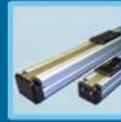




Dyadic

Mechatronics Cylinder



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mirai intertechnologies

www.miraiintertech.com

D1003M

The versatile Mechatronics Cylinder series developed by Dyadic Systems is now available from \$325. (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.		Aluminum body									
					External amplifier									
Priced From			US\$325		US\$440		US\$560		US\$470		US\$580			
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)									
					Max. 4mA / port									
I/O		Parallel Output	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),							
							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.,	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			- 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.			

** Specs to be subject to change without notice.

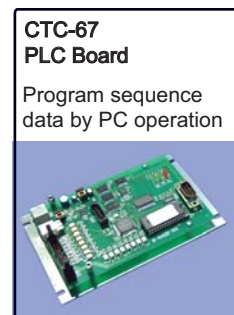
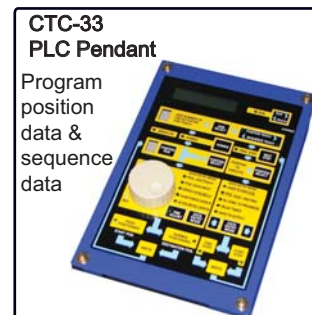
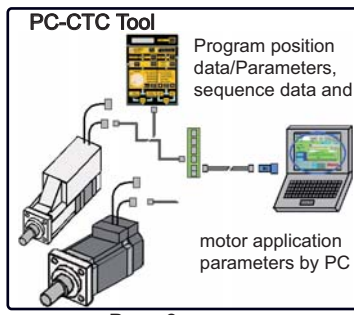
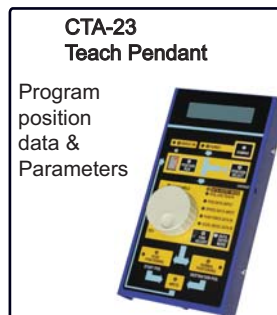
Note 2: Repeatability data is positioning from one direction with homing sequence each time.

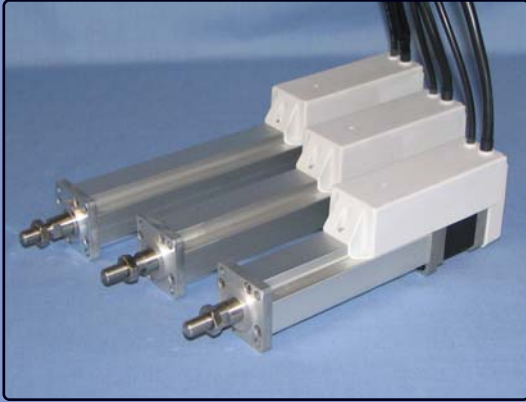
Note 3: Homing stopper at both ends are urethan rubber (Shore hardness 90) and its aging deformation may be 0.05 - 0.07mm in couple of years, therefore we recommend the users to adjust the data for long run actuator repeatability for the critical applications.

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	20/30kgf & LM guide	15/30kgf & LM guide	25/50kgf & LM guide
		Acme screw+Bronze polymer nut			Ballscrew	Ballscrew
		Built-in & External amplifier		External amplifier	Built-in & External amp.	External amplifier
Priced From		US\$660	US\$840	US\$890	US\$950	US\$1,100
Page Reference		6	6	7	8	8
Stroke (mm)		50~300	50~300	300~1,000	50~500	50~700
Max. Thrust (in N)		50	100	200 / 300	150 / 300	250 / 500
(in Kgf)		5	10.2	20.4 / 30.6	15 / 30	25 / 50
Push mode max. (in N)		30	70	140 / 280	105 / 210	175 / 350
Thrust (in Kgf)		3	7	14.2 / 28.6	10.5 / 21	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)			
		Current	Start (CSTR), Axis Movement Interlock (ILK)			
	Parallel Output	Names	Max. 4mA / port			
		Current	Position complete(PFIN/INP), Homed signal(ZFIN), Zone signal(ZONE), Alarm (ALM), 24VDC Digital I/O Interface, PNP Standard (NPN Available)			
	Serial Signal	Current	Completed Position Number (4bit binary: PM1,PM2,PM4,PM8: N/A for built-in models), Max. 10mA / port			
Protection function		RS-485 (protocol freely available): +5V, 5G, S+, S-				
Ambience	Temp., Humidity	Over speed, Main power over voltage, Voltage fault,				
		Overload, Sensor fault, Servo fault, Encoder wire disconnected				
	Vibration	Operating Temp.: 0 ~ 40°C, Storage Temp.: -20 ~ 60°C,				
		Operating/Storage Humidity: Less than 90% RH, Non-condensing				
		2.5G / 10G (2 times)				
		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. - 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.				

Other products





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.

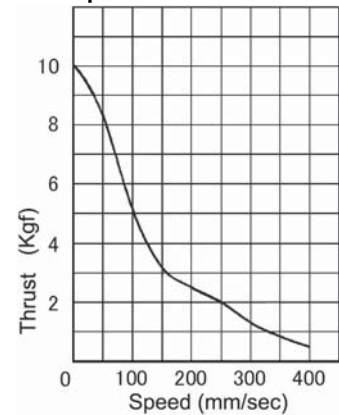
With speed up to 400mm/s and stroke up to 300mm, SCN5 actuators are suited to a wide variety of applications. Different speeds and positions can be programmed as necessary, and it is also possible to control the force applied to the workpiece!

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

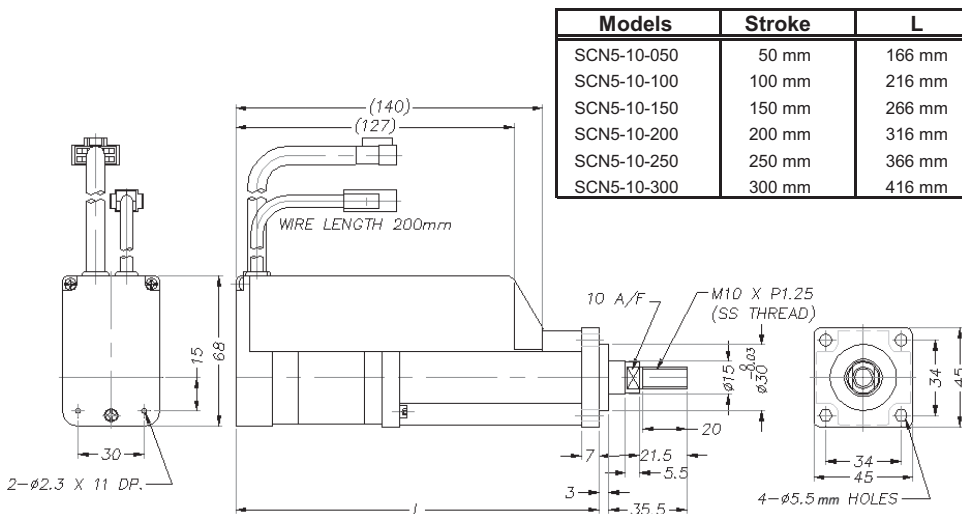
Specifications

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

Speed-Thrust Curve



Dimensions (in mm)



Accessories



Parallel Cables (power & I/O)

RP9100-030:
3m for SCN4 & 5 (\$45)

RP9120-030:
3m for other M.C. (\$55)



