alfa robot
Robotic Automation

gamma CNC
Machining Center

New TITAN series

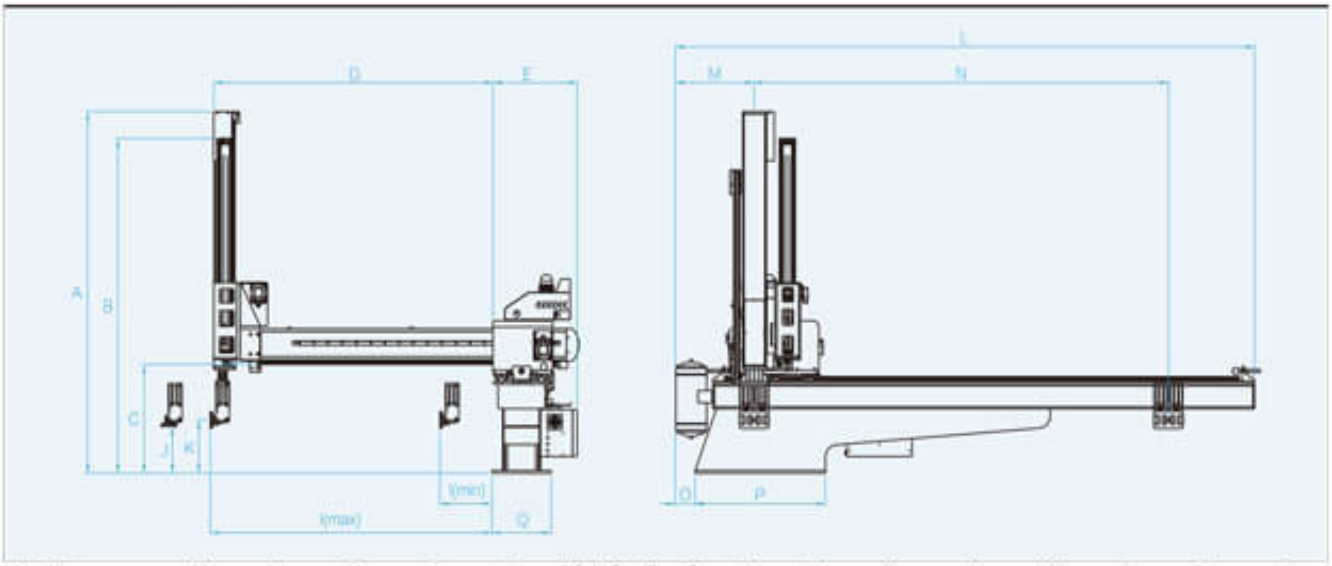
Full servo Traverse beam robot

Keep running, Keep innovating

Main Specification

Model	TN2200WS-S3	TN2500WS-S3	TN3000WS-S3	TN4000WS-S3
Power Capacity (KVA)	5.4	5.4	5.4	7.2
Recommended I.M.M. (ton)	1300-2500	1600-3000	2500-4000	3000-6000
Traverse Stroke (mm)	3500	3500(4500)	4500	6000
Crosswise Stroke (mm)	1700	1950	2260	2350
Vertical Stroke (mm)	2200	2500	3000	4000
Max.Loading (Kg)	35	50	50	50
Dry Take Out Time (sec)	4.0	4.5	5.2	6.5
Dry Cycle Time (sec)	21	23	24	28
Air Consumption (Nl/cycle)	63	104	120	140
Net Weight (Kg)	1600	2500	2800	3500

* All statements here subject to change without advance notice.
* TN2200-4000repeat precision is ±0.3mm.



Model	A	B	C	D	E	l(min)	l(max)	J	K	L	M	N	O	P	Q
TN2200WS-S3	2900	2250	885	2125	715	425	2125	340	380	4895	680	3500	170	1100	500
TN2500WS-S3	3010	2400	885	2390	715	440	2390	380	430	4895 (5945)	680	3500 (4500)	170	1100	500
TN3000WS-S3	3250	2700	885	2700	715	440	2700	380	430	5945	680	4500	170	1100	500
TN4000WS-S3	3800	3200	885	2790	715	440	2790	/	/	7705	680	6000	170	1100	500

