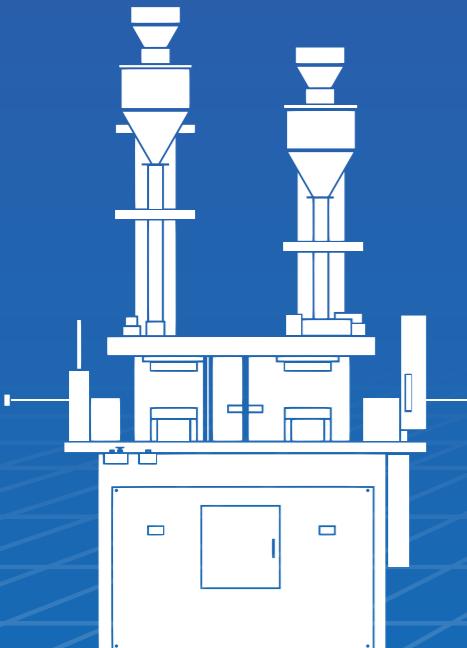




科必达智造 · 创造机械设备行业无限可能

Ningbo Kebida MACHINERY
CREATE INFINITE POSSIBILITY IN INDUSTRY OF PLASTIC
INJECTION MOULDING MACHINS

CREATE INFINITE POSSIBILITY \ 创造注塑机行业无限可能



宁波市科必达机械设备有限公司

Ningbo Kebida Machinery Equipment Co., Ltd.

电话: +86-137-3618-3770

手机: +86-181-7065-6323

邮箱: Sales@china-kebida.com

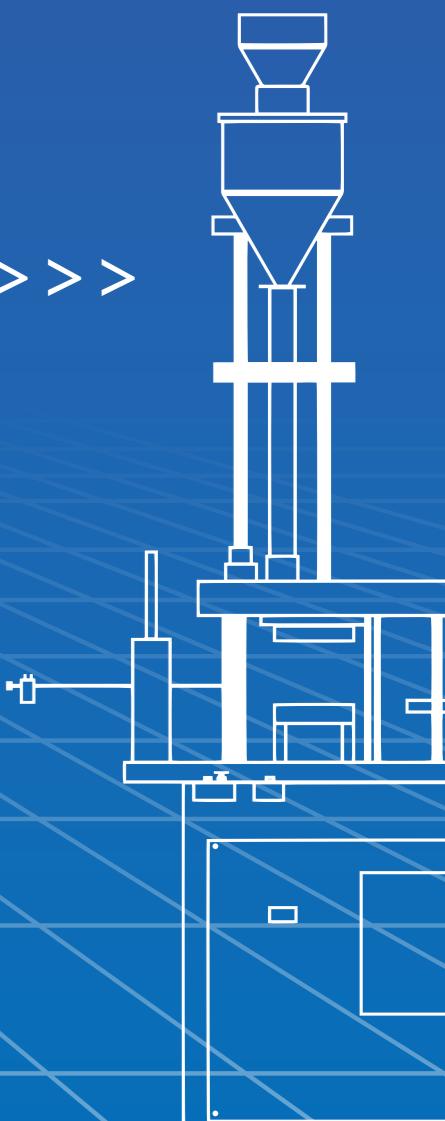
网址: www.china-kebida.com

邮编: 315400

地址: 宁波市海曙区新蕾北路36号

ADD: No. 36, Xinlei North Road, Haishu District, Ningbo City.

专业注塑自动化解决方案
PROFESIONAL SOLUSTION TO
INJECTION & AUTOMATION>>>



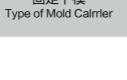
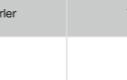
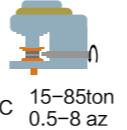
宁波市科必达机械设备有限公司

Ningbo Kebida Machinery Equipment Co., Ltd.



