

香港雅琪集团优质吹塑机械

akei®

AKEI HOLDINGS COMPANY LIMITED



快速平移系列

Linear Series

www.akei.com.hk



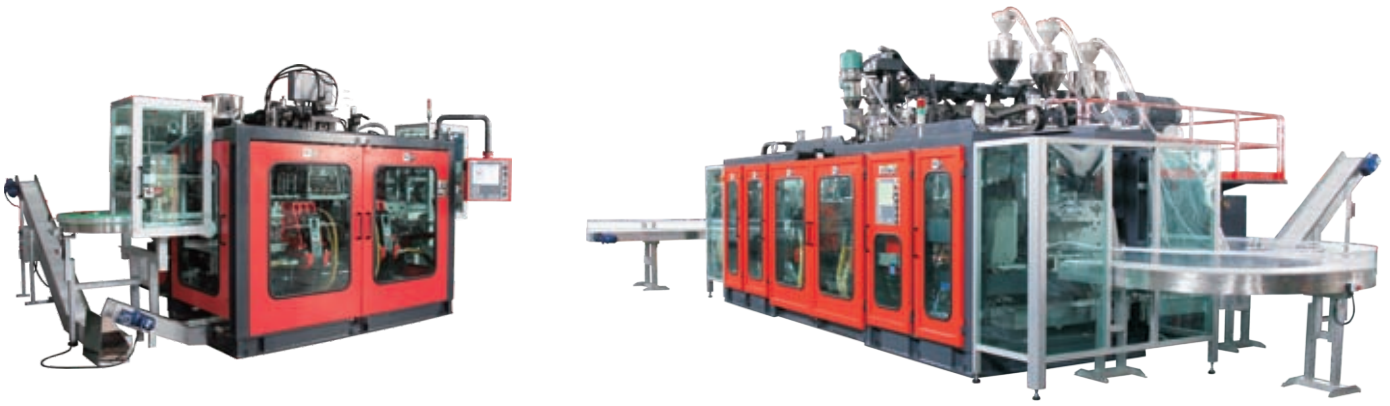
产品介绍 Machine Features

本系列产品历经十年以上市场考验，不断改良完善，已经成为满足大批量生产模式的主力机型。不断融入最新技术，每一款都以高速、高效、平稳、节能、耐用著称。重视细节，外观设计美观简洁，整体布局、布线合理，操作维护简便。各主要控制、电气、液压、气动、元器件，采用世界知名品牌，确保整机质量稳定。能耗指标，达到世界先进水平。

Since 1992, when Akei developed the first prototype of this Series, and after continuous design and technological improvements we are proud to announce and celebrate the proven efficiency and ongoing success this Series has remarkably accumulated until the present date. Intended for high production output, uninterrupted production schedules, operator friendly access, energy saving features, noise pollution control and relatively easy maintenance such criteria can only be materialized with a perfect mixture of innovative design, imported components of the highest quality, materials of the purest blend, experienced craftsmanship and a rigorous quality assurance process of the highest standards.

雅琪已经成为吹瓶机行业的知名品牌，性能可与欧美吹瓶机媲美，并且具有良好的性价比，是一线包装企业的首选机型。

Akei is globally recognized and accepted as one of the leading brands in the Extrusion Blow Molding (EBM) industry. While the performance of the Linear Series machines is comparable to its counterparts in those well-developed countries the clear advantage can be found in ROI due to the fact AKEI's machines are reasonably priced. Due to this reason alone AKEI continues to be regarded as "top choice" for EBM projects by multinational companies around the globe.



LIN-70-TS (LIN-70A-TS):

锁模、移模均采用线性导轨滑块，整体刚性极佳，是紧凑型快速平移吹瓶机的经典之作。已广泛应用于，（单头）4-5升产品生产，（双头）1-2升产品生产，（三头）500-1000毫升产品生产，（四头）200-500毫升产品生产，（六头或打针吹12腔）100-200毫升产品生产。无论润滑油还是乳制品包装行业，以及传统的日化行业，都运用自如，是实现经济生产的首选机型。

With a fast dry cycle, this compact model features a rigid frame and a linear moving carriage and clamping stroke on Rexroth guide rails. It is widely used in the lubricant, dairy and traditional household product industry for containers ranging from 4 to 5 liter in single head, 1 to 2 liter in double head, 500 to 1000 milliliter in triple head, 200 to 500 milliliter in quad head, and 100 to 200 milliliter in six-way head configuration. This highly capable model is an excellent choice for economical production.

LIN-90-TS:

采用中央集中控制系统，配备带LVDT的100点（或以上）精确控制和反馈的壁厚控制系统，锁模、移模、吹气、打水口、抬头动作均采用比例阀控制，电子尺和位置感应双重保护，可选配“变量泵液压系统”或“伺服泵液压系统”两种节能方案，干周期为3.2秒的高响应速度，移模行程600mm，合适中等产能生产。

Machine movements are precisely regulated by means of proportional valves; a 100+ point parison control cylinder with LVDT allows the operator to adjust products' weight in order to minimize wasted material. These and many other features are easily accessible and controlled by the operator from a touch screen industrial computer system which offers real time feedbacks. This model has an impressive dry cycle of 3.2 seconds on a 600mm horizontal transfer stroke. Customers have the option to upgrade to an energy saving hydraulic system or remain with the standard configuration. This model is ideal for production of 5L bottles at 2+2 cavities.

LIN-100-TS:

本机为LIN-90-TS的加长型，移模行程为700mm，适应更大产品或更多模头的生产。

The main features which differentiate this model from the previous are its increased horizontal transfer stroke to 700mm as well as an extruder unit equipped with a 100mm screw. These features allow for higher outputs than the previous model as the head can be configured to accommodate more cavities for similar products.

LIN-90II-TS:

移模行程为900mm，32吨的锁模力，挤出系统可选择单层、双层、三层，可选择搭载各种挤出量要求的平行轴马达驱动的挤出系统，无论3+3的4升带手柄润滑油桶，还是10+10的300-500毫升日化包装瓶，都能得心应手。是高效量产的最佳生产机型。

The highlights of this model are a horizontal transfer stroke of 900mm and a superior clamping force of 32 tons (160 BAR). Like all other models, it is also possible to upgrade to multi-layer configuration as it is commonly requested from multinational companies of the Motor Oil Industry for the production of 5L jerry cans. Alternatively, those multinational companies which cater to the body care and household market prefer this model in order to maximize production output of their products ranging from 300ml to 500ml.

LIN-100II-TS:

最新研发的加长移模行程机型，移模行程高达1250mm，独特的机头结构设计是解决超宽机头的最佳方案，适用于更多模头、更宽产品的高效自动化生产。

The newly developed LIN-100II-TS model is characterized by its 1,250 mm carriage transfer stroke and unique extrusion head design. This model is the perfect solution for maximizing the output of a any particular product.

