



***HN-h/p* SERIES**

高性能精密節能注塑機

High Performance Energy-saving Injection Molding Machine

HN-h/p 系列產品定位 HN-h/p SERIES Product Position



ISO品質管理體系認證
ISO9001:2000
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



技術創新示範企業
Technical Innovation
Enterprise

HN-h/p SERIES

富強鑫累積40餘年的優勢技術，創造出多樣化的產品設計，能滿足各類產業不同的成型需求。針對日益增加的高速及高效率生產要求，富強鑫推出全新「HN-h/p」系列高性能精密節能注塑機。本系列特別適用於高端家居用品、薄壁容器產品、多模穴產品的高速成型，其主要特點如下：

► 全鑫打造，配備精良

- 配置歐洲高性能注塑機專用控制系統，提高控制系統反應速度。
- 全新設計增強型機架，可降低機台高速運行時的震動，確保機台穩定性。
- 優化的液壓系統及高響應伺服動力系統，提高機台動作的應答性。

► 高射速、高循環、高效率

- 本系列射出速度比一般通用機提高50%~150%，工藝調整區間更廣。
- 由於射速提高，可因此縮短每模生產週期時間，提升生產效率。
- HN-p可配置射出閉迴路控制，提升射出精準度，確保產品重量穩定性。

面對競爭日益激烈的經營環境，生產效率成為致勝關鍵之一，富強鑫「HN-h/p」系列高性能精密節能注塑機，以精良的設計提供卓越的機台性能，是您產品升級優化的最佳選擇！

FCS has been accumulating more than 40 years of advantaged technology, creating a variety of product, to meet the various molding needs from different industries. In response to the increasing demand for high-speed and high-efficiency production, FCS launched a new "HN-h/p" series of High-performance Precision Energy-saving Injection Molding Machine. This series is especially suitable for the high-speed molding of high-end household appliances, thin-walled containers, and multi-cavity products. The main features are as follows:

► New Developed and Well Equipped

- Equipped with the European control system for high-performance injection molding machine, to improve the response speed.
- Adopted new designed and enhanced machine base which reduces the vibration during highspeed operation and ensure the machine stability.
- The optimized hydraulic system and quick response servo power system improve the responsiveness of machine operation.

► High Speed and High Efficiency

- The injection speed is 50%~150% higher than that of general machines, hence the applicative range is wider.
- The improved injection speed shortens the cycle time and increases the productivity.
- HN-p series adopts closed-loop control to enhance the injection accuracy and the weight stability of product.

Facing the competitive environment, production efficiency is the key approach to the success. FCS "HN-h/p" series offers excellent performance based on excellent design, and is the best choice to optimize your production!

FCS Injection Molding Solution

● 高節能

在理想狀態下，比變量泵系統節能40%，比定量泵系統節能70%，有效節省能源成本。

● 高精度

低壓、低流量域的重複再現性為 $\pm 0.5\%$ ，成型產品重量誤差約達 $0.7\% \sim 0.4\%$ ，接近半閉迴路控制的水平。

● 高應答

性能穩定的伺服電機，配備了高精度、高靈敏的壓力回饋裝置，形成閉迴路精準控制，有效縮短週期，提高生產效率。

● 低噪音

有別於傳統定量泵油壓機長期的運轉噪音，伺服節能型機台只在需要做動的時候運轉，運行噪音低於70dB，使您的工作區間更寧靜。

● 低油溫

電機只有在需要做功時啟動，不會產生多餘熱能，可降低油路系統發熱現象，有效避免油溫上升，系統液壓油甚至不需要冷卻，實現大幅節水的效益。

● 易操作

由注塑機控制輸入壓力(P)、流量(Q)的模擬電路，即可控制壓力和流量；當達到設定壓力時，會自動切換至壓力控制，無須在注塑機電腦進行複雜之操作。

● High Energy-saving

Under the ideal working state, Power consumption is 40% less than that of variable displacement and 70% less than that of fixed displacement pump, save the cost effectively.

● High precision

Precise control of low pressure & low flow, repeating precision is less than 0.5%. Weight error of the products is 0.4%~0.7%, with semi-close loop system nearly.

● Fast response

With Steady capability, Servo gearshift dynamical control system has equipped with pressure feedback device with high precision and sensitivity, which forms close-loop precision control, cycle time effectively shortened and improving production efficiency.

● Low noise

Different from ordinary fixed pump injection molding machine, servo power-saving injection molding machine is working only when work to need. And working noise $\leq 70\text{dB}$, will be much quieter for your working area.

