



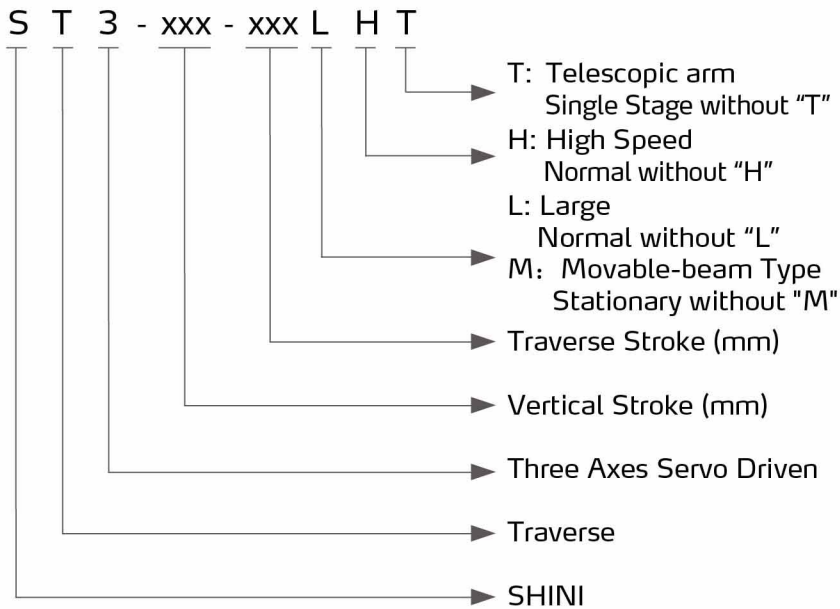
Three Axes Servo Driven Robot

ST3-900-1600



Refer carefully to this manual before operation.

■ Coding Principle



Control Panel

■ 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.



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

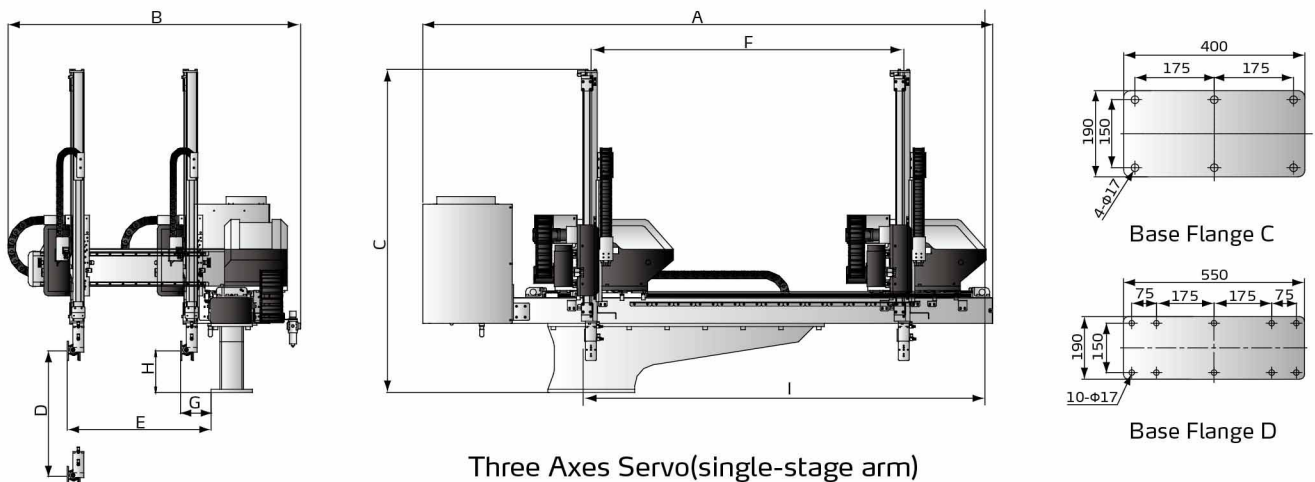


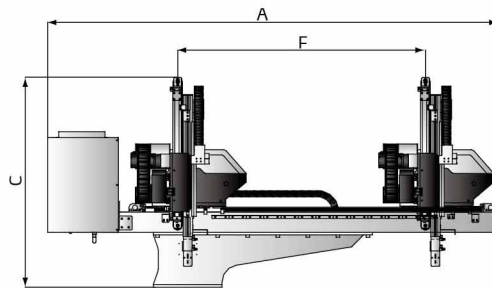
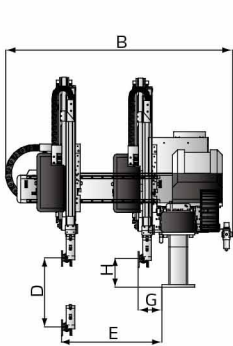
Flip Cylinder

