

# iPET系列高性能瓶坯注塑系统

iPET HIGH PERFORMANCE PREFORM INJECTION SYSTEM



DEMARK

# HIGH WORLD CLASS HIGH PERFORMANCE PREFORM PRODUCTION SYSTEM

## 与世界同步的高性能瓶坯生产系统

- ▶ 德玛克iPET高速瓶坯生产系统为您带来与欧洲设备同源的系统配置，但是投资却比之前更低。高达144腔的瓶坯生产系统包含双螺杆设计高速瓶坯注塑机，精密瓶坯注塑模具，模后冷却机械手，集中控制系统和高效原料干燥系统，为您带来更高的生产效率，更优的成品质量。同时更是提供了德国MHT瓶坯注塑模具供您选配。
- ▶ 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，使得您在竞争激烈和快速变化的市场始终保持长期的竞争力。
- ▶ Demark iPET high speed preform production system allows you gain the same level of specification as European machine but with lower investment cost at the same time. The system can produce with the preform injection system can produce with the preform injection molds up to 144 cavities which including double screw design high speed injection machine precision preform injection molds, post cooling, take out robot, centralized control system and high efficient material drying system. The results are higher production efficiency, and better preform quality. You can also choose MHT preform injection molds from Germany at the same time.
- ▶ 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 to help our customers keep long term competitive strength in the hyper competitive, changeful consuming market.

**MHT** 是德国MHT模具与热流道技术公司的品牌  
is a brand of MHT mold & hotrunner technology AG in germany



## 伺服电机溶胶 Electric screw drive

进口伺服电机溶胶，带来了  
节能和高效的双重提升  
Independent electric  
screw drive brings you  
both melting and  
energy efficiency.

## 同步溶胶 Synchronous melting

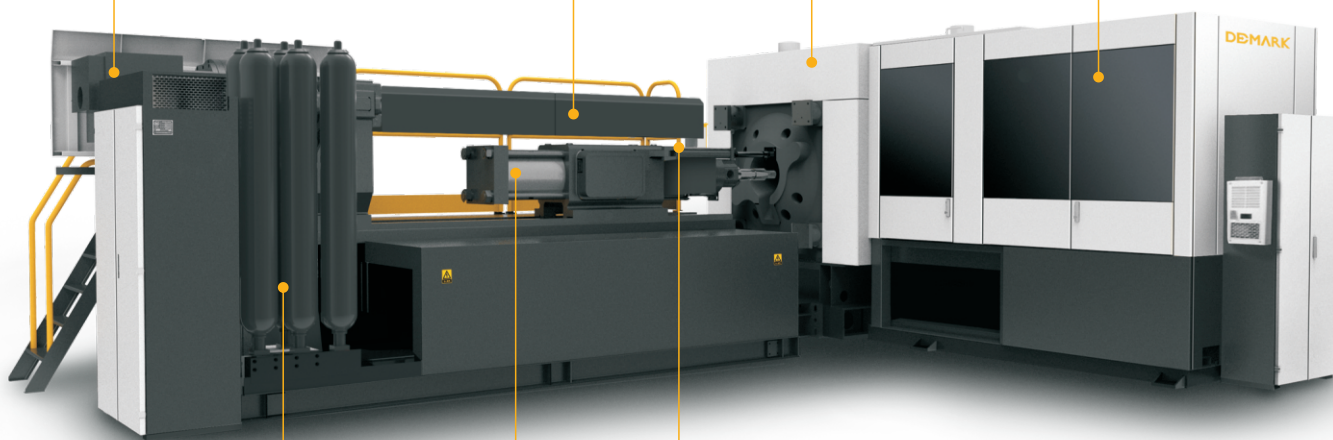
可实现溶胶和射胶同步进行，  
大幅度缩短成型周期  
Synchronous material  
melting, plasticization and  
injection at the same.

## 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.

## 后冷却机械手 Post cooling take out robot

带副轴的 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  
The double stage post cooling  
robot makes the preform  
perfectly cooled with better  
cycle time.



## 高效蓄能器 High efficient accumulator

最高五组的高效蓄能器保证了  
大注射量的快速和稳定  
Up to 5 sets of high  
efficient accumulator  
ensure the stability of high  
capacity injection

## 伺服阀控制 Servo valve control

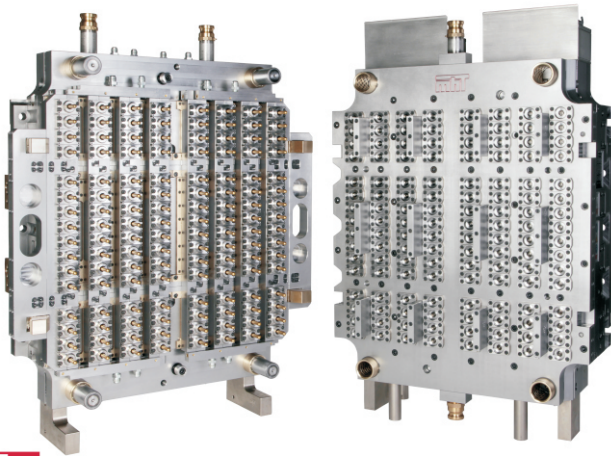
先进的伺服阀控制理念，使得  
射胶更加精准  
Advanced servo valve  
control technology makes  
the highly dynamic  
injection possible.

