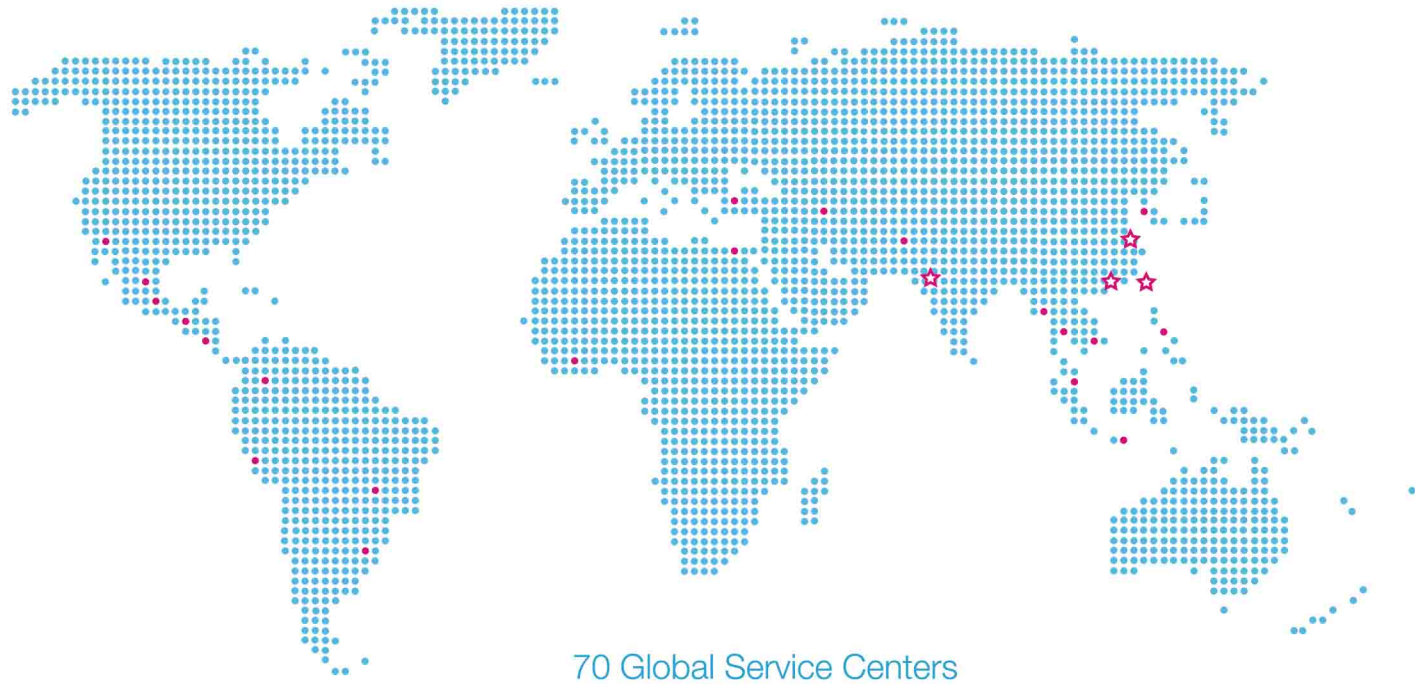


【全球行銷服務網】 Global Marketing Network



70 Global Service Centers

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SA-h/p SERIES

高速成型專用注塑機

High Speed Injection Molding Machine

SA-h 薄壁包裝專用機

SA-p 桶專用機

SA-h PET 採血管專用機

產品定位 Product Position

FCS五十年技術結晶與積累，創造了多樣性的產品與穩定的性能品質，同時針對各行業不同產品特性，提供差異化整合與服務。

SA-h/p系列為FCS全新發表之高速成型專用注塑機，除了標配紅外奈米加熱圈，採用比例閥，開模響應快且定位精準，更可選配雙迴路動作，最大程度縮短成型週期。

本設備適用於生產薄壁或桶型食品包裝容器，更可搭配專用料管組，生產PET採血管。

FCS has created various products with steady performance by utilizing its 50 years expertise in technological developments and innovations; also providing customized integration and service for different product characteristics for many industries.

