



www.sumiteknatraj.com

Global Presence

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#### Sumitek Natraj Machinery Private Limited

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For Website



For PDF Brochure

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**GT servo**  
Toggle Injection Moulding Machines



We believe that *Excellence* is a journey not a *Destination*





# Shape Business Through Moulding

## ABOUT US

SUMITEK NATRAJ MACHINERY PRIVATE LIMITED is leading manufacturer of plastic injection moulding machines established in the year 1976, we have achieved great feats in the field. We are known for our dynamism towards the technological advancements and for the outstanding customer service in the industry. In view of environmental concerns all over world, we continue to use latest technology to ensure our products remain energy efficient.

We have modular product range of various injection moulding machines consisting of **GT SERVO, SERVO GREEN, ACTIVE, PETLINE, PVC STREAM SERVO, CPVC STREAM SERVO, ACCUFAST, SPAR, WAVE** ranging from 800 kn to 6000 kn clamping force, with moulder injection Units 270 to 4800 to meet customer's specific needs.

With expertise of more than 40 years in manufacturing of PIMMS, we have always been preachers and executors of MAKE IN INDIA. The SUMITEK NATRAJ brand is synonymous with great RELIABILITY, high PRECISION and QUALITY having applications for automotive engineering, electrical parts, house hold, pharmaceuticals, packaging and beverage industries etc.

Recognized as one of the world's most trusted and innovative manufacturer of plastic injection moulding machines (PIMMs) by providing our customers highest quality products that combine performance and advanced technology with value pricing.

### VISION

Continue to offer quality products to meet customer's needs beyond their expectations.



### OUR FOCUS

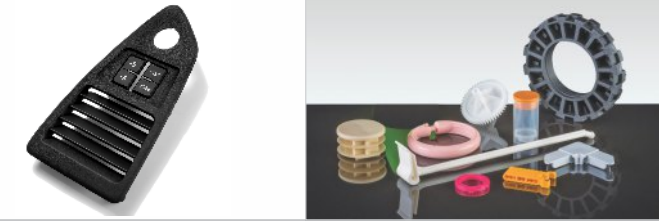
- \*Customer's Satisfaction
- \*Quality Products



# GT SERVO

SERIES MACHINES ARE SUITABLE FOR A WIDE VARIETY OF APPLICATIONS

ENGINEERING AND AUTOMOBILE PARTS



INDUSTRIAL AND SANITARY PRODUCTS



HOUSEHOLD AND KITCHEN WARE PRODUCTS



TOYS & BOBBIN PRODUCTS



ELECTRIC & MEDICAL PRODUCTS



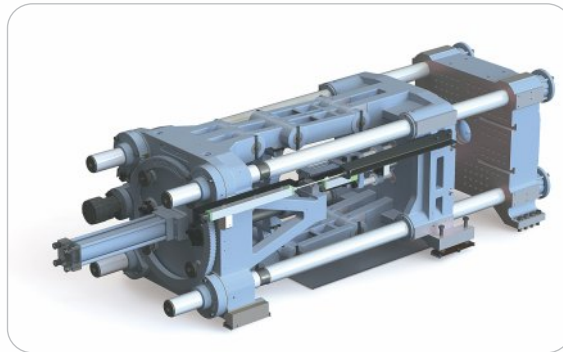
HDPE & IRRIGATION FITTINGS



BOTTLES & CAPS







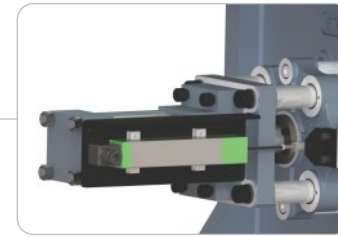
**CLAMPING UNIT**

- Heavy Duty 5-point Double Toggle Mechanism With Large Mould Opening Stroke.
- High Stiffness Platen Design With Large Mould Mounting Area.
- Platen Casting Design With Finite Element Analysis For Maximum Rigidity.
- Mould Platen With T-slots.
- Long Life By Providing Oil Less Bushing With Graphite Impregnated For Toggle Mechanism.
- Platens With Euromap Standard.
- Long Moving Platen Guide Increases Mould Life.



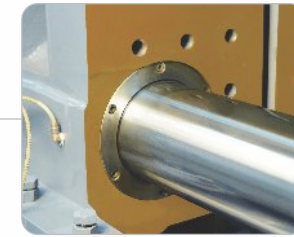
**NUT GEAR**

- High Strength Gear Nut (Tiebar Nut) That Gives Rigid & Positive Clamping Force.



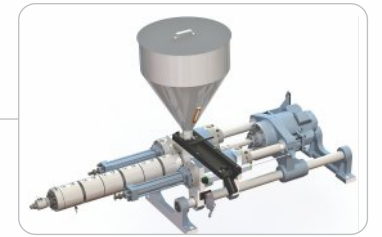
**EJECTOR**

- Smooth & Fast Ejection.
- Multiple Ejection Point & Evenly Distributed Ejection Force.
- Euromap Ejection Point.
- Easy Accessibility.



**WIPER SEAL**

- Keep Lubrication between Platen Hole & Tiebar For Smooth Movement.
- Dust Free Moving Platen Movement Gives Better Tiebar Life



**INJECTION UNIT**

- High Torque Hydraulic Motor For Better Plasticization.
- Longer Life Of Mould With Dual Nozzle Cylinder Design
- Provision For Multiple Screw Change By Changing Spline Bush Only.
- Low Noise Hydraulic Motor.
- Carriage Loaded Injection to Prevent Material Leakage



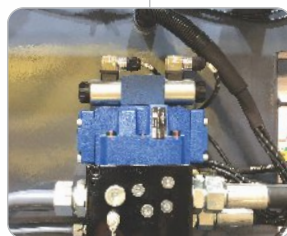
**SKATE PAD**

- High Wear Resistant Skate-pad For Heavy Mould Loading That Reduces Platen Deflection and Enhances Tiebar Life.
- High Wear Resistant Carbon Steel Strip.



