AOKTAC 精能



让吹瓶更简单
TEC BLOW EASY BLOW



DALGAKIRAN
大格格兰
台州市大格格兰包装机械有限公司
TAIZHOU DALGAKIRAN PACKAGING MACHINERY CO., LTD.

AOKTAC 精能
精能精密机械有限公司
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COMPANY PROFILE
公司简介



台州市大格格兰包装机械有限公司成立于2004年，是“精能机械”品牌的制造实体企业，专业提供高速全自动PET吹瓶成型解决方案。

公司现有员工200余人，其中技术研发团队超过30人，拥有丰富的行业经验和扎实的实践功底。我们不断融合国内外先进技术，持续优化产品性能，先后推出多款高速节能型吹瓶机，以稳定可靠的表现在行业内赢得了良好口碑。

"创新创造未来，品质成就价值"

我们始终秉持"创新创造未来"的企业精神，将"高精密、高品质、高产能"作为立身之本。同时，我们致力于提供周到完善的售后服务，确保每一位客户都能获得安心、省心的使用体验。正因如此，大格格兰赢得了国内外众多客户的信任与赞誉。

Founded in 2004, Taizhou Aoktac Machinery & Mold Co., Ltd. is a manufacturing enterprise established by Aoktac in TaiZhou, specializing in high-speed, fully automatic PET blow molding solutions.

We currently employ over 200 staff members, including more than 30 engineers and technicians dedicated to R&D. With years of hands-on experience and a commitment to integrating advanced technologies from around the world, we have continuously refined our products-launching multiple models of high-speed, energy-efficient blow molding machines that are known for their reliability and performance.

Innovation Creates the Future

Guided by our corporate philosophy - "Innovation Creates the Future" - we uphold "High Precision, High Quality, High Capacity" as the foundation of everything we do. Our commitment goes beyond manufacturing; we provide comprehensive after-sales support to ensure a smooth and worry-free experience for every customer. This dedication has earned us recognition and trust from clients both at home and abroad.

1200万元
注册资金
RMB 12 million
registered capital

25+年
研发经验
Over 25 years
of R&D experience

40+
技术专利
40+ Technical
patents

发展历程
Development History

历经团队25余年的不懈努力，凭借在PET瓶坯两步法再加热拉伸吹塑技术领域的卓越成就，精能机械（AOKTAC）已成为全球该装备制造行业的领导者。

With over 25 years of unremitting efforts by its team and outstanding achievements in the field of two-stage reheat stretch blow molding technology for PET preforms, AOKTAC has become a global leader in this equipment manufacturing industry.

2004

开发制造第一台2模穴全自动吹瓶机，产量2000BPH。

Developed and manufactured the first 2-cavity automatic blow molding machine with a capacity of 2,000 BPH.

2005

开发完善第一代2模穴钣金不锈钢型全自动吹瓶机，产量2000BPH。

Developed and refined the first-generation 2-cavity automatic blow molding machine with a stainless steel sheet metal frame, achieving a capacity of 2,000 BPH.

2008

开发广口4模穴伺服型全自动吹瓶机，产量2400BPH。

Developed a 4-cavity servo-driven automatic wide-mouth blow molding machine with a capacity of 2,400 BPH

2010

开发制造6模穴伺服型全自动吹瓶机，产量6000BPH。

Developed and manufactured a 6-cavity servo-driven automatic blow molding machine with a capacity of 6,000 BPH.

2012

开发4模穴5升全自动吹瓶机，产量2000BPH。

Developed a 4-cavity 5L automatic blow molding machine with a capacity of 2000 BPH.

2014

开发4模穴 TEC BLOW RL-4 全电动吹瓶机，产量6000BPH。

Developed the 4-cavity TEC BLOW RL-4 fully electric blow molding machine, with a capacity of 6,000 BPH.

2016

研发了 8 / 10 / 12 腔全电动 Tec Blow吹瓶机，最大产能可达每小时24,000瓶。

Developed the TEC BLOW 8/10 /12-cavity fully electric blow molding machine, with a maximum output of up to 24,000 bottles per hour.