Thruster

- Simple thruster guides available
- Call to discuss your application



Brackets

FT001: \$10
- For SCN5

FT002: \$13
- For SCN6

Conversion Quick Reference

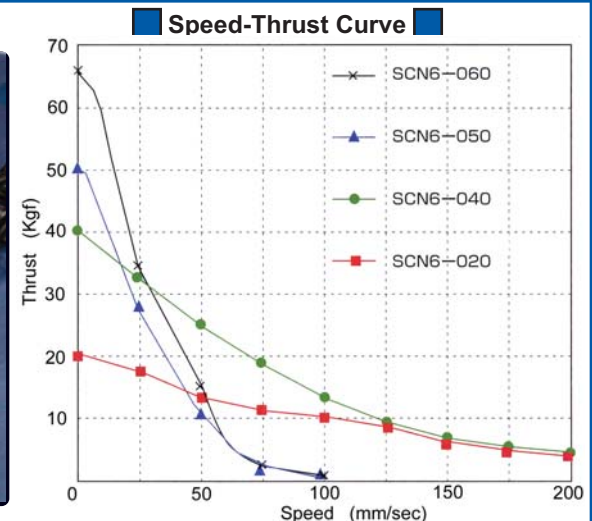
Type	Conversion	Multiplier	Reference Example
Force	N -> lbf	0.225	100 N = 22.5 lbf
Force	kgf -> lbf	2.2	10.2 kgf = 22.5 lbf
Torque	Nm -> in-lbf	8.85	5 Nm = 44.3 in-lbs
Inertia	kg-m ² -> oz-in ²	54678	0.269x10 ⁻⁴ kg-m ² = 1.47 oz-in ²
Inertia	kg-m ² -> oz-in-s ²	141.6	0.269x10 ⁻⁴ kg-m ² = 0.003809 oz-in-s 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

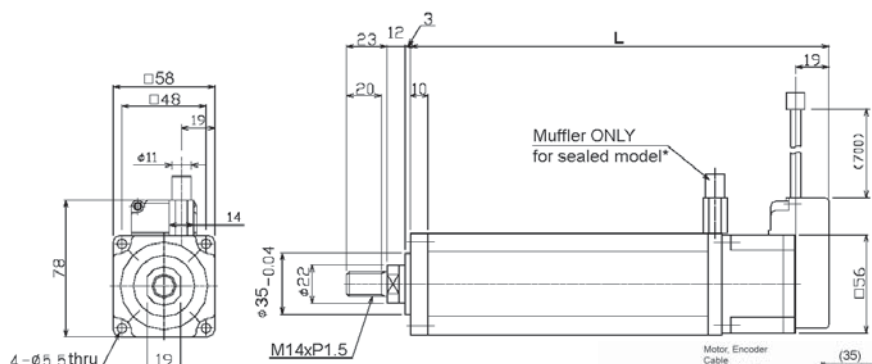
20 kgf & 40 kgf models

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

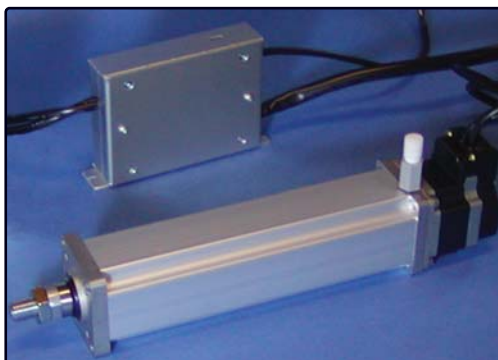
50 kgf & 60 kgf models

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

Dimensions

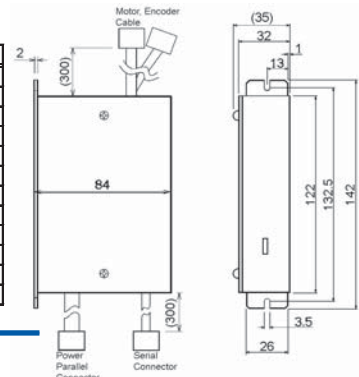


Dust Proof (Sealed) Model



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*)		323 mm	SCN6-040-300-AB(W*)		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

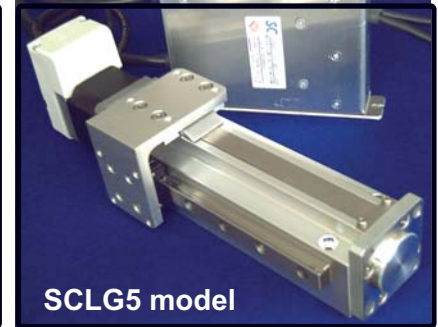
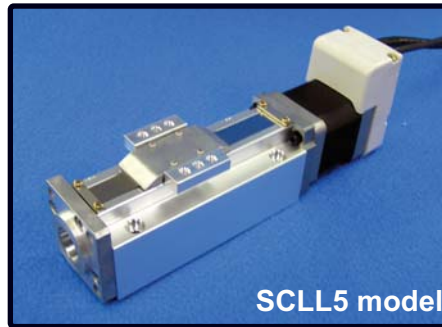
Note *: * Marked dim is only for sealed model.



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.

Pitching : Mp

Yawing : My

Rolling : Mr

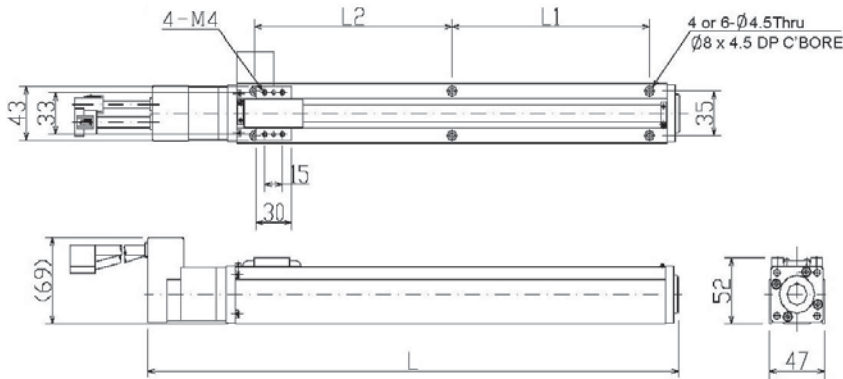


(The calculation of the load moement (kgf-cm) is: m (kg) x L (cm) < Mp, My, Mr)

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

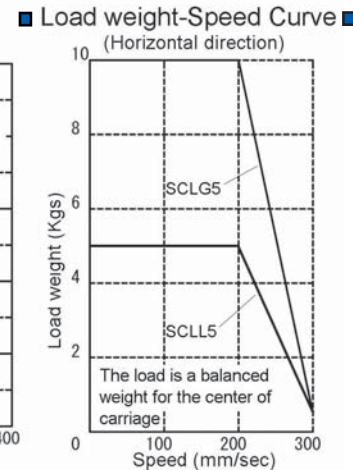
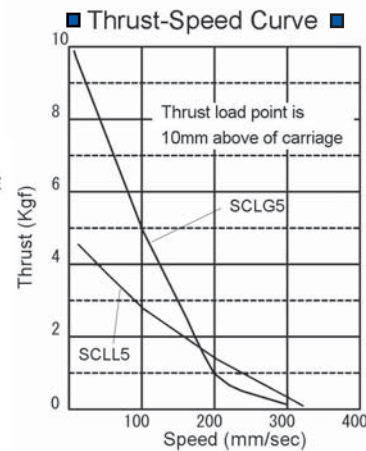
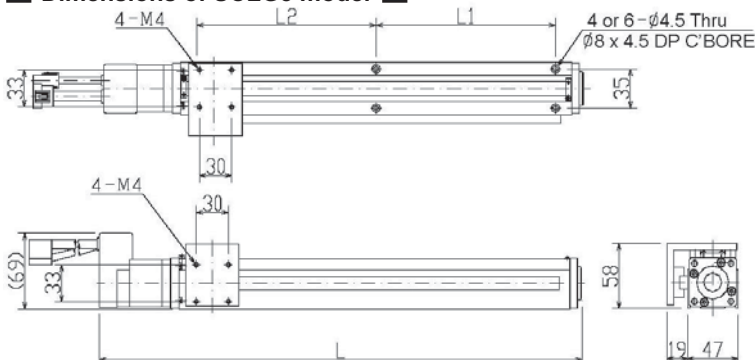
Notes: (*3) This is the acceptable over hand length from the slider carriage.