**AUTOMATIC GREASE LUBRICATION**

- High Pressure Grease Lubrication System Provides Positive Lubrication.
- Ensures Continuous And Optimum Lubrication To Reduce Friction & Longer Toggle Life.



**ENERGY EFFICIENT HYDRAULIC**

- Return Line Filter With Clogging Sensor.
- High Efficiency & Fast Response Hydraulic Valve With Applicable Pipe Size Selection Reduces Oil Heat & Saves Power.
- Hydraulic Directional Valve With On /off Indicator Connector.



**HMI**

- 8.0/10.4 Inch , TFT Colour Display.
- Precise Mould Safety.
- High Speed Microprocessor Controller.
- Self Diagnostics & Fault Finding Capacity.
- Graphical Presentation Of Important Functions.
- Automatic Calibration Of Sensors And Valves.
- PDP & SPC Function.
- Multiple User Passwords.
- Quality Data Logging.
- Unlimited Mould Data Storage Through USB
- USB Connection For Printer, Modem, USB Stick etc.



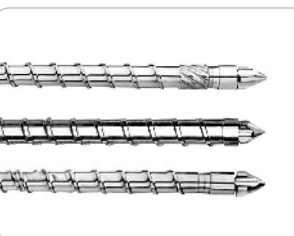
**ANTI VIBRATING PAD**

- Minimum Vibrations.
- Precise & Fast Leveling.
- No Civil Foundation Required.



**SCREW & BARREL**

- Gas Nitrided Injection Screw & Barrel For The Ultimate In Wear Resistance.
- Process Ability At Lower Melting Temperature.
- Excellent Melt Homogeneity.
- Special Screw Design.
- Improved Product Quality.
- Better Plastication Rate.



**ELECTRICAL PANEL**

- Energy Meter.
- High Quality Electrical Components And Excellent Circuit Hardware Design.
- Stable And Reliable Control System With A Stronger Anti-interference Function.
- Ease In Maintenance.
- Over Voltage, Under Voltage Phase Loss And Phase Sequence Protection.
- Separate And Spacious Power & Control Wiring.
- 230 VAC Components Safe By Isolation Transformer.
- Ensured Panel Safety with IP-54 Protection.



**SERVO TECHNOLOGY**

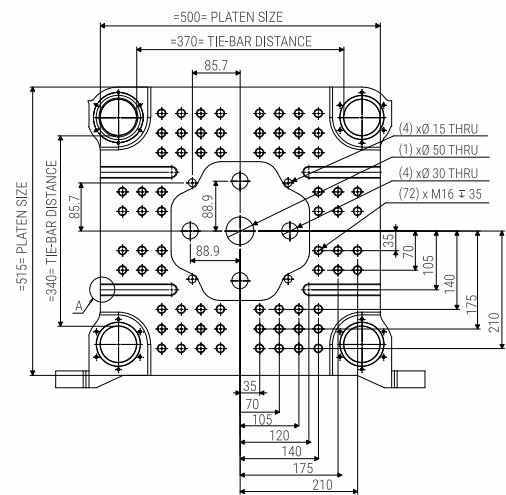
- Outstanding Power Saver.
- Precise And Fast Response.
- Outstanding Consistency And Repeatability.
- Low Noise Level.
- Lower Oil Heat Generation.
- Faster Response Towards Hydraulic System.
- Enhanced Oil & Hydraulic Seal's Life.
- Less Cooling Water Consumption.

