



HN SERIES

曲手式精密節能注塑機

Toggle Clamping Energy-Saving Injection Molding Machine

HN 系列產品定位

HN SERIES Product Position



ISO品質管制體系認證
ISO9001:2008
Certification



CE認證 CE Mark



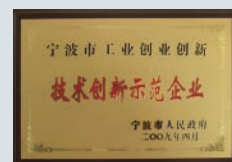
高品質高技術產品
High-quality and High-tech
Products Certificate
by US-FQA



最值得信賴的中國企業
An Chinese Enterprises
of Most Trustworthy
Certificate by US-ETCC



高新技術企業
Hi-Tech Enterprise



科技創新示範企業
Technical Innovation
Enterprise

富強鑫以優勢技術，創造多樣化的產品設計，能滿足各類產業不同的成型條件需求。為了便於客戶之選購及正確搭配，以達到最佳的價格性能比，以下根據射出速度條件及精密成型性能，說明富強鑫公司HN系列機種的產品特色及定位。伴隨著社會經濟的發展，產品競爭與成本壓力的日漸加劇，富強鑫HN系列注塑機將是您最理想的選擇！

Cutting edge technology, diversified product design to satisfy molding conditions demanded by various industries, FCS future described features and marketplace each of the following of new product series based on injection speed conditions and precision molding performance to help our clients in the purchase of our products with the correct attachments for achieving the optimal price performance ratio. with the development of social economy, the competition of the products and the pressure of the cost are aggravation, HN series injection molding machine will be your first choice.

● HN系列

本系列為標準泛用機種，應用範圍廣泛、如一般家用五金製品、電子資訊產品外殼、汽車部件、一般鏡片、框架等。該系列機種融合了富強鑫公司成熟穩定的技術特長，搭配以高品質專用伺服電機系統與泵切換控制技術，與傳統普通電機塔配定量泵注塑機相比，節省能源可達 70%以上，同時整機形成閉環控制，成型精度及穩定性將獲得大幅提升，實現了節能度更高、性能更優越、精度更準確。

● HN Series

HN Series Related to the standard universal types that give wide range of applications including domestic hardware, electronic information product casings, automobile arts, lens, and frames. The series adopts high-efficient professional servo motor and driver system. It can save 70% more power than ordinary fixed pump injection molding machine. At the same time, closed loop was formed, so the precision and stability were improved.

曲手式精密節能注塑機

Toggle Clamping Energy-saving Injection Molding Machine

◀ 模組化

機構、油路、配線模組化，更替容易

◀ 簡單

射座改良，射嘴校正容易
使用免潤材料，保養容易

◀ 耐用

車壁剛性強化，模具不變形

◀ 潔淨

射出座採二硫化鉬
塗佈襯套，永久免潤滑

◀ 精密

選購半閉迴路，成型控制更精密

◀ 省能源

再生迴路設計，可節省回油耗損

◀ 穩定

可配置半閉迴路與高效率冷卻器
成型更穩定

◀ 快速

射速提高，空循環時間減短

HN SERIES

▶ Precision

Semi-closed loop is more reliable in molding process(Optional)

▶ Power Saving

Power saving hydraulic circuit is to reduce production cost.

▶ Stable

Semi-closed loop and high efficiency cooling system are more reliable in molding process (Optional)

▶ Speedy

High injection speed reducing cycle time.

▶ User Friendly

Easy nozzle alignment after injection carriage improved.
Easy care and Maintenance.

▶ Durable

Thicker Platens to add strength, free from deforming molds.

▶ Clean

Molybdenum Disulfide coated bushing free from grease & oil maintenance.
Bearing & IHI Auto Lube system.

▶ Modularized

Modularized power, hydraulic, mechanical components, easy care.



優越特點

Specific Feature



無給油軸承

曲手及車壁活動部位均採用無給油軸承，減少潤滑油使用，降低保養成本並可減少油污，提升機台清潔度。

Oiliness bearing

Using oiliness bearing on the moving parts of platen and toggle, also saving maintenance cost of oil consumption for more clean advancing.

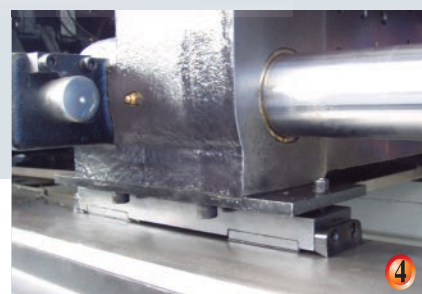


自動潤滑分配系統

循環式電動注油系統，油量分配平均，潤滑效率高，增長曲手壽命。

Auto Lubrication system

Circulatory lubrication system can distribute oil equally and achieve high efficiency of lubrication to enhance toggle lifetime.



活動壁滑腳

採用德製B+S高分子耐磨材，低摩擦係數，潔淨免潤滑，可調整高低、支撐平均！

Moveable platen skates

Adopting Germany made B+S polymer wear-resistance material and thus to achieve low friction, clean and need not lubricate.

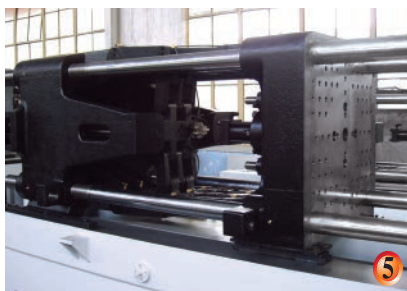
KEBA (FCS-6500S)

全新FCS-6500S型控制器，可搭配半閉及全閉迴路油壓系統，加上人性化圖形操作介面、線上曲線監測功能及中央網路連線管理，使HN系列如虎添翼。



FCS-6500S Control System

Intelligent through applying the new series of FCS-6500S controller capacitate with semi-close loop or close loop, personality graphic operation interface, in line curving detecting and manage by centralized web link.



高剛性夾模系統

新一代曲手鎖模機構，採用箱型活動壁及高剛性固定壁結構，經有限元素分析高強度且耐疲勞。

High Rigid Clamping Unit

The new generation of toggle clamping structure, adopting box movable platen and high rigid fixed platen structure, can achieve high strength and weary-resistance through FEA analysis.