Dimensions of SCLL5 model



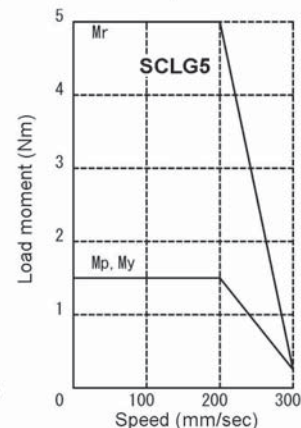
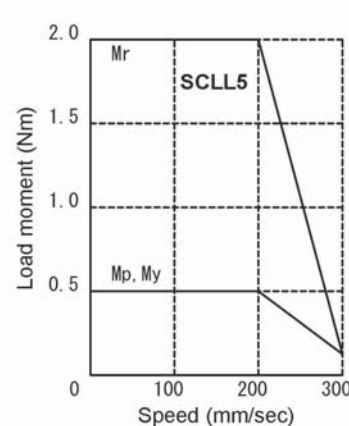
Note 1:
There are 6 mounting places
for over 200mm stroke actuators

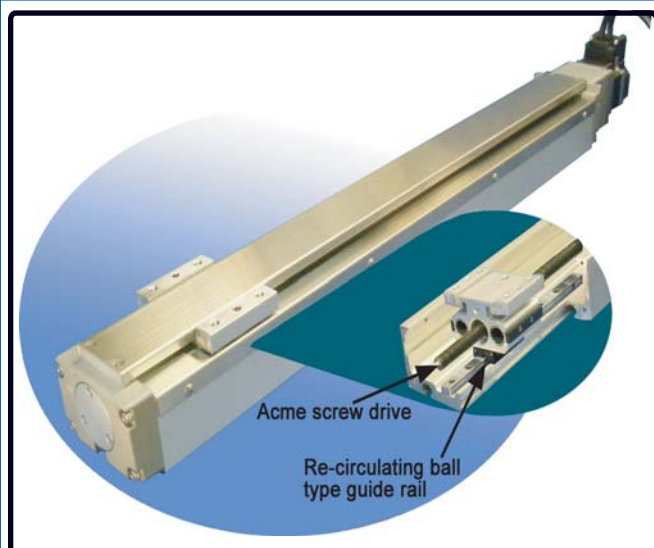
Dimensions of SCLG5 model



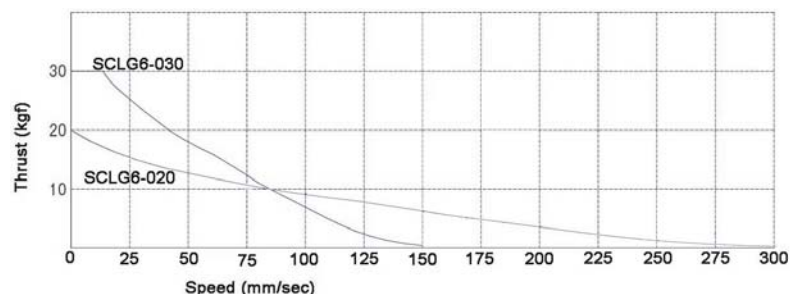
Load moment-Speed Curve

(Horizontal direction)





Thrust-Speed Curve



FEATURES

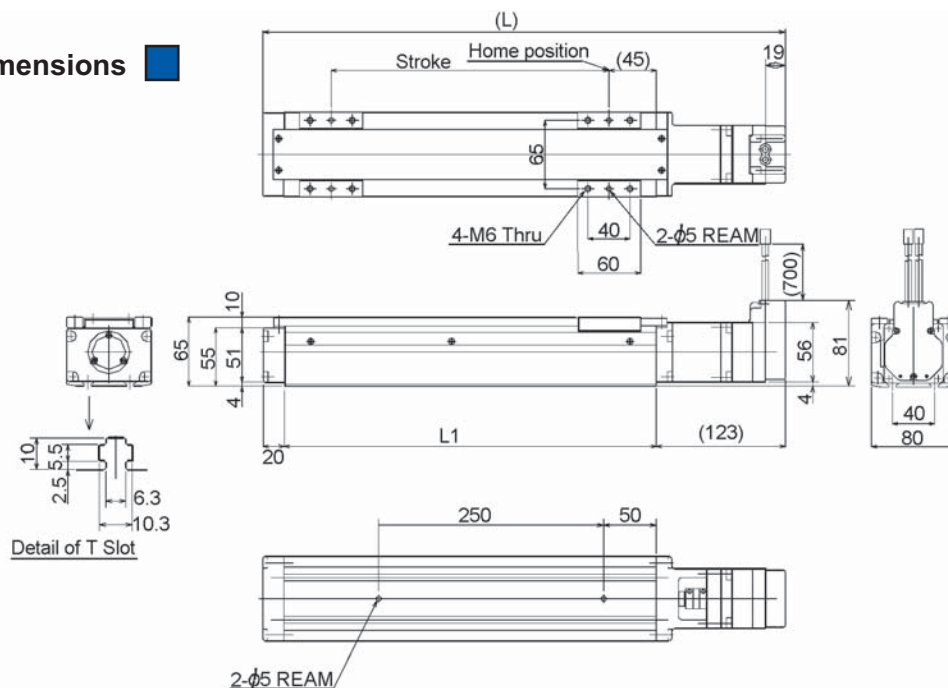
Unit includes:

- 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 (ka)	0.5													

Dimensions



Quantity of M6 nut included for T slot:

