



High-speed  
**PET Preform Injection System**  
高速PET注坯系统

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*Refreshing Your Products*

## Kronce PET Preform Injection System

### PET注胚解决方案，完美品质

**FAST, STEADY, ACCURATE, ENERGY SAVING**  
快速，稳定，精确，节能

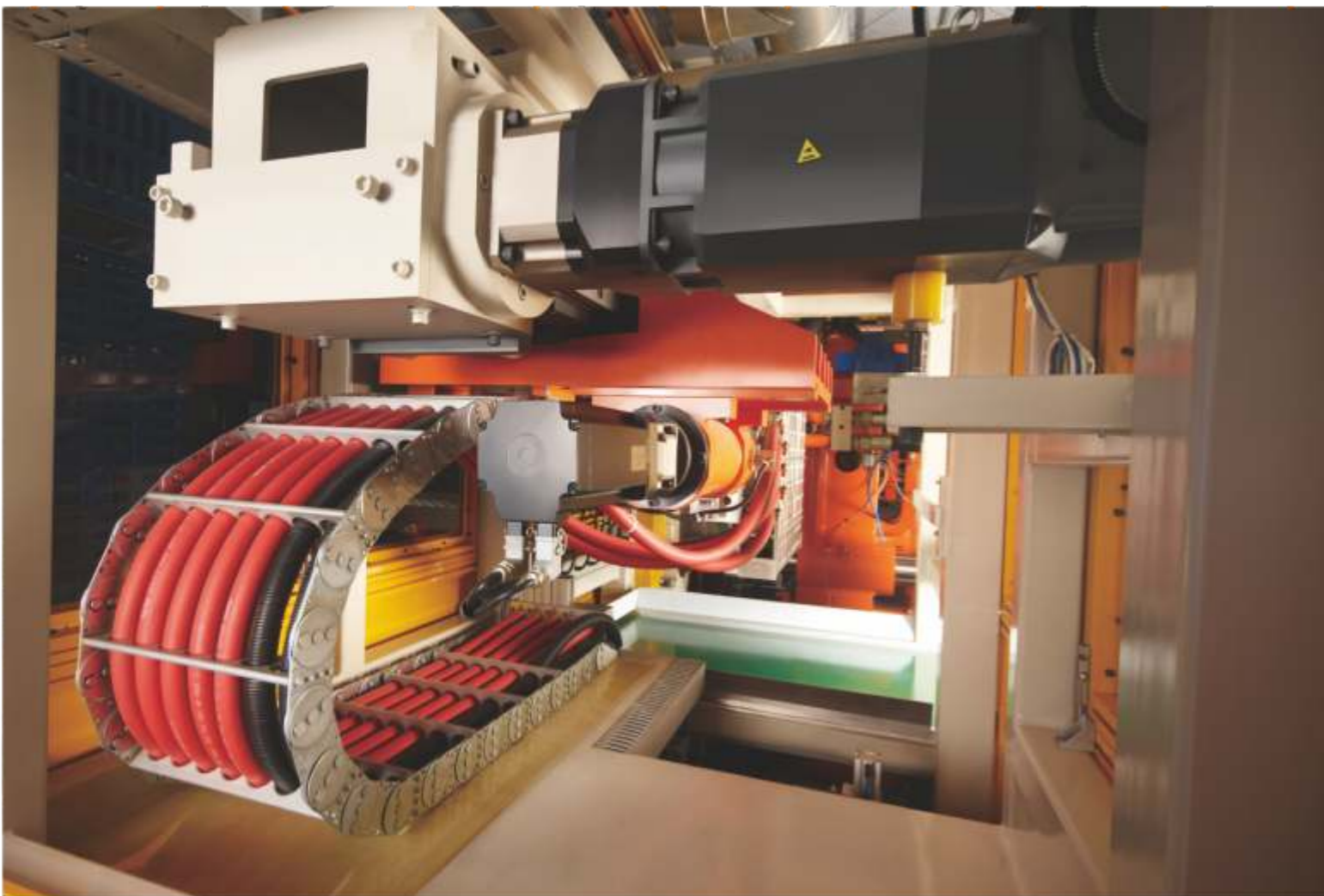
K-PET preform system, launched by KRONCE, focus on the fast-speed PET preform production system, the cycle time can reach 7.8seconds and even lower. Whatever platform strategy, mature technology and innovative solution, K-PET preform systems bring to you optimal combination possibilities for highly efficient and lasting PET preform production systems, enhance your benefits.

