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Deepic 深度智控
深度同行 · 智控未来

ISBM

一步法注拉吹中空成型机

ONE-STEP INJECTION STRETCH BLOW MOLDING MACHINE



杭州深度智控装备有限公司
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深度同行·智控未来

DEEP COLLABORATION · INTELLIGENT
CONTROL OF THE FUTURE

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深度同行 智控未来 /DEEP COLLABORATION · INTELLIGENT CONTROL OF THE FUTURE/

杭州深度智控装备有限公司坐落于杭州临平国家级开发区,是一家专注于一步法注拉吹智能装备研发与制造的高新技术企业。公司以智能、高效、节能、耐用、极致为核心追求,致力于为全球客户提供领先的注拉吹成型解决方案。

Hangzhou Deepic Equipment Co.,Ltd. is located in the Linping National Development Zone of Hangzhou. It is a high-tech enterprise specializing in the researching and developing and manufacturing of intelligent equipment for One-step injection stretch blow molding machine. We take intelligence, efficiency, energy conservation, durability and excellence as our central aspiration, and are dedicated to providing leading injection stretch blow molding solutions for global customers.

智能引领 高效赋能 /INTELLIGENCE LEADS AND EFFICIENCY EMPOWERS/

深度智控汇聚了一支拥有三十余年注拉吹及注塑行业经验的资深技术团队,凭借前沿的智能控制技术与数字化制造能力,打造高效稳定的一步法注拉吹设备。通过智能优化生产流程,大幅提升产能与精度,助力客户实现降本增效。

Deepic has gathered a senior technical team with over 30 years of experience in the injection stretch blow molding and injection molding industries. Relying on cutting-edge intelligent control technology and digital manufacturing capabilities, it creates efficient and stable one-step injection stretch blow molding equipment. By intelligently optimizing the production process, we significantly enhance production capacity and precision to help our clients achieve cost reduction and efficiency improvement.

节能科技 耐用典范 /A MODEL OF ENERGY-SAVING TECHNOLOGY AND DURABILITY/

坚持高品质定位,核心部件精选国际一线品牌,结合自主创新工艺,追求极致和耐用性,降低客户维护成本,延长设备生命周期,践行绿色智造理念。

Adhering to a high-quality positioning, core components are carefully selected from international first-tier brands, combining with independently innovative processes, we pursue the ultimate and durability, reduce customers' maintenance costs, extend the equipment life cycle, and practice the concept of green intelligent manufacturing.

极致体验 全程守护 /ULTIMATE EXPERIENCE GUARANTEED THROUGHOUT THE JOURNEY/

从研发设计到售后服务,深度智控始终以“用户满意为最高标准”。依托成熟的供应链体系与强大的定制化能力,我们不仅提供高性能设备,更配备全生命周期技术培训与无忧售后,让客户专注生产无后顾之忧。

From R&D to after-sales service, Deepin Intelligent Control has always adhered to the principle of "user satisfaction as the highest standard". Relying on a mature supply chain system and strong customization capabilities, we not only provide high-performance equipment, but also offer full life-cycle technical training and worry-free after-sales service, allowing customers to focus on production without any worries.



30+ 年/years

注拉吹及注塑行业经验
Experience in the injection stretch blow molding and injection molding industries



INTELLIGENT FACTORY

智造工厂

成型工厂解析 Analysis of the Forming Factory

02 公用能源(水、电、气)/Public energy (water, electricity, gas)

为了在最佳的条件下成型,电力、压缩空气以及冷却水的控制是很重要的。具有充分的余量、稳定的公用能源供给对生产效率 and 产品质量稳定性至关重要。

To form under the best conditions, the control of electricity, compressed air and cooling water is very important. Having sufficient margin and a stable supply of public energy are crucial for production efficiency and the stability of product quality.

01 原料/Raw materials

原料以柔性编织袋包装形式交货,或者由当地供应商用罐车送到客户储存桶内。

Raw materials are packed in flexible woven bags or transported to the customer's storage barrels by local suppliers in tank trucks.

04 维修作业间/Maintenance workshop

为了保证高效作业和维持生产质量,对所有机械、模具和辅机都要进行定期的维护保养。模具要在下次成型前必须做好清洁和维护工作,妥善保管。

To ensure efficient operation and maintain production quality, regular maintenance and upkeep of all machinery, molds and auxiliary machines are necessary. The mold must be thoroughly cleaned and maintained before the next molding process and properly stored.

深度智控具备较强的注拉吹及模具研发专业技术团队,具备厂房布局规划能力,能有效为用户提供高效、稳定、可靠的技术支持。

Deepic has a strong professional technical team specializing in injection stretch blow molding and mold research and development, and possesses the ability to plan factory layout. It can effectively provide users with efficient, stable and reliable technical support.

05 质量管理/Quality management

在合适的检验室、检验员用检验设备对产品质量进行例行检查,不仅是监视生产过程中的异常状况发生的有效手段,也会提高最终用户的满意度。

Conducting routine quality checks on products in appropriate laboratories and with inspection equipment by inspectors is not only an effective means of monitoring abnormal situations during the production process, but also enhances the satisfaction of end users.

06 小规模生产/Small-scale production

对于高附加价值的产品诸如化妆品容器的生产,采用以DIC-12M为代表的低产量小型成型机是最合适的。采用人工检查和包装方法为最佳选择。

For the production of high-value-added products such as cosmetic containers, the use of low-output small-scale molding machines represented by AVH-12M is the most suitable. Manual inspection and packaging methods are the best choice.

07 中规模生产/Medium-scale production

以DIC-70HE为代表的中型成型机,在提供高效率和降低制造成本的同时,还可以实现灵活生产。包装是半自动的。

Medium-sized forming machines represented by AVH-70DPH not only offer high efficiency and reduce manufacturing costs, but also enable flexible production. The packaging is semi-automatic.

08 大规模生产/Mass production

DIC-150EV3系列为批量生产型号,可连接下游连线检瓶设备或全自动码垛机来降低生产成本。

The AVH-150DP series is a mass production model that can be connected to downstream bottle inspection equipment or fully automatic palletizing machines to reduce production costs.

03 仓库和出货/Warehouse and Shipment

成品必须存放在通风良好、没有直射阳光的库房内。空瓶很占地方,在工厂规划阶段必须认真研讨,以确保足够的仓库空间。

Finished products must be stored in a well-ventilated warehouse free from direct sunlight. Empty bottles take up a lot of space. During the factory planning stage, it is necessary to carefully discuss to ensure sufficient warehouse space.

09 办公室/Office

减少模具更换次数、缩短生产停止时间、以及库存的管控是销售和生计划部门的一项重要工作。

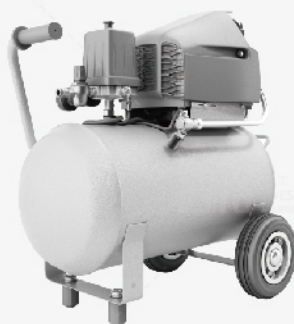
Reducing the frequency of mold changes, shortening production downtime, and controlling inventory are important tasks for the sales and production planning departments.

成型辅助配套设备解析 Analysis of Forming Auxiliary Supporting equipment

A 一步法注拉吹塑料成型机
One-step injection stretch blow molding machine for plastic



B 高压空压机(用于吹塑)
High-pressure air compressor for blow molding



D 储气罐,冷干机,过滤器
Gas storage tank, refrigerated dryer, filter



G 原料除湿干燥机
Raw material dehumidification and drying machine



E 冷却塔和水泵
Cooling towers and water pumps



H 模温机(MTC)
Mold temperature control Unit (MTC)



F 模具除湿机
Mold dehumidifier



I 冰水机
Ice water machine



C 低压空压机(用于设备运行)
Low-pressure air compressor (for equipment operation)



成型机的详细信息

- 节能型伺服油泵系统
- 注塑装置
- 注塑工位
- 冷却/调温工位(后部)
- 拉伸吹塑工位
- 容器取出工位

Detailed information about the forming machine

- Energy-saving servo oil pump system
- Injection molding device
- Injection molding station
- Cooling/temperature control station (rear)
- Stretch blow molding station
- Container removal station

DESIGN, ADVANTAGES AND FEATURES

设计理念与优势特点—专业 高效 节能 稳定 可靠

我们致力于特种工艺，如医药容器、化妆品、食用奶瓶、酒饮、五加仑桶，专用于PET, PE, PC, SAN, PMMA, TRIAN, PPUS, PS等工艺。

本实用新型机是一种集注塑，成型，吹瓶一体的住拉吹成型机，该机为一步法全自动成型设备。广泛用于PET\PC\PP\PE\PS\ABS\BAER等，主要适用于医药包装，化妆品，保健品，日常用品等行业的包装。该设备采用伺服驱动，四个工位实现一模多腔全自动生产。集注塑、调温、拉伸吹塑、脱产品一步进行，为产品提高成型精度，以优化的工序直接实现产品稳定生产，而提高产品合格率，节省能源，是现代化首选的设备。

一步法成型机 One-step forming machine

灵活高效的四工位流程，由于一步法成形机对于瓶坯成形过程中保留的热量能够有效的利用，所以在整个过程中使用的能量总和比两步法机型低很多。成形的自由度高，最适可特殊形状以及pet以外的材料容器的成形，能够生产高品质的瓶子。

直接调温方式的定义：

熔化树脂注入模腔内，瓶胚成型的同时直接调节温度，不需要要再加热工序、尽早向延伸吹塑工位移动。利用瓶胚的保有热量，在其表面温度达到顶峰之前将此时温度分布最合适状态下的瓶胚延伸吹塑。因此，高附加值产品可以稳定成形生产，而且更加经济。

We are committed to special processes, such as pharmaceutical containers, cosmetics, edible milk bottles, wine bottles, five-gallon barrels, and are dedicated to PET, PE, PC, SAN, PMMA, TRIAN, PPUS, PS and other processes.

This utility model is a stretch blow molding machine that integrates injection, molding and bottle blowing. This machine is a one-step fully automatic molding equipment. It is widely used in PET\PC\PP\PE\PS\ABS\BAER, etc., and is mainly suitable for packaging in industries such as pharmaceutical packaging, cosmetics, health products, and daily necessities. The equipment adopts servo drive, and four stations realize one-mold multi-cavity fully automatic production. It integrates injection molding, temperature adjustment, stretch blow molding, and product removal in one step, which improves the molding accuracy of the product, directly realizes stable product production with optimized processes, improves product qualification rate, and saves energy, which is the preferred equipment for modernization.

Flexible and efficient 4-station process, Since the 1-step forming machine can effectively utilize the heat retained during the preform forming process, the total energy used in the whole process is much lower than that of the 2-step forming machine. The forming freedom is high, and it is most suitable for the forming of special shapes and containers made of materials other than PET, and can produce high-quality bottles.

Definition of direct temperature control method:

The molten resin is injected into the mold cavity, and the temperature is adjusted directly while the preform is being formed. Reheating process is not necessary any more and preform is moved to the stretch blow molding station as soon as possible. The retained heat of the preform is used to stretch blow the preform in the most suitable temperature distribution before its surface temperature reaches its peak. Therefore, high value-added products can be stably formed and produced, and it is more economical.



01

四个工位采用水平回旋装置，伺服驱动系统。实现速度快，定位速度快，定位精确以优化紧凑的结构大幅度减少设备运转周期。

The four workstations take horizontal rotary devices and servo drive systems. They achieve fast speed, fast positioning speed, and precise positioning, and greatly reduce the equipment operation cycle by optimizing the compact structure.

02

采用高质量液压，气动，电气原件，实现微电脑控制而全自动，操作简便，节省设备运行能源。

Adopt high-quality hydraulic, pneumatic and electrical components, realize microcomputer control and full automatic, easy to operate, and save energy for equipment operation.

03

采用专业的热流道及控温装置，而精确控制，确保产品的稳定。

Use professional hot runner and temperature control device to precisely control and ensure product stability.

04

一次成型瓶口和丝牙尺寸精确，与盖百分百密合，无飞边而节省原料。

The one-step molding of the bottle mouth and thread teeth is precise in size, 100% tight fit with the cap, without burrs, thus saving raw materials.

05

一步法住拉吹成型机比传统的设备要节省更多的资源。

One-step stretch blow molding machine saves more resources than traditional equipment.

06

四个工位设计均以作标准配置，可为客户制造模具节省大量的时间。

Four workstations are designed as standard configuration, which can save customers a lot of time in mold manufacturing.

07

保证产品清洁卫生，特别适用于医药包装及食品包装。

Ensure product cleanliness and hygiene, especially suitable for medicine packaging and food packaging.

特点 FEATURES

CORE TECHNOLOGICAL INNOVATION

核心技术创新—智能 集成 精确 敏捷

深度智控的创新及专利技术 Innovative and patented technologies of Deepintelligent control

一步法注拉吹成型机及传感自适应控制系统及方法

One-step injection stretch blow molding machine and sensor adaptive control system and method/

一步法注拉吹成型机多工序协同管理的智能控制方法

An intelligent control method for multi-process collaborative management of one-step injection stretch blow molding machines/

集成多项核心发明专利与实用性专利技术,针对一步法注拉吹成型机的整体设计及多传感器自适应控制系统及方法,包括传感器模块采集多模态数据;智能诊断模块采用分层架构进行快速检测与精细工况识别,输出诊断标识和置信度;决策模块融合专家知识与在线学习结果,并结合置信度确定优化应对策略;根据策略动态加载控制参数集;自适应控制模块基于参数集和数据计算原始指令;依据置信度平滑指令生成最终信号;执行接口模块将信号发送至执行机构实现自适应控制。该系统及方法能实现精确诊断、差异化决策与策略精确执行,并确保控制平稳过渡,显著提升控制性能、产品质量和运行鲁棒性。

Integrating multiple core invention patents and utility model patents, this project focuses on the overall design of a one-step injection stretch blow molding machine and the establishment of a multi-sensor adaptive control system and method, including the collection of multimodal data by sensor modules. The intelligent diagnosis module adopts a hierarchical architecture for rapid detection and fine working condition recognition, and outputs diagnostic labels and confidence levels. The decision-making module integrates expert knowledge with online learning results and determines the optimized response strategies in combination with confidence levels. Dynamically load the control parameter set according to the strategy; The adaptive control module calculates the original instructions based on the parameter set and data. Generate the final signal based on the confidence smoothing instruction; The execution interface module sends signals to the actuator to achieve adaptive control. This system and method can achieve precise diagnosis, differentiated decision-making and accurate strategy execution, and ensure a smooth transition of control, significantly improving control performance, product quality and operational robustness.



