



TF SERIES TOGGLE MACHINES



WELCOME TO LIENYU

PROFESSIONAL INJECTION MOLDING MACHINE



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INTRODUCTION

Founded in 1985. Since then, Lien Yu has been specialized in manufacturing “Injection Machines” and has been dedicated in explored international market. In order to be competitive, Lien Yu brought in advanced skills and has had technique cooperation with British A&A Industrial Ltd. for over ten years. Lien Yu was a pioneer that conducting CAD/CAM system to design international standard-matching Injection Machine. Meanwhile, keep improving and growing, Lien Yu strived to gather talents in the fields of Machinery,

Engineering, Computer and Information Technology. Recent years, all the industries such as electronic engineering, machinery, optoelectronics and biomedical engineering all aim on the development of Miniaturization. Hence, Lien Yu considers that the miniaturized injection would be significant. Therefore, Lien Yu is researching and developing the techniques.



TF SERIES- SV TOGGLE MACHINES

TF SERIES

Been manufacturing for many decades, Lien Yu has accumulated plenty of knowledge on injection molding machine and customer's need. Hence, Lien Yu decided to have a fully review on our own machines, examining all the pros and cons. At last, we conclude the result and re-design a whole new series, TF series. TF series not only gets rid of the blemishes of our old series but get improvement in such as structure, appearance, movement and control.

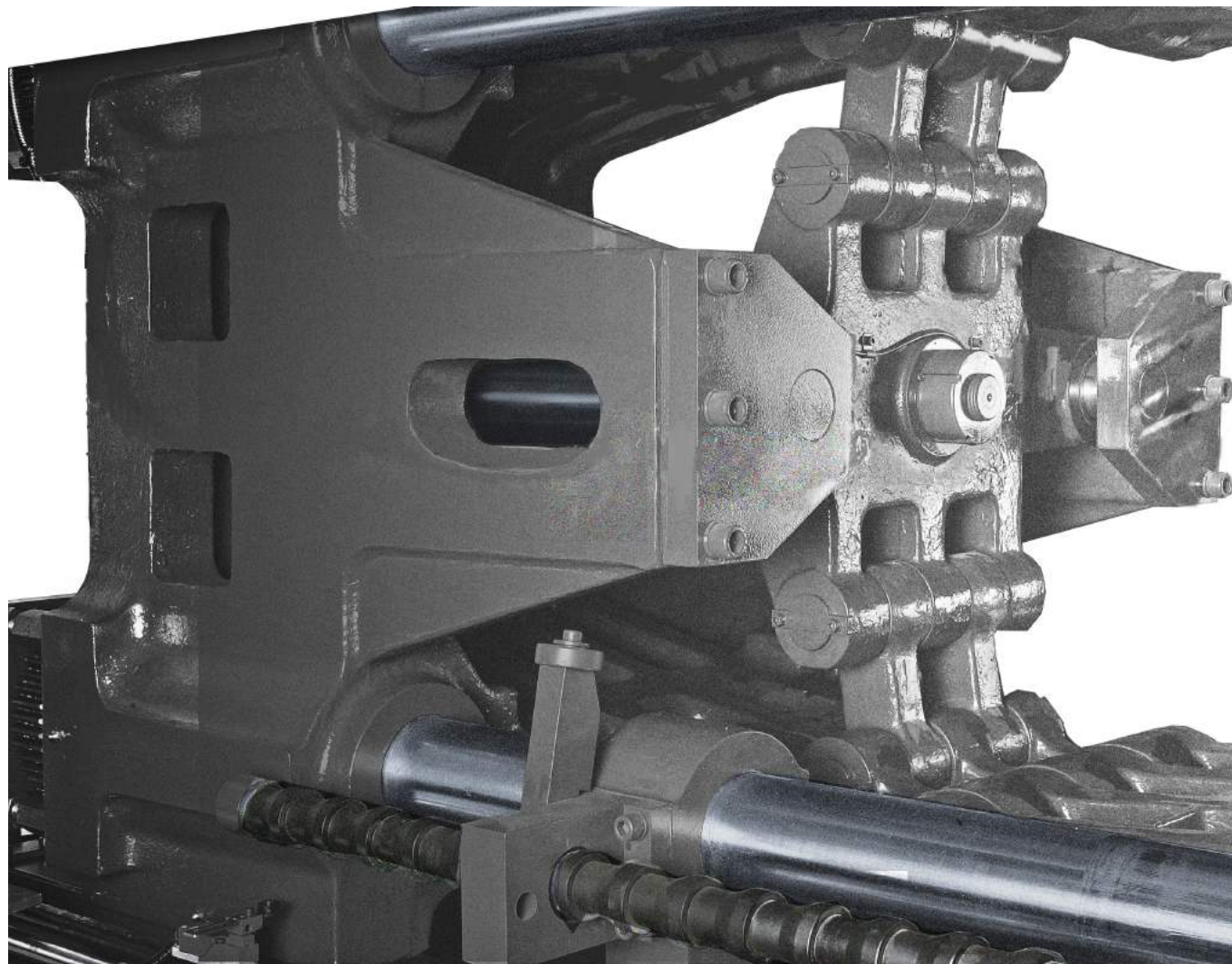


“ People often say that motivation doesn't last. Well, neither dows bating That's why- we recommend it daily