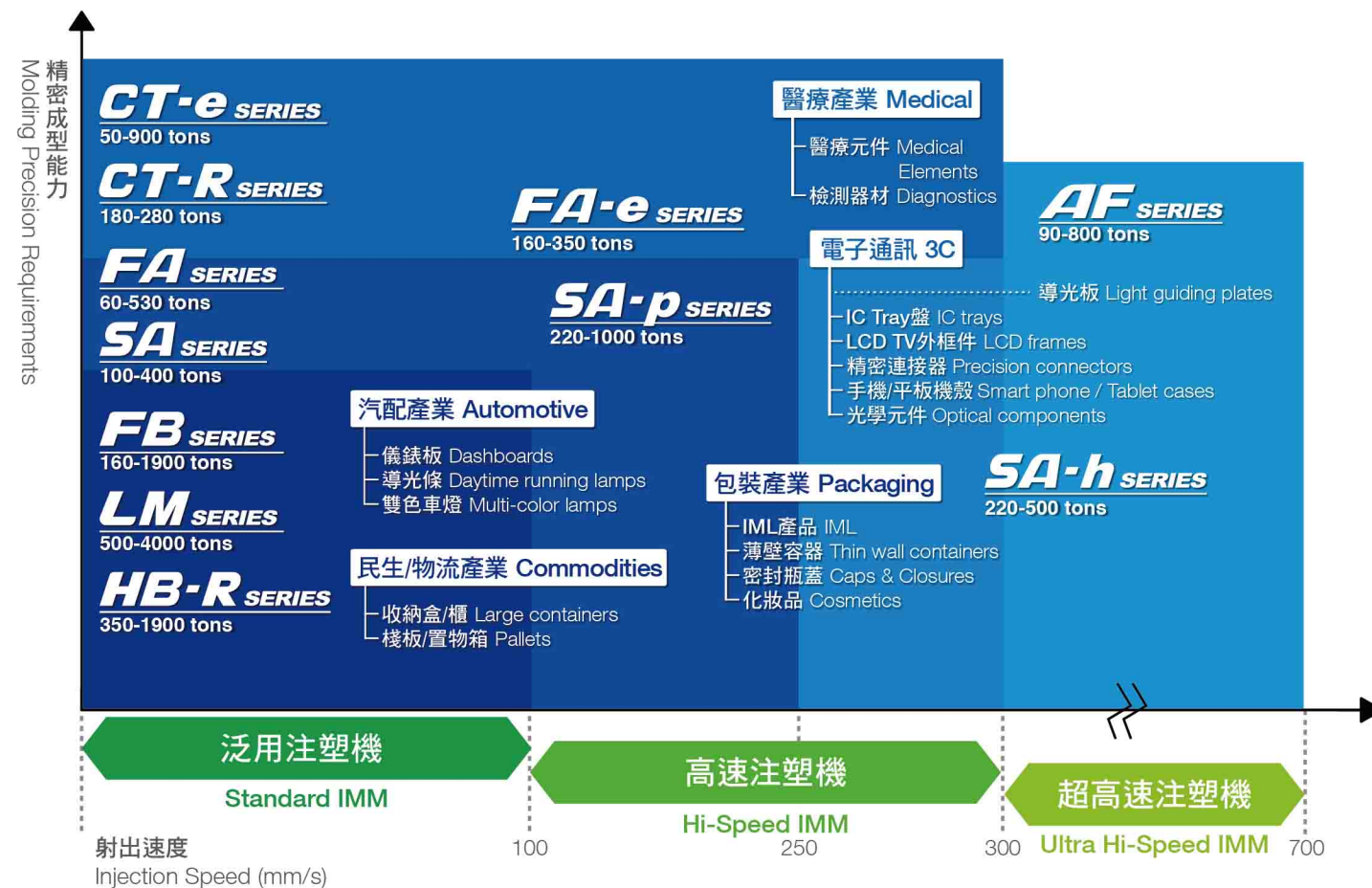
The brand new released SA-h/p series is a High-Speed model. It standardly adopts the infrared heater which can be quickly heat up and with good heat preservation. The proportional valve offers fast mold open response and accurate positioning. It's also can be optional equipped with double loops system to improve production efficiency.

SA-h/p series High-speed Injection Molding Machine is suitable for food packaging containers with thin-walled or bucket body and lids. It can also be matched with a special injection unit to produce PET blood collection tubes.

電控單元 Control Unit



FCS-6500S ▲



應用功能

- 全新設計畫面風格與圖示，操作更為便利。
- 具多階密碼保護功能，記錄與限制各階使用者參數修改。
- 提供統計製程控制及射出波形圖，提高生產品質與效率。
- USB資料存取介面，模具參數、顯示畫面存取便利。
- 採多重通訊介面(USB、串行接口、Ethernet、EtherCAT、Sercos III)。
- 支援OPC協定，且依據IEC-61131設計，其特點為模組化並易於軟硬體維護。
- 多種語言可供客戶選擇。

Application

- New control is designed for easy operator interface.
- The multi-level password protection function is used to record and limit the parameters modification from various levels of users.
- Provide statistical process control and injection waveforms to improve production quality and efficiency.
- Convenient access to USB data, mold parameters and display screens.
- Multiple communication interfaces (USB, serial interface, Ethernet, EtherCAT, Sercos III).
- Control supports OPC protocol and has a modular design to easily maintain the software and hardware.
- Multiple languages are available for users.

夾模設計 Clamping structure design

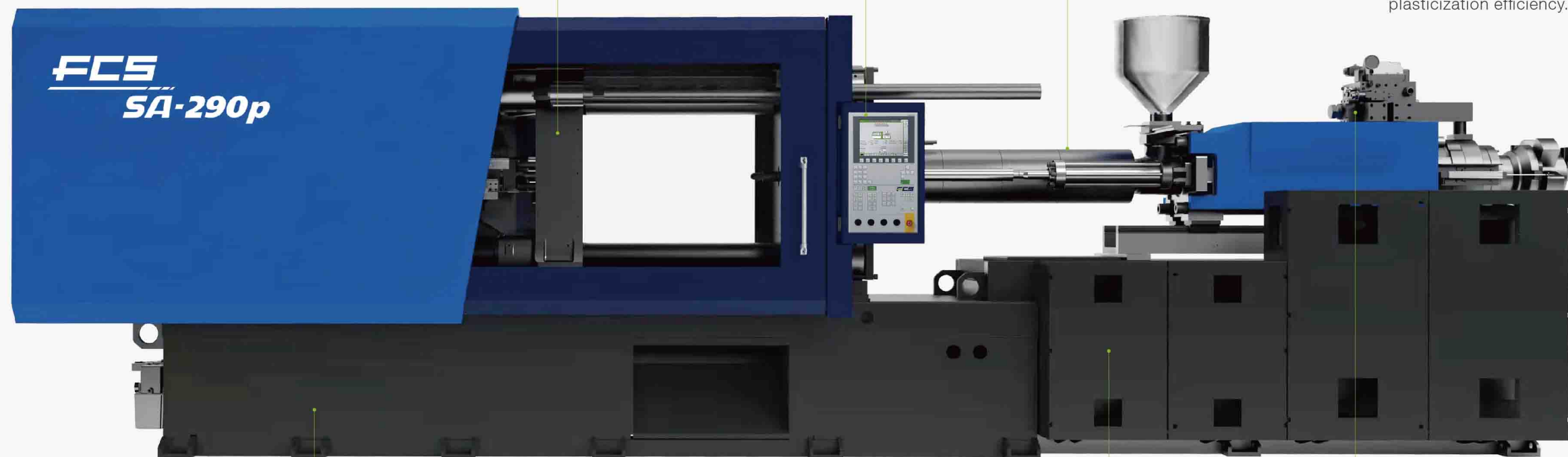
- 高剛性模板設計，彈性變形小，成型鎖模力更低。
- 標配高速比例閥，開模響應更快，定位更準，循環週期短。
- High rigidity platen mechanism, less deformation, lower clamping force.
- Standard high-speed proportional valve, with fast mold open response, accurate positioning and short cycle time.