- The product adopts standard servo system + gear pump. The output energy consumption changes with the load, the pressure and speed are accurate, and it has the characteristics of energy saving, stability, reliability, durability, low noise and fast response.
- When designing, we fully consider customer needs. For modular design, the oil circuit system can be equipped with variable pumps, servos and multi-pump systems for fast customized production.
- Servo motors have high working efficiency. Compared with servo motors and asynchronous motors of the same power, the operational efficiency of servo

驱动和控制单元 /Drive and control unit/

- 标配伺服系统+齿轮泵,输出能耗随负载变化,压力和速度精准,具有节能、稳定、可靠、耐用、低噪音、响应快的特点。
- 在设计时充分考虑客户需求,模块化设计,油路系统可选配变量泵、伺服、多泵系统,以便快速的定制化生产。
- 伺服电机工作效率高,在同等功率的伺服电机和异步电机之间做比较,伺服电机运行效率可以达到90%以上,而异步电机满载时效一般不超过85%。
- 伺服电机转速可以根据控制器给出的指令进行变化,所以在机器做小流量动作时,没有溢流能量损耗,其节能原理类似于变量泵,而相比变量泵技术的节能方式,伺服系统更为精确和彻底。

motor could be up to 90%, while asynchronous motors generally do not exceed 85% at full load.

- The speed of the servo motor can be changed according to the instructions given by the controller, so there is no overflow energy loss when the machine is operating at a small low rate. Its energy-saving principle is similar to that of a variable pump, and compared to the energy-saving method of variable pump technology, the servo system is more precise and thorough.

注射单元 /Injection unit/

注塑机电动熔胶射台解析及优势工作原理:电动熔胶射台通过伺服电机直接驱动螺杆旋转熔胶和射胶,动力传输直接高效,无液压损失。

Analysis and advantages of the electric melt injection table of injection molding machine Working principle: The electric melt injection table directly drives the screw to rotate the melting and injection through the servo motor and the power transmission is direct and efficient, without hydraulic loss.

优势

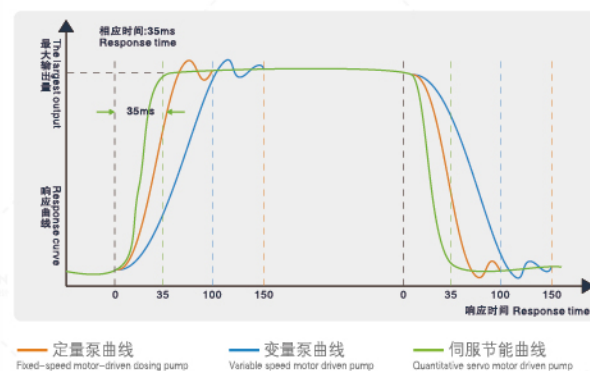
- **节能高效:** 相比传统液压熔胶,节能5%-20%,可开模同步熔胶,缩短成型周期。
- **精准控制:** 伺服电机惯量低、响应快,能实现精密的速度、位置和压力控制,适合精密注塑。
- **稳定性强:** 无液压脉动,螺杆转速稳定,熔胶计量精确,适合透明和精密制品。
- **结构紧凑:** 体积小、重量轻,优化空间布局,提高设备集成度。
- **维护方便:** 结构简单,减少液压油泄漏风险,降低维护成本。
- **适应性强:** 可定制化程度高,满足不同设备和工艺需求。

ADVANTAGE:

- Energy-saving and efficient: Compared with traditional hydraulic melting, it can save energy by 5%-20%, and can open the mold and melt the adhesive synchronously, shortening the molding cycle.
- Precise control: The servo motor has low inertia and fast response, which can achieve precise speed, position and pressure control and is suitable for precision injection molding.
- Strong stability: no hydraulic pulsation, stable screw speed, accurate melt measurement, suitable for transparent and precision products
- Compact structure: small size, light weight, optimize space layout, improve equipment integration.
- Easy maintenance: simple structure, reduce the risk of hydraulic oil leakage, and reduce maintenance costs.
- Strong adaptability: high degree of customization to meet the needs of different equipment and processes.

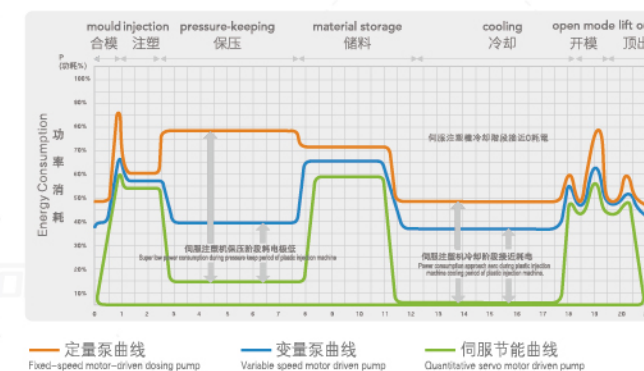
系统高速响应比照

The compare of system high speed response



系统功率消耗比照

The compare of systemic power consumption



零冷却技术赋能质量产量双提升 Zero-cooling technology empowers the dual improvement of quality and output

特色

Feature

- 可以在不影响容器质量的情况下进行最佳的瓶胚设计。
- 注塑工位的冷却时间为零。
- 在第二工位进行必要的瓶胚冷却。
- 与包括R-PET在内的所有PET塑料等级兼容。
- 容器轻量化的可能性进一步扩大。

- The best preform design can be carried out without affecting the quality of the container.
- The cooling time of the injection molding station is zero.
- Carry out the necessary preform cooling at the second station.
- Compatible with all PET plastic grades, including R-PET.
- The possibility of container lightweighting has further expanded.

通过零冷却改善成型制品

Improve molded products through zero cooling

- 标准等级的PET塑料可实现高光泽和透明度的容器。
- 刚性和屈服强度提高15-50%。
- 壁厚分布大大改善。
- 生产率提高1.5倍。

- Standard-grade PET plastic can achieve containers with high gloss and transparency.
- Rigidity and buckling strength increase by 15-50%.
- The wall thickness distribution has been greatly improved.
- Productivity has increased by 1.5 times.

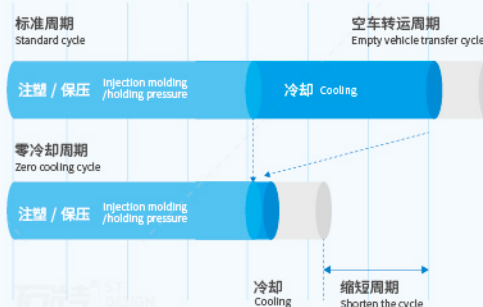
01

注塑工位的零冷却

Zero cooling of the injection molding station

将冷却时间减至零以缩短整个生产周期。

Reduce the cooling time to zero to shorten the entire production cycle.



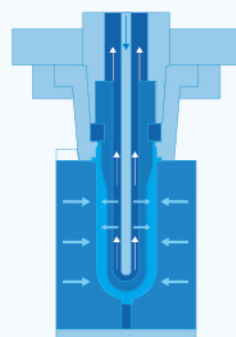
02

在第二工位进行瓶胚冷却

Preform cooling is carried out at the second station

瓶胚内部和外部同时冷却。厚壁瓶胚设计提高温度均匀性和稳定性并改善制品的整体质量。

The inside and outside of the preform are cooled simultaneously. The design of thick-walled preforms enhances temperature uniformity and stability and improves the overall quality of the products.



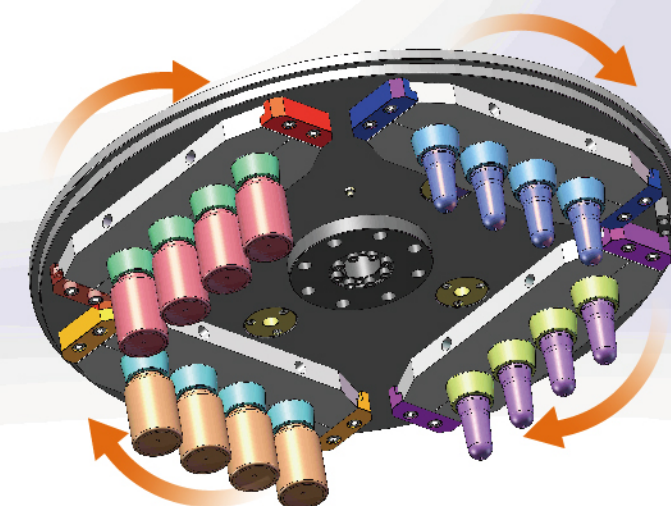
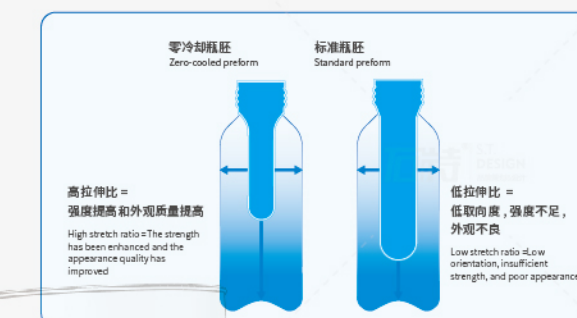
03

优化的瓶胚拉伸吹塑比例

Optimized preform stretch blow molding ratio

零冷却的瓶胚设计相对较短和厚,从而拉伸吹塑比增加,致使提高刚性和屈服强度而外观精美。

The zero-cooled preform design is relatively short and thick, which increases the stretch blow molding ratio, resulting in enhanced rigidity and buckling strength while presenting a beautiful appearance.



ONE-STEP AND TWO-STEP WORKFLOW

一步法与两步法工艺流程

一步法工艺流程图 One-step process flow chart

- 在一台机器上一次性完成从注坯到吹塑成型的完整生产过程，不需二次加热，节省能耗；
- 制品一次成型，无管坯储存转运过程中造成的表面损伤，从而达到制品表面质量的更高要求；
- 无需管坯的储存环节造成的仓储成本，节省场地投资成本；
- 瓶口一次注塑成型，充分保证其尺寸精度高，平整光滑；
- 生产过程为全自动电脑控制，减少人为造成的不稳定因素，降低人力资源，提高产品品质；
- 配合机械手装置，可直接与后端的自动检测包装流水线相连，实现全程自动化无人化操作，为实现工业4.0接轨提供基础条件。

- The entire production process from blank injection to blow molding can be completed in one go on a single machine without the need for secondary heating, thus saving energy consumption.
- The products are formed in one go, without surface damage caused by the storage and transportation of tube blanks, thus meeting higher requirements for the surface quality of the products.
- There is no need for storage costs caused by the storage process of tube blanks, thus saving the investment cost of the site.
- The bottle mouth is formed by one-time injection molding, fully ensuring its high dimensional accuracy and smoothness.
- The production process is fully automatically computer-controlled, reducing unstable factors caused by human factors, lowering human resources and improving product quality.
- In combination with the mechanical hand device, it can be directly connected to the automatic detection and packaging production line at the back end, achieving fully automated and unmanned operation, providing a basic condition for the integration with Industry 4.0.

01 原料颗粒 Raw material granules



02 全自动一步法多工位成型机 Fully automatic one-step multi-station forming machine



03 瓶子 Bottle



两步法工艺流程图 Two-step process flow chart

第一步 The first step

01 原料颗粒 Raw material granules



02 注塑机 Injection molding machine



03 管坯 Tube blank



第二步 Step Two

04 管坯 Tube blank



05 吹瓶机 Bottle blowing machine



06 瓶子 Bottle



一步法与两步法节能对比图 Comparison chart of energy conservation between one-step method and two-step method

PET塑料瓶一步法与二步法生产能耗对比表（28口径18克100ML瓶子）

Comparison Table of Energy Consumption for One-step and Two-Step Production of PET Plastic Bottles (28-Mouth 18g 100ML Bottles)

对比项目 Comparison project	一步法 (LM 12M 四工位机型) One-step method (LM 12M four-station model)	二步法 (吹瓶机一出二 + 注塑机) Two-step method (same blow molding machine - one blow out two + injection molding machine)	差异说明 Explanation of differences
电费 (单瓶) Electricity charge (per bottle)	约 0.005-0.012元 About 0.005 to 0.012 yuan	约 0.025-0.080 元 About 0.025-0.080 yuan	一步法因注塑吹瓶一体, 减少设备转换能耗, 单瓶电费低 40%-80%; 二步法需注塑机单独耗电, 总能耗更高。 The one-step method integrates injection molding and bottle blowing, reducing the energy consumption for equipment conversion and lowering the electricity cost per bottle by 40% to 80%. The two-step method requires the injection molding machine to consume electricity separately, resulting in a higher total energy consumption.
人工 (单班) Manual (single shift)	1-2 人 (可兼顾辅助操作) 1-2 people (can also assist in operation)	3-4 人 (注塑机 1 人 + 吹瓶机 2 人 + 辅助 1 人) 3 to 4 people (1 for injection molding machine + 2 for bottle blowing machine + 1 assistant)	一步法自动化集成度高, 人工需求减少 50% 以上; 二步法需分环节操作, 人力成本更高。 The one-step method has a high degree of automation integration, reducing the demand for manual labor by more than 50%. The two-step method requires step-by-step operation, which incurs higher labor costs.
占地面积 Land area	约 20-25m² (含原料区) Approximately 20-25 square meters (including the raw material area)	约 40-50m² (注塑机 20m²+ 吹瓶机 15m²+ 瓶胚存储区 5-10m²) Approximately 40-50 square meters (20 square meters for injection molding machine + 15 square meters for blow molding machine + 5-10 square meters for preform storage area)	一步法无需瓶胚存储环节, 占地面积节省约 50%; 二步法因设备拆分和中间存储, 空间需求更大。 The one-step method does not require a preform storage step, saving about 50% of the floor space. The two-step method requires more space due to device splitting and intermediate storage.
成品率 Yield rate	98%-99%	95%-97%	一步法减少瓶胚转运损耗, 成品率更高; 二步法因注塑后瓶胚存储、转运可能导致微损伤, 成品率略低。 The one-step method reduces the loss of preform transportation and has a higher yield of finished products. The two-step method has a slightly lower yield rate due to the possible micro-damage caused by the storage and transportation of preforms after injection molding.
成型周期 Molding cycle	单模4腔约 10-12 秒, 四工位总产能约 1440-1800 瓶 / 小时 The single-mode 4-cavity production takes approximately 10 to 12 seconds, and the total production capacity of four workstations is about 1,440 to 1,800 bottles per hour	注塑机周期约 30-40 秒 (一出 12 腔计算), 吹瓶机一出二周期约 5-8 秒, 总产能约 1200-1800 瓶 / 小时 The injection molding machine cycle is approximately 30 to 40 seconds (calculated based on 12 chambers per injection), and the blow molding machine cycle is about 5 to 8 seconds for two injections per injection. The total production capacity is approximately 1,200 to 1,800 bottles per hour	一步法集成化生产效率更高, 单位时间产能比二步法高 20%-50%; 二步法受注塑环节限制, 周期更长。 The one-step integrated production efficiency is higher, with the unit time production capacity being 20% to 50% higher than that of the two-step method. The two-step method is limited by the injection molding process and has a longer cycle.

