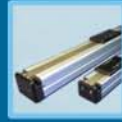




Dyadic

Mechatronics Cylinder



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D1209M



The versatile Mechatronics Cylinder series developed by Dyadic Systems is now available from \$340. (cable sold separately)

This servo actuator system is unique in that the motor, encoder, drive and the program memory are one integral package. Dyadic has developed the linear actuator drive mechanism such that the screw and nut are optimized for high accuracy, long life and high performance. This blend of low-cost and high performance could only have been realized by the advanced technology of Dyadic Systems.

These new product concepts give engineers a wider range of options to **eliminate over-design.**

Product Specifications Overview

Group	Rod style				
Model	SCN5-010	SCN6-020	SCN6-040	SCN6-050	SCN6-060
Type	Standard model	20kgf model	40kgf model	50kgf model	60kgf model
	Built-in Amp.		External amplifier		
Aluminum body					
Priced From	US\$340	US\$465	US\$595	US\$500	US\$615
Page Reference	4	5	5	5	5
Stroke (mm)	50~300	50~300	50~300	50~300	50~300
Max. Thrust (in N)	100	200	400	500	650
(in Kgf)	10.2	20.4	40.8	51.0	66.3
Push mode max. (in N)	70	140	280	350	450
Thrust (in Kgf)	7.1	14.2	28.5	35.5	45.9
Max. Speed (mm/s)	400	200	200	100	100
* Typ. Data					
Repeatability (mm)	± 0.02 (Repeatable positioning accuracy for short time) * Notes 1, 2				
Backlash (mm)	0.3				
Radial Load Capacity	5~15 N	10~30 N	10~30 N	12~75 N	12~75 N
Rod	Ø15, M10 SS		Ø22 M14 Pitch 1.5 (303SS)		
Program Capacity	16 motions with programmable acceleration, velocity, position, and more (see "Functions" below).				
Power Supply	DC24V ± 10%				
Current	Max. 2.0 Amps	Drive Power max. 3.0 Amps, Control power max. 0.2A			
Life	Seals	6 months, or 2,500 km run (Dust Proof Model Only)			
	Others	3 years after delivery or 10,000 km operation when applied within published specs			
I/O	Parallel Input	Names	DC24V type DI/DO Interface (Connector PIO), Position number (4bit binary: PC1,PC2,PC4,PC8)		
		Current	Start (CSTR), Axis Movement Interlock (ILK)		
	Parallel Output	Names	Position complete(PFIN/INP), Homed signal(ZFIN), Zone signal(ZONE), Alarm (ALM),		
		Current	24VDC Digital I/O Interface, PNP Standard (NPN Available)		
Serial Signal		Completed Position Number (4bit binary: PM1,PM2,PM4,PM8),			
		Max. 10mA / port			
Protection function		RS-485 (protocol freely available): +5V, 5G, S+, S-			
		Over speed, Main power over voltage, Voltage fault,			
		Overload, Sensor fault, Servo fault, Encoder wire disconnected			
Ambience	Temp.,	Operating Temp.: 0 ~ 40°C, Storage Temp.: -20 ~ 60°C,			
	Humidity	Operating/Storage Humidity: Less than 90% RH, Non-condensing			
	Vibration	2.5G / 10G (2 times)			
	Protection	Standard models: IP-40 equivalent, W (oil splash proof) models: IP-54 equivalent			
Weight (kgs)	1.2~1.4	1.6~3.1	1.9~3.4	1.9~3.4	1.9~3.4
Functions	<ul style="list-style-type: none"> - Positioning with speed, Accele. - Stroke Limit end set - Push Force Mode - Home Direction Set - Zone Signal output - Servo Gain Adjust - Incremental movement - Complete signal width set - Suitable Auto Max. Accel. 				

** Specs to be subject to change without notice.



Note 2: Repeatability data is positioning from one direction with homing sequence each time.
 Note 3: Homing stopper at both ends are urethan rubber (Shore hardness 90) and its aging deformation may be 0.05 - 0.07mm in couple of years, therefore we recommend the users to adjust the data for long run actuator repeatability for the critical applications

Product Specifications Overview


Group	Rodless type				
Model	SCLL5-010	SCLG5-010	SCLG6-020 / 30	SCLT4-015 / 030	SCLT6-025 / 050
Type	10kgf model	10kgf & LM guide Acme screw+Bronze polymer nut Built-in & External amplifier	20/30kgf & LM guide External amplifier	15/30kgf & LM guide Ball screw Built-in & External amp.	25/50kgf & LM guide Ball screw External amplifier
Priced From	US\$700	US\$890	US\$945	US\$1,010	US\$1,165
Page Reference	6	6	7	8	8
Stroke (mm)	50~300	50~300	300~1,000	50~500	50~700
Max. Thrust (in N) (in Kgf)	50 5	100 10.2	200 / 300 20.4 / 30.6	150 / 300 15 / 30	250 / 500 25 / 50
Push mode max. (in N) Thrust (in Kgf)	30 3	70 7	140 / 280 14.2 / 28.6	105 / 210 10.5 / 21	175 / 350 17.5 / 35
Max. Speed (mm/s)	300	300	300	700 / 400	350
* Typ. Data					
Repeatability (mm)	± 0.02 (Repeatable accuracy for short time) * Notes 1, 2			± 0.02	
Backlash (mm)	0.3			0.1	
Max. Load wt (kgs)	5	10	20	5 / 10	16/30
Max. vertical load (kg)	2.5	2.5	10 / 20	1.5 / 2.5	4 / 6
Overhang (mm) * note 3	100 or shorter	150 or shorter	150 or shorter	100 or shorter	100 or shorter
Guide	Slide block	External LM guide	Internal LM guide	Internal LM guide	Internal LM guide
Program Capacity	16 motions, each with acceleration, velocity, position, and more (see "Functions" below).				
Power Supply	DC24V ± 10%				
Life	Current	Drive Power max. 3.0 Amps, Control power max. 0.2A			
	Seals	6 months, or 2,500 km run (Dust Proof Model Only)			
	Others	3 years after delivery or 10,000 km operation when applied within published specs			
I/O	Parallel Input	Names DC24V type DI/DO Interface (Connector PIO), Position number (4bit binary: PC1,PC2,PC4,PC8) Start (CSTR), Axis Movement Interlock (ILK)			
	Parallel Output	Current Max. 4mA / port Names Position complete(PFIN/INP), Homed signal(ZFIN), Zone signal(ZONE), Alarm (ALM), 24VDC Digital I/O Interface, PNP Standard (NPN Available) Completed Position Number (4bit binary: PM1,PM2,PM4,PM8: N/A for built-in models), Current Max. 10mA / port			
Serial Signal	RS-485 (protocol freely available): +5V, 5G, S+, S-				
Protection function	Over speed, Main power over voltage, Voltage fault, Overload, Sensor fault, Servo fault, Encoder wire disconnected				
Ambience	Temp., Humidity	Operating Temp.: 0 ~ 40°C, Storage Temp.: -20 ~ 60°C, Operating/Storage Humidity: Less than 90% RH. Non-condensing			
	Vibration	2.5G / 10G (2 times)			
	Protection	IP-40 equivalent	IP-20 equivalent	IP-40 equivalent	
Weight (kgs)	1.0~1.8	1.3~2.3	2.7~10.7	1.42~2.4	2.7~5.4
Functions	- Positioning with speed, Accele. - Home Direction Set - Incremental movement		- Stroke Limit end set - Zone Signal output - Complete signal width set		- Push Force Mode - Servo Gain Adjust - Suitable Auto Max. Accel.

Other products

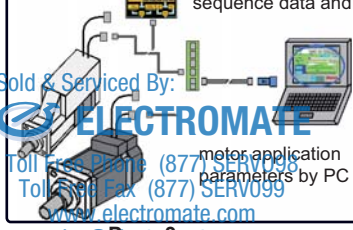
RSA Servo motor
Please see page 10



CTA-23 Teach Pendant
Program position data & Parameters



PC-CTC Tool
Program position data/Parameters, sequence data and

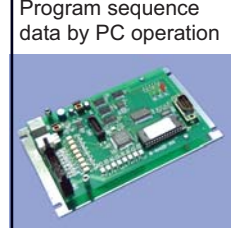


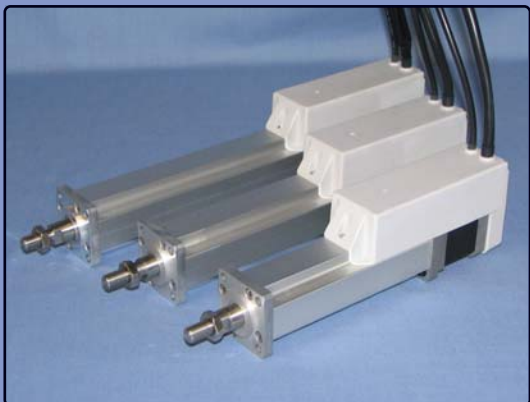
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CTC-33 PLC Pendant
Program position data & sequence data



CTC-67 PLC Board
Program sequence data by PC operation





The SCN5 model Mechatronics Cylinders were developed in response to popular demand for a compact, affordable servo linear actuator. The cost of SCN5 actuators is roughly equivalent to that of air cylinders with accessories such as FRL, flow controls, reed switches, valves, etc.

With speed up to 400mm/s and stroke up to 300mm, SCN5 actuators are suited to a wide variety of applications. Different speeds and positions can be programmed as necessary, and it is also possible to control the force applied to the workpiece!

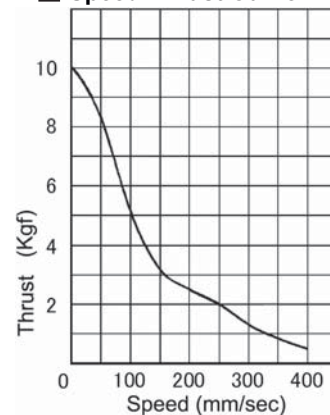
SCN5 actuators have extruded aluminum bodies and are assembled using socket-head machine screws to provide the toughness required in industrial environments.