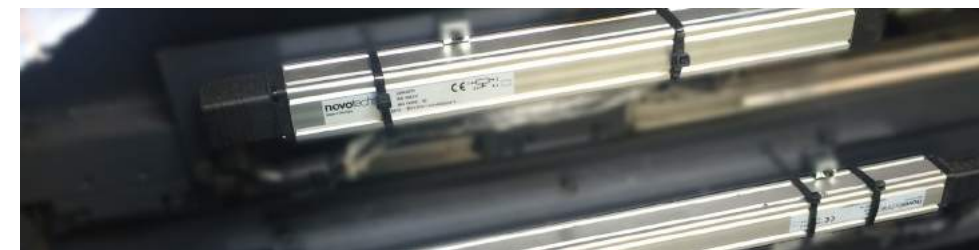
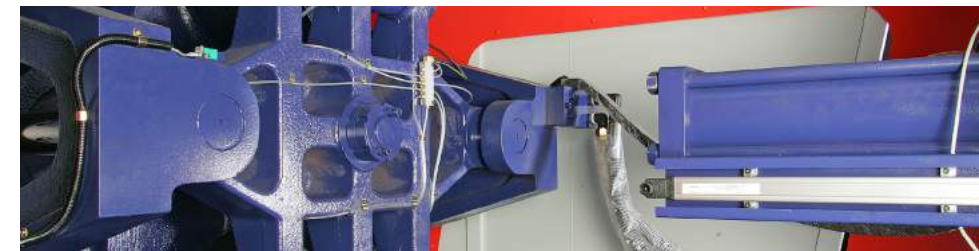
SV MODULE

The SV motor conducts proportional-integral-derivative controller (PID controller) to detect the movement of an injection molding machine. A PID controller is a control loop system and frequently used in industrial control system. A PID controller continuously calculates an error value as the difference between a desired setpoint and a measured process

variable and applies a correction based on proportional, integral, and derivative terms which give their name to the controller type. PID controller could be adjusted the input data by the historical data and the difference, which makes the system accurate and stable.



CLAMPING UNIT



Work With us
for Better Business

FASTER MOVEMENT/ HIGHER CAPABILITY

We move back the toggle joint. According to the principle of Moment of Inertia, the angular velocity is proportional to the radius. The longer the radius is, the faster velocity will be. Thus, the back forward joint point make the radius long, which lead to quicker velocity. Due to the speedy toggle movement, the speed of the close and open mold could improve and produce more goods.

DURABILITY

To achieve durability, the machine structure has made a few changes. We enlarge the tie bar nut, thicker platens, and modify the toggle to four-three claws to enhance the entire clamping structure. Also, the larger tie bar nuts are allowed tie bars to be locked deeper and firmly, which could better sustain tie bars. Regarding the four-three claws toggle, comparing with the past three-two claws, it could bear the force generating by open-close mold action more efficiently. Furthermore, the toggle part engages in Five Point Toggle System. The method could balance the movement force and the mold locking.

CONVENIENT POSITIONING

T slots design help operators to lock molds more flexibly and adjust molds easily. Operators could choose either screw holes or slots to fix molds. Additionally, Lien Yu machines has automatic clamping control, which could help operators to reduce the set-up time.

