



中国机械500强



香港名牌



广东名牌



上海名牌



伺服節能 精密注塑機

世界级的精密装备塑造中国制造业未来
World class technology and precision engineering to shape the future



POTENZA-II
series

ENERGY SAVING AND HIGH PRECISION SERVO
INJECTION MOLDING MACHINE POTENZA-II Series

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华南生产基地
Manufacturing base in southern area of China

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伺服節能精密注塑機

Energy saving and precision servo injection molding machine

POTENZA-II Series

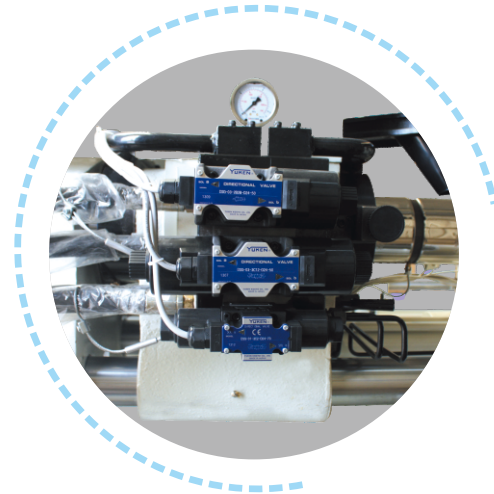
ENERGY SAVING AND HIGH PRECISION SERVO INJECTION MOLDING MACHINE

伺服節能精密注塑機

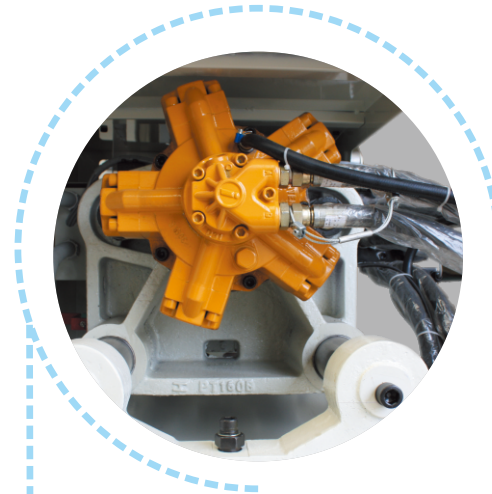
ENERGY SAVING AND PRECISION SERVO INJECTION MOLDING MACHINE

力勁POTENZA-II系列伺服節能注塑機，應用了先進的節能控制技術，使該系列注塑機具有節能省電、響應快、精度高、穩定性能好等優點，達到國際先進技術水平，對促進行業升級、推動產業鏈發展起到重要作用。

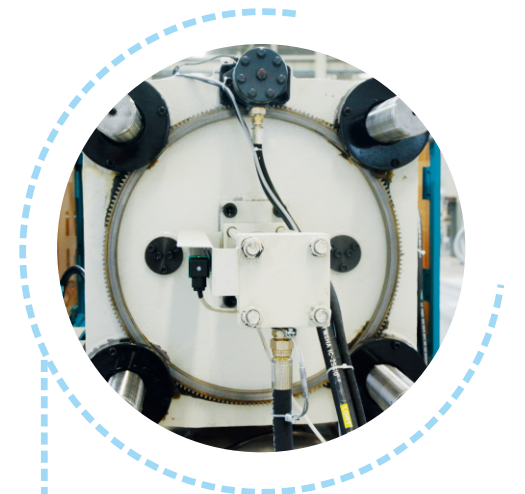
LK-POTENZA-II energy-saving servo injection molding machine, which is used the most advanced energy-saving control technology, offer this series injection molding machine with numerous advantages such as extremely power saving, responsive, accurate, stable etc. The world-class technology plays an important role in promoting industrial upgrading and transformation.



- 采用歐洲或日本進口油閥；管路集中，減少配管，配合使用高級密封件，保證防漏。
- Hydraulic unit applied Europe /Japan imported oil valve with advanced seals to reduce piping and prevent leakage.



- 采用世界知名品牌，高扭力、高功率的液壓馬達。
- Worldwide brand, powerful hydraulic motor offer higher torque and performance.



- 采用歐美進口，齒輪式調模裝置，快捷穩定。
- Europe/USA imported, fast and reliable gear type mold height adjustment mechanism.



- 射臺部件由油壓驅動，結構緊湊，操作簡單，方便用戶轉換生產新的產品和維護時更換熔膠組件。
- The compact Injection unit is driven by hydraulic system. Which is user-friendly and easy to maintenance.



- 中央自動潤滑系統，定時潤滑機鉸，有效提高機器使用壽命。
- Centralized automatic toggle lubrication system ensure fixed volume of lubricant deliver to each moving joint with adjustable cycle time, which increase the lifetime and reduce maintenance.

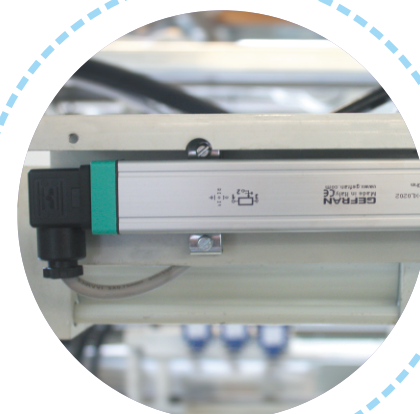
伺服節能精密注塑機

Energy saving and precision servo injection molding machine

- 先進的電腦系統和人性化的操作界面, 增強模具資料記憶系統; 并備有S.P.C.生產數據統計頁面和備選閉環控制系統等。使簡易操作與高性能并存于一體。
- Equips with advanced computer system and user-friendly interface, which enhance mold data memory system and can show SPC production parameters. Closed loop control can be chosen which integrates high performance and easy operation features.



