

A white diagonal line graphic, starting from the top left and extending towards the center of the green background.

SHOW GUIDE

TAIPEI PLAS 2018

AUG 15-19, 2018

Booth **J0518**

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Shape a better world

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智慧製造工廠
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展位平面圖 11

Booth Layout

iMF4.0

智慧製造工廠

Intelligent ManuFactory

系統說明

生產穩定 - 射出機可自動調整，適應成型條件的輕微變異。

生產優化 - 運用製程感知技術，提升良率與品質，降低浪費。

智慧製造 - 射出機與周邊互聯信息，自主調適及控制質量參數。

智慧服務 - 使用智慧監控&遠程維護，預先報警、事前養護，減少意外停機。

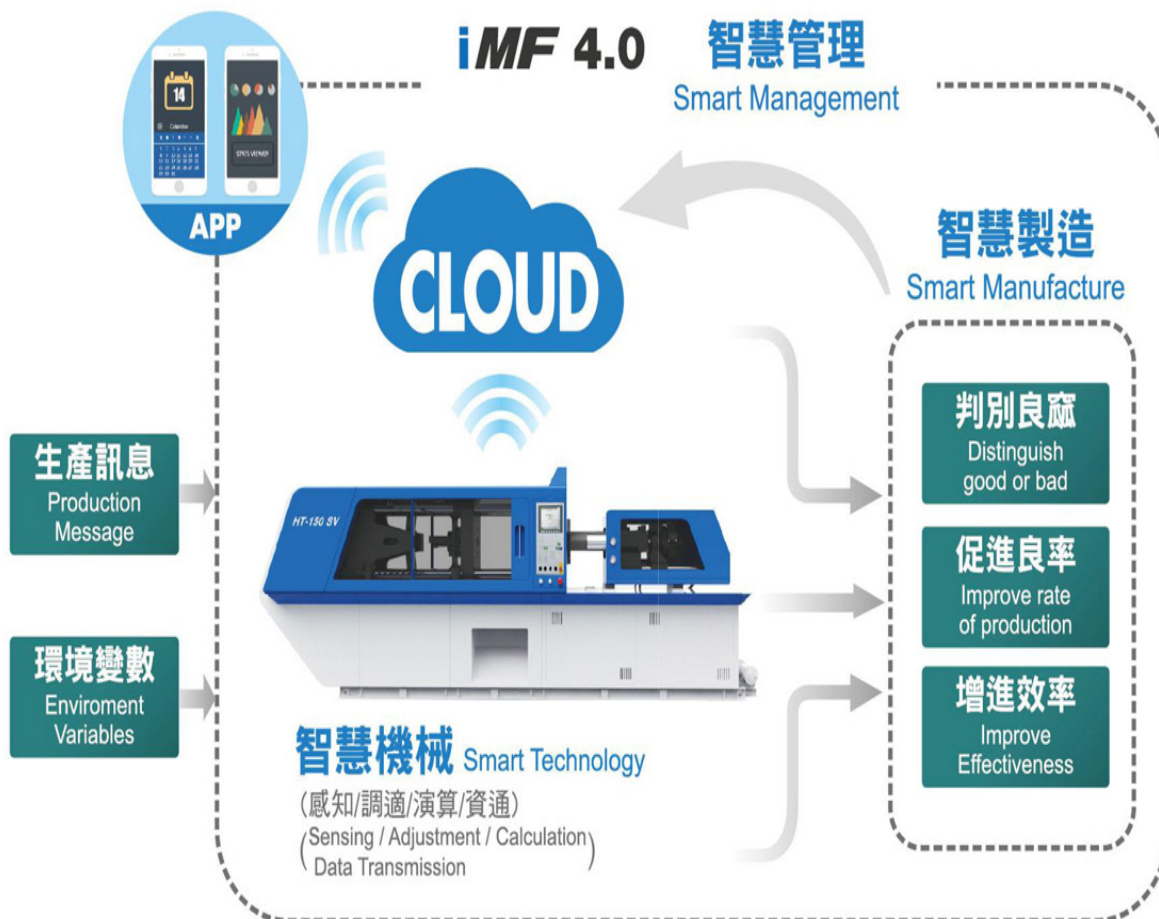
System Introduction

Stabilization - The IMM has adaptive control to meet the slight fluctuations of molding condition.