● Oil temperature rise slowly

The system can restrain arising of oil temperature, so smaller oil cooling system can be used in the machine.

● PQ Control

Control pressure and flow simply by inputting simulated voltage of pressure (P) & flow (Q) into the computer.

標準與選購配備 Standard & Optional accessories

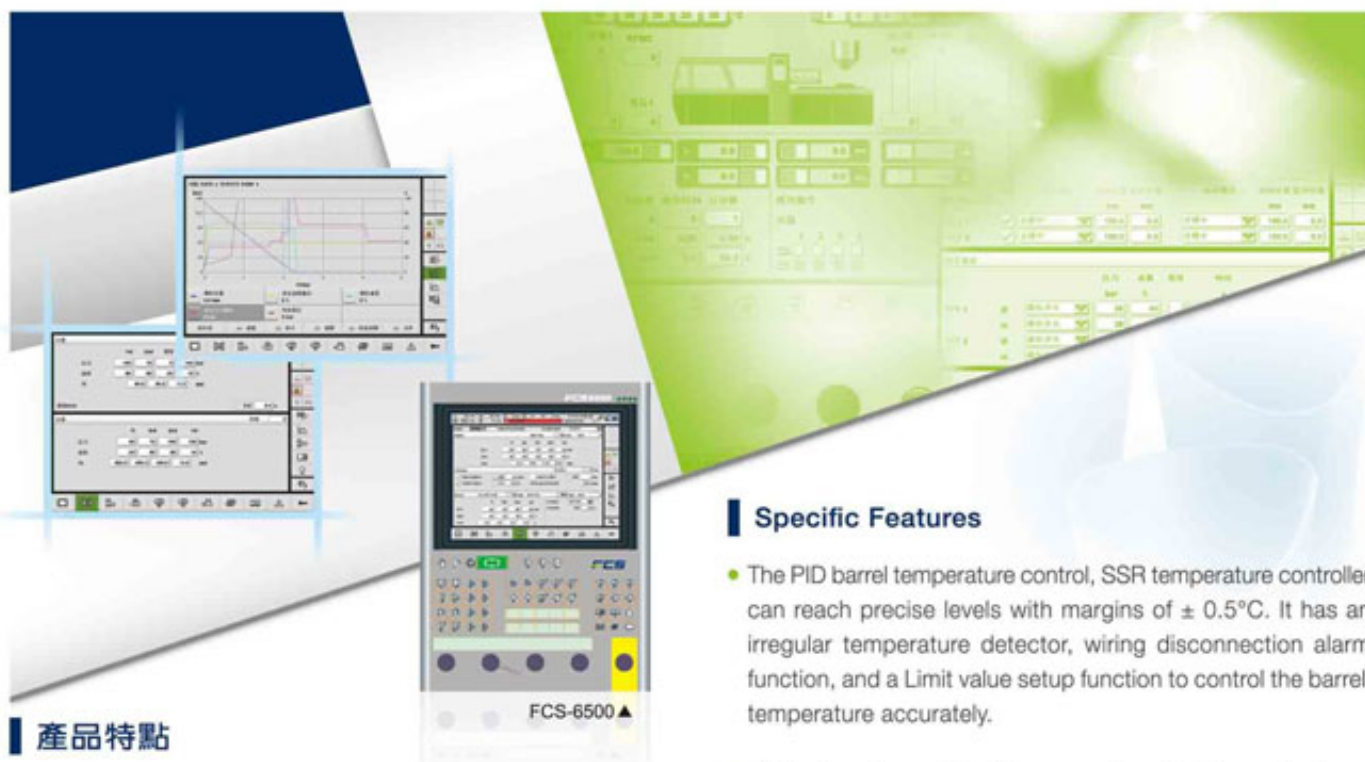
配 備 項 目		HN-180h/p	HN-220h/p	HN-280h/p	HN-360h/p	HN-420h/p	HN-500h/p
射出安全護罩	Safety cover for injection	●	●	●	●	●	●
PVC、PC、壓克力、尼龍專用螺桿	Special Screw for PC/PMMA/PA/PVC...	-	-	-	-	-	-
雙合金螺桿、料管	Bi-alloy Screw/Barrel	○	○	○	○	○	○
開關模比例閥控制	Proportional valve for mould open and close	●	●	●	●	●	●
手動背壓	Manual back pressure control	-	-	-	-	-	-
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)	○	○	○	○	○	○
射嘴獨立溫控	Temperature control of injection nozzle	●	●	●	●	●	●
射出電阻尺	L/P for injection unit	●	●	●	●	●	●
模壁T型槽	T-slot platen	-	-	-	●	●	●
模壁T型墊板	T-slot board	○	○	○	-	-	-
隔熱墊板	Insulator sheets	○	○	○	○	○	○
模定位圈	Check ring of mold	●	●	●	●	●	●
曲手電動注油器	Auto lubrication system for toggle	●	●	●	●	●	●
車壁潤滑附加手動注油器	Manual lubrication system(platen)	●	●	●	●	●	●
雙中子	Double core pull device	●	●	●	-	-	-
四中子	Four core pull device	○	○	○	●	●	●
計時(次)轉牙	Unscrew device by counter or timer	○	○	○	○	○	○
夾模電阻尺	L/P for clamping unit	●	●	●	●	●	●
托模電阻尺	L/P for ejection unit	●	●	●	●	●	●
單風托(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	●	●	●	●	●	●
雙迴路(開模與托模同動)	Double loops system(mould open-ejector start)	○	○	○	○	○	○
托模止逆閥	Non-return valve for ejector	●	●	●	●	●	●
伺服節能系統	Servo power-saving system	●	●	●	●	●	●
電眼檢出	Photo cell drop-out checking device	○	○	○	○	○	-
FCS-6500微電腦控制器(KEBA)	FCS-6500 controller(KEBA)	●	●	●	●	●	●
資料保護鎖(硬體鎖)	Data lock function(key)	●	●	●	●	●	●
電控穩壓器	Power stabilizer	○	○	○	○	○	○
三色警示燈	Three colors alam light	●	●	●	●	●	●
CE安全插座	CE safety Socket	●	●	●	●	●	●
電源插座	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	●	●	●	●	●	●
不鏽鋼漏斗	Stainless hopper	▲	▲	▲	▲	▲	-
乾燥機	Hopper dryer	○	○	○	○	○	○
抽料機	Auto loader	○	○	○	○	○	○
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	●	●	●	●	●	●