- 實現矢量轉矩閉環控制, 能够根據外部負載的情況有效地控制轉矩輸出。滿足了低速高扭矩的要求; 更快的加減速時間, 相對穩定的速度控制和擁有定點停止功能。
- Servo system with closed loop control, which meet the requirement of low pressure with high torque, faster ACC/DEC time, stable speed control and designated stop function.



- 鎖模, 射膠及頂出動作采用歐洲進口高精度電子尺, 位移控制精度可達0.1mm。
- European linear transducer control for mold-clamping, injection and ejector action, stroke control up to 0.1mm accuracy.

- 過濾系統利用機械動力, 采用了獨特的流量調節閥, 使流量穩定, 過濾精度高。具有重量輕, 體積小的特點, 使用簡單, 維護容易。
- Lightweight and small size precision oil filter driven by mechanical power, equipped with special flow regulator, which ensures the stability and precision of the filter. Easy to install, operate and maintain.



- 液壓油經冷卻器冷卻后回流進油箱, 以保證液壓系統的温度波動小且有較高的穩定性。
- Hydraulic oil return to the oil tank through the oil cooling device to ensure the stability of the oil temperature.

1

優於國家標準的節能效果 Energy saving result better than national standard

經國家塑料機械產品質量監督檢驗中心權威檢測,力勁伺服節能系列注塑機能耗檢測試驗結果達到國家一級標準,並以優于標準的成績而名列前茅。

The LK energy-saving servo injection molding machine has reached the first class standard from National Plastic Machinery Product Quality Supervision.



力勁POTENZA- II 參與能耗測試的機型及能耗等級

LK POTENZA- II models and the level of the energy consumption test

數據項目 <i>Data item</i>	PTII-80	PTII-130	PTII-250	PTII-560	PTII-850
測試數量 Test Qty	50pcs	50pcs	50pcs	50pcs	50pcs
每千克能耗 Consumption/kg	<0.4	<0.4	<0.4	<0.4	<0.4
能耗等級 Energy-saving level	1級	1級	1級	1級	1級
等級劃分: 注塑機能耗等級分為1、2、3、4、5、6個等級 Energy consumption divided into 6 level(For injection molding machine)					
等級標準: 1級≤0.4 2級≤0.55 1、2級表示等級最高即能耗最小(最節能) Standard:1st level≤0.4 2nd level≤0.55					
測試條件: 統一測試計量器具, 統一測試要求, 統一測試方法, 統一測試模具 Test conditions: uniform measurement instrument, test requirement, test method and mold					

- 以上數據摘錄于國家塑料機械產品質量監督檢驗中心對力勁POTENZA- II 伺服節能注塑機的能耗檢測試驗報告。
- All the data are from the report of potenza- II test by national plastic machinery quality inspection center.

力勁伺服節能精密注塑機, 應用了最先進的節能控制技術, 通過伺服驅動與油壓驅動的完美結合, 使該系列注塑機具有極致省電、閉環控制、響應快、精度高、穩定性能好以及極致安靜等一系列優點, 達到了國際先進注塑機的技術水平, 將在促進行業的升級、推動產業鏈的發展過程中起到非常重要的作用。

LK energy saving and high precision injection molding machine, which is used the most advanced energy-saving control technology, driven by the combination of servo and hydraulic system, makes the series injection molding machine with series of advantages such as extreme power saving, closed loop control, high response, high accuracy, high stability and extremely quiet etc. It has reached the international advanced level and plays an important role in promoting industrial upgrading and the development of chain.



性能卓越的伺服驅動器
High performance servo system



節能顯著型伺服電機
Energy saving servo motor

2

綠色理念 環保節能 Green concept Energy saving and environmental protection



伺服驅動系統完全根據注塑生產各個動作的需要, 自動地控制伺服電機的轉速和轉矩, 使伺服電機隨時可以實現可轉停, 快慢等動作, 與變量泵液壓系統相比, 其省電效果為30 ~ 80%。

Compared with the variable displacement pump system, servo system, which is designed base on the needs of every injection step, power saving up to 30%-80%. Servo system can control the speed and torque of the servo motor automatically to make the operation smoothly.



為提高客戶的塑膠品的塑化質量及混煉效果, 力勁伺服注塑機采用高混煉螺桿作為標準配置, 幫助客戶提高產品檔次, 增強市場競爭力。

In order to improve the quality and competitiveness of the product, LK servo injection molding machine adopted good quality and good mixing effect screw as standard configuration.



通過控制伺服電機的轉速和轉矩來控制油壓系統的流量和壓力來滿足機器各個動作對速度壓力的要求, 又由電機編碼器和壓力傳感器對電機轉速和力矩來進行監測, 并實時地的反饋回伺服驅動系統進行修正處理, 從而達到系統流量和壓力的輸入與輸出的完全一致。

In order to meet the speed and pressure requirement of the machine, hydraulic system is controlled by motor operation speed and torque, which are monitored by speed encoder and pressure sensor, to make corrections to the servo system according to the feedbacks, so as to achieve consistently with the input & output of the flow and pressure.



