



精心科技
KINGSUN TECHNOLOGY

东莞市精心自动化设备科技有限公司
Kingsun Automation Technology(Dongguan)Co.,Ltd

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专业自动输送螺钉和拧紧螺钉系统
Automatic Screw feeder and Screwdriving system

COMPANY INTRODUCTION

Kingsun Automation Technology (Dongguan) Co.,Ltd. is a collection of research, development, production and sales in the advanced Automation of Screw driving machinery. Our main products are Automatic Screw feeder, Screwdriver, XY robotic screwdriving machinery and customized for different Screwdriving machinery. It widely used in the field of Information technology and Telecommunication, Electricity, Home Appliance, Automobile, Toys, Computer accessories etc. We insist revolution, quality and professional service to build up our reputation.

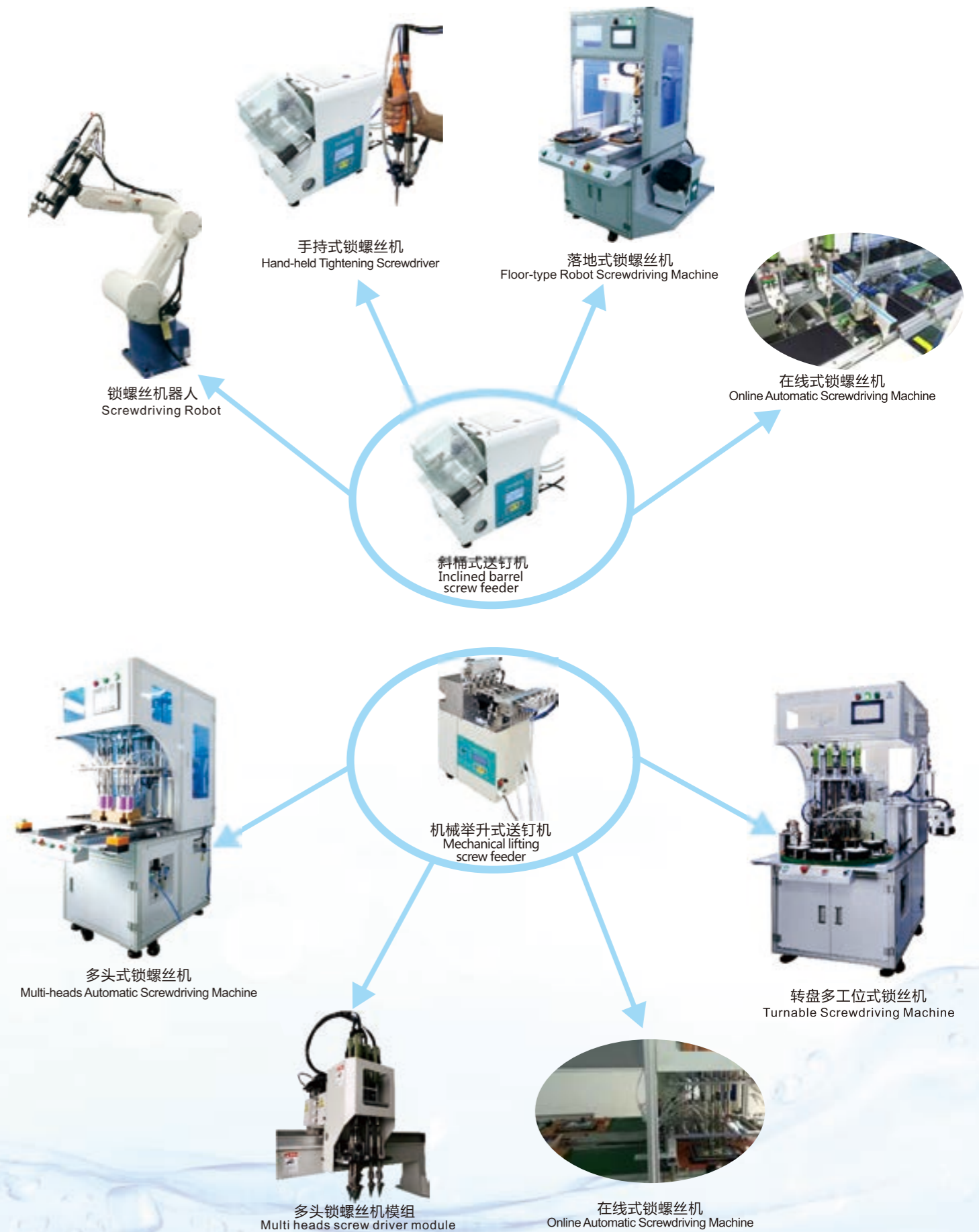


OUR MISSION /PHILOSOPHY

Replace working force by machine Concentration and Profession, leading in automatic Screwdriving industry
Business philosophy: Quality is life, survival by price , good service reputation Diligence and attention, best brand choice in manufacturing industry.



