



## Three Axes Servo Driven Robot

ST3-900-1600



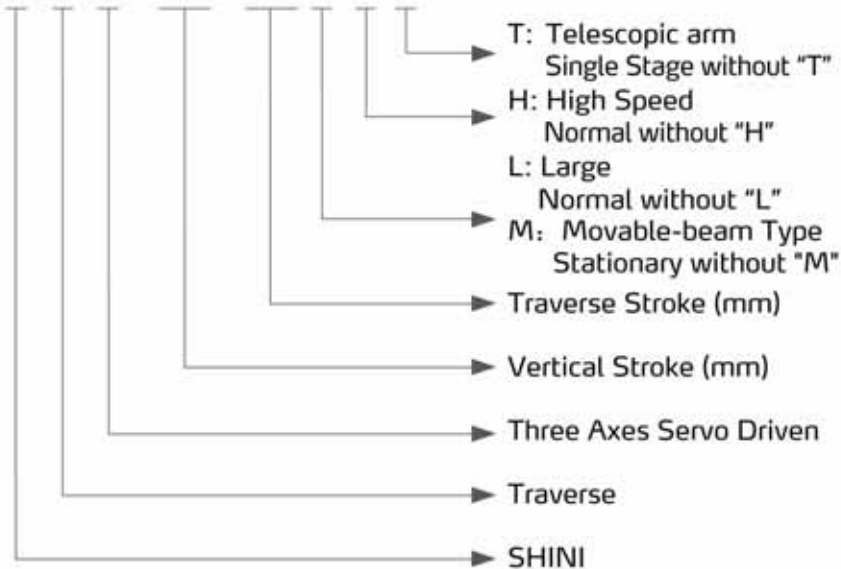
Refer carefully to this manual before operation.

# ST3 Series



## ■ Coding Principle

S T 3 - xxx - xxx L H T



## ■ Features

### ● Appearance

Designed with elegant appearance; Aluminium profiles are largely used to provide compact and streamlined appearance.

### ● Precision

All linear movements are driven by heavy duty servo motors with cooperation of precise linear guide rails and high power V belts; Fast, silent, and precise. Wrist mechanism employs pneumatic driven rack and pinion system, which accomplishes smooth, stable and precise flipping motion. Vertical arm with telescopic design efficiently minimizes the cycle time and height of the robot.

### ● Safety

Position limit sensors and blocks effectively prevent mechanical and electrical malfunctions. Control board is designed to CE EMC test with short circuit and noise proof functions.

### ● Convenience

Control hardware fixtures are designed with flyer structure which provides benefit to maintenance. Cable drag chains help with cable management and ease for maintenance.



Control Panel



ST3-700-1400HT



ST3-700-1400T



ST3-1400-2200MT

# ST3 Series

- **Standardization**

All pneumatic accessories, electric accessories, and communication Protocols meet the global standards. Interface between injection molding machine and robot is designed to EUROMAP 12, EUROMAP 67 and SPI.

- **Intelligence**

Base on VARAN BUS technology with world class 8.4 inch true color touch screen and object oriented program editor, complex and continuous projection can be easily programmed within minimum time. Closed circuit control system cooperating with plug and use hardware modules provides reliable movement that is capable of arranging, stacking, quality checking, in mold inserting etc. Real time remote monitoring and telediagnosis assist better equipment management. USB port allows fast data updating, saving and loading.

- **User Friendly**

Plug and use industrial connectors achieve simple mount and demount. Servo driven axis provides the possibility of multi points for positioning products and sprues. Multi languages displays and spaces communication connections with surrounds machines offer more flexibilities to global customers.