K-PET快速瓶胚系统是专用于PET瓶胚生产的现代化注塑生产系统，每模循环时间可达7.8秒甚至更低。明确的平台策略，成熟的技术储备，革新的PET瓶胚生产设备整合解决方案，K-PET快速瓶胚系统致力于提供给您快速，高效，稳定的高质量PET瓶胚生产。

- Optimized complete innovation package with leading-edge auxiliary equipments.  
优化的一揽子打包方案，整合业界顶尖辅助设备。
- Water cooled motor ensures high efficiency heat away, provides high output & low noise.  
水冷式驱动电机确保了有效的散热，从而使输出更高，噪音更低。
- Variable displacement pump driven by servo valve provides energy saving & exceptional reliability, 30% comparing with the fixed displacement oil pump.  
伺服驱动变量泵，完美的比例流量控制，超乎稳定，高效节能30% (与普通定量泵相比)。
- Double barrel and screw injection unit, separate & continuous charging, reduce cycle time more than 30%.  
双螺杆注射机构，独立的塑化过程，可缩短循环时间超30%。
- Powerful European hydraulic charging motor and heating band, energy saving up to 40%.  
强劲液压动力和保温型加热装置，高效节能40%，降低启动时间。
- A fast take-out of preforms robot, three post cooling stations, reduces the cooling time inside mold over 30%, increases productivity.  
三工位模后冷却机械手，节约模内冷却时间至少30%，提高产能。

- Rigid machine execution process technology based on closed loop control circuits.  
高效闭环回路促使动作快速执行，减少循环时间。
- Large volume Nitrogen accumulator increase the actions speed rate, quick respond, save time 20%.  
大容量氮气蓄能器，加快动作速率，快速反应，减少延迟时间超20%。
- Close-loop servo valves groups, high respond, high repeatable.  
多组高响应伺服阀，高精度，加快动作衔接，缩短。
- Five stages of high-precision filter system, clean hydraulic vessel, smooth running.  
五级高精度过滤系统，杜绝油路堵塞，保证顺畅运行。





## ROBOT 机械手

**Fast PET preform take-out, post-cooling,  
Shorter Cycle more than 30-50%**

快速PET瓶胚取出机械手，模后冷却，降低循环时间超30-50%

The PET preform take-out robot has been fully integrated into K-PET preform machine. The robot configuration provides for long cooling time to prevent scratching and any possible ovalization of the neck. The cooling system that features three stations of post mold cooling, without interfering with the cycle time, in turn facilitating further savings in terms of the overall cycle 30-50%, achieve the fast PET preform production with the high productivity.

PET瓶胚取出机械手完全被整合进K-PET瓶胚注塑机，三工位的后置模后冷却系统，完全独立于模内冷却和整个循环时间，在保证尽可能长的冷却时间来确保高品质瓶胚和螺口不变形的前提下，使得模内冷却时间尽可能缩短，转而降低整机循环时间30-50%，获取高产能。

The take-out robot is driven by Germany brand high performance linear servo synchronous motors and controlled in perfect harmony with their inverters. Such a combination results in exact, recurring motion sequences delivered by perfectly coordinated return systems, then ensure high accuracy, high speed and repeatability of the robot's movements.

德国进口同步伺服电机用于驱动PET瓶胚取出机械手的直线运行，得益于无缝配合的变频器，机械手伺服机构提供准确的往复直线运动，确保瓶胚取出机械手的高精度，高速度，高重复性。

## HYDRAULIC 液压

**Powerful Energy heart, Reliability  
Energy Saving over 30%**

强劲动力，稳定可靠，节能超30%

Water cooled motors has been taken as the powerful source, with the very efficient method of transferring heat away from the motors, the motors provide constant torque, high output power while heavy duty, long lifespan and lower noise.

水冷式电机被做为K-PET瓶胚注塑机的动力源，高效的散热解决方案使电机在提供高扭矩，高输出的同时，确保高效的运行和较低的噪音。

Imported various displacement piston pump controlled by servo valve, operated with low noise and low pulsation to perform pressure control in proportion to the input current, dedicated to attain an energy saving performance with drastically reduced loss, exceptional reliability, maximum efficiency. Comparing with the fixed displacement oil pump, it can attain at least 30% energy saving, the percentage could be higher when longer holding time needed.