## 人机交互系统 HCI control system

专门为PET生产设计的基于德国倍  
福的集中操作系统  
BECKHOFF centralized control  
system special designed for  
PET production.

# MHT PREFORM INJECTION MOLDS FROM GERMANY(OPTIONAL)

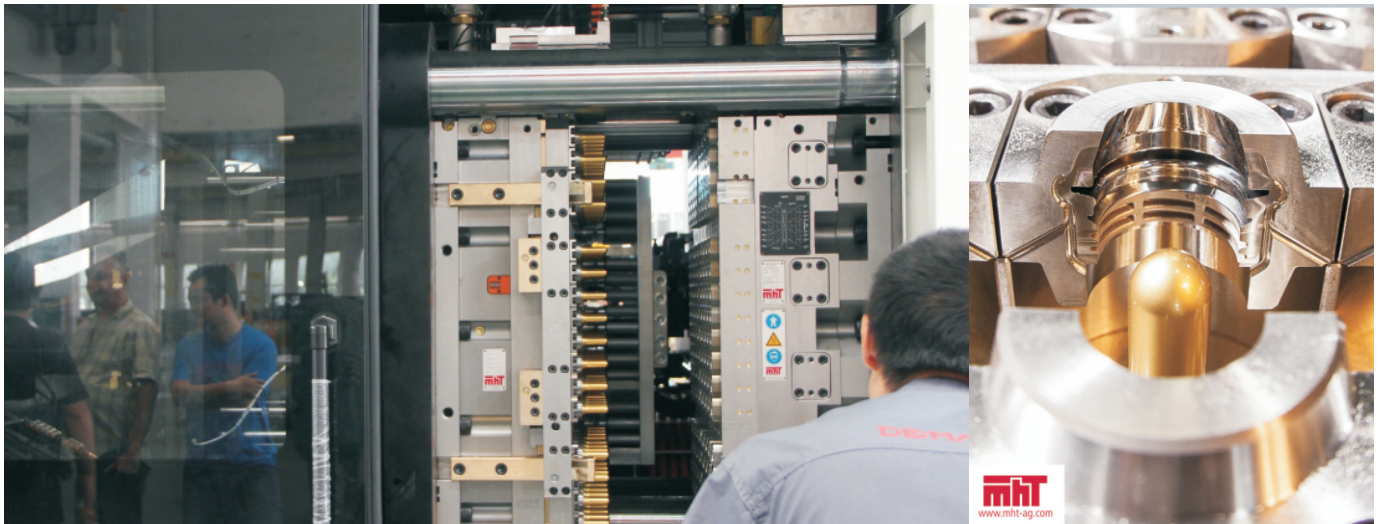
德国MHT 瓶坯注塑模具(选配)



▲ MHT国内唯一设备合作厂家  
MHT domestic only equipment cooperation factory

- 高品质的外观
- 尺寸稳定
- 重量一致性好
- 合模线无飞边
- 低乙醛(AA)值
- High surface quality
- Dimensional stability
- Consistent Weight
- No flash on split lines
- Low acetaldehyde (AA) levels

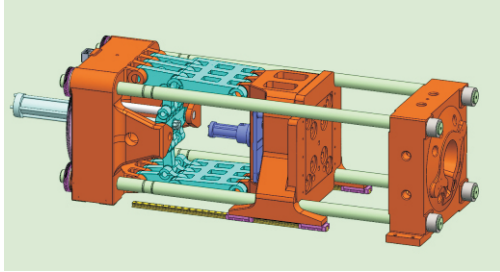
**mht**  
www.mht-ag.com



**mht**  
www.mht-ag.com

# RELIABLE CLAMPING

## 可靠的锁模

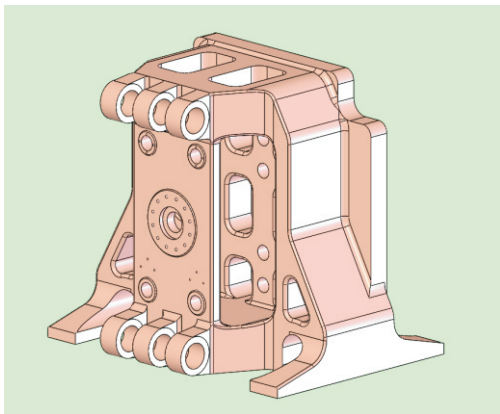


- 采用优化的PET专用机铰参数，开合模快速平稳
- 二板与拉杆完全脱开，二板采用THK线性导轨支撑，运动阻力小，节约能源
- With the optimized PET special hinge parameters, the opening and closing die is fast and stable
- The second board and the pull rod are completely disengaged, and the second board is supported by THK linear guide, which has small resistance and saves energy