電控單元 Control system

- 標配KEBA控制系統。
- 動作掃描週期1ms以內。
- 符合人體工程學佈局。
- 具資料圖像監控功能。
- Standard equipped with KEBA control system.
- Operation mode scan within 1ms.
- Ergonomic layout.
- Data image monitoring.

精準溫控 Precision temperature control

- 標配紅外奈米加熱圈，升溫快，保溫性能好，節能超過30%。
- 採用PID溫度控制，可控制在 $\pm 1^{\circ}\text{C}$ 。
- 採用大L/D比，高混煉螺桿，塑化效果好。
- Standard infrared heater, fast heating, good heat preservation, energy saving over 30%.
- Adopt PID temperature control, temperature control within $\pm 1^{\circ}\text{C}$.
- Adopt large L/D ratio, high mixing screw and good plasticization efficiency.



先進機架工藝 Advanced machine base technology

- 整機管路採用無焊接工藝，降低漏油風險。
- 提升油路清潔度，機台壽命更長。
- The pipelines adopt no welding processing, decreasing the risk of oil leaking.
- Improving the cleanliness of oil circuits and increase machine life.

伺服電機系統 Servo motor system

- 標配高性能伺服動力系統，響應時間最快至40ms。
- 獨特的模組化設計，方便維修。
- 可以實現雙迴路動作，最大程度縮短成型週期。
- Equipped with high performance servo power system, the fastest response time is up to 40ms.
- Unique modular design, easy maintenance.
- It can be realized double loops system, improving production efficiency.

精準注射 Precision injection molding

- 射台及座移採用雙線軌設計，摩擦阻力低，精度更高。
- 中慣量單缸射出結構，起速快，重複精度高。
- The injection unit support adopts high-precision double linear guides, the lower friction resistance, the higher precision.
- The medium-inertia single-cylinder injection mechanism, fast response and high repeatability.

SA-h薄壁包裝專用機規格表 SA-h Specifications

ITEMS			UNIT	SA-170h	SA-220h	SA-290h	SA-330h
射出單元 Injection unit	類型	Type	-	400	600	770	770
	螺桿直徑	Screw diameter	mm	40	45	50	50
	射出行程	Screw stroke	mm	190	230	230	230
	理論射出容積	Theoretical shot volume	cm ³	239	366	452	452
	理論射出量	Shot weight of injection (PS)	gram	217	333	411	411
	射出壓力	Injection pressure	kgf/cm ²	1663	1651	1710	1710
	射出速度	Injection Speed	mm/sec	365	330	395	445
射出率	Injection rate	cm ³ /sec	460	528	778	876	
夾模單元 Mold clamping unit	閉模力	Mold clamping force	tonf	170	220	290	330
	夾模行程	Mold clamping stroke	mm	430	500	550	640
	模厚	Mold thickness	mm	180~520	200~550	220~580	250~610
	大柱內距	Tie bar spacing (H x V)	mm	470x410	530x470	580x515	630x585
	模盤尺寸	Mold platen (H x V)	mm	745x655	800x800	875x875	940x900
	頂出行程	Ejector stroke	mm	135	135	140	140
	頂出力	Ejector force	tonf	6.7	6.7	8.8	8.8
電氣單元 Electrical equipment	最大油壓動力	Max. pump driving motor	kW(380V)	58	58	46.2+46.2	58+46.2
	電熱容量	Heater capacity	kW	10	19.4	20.4	20.4
其他 Others	機械尺寸	Machine dimensions (LxWxH)	mm	4900x1430x2100	6100x1550x2050	6590x1630x2120	6900x1710x2125
	油箱容量	Oil tank capacity	liter	260	420	500	500
	機械重量	Machine weight	ton	5.5	8	11	13

ITEMS			UNIT	SA-380h	SA-460h	SA-500h	SA-600h
射出單元 Injection unit	類型	Type	-	900	1000	1000	1100
	螺桿直徑	Screw diameter	mm	55	58	58	60
	射出行程	Screw stroke	mm	230	230	230	230
	理論射出容積	Theoretical shot volume	cm ³	546	608	608	650
	理論射出量	Shot weight of injection (PS)	gram	497	553	553	592
	射出壓力	Injection pressure	kgf/cm ²	1655	1707	1707	1712
	射出速度	Injection Speed	mm/sec	445	475	475	515
射出率	Injection rate	cm ³ /sec	1057	1260	1260	1459	
夾模單元 Mold clamping unit	閉模力	Mold clamping force	tonf	380	460	500	600
	夾模行程	Mold clamping stroke	mm	690	750	790	820
	模厚	Mold thickness	mm	250~680	280~730	300~800	300~850
	大柱內距	Tie bar spacing (H x V)	mm	670x640	720x720	770x720	830x750
	模盤尺寸	Mold platen (H x V)	mm	1000x970	1090x1090	1175x1120	1230x1150
	頂出行程	Ejector stroke	mm	140	140	145	180
	頂出力	Ejector force	tonf	8.8	8.8	13.0	13.0
電氣單元 Electrical equipment	最大油壓動力	Max. pump driving motor	kW(380V)	58+58	63.5+63.5	63.5+63.5	63.5+63.5+37
	電熱容量	Heater capacity	kW	29.2	32.6	32.6	32.6
其他 Others	機械尺寸	Machine dimensions (LxWxH)	mm	7170x1810x2060	7850x1950x2080	8230x2020x2100	8610x2170x2200
	油箱容量	Oil tank capacity	liter	580	580	580	630
	機械重量	Machine weight	ton	14.8	18.5	21	25.5

