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ECO系列高效瓶坯注塑系统

ECO HIGH EFFICIENT PREFORM INJECTION SYSTEM



DEMARK



▲ 德玛克创新为您，带来高达72腔的高速瓶坯注塑系统，一台的效率是普通瓶坯注塑机的两倍多。领先于业内其他同行的保压阀设计，使得溶胶和保压可以同时进行，有效缩短了周期时间。同时搭配德玛克高品质瓶坯注塑模具，模后冷却机械手，基于德国倍福集中控制系统和高效原料干燥系统，使得您在有限的投资内收获更多的回报。

▲ Demark brings you the ECO series high efficient preform injection system with many years' innovation. The system is up to 72 cavities and double production capacity with normal injection machine. With the advanced pressure hold technology, the system makes the plasticization and pressure hold at the same time therefore has a better cycle time for production. With Demark precision preform injection molds, post cooling take out robot, centralized control system and high efficient material drying system, the ECO series brings you more returns with limited investment.

升级传统瓶坯生产方式

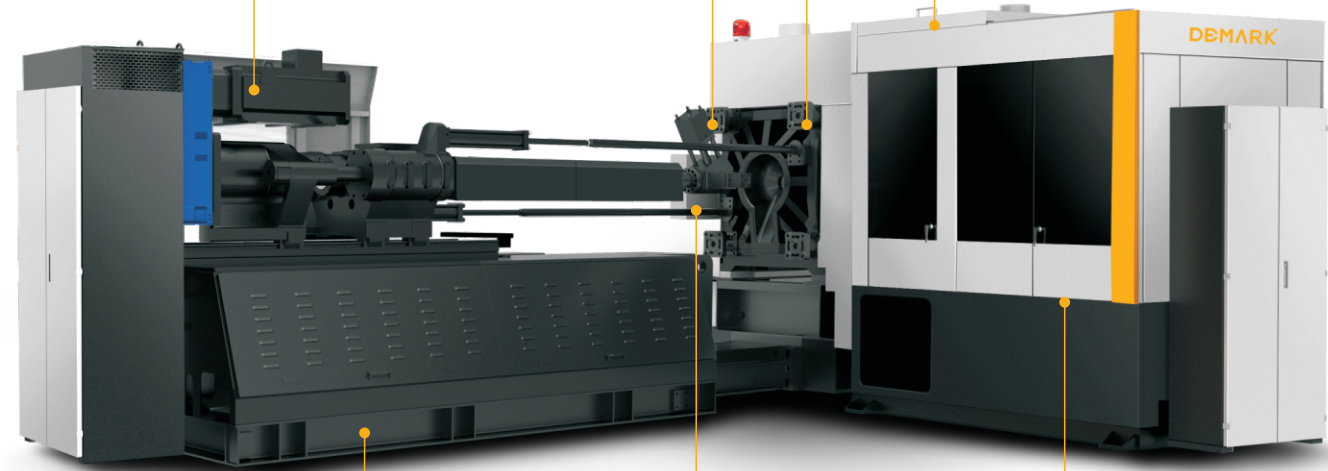
UPGRADING THE TRADITIONAL METHOD OF PREFORM PRODUCTION

独立伺服电机溶胶
Electric screw drive

保压阀技术
Pressure hold valve

可靠的锁模
Reliable clamping

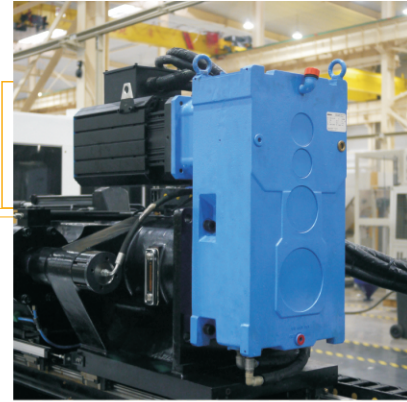
比例阀控制
Proportional valve control



伺服液压系统
Servo motor drive hydraulic system

倍福控制系统
Germany BECKHOFF control system

后冷却机械手
Post cooling take out robot



独立伺服电机溶胶 Electric screw drive

- 进口伺服电机溶胶，带来了节能和效率的双重提升。
- Independent electric screw drive brings you both plasticization and energy efficiency.



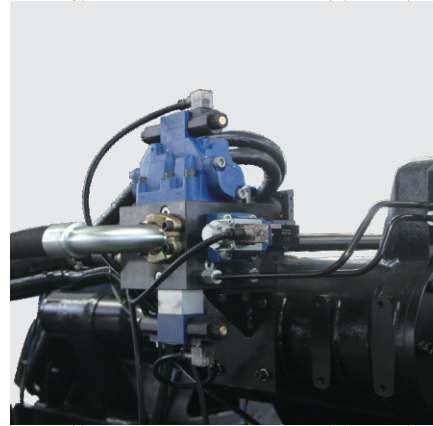
倍福控制系统 BECKHOFF control system

- 专门为PET生产全新设计的基于德国倍福的集中操作系统
- Brand new BECKHOFF centralized control system special designed for PET production.