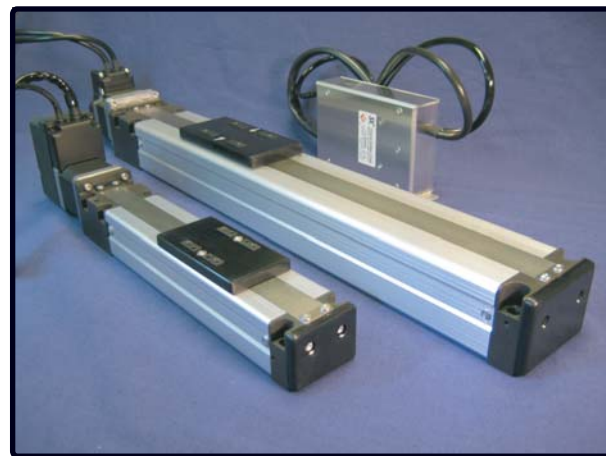
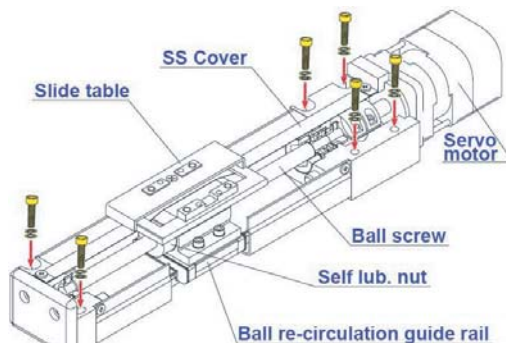
Strokes	Quantity
200mm ~ 300mm	4 pcs
400mm ~ 700mm	6 pcs
800mm	8 pcs
900mm ~ 1000mm	10 pcs

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)

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



Pitching - Mr



Yawing - My



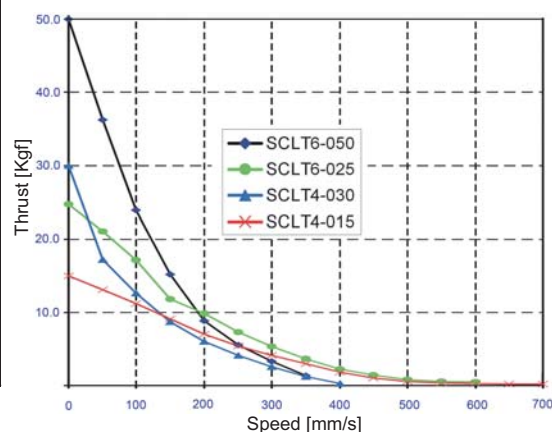
Rolling - Mr

(The calculation of the load moement (kgf-cm) is: $m \text{ (kg)} \times L \text{ (cm)} < M_p, M_y, M_r$)

The actual moment will be combinations of those moments (M_p , P_y , M_r).

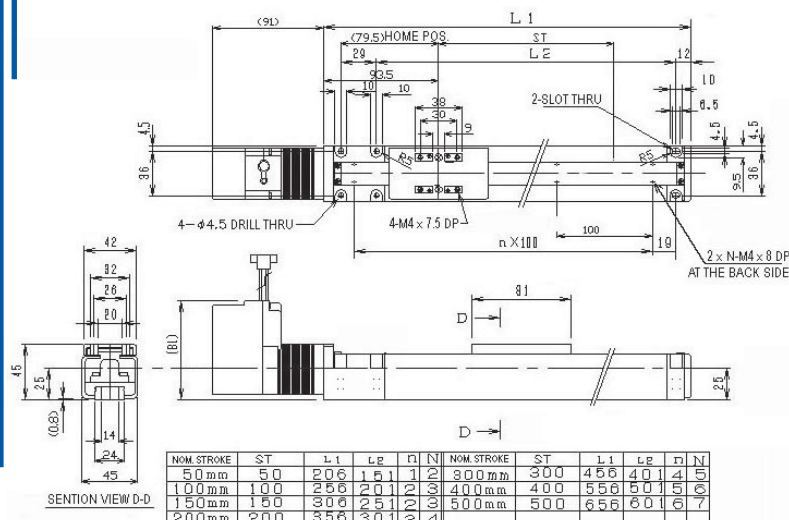
Notes: (*2) This is the acceptable over hand length from the slider carriage.

Thrust-Speed Curve

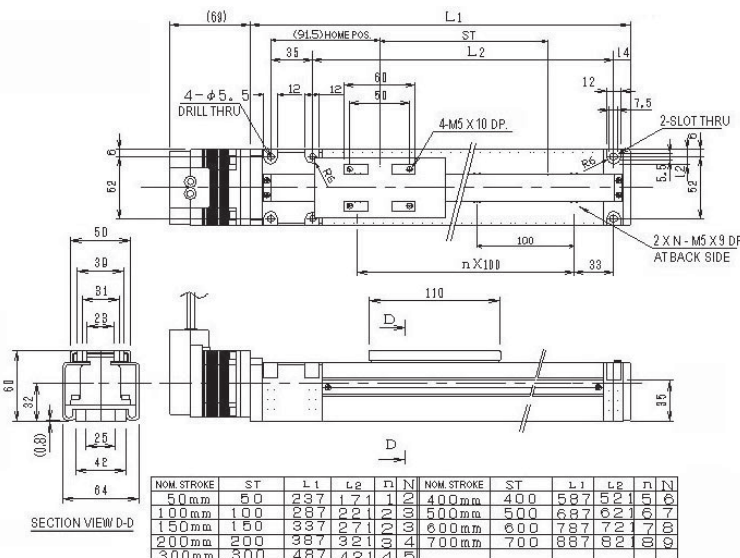


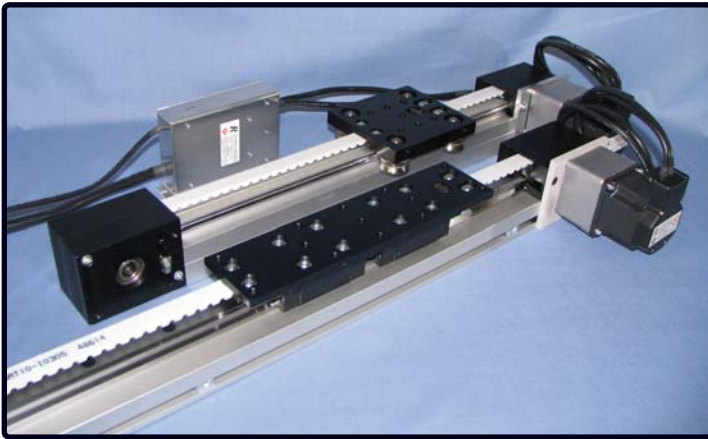
Dimensions

SCLT4 Model



SCLT6 Model





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-E20	ML-AA-BBBB-E20D	ML-AA-BBBB-G20	ML-AA-BBBB-G20D
Stroke (mm) *	100 ~ 5850	100 ~ 5770	100 ~ 5850	100 ~ 5770
Stroke increment (mm)	100	100	100	100
Max. Load weight (kg)	170	340	360	720
Load moment (Nm)	Mp=35, My=35, Mr=40	Mp=153, My=153, Mr=80	Mp=180, My=180, Mr=220	Mp=600, My=600, Mr=440
Actuator weight (kg)	3.6 + 0.3 / 100mm	3.9 + 0.3 / 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

