High Speed
High Precision
Energy Saving

TE series
Toggle and Electric Type Injection Molding Machine
# Machine series

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Capacity Range (ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB</td>
<td>Hydraulic</td>
<td>90 to 8800</td>
</tr>
<tr>
<td>TH</td>
<td>Hydraulic</td>
<td>50 to 4500</td>
</tr>
<tr>
<td>TN</td>
<td>Hydraulic &amp; All electric</td>
<td>220 to 3500 / 2500</td>
</tr>
<tr>
<td>TE</td>
<td>All electric</td>
<td>30 to 4500</td>
</tr>
<tr>
<td>VH</td>
<td>Vertical hydraulic</td>
<td>50 to 1500</td>
</tr>
<tr>
<td>DL</td>
<td>Two platen hydraulic</td>
<td>450 to 3500</td>
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</tbody>
</table>

The chart above illustrates the capacity range for each type of machine series.
TE series

It guarantees high speed precision configuration using high output and rapid response AC servo motors. Servo Motor System allows separate control to save energy while enhancing productivity and reducing noise, manipulating the mold opening and closing during charging.

<table>
<thead>
<tr>
<th>Model</th>
<th>Clamping force</th>
<th>Tie-bar distance(HxW)</th>
<th>Unit No.</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
<th>22</th>
<th>25</th>
<th>28</th>
<th>32</th>
<th>36</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
<th>80</th>
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<tbody>
<tr>
<td>TE30</td>
<td>294kN</td>
<td>310x310</td>
<td>IE 0.2</td>
<td>O</td>
<td>A</td>
<td>B</td>
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<tr>
<td>TE50</td>
<td>490kN</td>
<td>360x360</td>
<td>IE 0.7</td>
<td>S</td>
<td>O</td>
<td>A</td>
<td>B</td>
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<tr>
<td>TE110</td>
<td>1079kN</td>
<td>410x410</td>
<td>IE 1.5</td>
<td>S</td>
<td>O</td>
<td>A</td>
<td>B</td>
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<td>TE150</td>
<td>1471kN</td>
<td>510x510</td>
<td>IE 3.0</td>
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<td>TE200</td>
<td>1961kN</td>
<td>560x560</td>
<td>IE 4.0</td>
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<td>O</td>
<td>A</td>
<td>B</td>
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<tr>
<td>TE250</td>
<td>2452kN</td>
<td>610x610</td>
<td>IE 7.8</td>
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<tr>
<td>TE300</td>
<td>2942kN</td>
<td>720x720</td>
<td>IE 10</td>
<td>S</td>
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<td>A</td>
<td>B</td>
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<td>TE350</td>
<td>3432kN</td>
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<td>IE 15</td>
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<tr>
<td>TE450</td>
<td>4413kN</td>
<td>870x870</td>
<td>IE 23</td>
<td>O</td>
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<td>B</td>
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</tbody>
</table>
Stack Mold Guide (Optional)
- Apply dedicated type of LM Guide for safe and solid support for stack mold
- Lengthens product life cycle to prevent sagging due to the weight of general 3 stage molding
- Able to use a jig for precise installation of a molding (required for insert automation)

Your Advantages
1. Excellent performance for injection acceleration
   - Four times more rapid response than the previous model improving the acceleration and deceleration features
   - Design the injection’s Single Ball Screw for longer product life cycle
   - Lower friction LM Guide
   - Low inertia motor applied
   - Center Press type high rigid and high speed configuration

Injection Unit
- In-line type injection structure for stabilized precision molding products
- Suitable for fast-cycle molding with high speed precision position control
- Equipped with high load ball screw for longer product life cycle
- Positioning and adjusting mold opening & closing by encoder.

Energy Saving and Green System
- Energy Saving: Within 70% (comparing to hydraulic type)
- Remove environmentally harmful factors and reduce noise by (by AC Servo Motor)
Controller (B&R)
The controller is possible to realize the high precision control and built in statistic module and user friendly interface of a touch screen.

Remote Dual Display
Real time monitoring of controller display anytime and anywhere.

Touch Screen
15 inch TFT color monitor attached to the controller is easy to manipulate and manage the information.

Multilingual Operation
It supports multilingual services in languages like English, Chinese, Turkish, Czech, and others for a person from other part of the world can easily manipulate the system.