| Model                              |        | 75 Ton        |      |      |      |        |      |      |      | 90 Ton        |      |      |      |        |      |      |      | 120 Ton       |      |      |      |        |      |      |      | 135 Ton       |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
|------------------------------------|--------|---------------|------|------|------|--------|------|------|------|---------------|------|------|------|--------|------|------|------|---------------|------|------|------|--------|------|------|------|---------------|------|------|------|--------|------|------|------|---------------|------|------|------|------|--|--|--|---------------|--|--|--|------|--|--|--|-----------------|--|--|--|------|--|--|--|-----------------|--|--|--|------|--|--|--|-----------------|--|--|--|------|--|--|--|
| INJECTION UNIT                     | UNIT   | 190           |      |      |      | 270    |      |      |      | 270           |      |      |      | 410    |      |      |      | 270           |      |      |      | 410    |      |      |      | 270           |      |      |      | 410    |      |      |      | 590           |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
|                                    |        | AA            | A    | B    | C    | AA     | A    | B    | C    | AA            | A    | B    | C    | AA     | A    | B    | C    | AA            | A    | B    | C    | AA     | A    | B    | C    | AA            | A    | B    | C    | AA     | A    | B    | C    | AA            | A    | B    | C    |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| INJECTION CAPACITY MAX. ( GPPS )   | gm     | 87            | 113  | 144  | 178  | 130    | 165  | 200  | 255  | 130           | 165  | 200  | 255  | 190    | 240  | 300  | 370  | 130           | 165  | 200  | 255  | 190    | 240  | 300  | 370  | 130           | 165  | 200  | 255  | 190    | 240  | 300  | 370  | 260           | 330  | 410  | 495  |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| INJECTION PRESSURE                 | bar    | 2428          | 1860 | 1470 | 1190 | 2279   | 1800 | 1458 | 1152 | 2279          | 1800 | 1458 | 1152 | 2351   | 1904 | 1505 | 1220 | 2279          | 1800 | 1458 | 1152 | 2351   | 1904 | 1505 | 1220 | 2279          | 1800 | 1458 | 1152 | 2351   | 1904 | 1505 | 1220 | 2476          | 1957 | 1585 | 1310 |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| INJECTION RATE                     | cc/sec | 70            | 91   | 115  | 142  | 93     | 117  | 145  | 184  | 93            | 117  | 145  | 184  | 90     | 110  | 141  | 174  | 119           | 150  | 186  | 235  | 115    | 142  | 180  | 223  | 119           | 150  | 186  | 235  | 115    | 142  | 180  | 223  | 137           | 173  | 214  | 259  |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| INJECTION SCREW STROKE             | mm     | 150           |      |      |      | 170    |      |      |      | 170           |      |      |      | 200    |      |      |      | 170           |      |      |      | 200    |      |      |      | 170           |      |      |      | 200    |      |      |      | 220           |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| SCREW DIAMETER                     | mm     | 28            | 32   | 36   | 40   | 32     | 36   | 40   | 45   | 32            | 36   | 40   | 45   | 36     | 40   | 45   | 50   | 32            | 36   | 40   | 45   | 36     | 40   | 45   | 50   | 32            | 36   | 40   | 45   | 36     | 40   | 45   | 50   | 40            | 45   | 50   | 55   |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| SCREW L / D RATIO                  | -      | 25.2          | 22   | 19.5 | 19.2 | 24.8   | 22   | 19.8 | 19.2 | 24.8          | 22   | 19.8 | 19.2 | 24.5   | 22   | 19.6 | 19.2 | 24.8          | 22   | 19.8 | 19.2 | 24.5   | 22   | 19.6 | 19.2 | 24.8          | 22   | 19.8 | 19.2 | 24.5   | 22   | 19.6 | 19.2 | 24.8          | 22   | 19.8 | 19.2 |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| NO. OF PYROMETERS (BARREL+NOZZLE)  | -      | 3 + 1N        |      |      |      | 3 + 1N |      |      |      | 3 + 1N        |      |      |      | 3 + 1N |      |      |      | 3 + 1N        |      |      |      | 3 + 1N |      |      |      | 3 + 1N        |      |      |      | 4 + 1N |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| TOTAL HEAT CAPACITY                | kw     | 9             |      |      |      | 9.8    |      |      |      | 10.2          |      |      |      | 11.1   |      |      |      | 10.2          |      |      |      | 11.1   |      |      |      | 11.8          |      |      |      | 12.9   |      |      |      | 10.2          |      |      |      | 11.1 |  |  |  | 11.8          |  |  |  | 12.9 |  |  |  | 14.1            |  |  |  | 15.3 |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| <b>CLAMP UNIT</b>                  |        |               |      |      |      |        |      |      |      |               |      |      |      |        |      |      |      |               |      |      |      |        |      |      |      |               |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| CLAMP FORCE                        | ton    | 75            |      |      |      |        |      |      |      | 90            |      |      |      |        |      |      |      | 120           |      |      |      |        |      |      |      | 135           |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| CLAMP STROKE                       | mm     | 325           |      |      |      |        |      |      |      | 350           |      |      |      |        |      |      |      | 375           |      |      |      |        |      |      |      | 400           |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| MAXIMUM DAYLIGHT                   | mm     | 675           |      |      |      |        |      |      |      | 750           |      |      |      |        |      |      |      | 855           |      |      |      |        |      |      |      | 920           |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| MINIMUM MOULD HEIGHT               | mm     | 125           |      |      |      |        |      |      |      | 150           |      |      |      |        |      |      |      | 150           |      |      |      |        |      |      |      | 150           |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| MAXIMUM MOULD HEIGHT               | mm     | 350           |      |      |      |        |      |      |      | 400           |      |      |      |        |      |      |      | 480           |      |      |      |        |      |      |      | 520           |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| PLATEN SIZE ( H x V )              | mm     | 500 x 515     |      |      |      |        |      |      |      | 600 x 595     |      |      |      |        |      |      |      | 630 x 636     |      |      |      |        |      |      |      | 700 x 670     |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| DISTANCE BETWEEN TIE ROD ( H x V ) | mm     | 370 X 340     |      |      |      |        |      |      |      | 415 x 380     |      |      |      |        |      |      |      | 440 x 400     |      |      |      |        |      |      |      | 480 x 450     |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| EJECTOR STROKE                     | mm     | 90            |      |      |      |        |      |      |      | 100           |      |      |      |        |      |      |      | 120           |      |      |      |        |      |      |      | 120           |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| EJECTOR FORCE                      | ton    | 3.3           |      |      |      |        |      |      |      | 5.3           |      |      |      |        |      |      |      | 5.3           |      |      |      |        |      |      |      | 5.3           |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| MOULD WEIGHT CAPACITY              | kg     | 400           |      |      |      |        |      |      |      | 650           |      |      |      |        |      |      |      | 850           |      |      |      |        |      |      |      | 1000          |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| <b>GENERAL</b>                     |        |               |      |      |      |        |      |      |      |               |      |      |      |        |      |      |      |               |      |      |      |        |      |      |      |               |      |      |      |        |      |      |      |               |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| SERVO DRIVE                        | kw     | 9.5           |      |      |      | 9.5    |      |      |      | 9.5           |      |      |      | 11     |      |      |      | 11            |      |      |      | 13     |      |      |      | 13            |      |      |      | 18     |      |      |      | 22            |      |      |      |      |  |  |  |               |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |
| TOTAL OIL TANK CAPACITY            | ltr    | 210           |      |      |      |        |      |      |      | 210           |      |      |      |        |      |      |      | 225           |      |      |      |        |      |      |      | 225           |      |      |      |        |      |      |      | 260           |      |      |      |      |  |  |  | 260           |  |  |  |      |  |  |  | 325             |  |  |  |      |  |  |  | 325             |  |  |  |      |  |  |  | 325             |  |  |  |      |  |  |  |
| CONNECTED LOAD                     | kw     | 18.5          |      |      |      | 19.3   |      |      |      | 19.7          |      |      |      | 20.6   |      |      |      | 19.7          |      |      |      | 20.6   |      |      |      | 22.8          |      |      |      | 23.9   |      |      |      | 21.2          |      |      |      | 22.1 |  |  |  | 24.8          |  |  |  | 25.9 |  |  |  | 23.2            |  |  |  | 24.1 |  |  |  | 29.8            |  |  |  | 30.9 |  |  |  | 36.1            |  |  |  | 37.3 |  |  |  |
| MACHINE DIMENSIONS ( L x W x H )   | m      | 4.1 x 1.5 x 2 |      |      |      |        |      |      |      | 4.3 x 1.5 x 2 |      |      |      |        |      |      |      | 4.6 x 1.5 x 2 |      |      |      |        |      |      |      | 4.6 x 1.5 x 2 |      |      |      |        |      |      |      | 4.8 x 1.5 x 2 |      |      |      |      |  |  |  | 4.8 x 1.5 x 2 |  |  |  |      |  |  |  | 5.1 x 1.7 x 2.1 |  |  |  |      |  |  |  | 5.1 x 1.7 x 2.1 |  |  |  |      |  |  |  | 5.3 x 1.7 x 2.1 |  |  |  |      |  |  |  |
| MACHINE WEIGHT (Approx.)           | ton    | 3.4           |      |      |      |        |      |      |      | 3.5           |      |      |      |        |      |      |      | 4             |      |      |      |        |      |      |      | 4.2           |      |      |      |        |      |      |      | 4.3           |      |      |      |      |  |  |  | 4.5           |  |  |  |      |  |  |  | 5.1             |  |  |  |      |  |  |  | 5.3             |  |  |  |      |  |  |  | 5.6             |  |  |  |      |  |  |  |