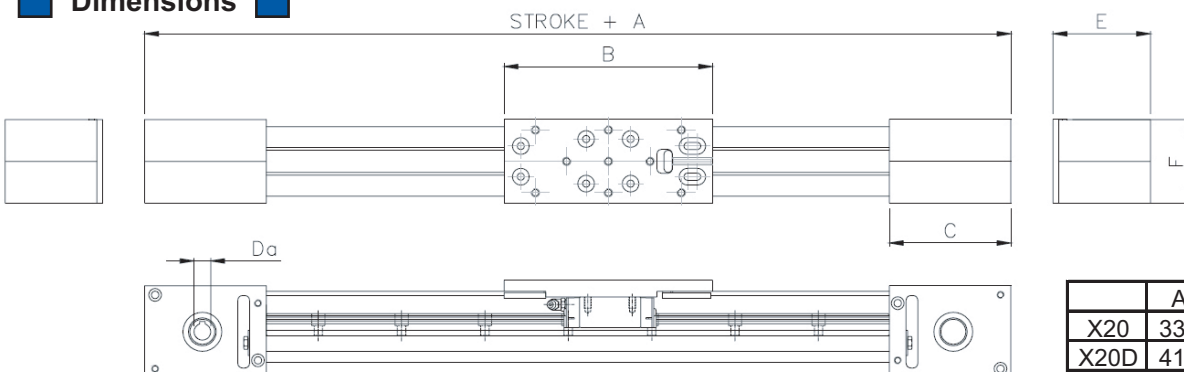
Performance Specifications

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		0.2 mm		0.2 mm

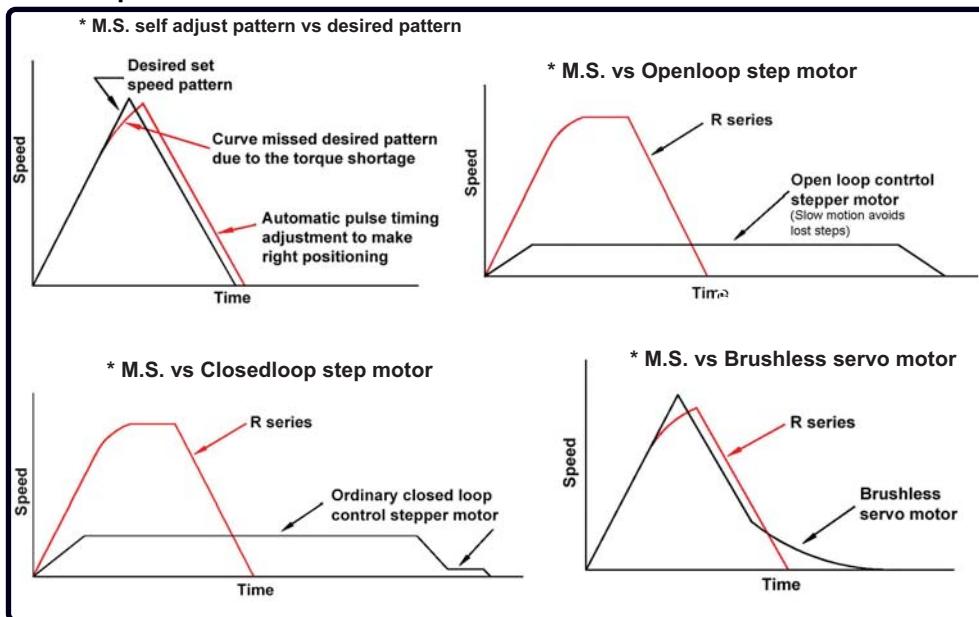
Dimensions



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



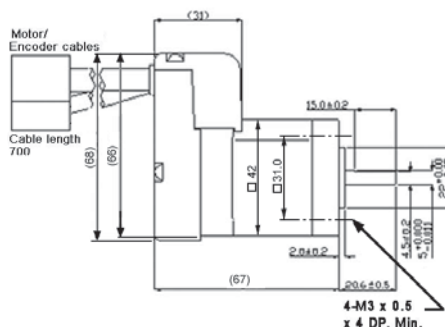
- * No lost pulses
- * Self generation of pulses for stable motion
- * Controller designed to fully harness high potential of motor
- * Holds position with excellent stability and torque
- * High performance in its size
- * Stepper with servo amp. & controller



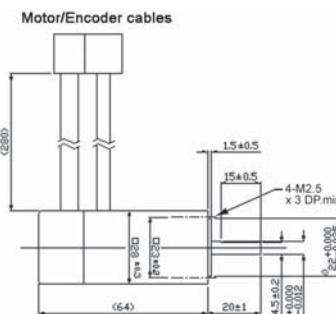
Model		Standard Motor					Standard Gear Motor		Precision Gear Motor (RSA-)				
		RSA02	RSA04	RSA06	RSA09	RSA12	RSA06-G1	RSA06G2	02-G5-10	04-G5-06	06-G5-05	12-G5-05	
Motor Type		RMJ02	RMJ04	RMJ06	RMJ09	RMJ12	RMJ06-G1	RMJ06-G2	RMJ02-G5-10	RMJ04-G5-06	RMJ06-G5-05	RMJ12-G5-05	
Amplifier Type		RAD0211	RAD0111	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 ⁻³ 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 N·m	0.083 N·m	0.229 N·m	0.36 N·m	0.5 N·m	N/A					
Max. Unbalanced Load *Note		N·m	0.03 N·m	0.075 N·m	0.229 N·m	0.36 N·m	0.5 N·m	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		
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)		
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)		
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 3: Max. power dissipation of Amplifier will be 15W.

■ Dimensions - Standard Motor ■



RSA02 (NEMA 12 Model)



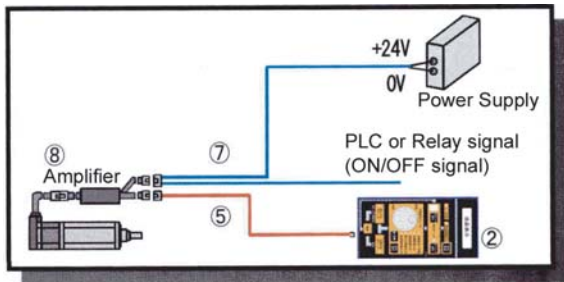
Position Data Programming Tool

Teach Pendant (CTA-23-EN-SET) Kit price US\$430

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)



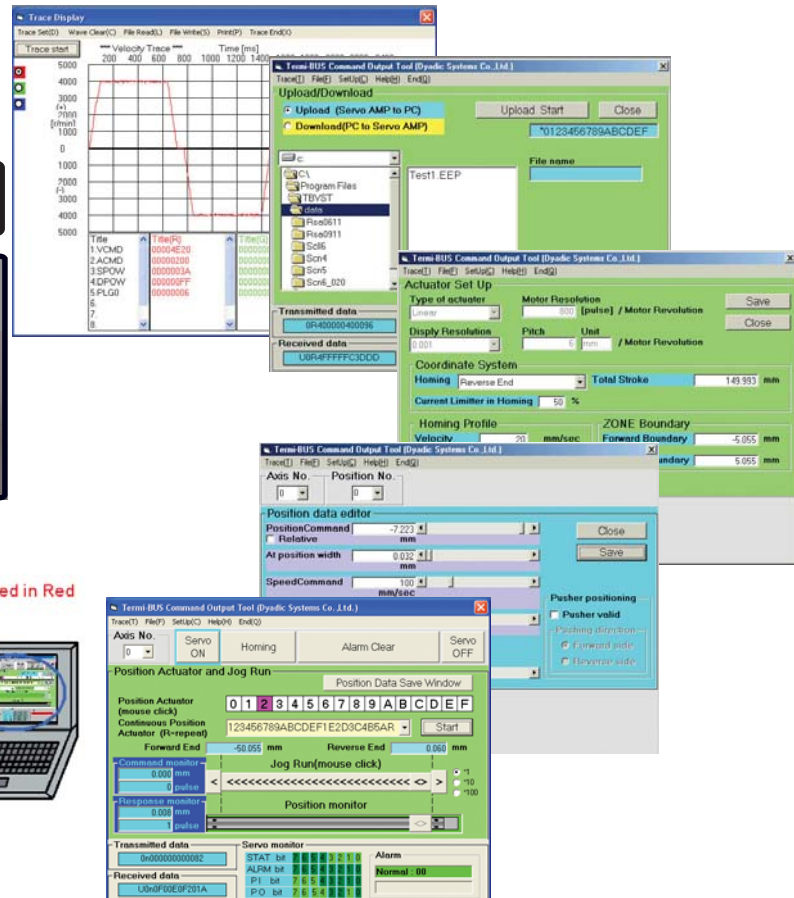
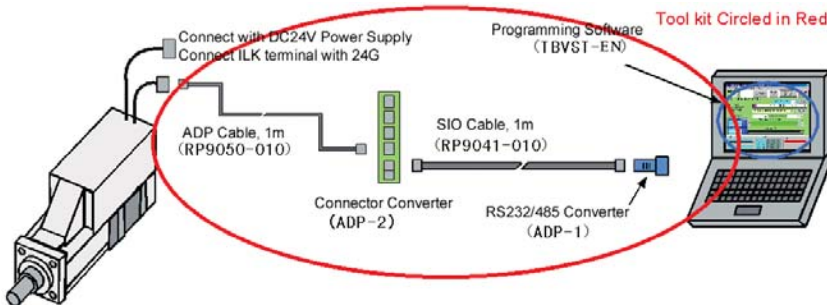
PC-CTC Tool Kit (TBVST-EN-SET) US\$260