对比项目 Comparison project	一步法 (LM 12M 四工位机型) One-step method (LM 12M four-station model)	二步法 (吹瓶机一出二 + 注塑机) Two-step method (same blow molding machine - one blow out two + injection molding machine)	差异说明 Explanation of differences
备注 Remarks	适用于瓶胚厚度较高的产品, 减少二次加热能耗, 适合中小批量灵活生产 It is suitable for products with relatively thick preforms, reducing the energy consumption of secondary heating and being appropriate for flexible production in medium and small batches	需先生产瓶胚 (厚度较高时注塑能耗增加), 适合大批量标准化生产, 设备维护成本拆分但总投入更高 The preform needs to be produced first (the injection molding energy consumption increases when the thickness is higher), which is suitable for large-scale standardized production. The equipment maintenance cost is split, but the total investment is higher	一步法在综合能耗和空间利用上优势显著, 二步法在超大规模生产时设备分摊成本可能更低。 The one-step method has significant advantages in comprehensive energy consumption and space utilization, and the two-step method may have a lower equipment cost-sharing ratio in ultra-large-scale production.

小规格瓶子 (如 50-200ML, 重量 10-20 克) Small-sized bottles (such as 50-200ML, weighing 10-20 grams)

电费差异 Electricity bill difference	一步法单瓶电费通常比二步法低 30%-45%。这类瓶子体积小、瓶壁较薄, 一步法无需二次加热瓶胚, 减少热损耗; 二步法中注塑机生产小瓶胚时能耗占比更高, 且吹瓶环节需精准控温, 总能耗优势较弱。 The electricity cost for a single bottle using the one-step method is usually 30% to 45% lower than that of the two-step method. This type of bottle has a small volume and thin walls. The one-step method does not require secondary heating of the preform, reducing heat loss. In the two-step method, the energy consumption proportion of injection molding machines for producing small preforms is higher, and the blow molding process requires precise temperature control, resulting in a relatively weak overall energy consumption advantage.
人工与占地 Labor and land occupation	一步法人工需求比二步法少 40%-60%, 占地面积节省 45%-55%。小规格瓶子生产节奏快, 一步法集成化操作减少中间转运, 二步法因设备拆分和瓶胚暂存, 人力和空间成本更突出。 The one-step method requires 40% to 60% less labor than the two-step method and saves 45% to 55% of the land area. The production pace of small-sized bottles is fast. The one-step integrated operation reduces intermediate transfer. The two-step method has more prominent labor and space costs due to equipment disassembly and temporary storage of preforms.
成品率与周期 Yield rate and cycle	一步法成品率 (98%-99%) 比二步法 (95%-97%) 高 2%-4%, 成型周期快 20%-30%。小瓶胚在二步法转运中易因碰撞产生微缺陷, 而一步法连续生产减少损耗。 The yield of the one-step method (98%-99%) is 2%-4% higher than that of the two-step method (95%-97%), and the molding cycle is 20%-30% faster. Small preforms are prone to micro-defects due to collisions during the two-step transfer method, while the one-step continuous production method reduces losses.

中规格瓶子(如 300-500ML,重量 25-40 克) Medium-sized bottles (such as 300-500ML, weighing 25-40 grams)

电费差异 Electricity bill difference	一步法单瓶电费低 25%-35%。中规格瓶子瓶胚厚度适中, 二步法注塑能耗相对可控, 但吹瓶时需更长加热时间, 一步法“注塑-吹瓶”连贯流程仍占优。 The one-step method reduces the electricity cost per bottle by 25% to 35%. The thickness of the preform for medium-sized bottles is moderate. The energy consumption of the two-step injection molding method is relatively controllable, but a longer heating time is required during bottle blowing. The one-step "injection molding - bottle blowing" continuous process still has an advantage.
人工与占地 Labor and land occupation	一步法人工减少 30%-50%, 占地面积节省 40%-50%。中批量生产时, 二步法需协调注塑与吹瓶产能匹配, 人力投入增加; 一步法无需中间存储, 空间利用更高效。 The one-step method reduces labor by 30% to 50% and saves 40% to 50% of the floor space. When medium batch production is carried out, the two-step method needs to coordinate the matching of injection molding and blow molding capacity, which increases the input of human resources. The one-step method does not require intermediate storage and makes more efficient use of space.
成品率与周期 Yield rate and cycle	一步法成品率(97%-98%)比二步法(94%-96%)高 1%-3%, 成型周期快 15%-25%。中规格瓶子结构相对稳定, 二步法转运损耗略低于小规格, 但仍不及一步法连续生产的稳定性。 The yield rate of one-step method (97%-98%) is 1%-3% higher than that of two-step method (94%-96%), and the molding cycle is 15%-25% faster. The structure of medium-sized bottles is relatively stable. The transfer loss of the two-step method is slightly lower than that of small-sized bottles, but it still cannot match the stability of continuous production by the one-step method.



大规格瓶子(如 1-2L,重量 50-80 克) Large-sized bottles (such as 1-2L, weighing 50-80 grams)

电费差异 Electricity bill difference	一步法单瓶电费低 15%-25%。大规格瓶子瓶胚厚、注塑能耗占比高, 二步法可通过大腔数注塑机分摊能耗, 缩小与一步法的差距; 但一步法省去瓶胚二次加热, 仍保持一定优势。 The one-step method reduces the electricity cost per bottle by 15% to 25%. The preforms of large-sized bottles are thick and the proportion of injection molding energy consumption is high. The two-step method can share the energy consumption through large-cavity injection molding machines and narrow the gap with the one-step method. However, the one-step method eliminates the need for secondary heating of the preform and still maintains certain advantages.
人工与占地 Labor and land occupation	一步法人工减少 20%-40%, 占地面积节省 30%-40%。大规格瓶子生产节奏较慢, 二步法设备拆分的空间劣势减弱, 但人工协调成本仍高于一步法。 The one-step method reduces labor by 20% to 40% and saves land area by 30% to 40%. The production pace of large-sized bottles is relatively slow. The spatial disadvantage of the two-step equipment disassembly is weakened, but the cost of manual coordination is still higher than that of the one-step method.
成品率与周期 Yield rate and cycle	一步法成品率(96%-97%)比二步法(93%-95%)高 1%-2%, 成型周期快 10%-20%。大瓶胚强度高, 二步法转运损耗降低, 两者成品率差距缩小; 一步法因无需等待瓶胚冷却, 周期优势仍存。 The yield rate of one-step method (96%-97%) is 1%-2% higher than that of two-step method (93%-95%), and the molding cycle is 10%-20% faster. The large preform has high strength, and the loss during the two-step transfer process is reduced, narrowing the gap in the yield between the two. The one-step method still has the cycle advantage as it does not require waiting for the preform to cool down.



特殊规格瓶子(如异形瓶、广口瓶)

Special-sized bottles (such as irregular-shaped bottles, wide-mouth bottles)

电费差异 Electricity bill difference	一步法单瓶电费低 35%-50%。特殊规格瓶子成型难度大, 二步法注塑时需复杂模具, 能耗飙升, 吹瓶环节也需定制化加热方案; 一步法可实时调整注塑与吹瓶参数, 能耗更可控。 The one-step method reduces the electricity cost per bottle by 35% to 50%. Special-sized bottles are difficult to form. During the two-step injection molding process, complex molds are required, energy consumption surges, and customized heating solutions are also needed in the bottle blowing stage. The one-step method can adjust the injection molding and blow molding parameters in real time, making energy consumption more controllable.
人工与占地 Labor and land occupation	一步法人工减少 50%-70%, 占地面积节省 50%-60%。异形瓶需频繁调整设备, 二步法分环节操作导致人力成本激增, 一步法集成化控制大幅降低人工需求。 The one-step method reduces labor by 50% to 70% and saves 50% to 60% of the floor space. Irregular-shaped bottles require frequent equipment adjustments. The two-step method of operating in separate stages leads to a sharp increase in labor costs, while the one-step method of integrated control significantly reduces the demand for labor.
成品率与周期 Yield rate and cycle	一步法成品率(95%-97%)比二步法(90%-93%)高 3%-5%, 成型周期快 25%-40%。特殊结构在二步法转运中易变形, 一步法连续生产能更好保证尺寸稳定性。 The yield rate of one-step method (95%-97%) is 3%-5% higher than that of two-step method (90%-93%), and the molding cycle is 25%-40% faster. Special structures are prone to deformation during two-step transfer, while one-step continuous production can better ensure dimensional stability.

综上, 规格越小、结构越复杂的 PET 塑料瓶, 一步法与二步法的能耗差异越显著; 大规格、标准型瓶子的差异相对缩小, 但一步法在综合效率上仍更具优势。

In conclusion, the smaller the specification and the more complex the structure of the PET plastic bottle, the more significant the energy consumption difference between the one-step method and the two-step method. The differences between large-sized and standard-sized bottles have relatively narrowed, but the one-step method still has an advantage in overall efficiency.

TAILOR-MADE SERIES

量身定制 赋能价值

渐变混色工艺 Gradient color mixing process

全自动一步法注拉吹双注塑系统混色成型技术, 可实现一模渐变混色工艺, 色彩过渡自然, 分布均匀, 外观精美。

The fully automatic one-step injection stretch blow molding system's color-mixing molding technology can achieve a one-mold gradient color-mixing process, with natural color transitions, uniform distribution, and exquisite appearance.



电动射台定制 Customized electric shooting platform

通过直驱伺服电机驱动螺杆旋转熔胶或射胶, 传动直接高效, 无液压损失, 相比传统液压熔胶, 节能5%-20%, 可开合模同步熔胶节能高效、控制更加精准、稳定性强、结构紧凑、维护方便舌应性强。

The screw is driven by a direct drive servo motor to rotate for glue melting or injection. The transmission is direct and efficient, with no hydraulic loss. Compared with traditional hydraulic glue melting, it saves 5% to 20% of energy. The mold opening and closing synchronous glue melting is energy-saving and efficient, with more precise control, strong stability, compact structure, convenient maintenance and strong adaptability.



副射台参数表

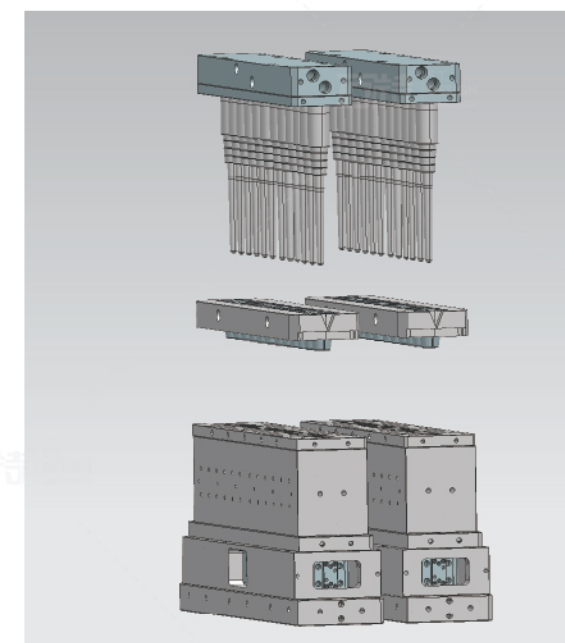
Radiation station parameter table

名称	Name	型号 Model			单位 Unit
副注射系统 Accessory injection system					
型号规格	Model specification	DIC-12M	DIC-70M	DIC-250-V3	
螺杆直径	Screw diameter	30	38	38	cm³/shot
注塑体积	Shot Volume	100	170	170	cm³/s
注射压力	Injection pressure	185	185	185	MPa
注射行程	Injection stroke	150	150	150	mm
螺杆转速	Screw speed	0-200	0-200	0-200	r/min

双排模具工艺 Double-row mold process

该机型最大限度地利用机器的容模空间, 很好地解决了热流道平衡出料的难题。让每一腔制品品质都得到保证, 特别适合单一品种的大订单需求, 实现单台生产的高效率, 以期达到更低的单个产品的生产成本, 可以满足医药包装、食品包装等行业的应用。

This model makes the most of the mold space of the machine and effectively solves the problem of balanced discharge in the hot runner. To ensure the quality of each cavity of products, it is particularly suitable for large orders of a single variety, achieving high efficiency in single-unit production, with the aim of lowering the production cost of individual products. It can meet the application requirements of industries such as pharmaceutical packaging and food packaging.