Optimization - Applying process quality sensor monitoring to improve the yield and reduce waste.

Automation - The IMM and peripherals communicate with each other to autonomously control the process quality.

Intellectualization - Using smart and remote monitoring to plan maintenance in advance, and reduce unexpected downtime.





CT-300

全電式射出成型機 All-Electric IMM

機台規格 Specification

機器型號	Machine Model	CT-300
鎖模力	Clamping Force	300 tonf
螺桿直徑	Screw Diameter	55 mm
射出量	Shot Weight	416 gram (PP)
射出速度	Injection Speed	250 mm/sec
大柱內距	Tie Bar Spacing	720 x 720 mm

機器特點 Feature

- 具備良好環保性能之低噪音、低振動、潔淨與節能等特點。
- 搭載智慧化流動平衡模組監控系統，熔體流動波前差異自動補償，提高各穴產品品質一致性。
- 控制器具擴充性及EtherCAT與Modbus通訊介面，快速整合相同介面輔機，達到統一集中管理並提升生產效能。
- With advantages of low noise, low vibration, low pollution, and low energy cost.
- Adopting intelligent flow balancing control system, the melt differences in cavities would be compensated automatically, which increases the consistency.
- Controller via EtherCAT and Modbus communication interface would increase the integration and production efficiency.

系統搭載 System Equipped (optional)

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大柱鎖模力監視系統 Tie bar clamping force monitor system
智慧化流動平衡系統 Intelligent flow balance system

模內貼標生產系統 In Mold Labeling Molding System



產品 Product

名稱	Part	冰淇淋杯(100ml)	Ice Cream Cup
肉厚	Thickness	0.45 mm	
重量	Weight	6g / pc	
模穴數	Cavities	4+4	
原料	Material	PP (RJ766MO)	
成型時間	Cycle Time	5 sec	

模內貼標系統規格 IML Specification

供紙能力	Capability	5,760 pcs/hr
供紙張數	Label Q'ty Supply	4+4 pcs/time
卡匣容量	Total Label Q'ty	1,000 pcs/cassette
標籤厚度	Label Thickness	60 μ (0.06mm)

合作夥伴 Project Partners

堆疊模	Stack Mold	德靈	CMN
熱澆道	Hot Runner	長新	ARICO
機械手	Robot System	威得客	VETEC
原料	Material	博祿	Borouge
送料系統	Material Feeding	信易	SHINI
冷凍機	Chiller	玉鼎	YUTING
標籤	Label	中域	YZY
		Verstraete	Verstraete in mould labels
感測器	Sensor	雙葉	Futaba
		科材	SENSORMATE



FA-160

曲肘油壓射出成型機

Advanced Toggle Hydraulic IMM

機台規格 Specification

機器型號	Machine Model	FA-160
鎖模力	Clamping Force	160 tonf
螺桿直徑	Screw Diameter	45 mm
射出量	Shot Weight	232 gram (PP)
射出速度	Injection Speed	120 mm/sec
大柱內距	Tie Bar Spacing	470 x 470 mm

機器特點 Feature

- 射速提升20%以上，並採射出線軌與座進前拉設計，射出同步且穩定。
- 車壁結構強度提升30%，開關模運動平滑控制優化，成型穩定並延長設備壽命。
- 高效能伺服節能油泵達GB一級節能驗證，系統壓力提升至160bar。
- The injection speed is increased by more than 20%; the linear guide and forward pull design are adopted for injection carriage to improve the synchronism and stability.
- Strength of the platen design reinforced by 30%, and the mold closing-opening smoothness control optimized makes molding stable and machine lifetime extended.
- The high-performance servo energy-saving oil pump achieves GB first-class verification, and the system pressure is enhanced to 160 bar.