Specifications

Models	SCN5-010-050AS03	SCN5-010-100AS03	SCN5-010-150AS03	SCN5-010-200AS03	SCN5-010-250AS03	SCN5-010-300AS03
Stroke (mm)	50	100	150	200	250	300
Max. Thrust	100 (N) / 10.2 (Kgf)					
Push force mode (N)	70					
Max. Thrust (kgf)	7.1					
Max. Speed (mm/s) - Typ.	400					
Radial Load Capacity (N)	15	10	5	4	3	2.5
Rod Diameter (mm)	Ø15					
Rod Tip Thread	M10 Pitch 1.25 (303SS)					
Weight (kg)	1.1	1.2	1.4	1.6	1.8	2.0

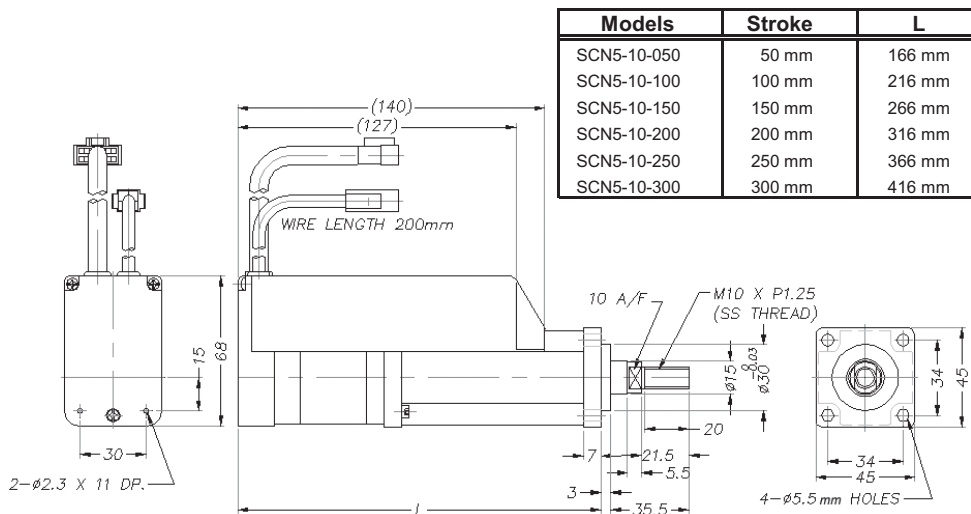
Note : Max vertical load is the same as the maximum force in push mode.
12 VDC Operation also permitted - Please contact Mirai for specs.

Speed-Thrust Curve



(Note) Vertical thrust is 7 kgf Max.

Dimensions (in mm)



Accessories



Parallel Cables (power & I/O)

RP9100-030:
3m for SCN5 (\$48)

RP9120-030:
3m for other M.C. (\$59)



Thruster

- Simple thruster guides available
- Call to discuss your application



Brackets

FT001: \$20
- For SCN5

FT002: \$25
- For SCN6

Conversion Quick Reference

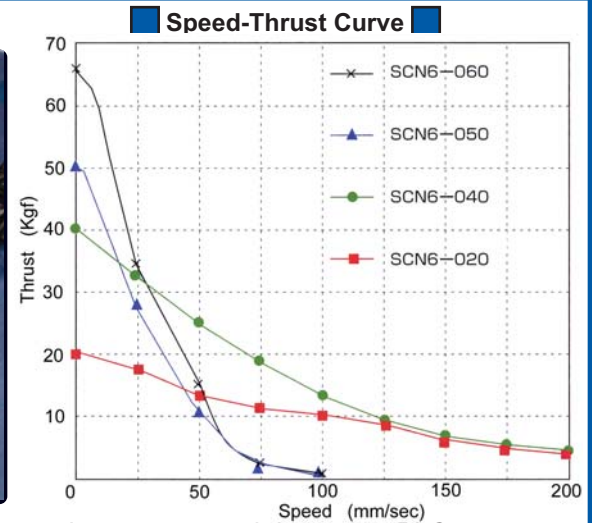
Type	Conversion	Multiplier	Reference Example
Force	N -> lbf	0.225	100 N = 22.5 lbf
Force	kgf -> lbf	2.2	10.2 kgf = 22.5 lbf
Torque	Nm -> in-lbf	8.85	5 Nm = 44.3 in-lbs
Inertia	kg-m ² -> oz-in ²	54678	0.269x10 ⁻⁴ kg-m ² = 1.47 oz-in ²
Inertia	kg-m ² -> oz-in-s ²	141.6	0.269x10 ⁻⁴ kg-m ² = 10.03809 oz-in-s ²
Distance	mm -> inch	0.03937	100mm = 3.937"

OTHER ACCESSORIES
We can help you with the following:

- Mounting plates
- Rod eyes and Clevises
- Thread Adapters
- Rod Couplers
- Pinch Rollers
- Others - just ask!

Also available in the Mechatronics Cylinder line are 20 kgf, 40 kgf, 50 kgf and 60 kgf models.

Each model is available as a dust-proof version which is sealed at the shaft outlet with a muffler on the end mounting block.



Dyadic's Mechatronics Cylinder controller comes complete with on board memory - a relay contact, push button, or PLC output can be used to initiate the programmed motion profile. Stainless steel shaft & thread is standard to carry heavy load.

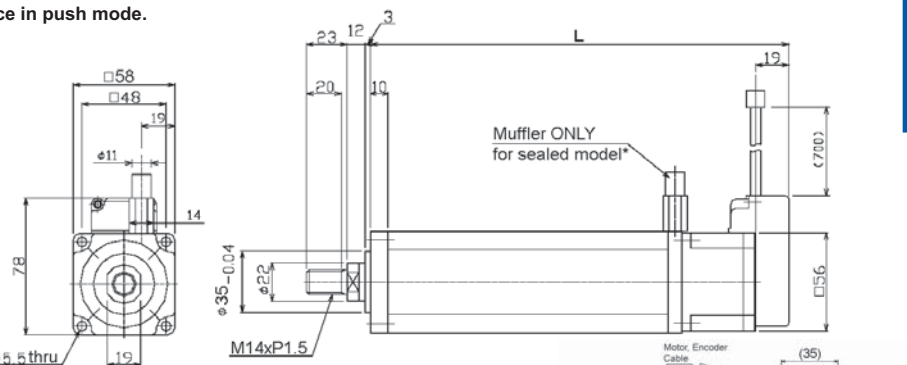
Specifications

MODEL	SCN6-	020-050	020-100	020-150	020-200	020-250	020-300	040-050	040-100	040-150	040-200	040-250	040-300
Stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
Max. Thrust (N) / (kgf)		200 / 20.4						400 / 40.8					
Push mode max. Thrust (N)/(kgf)		140 / 14.2						280 / 28.5					
Max. Speed (mm/s) * Typ.		200						200					
Radial Load Capacity (N)		30	20	10	10	10	10	75	50	25	18	15	12
Max. radial thrust at pwr ON (N)		14						28					
Rod Diameter (mm) / Thread		Ø 22 / M14 Pitch 1.5 (303SS)											
Environmental Protection		IP-40 equivalent (Standard), IP-54 (Dust proof sealed model)											
Actuator Weight (kg)		1.6	1.9	2.2	2.5	2.8	3.1	1.9	2.2	2.5	2.8	3.1	3.4

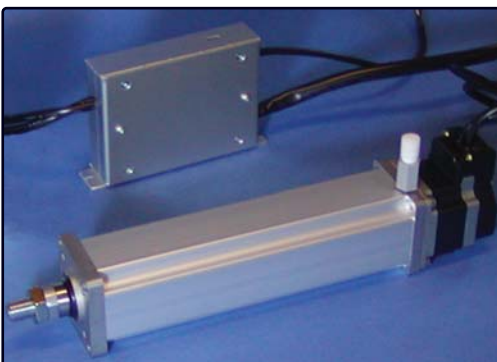
MODEL	SCN6-	050-050	050-100	050-150	050-200	050-250	050-300	060-050	060-100	060-150	060-200	060-250	060-300
Stroke (mm)		50	100	150	200	250	300	50	100	150	200	250	300
Max. Thrust (N) / (kgf)		500 / 51.0						650 / 66.3					
Push mode max. Thrust (N)/(kgf)		350 / 35.5						450 / 45.9					
Max. Speed (mm/s) * Typ.		100						100					
Radial Load Capacity (N)		75	50	25	18	15	12	75	50	25	18	15	12
Max. radial thrust at pwr ON (N)		30						45					
Rod Diameter (mm) / Thread		Ø 22 / M14 Pitch 1.5 (303SS)											
Environmental Protection		IP-40 equivalent (Standard), IP-54 (Dust proof sealed model)											
Actuator Weight (kg)		1.9	2.2	2.5	2.8	3.1	3.4	1.9	2.2	2.5	2.8	3.1	3.4

Note : Max vertical load is the same as the maximum force in push mode.