ST3-1200-1800MT

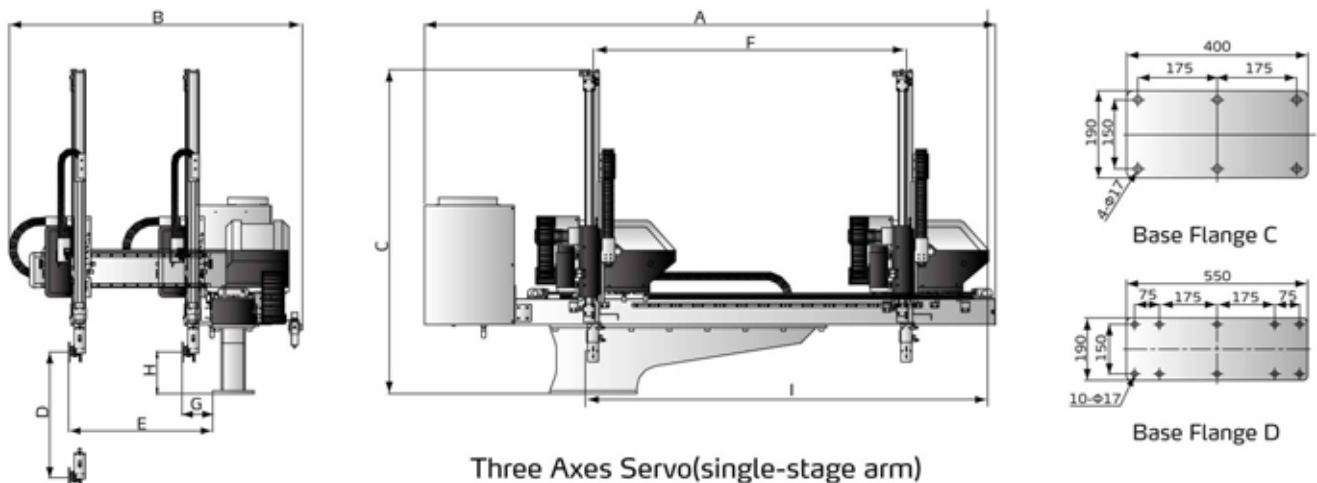


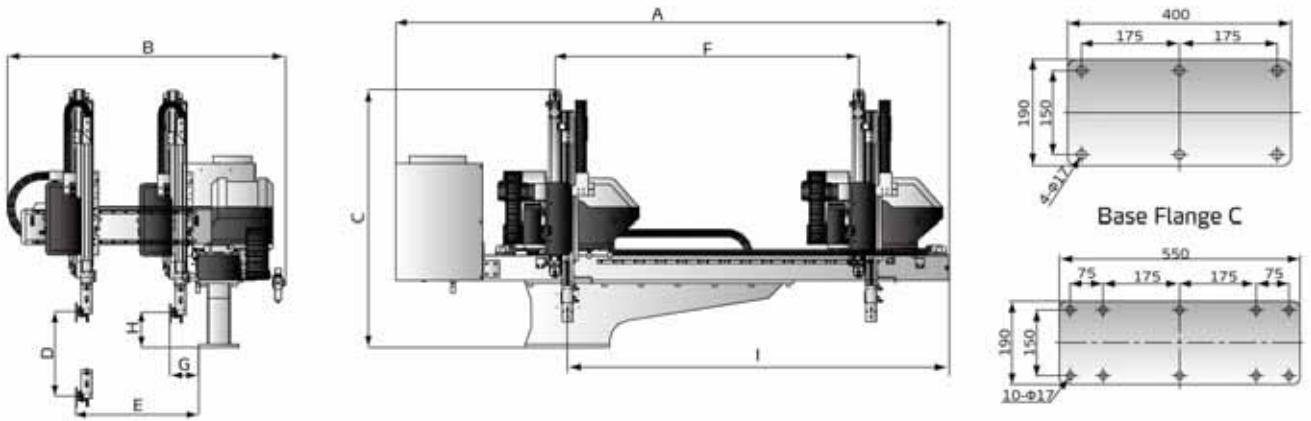
Flip Cylinder

## ■ Applications

The ST3 series robot is designed for rapid and precise removal of products from injection molding machine, and place them at desired locations. Standard and telescopic arm are selectable to cooperate with 2-plate mold or hot runner system. Capable of arranging, stacking, quality checking and in mold placement. Suitable for injection molding machine under 3600T clamp force. ST3-MT particularly for refrigerator and air conditioner casing and automobile accessories.