■ Applications

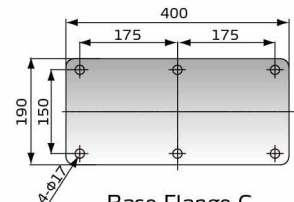
The ST3 series robot is designed for rapid and precise removal of products from injection molding machine, and place them at desired locations. Standard and telescopic arm are selectable to cooperate with 2-plate mold or hot runner system. Capable of arranging, stacking, quality checking and in mold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

■ Outline Drawings

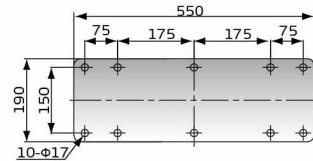




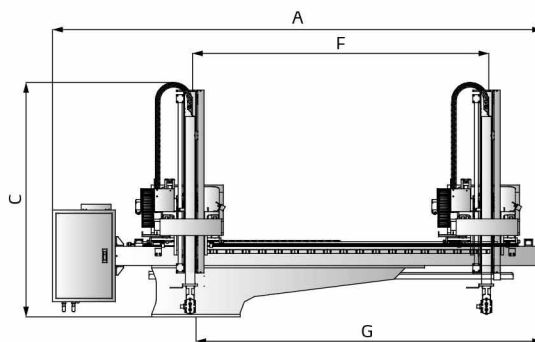
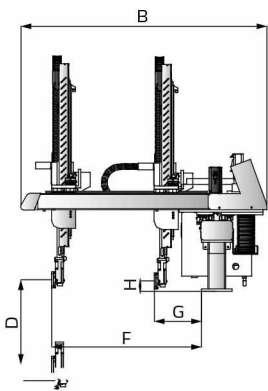
Three Axes Servo Telescopic



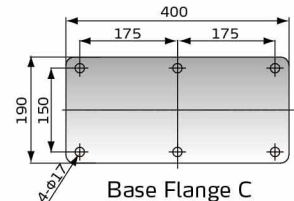
Base Flange C



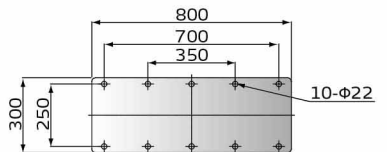
Base Flange D



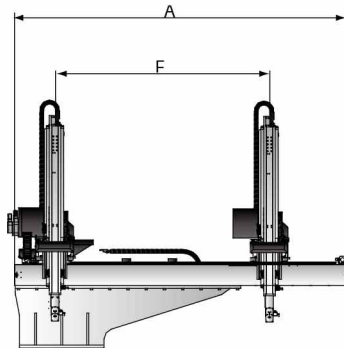
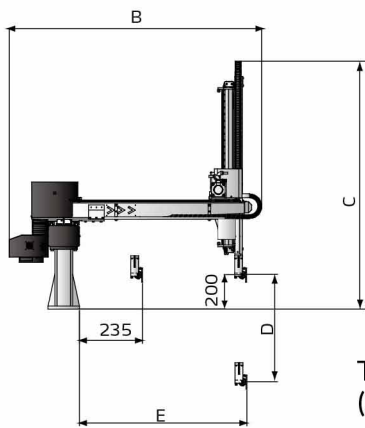
Three axes servo small telescopic (bracket type)



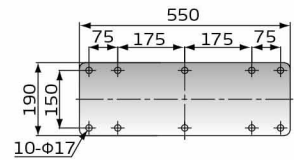
Base Flange C



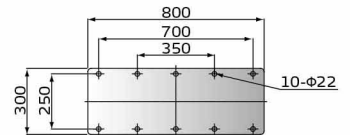
Base Flange B



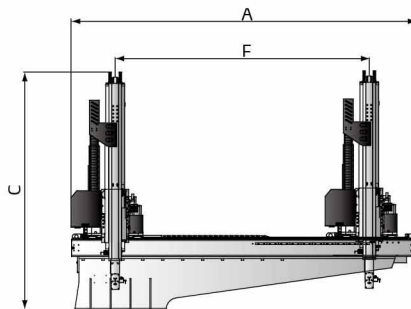
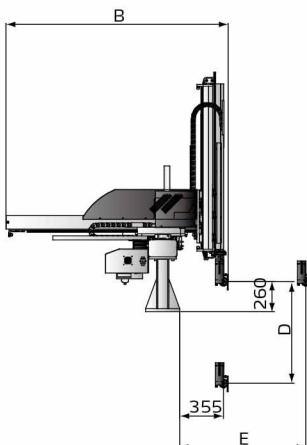
Three Axes Servo Medium Telescopic (Stationary-beam type)



