



**PVC 專用射出機**  
Special IMM for PVC Fittings

**PVC** SERIES

# PVC Series

“ PVC專用料管組，採用鍍硬鉻螺桿組，耐腐蝕性佳。  
大扭矩塑化馬達，專為高黏度PVC所設計，確保塑化過程及  
熔膠穩定性。

Specially-designed barrel set for PVC processing, nitrided screw provides longer life against corrosive PVC processing. Larger torque charging motor, specially-designed for high viscosity PVC processing ensures the melt stability and excellent plasticizing.

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。

PVC專用射出成型機，適用於生產各式建築類的管件轉接頭，包括L型彎頭、T型、Y型等三通，及法蘭接頭(球閥)等。鎖模力涵蓋 100~1,000 噸。

FCS has created various products with steady performance by drawing on its 50 years of technological development and innovation. also providing customized integration and service for different product characteristics for many industries.

The PVC injection molding machine specifies for producing PVC pipe fittings used in building and construction industries, such as pvc socket, pvc tee, pvc elbow, pvc coupler, and pvc valve. With its clamping force ranging from 100 tons to 1,000 tons.

# PVC INDUSTRY APPLICATION

## D40 Elbow 90 deg



|                 |           |
|-----------------|-----------|
| 搭配機型<br>Machine | HT-150PVC |
| 模具穴數<br>Cavity  | 4 cav     |
| 產品重量<br>Weight  | 52 g/cav  |

## D75 Elbow 45 deg



|                 |            |
|-----------------|------------|
| 搭配機型<br>Machine | HT-150PVC  |
| 模具穴數<br>Cavity  | 2 cav      |
| 產品重量<br>Weight  | 99.1 g/cav |

## D180 Single T Wye 45 deg



|                 |           |
|-----------------|-----------|
| 搭配機型<br>Machine | HT-400PVC |
| 模具穴數<br>Cavity  | 1 cav     |
| 產品重量<br>Weight  | 980 g/cav |

## D225 Single Tee 90 deg



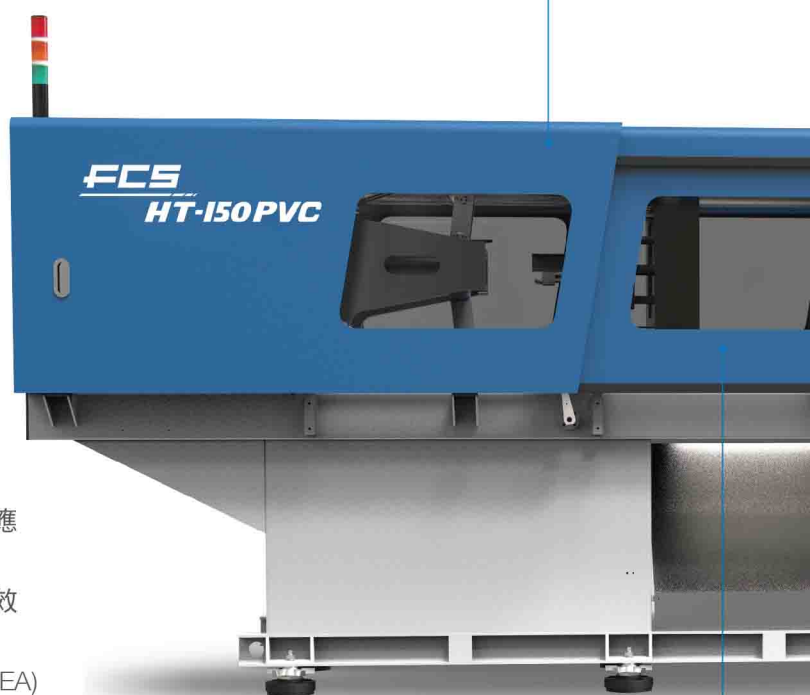
|                 |             |
|-----------------|-------------|
| 搭配機型<br>Machine | HT-530PVC   |
| 模具穴數<br>Cavity  | 1 cav       |
| 產品重量<br>Weight  | 2,150 g/cav |

## 優異特點 Specific Features



### 高剛性機架結構 Highly rigid structure frame

- 精簡堅固之設計，經有限元素分析變形量及應力分佈，確保機架結構及強度達到最佳化。
- 循環式電動注油系統，油量分配平均，潤滑效率高，增長曲肘壽命。
- Designed based on Finite Element Analysis (FEA) for stress and strain effects to ensure excellent frame structure.
- An automatic lubrication system circulates and distributes oil equally for greater efficiency in lubrication and enhanced toggle life.