Dimensions



Dust Proof (Sealed) Model



Models	Stroke	L	Models	Stroke	L
SCN6-020-050-AB(W*)	50 mm	189 mm	SCN6-020-200-AB(W*)	200 mm	339 mm
SCN6-040-050-AB(W*)		223 mm	SCN6-040-200-AB(W*)		373 mm
SCN6-050-050-AB(W*)		201 mm	SCN6-050-200-AB(W*)		351 mm
SCN6-060-050-AB(W*)	100 mm	223 mm	SCN6-060-200-AB(W*)	250 mm	373 mm
SCN6-020-100-AB(W*)		239 mm	SCN6-020-250-AB(W*)		389 mm
SCN6-040-100-AB(W*)		273 mm	SCN6-040-250-AB(W*)		423 mm
SCN6-050-100-AB(W*)	150 mm	251 mm	SCN6-050-250-AB(W*)	300 mm	401 mm
SCN6-060-100-AB(W*)		273 mm	SCN6-060-250-AB(W*)		423 mm
SCN6-020-150-AB(W*)		289 mm	SCN6-020-300-AB(W*)		439 mm
SCN6-040-150-AB(W*)	200 mm	323 mm	SCN6-040-300-AB(W*)	300 mm	473 mm
SCN6-050-150-AB(W*)		301 mm	SCN6-050-300-AB(W*)		451 mm
SCN6-060-150-AB(W*)		323 mm	SCN6-060-300-AB(W*)		473 mm

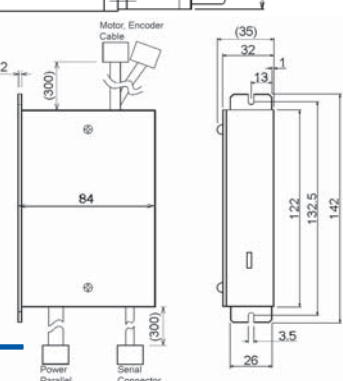
Note *: * Marked circles only for sealed model.

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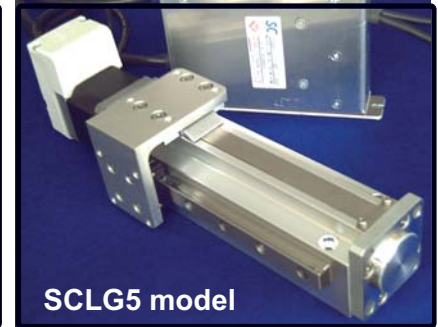
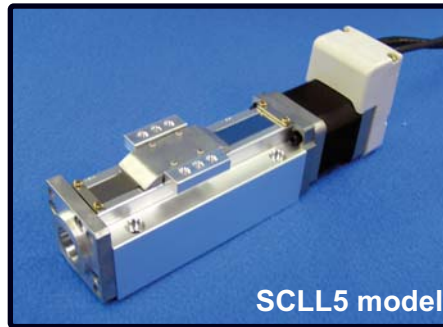
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FEATURES

Unit includes:

- closed loop servo motor, external servo amplifier and control
- linear actuation mechanism with Aluminum extrusion housing
- table and slider mounting slots with nuts
- SCLG5 type: High rigidity model to build Gantry and Cantilever systems



Specifications

MODEL	SCLL5-010-050	SCLL5-010-100	SCLL5-010-150	SCLL5-010-200	SCLL5-010-300	SCLG5-010-050	SCLG5-010-100	SCLG5-010-150	SCLG5-010-200	SCLG5-010-300
Stroke (mm)	50	100	150	200	300	50	100	150	200	300
Max. Thrust (N) / (kgf)	50 / 5					100 / 10.2				
Push mode max. Thrust (N)/(kgf)	30 / 3					70 / 7.1				
Max. Speed (mm/s) * note 1	300					300				
Max. Load weight (kgs)	5 (Horizontal)					10 (Horizontal)				
Max. vertical load (kgs)	2.5					2.5				
Max. axial thrust at power ON (N)	10					25				
Load moment (N-m) (Kgf-cm)	Mp=0.5 / 5.1, My=0.5 / 5.1, Mr=2 / 20.4 (* note 2)					Mp=1.5 / 15, My=1.5 / 15, Mr=5 / 51 (* note 2)				
Overhang length (mm) * note 3	100 or shorter					150 or shorter				

Notes: (*1) Typical data, (*2) This is a load that the wt (m kg) is generated by the overhang (L m) from the arrior slider.

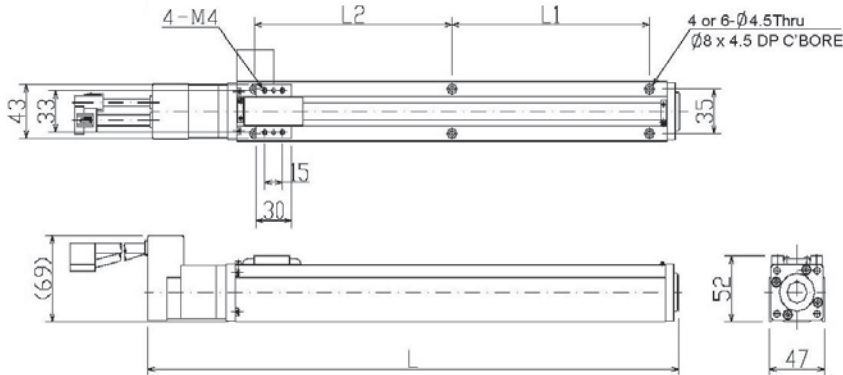


(The calculation of the load moement (kgf-cm) is: m (kg) x L (cm) < Mp, My, Mr)

The actual moment will be combinations of those moments (Mp, Py, Mr).

Notes: (*3) This is the acceptable over hand length from the slider carriage.

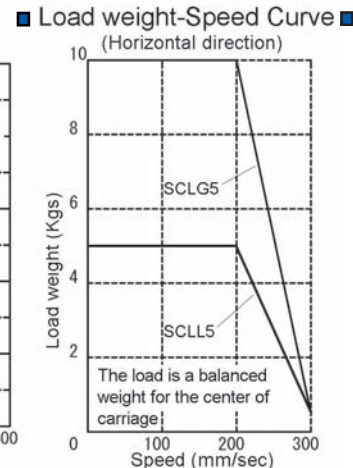
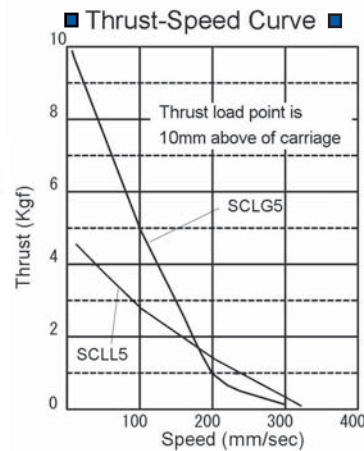
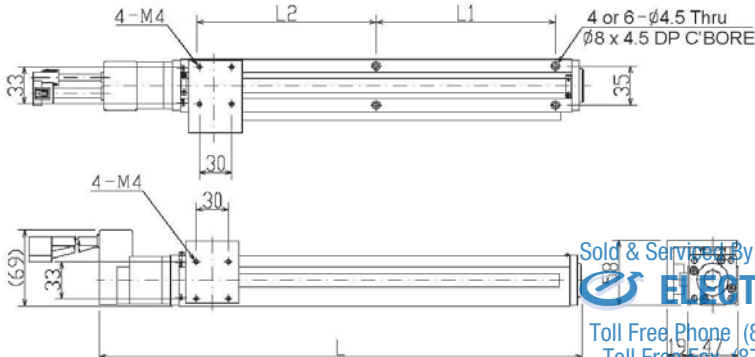
Dimensions of SCLL5 model



Models	ST	L	L1	L2
-050-AB	50 mm	201	85	
-100-AB	100 mm	251	135	
-150-AB	150 mm	301	185	
-200-AB	200 mm	351	117.5	117.5
-300-AB	300 mm	451	167.5	167.5

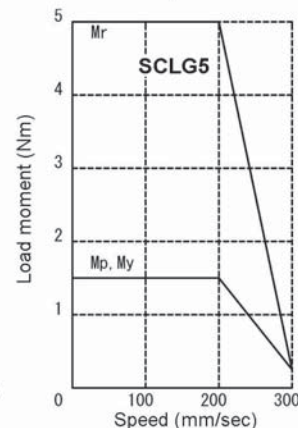
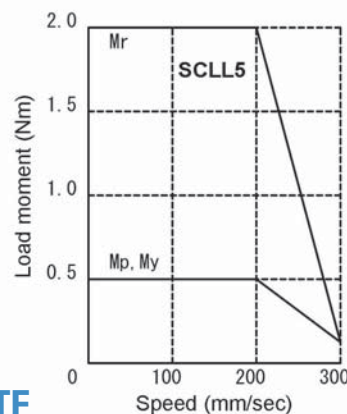
Note 1:
There are 6 mounting places for over 200mm stroke actuators

Dimensions of SCLG5 model



Load moment-Speed Curve

(Horizontal direction)



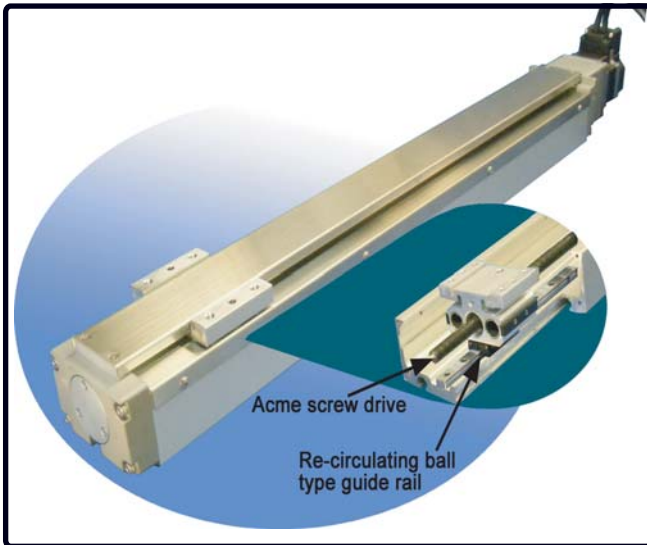
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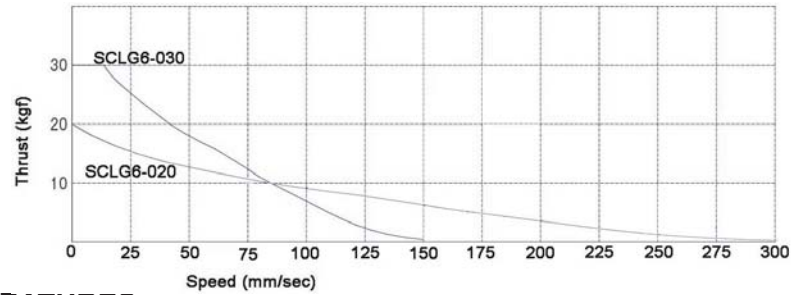
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Thrust-Speed Curve



