

UNIQUE
your better choice

UNIQUE

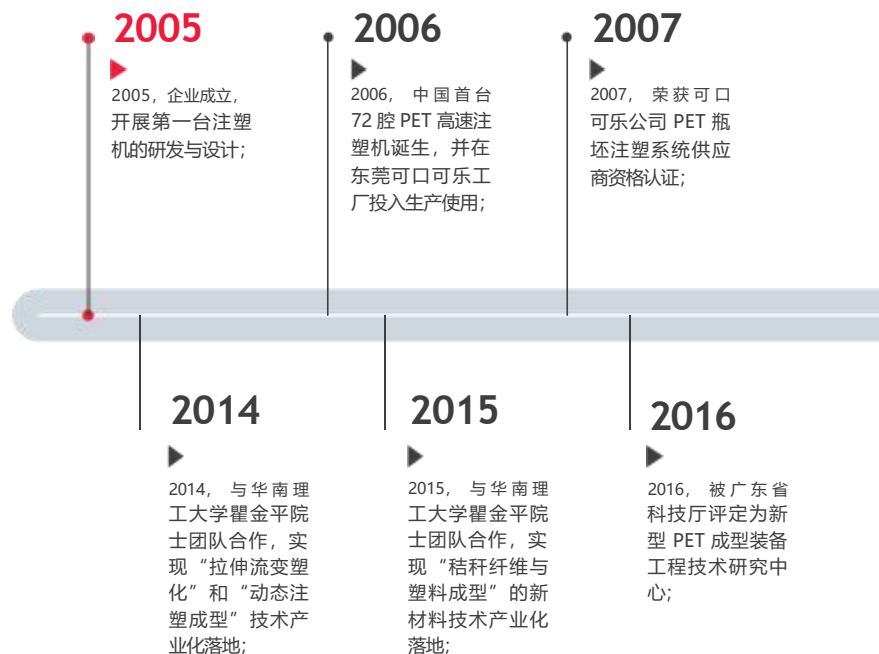
*PET Preform PET瓶坯注塑系统
Injection Molding Turn-Key Solution*

PET 瓶坯注塑系统解决方案供应商

PET Preform Injection molding system
Turn-key solution provider

www.unique-pet.com

Catalogue



2008

▶ 2008, 被评定为高新技术企业;

2010

▶ 2010, 中国首台96腔PET瓶坯注塑系统在惠州可口可乐工厂投入生产使用;

2011

▶ 2011, 中国首台PET电动塑化瓶坯注塑系统诞生;

2012

▶ 2012, 被推选为中国PET瓶坯标准起草单位;

2013

▶ 2013, 中国首台144腔PET瓶坯注塑系统诞生;

2017

▶ 2017, 中国首台纳米技术应用于PET的瓶坯注塑系统, 并在啤酒行业投入生产使用;

2018

▶ 2018, 获国家重大项目申报, “多腔制件注射成型嵌入式机器人技术及产业化应用”;

2021

▶ 2021, 企业重组成功;

2022

▶ 2022, 新的管理团队以全新的面貌带领企业开启新篇章;

2011,China's first PET electric plasticizing preform injection molding system was released.

2012,it was elected as the enterprise to draft China's PET preform standard.

2013, China's first 144-cavity PET preform injection molding system made by Unique.

2014, cooperated with the team of South China University of Technology to achieve the dynamic injection formation technology.

2016,it was awarded as the engineering technology research center of new PET injection molding equipment by National Department.

2017, China's first nanotechnology-applied PET preform injection molding system was put into production in beer industry.

2018,it obtained the national major project declaration "Multi-cavity injection molding embedded robot technology and industrial application" .

2021,enterprise was recognized successfully.

2022,new administrative team leads the enterprise to a new chapter with a new look.

2015,cooperated with South University of Technonology to realize the industrialization of wheat straw plastic production which was eco-friendly new material technology.

PET 瓶坯注塑系统 解决方案提供商

广州一道注塑机械股份有限公司（以下简称“广州一道”）坐落于广州高新技术示范基地——广州科学城。公司成立于 2005 年，自创立之初，广州一道的关注点便聚焦在产品的不断创新与优化上，相关知识产权以每年 3~5 项的速度不断更迭。此外，基于与中国聚合物成型研究权威高等学府——华南理工大学的紧密合作，广州一道在不断进取的同时，也拥有了强大的技术研发后盾力量。目前，公司已有 50 余项知识产权和专利技术获得通过。

我们精耕于液态包装行业十数载，深谙客户要求与市场行情。作为“广东省新型 PET 成型装备工程研究中心”，国内首家并处于国际领先水平的 PET 瓶坯注塑系统解决方案提供商，中国 PET 瓶坯标准

(DBL440100/T 12-2009) 起草单位，广州一道业务遍及三十多个国家和地区，为客户提供一整套专业注塑成型系统解决方案与个性化定制服务。

选择一道，共塑未来！得益于与华南理工大学聚合物新型成型装备国家工程研究中心持续不断的产学研合作，广州一道将大胆创新的技术理念带入到产业化中，先后成功研发出包括 UPET、UE-PET、UPACK、UCAP 等诸多系列在内的新一代注塑系统。这在打造精品设备、提高高分子材料制品品质、实现注塑新突破等方面均有划时代的意义。在未来，广州一道也将继续把精力投注于设备与技术的精进中，让技术实力成为企业竞争中最强有力的优势，成为您更好的选择！



PET Preform Injection molding system Turn-key solution provider

Guangzhou Unique Injection Molding Co.,Ltd is located in was found in 2005,since its establishment, Guangzhou Unique has focused on

consistent product innovation and optimization. The related intellectual property rights are continuously upgraded at a rate of 3-5 items per year . In addition, based on close cooperation with South China University of Technology, an authoritative institution of polymer molding research, Guangzhou Unique possesses strong research and development abilities while making consistent progress. At present, Guangzhou Unique owns more than 50 intellectual property rights and technology patents. We have been engaged in the liquid packaging

industry for more than 10 years and are well aware of customers ' requirements and market conditions.As the engineering research center of new PET preform molding equipment in Guangdong Province, the first domestic PET preform injection molding system solution provider with international leading level ,participate in drafting China's PET preform standard(DBL440100/T 12-2009),Guangzhou Unique's business covers more than 30 countries and regions,providing professional injection molding system solutions and customized services.

Choose Unique, Molding Future. Guangzhou Unique has bought bold and innovative concepts into industrialization, developed a new injection molding system including series of UPET, UE- PET, UPACK, UCAP, etc. Which has epoch- making significance in building high- quality equipment, improving the quality of polymer material products and making new breakthroughs in injection molding. In the future, Guangzhou Unique will devote to improvements of equipment and technology to become your better choice with strongest competitive advantages.



近年，中国工程院院士、华南理工大学聚合物新型成型装备国家工程研究中心主任教授瞿金平团队实现了“基于剪切流变加工”向“基于拉伸流变加工”的重大革命性转变，突破了高分子加工以螺杆为标志的结构模式。“基于拉伸流变的高分子材料绿色加工成型技术”获得了2015年国家技术发明二等奖。

In recent years, the academican of Chinese Academy of Engineering, the director of the Polymer New Type Forming Equipment National Engineering Research Center of South China University of Technology, professor QuJinping team achieved the significant and revolutionary transfer from “shear rheology based processing” to “stretch rheology based processing” , which has broken the structure mode that polymer material processing adopts screw as the mark. The “Polymer Material Green Processing and Forming Technology Basing on Stretching Rheology” awarded the Second Prize of 2015 National Technical Innovation.

充满激情的广州一道大胆尝试该创新技术，在PET瓶坯快速注塑成型专用设备上采用了该技术，目前设备已通过检测，实现产业化，检测结果显示，新技术的采用大幅提升性能，使广州一道在国际市场竞争中处于优势地位。

The passionate Guangzhou UNIQUE is bravely trying this innovative technology, and has adopted this technology for the equipment special for PET bottle preform quick injection molding, currently, the equipment has passed the test and achieved the industrialization, it is shown from the test result that the adoption of the new technology has greatly improved the performance of the equipment , which has promoted Guangzhou UNIQUE to keep at the advantaged status in the international market.