伺服变量泵与水冷电机相配合，在低噪音，低脉冲的运行状态下实现压力和输入电流的比例控制，从而获得节能运行，尽可能低的能量损耗，超乎期待的可靠，高效生产。相比较于定量泵的配置，K-PET注胚机可以获取至少30%的节能效果，如果瓶胚的保压时间更长，节能效果会更高。

Applying world famous hydraulic components, REXROTH, STAFFA, NACHI, HYDAC, system pressure and flow proportional control, incorporated with hydraulic servo valve system to optimize operation of the entire machine and guarantee that the K-PET meets today preform injection molding standards.

K-PET快速PET瓶胚系统采用业界知名液压品牌，力士乐，斯达弗，那智，贺德克，来提供强劲动力，精确流量控制，快速反应和高重复精度，为您获得快速、高效、可靠的PET瓶胚生产。





## MECHANICAL 机械

**Rigid Mechanical Unit, Shorter Dry Cycle 20%**  
独特机械结构，缩短干循环20%

The mechanical system in K-PET has been engineered to achieve the lowest possible cycle times. This has been achieved by means of a fast clamping mechanism and double stage injection system. The toggle unit and the moving platen of the clamping system are hydraulically driven and have been designed by FEM structural analysis to optimize mechanical inertia while keeping high resistance to mechanical stress. A special mechanism for the toggle opening and closing further quickens the process, contributing to the overall reduction of cycle time.

K-PET快速注塑系统能够以非常短的周期生产高质量的PET瓶胚，超短空料循环周期成为整体循环周期的缩短的必要条件，快速合模和双级注射系统是其实现超短循环的关键。其中，独特设计的快速合模系统在液压驱动的前提下确保承受连续性高速开合模所带来的机械压力，是整个系统高强度，稳定，顺畅的保障。而特制的铰链机构则进一步加快开合模进程，缩短整体循环时间。

The injection system is composed by a plasticizing cylinder by hydraulic drive screw, and an injection cylinder driven by servo valve. Such double stage injection units, synchronous charging and injection can be achieved to reach a fast goal, shorter the cycle time up to 30%, ensure the highest performance and energy saving.

注射系统采用双螺杆双级注射机构，同步进行的液压驱动储料和注射动作在帮助K-PET获得更短的循环时间（节省30%），节省能耗的同时，获取低甲醛含量（AA）的高品质瓶胚。

The self-graphite copper plate as the moving base for whole plasticization unit and injection unit's forward & backward, ensure the whole moving unit moves more smooth, reduce the possible wear, enhance the stability of whole injection units.

K-PET注塑系统将自润滑轴套用于整个塑化和注射系统，来确保整个注射单元的水平前后运动，更加运行更加顺畅，稳定性得到保障。



## CONTROL 控制

**Advanced PLC Motion Control, Safety, Reliable and 20% Faster**

西门子PLC控制，安全可靠，响应速度提高20%

Work with latest Siemens technology, adopt SIEMENS S7-300 PLC controller, Krons developed our own control program & system, charge for all the functions running for PET preform injection molding process, incorporates the closed loop control of injection speed & holding pressure, profibus high-speed close loop communication, action coordination, fast response, reduce the time in the actions link, shorten the cycle time.

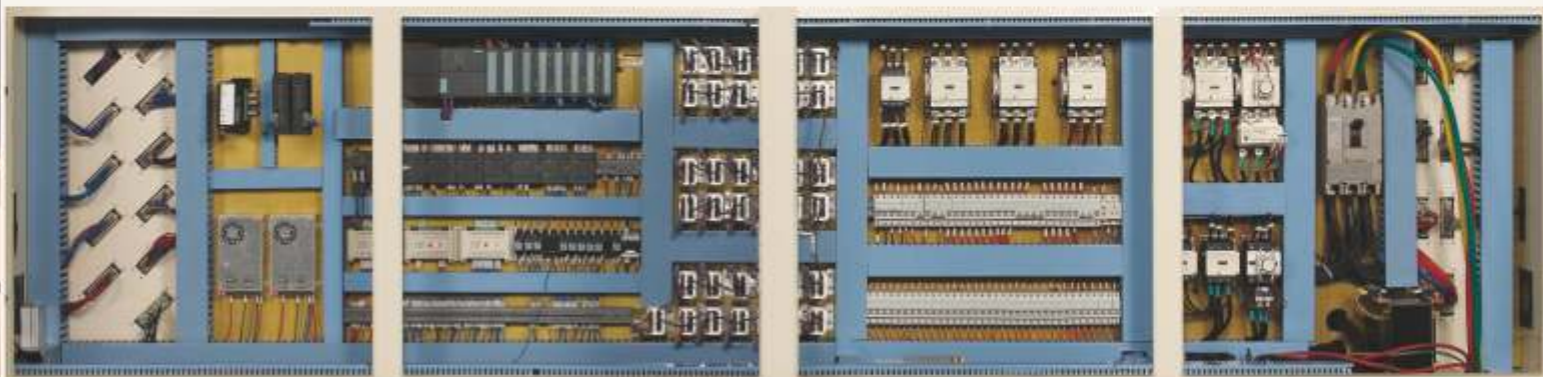
基于最新的西门子控制技术，采用西门子S7-300 PLC控制器，科朗斯研发了独立的控制系统，实现了对PET瓶胚注射的整体进程的掌握和精确控制，融合了注射速度和保压的闭环控制，现场总线能够以高速闭环进行通讯，各个动作协调，响应与同类型设备相比快出20%，减少动作间延迟时间，缩短整体循环时间。