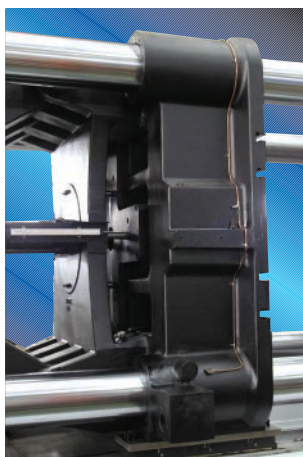


箱型活動壁結構

採用高剛性連體結構，低變形量，確保大柱壽命。

Box movable platen structure

Adopted high rigid unity structure to reduce the stress affect and to assure the tie bar life.

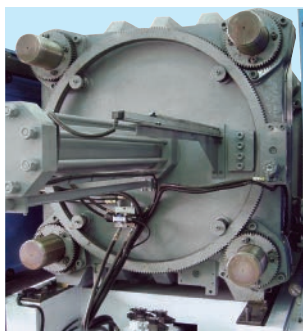


新式調模機構

調模機構與調模壁整體式設計，使四支大柱受力均勻，免除調整螺母鬆緊之誤差。

New mold adjusting mechanism:

Integrated design for the adjusting mechanism and the adjusting platen for the tie bar to be subject to evenly distributed force, and the adjustment of the error of torque of mounting the nut is not required.

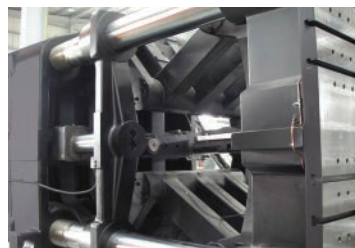


新式射移結構

新型導柱式結構，跨距縮短，避免料管前傾及導柱下垂變形。使用二硫化鉬塗佈襯套，阻力小，移動快速，且永久免潤滑，潔淨度高。

New Injection Sliding Structure

The new pillar guiding plate structure yields shortened span to avoid inclination forward of the barrel and the deformation due to drop of the guide plate; use of molybdenum disulfide coated sleeve to pay small resistance, faster movement, permanent lubrication free and high cleanness.



高速曲手夾模結構

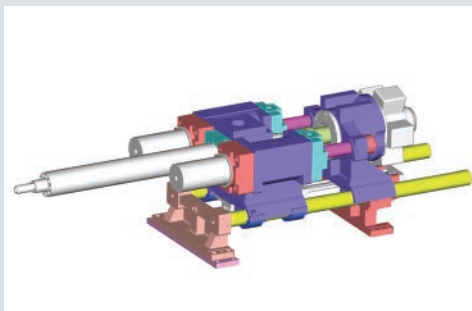
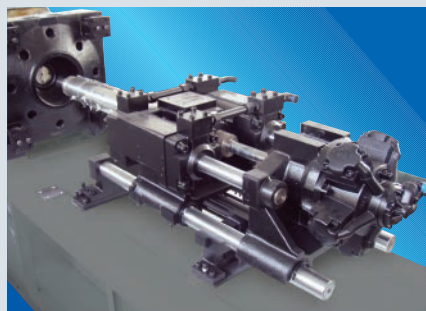
開關模速度比傳統夾模結構及二板式快一倍以上。

Hi-speed toggle clamping structure

Model open/close speed twice faster than the conventional clamping structure and double plate type.

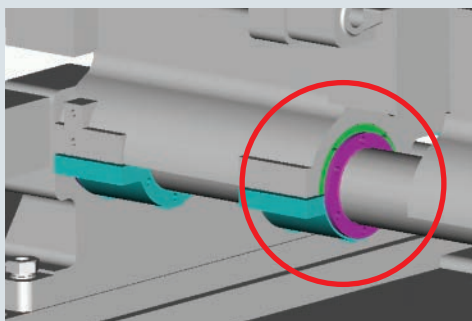
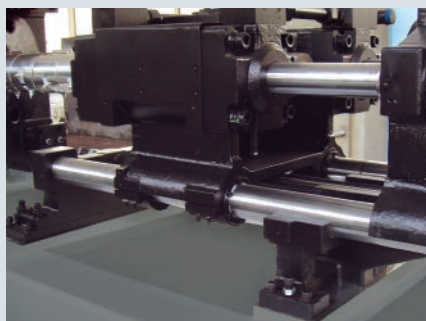
新型導柱式射座結構

New Carriage Structure



- 再生迴路、提升射速射壓
- 新式導柱射座、維修保養容易
- 免潤材料使用、潔淨環保美觀

- Regeneration loop to upgrade injection speed and pressure
- New pillar guiding plate injection stand allowing easy service
- Lubrication free materials used to guarantee clean environment



射出導柱使用專利二硫化鉬塗佈襯套，永久免潤滑，使射出部位保持潔淨

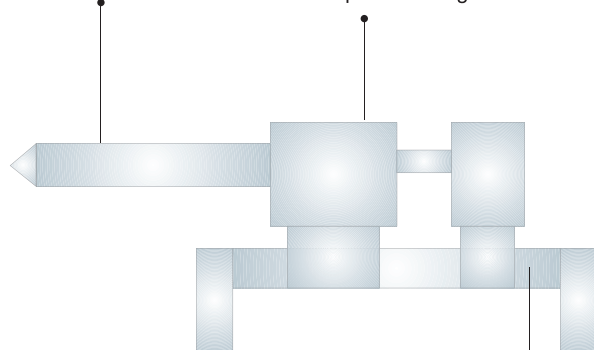
Injection pillar guiding plate adapted with patented molybdenum disulfide coating for permanent lubrication free and helping maintain cleanness of the injection parts.

【傳統導柱式】

Conventional Guide Plate

料管前端下垂，導致螺桿磨損。
Barrel front end drops resulting to accelerate the tear and wear of screw.

雙缸前拉座進造成作業干擾。
Interference to the operation from double cylinder pre-puller carriage forward.



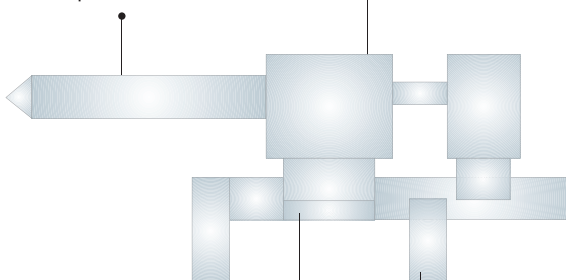
固定座跨距大
導柱易下垂彎曲變形。
Guide plate dropped, bent or deformed due to larger stand span.

【FCS新型導柱式】

FCS Newly Developed Guide Plate

導柱孔與導柱沒有間隙，料管不下垂。
No gap between the guide plate hole and the guide plate to prevent drop of the barrel.