智能时代来临，智能让制造更节能、高效。源自华南理工大学的动态注射成型技术作为国家重点节能低碳技术进行推广，已入选发改委《国家重点节能低碳技术推广目录》(2015年本节能部分)并被业内认为是具有高度推广潜力的技术之一。

As the coming of the intelligent times, the intelligence makes manufacturing more energy saving and effect. The dynamic injection molding technology originated form South China University of Technology is promoted as the national major energy saving and low carbon technology, and is listed in the “Promotion List for National Major Energy Saving and Low Carbon Technologies” (2015 Version, Energy Saving Part) of the National Development and Reform Commission, and is recognized as one of the technologies with high promotion potential in the industry.

关于我们

广州一道以 PET 专用注塑机械和模具的研发、生产及销售为主营业务。范围涵盖注塑机、模具、热流道以及相应的专用配套辅助设备。为您提供全方位的优质服务。

About Us

Guangzhou Unique is mainly engaged in R&D, manufacture and sales of specialized PET preform injection molding machine and molds. The scope covers injection molding, molds, hot runners and corresponding supporting auxiliary equipment.



■ 售后服务

服务质量是我们立足的根本与优势。广州一道秉承“急客户之急，想客户之所想”的服务宗旨，24小时内响应客户，提供及时且专业的技术支持服务。

■ Service Support

UNIQUE provide a timely service support to our customer over on the world, responding in 24 hours, solving their problem in the shortest possible time.

■ 瓶坯设计与优化

为客户定制符合瓶型的瓶坯优化方案，满足轻量化要求，增加产能，减少生产成本，提高客户的产品收益率。

■ 机器升级

机器升级服务。使机器性能得到提高，加强设备在瓶坯注塑行业中的适应性，更好地满足生产所需。

■ 热流道翻新 & 模具改造和翻新

可提供不同等级要求的热流道、模具翻新服务。我们有专门负责热流道翻新工作的部门。同时，还提供模具改造服务。

■ Preform Design & Optimization

UNIQUE provide preform optimization and light-weighting proposal to increase productivity, reduce cost, and increase their profit & performance.

■ Machine Upgrade

UNIQUE offers upgrade for existing systems, enhancing the performance of the system, improve competitive for our client.

■ Mold Refurbishment, Modification

UNIQUE has an experience technical team and strongly self manufacture capacity to do refurbishment job for hot runner and mold for customer on the world. According to the actual age and operating status of the hot runner system, offer different level of refurbishment packages.

➔ 起航 / Navigating

开展注塑机设计工作;
2005 年公司成立。

2005,UNIQUE was established.

➔ 拼搏 / Striving

2007 年获可口可乐认证的 PET 瓶坯注塑系统供应商资格; 2010 年起被认定为高新技术企业; 2010 年开展出口业务。

2010,UNIQUE was verified as the Hi-Tech Enterprise and started export business;2007, UNIQUE awarded the PET preform injection molding system supplier qualification of Coca Cola.

发展轨迹 / Development Track



➔ 飞跃 / Leap

2012 年参与起草中国 PET 瓶坯国家标准; 2013 年设备开始售往澳洲, 公司技术水平迈上新台阶; 2013 年设立瓶坯模具厂并投产; 2014 年实现营业收入比前一年翻一番。

2012, participate into the drafting of Chinese PET Preform National Standard;
2013, the equipment was exported to Australia, the technology of UNIQUE stepped onto a new stage;
2013, UNIQUE established the PET preform mould factory and put into production;
2014, the business income of UNIQUE doubled compared with the previous year.

➔ 创新 / Innovation

目前, 公司自有专利 50 余项; 2015 年被省科技厅认定为新型 PET 成型装备工程技术研究中心; 2015 年获得多腔制件注射成型嵌入式机器人项目获政府专项资金; 2015 年初启动行业领先新技术的落地计划; 2016 年再次荣获广州市开发区瞪羚企业认定; 2016 年获得第五届中国创新创业大赛优秀企业(先进制造行业)称号。

Currently,UNIQUE possesses 53 patents 2015, UNIQUE was certified as the New Type PET Forming Equipment Engineering Technology Research Center by Department of Science and Technology, Guangdong Province;
2015, the multi-cavity injection molding embedding robot project awarded the special fiscal funds;UNIQUE awarded Guangzhou Development Zone Gazelle Enterprise Certification; in the same year UNIQUE started the landing plan of industrial leading new technologies;
In 2016, UNIQUE was entitled as the Outstanding Enterprise of 5th China Innovation and Entrepreneurship Competition.

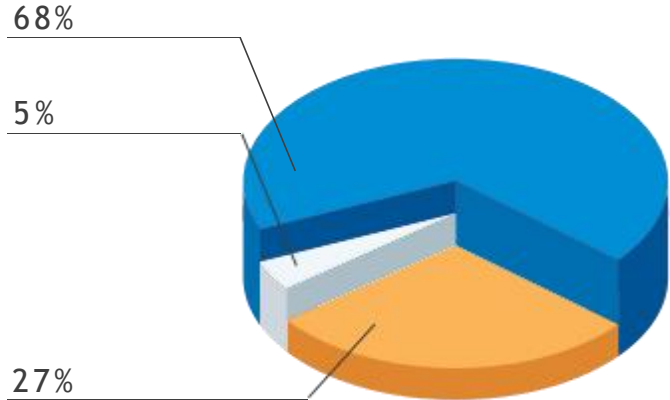
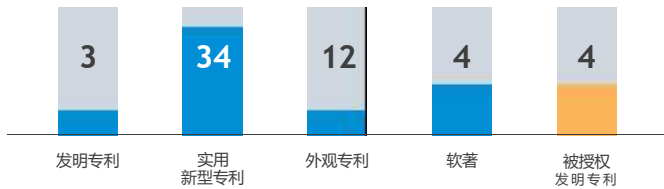


我们的荣誉

公司现有专利 50 余项并已获得 CE 认证、顶模机构、喷嘴、调模装置等多项发明专利；机械手、整列输送、风冷卸坯等实用新型专利及诸多外观设计专利。2015 年被省科技厅认定为新型 PET 成型装备工程技术研究中心。



Own patents (3 patents of invention, 34 patents for utility models, 12 design patents, 4 computer software copyrights, 2 trademark patents)
 The patents to use with license (4 patents of invention- exclusive license)
 The patents under application (11 patents of invention, 6 patents for utility models, 4 trademark patents)



知识产权示意图标

■ 自有专利 ■ 被授权专利 ■ 申请中

■ 独家授权

四项被授权使用专利为华南理工大学瞿金平院士团队独家授权。

■ Exclusive license

The four authorized patents are exclusively authorized by the team of Academician Qu Jinping of South China University of Technology.

Enterprise Honors

Currently, UNIQUE possesses 53 patents and has obtained the CE Certification, several invention patents including mould-eject mechanism, nozzle and mould adjusting device; utility model patents including manipulator, aligner feeder and air cooling unloading and a variety of design patents.

院士工作站

Academician Workstation

高新技术企业

Hi-Tech Enterprise

广东省新型 PET 成型装备
工程技术研究中心

Guangdong Provincial New Type PET Forming Equipment
Engineering Technology Research Center