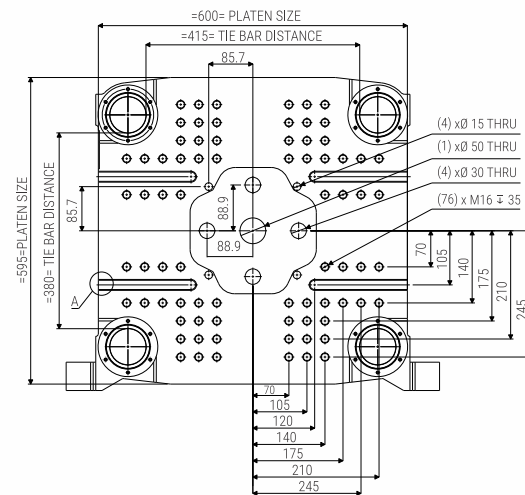
| Model                              |        | 160 Ton         |      |      |      |        |      |      |      |                 |      |      |      | 200 Ton |      |      |      |                 |      |      |      |        |      |      |      |                 |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
|------------------------------------|--------|-----------------|------|------|------|--------|------|------|------|-----------------|------|------|------|---------|------|------|------|-----------------|------|------|------|--------|------|------|------|-----------------|------|------|--|------|--|--|--|-----------------|--|--|--|------|--|--|--|-----------------|--|--|--|------|--|--|--|-----------------|--|--|--|--|--|--|--|
| INJECTION UNIT                     | UNIT   | 410             |      |      |      | 590    |      |      |      | 1050            |      |      |      | 410     |      |      |      | 590             |      |      |      | 1050   |      |      |      | 1430            |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
|                                    |        | AA              | A    | B    | C    | AA     | A    | B    | C    | AA              | A    | B    | C    | AA      | A    | B    | C    | AA              | A    | B    | C    | AA     | A    | B    | C    | A               | B    | C    |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| INJECTION CAPACITY MAX. ( GPPS )   | gm     | 190             | 240  | 300  | 370  | 260    | 330  | 410  | 495  | 445             | 540  | 640  | 750  | 190     | 240  | 300  | 370  | 260             | 330  | 410  | 495  | 445    | 540  | 640  | 750  | 740             | 870  | 1000 |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| INJECTION PRESSURE                 | bar    | 2351            | 1904 | 1505 | 1220 | 2476   | 1957 | 1585 | 1310 | 2126            | 1757 | 1476 | 1257 | 2351    | 1904 | 1505 | 1220 | 2476            | 1957 | 1585 | 1310 | 2126   | 1757 | 1476 | 1257 | 1750            | 1491 | 1286 |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| INJECTION RATE                     | cc/sec | 115             | 142  | 180  | 223  | 137    | 173  | 214  | 259  | 200             | 241  | 287  | 337  | 118     | 142  | 180  | 223  | 137             | 173  | 214  | 259  | 200    | 241  | 287  | 337  | 305             | 358  | 416  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| INJECTION SCREW STROKE             | mm     | 200             |      |      |      | 220    |      |      |      | 240             |      |      |      | 200     |      |      |      | 220             |      |      |      | 240    |      |      |      | 280             |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| SCREW DIAMETER                     | mm     | 36              | 40   | 45   | 50   | 40     | 45   | 50   | 55   | 50              | 55   | 60   | 65   | 36      | 40   | 45   | 50   | 40              | 45   | 50   | 55   | 50     | 55   | 60   | 65   | 60              | 65   | 70   |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| SCREW L / D RATIO                  | -      | 24.5            | 22   | 19.6 | 19.2 | 24.8   | 22   | 19.8 | 19.6 | 23              | 21   | 19.2 | 19.5 | 24.5    | 22   | 19.6 | 19.2 | 24.8            | 22   | 19.8 | 19.6 | 23     | 21   | 19.2 | 19.5 | 22              | 20.3 | 21.5 |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| NO. OF PYROMETERS (BARREL+NOZZLE)  | -      | 3 + 1N          |      |      |      | 4 + 1N |      |      |      | 4 + 1N          |      |      |      | 3 + 1N  |      |      |      | 4 + 1N          |      |      |      | 4 + 1N |      |      |      | 4 + 1N          |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| TOTAL HEAT CAPACITY                | kw     | 11.8            |      |      |      | 12.9   |      |      |      | 14.1            |      |      |      | 15.3    |      |      |      | 11.8            |      |      |      | 12.9   |      |      |      | 14.1            |      |      |  | 15.3 |  |  |  | 18.1            |  |  |  | 19.9 |  |  |  | 22.5            |  |  |  | 25.7 |  |  |  |                 |  |  |  |  |  |  |  |
| <b>CLAMP UNIT</b>                  |        |                 |      |      |      |        |      |      |      |                 |      |      |      |         |      |      |      |                 |      |      |      |        |      |      |      |                 |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| CLAMP FORCE                        | ton    | 160             |      |      |      |        |      |      |      | 200             |      |      |      |         |      |      |      | 200             |      |      |      |        |      |      |      | 200             |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| CLAMP STROKE                       | mm     | 440             |      |      |      |        |      |      |      | 500             |      |      |      |         |      |      |      | 500             |      |      |      |        |      |      |      | 500             |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| MAXIMUM DAYLIGHT                   | mm     | 990             |      |      |      |        |      |      |      | 1100            |      |      |      |         |      |      |      | 1100            |      |      |      |        |      |      |      | 1100            |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| MINIMUM MOULD HEIGHT               | mm     | 200             |      |      |      |        |      |      |      | 200             |      |      |      |         |      |      |      | 200             |      |      |      |        |      |      |      | 200             |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| MAXIMUM MOULD HEIGHT               | mm     | 550             |      |      |      |        |      |      |      | 600             |      |      |      |         |      |      |      | 600             |      |      |      |        |      |      |      | 600             |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| PLATEN SIZE ( W x V )              | mm     | 745 x 695       |      |      |      |        |      |      |      | 822 x 765       |      |      |      |         |      |      |      | 822 x 765       |      |      |      |        |      |      |      | 822 x 765       |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| DISTANCE BETWEEN TIE ROD ( H x V ) | mm     | 520 x 470       |      |      |      |        |      |      |      | 570 x 500       |      |      |      |         |      |      |      | 570 x 500       |      |      |      |        |      |      |      | 570 x 500       |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| EJECTOR STROKE                     | mm     | 140             |      |      |      |        |      |      |      | 160             |      |      |      |         |      |      |      | 160             |      |      |      |        |      |      |      | 160             |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| EJECTOR FORCE                      | ton    | 5.3             |      |      |      |        |      |      |      | 7.5             |      |      |      |         |      |      |      | 7.5             |      |      |      |        |      |      |      | 7.5             |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| MOULD WEIGHT CAPACITY              | kg     | 1300            |      |      |      |        |      |      |      | 1500            |      |      |      |         |      |      |      | 1500            |      |      |      |        |      |      |      | 1500            |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| <b>GENERAL</b>                     |        |                 |      |      |      |        |      |      |      |                 |      |      |      |         |      |      |      |                 |      |      |      |        |      |      |      |                 |      |      |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| SERVO DRIVE                        | kw     | 18              |      |      |      | 22     |      |      |      | 25              |      |      |      | 18      |      |      |      | 22              |      |      |      | 25     |      |      |      | 30              |      |      |  | 30   |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |      |  |  |  |                 |  |  |  |  |  |  |  |
| TOTAL OIL TANK CAPACITY            | ltr    | 380             |      |      |      |        |      |      |      | 380             |      |      |      |         |      |      |      | 380             |      |      |      |        |      |      |      | 410             |      |      |  |      |  |  |  | 410             |  |  |  |      |  |  |  | 410             |  |  |  |      |  |  |  | 460             |  |  |  |  |  |  |  |
| CONNECTED LOAD                     | kw     | 29.8            |      |      |      | 30.9   |      |      |      | 36.1            |      |      |      | 37.3    |      |      |      | 29.8            |      |      |      | 30.9   |      |      |      | 36.1            |      |      |  | 37.3 |  |  |  | 43.1            |  |  |  | 44.9 |  |  |  | 52.5            |  |  |  | 55.7 |  |  |  |                 |  |  |  |  |  |  |  |
| MACHINE DIMENSIONS ( L x W x H )   | m      | 5.4 x 1.7 x 2.1 |      |      |      |        |      |      |      | 5.4 x 1.7 x 2.1 |      |      |      |         |      |      |      | 5.7 x 1.7 x 2.1 |      |      |      |        |      |      |      | 5.5 x 1.8 x 2.2 |      |      |  |      |  |  |  | 5.9 x 1.9 x 2.3 |  |  |  |      |  |  |  | 6.2 x 1.9 x 2.3 |  |  |  |      |  |  |  | 6.4 x 1.9 x 2.3 |  |  |  |  |  |  |  |
| MACHINE WEIGHT (Approx.)           | ton    | 6.5             |      |      |      |        |      |      |      | 6.7             |      |      |      |         |      |      |      | 6.9             |      |      |      |        |      |      |      | 7.6             |      |      |  |      |  |  |  | 7.8             |  |  |  |      |  |  |  | 8.1             |  |  |  |      |  |  |  | 8.5             |  |  |  |  |  |  |  |