送钉机用在不同种类的设备配套 Screw Feeder connected in different kinds of equipments



斜桶式自动送钉机 Inclined barrel Screw Feeder

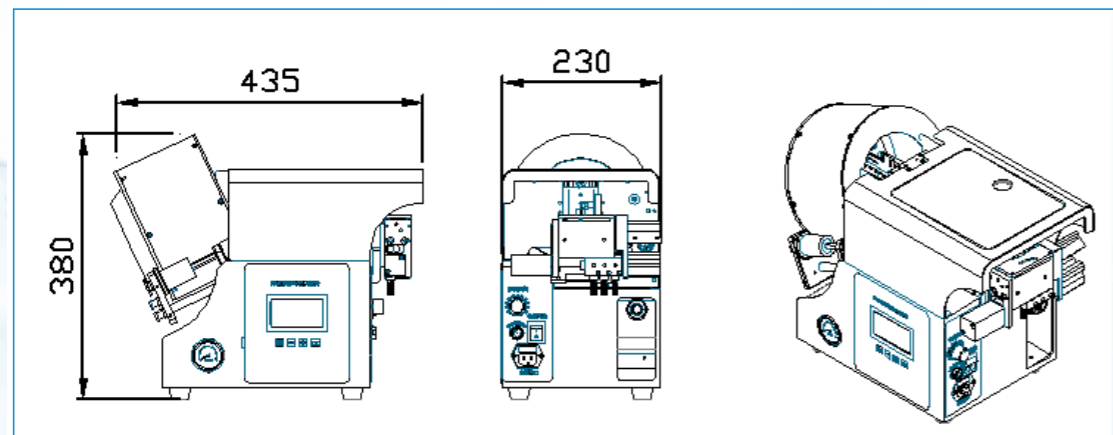
型号 Model:K101-K104

(最多配备4条管道，可同时输送4pcs螺钉)
(Equipped with a maximum of 4 pipes for simultaneous delivery of 4 pcs screws)



功能特点 Feature:

1. 独立控制系统，配有屏幕和通讯电缆，得到命令即刻送出螺钉并给回反馈信号。
 2. 机械斜桶式结构，斜桶可快速取出，旋转时和主体之间没有摩擦，即便是螺钉内有碎料也不会卡死斜桶。噪音小，寿命长，坚固耐用。
 3. 最多可配备4条管道，可以在屏幕上设定后屏蔽其中的管道，更换产品容易。
 4. 内有多组传感器检测螺钉，送钉快速准确，安装操控方便。
 5. 工业级设计，开放式结构，即使因螺钉来料不良造成的卡料也能在数秒内排除。
1. Independent control system, with screen and communication cable, received the command and immediately sent out the screw and given the feedback signal.
 2. Mechanical inclined barrel structure, the barrel can be removed quickly, and there is no friction between the barrel and the body when rotating, even if there is debris in the screw, it will not be stuck in the inclined barrel. It has the advantages of low noise, long life, and strong durability.
 3. Can be equipped with up to 4 pipes, can be set on the screen after shielding the pipeline, easy to change products.
 4. There are many groups of sensors to detect screws, fast and accurate, easy to install and control.
 5. Industrial design, open architecture, even if caused by screw incoming bad card material can also be ruled out in a few seconds.



技术参数 Technical parameter



| | | |
|------------------------------------|---------------------------------------|---|
| 斜桶内装螺钉的容积 Screw loader volume : | | 1.0升，可装入M3X8标准螺丝4000pcs 1.0 L, M3X8 standard screw 4000pcs |
| 适应的螺钉 Applicable screw : | | 牙部直径：M1.0 ~ M6.0mm(任选一种) Dental diameter: M1.0 ~ M6.0mm (optional) |
| | | 螺钉总长尺寸>1.3螺丝帽直径 Screw total length dimensions > 1.3 screw cap diameter |
| | | 螺丝长度：25mm以内，最短要符合上一条 Screw length within 25 mm, the shortest must be in line with the previous one |
| | | 螺丝材料：金属或硬质非金属材料 Screw material: metallic or hard nonmetallic materials |
| 效率 Efficiency: | K101 (配备1条管道) K101(with 1 pipe) | 60pcs/每分钟 60pcs / min |
| | K102 (配备2条管道) K102(with 2 pipes) | 30pcs/每分钟/每条管道 (屏幕设定后可变成K101) 30pcs per minute / per pipe (screen set to K101) |
| | K103 (配备3条管道) K103(with 3 pipes) | 20pcs/每分钟/每条管道 (屏幕设定后可变成K101或K102) 20pcs per minute / per pipe (screen set to K102 or K101) |
| | K104 (配备4条管道) K104(with 4 pipes) | 20pcs/每分钟/每条管道 (屏幕设定后可变成K102或K103) 20pcs per minute / per pipe (screen set to K102 or K103) |
| 螺钉输送方式 Screw delivery mode: | | 用透明管道输送螺丝，最远可送出距离10米 Screw delivery with transparent pipe up to 10 meters away |
| 电源 Power supply: | | 外接AC220V 50HZ 内部控制电源DC24V External AC220V 50HZ Internal Control Power supply DC24V |
| 气源 Gas source: | | 压缩空气，气压0.5MPa Compressed air, pressure 0.5MPa |
| 外形尺寸 Shape dimension: | | 430 (L) X230 (W) X400 (H) mm |
| 重量 Weight: | K101~K104 | 20kg~28kg |
| 显示屏功能 Display function: | | 可调用不同的机器型号和程序； Different machine models and programs can be adjusted ; |
| | | 调节吹送螺丝时间，机器休眠的时间； Adjust the time of blowing screw, the time of machine dormancy ; |
| | | 带计数功能显示产量，可清零可设定； Display output with counting function. Zero-clear and configurable ; |
| | | 缺料，漏料和卡料的报警显示； Alarm display of missing, leaking and jammed materials; |
| 螺丝送料检测 Screw feeding test: | | 最多4pcs传感器检测螺丝 Up to 4 pcs sensor detection screws |
| I/O信号 I/O signal : | | DC 24V可与主机通讯 DC 24V communicates with host 输入输出信号可采集 I/O signal can be collected |
| 噪音 Noise: | | 平均65dB最大瞬间 85dB Average 65dB maximum instantaneous 85dB |
| 螺钉分配器 Screw distributor: | | 模具钢精细加工淬火研磨 Quenching and grinding of die steel |
| 螺丝斜桶材料 Screw drum material: | | 内覆软塑性材料，减少螺钉的碰撞 Soft plastic material covered to reduce the impact of screws |