参与起草
中国 PET 瓶坯国家标准

Participate into the drafting of
Chinese PET Bottle Preform National Standard

可口可乐
最佳供应商奖

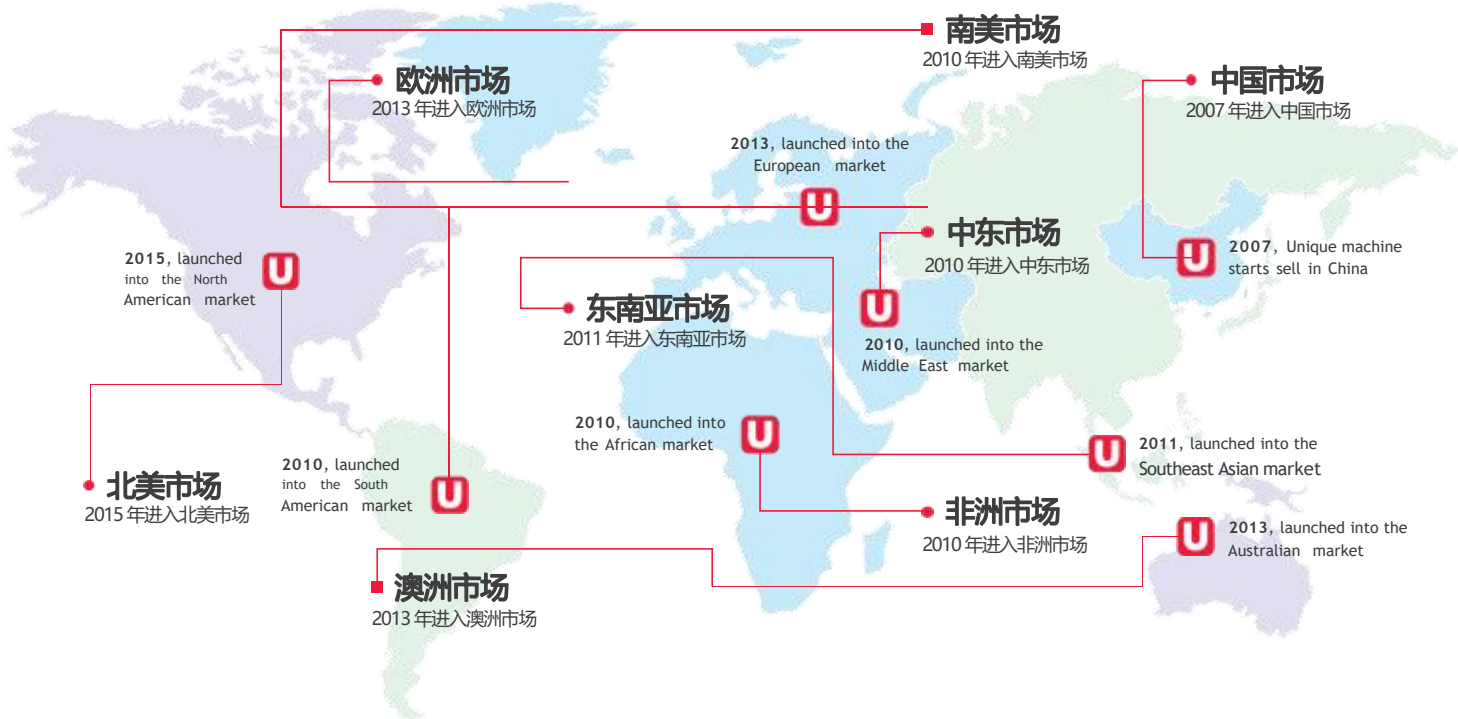
Coca Cola Best Supplier Award

CE 认证

CE Certification

发明专利	主辅多项式注塑顶模机构(200710032562.4)	Invention Patent
	Main and auxiliary multiple-eject type injection molding mould eject mechanism(200710032562 .4)	
	保压型注射喷嘴(201010167620.6)	
	pressure holding injection nozzle (201010167620 .6)	
实用新型专利	一种消除调模装置(201410429346.3)	Utility Model Patent
	a kind of eliminating backlash mould adjusting device (201410429346 .3)	
	单臂双伺服驱动取瓶胚机械手(201220281658.0)	
	Dne-arm two-servo drived machine hand for unloading bottle preforms(201220281658.0)	
外观设计专利	一种瓶胚整列输送装置(201420488308.0)	Design Patent
	a kind of bottle preform aligner conveying device (201420488308 .0)	
	四工位风冷卸坯系统(201520895744.4)	
	four-position air cooling unloading system(201520895744.4)	
	直板式注坯机 (U-PET460E)(201530413333.2)	
	Straight orifice plate type injection molding machine(U-PET 460E)(201530413333.2)	
纳米注坯机 (U-NPET300)(201530412916.3)	Design Patent	
nanometer injection molding machine (U-NPET 300) (201530412916 .3)		
直板式注坯机 (UE-PET130)(201530413129.0)		
straight orifice plate type injection molding machine (UE-PET 130)(201530413129.0)		
直压注坯机 (U-PET30)(201530413200.5)	Design Patent	
straight press injection molding machine (U-PET 30)(201530413200.5)		

➔ 市场拓展轨迹 Market Expansion



→ 我们的优势 Advantages

广州一道由一群在 PET 瓶坯注塑系统行业内的专业人士组成，经验丰富且充满激情。我们拥有专业的注塑机设计专家、PET 瓶坯工艺调试专家、PET 瓶坯模具专家，以及专业为瓶坯注塑机配套的辅助设备供应商。同时，为响应国家号召，实行低碳制造。我们特别引进 ERP 无纸化管理系统、PLM 无纸化图纸管理系统以及 PLM 管理系统。整个设计流程从受控图纸的形成、备案与发放，到生产用图的执行与智能化仓库的实现，均通过 PLM 系统进行电子化处理并实现 无纸化管理。

Unique is composed of a group of experienced and passionate professionals in PET injection industry .Owns professional machine designer,PET preform processing experts Additionally,in response to national call ,low-carbon manufacturing is implemented. We specially introduced ERP paperless management system,PLM paperless drawing management system and PLM management system.The entire design process from the formation,filling and issuance of controlled drawings, to the execution of production drawings and the realization of intelligent warehouses,the whole design process is electronically processed through the PLM system and paperless management is realized.



■ 创新推动技术进步

我们拥有经验丰富且充满激情的研发团队。公司核心研发人员在行业经验均超 20 年。

■ Innovation Promotes The Technical Progress

The core team of UNIQUE boasts over 20 years of experience in the industry as the experienced and enthusiastic R&D team.

■ 服务高效

得益于饮料行业中丰富的交钥匙项目经验，广州一道服务团队将为客户提供高效、专业的优质服务。

■ Effective Service

Based on the rich experience in turnkey projects in the beverage industry, the UNIQUE service team will provide customers with efficient, professional and high-quality services.

■ 创新驱动

广州一道注重与高校的产学研合作，勇于尝试全新工艺，并注重知识产权的开发与保护。

■ Driven By Innovation

UNIQUE has attached emphasis in the industry-university-research cooperation with university, and is brave to try the new technique with focus in the development and protection of intellectual property;

■ 知识产权

我们注重创新与实践，公司目前已有 50 余项知识产权获得通过。获得多项国际发明专利独家授权。

■ Intellectual Property

UNIQUE focus on innovation and practice,has passed more than 50 intellectual property rights. Obtained the exclusive authorization of a number of international invention patents.

