

**Aotto**

热加工

# 自动化解决方案

OVERALL SOLUTIONS FOR  
HOT PROCESSING AUTOMATION

奥图竭诚为您提供四种整体解决方案  
FOUR OVERALL SOLUTIONS FROM AOTTO

★ 冷加工自动化解决方案

OVERALL SOLUTIONS FOR COLD PROCESSING AUTOMATION

★ 热加工自动化解决方案

OVERALL SOLUTIONS FOR HOT PROCESSING AUTOMATION

★ 安全防护系统解决方案

OVERALL SOLUTIONS FOR SAFETY GUARDING SYSTEM

★ 智能抓取标准产品

INTELLIGENTLY GRAB STANDARD PRODUCTS



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扫一扫，了解更多！

Ver. 2024-04

济南奥图自动化股份有限公司  
Jinan Aotto Automation Co., Ltd.

Since 2000

# Aotto 奥图股份



专注于为冲压行业提供全面优质的自动化集成服务。



专业提供高端激光切割装备及服务。



提供冲压生产智慧工厂一体化解决方案。  
Provide stamping production intelligent factory integration solutions.



专业精工、八〇玲珑、提供机器人自动快换装置及端拾器精准适配方案。



提供安全防护整体解决方案。  
Provide overall solutions for safety protection.



和力前行  
共创辉煌



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## ABOUT US

### 公司简介

济南奥图自动化股份有限公司始创于 2000 年，秉承“致力创新、追求卓越”的理念，坚持“产品领先”的发展战略，为汽车、机械、家电和轻工等行业持续提供优质的自动化设备、服务和整体解决方案。

2015 年 10 月，公司在新三板成功挂牌，成为冲压自动化行业第一家跨入资本市场的企业。2016 年，公司重磅推出 **Aovita®** 端拾器和 **Aosaff®** 安全防护围栏两大子品牌。

公司积极建设现代化企业管理制度，通过了 ISO9001 质量管理体系认证和安全生产标准化认证，已全面实施 PLM、ERP、CRM 和中台等企业管理系统。

Jinan Otto Automation Co., Ltd., established in 2000, persists in concept of “devoting to innovation and pursuing excellence” and development strategy of “product leadership”, provides outstanding automation equipment, services and turnkey solutions to industries such as automobile, machinery, and home appliance industry,etc.

In October 2015, Otto was public listed in NEEQ stock market, and the first Chinese enterprise of stamping industry to enter the capital market.

In 2016, Otto released **Aovita®** tooling system and **Aosaff®** safety guarding fence.

Ootto adopting modern enterprise management system actively, passes ISO9001 quality management system authentication and safe production standardization authentication, and implements enterprise management systems such as PLM, ERP, CRM and OA fully.

公司被认定为山东省技术开发中心和软件企业、高新技术企业，现已拥有百余项发明和实用新型专利，并多次荣获山东省著名商标、省市科技进步奖和创新型企业等荣誉称号。

公司核心产品包括机器人自动化冲压生产线、机械手自动化冲压生产线，汽车纵梁生产线、机加工上下料、物料搬运、高强钢热成形、多工位、线尾自动装筐系统、激光落料线、锻造等自动化生产线，板料清洗机、板料涂油机、垛料翻转机、重载电动无轨运输车、三维激光切割机、端拾器、锻压设备升级改造和非标自动化设备，公司自动化产品现已遍布全国二十多个省、自治区和直辖市，并远销东南亚、南亚、中亚及欧洲等多个国家和地区。

Ootto is awarded as technical development center and software enterprise and high-tech enterprise provincial level, has over 100 invention and utility model patents at present, famous trademark of Shandong Province, science and technology progress award and innovation enterprise of Shandong Province.

Core products of Otto include robot automation stamping production line, manipulator automation stamping production line, truck beam processing, machine tool loader and unloader, material handling, high-strength steel hot-stamping, press linear transfer line, automatic stacking system, laser blanking line and forging automation system production line, blank washer, blank oiler, bundle turnover, electric heavy-duty vehicle, 3D laser cutter, tooling, stamping machine retrofitting and tailored Automatic solutions. Automatic products have been sold over 20 provinces, automatic regions and municipalities in China, and sold to various countries and regions in Asia, America and Europe.



