，劳动强度较大且工作十分危险。为了解决上述矛盾，公司经过大量调研和试验，设计制造了可与多种型号的大修机配套使用的大修作业自动化系统，该系统 2 人即可完成起下立柱。系统主要由二层台机器人、二层台及控降指梁系统、铁钻工、动力猫道、自动吊卡及导向机构、液动卡盘、气动系统、液压系统、监控系统、控制系统等组成。

In the process of overhaul, drill down, discharge roots, replace the elevator, and operate the hydraulic tongs. The biggest part of the process, especially the two floor operators, needs to repeatedly switch the elevator card and push the drill string in the exam room. The labor intensity is large and the work is very dangerous. In order to solve the above contradictions, after a large number of research and experiments, the company has designed and manufactured a large repair automation system which can be used with many types of overhaul machines. The system can complete the drilling of 2 people. The system mainly consists of two layers of robot, two layer and tethered finger beam system, iron drill, power cat Road, automatic hanging card and guiding mechanism, hydraulic chuck, pneumatic system, hydraulic system, monitoring system, control system and so on.



技术参数 Technical parameters	
排放管柱平均节拍[S/柱] Exhaust pipe column average beat	90
适用管柱规格[in] Applicable pipe string specification	2 3/8~3 1/2
工作环境温度[°C] Temperature	-20~45
相对湿度[%] Relative humidity	10~90
最大适应风级[m/s] Maximum adaptation to the wind level	17.1 (7级)
工作噪声[dBA] Noise	≤80
工作电源电压[v] Power supply voltage	380±10%
电源频率[Hz] Power frequency	50
电力容量[kW] Power capacity	80
气源压力[MPa] Gas pressure	≥0.8
操作方式 Operation mode	操作箱/无线遥控盒/自动

- ✓ 自动化程度高
High degree of automation
- ✓ 节省人力, 2人即可完成起下立柱
Save manpower, 2 people can complete the drilling work
- ✓ 大幅降低劳动强度
Drastically reduce labor intensity
- ✓ 操作简便, 一键式操作
Simple operation, one key operation
- ✓ 多重程序互锁, 保障安全
Interlocking of multiple programs to ensure safety
- ✓ 具备应急处理措施
Having emergency treatment measures



采制化智能系统 Intelligent system of production

本系统在全封闭状态下，按程序自动运行完成上料、破碎、缩分、研磨、装罐、封样、信息识别、信息存储及收集弃料的制样过程，使输入系统的块状或粒状物料缩分粉碎成所要求的小粒状或粉状物料。

Under the fully enclosed condition, the system can automatically run and complete the sample preparation process of feeding, crushing, shrinking, grinding, canning, sealing, information identification, information storage and collection of discarded materials, so that the bulk or granular materials of the input system can be shrunk and crushed into the required small granular or powdered materials.

该系统的作用和意义:

- 1、提高制样过程的自动化水平, 提升企业形象;
- 2、减少人工操作误差, 提高制样结果的可靠性和科学性;
- 3、降低人工劳动强度, 改善工作环境, 减少人身伤害;
- 4、提高工作效率, 降低运行成本, 提高管理水平。

机器人制样系统的特点:

- 1、应用范围广(各类矿石、煤焦炭)
- 2、各工艺模块组合灵活性高
- 3、后期模块重组改造成本低

机器人制样功能概述:

与常用自动制样系统一样, 机器人制样系统也能够根据客户需求完成上料、烘干、破碎、缩分、研磨、罐装、信息存储、与ERP联网等功能, 并且可以根据不同物料制样工艺要求调整制样过程。

System Functions and Purposes:

1. Improve automation level, upgrade corporate image
2. Reduce manual error, avoid human effects and improve reliability and scientificity
3. Reduce labor intensity, improve work environment and lessen personal injury
4. Improve work efficiency and productivity, lower operating cost and raise the standard of management

Features of Robotic Sample Preparation System:

1. Wide range of application (series of mineral, coal and coke)
2. High flexibility assembling of technology module
3. Low cost for module's recombination and renovation

Function Overview:

Same as general Sample Preparation System, Robotic Sample Preparation System also could achieve customer's required functions, such as feeding, drying, reduction, division, grinding, canning, sealing, information storage and docking with ERP, etc. And system also could adjust the sample preparation procedure according to different material technology requirements.