Siemens SIMATIC MULTI control panel, combined with the various control buttons for actions, convenience for quick start-up as well as the trail process, easy operation, easy understand.

西门子SIMATIC多功能控制面板，附带各种动作按钮，便于快速启动和测试，方便操作，易于识别。

Independent electrical cabinets for whole system and PET preform take-out robot, designed based on IP54 water proof standard and CE safety certifications as appropriate, plus the air conditioners are equipped to maximal extent protection, ensure the safety working environment for all the electrical components under the fast & long time running.

独立的系统和机械手控制电箱，基于IP54防水标准和CE安全认证继续制造，配合独立的空调系统，最大程度的保护，确保电子元件在长时间和快速的PET注塑过程中的安全稳定。



## Every component is focus

机器主要零部件



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We use main spare parts with international standard to support our K-PET preform injection system, such as SIEMENS, LTI, STAFFA, REXROTH, HYDAC, YUKEN, VICEKERS, PALL, NACHI, LENZE, Schneider, MTS, ZOPPAS, FESTO, ELMO RIETSCHLE, SEW, THK, KEYENCE, OPTEX and other world famous brands. PIOVAN resin heating system, all their worldwide sales and after-sales net work make our K-PET preform system run stable and be easy for maintenance.

众多国际知名品牌和符合国际标准的零部件被应用于K-PET注胚系统，并且配套顶级品牌辅机供应商，高质量，高标准，全球销售和售后网络的支持使得K-PET注胚系统运行稳定并易于维护。

SIEMENS	Rexroth Bosch Group	Staffa	HYDAC
Lenze	Zoppas Industries	NACHI	FESTO
EATON	OPTEX	ItalgrouP	SEW EURODRIVE
KEYENCE	Schneider Electric	Elmo Rietschle	MTS SENSORS
PALL	THK	LTI DRIVES	YUKEN

## KRONCE Service

### 贴心服务，专家之选

KRONCE's technical consulting service and excellent contact to PET raw material, additive, blow molding and plastic cap injection/continuous compression molding, guarantee a customer-oriented system solution to meets all PET preform requirements, right for your needs.

KRONCE以拥有丰富PET瓶胚注塑以及相关PET拉伸吹瓶，塑料瓶盖生产经验的工程师团队，保证基于客户考虑的系统方案能够匹配您的需求，成为您PET瓶胚生产最值得信赖的首选合作伙伴。