LIN-90-TSI:

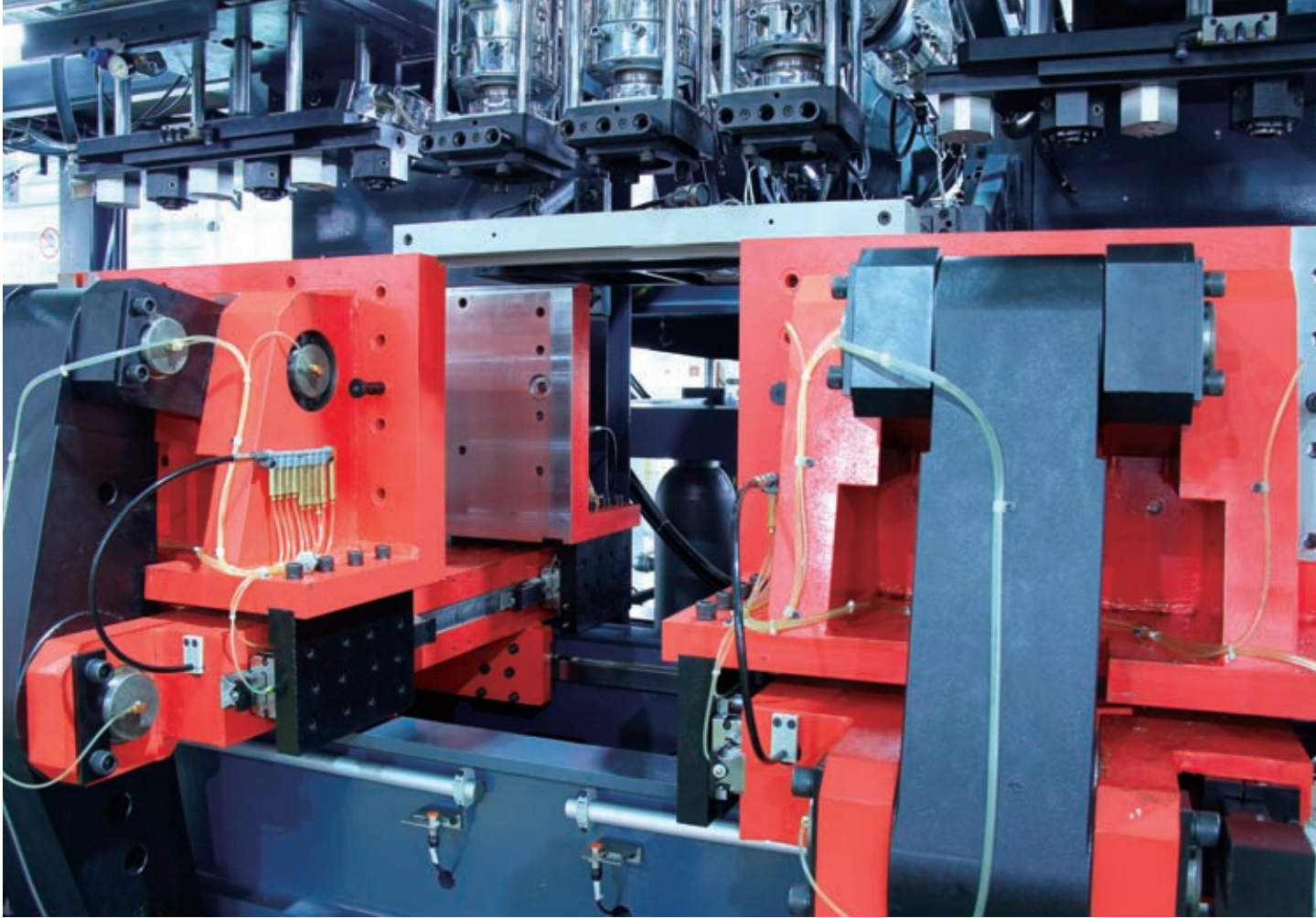
锁模行程460mm-820mm，移模行程900mm，较大的容模空间，锁模力50吨，适应大容量产品的高效自动化生产。应用案例，20-30L容量的工业包装桶自动化生产。

This machine is built to meet the requirements of industrial containers production in a fully automatic fashion. Clamp force, platen opening and carriage transfer stroke are designed to produce stackable or standard jerry cans ranging from 10L to 25L in volume.



控制系统 Control System

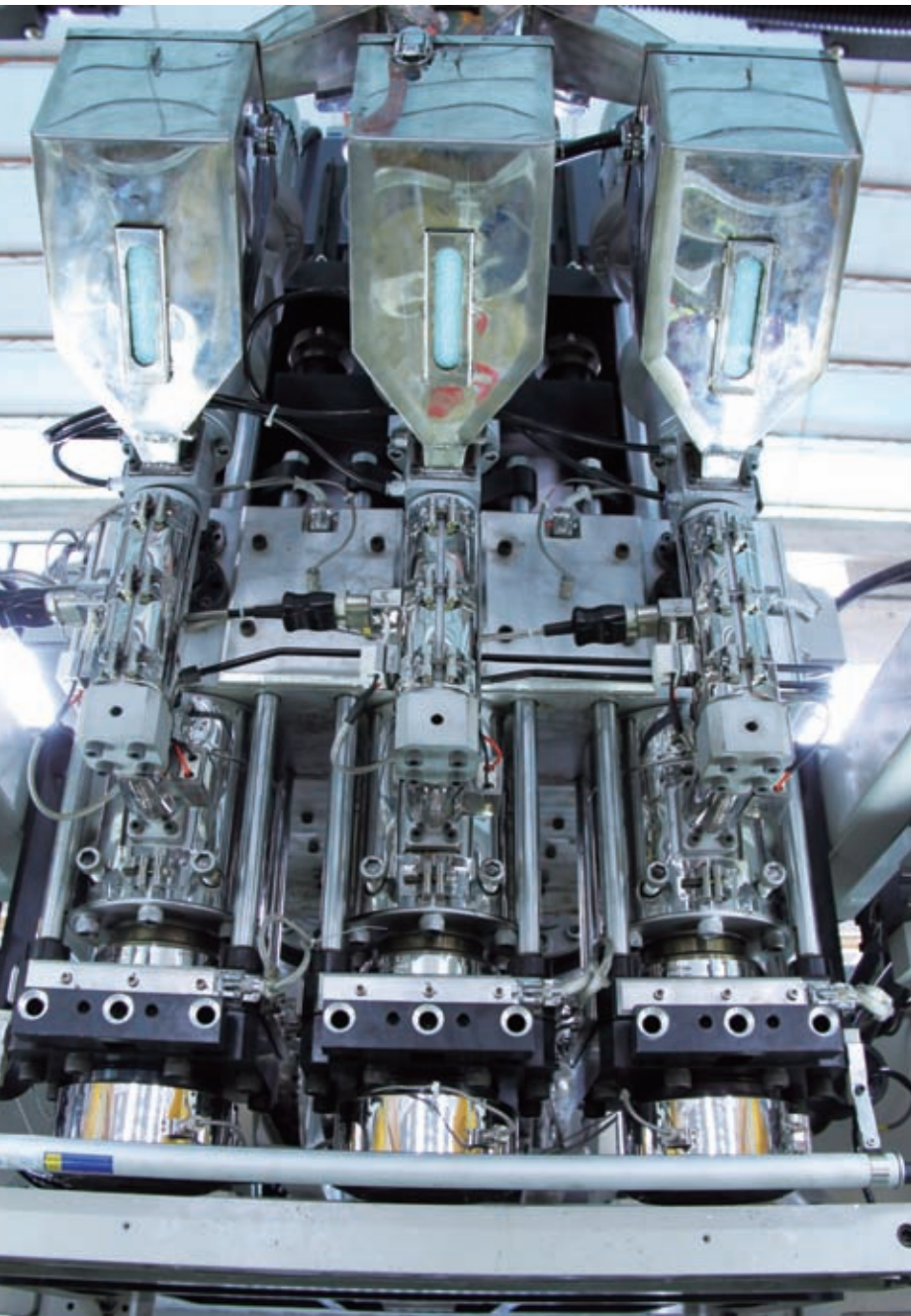
- Beckhoff(倍福)控制系统，工业PC控制系统。
Beckhoff® total control system.
- 15寸真彩显示触摸操作屏幕。
15 inch color Touch Screen plus soft keys at bottom of panel.
- 采用工业Ethercat管理I/O，扩展更灵活。
Using industrial Ethercat to manage I/O making it flexible to expand.
- 闭环控制移模、锁模、风阻、打水口的动作。
All machine movements are step-less adjustable via total control system.
- 带LVDT的100点（或以上）型胚控制。
100+ point parison control cylinder with TRANS-TEK® LVDT and REXROTH® servovalve.
- 显示及修改电热温度值、保温值、高低温警报等。
Integrated heating, heat standby control and temperature alarms.
- 可预设定时加热。
Integrated pre-heat settings.
- 显示所有位置设定、时间设定、动作状态等。
Display of proportional settings, time settings, movements' status and more.
- 显示机械全自动生产周期所需时间。
Display and breakdown of total production cycle time.
- 油温自动控制功能。
Automatic control of hydraulic temperature.
- 显示所有警报信息的原因和时间、修改记录
Display of provision alarms, alarm diagnostic, alarm logs, and alarm history.
- 显示所有输入输出状态。
Display all I/O status.
- 准确详细显示有故障模块的警报信息。
Alarm log with possible cause of error indicated.
- 级别密码设定。
Multiple security levels accessible by password only.
- 输入输出及温度控制点可以无限扩展。
Input/output and temperature control points can be infinitely extended.
- 可以计量耗电量功能。
Real-time display of machine' s power consumption (upgrade required/non-standard feature).