2019-2025

历经十年专注研发，我们成功打造出线性集成式(吹-灌-封)一体机。该设备基于德国SIG工程原理打造，采用6/8/10腔模头，最大产能可达每小时20,000瓶。

After a decade of dedicated R&D, we have engineered a linear Combi-block (Blow-Fill-Seal) machine. Built upon the foundation of German SIG engineering principles, this 6/8/10-cavity monobloc system achieves a maximum output of 20,000 BPH.

欧洲技术&中国制造
European Technology & Chinese Efficiency

■ 源于欧洲，智赢全球
Originated in Europe, optimized for the world

历经团队多年的潜心研发，我们将旋转加热与直线吹瓶工艺推向全新高度，打造出新一代TECBLOW技术平台。该系列设备结构紧凑、能效卓越，在节省占地空间的同时，实现更高的产能与更低的运营成本。

Through years of dedicated R&D by our engineering teams, we have evolved the rotary heating & linear blowing technology into the next-generation TECBLOW platform. Designed for maximum efficiency, it significantly reduces footprint while delivering higher output and lower energy consumption.





■ 工艺精湛，全球适用
Precision engineering. Global reach.

在智能化时代，客户需要的是稳定易用、面向未来的成熟技术。TECBLOW凭借其卓越性能，成为全球饮用水及包装行业的理想之选。我们提供全系列可定制化标准机型，支持多腔配置，最大产能可达24,000瓶/小时。

In the age of intelligent manufacturing, customers need mature technology that is stable, user-friendly, and future-ready. With its outstanding performance, TECBLOW is the trusted choice for the global bottling and packaging industry. We offer a full range of customizable standard machines with multi-cavity options, achieving a maximum output of up to 24,000 BPH.





















以严格质控，铸就精密品质
Precision Through Strict Quality Control

我们在整个生产过程中秉持"零缺陷"的质量理念。从伺服电机到气动系统，每一个核心部件均采购自全球领先品牌，并在装配前经过严苛测试。通过多级检验、实时监控以及最终性能验证，确保每一台TECBLOW设备开箱即可高效运行，性能卓越是我们的承诺。

We adhere to a zero-defect philosophy across our entire production line. Every critical component - from servo motors to pneumatic systems - is sourced from global leaders and rigorously tested before assembly. Multi-stage inspections, real-time monitoring, and final performance validation ensure that every TECBLOW machine operates at peak efficiency, right out of the box.





我们的客户
Our Customers

技术合作伙伴
Technology Partners

TEC BLOW RL SERIES

高速全电动吹瓶机

High-Speed Stretch Blow Molding Machine

第二代TEC BLOW吹瓶机将先进技术与创新理念融入设备核心功能。操作简单灵活，实现连续不间断生产，设备紧凑节省空间，产能高，加热能耗与用气量显著降低。这些优势全面满足客户的严苛需求，巩固了TEC BLOW在吹塑成型技术领域的领先地位。

The second-generation TEC BLOW machine integrates advanced technology and innovation across all key functions. Designed for simple and flexible operation, it ensures continuous, non-stop production with a compact footprint, high output, and significant savings in heating energy and air consumption. These features meet the highest customer demands and establish TEC BLOW as a leader in blow molding technology.





- 操作简单灵活
  Simple and flexible operation
- 生产连续无间断
  Continuous and uninterrupted production
- 占地面积小
  Small footprint
- 产能高
  High productivity
- 能耗低
  Low energy consumption
- 耗气量小
  Low air consumption

机械特点
Mechanical Characteristics



■ 全自动操作界面
Fully Automatic Operation Interface

◆ 三菱或汇川触摸屏+PLC，按客户需求灵活配置。
◆ 图解界面可存储工艺参数、报警诊断、生产数据、维护程序及操作视频。
◆ 配备远程云控制系统，技术人员可全球在线连接并接管设备。
◆ 实时故障诊断与程序优化，跨洋响应，秒级解决。

◆ Mitsubishi or Innovance touchscreen + PLC, flexibly configured per customer needs.
◆ Graphical interface stores process parameters, alarm diagnostics, production data, maintenance programs, and operation videos.
◆ Remote cloud control system enables global online connection and machine takeover.
◆ Real-time fault diagnosis and program optimization with instant cross-border response.