PRODUCT PARAMETERS

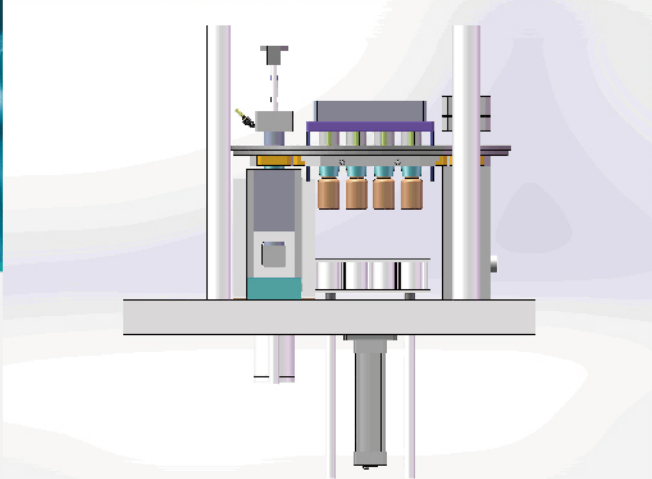
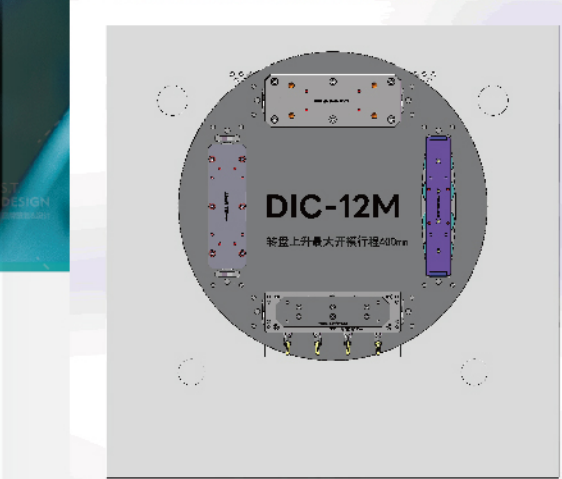
四工位系列-DIC-12M技术规格参数表

Four-station Series -DIC-12M Technical Specification Parameter Table

	规格	Specification		单位Unit
注塑装置 Injection unit	螺杆直径	Screw diameter	Φ50	cm³/shot
	注塑体积	Shot volume	300	cm³/s
	注射压力	Injection pressure	185	MPa
	注射行程	Injection stroke	150	mm
	螺杆转速	Screw speed	0-200	r/min
注塑模具工位 Injection mold clamp station	注塑芯合模力	Clamping force inj.core	300	KN
	唇膜合模力	Clamping force lip mold	300	KN
	注射合模行程	Clamping stroke inj.core	250	mm
	唇膜行程	Clamping stroke lip mold	450	mm
调温工位 Temperature control station	调温芯行程	Conditioning core stroke	200	KN
	调温芯保持力	Conditioning core cylinder	2.50	KN
	调温罐行程	Conditioning pot stroke	250	KN
	调温罐保持力	Conditioning pot cylinder	4.00	KN
拉伸吹瓶工位 Stretch blow molding station	拉伸行程	Stretching stroke	100	mm
	拉伸保持力	Tensile holding force	4.80	KN
	吹塑芯行程	Blow molding core stroke	200-250	mm
	吹瓶模行程	Blow molding die stroke	80+80	mm
	吹瓶模合模力	Blow mold clamping force	140	KN
	吹瓶模具尺寸	Blow mold platen size	360X330	mm
瓶子顶出工位 Bottle eject station	顶出行程	Ejector number	200	mm
	顶出保持力	Ejector force	2.5	KN
液压系统 Hydraulic system	系统压力	System pressure	17.5	MPa
	油箱容量	Oil tank capacity	450	L
	油泵排量	Pump delivery	120-160	L/min
气动系统 Pneumatic system	吹气压力	System pressure	3.5	MPa
	机器操作用气压力	Oil tank capacity	0.8	MPa
	机器用气容量	Pump delivery	10.0	L/shot
电气系统 Electric system	油泵1伺服	Servo motor-pump1	22	Kw
	油泵2伺服	Servo motor-pump2	22	Kw
	油泵3伺服	Servo motor-pump3	22	Kw
	旋转台伺服	Servo motor-filter unit	1.8	Kw
	炮筒发热容量	Heating capacity-barrel	11	Kw
	模具发热容量	Heating capacity-mold	6	Kw
	控制电路电压	Control circuit voltage	24	VDC
	机器总功率	Total power	85	Kw
	实际消耗功率	Actual operating power	15-20	Kw
	冷却塔水量	Cooling tower water	55	L/min
冷却水系统 Water system	冷却塔水压	Cooling tower water pressure	0.3-0.6	MPa
	冰水水量	Chiller water	60	L/min
	冰水水压	Chiller water pressure	0.3-0.6	MPa
	冷却塔水量	Cooling tower water	55	L/min
机器尺寸、重量 Machine size, mass	机器尺寸	Machine size	4500X1400X2850	mm
	机器面积	Floor space	4500X1400	mm²
	机器重量	Machine weight	8000	kg

机型容量模量腔数表 Model modulus and cavity number table

四工位设备	Four-station equipment		DIC-12M								单位Unit
模腔数	Number of mold cavities		1	2	3	4	5	6	7	8	
最大容量	Maximum capacity		2.5	1.5	0.9	0.4	0.25	0.1	0.03	0.02	L
最大瓶口	Maximum bottle mouth	T	83	62	48	38	32	25	17	15	MM
最大瓶口外径	Maximum outer diameter of the bottle mouth	E	79	60	43	33	28	23	15	13	MM
最大支撑环	Maximum support ring	SR	80	62	45	38	32	25	17	15	MM
最大瓶身直径	Maximum bottle diameter	BD	118	90	66	54	55	44	29	27	MM
最大模腔宽度	Maximum cavity width	WD	145	113	84	68	55	44	29	27	MM
最大模腔深度	Maximum cavity depth	DD	118	90	68	54	110	88	58	54	MM
最大高度	Maximum height	HB	300	300	300	300	200	200	150	150	MM
最大重量	Maximum weight		165	65	43	32	26	22	18	16	G



四工位生产原理 Four-station production principle

- 工位一

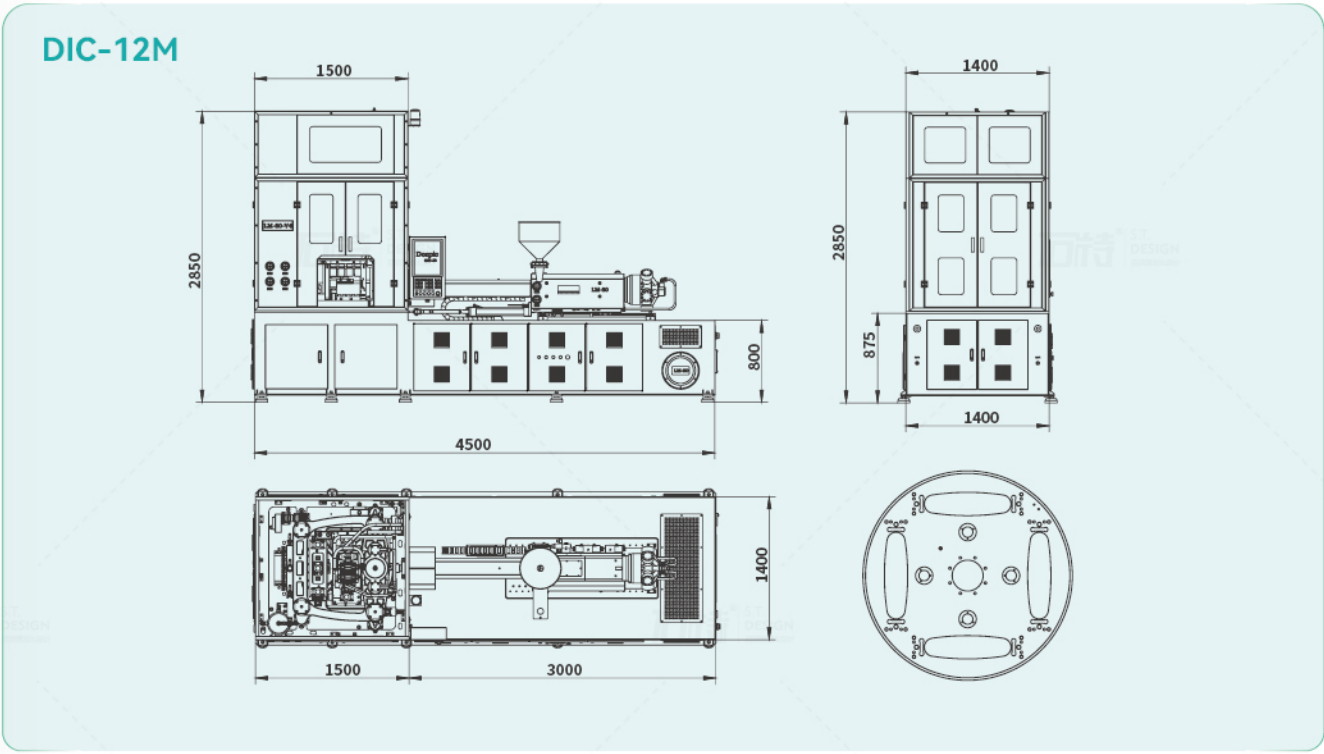
塑料粒子经过注射单元注入模腔，形成瓶胚。
- 工位二

转盘旋转90°到调温工位，根据瓶型特点和大小，进行拉伸吹气前的温度调整。
- 工位三

转盘旋转180°到吹瓶工位，用热型胚法，进行拉伸吹气成型为设计形状容器。
- 工位四

转盘最后旋转到脱模取出工位，完成产品的一次生产周期。

- At Station one, plastic particles are injected into the mold cavity through the injection unit to form preforms.
- Rotate the turntable at station two by 90 degrees to the temperature adjustment station. According to the characteristics and size of the bottle shape, adjust the temperature before stretching and blowing.
- The third turntable at the workstation rotates 180 ° to the bottle blowing station, and the hot preform method is used to stretch and blow air to form the container of the designed shape.
- The fourth turntable at the workstation finally rotates to the demolding and removal workstation, completing one production cycle of the product.



PRODUCT PARAMETERS

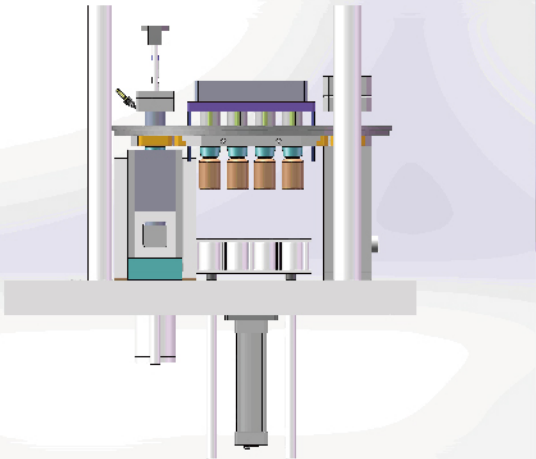
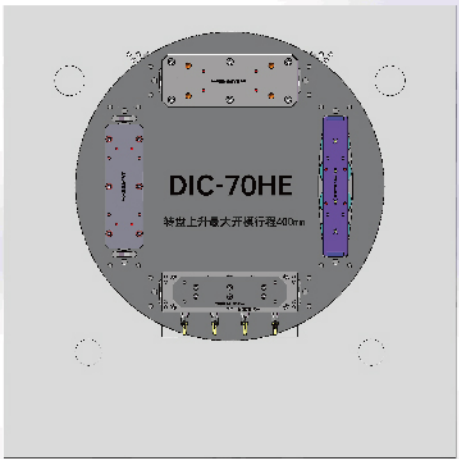
四工位系列-DIC-70HE 技术规格参数表

Four-station Series -DIC-70HE Technical Specification Parameter Table

	规格	Specification		单位Unit
注塑装置 Injection unit	螺杆直径	Screw diameter	Φ70	cm³/shot
	注塑体积	Shot volume	580	cm³/s
	注射压力	Injection pressure	185	MPa
	注射行程	Injection stroke	150	mm
	螺杆转速	Screw speed	0-200	r/min
注塑模具工位 Injection mold clamp station	注塑芯合模力	Clamping force inj.core	300	KN
	唇膜合模力	Clamping force lip mold	300	KN
	注射合模行程	Clamping stroke inj.core	250	mm
	唇膜行程	Clamping stroke lip mold	450	mm
调温工位 Temperature control station	调温芯行程	Conditioning core stroke	200	KN
	调温芯保持力	Conditioning core cylinder	4.00	KN
	调温罐行程	Conditioning pot stroke	250	KN
	调温罐保持力	Conditioning pot cylinder	4.00	KN
拉伸吹瓶工位 Stretch blow molding station	拉伸行程	Stretching stroke	100	mm
	拉伸保持力	Tensile holding force	7.80	KN
	吹塑芯行程	Blow molding core stroke	200-250	mm
	吹瓶模行程	Blow molding die stroke	100+100	mm
	吹瓶模合模力	Blow mold clamping force	220	KN
	吹瓶模具尺寸	Blow mold platen size	550x330	mm
瓶子顶出工位 Bottle eject station	顶出行程	Ejector number	200	mm
	顶出保持力	Ejector force	4.00	KN
液压系统 Hydraulic system	系统压力	System pressure	17.5	MPa
	油箱容量	Oil tank capacity	600	L
	油泵排量	Pump delivery	120-160	L/min
气动系统 Pneumatic system	吹气压力	System pressure	3.5	MPa
	机器操作用气压力	Oil tank capacity	0.8	MPa
	机器用气容量	Pump delivery	10.0	L/shot
电气系统 Electric system	油泵1伺服	Servo motor-pump1	27	Kw
	油泵2伺服	Servo motor-pump2	22	Kw
	油泵3伺服	Servo motor-pump3	22	Kw
	旋转台伺服	Servo motor-filter unit	3.0	Kw
	炮筒发热容量	Heating capacity-barrel	13	Kw
	模具发热容量	Heating capacity-mold	8	Kw
	控制电路电压	Control circuit voltage	24	VDC
	机器总功率	Total power	95	Kw
	实际消耗功率	Actual operating power	18-22	Kw
冷却水系统 Water system	冷却塔水量	Cooling tower water	60	L/min
	冷却塔水压	Cooling tower water pressure	0.3-0.6	MPa
	冰水水量	Chiller water	60	L/min
	冰水水压	Chiller water pressure	0.3-0.6	MPa
机器尺寸、重量 Machine size, mass	机器尺寸	Machine size	5000x1700x2900	mm
	机器面积	Floor space	5000x1700	mm²
	机器重量	Machine weight	9000	kg