INJECTION UNIT



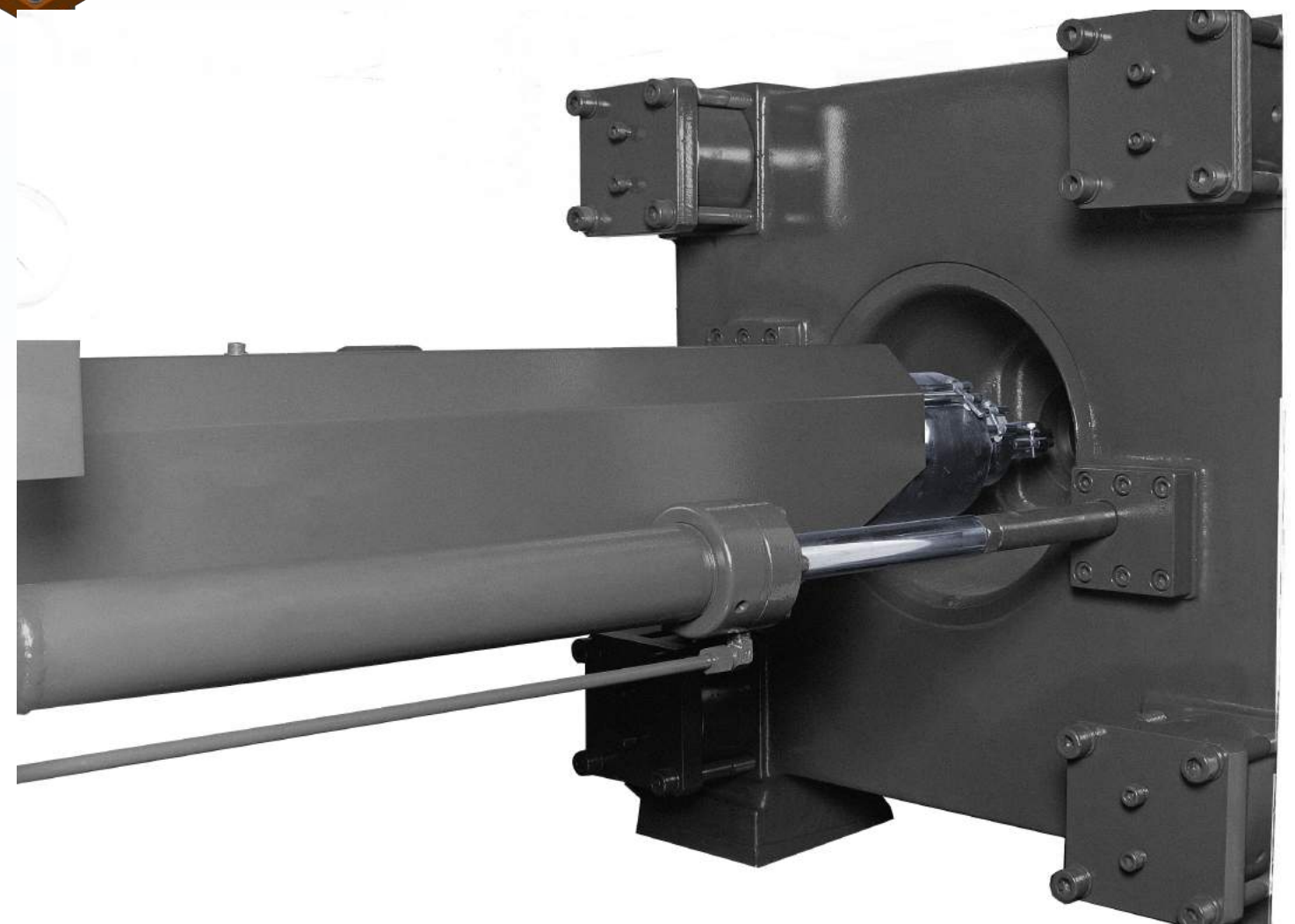
“ Alone we Can
Do so Little, Together
we Can Do so much...”

▶ PRECISE INJECTION

We design two diagonal cylinders to pull the injection part. The advantage is to divide the force and to avoid the sway caused by the injection movement. That is, the injection basement could be better held on the right position. As the result, it could decrease the possibility of barrel damage.

▶ SMOOTH MOVEMENT

The usage of linear guideway assist the injection side to act to the accuracy motion.



KEBA CONTROLLER

ADVANTAGES

Extensive technology libraries

Part of the powerful software framework is the extensive range of technology functions for controlling the injection molding process and for implementing all of the injection molding functions

EASY CONFIGURATION OF THE MACHINE SEQUENCE

KePlast MachineSequencer is a graphical online programming interface for machine sequences. Its intuitive design allows the sequence program to be adapted quickly and cost-effectively.

CONFIGURING INSTEAD OF PROGRAMMING

Pre-programmed software elements allow applications to be created quickly. By selecting the machine equipment such as clamping unit, injection unit, ejector or machine options such as core pullers and hot-runner controllers in a predefined query matrix the wizard automatically creates the entire control software in the background..

INTERACTIVE SOFTWARE WIZARD

KePlast EasyMold is an interactive software wizard for quickly determining the correct process setting when commissioning a tool and requires no special practical experience by the user. Within a very short time, employees without specialist injection molding know-how can use KePlast EasyMold to commission a tool and find the optimum operating point.