導柱孔與導柱沒有間隙，料管不下垂。
No gap between the guide plate hole and the guide plate to prevent drop of the barrel.



二硫化鉬皮膜處理
無間隙、無磨耗、免潤滑。
Molybdenum disulfide film treated for free of gap, corrosion, and lubrication.

下方單缸座進作業不干擾。
No interference to operation with only single cylinder forward below.

下方單缸座進作業不干擾。
No interference to operation with only single cylinder forward below.

固定座跨距縮短，導柱不彎曲變形。
Reduced stand span to prevent the guide plate from being bent or deformed.

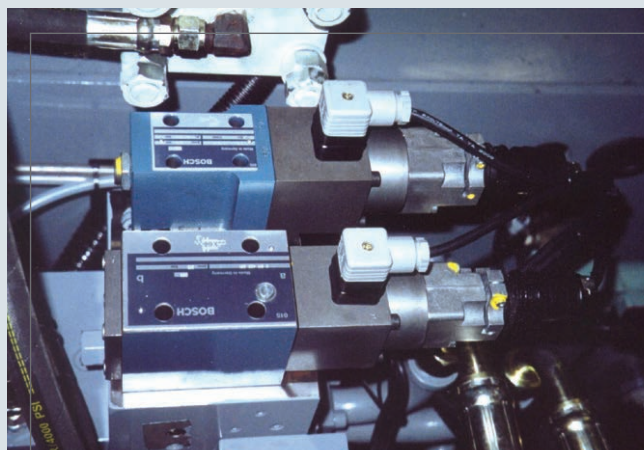
射出單元

Injection Unit



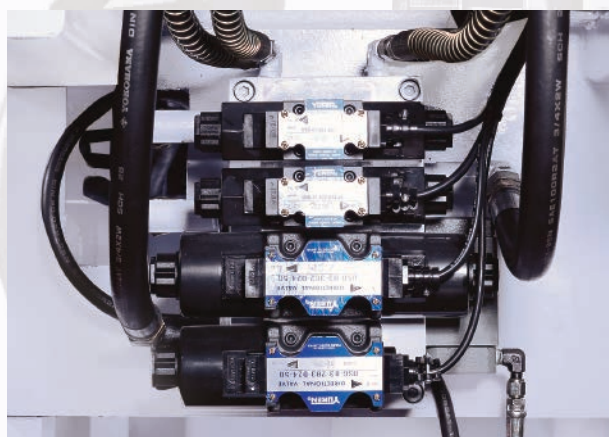
新式射移結構

New Injection Sliding Structure



半閉迴路系統

Semi-close loop system

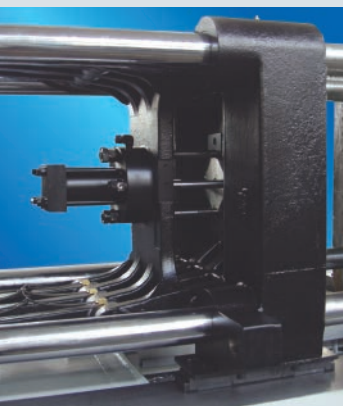


HN系列配歐美「半閉迴路」系統，亦即在射出機的油路系統上，採用具有LVDT（可變壓差線性變化裝置）的壓力流量比例閥，因此機器每個動作的壓力及速度均有信號回饋，可自我檢出定點位置是否正確，再加以補正，所以比較不受油溫變化而影響壓力及流量的穩定性，大幅提高機台抗干擾程度。

HN series equipped with Germany made (or USA made) semi-close loop system which uses Linear Variable Displacement Transducer (LVDT) added proportional valves to know the spool position. The output signal from the LVDT was fed back to gain the difference between supposed and actual position of the spool. The output to the coil was therefore changed in accordance with the feed back in an effort to achieve the desired output.

鎖模單元

Clamping Unit



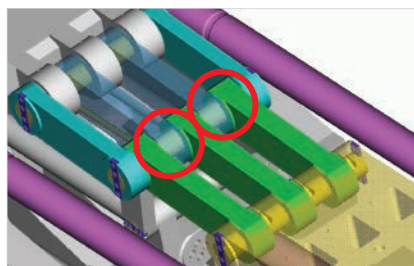
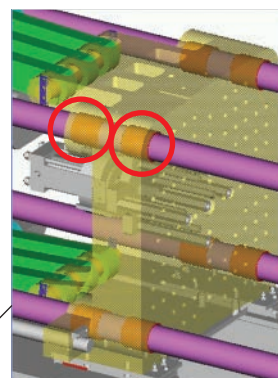
- **Extended mechanical specification and wider application range of mold accommodation**
- **Enhanced rigidity reinforced to protect tie bar and mold**
- **Lubrication free materials used for clean environment and attractive appearance**

- 機械規格加大、容模範圍更廣泛
- 車壁剛性強化、保護大柱及模具
- 免潤材料使用、潔淨環保且美觀

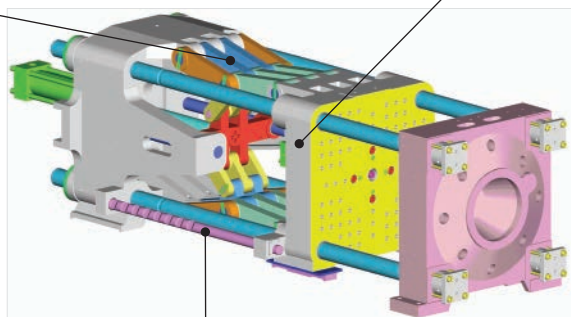
HN系列採超大容模空間及超長行程之四方模板設計，其大柱內距及開模行程均特別加大，使本機型適用範圍更廣，可使用於更廣泛的模具尺寸及各類成型作業。

搭配新型機架結構，成品落下空間特大，增加彈性運用空間，可放置其他週邊設備，亦可視實際需求搭配輸送設備多向輸送，以達整廠自動化之目的。新型免調整安全桿機構，及先進的低壓關模保護迴路，直接由螢幕設定，快速簡便且保護靈敏，確保模具及操作人員之安全

HN series feature ultra large mold space and extra long stroke designed square platen accommodation space, distance between tie bars and mold opening stroke have been specially enlarged for an even wider application range, workable with more comprehensive sizes of mold and various types of molding operation. New frame structure further permits ultra large falling space for the finished product, increased flexibility in the use of space to include other peripheral equipment, and multi-direction delivery adapted with conveyor system as required to achieve the purpose of a turn-key plant automation. Newly developed non-adjusting safety bar mechanism and advanced LP mold close protection loop are directly set up from the screen- fast, easy and sensitivity protection for assured safety of mold and operators.