后冷却机械手 Post cooling take out robot

- 三工位模后冷却机械手使瓶坯充分冷却的同时，更缩短了产品生产周期
- Three station post cooling robot makes the preform perfectly cooled with better cycle time.



比例阀控制 Proportional valve control

- 先进的比例阀控制，使得开合模更加快速精准
- Advanced proportional valve control technology makes the fast and precise clamping possible.



伺服液压系统 Servo motor drive hydraulic system

- 液压系统全由伺服电机提供动力，大幅度节省能耗的同时保证了充足的动力。
- The hydraulic system was driven by a servo motor which ensure the lower energy consumption and sufficient hydraulic power supply.



保压阀技术 Pressure hold valve

- 领先于业内其他同行的保压阀设计，使得溶胶和保压可以同时进行，有效缩短了周期时间。
- With the advanced pressure hold technology, the system makes the plasticization and pressure hold at the same time therefore has a better cycle time for production.



可靠的锁模 Reliable clamping

- 专为PET瓶坯模具设计的模板结构，使得模具各部分都受力均匀，同时保证了高速开合模的要求。
- Special design for PET preform mold, which ensure the fast clamping movement and uniformly forced of the mold.

BRAND NEW HMI CONTROL SYSTEM

全新的人机交互控制系统



- 采用由国家千人计划的获得者，原HUSKY Injection Molding Machine Ltd的控制系统开发部首席工程师，加拿大华侨何卫东博士主持开发的新一代基于BECKHOFF Pcbased平台的注塑机控制系统。具有以下优势：
- The project is leading by Mr.He-former HUSKY engineer who was in charging of the developing injection machine control system. Applied with his new generation PC based BECKHOFF injection system control solution, Demarkmachine could has following advantage:

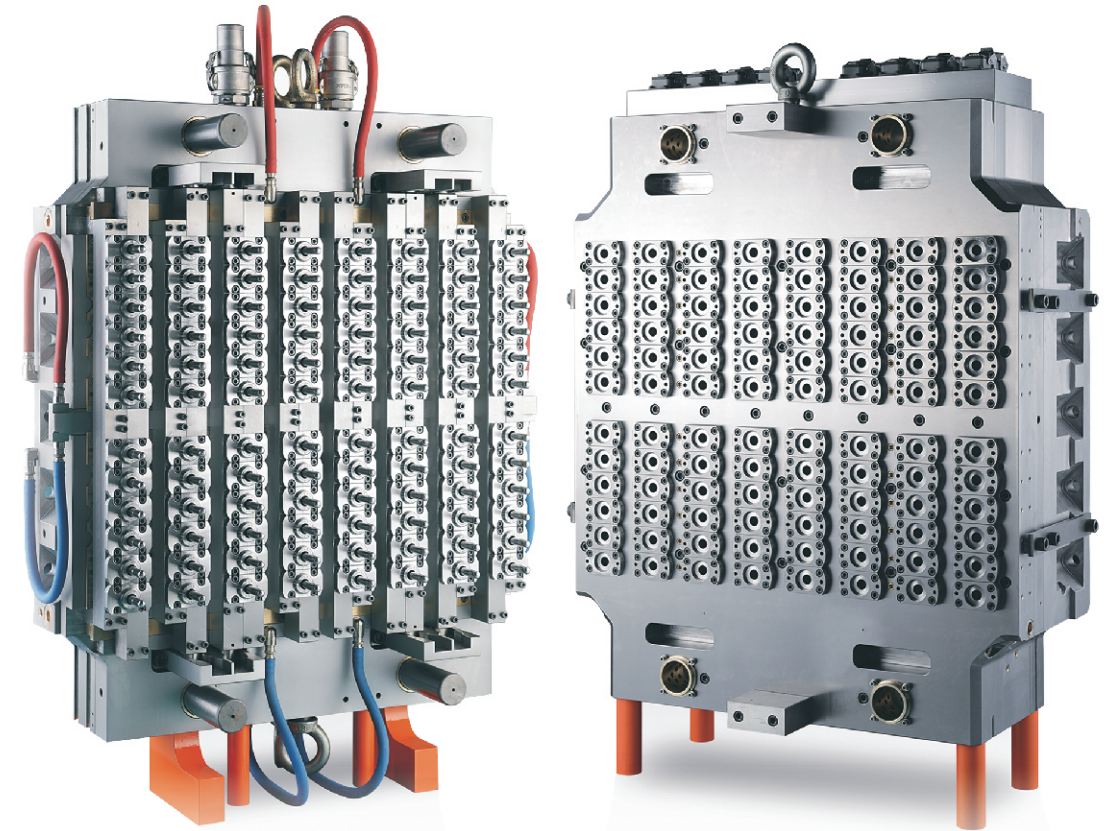
- 稳定快速的生产周期
- 快速的 PLC 执行周期
- 高性能的 PC 和快速的I/O
- 各控制部件的快速通讯能力
- 自校正和自适应的控制方法
- 高级的各种速度、压力、温度等的控制算法和节能的控制策略
- 友好的用户设计与界面
- 明了精确的报警功能
- 详细的操作事件记录
- 配备寸触摸屏，双核处理器，大内存和硬盘
- 非接触式电子尺，寿命长，EtherCAT通讯数字信号传输，抗干扰强