FEATURES

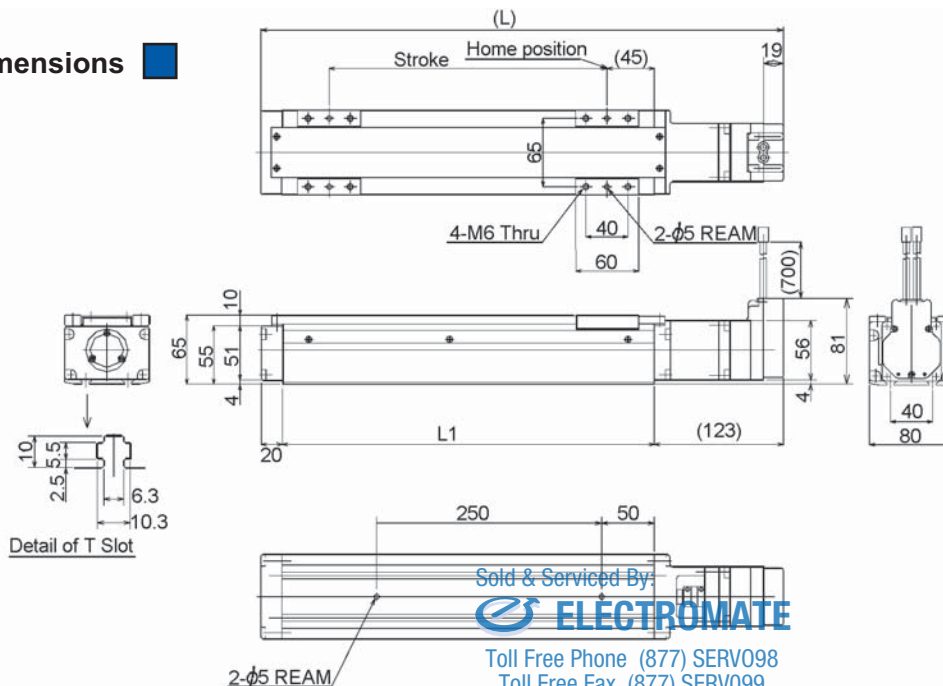
Unit includes:

- closed loop servo motor, external servo amplifier and control
- linear actuation mechanism with Aluminum extrusion housing
- Re-circulating ball type linear guide rail for heavier load
- positioning table and slider mounting slots with nuts
- exact replacement for SCLL6
- positioning table and slider mounting slots with nuts

Specifications

MODEL	SCLG6-020- XXX -AB							SCLG6-030- XXX -AB							
	300	400	500	600	700	800	1000	300	400	500	600	700	800	1000	
Stroke (mm)	300	400	500	600	700	800	1000	300	400	500	600	700	800	1000	
Max. Thrust (N)/(kgf)	200 / 20.4							300 / 30.6							
Push mode max. Thrust (N)/(kgf)	140 / 14.2							280 / 28.6							
Max. Speed (mm/s) * Typ. Data	300			280				220	150	150	140			110	75
Max. Load weight (kgf)	20							20							
Max. vertical load (kgf)	10							20							
Load moment (N-m / kg-fcm)	Mp= 6 / 60, My= 6/60, Mr= 10 /100														
Max. axial thrust at power ON (N)	25														
Overhang length (mm)	150 or shorter														
Actuator weight (kg)	3.7	4.7	5.7	6.7	7.7	8.7	10.7	3.7	4.7	5.7	6.7	7.7	8.7	10.7	
Servo amplifier weight (kg)	0.5														

Dimensions



Quantity of M6 nut included for T slot:

Strokes	Quantity
200mm ~ 300mm	4 pcs
400mm ~ 700mm	6 pcs
800mm	8 pcs
900mm ~ 1000mm	10 pcs

MODEL	Stroke	L	L1
SCLG6-020/030-200	200	433	290
SCLG6-020/030-300	300	533	390
SCLG6-020/030-400	400	633	490
SCLG6-020/030-500	500	733	590
SCLG6-020/030-600	600	833	690
SCLG6-020/030-700	700	933	790
SCLG6-020/030-800	800	1033	890
SCLG6-020/030-900	900	1133	990
SCLG6-020/030-A00	1,000	1233	1090

(Unit in mm)

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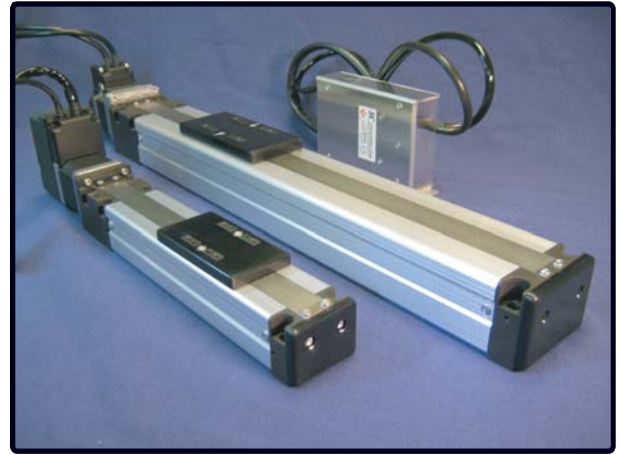
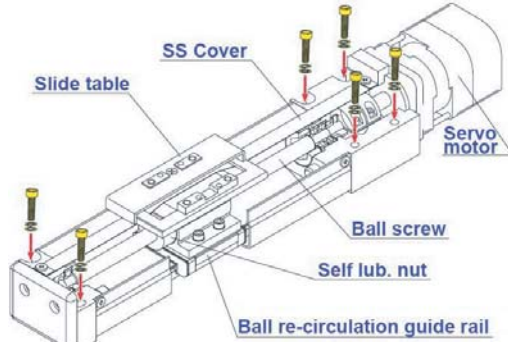
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FEATURES

- closed loop servo motor, built-in/external servo amplifier and control
- rodless actuator with recirculating ball screw and profile rail.
- actuator can be mounted from above or below.
- SCLT4 has built in servo amplifier for easy installation.



Specifications

MODEL	SCLT4-015 -XXX AS	SCLT4-030 -XXX AS	SCLT6-025 -XXX AB	SCLT6-050 -XXX AB
Amplifier	Built-in to actuator		External	
Stroke (mm)	50 / 100 / 150 / 200 / 300 / 400 / 500		50 / 100 / 150 / 200 / 300 / 400 / 500 / 600 / 700	
Max. Hor Load weight (kg)	5	10	16	30
Max. Thrust (N) / (kgf)	150 / 15	300 / 30	250 / 25	500 / 50
Push mode max. Thrust (N)/(kgf)	105 / 10.5	210 / 21	175 / 17.5	350 / 35
Ball screw lead (mm)	12	6	12	6
Max. Speed (mm/s) * note 1	700 (680mm/s for 500mm stroke)	400 (340mm/s for 500mm stroke)	600 (500mm/s for 700mm stroke)	350 (600mm: 340mm/s) (700mm: 250mm/s)
Repeatability (mm)	± 0.02	± 0.02	± 0.02	± 0.02
Backlash (mm)	0.1	0.1	0.1	0.1
Max. vertical load (kg)	1.5	2.5	4	6
Max. axial thrust at power ON (N)	15	25	40	60
Load moment (Nm / kgf-cm)	Mp=12 / 120, My=12 / 120, Mr=31 / 310		Mp=25.7 / 257, My=25.7 / 257, Mr=58 / 580	
Overhang length (mm) * note 2	100 or less			
Weight (kg)	1.42/1.53/1.64/1.74/1.96/2.18/2.4		2.7 / 2.9 / 3.1 / 3.3 / 3.7 / 4.1 / 4.5 / 5.0 / 5.4	

Notes: (*1) Typical data

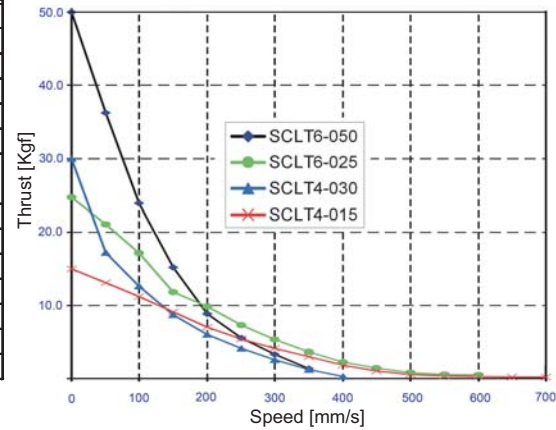


(The calculation of the load moement (kgf-cm) is: m (kg) x L (cm) < Mp, My, Mr)

The actual moment will be combinations of those moments (Mp, Py, Mr).