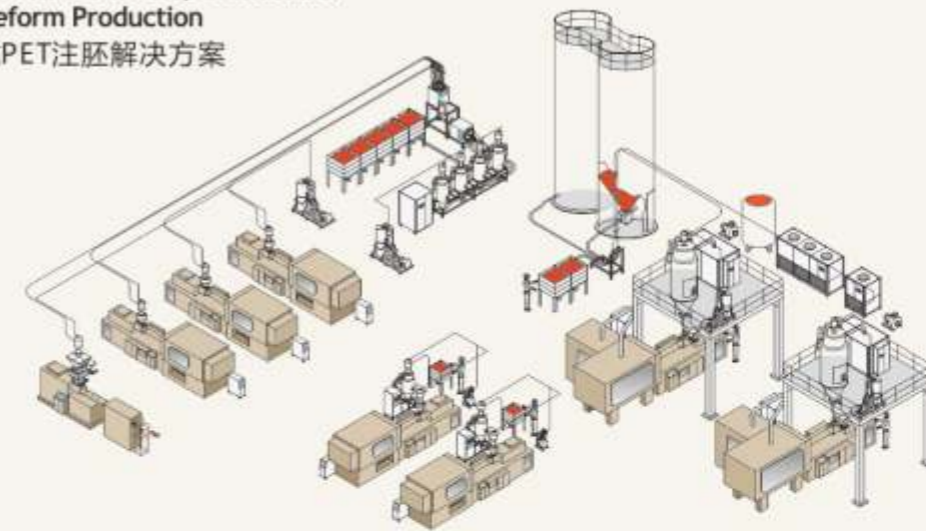
With the value to keep technological leadership within its industry and to service as a lasting bond with clients, KRONCE assist you K-PET integrated PET preform system with top-class accessories, by coordinating the integration, testing and delivery of complete turnkey systems, to reach a fast start-up. KRONCE is responsible for the complete workcell, overseeing configuration, supply and installation, as well as providing complete support, service and parts complemented by a comprehensive warranty. Most important of all, you can get a single point of contact to be support in the success of perfect PET preform production.

着力于提供行业领先品质和服务的PET注胚系统给客户，科朗斯配套顶级辅机供应商，并与K-PET注胚系统进行整合以获取快速启动并易于操控。专业的设计和 optimization 团队为您提供量身定做的个性化完整PET瓶胚系统方案、规划和建造的同时，满足您低成本和高效的生产需求，成为您赢得市场的左膀右臂，科朗斯承诺为您提供整合方案的全面保障体系。



### Kronce offers One-stop Solution for PET Preform Production

#### 一站式PET注胚解决方案



- Experts team consulting and project planning  
专家团队，项目咨询和规划
- System Integration & inspection before delivering  
交货前系统集成和优化
- Implementation of turnkey solution  
整线安装启动
- Rapid on-site technical support  
迅捷在线技术支持
- Quick processing of spare parts, fast delivery  
丰富的零部件库存

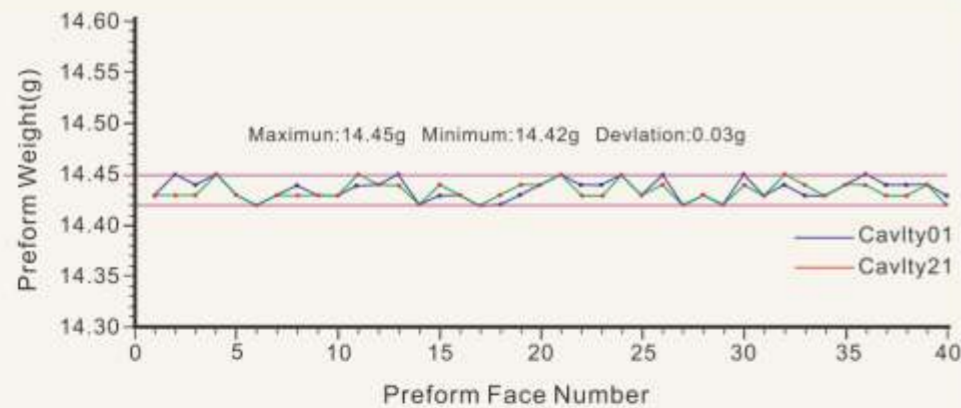
## Unlimited Quality Preform 品质瓶胚，质量上乘

PET preform product quality criteria define the PET preform production system, you can rely on K-PET preform system:

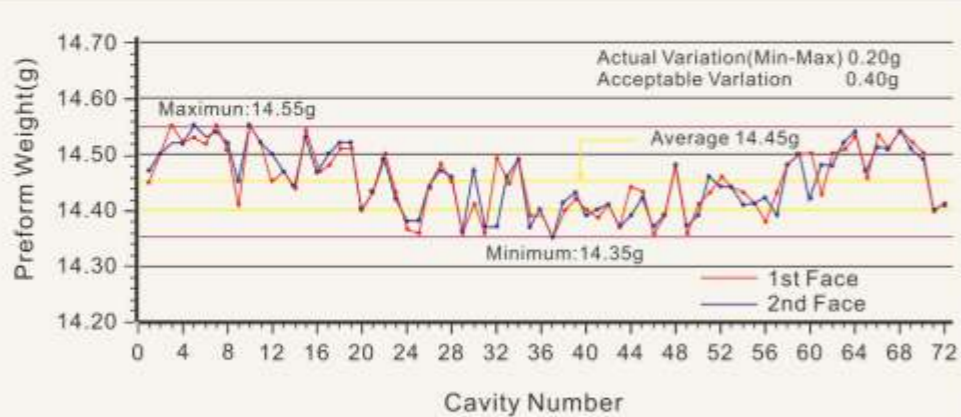
- High dimensional accuracy due to high repeatability and a stable process.
- Consistent preform weight and wall-thickness distribution.
- Outstanding surface quality, no scratches, highly transparent.
- Low AA content and minimal material deterioration.