## 公司荣誉

### COMPANY HONOR



济南奥图自动化股份有限公司  
Jinan Aotto Automation Co.,Ltd.  
高新技术企业  
High-tech enterprise



济南奥图科技有限责任公司  
Jinan Aotto Technologies Co.,Ltd.  
高新技术企业  
High-tech enterprise

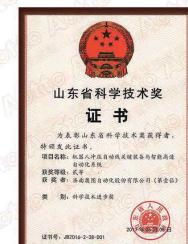


山东省著名商标  
Famous trademark of Shandong Province

- ISO9001质量管理体系认证  
ISO9001 quality management system authentication
- 安全生产标准化三级企业  
Safe production standardization grade III enterprise
- 山东省企业技术中心和软件企业  
Enterprise technical center and Software enterprise of Shandong Province
- 高新技术企业  
High-tech enterprise
- 山东省著名商标  
Famous trademark of Shandong Province
- 山东省科学技术奖  
Science and technology progress award of Shandong Province
- 济南市创新型企业  
Innovation enterprise of Jinan City
- 济南市工业机器人工程技术研究中心  
Industrial Robotics Engineering Technology Research Center of Jinan City



ISO9001质量管理体系认证  
ISO9001 quality management system authentication



山东省科学技术奖  
Science and technology progress award of Shandong Province

## 公司文化

### COMPANY CULTURE

员工自豪、社会尊敬、自动化产品遍布世界的奥图

Aotto all around the world leading to the pride of the staff and the respect of society

公司秉承“举贤任能、信笃任专”的人才理念,为员工创造了广阔的发展空间,通过开展集体旅游、趣味运动会、年会等活动丰富员工生活,激发员工的工作热情和团队精神。公司鼓励创新,循循善导,培育了一批积极奋进、勇于开拓、热情开放、充满活力的奥图人。

The company insists on talent concept of “employing the wise and trusting the sincere”, creates wide development space for the employees, enriches the employees’ living and stimulates their working passion and team spirit by activities such as collective tourism, fun games and annual meeting. The company encourages innovation, gives good guidance, and fosters a batch of Aotto’s employees, who are active, industrial, pioneering, enthusiastic, opening and vigorous.



## 合作伙伴

### COMPANY PARTNER

- 合作共赢是奥图股份的核心价值。
- 我们积极为制造行业提供优质的自动化服务。
- 我们希望，与合作伙伴共同汇聚创造力、深化影响力，以达成共赢。
- 我们相信，通过我们的不断努力和追求，定能实现与合作伙伴的合作共赢，和谐共进！
- Win-win cooperation is core value of Aotto.
- We provide outstanding automatic service to Manufacturing industry.
- We hope to gather creativity with our partners, and move forward together.
- We believe cooperation, win-win and harmony advance can be realized by our continuous effort and pursuit!

合作共赢

和谐共进



## 高强钢热成形自动化生产线

### HIGH-STRENGTH STEEL HOT-STAMPING AUTOMATIC PRODUCTION LINE



#### 产品介绍 | Product introduction

高强钢热成形自动化生产线是集物料输送、打码、加热、防氧化、冲压成形、淬火冷却等工艺于一体的自动化生产线。可自动完成板料拆垛、磁力分层、双料检测、板料打码、加热、温度监测、板料对中、机械手上料、压机冲压、冷却及机械手下料等工作。将高强钢钢板加热到  $900 \sim 1000^{\circ}\text{C}$ ，冲压成形并迅速冷却淬火，实现奥氏体向马氏体的相变，从而获得更高强度( $1200 \sim 1500\text{MPa}$ )和更高硬度的工件，可广泛应用于汽车车身零件的成形，实现汽车的轻量化，提高汽车碰撞的安全性。

High-strength hot-stamping automatic production line integrates technologies such as material feeding, marking, heating, anti-oxidation, forming, quenching, cooling. It will finish works such as sheet metal destacking, magnetic sheet separation, double sheet detection, sheet marking, heating, temperature monitoring, sheet centering, loading, sheet stamping, cooling and unloading automatically. It heats high-strength steel sheet to  $900\text{--}1,000^{\circ}\text{C}$ , makes forming and quick cooling and quenching indies, realizes sheet metal phase change from austenite to martensite, so as to obtain work piece with higher strength ( $1,200\text{--}1,500\text{ MPa}$ ) and hardness. The line can be widely used in formation of automobile body parts, makes automobile lighter and improves collision safety of automobile.