机型容量模腔数表 Model modulus and cavity number table

四工位设备	Four-station equipment		DIC-70HE												单位Unit
模腔数	Number of mold cavities		1	2	3	4	5	6	7	8	9	10	12		
最大容量	Maximum capacity		10	4.5	3.5	3	1.8	1	0.6	0.4	0.35	0.25	0.1	L	
最大瓶口	Maximum bottle mouth	T	149	120	99	95	73	57	42	36	34	27	18	MM	
最大瓶口外径	Maximum outer diameter of the bottle mouth	E	145	118	96	93	70	55	40	34	32	25	16	MM	
最大支撑环	Maximum support ring	SR	158	120	99	94	73	58	42	36	36	27	18	MM	
最大瓶身直径	Maximum bottle diameter	BD	204	153	130	120	99	79	66	54	53	45	37	MM	
最大模腔宽度	Maximum cavity width	WD	204	153	130	123	99	79	66	54	53	45	37	MM	
最大模腔深度	Maximum cavity depth	DD	120	120	120	120	108	117	120	108	106	90	74	MM	
最大高度	Maximum height	HB	350	350	350	350	350	350	350	350	350	350	350	MM	
最大重量	Maximum weight		311	156	104	78	62	52	44	39	35	31	26	G	



四工位生产原理 Four-station production principle

工位一 塑料粒子经过注射单元注入模腔，形成瓶胚。

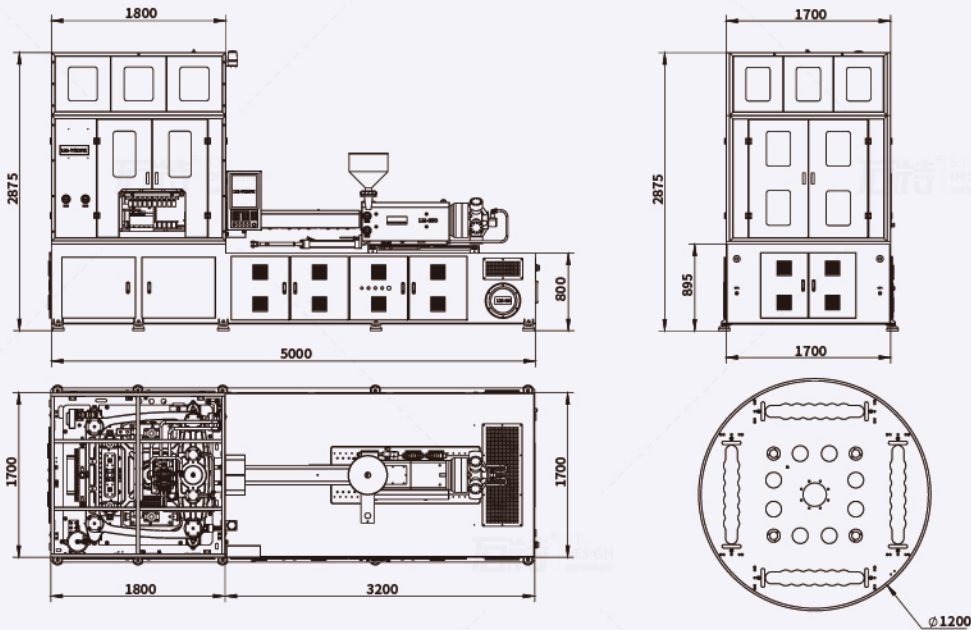
工位三 转盘旋转180°到吹瓶工位，用热型胚法，进行拉伸吹气成型为设计形状容器。

工位二 转盘旋转90°到调温工位，根据瓶型特点和大小，进行拉伸吹气前的温度调整。

工位四 转盘最后旋转到脱模取出工位，完成产品的一次生产周期。

- At Station one, plastic particles are injected into the mold cavity through the injection unit to form preforms.
- Rotate the turntable at station two by 90 degrees to the temperature adjustment station. According to the characteristics and size of the bottle shape, adjust the temperature before stretching and blowing.
- The third turntable at the workstation rotates 180 ° to the bottle blowing station, and the hot preform method is used to stretch and blow air to form the container of the designed shape.
- The fourth turntable at the workstation finally rotates to the demolding and removal workstation, completing one production cycle of the product.

DIC-70HE



PRODUCT PARAMETERS

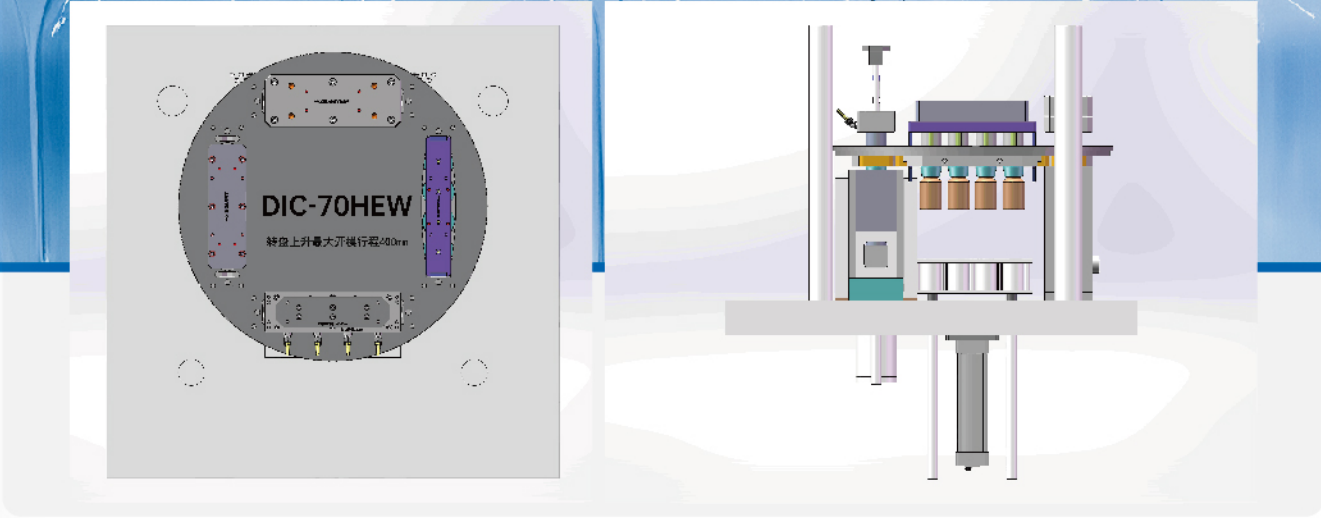
四工位系列-DIC-70HEW技术规格参数表

Four-station Series -DIC-70HEW Technical Specification Parameter Table

	规格	Specification		单位Unit
注塑装置 Injection unit	螺杆直径	Screw diameter	Φ70	cm³/shot
	注塑体积	Shot volume	580	cm³/s
	注射压力	Injection pressure	185	MPa
	注射行程	Injection stroke	150	mm
	螺杆转速	Screw speed	0-200	r/min
注塑模具工位 Injection mold clamp station	注塑芯合模力	Clamping force inj.core	500	KN
	唇膜合模力	Clamping force lip mold	500	KN
	注射合模行程	Clamping stroke inj.core	250	mm
	唇膜行程	Clamping stroke lip mold	500	mm
调温工位 Temperature control station	调温芯行程	Conditioning core stroke	250	KN
	调温芯保持力	Conditioning core cylinder	6.00	KN
	调温罐行程	Conditioning pot stroke	250	KN
	调温罐保持力	Conditioning pot cylinder	6.00	KN
拉伸吹瓶工位 Stretch blow molding station	拉伸行程	Stretching stroke	100	mm
	拉伸保持力	Tensile holding force	10.20	KN
	吹塑芯行程	Blow molding core stroke	200-250	mm
	吹瓶模行程	Blow molding die stroke	120+120	mm
	吹瓶模合模力	Blow mold clamping force	260	KN
瓶子顶出工位 Bottle eject station	吹瓶模具尺寸	Blow mold platen size	600x350	mm
	顶出行程	Ejector number	200	mm
液压系统 Hydraulic system	顶出保持力	Ejector force	6.00	KN
	系统压力	System pressure	17.5	MPa
	油箱容量	Oil tank capacity	650	L
气动系统 Pneumatic system	油泵排量	Pump delivery	120-160	L/min
	吹气压力	System pressure	3.5	MPa
	机器操作用气压力	Oil tank capacity	0.8	MPa
电气系统 Electric system	机器用气容量	Pump delivery	12.0	L/shot
	油泵1伺服	Servo motor-pump1	27	Kw
	油泵2伺服	Servo motor-pump2	27	Kw
	油泵3伺服	Servo motor-pump3	27	Kw
	旋转台伺服	Servo motor-filter unit	3.8	Kw
	炮筒发热容量	Heating capacity-barrel	13	Kw
	模具发热容量	Heating capacity-mold	8	Kw
	控制电路电压	Control circuit voltage	24	VDC
	机器总功率	Total power	105	Kw
	实际消耗功率	Actual operating power	22-30	Kw
冷却水系统 Water system	冷却塔水量	Cooling tower water	60	L/min
	冷却塔水压	Cooling tower water pressure	0.3-0.6	MPa
	冰水水量	Chiller water	60	L/min
	冰水水压	Chiller water pressure	0.3-0.6	MPa
机器尺寸、重量 Machine size, mass	机器尺寸	Machine size	5700x2000x3000	mm
	机器面积	Floor space	5700x2000	mm²
	机器重量	Machine weight	11000	kg

机型容量模腔数表 Model modulus and cavity number table

四工位设备	Four-station equipment		DIC-70HEW								单位Unit
模腔数	Number of mold cavities		8	10	12	14	16	20	24		
最大容量	Maximum capacity		1	0.9	0.8	0.6	0.4	0.25	0.1		L
最大瓶口	Maximum bottle mouth	T	57	56	47	38	32	26	24		MM
最大瓶口外径	Maximum outer diameter of the bottle mouth	E	57	56	47	38	32	26	24		MM
最大支撑环	Maximum support ring	SR	60	58	49	38	33	27	25		MM
最大瓶身直径	Maximum bottle diameter	BD	85	85	79	66	54	45	37		MM
最大模腔宽度	Maximum cavity width	WD	85	85	79	66	54	45	37		MM
最大模腔深度	Maximum cavity depth	DD	85	85	79	66	54	45	37		MM
最大高度	Maximum height	HB	270	270	270	270	270	270	270		MM
最大重量	Maximum weight		55	44	36	31	27	22	18		G



四工位生产原理 Four-station production principle

工位一 塑料粒子经过注射单元注入模腔，形成瓶胚。

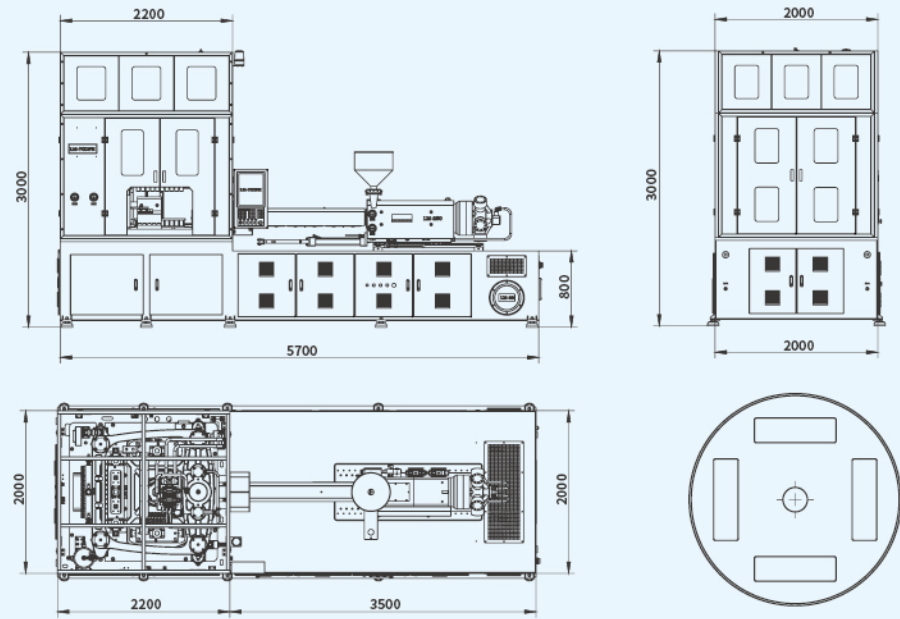
工位三 转盘旋转180°到吹瓶工位，用热型胚法，进行拉伸吹气成型为设计形状容器。

工位二 转盘旋转90°到调温工位，根据瓶型特点和大小，进行拉伸吹气前的温度调整。

工位四 转盘最后旋转到脱模取出工位，完成产品的一次生产周期。

- At Station one, plastic particles are injected into the mold cavity through the injection unit to form preforms.
- Rotate the turntable at station two by 90 degrees to the temperature adjustment station. According to the characteristics and size of the bottle shape, adjust the temperature before stretching and blowing.
- The third turntable at the workstation rotates 180 ° to the bottle blowing station, and the hot preform method is used to stretch and blow air to form the container of the designed shape.
- The fourth turntable at the workstation finally rotates to the demolding and removal workstation, completing one production cycle of the product.