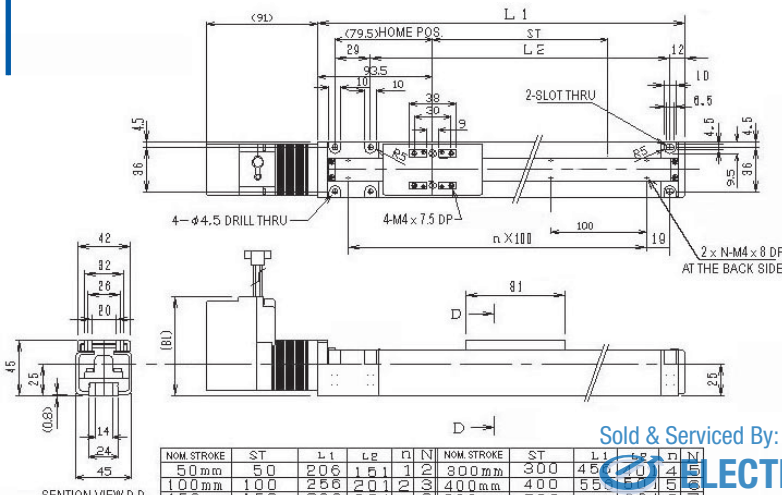
Notes: (*2) This is the acceptable over hand length from the slider carriage.

Thrust-Speed Curve

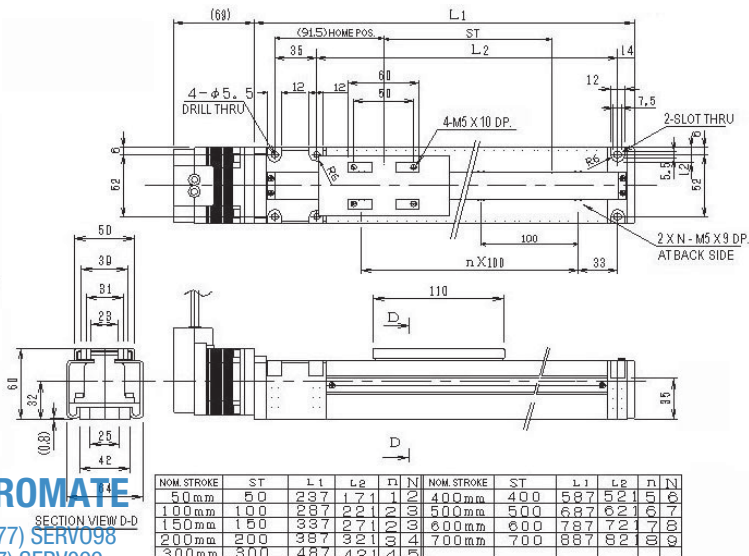


Dimensions

SCLT4 Model



SCLT6 Model



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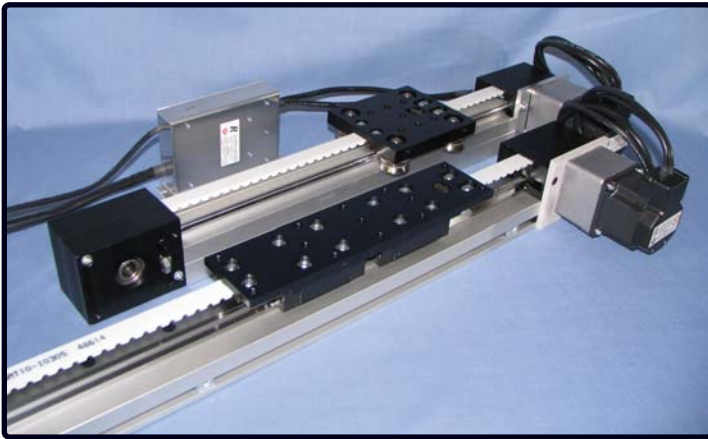
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FEATURES

Unit includes:

- Using Dyadic closed loop geared or standard servo motor
- external servo amplifier and control
- Timing belt linear actuation mechanism
- Aluminum extrusion housing
- positioning table and slider mounting slots with nuts

Mechanical Specifications

MODEL	ML-AA-BBBB-SGR15	ML-AA-BBBB-SGR15D	ML-AA-BBBB-G20	ML-AA-BBBB-G20D
Stroke (mm) *	100 ~ 2850	100 ~ 2770	100 ~ 5850	100 ~ 5770
Stroke increment (mm)	100	100	100	100
Max. Load weight (kg)	25	50	360	720
Load moment (Nm)	Mp=10, My=7, Mr=13	Mp=30, My=20, Mr=25	Mp=180, My=180, Mr=220	Mp=600, My=600, Mr=440
Actuator weight (kg)	3.6 + 0.2 / 100mm	3.9 + 0.2 / 100mm	3.6 + 0.43 / 100mm	3.9 + 0.43 / 100mm
Belt Type	16AT10			
Pulley teeth/revolution	18			
Pulley Diameter (mm)	55.5			
Travel per revolution (mm)	180			
Servo amplifier weight (kg)	0.5			
Ordering Codes	AA = MOTOR CODE, BBBB = STROKE LENGTH (mm)			

* Please ask about special considerations regarding actuators 2,000 mm and longer

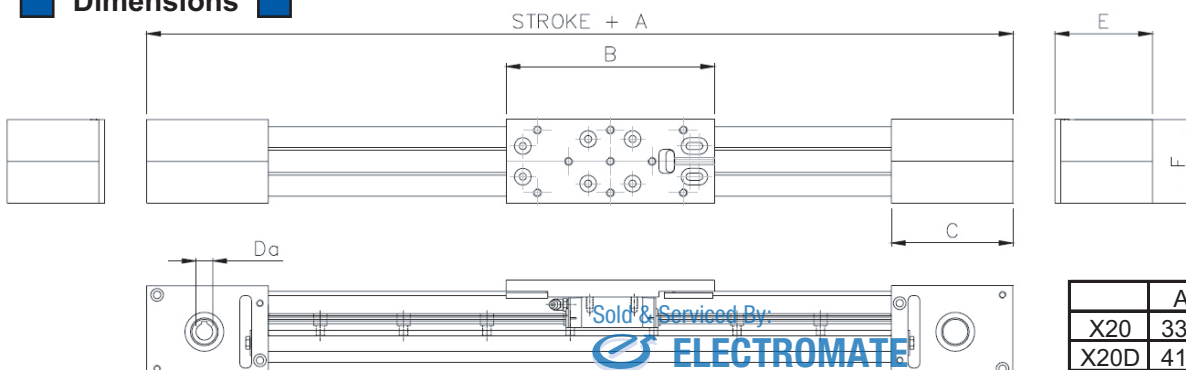
Performance Specifications

Available Options:

- Bore & mount for your motor/gearbox
- Transition plates for cartesian systems
- Bored idler for synchronizing shaft
- Cable management
- Other requirements? Just ask!

MOTOR CODES	G1	G2	P5	P10	P20	P50	P100
Max. Speed (mm/s) * Typ. Data	1744	872	2325	1162	581	232	116
Thrust @ 20% Max Speed (N)	46	92	45	91	172	430	859
Max. vertical load (kg)	5	9	5	9	17	43	86
Repeatability (mm)	0.1 mm	0.1 mm	0.1 mm	0.1 mm	0.1 mm	0.1 mm	0.1 mm
Backlash (mm)	~1.5 mm		0.15 mm	0.15 mm	0.15 mm	0.2 mm	0.2 mm

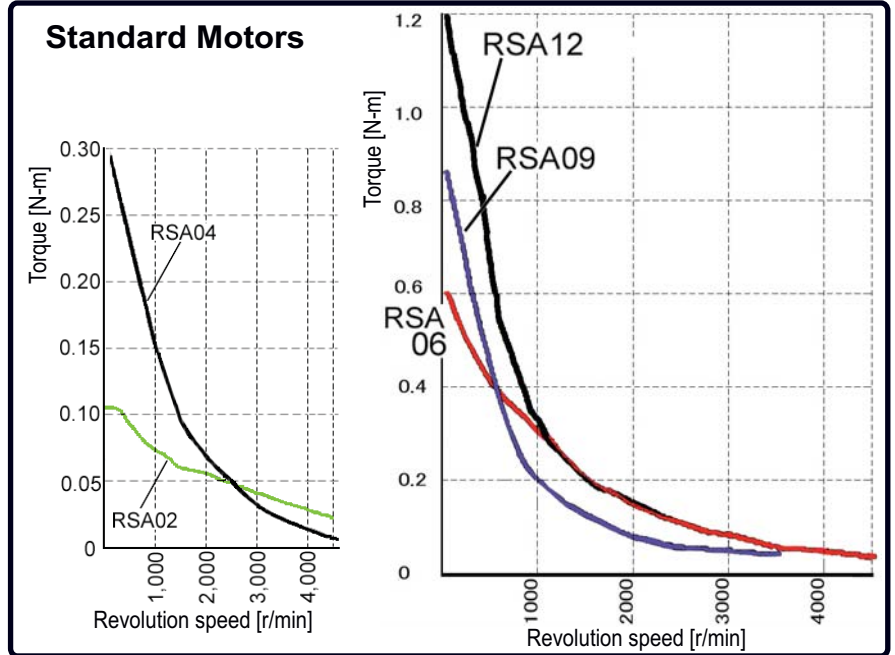
Dimensions



	A	B	C	E	F	M
X20	335	150	87.5	70	60	M6
X20D	415	250	87.5	70	60	M6



Speed-Torque Curves



Features

- * No lost pulses
- * Self generation of pulses for stable motion
- * Controller designed to fully harness high potential of motor
- * Holds position with excellent stability and torque
- * High performance in its size
- * Stepper with servo amp. & controller