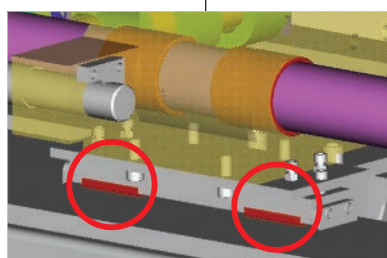


曲手襯套使用無給油軸承，搭配自動潤滑分配系統，潤滑確實、使用油量少。
Oiliness bearings used for the toggle sleeve adapted with auto lubrication system to warrant reliable lubrication and minimum oil consumption.



活動壁襯套使用自潤套鋼，大柱不易刮傷，永久免潤滑，使成型區十分潔淨。

Movable platen sleeve also use German B+S high-density material prevents tie bar from being vulnerable to scratches, permanent lubrication free to help maintain the molding area extremely clean.



活動壁滑腳使用德國B+S高分子耐磨材，永久免潤滑，使成型區十分潔淨。

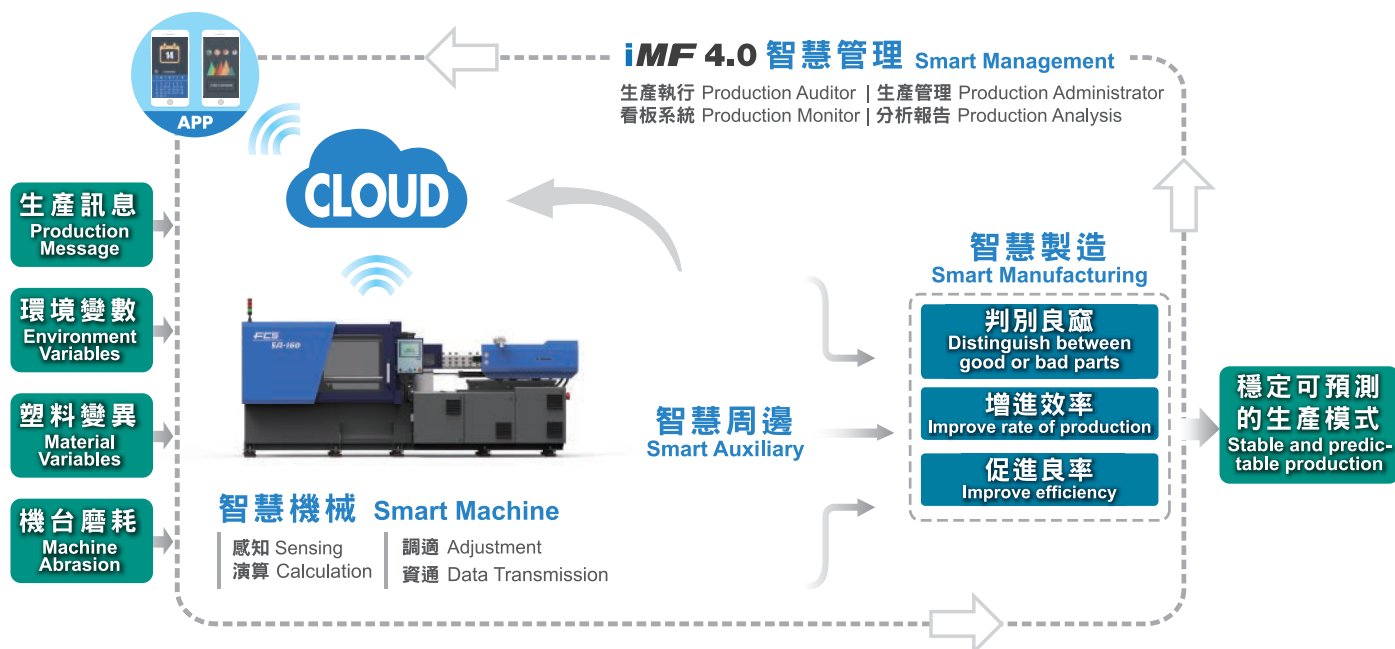
Movable platen skates use German B+S high-density wear resistance material, permanent lubrication free to help maintain the molding area extremely clean.

智慧製造工廠

IMF 4.0

iMF 4.0 智慧製造工廠

intelligent ManuFactory



遠端監控&工業4.0

- 生產品質記錄。
- 模具資料上傳及下載。
- 機台稼動率及產能統計。
- 機台停機狀態顯示及記錄。
- 可將資訊匯出以進行看板管理。(選配)

Remote Control & Industry 4.0

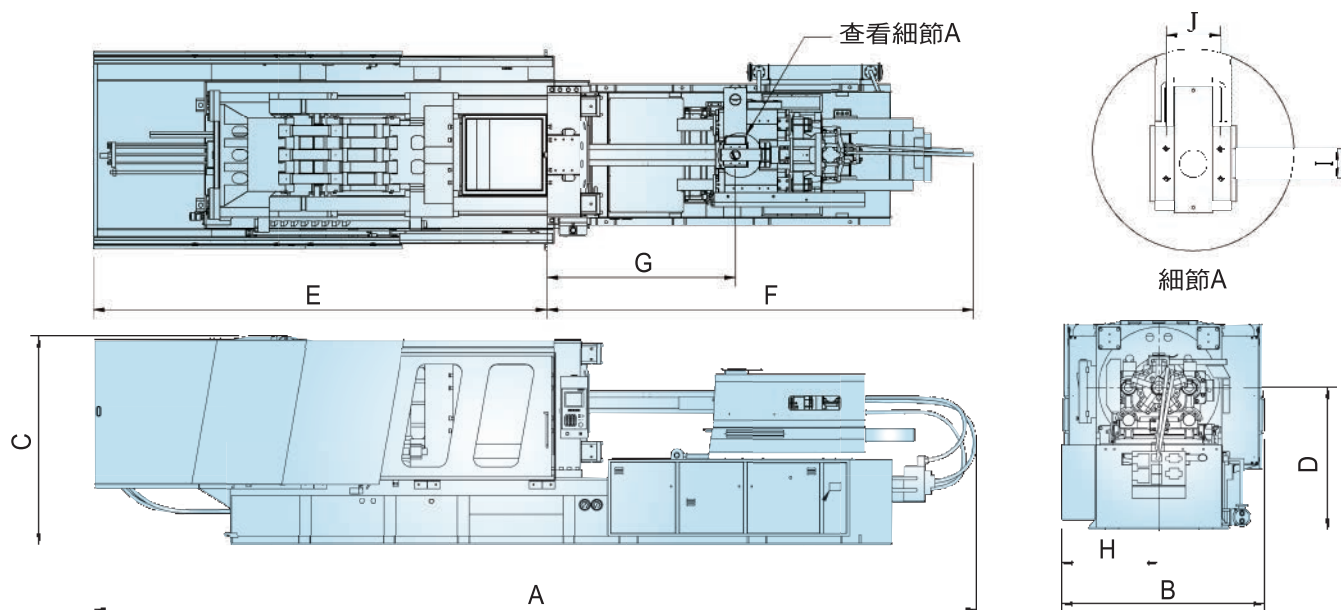
- Production quality recording.
- Mold information upload and download.
- Machine utilization rate and production capacity statistics.
- Machine downtime status display and recording.
- Information can be exported for visual management. (Optional)