定量泵系統和變量泵系統, 都存在卸荷或比例閥的溢流, 導致系統壓力損失, 而伺服油壓驅動系統, 能够完全無級PQ(壓力、流量)控制, 不存在壓力損失, 油壓系統, 大大節省了冷却水的用量。

Compare with hydraulic system, overflow problem of unloader valve and proportional valve happen in FDP & VDP system and cause the loss of system pressure, hydraulic system can variable control the pressure and quantity of flow to reduce pressure loss, cooling water consumption save.



變量泵系統的壓力和流量靠泵的比例閥及泵的斜盤來控制, 總響應時間為120 ~ 150毫秒。伺服油壓系統的壓力和流量靠伺服驅動系統直接控制, 其響應時間為30毫秒, 非常適于客戶做精密生產, 同時能提高生產效率。

The pressure and flow of variable pump system are controlled by proportional valve and swash plate of the pump with response time around 0.12s~0.15s. On the other hand, the pressure and flow of hydraulic system are controlled by hydraulic servo motor with high response time of 0.03s, which with optimize design and improve productive efficiency.



在10%的低壓力和低流量工作時, 無爬行及脈衝現象, 性能表現尤其突出, 且穩定性高。

Creeping and impulsive phenomenon will not happen under low pressure and flow working status, high performance and stability.



本公司伺服控制系統對伺服電機轉速的控制精度為1 / 1024轉, 對位置的控制精度特高, 而且重複位置精度也非常高。

High precision speed control up to 1/1024 rpm accuracy as well as high precision position control for the servo system motor.

3

POTENZA-II 系列技術參數表
Technical Specification

項目 Item		單位 Unit	PT80	PT130	PT160	PT200	PT250			PT320	PT400	PT480	PT560	PT650	PT850	PT1000	
注射部分 Injection Unit																	
射膠量(硬膠)	Injection Weight(PS)	g	103	140	183	175	228	289	236	299	369	318	393	475	468	566	673
		oz	3.6	4.9	6.5	6.2	8.1	10.2	8.3	10.6	13	11.2	13.9	16.8	16.5	20	23.8
螺杆直徑	Screw Diameter	mm	30	35	40	35	40	45	40	45	50	45	50	55	50	55	60
射膠容積	Injection Volume	cc	113	154	201	192	251	318	260	329	406	350	432	522	514	622	740
射膠壓力	Injection Pressure	MPa	236	174	133	228	174	138	228	180	146	230	186	154	219	181	152
射膠速率	Injection Rate	cc/s	79	107	141	103	134	169	128	162	200	163	201	243	214	258	307
螺杆長徑比	Screw L/D Ratio		23	20	18	25	22	20	25	22	20	25	22	20	22	20	18
螺杆行程	Screw Stroke	mm	160		200		207		220		262						
螺杆轉速	Screw Speed	rpm	227		249		227		194		178						
塑化能力(硬膠)	Plasticizing Capacity(PS)	kg/h	30	45	66	50	71	94	64	86	112	73	95	124	88	115	145
射咀行程	Nozzle Stroke	mm	230		280		300		320		360						
料鬥容積	Hopper Capacity	L	45		50		50		60		60						
鎖模部分 Clamping Unit																	
鎖模力	Clamping Force	kN	800		1300		1600		2000		2500						
容模量 (最小-最大)	Mold Thickness(min.-max.)	mm	150-350		175-400		200-450		200-520		200-550						
模板最大開距	Max. Daylight Between Platen	mm	630		750		850		980		1060						
開模行程	Opening Stroke	mm	280		350		400		460		510						
哥林柱內徑 (水平×垂直)	Space Between Tie Bars(H×V)	mm	357×357		409×409		459×459		510×510		570×570						
模板尺寸 (水平×垂直)	Platen Size(H×V)	mm	530×533		614×614		672×672		746×746		860×860						
頂出行程	Ejector Stroke	mm	85		100		100		120		120						
頂出力	Ejector Force	kN	34		42		42		67		77						
其他部分 Others																	
油泵馬達功率	Pump Motor Power	kW	11.6		14		16.4		22		31						
系統壓力	System Pressure	MPa	17.5		17.5		17.5		17.5		17.5						
油箱容量	Oil Tank Capacity	L	130		160		200		240		330						
電熱功率	Heating Capacity	kW	5.2		7.6		8.3		11.8		13						
溫度控制區	Temp. Control Zones		3+N		3+N		3+N		3+N		4+N						
機器尺寸	Machine Dimension(LxWxH)	mm	3900×970×1760		4500×1050×1800		4820×1120×1900		5400×1220×2200		5540×1400×2240						
機器吊裝參考重量	Approx. Lifting Weight	kg	2700		3800		4300		5500		7500						