本資料僅供參考。因產品不斷研究改良，設計變更時恕不另作通知。

The features are for reference only. Due to continuous improvements, we reserve the right to amend any of the above specifications without prior notice.



薄壁包裝經典應用 Application of Thin-Walled Packaging

產品 Product	容量 Capacity	腔數 Cavity	單個產品 克重 Weight (g)	壁厚 Thickness (mm)	成型周期 Cycle time (s)	適配機型 IMM Model
	1000ml	4	14~16	0.35~0.4	4.5~5.5	SA-380h/900
		6			5.2~5.8	SA-460h/1000
		8			5.5~6.0	SA-500h/1000
	-	6	7~8	0.35~0.4	4.5~5.2	SA-330h/770
		8			5.0~5.5	SA-380h/900
		12			5.5~6.5	SA-500h/1000
	700ml	6	21~25	0.4~0.5	6.0~7.0	SA-380h/900
		8			6.5~7.2	SA-460h/1000
	-	12	4~6	0.4~0.5	5.2~5.5	SA-290h/770
		16			5.5~6.0	SA-330h/770
		24			6.0~6.5	SA-380h/990
	1000ml	2	22~26	0.35~0.4	6.5~7.0	SA-290h/770
		4			6.0~6.5	SA-460h/1000
	120ml (4 oz)	16	5.0~5.5	0.35~0.4	6.0~7.0	SA-290h/770
		32			6.5~7.0	SA-460h/1000
	1000 ml	2	55~60	0.7~1.2	7.0~7.5	SA-290h/770
		4			9.0~9.5	SA-380h/990
	-	32	1.7~1.8	0.4~0.6	7.0~8.0	SA-290h/770
		48			8.5~9.0	SA-290h/770

SA-h PET 採血管專用機規格表

SA-h PET Blood Collection Tubes Specifications

ITEMS		UNIT	SA-220h	SA-290h
射出單元 Injection unit	類型 Type	-	770	900
	螺桿直徑 Screw diameter	mm	50	55
	射出行程 Screw stroke	mm	230	230
	理論射出容積 Theoretical shot volume	cm ³	452	546
	理論射出量 Shot weight of injection (PS)	gram	411	497
	射出壓力 Injection pressure	kgf/cm ²	1710	1674
	射出速度 Injection speed	mm/sec	395	415
	射出率 Injection rate	cm ³ /sec	778	993
夾模單元 Mold clamping unit	閉模力 Mold clamping force	tonf	220	290
	夾模行程 Mold clamping stroke	mm	500	550
	模厚 Mold thickness	mm	200~550	220~580
	大柱內距 Tie bar spacing (H x V)	mm	530x470	580x515
	模盤尺寸 Mold platen (H x V)	mm	800x800	875x875
	頂出行程 Ejector stroke	mm	135	140
	頂出力 Ejector force	tonf	6.7	8.8
電氣單元 Electrical equipment	最大油泵動力 Max. pump driving motor	kW(380V)	58	46.2+46.2
	電熱容量 Heater capacity	kW	19.4	29.2
其他 Others	機械尺寸 Machine dimensions (L x W x H)	mm	6400x1550x2100	7000x1810x2200
	油箱容量 Oil tank capacity	liter	500	580
	機械重量 Machine weight	ton	11.5	14.5

本資料僅供參考。因產品不斷研究改良，設計變更時恕不另作通知。
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應用產品 Examples of SA-h PET Series



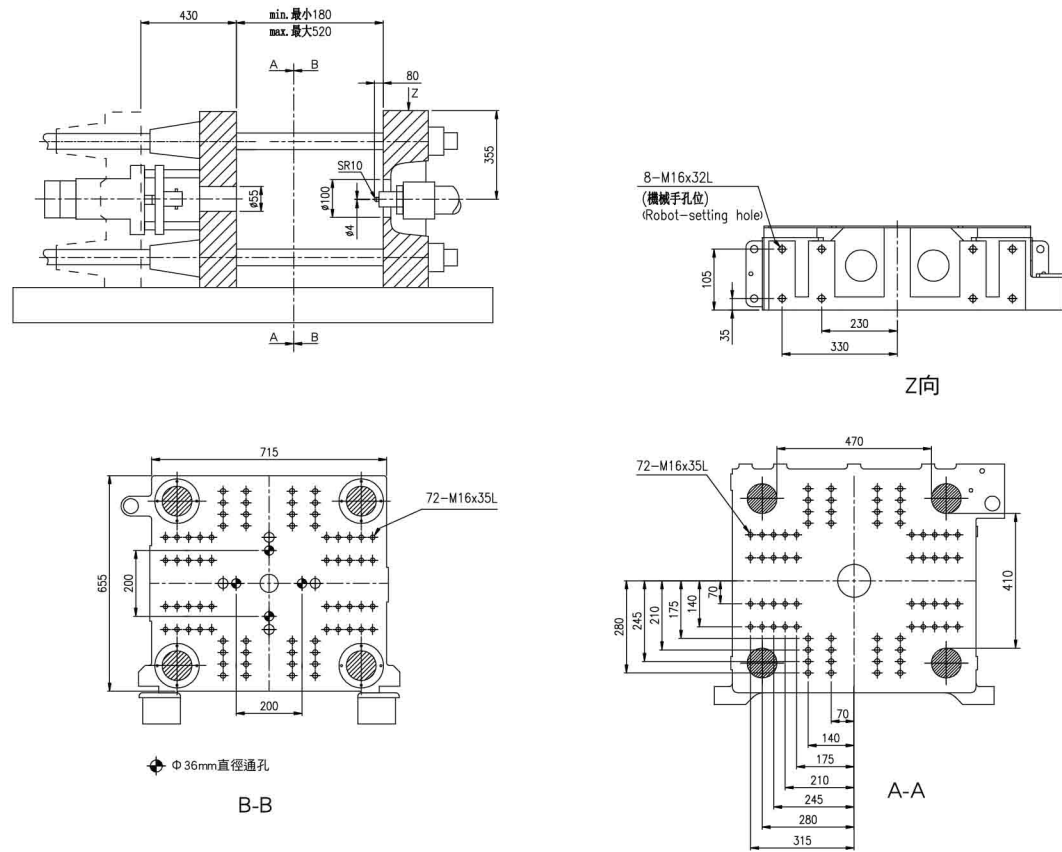
SA-h PET 採血管應用 Application of PET Blood Collection Tubes