机架结构 Clamps & Carriages

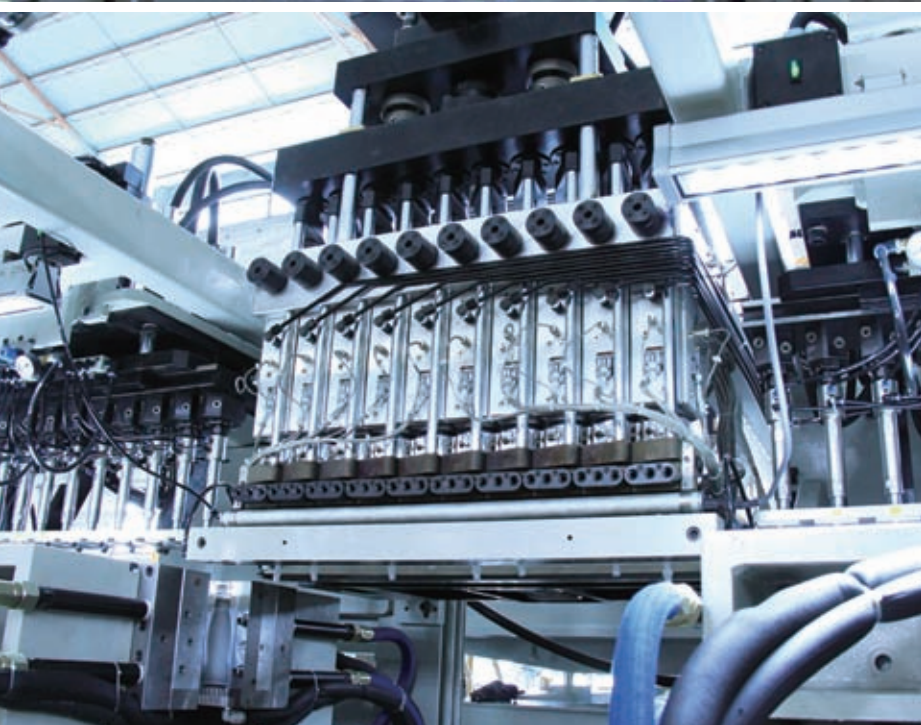
- 锁模力在模板中线,保证平均受力。
Clamping force is applied to center of platens for proper force distribution.
- 移模及锁模动作均是在Rexroth®直线导轨上作直线平移。
All clamp and carriage movements are on Rexroth® T-rail and slide bearings.
- 配无触感应电子尺,磨损率低,确保定位精度及延长使用寿命
Touchless transducers minimizing wear and friction, prolonging reliability and stability.
- 锁模配有同步齿条装置, 保证开合模同步。
Clamp equipped with synchronizing rack mechanism to ensure smooth runs on mold opening/closing sequences.
- 配有快速换模装置。
Standard quick mold change features included.
- 配备冷刀预封装置, 热切刀装置, 热刀预封装置三种, 可供选择。
Multiple options of parison cutting system: hot or cold with pre-pinch welding, hot blade or "jab" system.





挤出机头 Extrusion Head Unit

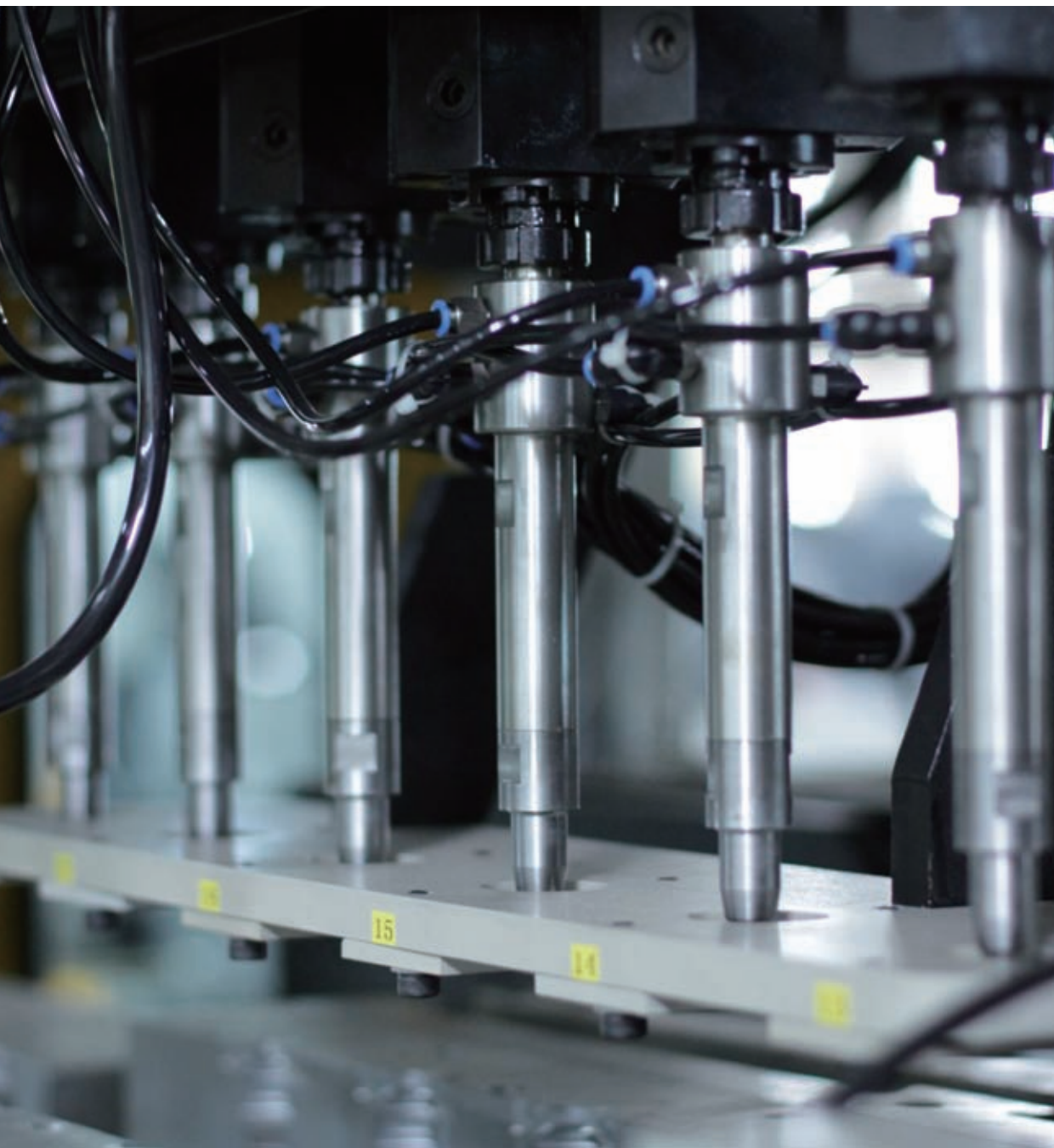
- 单头、双头~10头，灵活的选择，适应不同瓶型和产能的需求。
Head(s) can be configured with up to 10 parisons depending on size of container and machine model.
- 可选配单层、或多层共挤，液位线，适应产品对于不同功能以及环保的特殊要求。
Optionally head(s) can be configured with "view stripe" function and multi layer co-extrusion.
- 先进的中心进料式机头设计，优化的流道设计，换色快捷。
Advanced central feed extrusion, optimal flow channel design which results in faster color-change.
- 配备带LVDT和伺服油缸的100点（或以上）壁厚控制系统方案，兼顾多模腔平衡性设计，控制精确、稳定，调整方便。
100+ point parison control cylinder with TRANS-TEK® LVDT which allows for accurate control of parisons' wall distribution (weight).
- 正面三点料胚调节设计。
3 point front parison adjustment control.
- 配有模口除静电装置。
Equipped with static bar.
- 多温区多控制点加热，料胚温度均匀，满足不同工艺要求。
Multiple heating zones evenly distributed throughout unit in order to efficiently maximize plasticizing capacity and avoid material deformation at this critical stage of the extrusion process.
- 独立机头插接式电箱，拆装方便。
Heating zones' cables are routed to an independent cabinet via multi pin-plug sockets to minimize extrusion head changeover time.
- 机头材料采用38GrMoA1A、S136H等优质钢材，先进的工艺流程精密加工，保证长效使用。
Extrusion head is made from bimetal 38CrMoA1A and stainless steel S136H. It is manufactured into shape in-house at high precision CNC center in order to ensure highest quality and performance of this part.