二板采用THK线性导轨支撑，运动阻力小，节约能源

- The second board is supported by THK linear guide, which has small resistance and saves energy



- 采用当今欧洲流行，国内首创的二板结构，模具安装后重心在支撑平面内，二板运行平稳
- 采用箱式模板结构，模板变形小
- In the current European popular, the first structure of the second board, after the installation of the mold, the center of gravity in the supporting plane, the second board running smoothly.
- The box type formwork structure is adopted, and the deformation of the template is small

# HCI CONTROL SYSTEM

## 人机交互系统



德玛克采用的新一代HCI人机交互系统是基于BECKHOFF平台设计开发的注塑机控制系统。具有以下优势：

- 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
- 广泛使用有意义的逼真图标以便直观操作；
- 最少按钮操作步数来达到最快的信息获取；
- 单一按钮操作；
- 明了精确的报警功能；
- 详细的操作事件记录
- 15寸触摸屏，2.16G双核处理器，3GB缓存，80GB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

The new generation Demark HCI control system is a PC based control system by BECKHOFF injection control solution. The system could has following advantage:

- Stable and fast cycle time.
- Fast PLC 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.
- Intuitive icon design for fast learning and control.
- Fast information reading by press less buttons.
- Single function button design.
- Clear and accuracy alarm function.
- Detailed event log.
- 15 Inch touch screen, 2.1G dual core CPU, 3GB memory and 80GB hard drive equipped.
- No touched electronic ruler with longer life time, and EtherCAT digital single with stronger anti-interference capability.

# MAIN TECHNICAL FEATURES

## 主要技术参数

MODEL			UNIT	iPET300/3500	iPET300/5000	iPET400/5000	iPET400/6000	iPET500/7000
INJECTION UNIT 注射单元	螺杆长径比	Screw L/D Ratio	L/D	25	25	25	25	25
	螺杆直径	Screw Diameter	mm	100	120	120	130	140
	射出量 ( PET )	Shot Weight(PET)	g	3500	5000	5000	6200	7200
	塑化率 ( PET )	Plasticizing Rate(PET)	g/s	200	300	300	380	470
CLAMPING UNIT 合模单元	锁模力	Clamping Force	T	300	300	400	400	500
	移模行程	Clamping Stroke	mm	585	585	670	500	550
	最大/小模厚	Max/min Thickness of Mould	mm	300-720	300-720	300-820	500-1300	550-1350
	导杆间距(宽x高)	Space Between Tie Bars(WxH)	mm	660x760	660x760	845x845	920x920	1020x1120
	顶出行程	Ejector Stroke	mm	180	180	180	200	200
	顶出力	Ejector Force	T	20	20	28	41	51
MOULD 模具规格	顶出杆根数	No.of Ejector Pins	pcs	9	9	13	10	10
	最大腔数	Cavity(Max)	pcs	72	72	96	128	144
	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	81+82	81+82	81+82	110+130	130+130
	机械手功率	Robot Power	KW	36	36	43	108	108
	熔胶电热容量	Heater Input Capacity	KW	78	86	86	130	130
	模具加热容量	Mould Heater Capacity	KW	55	55	68	90	90
ROBOT 取胚冷却 机械手	机械手真空吸头	Manipulator	cavity	216	216	288	384	432
	瓶坯冷却装置	Cooling Form	cavity	216	216	288	384	432
	外型尺寸(长x宽x高)	Size(L xW xH)	cm	263x157x230	263x157x230	281x160x250	315x260x273	315x260x273
OTHER 其他	电力要求 (交流三相四线制)	Power supply (3-phase AC)	V/Hz	380/50	380/50	380/50	380/50	380/50
			KW	332	332	360	568	568
	冷冻水要求	Chilling Water	°C	5-10	5-10	5-10	7-9	7-9
			Mpa	0.8	0.8	0.8	0.8	0.8
			L/min	900	900	1200	1200	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	300	300	300	300	300
			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	800	800	1200	1200	1200
L/min			800	800	1200	1200	1200	
主机外型尺寸(长x宽x高)	Machine Size(LxWxH)	cm	930x180x250	990x180x250	1090x205x260	1180x250x270	1240x270x300	
整机重量	Machine Weight	T	26	28	34	39	44	

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