Specifications

Model	Standard Motor					Standard Gear Motor		Precision Gear Motor (RSA-)				
	RSA02	RSA04	RSA06	RSA09	RSA12	RSA06-G1	RSA06G2	02-G5-10	04-G5-06	06-G5-05	12-G5-05	
Motor Type	RMJ02	RMJ04	RMJ06	RMJ09	RMJ12	RMJ06-G1	RMJ06-G2	RMJ02-G5-10	RMJ04-G5-06	RMJ06-G5-05	RMJ12-G5-05	
Amplifier Type	RAD0211	RAD0111	RAD0311	RAD1311	RAD2311	RAD0311	RAD0311	RAD0211	RAD0111	RAD0311	RAD2311	
Output Power *Note 1	W	20	50	90	60	100	N/A					
Max. RPM	RPM	4,500	4,500	4,500	3,500	4,500	600	300	450	750	800	800
Max. Torque	N-m	0.11	0.3	0.6	0.9	1.2	1.5	2.5	0.8	1.4	2.6	4.8
Rotor Inertia	(x10 ⁻⁴ Kg·m ²)	0.018	0.076	0.115	0.188	0.269	0.14	0.14	0.018	0.078	0.135	0.289
Max. Friction Load	N-m	0.03	0.083	0.229	0.36	0.5	N/A					
Max. Unbalanced Load *Note 2	N-m	0.03	0.075	0.229	0.36	0.5	N/A					
Gear Reduction	grams	N/A					1/5	1/10	1/10	1/6	1/5.6	1/5.6
Motor Weight	grams	400	500	640	830	1,200	900	900	350	850	1,000	2,000
Incremental encoder		200 P/R (x 4 = 800 P/R)					1000 P/R (x 4)	2000 P/R (x 4)	2000 P/R (x 4)	1200 P/R (x 4)	1120 P/R (x 4)	1120 P/R (x 4)
Backlash		N/A					120	60	30	48	48	48
Thrust Load Capacity	N (kgf)	4.9 N (0.5 Kgf)	9.8 N (1 Kgf)	19.6 N (2 Kgf) or smaller			29.4 (3)	24.5 (2.5)	59 (6)	294 (15)	294 (15)	294 (15)
Radial Load Capacity	N (kgf)	19.6 N (2 Kgf) or smaller		49 N (5 Kgf) or smaller			49 (5)	49 (5)	118 (12)	294 (30)	294 (30)	294 (30)
Power Supply	Drive Power	24VDC+10% (2A Max)			DC24V ± 10% (3.0 Amps Max.)							
	Control Power	DC24V ± 10% (0.2 Amps Max.)										
Amplifier weight	grams	approx. 400										
Motor insulation classification		Class E										
Motor protection		IP-40 equivalent										
Program Capacity		16 position steps (incl. Position, speed, acceleration, torque control, etc.)										

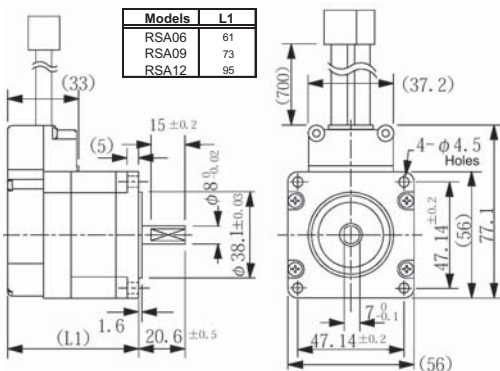
Note 1: Reference only.

Note 2: In case of lower positioning current limit, this unbalance load will be lower as well. In case of the use for vertical axis,

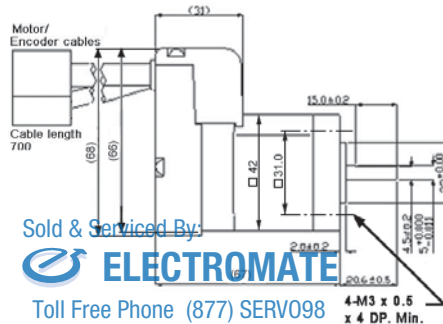
Note 3: Max. power dissipation of Amplifier will be 15W.

Dimensions - Standard Motor

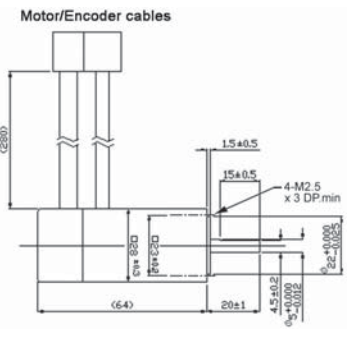
RSA06, 09 & 12 (NEMA 23 Model)



RSA04 (NEMA 17 Model)



RSA02 (NEMA 12 Model)



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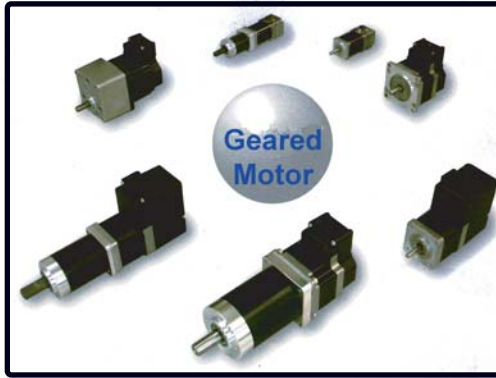
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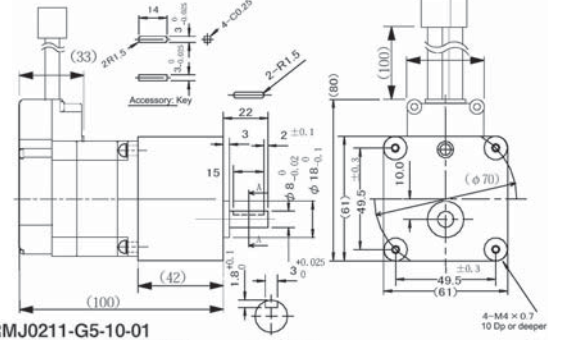
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Features

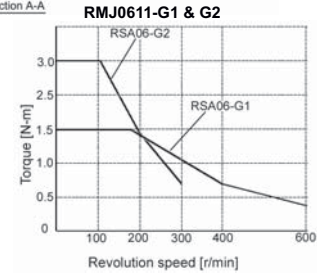
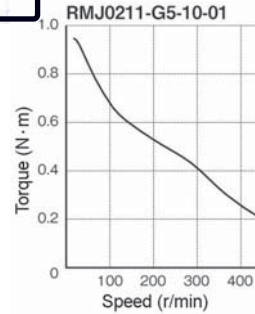
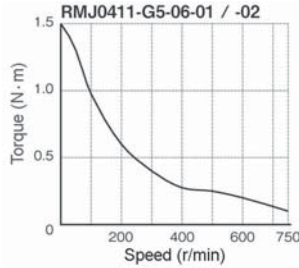
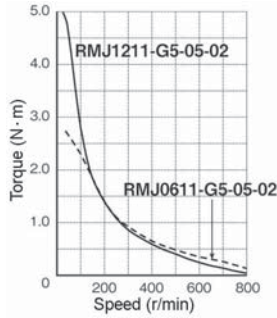
- * Available with standard gear and high resolution gears
- * Using Dyadic servo motors with their benefits
- * Low cost with high performance



Dimensions of G1, G2 motors

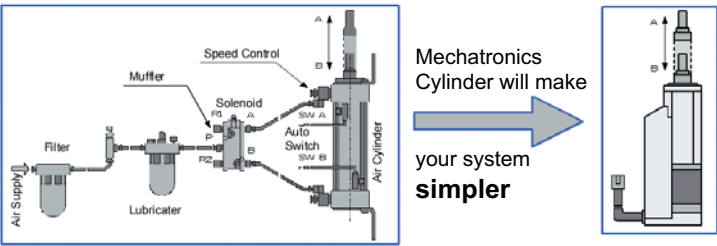


Speed-Torque Curves

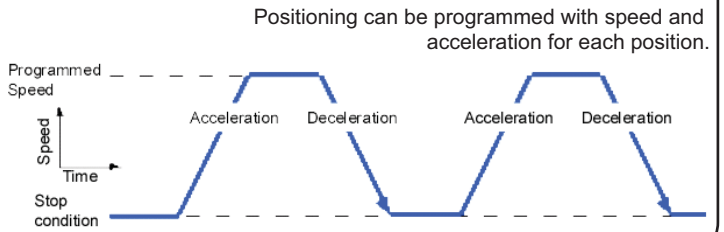


Application Notes

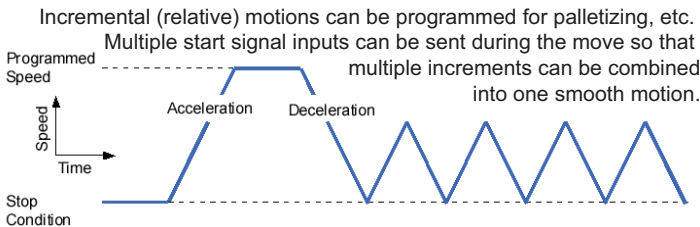
Much simpler than Air Cylinder



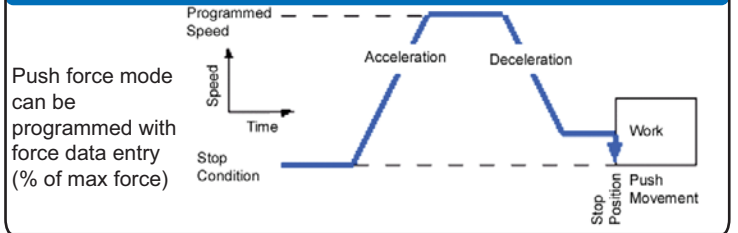
Standard positioning



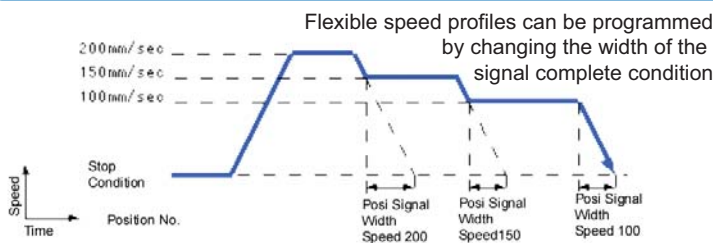
Incremental movement



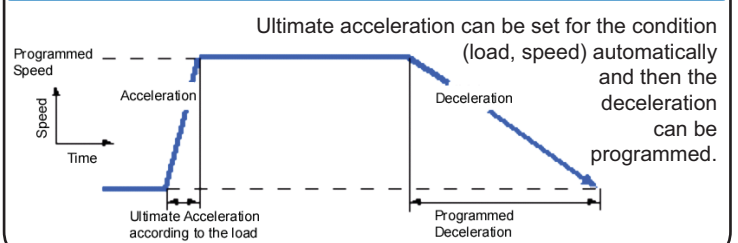
Push force mode



Speed profile



Auto max. acceleration



Zone signal output

The Mechatronics Cylinder can be programmed to energize an output when it is in the desired zone. Duration of the signal can be specified.