849	996	1155	1326	1086	1260	1447	1646	1436	1648	1874	2372	1708	2194	2459	3036	2057	2604	3214	3889	2748	3393	4106	4886	3929	4754	5657	6639
30	35	41	47	38	44	51	58	51	58	66	84	60	78	87	107	73	92	114	137	97	120	145	173	139	168	200	234
60	65	70	75	65	70	75	80	70	75	80	90	75	85	90	100	80	90	100	110	90	100	110	120	100	110	120	130
932	1094	1269	1457	1194	1385	1590	1809	1576	1810	2059	2607	1877	2410	2702	3336	2261	2861	3532	4274	3020	3729	4512	5369	4317	5224	6217	7296
210	179	154	134	213	184	160	141	229	200	176	139	209	163	145	118	225	178	144	119	218	176	146	122	214	177	149	127
336	394	457	525	342	397	456	518	396	454	517	654	527	677	759	938	531	672	830	1004	670	827	1001	1191	899	1087	1294	1519
22	20	19	18	22	20	19	18	22	20	19	17	22	20	19	17	23	21	19	18	23	21	19	18	23	21	19	18
330		360		410		425		450		475		550															
182		157		157		187		163		168		143															
150	179	208	248	154	180	215	243	180	214	244	348	255	350	413	540	254	361	471	600	372	485	618	810	410	523	684	877
630		660		740		815		885		950		1100															
100		100		100		120		120		150		210															
3200		4000		4800		5600		6500		8500		10000															
220-680		250-750		300-820		350-850		350-920		400-1100		450-1210															
1320		1450		1620		1700		1820		2205		2410															
640		700		800		850		900		1105		1200															
664×660		725×720		820×820		861×860		911×911		1080×1020		1121×1121															
964×960		1035×1030		1150×1150		1180×1180		1260×1260		1540×1480		1641×1641															
180		180		200		240		270		300		300															
110		110		110		166		215		270		270															
49		49		22+33		22+49		33+49		49×2		49×2+33															
17.5		17.5		17.5		17.5		17.5		17.5		17.5															
360		400		680		900		900		1100		1500															
20		23.2		25		32		34		40		50															
4+N		4+N		5+N		5+N		5+N		5+N		6+N															
6570×1720×2140		7100×1800×2140		7940×1900×2200		8920×2200×2200		9400×2360×2240		10740×2500×2400		11900×2570×2660															
10500		12500		15000		22000		25000		33000		41000															

☐ 標準 Standard

☐ 備選 Option

• 當您有成型PVC、PC、ABS(防火)、PMMA、POM等工程塑料產品或有其它特殊要求時，敬請告知本公司。
Please contact us if you got any special requirement for injection molding products with the engineering material:PVC,PC,ABS(fireproof),PMMA,POM or other.

• 本公司保留權利作出任何技術數據修改而不作另行通知。
We reserve the right to make any technical improvement without further notice.

CAT.NO.:16/12/10

說明：塑化能力＝理論塑化能力 x 0.80
Remark: actual plasticizing capacity = 80% of plasticizing capacity

CAT.NO.:16/12/10

標準裝置 STANDARD FEATURE

鎖模部分

- 機鉸式鎖模
- 齒輪式油壓自動調模
- 鎖模／頂針電子尺
- 容積式集中潤滑系統
- 液壓頂出機構
- 螺孔式模板
- 電氣油壓聯鎖安全裝置
- 油脂潤滑系統（PT560-1000）
- 油壓安全鎖

控制部分

- 電壓／頻率：380V／50HZ
- 緊急停機按鈕
- PID溫度控制器
- 維修及保養報警
- 原裝電器元件
- 模具保護功能
- 倒索功能
- 自動清料功能
- 防止螺杆冷啓動功能
- 注射波形監測及記憶功能
- 統計功能
- 生產監視功能
- 工作時間顯示功能
- 單色報警燈(PT80-480)
- 雙色報警燈(PT560-1000)
- 防水插(220V或380V)
- 注射壓力監視功能(PT320-1000)
- 電腦截屏功能

射膠部分

- 氮化螺杆
- 射膠電子尺
- 雙液壓缸注射
- 滑動式料鬥底座(PT80-850)
- 雙射移油缸(PT320-1000)
- 射膠壓力傳感器(PT320-1000)
- 熔膠數控背壓(PT320-1000)
- 熔膠手調背壓(PT80-250)
- 射咀安全保護罩
- 儲料計數裝置(PT320-1000)

Clamping unit

- Toggle clamping structure
- Mold height adjustment driven by strong and stable gear system
- Linear transducer for clamping/ ejector stroke control with 0.1mm accuracy
- Computer controlled central lubrication system
- Ejector speed and pressure control with digital setting
- Spiral hole type platen
- Electrical and hydraulic safety interlock
- Grease lubrication system (PT560-1000 only)
- Hydraulic safety lock

Control unit

- Voltage and frequency: 380V/50HZ
- Mushroom emergency stop button
- PID temperature control
- Maintenance alarm
- Europe and Japan imported electric components
- Mold protect function
- Suck back function
- Auto-purge function
- Cold starting protection to prevent injection screw from damaging
- Injection molding parameter checking and memorizing function

Statistics manage function

- Production monitor function
- Working schedule display function
- Single color alarm lamp(PT80-480 only)
- 2 colors alarm lamp(PT560-1000 only)
- Waterproof power socket (220V or 380V)
- Injection pressure monitoring function(PT320-1000 only)
- Computer screen capture function

