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Jack Official Public No

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智能制造仓储解决方案

INTELLIGENT MANUFACTURING WAREHOUSING SOLUTION

30 深耕制造业30年

DEEP CULTIVATION OF MANUFACTURING INDUSTRY FOR 30 YEARS

软硬一体，成套输出

SOFT AND HARD INTEGRATION, TOTAL SOLUTION OUTPUT

JACK TECHNOLOGY CO.,LTD.

杰克科技股份有限公司

杰克智能仓储物流解决方案，依托强大的软硬件研发平台以及对制造场景的深度理解，构建了完善的产品体系，以数字化管理确保生产全过程齐套，以空间高效利用提升存储密度，助力客户实现可持续发展，让制造更流畅。

Jack intelligent warehousing logistics solutions, relying on a strong software and hardware research and development platform and a deep understanding of the manufacturing scene, to build a perfect product system,Manage digitally Make sure Complete sets throughout the whole production process,Efficient use of space Increase storage density,Help customers achieve sustainable development and make manufacturing smoother.

客户第一 Customer First

聚焦专注 Focus Concentration

艰苦奋斗 Hard Working

共创共享 Co-creation Sharing

杰克科技 JACK TECHNOLOGY

杰克，上证主板上市企业，是全球智能化服装成套装备行业的领军企业，集服装面辅料智能仓储、智能裁剪、AI排产吊挂、智能缝纫、智能分拣、数字化成品仓储及PDM、APS、MES、WMS、人工智能等软硬件一体的智能化服装成套装备服务商。

杰克，连续14年全球销量行业第一，助力全球170多个国家、200多万家服装、鞋业、箱包、家具、皮革、汽车、航空等领域的客户实现商业成功!

杰克，成套智联，让服装智造无限可能。

Jack, listed on the Shanghai Stock Exchange Main Board (stock code 603337), is a global leader in intelligent garment manufacturing equipment. We provide end-to-end smart solutions integrating intelligent fabric/accessory warehousing, AI-driven scheduling, AI-powered production scheduling and hanger systems, smart sewing, automated sorting, digitalized finished-product storage, along with comprehensive software (PDM, APS, MES, WMS) and AI hardware systems.

For 14 consecutive years, Jack has ranked No.1 globally in sales, empowering over 2 million clients across 170+ countries in apparel, footwear, luggage, furniture, leather goods, automotive, and aerospace industries to achieve commercial success.

Jack,Intelligent connection for complete setgrants intelligent garment manufacturing in finite possibilities.



荣誉奖项 HONOR

国家级荣誉 National level honors

- 制造业单项冠军示范企业 Manufacturing individual champion demonstration enterprise
- 国家技术创新示范企业 National technological innovation demonstration enterprise
- 国家企业技术中心 National Enterprise Technology Center
- 全国科技创新企业500强 Top 500 national science and technology innovation enterprises
- 国家火炬计划重点高新技术企业 National Torch plan key high-tech enterprises
- 国家知识产权示范企业 National intellectual property demonstration enterprise
- 中国专利优秀奖 China Patent Excellence Award
- 中国工业大奖提名奖 Nominated for China Industry Award
- 中国卓越管理公司 China Excellent Management Company
- 企业上云典型案例 Typical cases of enterprise cloud
- 国家博士后工作站 National Postdoctoral workstation
- 工业互联网平台创新领航应用案例 Industrial Internet platform innovation pilot application cases

省级荣誉 Provincial honors

- 浙江省院士专家工作站 Zhejiang academician expert workstation
- 浙江省重点企业研究院 Zhejiang Key Enterprise Research Institute
- 浙江省未来工厂 Zhejiang Future Factory
- 浙江省绿色工厂 Zhejiang Green Factory
- 浙江省创新型示范和试点企业 Zhejiang innovative demonstration and pilot enterprises
- 浙江省新智造公共服务应用供应商 Zhejiang new intelligent public service application provider
- 浙江省重点工业互联网平台 Zhejiang key industrial Internet platform
- 浙江省“缝制设备产业大脑” Zhejiang Province "sewing equipment industry brain"











Jack INTELLIGENT MANUFACTURING WAREHOUSING SOLUTION
杰克智能仓储物流解决方案

杰克智能仓储解决方案，以齐套大师CWMS系统为核心，以AI技术覆盖客户生产场景，专注解决生产全过程齐套管理的痛点，让制造全流程更高效。

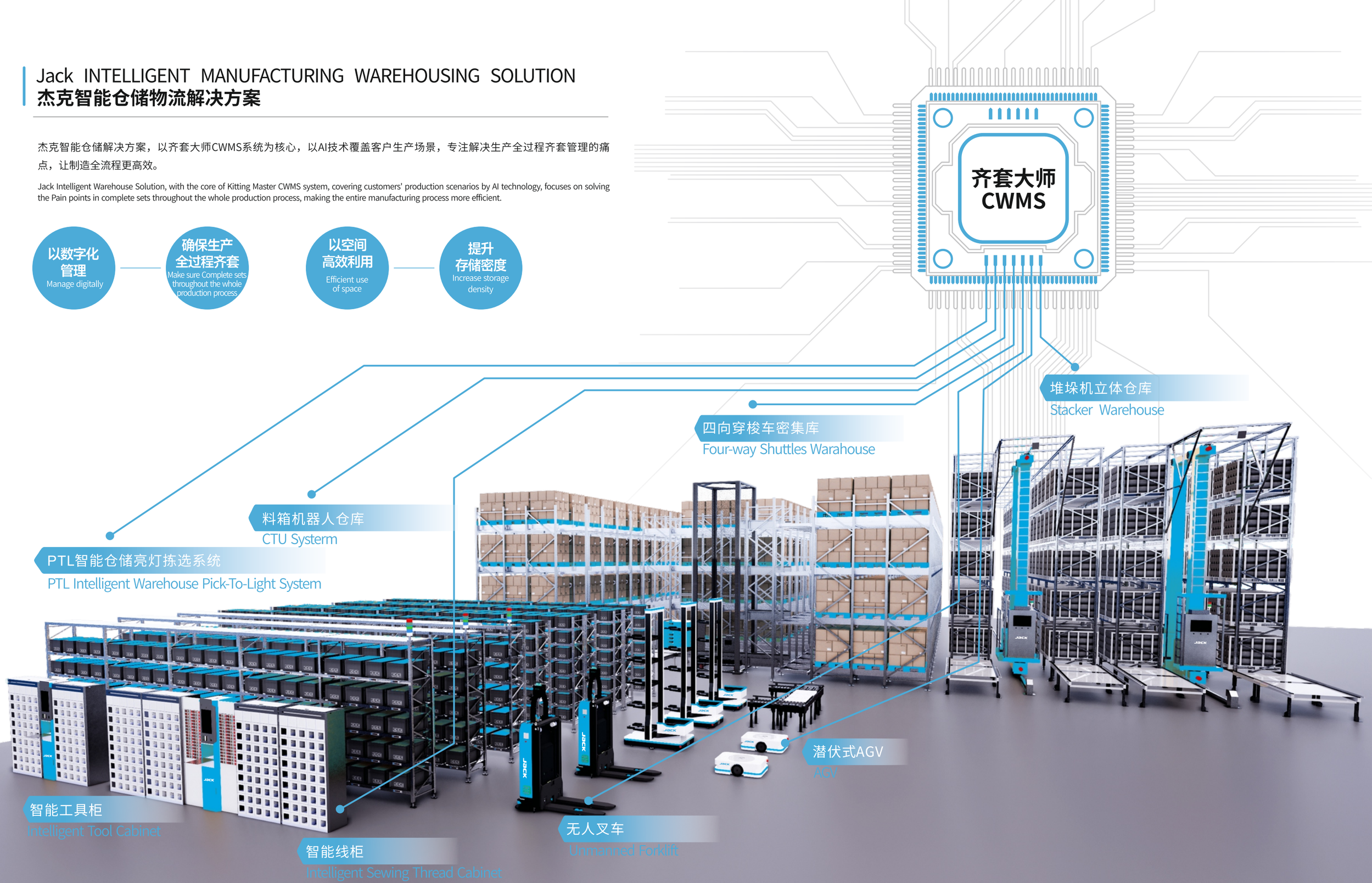
Jack Intelligent Warehouse Solution, with the core of Kitting Master CWMS system, covering customers' production scenarios by AI technology, focuses on solving the Pain points in complete sets throughout the whole production process, making the entire manufacturing process more efficient.

以数字化管理
Manage digitally

确保生产全过程齐套
Make sure Complete sets throughout the whole production process

以空间高效利用
Efficient use of space

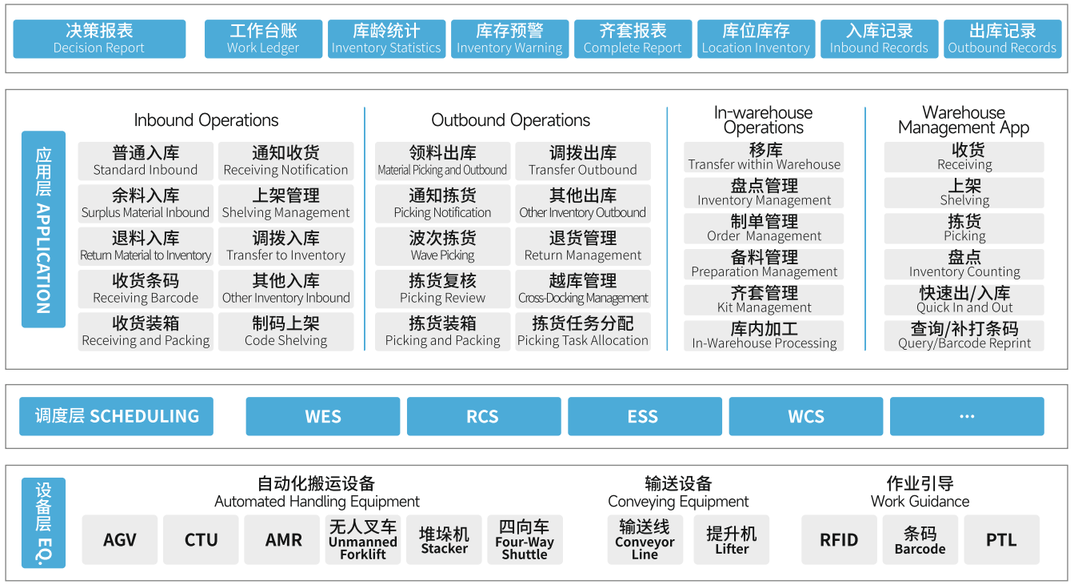
提升存储密度
Increase storage density



CWMS
齐套大师

致力于提升服装行业智能化水平，具备全局数据可视化与智能决策支持能力，显著提升运营效率与企业效益，助力企业实现仓储智能化升级。

齐套大师CWMS, the Master of Completeness, is dedicated to advancing the intelligence level of the garment industry. It offers comprehensive data visualization and intelligent decision-making support capabilities, significantly enhancing operational efficiency and corporate profitability, and assisting enterprises in achieving intelligent warehouse upgrades.



