

追求極致 塑造優勢
Pursuing ultimate. Molding advantage

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義展 C 系列射出成型機 YEAR-CHANCE C-SERIES INJECTION MOLDING MACHINE

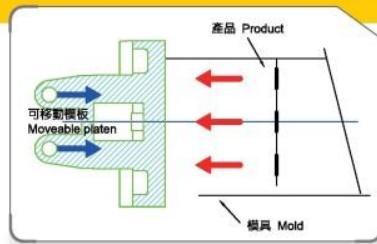
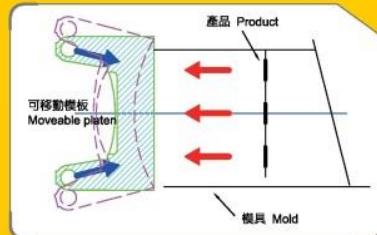
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義展機械股份有限公司
YEAR-CHANCE MACHINERY CO., LTD.

Elite perspective

Innovative deduction



鎖模機構

C系列外剪式五點曲肘鎖模機構，曲手施力點在接近活動模板的中心位置，可使模板的變形量降到最低。

Clamping mechanism

C series is designed with 5-point linkage outward toggle clamping mechanism, and linked with moveable platen at the central area to minimize its deformation while molding.



◆ 成型中最重要射嘴部有二段溫控，可非常精準地控制，易解決射嘴拉成絲狀、射嘴溢料、冷卻遲緩，對降低成形不良品很有效果。

◆ 2 zones' temperature control at nozzle portion are precisely handled to easily manage the problems of filiform result, resin spill, and slow cooling, then the defect product will be decreased.

溫度控制部分

料管溫度控制採用PID+FUZZY控制模式，並採用SSR無接點繼電器，另可選配SCR恆溫型繼電器做電熱控制，能使料管溫度精確控制在1°C之內。

Temperature control

Barrel temperature is controlled by PID+FUZZY mode with non-contact SSR relay. In addition, SCR constant temperature relay is optional for heating control to have temperature tolerance within 1°C.

同步加溫功能

傳統射出機在料管的加熱過程中，射嘴由於質量較小溫度很快就到達設定值，而其它段溫度由於料管的質量較大，因此溫度到達的時間可能會多出射嘴時間2-3倍，尤其料管最後段因為冷卻水循環的因素更加慢，因為射嘴的狀態長時間處於高溫狀，極容易發生過火、銀線、甚至也會發生碳化物的狀況。同步加溫功能可防止射嘴內樹脂的炭化和劣化。

Synchronized heating function

For traditional barrel design, it is easily heating up to the setting data at nozzle portion as its smaller quantity. But, 2~3 times longer at other zones as bigger quantity, even worse at the ending zone due to cooling circuit surrounded. So, pyrolysis and silver mark are easily occurred as high temperature at nozzle portion for long time, even carbonized as well.

Synchronized heating function could prevent resin inside nozzle from carbonization and badness.



◆ 射出壓縮

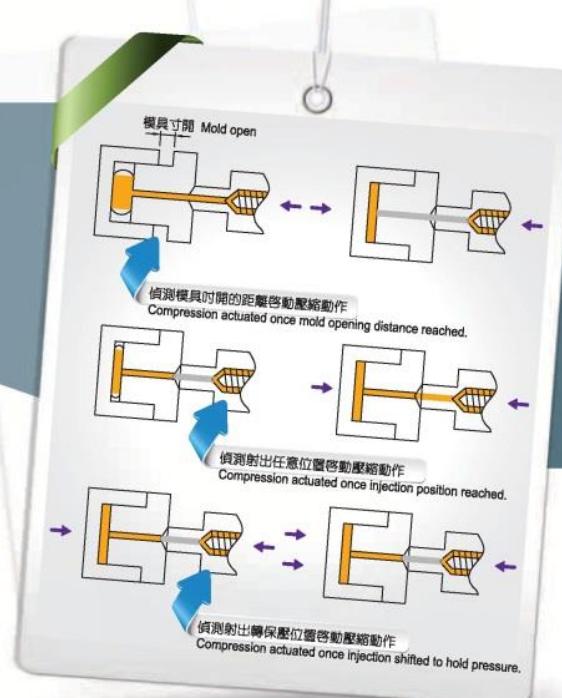
射出壓縮成型的先決條件是模具配置模型設計，溶膠被低壓注入模穴，模具會被溶膠撐開2~3mm也就是所謂的壓縮行程，模具的直升面溶膠不能從模板間隙流出。在射出填充過程中啓動鎖模的動作，因此保壓不是射出單元提供，而是由鎖模單元提供，這個壓力被靜態的完全散發，使得產品密度均勻化、無應力化。