■ 星轮进胚装置
Preform Feeding Unit

◆ 采用星轮进胚方式，取代传统机械翻转结构。进胚过程更加顺畅稳定，有效提升设备运行效率。

◆ Utilizes a star wheel feeding system to replace the traditional mechanical turnover structure. This design ensures smoother and more stable preform feeding, enhancing overall machine performance.



■ 加热单元
Heating Unit

◆ 采用行业内最小的38.1mm加热节距技术，大幅降低加热炉使用功率。
◆ 采用瑞士进口陶瓷反射板，提高反射效率，提升烘箱整体效能，实现高效节能。

◆ Features the industry's smallest 38.1mm heating pitch technology, significantly reducing heating oven power consumption.
◆ Utilizes Swiss imported ceramic reflectors to enhance reflection efficiency, improving overall oven performance for higher efficiency and energy savings.



■ 机械爪（接送系统）
Mechanical Claw（Transfer System）

◆ 无气动运行： 无需压缩空气，节能降耗，结构简化。
◆ 高耐久性： 纯机械刚性结构，易损件寿命比气动手爪延长70%,维护更低。
◆ 弹簧同步抓取： 柔性精准夹持瓶颈，胚管/瓶转移不变形。

◆ Pneumatic-Free: No compressed air needed, reducing energy and complexity.
◆ High Durability: Rigid mechanical design, 70% longer wear part life than pneumatic claws.
◆ Spring-Synchronized Gripping: Flexible & precise neck-handling, no deformation during transfer.



■ 拉伸吹瓶结构
Stretch Blowing Unit

◆ 拉伸采用伺服电机驱动，齿轮齿条传动。
◆ 拉伸机构配备诺冠（Norgren）高压吹气阀，可选配气体回收功能。

◆ Stretch rod driven by servo motor with rack and pinion transmission.
◆ Equipped with IMI NORGREN high-pressure blowing valve, optional air recovery function.

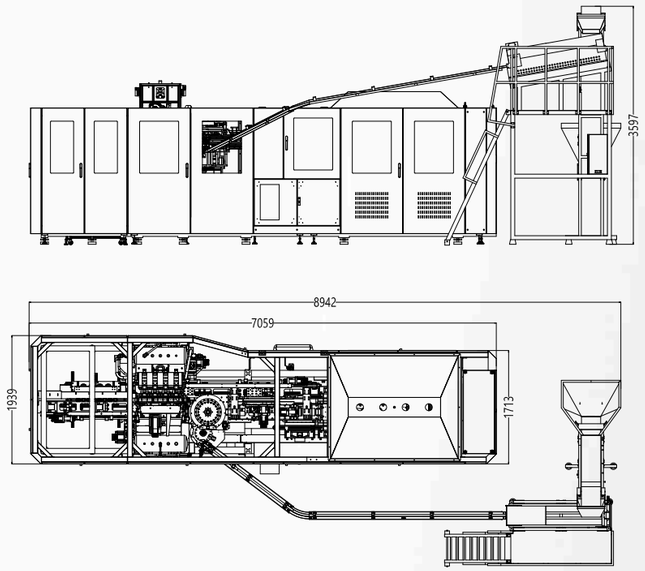


■ 模具
Blow Mold

◆ 所有模具均采用7075航空铝材制造。模具结构采用单腔圆模设计，更换模具快捷方便。

◆ All molds are manufactured from 7075 aviation aluminum. The single-cavity round mold structure allows for quick and easy mold changes.

