

Truking Rhythmic R5 Smart Stick Packing Line

楚天科技律动 R5 智能条包生产线

让世界制药工业插上智慧的翅膀

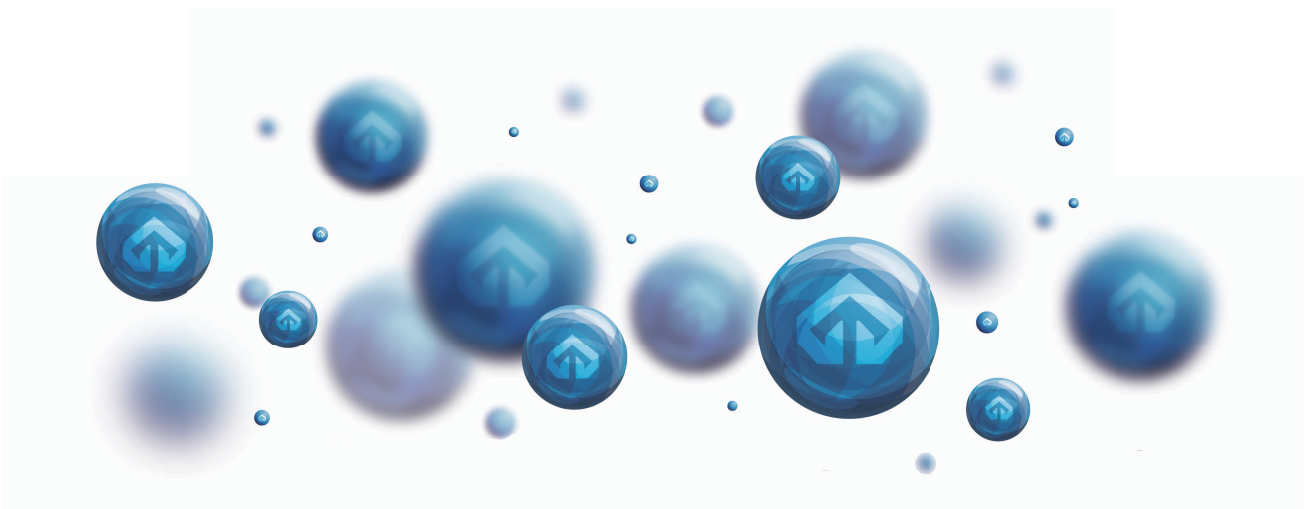
Equip global pharmaceutical manufacturing industry with intelligent wings.