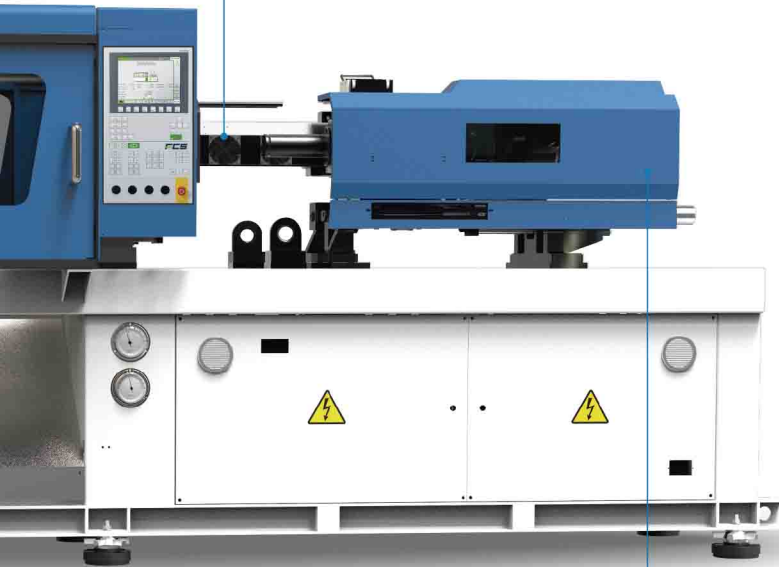
### 安全門加寬設計 Safety gate extension

- 安全門鉸金加寬設計，可配合客戶需求進行客製化。(選配)
- Customized safety gate extension allows the customer to use wider range of mold. (Optional)

### PVC專用料管組

#### Specially-designed barrel set for PVC processing

- 具高混煉與高塑化率；並採用鍍硬鉻螺桿組，耐腐蝕性佳。
- 獨立料管風機溫控，風機各段獨立控制，確保塑料不會在料管內過熱裂解或碳化，防止成品產生吐黑等不良現象。
- Nitrided screw tip provides longer life against corrosive PVC processing.
- Independent-controlled blowers on barrel zone prevents thermal degradation of heat sensitive PVC material resulting in black spot on the product.



### 大扭矩塑化馬達

#### Larger torque charging motor

- 專為高黏度PVC所設計，追求穩定的塑化過程，確保熔膠穩定性。
- 標配雙中子迴路(一公一母)，提供模具抽芯使用。
- 配備伺服節能系統，節能效果可達40%-70%。
- Specially-designed barrel set for high viscosity PVC processing ensures the melt stability and excellent plasticizing.
- Standard features with two core pull to connect with core cylinder of molds.
- Adopted FCS servo power-saving system which could reduce the energy consumption up to 70%.



# 智慧的電控單元 Intelligent Control Unit

## 直覺式操作介面

- 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。

## Intuitive HMI

- 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.

## 控制精度

- 加熱控制精度 $0.1^{\circ}\text{C}$ 並有效分段控制，以提升塑化能力。
- 位置控制精度 $0.1\text{mm}$ ，可準確控制動作行程。