齐套大师区别于传统软件的优势
CWMS Product Functional Architecture

支持云端及私有化部署
Support cloud and private deployment

灵活部署
Flexible deployment

支持延展、支持二次开发
Support extension and secondary development

高扩展性
High scalability

操作匹配工业使用习惯，轻松上手
Operation matching industrial usage habits, easy to learn

交互友好
Interactive friendliness

JACK

按需配置
On demand configuration

产品功能价值模块化设计，按需灵活选用
Modular design of product function value, flexible selection according to needs

快速上线
Quickly go online

标准版产品4-6周快速部署上线
Standard version of the product 4-6 weeks rapid deployment online

持续迭代升级
Continuous iteration and upgrading

产品匹配业务持续升级优化
Continuous upgrading and optimization of product matching business

WES
仓库执行系统

WES（Warehouse Execution System，仓库执行系统）位于仓库管理与设备控制之间，是仓库的“调度中枢”，实时协调和优化仓库内的各种作业任务与资源，尤其擅长管理自动化设备，确保仓储作业高效、准确、流畅地运转。

The WES (Warehouse Execution System) serves as the "Dispatching Center" of a warehouse, positioned between warehouse management and equipment control. It dynamically coordinates and optimizes various operational tasks and resources within the warehouse, excelling particularly in managing automated equipment to ensure efficient, accurate, and seamless warehousing operations.

优势 Advantages

智能任务调度
Intelligent Task Scheduling

智能分配与动态优化任务，显著提升仓储效率，大幅减少人工干预与决策成本

Smartly allocates and dynamically optimizes tasks, significantly enhancing warehouse efficiency while greatly reducing manual intervention and decision-making costs

高度柔性适配
Highly Flexible Adaptation

支持拖拽式流程设计，灵活调度多类型设备，标准接口实现新设备快速接入，轻松应对复杂多变业务

Supports drag-and-drop process design, flexible scheduling of multiple device types, and standard interfaces for rapid integration of new equipment, effortlessly handling complex and dynamic business needs

智能实时决策
Intelligent Real-Time Decision Making

动态调整任务优先级，预判调度多设备接力，实时优化路径，显著提升响应速度与设备利用率

Dynamically adjust task priorities, predict and schedule multi-device handovers, optimize paths in real-time, significantly enhancing response speed and device utilization

多设备融合调度
Multi-device Fusion Scheduling

统一调度机器人、AGV、输送线等自动化设备，实现高效协同，最大化设备利用价值

Unified scheduling of automated equipment such as robots, AGV, and conveyor lines to achieve efficient collaboration and maximize the utilization value of the devices

高效跨系统协同
Efficient Cross-System Collaboration

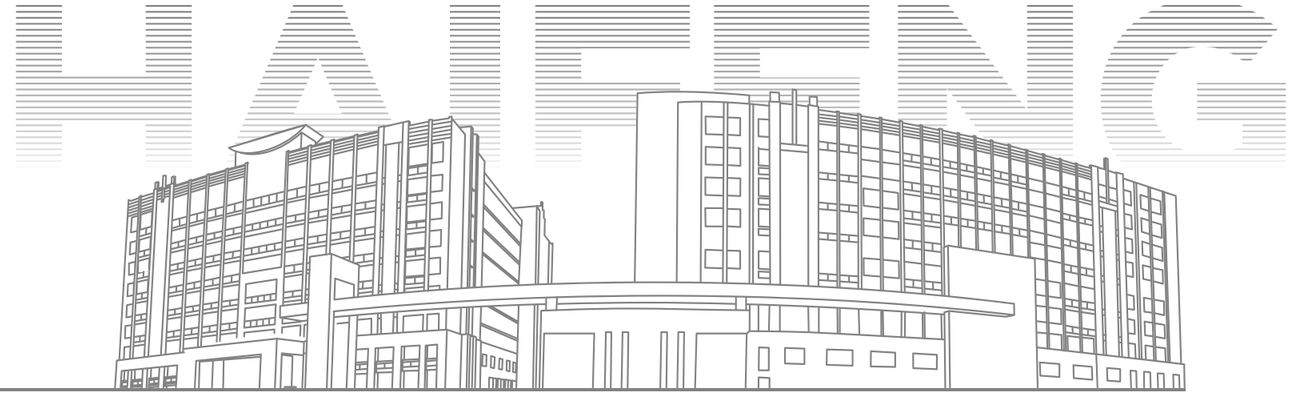
轻松对接WMS、ERP、MES及设备控制系统，打破信息孤岛，保障全流程数据畅通

Easily integrate with WMS, ERP, MES, and equipment control systems, breaking down information barrier to ensure seamless data flow throughout the entire process

APPLICATION OF CWMS IN THE GARMENT INDUSTRY
齐套大师在服装制造行业的应用

杰克智能基于对服装制造行业全流程工艺特点的理解，深度挖掘各个环节的潜在痛点，与行业客户联合共创各场景，开发出了深度适配服装制造行业属性的CWMS管理系统，有效解决了面料仓、裁片仓、辅料仓到成品仓特有的管理问题，为行业客户的业务发展持续赋能。

Application of wms in the garment industry Based on its understanding of the full-process characteristics of the clothing manufacturing industry, Jack Intelligence deeply explores the potential pain points of each link, and jointly creates various scenarios with industry customers. It has developed a CWMS management system that is deeply adapted to the attributes of the clothing manufacturing industry, effectively solving the unique management problems of fabric warehouses, cutting warehouses, auxiliary material warehouses and finished product warehouses, and continuously empowering the business development of industry customers.



面料仓

FABRIC WAREHOUSE

面料难追踪—条码溯源
Fabric Hard to Track - Barcode Tracing

每卷面料贴条码，面料流转过程溯源。

A barcode is attached to each roll of fabric to trace the fabric circulation process.

面料有色差—缸号管理
Fabric Color Variation - Dyelot Management

按缸收货上架，指定缸号，领取同一缸号面料，避免产生色差。

Receive and put on the shelf by cylinder, specify the cylinder number, and receive the fabric with the same cylinder number to avoid color difference.

质检未信息化—面料质检
Quality Inspection Not Digitized - Fabric Inspection

平板扫码质检、记录瑕疵、自动计算分数、拍照上传，按需生成质检报告。

Scan the code on the tablet for quality inspection, record defects, automatically calculate scores, take photos and upload, and generate quality inspection reports on demand.

松布时长不精准—松布管理
Inaccurate Relaxation Time - Fabric Relaxation Management

扫描面料条码选择松布时长（24/48h），大屏/报表统计所在库位的面料松布时长，并用不同颜色区分预警提醒，避免松布时长过长或不足。

Relaxing Management: Scan fabric code to select relaxing duration (24/48h). Large screens/reports track relaxing duration for fabrics in each storage location, using different color alerts to prevent excessive or insufficient relaxing.

辅料仓

ACCESSORY WAREHOUSE

库位利用率低—柔性子库位
Low Storage Utilization - Flexible Sub-Locations

库位按需动态生成子库位，提高库位的利用率，方便指引操作。

Storage locations dynamically generate sub-storage locations on demand to improve storage location utilization and facilitate guided operations.

物料难跟踪—制单管理物料计划
Material Hard to Track - Order Management Material Planning

根据订单BOM生成物料需求，出入库进度实时追踪，物料缺口及时预警。

Generate Material Requirements Based on Order BOM, Track In/Out in Real Time, Timely Warning for Shortages.

辅料漏发少发—辅料齐套
Missing or Insufficient Accessories - Accessories Complete set

根据 BOM清单的需求量、到货量、出库量实时统计汇总生成对应的供需齐套报表。

Generate corresponding supply and demand complete set report based on real-time statistics and summary of demand, arrival, and outbound quantity in the BOM list.

断长组合无记录—库内加工
No Record of Cutting Optimization - In-Warehouse Processing

断长、组合流程化管理，原料出库、每日报工、加工后物料库存更新。

Management of broken length and combination process, outbound raw materials, daily work report, and updated inventory of processed materials.

裁片仓

CUT PIECE SUPERMARKET

换款工艺变更—工艺路线
Style Change and Process Modification - Process Route

按业务流向配置搬运线路，每个业务环节操作完工，标记工序状态，促使现场管理数据化、透明化。

Configure the transportation route according to the business flow, complete the operation of each business link, mark the process status, and promote the dataization and transparency of on-site management.

裁片易混放—装车规则
Cut Pieces Easily Mixed Up - Loading Rules

支持按订单生产单号、款式、尺码、颜色设置裁片装车规则，保证裁片不混放，精准统计裁片库存，提高裁片精准流转，不易混淆。

Supports setting loading rules for cut pieces based on order production numbers, styles, sizes, and colors. Ensures cut pieces are not mixed, accurately tracks cut piece inventory, improves precise flow of cut pieces, and minimizes confusion

裁片易堆积—裁片缓存
Cut Pieces Easily Piled Up - Cut Piece Buffering

裁片按料车集中存储在缓存区，按排产计划提前呼叫指定料车搬运至线边，提升作业效率。

Cutting pieces are centrally stored in the cache area according to the material cart, and the designated material cart is called in advance according to the production schedule to transport them to the line side to improve work efficiency.