律动 R5 智能条包生产线 - 01 -
Truking Rhythmic R5 Smart Stick Packing Line

SP-L12, 12 列液体条包机 - 02 -
SP-L12, 12-column Stick Packing Machine for Liquids





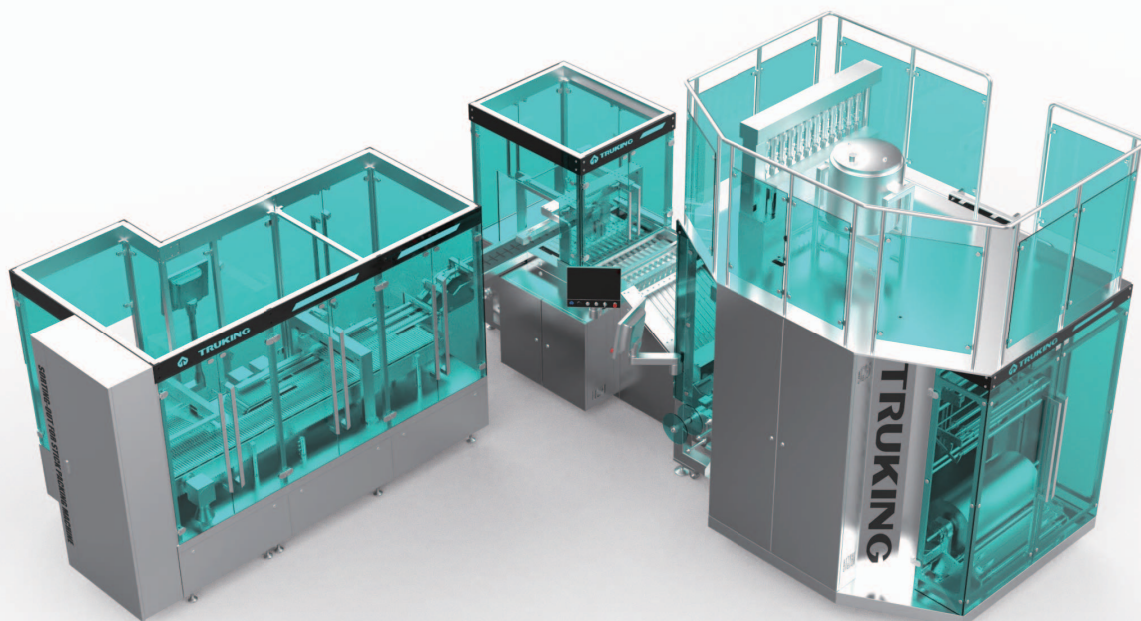
楚天科技股份有限公司成立于 2000 年，现已成为世界医药装备行业的主要企业之一。主营业务系医药装备及其整体技术解决方案，并率先推动智慧医药工厂的研究与开发。公司系中国 A 股上市公司。旗下拥有德国 ROMACO 集团、楚天华通、四川医药设计院、楚天飞云、楚天源创、楚天华兴、楚天智能机器人等多家全资或控股子公司，全球员工总数 6500 人，总资产 80 余亿元。

公司已有长沙和德国两大运营总部，建有长沙中央技术研究院、欧洲技术研究院和四川医药设计研究院三大研发机构。设有国家级企业技术中心，国家级创新基地，博士后科研工作站，院士专家工作站等多个技术与创新平台。截止 2022 年 1 月 31 日，共提出 4005 项中国专利申请，有效专利 2427 项。另提出 40 件 PCT 国际专利申请，在美国、俄罗斯、印度、韩国、德国、印尼、欧洲等多国获得 20 项专利授权。牵头制订了本系统国家行业产品技术标准 17 项。楚天本部产品已出口到亚洲、欧洲、南美洲等 40 多个国家和地区，国际市场占有率正逐年快速提升。

Founded in 2000, Truking Technology Limited has become one of the major pharmaceutical equipment suppliers in the world. The company specializes in pharmaceutical equipment and the corresponding integrated solutions, and takes the initiative to push forward the R&D of smart pharmaceutical factory. It is a listed A-share company with multiple wholly-owned or controlling subsidiaries, namely Germany based Romaco Group, Truking Watertown, Sichuan Pharmaceutical Design Institute, Truking Feiyun, Truking Ingenuity Biotechnology, Truking Wachine, Truking Intelligent Robot, etc. The company has over 6500 employees around the global, a total asset of RMB 6.9 billion and annual output value of RMB 8 billion.

TRUKING has two operation headquarters respectively in Changsha, China and Germany; 3 big research institutes, namely Changsha Central Technology Research Institute, Europe Technology Research Institute, and Sichuan Pharmaceutical Design Institute. Truking has established National Enterprise Technology Center, National Innovation Center, Post-Doctoral Research Center, Academician Expert Workstation and many more technology and innovation platforms. To better respond to the needs of global customers, Truking has been setting up sales and service centers in many countries including India, Italy, Greece, Russia, Uzbekistan, Turkey, Egypt, Bangladesh, Korea, Vietnam, Thailand, etc. By Jan. 31, 2022, Truking has submitted 4005 patent applications, and been granted with 2427 patents. Beyond China, Truking has applied for 40 PCT international patents, and been granted with 20 patents in USA, Russia, India, Korea, Germany, Indonesia, and many more European countries. Truking also took the lead in formulating 17 national industrial product technical standards. Our products have been exported to more than 40 countries and regions to Asia, Europe, and South America. The international market share is increasing rapidly each year.