控制器 Control	FCS 6500S	FCS 6500 (Optional)
螢幕尺寸 Screen Size	10"	12"
操作方式 Operation Method	按鍵 Button	按鍵&觸控 Button & Touch
反應時間 Reaction Time	2ms	1ms
螢幕顯示 Screen Display	• 800x600 像素 • 800x600 pixel • 1600 萬色真彩顯示 • 16 million color palettes	

外觀尺寸圖

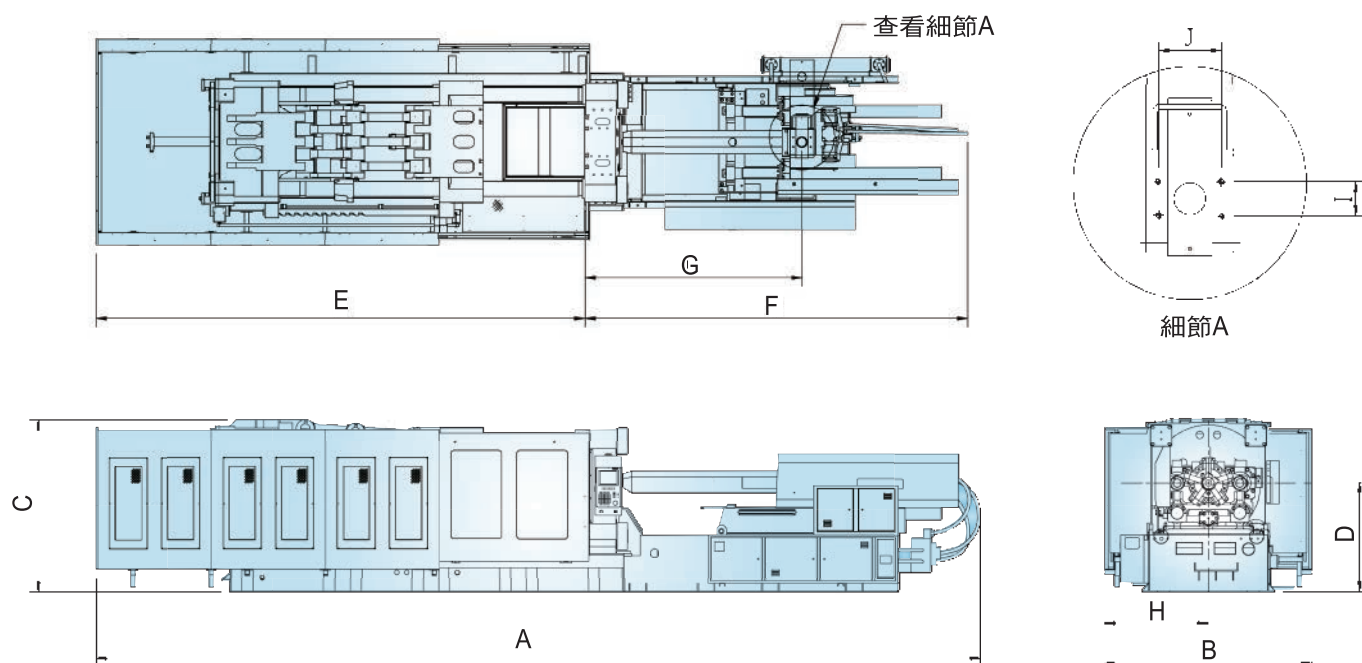
Machine Dimensions

HN-100 ~ HN-470



MODEL	A	B	C	D	E	F	G	H	I	J
HN-100	4830	1200	1680	1216	2250	2580	820-1162	650	55	100
HN-125	5060	1260	1745	1270	2485	2580	966-1316	680	55	100
HN-150	5450	1320	1626	1185	2770	2680	1040-1390	710	55	100
HN-200	6063	1442	1725	1255	3105	2958	1204-1554	770	80	120
HN-250	6615	1480	1830	1323	3490	3125	1291-1671	785	80	120
HN-300	7135	1738	1900	1365	3690	3445	1482-1883	951	80	150
HN-350	7836	1805	1970	1405	4060	3776	1644-2044	988	80	150
HN-400	7836	1900	2063	1455	4060	3776	1644-2044	1035	80	150
HN-470	7960	2040	2210	1541	4385	3575	1705-2195	1100	80	150

HN-530 ~ HN-1600



A:長 B:寬 C:高 D:中心高 E:固定壁鎖模面到夾模尾部 F:固定壁鎖模面到射出尾部

MODEL	A	B	C	D	E	F	G	H	I	J
HN-530	8910	2230	2055	1388	4780	4130	1950-2510	1160	80	150
HN-600	9670	2230	2145	1415	5390	4280	1950-2510	1160	100	190
HN-750	9840	2425	2150	1375	5530	4310	2175-2790	1180	100	190
HN-850	11920	2710	2210	1387	6432	5488	2250-2890	1355	100	190
HN-1000	12370	2840	2395	1485	6874	5496	2455-3135	1420	100	200
HN-1250	13550	3010	2565	1555	7460	6090	2665-3405	1505	100	200
HN-1420	13845	3274	2745	1630	7440	6405	2844-3584	1635	100	200
HN-1600	14300	3255	2775	1660	7875	6425	2870-3610	1540	100	200

• 如需其他規格尺寸，請洽業務人員。

• If you need any other features, please contact to us.