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20230302V1-New Titan series

General Specification

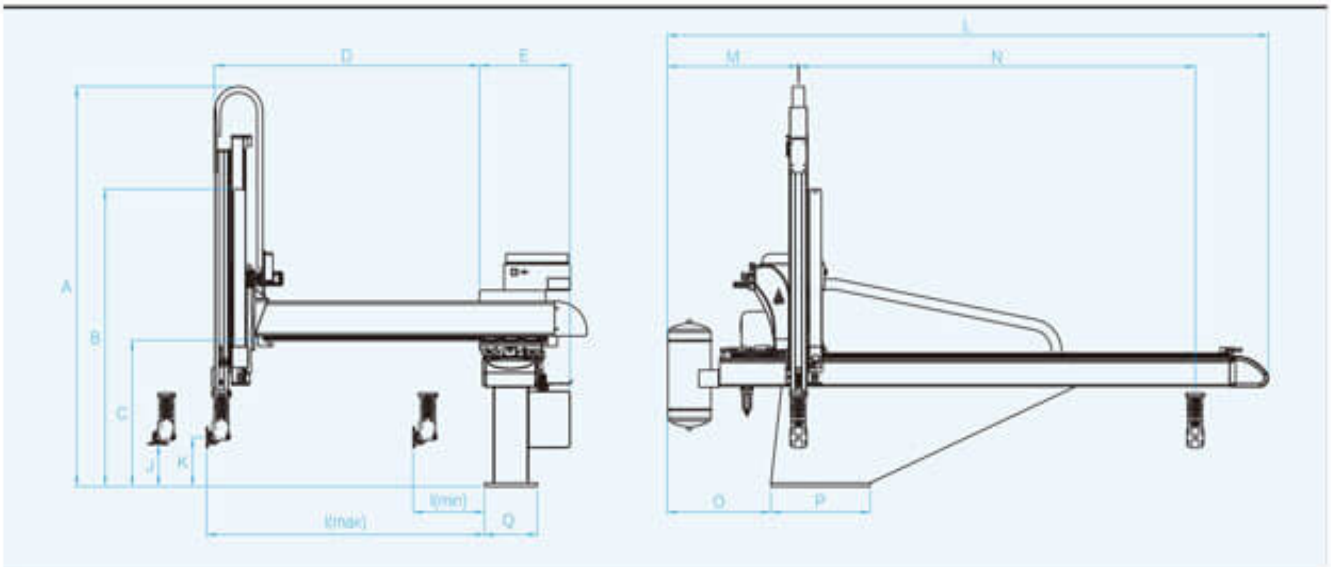
Power Source	Working Pressure	Max.Allowed Pressure	Drive System	Swivel
1 Φ /AC 220V ± 20V 50 / 60 HZ	5Kgf / cm^2 0.49Mpa	8Kgf / cm^2 0.8Mpa	AC Servo Motor AC Servo Motor	90 ° Fixed Pneumatic

* 3 phase for TN2200 and above models.

Main Specification

Model	TN1500WS-S3	TN1700WS-S3	TN1900WS-S3
Power Capacity (KVA)	2.7	2.7	2.7
Recommended I.M.M. (ton)	650-1000	800-1300	1000-1600
Traverse Stroke (mm)	2400	2700	2700
Crosswise Stroke (mm)	1240	1320	1480
Vertical Stroke (mm)	1500	1700	1900
Max.Loading (Kg)	25	25	25
Dry Take Out Time (sec)	2.3	2.6	2.9
Dry Cycle Time (sec)	12	14	19
Air Consumption (Nl/cycle)	25	27	34
Net Weight (Kg)	800	850	920

* All statements here subject to change without advance notice.
* TN1500-1900repeat precision is ±0.2mm.



Model	A	B	C	D	E	l(min)	l(max)	J	K	L	M	N	O	P	Q
TN1500WS-S3	2320	1725	850	1605	550	435	1675	240	280	3440	580	2400	630	600	320
TN1700WS-S3	2380	1815	850	1685	550	435	1755	240	280	3760	580	2700	630	600	320
TN1900WS-S3	2500	1900	850	1845	550	435	1915	240	280	3760	580	2700	630	600	320

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New Titan series

Full servo Traverse beam robot

Optional function

Air pressure scissors
Air pressure scissors can be installed for runner cutting

Photoelectric inspection on finished products
The sensor can be installed at conveyor. Place finished product on the conveyor to avoid hitting among products.