智能制造信息化平台

Intelligent Manufacturing Information Platform

新松公司的 MOM 制造运营管理平台是一个面向制造企业的生产制造运营管理平台，它涵盖了设备数据采集、智能调度和制造执行系统在内的生产制造综合管理平台，可以为企业提供数据采集系统、生产调度系统、基础数据管理、生产计划管理、生产执行管理、质量管理、设备管理、物料管理、看板管理等多个子系统及子模块。业务涉及机加工行业、装配行业等多个行业分工，客户包含整车厂、车体零部件供应商、核行业、铝加工行业等多个领域。

The MOM manufacturing operation management platform of Siasun company is a production and operation management platform for manufacturing enterprises, which covers manufacturing integrated management platform including equipment data acquisition, intelligent dispatching and manufacturing execution system. It can provide enterprises with multiple subsystems and sub-modules such as data acquisition system, production dispatching system, basic data management, production planning management, production execution management, quality management, equipment management, material management, and electronic display board management. The business involves machining industry, assembly industry and many other industries. The customers include vehicle manufacturers, body parts suppliers, nuclear industry, aluminum processing industry and other fields.

软件应用是改进及创新的关键

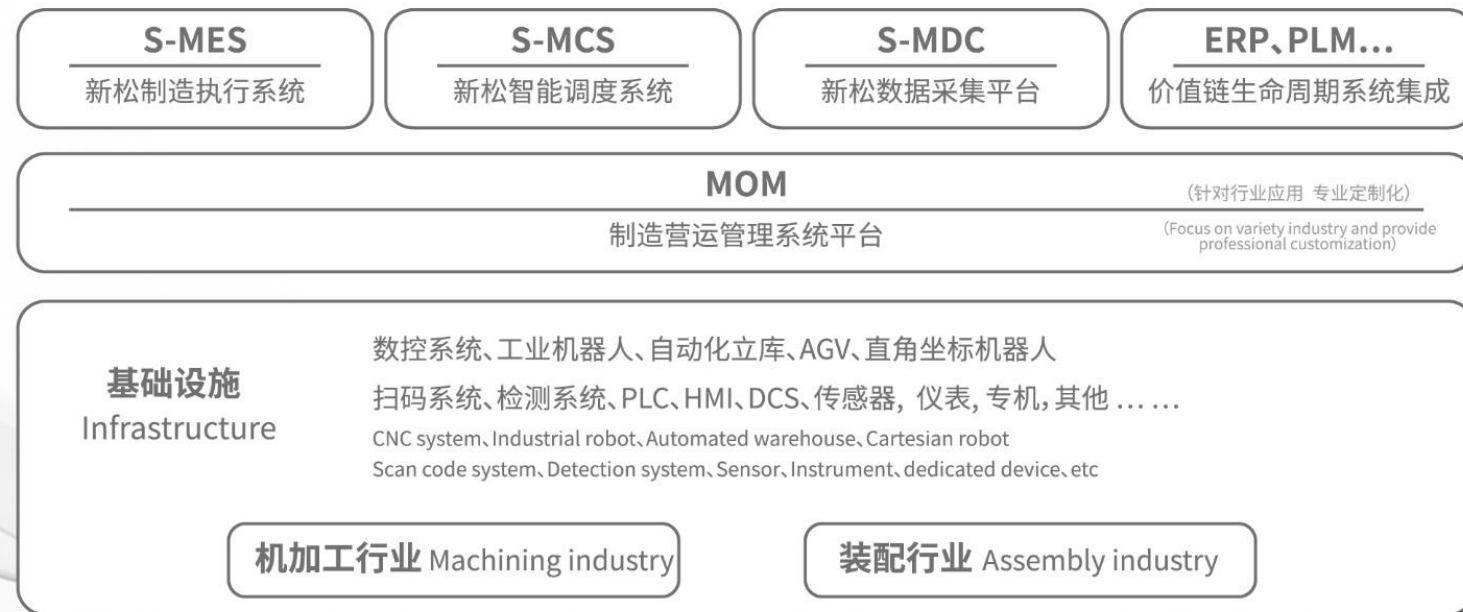
新松对制造业精益升级改进目标的理解
质量、效率、透明、柔性、智能、无人

It is the key for the improvement and innovation of manufacturing industry to use MOM system.