## 高强钢热成形自动化生产线

### HIGH-STRENGTH STEEL HOT-STAMPING AUTOMATIC PRODUCTION LINE

#### 产品特点 | Product feature

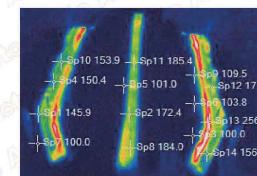
- 采用倍速机械手上下料，运行节拍快  
Use double speed manipulator to load and unload sheet metal, speed fast
- 具有自动调整位置的打码系统  
Marking system with automatic positioning
- 整线运行稳定可靠，单线年冲次达到145万次  
Stable and Reliable, 1.45million strokes/year/line
- 完善的自诊断功能  
Automatic-diagnostics function
- 质量追溯系统+MES  
Quality traceability system & MES
- 无人值守系统  
Unattended system



- 快速上下料机械手  
Quick load and unload manipulator



- 无人值守系统  
Unattended system



- 热成像系统  
Thermal imaging system



- 自动打码系统  
Automatic marking system



- 质量追溯系统  
Quality traceability system

## 锻造自动化生产线

### FORGING AUTOMATIC PRODUCTION LINE

#### 机器人锻造自动化生产线 | Robot forging automatic production line

机器人锻造自动化生产线，可以替代工人完成在高温、污染、噪音等极端环境下的锻造加工工作，包括上下料、模具处理的全部作业。生产线主要由加热炉、压力机、自动喷石墨装置、上下料机器人及其它辅助设备等组成，实现了从原料加热→上料→粗锻→喷墨→锻件移位→精锻→下料等过程的全自动操作。

Robot forging automatic production line can replace the worker to finish forging processing work under high temperature, pollution and noise environment. Finish all operations such as material loading and unloading and mold processing. The production line mainly consists of heating furnace, presses, automatic graphite spraying device, material loading and unloading robot and other auxiliary device. It can realizes automatic operation of processes from material heating→Material loading→Coarse forging→Graphite spraying→Forge piece transfer→Fine forging→Material unloading.



#### 机械手锻造自动化生产线 | Manipulator forging automatic production line

机械手锻造自动化生产线是集加热后的坯料输送、锻压成型、锻后处理等工艺于一体的自动化生产线。可自动完成加热后的坯料分选、定位、输送、锻压成型（包括镦粗、预锻、终锻、冲连皮及飞边等工序）、锻后处理等工作。根据生产工艺，可进行单机连线、双机连线、多机连线。

Manipulator forging automatic production line is an automatic production line which integrates processes such as heated blank feeding, forging and after-forging processing. It can finish works such as heated blank selection, positioning, feeding, forging (including processes such as upsetting, pre-forging, final forging, wad and overlap punching) and after-forging processing. According to production process requirement, the production line can integrate one, two, or several presses.



## 锻造自动化生产线

### FORGING AUTOMATIC PRODUCTION LINE

#### 步进梁锻造自动化生产线 | Linear transfer forging automatic production line

步进梁锻造自动化生产线适用于批量大、多工位连续化锻造生产。生产线由坯料自动上料装置、加热炉、自动落料分选输送装置、步进梁、压机、锻后装置等组成，能自动完成坯料输送、锻压成型、锻后处理等工序过程。根据生产工艺，可配备三~六工位等步进梁。

Linear transfer forging automatic production line is suitable for continuous forging production with large batch and multiple stations. The production line consists of automatic blank loading device, heating furnace, automatic unloading, selection and feeding device, transfer beam, presses and after-forging device, and can finish processes such as blank feeding, forging and after-forging processing automatically. According to production process, transfer beam with three stations-six stations can be equipped.