机械举升式送钉机
Mechanical lifting screw feeder

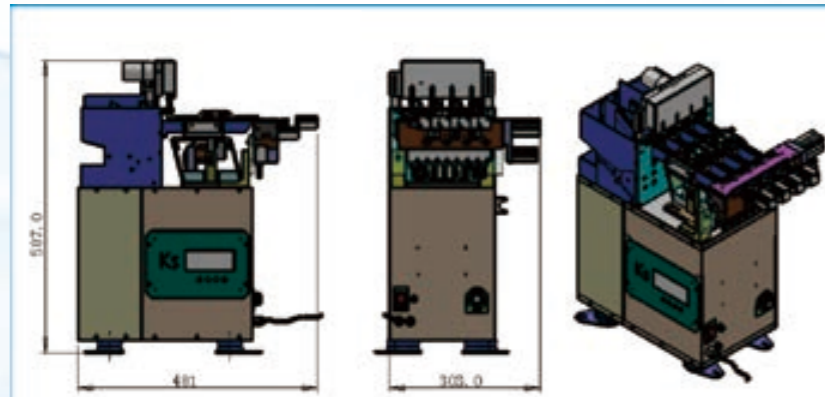
型号 Model:K404-K412

(最多配备4条管道,可同时输送4pcs螺钉)
(up to 4 pipes, capable of delivering 4pcs screws at the same time)



► 功能特点 Feature:

1. 独立控制系统, 配有屏幕和通讯电缆, 得到命令即刻送出螺钉并给回反馈信号。
1. Independent control system, with screen and communication cable, received the command to immediately sent out the screw and given back the feedback signal.
2. 机械举升式结构, 料斗可隔开同时输送两种以上的螺钉, 噪音小, 寿命长, 坚固耐用。
2. Mechanical lifting structure, hopper can separate more than two kinds of screws at the same time, small noise, long life, durable.
3. 最多可配备12条管道, 可以在屏幕上设定后屏蔽其中的管道, 更换产品容易。
3. Can be equipped with up to 12 pipes, can be set on the screen after shielding the pipeline, easy to change products.
4. 内有多组传感器检测螺钉, 送钉快速准确, 安装操控方便。
4. There are many groups of sensors to detect screws, fast and accurate, easy to install and control.
5. 工业级设计, 开放式结构, 即使因螺钉来料不良造成的卡料也能在数秒内排除。
5. Industrial design, open architecture, even if caused by screw incoming bad card material can also be ruled out in a few seconds.



技术参数
Technical parameter



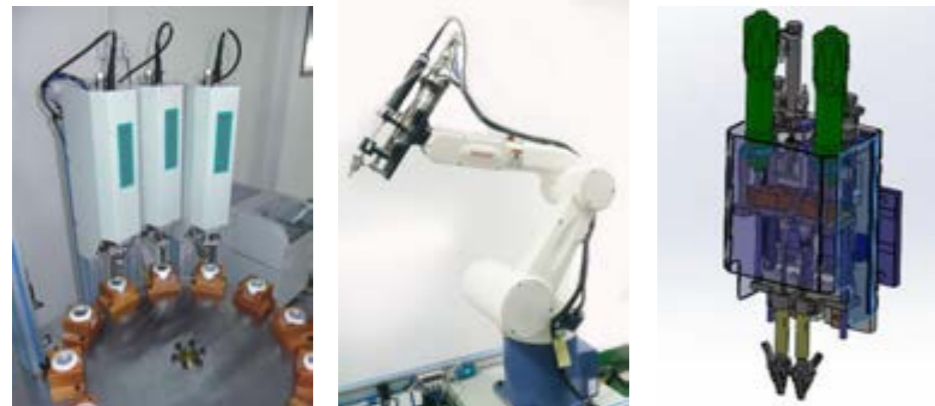
| | | |
|---|---|---|
| 螺丝盘容积 K403~K412 Screw loader volume: K403/K412 | | M2X8 标准螺丝 M2X8 standard screw |
| 适用螺丝 Applicable screws: | | 螺钉总长尺寸 >1.3螺丝头直径 Screws total length dimensions >1.3 head diameters |
| | | 牙部直径: M2~M6mm(任选一种) Dental diameter: M2~M6mm (optional) |
| | | 螺丝长度: 25mm 以内, 最短要符合上图 Screw length within 25mm, the shortest should be in accordance with the above image |
| | | 螺丝材料: 金属或硬质非金属材料 Screw material: metal or hard nonmetallic material |
| 效率 Efficiency: | K404 (配备 4条管道) K404 (with 4 pipes) | 28pcs/每分钟/每条管道(设定后可变成K402~K403) 28pcs/per minute/per pipe (set to K402~K403) |
| | K408 (配备 8条管道) K408 (with 8 pipes) | 18pcs/每分钟/每条管道(设定后可变成K403~K407) 18pcs/per minute/per pipe (set to K403~K407) |
| | K412 (配备 12条管道) K412 (with 12 pipes) | 13pcs/每分钟/每条管道(设定后可变成K405~K411) 13pcs/per minute/per pipe (set to K405~K411) |
| 螺钉输送方式 Screw delivery mode: | | 用透明软塑胶管吹送螺丝, 最远可送出距离10米 Blow screw with transparent soft plastic pipe, up to 10 meters away |
| 电源 Power supply: | | 外接AC220V50HZ内部控制电源 DC24V External AC220V50HZ Internal Control Power supply DC24V |
| 气源 Gas source: | | 压缩空气, 气压 0.5MPa Compressed air, pneumatic 0.5MPa |
| K403~K412 体积 volume: | | 500 (L) X300 (W) X600 (H) mm |
| 重量 Weight: | K403 ~ K408 | 40kg |
| | K409 ~ K412 | 45kg |
| 液晶显示屏功能 LCD function: | | 可调用不同的机器型号和程序 Different machine models and programs can be called |
| | | 调节吹送螺丝时间, 机器休眠的时间 Adjust the time of blowing screw, the time of machine dormancy |
| | | 带计数功能显示产量, 可清零可设定 Display output with counting function. Zero-clear and configurable |
| | | 缺料, 漏料和料的报警显示; Lack of material, leakage and material alarm display; |
| 螺丝送料检测 Screw feeding test: | | 最多12pcs传感器检测螺丝 Maximum 12 pcs sensor detection screw |
| I/O信号 I/O signal: | | DC 24V可与主机通讯 DC24V communicates with host |
| | | 输入输出信号可采集 I/O signal can be collected |
| 噪音 Noise: | | 平均65dB最大瞬间 85dB Average 65dB maximum instantaneous 85dB |
| 螺钉分配器 Screw distributor: | | 模具钢精细加工淬火研磨 Quenching and grinding of die steel |
| 螺丝举升板 Screw lifting plate: | | 模具钢精细加工淬火研磨 Quenching and grinding of die steel |
| 螺丝料盆 Screw loader: | | 铝合金和不锈钢材料 Aluminum and stainless steel materials |