直立机射出 / 锁模结构简示

Injection/Clamping Configuration of Vertical Injection Molding Machine

下模负载方式 Type of Mold Carrier					
射出 / 合模方式 Type of Injection					
 直立合模 Type of Mold Carrier	YT YC	YT-D YC-P-D	YT-DM YC-DM YC-P-DM	YR YC-R YC-P-R	
 直立射出 Type of Mold Carrier	YT	YT-D	YT-DM	YR	
 模式射出 Type of Mold Carrier	YT YC-P	YC-P-D	YC-DM YC-P-DM	YC-R YC-P-R	

宁波市科必达机械设备有限公司是集研发和制造注塑机为一体的企业，拥有 15 年注塑机生产经验，并拥有自主品牌“天胜塑机”和“TSPLAS”。企业始终秉承“求实，创新”的经营理念，开发了三大常规机型 YT(立锁立射) 、 YC(立锁卧射) 、 YR(圆盘机) ，同时自主研发的两大特殊机型系列多色机、高速机得到了客户的高度认可和一致好评，并成为宜家下属供应商指定的设备合作工厂。我司近年来还不断推进注塑机与智能化设备的配套研发，力求在不久的将来转型成为智能化机械制造企业。

Ningbo Kebida Machinery Equipment Co., Ltd. is the manufacturer that professionally have 15 years of experience to Research & development and manufacture Vertical injection molding machine. We consistently adhere to the business philosophy of factualism and innovation, not only manufacture normal and standard models :" YT(vertical clamping & vertical injection),YC(vertical clamping & horizontal injection),YR(rotary table machine),but also develop multi-color-produced, high-rapid machine, all models gain high recognition and unanimous praise from customers , we are now one of assigned suppliers for IKEA' s factory depending on high quality and good service. In recent years,we consistently have been developing combination of injecting machine and intelligent equipment,striving to become an intelligent manufacturer in future.

INJECTION MOLDING MACHINE SELECTION GUIDE 注塑机选购指南



一、与选型有关的参数 Select a machine

选购注塑机前必须先收集下列信息

The following informations should be collected before purchasing a machine:

> 模具的尺寸 dimension of the mould

> 使用塑料的特性 features of the plastic material

> 注塑产品的尺寸、重量 dimension and weight of molding products

> 成型的要求，包括一出几，生产速度、产品质量要求 specific requirements: cavities of one mould, producing speed, requirements on quality of molding products.etc

二、选型步骤和规则 Steps and tips for selecting a machine

在具备以上信息后，可按照下列步骤选择合适的注塑机

After providing above informations, you can select the machine following next steps:

1> 选择型号：根据产品和塑料的特性决定机型，如有不清楚，可咨询我司相关技术人员。

Selecting a machine's model based on plastic material and features of your molding products. If having any question, you can consult our technicians.

2> 放得下：根据模具尺寸判定机器的“柱间距”、“最小模厚”是否合适。

Selecting the “distance between tie-bar” and “Min.mould height” based on dimension of the mould.

3> 拿得出：根据模具尺寸和产品尺寸判定“锁模力”。锁模力的简单估算方法如下：

锁模力 (ton) = 型腔正投影面积 (cm^2) \times 锁模力常数 (ton/cm^2)

常见的塑料锁模力常数请见附表一

Selecting “injecting force” based on dimension of mould and molding product.

The calculation formula of “injecting force” is: $F=Am \times \text{ton}/\text{cm}^2$

You can refer to parameter of “ ton/cm^2 ” in attached list 1

4> 射得饱：根据每模产品的重量估算“射出量”并选择合适的“螺杆直径”。射出量的简单估计方法如下：

直接估算法：射出量 (g) = 塑料密度 (g/cm^3) \times 样本提供的理论射出容量 (cm^3) \times 85%

间接估算法：射出量 (g) = 塑料密度 (g/cm^3) / 1.05 \times 样本提供的 PS 射出量

注：1oz=28.35g

常见的塑料密度（比重）请见附表二

Calculating actual injecting volume and selecting “screw diameter” based on all products which are molded by one mould.

The calculation has two methods:

Method 1: PS=Density of plastic material (g/cm^3) \times Theoretical PS (cm^3) \times 85%

Method 2: PS=Density of plastic material (g/cm^3) / 1.05 \times Theoretical PS (cm^3)

You can refer to “Density of plastic material (g/cm^3)” in attached list 2

Note: 1oz=28.35g

5> 射得好：根据塑料特性判定“长径比”和“射出压力”是否适用。详细咨询我司技术人员。

Judging if screw's draw ratio matches injection force.

You can consult our technicians in detail.

6> 射得快：根据“射出率”判定射出速度。射出率和射出速度的公式：

射出率 (cm^3/s)= $0.785 \times [\text{螺杆直径} (\text{cm})]^2 \times \text{射出速度} (\text{cm}/\text{s})$

Calculating the injecting speed based on injecting rate. The calculation formula is :

Injecting rate (cm^3/s)= $0.785 \times [\text{screw diameter} (\text{cm})]^2 \times \text{injecting speed} (\text{cm}/\text{s})$

三、注意事项 Attention

1、射出量是机器全行程射出的实测重量。选用注塑机时需要根据您所加工的塑料原料的密度（比重）进行换算（采用间接换算法）

Injecting volume should not be theoretical but actual which is measured in the whole stroke.