挤出系统 Extruder Unit

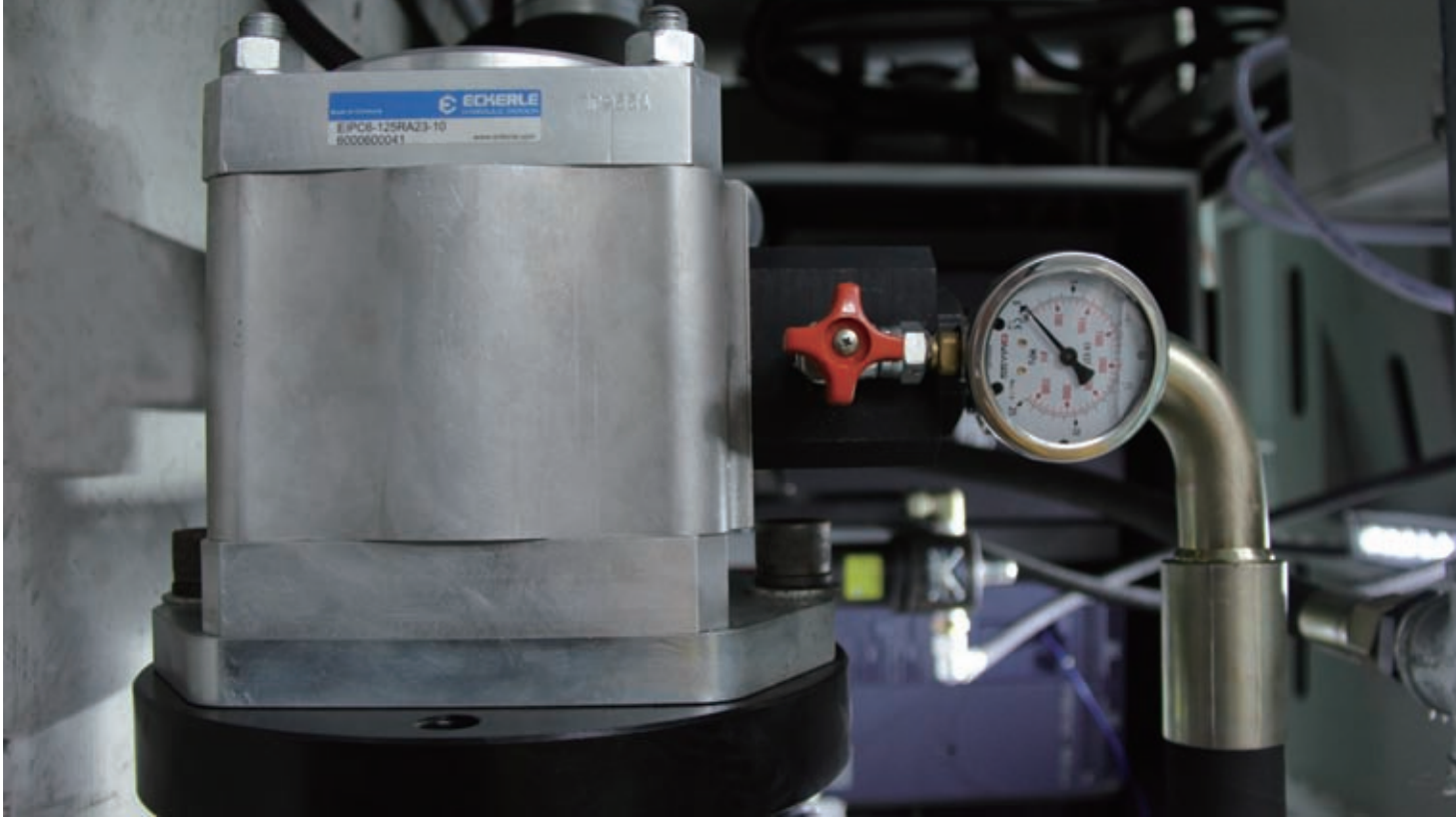
- 搭载德国SEW（或SIEMENS）平行轴减速马达，FUJI变频器驱动，高效传动，高精度运行，布局灵活简洁，维护简单，长寿命。
Equipped with Fuji® inverter (VFD) and SEW-EURODRIVE® parallel shaft helical gear motor. These components ensure the most efficient configuration which results in longevity of equipment, accuracy during extrusion process and easy access during maintenance process.
- 机筒材料42CrMo，内壁采用HK1粉末合金浇注，特殊工艺加工；螺杆材料42CrMo，表面镀铬加硬，螺棱喷镍基合金。螺杆采用著名专业公司量身定做的设计方案，挤出量大，混炼均匀，耐磨性能卓越。
The extruder barrel is made from 42CrMo steel alloy and its inner wall treated with powdered alloy casting. The extruder screw is also made from 42CrMo steel alloy and its surface is chrome plated while the ridges are treated with sprayed nickel alloy. The extruder screw design has been developed in order to maximize plasticizing volume and ensure uniform mix during melting process.
- 多段分区独立加热，独立风扇冷却，中央控制系统的温控模块PID+PWM精确温控。
Multiple heat zones and cooling fans allow independent heating and cooling. Precision control of heating with PID and PWM precision temperature control modules for centralized heating control.
- 进料段带水冷衬套，防止加热搭桥。
Throat feed zone equipped with water cooling system in order to prevent overheating.
- 配有螺杆顶出装置，方便螺杆拆卸清洗。
Equipped with screw ejecting device for easy screw dissembling.
- 可选压力传感器或溢料防爆膜系统安全装置。
Back pressure gauge located on extruder unit flange as an enhanced safety feature (upgrade required/non-standard feature).
- 后架配备电动升降装置，自动调整机头高度。
Rear-platform lift slightly increases production output as well as provides more height clearance for adjusting head.