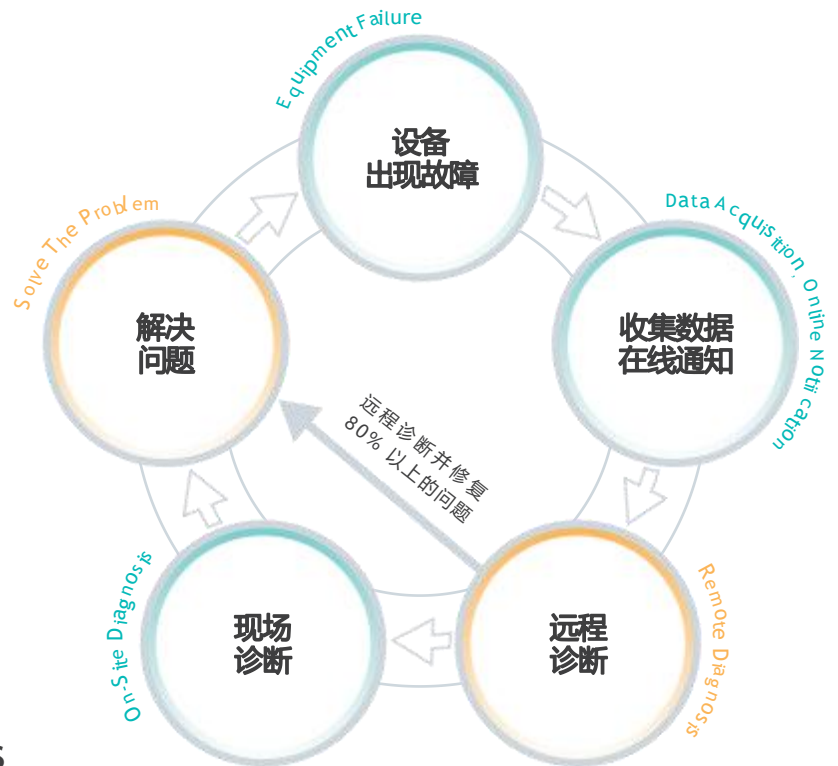
远程控制系统——云端互联

<p>轻便</p> <p>只需简易的配置，便 可实现控制系统的线 上下载和在线诊断。</p>	<p>5G 互联</p> <p>可多机同时诊断，通 过有线或者 5G 无线 快速建立连接。</p>	<p>稳定</p> <p>工业在线，速度快， 工作稳定可靠。</p>	<p>实时反馈</p> <p>视频实时反馈，建立 语音双向传递。</p>	<p>快速</p> <p>诊断迅速，减少损 失。远程诊断可修复 80% 以上的问题。</p>
<p>安全</p> <p>减少实时维护停机所 带来的危及设备和人 身安全的隐患。</p>	<p>操作简单</p> <p>轻松搭建预警机制， 及时发现问题。</p>	<p>S-Link 加密</p> <p>通过 S-Link 进行数 据加密传输，确保数 据安全。</p>	<p>通讯网络</p> <p>可组建多点专用网络 通道，进行多站远程 PLC 实时在线通讯。</p>	<p>Internet</p> <p>基于全球 Internet 的 最新解决方案，系统 不再受地域限制。</p>

Remote Control System ---- Cloud Service

1) It can realize online download and online diagnosis of the control system only with simple configuration; 2) Several machines can be diagnosed at the same time, and the connection can be quickly established through wired or 4G wireless network; 3) Industrial online, fast speed, stable and reliable work; 4) Real-time video feedback, establishing two-way voice transmission; 5) Rapid diagnosis, reducing losses; 6) Reducing hidden dangers to equipment and personal safety caused by real-time maintenance shutdown; 7) Easily building the early warning mechanism; 8) Realizing data encryption transmission through S-Link to ensure data security; 9) Multi-point dedicated network channels can be set up for remote PLC real-time online communication at multiple stations; 10) Based on the latest solutions of the global Internet, the system is no longer geographically restricted.

Remote diagnosis and repair,
more than 80% of the problems



注射单元 Unit



- 1) 针对 PET 特殊的成型工艺条件，特别采用先进的两级注射方式；
- 2) 双阶注射装置将 PET 原料的塑化和注射分开控制，提高螺杆塑化效率，缩短成型周期的同时，还能提高注射的精确度，有效降低 AA 值；
- 3) 原料塑化通过采用专用 PET 螺杆配置的大扭矩塑化马达，保证在 PET 的特殊工艺条件下，既满足塑化工艺要求的同时，更大程度提高螺杆塑化效率；
- 4) 单级伺服塑化采用伺服电机塑化和独特的保压设计，既能满足快速塑化，也不影响 PET 成型工艺的需要和快速周期。

Injection Unit

1. According to the special forming process conditions of PET preform molding, UNIQUE has adopted advanced Two-stage injection molding independently.
2. Adopt dual-stage injection device to independently control the PET raw materials plasticizing and injection, which can improve the screw plasticizing efficiency, shorten the forming cycle, improve the injection precision, and reduce the AA value.
3. Adopt special PET screw with plasticizing motor of big torsional moment for raw materials plasticizing, thus ensuring to meet the requirements of plasticizing process under PET special process conditions, and improve the screw plasticizing efficiency.
4. Adopt servo motor plasticizing and unique pressure holding design for single stage servo plasticizing, which can ensure fast plasticizing without affecting the demands and quick cycle of PET forming process.

锁模单元



■ 五点式斜铰设计

- 1) 采用经过华南理工大学优化的五点式斜铰设计，此结构具有良好的运动特性和力学特性；
- 2) 利用有限元分析，增加模板的刚性和减小模板的挠度，并对这些结构进行了优化，提升了运动速度，增加了稳定性，更加适用于 PET 瓶坯专用注塑系统；
- 3) 宽拉杆间距的设计，可以容纳更大模腔的模具。采用全闭环的控制系统，锁模与开合模使用 MOOG 伺服阀控制伺服油缸，使得控制更加精密，运行更加稳定；
- 4) 开合模空循环只有 1.8 秒，低压保护性能更好，模板受力更均匀。

■ 直压式设计

- 1) 全新大油缸起高压锁模装置，大开模行程，大四柱空间，适用范围更广；
- 2) 中间大杆内置差动单缸式快速合模油缸，旋转卡套式合模机构；
- 3) 高性能合金钢拉杆（哥林柱），系统刚度大，受力均衡，抗拉力强；
- 4) 框架式高刚度动模板，内置八个辅助顶出油缸，顶出力大，顶模行程长，适合不同类别制品顶出；
- 5) 动模板滑块采用无油润滑线性轨道副；
- 6) 箱体结构前模板强化模板设计，高压射出不变形；
- 7) 拉杆两端固定无须调模；
- 8) 后模板内置高压锁模大油缸，活塞为旋转卡套结构，组合密封，确保保压不内泄。

Clamping

Toggle Structure

1. Adopt five-point type toggle structure which is optimized by South China University of Technology, this structure features excellent kinetic characteristic and mechanical property;
2. Increase the rigidity and reduce the deflection of mould plate with finite element analysis, optimize these structures to improve the moving speed and stability, which is more suitable for PET injection molding system.
3. Design with wide distance between tie bars, applicable to the mould with bigger high cavities . Adopt fully closed loop control system, and MOOG servo valve control servo cylinder for mould locking and mould opening and closing, which features precise control and stable running.
4. The mould opening and closing dry-cycle time is only 1.8s with better low pressure protection performance, and even load for the mould plate.

Direct Pressure Structure

1. The new large oil cylinder lifts the high pressure clamping device with large opening stroke and four large columns space ,leads to a wider application. 2. With differential built-in single-cylinder which supports quick clamping , especially equipped with rotary ferrule clamping ,high performance alloy steel tie bar ensures high rigidity and strong tensile strength.
4. High-rigidity movable platen ,built-in eight auxiliary ejection cylinders ensures large ejection force ,long ejection stroke ,suits for various products.
5. The sliding block of movable platen adopts oil-free lubricating linear track .
6. Strengthen front platen design to avoid deformation while high pressure injection.
7. Two ends of the bar are fixed ,not necessary to adjust the mold .
8. Built-in high pressure clamping large oil cylinder inside the back platen ,the piston is rotary ferrule structured ,the combined seal ensures the pressure is maintained without leakage.

→ 定制化控制系统



通过和西门子的合作，并结合 PET 瓶坯生产所需工艺，广州一道建立了一套完全适合自己使用的控制系统，它可以实现注射速度、保压压力等的闭环控制。

→ 远程控制



1)广州一道还为客户设置了一个专门的远程监控系统，让客户在自己的办公室可以方便的监控工场情况和机器的生产工艺，设备参数等，方便实时监控和统一管理；

2)一道设备还可以提供远程的诊断支持，及时为客户查找、诊断和解决问题，节省客户停机时间和维护费用。

→ 机械手



1)侧面进入的带冷却的四工位取出板更加有效的增加了瓶坯的冷却，直线导轨的采用，既保证了机械手运动的精确性，同时这种设计也提供了一个比较便利的维护空间；

2)模块化的输送带设计使得维护更加方便，同时采用了西门子的伺服控制系统，它能够和整个系统的 PLC 控制有效的整合，使得操作更加方便，系统更加稳定。

Customized PLC Operation Program

Cooperated with Siemens technical team, UNIQUE has established the operation program which is completely suitable for Unique injection molding based on the processes for PET preform production,, and is capable of achieving the closed loop control for injection speed, pressure holding pressure and so on.

Remote Control

1. UNIQUE has also set one special remote monitoring system for client, and client may conveniently monitor the working site conditions, the machine production process, equipment parameters in the office, which is convenient for real-time monitoring and unified management.