2. 一般情况下，实际射出量在最大射出量的 35%~85% 之间为佳。比例越小，塑料原料在料管中停留的时间越长，降解的可能性越大。比例越大，塑料原料在料管中停留的时间越短，有可能影响熔体的品质。选择射出量还要综合考虑塑料本身特性。但是特别提醒：不要 100% 契合螺杆尺寸，否则会容易导致螺杆磨损，螺杆一旦磨损，会影响成品的质量。

Generally, selecting actual injecting volume by 35% ~85% of maximum injecting volume. The less rate is, the longer plastic material stays in the barrel, so that it has a better degradation, and vice versa. Meanwhile, it's better to consider the features of plastic material. But pay attention that don't select the injection volume which matches dimension of screw by 100%, otherwise it's easy to be worn, so that finally affecting the quality of molding products.

3. 不要使用加大标准的加料行程来提高射出量。如果加料行程超过螺杆直径 3~5 倍，熔体无法达到高标的均匀性，同时也会加大空气进入熔体的危险，从而导致产品表面有污点的情况发生。

Do not increase injecting volume through enlarging standard injecting stroke. If filling stroke is larger 3 times than diameter of screw, the uniformity of fusant can not have a high quality, meanwhile it will increase a risk of air entering fusant, causing spots on the surface of products.

4. 不要选择容模量太大的机器，小模具配大模板的组合会增加模板和机柱变形或者断裂，同时不利于精密产品的成型。

Do not select a machine with big mould height, small mould working with big platen would make the platen and column deformed or even cracked, it is not benefit to make precise products.

四、常见塑料的锁模力常数（附表一）

Attached list 1-Parameter of ton/cm²

塑料名称	常数 (ton/cm ²)	塑料名称	常数 (ton/cm ²)	塑料名称	常数 (ton/cm ²)
PS(GPPS)	0.155~0.31	HIPS	0.155~0.31	ABS	0.388~0.62
PS(GPPS)(薄型)	0.465~0.62	HIPS(薄型)	0.388~0.543	LDPE	0.155~0.31
AS(ASN)	0.388~0.465	PP(H/Co)(均聚/共聚)	0.233~0.388	HDPE	0.233~0.388
AS(ASN)(长流路)	0.465~0.62	PP(H/Co)(长流路)	0.388~0.543	HDPE(长流路)	0.388~0.543
PPVC	0.233~0.388	PA6,PA66	0.62~0.775	PMMA	0.31~0.62
UPVC	0.31~0.465	PC	0.465~0.775	POM(H/Co)	0.465~0.775
PET(非晶态)	0.31~0.388	PET(晶态)	0.62~0.93	PBT	0.465~0.62
CA	0.155~0.31	PPO-M(不增强)	0.31~0.465	PPO-M(增强)	0.62~0.775
PPS	0.31~0.465				

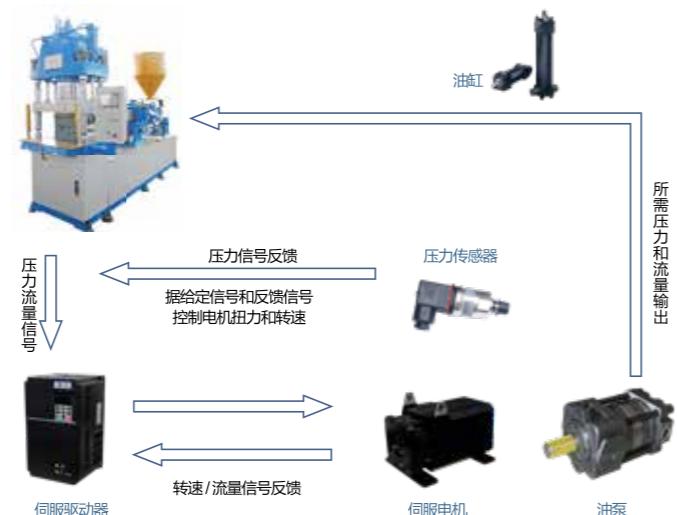
五、常见塑料的密度（附表二）

Attached list 2-Density of plastic material(g/cm³)