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

機台模壁若加裝T型熱板或隔熱板，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.

全新網路型微電腦控制器 All-new Control System



產品特點

- 十二段PID料溫控制，採用SSR無接點溫控，精確度達 $\pm 0.5^{\circ}\text{C}$ ，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，並具有強制等待功能，確保料管內外無溫差，使螺桿保護更確實。夾模、頂出均採用線性電位計，精密度達0.1mm，可準確控制夾模及頂出行程。
- 採用32位元高速中央處理器，系統反應速率高達1.0ms，有效提升動作靈敏度及穩定性。
- 具備停機記憶功能，可隨機存取250組模具資料、500筆警報記錄及100筆修改記錄，並具備檔案管理功能，使資料讀取更快速方便。
- 具SPC生管統計功能，可以下載模具參數到USB隨身碟，也可以透過RS422介面連結FCS自製的熱澆道系統，搭配生管資訊系統，進行中央整廠管理及品質參數監視，並可透過INTERNET進行遠端生管監控。(選購)
- 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。
- 中、英、葡等多國語言可供選擇。
- 預留機械手標準介面及快速換模系統線路。
- 模組化控制器，可快速擴充軟、硬體模組以連接更多週邊設備(如：閥澆口、快速換模系統...等)。

Specific Features

- The PID barrel temperature control, SSR temperature controller can reach precise levels with margins of $\pm 0.5^{\circ}\text{C}$. It has an irregular temperature detector, wiring disconnection alarm function, and a Limit value setup function to control the barrel temperature accurately.
- Both clamping and ejection are equipped with precise linear potentiometers accurately controlling them by up to $\pm 0.1\text{mm}$.
- A 32-bit high speed central processor operates the system at a reaction speed of 1.0 ms, for an accurate and stable motion.
- Its non-volatile storage can hold 250 sets of molding data, 500 alarm records, plus 100 modification records and features a file management function for quick and easy access.
- Its built-in Statistical Process Control (SPC) statistics allows molding data to be saved in a USB flash drive and can be optionally linked to FCS' Hot Runner system under the RS422 interface. Equipped with a production control information system, it serves as a central factory management and quality parameter inspection, and can monitor long distance production via Internet.
- A multi-level password protection enables parameters setups based on different degrees of authority.
- Various choices of languages- Chinese, English, Portuguese, Vietnamese, Spanish, Turkish.
- A stand-in interface is prepared for robots and quick mold-change systems.
- With Modular controllers design, rapid expansion of software and hardware modules to connect more peripherals(Valve Gate、Quick Mold Change System...etc.)



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