Central Monitoring System (Optional)
Central Monitoring Computer can have access to maximum 200 injection molding machines at the same time to facilitate the data transmission and management. Such injection related data will be converted into excel files for easier data management and retrieval.

- Various core drive
- Production data storage
- Production data analysis
- Molding condition alterations and changes or alert details stored
- Injection speed graph print
- Transporter interface circuit
- Automatic control of motor and heater for unmanned operation
- Easy to upgrade injection unit for large volume of injection
- Weekday heater reservation
- Heat insulation mode for cylinder to prevent carbonization of resin carbide
- System state monitoring: communications state, module operation state etc
- Internal mold data storage: 1000 data files
- External mold data storage system: USB memory storage
- Display storage: converts the current display into a hard copy to store the data in USB memory
- Injection speed, holding pressure closed-loop (Optional)
- Back pressure closed-loop (Optional)
- Injection pressure graph (Optional)

Built-in VNC servo function for dual display
Remote access for a same display of controller

Process Management
The Snapshot of Process Management

- It offers a snapshot of the entire monitoring of equipments in operation.

Quality Management
Accurate product management

- Selective data storage and management for quality assurance under maximum 7 categories.

Alarm Function
Wide range of management on errors and glitches

- All the information is provided on possible errors and glitches during operation for accurate maintenance and repair.

UserFriendly Function
Convenient monitoring on work processing

- Detailed data on measured sections that a user may want are displayed in graph.
### Eletric Injection Machine

#### TEseries

<table>
<thead>
<tr>
<th>Screw &amp; Barrel Type</th>
<th>O</th>
<th>A</th>
<th>B</th>
<th>S</th>
<th>O</th>
<th>A</th>
<th>B</th>
<th>S</th>
<th>O</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw Diameter</td>
<td>mm</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>18</td>
<td>20</td>
<td>22</td>
<td>25</td>
<td>22</td>
<td>25</td>
<td>28</td>
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<tr>
<td>Injection Pressure</td>
<td>kg/cm²</td>
<td>2600</td>
<td>2580</td>
<td>2599</td>
<td>2800</td>
<td>2580</td>
<td>2599</td>
<td>2800</td>
<td>2580</td>
<td>2599</td>
<td>2800</td>
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<tr>
<td>Injection Back Pressure</td>
<td>kg/cm²</td>
<td>2080</td>
<td>2064</td>
<td>2071</td>
<td>2240</td>
<td>2114</td>
<td>2124</td>
<td>2240</td>
<td>2114</td>
<td>2124</td>
<td>2240</td>
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<tr>
<td>Theoretical Injection Volume</td>
<td>cm³</td>
<td>9.2</td>
<td>12.1</td>
<td>15.3</td>
<td>23</td>
<td>28</td>
<td>34</td>
<td>45</td>
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<td>28</td>
<td>34</td>
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<tr>
<td>Screw Stroke</td>
<td>mm</td>
<td>77</td>
<td>101</td>
<td>127</td>
<td>127</td>
<td>157</td>
<td>200</td>
<td>245</td>
<td>152</td>
<td>196</td>
<td>246</td>
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<td>Injection Speed</td>
<td>Standard</td>
<td>mm/s</td>
<td>154</td>
<td>201</td>
<td>254</td>
<td>254</td>
<td>318</td>
<td>393</td>
<td>250</td>
<td>356</td>
<td>424</td>
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<td>High Speed</td>
<td>mm/s</td>
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<td>60</td>
<td>60</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>105</td>
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<td>105</td>
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<tr>
<td>Plasticating Capacity (PS)</td>
<td>kg/h</td>
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<td>12</td>
<td>16</td>
<td>21</td>
<td>27</td>
<td>32</td>
<td>32</td>
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<tr>
<td>Screw rotation</td>
<td>mm</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