塑料名称	缩写	密度 (g/cm ³)	塑料名称	缩写	密度 (g/cm ³)
通用级聚苯乙烯	GPPS(PS)	1.04~1.09	聚苯硫醚	PPS	1.28~1.32
丙烯腈 / 丁二烯 / 苯乙烯共聚物	ABS	1.01~1.08	高冲聚苯乙烯	HIPS	1.14~1.20
丙烯腈 - 苯乙烯树脂	AS(SAN)	1.06~1.10	低密度聚乙烯	LDPE	0.89~0.93
聚丙烯	PP	0.85~0.92	高密度聚乙烯	HDPE	0.94~0.98
塑化聚氯乙烯 (软)	PPVC	1.19~1.35	尼龙 6	PA-6	1.12~1.15
硬聚氯乙烯	UPVC	1.38~1.41	尼龙 66	PA-66	1.13~1.16
有机玻璃	PMMA	1.16~1.20	聚甲醛	POM	1.41~1.43
聚碳酸酯	PC	1.20~1.22	醋酸纤维塑料	CA	1.25~1.35
聚对苯二甲酸乙二醇脂	PET	1.29~1.41	改性聚苯醚	PPO-M	1.04~1.10
聚对苯二甲酸乙二醇脂	PBT	1.30~1.38			



结构原理图 /Principle structure chart



大幅节能

在同等条件下，相比传统定量泵注塑机节能 20%–80%

Energy conservation

This series can save 20%–80% energy comparing with traditional pumped machine

响应速度快

伺服驱动响应迅速，启动时间比传统注塑提高约 50%

Quick response

Servo-drive has quick response so that save starting time by 50%

热固性系列

Thermosetting series

锁模力 Clamping force	45–120ton
射出重量 Injection weight	114–847g
立式锁模、卧式注射，或立式锁模、卧式锁模	Vertical clamping & vertical injection or vertical clamping & horizontal injection
针对 BMC 材料，优化设计加热系统和油路。	For BMC material, we optimize the heating system and oil-circuit system.