Injection unit

- Nitride treatment screw assembly
- Injection unit equipped with linear transducer of 0.1 mm accuracy
- Double hydraulic injection cylinders for space saving
- Sliding hopper base(PT80- 850 only)
- Double carriage cylinder(PT320-1000 only)
- Injection pressure sensor(PT320-1000 only)
- Digital back pressure control for melting(PT320-1000 only)
- Adjustable back pressure control for melting(PT80-250 only)
- Nozzle safety cover
- Material measuring device(PT320-1000 only)

標準裝置 STANDARD FEATURE

液壓部分

- 油液清潔系統
- 液壓冷却器
- 油溫及油位指示表
- 快速鎖模功能
- 開模背壓功能(PT200-1000)
- 液壓泵站組合分配功能(PT480-1000)
- 抽芯裝置(PT320-1000)
- 系統閉環控制功能

其它

- 伺服安全門(PT560-1000)
- 工具連箱
- 碼模夾

Hydraulic unit

- Automatic hydraulic oil cleaning system
- Hydraulic oil cools by water cooler
- Oil temperature and oil level indicator
- High speed clamping function
- Mold open with back pressure control(PT200-1000 only)
- Hydraulic pump station allocation function (PT480-1000 only)
- Core pulling device(PT320-1000 only)
- High reaction closed loop control

Others

- Pneumatic safety door (PT560-1000 only)
- Tool with tool box
- Mold mounting clamp

備選裝置 OPTIONAL FEATURE

鎖模部分

- 公或母模吹氣裝置
- 特殊模板定位圈
- 絞牙裝置
- 抽芯裝置(除標準外可額外增加)
- 模具冷却水用流量計
- T形槽模板
- 非公制碼模孔裝置
- 加大容模量
- 開模背壓功能(PT80-160)
- 機械手過渡安裝板
- 機械安全鎖

射膠部分

- 熔膠筒保溫罩
- 加長射咀
- 雙層射咀
- 雙合金螺杆及炮筒等特殊料管組
- 儲料計數裝置(PT80-250)
- 溶膠馬達增大一級
- 射臺封閉鈹金(PT80-250)
- 溶膠數控背壓(PT80-250)
- 射膠壓力傳感器(PT80-250)
- 陶瓷加熱圈(PT80-250)
- 電磁加熱系統

Clamping unit

- Air blast device
- Special mold flange (position ring)
- Unscrewing device
- Extra core pulling
- Mold cooling water distributor
- T-slot platen design
- Special mounting holes dimension on stationary platen
- Extended mold thickness
- Mold open with back pressure control(PT80-160 only)
- Junction plate for robot mounting
- Mechanical safety lock

Injection unit

- Barrel thermal cover
- Extended nozzle
- Dismountable nozzle
- Bi-metallic screw and barrel
- Material measuring device(PT80-250 only)
- Enlarge hydraulic motor
- Protective cover for injection unit(PT80-250 only)
- Digital back pressure control for melting(PT80-250 only)
- Injection pressure sensor(PT80-250 only)
- Ceramic heater band(PT80-250 only)
- Electromagnetic heating system

備選裝置 OPTIONAL FEATURE

控制部分

- 電源穩壓器
- 中央網路系統
- 打印機接口
- 防水插（除標準外可額外增加）
- 雙色報警燈 (PT 80-480)
- 三色報警燈
- 注射壓力監視功能 (PT 80-250)
- KEBA 電腦
- 諦洲電腦

Control unit

- Voltage stabilizer
- LK net
- Printer port
- Extra waterproof power socket
- 2 colors alarm lamp (PT 80-480 only)
- 3 colors alarm lamp
- Injection pressure monitoring (PT 80-250 only)
- KEBA PLC
- DIHZHOU PLC

液壓部分

- 油位過限報警功能
- 冷却器加大一級 (PT 80-480)
- 油溫過高報警功能
- 電機油泵加大一級 (PT 80-200)
- 邊開模邊頂針 邊開模邊抽芯 (壓力比例閥)

Hydraulic unit

- Oil level protection
- Enlarge oil cooler (PT 80-480 only)
- Oil temperature over-heat alarm
- Enlarge hydraulic motor & oil pump (PT 80-200 only)
- Oil pressure proportional valve

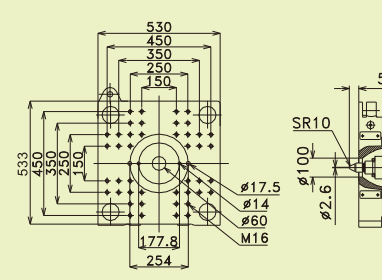
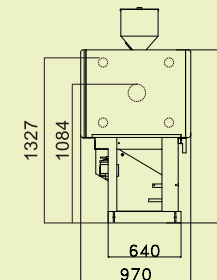
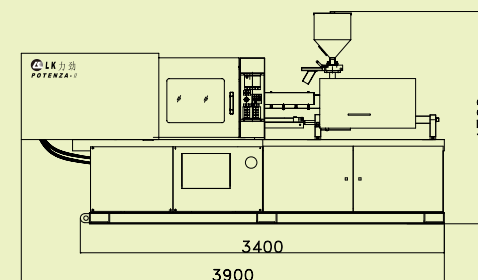
其他

- 改機身顏色
- 備用電源插座
- 磁力格
- 干燥機
- 冷水機
- 混色機
- 輸送帶
- 伺服安全門 (PT 320-480)
- 加料平臺 (PT 480-1000)
- 吸料機
- 碎料機
- 吊模架 (PT 80-200)
- 模溫機