## 经典系列电动无轨重载运输车

### AHC SERIES MOTOR TRACKLESS HEAVY-DUTY VEHICLE



#### 产品介绍 | Product introduction

经典系列电动无轨重载运输车是我公司自主研发设计制造,适用于机械制造、汽车工业、重工制造、模具制造、工程机械、船舶制造、港口货场、钢铁配送、矿山运输、航空航天、军工等行业的新型转运设备。特别适用于重载、繁忙的工业应用。

AHC series motor trackless heavy-duty vehicle is developed to transport heavy duty parts in industries such as machinery manufacturing, automobile industry, heavy industry manufacturing, mold manufacturing, construction machinery, ship building, port goods yard, steel plate distribution, mine transportation, aerospace and military industry.

- 整车采用蓄电池供电、交流电机驱动,承载力大,启动稳定,不依赖导轨,可实现双向行驶。液压转向机构保证了较小的转弯半径,可在较小空间内实现转向。

The vehicle uses battery to supply power, AC motor driving, with large load bearing and smoothly start and stop, no guide rail, and bidirectional driving. Hydraulic steering mechanism ensures small turning radius, making it possible to steer in small space.

- 整车安装有防撞安全保护装置和声光报警系统。采用电磁制动,响应速度快,制动距离短。根据承载吨位不同可选配聚氨酯或无内胎橡胶轮,车轮不损坏车间地面涂层。

The vehicle is installed with anti-collision protection device and audible and visual alarm system. With electromagnetic braking system, the vehicle can response quickly, and with short braking distance. In order to protect the floor surface, polyurethane or tubeless rubber wheels could be selected according to different capacities.

- 车辆标配两组电池,可轮流使用,保证车辆的持续运行。配备专用的电池更换车,可快速完成电池更换。

To ensure continuous operation of the vehicle and exchange battery quickly, two sets of batteries and one special battery change cart will be within the standard supply scope.

#### 产品特点 | Product feature



#### 经典系列电动无轨重载运输车 (参数表) | Specification

主参数 Main Parameter	①额定负载 Rated Load (Ton)	30	50	
	①台面尺寸 Table Size L*W (mm)	4600*2500	5000*2500	4600*2500
驱动与转向 Drive & Steering System	轮组结构及动力 Steering Control& Power			舵轮, 液压 Steering Wheel, Hydraulic
	驱动&转向轮数量 Driving & Steering Quantity	2驱动+2转向 2 Driving Wheels + 2 Steering Wheels		1驱动+4转向 1 Driving Wheel + 4 Steering Wheels
	驱动电机类型 Driving Motor			交流电机 AC Motor
移动 Moving	低速 Low Speed (m/min)	0-15 柜内调整 (adjustable within electric cabinet)		
	高速 High Speed (m/min)	15-30 柜内调整 (adjustable within electric cabinet)		
	行驶 Moving Direction			直行/转向 Straight / Steering
	最小转弯半径 Min Turning radius (mm)	5200		5000
	爬坡 Climbing Ability			≤3%
控制方式 Control Mode	手动 Manual			线控/专用无线遥控器控制 Wire control / dedicated wireless remote control*
安全保障 Safety	急停按钮数量 Emergency Stop		4	
	激光扫描仪 Laser Scanner*		2	
	防撞梁 Safety Beam		2	
电源保障 Power Source	电池类型 Battery Type			铅酸电池 Lead-acid battery
	①电池容量 Battery Capacity (AH)	270		锂电池 Lithium battery*
	电池电压 Battery Voltage (V)			48
	①充电机电源 Charger Power (V)			3相 3 phase, 380; 50Hz
	满载续航距离 Full-Load Endurance distance (m)			≥2000
车身参数 Body Parameter	①外形尺寸 Outline L*W*H (mm)	4600*2500*980	5000*2500*1000	4600*2500*980
	自重 (约) Weight approx. (Ton)	7.5	9	9.5
				10

说明: 1. 带\*项均为可选项

2. 标①的参数可根据客户需求定制

3. 订货格式: AHC□□-□

└ 车辆配置 B:标准机型; H:高配机型

└ 车辆额定载重

如: 50吨标准运输车, 订货规格: AHC50-B;

30吨高配运输车, 订货规格: AHC30-H;