DIC-70HEW

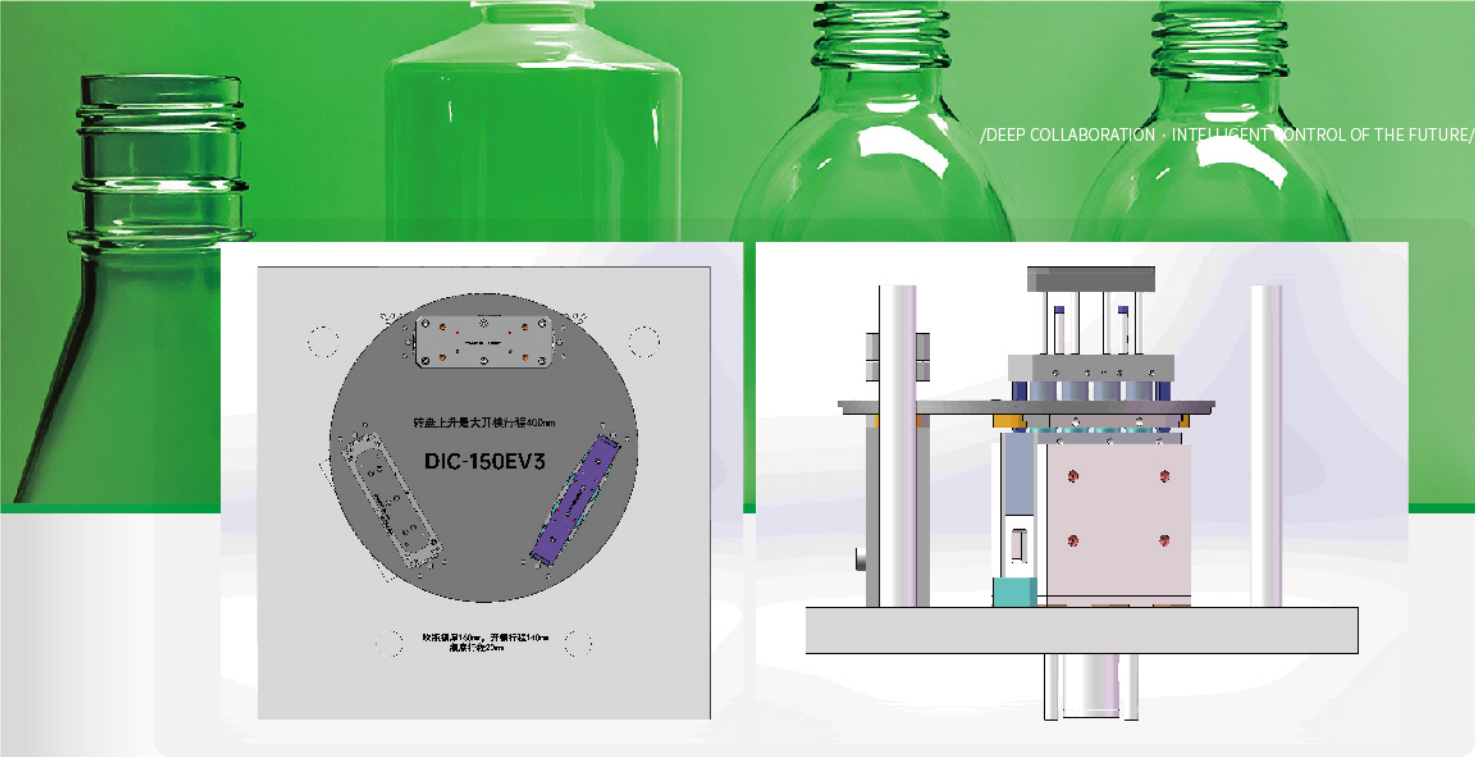


PRODUCT PARAMETERS
三工位系列-DIC-150EV3技术规格参数表
Three-station Series -DIC-150EV3 Technical Specification Parameter Table

	规格	Specification		单位Unit
注塑装置 Injection unit	螺杆直径	Screw diameter	Φ50	cm³/shot
	注塑体积	Shot volume	300	cm³/s
	注射压力	Injection pressure	185	MPa
	注射行程	Injection stroke	150	mm
	螺杆转速	Screw speed	0-200	r/min
注塑模具工位 Injection mold clamp station	注塑芯合模力	Clamping force inj.core	300	KN
	唇膜合模力	Clamping force lip mold	300	KN
	注射合模行程	Clamping stroke inj.core	250	mm
	唇膜行程	Clamping stroke lip mold	600	mm
拉伸吹瓶工位 Stretch blow molding station	拉伸行程	Stretching stroke	100	mm
	拉伸保持力	Tensile holding force	4.80	KN
	吹塑芯行程	Blow molding core stroke	200-250	mm
	吹瓶模行程	Blow molding die stroke	140	mm
	吹瓶模合模力	Blow mold clamping force	140	KN
	吹瓶模具尺寸	Blow mold platen size	350x330	mm
瓶子顶出工位 Bottle eject station	顶出行程	Ejector number	200	mm
	顶出保持力	Ejector force	2.5	KN
液压系统 Hydraulic system	系统压力	System pressure	17.5	MPa
	油箱容量	Oil tank capacity	450	L
	油泵排量	Pump delivery	120-160	L/min
气动系统 Pneumatic system	吹气压力	System pressure	3.5	MPa
	机器操作气压力	Oil tank capacity	0.8	MPa
	机器用气容量	Pump delivery	10.0	L/shot
电气系统 Electric system	油泵1伺服	Servo motor-pump1	22	Kw
	油泵2伺服	Servo motor-pump2	22	Kw
	油泵3伺服	Servo motor-pump3	22	Kw
	旋转台伺服	Servo motor-filter unit	1.8	Kw
	炮筒发热容量	Heating capacity-barrel	11	Kw
	模具发热容量	Heating capacity-mold	6	Kw
	控制电路电压	Control circuit voltage	24	VDC
	机器总功率	Total power	85	Kw
	实际消耗功率	Actual operating power	15-20	Kw
冷却水系统 Water system	冷却塔水量	Cooling tower water	55	L/min
	冷却塔水压	Cooling tower water pressure	0.3-0.6	MPa
	冰水水量	Chiller water	60	L/min
	冰水水压	Chiller water pressure	0.3-0.6	MPa
机器尺寸、重量 Machine size, mass	机器尺寸	Machine size	4500x1600x3000	mm
	机器面积	Floor space	4500x1600	mm²
	机器重量	Machine weight	7500	kg

机型容量模腔数表 Model modulus and cavity number table

三工位设备	Four-station equipment		DIC-150EV3								单位Unit
模腔数	Number of mold cavities		1	2	3	4	5	6	7	8	
最大容量	Maximum capacity		1500	1400	1400	600	300	180	90	35	L
最大瓶口	Maximum bottle mouth	T	85	65	50	37	28	24	18	12	MM
最大瓶口外径	Maximum outer diameter of the bottle mouth	E	83	62	48	35	26	22	16	10	MM
最大支撑环	Maximum support ring	SR	85	65	50	37	28	24	18	12	MM
最大瓶身直径	Maximum bottle diameter	BD	90	90	90	66	54	44	36	30	MM
最大模腔宽度	Maximum cavity width	WD	90	90	90	66	54	44	36	30	MM
最大模腔深度	Maximum cavity depth	DD	90	90	90	66	54	44	36	30	MM
最大高度	Maximum height	HB	250	250	250	210	170	150	120	80	MM
最大重量	Maximum weight		280	220	180	85	60	45	35	25	G



三工位生产原理 The production principle of three-station

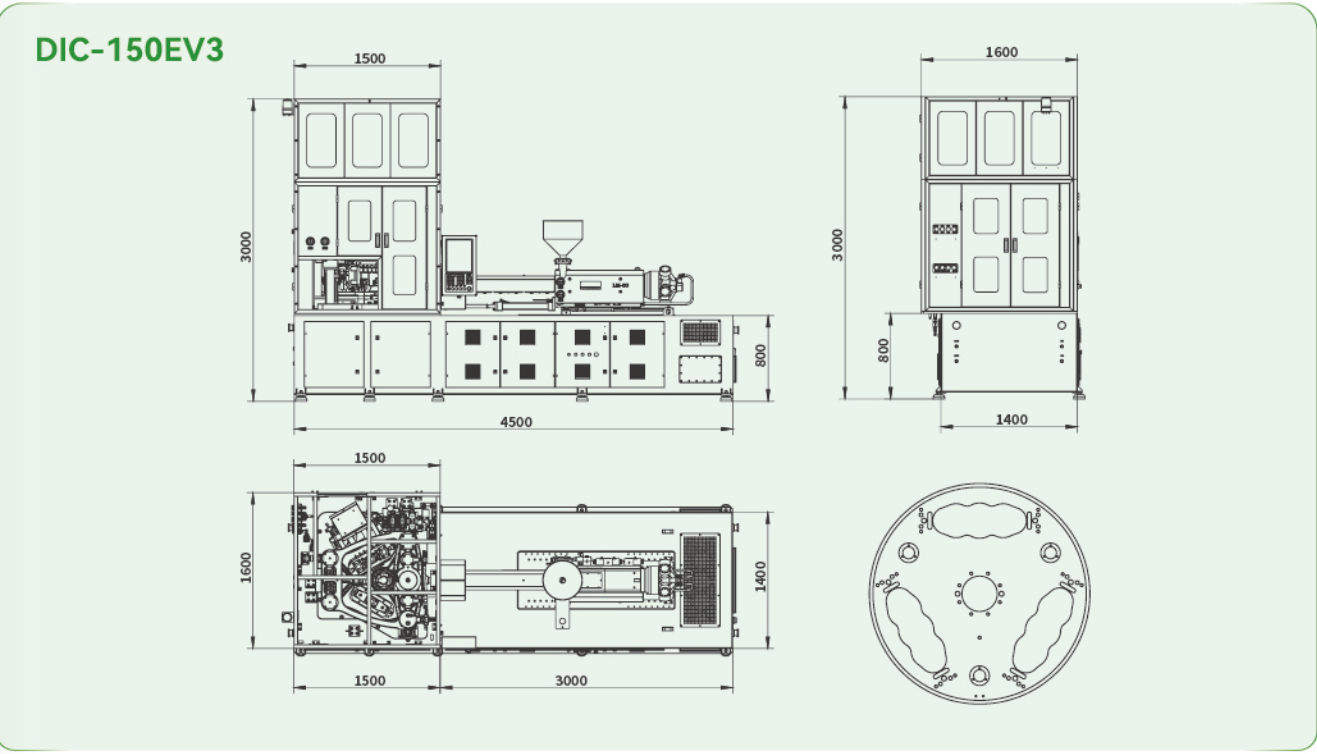
- 工位一

塑料粒子经过注射单元注入模腔，形成瓶胚。
- 工位二

转盘旋转120°到吹瓶工位，用热型胚法，进行拉伸吹气成型为设计形状容器。
- 工位三

转盘最后旋转到脱模取出工位，完成产品的一次生产周期。

- At Station one, plastic particles are injected into the mold cavity through the injection unit to form preforms.
- At Station two, the turntable rotates 120 degrees to the bottle blowing station, and the hot preform method is used to stretch and blow air to form the container of the designed shape.
- The third turntable at the workstation finally rotates to the demolding and removal workstation, completing one production cycle of the product.