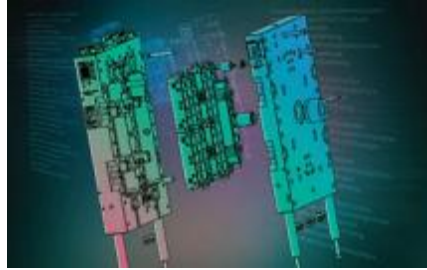
2. UNIQUE equipment also provides remote diagnosis support, timely find out, diagnose and solve the problems for client, thus saving the stopping time and maintenance cost for client.

Robot Unit

1. The Multi-positions take-off plate with cooling function accessing from the side can effectively improve the cooling of preform, the straight line guide rail can also ensure the precision of robot unit movement and provide the convenient maintenance space.

2. It is designed with the modular conveying belt to provide convenient maintenance, additionally, it adopts Siemens servo control system which can be effectively integrated with the PLC control of the whole system, provides convenient operation and stable running.

模具护



- 1) 专业且经验丰富的模具设计研发团队，与国内知名吹瓶商的技术合作，保证优化的瓶坯设计以及合理高效的模具结构，满足快成型周期的高要求；
- 2) 优质进口的热流道零件，专业的平衡式热流道系统，点对点的 PID 温控，保证产品的质量稳定和统一性；成型腔数从 2 到 196，满足客户不同的产量需求；
- 3) 瑞典、美国知名品牌的进口钢材，精益求精的热处理，保证模具使用寿命，降低模具维护成本；
- 4) 在中国处于领先地位，模具设计冷却效果好，瓶坯成型周期短，增大设备的生产效率，提高客户的产品收益率和缩短投资回收期；
- 5) 同时，可以根据客户瓶型的要求，优化瓶坯设计。

Unique Mold

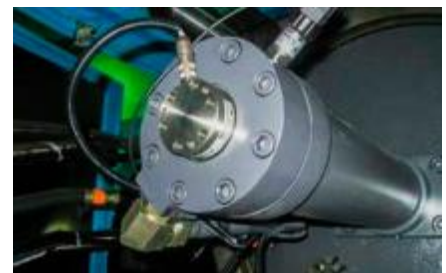
1. Our mould R&D team with technical cooperation with worldly -Top bottle blowing brand to ensure optimized bottle preform design and reasonable and effective mould structure, meet the high requirements of fast forming cycle;
2. The top quality hot runner parts was import from north America, achieve nature balance hot runner system, PID temperature control ensure the stable quality and unified performance of the product; ranges from 2 to 196 cavities, which can meet client's demand on mass production;
3. The Sweden and USA famous brand imported steel and precise thermal treatment ensure the life time and drop the maintenance cost of each mold ;
4. Top level in China, good designed cooling effect short forming cycle for perform product, increase the production efficiency of equipment, improve the product yield rate and shorten the investment recovery period for clients.
5. Moreover, UNIQUE is also capable of optimizing the bottle preform design according to the requirements of client on bottle shape.

低压模具保



独特液压系统

- 1) 液压系统采用最新闭环变量泵技术和蓄能器方式，使其在控制上更加稳定的同时，节能方面也同样出众。通过闭环变量泵和蓄能器的完美结合使得控制更加容易和快速；
- 2) 整套液压系统采用德国原装元器件。高性能的泵和阀使整套液压系统的运作更加稳定和精确，并且在液压设计上，所有阀件和油擎板都尽量靠近油缸等运作部件，这使得控制更加快速和精确；
- 3) 不同等级的管理模式，所有高级设置必须通过管理权限进入。有效控制产品质量；
- 4) 我们将干燥系统和注塑机的控制系统相连接，整合在一起，使其更加方便操作和管理。



低压保护

采用伺服油缸，电磁尺安装在油缸内，精度可控制在 0.1um 内。模板的位置反馈：通过安装在油缸中的伺服电子尺直接检测油缸位置，便于控制器以更大的精度控制低压合模。

Low pressure mould protection



■ 实时锁模力检测

安装在合模油缸两端的压力传感器输出精准的 0 - 10V 的电压信号, 经过精密的 MOOG 控制器计算后, 即可读出实际模具所承受的压力值;



■ 低压护模功能的实现

1) 设置正确的低压合模参数, 低压护模阶段合模速度设置低值, 合模压力在 10~15bar 之间; 2) 在动模板进入低压护模位置时, MOOG 控制器将实时全闭环监测油缸两端的压力差; 3) 当压力差高于设置护模压力时, MOOG 控制器将切断 MOOG 伺服阀使能, 伺服阀将直接关断油路, 停止动模板移动从而实现保护模具的作用。

Hydraulic System

1. UNIQUE hydraulic system adopts the latest closed loop variable capacity pump technology and accumulator mode, which features stable control with outstanding performance in energy saving. With the perfect combination of the closed loop variable capacity pump and accumulator, it provides easier and faster control;

2. Adopts Germany original components, the high performance pump and valve ensure the stable and precise running of the system, additionally, in the aspect of hydraulic design, all valves and oil trigger plates are near the oil cylinder, thus providing quick and precise control;

3. UNIQUE management mode of different levels, all advanced settings require management authorization, which can effectively control the product quality;

4. And this control system of the drying system and injection molding machine is integrated, which is convenient for management and operation.

Low pressure mould protection

Servo cylinder, the electromagnetic ruler is installed in the cylinder, the accuracy can be controlled within 0.1mm, position feedback of the template: the servo electronic ruler installed in the cylinder directly detects the position of the cylinder, which facilitates the controller to control the low-pressure mould clamping with greater accuracy.

Remote control:

The pressure sensor installed at both ends of the clamping cylinder outputs accurate voltage signals of 0-10V. After calculation by the precise MOOG controller, the bearing pressure of the actual mould can be read out;

Realization of low pressure mould protection function:

1. Set the correct low pressure mould clamping parameters. Set the mould clamping speed to a low value during the low pressure mould protection phase. The mold clamping pressure is 10~15 bar; 2. When the moving template enters the low pressure mould protection position, the MOOG controller will monitor the pressure difference on both ends of the cylinder in real time in a fully closed loop; 3. When the pressure difference is higher than the set mould protection pressure, the MOOG controller will disable the MOOG servo. The servo valve will directly shut off the oil path and stop the moving template to protect the mould;

→ 交钥匙工程



1) 广州一道提供交钥匙工程, 提供一整套的瓶坯系统方案, 从机器、模具到附属设备的选型、产品的设计和调试、机器的开机、试运转和量产化、作业员的培训等提供全方位的支持;

2) 广州一道还可以更深层次为客户提供从产品调试、产品优化、产品轻量化、产品检测、生产管理和物流方面的经验支持。一道拥有自己的瓶坯生产中心, 可以给客户提供一个专门的了解和学习场所。

Turn-Key Solutions

1. UNIQUE provides turn-key engineering with a complete set of PET preform system, and provides overall support from machine, mold to the auxiliary equipment, the product design and commissioning, machine startup, trial run and mass production, operator training and so on.

2. UNIQUE also provides experience support for clients from product commissioning, the product optimization, product lightweight, product testing, production management and logistics. UNIQUE possesses own preform production center, and provides the special place for realizing and learning for client.

UPET 瓶坯注塑机系列

弘扬工匠精神，助推民族复兴。产品品质是工业未来的发展根基，正如广州一道的服务理念：“用户至上，精益求精”。

十多年来，广州一道经过不断探索与实践，为您实力打造高品质 UPET 系列注塑机。



UPET Series

Product quality is the foundation of the future development of industry. As what is powerfully advocated that the manufacturing industry should reconstruct the “craftsman” and keep precise manufacturing, Guangzhou UNIQUE insists on the “craftsmanship” strength to develop the quality PET preform injection molding machine.

UE-PET 瓶坯注塑机系列

U-PET 自推出以来，以其卓越的性能优势备受全球业界青睐，它们易于使用，生产效率高。2021年9月，为顺应行业发展需要，广州一道凭借雄厚的技术积累与制造实力，在原有基础上研发出 UE-PET 系列瓶坯注塑系统（以下简称 UE-PET）。与其不同的是，UE-PET 扩大了应用范围，融合了 U-PACK 动态成型注射机的诸多优势，极具性价比。

它采用国际领先的优化高刚性五点式合模机构设计，配合 Unique 所拥有的知识产权，以国内优质伺服驱动供应商（汇川）与 KEBA PLC 控制系统为基础，一起将程序优化后运用于瓶坯注塑工艺，是一款经济高效能的新型注塑系统。

UE-PET Series

Since its launch ,U- PET has been favoured by the global industry for its excellent performance ,it is easy to use with high efficiency .Guangzhou Unique has developed UE-PET series preform injection molding system on the basis of strong technical accumulation and manufacturing strength to meet the industry development needs in ,2021.UE- PET expands the application scopes,integrating lots of advantages of dynamic injection molding machine ,which is cost-effective.