律动 R5 智能条包生产线 TruKing Rhythmic R5 Smart Stick Packing Line

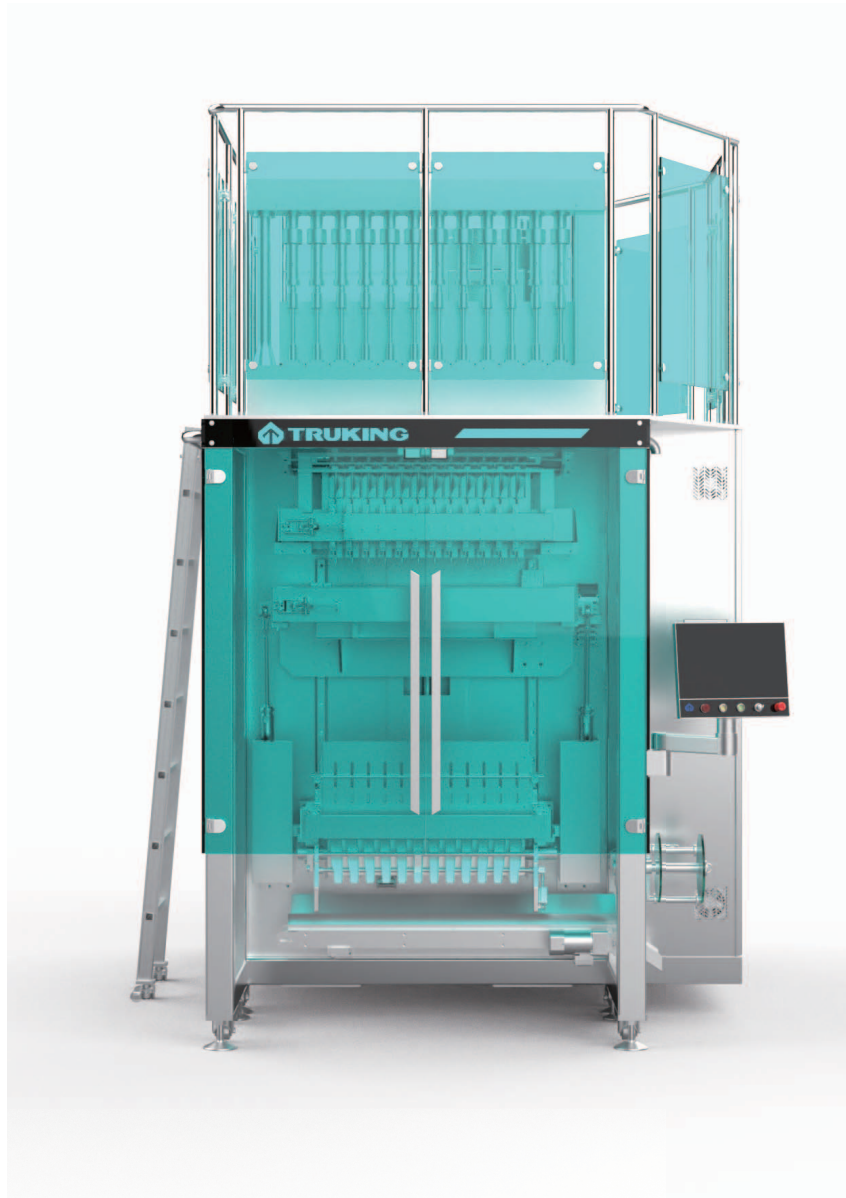


应用范围 / Scope of Application

本生产线适用于各种口服液、漱口水、膏滋等流体类物质的定量条袋包装。后续接条包称重、整列、二次计数等设备，可与装盒机及后包配线使用，按需求完成条袋装盒、装箱、码垛等应用。可广泛应用于制药、保健、食品、日化等各行业。

This production line is applicable to quantitative stick packing of various fluid substances, such as oral liquid, mouthwash and oral thick paste. It can be connected with the stick package weighing, sorting and secondary counting devices. Application of cartoner and downstream packing line is allowed to facilitate box/container packing, palletizing of stick package on demand. It is widely used in the pharmaceutical, healthcare, food, daily chemical and other sectors.