热固性系列

Thermosetting series

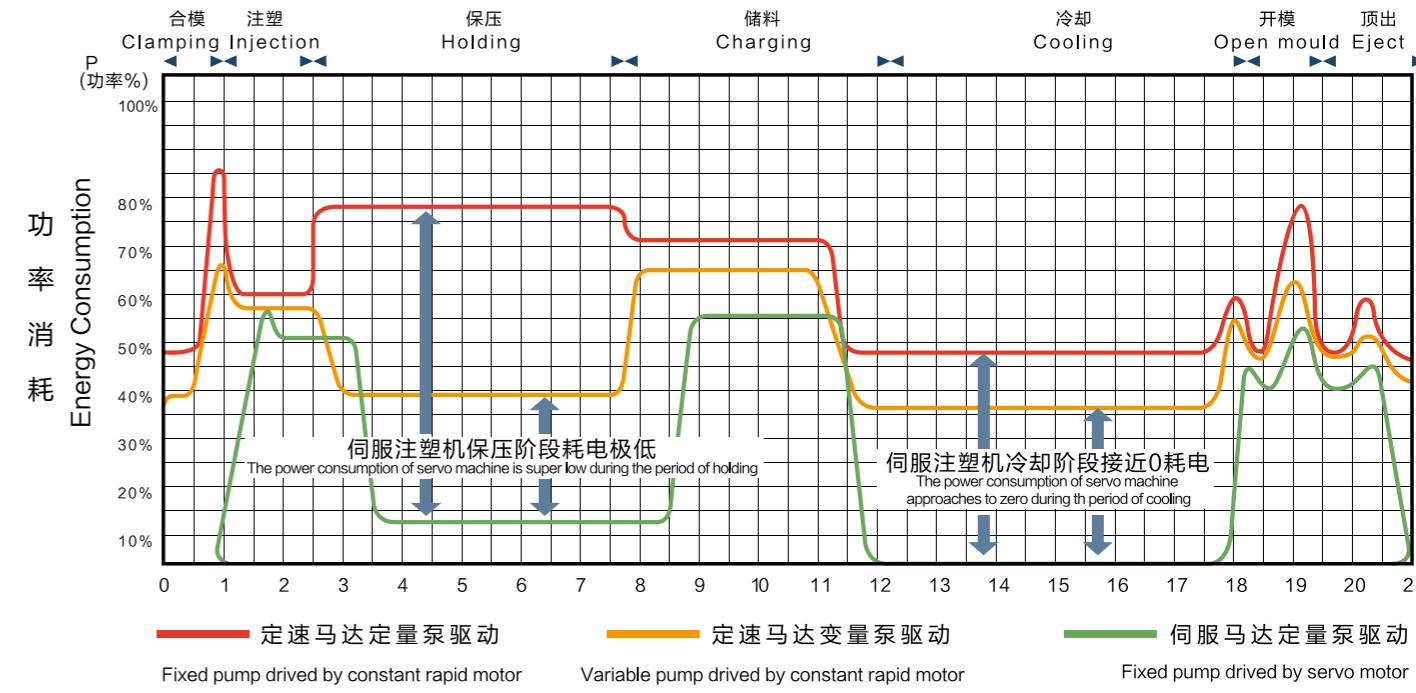
KEBID
PLASTIC MACHINERY

油温恒定

伺服电机按比例输出液压油，从而避免产生多余热量、减少冷却用水量。

Constant oil temperature

Servo motor put hydraulic oil proportionally so that avoid to produce excess heat and reduce water consumption on cooling.



项目 Item	规格参数 Specification	单位 Unit	YT-450AB	YT-550AB	YT-850AB	YT-450ABMC	YT-550ABMC	YT-850ABMC	YC-550BMC-P	YC-850BMC-P	YC-1200BMC-P
注射装置 Injection system	螺杆直径 Screw Diameter	mm	35	42	48	35	42	48	32/50	36/60	40/70
	射出压力 Injection Pressure	kgf/cm ²	1388	1265	1224	1388	1265	1224	1270	1291	1257
	理论射出容量 Injection Volume(Theoretical)	cm ³	115	193	289	115	193	289	275	452	770
	射出量(PS) Injection Weight	g	114	192	286	114	192	286	302	498	847
	射出率 Injection Rate	cm ³ /sec	93	148	210	93	148	210	51	86	115
	螺杆行程 Screw Stroke	mm	120	140	160	120	140	160	140	160	200
	温度控制段数 Temperature Section	–	4	4	4	4	4	4	4	4	4
	料斗容量 Hopper Capacity	Liter	30	30	30	–	–	–	–	–	–
锁模装置 Clamping system	储料缸	kg	–	–	–	12	15	20	30	30	30
	锁模力 Clamping Force	ton	45	55	85	45	55	85	55	85	120
	模板尺寸 mm	580*430	720*560	880*640	580*430	720*560	880*640	720*560	880*640	965*765	
	柱内间距 mm	405*255	505*340	565*320	405*255	505*340	565*320	505*340	565*320	635*410	
	最小模厚 Min. Mold Height	mm	150/190/210/250	200/240/260/300	200/240/260/300	150/190/210/250	200/240/260/300	200/240/260/300	200/240/260/300	250	250
	开模行程 Opening Stroke	mm	200	200	250	200	200	250	200	300	300
	最大开模距离 Max. Open Daylight	mm	350/390/410/450	400/440/460/500	450/490/510/550	350/390/410/450	400/440/460/500	450/490/510/550	400/440/460/500	550	550
	顶出压力 Ejector Force	ton	1.7	2.7	4	1.7	2.7	4	2.7	4	4
其他 Others	顶出行程 Ejector Stroke	mm	40	40	75	40	40	75	40	75	115
	最大液压压力 Max.hydraulic pressure	kgf/cm ²	140	140	140	140	140	140	140	140	140
	油箱容积 Tank Volume	Liter	207	227	350	207	227	350	227	370	450
	马达电力 Pump Motor Power	kW	7.5(4)	11(4)	15(4)	7.5 (4)	11(4)	15(4)			
	电热容量 Heater Power	kW	–	–	–	–	–	–			
	总用电量 Total Power	kW	7.5(4)	11(4)	15(4)	11(4)	15(4)	18.5(4)	15(4)	30(4)	30(4)
	机器重量 Machine Weight	ton	2.1	2.8	3.8	1.5	2.1	3			
	机器外形尺寸 Machine Dimension	m	1.7*0.9*2.5	1.8*1.1*2.6	1.95*1.25*3.1	1.9*0.9*2.5	2.3*1.1*2.6	2.7*1.25*3.1	3.1*1.25*2.5	3.1*1.25*3.0	3.7*1.3*3.0