◆ Injection compression

Mold with a wedge design is necessary for injection compression molding, and forced open around 2~3 mm, called compression stroke, while low pressure injection without any resin effusion between mold parting area. Mold clamping is actuated during injection, so hold pressure is provided by clamping unit instead of injection unit. The stress will be smoothly released accordingly, and the molded product will have a uniform density and remain stressless.

◆ 射出壓縮成型的效果 Injection compression

- 減少成型變型
minimize deformation of molded product
- 改善貼層特性
improve labeling character
- 降低鎖模壓力
reduce clamping force
- 縮短成型週期
shorten cycle time
- 提高排氣效果
promote air venting

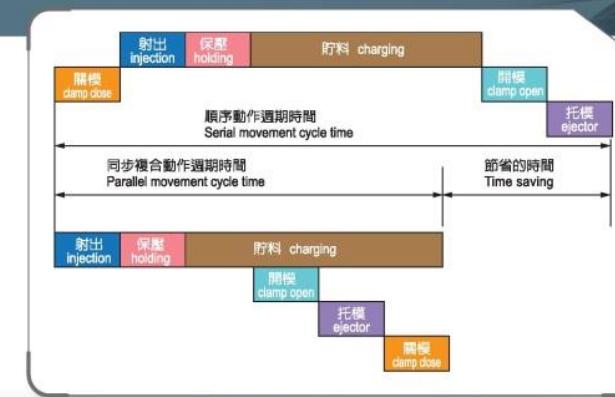


◆ 開中貯料同步複合動作

製作產品需要較長的貯料時間，而且模具的冷卻效率要好，不需很長的冷卻時間的情況下，利用同步複合動作，在做貯料動作的同時，進行開模、托模及關模的動作，可有效節省成型週期時間，降低生產成本。

◆ Parallel movements (simultaneous actions)

The charging time is always much longer for heavier product. If mold cooling time is less, then simultaneous actions will effectively save molding cycle time and reduce the production cost as mold open, ejection and mold close can be actuated during charging.



◆ 同步複合動作

有效減少週期時間大幅增加產能

◆ Parallel movements

Reducing cycle time and increasing productivity



Power high efficient



◆ IPMP 馬達泵

義展射出機與DAIKIN共同開發，提高SUT伺服馬達系統壓力、流量反應速度，市售的SUT伺服馬達系統壓力流量的反應時間約150msec，經導入特殊的油路設計及程式的動作、壓力、流量的反應時間縮短到80msec，對一些微射出精細的產品能夠提高製成率。

◆ The IPMP motor pump

Joint collaboration with DAIKIN to upgrade the reflection time of system pressure and flowrate for SUT servo motor. It becomes 80msec with particular hydraulic circuit and programmable movement, and much better than 150msec of market selling one. The finished percentage could be higher for fine product via micro injection.