- Stable and fast cycle time.
- Fast PCL execution time.
- High performance PC and fast I/O capability.
- Quick communication thought all control components.
- Self-adjustment and self-adaption.
- High level control algorithm for speed, pressure and temperature. High level control strategy for reducing energy consumption.
- Friendly user interface design.
- Clear and accuracy alarm function.
- Detailed event log.
- Touch screen, dual core CPU, big memory and hard drive equipped.
- Non-touched electronic ruler with longer life time, and EtherCAT digital single with stronger anti-interference capability.

DEMARK HIGH QUALITY PREFORM MOLD

高品质德玛克瓶坯注塑模具

- 德玛克致力于打造世界级的恒温恒湿模具加工车间,保证材料在稳定的环境中满足严苛的精度标准
- World class stable temperature mold processing workshop.Ensure the strict precision standards in a perfect manufacturing condition



MAIN TECHNICAL FEATURES

主要技术参数

MODEL			UNIT	ECO260/2000	ECO260/2500	ECO300/2500	ECO300/3500	ECO400/4300
INJECTION UNIT 注塑单元	螺杆长径比	Screw L/D Ratio	L/D	25	25	25	25	25
	螺杆直径	Screw Diameter	mm	80	90	90	100	110
	射出量 (PET)	Shot Weight(PET)	g	2000	2500	2500	4300	5226
	塑化率 (PET)	Plasticizing Rate(PET)	g/s	80	110	110	150	187
CLAMPING UNIT 合模单元	锁模力	Clamping Force	T	260	260	300	300	400
	移模行程	Clamping Stroke	mm	540	540	585	585	670
	最大/小模厚	Max/min Thickness of Mould	mm	200-580	200-580	300-720	300-720	300-820
	导杆间距(宽x高)	Space Between Tie Bars(WxH)	mm	570x570	570x570	660x760	660x760	845x845
	顶出行程	Ejector Stroke	mm	150	150	180	180	180
	顶出力	Ejector Force	T	8	8	20	20	28
	顶出杆根数	No.of Ejector Pins	pcs	9	9	9	9	13
MOULD 模具规格	最大腔数	Cavity(Max)	pcs	32	32	48	72	72
	模具形式	Type of Mould	气动针阀式热流道瓶坯模具Needle Vale Of Non-cutting PET Preform Mold					
POWER UNIT 电气单元	马达功率	Pump Motor Power	KW	39+45	39+55	39+55	39+39+82	39+39+107
	机械手功率	Robot Power	KW	12	12	36	36	42.5
	熔胶电热容量	Heater Input Capacity	KW	43	51	51	63	78
	模具加热容量	Mould Heater Capacity	KW	30	30	55	55	55
ROBOT 取胚冷却 机械手	机械手真空吸头	Manipulator	cavity	96	96	216	216	216
	瓶坯冷却装置	Cooling Form	cavity	32x3	32x3	48x3	72x3	72x3
	外型尺寸(长x宽x高)	Size(LxWxH)	cm	257x160x220	270x160x220	280x160x250	280x160x250	280x160x250
OTHER 其他	电力要求 (交流三相四线制)	Power supply	V/HZ	380/50	380/50	380/50	380/50	380
		(3-phase AC)	KW	169	187	226	314	360
		°C	5-11	5-11	5-12	5-12	5-12	
	冷冻水要求	Chilling Water	Mpa	0.8	0.8	0.8	0.8	0.8
			L/min	700	700	900	900	1200
			°C	<25	<25	<25	<25	<25
	冷却水要求	Cooling Water	Mpa	0.3	0.3	0.3	0.3	0.3
			L/min	100	100	120	120	120
			Mpa	0.7-0.9	0.7-0.9	0.7-0.9	0.7-0.9	0.7-0.9
	压缩空气要求	Compressed Air	L/min	400	400	800	800	800
主机外型尺寸(长x宽x高)			Machine Size(LxWxH)	cm	840x160x240	860x160x240	880x170x250	1020x210x250
整机重量	Machine Weight	T	14	14	17	18	22	