#### Clamping Unit

| Mold Clamping Force | ton(kN)| 30 (294)| 50 (440)| 110 (1079)| 150 (1471)|
| Tie Bar Distance (H x V) | mm| 310 x 310| 360 x 360| 410 x 410| 510 x 510| 510 x 510|
| Platen Dimension (H x V) | mm| 460 x 460| 530 x 530| 630 x 630| 750 x 750| 750 x 750|
| Daylight            | mm| 210| 250| 350| 410| 410| 410| 410| 410| 410|
| Max Daylight        | mm| 460| 600| 750| 910| 910| 910| 910| 910| 910|
| Min Mold Thickness  | mm| 110| 130| 150| 180| 180| 180| 180| 180| 180|
| Max Mold Thickness  | mm| 250| 350| 400| 500| 500| 500| 500| 500| 500|
| Ejector Force       | ton(kN)| 1.0 (10)| 2.0 (20)| 3.5 (32)| 5.5 (34)| 5.5 (34)|
| Ejector Stroke      | mm| 50| 70| 80| 100| 100| 100| 100| 100| 100|

#### Generals

| Heater Capacity     | kW| 4.3| 4.7| 5.3| 6.8| 7.6| 8.4| 8.8| 8.5| 8.8| 9.7| 10.6|
| Total electric power | Standard| kW| 13.7| 14.1| 14.7| 19.3| 20.0| 22.0| 26.0| 26.0| 26.0| 26.0|
| Total electric power | High Speed| kW| 23.1| 23.5| 24.1| 34.4| 35.1| 35.8| 46.3| 43.2| 44.2| 45.3|
| Machine Weight      | ton| 2.8| 3.6| 4.3| 6.2| 6.2| 6.2| 6.2| 6.2| 6.2| 6.2|
| Machine Size (L x W x H)| mm| 3.6 x 1.1 x 1.5| 3.9 x 1.2 x 1.6| 4.6 x 1.3 x 1.7| 5.3 x 1.4 x 1.8| 5.3 x 1.4 x 1.8|
| Melt Temperature    | °C| 300| 320| 340| 360| 380| 400| 420| 440| 460| 480| 500|
| Melt Pressure       | MPa| 7| 10| 12| 14| 16| 18| 20| 22| 24| 26| 28|

1. Theoretical injection capacity: cross section of a screw x screw stroke
2. The specification is based on the standard 60Hz data and specification.
3. Due to continuous improvements, specifications are subject to change without notice.
**Feature List**

### Injection Unit

- Injection process control stage (Speed/Pressure) 10
- Holding process control stage (Speed/Pressure) 5
- Charging process control stage (Speed/Pressure) 3
- Back pressure control stage 3
- Suck-back control (before injection) 5
- Suck-back control (after injection) 5
- Closed loop of injection press 5
- Cushion amount display & alarm 5
- Screw RPM display 5
- Auto purge circuit 5
- Alarm of over charging time 5
- Screw cold start prevention device 5
- Heater pre-heating time (for weekly) 5
- Heater temperature abnormal display & alarm 5
- PID heater temperature control 5
- Cylinder temperature keeping mode 5
- Charging on fly (Mold opening during charging) 5
- Shutoff nozzle (Hydraulic type) 5
- Shutoff nozzle (Spring type) 5
- Valve gate 1 stage 5
- Antiscrew & barrel 5
- Antiscrew and anticorrosion screw & barrel 5
- Double barrier mixing screw (SB screw) 5

### Generals

- Molding data memory capacity (Internal / External) 1000 KB
- Alarm history display & saving 5
- Record of setting - value changing 5
- Statistical function 5
- I/O circuit display 5
- Multi language display (English,Chinese,Portuguese,Czech) 5
- Robot interlock circuit 5
- Robot interlock interface (Euromap 12/SPI) 5
- Alarm of the reservation injection molding number 5
- Hopper throat temperature control device 5
- Automatic lubricating device 5
- Auto-grease for injection unit 5
- Shot data file saving 5
- Hopper swivel & moving device 5
- Auto safety door open 5
- Auto safety door close 5
- Recycling device for lubricator 5
- Auto clamp (Quick Die Changer) 5
- Insulation plate for mold 5
- Product drop confirmation device 5
- Product good / bad check device 5
- Leveling pads 5
- 3 stage alarm lamp 5
- Maintenance tools 5
- Spares parts 5

### Clamping Unit

- Mold open speed control stage 5
- Mold close speed control stage 5
-ector speed control stage 2
- Automatic mold height adjustment 5
- Hydraulic core puller (1 stage) 5
- Core moving during mold opening 5
- Core moving during mold ejecting 5
- Unscrewing device 5
- Air blow off unit 5
- Daylight extension 5

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> Specifications can be changed for improved development without prior notice.

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