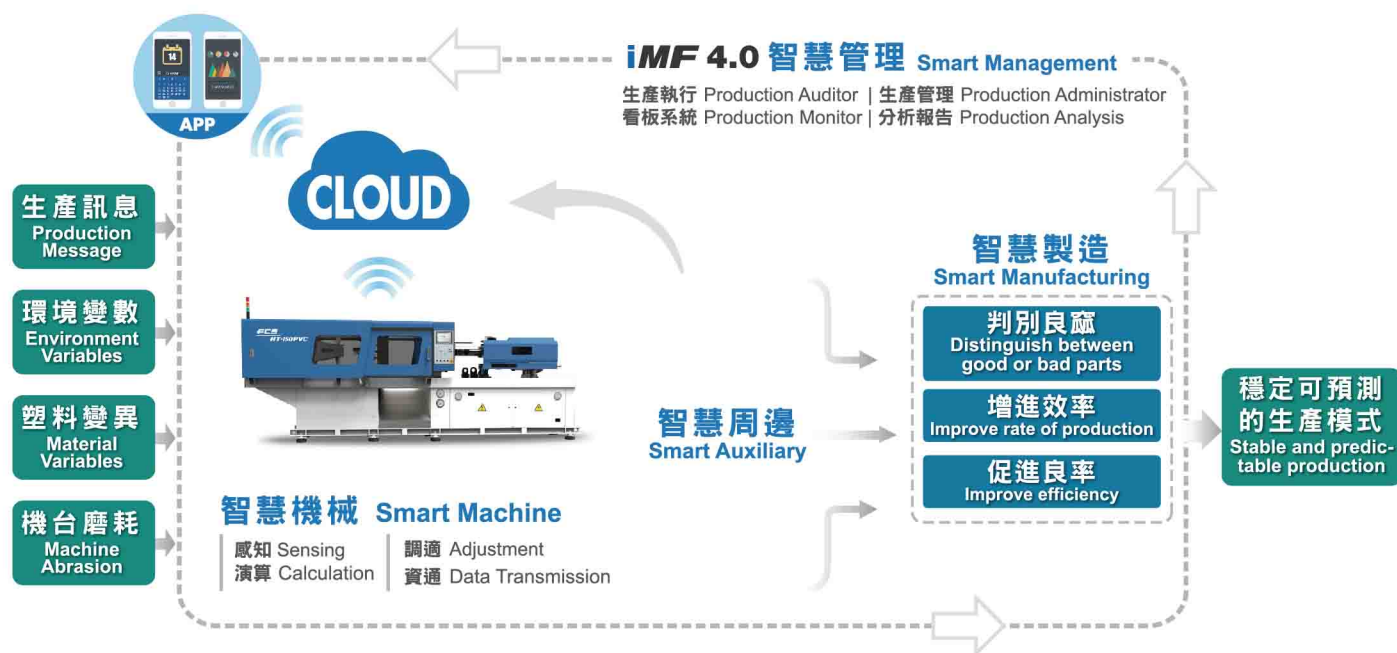
## Control Precision

- Barrel heat zones are accurate to  $0.1$  degree C to ensure stable material plasticizing.
- Screw position is controlled with in  $0.1\text{mm}$  to precisely control shot size and cushion position.



# 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)

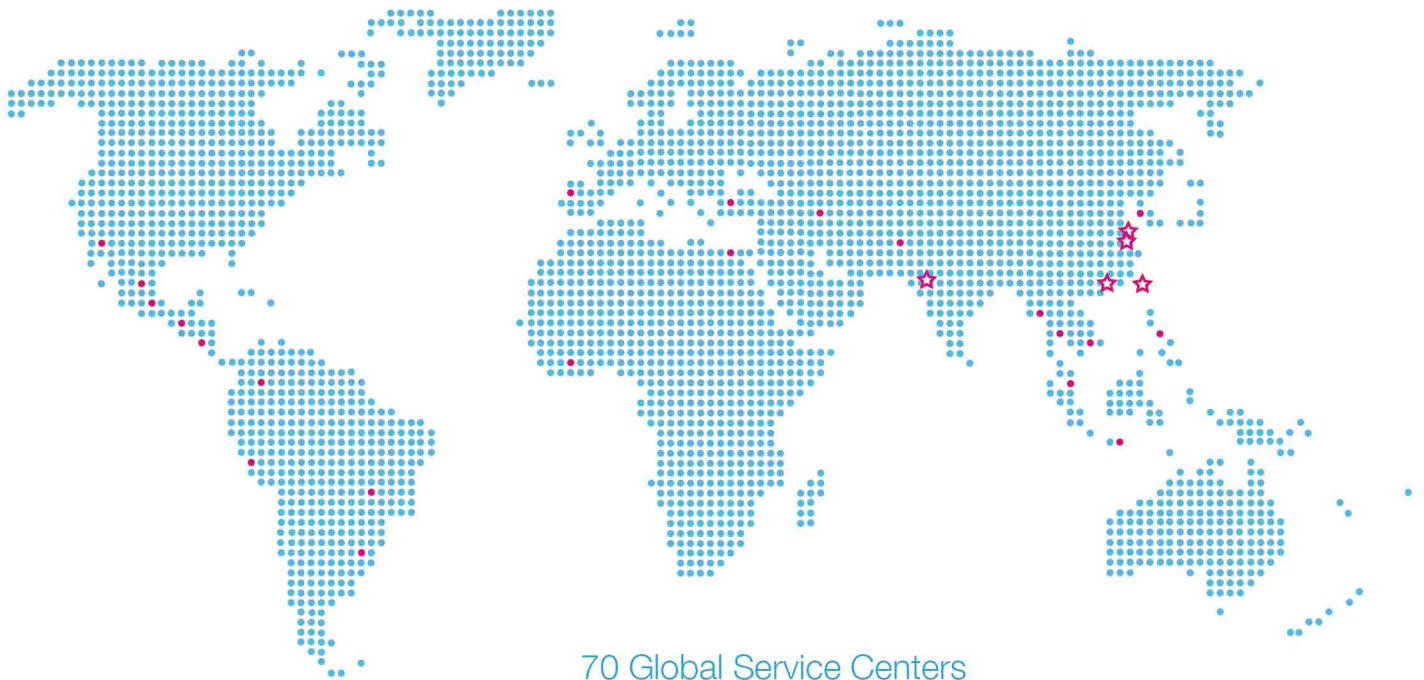
| 控制器<br>Control           | FCS 6500S                                                                 | FCS 6500<br>(Optional)  |
|--------------------------|---------------------------------------------------------------------------|-------------------------|
| 螢幕尺寸<br>Screen Size      | 10"      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