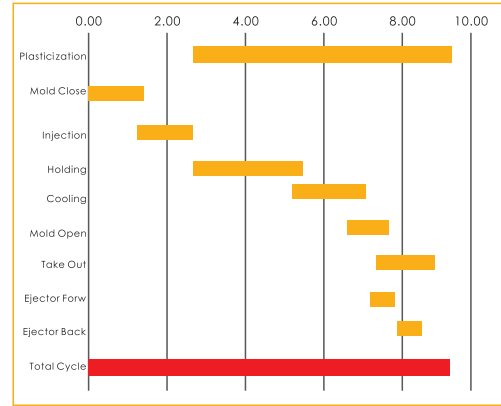
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EXCELLENT PRODUCTION COMPATIBILITY

优秀的生产兼容性

瓶坯克重	ECO260/2000	ECO260/2500	ECO300/2500	ECO300/3500	ECO400/4300
Preform Weight	腔数/Cavity	腔数/Cavity	腔数/Cavity	腔数/Cavity	腔数/Cavity
15g	32	32	48	48	72
45g	24	32	32	48	48
65g	16	24	24	32	48
100g	8	12	16	24	32
260g	4	6	6	8	16



彻底改变传统瓶坯生产效率 Totally change the way of PET preform production

- 优秀的系统设计，使得各部分在中央控制系统的集中控制下，协同工作，大幅度缩短了产品的成型周期。
15g配套48腔系统最快周期达9s
100g配套24腔系统最快周期达23s
- Excellent system design, makes all the parts works together under the central control system and greatly reduce the cycle time.
15g preform with 48 cavities system cycle time 9s
100g preform with 24 cavities system cycle time 23s



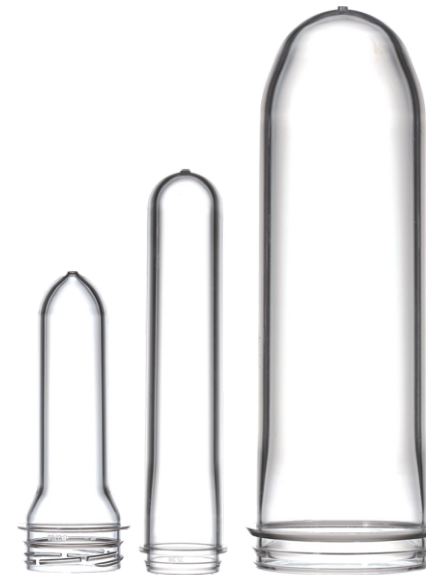
整厂交钥匙服务 Turn-key solution

- 并且我们始终秉承“交钥匙”解决方案的理念，为客户从多个维度提供更多的建议和帮助。帮助你在竞争激烈和快速变化的水，饮料市场始终保持长期的竞争力。
- Demark always insist on the "turnkey" solution concept by offering preform design and whole plant planning to our customers with more suggestion on various aspects to help our customers keep long term competitive strength in the hyper competitive, changeful consuming market.



有效降低初始投资 Reduce your initial investment

- 无限接近于市面上高速瓶坯注塑机的生产效率，但是价格却比传统高速机有巨大优势使得客户能够以有限的投资获得更大的生产能力，以便提前和快速抢占市场
- With almost the same producing efficiency as the high speed machine, the investment of ECO become great advantage The system help the customer gain more production capacity with limited investment and grab the market in advance.



同一台机器同时兼容以下不同类型的瓶坯 One ECO machine can work with different preform mold

- 72腔, 15g瓶坯, 适用于500ml矿泉水
48腔, 34g瓶坯, 适用于1.5L矿泉水
24腔, 103g瓶坯, 适用于5L矿泉水和食用油
- 72cavities, 15g preform, for 500ml water
48cavities, 34g preform, for 1.5L water
24cavities, 103g preform, for 5L water and edible oil

ECO HIGH EFFICIENT PREFORM INJECTION SYSTEM

ECO系列高效瓶坯注塑系统



▲ 专为PET生产而设计的加大型螺杆和快速开合模设计，该系统广泛用于水和饮料瓶坯的生产，同时也特别适合大克重瓶坯的生产，如油坯以及5L水坯。不仅如此，德玛克还秉承包括瓶坯设计和整厂规划等交钥匙服务理念为您从多个维度提供更多的建议和帮助。

▲ The ECO series is specialized for preform production with enlarge screw and fast clamping design. The system is widely used for water and beverage preform production as well as big gram preform such as oil and 5L water preform. Demark also insist on the "turnkey" solution concept by offering preform design and whole plant planning to our customers with more suggestion on various aspects.