齐套进度难监控—裁片齐套
Difficult to Monitor Complete Progress - Cut Piece Complete set

根据裁剪单、BOM信息系统逻辑计算缓存区内的裁片齐套状态，快速查询齐套裁片状态并进行呼叫，提高生产效率。

According to the logic calculation of the cutting order and BOM information system, the status of the cutting piece set in the cache area can be quickly queried and called to improve production efficiency.

成品仓

FINISHED GOODS WAREHOUSE

装箱无计划—装箱任务计划
Unplanned Packing - Packing Task Planning

对接上游系统或自建装箱计划、装箱规格，打印箱贴。

Packing Tasks: Integrates with upstream systems or self-built packing plans and specifications, print box labels.

装箱难验证—RFID复核
Packing Hard to Verify - RFID Verification

获取品牌方RFID数据，扫描实际装箱的成衣RFID验证是否匹配装箱规格，实现快速复核，且绑定箱贴与RFID关联数据。

Retrieve brand RFID data, scan actual packed garment RFIDs to validate against packing specifications, enabling rapid verification while linking box labels to RFID data.

拣货效率低—波次分拣
Low Picking Efficiency - Wave Picking

分波次精准匹配订单，设备自动调度，按货区批量拣选，提升分拣效率。

Wave Picking: Precisely match orders by wave, automate equipment scheduling, and batch-pick by storage zone to boost picking efficiency.

交货易逾期—智能调拨
Delivery prone to delay—Intelligent allocation

同品牌不同订单出货时可自由调配库存，同款成衣再次入库时可自动归还库存。

Smart Scheduling: Flexibly redistribute inventory across same-brand orders during shipment; automatically return stock when identical garments are restocked.

FOUR-WAY SHUTTLES WAREHOUSE
四向穿梭车立库解决方案

四向穿梭车仓储系统包括四向穿梭车、专用提升机、货架系统、附件系统（配套充电站、输送机、网络、电控系统等）以及杰克调度软件系统。

本系统应用于不同行业和细分场景，通过AI算法提升穿梭车智能化程度，支持同层多车运行，自检测自避障，增加系统安全性，智能运维，有效降低运维成本。

Four-way shuttle warehouse Including four-way shuttle, dedicated elevators, shelf systems, accessory systems (including charging stations, conveyors, networks, electrical control systems, etc.), as well as the Jack dispatch software system.

This system is applied to different industries and segmented scenarios, improving the intelligence level of shuttles through AI algorithms, supporting multi shuttle operation at the same layer, self detection and obstacle avoidance, increasing system security, intelligent operation and maintenance, and effectively reducing operation and maintenance costs.





库体高度:	存储密度/安全系数:	作业效率提高:	作业方式:
6 - 10 米	**高**	**2 - 3 倍**	**灵活**
Height: (6 - 10 metre)	Storage density/safety factor: (high)	Improving work efficiency: (2 - 3 times)	Working mode: (flexible)

六大优势 Six advantages

稳定高效 Stable and efficient
高密度存储系统，提升空间利用率，稳定可靠

High-density storage system, improved space utilization, stableand reliable

智能协同 Intelligent cooperation
强大的控制系统，兼容能力实现设备间协同作业

Powerful control system, compatible ability to achieve collaborative work between equipment

柔性拓展 Flexible extension
柔性系统，易于调整，快速拓展，应对变化

Flexible system, easy to adjust, rapid expansion, to cope with changes

全流程服务 Full process service
Ai赋能入库，存储、拣选、播种出库全流程，让仓库运营更便捷

Ai enables the whole process ofwarehousing, storage, selection, seeding and warehousing, making warehouse operation more convenient

视觉感知 Visual perception
机器人技术提升人效

Robotics improves human efficiency

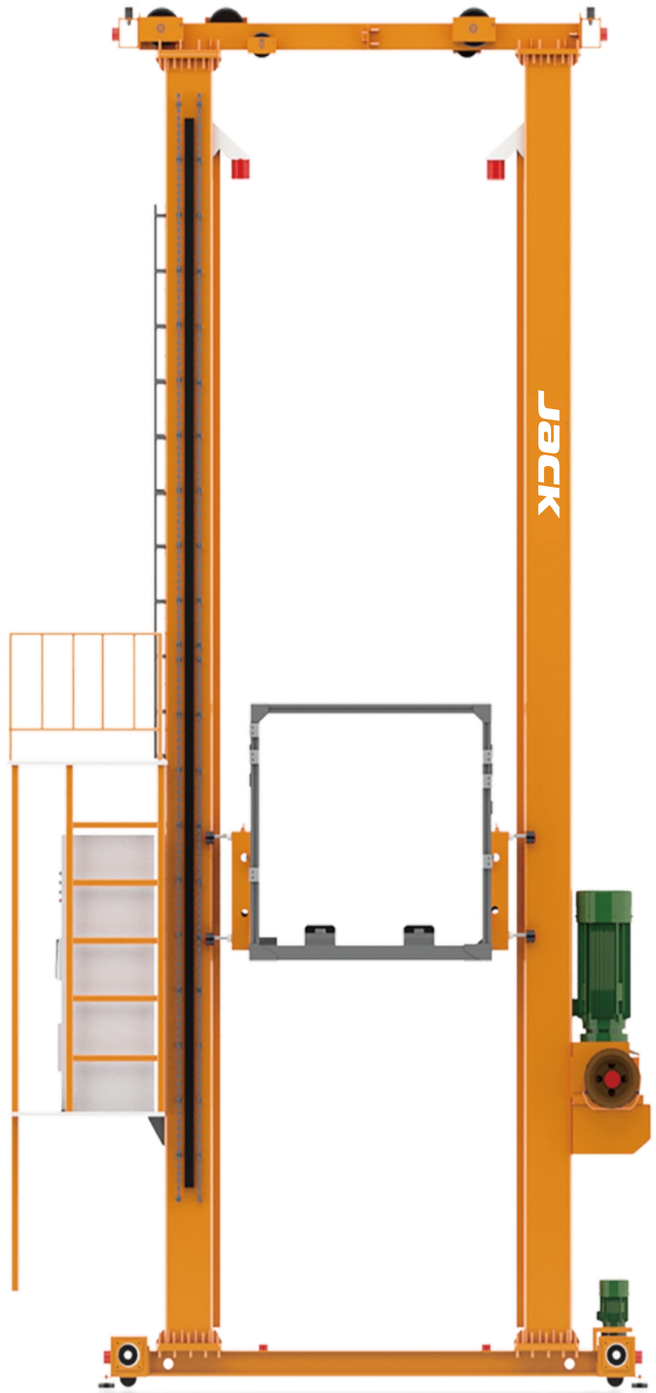
智能调度 Intelligent cooperation
智能算法，实现高效调度，提升设备使用率

Intelligent algorithm to achieve efficient scheduling and improve device utilization

技术参数 Technical parameter

	HF-1500A	HF-1500B
外型尺寸 Dimension	1059X998X125mm	1209X998X125mm
顶升高度 Lifting height	40mm	40mm
车体重量 Body weight	330KG	350KG
额定载重（可定制）Rated load (customizable)	1500KG	1500KG
行驶速度 Travel speed	1.5m/s	1.5m/s
行驶加速度 Running acceleration	2m/s²	2m/s²
提升、下降时间 Lift and fall time	2.5s	2.5s
换向时间 Commutation	4s	4s
磷酸铁锂电池 Lithium iron phosphate battery	51.5V/40Ah	51.5V/60Ah
额定工况续航时长 Rated operating life	⩾7h	⩾10h
充电时长 Charging time	⩽1.5h	⩽1.5h
工作环境温度 Operating ambient temperature	-10°C~45°C	-10°C~45°C

STACKER CRANE STORAGE SOLUTION
堆垛机立库解决方案



库体高度:
10米以上
Height
Over 10 meters

存储密度/安全系数:
高
Storage density/safety factor (high)

出入库效率:
高
Efficiency of inbound and outbound

仓库利用率高达:
80%~85%
Warehouse utilization rate 80%~85%

堆垛机仓储系统是由巷道堆垛机、输送设备、货架、仓储调度软件等组成，依据计算机发出指令，通过升降机系统快速存放和拿取货物，具备先进先出、入出库效率高等特点，适用范围广泛。

Stacker storage system is composed of tunnel stacker, conveying equipment, shelves, storage scheduling software, etc., according to the computer issued instructions, through the lift system to quickly store and take goods, with first-in first-out, high efficiency in and out of storage characteristics, a wide range of applications.

结构稳定可靠
Structural stability reliable

信息传播全程跟踪
Information dissemination Full track

机械、电器双重保险
Machinery and electrical appliances Double insurance

连续堆垛无中断
Continuous stacking no-break

高速堆垛自由位置设定
High speed stacking Free position setting

智能防护系统
Intelligent protection System

技术参数 Technical parameter

	托盘堆垛机 Pallet stacker	料箱堆垛机 Box stacker
额定负载 Rated load	2000KG（可接受定制 Customization accepted）	100KG（可接受定制 Customization accepted）
堆垛机高度 The height of the stacker	按需 On demand	按需 On demand
巷道宽度 Roadway width	定制 customized	定制 customized
货叉运行定位精度 Fork running positioning accuracy	±3mm	±5mm
水平运行定位精度 Horizontal operation positioning accuracy	±5mm	±5mm
垂直提升定位精度 Vertically improve positioning accuracy	±5mm	±3mm
水平速度 Horizontal velocity	≤160m/min	≤300m/min
垂直速度 Vertical velocity	≤40m/min	≤75m/min
货叉速度 Fork speed	≤40m/min	≤40m/min
定位方式 Positioning mode	激光或条码 Laser or barcode	激光或条码 Laser or barcode
通讯方式 Communication method	光通讯 Optical communication	光通讯 Optical communication

PALLET HANDLING ROBOT- NARROW AISLE COMPACT TYPE
窄巷道紧凑型 托盘搬运机器人

窄 NARROW

巷道宽度窄至1650mm，高密度存储。

The aisle width is narrow to 1650mm, enablinghigher density storage.