UCAP 瓶盖注塑机系列

UCAP Closure Injection Molding Series

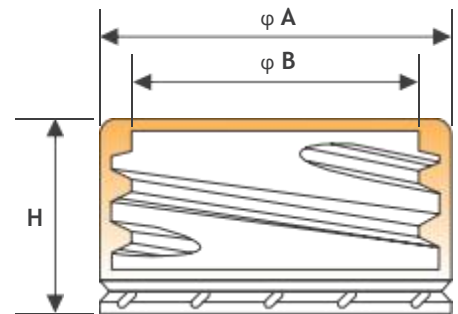
液电复合式精密 注塑成型机的优点及特点

1) 采用电动预塑系统，其螺杆转速控制更精确，更稳定，保证每次塑化量的一致性，进一步提高产品质量及稳定性；2) 整合机器在执行其动作时可同时执行落料塑化重合动作，大大缩短注塑成型周期及提高生产效率；3) 螺杆转速得到提高，可达到 330rpm 以上，塑化能力提高。

特别是一些特殊工程塑料，其能扩大机器使用范围；4) 电动预塑系统可简化塑化时动力传递环节，提高动力传递速率，有效降低能耗，更节能。相比传统液压马达塑化可节省 10-25%；5) 可减少落料时间和用油量，降低液压油温升，减少能量损失，降低能耗。



瓶盖技术指标 \ Bottle Cap Technical Indices



瓶盖型号	04-28	05-28	06-30	07-30	08-30	Bottle Cap Model
φ A (mm)	22.4	22.4	25.55	25.6	25.5	φ A (mm)
φ B (mm)	29	29	32	32	32	φ B (mm)
H (mm)	14.8	14.5	16.8	16.2	15	H (mm)

研发部分

我们拥有一支经验丰富的研发团队，可设计制造 2~196 腔的热流道及冷模。提供个性化定制服务，可根据客户对瓶型的要求，优化瓶坯设计，也可按机器需求制造模具。同时，还为客户提供热模、冷模的翻新、维护和进口零件更换服务。



01 客户提供设计要求



02 可行性分析



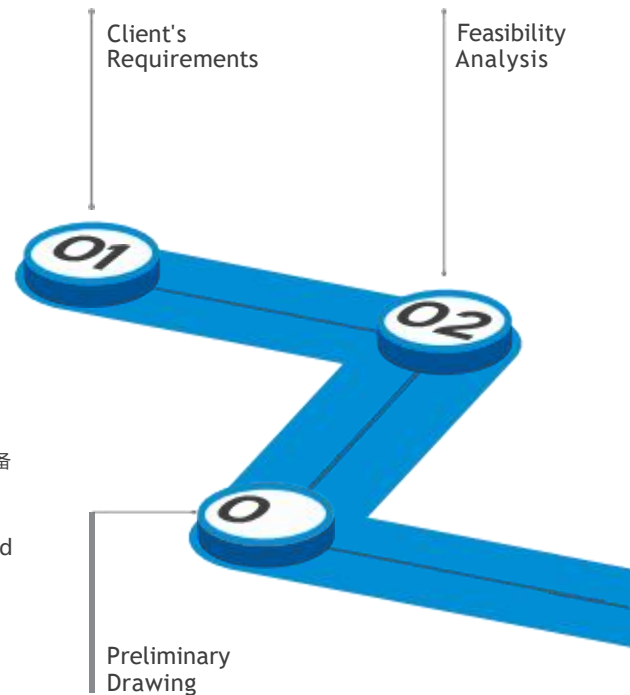
True effect with good mold test
完善的试模条件
效果真实有效



完美试模条件

广州一道核心团队在行业经验均超 20 年，拥有完备的试模条件，效果真实有效。

UNIQUE has complete test conditions, and the effect is real and effective.



R&D Capacity

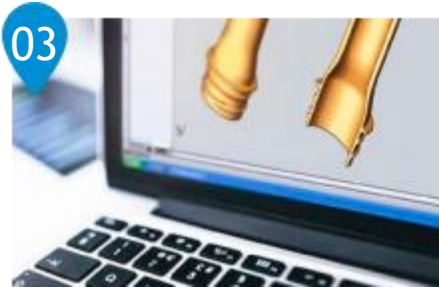
Possessing the experienced R&D team to design and manufacturing 2-196 cavities of hot runner and cold mold, our company is capable of optimizing the design of preform according to client's requirements on bottle shape, and designing and manufacturing mold according to the requirements of client's machine.