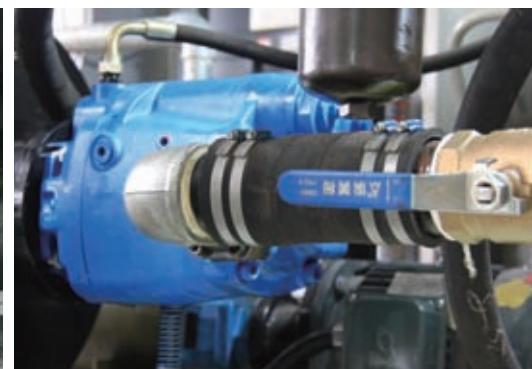
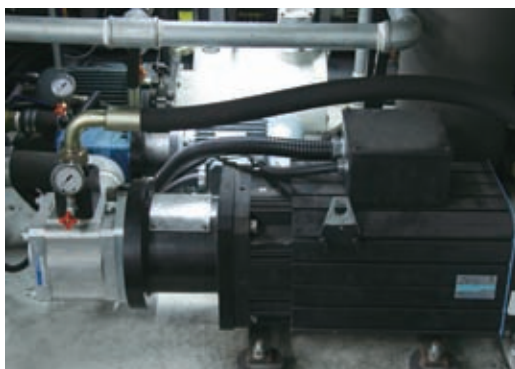
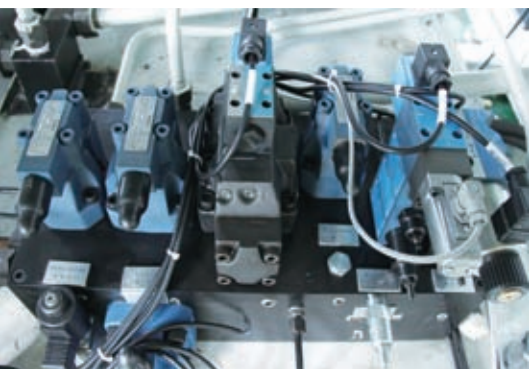
吹风系统 Blowpin Stations

- 吹风座动作采用Vickers®比例方向阀控制 (LIN-70A-TS机型采用方向阀控制),使用液压驱动。
Blowpin movements are actuated by Vickers® proportional hydraulic valves. (Feature not included on LIN-70A-TS model).
- 吹风座配互换T板, 3点调整快速排气吹风杆, 可调校角度斜吹风。
Stations are equipped with an interchangeable "T" plate, fitted with three-point-adjustable blowpin holder for ease of centering as well as adjustable for angled neck production and watercooled, double-wall design blowpins for rapid venting.
- Norgren®三步比例吹气 (LIN-70A-TS机型采用方向阀控制/无此功能) 及快速排气。
Norgren® three-stage pneumatic quick exhaust valves. (not available on LIN-70A-TS model).



液压系统 Hydraulic Components

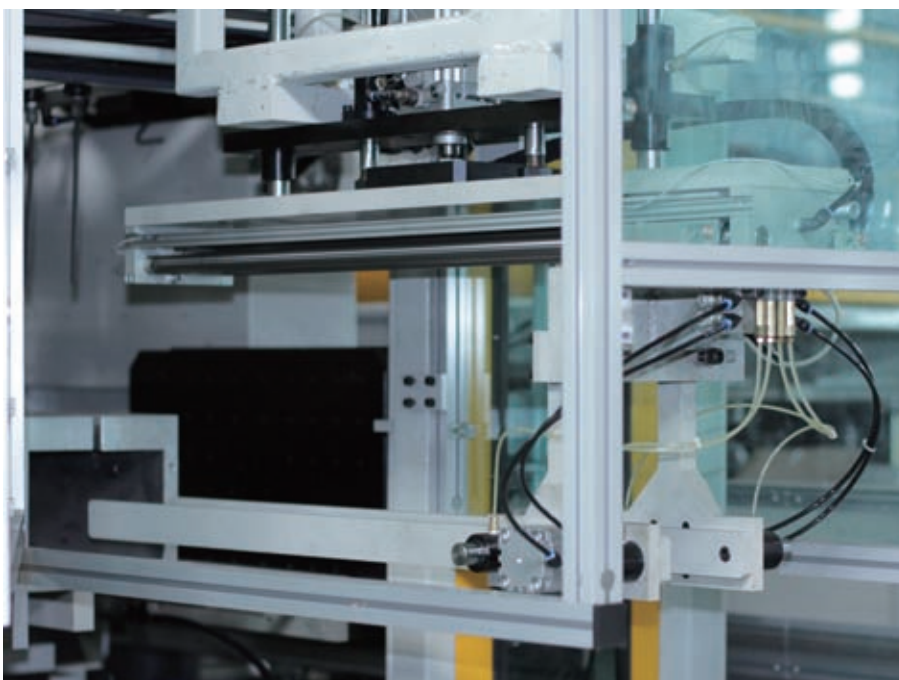
- 液压驱动—可选配伺服电机及配套驱动器、内齿轮泵/或异步电机驱动 Vickers® 变量泵。
Hydraulic driven – A choice of servo motor with accessory drive and inner gear pumps or asynchronous motor driven Vickers® variable pump. Central Hydraulic System: standard (Vickers® variable pump actuated by AC motor) or energy saving (inner gear pumps actuated by servo motor Eckerle®/Voith®).
- Vickers® 液压阀、双联泵以及储能器。
Vickers® proportional valves and double vane pump. Accumulator tanks by NACOL®.
- KAMUI FS® 油冷却器。
KAMUI FS® water-cooled heat exchanger in order to maintain hydraulic oil at optimal working temperatures.
- 闭环比例液压循环系统。(LIN-70A-TS机型无此项)
All hydraulic movements are actuated with closed-loop proportional system. (except LIN-70A-TS) All movements are actuated with proportional valves. (not available on LIN-70A-TS).
- 可选配安全门加装液动安全装置。
Optional safety gates with hydraulic safety control. Safety gates are equipped with hydraulic, pneumatic and electric shut off valves in case they are opened during machine operation to prevent unwanted accidents.
- 可选配液压油预热及液压油温探测装置。
Optional hydraulic oil pre-heat and oil temperature reader.
- 配有液压油液位探测装置。
Hydraulic oil reservoir equipped with liquid level gauge.
- 可选伺服系统配有独立的拉胶液压单元。
Independent hydraulic power pack unit for 100+ point parison control cylinder (servo motor).