快 FAST

到货位即停准伸叉，减少转弯动作，存取托盘更快。

Stops precisely at the target position with accurate fork extension, reducing turning movements and enabling faster pallet handling.

精 PRECISION

精度高达±5mm，支持拆叠托盘功能。

Precision up to ±5mm, supporting the function of disassembling and folding pallets.



HF-NA2

安 SAFETY

全方位考虑场景安全，符合ISO国际标准。

Comprehensive consideration of scenario safety, compliant with ISO 3691-4 international standards.

智 INTELLIGENT

多类型激光雷达融合计算机视觉技术，智能应对“识别”与“安全”。

Multi-type LIDAR fused with computer vision technology, intelligently dealing with "recognition" and “safety".

巧 AGILITY

伸缩门架设计，回落高度低至，可进电梯，灵巧处理跨层业务。

Telescopic mast design with a lowered height of 1950mm, capable of entering elevators and handling cross-floor operations with agility.

规格 specification	参数 parameter	规格 specification	参数 parameter
尺寸LWH(mm) Size LWH(mm)	1500 * 1500 * 1950	跨高能力(mm) Span height capability(mm)	5
最小旋转半径(mm) Minimum turning radius(mm)	800	跨宽能力(mm) Span width capability(mm)	30
巷道宽度(mm) Aisle width(mm)	1650-1800	爬坡能力(%) Climbing ability(%)	3
自重(Kg) Self-weight(Kg)	1300	额定工况工作时间(h) ated working time(h)	12
工作温度(°°C) Operating temperature(°C)	0-40	充电时间(h) Charging time(h)	2
工作湿度(%) Operating humidity(%)	10-90	充电循环次数(0-80%) Charging cycle times(0-80%)	⩾1500
额定载重(Kg) Rated load(Kg)	1000	充电方式 Charging method	自动、手动 method	Automatic, Manual
最高取放高度(mm) Maximum lifting height(mm)	2200	自主避障 Autonomous obstacle avoidance	√
导航方式 Navigation method	SLAM+二维码导航 SLAM+QR code navigation	被动安全 Passive safety	√
最大行走速度(m/s) Maximum walking speed(m/s)	1.2	示警装置 Warning device	√
负载行走速度(m/s) Load walking speed(m/s)	1.0	急停开关 Emergency stop switch	√
定位精度(mm) Positioning accuracy(mm)	±5		
适配托盘 Compatible pallet	类型：川字托(特定工况也可支持田字托) Compatible pallet: Pallet in the form of the Chinese character ‘川’(or in the form of ‘田’under specific conditions) 外尺寸(mm)：1200*800*150、1200*1000*150、1100*1100*150、1200*1200*150 External dimensions (mm): 1200 * 800 * 150, 1200 * 1000 * 150, 1100 * 1100 * 150, 1200 * 1200 * 150 叉孔高度(mm)：⩾100 Fork pocket height(mm): ⩾100		

PALLET HANDLING ROBOT- NARROW AISLE HIGH-LIFTING TYPE
窄巷道高举升型 托盘搬运机器人

窄 NARROW

巷道宽度窄至1800mm，举升取放高至4200mm，更高密度存储。

The aisle width is as narrow as 1800 mm, the lifting height can reach up to 4200 mm, enabling higher-density storage.

快 FAST

到货位即停准伸叉，减少转弯动作，存取托盘更快。

Stops precisely at the target position with accurate fork extension, reducing turning movements and enabling faster pallet handling.

精 PRECISION

精度高达±5mm，支持拆叠托盘功能。

Precision up to ±5mm, supporting the function of disassembling and folding pallets.



HF-NAX

安 SAFETY

全方位考虑场景安全，符合ISO国际标准。

Comprehensive consideration of scenario safety, compliant with ISO 3691-4 international standards.

智 INTELLIGENT

多类型激光雷达融合计算机视觉技术，智能应对“识别”与“安全”。

Multi-type LiDAR fused with computer vision technology, intelligently dealing with "recognition" and “safety".

多 MULTI

可叉取田字托等多种容器。

Handle multiple types of pallet such as pallet in the form of the Chinese character ‘田’.

规格 specification	参数 parameter	规格 specification	参数 parameter
尺寸LWH(mm) Size LWH(mm)	1700 * 1650 * 3435	跨高能力(mm) Span height capability(mm)	5
最小旋转半径(mm) Minimum turning radius(mm)	1080	跨宽能力(mm) Span width capability(mm)	30
巷道宽度(mm) Aisle width(mm)	1800	爬坡能力(%) Climbing ability(%)	3
自重(Kg) Self-weight(Kg)	2900	额定工况工作时间(h) ated working time(h)	12
工作温度(°°C) Operating temperature(°C)	0-40	充电时间(h) Charging time(h)	2
工作湿度(%) Operating humidity(%)	10-90	充电循环次数(0-80%) Charging cycle times(0-80%)	⩾1500
额定载重(Kg) Rated load(Kg)	1000	充电方式 Charging method	自动、手动 method	Automatic, Manual
最高取放高度(mm) Maximum lifting height(mm)	4200	自主避障 Autonomous obstacle avoidance	√
导航方式 Navigation method	SLAM+二维码导航 SLAM+QR code navigation	被动安全 Passive safety	√
最大行走速度(m/s) Maximum walking speed(m/s)	1.2	示警装置 Warning device	√
负载行走速度(m/s) Load walking speed(m/s)	1.0	急停开关 Emergency stop switch	√
定位精度(mm) Positioning accuracy(mm)	±5		
适配托盘 Compatible pallet	类型：川字托(特定工况也可支持田字托) Compatible pallet: Pallet in the form of the Chinese character ‘川’and in the form of ‘田’ 外尺寸(mm)：1200*800*150、1200*1000*150、1100*1100*150、1200*1200*150 External dimensions (mm): 1200*800*150、1200*1000*150、1100*1100*150、1200*1200*150 叉孔高度(mm)：⩾100 Fork pocket height(mm): ⩾100 叉孔上平面离地高度（mm）：⩾120 Height from ground to top surface of the fork pocket(mm):⩾120		

FMR
叉取机器人

叉取机器人聚焦标准料箱 / 托盘的自动化搬运，产品品类丰富，包括单 / 多箱货箱到人机器人、全向堆高式 / 搬运式 / 平衡重式无人叉车系列化产品。机器人采用高精度激光 slam 导航，视觉智能辅助定位等，取货精度可达 ±5mm，满足客户各种需求。

FMR focuses on the automated handling of standard boxes and pallets. We offer a wide range of products, Including single/multi-box to person robots, and a series of products such as omni-directional stacking / handling / counterbalance unmanned forklifts. The robots are equipped with high-precision laser SLAM navigation and visual intelligent auxiliary positioning.The picking accuracy can reach ±5mm,meeting various customer needs.