Tricolor light
Installed with tricolor light, user can easily check robot operating state from distance to workshop management. It can also distinguish the condition of the robots in auto, manual or failure status.

A&C axis servo driven
The end of arm rotary mechanism can be driven by AC servo motor with multiple angle and gestures.

Middle plate inspection
Position of the middle plate should be checked after mould opened end position to avoid runner arm from hitting middle-platen.

Lubrication function
Manual central lubrication or auto lubrication can be equipped. For auto lubrication, when robot running times achieve setting value, it will lubricate automatically.

Quick EOAT changing
To reallize the quick separation of the EOAT and the robot. It's simple and can save EOAT changing time.

The New Titan series of robotic arms are used for 650-6000 tons of various large plastic horizontal injection molding machines, 3-axis servo drive, robot arm for taking out products. This series is used for large sized product removal, especially for long product, like bumpers, door strips, trash bins and so on.

Telescopic stage

composite steel structure

3 axis/5 axis

All linear guides

/ New Titan Series

650–6000 T	15–50 kg	± 0.2 mm	2.3 sec	12 sec
Recommended I.M.M.	Loading	Repeat Precision	Min. take out time	Dry cycle time

Product characteristics

The main structure of the robot

crosswise and vertical arm are using high rigidity linear slide rail and aluminum alloy structure beam. It can meet the requirements of fast speed, less vibration, long service life, good parts interchangeability.

Swivel structure

Coordinate with moving platen or fixed platen to realize take-out. Fixed swivel angle is 90 degrees.

Telescopic arm

Telescopic arm of the robot adopts high rigidity linear guide and alloy aluminum beam, together with specially designed belt, greatly shortens the height of the vertical arms. It can not only increase speed and stability of the vertical stroke, but also can be application to low workshop.

Servo motor driven on A&C axis
or B&C axis on end of robot arm

/ 25KG BC Axis

25KG AC Axis

50KG AC Axis

Tn□□□ WS /S3 / S5
Model: 1500/1700/1900/2200/2500/3000/4000
W: Telescopic stage
S:Single arm(product arm)
S3: Three-axis servo (Traverse-Y ±/Vertical-Z ±/Crosswise-X ±)
S5: Five-axis servo (Traverse-Y ±/Vertical-Z ±/Crosswise-X ±/A axis/B axis/C axis as optional)

Awarded with number of patents, ALFA is the optimal choice for injection molding enterprises


Easy operation


Fast speed


Long lifetime


Low noise

3 axis/ 5 axis Servo Motor System Function

Item	Description	LB system	Economical System	High-configurate System
Pendant	Display screen size	7.0 inch	7.0 inch	7.0 inch
	Touch panel	•	•	•
	Controller USB	•	•	•
	Manual operation safety switch	•	※	•
Storage Capacity	Number of mould data sets	100	100	100
Data Transmission Function	To use USB to copy same mold data from same model robot to another one to operate.	•	•	•
Operation Mode	Teach program	•	•	•
	Fixed mode	※	•	•
Interpolation	Linear interpolation, Circular interpolation, Simultaneous movement	•	•	•
Program Function	Loops, Jump, Stack, Compare, Judgement, Arithmetic calculation	•	•	•
	Waiting position in side the mold, Single step operating	•	•	•
Stacking Function	Standard stacking program	•	•	•
	Non-standard stacking program	•	•	•
Record Function	Operation record	•	•	•
	Alarm record	•	•	•
	I/O record	•	•	•
QC Function	Sampling, Exclude the first few products, Remove rejected part, Production statistics	•	•	•
Safety Protective Motion	It will alarm while position setting is out of range, and the setting is not be stored.	•	•	•
	When triggering the hardware limit signal, it will stop and alarm.	•	•	•
User	Multiple users management	•	•	•
Spare I/O port	Standard spare Input/ Output	15/15	3/2	10/14
EOAT Circuit	Standard circuit: 2 vacuum, 2 grip	•	•	•
	Option - Max. extending circuit	8 vacuum / 8 grip circuits	4 vacuum / 4 grip circuits	8 vacuum / 8 grip circuits
IMM Interface	Option - EUROMAP 12 or 67	•	•	•
Application	Insert, In-mold labeling (IML) etc.	•	•	•

• standard function ※ without this function