产品导出系统 Oriented Discharge

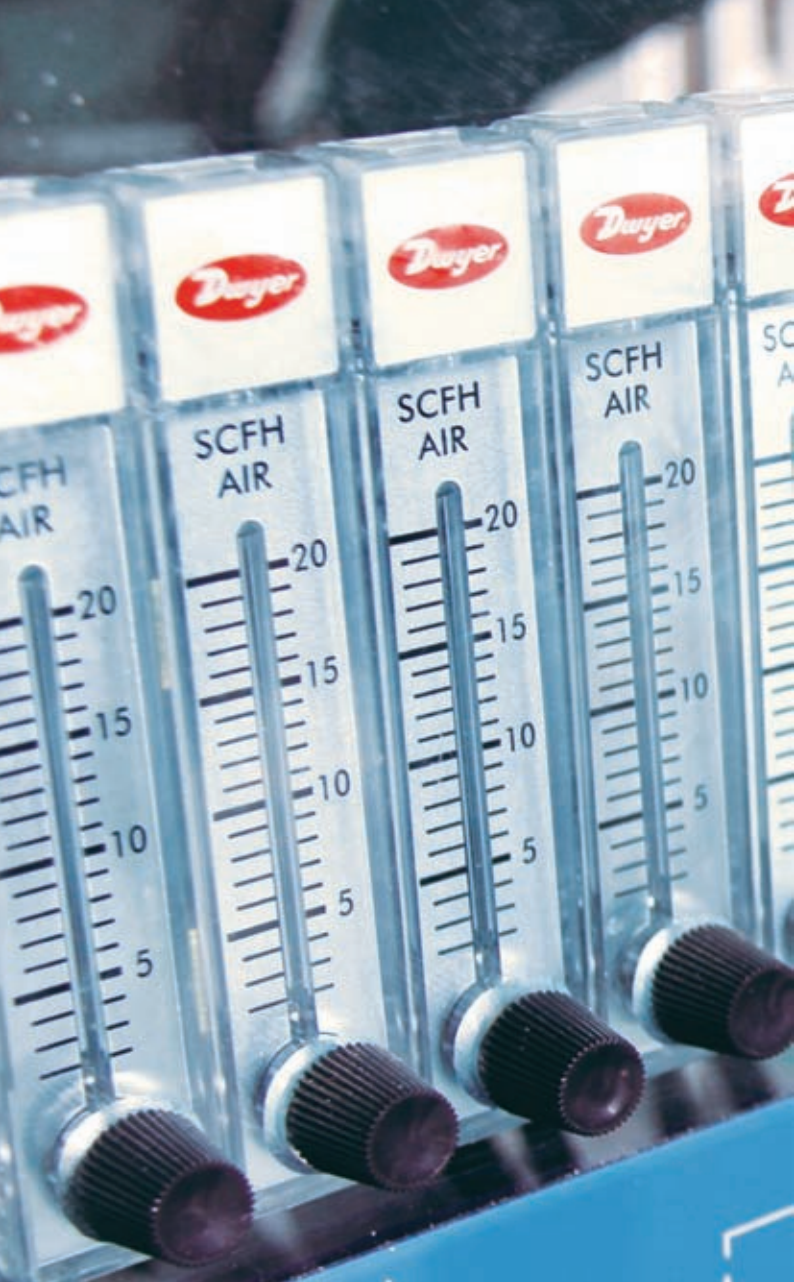
- 机械手取瓶装置。(伺服机械手/气动机械手可选) (LIN-70A-TS机型仅配气动机械手)
Robot arms configured according to products' requirements (pneumatic or servo driven). LIN-70A-TS model configured with pneumatic robot arms only.
- 将成品直立式平放于输送带上。
Robot arms deliver containers to each side of the machine, ready to place them standing up on a conveyor.
- 气动机械手驱动元件有Festo®标准气缸、基本导向驱动装置与超薄气缸，均由电磁方向阀控制。
Pneumatic robot arms actuated by Festo® cylinders and regulated by solenoid directional valves.
- 伺服机械手由直线运动模块、伺服电机、气爪组成，有冷吹风功能。
Servo driven robot arms travel on Rexroth® rails and bearings and deliver product between front and rear section of machine. An excellent upgrade if limited floor space is available or when product requires in-mold labeling.



余料处理系统 Deflashing

- 所有去余料动作均由比例方向阀控制。
(LIN-70A-TS机型采用方向阀控制)
Deflash movements actuated by proportional hydraulic valves for precise adjustment and reduced energy consumption. (not available on LIN-70A-TS).
- 产品上下余料均经预冷系统。
Post cooling of products' top and tail scraps prior to punch off.
- 余料冷风吹气及成品冷却装置。
Post-cooling stations equipped with circulating air and water blowpins (optional).