SIASUN's view on the improvement target of lean upgrading in manufacturing industry is included Quality, efficiency, transparency, flexibility, intelligence, unmanned

新松智能制造信息化解决方案

SIASUN's information technology solutions for intelligent manufacturing



特种数字化生产线

Special Digital Production Line

特种数字化生产线是智能制造的典型代表，主要解决工厂、车间和生产线以及产品的设计到制造实现的转化过程，使设计到生产制造之间的不确定性减低，在数字空间中生产制造过程压缩和提前，使生产制造过程在数字空间中得以检验，从而提高系统的成功率和可靠性，缩短从设计到生产的转化时间，实现产品生命周期中的制造、装配、质量控制和检测等各个阶段的功能。

Special digital production line is a typical representative of intelligent manufacturing, which mainly solves the transformation process of factory, workshop and production line and product design to manufacturing realization. It reduces the uncertainty between design and manufacturing, compresses and advances the manufacturing process in the digital space, makes the manufacturing process can be tested in digital space. Therefore, it can improve the success rate and reliability of the system, shorten the transformation time from design to production, and realize the functions of the product life cycle, including manufacturing, assembly, quality control and detection.



效率 Efficiency

提高生产过程的作业效率
Improving the efficiency of the production process.

质量 Quality

提高规划质量
提高产品数据统一与变型生产效率
优化了生产线的配置
Reduce the time of trial production and process planning, shorten the production preparation period.

成本 Cost

减少了物理原形的使用和工程更改量
降低设备人员的投入
Reduces the use of physical and engineering changes and reduces the input of equipment personnel.



新松特种机器人致力于核燃料循环、乏燃料后处理、核物流、核退役、核应急等领域提供自动化解决方案。以客户需求为导向，深度融合工业机器人、移动机器人、智能仓储系统、智能物流系统、信息化管理系统等产品和服务，为客户提供满足核行业设计制造标准的定制化产品和服务，受到了核行业客户的一致好评。

在核燃料领域，新松设计制造的多套自动化生产线及专用设备涵盖芯块粉冶、单棒装管、端塞焊接、组件组装、组件焊接、物料仓储及物料转运等核燃料元件制造工艺在已成功应用重水堆、压水堆等多种堆型，产品在放射性环境(热室、核退役)中，可为行业内提供特种机器人产品及系统解决方案。

SIASUN company is committed to providing solutions in the following fields: nuclear fuel cycle, the reprocessing of spent nuclear fuel, nuclear logistics, nuclear decommissioning, nuclear emergency etc. SIASUN focuses on customer demand and deeply integrates lots of productions and technologies such as Industrial Robot, AGV, Intelligent Storage System, Intelligent Logistics System, Information Management System etc. SIASUN provides customized products and services to meet the design and manufacturing standards of the nuclear industry and has received high praise from the customers of the nuclear industry.

SIASUN has designed and manufactured lots of automatic production lines and special equipments In the field of nuclear fuel, These automatic production lines and equipments cover many areas such as Pellet powder metallurgy, single rod piping, end plug welding, component assembly, component welding, material storage and material transfer etc and have been successfully applied to PWR, HWR, etc. SIASUN can also provide special robot products and solutions for nuclear industry In the radioactive environment (hot laboratory cave, nuclear decommissioning).