B 标准机型: 国产激光扫描仪

H 高配机型: 进口安全激光扫描仪+安全继电器

Remarks: 1. Items with \* are options

2. Parameters with ① could be tailored

3. Order format: AHC□□-□

└ Configuration B: Basic; H: High

└ Capacity

Example : 50T Standard Cart, Order No. is AHC50-B

30T High configured Cart, Order No. is AHC30-H

B Basic configured : Laser scanner from China

H High configured : Exported safety laser scanner and safety relay



## 智行系列全电动重载运输车

### AIC SERIES ELECTRIC HEAVY-DUTY VEHICLE



#### 产品介绍 | Product introduction

智行系列全电动重载运输车是济南奥图自动化股份有限公司推出的新型重载运输车。可广泛应用于机械制造、汽车工业、重工制造、模具制造、工程机械、船舶制造、港口货场、钢板配送、钢铁冶金、矿山运输、航空航天、军工等行业。

AIC series electric heavy-duty vehicle can be widely used in machinery manufacturing, automobile industry, heavy industry manufacturing, mold manufacturing, engineering machinery, shipbuilding, port cargo yard, steel plate distribution, steel metallurgy, mining transportation, aerospace, military industry and other industries, etc.

#### 产品特点 | Product feature

载重10~100T  
Capacity 10~100T

0~360°任意旋转, 多种移动模式 (横向、纵向、斜向)  
0~360°arbitrary rotation, multiple movement modes (horizontal, vertical, diagonal)

搭载Aotto智造云, 手机APP监控设备参数, 实现预测性维护、线上管理  
Equipped with Aotto Smart Cloud, monitor device parameters by mobile APP, so make predictive maintenance and online management possible



#### 智行系列全电动重载运输车 (参数表) | Specification

主参数 Main Parameter	额定负载 Rated Load (Ton)	10	20	30	50	70	100		
	台面尺寸 Table Size L*W (mm)	4500*2500		5000*2650		6000*3000			
驱动 Drive System	轮组结构 Steering Control	4驱动+4转向 4 Driving Wheels + 4 Steering Wheels				4驱动+4转向 4 Driving Wheels + 4 Steering Wheels			
移动 Moving	驱动单元数量 Driving & Steering Quantity	2驱动+4转向 2 Driving Wheels + 4 Steering Wheels				4驱动+4转向 4 Driving Wheels + 4 Steering Wheels			
电机类型 Motor	空载速度 No-load Speed (m/min)	0-30				0-30			
移动 Moving	满载速度 Full-load Speed (m/min)	0-24				0-24			
行驶 Moving Direction	行驶 Climbing Ability	爬坡 Climbing Ability				≤5% ≤5%			
导航 Guide*	方式 Guide Mode	激光导航/磁钉导航/色带导航/二维码导航 Laser / Magnetic nail / Ribbon / QR code				±10mm			
精度 Accuracy	精度 Accuracy	±10mm				±10mm			
控制方式 Control Mode	手动 Manual	线控/专用无线遥控器控制 Wire control / dedicated wireless remote control				线控/专用无线遥控器控制 Wire control / dedicated wireless remote control			
控制方式 Control Mode	自动 Automatic	根据工艺规划, 系统自动规划 Route automatically planned according to process requirement				根据工艺规划, 系统自动规划 Route automatically planned according to process requirement			
通讯 Communication	有线 Wire	CAN/Ethernet				WIFI			
通讯 Communication	无线 Wireless	WIFI				WIFI			
安全保障 Safety	急停按钮数量 Emergency Stop	4				4			
安全保障 Safety	激光扫描仪 Laser Scanner	2				2			
安全保障 Safety	防撞触边 Safety edges	全方位 All Around the Body				全方位 All Around the Body			
安全保障 Safety	防撞梁 Safety Beam*	2				2			
安全保障 Safety	3D视觉避障 3D Visual obstacle avoidance*	2				2			
电源保障 Power Source	电池类型 Battery Type	锂电池 Lithium battery				锂电池 Lithium battery			
电源保障 Power Source	电池容量 Battery Capacity (AH)	200	400	600	800	800			
电源保障 Power Source	电池电压 Battery Voltage (V)	48				48			
电源保障 Power Source	充电桩电源 Charger Power (V)	3相 3 phase, 380; 50Hz				3相 3 phase, 380; 50Hz			
电源保障 Power Source	充电桩输出 Charger Output	48V/150A				48V/150A			
电源保障 Power Source	充电时间 Charging Time	0%-100% 3小时, 15%-95% 2小时 3 hours for 0%-100%; 2 hours for 15%-95%				0%-100% 4.5小时, 15%-95% 3小时 4.5 hours for 0%-100%; 3 hours for 15%-95%			
电源保障 Power Source	满载续航距离 Full-Load Endurance distance (m)	≥2000				≥2000			
车身参数 Body Parameter	电池寿命 Battery Life	充满放满1500次 Fully charged and discharged 1500 times				充满放满1500次 Fully charged and discharged 1500 times			
车身参数 Body Parameter	自动在线充电 Online Charging*	仅在导航模式下有效 Selectable only under guide mode				仅在导航模式下有效 Selectable only under guide mode			
车身参数 Body Parameter	自动在线换电池 Online Battery Change*	仅在导航模式下有效 Selectable only under guide mode				仅在导航模式下有效 Selectable only under guide mode			
车身参数 Body Parameter	外形尺寸 Outline L*W*H (mm)	4500*2500*650	5000*2650*950	5000*2650*1070	6000*3000*1200	6000*3000*1200			
车身参数 Body Parameter	自重 (约) Weight approx. (Ton)	4	5	6	8	10	12		