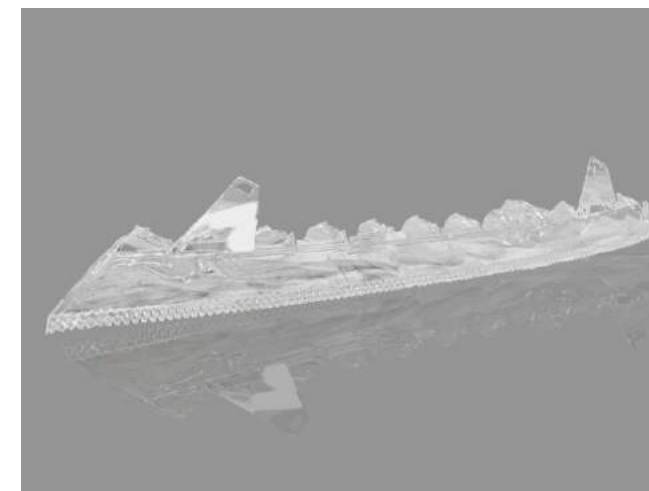
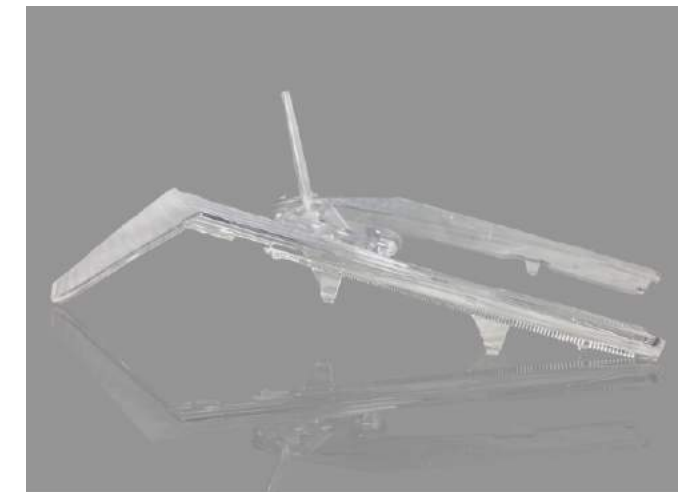
The headquarters are in Linz, Austria. KEBA AG is represented by subsidiaries around the world.



CUSTOMIZE POINTS

- [MULTIPLE LOOPS](#)
- [FAST MACHINE](#)
- [PET MACHINE](#)
- [PVC MACHINE](#)
- [THERMO MACHINE](#)
- [PC MACHINE](#)
- [IML WITH ACCUMULATOR](#)

For the past 30 years, Lien Yu machinery has never gave up breakthrough. We realize that clients various challenge by time to time. With the improvement of technology and mechanical skills, clients might face challenges such as different character of plastic materials, better product quality requirements, producing capacity raising, High-tech dedicate products and so on. Hence no matter what kinds of requirements clients bring out, we are always happy to find out a solution to assist clients.