• 因產品不斷研究改良，設計變更時，如不另作通知。 • Due to continuous improvements, we reserve the right to amend any of the above specifications without prior notice.

標準與選購配備 *Standard & Optional accessories*

配 備 項 目

射出安全護罩	Safety cover for injection
PVC、PC、壓克力、尼龍專用螺桿組	Special Screw for PC/PMMA/PA/PVC...
雙合金螺桿、料管	Bi-alloy Screw/Barrel
拖拉式落料裝置	Sliding material feeding device
多段數位背壓(螢幕設定)	Multi-stage back pressure control(Screen set up)
多段數位背壓(螢幕設定及顯示)	Multi-stage back pressure control(Screen set up and display)
射出閉回路	Close-loop control for injection pressure & speed
射嘴獨立溫控	Temperature control of injection nozzle
落料口溫度顯示	Temperature display of feeding gate
落料口溫度控制	Temperature control of feeding gate
射出電阻尺	L/P for injection unit
曲手：無給油軸承	Oiliness bearing (Toggle)
曲手：套鋼	Steel bearing (Toggle)
開關模比例閥控制	Proportional valve for mould open and close
模壁T型槽	T-slot platen
模壁T型墊板	T-slot board
隔熱墊板	Insulator sheets
活動式模定位圈	Check ring of mold (Replaceable)
固定式模定位圈	Check ring of mold (Non-replaceable)
安全踏板	Security Pad
曲手電動注油器(1組)	Auto lubrication system for toggle (1 set)
曲手電動注油器(2組)	Auto lubrication system for toggle (2 set)
車壁潤滑：電動注油器	Auto lubrication system(platen)
單中子(一公)	Single core pull device
雙中子(一公一母)	Double core pull device
轉牙裝置(計時/計次)	Unscrew device by timer or counter
夾模電阻尺	L/P for clamping unit
托模電阻尺	L/P for ejection unit
兩個風托(一公一母)	Air ejector sets
機架架高(落下口取物)	High base
成品落下口	Article Collecting Channel
電動安全門	Automatic safety gate (Electric type)
水流分佈器4入4出(銅製)	Water manifold - 4 in & 4 out (copper)
水流分佈器8入8出(銅製)	Water manifold - 8 in & 8 out (copper)
水流分佈器10入10出(銅製)	Water manifold - 10 in & 10 out (copper)
自封式磁性吸油過濾器	With check valve magnetic suction filter
雙回路(開模與托模同動)	Double loops system(mould open - ejector start)
伺服節能系統	Servo power-saving system
電眼檢出	Photo cell drop-out checking device
油溫顯示	Oil temperature display for hydraulic system
油溫省水閥控制	Water valve for hydraulic oil temperature control
油溫預熱功能	Oil temperature preheating function
FCS-6510S微電腦控制器(彩色：KEBA)	FCS-6510S controller (color& key screen:KEBA)
FCS-6500S微電腦控制器(彩色：KEBA)	FCS-6500S controller (color& key screen:KEBA)
FCS-6500微電腦控制器(彩色觸控：KEBA)	FCS-6500 controller (color & touch screen:KEBA)
資料保護鎖(硬體鎖)	Data lock function(key)
機械手電氣接口	Robot electrical interface
電控穩壓器	Power stabilizer
三色警示燈	Three colors alam light
CE安全插座	CE safty socket
電源插座 (110V/220V)	Power socket (110V/220V)
主電源斷路器	Main power breaker
24H料管自動定時預熱	24 hours Auto-preheat
油壓、電氣雙重保護裝置	Dual safety device: hydraulic and electrical
機械安全桿保護裝置	Mechanical Safety bar Protection device
不銹鋼漏斗	Stainless hopper
乾燥機	Hopper dryer
抽料機	Auto loader
落地式送料裝置(乾燥機 / 抽料機 / L型腳架 / 吸料盒)	Loading set (Dryer, Auto Loader, L-Frame, Suction Box)
模溫機	Mold temperature controller
乾燥機磁鐵	Magnet for hopper dryer
吊桿組	Mold lifting hanger set
避震器	Anti-vibration mounting pad
填料台	Filling material stand
工具箱組	Tool box set
電氣及其他附件	Accessory for electrical and others

● 機台模壁若加裝T型墊板或隔熱墊板，
會使模厚及托模行程的規格改變。

● If clamping unit adopting T-slot board or
insulator sheets, the "mould thickness" &
"ejector stroke" dimensions will be different.

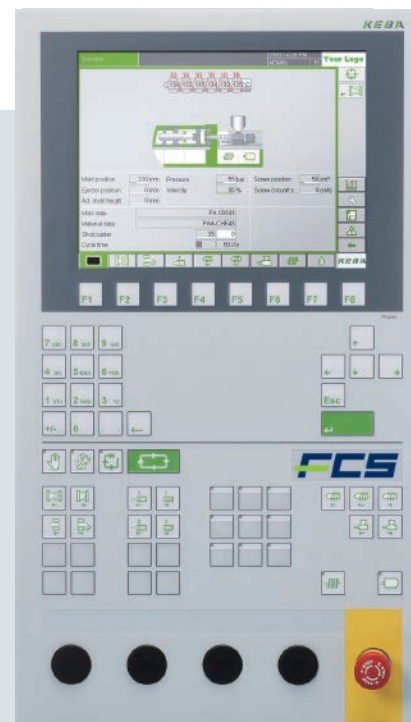
●標準配備 Standard ○選購配備 Option ▲選附配備 Free Option — 無 N/A

KEBA (FCS-6500S)

FCS-6500S Control System

為了追求更卓越的操控性能，並提升機械靈敏度及穩定性，富強鑫精心研發，推出全新FCS-6500S網路型控制器，搭載32位元高速中央處理器，可搭配半閉及全閉迴路油壓系統，加上人性化圖形操作介面、線上曲線監測功能及中央網路連線管理，絕對是您創造利潤的最佳利器。

For pursuing more excellent operating function, and promoting the flexibility and stability in the machine, FCS makes a lot of investment in R&D and puts the all-new FCS-6500S network controller on the market. The controller is adopting 32 bits high speed central processor and can capacitate Germany MOOG close loop hydraulic system, plus personality graphic operation interface, curve on-line inspection function and central network connection management. It is absolute the best tool to make profit.