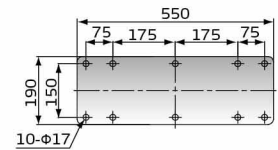
Base Flange D



Base Flange B

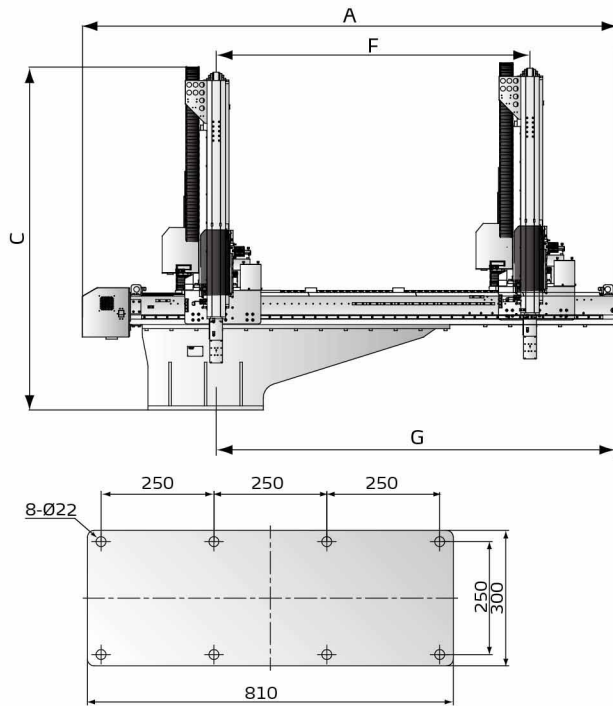


ST3-MT Three Axes Servo Medium Telescopic (Movable-beam Type)

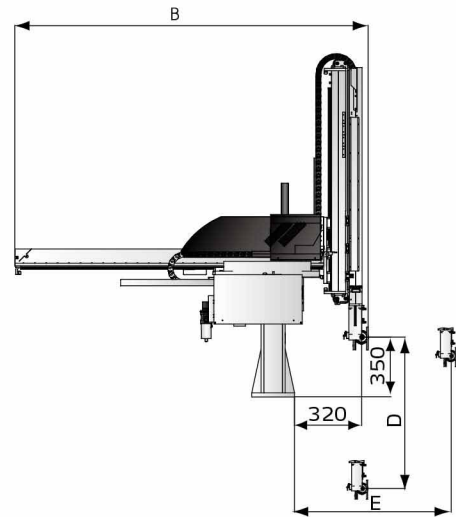


Base Flange D

ST3 Series



Base Flange



ST3-LT Three Axes Servo Large Telescopic

Specifications

Model(Single stage)	ST3-700-1200	ST3-700-1400	ST3-800-1400	ST3-900-1600	ST3-1000-1600	ST3-1100-1800	ST3-1200-1800	
IMM (ton)	50-80	80-160	160-220	220-260	260-320	320-400	400-450	
Traverse Stroke (mm)	1200	1400	1400	1600	1600	1800	1800	
Crosswise Stroke (mm)	510	510	510	560	690	690	690	
Vertical Stroke (mm)	700	700	800	900	1000	1100	1200	
Max Load (with tool) (kg)	3	3	3	5	5	5	5	
Min Pick-out Time (sec)	1.3	1.3	1.3	1.4	1.4	1.6	1.6	
Min Cycle Time (sec)	5.2	5.2	5.2	5.8	6.2	6.5	6.8	
Air Pressure (bar)	4-6	4-6	4-6	4-6	4-6	4-6	4-6	
Max Air Consumption (Nl/cycle)*	4	4	4	4	4	4	4	
Weight (kg)	240	240	250	270	280	300	310	
Base Type	Base C	Base C	Base C	Base C	Base C	Base D	Base D	
Dimensions (mm)	A	2420	2620	2620	2820	2820	3060	3060
	B	1350	1350	1350	1400	1530	1530	1530
	C	1490	1490	1590	1690	1800	1900	2000
	D(max)	700	700	800	900	1000	1100	1200
	E(max)	610	610	610	710	775	855	855
	F(max)	1200	1400	1400	1600	1600	1800	1800
	G	155	155	155	155	165	165	165
	H	215	215	215	160	160	160	160

- 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). Power supply requirement: 1Φ, 200~240V, 50/60Hz.
 3). " * " Extra 60Nl/min for vacuum application.

We reserve the right to change specifications without prior notice.