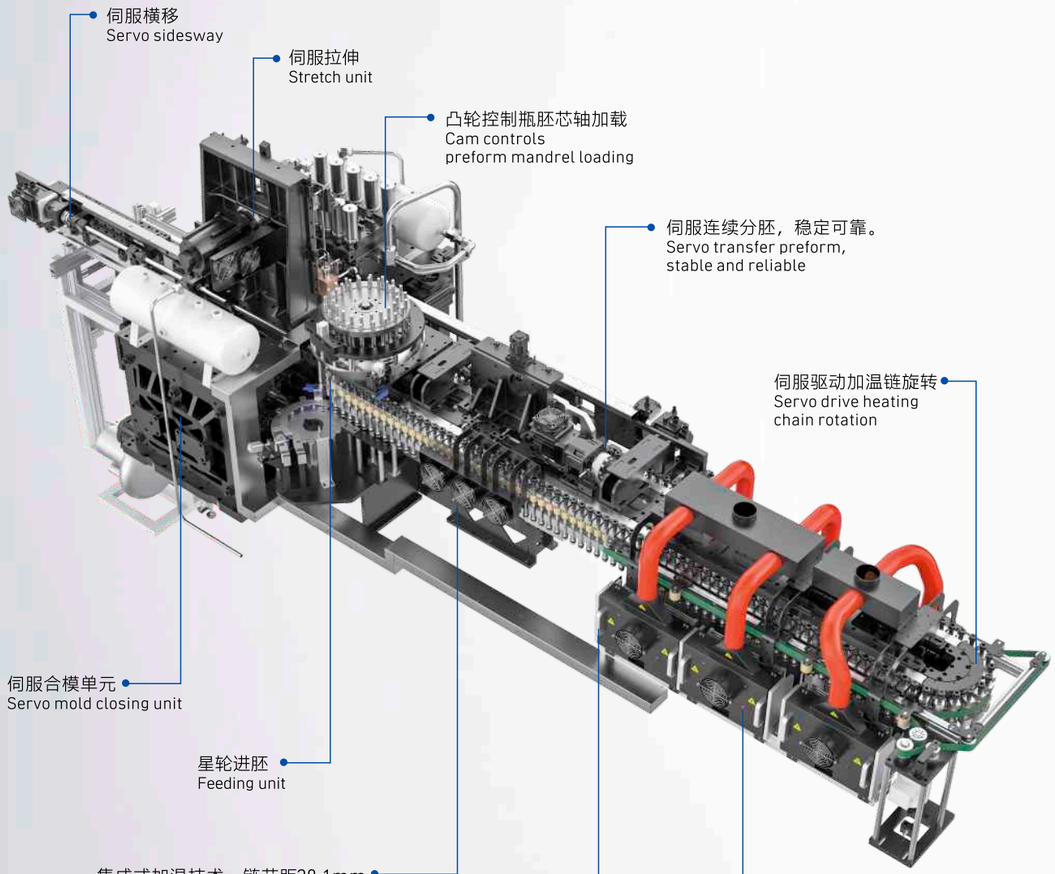
■ 外形尺寸 / Overall Dimensions

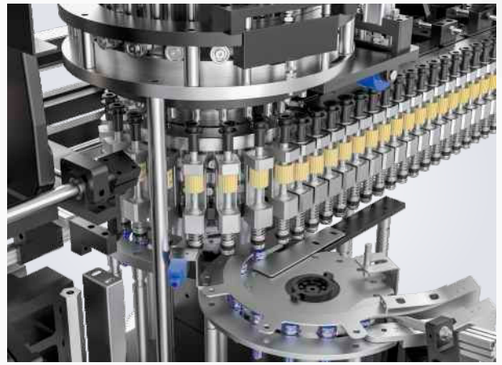


结构介绍
Structural Introduction

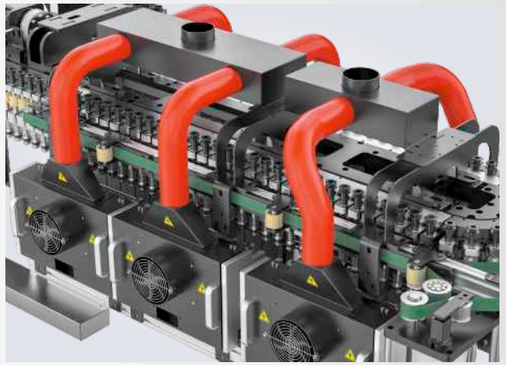
TECBLOW系列配备简洁易用的简化操作界面，实现直观便捷的机器控制。自动上胚系统采用芯轴中央旋转机构，确保胚体壁受热稳定均匀，实现全方位均衡加热。我们最先进的transfer技术使胚体从加热炉出来后直接拾取并送至吹瓶模具，单步完成，自动适应胚体间距变化。该全电动系统采用伺服驱动的机械爪技术，消除复杂机构，减少备件使用。吹瓶完成后，取瓶站采用相同的机械爪技术进行取瓶，全程无需气动能耗，大幅提升部件使用寿命，降低客户未来备件成本。

The TECBLOW series features an easy-to-use, simplified user interface for intuitive machine control. The autoloading preform system incorporates a central rotation mechanism, ensuring stable heat distribution and uniform heating across the preform wall from every angle. Our most advanced transfer technology allows preforms to be picked directly from the heating oven and delivered to the blowing molds in a single step-automatically adjusting to preform distance variations. This fully electric system uses mechanical claw technology operated by servo drives, eliminating complex mechanisms and reducing spare parts usage. The same mechanical claw technology is used at the bottle take-out station after blowing, requiring no pneumatic energy, which enhances component longevity and reduces future spare parts costs for customers.