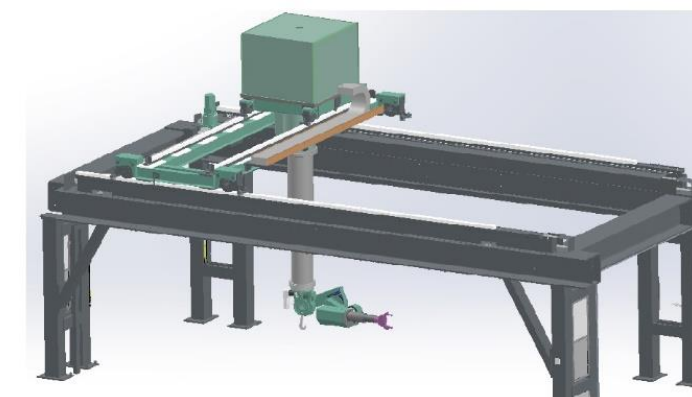
核燃料芯块智能生产车间 | Intelligent production workshop for nuclear fuel pellets



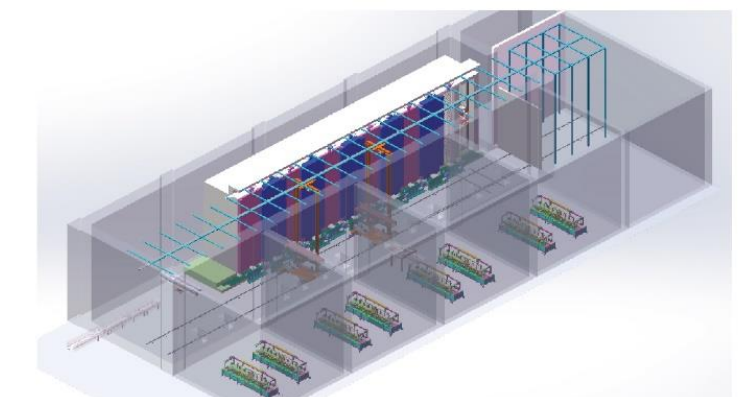
压水堆核燃料元件自动化生产线 | Automatic production line for PWR fuel element



热室自动化设备集成系统 | Automated equipment integration system for hot laboratory cave



MOX 燃料元件自动化生产线 | Automatic production line for MOX fuel element



新松特种机器人利用液压伺服重载机器人、桁架机器人、柔性制造系统等特种机器人技术,为国内外汽车行业的客户提供了机加、装配、测试自动化系统,涵盖缸体缸盖、曲轴、凸轮轴、连杆等汽车核心零部件柔性自动化加工生产线,以及汽车发动机装配、车桥装配、底盘装配、汽车空调等数字化装配生产线,通过生产线内MES系统、自动化物流仓储系统等将自动化物流与信息流完美结合,为汽车行业提供自动化整体解决方案。

Siasun special robot use special servo robot technology such as hydraulic servo heavy load robots, truss robots, and flexible manufacturing systems to provide automated machining, assembly, and test automation systems for customers in the automotive industry at home and abroad, covering cylinder heads, crankshafts, and camshafts. Automated processing and production lines for core components such as connecting rods, as well as digital assembly lines for automobile engine assembly, axle assembly, chassis assembly, and automotive air conditioning, etc., perfecting automated logistics and information flow through MES systems and automated logistics storage systems in production lines. The combination provides the automotive industry with an overall solution.