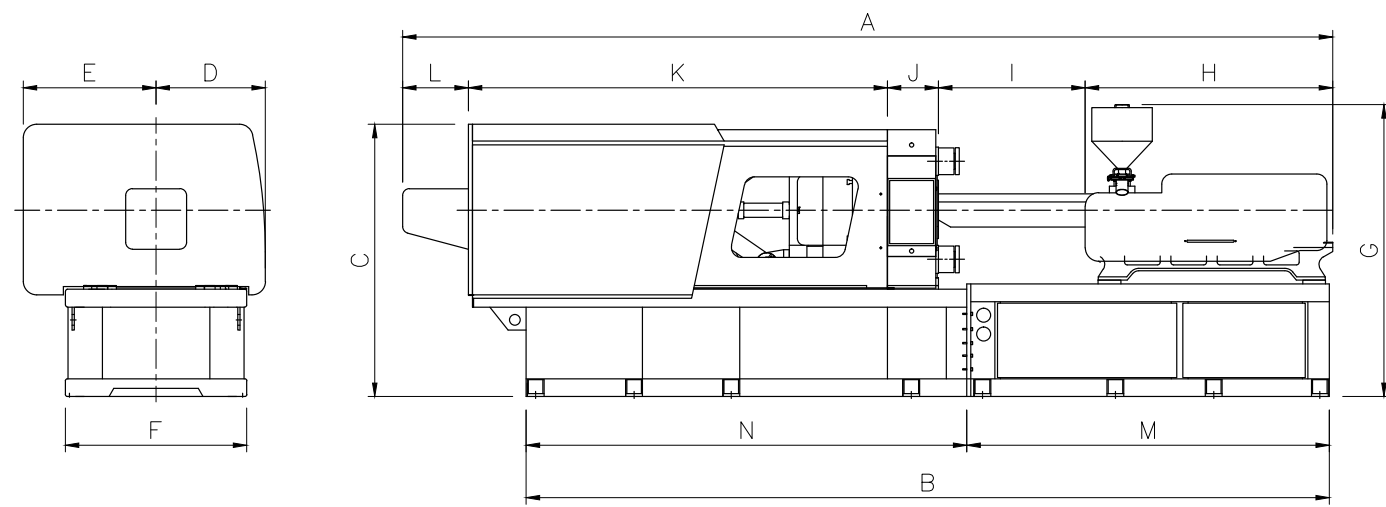
SPECIFICATION

| | Mode | Unit | TF80 | | | TF100 | | | TF120 | | | TF160 | | | TF220 | | | TF300 | | | TF360 | | | TF420 | | |
|-----------------|---------------------------|--------|-------------------|------|------|----------------|------|------|------------------|------|------|-----------------|------|------|-------------------|------|------|-----------------|------|------|-----------------|------|------|-----------------|------|------|
| INJECTION | Screw diameter | mm | 28 | 32 | 36 | 32 | 36 | 40 | 36 | 40 | 45 | 40 | 45 | 50 | 50 | 55 | 60 | 55 | 60 | 65 | 60 | 65 | 70 | 65 | 70 | 75 |
| | Screw L/D Ratio | L/D | 25.1 | 22.0 | 19.6 | 24.8 | 22.0 | 19.8 | 24.4 | 22.0 | 19.6 | 24.8 | 22.0 | 19.8 | 24.2 | 22.0 | 20.2 | 24.0 | 22.0 | 20.3 | 23.8 | 22.0 | 20.4 | 23.7 | 22.0 | 20.5 |
| | Swept volume | cc | 99 | 129 | 163 | 145 | 183 | 226 | 204 | 251 | 318 | 276 | 350 | 432 | 511 | 618 | 735 | 665 | 792 | 929 | 877 | 1029 | 1193 | 1128 | 1308 | 1502 |
| | Max shot weight (P.S) | g | 89 | 116 | 147 | 130 | 165 | 204 | 183 | 226 | 286 | 249 | 315 | 389 | 459 | 556 | 662 | 599 | 713 | 836 | 789 | 926 | 1074 | 1015 | 1178 | 1352 |
| | Max injection pressure | bar | 2650 | 2029 | 1603 | 2505 | 1979 | 1603 | 2250 | 1822 | 1440 | 2431 | 1921 | 1556 | 2189 | 1809 | 1520 | 2340 | 1967 | 1676 | 2211 | 1884 | 1625 | 2186 | 1884 | 1642 |
| | Injection speed | mm/sec | 122 | | | 130 | | | 137 | | | 121 | | | 119 | | | 118 | | | 119 | | | 113 | | |
| | Max injection rate | g/sec | 68 | 88 | 112 | 94 | 119 | 147 | 125 | 155 | 196 | 137 | 174 | 214 | 211 | 255 | 304 | 252 | 300 | 352 | 302 | 354 | 411 | 338 | 392 | 450 |
| | Screw stroke | mm | 160 | | | 180 | | | 200 | | | 220 | | | 260 | | | 280 | | | 310 | | | 340 | | |