# 標準與選購配備 Standard & Optional Accessories

| 配備項目                       | ITEM                                                         | HT-100PVC | HT-125PVC |
|----------------------------|--------------------------------------------------------------|-----------|-----------|
| 射出安全護罩                     | Safety cover for injection                                   | ●         | ●         |
| 射出止逆裝置                     | Shot-off Nozzle                                              | —         | —         |
| PVC專用螺桿/料管                 | PVC Screw/Barrel                                             | ●         | ●         |
| 托拉式落料裝置                    | Sliding material feeding device                              | ●         | ●         |
| 曲手：無給油軸承                   | Oiliness bearing(Toggle)                                     | ●         | ●         |
| 曲手：套鋼                      | Steel bearing(Toggle)                                        | —         | —         |
| 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)                         | ●         | ●         |
| 成品落下口(不鏽鋼)                 | Article Collecting Channel(stainless)                        | ●         | ●         |
| 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 & 4out (copper)                        | ●         | ●         |
| 水流分佈器8入8出(銅製)              | Water manifold - 4 in & 4out (copper)                        | ○         | ○         |
| 水流分佈器10入10出(銅製)            | Water manifold - 10 in & 10 out(copper)                      | ○         | ○         |
| 安全踏板                       | Security Pad                                                 | —         | —         |
| 機架架高(落下口取物)                | High base                                                    | —         | —         |
| 機械安全桿保護裝置                  | Mechanical Safety bar Protection device                      | ○         | ○         |
| 車壁潤滑：電動注油                  | Auto Manual lubrication(platen)                              | ●         | ●         |
| 獨立料管風機溫控                   | Barrel blower of Independent and temperature 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) | ○         | ○         |
| 射出閉迴路                      | Closed-loop control for injection                            | ○         | ○         |
| 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)                    | —         | —         |
| 單中子(一公一母)                  | Single core pulling device                                   | —         | —         |
| 雙中子(一公一母)                  | Double core pulling device                                   | ●         | ●         |
| 轉牙裝置(計時/計次)                | Unscrew device by timer or counter                           | ○         | ○         |
| 雙迴路(開模與托模同動)               | Double loops system(mold open - ejector start)               | ○         | ○         |
| 雙迴路(開模與加料同動)               | Double loops system(mold open-screw charge start)            | ○         | ○         |
| 伺服節能系統                     | Servo power saving system                                    | ●         | ●         |
| 自封式磁性吸油過濾器                 | With check valve magnetic suction filter                     | —         | —         |
| 油溫預熱功能                     | Oil temperature preheating function                          | ○         | ○         |
| 開關模比例閥控制                   | Proportional valve for mould open and close                  | ○         | ○         |
| 射嘴獨立溫控                     | Temperature control of injection nozzle                      | ●         | ●         |
| 落料口溫度顯示                    | Temperature display of material feeding section              | ●         | ●         |
| 落料口溫度控制                    | Temperature control of material feeding section              | ○         | ○         |
| 落料口溫度顯示及控制                 | Temperature display & control of material feeding section    | ○         | ○         |
| 射出電阻尺                      | Linear potentiometer for injection                           | ●         | ●         |
| 射座電阻尺                      | Linear potentiometer for injection carriage                  | ○         | ○         |
| 夾模電阻尺                      | Linear potentiometer for clamping                            | ●         | ●         |
| 托模電阻尺                      | Linear potentiometer for ejection                            | ●         | ●         |
| 兩個風托(一公一母)                 | Air ejector sets                                             | ○         | ○         |
| 電眼檢出                       | Photo cell drop-out checking device                          | ○         | ○         |
| 油溫顯示                       | Oil temperature display for hydraulic system                 | ●         | ●         |
| 油溫顯示及控制                    | Oil temperature display & control                            | ○         | ○         |
| 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)               | ○         | ○         |
| 電控穩壓器                      | Power stabilizer for controller                              | ○         | ○         |
| 三色警示燈                      | Three-color alarm lamp                                       | ●         | ●         |
| 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 for barrel sets                        | ●         | ●         |
| 油壓、電氣雙重保護裝置                | Dual safety device: hydraulic and electrical                 | ●         | ●         |
| 資料保護鎖(硬體鎖)                 | Data lock function(key)                                      | ●         | ●         |
| 機械手電氣接口                    | Robot electrical interface                                   | ○         | ○         |
| 不銹鋼漏斗                      | Stainless hopper                                             | ○         | ○         |
| 乾燥機                        | Hopper dryer                                                 | ○         | ○         |
| 抽料機                        | Auto loader                                                  | ○         | ○         |
| 模溫機                        | Mold temperature controller                                  | ○         | ○         |
| 乾燥機磁鐵                      | Magnet of hopper dryer                                       | ○         | ○         |
| 門式吊桿                       | Frame hanger                                                 | ○         | ○         |
| 避震器                        | Anti-vibration mounting pad                                  | ●         | ●         |
| 填料台                        | Filling material stand                                       | —         | —         |
| 工具箱組                       | Tool box set                                                 | ●         | ●         |
| 標準出車附件                     | Spare parts                                                  | ●         | ●         |
| 外銷出車附件                     | Export accessories                                           | ▲         | ▲         |