◆ 省能源 / 生產時消耗成本降低

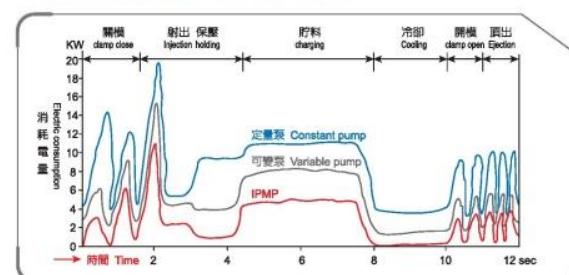
採用大金(DAIKIN)IPMP馬達泵系統，比一般可變泵+定速馬達節省40%以上電量，比一般定量泵+定速馬達節省70%以上電量。

◆ Energy saving / less power consumption for production

To use DAIKIN IPMP pump and motor system can save the electric consumption more than 40% in comparison with system of variable pump plus constant motor, and even 70% above in comparison with system of constant pump plus constant motor.

消耗電量比較曲線

Electric consumption curve



在實際測試生產同一物件之每小時消耗電量子力學(不含電熱)定量泵系統約10.44KW，可變泵系統約5.83KW，而IPMP系統只要2.91KW。

The hourly electric consumption (heating excluded) is about 10.44KW for constant pump system and about 5.83KW for variable pump system, but 2.91KW only for IPMP system.

射出方面

1. 射出電子計位尺
2. 射出保壓有時間位置壓力等三種偵測方式
3. 大小料頭各自獨立的溫控裝
4. 貯料三段比例背壓控制
5. 軌道式料斗座
6. 定時乾燥機
7. 備用料頭
8. 貯料轉速檢測顯示功能

標準配備 standard equipment

關模方面

1. 集中打油器及管路
2. 油壓、電氣、機械三道關模安全裝置
3. 超低壓力關模保護模具系統
4. 自動調模及定位防鬆裝置
5. 水路分佈器
6. 關關模及托模電子計位尺
7. 多段速度、壓力的托模動作
8. 托模有單次、托停、多次、震托多種選擇
9. 中子、絞牙用油路、電氣裝置一組
10. 間歇噴離劑控制
11. 風托裝置

動力及其他

1. 葉片式高效率泵浦
2. MEV壓力流量比例閥
3. 機械避震腳
4. 繩壓力及射出背壓油壓錶
5. 模具吊桿組(含C160以下)
6. 夾模鐵及螺絲組
7. 簡易工具及工具箱
8. 單相電插座

組件及系統

1. 伺服節能馬達11KW、15KW、22KW
2. 可變容量柱塞式省電泵浦
3. 射出閉回路伺服系統
4. 高速射出蓄壓器(ACC)及閉回路伺服系統
5. 特殊塑料、材質的射出配套方案
6. 射出壓縮動作系統
7. 射座電子計位尺
8. 塑料落下計量控制裝置
9. 高壓氣體填充產品中空射出設計
10. 大理石紋混色射出料管及動作配套
11. 雙合金耐耗料管
12. 高混煉及特殊材料用螺桿設計
13. 省電複合動作回路設計
14. 油壓封閉式料管頭組
15. 特殊型乾燥機
16. 吸料機
17. 乾燥機集塵器
18. 乾燥機磁鐵機
19. 電木、尿素射出裝置
20. 豐中子油路、電路
21. 絞牙油壓馬達組
22. 石英隔熱模板
23. 電腦連線系統
24. 量身訂做專案
25. 其他解決方案

特殊配備 special equipment

Injection system

1. Injection potential meter
2. Injection to hold pressure shifted by 3 methods of time, position, and pressure
3. Individual temperature control zone for large and small barrel head
4. 3 steps proportional backpressure control
5. Railed hopper bracket
6. Hopper dryer with timer
7. Spare barrel head
8. Screw RPM measurement and display

Clamping system

1. Central lubrication and piping arrangement
2. 3 safety devices via hydraulic, electric and mechanical
3. Extremely low pressure mold protection system
4. Auto mold height adjustment & positioning anti-looseness device
5. Water distributor
6. Clamping and ejection potential meter
7. Multi steps ejection pressure and speed control
8. Ejection function by single, forward holding, multi-stroke, vibration
9. One set of core pulling/unthreading with hydraulic and electric device
10. Intermittent silicon spread control
11. Air ejector device