| CLAMPING | Max locking force | Tonne | 80 | | | 100 | | | 120 | | | 160 | | | 220 | | | 300 | | | 360 | | | 420 | | |
| | Max opening stroke | mm | 300 | | | 345 | | | 410 | | | 445 | | | 510 | | | 560 | | | 610 | | | 660 | | |
| | Min mold height | mm | 140 | | | 150 | | | 180 | | | 200 | | | 230 | | | 240 | | | 260 | | | 280 | | |
| | Max mold height | mm | 360 | | | 400 | | | 460 | | | 500 | | | 600 | | | 650 | | | 720 | | | 800 | | |
| | Max daylight | mm | 660 | | | 745 | | | 870 | | | 945 | | | 1110 | | | 1210 | | | 1330 | | | 1460 | | |
| | Space between tie bars | mm | 360 x 320 | | | 410 x 360 | | | 460 x 410 | | | 510 x 460 | | | 560 x 510 | | | 610 x 560 | | | 660 x 610 | | | 710 x 660 | | |
| | Max ejector forward force | Tonne | 3.44 | | | 3.44 | | | 4.16 | | | 4.95 | | | 6.73 | | | 8.8 | | | 11.13 | | | 13.74 | | |
| | Max ejector stroke | mm | 80 | | | 90 | | | 110 | | | 130 | | | 140 | | | 165 | | | 180 | | | 200 | | |
| POWER / HEATING | Pump drive motor | kw(HP) | 11(15) | | | 15(20) | | | 18(25) | | | 22(30) | | | 30(40) | | | 46(60) | | | 56(75) | | | 56(75) | | |
| | Hydraulic pressure | bar | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | |
| | Heater capacity | kw | 4 | | | 4.6 | | | 6.5 | | | 7 | | | 17 | | | 13 | | | 16 | | | 19 | | |
| | Number of heating zones | qty | 3+N | | | 3+N | | | 3+N | | | 3+N | | | 4+N | | | 4+N | | | 4+N | | | 4+N | | |
| | Oil filling | Liter | 200 | | | 220 | | | 250 | | | 280 | | | 370 | | | 600 | | | 700 | | | 900 | | |
| | Machine dimensions(LxWxH) | m | 3.81 x 1.06 x 1.7 | | | 4 x 1.12 x 1.8 | | | 4.6 x 1.25 x 1.9 | | | 5.4 x 1.3 x 1.9 | | | 6.2 x 1.34 x 1.84 | | | 6.6 x 1.9 x 2.1 | | | 7.2 x 2.0 x 2.2 | | | 7.8 x 2.0 x 2.3 | | |
| | Machine weight, dry | kgs | 4000 | | | 5000 | | | 5300 | | | 7000 | | | 8000 | | | 11000 | | | 15000 | | | 19000 | | |