FCS-6500S ▲

I 射出部份

- 具備兩組四段射出、兩組三段保壓、兩組三段背壓、兩組一段鬆退，兩組座進退二段控制（選購）及兩組保壓位置切換控制等功能，更具有無段斜率保壓功能，使保壓動作平穩順暢。
- 精確之射出終點及保壓位置切換，實現高精密、高穩定之射出性能。
- 射出及座進退（選購）均採用線性電位計，精密度達0.1 mm，可準確控制射出及射座之行程。
- 可記錄並同時顯示360模之溫度曲線、射出壓力曲線（選購）、射出速度曲線、射出終點、保壓切換點、保壓完成點曲線，並有歷史曲線比對功能，精度達± 0.1mm，系統穩定性看得見。
- 十二段PID料溫控制，採用SSR無接點溫控，精確度達±0.5℃，並具溫度異常斷線警報及上下限設定功能，可精確掌控料溫。
- 螺桿低溫啟動保護，防止螺桿意外損傷，並具有螺桿強制等待功能，確保料管內外無溫差，螺桿保護更確實。
- 一週定時預熱功能、定時保溫及料管自動加溫功能。
- 可直接設定及顯示螺桿轉速。
- 自動送料功能，可任意設定清洗次數、距離及速度。

II 關模部份

- 開關模四段控制，兩組托模二段控制。
- 夾模、托模均採用線性電位計，精密度達0.1mm，可準確控制夾模及托模行程。
- 托模可行震動托模、循環托模、托模定位、單一托模等功能，並可搭配電眼檢出，自動縮短托模時間。
- 具有低壓關模保護，直接由螢幕設定，低壓效果佳，保護靈敏，確保操作員安全並防止模具及機器損傷。
- 鎖模力可由螢幕設定，並具備10秒快速自動調模及鎖模力自動設定功能，調模設定極為快速方便且省時省力。
- 曲手採自動潤滑系統，注油設定可直接由面板操作及監控。

III 一般部份

- 操控面板採用防塵、防油之彩色薄膜觸控面板，為PET材質，耐磨耗且不易破損。
- 10.4吋超大液晶LCD顯示幕，解析度640x480，表面採抗眩光處理，可視角度寬廣，並內建人性化圖形介面，一目瞭然操作容易。

- 採用32位元高速中央處理器，系統反應速率高達1.25ms，有效提升動作靈敏度及穩定性。
- 具壓力、流量斜率設定功能，可修正各階段之啟動與停止緩衝斜率，使機台動作順暢無聲。
- 具有設定值參考及線上操作輔助說明功能，使資料設定更為方便簡單。
- 具備停機記憶功能可隨機存取120組模具資料，並有檔案管理功能，使資料讀取更快速方便。可儲存96組異常警報記錄及32組修改記錄。
- 具有動態圖形監視畫面，可監測運轉中各項動作之壓力、速度、時間及位置等，並有異常反白提示功能。
- 具SPC生產統計功能，可連接印表機直接列印成形成資料，連接電腦網絡，搭配生產諮詢系統，進行中央整場管理及品質參數監視，並可透過INTERNET進行遠端生管監控。
- 不良品檢出功能，可自行定義射出終點、射出時間、循環時間、成品重量等條件來自動檢出不良品，並有連續劣品警告功能。
- 預定產量停機及分箱包裝數量預設功能，並有用料成本試算功能，可預估生產成本，並自動更新顯示。
- 具多階密碼保護功能，可依不同授權等級更改設定，並有資料硬體鎖功能，防止一般操作員任意修改成型參數。
- 硬體採模組化設計，並具有6組線性電位計介面及2組編碼器介面，使功能擴充極具彈性，並可加裝射壓計及模壓計，精確掌控成型條件。
- 中、英、葡、越、西班牙、土耳其、挪威等多國語言可供選擇。具螢幕保護及省電功能，三分鐘靜止則自動關閉畫面。
- 具有系統自我診斷功能，使異常檢出更為快速簡便。
- 具輸出入點檢測及I/O線上及時模擬功能，可快速確認機器運轉狀況。
- 模組化程式設計，開發時程短，任何新增功能均可透過更新BIOS方式，立即升級機器性能。
- 可搭配三色警示燈，明確區分全自動運轉（綠）、手動及半自動完成（黃）、異常停機（紅）等，使機器狀況更為清晰。
- 具程式線上檢視及修改功能。
- 可搭配半閉、全閉及伺服迴路油壓系統，大幅提升機械穩定性及產品精密度。
- 可加裝穩壓器確保主機安全。
- 預留機械手標準介面及快速換模系統線路。



I Injection Units

- Equipped with two sets of 4 stages injection, two sets of 3 stages holding pressure, two sets of 3 stages back pressure, two sets of 1 stages suck back, two sets of 2 stages carriage forward and backward (option) and two sets of holding pressure position switching control etc. Setup back pressure on the screen directly facilitates the setting and control(option). In addition, owning the function of none stage sloping ratio holding pressure makes the holding pressure motion stable and smooth. The charging system controlled by servo motor makes the charging in precious fixed position.
- Precise injection end and holding pressure position switching practice high precision and high stability injection function.
- Injection and carriage (option) forward and backward are by liner potentiometer. The precision can reach $\pm 0.1\text{mm}$ for control the injection and carriage route accurately.
- It can record and display simultaneously the temperature curve of 360 molds, injection pressure curve (option), injection speed curve, injection end, holding pressure switching point and holding pressure finishing point curve. Having the function of historical curve collocation, it's precision can reach $\pm 0.1\text{mm}$, and the system stability is visible.
- 12 zone PID barrel temperature control, SSR-solid state temperature control, it's precision can reach $\pm 0.5^\circ\text{C}$. It also has temperature abnormal & electrical wire disconnection alarm function, Max. & Min. value setup function and is able to control the barrel temperature accurately.
- Screw low temperature starting protection can prevent screw from damage accidentally, and owns the screw compelling waiting function. It insures no temperature difference between internal and external of the barrel, and certify the screw protection.
- Weekly pre-heat, temperature keeping and barrel auto heating function.
- Setup and display screw RPM directly.
- Automatic barrel purging function can set up the purging times, stroke and speed.