SP-L12, 12 列液体条包装机 SP-L12, 12-column Stick Packing Machine for Liquids



应用范围 / Scope of Application

本设备适用于各种口服液、漱口水、膏滋等物质的定量条袋包装。可广泛应用于制药、保健、食品、日化等各行业。

This production line is applicable to quantitative stick packaging of various fluid substances such as oral liquid, mouthwash and oral thick paste. It is widely used in the pharmaceutical, healthcare, food, daily chemical areas and other sectors.



优势特点 / Advantages & Features

◎ 高精度灌装

得益于楚天近 20 年无菌液体灌装经验，独有的泵体倒灌及回吸防滴漏控制，楚天精良的机加水平，保障充填精度可高达 $\pm 1\%$ （灌装量 2ml 以上）

灌装精度

$\leq \pm 1\%$ （陶瓷泵：2ml 以上灌装装量）
 $\leq \pm 1.5\%$ （陶瓷泵：1ml 以上, 2ml 以下灌装装量）
 $\leq \pm 2.5\%$ （陶瓷泵：0.5ml 以上, 1ml 以下灌装装量）

◎ 易撕口一刀切成，用户体验好，材料成本低

横封易撕口、纵封易撕口一个模具同时裁切，确保双易撕口在同一条直线上，增强用户使用体验，真正做到易撕。

◎ 全伺服

开卷、膜纠偏、灌装、纵封、定点避让、横封拉膜、圆角切，均采用伺服控制。

◎ 直线导轨

滑动导向全部采用直线导轨，相比直线轴承，传动精度更高、负荷更大、稳定性更强、更耐用。

◎ 易清洁

纵封、横封机构均可打开，便于彻底清洁

◎ 易实现袋宽变更及横封花纹变更

模块化设计理念，更换横纹样式和改变袋宽，可整体更换相应模具，整体安装。省时，更换安装一步到位。

◎ 有效防止横封夹液

楚天液体灌装回吸控制，有效防充填后滴液、漏液
 伺服灌装分段曲线控制灌装速度，防止液体飞溅

+ High-precision filling

The line assures a high filling precision up to $\pm 1\%$ (filling quantity above 2ml), benefiting from Truking's sterile liquid filling experience for nearly 20 years, unique pump back filling and anti-leakage control and good machining level.

Filling precision

$\leq \pm 1\%$ (ceramic pump: filling quantity of over 2ml)
 $\leq \pm 1.5\%$ (ceramic pump: filling quantity of 1-2ml)
 $\leq \pm 2.5\%$ (ceramic pump: filling quantity of 0.5-1ml)

+ Easy to open at one attempt, good user experience, low material cost

Horizontal and longitudinal easy openings are formed in one mold to ensure that double easy openings stay at one straight line, thus improving user experience and ensuring they are easy to open.

+ Full servo

Servo control applies to uncoiling, membrane misalignment correction, filling, longitudinal sealing, avoidance at specified locations, horizontal sealing membrane-drawing and fillet cutting.

+ Straight guide rail

The slide guide moves across the straight line guide rail, featuring more advantages in transmission accuracy, loading, stability and durability than the linear bearing.

+ Easy to clean

The longitudinal and horizontal sealing mechanisms can be opened to allow thorough cleaning.

+ Easy to change the package width and horizontal sealing pattern

Adopt the modular design conducive to change to the horizontal pattern style and package width. It is possible to allow complete change of appropriate mold for integral installation. This efficient work can benefit change and installation at one attempt.

+ Effective elimination of liquid trapping in the horizontal sealing

Truking utilizes the liquid filling suction controls to prevent dropping or leaking after filling.

The servo filling step curve can control filling flow to prevent splash.