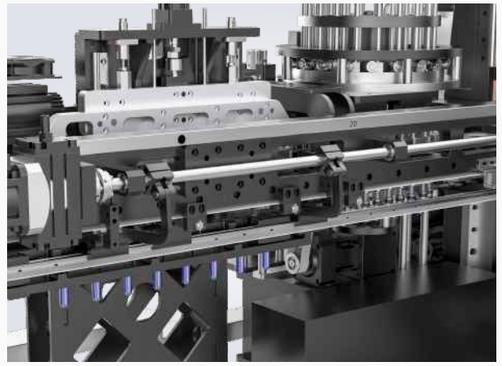




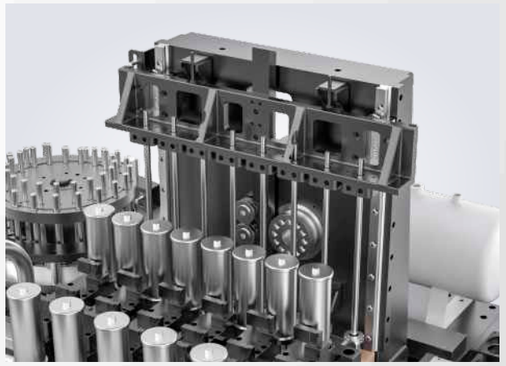
星轮进胚
Feeding unit



密集加温
Heating unit



螺杆分胚
Transfer preform



伺服拉伸
Stretch unit



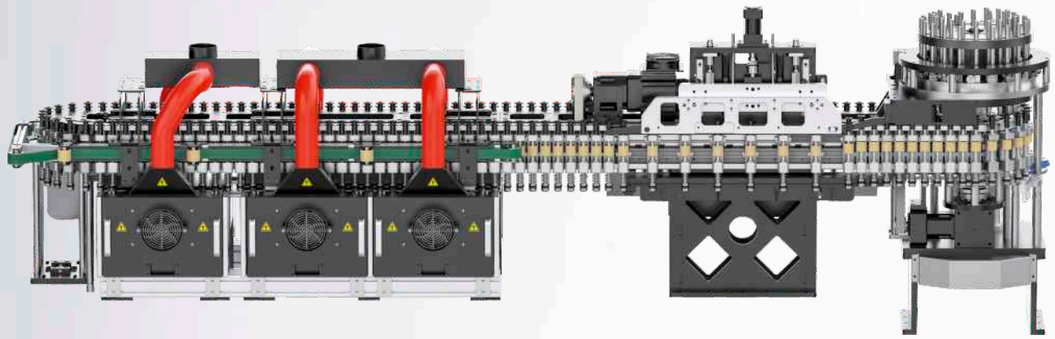
出瓶风送
Bottle out



高压进气
High pressure

第二代吹瓶机技术优点
TEC BLOW II Series Advantages

■ 加热炉理念 / Heating oven advantage



◆ 平衡式加热芯轴技术。
◆ 凸轮控制瓶胚芯轴加载。
◆ 近红外加热 (NIR)，加热辐射密集，瓶胚受热更加均匀、优化。
◆ 加温炉采用瑞士进口红外线陶瓷全封闭反射通道。(加温效率更加高效，和不锈钢反射板比较，陶瓷反射板能耗降低10%-30%)
◆ 加温炉链节距38.1mm业内最小，相比以往50.8mm节距能耗更低。

◆ Balanced heating mandrel technology;
◆ Cam controls preform active mandrel loading;
◆ NIR heating, intensive heating, PET preform much more uniform heated and optimized.
◆ Heating oven adopt Swiss infrared ceramic reflector technology (heating efficiency much higher than SS reflector, and power consumption 10% - 30% lower than traditional type.
◆ 38.1mm-the smallest heating distance in blowing machine field, power consumption is much lower than 50.8mm heating pitch.

■ 芯轴理念 / Active mandrel advantage

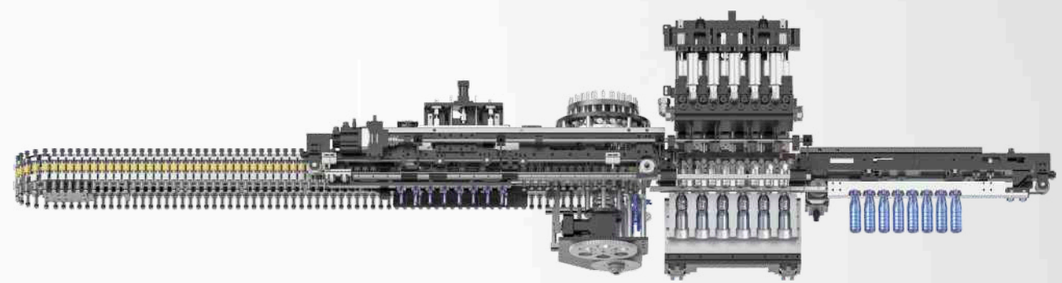


平衡式加热芯轴技术（国家发明专利）
Balanced Heating Mandrel Technology (National Patent)

芯轴运转平稳，旋转同心度高，全程无偏芯现象。该精密设计实现了业内最小的38.1mm加热节距，大幅降低加热功率消耗，最大限度节约能源。

The preform mandrel operates with exceptional stability and high rotational concentricity, ensuring no off-center movement during rotation. This precision design allows for a heating pitch of only 38.1mm-the smallest in the industry-significantly reducing heating power consumption and maximizing energy savings.