PET瓶胚的高质量意味着高精确的尺寸，稳定的瓶胚重量和最小的重量偏差，上乘的瓶胚品质。K-PET快速注胚系统提供的高稳定性和上乘的瓶胚重量偏差是您获得高质量生产和高品质PET瓶胚的必要保证。

PET Preform Weight Consistency-(Two cavities in 40 shots)



PET Preform Weight Stability  
(K-PET72, 72-Cavity, 14.5g, Soft Drink Application)



### SPECIFICATION 注胚系统技术参数

ITEM	UNIT	K-PET48A	K-PET48B	K-PET72	K-PET96	K-PET24A	K-PET24B
Screw Diameter	螺杆直径	mm	100	120	120	140	120
Screw L/D Ratio	螺杆长径比	L/D	25	25	25	25	25
Injection Pressure	射胶压力	Kgf/cm <sup>2</sup>	875	875	875	907	875
Output(Max)	生产量(最大)	Pcs/h	17000	17000	23000	40000	3000
Theory Shot Volume(Max)	理论射出容量(最大)	cm	2905	4183	4183	5600	2905
Shot Weight(PS)	射出量	g	3486	5019	5019	6500	3486
		ozs	123	177.3	177.3	230	123
Clamping Force	锁模力	T	360	360	500	600	360
Clamping Stroke	移模行程	mm	645	645	680	730	645
Max/Min Thickness of Mould	最大/小模厚	mm	300~720	300~720	300~820	450~870	300~720
Space Between Tis Bars (W×H)	导杆间距(宽×高)	mm	660×860	660×860	820×820	920×1220	660×860
Ejector Stroke	顶出行程	mm	180	180	200	200	180
Ejector Force	顶出力	T	12	12	21	21	12
NO.of Ejector Pins	顶出杆根数	pcs	5	5	13	13	5
Max Pressure of System	最高系统压力	Kg/cm <sup>2</sup>	160	160	160	160	160
Cavity(Max)	腔数(最大)	PCS	48	48	72	96	24
Neck of Bottle(Max)	最大螺口直径(最大)	mm	42	42	42	42	50
Length of Preform(Max)	最大管胚长度(最大)	mm	190	190	220	220	190
Weight of Preform(Max)	最大管胚重量(最大)	g	48	58	39	35	58
Pump Motor Power	马达功率	KW	120	135	145	180	120
Robot Power	机械手功率	KW	32	32	32	40	32
No.of Heater Zones(0~400°C)	温度控制器	set	49+10	49+10	73+13	97+15	49+10
Heater Input Capacity	熔胶电热容量	KW	63.2	75.5	75.5	105	63.2
Manipulator	机械手真空吸头	Cavity	144	144	216	288	72
Cooling Form	瓶胚冷却装置	Cavity	144	144	216	288	72
Electric Power supply (3-phase AC)	电源	V	380	380	380	380	380
	(交流三相四线制)	KW	266.2	293.5	323	410	266.2
Chilling Water	冷冻水	Mpa	5~15	5~15	5~15	5~15	5~15
		L/min	0.7	0.7	0.7	0.7	0.7
Cooling Water	冷却水	Mpa	0.25	0.25	0.25	0.25	0.25
		L/min	600	600	800	1000	800
Compressed Air	压缩空气	Mpa	30~55	30~55	30~55	30~55	30~55
		L/min	0.25	0.25	0.25	0.25	0.25
Machine Size(L×W×H)	外型尺寸(长×宽×高)	Mpa	0.8~1.0	0.8~1.0	0.8~1.0	0.8~1.0	0.8~1.0
		L/min	800	800	1200	1600	800
		m	9.1×3.7×2.2	9.1×3.7×2.2	11.0×4.4×2.5	11.0×4.8×2.4	9.1×3.7×2.2

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