產品 Product	尺寸 Size(mm)	容量 Capacity	腔數 Cavity	單個產品克重 Weight (g)	壁厚 Thickness (mm)	成型週期 Cycle time (s)		適配機型 IMM Model
						油壓加料 Hydraulic screw drive	電動加料 Electric screw drive	
	φ 12.4*100	5ml	24	5.2	0.95	12.0-13.0	7.0-8.0	SA-220h/770
			32			13.0-13.5	8.0-8.5	SA-290h/900
			48			13.5-14.0	8.5-9.0	SA-290h/900
	φ 12.4*75	3ml	24	3.7	0.95	12.0-13.0	7.0-8.0	SA-220h/770
			32			13.0-13.5	8.0-8.5	SA-290h/900
			48			13.5-14.0	8.5-9.0	SA-290h/900

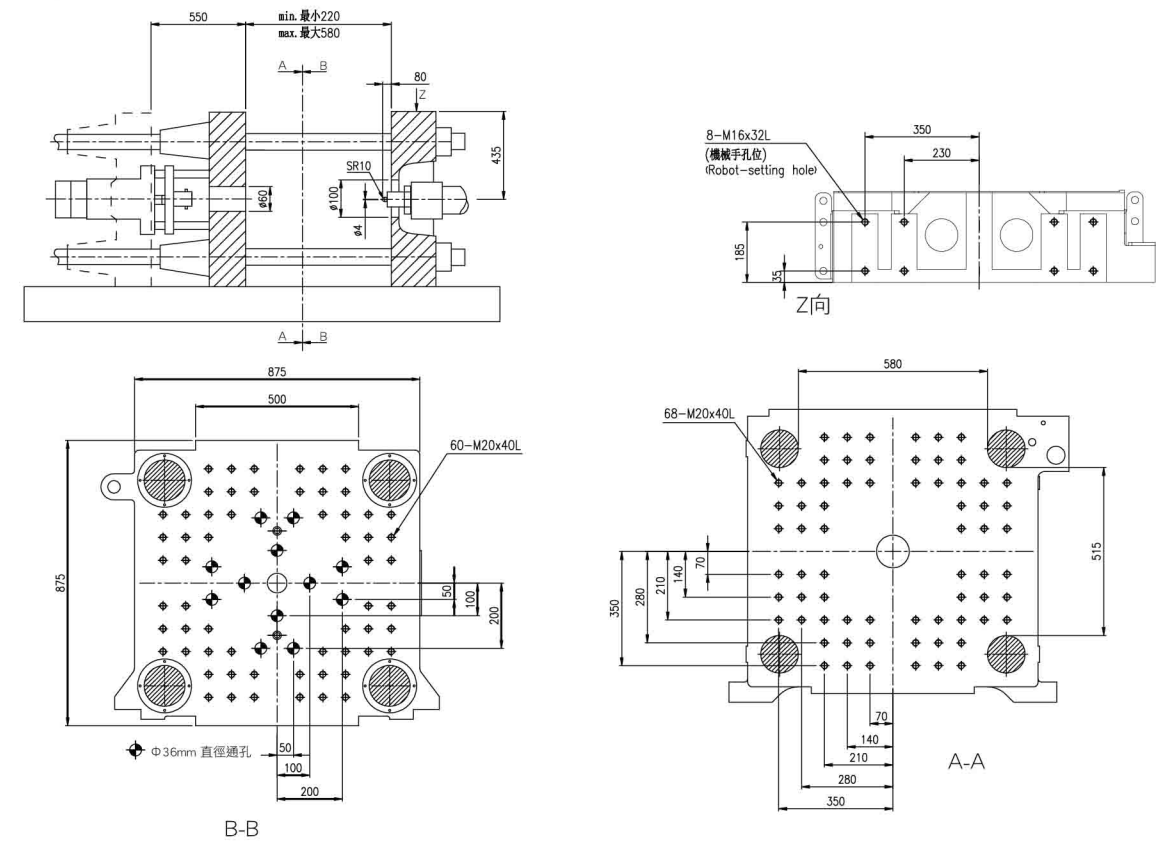


SA-h 模壁尺寸圖 SA-h Mold Platen Dimensions

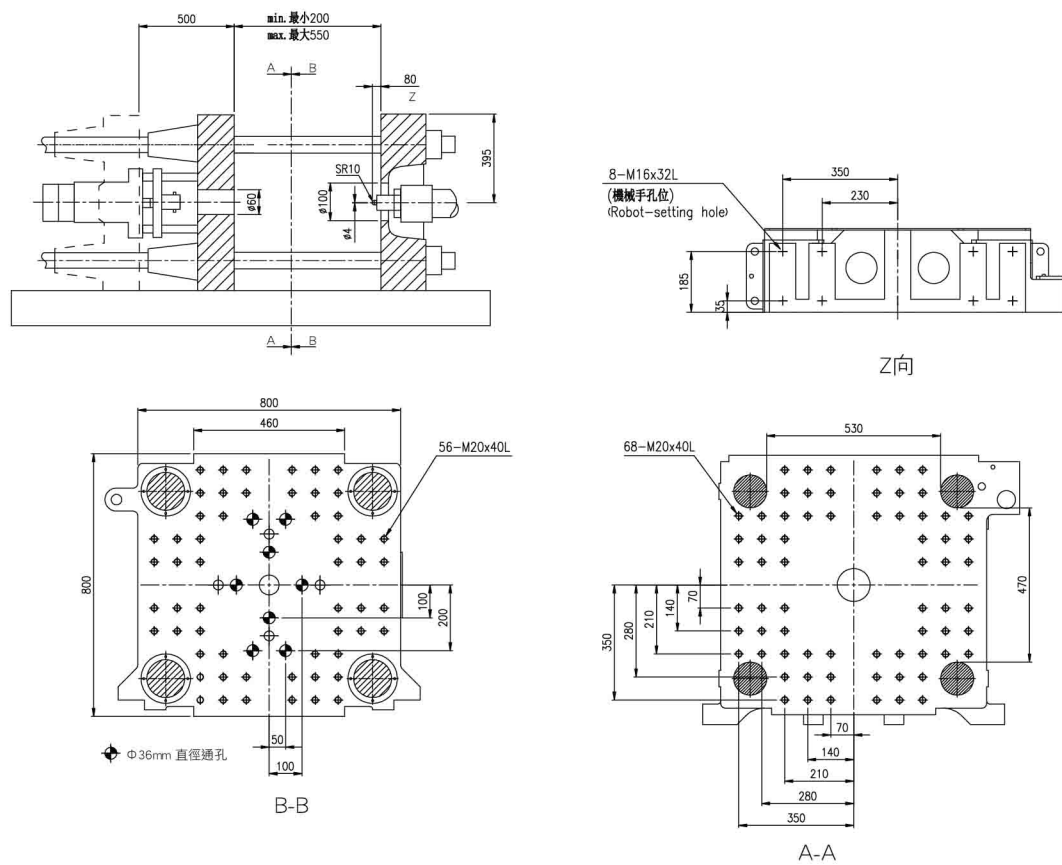
SA-170h



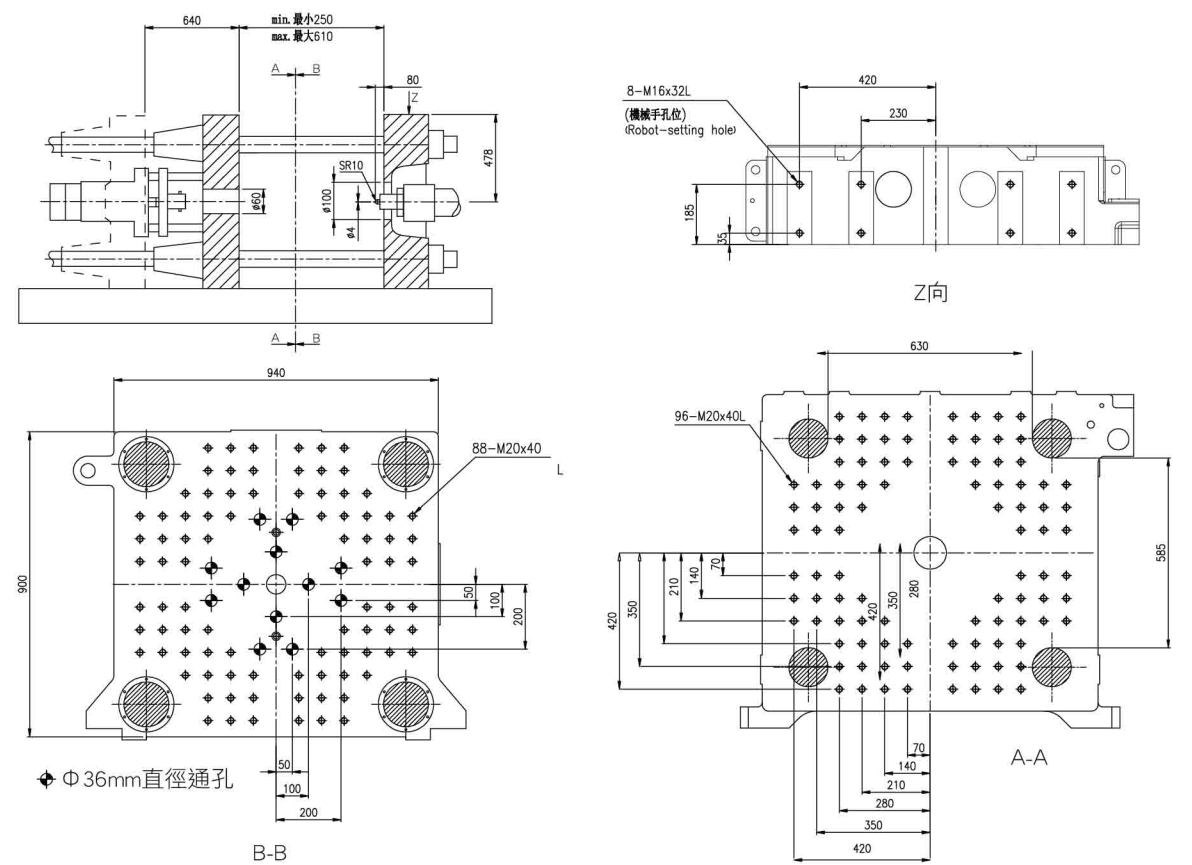
SA-290h



SA-220h