Power system and others

1. Vane type high efficiency pump
2. MEV pressure & flowrate proportional valve
3. Mechanical anti-vibration pad
4. System pressure and Injection backpressure gauge
5. Mold loading crutch (C160 Under)
6. Mold clamp and screws set
7. General tool and tool box
8. Single phase power socket

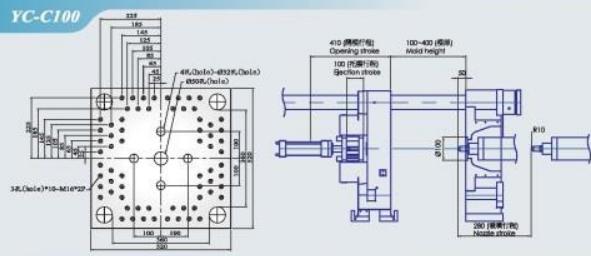
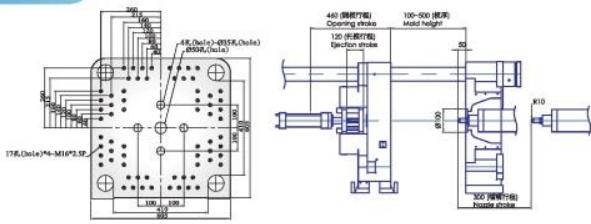
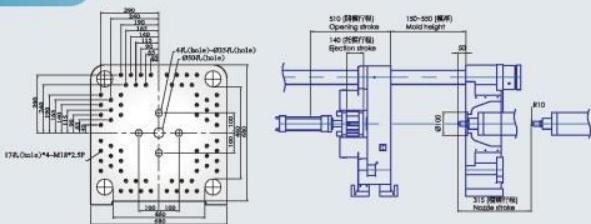
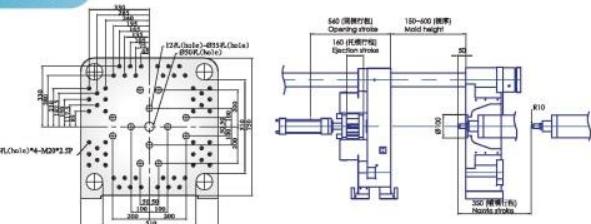
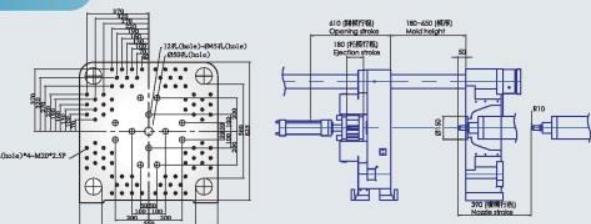
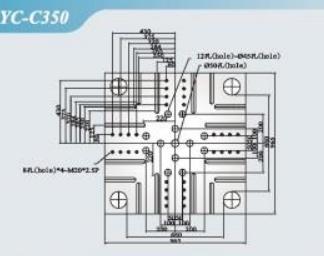
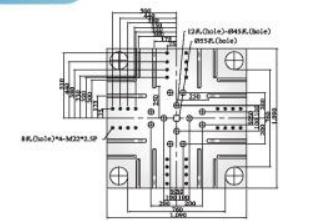
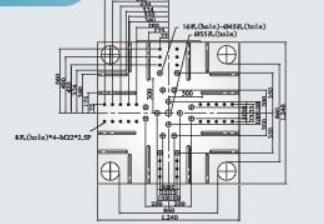
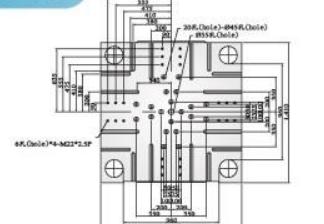
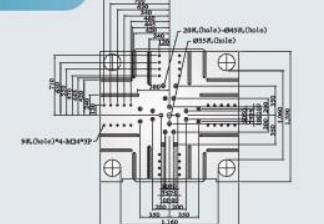
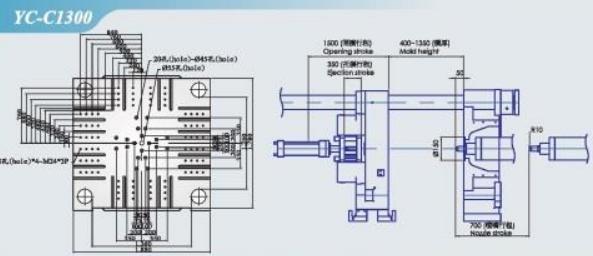
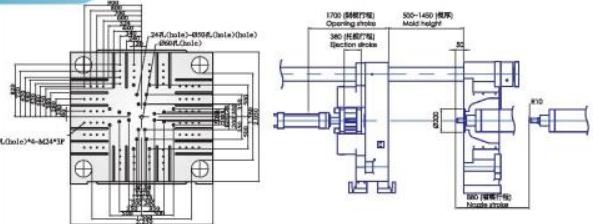
Module and system