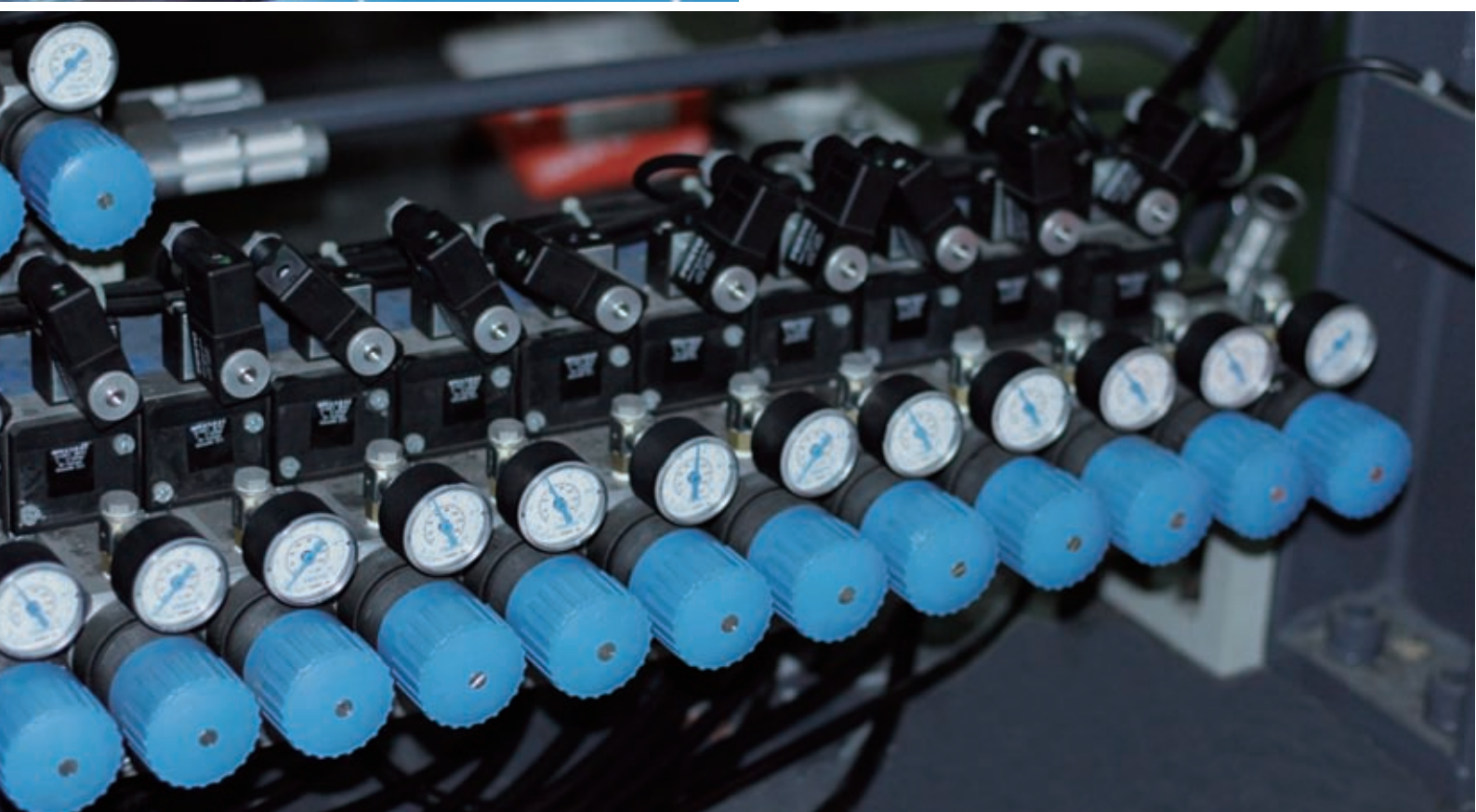




气动装置

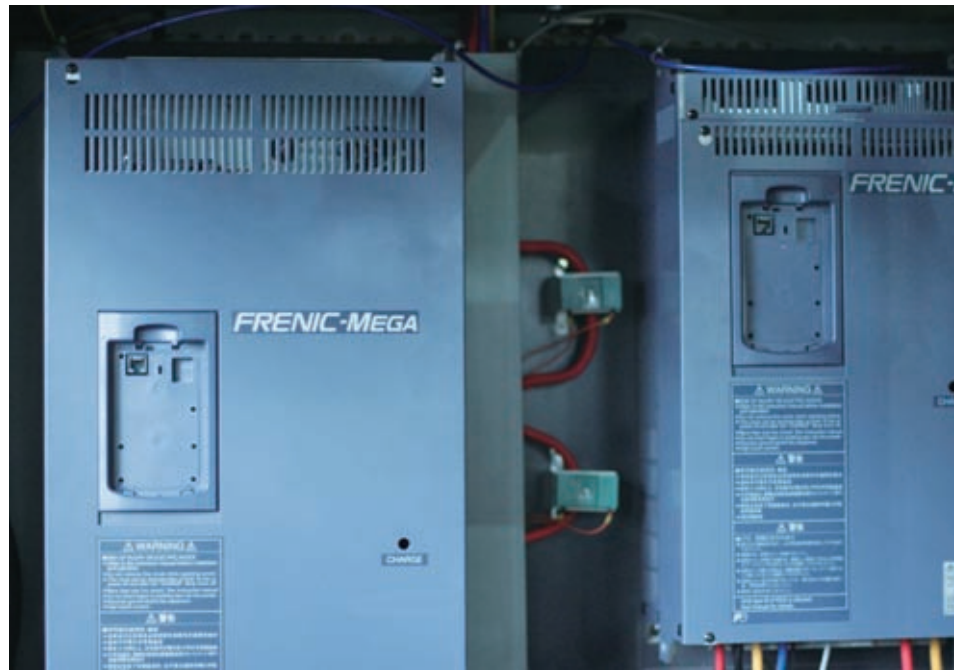
Pneumatic Components

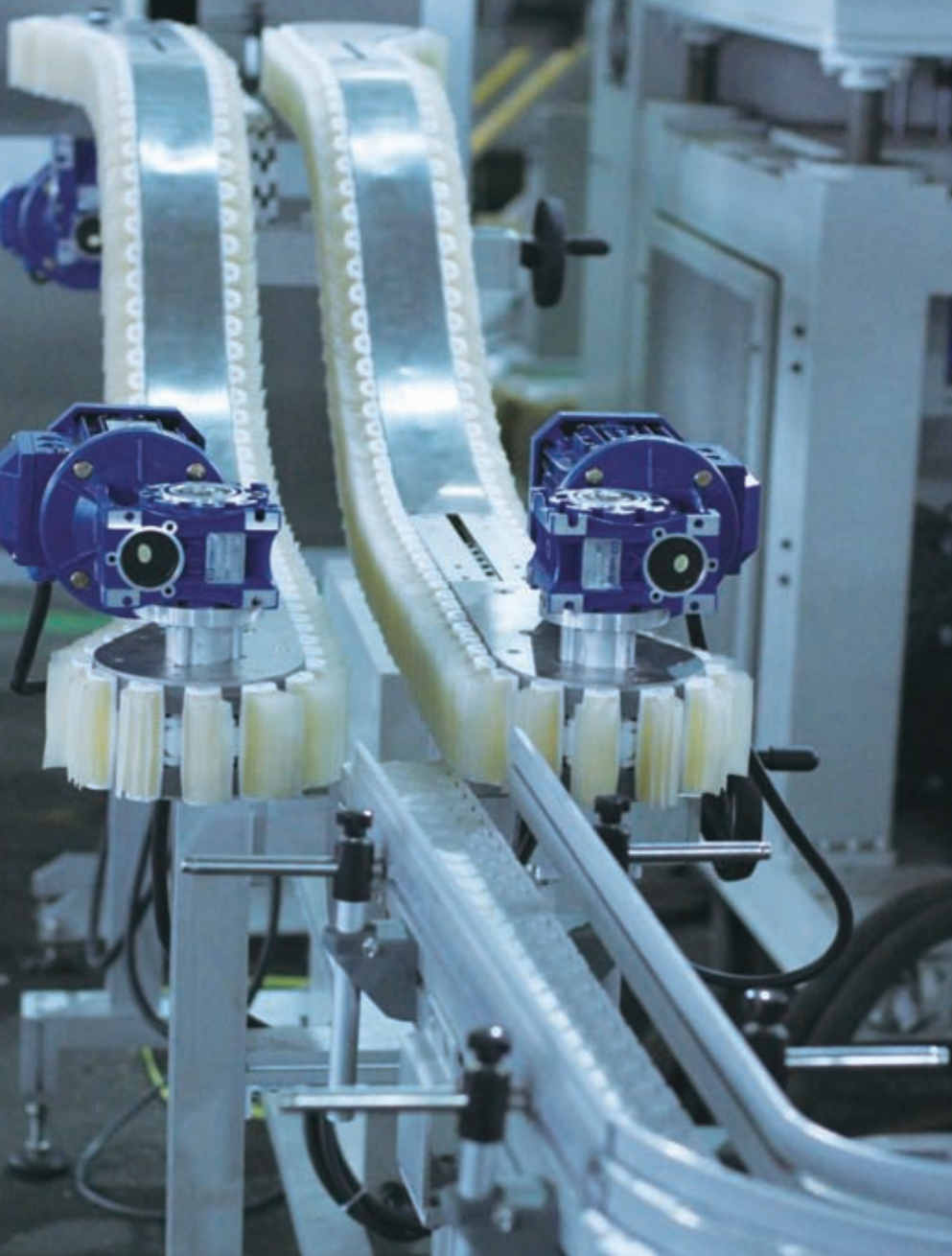
- 独立 Dwyer® 调节阀控制料筒气压、真空气压、吹气气压、余料冷风气压及冷风针气压。
Independent Dwyer® gauges for flow adjustment of parison support air, parison decompression, blow air, scrap-cooling air and post-cooling air.
- FESTO® 气动控制阀。
FESTO® pneumatic controls.
- FESTO® 标准气缸、薄型气缸及基本导向驱动装置。
FESTO® or SMC® cylinders..