曲轴柔性自动化加工生产线 | Crankshaft flexible automatic processing production line



支重轮数字化加工生产线 | Support wheel digital processing line



轴承数字化加工生产线 | Bearing digital processing line



连杆自动化加工线 | Connecting rod automation machining line



活塞酸洗数字化加工系统 | Piston pickling digital processing system



发动机缸体缸盖数字化缓存系统 | Engine block cylinder head digital buffer system



制动盘数字化加工生产线 | Brake disc digital processing line



斜盘数字化加工生产线 | Inclined disk digital processing line



螺母、双螺纹连杆生产线 | Nut, double screw rod and connecting rod digital processing line



轮胎数字化缠绕系统 | Tire digital winding system



橡胶块数字化装箱系统 | Automatic packing system of rubber block



汽车空调数字化装配生产线 | Automotive air conditioning digital assembly line



发动机数字化装配线 | Engine digital assembly line



车桥数字化装配线 | Bridge digital assembly line



工件案例 | Successful Case



曲轴



连杆



制动盘



轴承



活塞



缸盖



阀体



壳体



发动机



车桥

新松特种机器人对光纤制造中的智能化、自动化有完整的解决方案,设备可满足不同洁净度的环境使用要求。光纤智能工厂将智能化、自动化、信息化完美的结合,拥有光纤卷盘自动分拣、自动物流、码垛、装箱、预制制造流程整体自动线等元素;智能装载机器人等产品集视觉、声光电安全指示、人机互动、适合洁净环境使用,可应用于负载500kg以下预制棒生产搬运

Siasun special robot use special servo robot technology such as hydraulic servo heavy load robots, truss robots, and flexible manufacturing systems to provide automated machining, assembly, and test automation systems for customers in the automotive industry at home and abroad, covering cylinder heads, crankshafts, and camshafts. Automated processing and production lines for core components such as connecting rods, as well as digital assembly lines for automobile engine assembly, axle assembly, chassis assembly, and automotive air conditioning, etc., perfecting automated logistics and information flow through MES systems and automated logistics storage systems in production lines. The combination provides the automotive industry with an overall solution that provides a powerful guarantee for further automation upgrades in the automotive industry.

光纤产品智能数字化车间 | Intelligent digital workshop of optical fiber products



光纤卷盘智能分拣线 | Optical fiber coil intelligent sorting line



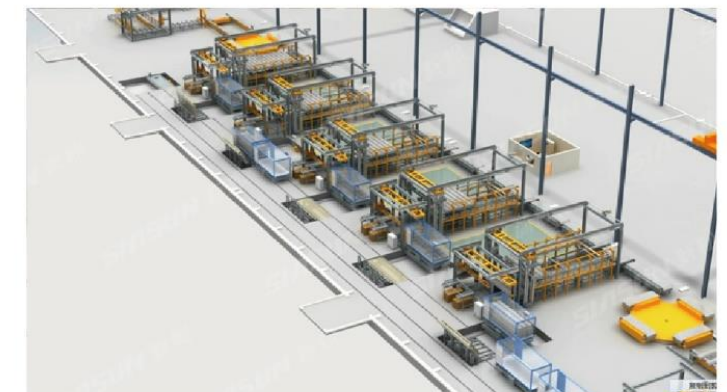
新松特种机器人凭借在超大、重载、偏载机器人的技术积累,结合有色金属、碳素等行业针对超大或超重对象的处理需求,开发了以各种重载机器人及智能控制系统为核心技术的整体解决方案,如:拆码垛机器人系统,装车机器人系统,高温炉自动供料及输送系统,无人化智能天车系统等,同时为大负载对象开发了从生产制造、堆垛搬运到运输出厂的一体化智能控制及调度系统,包括MES系统、天车智能调度系统等,通过实现无人化生产及数字化管理模式,帮助客户缩减人员成本,并提高生产效率。

Siasun special robot has developed a variety of heavy-duty robots and intelligent control systems as their core technologies, relying on the accumulation of technology in oversized, heavy-loaded, and unbalanced robots, combined with non-ferrous metal, carbon, and other industries' demands for handling large or overweight objects. The overall solution, such as: demolished robot system, loading robot system, automatic feeding and conveying system of high temperature furnace, unmanned intelligent crane system, etc., at the same time, an integrated intelligent control and dispatching system, including MES system and automatic dispatching system, is developed for large load objects from production, stacking and transportation to transportation, help customers to reduce personnel by realizing unmanned production and digital management mode. Cost and increase production efficiency.