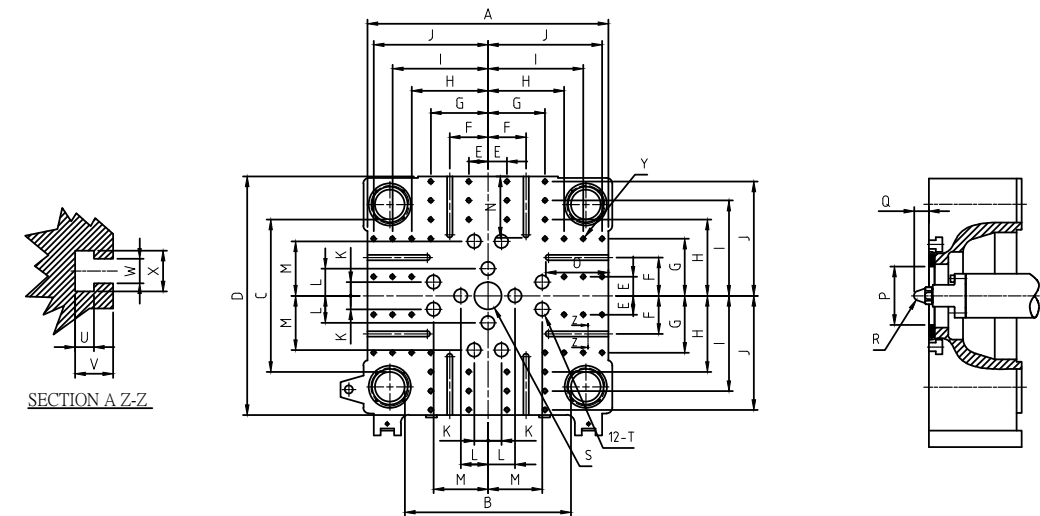
SPECIFICATION

| | Mode | Unit | TF520 | | | TF600 | | | TF800 | | | TF1000 | | | TF1200 | | | TF1500 | | | TF1800 | | | TF2300 | | |
|-----------------|---------------------------|--------|------------------|------|------|------------------|------|------|----------------|------|------|------------------|------|------|------------------|------|------|--------------------|------|------|-----------------------|-------|-------|---------------------------|-------|-------|
| INJECTION | Screw diameter | mm | 70 | 75 | 80 | 75 | 80 | 90 | 85 | 95 | 105 | 95 | 105 | 115 | 100 | 110 | 120 | 115 | 125 | 140 | 125 | 140 | 150 | 150 | 160 | 170 |
| | Screw L/D Ratio | L/D | 23.6 | 22.0 | 20.6 | 23.5 | 22.0 | 19.6 | 24.6 | 22.0 | 19.9 | 24.3 | 22.0 | 20.1 | 24.2 | 22.0 | 20.2 | 23.9 | 22.0 | 19.6 | 24.6 | 22.0 | 20.5 | 23.4 | 22.0 | 20.7 |
| | Swept volume | cc | 1424 | 1635 | 1860 | 1811 | 2061 | 2608 | 2610 | 3261 | 3983 | 3615 | 4416 | 5297 | 4555 | 5512 | 6560 | 6440 | 7609 | 9544 | 8590 | 10776 | 12370 | 15021 | 17090 | 19293 |
| | Max shot weight (P.S) | g | 1282 | 1471 | 1674 | 1630 | 1855 | 2347 | 2349 | 2935 | 3585 | 3253 | 3974 | 4768 | 4100 | 4961 | 5904 | 5796 | 6848 | 8590 | 7731 | 9698 | 11133 | 13519 | 15381 | 17363 |
| | Max injection pressure | bar | 2226 | 1940 | 1705 | 2202 | 1936 | 1530 | 2437 | 1951 | 1597 | 2203 | 1803 | 1503 | 2229 | 1842 | 1548 | 2244 | 1899 | 1514 | 2252 | 1976 | 1564 | 2090 | 1837 | 1627 |
| | Injection speed | mm/sec | 116 | | | 117 | | | 113 | | | 111 | | | 114 | | | 106 | | | 108 | | | 108 | | |
| | Max injection rate | g/sec | 403 | 463 | 527 | 466 | 530 | 671 | 577 | 721 | 880 | 710 | 868 | 1041 | 806 | 975 | 1160 | 988 | 1167 | 1464 | 1196 | 1500 | 1722 | 1718 | 1955 | 2207 |
| | Screw stroke | mm | 370 | | | 410 | | | 460 | | | 510 | | | 580 | | | 620 | | | 700 | | | 850 | | |
| CLAMPING | Max locking force | Tonne | 520 | | | 600 | | | 800 | | | 1000 | | | 1200 | | | 1500 | | | 1800 | | | 2300 | | |
| | Max opening stroke | mm | 760 | | | 920 | | | 1060 | | | 1150 | | | 1300 | | | 1450 | | | 1640 | | | 1800 | | |
| | Min mold height | mm | 320 | | | 350 | | | 400 | | | 500 | | | 600 | | | 700 | | | 750 | | | 800 | | |
| | Max mold height | mm | 900 | | | 1000 | | | 1130 | | | 1200 | | | 1300 | | | 1400 | | | 1640 | | | 1700 | | |
| | Max daylight | mm | 1660 | | | 1920 | | | 2190 | | | 2350 | | | 2600 | | | 2850 | | | 3280 | | | 3500 | | |
| | Space between tie bars | mm | 810 x 760 | | | 910 x 860 | | | 1060 x 960 | | | 1160 x 1060 | | | 1260 x 1160 | | | 1360 x 1260 | | | 1520 x 1420 | | | 1800 x 1600 | | |
| | Max ejector forward force | Tonne | 16.63 | | | 19.79 | | | 23.23 | | | 26.94 | | | 30.93 | | | 35.19 | | | 39.72 | | | 44.53 | | |
| | Max ejector stroke | mm | 225 | | | 275 | | | 300 | | | 300 | | | 350 | | | 400 | | | 450 | | | 450 | | |
| POWER / HEATING | Pump drive motor | kw(HP) | 78(100) | | | 78(100) | | | 56+56(75+75) | | | 78+56(100+75) | | | 78+78(100+100) | | | 56+56+56(75+75+75) | | | 78+78+78(100+100+100) | | | 78+78+78(100+100+100+100) | | |
| | Hydraulic pressure | bar | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | | 171 | | |
| | Heater capacity | kw | 22 | | | 25 | | | 30.7 | | | 38 | | | 48.1 | | | 49.2 | | | 82 | | | 105 | | |
| | Number of heating zones | qty | 5+N | | | 5+N | | | 5+N | | | 5+N | | | 5+N | | | 6+N | | | 6+N | | | 6+N | | |
| | Oil filling | Liter | 1000 | | | 1200 | | | 1600 | | | 1800 | | | 2400 | | | 3000 | | | 3000 | | | 3500 | | |
| | Machine dimensions(LxWxH) | m | 8.5 x 2.1 x 2.25 | | | 9.7 x 2.3 x 2.25 | | | 10 x 2.4 x 2.8 | | | 11.6 x 2.3 x 3.0 | | | 13.3 x 2.5 x 3.1 | | | 14.4 x 2.6 x 3.2 | | | 15.8 x 2.8 x 3.2 | | | 16.8 x 3.8 x 3.7 | | |
| | Machine weight, dry | kgs | 24500 | | | 31000 | | | 50000 | | | 62000 | | | 84000 | | | 96000 | | | 123000 | | | 185000 | | |