FMR



技术参数 Technical parameter

● 标配 ○ 选配 – 无
● Standard ○ Optional – None

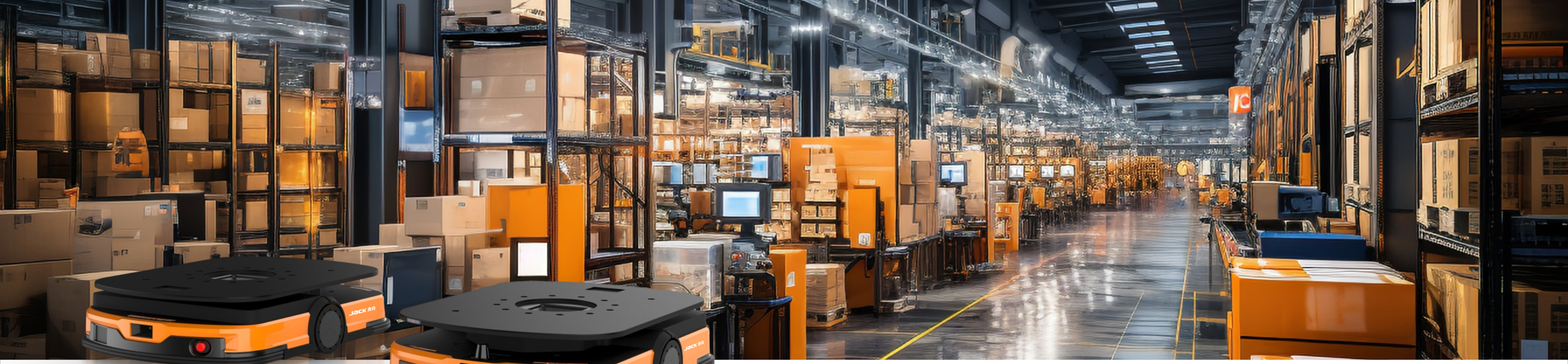




		型号 model	HF-F4-1000C	HF-F3-1500A	HF-F4-2000A
基本参数 Basic parameters		外形尺寸(l1*b1*h1)(mm) External dimensions (l1*b1*h1)(mm)	1600*990*1870	1620*910*1940	2200*1106*2200
		自重(含电池)(kg) Self-weight (including battery)(kg)	700	450	1410
		额定负载(Q)(kg) Rated load (Q)(kg)	1000	1500	2000
		载荷中心距(c)(mm) Load center distance (c)(mm)	600	600	600
		提升高度(h3)(mm) Lifting height (h3)(mm)	1300（支持定制3000mm） 1300(support for customization3000mm)	120	3000（2500@2T）
		作业时门架最大高度(h4)(mm) Maximum height of the mast during operation (h4)(mm)	–	–	3580
		货叉尺寸(s/e/l)(mm) Fork dimensions (s/e/l)(mm)	55*160*1200	60*175*1230	55*180*1150
		过货叉距离(b5)(mm) Distance over forks (b5)(mm)	560/ 可定制 560/Customizable	680/ 可定制 680/Customizable	620/ 可定制 620/Customizable
		适用托盘尺寸(mm) Suitable pallet size (mm)	1200*1200	1200*1200	1200*1000
运动性能 Motion Performance		额定运行速度(mm/s) Rated operating speed (mm/s)	0~1200	0~1200	0~1500
		停止位置精度(mm) Stopping position accuracy (mm)	±10	±10	±10
		停止角度精度(°) Stopping angle accuracy (°)	±1	±1	±1
		运动方式 Motion mode	舵轮驱动，前进 / 后退，弧线转弯，原地旋转 Steering Wheel Drive,Forward / Backward,Curve Turning,In-place Rotation	舵轮驱动，前进 / 后退，弧线转弯，原地旋转 Steering Wheel Drive,Forward / Backward,Curve Turning,In-place Rotation	舵轮驱动，前进 / 后退，弧线转弯，原地旋转 Steering Wheel Drive,Forward / Backward,Curve Turning,In-place Rotation
		最小通道宽度(1200*1000托盘)(Ast) (两侧各100mm安全距离)(mm) Minimum aisle width (1200*1000 pallet)(Ast) (100mm safety distance on each side)(mm)	2100	2200	2750
动力锂电池性能 Power lithium battery performance		额定工况运行时间(h) Rated operating time (h)	6~8	6~8	6~8
		充电时间(h) Charging time (h)	完全放电后充电时长≤ 2 Charging Time After Complete Discharge ≤2	完全放电后充电时长≤ 2 Charging Time After Complete Discharge ≤2	完全放电后充电时长≤ 3 Charging Time After Complete Discharge ≤3
安全相关配置 Safety-related configurations		激光避障 Laser obstacle avoidance	●	●	●
		行车记录仪 Driving recorder	○	○	○
		车体包围碰撞条检测 Vehicle surrounding collision bar detection	●	●	●
		托盘到位检测 Pallet in-place detection	●	●	●
		叉齿检测 Fork detection	●	●	●
		急停按钮 Emergency stop button	●	●	●
		警示灯 Warning light	●	●	●
		声光报警(扬声器) Sound and light alarm (speaker)	●	●	●
其它/定制功能 Other/ customized functions		显示屏 Display screen	11 寸标配 11-inch Standard	11 寸标配 11-inch Standard	11 寸标配 11-inch Standard
		导航方式 Navigation method	激光 slam Laser SLAM	激光 slam Laser SLAM	激光 slam Laser SLAM
		托盘识别功能 Pallet recognition function	支持定制 support for customization	支持定制 support for customization	支持定制 support for customization
		视觉读码功能 Visual code reading function	支持定制 support for customization	支持定制 support for customization	支持定制 support for customization
		调距叉 Adjustable fork	–	–	–
		RFID读卡器 RFID reader	支持定制 support for customization	支持定制 support for customization	支持定制 support for customization
		货叉定制 Fork customization	支持定制 support for customization	支持定制 support for customization	支持定制 support for customization
		门架定制 Mast customization	支持定制 support for customization	–	支持定制 support for customization

SOLUTION FOR PICKING BOXES TO PEOPLE
料箱到人拣选解决方案

库体高度 Height	实施周期 Implementation cycle	适用场景 Application scenarios	库内无人存储密度 Unmanned storage density in the warehouse
10米以内 Within 10 meters	**2-3月** 2-3months	**多SKU、小片、料箱存储** Multiple SKUs,Small chip, Material boxes storage	**高** High



AGV INTELLIGENT HANDLING SYSTEM SOLUTION
AGV自动搬运方案

杰克AGV智能搬运解决方案是由一系列的移动机器人、移动货架和WMS系统、RCS系统等组成，能满足工厂内原材料、半成品、成品等各种用途料车的自动搬运转移。并与杰克料箱机器人、堆垛机、MES系统进行软硬件对接，打通工厂智能物流系统。

Jack AGV intelligent solution is composed of a series of mobile robots, mobile shelves, WMS system, RCS system, etc., which can meet the automatic handling and transfer of various types of material carts such as raw materials, semi-finished products and finished products in the factory. It also connects the software and hardware of Jack ACR robots, stackers and MES systems to open up the factory intelligent logistics systerm.

- 自主定位导航:采用惯性导航、二维码导航等技术实现精确定位。
  Autonomous positioning and navigation: Use inertial navigation, two-dimensional code navigation and other technologies to achieve precise positioning.
- 柔性运动控制:双轮差速驱动，支持前进、后退、旋转等运动控制，平滑柔顺。
  Flexible motion control: Two-wheel differential drive, support forward, backward, rotation and other motion control, smooth and soft.
- 智能电源管理:支持多等级电量阀值控制，低电量时自主充电，充完后自主返回工作。
  Intelligent power management: Support multi-level power threshold control, autonomous charging when low power, and autonomous return to work after charging.
- 多重安全防护:前置激光避障，压电式碰撞检测，急停按钮等多级安全防护。
  Multiple safety protection: front laser obstacle avoidance, piezoelectric collision detection, emergency stop button and other multi-level safety protection.
- 人机交互友好:支持触控屏、声光告提示设备状态。
  Friendly human-computer interaction: support touch screen, sound and light notification to indicate device status.

行业应用场景 Industry application scenarios

- 服鞋行业 Shoes & Garment industry
- 3C
- 生产制造 Production and Manufacturing
- 新零售 New Retail
- 汽车 Automobile
- 电商 Electronic commerce
- 新能源 New energy

潜伏机器人（AGV）

● 标配 ○ 选配 – 无
● Standard ○ Optional – None

					
型号		Q2L-300A	Q2-400D	Q3-600D	Q3-1000
基本参数 Basic parameters	外形尺寸L*W*H(mm) Dimensions	750*540*300	780*545*300	950*650*253	940*650*253
	旋转直径(mm) Rotation diameter	780	820	996	996
	举升高度(mm) Lifting height	70	60	60	60
	底盘离地间隙(mm) Chassis ground clearance	30	30	25	25
	举升台面尺寸(mm) Lifting table dimensions	728*540	724*504	750*600	750X600
	举升方式 Lifting method	电动 Electric	电动 Electric	电动 Electric	电动 Electric
	自重(Kg) Weight	128	93	135	140
	额定负载(Kg) Rated load	300	400	600	1000
	导航方式 Navigation method	二维码/ SLAM	二维码/SLAM	二维码/SLAM	二维码 QR code
	液晶显示屏 LCD display	●	●	●	●
安全防护 Safety protection	激光避障 Laser obstacle avoidance	●	●	●	●
	声音告警 Sound warning	●	●	●	●
	镭射示宽灯 Laser width indicator	—	—	○	—
	侧面防护 Side protection	—	—	○	—
	后面防护 Rear protection	●	—	○	—
	碰撞条检测 Collision bar detection	前/后气体碰撞条检测 Front/rear gas collision bar detection	机械碰撞条 Mechanical impact bar	前/后气体碰撞条检测 Front/rear gas collision bar detection	前/后气体碰撞条检测 Front/rear gas collision bar detection
	急停按钮 Emergency stop button	前/后急停按钮 Front/rear emergency stop button	前/后急停按钮 Front/rear emergency stop button	前/后急停按钮 Front/rear emergency stop button	前/后气体碰撞条检测 Front/rear gas collision bar detection
运动性能 Motion performance	额定运行速度(空载)(mm/s) Rated operating speed (no load)	1500	2000	2000	2000
	停止角度精度(°) Stop angle accuracy	±1	±1	±1	±1
	停止位置精度(mm) Stop position accuracy	±10	±10	±10	±10
电池性能 Battery performance	额定工况下工作时间(h) Working time under rated working conditions	8	8	8	8
	充电时间(h) Charging time	完全放电后充电时长≤1.5 Charging time after full discharge ≤ 1.5	完全放电后充电时长≤1.5 Charging time after full discharge ≤ 1.5	完全放电后充电时长≤1.5 Charging time after full discharge ≤ 1.5	完全放电后充电时长≤1.5 Charging time after full discharge ≤ 1.5

MULTI LAYER CTU SYSTERM
多层料箱机器人

多层料箱机器人可实现料箱智能拣选、存取，多料箱同时搬运，多SKU、高密度存储、闪电拣货。

Multi layer CTU robots can achieve intelligent picking and storage of material boxes, simultaneous handling of multiple material boxes, multiple SKUs, high-density storage, and lightning picking

取货高度
Pickup height

0.4m-5.2m
最高可达10m
highest up to 10m

承载货箱
Box carrying capacity

8+1个

满充续航
Full battery life

≥6.5h



1米-5米灵活定制机器人高度，可选配双深位机型，高效利用仓储空间。	Flexible customized robot height of 1-5 meters, optionalDual depth model, efficiently utilizing storage space.
业务柔性，兼容多尺寸料箱、纸箱拣选。	Business flexibility, compatible with multi size material boxes and cartons.
人机协同工作效率提升 3-4倍、提升单位时间内人工作业效率。	The efficiency of human-machine collaboration has increased by 3-4 times, with a unit increaseEfficiency of manual work during time.
算法确保拣选准确率，一次性存取多达8+1个货箱。	Algorithms ensure picking accuracy, with up to one-time access 8+1 containers.

可选配模块 Technical parameter

3D识别技术 3D Recognition

支持同时拣选纸箱/料箱，兼容多规格料箱混场；支持无贴码纸箱拣选搬运。

Support simultaneous picking of carton/material box, compatible with multiple types material box mixing; Supports the picking and handling of unlabeled cartons.

动态可调货叉技术 Dynamic adjustable technology

自动识别箱体大小，灵活存取；箱间距合理利用，将整体仓储密度提升30%以上。

Automatic recognition of box size, flexible access: Appropriately utilize the space between boxes, increasing overall storage density by more than 30%.