全自动铝棒装车系统 | Automatic aluminum rod loading system



全自动铝棒装箱系统 | Automatic aluminum bar packing system



均质自动输送系统 | Homogeneous automatic transmission system



全自动智能天车系统 | Automatic intelligent crane system



新松特种机器人结合多年行业积累,开发多款高端能源装备及自动制样系统,如智能管具处理系统、折臂抓管机器人、钻机二层台机器人等,该系列装备具有载荷大、精度高、稳定可靠等优点,并能实现空间避障,与顶驱等其它钻采设备协同作业等,自动制样系统可在全封闭状态下,按程序自动运行完成输送煤(矿)样、破碎、装罐、信息识别、储存及转运弃料等制样过程,充分解决了能源作业中重复性高、劳动强度大、安全风险高等问题,更好的满足客户个性化需求。

Siasun special robot use special servo robot technology such as hydraulic servo heavy load robots, truss robots, and flexible manufacturing systems to provide automated machining, assembly, and test automation systems for customers in the automotive industry at home and abroad, covering cylinder heads, crankshafts, and camshafts. Automated processing and production lines for core components such as connecting rods, as well as digital assembly lines for automobile engine assembly, axle assembly, chassis assembly, and automotive air conditioning, etc., perfecting automated logistics and information flow through MES systems and automated logistics storage systems in production lines. The combination provides the automotive industry with an overall solution that provides a powerful guarantee for further automation upgrades in the automotive industry.

大修作业自动化 | Overhaul operation automation



液压钻机管处理系统 | Hydraulic drill pipe processing system



机器人制样系统 | Robotic sample preparation system



煤样数字化封装打包输送系统 | Coal sample digital packaging and delivery system



轴杆数字化加工生产线 | Shaft digital processing production line



流体设备数字化加工生产线 | Fluid equipment digital processing line



冲预孔上下料数字化生产线 | Drilling pre-hole loading and unloading digital production line



增压器涡轮轴数字化加工线 | Turbocharger turbine shaft digital processing line



伺服电机数字化加工生产线 | Servo motor digital processing production line



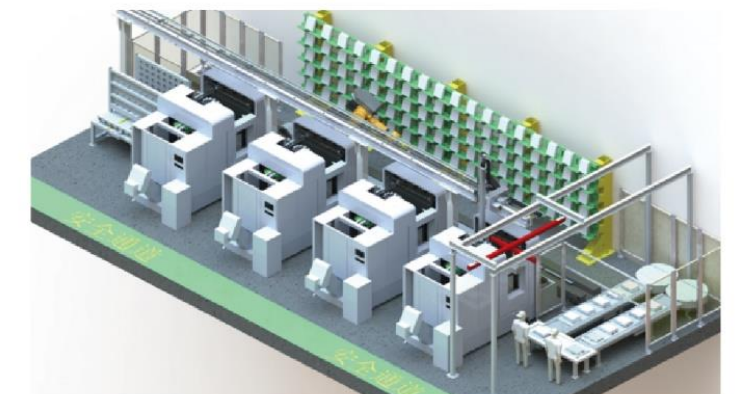
酸洗车间 EMS 空中输送系统 | Pickling workshop EMS air conveying system



电梯制造产业数字化升级 | Digital upgrade of elevator manufacturing industry



柔性制造智能工厂 | Flexible Manufacturing Smart Factory



拥有机器人核心技术的企业
行业内首批中国名牌产品
国家首批91家创新型企业
信息系统集成及服务大型一级企业
计算机系统一级资质认证的企业
中国机器人产业联盟理事长单位
中国机器人产业技术创新战略联盟理事长单位
中国科学院机器人与智能制造创新联盟理事长单位
中国移动机器人 (AGV) 产业联盟理事长单位
中国机器人标准化总体组组长单位
中国机器人协会 (筹) 会长单位

China first enterprise regards robotic technology as core
First batch China Top Brand in the industry
The only selected enterprise of China First Batch 91 Innovation Enterprise
Information system integration and service first level enterprise
Computer system large-scale qualification certification enterprises
President unit of CRIA
President units of TISAR
President units of TIIR
China Mobile Robot And AGV Industry Alliance President Unit
Leader of National Robot Standardized Group
China Robot Association (preparatory) President Unit

P INDUSTRY POSITION

行业地位

行业地位
行业地位
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