自动锁螺钉单元 Automatic Screw driving unit

型号 Model:K301

功能特点 Feature:

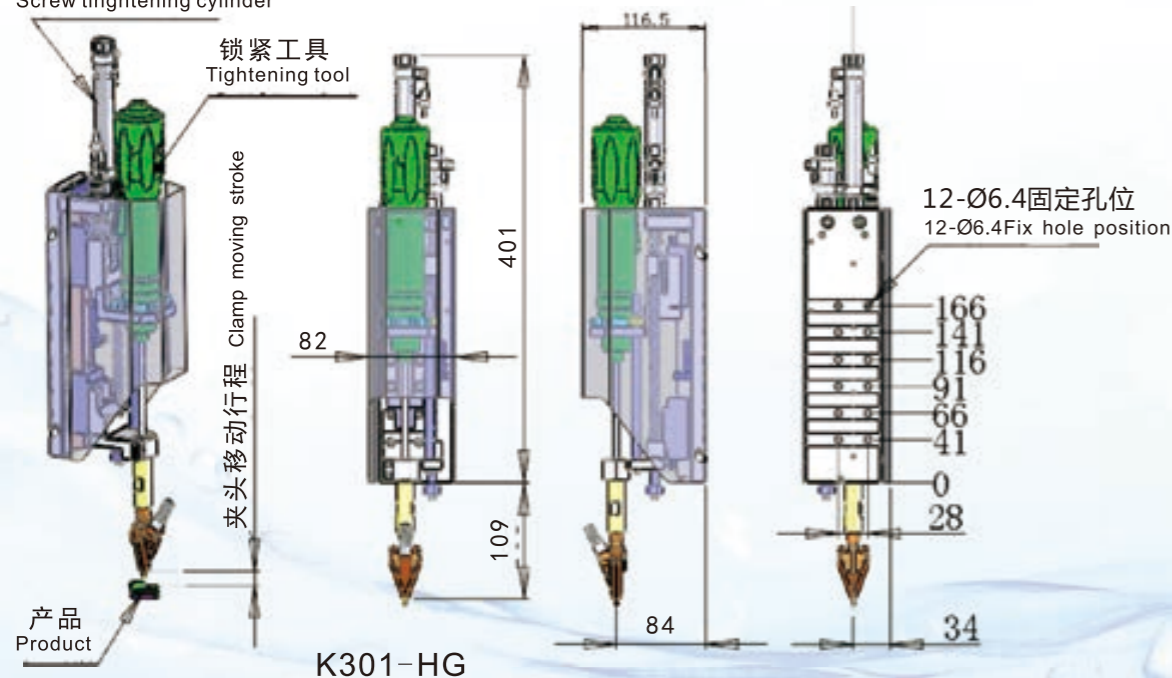
- 1.速度最快可达到0.8秒/pcs，大部分的场合不需要另外增加Z轴
 - 2.可安装在自动机器或机器手臂上，实现全自动或半自动作业。
 - 3.扭距控制精确，包括检测滑牙、滑头和漏锁等传感器。
 - 4.可以水平锁付，从下往上锁付，可以任意角度安装。
 - 5.重量2.8kg
1. The speed can be as high as 0.8 seconds / pcs, and in most cases no additional Z-axis is required.
 2. Can be installed on automatic machine or machine arm to achieve automatic or semi-automatic operation.
 3. Accurate control of torsion distance, including detection of sliding head, tooth slider, and leak tightening.
 4. Can be fastening horizontally, from the bottom to the upper can be installed at any angle.
 5. Weight: 2.8kg