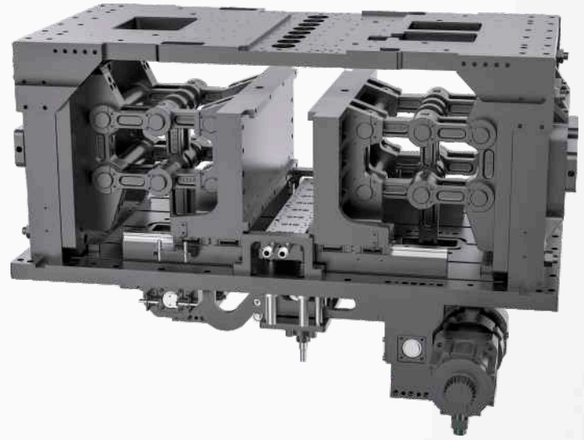
■ 瓶胚传送理念 / Preform transfer advantages



◆ 连续分胚技术（国家发明专利），实现不间断运行。
◆ 螺杆分胚系统采用单向旋转，减少磨损和机械运动。
◆ 快速横移传送结构配备保险杠式设计，传送平稳可靠。
◆ 全电动系统采用伺服驱动的机械爪技术，消除复杂机构。
◆ 伺服拉伸实现精准定位，更有利于轻量化瓶成型。
◆ 自动适应胚体间距变化，无需额外调整。

◆ Continuous preform transfer technology (national patent) for uninterrupted operation.
◆ Screw preform separation system with one-way rotation, reducing wear and mechanical movement.
◆ Fast transverse movement structure with bumper design for smooth and reliable transfer.
◆ Fully electric system using servo-driven mechanical claw technology, eliminating complex mechanisms.
◆ Servo stretching for accurate positioning, ideal for lightweight bottle forming.
◆ Automatically adapts to preform distance variations without additional adjustments.

■ 四板伺服合模 / Four plate servo clamping



伺服电机带动减速机驱动合模，底模凸轮联动实现快速合模快速开模。

The servo motor drives the gearbox to actuate mold clamping, in synchronization with the bottom cam for fast mold opening and closing.

技术参数
Technical Specifications

TEC BLOW-生产PET小瓶的解决方案 / TEC BLOW-solutions for pet small bottles

型号 / Model		单位 Unit	RL-4II	RL-6II	RL- 6 - 750ML	RL-8II	RL-10II	RL- 12 - 600ML
成型组规格 / Clamping system								
模穴数	Number of cavity	cavities	4	6	6	8	10	12
模具行程	Mold stroke	mm	0-130	0-130	0-90	0-130	0-90	0-90
拉杆行程	Stretch stroke	mm	340	340	250	340	250	250
底模运动行程	Bottom stroke	mm	50	50	30	50	30	30
瓶子间距	Cavity distance	mm	114.3	114.3	80	114.3	80	80
加热间距	Heating distance	mm	44.45	44.45	44.45	44.45	44.45	44.45
胚头数	Number of holder	PCS	126	146	128	148	178	204
瓶型规格 / Container								
瓶子最大容量	Max.container volume	ltr	2	2	0.75	2	0.75	0.6
牙部尺寸(外径)	Max. neck diameter (OD)	mm	30/38	30/38	38	30/38	30	30
最大瓶胚高度	Max.prefrom height	mm	140	120	120	120	90	90
最大瓶身直径	Max.container diameter	mm	130	95	70	95	65	65
最大瓶身高度	Max.container height	mm	340	320	250	320	250	250
理论产能	Theoretical output	B.P.H	8000	12000	12000	16000	20000	24000
电控规格 / Electrical system								
加热箱数量	Heating oven	UNITS	4	6	5	8	8	10
灯管道数量	Box × channel	层/Layer	10	10	12	10	10	10
灯管数量	Number of lamp	pcs	48	50	60	80	80	100
最大加热配置功率	Heating powe	KW	57.6	60	60	96	96	120
加热实际功率	Average power 0.5L/15g	KW	19.2	24	20	30	30	35
电力总容量	Installed power	KW	67	72	70	105	105	130
电压	Voltage	Voltage	220v/380V/50/60hz/3phase					
空压规格 / Air system								
操作压力	Operating pressure	kg/cm²	7					
吹瓶压力	Blowing pressure	mpa	3.0-4.0					
高压空气耗氧量	High pressure air consuming	m^3/min	4	6	6	12	10	12
冷却水规格 / Chiller system								
温度范围	Temperature	℃	10-15					
压力	Pressure	Mpa	0.4					
流量	Flow rate	L/min	80	80	80	120	120	120
额定功率	Heating power	HP	8	8	8	10	10	15
机台规格 / Machine								
主机尺寸长×宽×高	Machine dimension (L × W × H)	mm	6500 × 2200 × 2600	6500 × 2200 × 2600	7800 × 1700 × 2600	7800 × 1700 × 2600	7800 × 1700 × 2600	8500 × 1700 × 2600
机台重量	Machine weight	kg	7500	8000	9500	10000	10000	11000