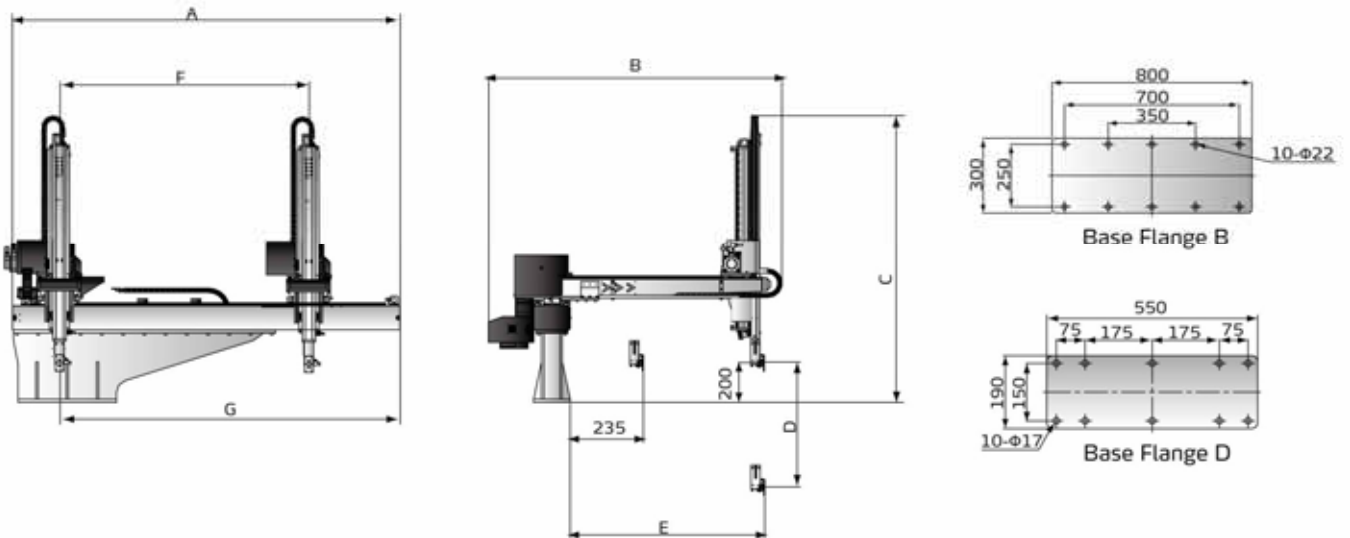
## ■ Outline Drawings



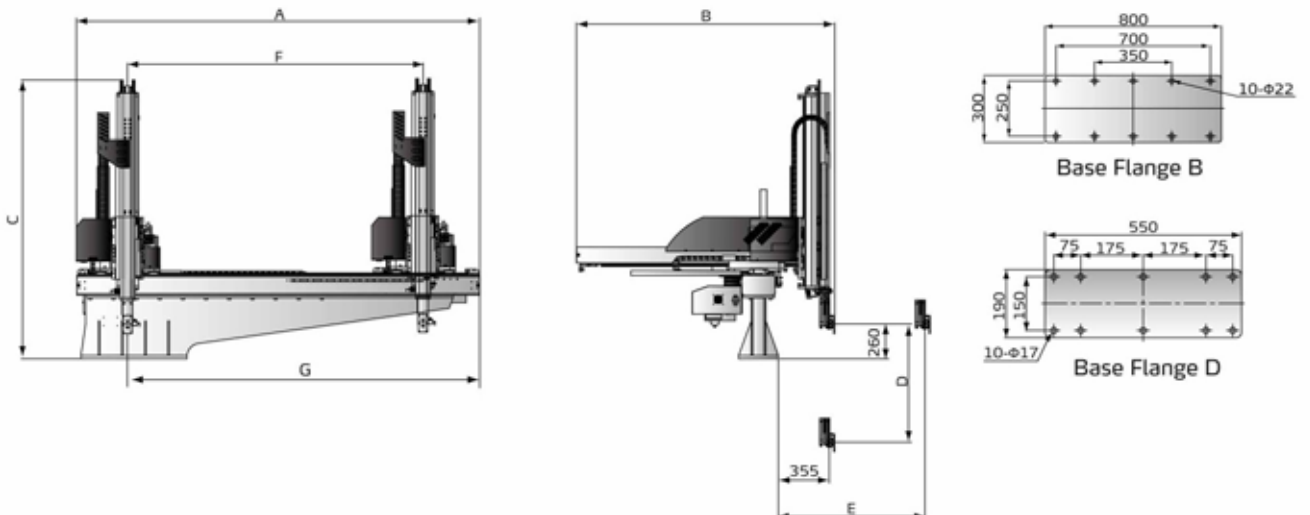


Three Axes Servo Telescopic

Base Flange D



Three Axes Servo Medium Telescopic (Stationary-beam type)