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 (TBVT, MVST, CTA-1EX and CTC-TOOL)

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



RP9041-010: SIO Cable



ADP-2: Connector junction



RP9170: I/O cable

I/O Terminal block for CTC-33, 35 & 37

Sequence Data Programming Tool

PLC Pendant (CTC-33-EN-SET) Kit price US\$660

Features

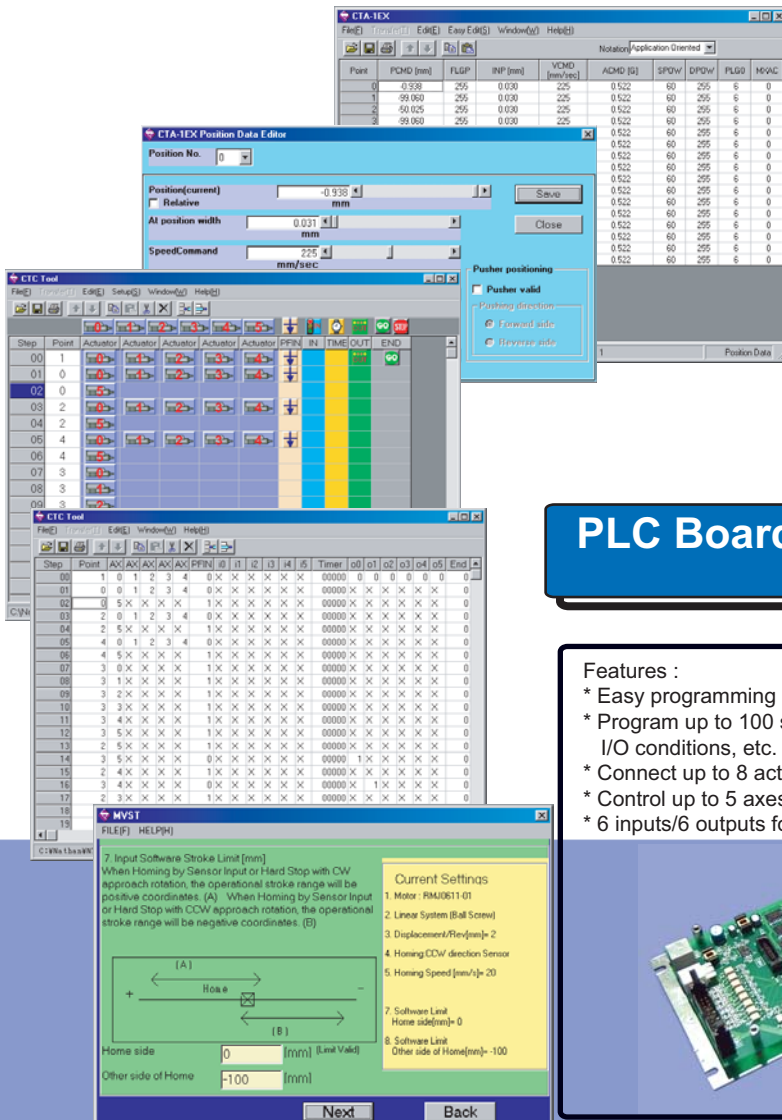
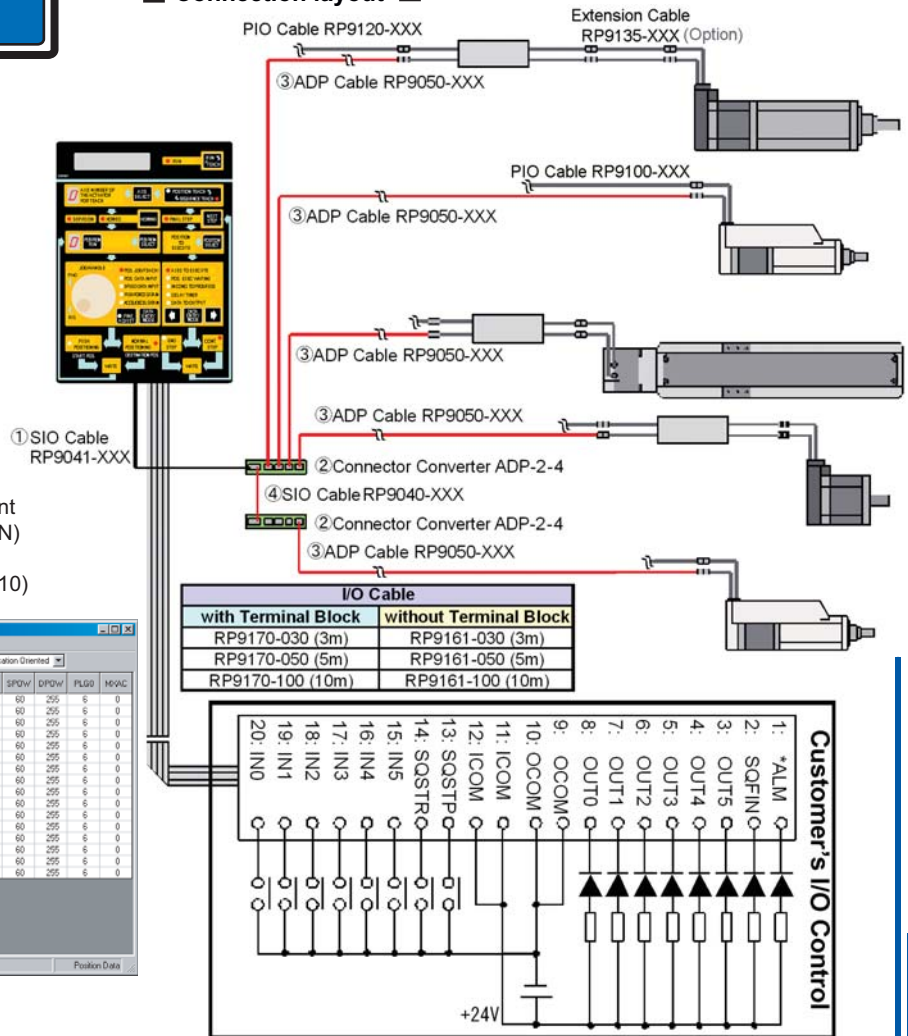
- * Easy programming with jog handle
- * Jog handle has choice of standard jog and fine jog
- * Handle also allows data input without jog movement
- * Program position data and sequence with I/O and delay time (upto 41 steps)
- * 6 inputs/6 outputs for users
- * 8 actuators connectable
- * Control up 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\$370**