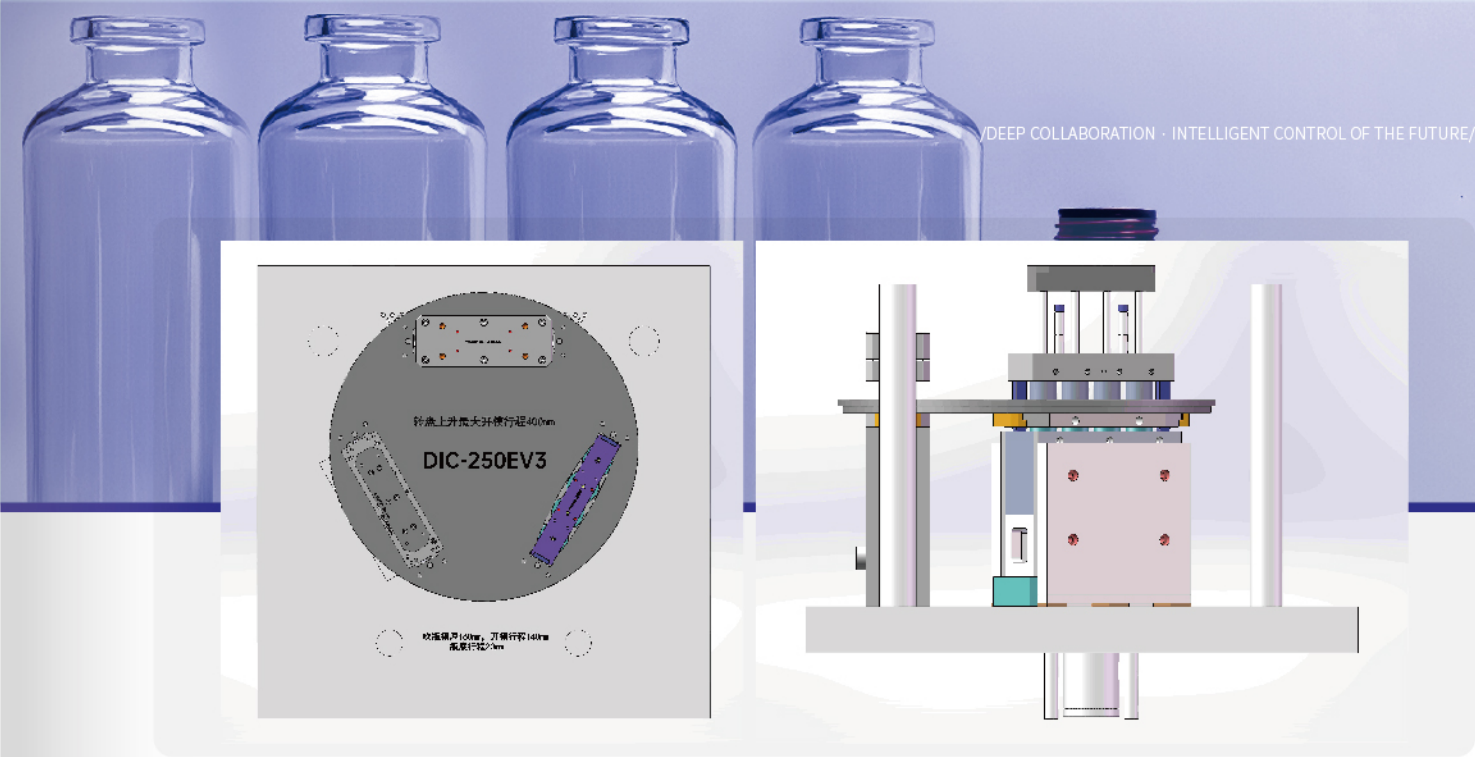
PRODUCT PARAMETERS
三工位系列-DIC-250EV3技术规格参数表

Three-station Series -DIC-250EV3 Technical Specification Parameter Table

	规格	Specification		单位Unit
注塑装置 Injection unit	螺杆直径	Screw diameter	Φ70	cm³/shot
	注塑体积	Shot volume	580	cm³/s
	注射压力	Injection pressure	185	MPa
	注射行程	Injection stroke	150	mm
	螺杆转速	Screw speed	0-200	r/min
注塑模具工位 Injection mold clamp station	注塑芯合模力	Clamping force inj.core	300	KN
	唇膜合模力	Clamping force lip mold	300	KN
	注射合模行程	Clamping stroke inj.core	250	mm
	唇膜行程	Clamping stroke lip mold	600	mm
拉伸吹瓶工位 Stretch blow molding station	拉伸行程	Stretching stroke	100	mm
	拉伸保持力	Tensile holding force	7.80	KN
	吹塑芯行程	Blow molding core stroke	200-250	mm
	吹瓶模行程	Blow molding die stroke	200	mm
	吹瓶模合模力	Blow mold clamping force	220	KN
	吹瓶模具尺寸	Blow mold platen size	500x330	mm
瓶子顶出工位 Bottle eject station	顶出行程	Ejector number	200	mm
	顶出保持力	Ejector force	4.00	KN
液压系统 Hydraulic system	系统压力	System pressure	17.5	MPa
	油箱容量	Oil tank capacity	550	L
	油泵排量	Pump delivery	120-160	L/min
气动系统 Pneumatic system	吹气压力	System pressure	3.5	MPa
	机器操作气压力	Oil tank capacity	0.8	MPa
	机器用气容量	Pump delivery	10.0	L/shot
电气系统 Electric system	油泵1伺服	Servo motor-pump1	27	Kw
	油泵2伺服	Servo motor-pump2	22	Kw
	油泵3伺服	Servo motor-pump3	22	Kw
	旋转台伺服	Servo motor-filter unit	3.0	Kw
	炮筒发热容量	Heating capacity-barrel	13	Kw
	模具发热容量	Heating capacity-mold	8	Kw
	控制电路电压	Control circuit voltage	24	VDC
	机器总功率	Total power	95	Kw
	实际消耗功率	Actual operating power	18-22	Kw
	冷却塔水量	Cooling tower water	60	L/min
冷却水系统 Water system	冷却塔水压	Cooling tower water pressure	0.3-0.6	MPa
	冰水水量	Chiller water	60	L/min
	冰水水压	Chiller water pressure	0.3-0.6	MPa
	机器尺寸	Machine size	5000x1850x3000	mm
机器尺寸、重量 Machine size, mass	机器面积	Floor space	5000x1850	mm²
	机器重量	Machine weight	9500	kg

机型容量模腔数表 Model modulus and cavity number table

三工位设备	Four-station equipment		DIC-250EV3								单位Unit
模腔数	Number of mold cavities		1	2	3	4	5	6	7	8	
最大容量	Maximum capacity		5000	3000	3000	2000	900	600	350	250	L
最大瓶口	Maximum bottle mouth	T	107	80	72	60	42	35	30	24	MM
最大瓶口外径	Maximum outer diameter of the bottle mouth	E	105	78	70	58	40	33	28	22	MM
最大支撑环	Maximum support ring	SR	107	80	72	60	42	35	30	24	MM
最大瓶身直径	Maximum bottle diameter	BD	150	130	130	100	80	66	55	48	MM
最大模腔宽度	Maximum cavity width	WD	150	130	130	100	80	66	55	48	MM
最大模腔深度	Maximum cavity depth	DD	150	130	130	100	80	66	55	48	MM
最大高度	Maximum height	HB	335	335	335	335	265	250	250	210	MM
最大重量	Maximum weight		550	320	260	180	150	110	55	39	G

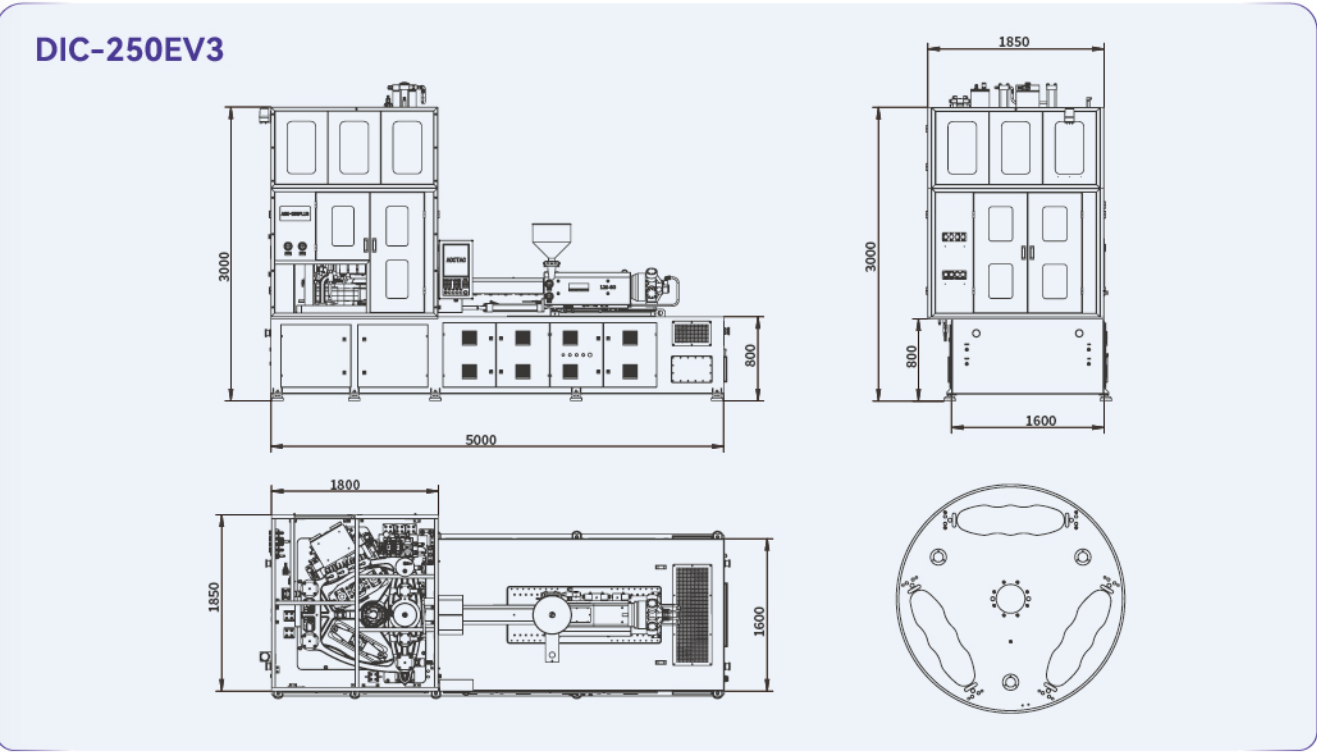


三工位生产原理 The production principle of three-station

- 工位一 塑料粒子经过注射单元注入模腔,形成瓶胚。
- 工位三 转盘最后旋转到脱模取出工位,完成产品的一次生产周期。

- 工位二 转盘旋转120°到吹瓶工位,用热型胚法,进行拉伸吹气成型为设计形状容器。

- At Station one, plastic particles are injected into the mold cavity through the injection unit to form preforms.
- At Station two, the turntable rotates 120 degrees to the bottle blowing station, and the hot preform method is used to stretch and blow air to form the container of the designed shape.
- The third turntable at the workstation finally rotates to the demolding and removal workstation, completing one production cycle of the product.

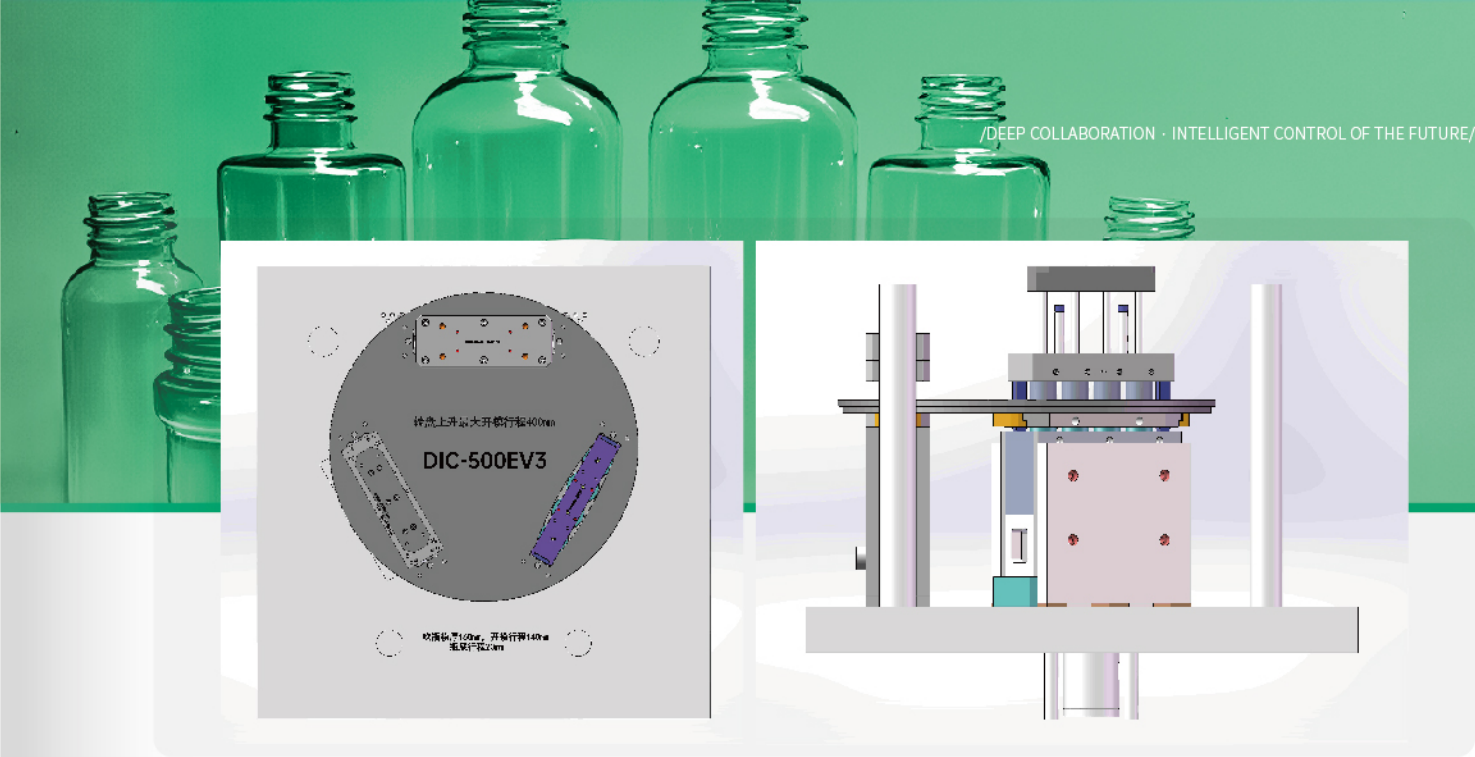


PRODUCT PARAMETERS
三工位系列-DIC-500EV3技术规格参数表
Three-station Series -DIC-500EV3 Technical Specification Parameter Table