1. Energy saving servo motor 11KW、15KW、22KW
2. Plunger type of variable volume pump for power saving
3. Injection close-loop server system
4. High speed injection with accumulator and close-loop server system
5. Injection turnkey for special resin or material
6. Injection compression functioning system
7. Injection unit potential meter
8. Raw material auto-drop counting device
9. High pressure air serving for injection blowing article
10. Color mixing barrel and related function arrangement for product with marble lines
11. Bimetal wear-resisting barrel
12. Screw design for high-mixing purpose or particular resin
13. Energy saving complex movement design
14. Hydraulic shot-off barrel head set
15. Particular hopper dryer
16. Autoloader
17. Hopper dryer dust collector
18. Hopper dryer magnet device
19. Bakelite and carbamide injection unit
20. Double core pulling devices with hydraulic and electric circuit
21. Unthreading hydraulic motor set
22. Quartz heat insulation plate
23. Computer connection system
24. Customization project
25. Other troubleshooting

C-Series 射出機性能表

Injection Molding Machine

| 型式 Model (standard) | | C100 | | | | C130 | | | | C160 | | | | C220 | | | | C280 | | | | C350 | | | | C450 | | | | C600 | | | | C800 | | | | C1000 | | | | C1300 | | | | C1800 | | | | C2200 | | | | |
|--------------------------|--------------------------------|---------|-----------|------|------|-------|-----------|------|------|-------|-----------|------|------|-------|-----------|------|------|-------|-----------|------|------|-------|---------|------|------|-------|---------|------|------|-------|---------|------|------|-------|----------|------|------|--------|----------|-------|-------|--------|----------|--|--|--------|----------|--|--|--------|----------|--|--|--|
| 射出系統 Injection system | 螺旋桿直徑 Screw diameter | mm | 28 | 32 | 36 | 36 | 40 | 44 | 40 | 46 | 52 | 48 | 55 | 60 | 50 | 58 | 65 | 55 | 62 | 70 | 60 | 68 | 75 | 70 | 80 | 90 | 70 | 85 | 100 | 80 | 95 | 110 | 90 | 105 | 120 | 120 | 130 | 140 | 140 | 150 | 160 | | | | | | | | | | | | | |
| | 射出容積 Shot volume | cm³ | 86 | 113 | 142 | 183 | 226 | 274 | 251 | 332 | 425 | 416 | 546 | 650 | 510 | 687 | 862 | 689 | 875 | 1115 | 933 | 1198 | 1457 | 1539 | 2010 | 2543 | 1731 | 2552 | 3533 | 2412 | 3401 | 4559 | 3306 | 4500 | 5878 | 7912 | 9286 | 10770 | 15386 | 17662 | 20106 | | | | | | | | | | | | | |