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 :

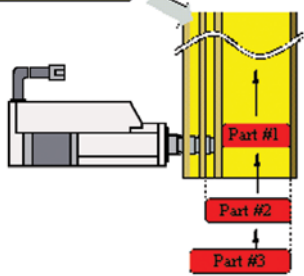
- * Reduce I/O using pre-made cables
- * In complex systems the PLC programming can be simplified by allowing the CTC-67 to execute subroutines selected by the PLC.
- * For simple systems (lab scale, bench top), the CTC-67 can be the only controller. System elements can be easily controlled through the 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.



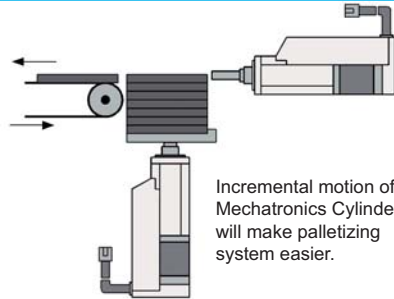
Application Examples : By using the Mechatronics Cylinder, flexible systems can be built easily without extra cost.

Guide rail width change

Guide width change



Palletizing/De-palletizing

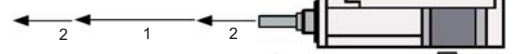


Tip for incremental motions

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

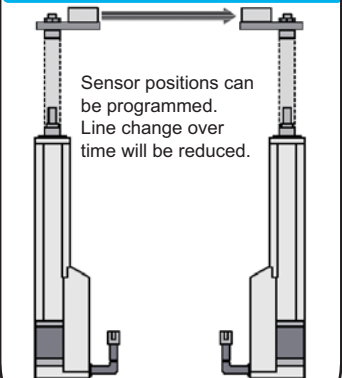


B: When executing 2, 1, 2 during first motion



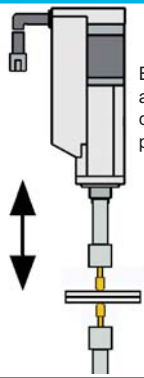
Sensor position change

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

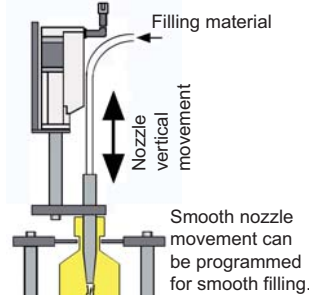


Welder vertical motion

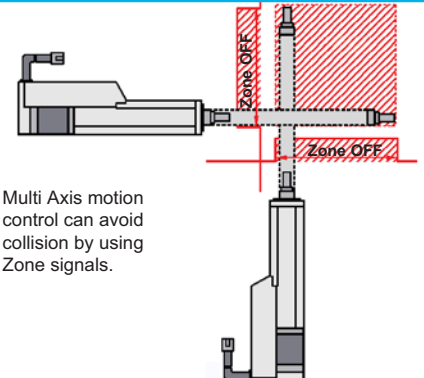
Electrode motion and force can be controlled using push force mode



Filling Nozzle Positioning

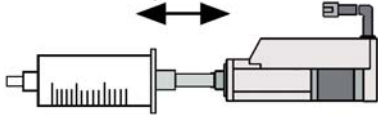


Avoid collision by Zone signals



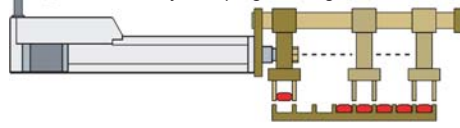
Reciprocating pump

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



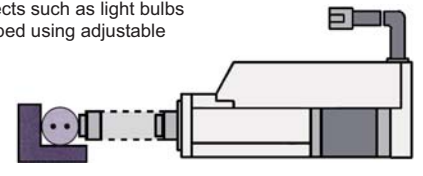
Palletizing P&P

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



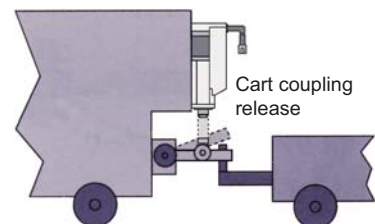
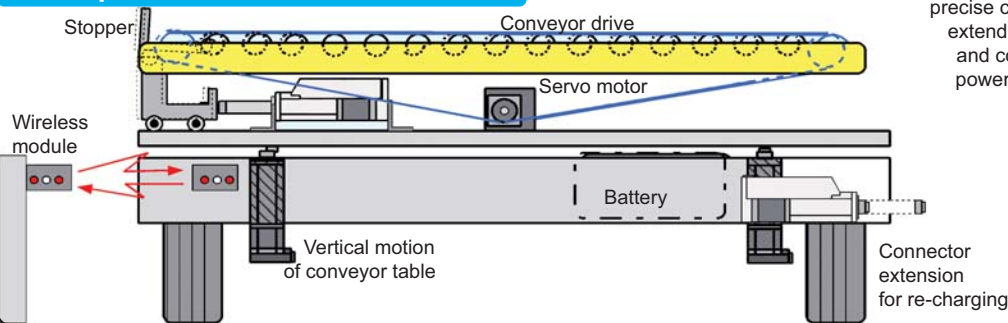
Fluorescent lamp clamping

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



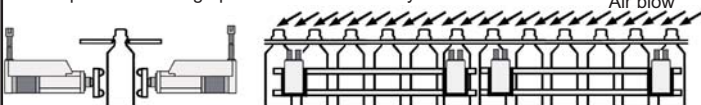
AGV operations

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.

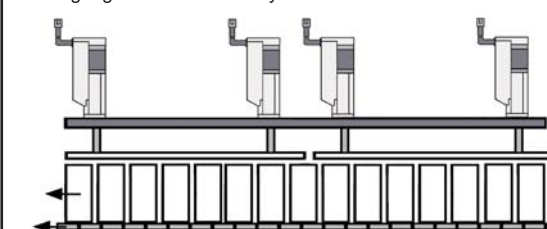


Bottle/Can conveyor guide

1. For plastic bottle high pressure blower conveyor



2. Height guide for can conveyor



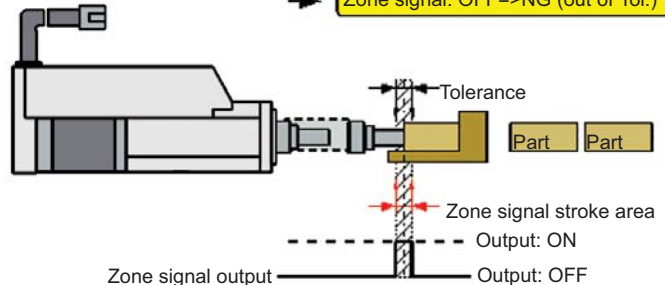
Zone signal inspection

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.)