说明: 1. 带\*项均为可选项

2. 标<sup>(1)</sup>的参数可根据客户需求定制

3. 订货格式: AIC□□-□□

Remarks: 1. Items with \* are options

2. Parameters with <sup>(1)</sup> could be tailored

3. Order format: AIC□□-□□

□ 配置 B: Basic; H: High; S: Super

□ 容量 Capacity

Example: 50T Standard Cart, Order No. is AIC50-B

30T High configured Cart, Order No. is AIC30-H

B Basic configured : Servo motors and drivers from China

H High configured : Servo motors and drivers from Europe and America

S Super configured : Servo motors and drivers from Europe and America, and with safety relays and safety laser scanner

# Aovita® 智能抓取标准产品

## INTELLIGENTLY GRAB STANDARD PRODUCTS

济南奥图端拾器事业部践行“用先进的自动化产品和服务促进产业升级，为客户和社会创造价值”的使命，倾力打造Aovita®智能抓取产品。

**Aovita**团队秉承奥图“致力创新，追求卓越”的核心理念，用产品的“高可靠性”提高自动线开动率，降低维护成本，用产品的“高性价比”降低设备整体投入，促进自动化普及。我们全力打造智能抓取产品一站式供应平台，现可为客户提供机器人工具快换、真空产品、夹爪产品、磁吸产品、针式抓手产品及智能抓取整体解决方案。