| | 射出重量(PS) Shot Weight | g | 80 | 104 | 132 | 169 | 209 | 253 | 232 | 307 | 392 | 384 | 504 | 601 | 471 | 634 | 797 | 636 | 809 | 1031 | 862 | 1107 | 1346 | 1422 | 1857 | 2350 | 1599 | 2358 | 3264 | 2228 | 3142 | 4213 | 3055 | 4158 | 5431 | 7311 | 8580 | 9951 | 14216 | 16320 | 18568 | | | | | | | | | | | | | |
| | 可塑化能力 Plasticizing Capacity | kg/hr | 20 | 32 | 40 | 55 | 77 | 95 | 64 | 105 | 150 | 128 | 140 | 167 | 118 | 127 | 159 | 127 | 146 | 175 | 151 | 200 | 254 | 206 | 359 | 527 | 221 | 437 | 759 | 282 | 395 | 508 | 371 | 486 | 601 | 461 | 553 | 655 | 490 | 574 | 666 | | | | | | | | | | | | | |
| | 螺桿轉數 Screw rotation | R.P.M. | 213 | | | | 269 | | | | 222 | | | | 228 | | | | 208 | | | | 195 | | | | 206 | | | | 202 | | | | 217 | | | | 159 | | | | 177 | | | | 120 | | | | 90 | | | |
| | 射出壓力 Injection pressure | kgf/cm² | 2438 | 1867 | 1475 | 2380 | 1928 | 1593 | 2416 | 1827 | 1430 | 2361 | 1797 | 1511 | 2484 | 1846 | 1470 | 2245 | 1767 | 1386 | 2360 | 1837 | 1510 | 2214 | 1695 | 1339 | 2498 | 1694 | 1224 | 2657 | 1884 | 1405 | 2527 | 1857 | 1421 | 2172 | 1850 | 1595 | 2034 | 1772 | 1557 | | | | | | | | | | | | | |
| | 射出效率 Injection rate | cm³/s | 78 | 101 | 128 | 128 | 158 | 191 | 156 | 206 | 263 | 233 | 306 | 365 | 237 | 320 | 401 | 309 | 392 | 500 | 370 | 476 | 578 | 465 | 608 | 769 | 500 | 737 | 1021 | 658 | 928 | 1244 | 909 | 1238 | 1616 | 1207 | 1416 | 1643 | 1556 | 1786 | 2032 | | | | | | | | | | | | | |
| | 射出速度 Injection speed | mm/s | 126 | | | | 126 | | | | 124 | | | | 129 | | | | 121 | | | | 130 | | | | 131 | | | | 130 | | | | 131 | | | | 143 | | | | 106 | | | | | | | | | | | |
| | 型式 Model (High-Speed) | C100H | | | | C130H | | | | C160H | | | | C220H | | | | C280H | | | | C350H | | | | C450H | | | | C600H | | | | C800H | | | | C1000H | | | | C1300H | | | | C1800H | | | | C2200H | | | | |
| Injection system | 可塑化能力 Plasticizing Capacity | kg/hr | 26 | 42 | 52 | 58 | 90 | 110 | 85 | 140 | 200 | 161 | 176 | 210 | 151 | 162 | 203 | 161 | 185 | 222 | 174 | 230 | 293 | 249 | 433 | 637 | 309 | 611 | 1060 | 368 | 515 | 622 | 420 | 550 | 680 | 461 | 553 | 655 | 490 | 574 | 666 | | | | | | | | | | | | | |
| | 螺桿轉數 Screw rotation | R.P.M. | 279 | | | | 313 | | | | 296 | | | | 288 | | | | 265 | | | | 247 | | | | 238 | | | | 244 | | | | 303 | | | | 207 | | | | 200 | | | | 120 | | | | 90 | | | |
| | 射出效率 Injection rate | cm³/s | 102 | 133 | 168 | 159 | 196 | 237 | 206 | 272 | 348 | 293 | 385 | 458 | 302 | 407 | 511 | 392 | 498 | 635 | 435 | 559 | 680 | 565 | 739 | 935 | 700 | 1032 | 1429 | 864 | 1219 | 1634 | 1043 | 1419 | 1854 | 1457 | 1709 | 1983 | 1984 | 2278 | 2591 | | | | | | | | | | | | | |