锁螺丝气缸
Screw tightening cylinder

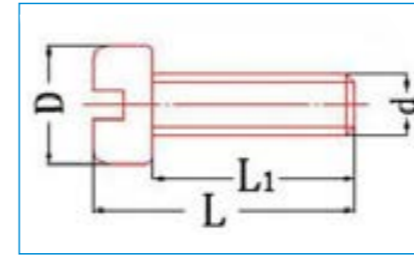
锁紧工具
Tightening tool

夹头移动行程
Clamp moving stroke

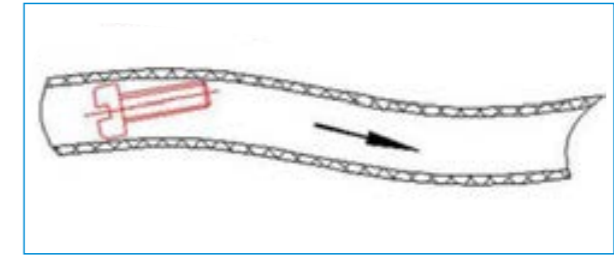


K301-HG

自动锁螺丝机技术标准 Inclined barrel Screw Feeder-Technical standard

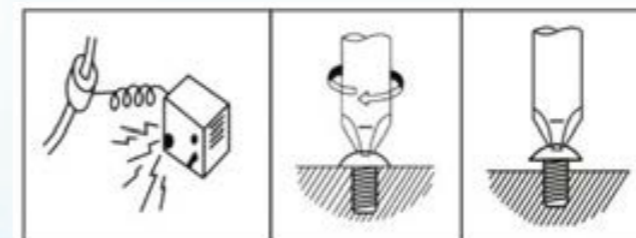
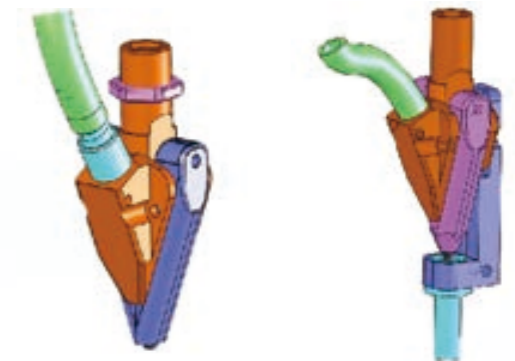
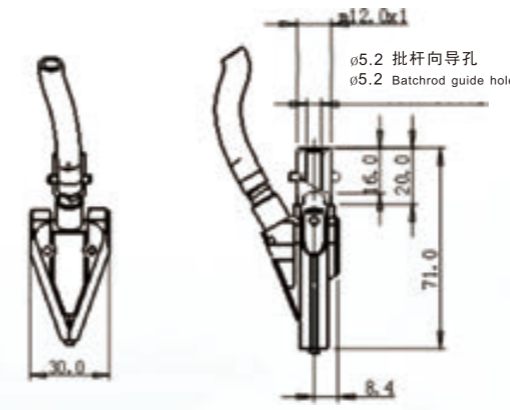
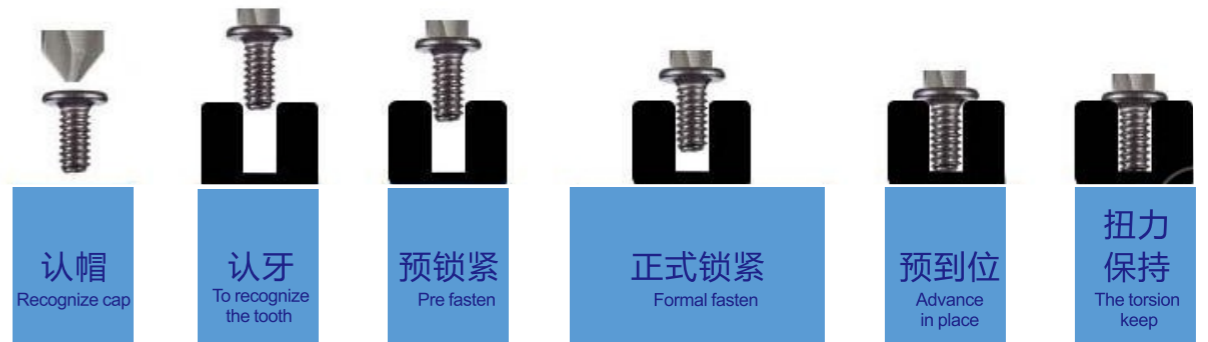


螺丝尺寸
Screw size



满足管道自动吹送螺钉的基本条件: $L > 1.3D$ 否则螺钉会在管道内翻转，不能正确地送料

The basic condition for automatic feeding of the screws: $L > 1.3D$ otherwise the screws will turn upside down through the pipeline and cannot be delivered successfully



1. 螺钉出料检测
Screw discharge detection
2. 螺钉滑牙检测
Screw slider detection
3. 螺钉浮锁检测
Screw floating detection

自动锁螺丝机附加检测功能

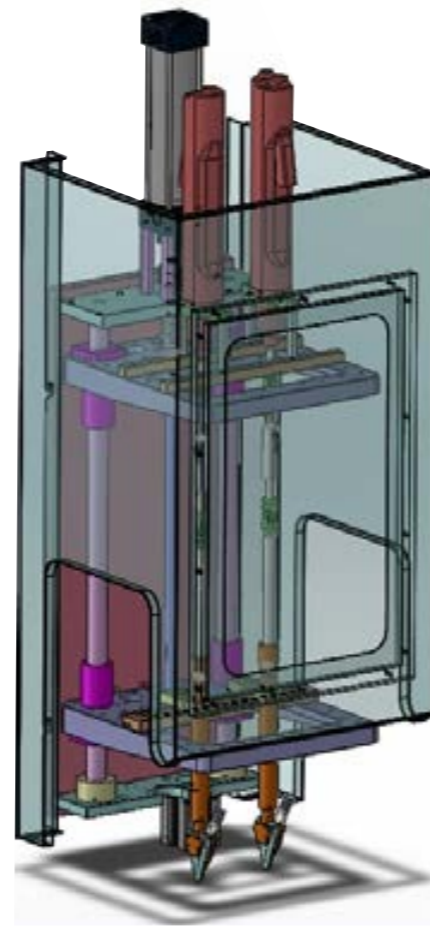
Additional automatic testing function to screw fastening machine

自动锁螺丝机不但能成倍地提高生产效率，而且可以检测出浮锁，滑牙，漏锁等不良品并区分，保证锁紧质量。

Automatic screw fastening machine not only can exponentially increase the production efficiency, and can detect the floating fastening, slide tooth, such as non-conforming leakage and distinguish, ensure the quality of fastening.