机器人工具快换标准品



选用Aovita机器人工具快换标准品，可实现一台机器人快速更换多套抓手。  
实现机器人一机多用。

### • 真空产品应用场景 •



真空吸盘抓手  
常用于金属板件、  
玻璃、塑料件等  
产品的抓取与搬运



章鱼吸盘抓手  
常用于包装箱、  
包装袋等产品的  
抓取与搬运



海绵吸盘抓手  
常用于木板、  
包装箱等产品的  
抓取与搬运

### • 夹爪产品应用场景 •



气动夹爪抓手  
常用于金属板类工件的抓取与搬运



气动夹爪抓手  
常应用于机加工自动上下料系统  
负责轴类/盘体类/壳体类等工件的抓取与搬运

### • 磁吸产品应用场景 •



磁性抓手  
常用于金属板件的抓取与搬运



针式抓手  
常用于地毯、毛毡等通气性产品的抓取与搬运

### • 针式抓手产品应用场景 •

### 智能抓手连接件

选用Aovita连接件标准品可快速组装各类抓手主体框架。

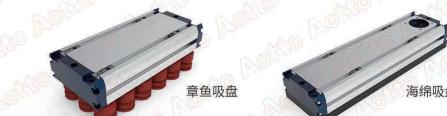


### • 真空产品标准品 •

选用Aovita真空标准品可快速组合出应用于金属冲压件搬运、物流包装搬运、木工生产搬运、注塑生产搬运等工作所需抓手。



真空吸盘气动元件



章鱼吸盘  
海绵吸盘

### • 夹爪产品标准品 •

选用Aovita气动夹爪标准品可快速组合出应用于机加工上下料搬运、高速冲压件搬运等工作所需抓手。



平行夹爪  
夹爪

### • 磁吸产品标准品 •

选用Aovita磁性吸盘标准品可快速组合出应用于金属板件  
搬运等工作所需抓手。



磁性吸盘



针式吸盘

扫码关注 **Aovita** 公众号  
下载以上标准产品样册



## Aosaff® 安全防护围栏

### SAFETY GUARDING FENCE

**Aosaff®**是奥图股份旗下的子品牌,专注于机器人及自动化生产线安全防护围栏的设计与制造,并以“致力创新、精工制作”作为产品定位及发展目标,为客户提供各类自动化安全防护整体解决方案和优质服务。

**Aosaff®** is sub-brand under Otto Company, concentrates on design and manufacture of robot and automatic production line safety guarding fence, regards “devoting to innovation and pursuing excellence” as product orientation and development target, and provides complete solutions and outstanding service of automatic safety guarding to the customers.



### 安全防护辅助选型系统 | SAFETY GUARDING ASSISTED SELECTION SYSTEM

针对围栏设计开发,实现“专款专用”,减少设计人员重复性劳动,实现需求一设计一生产的一体化、高效化。此系统已获申软件著作权。

Aiming at the design and development of the fence, realizing “special software for special purpose”, and reducing the repetitive labor of the designer. This system realizes integration and high efficiency, and has been granted with software copyright.



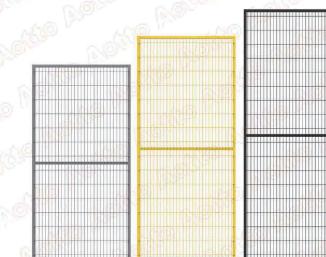
## 钢制围网及立柱防护

### STEEL FENCE AND COLUMN PROTECTION



#### 产品应用 | Product application

- 机器人及自动化生产线安全防护;  
Safety guarding of robot and automatic production line;
- 机床、机加工设备安全防护;  
Safety guarding of lathe and machining equipment;
- 仓储、物流、交通运输等人身安全和财产安全防护。  
Safety guarding of personal safety and property during storage, logistics and transportation.



- 独特焊接方法,横筋压入边框,焊接牢固美观

Unique welding method, the transverse wire are pressed into the frame, firm and beautiful.

- 立柱 Post
- 光幕立柱 Light curtain post

## STAMPING INTELLIGENT MANUFACTURING SYSTEM

奥图智造云的冲压智能制造系统是一套针对冲压自动化生产线设计开发的精细化管理系统，此系统通过数据采集、存储和分析，并将信息实时反馈给决策层、执行层以便对生产过程、工艺及时做出调整，提升管理效率和生产效率。公司拥有先进的智能制造整体解决方案的专业团队和工业互联网平台的研发中心，已认定“高新技术企业”、“软件企业”等荣誉称号，拥有多款软件著作权。

AVIZ intelligent manufacturing system is one production information management system designed and developed by Aotto for automatic production line. By acquisition, storage, analysis and application of production data, the system feeds backs the information to decision level and executive level in real time so they can make timely response on production process and technology so as to improve production efficiency and quality. Aotto owns a variety of software copyrights.



### 产品优势 | Product advantages

通过冲压智能制造系统建设，助力企业提升冲压制造的柔性化、自动化、追溯性、数字化、可视化5个方面的精细化管理能力。  
The stamping intelligent manufacturing system will help enterprises to improve the refined management capabilities of the five aspects for stamping manufacturing: flexibility, automation, traceability, digitization, and visualization.