• Injection unit change is possible as per requirements.  
 • Actual figures may change depending on your final machine configuration.

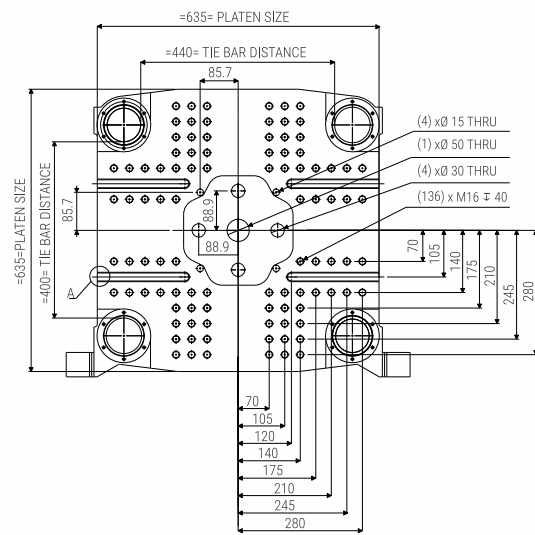




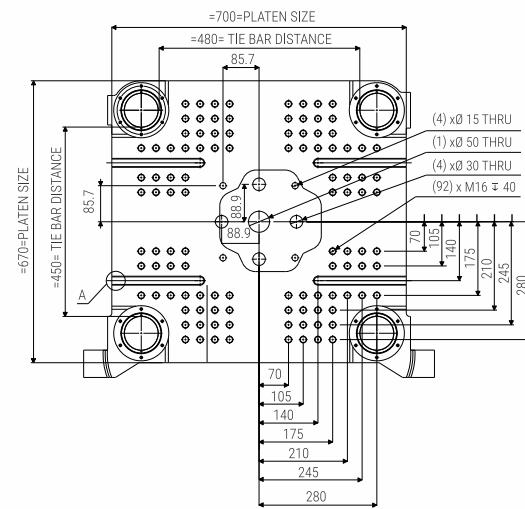
**GT SERVO 75 Moving Plate**  
Stationary Platen : Locating Ring Ø125 (-0.05 TO -0.10)



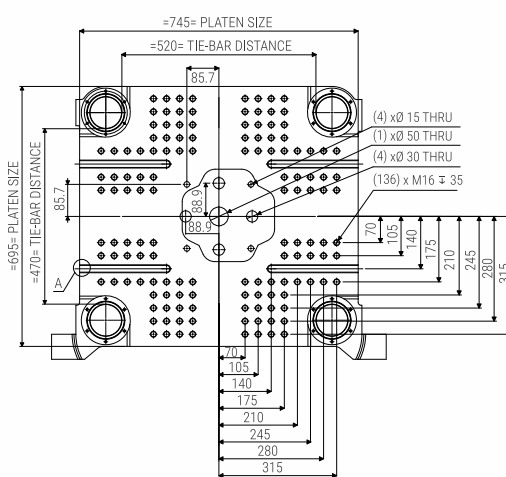
**GT SERVO 90 Moving Plate**  
Stationary Platen : Locating Ring Ø125 (-0.05 TO -0.10)



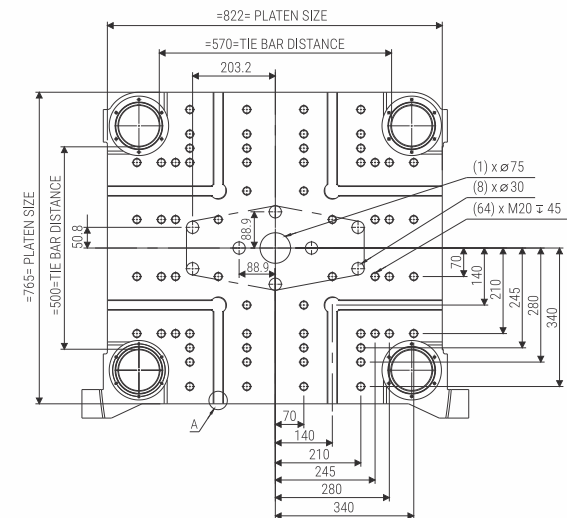
**GT SERVO 120 Moving Plate**  
Stationary Platen : Locating Ring Ø125 (-0.05 TO -0.10)



**GT SERVO 135 Moving Plate**  
Stationary Platen : Locating Ring Ø125 (-0.05 TO -0.10)



**GT SERVO 160 Moving Plate**  
Stationary Platen : Locating Ring Ø125 (-0.05 TO -0.10)



**GT SERVO 200 Moving Plate**  
Stationary Platen : Locating Ring Ø160 (-0.05 TO -0.10)

**T-SLOT DETAIL OF STATIONARY PLATEN & MOVING PLATEN**

| MACHINE | T- SOLT |    |    |    |
|---------|---------|----|----|----|
|         | A       | B  | C  | D  |
| 75 TON  | 18      | 32 | 14 | 32 |
| 90 TON  | 18      | 32 | 14 | 32 |
| 120 TON | 18      | 32 | 14 | 32 |
| 135 TON | 18      | 32 | 14 | 32 |
| 160 TON | 18      | 32 | 14 | 32 |
| 200 TON | 22      | 40 | 18 | 42 |

NOTE : ALL DIMENSIONS ARE IN MM.  
T- SLOT & THREAD DIMENSIONS ARE AS PER EURO MAP STANDARD.  
EJECT. CENTER DIST. ARE TYPICAL IN FOUR QUADRANTS