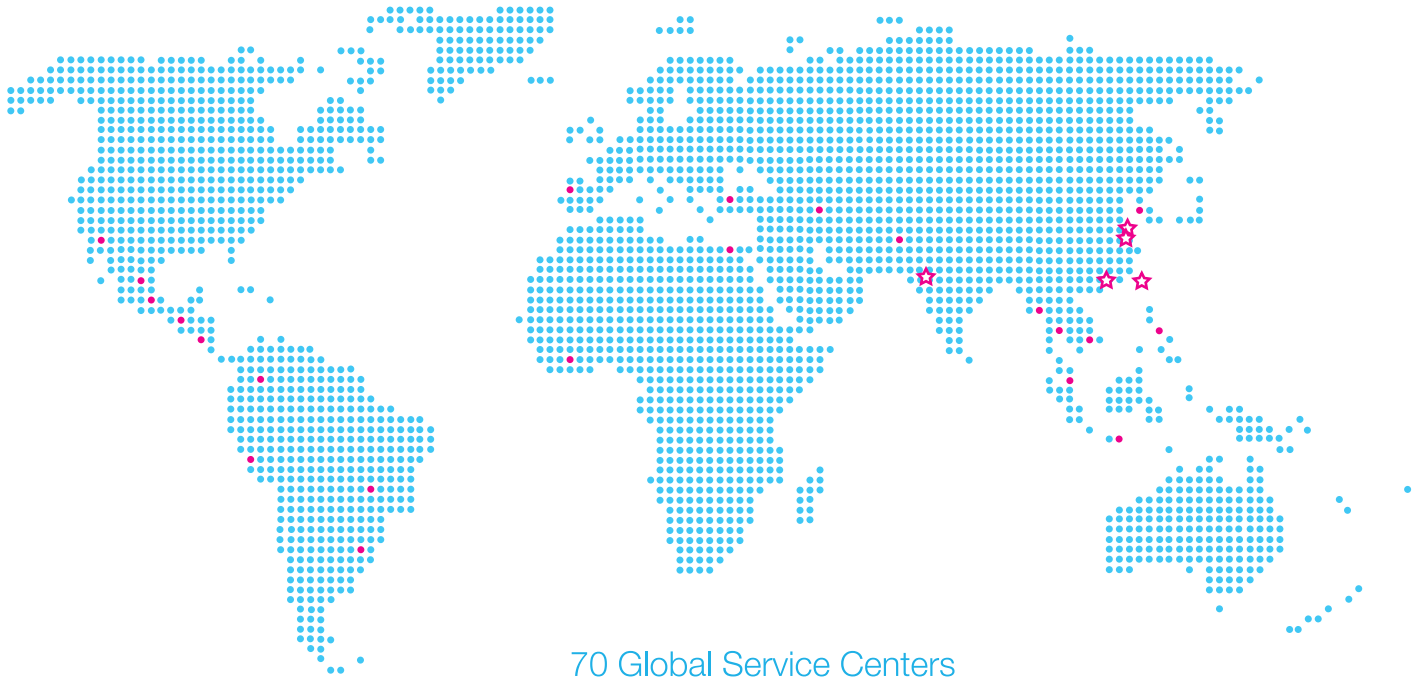
II Mold Clamping Units

- Mold opening & closing with 4 stages control, two sets of ejection with 2 stages control.
- Clamping and ejection are by liner potentiometer, its precision can reach $\pm 0.1\text{mm}$, and control the clamping, ejection route accurately.
- Ejector have function of vibrating ejection, cycle ejection, fix ejection, single ejection, and is able to capacitate electric eye inspection, and shorten the ejection time automatically.
- Equipped with low pressure mold closing protection, it can be set up by monitor directly.
- The effect of low pressure is good, the protection is sensitive, insure the security of users and the life of machine efficiently.
- Clamping force can be set up on the screen directly, and have the 10 seconds fast auto mold adjust & clamping force auto setting function. The mold adjust setting is facile with time & force saving.
- Toggle is used by auto lubrication system, lubrication setting can be operated monitored on the panel directly.
- Adapting injection compression system of Germany made brand of MOOG, it eliminate remain stress of molding parts.

III General Units

- Dust & oil-proof and colorful control slim film panel by touch-switch. Being with PET material, it is durable.
- 10.4" ultra big LCD display, analytic degree is 640x480, anti-light dazzling on the surface, you can see any angle and operate easily.
- 32 bits high speed central processor, rate of system reaction is high up to 1.25 ms, it can promote the sensibility and stability of motion.
- Having the setting function of pressure and flow volume sloping ratio, it can set up the starting and stopping sloping ratio of each stage, and makes the machine motion smooth and noiseless.
- With setting value reference and on line operation assistance statement function, it facilitate data setting.
- It can save 96 abnormal alarm records and 32 amend records.

- The SPC production control statistics function can connect printer to print the molding data. Capacitated with the production control information system, it can proceed central whole factory management and quality parameter inspection, and monitoring long distance production control via Internet.
- With SPC production control statistics function and RS232 interface, and can connect printer to print the molding data. It is optional for RS422 interface, and can connect computer network.
- Capacitating with production control information system, it can proceed central whole factory management and quality parameter inspection, and monitoring long distance production control via Internet..
- Inferior goods inspection function, you can define the conditions of injection end, injection time, cycle time, the product weight to inspect the inferior goods automatically, it also has the continue inferior goods alarm function.
- Output quantity and packing quantity preset, and owing the material cost trial calculation function, it can pre-estimate and update the production cost automatically.
- Multi-stages code protection function can change the setting according to the different authority degree. With data hardware lock function, it can prevent operator from revising the molding parameter at will.
- Screen protection and electricity saving function, if 3 minutes static, it will close the display automatically.
- System self detection function facilitate the abnormal inspection.
- Multi- choice for languages- Chinese, English, Portuguese, Vietnam, Spanish, Turkey, Norway.
- With hardware mold set design, it has 6 liner potentiometer and 2 encoder interface. It makes the function expended and flexible, and is able to equip with injection pressure sensor and molding cavity sensor, to control the molding condition accurately.
- Input/ output point inspection and I/O on line on time simulate function can respond the machine operation situation.
- It can capable of close loop, semi-close loop and servo hydraulic system advance the stability and precision on machine.
- Molding set program design, development time is short, any new added function can be upgraded via BIOS, advance machine performance.
- Three colors alarm light design makes the machine running situation clear. On line program inspection and revise function.
- Equipped with power stabilizer insure the safety of main controller.(option)
- Reservating robot standard interface and quick mold change system line



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