| | 射出速度 Injection speed | mm/s | 165 | | | | 156 | | | | 164 | | | | 162 | | | | 154 | | | | 165 | | | | 154 | | | | 147 | | | | 182 | | | | 172 | | | | 127 | | | | | | | | | | | |
| | 型式 Model (Energy-saving) | C100S | | | | C130S | | | | C160S | | | | C220S | | | | C280S | | | | C350S | | | | C450S | | | | C600S | | | | C800S | | | | C1000S | | | | C1300S | | | | C1800S | | | | C2200S | | | | |
| | 可塑化能力 Plasticizing Capacity | kg/hr | 25 | 40 | 50 | 52 | 73 | 110 | 62 | 101 | 145 | 126 | 137 | 164 | 101 | 109 | 136 | 93 | 107 | 122 | 100 | 133 | 169 | 145 | 254 | 365 | 147 | 291 | 399 | 191 | 268 | 344 | 218 | 284 | 352 | 377 | 452 | 535 | 490 | 574 | 666 | | | | | | | | | | | | | |
| | 螺桿轉數 Screw rotation | R.P.M. | 266 | | | | 260 | | | | 216 | | | | 225 | | | | 180 | | | | 144 | | | | 138 | | | | 146 | | | | 145 | | | | 108 | | | | 104 | | | | 98 | | | | 90 | | | |
| | 射出效率 Injection rate | cm³/s | 92 | 121 | 153 | 154 | 191 | 231 | 152 | 201 | 257 | 240 | 315 | 375 | 227 | 306 | 385 | 252 | 320 | 408 | 312 | 400 | 487 | 422 | 551 | 698 | 453 | 663 | 925 | 565 | 796 | 1068 | 672 | 915 | 1195 | 1043 | 1224 | 1420 | 1392 | 1598 | 1818 | | | | | | | | | | | | | |
| | 射出速度 Injection speed | mm/s | 150 | | | | 152 | | | | 121 | | | | 132 | | | | 116 | | | | 106 | | | | 110 | | | | 109 | | | | 117 | | | | 112 | | | | 105 | | | | 92 | | | | 90 | | | |
| 開模機構 Clamping system | 鎖模力 Clamping force | Tonf | 100 | | | | 130 | | | | 160 | | | | 220 | | | | 280 | | | | 350 | | | | 450 | | | | 600 | | | | 800 | | | | 1000 | | | | 1300 | | | | 1800 | | | | 2200 | | | |
| | 開模行程 Opening stroke | mm | 410 | | | | 460 | | | | 510 | | | | 560 | | | | 610 | | | | 710 | | | | 820 | | | | 920 | | | | 1100 | | | | 1300 | | | | 1500 | | | | 1700 | | | | 2000 | | | |
| | 模厚 Mold height | mm | 100~400 | | | | 100~500 | | | | 150~550 | | | | 150~600 | | | | 180~650 | | | | 180~700 | | | | 200~800 | | | | 250~900 | | | | 300~1150 | | | | 350~1250 | | | | 400~1350 | | | | 500~1450 | | | | 550~1550 | | | |
| | 模板 Platen dimension | mm | 520 x 520 | | | | 605 x 605 | | | | 680 x 680 | | | | 750 x 750 | | | | 825 x 825 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

YC-C100

YC-C130

YC-C160

YC-C220

YC-C280

YC-C350

YC-C450

YC-C600

YC-C800

YC-C1000

YC-C1300

YC-C1800

YC-C2200