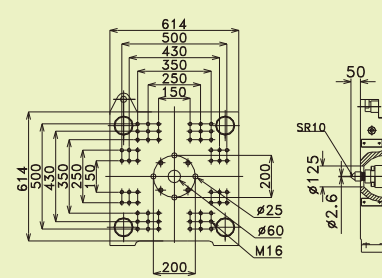
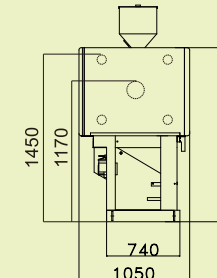
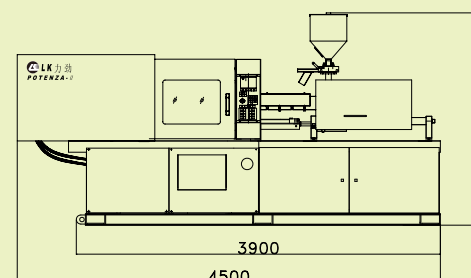
Others

- Customer assigned machine color
- Separated spare plug socket for auxiliary equipment
- Hopper magnet
- Hopper dryer
- Air cool water chiller
- Color mixture machine
- Conveyer
- Pneumatic safety door (PT 320-480 only)
- Material loading platform (PT 480-1000 only)
- Material loading machine
- Material crusher
- Mold hoisting frame (PT 80-200 only)
- Mold temperature controller

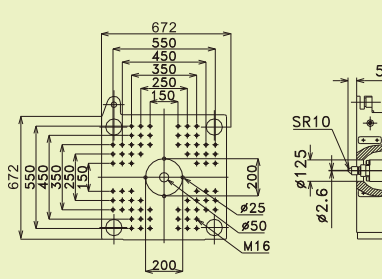
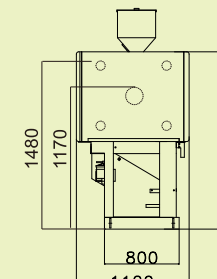
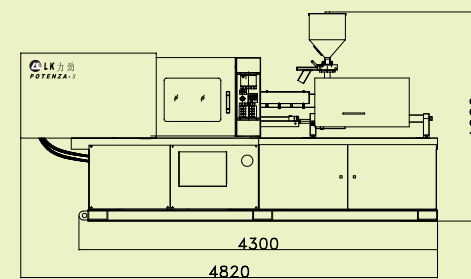
PT-II 80