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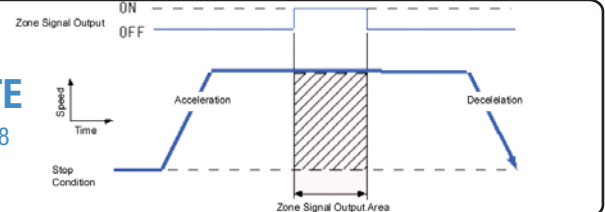


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Position Data Programming Tool

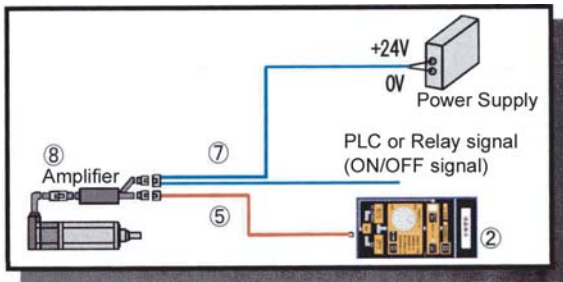
Teach Pendant (CTA-23-EN-SET) Kit price US\$455

Features

- * Easy programming with jog handle
 - * Jog handle has choice of standard jog and fine jog
 - * Handle allows data input without jog movement if desired
 - * Visual indication of the programming procedure
 - * Complete control over all actuator capabilities
 - * Program one actuator at a time,
- for multi synchronized actuator motion programming tool, please consult Mirai.



Connection layout



- Contents:
- * Teach pendant (CTA-23-EN)
 - * ADP cable (RP9050-010)

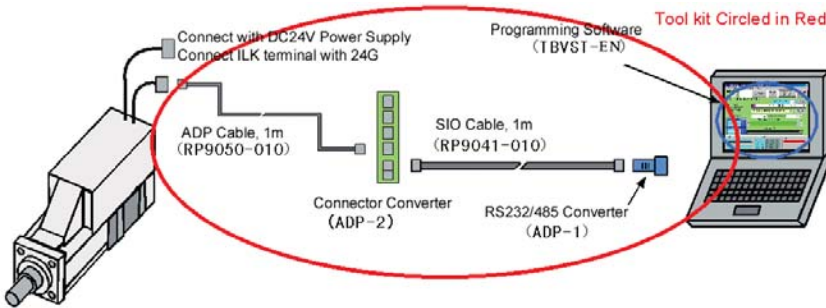
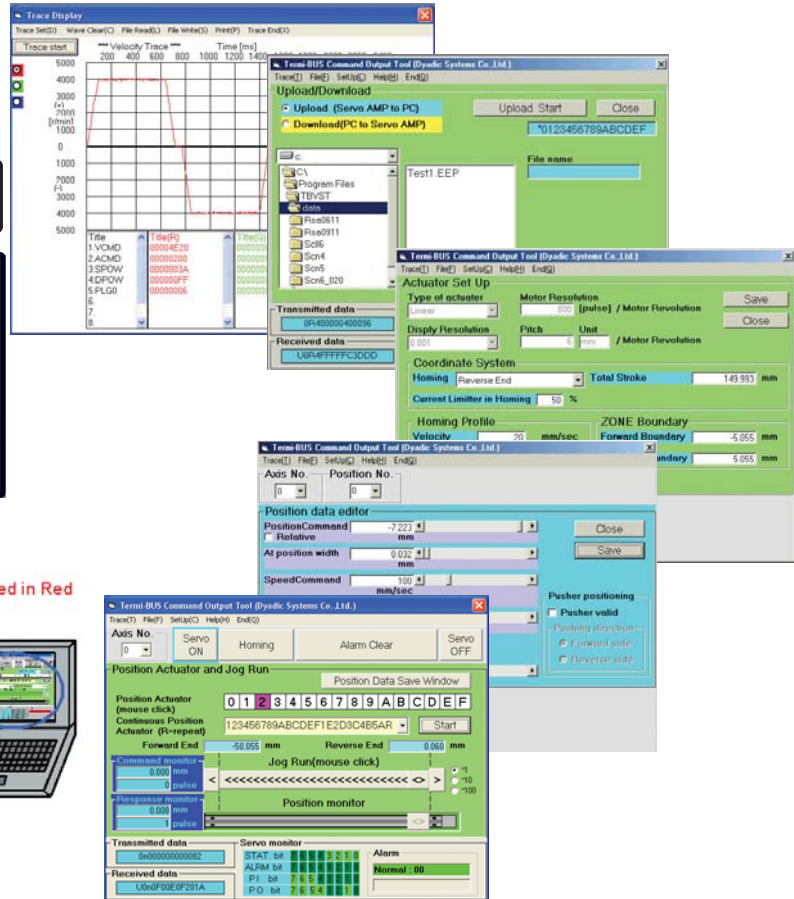
PC-CTC Tool Kit (TBVST-CTC-EN-SET) US\$275

Features:

- * Easy Window-based programming
- * Programming with jog and data entry
- * Down-load, Up-load functions
- * Actual movement result analysis function
- * Able to program position parameter/data and sequence program for CTC pendants
- * Contains all software in one package (TBVT, MVST, CTA-1EX and CTCTOOL)

Kit Contents:

- * Software disc for PC tool and CTC tool
- * RS232/485 converter ADP-1
- * Connector converter ADP-2
- * ADP cable
- * SIO cable



Accessories PC-CTC Tool Parts



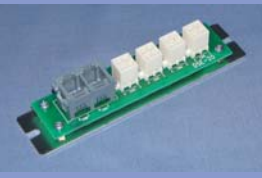
ADP-1: 232/485 Adaptor



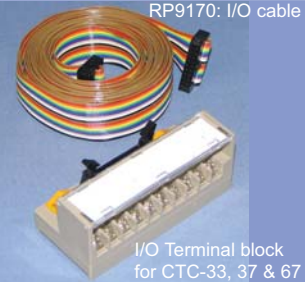
RP9050-010: ADP cable



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RP9041-010: SIO Cable
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ADP-2-4: Connector junction



I/O Terminal block for CTC-33, 37 & 67

Sequence Data Programming Tool

PLC Pendant (CTC-33-EN-SET) Kit price US\$700

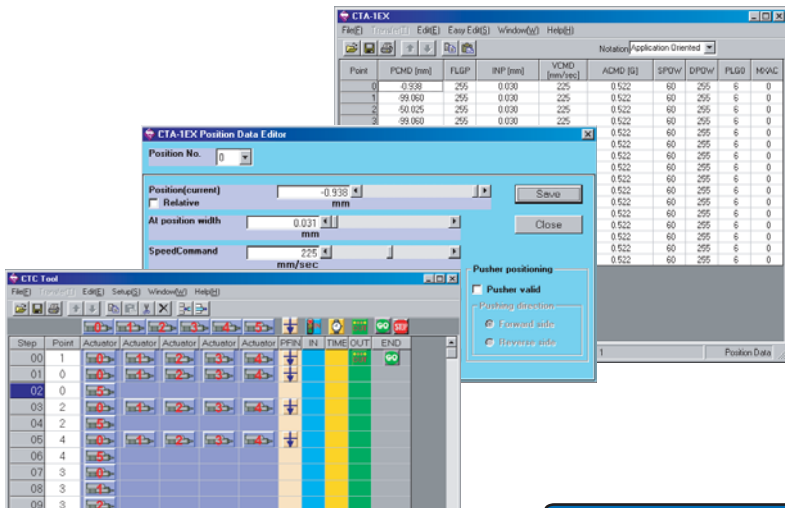
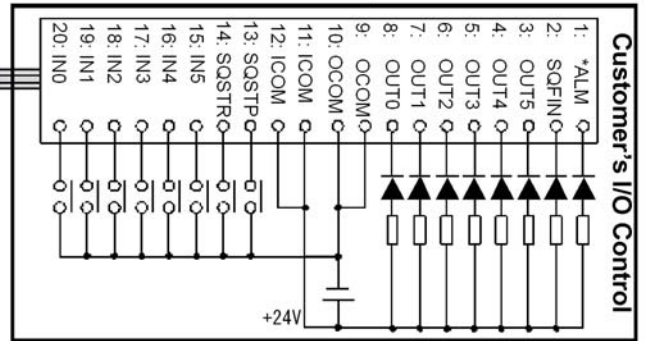
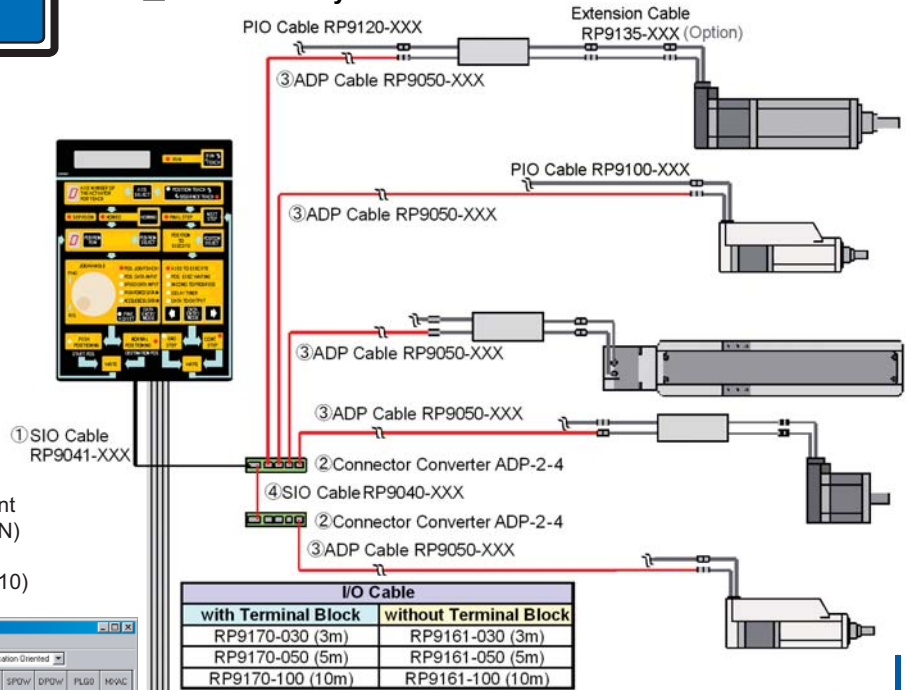
Features