ST3-MT Three Axes Servo Medium Telescopic (Movable-beam Type)

# ST3 Series

## Specifications

| ST3-MT<br>(Movable-beam type)     |        | ST3-1200-<br>1800MT | ST3-1300-<br>2000MT | ST3-1400-<br>2000MT | ST3-1500-<br>2200MT | ST3-1600-<br>2200MT | ST3-1700-<br>2200MT |
|-----------------------------------|--------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| IMM (ton)                         |        | 300-450T            | 450-600T            | 450-600T            | 600-700T            | 700-850T            | 700-850T            |
| Traverse Stroke (mm)              |        | 1800                | 2000                | 2000                | 2200                | 2200                | 2200                |
| Crosswise Stroke (mm)             |        | 800                 | 800                 | 900                 | 900                 | 1000                | 1000                |
| Vertical Stroke (mm)              |        | 1200                | 1300                | 1400                | 1500                | 1600                | 1700                |
| Rated(Max)Load<br>(with tool)(kg) |        | 10(15)              | 10(15)              | 10(15)              | 10(15)              | 20(30)              | 20(30)              |
| Min. Pickout Time (sec)           |        | 2.8                 | 3                   | 3                   | 3.2                 | 3.3                 | 3.4                 |
| Min. Cycle Time (sec)             |        | 12                  | 12.5                | 13                  | 13.5                | 14                  | 15                  |
| Air Pressure (bar)                |        | 4-6                 | 4-6                 | 4-6                 | 4-6                 | 4-6                 | 4-6                 |
| Max. Air Consumption (NI/cycle) * |        | 6                   | 6                   | 6                   | 6                   | 6                   | 6                   |
| Weight (kg)                       |        | 480                 | 500                 | 530                 | 550                 | 580                 | 600                 |
| Base Type                         |        | Base D              | Base D              | Base D              | Base B              | Base B              | Base B              |
| Dimension<br>(mm)                 | A      | 2847                | 3047                | 3047                | 3247                | 3247                | 3247                |
|                                   | B      | 1617                | 1617                | 1717                | 1717                | 1817                | 1817                |
|                                   | C      | 1790                | 1840                | 1890                | 1940                | 2020                | 2070                |
|                                   | D(max) | 1200                | 1300                | 1400                | 1500                | 1600                | 1700                |
|                                   | E(max) | 1155                | 1155                | 1255                | 1255                | 1355                | 1355                |
|                                   | F(max) | 1800                | 2000                | 2000                | 2200                | 2200                | 2200                |
|                                   | G      | 2250                | 2450                | 2450                | 2650                | 2650                | 2650                |

| ST3-MT<br>(Medium Open Telescopic) |        | ST3-1800-2400MT | ST3-1900-2400MT | ST3-2000-2800MT | ST3-2100-2800MT | ST3-2200-3000MT |
|------------------------------------|--------|-----------------|-----------------|-----------------|-----------------|-----------------|
| IMM (ton)                          |        | 850-1400T       | 850-1400T       | 1400-1800T      | 1400-1800T      | 1800-2400T      |
| Traverse Stroke (mm)               |        | 2400            | 2400            | 2800            | 2800            | 3000            |
| Crosswise Stroke (mm)              |        | 1200            | 1200            | 1200            | 1400            | 1400            |
| Vertical Stroke (mm)               |        | 1800            | 1900            | 2000            | 2100            | 2200            |
| Rated(Max)Load<br>(with tool)(kg)  |        | 20(30)          | 20(30)          | 20(30)          | 20(30)          | 20(30)          |
| Min. Pickout Time (sec)            |        | 3.6             | 3.6             | 3.8             | 3.8             | 4               |
| Min. Cycle Time (sec)              |        | 16              | 17              | 17.5            | 18              | 19              |
| Air Pressure (bar)                 |        | 4-6             | 4-6             | 4-6             | 4-6             | 4-6             |
| Max. Air Consumption (NI/cycle) *  |        | 6               | 6               | 6               | 6               | 6               |
| Weight (kg)                        |        | 650             | 670             | 690             | 720             | 750             |
| Base Type                          |        | Base B          | Base B          | Base B          | Base B          | Base B          |
| Dimension<br>(mm)                  | A      | 3447            | 3447            | 3847            | 3847            | 4047            |
|                                    | B      | 2017            | 2017            | 2017            | 2270            | 2270            |
|                                    | C      | 2120            | 2170            | 2220            | 2270            | 2320            |
|                                    | D(max) | 1800            | 1900            | 2000            | 2100            | 2200            |
|                                    | E(max) | 1555            | 1555            | 1555            | 1755            | 1755            |
|                                    | F(max) | 2400            | 2400            | 2800            | 2800            | 3000            |
|                                    | G      | 2850            | 2850            | 3250            | 3250            | 3450            |