支持红外、RFID、5G
Support infrared, RFID, 5G

CTU
料箱机器人

技术参数 Technical parameter

	BI42-M	BI42-G	BI42-L
机器人尺寸（mm）Robot Size (mm) 长×宽×高(L×W×H)	1300X800X3130	1600X1000X4360	1830X1060X4360
货箱兼容尺寸（mm）Container compatible size (mm) 长×宽×高(L×W×H)	(400-300)x(300-230) x(600-105)	(600-300)x(400-300) x(600-120)	(670-300)x(500-300) x(600-120)
自重(kg) Weight (kg)	380	480	550
机械旋转直径(mm) Mechanical rotation diameter (mm)	1300	1600	1830
最大负载(kg) Maximum load (kg)	300	300	300
取货高度(mm) Pick-up height (mm)	400-3200	400-5200	400-5200
直行最大运动速度(m/s) Maximum speed in straight line (m/s)	1.8	1.8	1.7
停止精度(mm) Stop accuracy (mm)	±10	±10	±10
满充时间(h) Full time (h)	≤1.5	≤1	≤1
快充时间(min) Fast charge time (min)	≤40	≤32	≤32
满充续航时间(h) Full charge life (h)	≥5.4	≥6.5	≥6.5
快充续航时间(h) Fast charge time (h)	≥3.4	≥4.0	≥4.0
巷道宽度(mm) Roadway width (mm)	920	1110	1225
地面平整度 Ground flatness	±3	±4	±4
障碍物检测 Obstacle detection	√	√	√
防碰撞 Anti-collision	√	√	√
声光报警 Audible and visual alarm	√	√	√
急停按钮 Scram button	√	√	√
通信加密 Communication encryption	√	√	√
充放电保护 Charge and discharge protection	√	√	√
升降防坠 Fall prevention by lifting	√	√	√
通信方式 Communication mode	无线 Wireless	无线 Wireless	无线 Wireless
导航方式 Navigation mode	二维码+惯性 QR code + inertia	二维码+惯性 QR code + inertia	二维码+惯性 QR code + inertia

SHANPAN SYSTEM: HIGH EFFICIENCY & SIMPLICITY
闪攀系统: 高效至简

• 简单易用 Simple & Easy to Use

系统简单，易学易用，安装**环境要求低**，能快速适配任何新建或现有仓库，**轻松部署**，实现快速上线。支持小规模启动，灵活适应当前需求，随业务增长无缝扩容，且无需中断现有作业。

The system is simple, easy to learn and operate, with low installation environmental requirements. It can quickly adapt to any new or existing warehouse for easy deployment and rapid launch. It supports small-scale startup to flexibly meet current demands, and allows seamless capacity expansion as business grows without interrupting ongoing operations.

• 极致效率 Extreme Efficiency

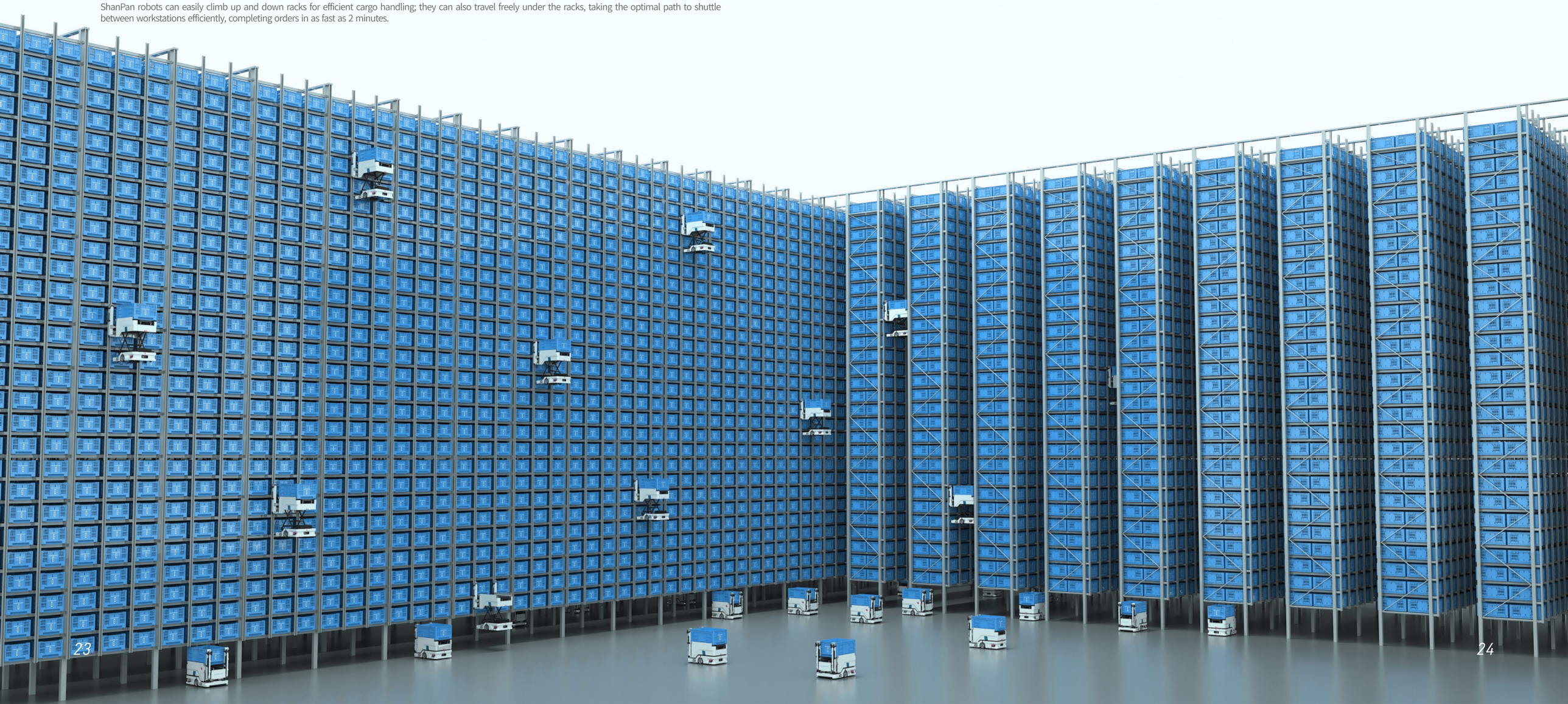
闪攀机器人可轻松上下攀爬货架，高效取放货物；也可在货架底部自由穿行，以最优路径高效往返工作站，**最快2分钟内完成订单。**

ShanPan robots can easily climb up and down racks for efficient cargo handling; they can also travel freely under the racks, taking the optimal path to shuttle between workstations efficiently, completing orders in as fast as 2 minutes.

• 经济普适 Economical & Accessible

相比传统解决方案，闪攀系统大幅缩短了实施时间和成本，**实施更快、成本更低**，部署轻松，大幅降低仓储自动化使用门槛。

Compared with traditional solutions, the ShanPan System significantly shortens implementation time and reduces costs, enabling faster deployment, lower expenses, and easier setup, thus greatly lowering the threshold for warehouse automation adoption.





HAIPICK SYSTEM: ULTRA-DENSE STORAGE · EXTREME FLEXIBILITY
HaiPick System: 超密存储·极致柔性

兼容多尺寸多箱型 Compatible with Multiple Sizes and Box Types

系统可在同一系统内轻松处理各类容器。无论是料箱、纸箱还是客供箱，无论大小规格，系统都能无缝兼容，简化操作流程。

The system can easily handle various containers within the same system. Whether it's bins, cartons, or customer-supplied boxes, regardless of size and specification, the system can seamlessly integrate with them, simplifying operational processes.

超密存储 Ultra-Dense Storage

系统采用创新的勾连式存取技术，实现三深位紧凑存储，消除料箱背间距，大幅提升空间利用率和存储密度，1000㎡可高效存储多达43,000个料箱。

The system adopts an innovative hook-type access technology to realize three-deep compact storage, eliminating the back spacing of bins, greatly improving space utilization and storage density. Up to 43,000 bins can be efficiently stored in 1,000 m^2.

提速降本，减少浪费 Accelerate Speed, Reduce Costs, and Minimize Waste

系统支持货物原包装直接自动化整箱出入库，无需更换容器或人工倒箱。通过消除重复劳动，显著提升操作效率，降低运营成本，实现更高效、整洁、经济的仓储管理。

The system supports direct automated full-container inbound and outbound of goods in their original packaging, eliminating the need for container replacement or manual repackaging. By eliminating repetitive labor, it significantly improves operational efficiency, reduces operating costs, and enables more efficient, tidy, and economical warehouse management.

技术参数 Technical parameter

产品展示 Product Display		闪攀机器人 A71
基本参数 Robot Size (mm)	机器人尺寸（mm） Robot Dimensions (mm)	低位：长838× 宽467× 高 (720/815) Low position: L 838 × W 467 × H (720/815)
	载具兼容尺寸(mm) Compatible Container Dimensions (mm)	长650× 宽450× 高 300，高度可定制 L 650 × W 450 × H 300, height customizable
	自重（kg） Dead Weight (kg)	74.5
	机械旋转直径（mm） Mechanical Rotation Diameter (mm)	922
	整机最大负载(kg) Max. Payload of the Whole Machine (kg)	30
	单箱最大负载 (kg) Max. Payload per Bin (kg)	30
	取货高度（mm） Pick-up Height (mm)	800-12000
运动性能 Motion performance	直行最大运动速度 (m/s) Max. Straight-line Travel Speed (m/s)	4
	行进方向停止精度（mm） Travel Direction Stop Accuracy (mm)	±10
充放电性能 Charge & Discharge Performance	满充时间（h） Full Charging Time (h)	≤0.95
	快充时间（min） Fast Charging Time (min)	≤30
	满充后续航时间 (h) Battery Life after Full Charge (h)	≥4.3
	快充后续航时间 (h) Battery Life after Fast Charge (h)	≥2.5
部署环境要求 Deployment Environment Requirements	工作环境温度(°C) Operating Ambient Temperature (°C)	0~45
	地面平整度（mm/2.25m2） Floor Flatness (mm/2.25m^2)	±4
安全功能 Safety protection	障碍物检测 Obstacle Detection	✓
	防碰撞 Anti-collision	✓
	声光报警 Audible and Visual Alarm	✓
	急停按钮 Emergency Stop Button	✓
	通信加密 Communication Encryption	✓
	充放电保护 Charge/Discharge Protection	✓
	升降防坠 Lifting Anti-fall	✓
	认证 Certification	CE/NRTL
其它 Others	兼容载具类型 Compatible Container Type	海柔自研塑料箱 Hai Robotics self-developed plastic bin
	通信方式 Communication Method	Wi-Fi 5GHz 802.11n
	导航方式 Navigation Method	惯性导航 + 二维码 Inertial navigation + QR code

PTL Intelligent Warehouse Pick-To-Light System
智能仓储亮灯拣选系统

看（灯）
LOOK (LIGHT)

拣（物）
PICK (GOODS)

按（完成）
PRESS (COMPLETE)

STEPS ONE —— TWO —— THREE

01

新人上手快

NEWCOMERS
EASY
TO LEARN

02

看灯找货快

LOOK THE LIGHT TO
FIND THE GOODS
QUICKLY

03

数据同步快

DATA
SYNCHRONIZATION
FAST

04

方案实施快

FAST SOLUTION
IMPLEMENTATION



INTELLIGENT THREAD CABINET
智能线柜

杰克智能柜，应用于服装、机械等行业，实现辅料、缝线、工具自动快捷的借用、归还、定位、查找、维护等功能。

Jack intelligent cabinet, applied in industries such as garment and machinery, realizes automatic and fast borrowing, return, positioning, searching, maintenance and other functions of accessories and sewing tools.