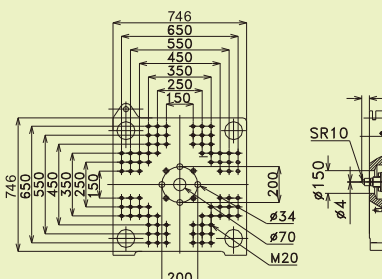
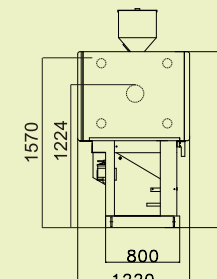
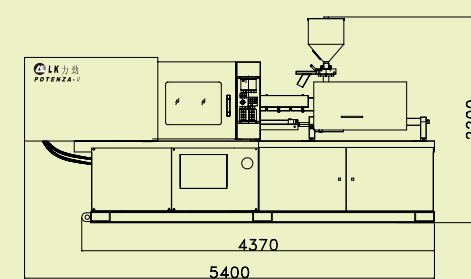
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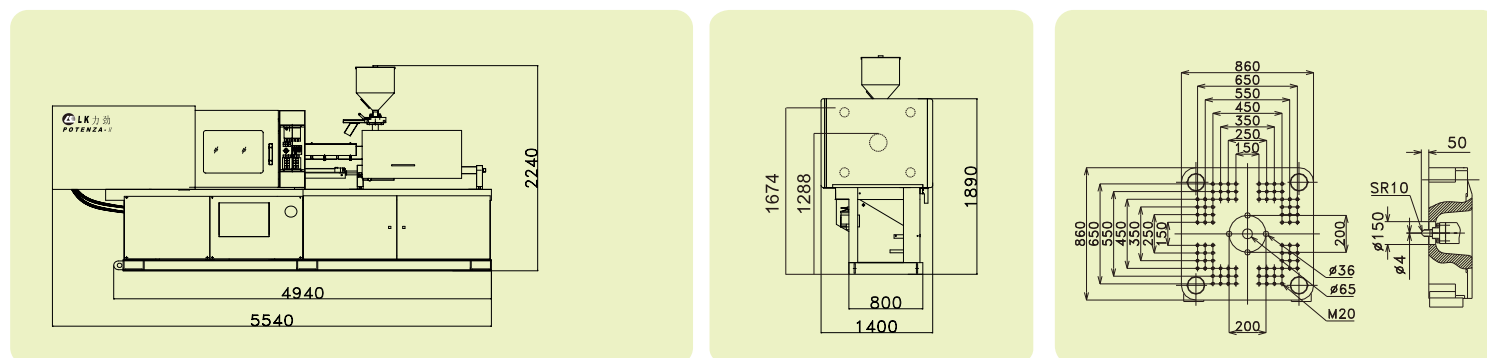
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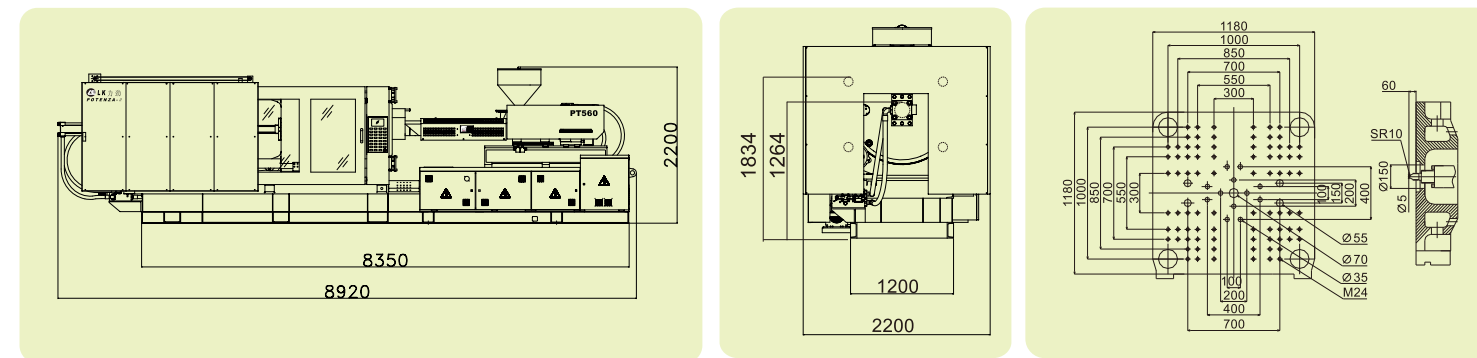
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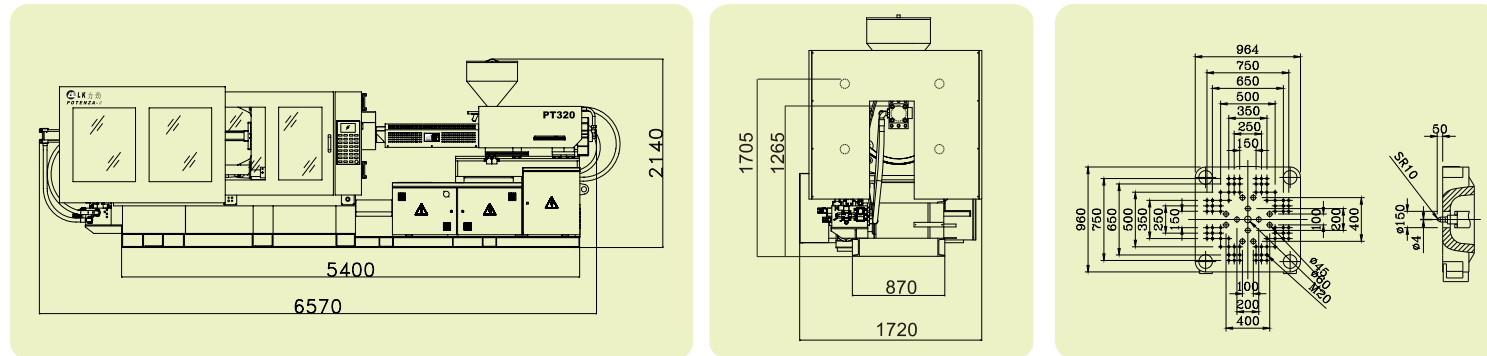
PT-II 250