注/Note:

1. 操作压力的低压气源，通过气体回收系统，将高压吹瓶排气回收利用，无需单独配置低压空压机设备。
2. 实际产量，需根据客户所提供的瓶型规格和瓶坯设计的品质而定。

1. The air recovery system recycles exhaust air from high-pressure blowing to supply low-pressure operating air, eliminating the need for a separate low-pressure compressor.
2. Actual output varies depending on bottle shape, preform design, and preform quality.

TEC BLOW-生产PET大瓶的解决方案 / TEC BLOW-solution for pet large bottles

型号 / Model		单位 Unit	RL-2-5L	RL-4-5L	RL2-15L	RL-2-20L	RL-1-30L
成型组规格 / Clamping system							
模穴数	Number of cavity	cavities	2	4	2	2	1
模具行程	Mold stroke	mm	0-200	0-200	266	350	300
拉杆行程	Stretch stroke	mm	360	360	400	450	650
底模运动行程	Bottom stroke	mm	50	50	80	80	50
瓶子间距	Cavity distance	mm	203.2	203.2	266	330.2	300
加热间距	Heating distance	mm	76.2	76.2	76.2	101.6	80
胚头数	Number of holder	PCS	74	96	85	96	65
瓶型规格 / Container							
瓶子最大容量	Max.container volume	ltr	5	5	15	20	30
牙部尺寸(外径)	Max. neck diameter (OD)	mm	48	48	55	85	85
最大瓶胚高度	Max.prefrom height	mm	160	160	200	300	310
最大瓶身直径	Max.container diameter	mm	180	180	250	300	300
最大瓶身高度	Max.container height	mm	360	360	400	550	600
理论产能	Theoretical output	B.P.H	2000	3500-4000	1200	1200	300
电控规格 / Electrical system							
加热箱数量	Heatingoven	UNITS	4	6	10	10	6
灯管道数量	Box × channel	层	12	12	16-20	16-20	18
灯管数量	Number of lamp	pcs	48	96	96	128	108
最大加热配置功率	Heatingpowe	KW	57	86	96	115.2	216
加热实际功率	Average power 0.5L/15g	KW	28	56	40	55	55
电力总容量	Installed power	KW	67	92	115	125	190
电压	Voltage	Voltage	220v/380V/50/60hz/3phase				
空压规格 / Air system							
操作压力	Operating pressure	kg/cm²	7				
吹瓶压力	Blowing pressure	mpa	3.0-4.0				
高压空气耗氧量	High pressure air consuming	m^3/min	6	12	8	12	6
冷却水规格 / Chiller system							
温度范围	Temperature	℃	10-15				
压力	Pressure	Mpa	0.4				
流量	Flow rate	L/min	60	100	80	80	80
额定功率	Heating power	HP	8	10	10	10	5
机台规格 / Machine							
主机尺寸长×宽×高 Machine dimension (L × W × H)		mm	6342 × 2300 × 2900	7071 × 2180 × 2760	6290 × 2706 × 3240	7600 × 2540 × 3310	5910 × 2510 × 3560
机台重量	Machine weight	kg	6500	8000	8500	8500	8500

注/Note:

1. 操作压力的低压气源，通过气体回收系统，将高压吹瓶排气回收利用，无需单独配置低压空压机设备。
2. 实际产量，需根据客户所提供的瓶型规格和瓶坯设计的品质而定。

1. The air recovery system recycles exhaust air from high-pressure blowing to supply low-pressure operating air, eliminating the need for a separate low-pressure compressor.
2. Actual output varies depending on bottle shape, preform design, and preform quality.