极速智能线柜 Ultra-Fast Intelligent Thread Cabinet

BOX100-A极速智能线柜，主要应用于服装制造的缝线使用场景，解决面料比色难，找线慢，线管理难度大等问题。找线效率提升90%，实现一点搜搜，找线不愁。

The BOX100-A ultra-fast intelligent thread cabinet is mainly applied to the scenarios of sewing thread usage in garment manufacturing. It solves problems such as the difficulty in color matching of fabrics, the slow process of finding sewing threads, and the high difficulty in managing sewing threads. The efficiency of finding threads is increased by 90%. Search with a tap, find threads in a snap.



变色龙AI比色算法—智能配线
Chameleon AI Color - Matching Algorithm —— Intelligent Thread Matching

自主开发AI比色算法，,精准采集缝线和面料颜色，实现自动比色功能，3秒推荐比色结果。

Our self - developed AI color - matching algorithm can accurately capture the colors of threads and fabrics and automatically perform color matching, recommending color - matching results in just 3 seconds.



蜂鸟极速通信技术—快速取线
Hummingbird High - Speed Communication Technology —— Rapid Thread Retrieval

流水灯导航+电磁锁协同，毫秒级指示缝线位置，控制器0.05秒响应，快速找到线，告别找线焦虑。

With the coordinated operation of a flowing light navigation system and an electromagnetic lock, the thread position is indicated in milliseconds. The controller responds within 0.05 seconds, enabling quick thread retrieval and eliminating the anxiety of searching for threads.



缝线管理
Thread Management

①缝线使用记录，缝线库存预警避免库存缺少；
②识别常用缝线和呆滞缝线，减少库存占用面积和库存资金；
③缝线种类和库存一键查询，快速盘点；
④快速查询被占用缝线，防止缝线重复采购，避免缝线浪费。

① Sewing thread usage records and inventory alerts to prevent stockouts;
② Identify commonly used sewing threads and idle sewing threads to reduce the occupancy of stock and costs;
③ One - click search of sewing thread types and stock for instant stocktake;
④Real - time tracking of occupied sewing threads to prevent duplicate purchases and reduce sewing thread waste.



智能工具柜 Intelligent tool cabinet

借由灯光信号和柜门开合，引导工人快速精确找到对应工具，实现工具自动快捷的借用、归还、定位、查找、维护等功能。

By using lighting signals and cabinet doors to open and close, workers are guided to quickly and accurately find corresponding tools, achieving automatic and fast borrowing, returning, positioning, searching, maintenance and other functions of tools.

多种登录方式
Multiple login methods

- 刷卡
- 账号密码
- 人脸识别（存件、取件）
- 指纹登录

Swipe card, account password, facial recognition (storage, retrieval), fingerprint login.

实时记录
Real time recording

实时记录操作日志，根据后台管理平台可进行日志查阅，对领用人、领用时间、领用工具信息进行实时记录。

Real time recording of operation logs, which can be viewed based on the backend management platform. Real time recording of the recipient, recipient time, and recipient tool information.

智能提醒
Real time reminding

根据工具库存信息进行预警提醒，同时根据使用周期自动提醒管理人员送检。

Provide warning reminders based on tool inventory information, and automatically remind management personnel to send for inspection according to the usage cycle.

合作客户 Partner Clients

深圳LF、广东 XY、广东BYLF、福建CM、广东TW、深圳WZN、苏州KQ、浙江SZ、佛山YD、柬埔寨SMN、苏州TS、山东SS、广东BJ、江苏SMD、昆山HHZ、湖南SFD、江苏SH、孟加拉、巴基斯坦、日本DL、土耳其、印尼HTMSYD

Shenzen LF、GuangDong XY、GuangDong BYLF、FuJian CM、GuangDong TW、Shenzen WZN、SuZhou KQ、ZheJiang SZ、 FoShan YD 、Cambodia SMN、SuZhou TS、ShanDong SS、GuangDong BJ、JiangSu SMD、KunShan HHZ、HuNan SFD、JiangSu SH、Bangladesh、Pakistan、 Japan DL、Turkey、Indonesia HTMSYD



广东佳都 | MINILOAD

CASE 1

茂名佳都服装，主要从事高档成衣的加工业务，面对多元化订单生产，需要使用智能化的仓储解决方案，提高仓储利用率以及工作效率。

Maoming Jiadu garment is mainly engaged in the processing business of high-grade garments. In the face of diversified order production, intelligent storage solutions are needed to improve storage utilization and work efficiency.

解决方案 Solution

为提高裁片存储空间利用率以及作业效率，降低人力成本，结合佳都实际场地空间，杰克提供单巷道料箱堆垛机，配合WMS系统，实现裁片的灵活存储。

In order to improve the utilization rate of cutting storage space and operation efficiency, and reduce labor costs, combined with the actual site space of Jiadu, Jack provides a single roadway material box stacker, combined with WMS system, to achieve flexible storage of cutting pieces.

价值呈现 Value display

- 仓储空间利用率提升160%
  Storage space utilization is increased by 160%
- 拣货效率提升180%
  Picking efficiency is increased by 180%
- 人员减少30%
  Labor cost reduced by 30%



江苏天生 | 四向穿梭车立库 Four-way shuttle warehouse

CASE 2

江苏天生服饰，是一家专门从事服装制造和加工的民营股份制企业，随着业务的不断拓展，如何提高成品仓库的空间利用率成为了急需解决的难题。

Jiangsu Tiansheng Garment is a private joint-stock enterprise specializing in clothing manufacturing and processing. With the continuous expansion of its business, how to improve the space utilization of finished goods warehouses has become an urgent problem to be solved.

解决方案 Solution

针对其高密度存储的需求，杰克提供了2台四向穿梭车，配合提升机以及WMS系统，实现成品的高密度存储。

For its high-density storage needs,Jack provides 2 four-way shuttle, which cooperate with the hoist and WMS system to achieve high-density storage of finished products.

价值呈现 Value display

- 仓储空间利用率提升90%
  Storage space utilization increased by 90%
- 拣货效率提升80%
  Picking efficiency increased by 80%
- 数字化管理水平进一步提升
  The level of digital management has been further improved



越南某知名服装企业 | 堆垛机立库 Vietnam Seasun Sports|Stacker Warehouse

CASE 3

越南某知名服装企业，是一家专业从事高端泳装、运动健身服、内衣与居家服的大型服装生产企业。业务扩张后，面料集中到货堆放凌乱，尾货管理混乱极占空间，布卷长短不一且重，如何提高库存量，提高物料跨楼层出入库效率，成为当前必须突破的瓶颈。

A well-known Vietnamese apparel company is a large-scale garment manufacturer specializing in high-end swimwear, activewear, underwear, and loungewear. After business expansion, the arrival of fabrics led to disorganized stacking, chaotic management of leftover materials occupying excessive space, and varying lengths and weights of fabric rolls. Increasing inventory capacity and improving cross-floor material handling efficiency became critical bottlenecks to overcome.

解决方案 Solution

杰克提供了4台重型堆垛机，匹配了15米高立库共2800+储位，搭配WMS管理系统及WCS控制系统，打通软件数据上下游，实现了面料、成品同步高密度、高效率存储和管理。

Jack provided 4 heavy-duty stacker, paired with a 15-meter-high warehouse offering over 2,800 storage locations. Integrated with the WMS management system and WCS control system, the solution connects upstream and downstream software data, enabling high-density, high-efficiency storage and management of fabrics and finished products.

价值呈现 Value display

- 存储密度提升3-5倍
  3-5 times increase in storage density
- 节省了60%以上的人力成本
  Over 60% reduction in labor costs
- 为生产计划和供应链决策提供精准数据支持
  Provides accurate data support for production planning and supply chain decision-making



印尼某知名服装厂 | AGV搬运机器人 AGV handling robot

CASE 4

印尼某知名服装厂，以生产各类中高档服装为主，主要产品有男女休闲外套、毛呢大衣、休闲衬衫、连衣裙等，产品均出口国外市场。因业务高速增长，需要使用自动化系统设备，替代传统人力搬运的作业模式，提高工作效率。

One well-know factory in Indonesia, mainly produces all kinds of high-grade clothing, the main products are men and women's casual coats, woolen coats, casual shirts, dresses, etc., the products are exported to foreign markets. Due to the rapid growth of business, it is necessary to use automated system equipment to replace the traditional manual handling operation mode and improve work efficiency.

解决方案 Solution

为提高作业效率，打通裁片从存放区到线边缓存仓再到线边的物流流转，降低人力成本，杰克提供8台600KG潜伏式AGV，配合RCS系统，实现裁片的灵活自动转运。

In order to improve working efficiency, open up the flow of cutting pieces from the storage area to the line side storage warehouse and then to the line side, and reduce labor costs, provides 8 set 600KG AMR, which are combined with the RCS system to achieve flexible and automatic moving of cutting pieces.