系統搭載 System Equipped (optional)

IMF4.0 智慧製造工廠 Intelligent ManuFactory

大柱鎖模力監視系統 Tie bar clamping force monitor system

熔體變異適應控制 Adaptive control technology for viscosity variation inhibition of melt

模具冷卻流量與溫度監視系統 Mold cooling flow and temperature monitoring system

新世代智慧成型系統 New Generation Molding System

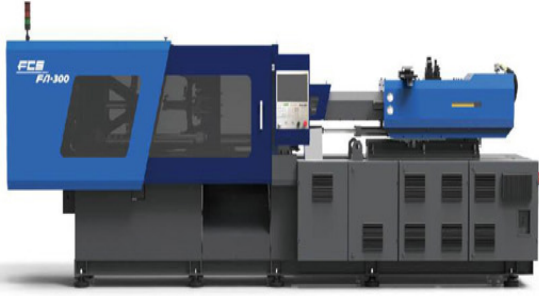


產品 Product

名稱	Part	多功能收納盒	Stacking Bin
尺寸	Size	145 x 95 x 63 mm	
肉厚	Thickness	1.5 mm	
重量	Weight	45g / pc	
模穴數	Cavities	2	
原料	Material	PP (BH975MO)	
成型時間	Cycle Time	15 sec	

合作夥伴 Project Partners

模具	Mold Supplier	金億唐		CYT
熱澆道	Hot Runner	契益		MoldPower
機械手	Robot System	金爪		TENSO
原料	Material	博祿		Borouge
色母	Master Batch	原紳		YUANG SHEN
輸送帶	Conveyer Belt	麗鯨		LI JUNG
供料系統	Material Feeding	信易		SHINI
冷凍機	Chiller	玉鼎		YUTING
感測器	Sensor	雙葉		Futaba
		科材		SENSORMATE
		勝維		SHENG WAI



FA-300

曲肘油壓射出成型機 Advanced Toggle Hydraulic IMM

機台規格 Specification

機器型號	Machine Model	FA-300
鎖模力	Clamping Force	300 tonf
螺桿直徑	Screw Diameter	60 mm
射出量	Shot Weight	669 gram (PS)
射出速度	Injection Speed	110 mm/sec
大柱內距	Tie Bar Spacing	660 x 630 mm

FA機台特點請參閱第5頁。Please refer to page 5 for FA feature.

微發泡成型特點 MuCell® Feature

- 提高塑料流動性，進而減少射出壓力與降低鎖模力。
- 產品透過發泡結構達到減重效果。
- 射出壓力與鎖模力降低，可減少驅動單元負荷；塑料用量降低亦可節省儲料與加熱消耗功率。
- 免去保壓時間；且塑料量減少，加工熱量降低從而縮短冷卻時間與成型週期。
- The injection pressure and clamping force reduced because the plastic melt flowing is improved.
- The product weight reduced by molding mixed with fizzy particles.
- Lower injecting pressure and clamping force decreases the load of driver units; lower plastic material usage required less drying and heating.
- The holding process is not necessary, and the heating energy, cooling time and amount of the material used are also decreased.

系統搭載 System Equipped (optional)

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大柱鎖模力監視系統 Tie bar clamping force monitor system

超臨界進氣系統 Supercritical fluid delivery system

微發泡成型系統 MuCell® Molding System



產品 Product

名稱	Part	擴鞋器	Shoe Stretchers
肉厚	Thickness	3 mm	
重量	Weight	60g / pc	
模穴數	Cavities	1+1+1	
原料	Material	ABS (757J01)	
成型時間	Cycle Time	80 sec	

進氣系統 SCF Delivery System (T-200)