**VARIOUS MATERIAL PROCESSING VALUES**

| INJECTION MATERIAL | DENSITY gm/cc | NOZZEL SIDE TEMP DEG C. | MOULD TEMP DEG | INJECTION PRESSURE BAR | HOLDING PRESSURE BAR | DRYING TEMPRATURE (DEG C) | DRYING TIME (Hrs.) |
|--------------------|---------------|-------------------------|----------------|------------------------|----------------------|---------------------------|--------------------|
| ABS                | 1.05          | 180-260                 | 50-85          | 650-1550               | 350-900              | 90                        | 3-4                |
| ACRYLIC            | 1-19          | 200-260                 | 50-80          | 800-1600               | 600-1300             | 75-90                     | 3-5                |
| CA                 | 1.26-1.34     | 185-225                 | 60-80          | 650-1350               | 400-1000             | 80                        | 3-4                |
| CAB                | 1.16-1.31     | 160-190                 | 60-80          | 650-1350               | 400-1000             | 80                        | 3-4                |
| CP                 | 1.17-1.24     | 160-220                 | 50-70          | 650-1350               | 400-1000             | 75                        | 2-3                |
| HDPE               | 0.94-0.96     | 200-280                 | 10-40          | 700-1400               | 300-800              |                           |                    |
| HIPS               | 1.05          | 200-270                 | 40-70          | 650-1500               | 350-900              | 80                        | 2-3                |
| LDPE               | 0.92-0.94     | 200-290                 | 10-40          | 650-1350               | 400-1000             |                           |                    |
| PA 6               | 1.12-1.14     | 230-260                 | 40-120         | 450-1550               | 350-1050             | 70                        | 3-5                |
| PA 6. 6            | 1.13-1.15     | 270-295                 | 20-120         | 450-1550               | 350-1050             | 70                        | 3-5                |
| PA 6. 10           | 1.09-1.11     | 220-260                 | 20-100         | 450-1550               | 350-1050             | 70                        | 3-5                |
| PA 11              | 1.03          | 200-250                 | 20-100         | 450-1550               | 350-1050             | 80                        | 3-4                |
| PA 12              | 1.02          | 260-300                 | 20-100         | 450-1550               | 350-1050             | 80                        | 3-4                |
| PAI                | 1.4           | 260-380                 | 170-230        | 1000-1600              | 600-1300             | 150                       | 8                  |
| PBT                | 1.3-1.4       | 230-270                 | 20-60          | 800-1500               | 500-1200             | 140                       | 4-5                |
| PC                 | 1.20-1.24     | 290-320                 | 85-120         | 1000-1600              | 600-1300             | 120                       | 3-4                |
| PET                | 1.3-1.4       | 260-280                 | 20-140         | 800-1500               | 500-1200             | 150                       | 4-6                |
| PMMA               | 1.17-1.2      | 220-250                 | 20-90          | 1000-1400              | 500-1150             | 80                        | 3-4                |
| POM                | 1.41-1.42     | 185-215                 | 80-120         | 700-2000               | 500-1200             | 70                        | 2-3                |
| PP                 | 0.9           | 220-290                 | 20-60          | 800-1400               | 500-100              | -                         | -                  |
| PPO mod            | 1.04-1.1      | 245-290                 | 75-95          | 1000-1600              | 600-1250             | 120                       | 5-6                |
| PPS                | 1.34          | 300-370                 | 20-200         | 750-1500               | 350-750              | 140                       | 3-4                |
| PS                 | 1.05          | 160-230                 | 20-80          | 650-1650               | 350-900              | 80                        | 2-3                |
| PSO, PES           | 1.37-1.46     | 320-390                 | 100-160        | 900-1400               | 500-1150             | 140                       | 3-4                |
| PVC- rigid         | 1.35-1.5      | 170-190                 | 20-60          | 1000-1550              | 400-900              | 60                        | 1-2                |
| PVC- soft          | 1.3-1.7       | 150-170                 | 20-60          | 400-1550               | 300-600              | 60                        | 1-2                |
| PU                 | 1.2           | 170-240                 | 40-80          | 650-1500               | 300-800              | 70                        | 2-3                |
| SAN                | 1.04          | 200-260                 | 40-80          | 650-1550               | 350-900              | 80                        | 3-4                |
| TPE                | 1.2           | 180-240                 | 40-50          | 650-1500               | 300-800              | 110                       | 6                  |

• Note : Values may be optimized, as per machine / product.

**CLAMPING UNIT  
IN RESPECT OF ALL MODELS.**

Heavy duty 5-point double toggle mechanism with large mould opening stroke.  
 High stiffness platen design with large mould mounting area.  
 High wear resistance & high strength gear nut (tiebar nut) gives rigid & positive clamping force.  
 Five stage mould close / open speed (slow-fast-slow) & pressure.  
 Multi stage digital speed and pressure setting to operate the mould.  
 Computer aided design toggle mechanism gives optimal mould closing and opening speed profits.  
 Ramping adjustment for accurate position.  
 Linear transducer for accurate clamp position.  
 Mould protection with repeat again option.  
 Travel time display for close & open for producing any item while operations.  
 Auto-mould height adjustment with hydraulic motor.  
 Hard-chrome plated high-tensile steel tie-bars with stress relieve design.  
 Auto-lubrication based on shot adjustment (as standard features).  
 Hydraulic ejector with multiple selection. (continuous, shake, hold etc.)  
 Linear transducer on ejector cylinder.  
 Shaking ejector for multi-cavity mould.  
 Less vibrations & jerks due to ramp adjustment.  
 Large mould mounting area for producing large articles especially useful for pet preform, pipe fittings etc.  
 Platen casting design with finite element analysis for maximum rigidity.  
 Mould platen with t-slots.  
 Hydraulic & electrical safety interlocks during moving platen movements for moulds & operator safety.  
 Separate pressure & speed setting for mould set-up.  
 All casting passed through strict ultrasonic test and tensile testing process.  
 High wear resistant skate-pad for heavy mould loading.  
 Long life by providing oil less bushing, with graphite impregnated for toggle mechanism.  
 Transparent vision on both safety doors.  
 Trouble free precise clamping force for long period through heavy-duty toggle design.  
 Extra life to toggle mechanism with top fixed cover which keeps clamping unit dust free.  
 Single station corepull provision.  
 Air valve connection.