多头自动锁螺丝机模组(最多可安装16把螺丝刀)
Multi head auto screw driver module(up to 16 screwdriver)

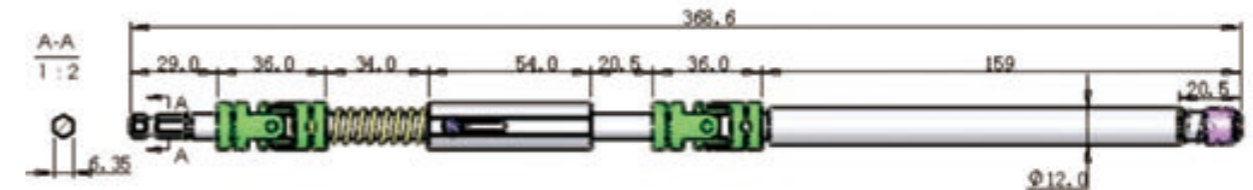
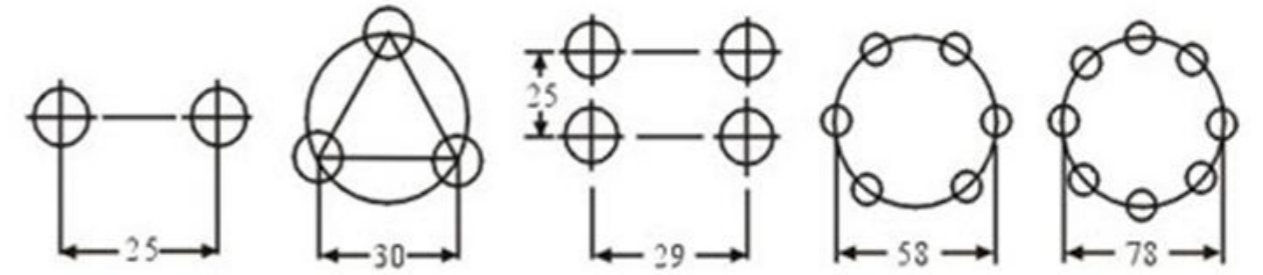
型号Model:K302-K312



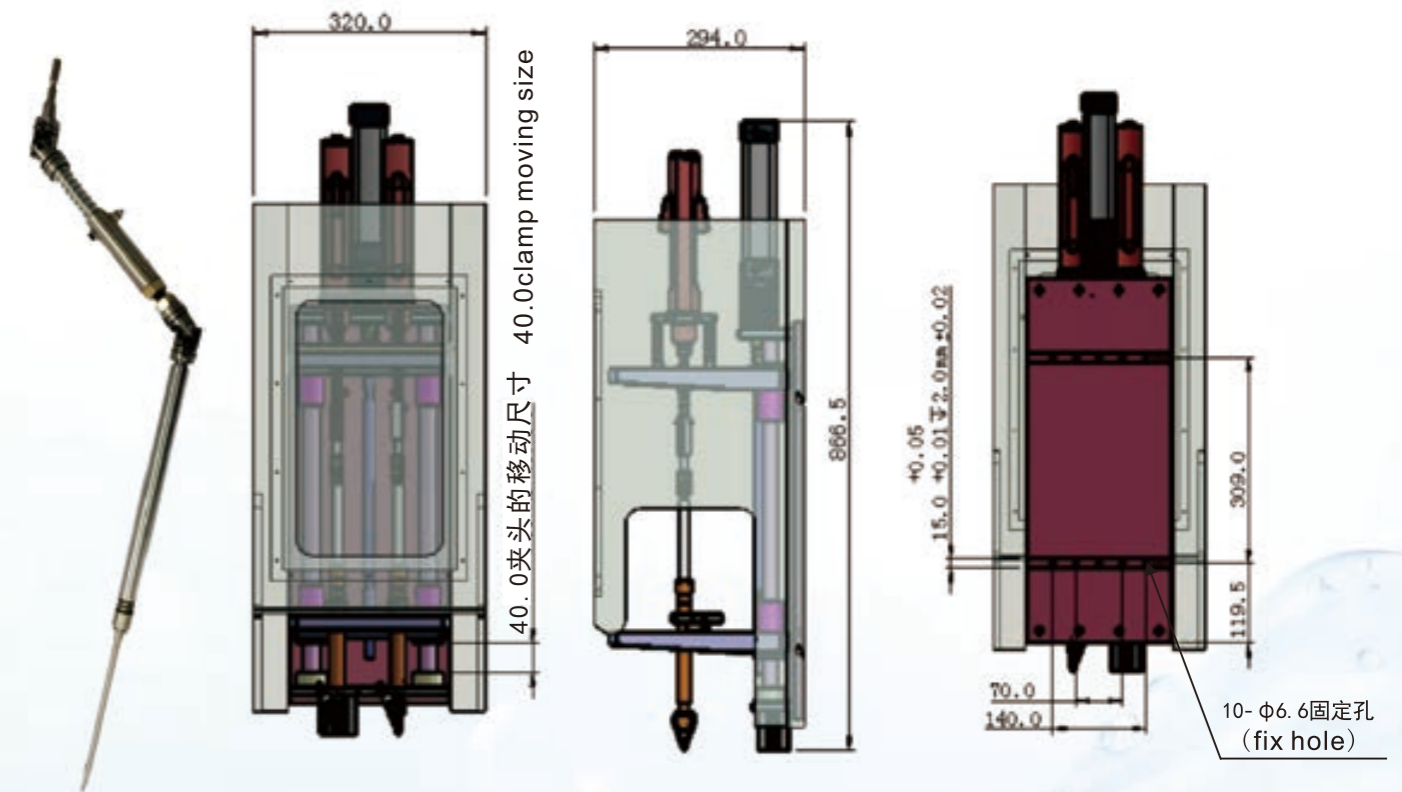
► 功能特点 Feature:

1. 1.5-3.0秒/PCS产品 (螺钉长短影响锁紧的效率)
 2. 扭矩2~16kgf.cm, 可根据要求选用对应的电批。
 3. 安装在自动机台或机械手臂上, 气缸下压的同时多把螺丝刀同时旋转锁紧螺钉, 效率加倍, 实现高效自动或半自动作业。
 4. 通过万向传动轴传递扭力, 螺丝孔位调整方便, 更换产品品种容易。
 5. 包括锁紧螺丝到达的扭力信号, 螺丝刀启动的信号等, 还可配预压产品装置
 6. 重量: 20~35kg
1. 1.5-3.0 seconds /pcs product (the screw length affects the fastening efficiency)
 2. Torque 2~16kgf.cm, the corresponding electrical batch can be selected according to the requirements.
 3. It is installed on the automatic machine or robotic arm. Under the pressure of the cylinder, more screws can be rotated and fastening at the same time, so that the efficiency can be double to achieve efficient automatic or semi-automatic operation.
 4. Pass the torque through the universal transmission shaft, the screw hole position is easy to adjust, and the product variety is easy to replace.
 5. Includes the torque signal that the fastening screw arrives, the signal that the screwdriver starts, and the pre pressure product device.
 6. Weight: 20~35kg