◎ 稳定高效

楚天强大的制造能力，90% 零件自己加工，保证加工精度

滚切刀、圆角切刀，选用高速钢材质；纵封、横封烫块，选用铬锰合金材质。

严控原材料元素含量检测。

横封及纵封机构均独立的加热系统，保证加热均匀，保证密封牢实

纵封定点避让。避免长时间高温烤烫薄膜变形

◎ 可选配 CIPSIP 在线清洗

◎ 内部大空间

可安装各式打码、检测设备，操作宽松、维护便捷。

◎ 独立伺服灌装，灌装容量单独可调

◎ 透明钢化玻璃防护门、低台面设计，优质不锈钢和铝合金混搭，整洁亮丽，视野通透，方便清洁，机型高档。

◎ 13. 十二寸大屏，人机交互符合人体工程学

+ Stable and efficient

Truking boasts excellent manufacturing capability, who can independently complete machining of 90% parts to specified accuracy.

The hobbing cutter and radius cutter are made of high-speed steel. The hot block for the longitudinal and horizontal sealing is made of chrome-manganese-silicon alloy.

Perform testing on element content of raw material.

The longitudinal and horizontal sealing has respective heating system, thus benefiting proper sealing from uniform distribution of heating.

Carry out avoidance at specified locations in the longitudinal sealing to protect the membrane from being distorted as a result of prolonged exposure to high-temp baking.

+ CIPSIP online cleaning optional

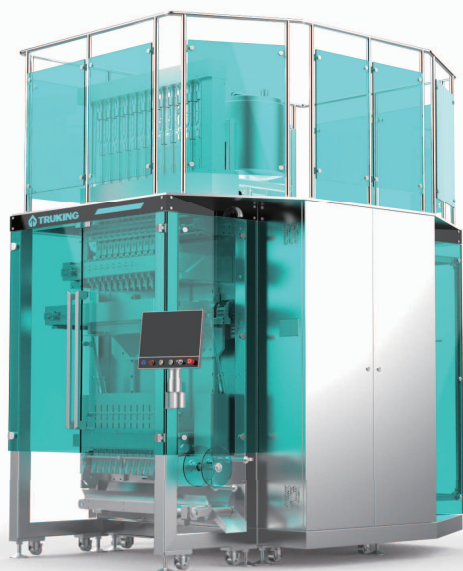
+ Large internal space

Large enough to accommodate coding machine and tester, thus facilitating operation and maintenance.

+ Independent servo filling, permitting separate change to filling quantity

+ Use the transparent tempered glass protection door and low-counter designs. Plus, application of high-quality stainless steel and aluminum alloy can help assure uniform style, create a clean and tidy environment and provide easy access to view. Provide machines of latest version.

+ 12" screen conducive to ergonomics-based HMI operation





主要技术参数 / Main Technical Parameters

外形尺寸 Overall dimension	2900mm (L) x2750mm(W)x3320mm(H)	
设备重量 Weight	2600kg	
适应规格 Applicable specification	长度≤ 200mm, 宽度≤ 60mm, 袋长在 50-200mm 范围内可调 Length ≤ 200mm, width ≤ 60mm, adjustable length within 50-200mm	
最高产能 Max. capacity	50 切 / 分钟 50 cutting/min.	
条包列数 Column no.s of stick packing	12 列 12-column	
最大总膜宽 Max. total membrane width	800mm	
横封 Horizontal sealing	直纹、钻石纹、棋盘纹可选、双横封方式可选 Straight pattern, diamond pattern, checkerboard pattern, double horizontal sealing optional	
易撕口形式 Easy-to-open type	横封纵封易撕口一刀切成 Horizontal and longitudinal sealing easy-to-open to be formed at one attempt	
切刀形式 Cutter type	圆角切刀 Radius cutter	
灌装形式 Filling type	伺服陶瓷泵灌装 Servo ceramic pump filling	
灌装精度 Filling precision	$\leq \pm 1\%$ (陶瓷泵: 2ml 以上灌装装量) $\leq \pm 1.5\%$ (陶瓷泵: 1ml 以上, 2ml 以下灌装装量) $\leq \pm 1.5\%$ (陶瓷泵: 1-2ml 灌装装量) $\leq \pm 2.5\%$ (陶瓷泵: 0.5ml 以上, 1ml 以下灌装装量) $\leq \pm 2.5\%$ (陶瓷泵: 0.5-1ml 灌装装量)	
检测剔除 Detection and removal	接膜检测、空包检测剔除 Membrane change test, empty package test and removal	
破损率 Breakage rate	$\leq 0.001\%$	
合格率 Pass rate	$\geq 99.999\%$	
设备噪音 Noise	≤ 75 分贝 ≤ 75 dB	
客户公用工程参数 Customer's utility specification	主电源 Main power supply	三相 AC380V-50Hz-5 线 3-phase AC380V -50Hz-5-wire
	额定功率 Rated power	35.0kW
	压缩空气耗量 Consumption of compressed air	快插接口: $\phi 16$ mm 气管 Quick-change adaptor: $\phi 16$ mm gas hose 300L/min (0.6MPa-0.8MPa)