適用螺桿直徑	Plasticizing Screw	40 - 70 mm
射出量	Shot size	120 - 600 gram
設備尺寸	Overall Dimension	550 x 630 x 1,560 mm
重量	Weight	215 kg

合作夥伴 Project Partners

模具	Mold Supplier	卓細	TREXEL
機械手	Robot System	金爪	TENSO
原料	Material	奇美	CHIMEI
輸送帶	Conveyer Belt	麗鯨	LI JUNG
乾燥機	Dryer	晏邦	YANN BANG
急冷急熱	Heat & Cool	松井	MATSUI
冷凍機	Chiller	玉鼎	YUTING
感測器	Sensor	科材	SENSORMATE
空壓機	Air Compressor	復盛	FUSHENG

微發泡射出成型系統

MuCell®

Foaming Injection Molding System

降低成本

Cost Reduction

永續性高
Sustainability

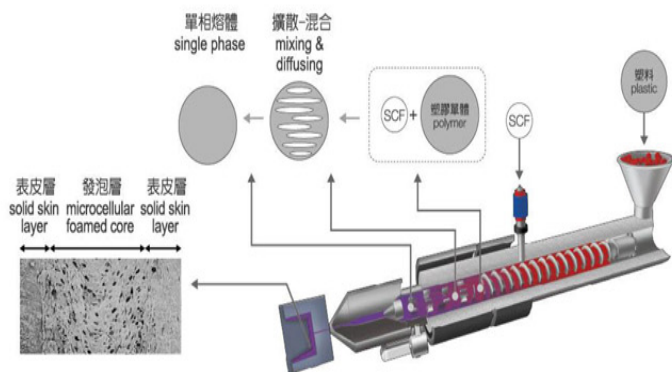
造型自由

Design Freedom

開發期短

Faster to market

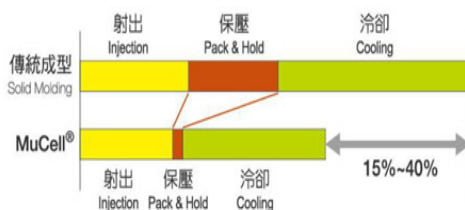
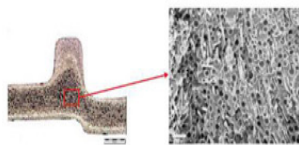
微發泡射出原理 Principals



MuCell® 製程設備 Implementation



MuCell® 應用優勢 Advantages



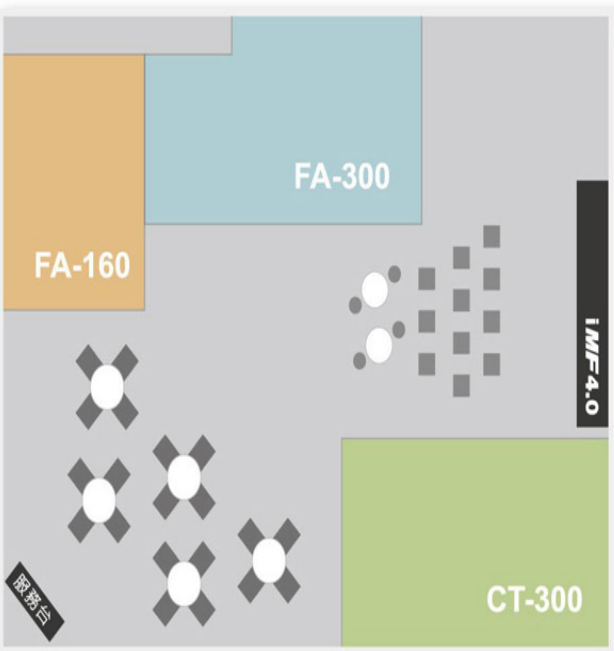
- 減重(輕量化)
Weight reduction
- 降低鎖模力需求
Machine clamping force reduction
- 縮短成型週期
Cycle time reduction
- 減少成型不良問題
Sustainially reduce warpage & dimensional defect

應用實例 Application



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Note



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