电路配置 Electrical Components

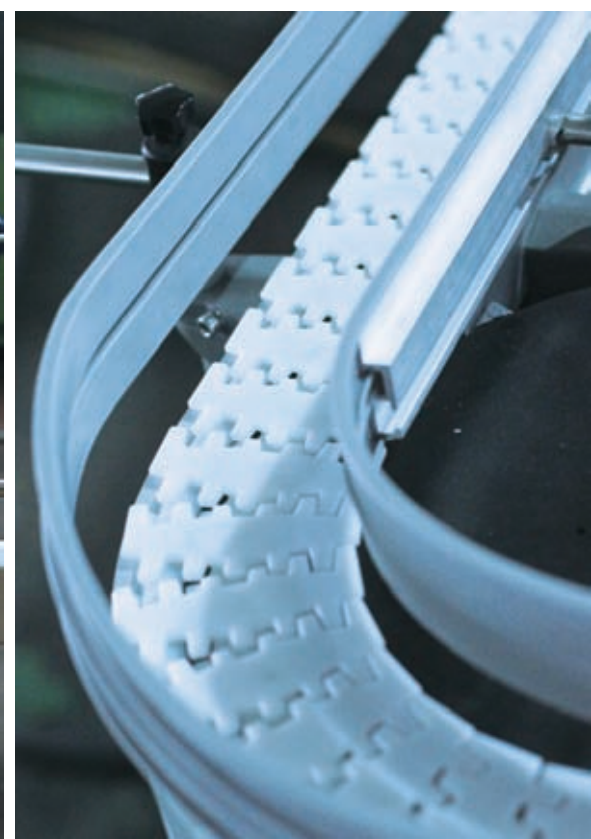
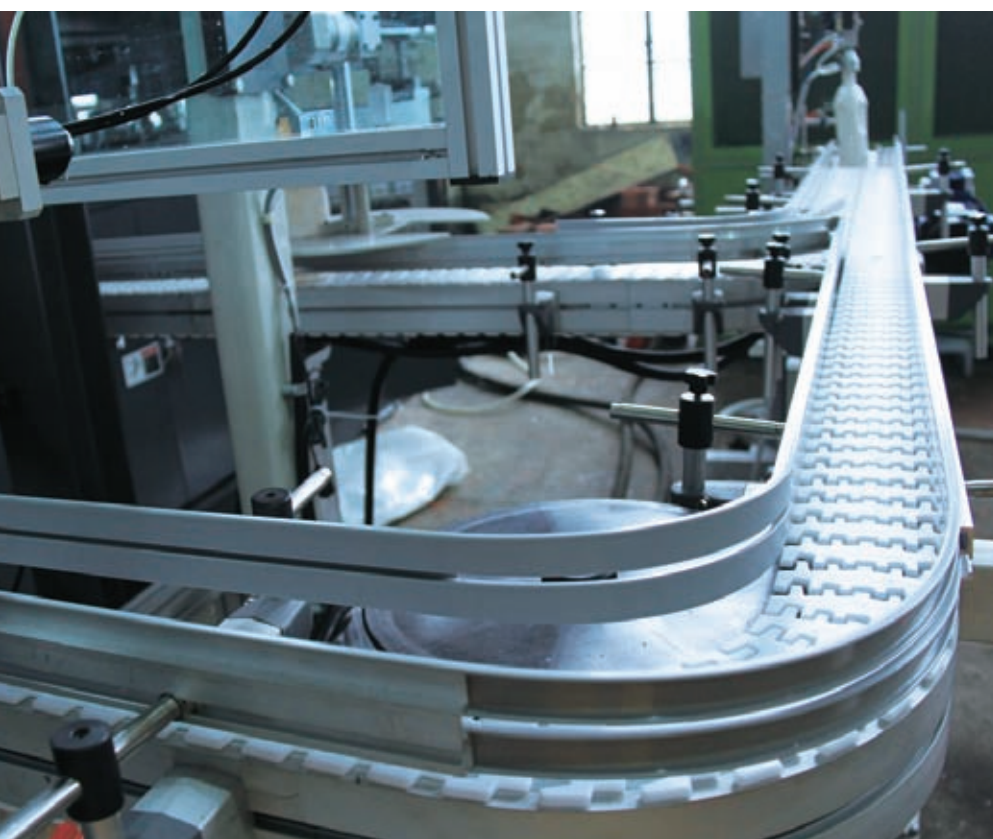
- GE Fuji® 变频器。
GE Fuji® VFD.
- Schneider® 交流接触器,热过载保护继电器。
Schneider® AC contactor and thermal overload protection relays.
- Allen-Bradley® 断路器。
ABB® circuit breakers.
- 电箱配有排风扇, 散热良好。
Electrical cabinet equipped with cooling fans to regulate temperature. Optionally air conditioner unit can be installed for improved cooling.
- Carlo GAVAZZI® 固态继电器及中间继电器。
Carlo GAVAZZI® solid state and auxiliary relays.
- 明威DC电源。
MingWei® DC power supply.





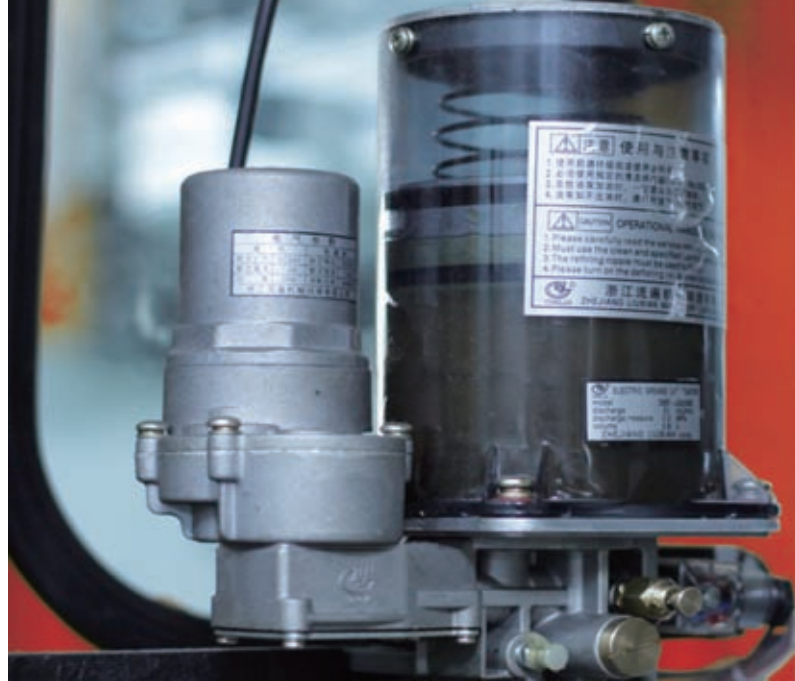
输送系统 Conveyor System

- 平顶环形输送带传送产品。
Wrap around conveyor to deliver finished bottles in a single lane to either side of machine.
- 机底配水口传输带，运至碎料机。
Top and tail scrap is collected via a horizontal conveyor then transferred to a second inclined conveyor for easy collection or into an in line grinder.
- 水口输送带可选配备金属探测器。
Metal detector device placed on scrap conveyor (optional).
- 产品过渡夹持输送。
Alternative gripper-type conveyor can be supplied for products with uneven bases or in cases where the finished product must be transported to a higher level area (optional).



润滑系统 Lubrication

- 集中润滑系统, Beckhoff® 自动控制
Automatic lubrication regulated by Total Control System.



其他 Others

- 设备喷涂：机器采用波纹油漆，颜色符合环保和安全规范要求，防锈处理，重要部件采用电泳等先进工艺，耐久和耐候性好。
All coated parts are shot-blasted before paint application or anodizing. Texture paint is applied for machine framework and large parts. Whenever possible, mechanical parts are anodized for improved corrosion resistance.
- 设备照明：机器前架和后架液压站均配有环保固定式LED照明。
Increased Visibility: LED light panels are distributed throughout the front and rear sections of the machine in order to maximize visibility for the operator during actual production and/or maintenance procedures.
- 可根据客户特殊要求选配：锣口机、测漏机、金检机、视觉检测、称重、理瓶机、贴标机、装袋（箱）机、打包机、码垛和缠绕机、输送系统等自动化设备。
Spin trimmer, leak tester, orientation device, in-mold labeling, packing robots and any other ancillary equipment necessary for a turn-key operation are available upon request.





雅琪塑胶机器制造厂有限公司

AKEI PLASTIC-MACHINE MFY.LTD.

九龙青山道688-690号, 嘉名大厦1楼A,B,C,D,E,F座
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