多轴螺丝间最小孔距
Minimum screw hole distance of multi-axis automatic Screwdriving



传动轴
Transmission Shaft



| | | |
|-------------------------------------|---|---|
| 机器构造 Machine construction: | 机器尺寸 : Machine size: | 见尺寸图 See size diagram |
| | 机器毛重 : Gross machine weight: | 约30~50KG About 30kg~50kg |
| | 电源 : Power: | AC 220V 50HZ |
| | 功率 : Power: | 0.16 KW (按照锁4颗螺丝计算) 0.16 KW (based on fastening 4 screws) |
| | 气源 : Gas source: | >5kgf.cm ² |
| | 用气量: Air consumption: | 15m ³ /小时 (按照K504计算) 15m ³ /h (calculated by K504) |
| 送钉机 Screw feeder: | K102~K104 | 选择斜着桶式送钉机 choose inclined barrel Type Screw feeder |
| | K404~K412 | 选择多料道的自动送钉机 Selection of Multi-channel automatic Screw feeder |
| 上下调整范围 Up-down adjustment range: | 调整范围: Adjustment range: | 200mm |
| 螺丝批 Screw batch: | 直流定扭电批: DC fixed torsion batches: | 多把, 扭矩2~12KGF.CM特殊需另选电批 Multiple torques 2kGF.CM special need to select additional batches |
| 螺丝卡爪 Screw claw: | 螺丝卡爪: Screw claw: | 多套, 根据要求配备 Multiple sets, equipped as required |
| 连接 Connection: | 万向结&联轴器组件: Universal junction coupling assembly: | 多套, 根据要求配备 Multiple sets, equipped as required |
| 调整参数 Adjustment parameter: | 标准版 : Standard edition: | 250 X 180 X 150mm (产品上螺丝的范围) 250 X 180 X 150mm(range of screws on product) |
| | 缩小版 : Reduced version: | 180 X 120 X 100mm |
| | 水平调整范围 : Range of horizontal adjustments: | 微调±25mm, 可更换位置调整到±100mm Fine-tuned ±25mm, replaceable position adjusted to±100mm |
| | 垂直调整范围: Vertical adjustment range: | ±20mm, 可更换配件达到±50mm ±20mm, replaceable parts up to + 50mm |
| | 螺丝锁紧的深度: Screw tightening depth | 20mm,如果更深需要定做; 20mm, if deeper needs to be customized; |
| | 最小螺丝孔距: Minimum screw spacing: | 20mm, 最大孔距无限制 20mm,maximum spacing unlimited |
| 检测项目 Test items: | 电批扭矩检测: Test items: | 有 Yes |
| | 滑牙, 滑头检测: Sliding head detection: | 有 Yes |
| | 螺丝漏锁检测: Screw fastening leak detection: | 有 Yes |
| | 螺丝漏送检测: Screw delivery leak detection: | 有 Yes |
| | 锁紧不良品的处理: Treatment of unfavorable fastening products: | 报警灯和蜂鸣器提示, 触摸屏显示不良螺丝位置 Alarm lamp and buzzer prompt, touch screen display bad screw position |

手持式自动锁螺丝机
Hand-held automatic screwdriving machine

型号Model:K251



手持式K251
Handheld k251



手持式K201
Handheld k201



手持式锁螺钉机是由手持锁紧单元和自动送螺钉机组成, 手持锁紧单元对准螺丝孔下压锁完一颗螺钉后, 自动送钉机会快速送来下一颗螺钉入螺丝卡爪内, 节省了手抓螺丝的时间。

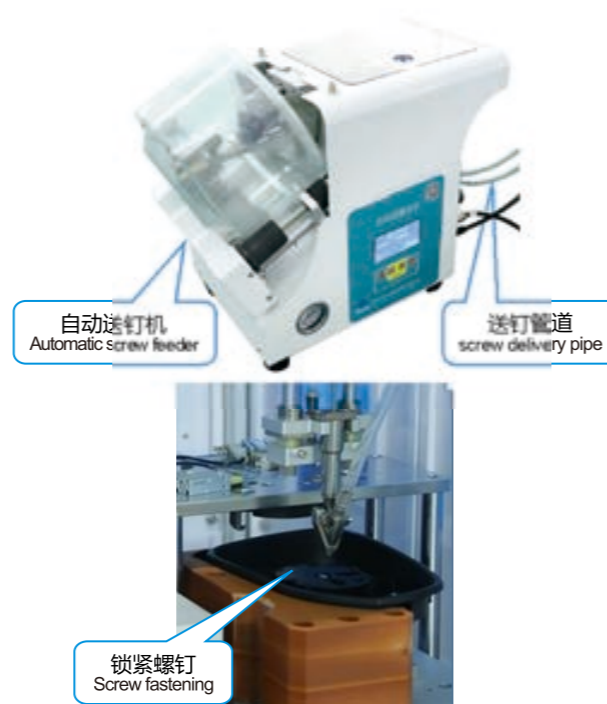
The hand-held screwdriving machine is composed of a hand-held fastening unit and an automatic screw feeder. After the hand-held fastening unit has pressed a screw under the screw hole and finished fastening a screw, the automatic screw feeding opportunity quickly sends the next screw into the screw claw. It saves the time of holding the screw by hand.