可视化  
Visualization

- 通过智能制造系统提供生产过程中的各类数据，引入先进的分析工具和多样化的报表，为管理工作提供科学的指导；  
Provide various data in the production process through the intelligent manufacturing system, introduce advanced analysis tools and diversified reports, and provide scientific guidance for management team;
- 对生产设备及生产状态实时监控，工厂信息透明化，管理人员高效掌握生产情况，对异常事件做出快速反应；  
Real-time monitoring of production equipment and production status, transparent factory information, management personnel efficiently grasp the production situation, and quickly respond to abnormal events;
- 具备对冲压生产过程、坯料、设备等的追溯能力；  
Have the ability to trace the stamping production process, blanks, equipment, etc.;
- 支持快速的订单响应，满足多品种，小批量的生产要求；  
Support fast order response to meet the production requirements of multiple varieties and small batches;
- 可配置和可拓展，满足当前产能需求，同时可支持未来的业务发展。  
Configurable and expandable to meet current capacity requirements and support future business development.

数字化  
Digitization

追溯性  
Traceability

自动化  
Automation

柔性化  
Flexibility

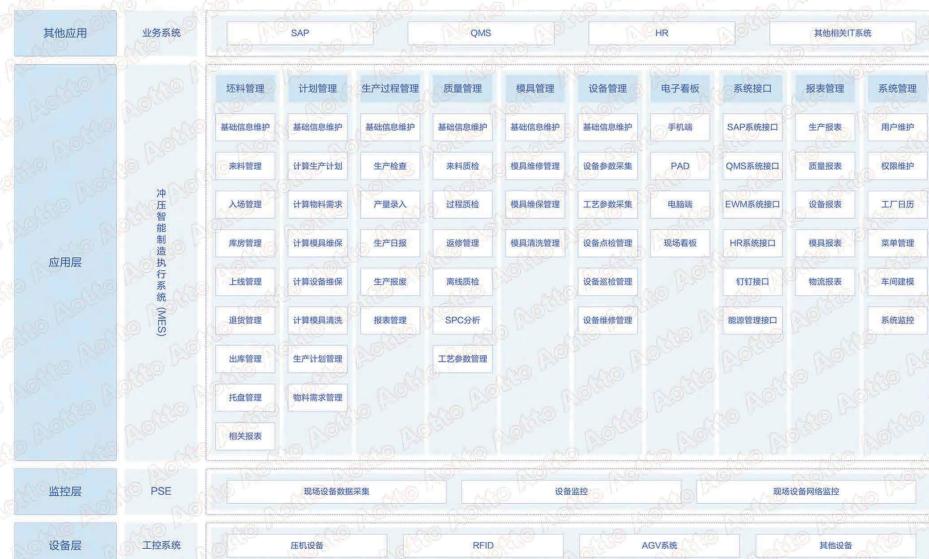
## 冲压智能制造系统

## STAMPING INTELLIGENT MANUFACTURING SYSTEM

### 功能架构 | Functional architecture

奥图冲压智能制造系统做为新一代制造执行系统，通过生产、设备、质量、模具等无纸化管理，提升工厂资源配置效率和生产运营效率，实现核心生产制造环节的数字化转型。

Aotto Stamping Intelligent Manufacturing System improves the efficiency of factory resource allocation and production and operation through paperless management of production, equipment, quality, and molds, etc., and realizes the digital transformation of core manufacturing links.



### 客户价值 | Value of customer

提升管理、生产效率  
Improve management and production efficiency

本系统可随时查看整个生产状态，并根据生产数据组合分析，提升生产效率和管理精度。  
To view the entire production status at any time, and analyze the combination of production data to improve production efficiency and management accuracy.

生产数字化、精准化  
Production digitalization and precision

生产记录无纸化，生产过程可追溯、透明化，生产过程数据闭合管理，高效精准生产及运维。  
With Paperless production records, traceable and transparent production process, closed management of data, so make efficient and precise production and maintenance.

降低生产成本  
Reduce manufacturing cost

通过提升生产、管理和工作效率，使基础设施数量减少，人工数量减少，从而降低生产成本。  
By improving production, management and efficiency, the number of infrastructure and labor are reduced, so reduce the production costs.

获得长期收益  
Long-term benefits

生产数据留存，可实现基于大数据的深入分析，持续改善运营，同时系统可扩展、复制应用。  
The retention of production data can realize in-depth analysis based on big data and continuously improve production and operation, and the system can be expanded and replicated.