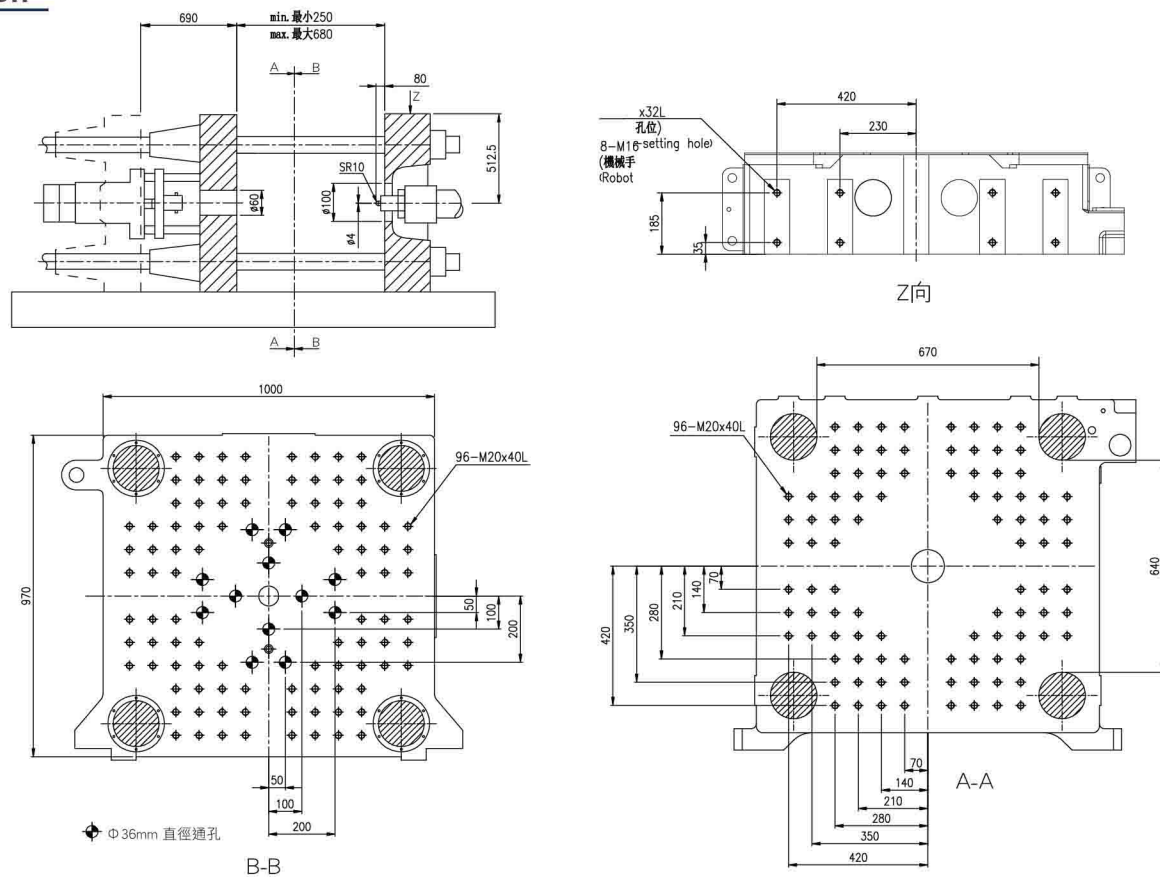


SA-330h

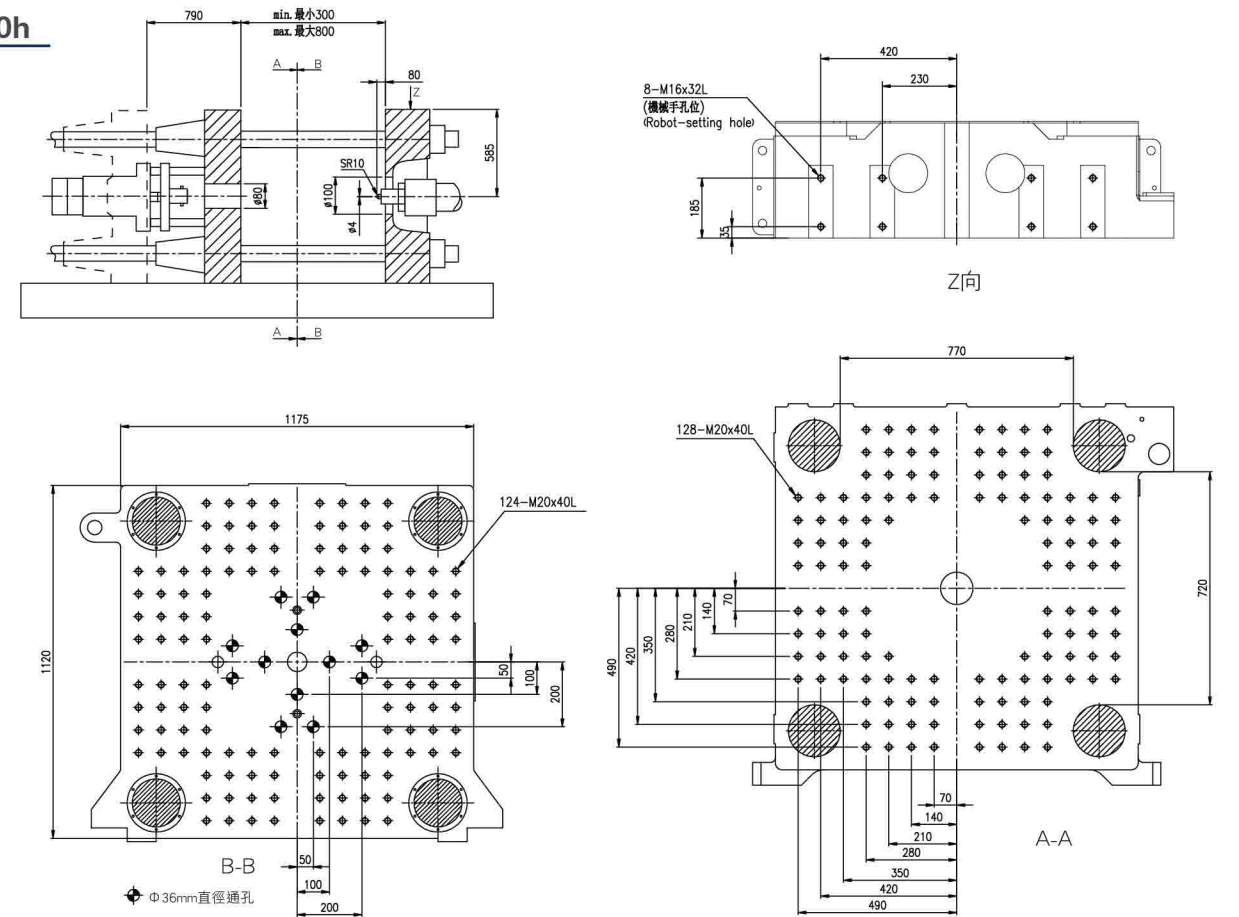


SA-h 模壁尺寸圖 SA-h Mold Platen Dimensions

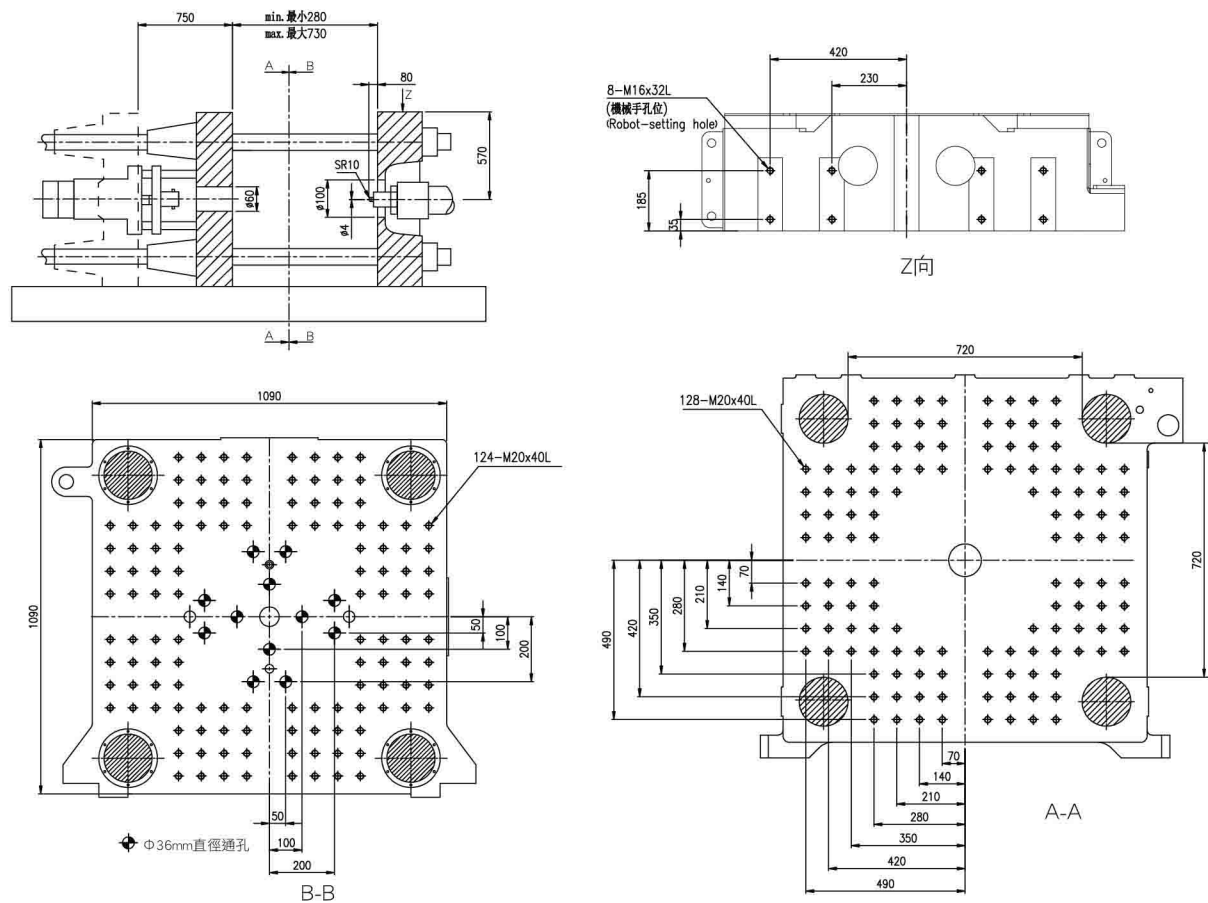
SA-380h



SA-500h



SA-460h



SA-600h