06 客户吹瓶试验



07 客户确认最终图纸及验收标准



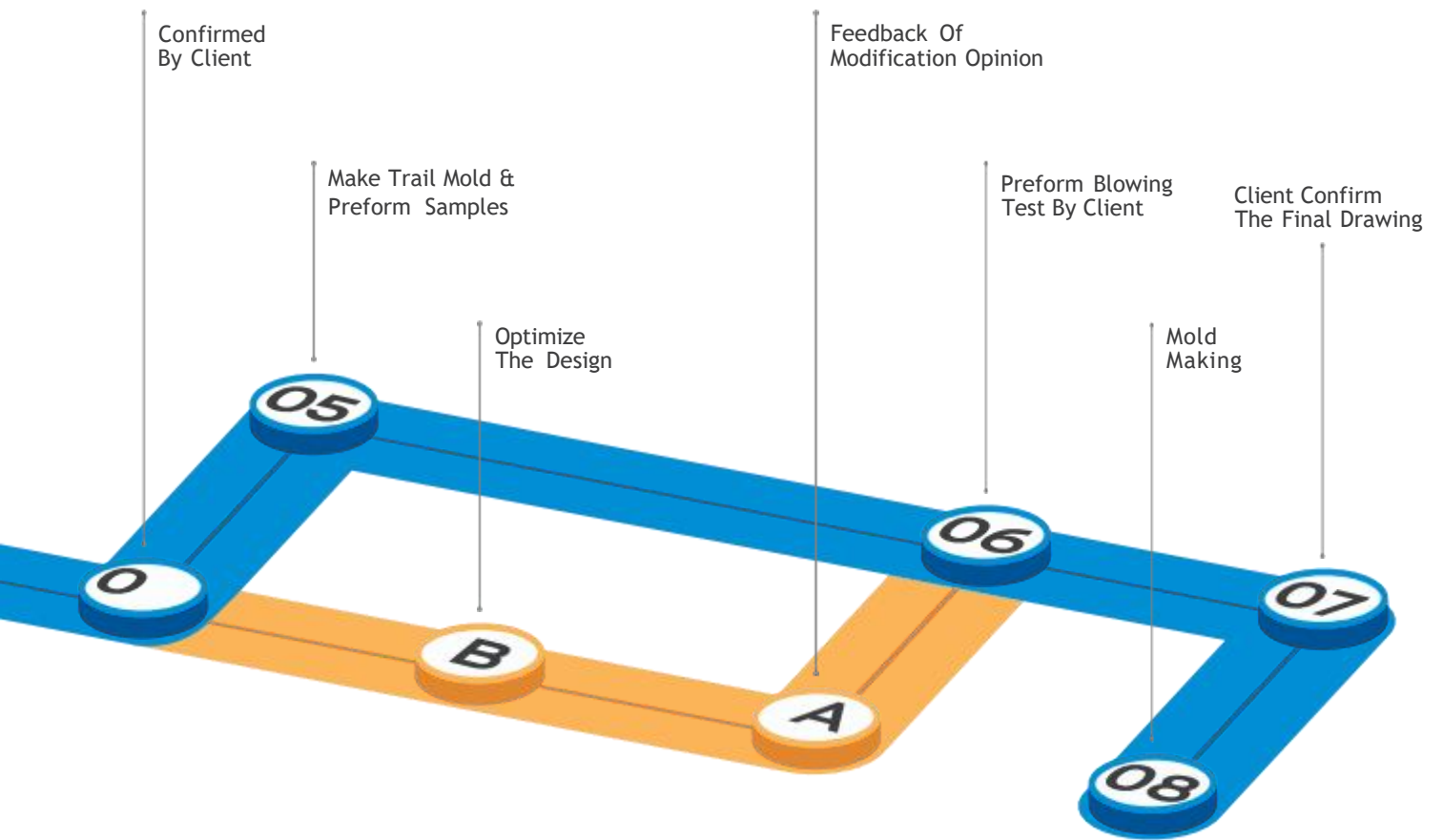
初步设计



客户确认



制作试验模和试验坯



反馈修改意见



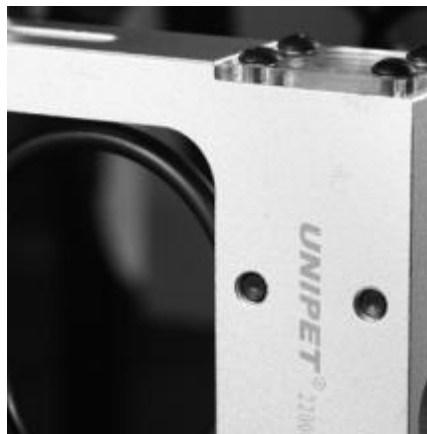
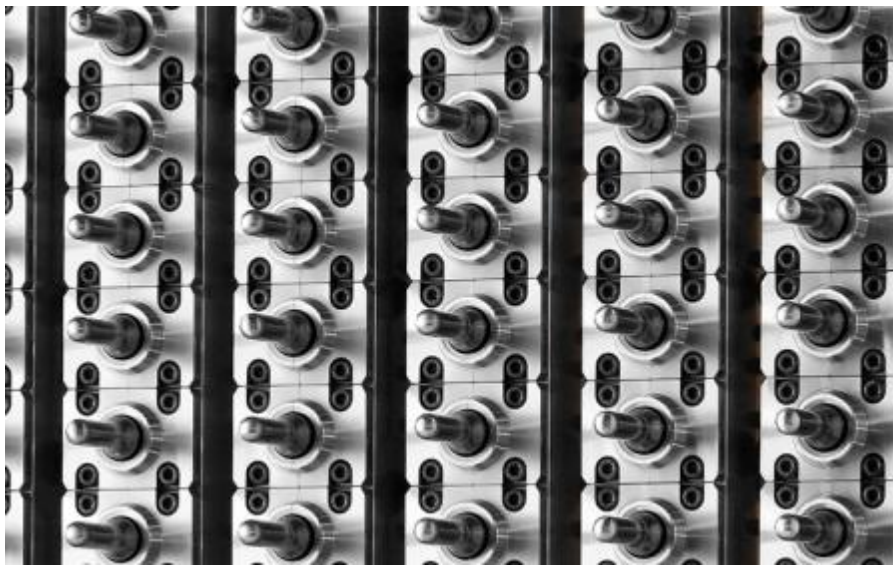
优化设计



产品投产

模具部分 Cold Half

	规格: 注坯模具腔数 2~196 腔	
个性化设计	支持定制, 可以根据客户瓶型的要求, 优化瓶坯设计 We have confidence to design any kind of perform from lightest to heaviest	Personalized design
成型腔结构	模唇采用双锥锁模, 锁模可靠耐用 Dielip locks with dual cones which is more reliable and durable	Structure of molding
水道设计	最优的冷却水道设计, 尽可能采用并连水路, 模具的冷却效果好, 有效缩短了注塑周期 Using the optimized waterway design, adopt the perfect mold cooling effect, which can effectively shorten the molding period	Design of waterway
	Widely Capacity: Min. 2 cavities to Max.196 cavities.	

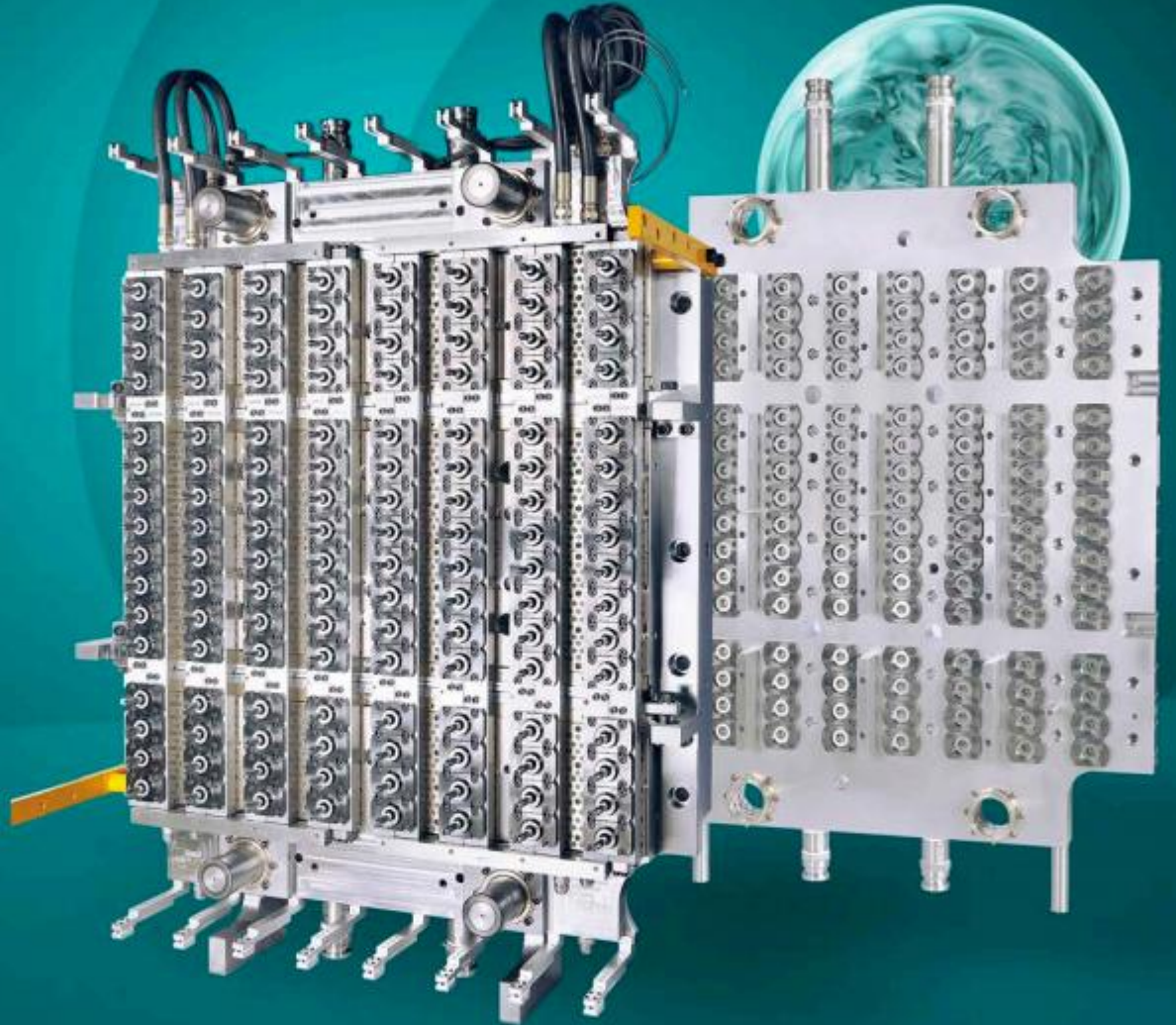


■ 材质

1) 模具主要零部件选用进口的 S136 材料(如瑞典一胜百) ;2) 模架采用德国 2085 优质不锈钢, 提高了模具的耐腐蚀性能, 延长了模具的使用寿命 ;3) 零件的热处理、采用进口真空炉处理, 零件硬度保持在 HRC52°

■ Material

1. Using the imported S136 material (for example: Sweden ASSAB) for molding components; 2. The plate of mold using 2085 stainless steel which imported from Germany; 3. The Manifolds plate adopts Sweden ASSAB quality heat resistant steel; 4. The thermal treatment of parts adopts imported vacuum furnace, the hardness of parts ranges HRC52°.