手持式K251螺钉外漏, 通用性好, 要求螺钉材质为铁(带磁性) 螺丝帽为十字槽

Hand-held k251 screw leakage, good versatility, the screw material required iron(with magnetic) screw cap for cross groove

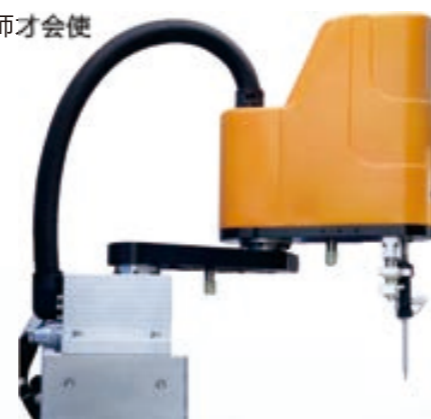
一体式Scara锁螺丝机器人(管道吹送式)
Integrated One type Scara screwdriving robot(pipeline waft type)

型号Model:KSR500-CS
KSR600-CS



► 功能特点 Feature:

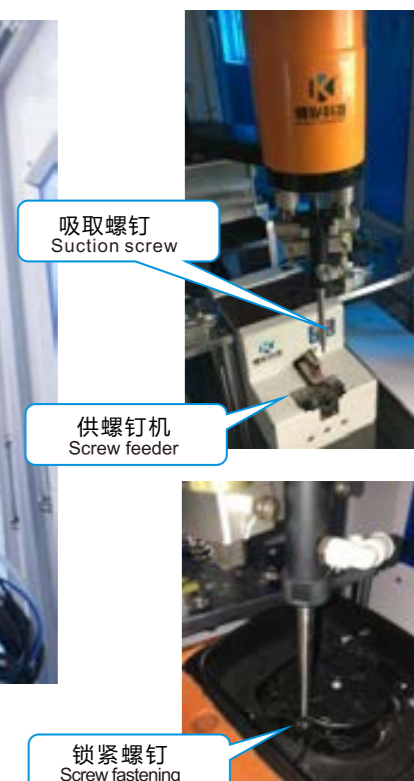
1. 通用PLC+触摸屏控制, 普通技工1小时学会操作, (传统机器人需要专业工程师才会使用)
2. 固定在流水线上或机台上, 布置非常灵活 (直角坐标的机械人通常要非标设计和定制)
3. 自动供钉, 自动拧紧, 最快速度1.0秒/颗
4. 可选择吸取螺钉方式和管道吹送螺钉方式 (更换外围的部件即可)
5. 伺服马达拧螺丝, 扭矩可显示 (避免了螺丝刀易损坏的问题)
6. 智能拧螺丝, 扭矩可不停机切换
7. 机器人臂长500mm, 600mm
8. 重复运动精度: +/-0.02mm
9. 运动速度: 800mm/sec
10. 核心部件选用日本进口主流品牌产品



1. Universal PLC touch screen control, 1-hour learning for normal worker to operate conventional robots requires a professional engineer to use them
2. Fixed on pipeline or machine, very flexible arrangement (robots with Cartesian coordinates usually need non-standard design and customization)
3. Automatic screw feeding, automatic tightening, fastest speed 1.0 seconds / grain
4. Can choose between suction screw and pipe blowing screw (replace peripheral parts)
5. Servo motor screw, torque can be displayed (to avoid the screwdriver damage problem)
6. Intelligent screw fastening, torque can not stop switching
7. Arm length of robot 500mm,600mm
8. Repeat motion accuracy: +/-0.02mm
9. Speed of movement: 800mm / sec
10. Selection of Japanese imported mainstream brand products for core components

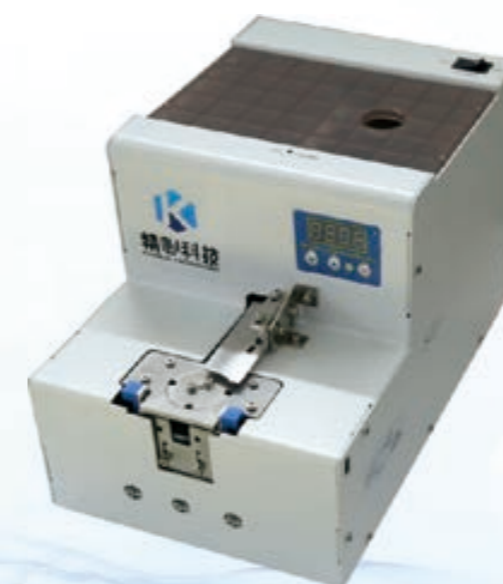
一体式Scara锁螺丝机器人(吸取式)
Integrated One type Scara screwdriving robot(Suction type)

型号Model:KSR500-XQ
KSR600-XQ



供螺钉机
Screw feeder

型号Model:KAT-13R
KAT-17R



- 适用螺丝: M1.0~M5.0(任选一种)
- 螺丝长度: 小于等于16mm
- 输出速度: 40~60pcs/min
- 输入电压: AC220V
- 产品尺寸: 265*165*170mm(KAT-17R)/210*125*140mm(KAT-13R)
- 重量: 约4.8kg(KAT-17R)/约3.2kg(KAT-13R)
- 螺丝机拾取点抖动小, 噪音低
- 能把螺丝从导轨出口一个个利用转盘, 转移到取螺丝口, 配合机械手或者自动机使用
- Applicable screws: M1.0, M5.0 (optional)
- Screw length: less than 16mm
- Output speed: 40 / 60 pcs / min
- Input voltage: AC220V
- Product size: 265*165*170mm(KAT-17R)/210*125*140mm(KAT-13R)
- Weight: about 4.8kg(KAT-17R)/3.2kg(KAT-13R)
- The screw machine picks up the point to shake little, the noise is low
- The screw can be used from the guideway outlet one by one, transfer to the screw mouth, with the manipulator or automata to use