

T9

Standard Intermediate stroke

High lead : Lead 30

Origin at opposite of motor : Lead 10, 20, 30

Robot ordering method

T9 - 20 - BK - 1050 - 3L - SR1-X - 05 - E^{Note 1} - R^{Note 2} - N - B^{Note 1}

Model	Lead designation	Brake	Stroke	Cable length	Applicable controller	Driver	Usable for CE	Regenerative unit	Inputs/Outputs selection	Battery
	-30 : 30mm -20 : 20mm -10 : 10mm -5 : 5mm	-No entry : No brakes provided -BK : Brakes provided	-Lead 20, 10, 5 : 150 to 1050 (50mm pitch) -Lead 30 : 150 to 1050 (100mm pitch)	-3L : 3.5m (Standard) -5L : 5m -10L : 10m	-SR1-X -RDX (see page 52)	-05 : 100W or less -10 : 200W -20 : 400 to 600W	-No entry : Standard -E : CE specification	-No entry : Standard -R : RG1	-N : NPN -P : PNP -CC : CC-Link -DN : DeviceNet -PB : Profibus -YC : YC-Link ^{Note 3}	-No entry : None (Incremental specification) -B : Battery (Absolute specification)

Note 1 : It will be a customer's choice.

Note 2 : Optional regenerative unit is required for YAMAHA-designated models and when operating a load with a large inertia.

Note 3 : Available only for the slave.

Basic specifications

AC servo motor output (W)	100				
Repeatability (mm) ^{Note 1}	±0.01				
Deceleration mechanism	Ball screw (Class C7)				
Ball screw lead (mm)	30	20	10	5	
Maximum speed (mm/sec) ^{Note 2}	1800	1200	600	300	
Maximum payload (kg)	Horizontal	15	30	55	80
	Vertical	—	4	10	20
Rated thrust (N)	52	78	156	312	
Stroke (mm)	150 to 1050 (50 pitch ^{Note 3})				
Cable length (m)	3.5 (Standard), 5, 10				
Controller	Horizontal	SR1-X-05			
	Vertical	SR1-X-05 ^{Note 4}			
Robot driver	Horizontal	RDX-05-RBR1			
	Vertical	RDX-05-RBR1			

Note 1 : Repeatability for single oscillation.

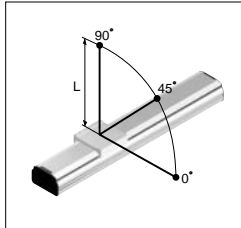
Note 2 : When the stroke exceeds 700mm, although depending on the moving range, the ball screw may resonate (dangerous speed). If such resonance occurs, make an adjustment on the program to reduce the speed, using the maximum speed in the table on the right as a guide.

Note 3 : 100mm pitch when the high lead specification (Lead 30) is used.

Note 4 : RG1 is required when the models used vertically and with 700mm or larger stroke.

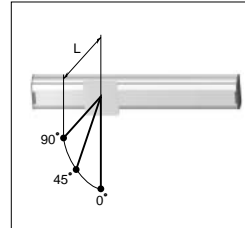
Stroke (mm)	Maximum speed (mm/sec)				Speed setting
	Lead 30	Lead 20	Lead 10	Lead 5	
750	1440	960	480	240	80%
850	1170	780	390	195	65%
950	900	600	300	150	50%
1050	810	540	270	135	45%

Tolerable overhang amount^{Note}



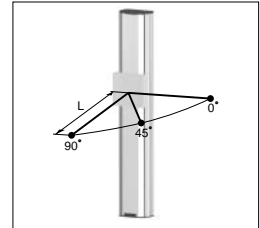
During horizontal use (Unit : mm)

Load	0°			45°			90°		
	5kg	15kg	30kg	5kg	15kg	30kg	5kg	15kg	30kg
Lead 30	311	127	77	290	141	102	442	274	183
Lead 20	391	139	77	454	169	102	796	366	236
Lead 10	100	46	31	130	61	42	364	225	144
Lead 5	39	31	31	55	43	31	345	304	215



During wall installation use (Unit : mm)

Load	0°			45°			90°		
	5kg	15kg	30kg	5kg	15kg	30kg	5kg	15kg	30kg
Lead 30	494	193	0	247	71	0	265	66	0
Lead 20	581	184	0	324	82	0	320	69	0
Lead 10	391	202	0	199	53	0	161	38	0
Lead 5	1176	420	0	237	58	0	172	41	0



During vertical use (Unit : mm)

Load	0°			45°			90°		
	1kg	2kg	4kg	1kg	2kg	4kg	1kg	2kg	4kg
Lead 20	1428	715	356	1010	505	252	1428	715	356
Lead 10	500	236	118	354	167	83	500	236	118
Lead 5	144	85	42	102	60	30	144	85	42

Note : Distance from center of slider top to center of gravity of object being transported.

Approx. 250 (Motor cable length)

165±0.3: At the motor side origin (Note 2)

165: At the reverse-side motor origin

115±0.1 (Note 1)

90

2-#6H7 Depth B

4-M6 x 1.0 Depth 18

44±0.1 (Note 5)

82 (Between threads ±0.02)

145±0.1 (With brake) (Note 1)

195±0.3: At the motor side origin

195: At the reverse-side motor origin

94

4-M5 x 0.8 Note 4

(The same position on the opposite surface at two (2) locations)

50

20

10

98

95.5

30 (With brake)

L

165

60 x (N-1)

B (Note 6)

60

A

23

43

83.7

87.7

Grounding terminal

11

13

22

N-MB x 1.25

Note 1 : Length from both ends to mechanical stopper position.

Note 2 : 167.5±0.4 when the high lead specification (Lead 30) is used.

Note 3 : 91.5 when the high lead specification (Lead 30) is used.

Note 4 : 94±0.4 when the high lead specification (Lead 30) is used.

Note 5 : 41.5±0.1 when the high lead specification (Lead 30) is used.

Note 6 : No washer or the like should be used for the 11 counter bore when installing the main unit.

Note 7 : The minimum bend radius of the motor cable is R50.

Note 8 : This is the weight of the model without a brake.

Note 9 : As the carriage is made of extracted aluminum, its width dimension may slightly differ from the value above.

Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159	1209	1259	1309
A	64	54	44	94	84	74	64	54	44	94	84	74	64	54	44	94	84	74	64
N	4	5	6	6	7	8	9	10	11	11	12	13	14	15	16	16	17	18	19
Weight (kg) (Note 8)	5.5		6.2		6.9		7.6		8.3		9.0		9.7		10.3		11.0		11.7