MEG Pick&Place Unit

PPU Model Overview

Center carry type



The low-cost PPU line is suited for a wide range of pick and place applications. Simple structure and mounting make it easy to design in and install.

The PPU provides smooth cam motion at high speed with low cost. Center or Left carry, right carry or overhead carry options are available to suit your application.

Side carry type

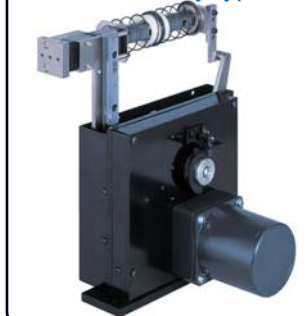


Specifications of CAM Models

Models	Type	Center carry	Side carry	Linear guide	Model No.	Strokes (X x Z) mm	Application Range		Dynamic repeatability	Motor Power W	Homing sensor (Photo micro sensor)
							Load incl. fixtures (Kgs)	Cycle time (sec)			
Economy		O		O	X6092	80 x 20	0.9 0.3	1.4 1.0	+/- 0.015	25	Accessory
			O	O	X6072L						
			O	O	X6072R						
Standard		O		O	X6091	100 x 30	1.5	2.1	+/- 0.015	25	Accessory
			O	O	X6071L		0.3	1.2			
			O	O	X6071R		1.5	2.1			
			O	O	X6071WL		0.3	1.2			
	High rigidity		O	O	X6071WR		2.0	1.7			
	High rigidity		O	O	X6076WL		0.6	1.2			
	Over head		O	O	X6076WR		2.0	1.7			
		O		O	X6091S	100 x 50	1.3	1.9	+/- 0.015	25	Accessory
			O	O	X6071SL		0.7	1.5			
			O	O	X6071SR						
	High rigidity		O	O	X6071WSL		1.75	1.9			
	High load		O	O	X6071WSR		0.6	1.3			
	High rigidity		O	O	X6074HSL		2.0	1.7			
Semi Long		O		O	X6094	160 x 35	2.0	2.5	+/- 0.015	25	Accessory
			O	O	X6074L		0.7	1.6			
			O	O	X6074R						
		O		O	X6094S	160 x 50	2.0	2.7			
			O	O	X6074SL		0.5	1.6			
			O	O	X6074SR						
Long		O			X6085	200 x 50	1.5 0.9	2.4 2.0	+/- 0.015	40	Accessory
Notes						* 1	* 8			* 2	* 3

- * 1 : Stroke cannot be adjusted after customization.
 * 2 : Standard motor is the induction motor of Oriental motor.
 * 3 : Attached sensors are home photo micro sensor and a CAM sensor.
 * 8 : Top data is max. weight and the min. cycle time for the max. weight.
 Bottom data is min. cycle time with max. weight.
 Please check the cycle time and cariable weight graph.
 *** Specifications to be subject to change without notice.

Over head carry type

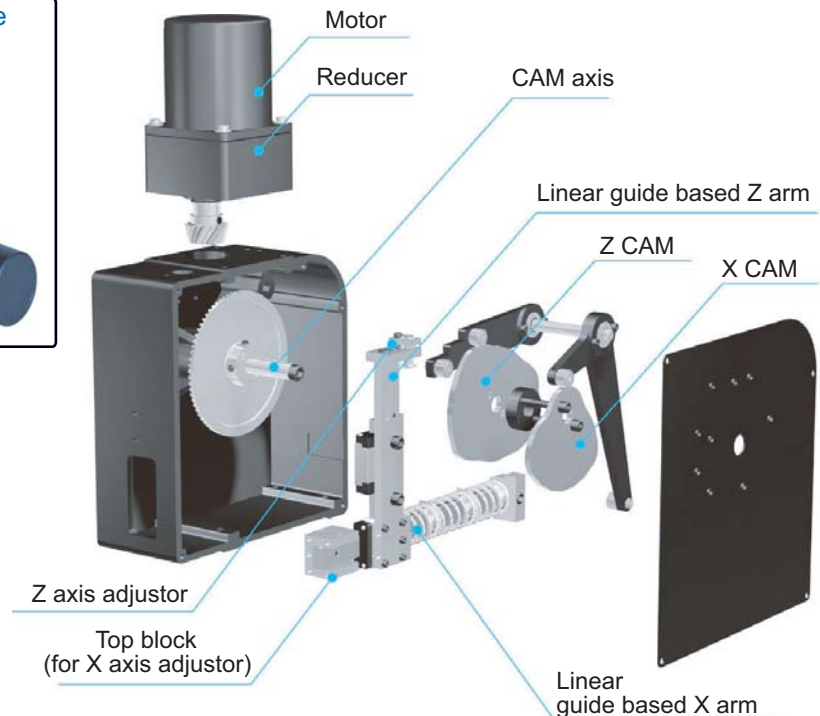


Specifications of Stepper Drive Models

Models	Model No.	* 1 & 2 Strokes (X x Z) mm	Application		* 4 Dynamic repeatability	Motor Torque kgf-cm
			Load incl. fixtures (Kgs)	Cycle time (sec)		
Compact	X6303	30 x 10	0.2	0.6	+/- 0.025	8.3
	X6305	50 x 15	0.1	0.4		
	X6307	70 x 15	0.2	0.74		
Intelligent	KS8015	80 x 13	0.05	0.4	+/- 0.025	16.6
	KS12020	120 x 18	0.2	0.9		
			0.05	0.5		

- * 1 : X axis stroke cannot be adjusted.
 * 2 : Z axis stroke data is valid stroke. There are about 2mm more to the mechanical end.
 * 3 : Compact type has mech controller with photo sensor and dog as a standard.
 * 4 : Top data is max. weight and the min. cycle time for the max. weight.
 Bottom data is min. cycle time with max. weight.
 Please check the cycle time and cariable weight graph.
 *** Specifications to be subject to change without notice.

Internal mechanism example



MDC Model: Low-Cost DC Linear Actuators



FEATURES

- DC motor linear shaft motion actuator
- High force with analog feedback
- strokes from 50 - 612mm
- built-in limit switches
- clevis-clevis mounting
- Good environmental protection

For applications which require high force or analog feedback, actuators from the MDC line may be the perfect fit.

These actuators are simple to install and operate and able to go anywhere!

Specifications

Specification Summary - MDC Low-Cost DC Actuators				
Model	MDC3	MDC7	MDC10	
Screw Type	Acme	Acme	Acme	Ballscrew
Max Speed (mm/s)	55	8.3	40	65
Max Load (N)	800	6,000	7,000	
Stroke Range (mm)	50-300	50-300	84-612	
Potentiometer Option	Y	N	Y	
Hall Effect Option	Y	Y	N	
Limit Switch Standard	Y	Y	Y (Adjustable)	
Temp. Rating	-25~65°C	0~40°C	-25~65°C	
Duty Cycle	20%	10%	25%	
Operating Voltage	12VDC or 24VDC			
Mounting	Clevis-Clevis			
Protection	IP-65			

Mirai Intertech also presents:

PIEZO FEEDER

Features:

- Driven by Piezo-Ceramic resonator
- Quiet vibration
- Repeatable digital feeding vibration
- Provide low amplitude & high freq. vibration
- No MAGNETIC EFFECT
- No HEAT generation
- Low power consumption-up to 70% power save
- Easy Frequency/Volume adjustment