Model (Telescopic)	ST3-700-1200T	ST3-700-1400T	ST3-800-1400T	ST3-900-1600T	ST3-1000-1600T
IMM (ton)	50-80	80-160	160-220	220-260	260-320
Traverse Stroke (mm)	1200	1400	1400	1600	1600
Crosswise Stroke (mm)	475	475	475	535	650
Vertical Stroke (mm)	700	700	800	900	1000
Max Load (with tool) (kg)	3	3	3	5	5
Min Pick-out Time (sec)	1.2	1.2	1.2	1.3	1.3
Min Cycle Time (sec)	5	5	5	5.5	6
Air Pressure (bar)	4-6	4-6	4-6	4-6	4-6
Max Air Consumption (NI/cycle)*	4	4	4	4	4
Weight (kg)	240	240	250	270	280
Base Type	Base C	Base C	Base C	Base C	Base C
Dimensions (mm)	A	2420	2620	2820	2820
	B	1350	1350	1400	1530
	C	1220	1220	1270	1330
	D	700	700	800	900
	E	630	630	630	720
	F	1200	1400	1400	1600
	G	155	155	155	155
	H	165	165	165	165

- 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). Power supply requirement: 1Φ, 200~240V, 50/60Hz.
 3). " * " Extra 60NI/min for vacuum application.

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Model (Telescopic)	ST3-950-1400HT	ST3-1100-1600HT	ST3-1100-1800T	ST3-1200-1800T
IMM (ton)	220-280	320-400	320-400	400-450
Traverse Stroke (mm)	1400	1600	1800	1800
Crosswise Stroke (mm)	Main Arm	560	680	680
	Sub Arm	/	/	/
Vertical Stroke (mm)	Main Arm	950	1100	1200
	Sub Arm	/	/	/
Max Load (with tool) (kg)	3	3	5	5
Min Pick-out Time (sec)	1	1.2	1.5	1.5
Min Cycle Time (sec)	3.9	4.2	6.2	6.5
Air Pressure (bar)	4-6	4-6	4-6	4-6
Max Air Consumption (NI/cycle)*	4	4	4	4
Weight (kg)	340	340	320	340
Dimensions (mm)	A	2640	2840	3040
	B	1410	1530	1530
	C	1400	1455	1455
	D (max)	950	1100	1100
	E (max)	830	950	950
	F (max)	1400	1600	1800
	G (min)	190	190	190
	H	65	65	65
	I	1750	1950	2150

- 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). Power supply requirement: 1Φ, 200~240V, 50/60Hz.
 3). " * " Extra 60NI/min for vacuum application.

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ST3 Series

Specifications

ST3-MT (Movable-beam type)		ST3-1300-2000T	ST3-1400-2000T	ST3-1500-2200T	ST3-1600-2200T	ST3-1700-2200T
IMM (ton)		450-600T	450-600T	600-700T	700-850T	700-850T
Traverse Stroke (mm)		2000	2000	2200	2200	2200
Crosswise Stroke (mm)		800	900	900	1000	1100
Vertical Stroke (mm)		1300	1400	1500	1600	1700
Rated(Max)Load (with tool)(kg)		10	10	12	12	12
Min. Pickout Time (sec)		3	3	3.2	3.3	3.4
Min. Cycle Time (sec)		12.5	13	13.5	14	15
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)		500	530	550	580	600
Base Type		Base D	Base D	Base D	Base B	Base B
Dimension (mm)	A	2800	2800	3000	3000	3000
	B	2000	2100	2100	2250	2350
	C	1700	1750	1800	2050	2150
	D(max)	1300	1400	1500	1600	1700
	E(max)	1050	1150	1150	1250	1250
	F(max)	2000	2000	2200	2200	2200

ST3-MT (Medium Open Telescopic)		ST3-1200-1800MT	ST3-1300-2000MT	ST3-1400-2000MT	ST3-1500-2200MT	ST3-1600-2200MT	ST3-1700-2200MT
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 (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 (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

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-MT (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 (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 (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

ST3-LT (Large Telescopic)		ST3-1800-2400LT	ST3-2000-2800LT	ST3-2200-3000LT	ST3-2600-3200LT	ST3-3000-3400LT
IMM (ton)		850 ~ 1400T	1400 ~ 1800T	1800 ~ 2400T	2400 ~ 3000T	3000 ~ 3600T
Traverse Stroke (mm)		2400	2800	3000	3200	3400
Crosswise Stroke (mm)		1340	1500	1500	1660	1820
Vertical Stroke (mm)		1800	2000	2200	2600	3000
Rated(Max)Load (with tool)(kg)		40(60)	40(60)	40(60)	40(60)	40(60)
Min. Pickout Time (sec)		3.8	4.0	4.2	4.5	5.0
Min. Cycle Time (sec)		20	22	24	26	28
Air Pressure (bar)		4 ~ 6	4 ~ 6	4 ~ 6	4 ~ 6	4 ~ 6
Max. Air Consumption (NI/cycle) *		8	8	8	8	8
Weight (kg)		920	950	990	1010	1080
Dimension (mm)	A	3800	4200	4400	4600	4800
	B	2500	2650	2650	2820	2980
	C	2400	2500	2600	2800	3000
	D (max)	1800	2000	2200	2600	3000
	E (max)	1750	1900	1900	2050	2250
	F (max)	2400	2800	3000	3200	3400

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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