- * Easy programming with jog handle
- * Jog handle has choice of standard jog and fine jog
- * Handle also allows data input without jog movement
- * Program position data and sequence with I/O and delay time (upto 41 steps)
- * 6 inputs/6 outputs for users
- * 8 actuators connectable
- * Control up to 5 axes per step
- * Panel/backplane mounting style
- * Visual indication of the programming procedure



Contents:
* PLC pendant (CTC-33-EN)
* ADP cable (RP9050-010)

Connection layout



PLC Board (CTC-67-EN-SET) Kit price US\$395

Features :

- * Easy programming by CTCTOOL software
- * Program up to 100 steps, each with timers, I/O conditions, etc.
- * Connect up to 8 actuators
- * Control up to 5 axes per step
- * 6 inputs/6 outputs for users

Benefits :

- * Reduce I/O using pre-made cables
- * In complex systems the PLC programming can be simplified by allowing the CTC-67 to execute subroutines selected by the PLC.
- * For simple systems (lab scale, bench top), the CTC-67 can be the only controller. System elements can be easily controlled through the programmable I/O.
- * Debug mode allows the user to run the sequence one step at a time.
- * The time monitor function can ensure the sequence is complete in the required time.

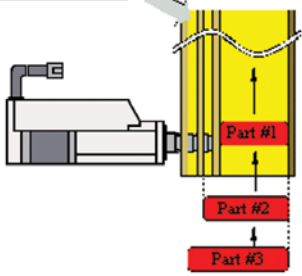


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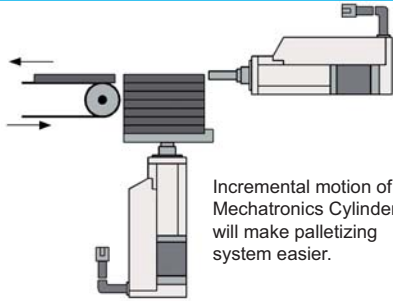
Application Examples : By using the Mechatronics Cylinder, flexible systems can be built easily without extra cost.

Guide rail width change

Guide width change



Palletizing/De-palletizing

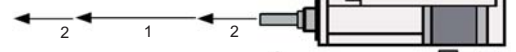


Tip for incremental motions

Incremental motions can be used to make flexible stroke motion as follows:

- Increment 1: 10mm
- Increment 2: 5mm

A: When executing 2, 1, 2 respectively

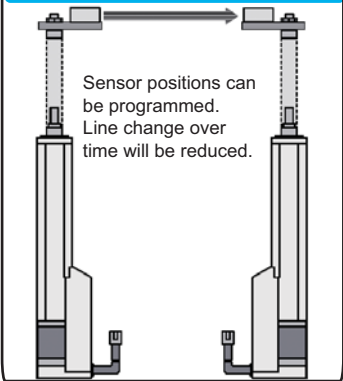


B: When executing 2, 1, 2 during first motion



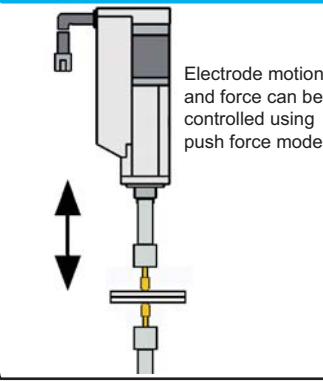
Sensor position change

Sensor positions can be programmed. Line change over time will be reduced.



Welder vertical motion

Electrode motion and force can be controlled using push force mode

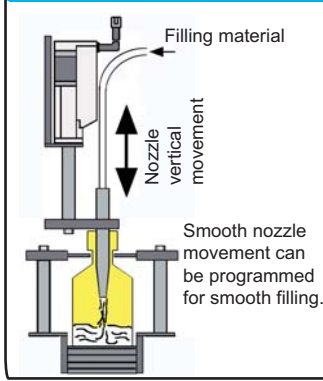


Filling Nozzle Positioning

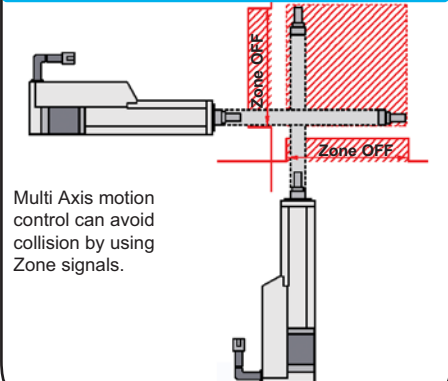
Filling material

Nozzle vertical movement

Smooth nozzle movement can be programmed for smooth filling.



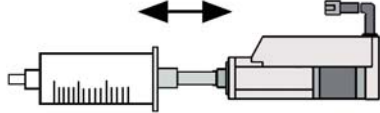
Avoid collision by Zone signals



Multi Axis motion control can avoid collision by using Zone signals.

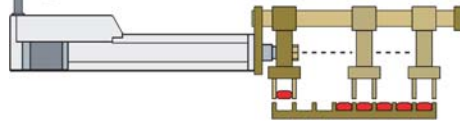
Reciprocating pump

Pumps can be programmed with volume stroke, acceleration for smooth and high speed dispensing



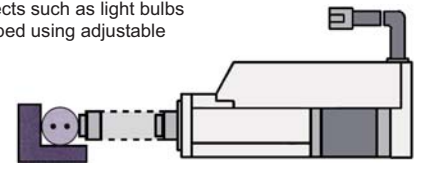
Palletizing P&P

Increment function will make palletizing P&P system programming easier.



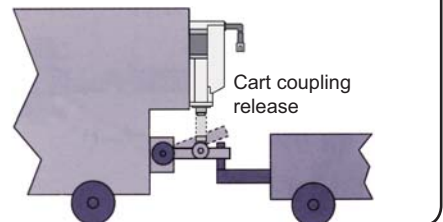
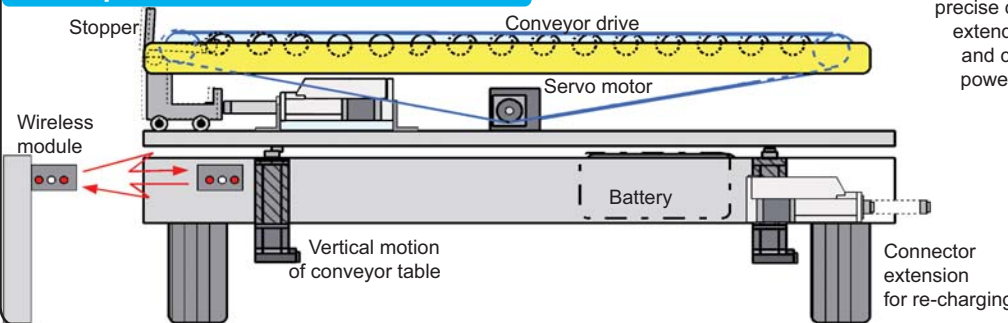
Fluorescent lamp clamping

Delicate objects such as light bulbs can be clamped using adjustable push force.



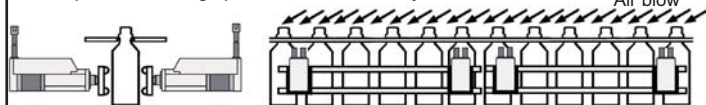
AGV operations

AGVs equipped with 24VDC power have used Dyadic products in the following applications: precise conveyor drive, moving a stopper for conveyed items, extending re-charge connector, changing work table height, and coupling carts together. All products come with a low-power resting mode which allows for maximum battery life.

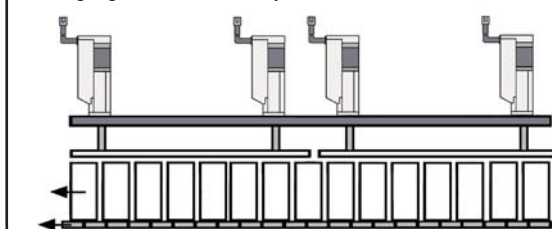


Bottle/Can conveyor guide

1. For plastic bottle high pressure blower conveyor



2. Height guide for can conveyor



Zone signal inspection

If the Mechatronics Cylinder is programmed with zone signal with parts size tolerance, parts size inspection can be done.

Push force movement

Zone signal: ON=>Good (in Tolerance)

Zone signal: OFF=>NG (out of Tol.)