价值呈现 Value display

- 全场调度AGV搬运，提升搬运效率
  AGV transportation is dispatched throughout the site to improve transportation efficiency
- 裁片信息透明，库位精准定位
  The information of the cut pieces is transparent, and the storage location is accurately located
- 产线叫料实现一备一用，搬运任务自动激活
  The production line calls to achieve one standby and one use, and the transportation task is automatically activated
- 大屏展示全局信息，监控生产进度
  The large screen displays global information and monitors the production progress



浙江震亚 | PTL智能仓储亮灯拣选系统 PTL Intelligent Warehousing System

CASE 5

浙江震亚汽车，主要从事汽车TPE脚垫、后备箱垫、挡泥板等产品的开发、制造和销售，与吉利、领克、理想、福特等汽车品牌合作，产品远销海外多个国家。面临日益扩展的市场，如何通过成品仓库的数字化升级，解决快速出入库，提高工作效率成为难题。

Zhejiang Zhenya Automobile is mainly engaged in the development, manufacturing and sales of automotive TPE foot mats, trunk mats, fenders and other products. It cooperates with Geely, Lynk & Co, Ideal, Ford and other automobile brands, and its products are exported to many countries overseas. Faced with the ever-expanding market, how to solve the problem of fast warehousing and improving work efficiency through the digital upgrade of finished product warehouses has become a problem Solution.

解决方案 Solution

杰克提供了定制化WMS+PTL智能仓储亮灯拣选系统，打通生产、销售系统，实现了物料精准存取、波次拣选、物流单分批次打印、电商订单拦截等功能，提升了存储利用率和出入库效率。

Jack provides a customized WMS+PTL intelligent warehouse light picking system, which connects the production and sales systems, realizes the functions of accurate material storage and retrieval, wave picking, batch printing of logistics orders, e-commerce order interception, etc., and improves storage utilization and inbound and outbound efficiency.

价值呈现 Value display

- 仓储库位利用率提升80%
  Warehouse storage space utilization increased by 80%
- 拣货效率提升200%
  Picking efficiency increased by 200%
- 账务一致性达到99.9%
  Account consistency reached 99.9%



江苏某知名服装厂 | 料箱机器人立库 A well-known clothing factory in Jiangsu | CTU warehouse, AGV

CASE 6

江苏某知名服装厂，主要承接国际国内一线运动品牌订单。其裁片仓面临着生产信息周转难同步，错片漏片难追溯，齐套拣选效率低，小单快反跟不动问题，对仓库管理提出了更高的要求。

A well-known clothing factory in Jiangsu, mainly undertaking orders from international and domestic first-tier sports brands. Its cutting piece supermarket faces challenges such as difficult synchronization of production information, hard traceability of wrong or missing pieces, low efficiency in complete set picking, and inability to keep up with small orders and quick responses, posing higher requirements for warehouse management.

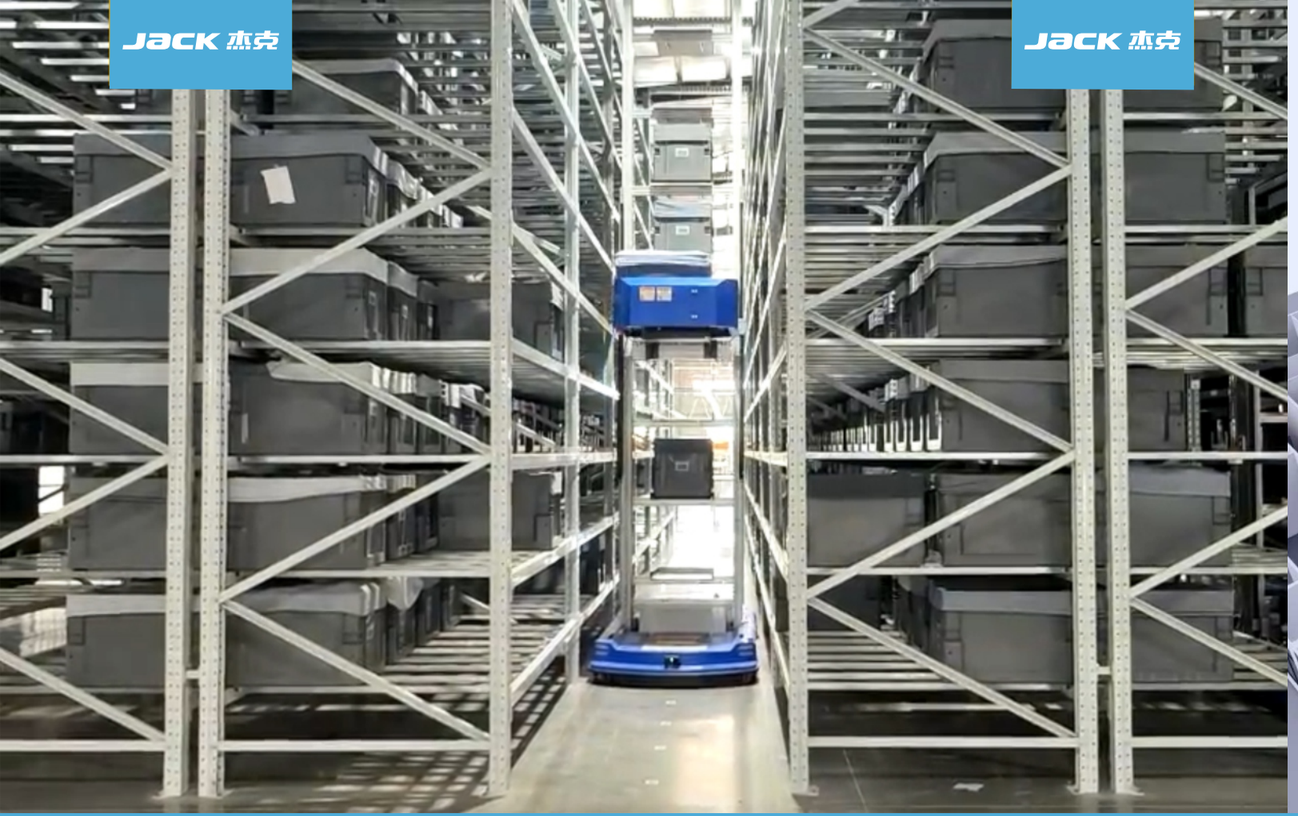
解决方案 Solution

为提高作业效率以及库容利用率，实现仓库管理智能化，通过4台料箱机器人、8台AGV搬运机器人，匹配了2.6米高立库共3168个料箱存储位，CTU料箱机器人和AGV搬运机器人与无缝交互协同，搭配WMS系统，实现对裁片的自动齐套管理和快速拣选。

To improve operational efficiency and warehouse capacity utilization, and achieve intelligent warehouse management, 4 CTU and 8 AGV handling robots were deployed, matched with a 2.6-meter-high warehouse with 3,168 material box storage positions. CTU and AGV interact and collaborate seamlessly, paired with a WMS system, achieving automatic complete set management and quick picking of cutting pieces.

价值呈现 Value display

- 空间利用率提升了60%
  Space utilization increased by 60%
- 车间生产效率提升20%
  Workshop production efficiency increased by 20%
- 全程数据追款，换款0等待
  Full-process data tracking, zero waiting for style changes





柬埔寨莎美娜 | 料箱机器人立库 CTU warehouse

CASE 7

莎美娜集团致力于高品质运动服饰的生产和创新，包括自行车服饰、防护衣、网球服饰、高尔夫服饰等各样运动服装。其裁片仓面临着传统作业效率低下，劳动强度大，仓库利用率低等问题，对仓库管理提出了更高的要求。

Sabrina Group is committed to the production and innovation of high-quality sportswear, including bicycle apparel, protective clothing, tennis apparel, golf apparel and other sportswear. The cutting warehouse is faced with the problems of low efficiency of traditional operation, high labor intensity and low utilization rate of warehouse, which puts forward higher requirements for warehouse management.

解决方案 Solution

为提高作业效率以及库容利用率，实现仓库管理智能化，杰克提供 6 台料箱机器人，匹配了 5.3 米高货架，搭配RCS和WMS系统，实现对裁片的自动管理和快速拣选。

In order to improve operation efficiency and storage utilization, and realize intelligent warehouse management, provides 6 CTU robots with 5.3 meters high shelves, with RCS and WMS systems, to achieve automatic management and fast selection of cutting pieces.

价值呈现 Value display

- 库容率提升400%
  Storage capacity increased by 400%
- 拣选精确度高达99.9%
  Picking accuracy up to 99.9%
- 提升3倍订单生产时效
  Increase order production time by 3 times

湖南某知名服装厂 | 齐套大师（无人叉车、CTU料箱机器人立库、AGV搬运）

A well-known clothing factory in Hunan | Completeness Master (Unmanned forklift, CTU warehouse, AGV)

CASE 8

湖南某知名服装厂，专业生产世界知名户外运动、泳装品牌服装。随着业务扩张，存储密度以及人员出入库操作工作量攀升，如何快速提升整场效能以及解决存储难题视为管理的重中之重。

A well-known clothing factory in Hunan, specializing in the production of world-renowned outdoor sports and swimwear brand clothing. With business expansion, storage density and the workload of personnel in and out of warehouse operations have increased rapidly. How to quickly improve overall efficiency and solve storage problems has become a top priority for management.

解决方案 Solution

杰克齐套大师（CWMS）作为智慧大脑，通过统一调度异构机器人集群（无人叉车、CTU、AGV），助力客户实现仓储空间利用率与人员效能的三倍级提升，彻底释放土地与人力成本。

Jack Completeness Master (CWMS) serves as the intelligent brain, by uniformly scheduling heterogeneous robot clusters (unmanned forklifts, CTU, AGV), helping customers achieve a threefold improvement in warehouse space utilization and personnel efficiency, completely releasing land and labor costs.

价值呈现 Value display

- 降本：减少物流人工成本超70%
  Cost reduction: Over 70% reduction in logistics labor costs
- 增效：整体出入库效率提升 300%
  Efficiency boost: Overall warehouse in and out efficiency increased by 300%
- 精准：依托订单库存预占，提前算料精准度达100%
  Precision: 100% accuracy in advance material calculation through order-based inventory reservation
- 空间：仓储空间利用率提升400%
  Space : Warehouse space utilization improved by 400%