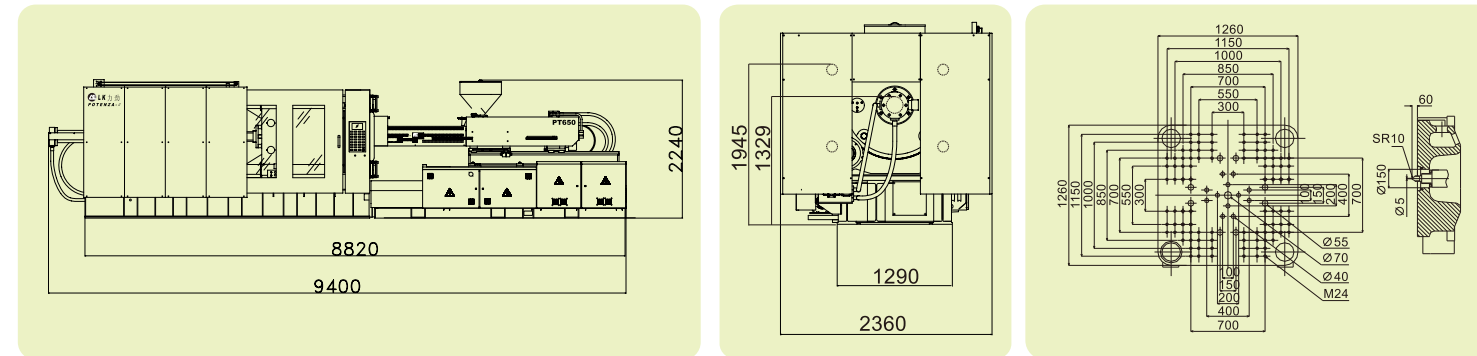
PT-II 560



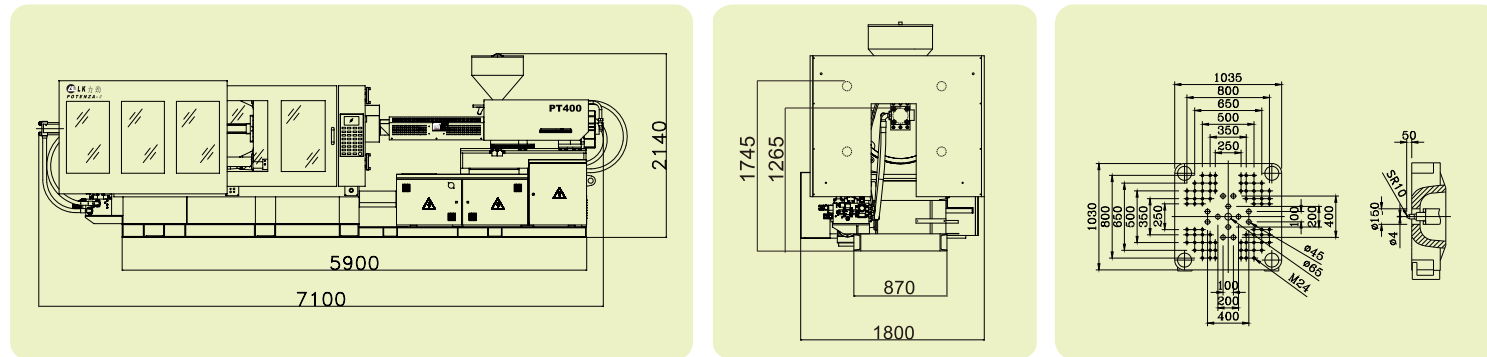
PT-II 320



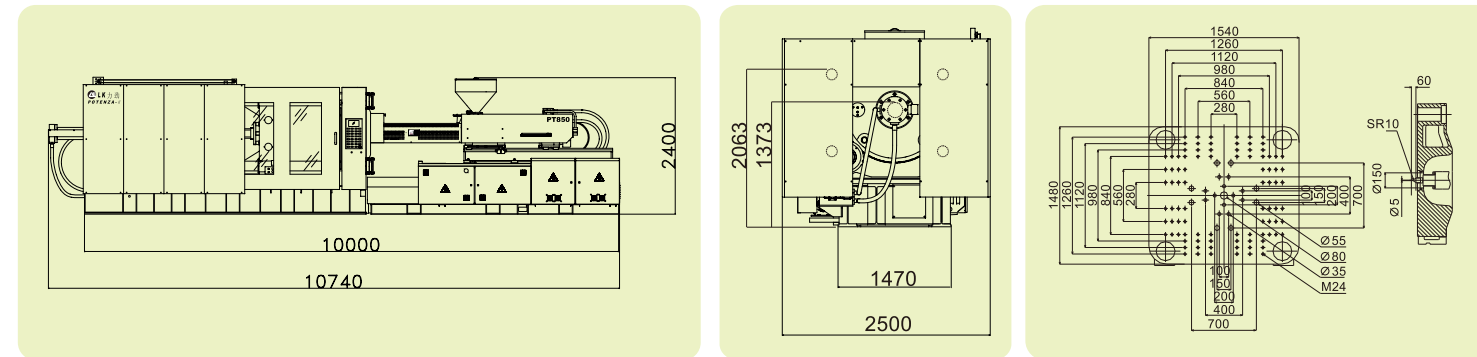
PT-II 650



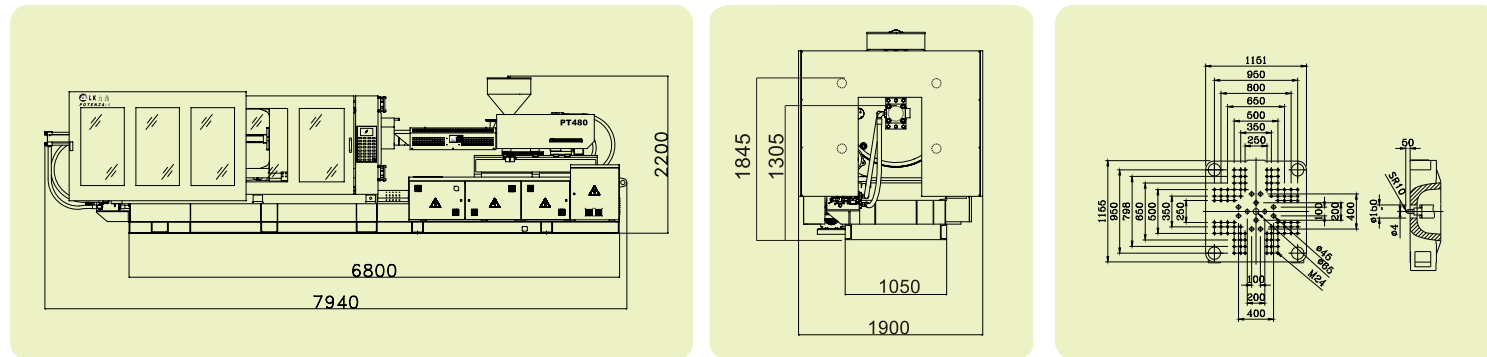
PT-II 400



PT-II 850



PT-II 480



PT-II 1000