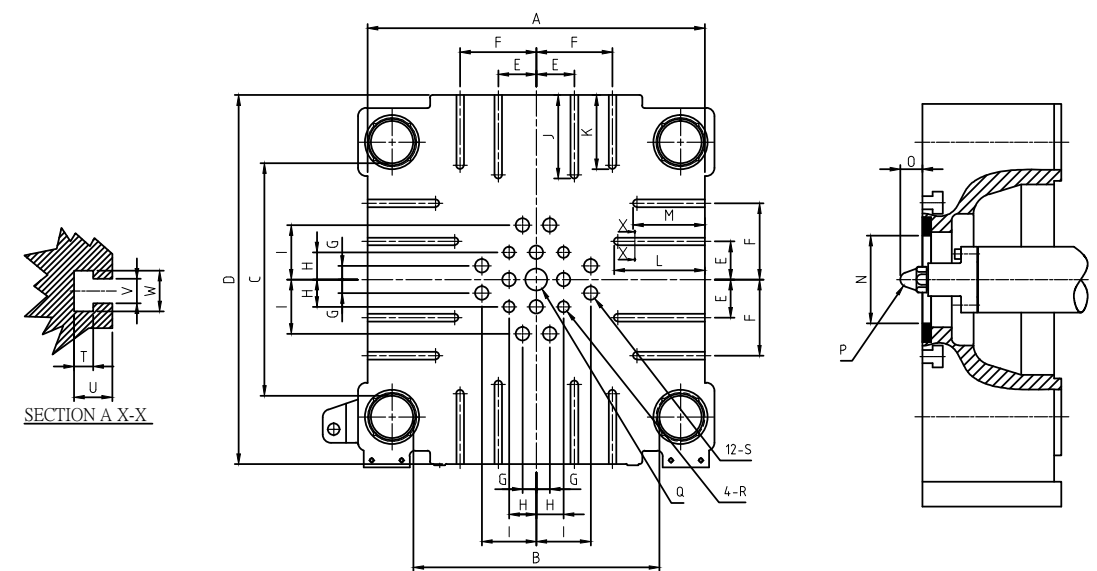
MOLD SIZE



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|-------|------|------|------|------|------|------|------|------|------|-----|------|-----|------|------|
| TF080 | 3614 | 3225 | 1557 | 410 | 610 | 820 | 1863 | 835 | 641 | 190 | 1792 | 156 | | |
| TF100 | 4003 | 3430 | 1615 | 445 | 645 | 890 | 1893 | 840 | 820 | 200 | 1946 | 197 | | |
| TF120 | 4720 | 3982 | 1703 | 595 | 735 | 970 | 1945 | 1200 | 890 | 230 | 2130 | 270 | | |
| TF160 | 5093 | 4250 | 1789 | 633 | 812 | 1060 | 2045 | 1511 | 594 | 260 | 2355 | 374 | | |
| TF220 | 5858 | 4888 | 1838 | 680 | 836 | 1130 | 2101 | 1637 | 851 | 290 | 2630 | 450 | | |
| TF300 | 6375 | 5457 | 1957 | 757 | 908 | 1175 | 2132 | 1778 | 917 | 340 | 2858 | 481 | | |
| TF360 | 6925 | 5980 | 2026 | 813 | 989 | 1350 | 2172 | 1843 | 1092 | 380 | 3120 | 490 | | |
| TF420 | 7484 | 6514 | 2121 | 830 | 1030 | 1430 | 2222 | 2041 | 1110 | 410 | 3378 | 544 | | |
| TF520 | 8312 | 7637 | 2050 | 970 | 1070 | 1560 | 2293 | 2222 | 1217 | 440 | 3758 | 675 | 3269 | 4368 |
| TF600 | 9720 | 8940 | 2271 | 1069 | 1093 | 1760 | 2426 | 2814 | 1231 | 470 | 4455 | 750 | 3895 | 5045 |



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y |
|-------|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|-----|------|-----|----|----|----|----|-----|
| TF080 | 480 | 360 | 320 | 522 | 70 | 105 | 140 | 175 | 210 | | 100 | | | 131 | 110 | φ120 | 30 | R10 | φ80 | φ35 | 14 | 28 | 18 | 30 | M12 |
| TF100 | 540 | 410 | 360 | 572 | 70 | 105 | 140 | 175 | 210 | | 100 | | | 146 | 130 | φ120 | 30 | R10 | φ80 | φ35 | 14 | 28 | 18 | 30 | M16 |
| TF120 | 620 | 455 | 405 | 638 | 70 | 140 | 175 | 210 | 245 | | 100 | | | 139 | 150 | φ120 | 30 | R10 | φ80 | φ35 | 14 | 28 | 18 | 30 | M16 |
| TF160 | 660 | 510 | 460 | 710 | 70 | 140 | 175 | 210 | 280 | | 100 | | | 154 | 164 | φ120 | 30 | R10 | φ100 | φ35 | 14 | 28 | 18 | 30 | M16 |
| TF220 | 780 | 560 | 510 | 778 | 70 | 140 | 210 | 280 | 350 | | 100 | | | 189 | 225 | φ120 | 30 | R10 | φ100 | φ35 | 14 | 33 | 20 | 34 | M18 |
| TF300 | 885 | 610 | 560 | 877 | 70 | 140 | 210 | 280 | 350 | | 50 | 100 | 200 | 225 | 230 | φ150 | 30 | R10 | φ100 | φ50 | 14 | 33 | 20 | 34 | M18 |
| TF360 | 950 | 660 | 610 | 952 | 140 | 210 | 280 | 350 | 420 | | 50 | 100 | 200 | 220 | 220 | φ150 | 30 | R10 | φ100 | φ50 | 16 | 40 | 22 | 37 | M20 |
| TF420 | 1020 | 705 | 655 | 1032 | 140 | 210 | 280 | 350 | 420 | | 50 | 100 | 200 | 260 | 260 | φ150 | 30 | R10 | φ100 | φ50 | 16 | 40 | 22 | 37 | M20 |
| TF520 | 1115 | 805 | 755 | 1164 | 140 | 210 | 280 | 350 | 420 | 490 | 140 | 100 | 200 | 280 | 277 | φ150 | 30 | R15 | φ100 | φ50 | 16 | 40 | 22 | 37 | M20 |



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X |
|-------|------|-----|-----|------|-----|-----|----|-----|-----|-----|-----|-----|-----|------|----|-----|-----|-----|-----|----|----|----|----|----|
| TF600 | 1240 | 905 | 855 | 1356 | 140 | 280 | 50 | 100 | 200 | 307 | 272 | 334 | 264 | φ150 | 30 | R15 | φ80 | φ40 | φ50 | 20 | 20 | 50 | 28 | 46 |