秉承“一切为客户着想，为一切客户着想，为客户着想一切”的理念，以“为客户创造价值”为己任，楚天专注于打造一流的研发、设计、销售、制造、服务团队及服务管理体系，为客户提供高效、优质的产品与服务。



◎ 项目规划支持

楚天拥有系列专业医药设计院、产品研究院，一批行业资深科研技术人员，国家级无菌制药工艺的验证专家、教授等，为客户的项目提供科学、有效的技术规划支持。



◎ 过程保障服务

楚天推出的医药装备整体解决方案，实现药品生产过程的全自动化、无菌化，智能检测、分选，以及计算机验证保障，生产出让市场“放心”的产品。



◎ 走进园区服务

楚天作为设备供应商，不仅仅将行业法规标准融入到产品设计、制造中，还让法规标准以讲座、交流的形式走进园区，与药企的工艺、生产形成互动与融合。



◎ 设备管理咨询服务

楚天致力于满足客户效益最大化需求，提供一揽子的设备管理模式，协同药厂实现投入最小化，产出最大化。

◎ 坚持“以客户为中心”，以匠人之心打造极致服务体验，为客户创造更多价值

34 全国 34 个省（市）

365 全年 365 天

7x24 7X24 小时服务时间

◎ 我们随时待命为客户单位设备正常运行保驾护航

- + 现场安装、调试、验收
- + 设备工艺、操作、维护等相关培训
- + 周期性的定期上门维护与回访
- + 设备各部件性能的检测与保养
- + 备品备件的及时供应
- + 产品技术升级与技术二次开发
- + 设备大修



Service Concept

400-9988-900



Adhering to concept of “all for customers, for all customers” , and with the mission of “creating value for customers” , TRUKING focuses on building first-class R&D, design, sales, manufacturing, service teams and service management system to offer high-efficient and high-quality products and services for the customers.



◎ Project Planning Support

TRUKING has a series of professional medical and pharmaceutical design institutes, product research institutes, a group of senior scientific research and technical personnel, national-level aseptic pharmaceutical process verification experts, professors, etc., to provide scientific and effective technical planning support for customers' projects.

◎ Service In The Park

As an equipment supplier, TRUKING not only integrates industrial regulations and standards into product design and manufacturing, but also introduces the industrial regulations and standards into Truking industrial park in the form of lectures and exchanges to interact and integrate with the technology and production of pharmaceutical enterprises.

◎ Process Assurance Service

TRUKING launched the overall solution for medical & pharmaceutical equipment realizing the full automation and aseptic production process, intelligent detection and sorting of the drug, as well as computer verification assurance so as to produce assured products for market.

◎ Equipment Management Consultation Service

TRUKING aims to satisfy the maximum benefited demands of the customer and to provide a package of equipment management services to realize minimization investment and maximization production output together with pharmaceutical factories.

◎ Adhere to the philosophy of "customer-centric", TRUKING creates the extraordinary service experience with the spirit of the craftsman, to create more value for customers.

◎ We are always ready to escort the normal operation of the customer's equipment.

- + Onsite equipment installation, commissioning, acceptance
- + Training for equipment process, operation and maintenance
- + Periodic door-to-door maintenance and return visit
- + Performance test and maintenance for machinery parts
- + Timely supply of spare parts
- + Product technology upgrading and secondary development
- + Equipment overhaul



www.truking.com



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