	规格	Specification	单位Unit	
注塑装置 Injection unit	螺杆直径	Screw diameter	Φ70	cm³/shot
	注塑体积	Shot volume	580	cm³/s
	注射压力	Injection pressure	185	MPa
	注射行程	Injection stroke	150	mm
	螺杆转速	Screw speed	0-200	r/min
注塑模具工位 Injection mold clamp station	注塑芯合模力	Clamping force inj.core	500	KN
	唇膜合模力	Clamping force lip mold	500	KN
	注射合模行程	Clamping stroke inj.core	250	mm
	唇膜行程	Clamping stroke lip mold	600	mm
拉伸吹瓶工位 Stretch blow molding station	拉伸行程	Stretching stroke	100	mm
	拉伸保持力	Tensile holding force	10.20	KN
	吹塑芯行程	Blow molding core stroke	200-250	mm
	吹瓶模行程	Blow molding die stroke	200	mm
	吹瓶模合模力	Blow mold clamping force	260	KN
	吹瓶模具尺寸	Blow mold platen size	600x350	mm
瓶子顶出工位 Bottle eject station	顶出行程	Ejector number	200	mm
	顶出保持力	Ejector force	6.00	KN
液压系统 Hydraulic system	系统压力	System pressure	17.5	MPa
	油箱容量	Oil tank capacity	650	L
	油泵排量	Pump delivery	120-160	L/min
气动系统 Pneumatic system	吹气压力	System pressure	3.5	MPa
	机器操作气压力	Oil tank capacity	0.8	MPa
	机器用气容量	Pump delivery	12.0	L/shot
电气系统 Electric system	油泵1伺服	Servo motor-pump1	27	Kw
	油泵2伺服	Servo motor-pump2	27	Kw
	油泵3伺服	Servo motor-pump3	27	Kw
	旋转台伺服	Servo motor-filter unit	3.0	Kw
	炮筒发热容量	Heating capacity-barrel	13	Kw
	模具发热容量	Heating capacity-mold	8	Kw
	控制电路电压	Control circuit voltage	24	VDC
	机器总功率	Total power	105	Kw
	实际消耗功率	Actual operating power	22-30	Kw
	冷却塔水量	Cooling tower water	60	L/min
冷却水系统 Water system	冷却塔水压	Cooling tower water pressure	0.3-0.6	MPa
	冰水水量	Chiller water	60	L/min
	冰水水压	Chiller water pressure	0.3-0.6	MPa
	机器尺寸	Machine size	5700x2200x3000	mm
机器尺寸、重量 Machine size, mass	机器面积	Floor space	5700x2200	mm²
	机器重量	Machine weight	12000	kg

机型容量模腔数表 Model modulus and cavity number table

三工位设备	Four-station equipment	DIC-500EV3										单位Unit
模腔数	Number of mold cavities		1	2	3	4	5	6	7	8		
最大容量	Maximum capacity		5000	3000	3000	3000	2000	900	600	350		L
最大瓶口	Maximum bottle mouth	T	110	98	80	70	60	42	35	30		MM
最大瓶口外径	Maximum outer diameter of the bottle mouth	E	107	80	78	68	58	40	33	28		MM
最大支撑环	Maximum support ring	SR	110	98	80	70	60	42	35	30		MM
最大瓶身直径	Maximum bottle diameter	BD	150	130	130	120	80	66	55	48		MM
最大模腔宽度	Maximum cavity width	WD	150	130	130	100	80	66	55	48		MM
最大模腔深度	Maximum cavity depth	DD	140	140	140	140	70	56	45	38		MM
最大高度	Maximum height	HB	335	335	335	335	265	250	250	210		MM
最大重量	Maximum weight		650	380	310	220	175	135	65	45		G

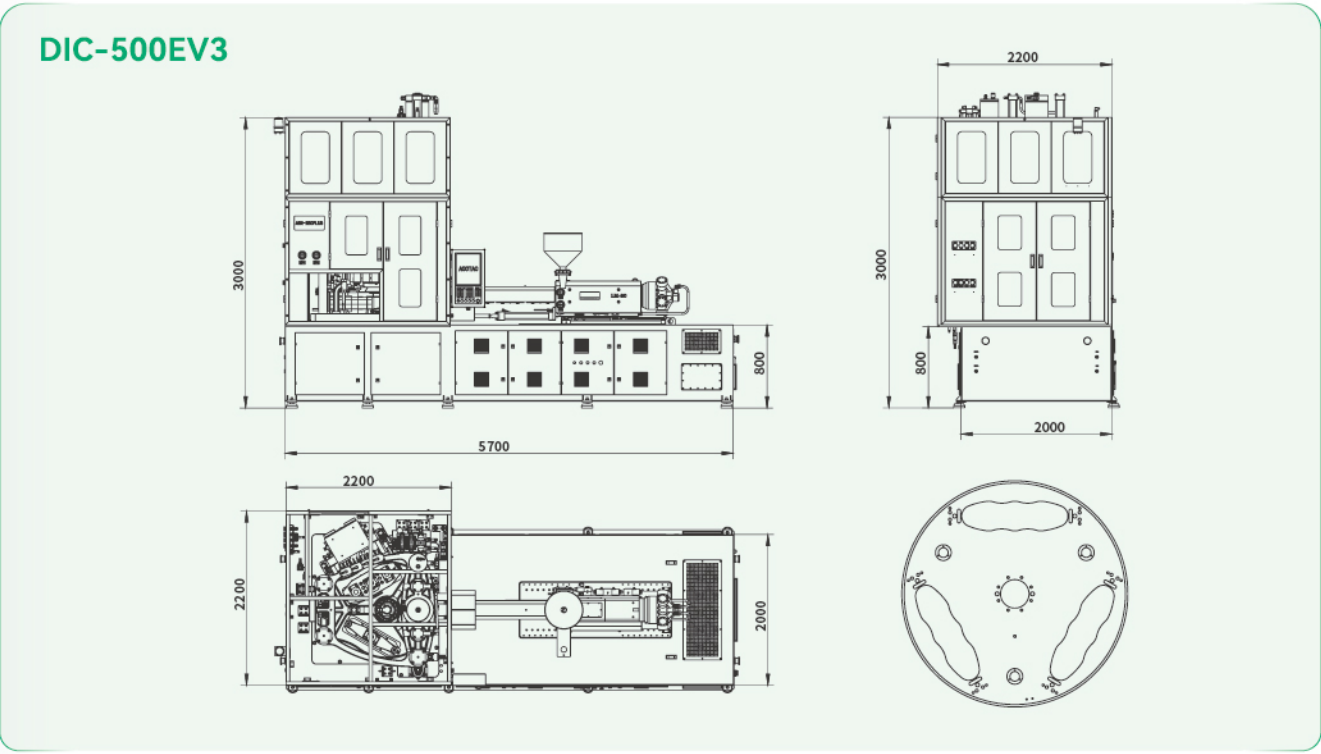


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APPLICATION

应用领域

饮水水杯及婴幼儿奶瓶
(PCTG, Tritan™, PC, PS, AS, PPSU)

Drinking water cups and baby bottles
(PCTG, Tritan™, PC, PS, AS, PPSU)



美妆及日化容器
(ABS, AS, PETG, PET, PP)

Containers for beauty and daily chemical
products (ABS, AS, PETG, PET, PP)



生物制药及医疗器具
(POM, PET, PE, PP, PC, PETG)

Biopharmaceuticals and medical devices
(POM, PET, PE, PP, PC, PETG)



流体饮料及药品包装
(PP, PE, PET, PS)

Fluid beverage and pharmaceutical packaging
(PP, PE, PET, PS)



SERVICE AND GUARANTEE

服务保障

全程无忧的售后服务保障

一站式全方位服务体系

Hassle-free after-sale service & one stop comprehensive service system

一

售前服务 专业在线 Professional and online pre-sale service

- 根据客户产品信息, 提供最佳的机器配置方案, 以及周边配套辅机的选择。可免费为客户设计注塑车间厂房布置示意图以作参考, 并对水电气进行估算;
 - 便于客户了解我司产品、技术、服务等内容, 可到现场与客户进行技术交流、沟通;
 - 随时提供到我司进行实地考察与交流;
- 售前技术支持电话: 0571-56396990 联系人: 章工

- Based on the customer's product information, provide the best machine configuration plan and the selection of peripheral auxiliary machines. We can design a free layout diagram of the injection molding workshop for customers as a reference and estimate water, electricity and gas.
 - It is convenient for customers to understand our company's products, technologies, services and other contents, and they can go to the site to have technical exchanges and communication with customers.
 - We are always ready to offer on-site visits and exchanges at our company.
- Pre-sale technical support phone number: 0571-56396990 Contact person: Engineer Zhang.

二

售后服务 全程无忧 the after-sales service is worry-free throughout the entire process

- 三免服务: 免费协助安装、免费调试、免费培训技术及操作人员。
 - 二十四小时售后服务
 - 公司总部及各办事处皆设有24小时销售服务热线, 无论您的机器何时出现问题, 只需一个电话, 我们将在第一时间为您提供便捷的服务。
- 客户服务部24小时值班电话: 0571-56396993
- 值班传真: 0571-56396997

- Three free services: Free assistance with installation, free commissioning, and free training for technical and operator personnel.
 - 24-hour after-sales service
 - Both the company headquarters and each office have 24-hour sales and service hotlines. No matter when your machine has a problem, just give us a call and we will provide you with convenient service in the first place.
- The 24-hour duty phone number of the Customer Service department is: 0571-56396993
- Duty fax: 0571-56396997

全维赋能 一站抵达

企业竞争, 赢在效率。我们提供一站式全方位服务——从战略到执行, 从资源到技术, 全周期精准赋能。简化复杂, 聚焦增长, 做您最可靠的成长伙伴, 携手抵达未来。

All-dimensional empowerment arrives in one stop

In business competition, success lies in efficiency. We offer one-stop, all-round services - from strategy to execution, from resources to technology, providing precise empowerment throughout the entire cycle. Simplify complexity, focus on growth, be your most reliable growth partner, and reach the future hand in hand.

三

远程售后管理系统 Remote after-sales management system

如果您前期对一步法设备使用和工艺掌握不熟悉, 可缴纳一定远程售后管理系统平台费用, 远程售后管理系统通过数字化、智能化和全链路协同, 实现高效、透明的售后服务运营。其核心运营模式可分为以下几个关键环节:

If you are not familiar with the use of one-step equipment and the process in the early stage, you can pay a certain fee for the remote after-sales management system platform. The remote after-sales management system realizes efficient and transparent after-sales service operation through digitalization, intelligence and full-chain collaboration. Its core operation mode can be divided into the following key links:

1. 多渠道报修与智能工单生成

多渠道接入: 用户可通过APP、小程序、电话、社交媒体等提交报修请求, 系统自动生成工单并关联用户历史数据(如设备型号、保修期等)。

智能分类: AI识别故障类型(如通过文字描述、图片或视频), 自动匹配知识库解决方案或推荐维修方案。

1. Multi-channel repair reporting and intelligent work order generation

Multi-channel access: Users can submit repair requests through the APP, mini-program, phone, social media, etc. The system will automatically generate work orders and associate them with the user's historical data (such as equipment model, warranty period, etc.).

Intelligent classification: AI identifies fault types (such as through text descriptions, images or videos), and automatically matches knowledge base solutions or recommends maintenance plans.

2. 智能派单与工程师调度

实时定位匹配: 基于GPS或LBS技术, 系统自动筛选距离最近的可用工程师, 并结合技能、工作负载优化派单。

动态优先级: 根据故障紧急程度(如设备宕机 vs. 常规维护)、客户等级(如VIP客户)调整处理顺序。

2. Intelligent order dispatching and engineer scheduling

Real-time location matching: Based on GPS or LBS technology, the system automatically screens the nearest available engineers and optimizes order dispatching in combination with their skills and workloads.

Dynamic priority: Adjust the handling sequence based on the urgency of the fault (such as equipment downtime vs. regular maintenance) and the customer level (such as VIP customers).

四

定期回访 全程暖心 Remote after-sales management system

3. 远程诊断与预处理

IoT设备监测: 联网设备实时回传运行数据, 系统预警潜在故障并触发主动服务(如推送保养提醒)。

AR/视频指导: 工程师通过视频通话或AR标注远程指导用户自助排查简单问题, 减少上门次数。

3. Remote diagnosis and pretreatment

IoT device monitoring: Networked devices transmit real-time operational data, and the system issues early warnings of potential faults and triggers proactive services (such as pushing maintenance reminders).

AR/Video guidance: Engineers remotely guide users to troubleshoot simple problems by themselves through video calls or AR annotations, reducing the number of on-site visits.

4. 全流程可视化与用户互动

进度追踪: 用户可实时查看工单状态、工程师位置、预计到达时间, 类似“滴滴式”服务体验。

透明沟通: 系统自动推送关键节点通知(如接单、出发、完成), 支持用户在线评价与反馈。

4. Full-process visualization and interaction with users

Progress tracking: Users can view the status of work orders, the location of engineers, and the estimated arrival time in real time, providing a "Didi" style service experience.

Transparent communication: The system automatically pushes notifications at key nodes (such as order acceptance, departure, and completion), and supports users' online evaluation and feedback.

5. 数据闭环与优化

故障分析: 聚合维修数据生成报表, 识别高频问题(如某型号冰箱密封条易损), 推动产品改进。

服务优化: 通过AI分析工单处理时长、客户满意度等, 优化派单规则或客服响应策略。

5. Data Closed-loop and optimization

Fault analysis: Aggregate maintenance data to generate reports, identify high-frequency issues (such as the vulnerable sealing strips of a certain model of refrigerator), and drive product improvement.

Service optimization: By analyzing the processing time of work orders, customer satisfaction, etc. through AI, optimize the dispatching rules or customer service response strategies.

四

定期回访 全程暖心 Remote after-sales management system

我们的服务工程师将对您的机器进行定期的回访, 包括对机器的检修和维护, 解答您在机器使用过程中出现的问题, 及向公司反馈您对机器的使用意见及建议等。

Our service engineers will conduct regular follow-up visits to your machine, including inspection and maintenance of the machine, answering any questions you encounter during its use, and providing feedback on your opinions and suggestions regarding the machine's usage to the company.



五

终身服务 安心无忧 Lifetime service for peace of mind

凡购买深度智控产品的用户, 我们将向您提供终身的维修服务, 超出保修年限的机器, 更换零配件将收取合理的零件费及人工费。

For all users who purchase Deep Intelligent Control products, we will provide you with lifetime maintenance services. For machines beyond the warranty period, reasonable parts costs and labor fees will be charged for replacing spare parts.