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



70 Global Service Centers

## 富強鑫集團 FCS Group

### 富強鑫精密工業股份有限公司 Fu Chun Shin Machinery Manufacture Co., Ltd.

71841 臺灣台南市關廟區埤頭里保東路269號  
No.269, Baodong Road, Pitou Village, Guanmiao District, Tainan City 71841, Taiwan  
TEL: +886-6-5950688 • FAX: +886-6-5951129 • E-mail: fcsco@fcs.com.tw

### 東莞富強鑫塑膠機械製造有限公司 Dongguan Fu Chun Shin Plastic Machinery Manufacture Co., Ltd.

廣東省東莞市大朗鎮石廈管理區金廈東路18號 郵編：523792  
No.18, Jinxia East Road, Shixia Administration District, Dalang Town,  
Dongguan City 523792, Guangdong Province, China  
TEL: +86-769-83313753 • FAX: +86-769-83181903 • E-mail: cdg@fcs.com.tw

### 富強鑫(寧波)機器製造有限公司 Fu Chun Shin (Ningbo) Machinery Manufacture Co., Ltd.

浙江省寧波市江北區海川路115號 郵編：315032  
No.115, Haichuan Road, Jiangbei District, Ningbo City 315032, Zhejiang Province, China  
TEL: +86-574-56138688 • FAX: +86-574-56138600 • E-mail: cnb@fcs.com.tw

### 富強鑫(寧波)精密科技股份有限公司 Fu Chun Shin (Ningbo) Precision Technology Co., Ltd.

浙江省寧波杭州灣新區啟源路166號 郵編：315336  
No.166 Qiyuan Road, Hangzhou Bay New District, Ningbo 315336, Zhejiang Province, China  
TEL: +86-574-56138689 • FAX: +86-574-56138699 • E-mail: chz@fcs.com.tw

### 印度富強鑫 FCS Manufacturing (India) Private Limited

Block Number 218, Xcelon Industrial Estate, Near Intas Pharmaceutical, Village Chancharvadi Vasna,  
Sarkhej Bavla Road, Taluka Sanand, Ahmedabad, Gujarat - 382213  
TEL: +91-99-98897768 • E-mail: fcsindia@fcs.com.tw

**FCS**  
www.fcs.com.tw