- Notes: 1). "M" stands for middle mold detector (suitable for three-plate mold).  
 "EM12" stands for EUROMAP 12 communication interface.  
 "EM67" stands for EUROMAP 67 communication interface.  
 "N" stands for non-operation side, operation side without "N"  
 2) \* \* \* Extra 60NI/min for vacuum application.  
 3) Power supply: 1Φ, 200-240V, 50/60Hz.

We reserve the right to change specifications without prior notice.



| ST3-LT<br>(Large Telescopic)      |         | ST3-1800-2400LT | ST3-2000-2800LT |
|-----------------------------------|---------|-----------------|-----------------|
| IMM (ton)                         |         | 850 - 1400T     | 1400 - 1800T    |
| Traverse Stroke (mm)              |         | 2400            | 2800            |
| Crosswise Stroke (mm)             |         | 1340            | 1500            |
| Vertical Stroke (mm)              |         | 1800            | 2000            |
| Rated(Max)Load<br>(with tool)(kg) |         | 40(60)          | 40(60)          |
| Min. Pickout Time (sec)           |         | 3.8             | 4.0             |
| Min. Cycle Time (sec)             |         | 20              | 22              |
| Air Pressure (bar)                |         | 4 - 6           | 4 - 6           |
| Max. Air Consumption (N/cycle) *  |         | 8               | 8               |
| Weight (kg)                       |         | 920             | 950             |
| Dimension<br>(mm)                 | A       | 3800            | 4200            |
|                                   | B       | 2500            | 2650            |
|                                   | C       | 2400            | 2500            |
|                                   | D (max) | 1800            | 2000            |
|                                   | E (max) | 1750            | 1900            |
|                                   | F (max) | 2400            | 2800            |
|                                   | G       | 2900            | 3300            |

| ST3-LT<br>(Large Telescopic)      |         | ST3-2200-3000LT | ST3-2600-3200LT | ST3-3000-3400LT |
|-----------------------------------|---------|-----------------|-----------------|-----------------|
| IMM (ton)                         |         | 1800 - 2400T    | 2400 - 3000T    | 3000 - 3600T    |
| Traverse Stroke (mm)              |         | 3000            | 3200            | 3400            |
| Crosswise Stroke (mm)             |         | 1500            | 1660            | 1820            |
| Vertical Stroke (mm)              |         | 2200            | 2600            | 3000            |
| Rated(Max)Load<br>(with tool)(kg) |         | 40(60)          | 40(60)          | 40(60)          |
| Min. Pickout Time (sec)           |         | 4.2             | 4.5             | 5.0             |
| Min. Cycle Time (sec)             |         | 24              | 26              | 28              |
| Air Pressure (bar)                |         | 4 - 6           | 4 - 6           | 4 - 6           |
| Max. Air Consumption (N/cycle) *  |         | 8               | 8               | 8               |
| Weight (kg)                       |         | 990             | 1010            | 1080            |
| Dimension<br>(mm)                 | A       | 4400            | 4600            | 4800            |
|                                   | B       | 2650            | 2820            | 2980            |
|                                   | C       | 2600            | 2800            | 3000            |
|                                   | D (max) | 2200            | 2600            | 3000            |
|                                   | E (max) | 1900            | 2050            | 2250            |
|                                   | F (max) | 3000            | 3200            | 3400            |
|                                   | G       | 3500            | 3700            | 3900            |

- Notes: 1). "M" stands for middle mold detector (suitable for three-plate mold).  
 "EM12" stands for EUROMAP 12 communication interface.  
 "EM67" stands for EUROMAP 67 communication interface.  
 "N" stands for non-operation side, operation side without "N"  
 2) \* \* \* Max. air consumption for vacuum device 60NI/min.  
 3) Power supply: 1Φ, 200~240V, 50/60Hz.

We reserve the right to change specifications without prior notice.



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