热流道部分 HotRunner

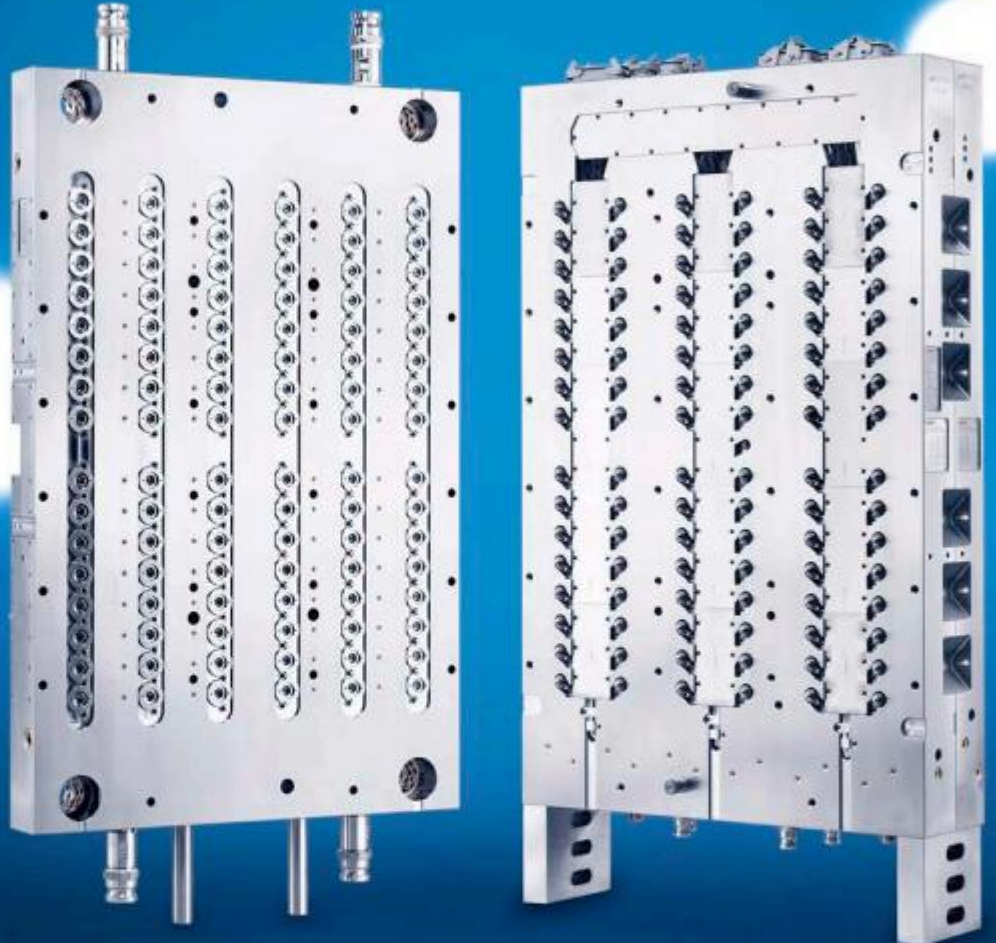
	规格: 注坯热流道腔数 2~196 腔	
热半模系统	完善的热半模系统, 组装便捷 Complete hot half system, convenient for assembly	Hot Half System
领先技术	绝对平衡的热流道设计 Nature balanced design	Leading Technology
零件更换	零件更换方式简易 Easy for replacing components	Simple for replacing
互换性好	多种方案, 同行互换性好 Various plans, good exchangeability	Good Exchangeability
	Widely Capacity: Min. 2 cavities to Max.196 cavities.	

■ 德国技术·全进口钢材

热流道采用德国技术，标准零件均由德国、美国进口(2085、S136、Royalloy 和 H13 等)。零件的热处理上采用进口真空炉处理，保证硬度，能有效减少损耗，让产品 AA 值处于较低的水平，保证产品质量。

■ Intellectual Property

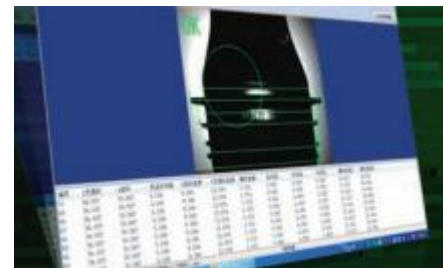
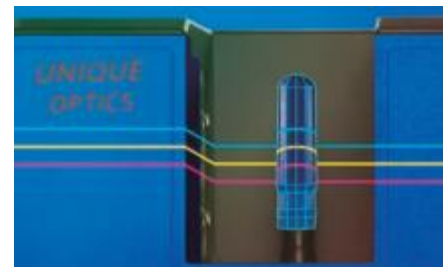
The standard components of molding are imported from Germany or USA (2085, S136, Royalloy, H13 and so on). The heat treatment of components is processed with the imported vacuum furnace, which is capable of guaranteeing the hardness, effectively reducing loss of energy, reduce AA value of the product, Therefore, the production quality is get assurance based on that.



品控部分

■ 品控流程

- 1) 严格按照质量监测标准对配件进行检测，并对质量数据进行有效保存与管理；
- 2) 采用统计技术对相关控制项目进行数据统计和分析，确定优化方向；
- 3) 针对质量管理体系不合格项原因进行有效分析，制定纠正和预防措施并跟踪验证其执行效果；
- 4) 对不合格品实施鉴定、标识、隔离，防止不合格品流入市场；
- 5) 追踪客户实际使用情况，对反馈的产品进行质量追溯，作整体性检讨分析及对策实施后的效果确认。



Quality Control

1. Monitor the component and provide quality data with effective storage and management according to the regulations, which may be used as the reference for improvement and traceability in the future, and measuring the validity of the system operation;
2. Adopt suitable statistical technology

- to analyze the data of relevant control items, confirm the outline and direction of improvement;
3. Take charge of analyzing the reason of non - conforming item of the quality management system, formulate the corrective and preventive measures, and track and verify the executive effect;

4. Identify, mark and separate the non-conforming product, prevent flowing;
5. Tracking the product quality inspection information according to client's complaint, make overall review and analysis, and confirm the effect after implementing the countermeasures.

国际高精设备

为保证产品尺寸的严格要求、成型腔零件的高精度及互换性，广州一道采用国际知名精加工设备，包括：

International Advanced Precise Processing Equipment

In order to ensure the strict requirement on product size, high precision and interchangeability of forming cavity part, Guangzhou UNIQUE has adopted the international famous precise processing equipment, include:



瑞士 STUDER 数控万能内外圆磨床	SWISS STUDER CNC universal internal and external grinding machine
瑞士 GF 阿奇夏米尔数控精密电火花机	SWISS GF AgieCharmilles CNC precision electric discharge machine
日本冈本 OKAMOTO 精密平面磨床	JAPANESE OKAMOTO precision surface grinding machine
日本森精机 "MORI SEIKI" 立式高速加工中心	MORI SEIKI vertical high speed machining center
日本 MAZAK 精密立式加工中心	JAPANESE MAZAK precision vertical machining center
日本 MAZAK、OKUMA 精密数控车床	JAPANESE MAZAK, Japanese OKUMA precision CNC machining tool
日本大畏数车	JAPANESE OKUMA CNC machining tool
日本森精机高速加中心	JAPANESE Mori Seiki high speed machining center
瑞士阿奇夏米尔慢走丝	SWISS AgieCharmilles wire cut electrical discharge machining-low speed
DMG 车铣复合	DMG turning and milling composite machine tool
DMG 五轴加中心	DMG five-axis machining center
百德五轴加工中心	QUASER five-axis machining center
德国保宁数控平面磨床	CNC surface grinding machine
德国激光打标机	GERMANY BLOHM laser marking machine
海克斯康三座标	HEXAGON three coordinate measuring instrument
马扎克立式加中心	MAZAK vertical machining center
马扎克数车	MAZAK CNC machining tool
数控深孔钻	CNC deep-hole drilling
台湾丽驰加工中心	TAIWAN LITZ machining center



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