**HYDRAULIC SYSTEM**

Energy efficient servo hydraulic system.  
 Digital oil temperature gauge.  
 Oil level gauge (low & high).  
 Direct reading hydraulic pressure.  
 Contamination free oil tank with Air breather.  
 Compact, easily accessible injection and clamping valves to minimize the heat generation.  
 Return line filter as standard accessories.  
 Alarm / shut down for return filter clogging.  
 Alarm / shut down for low oil level. (hydraulic tank)  
 Alarm / shut down for low lubrication oil level.  
 Provides high safety as main motor shuts down on opening rear gate.  
 Hydraulic directional valve on/off indicator connector.  
 Inline 10 Micron Filtration unit for Oil Filling Port.

**CONTROL SYSTEM  
IN RESPECT OF ALL MODELS.**

Energy meter.  
 Multi password facility for operators.  
 M.C.C.B. Operating Mechanism.  
 SMPS - Switched Mode Power Supply gives Linear power supply.  
 Digital setting timers.  
 M.C.B. for each heating zone.  
 PID temp controller for accurate control.  
 Dedicated microprocessor control system with led input / output indicator for simplified checking  
 Digital display timer.  
 Digital display shot counter.  
 MPCB for motor protection.  
 Pressure & flow for each function control by Microprocessor.  
 Linear scale for injection, clamping & ejector cylinder.  
 Value change record page.  
 Alarm history page.  
 Printer interface with USB port.  
 Production / hour in vertical-bar for year.  
 In case of short circuit I/O replaceable on board.  
 Easy export / import of mould & machine data.  
 Hold button for on screen help (related to controller).  
 Injection cool prevent time stable.  
 Panel cabinet high temperature shut-down.  
 Power ON time.  
 Extra electric power supply socket for single phase & three phase.  
 Hourly energy consumption statics page (Product cost calculator)  
 Remote diagnosis by connecting with local PC via Ethernet port for any no. of machine.

**SAFETY FEATURES IN RESPECT OF ALL MODELS.**

Hydraulic safety on both front & rear door.  
 Electric mould safety.  
 Magnetic grills in hopper.  
 Provision for M.C.C.B.  
 Over load circuit breaker.  
 Under voltage-over voltage protection.  
 Reverse phase, single phase protection.  
 Providing hooks of commensurate size for risk free lifting of machine.

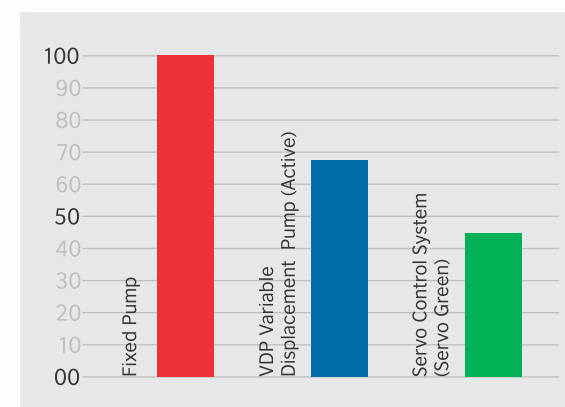
**INJECTION UNIT  
IN RESPECT OF ALL MODELS.**

Gas nitrided hardened screw and barrel, for wear resistance and long life.  
 Screw for homogenous plasticizing with maddock design.  
 Screw back pressure with pressure gauge provision.  
 High torque hydraulic motor for better plasticization.  
 5-stage injection speed pressure & position control.  
 3-stage injection holding speed pressure & position control.  
 Hopper sliding arrangement for material removal.  
 Electric shot counter.  
 Cold slug Ejection by time.  
 Intrusion moulding program.  
 Selection of injection time & position both.  
 Screw tachometer (Digital RPM).  
 Pre-suck back function and after plasticizing suck back.  
 Heater failure & thermocouple failure detector.  
 High / low temperature alarm. (suitable low-high limit)  
 Auto heat start-up.  
 Longer life of mould with Twin Cylinder Design & Dual nozzle centering alignment device.  
 Linear potentiometer for injection / plasticizing.  
 Auto purging facility.  
 Ceramic bands heaters for instant heating.  
 Barrel heater safety cover.  
 Nozzle contact force confirmation with use of pressure switch.  
 Temperature Sensor at feed throat to ensure continuous production.  
 S.S. Water Manifold.

**OPTIONAL FEATURES  
IN RESPECT OF ALL MODELS.**

Bi-metallic screw barrel.  
 Digital back pressure.  
 Hopper dryer & Hopper loader.  
 Hydraulic core-pulling and unscrewing.  
 Water flow regulator with temperature gauges.  
 Running hour-meter.  
 Special PVC screw & high dispersion barrel.  
 Auto-taker (robot) interface.  
 Air-ejector.  
 Hydraulic oil.  
 Gas injection interface only up to digital output from control.  
 Blowers with heaters for processing heat sensitive materials.  
 Nozzle shut off provision.  
 Hot runner temperature controller.  
 Extended nozzle with heater.  
 Multiline water battery with temperature Indicator guard.  
 Close loop valve.  
 Ladder for loading material in hopper.  
 Ejector in back position confirmation by proximity sensor.  
 Remote monitoring .

Power Consumption



• Photography may show attachments or accessories, which may not be part of the standard scope of supply.  
 • Due to continuous improvements with up-gradation of technology specification & components are subject to change without notice.