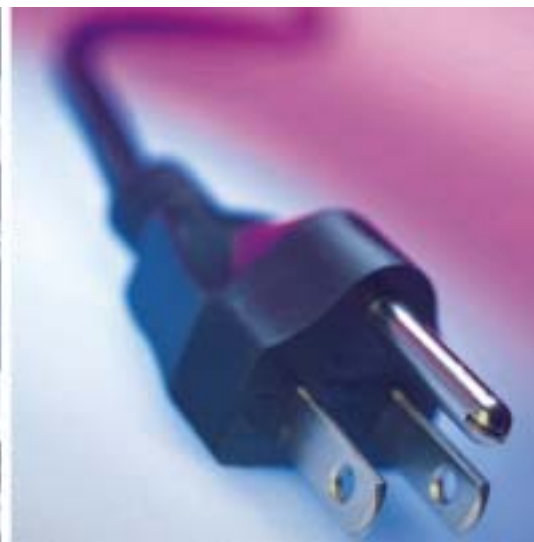


Electric Actuators



at the push of a button



Electric Actuators

Simplified Options



LZ



Electric Cylinders

Looking for a **simple electric cylinder** that can be **operated like an air cylinder** for simple **end to end motion**? Than the LZ electric cylinder available in **two sizes** and driven with a **24VDC motor** should fit the bill. When used in combination with the LC3 directional control driver which is **operated with ON/OFF signals** similar to that used for a solenoid valve, cylinder speeds **up to 200mm/s** and thrust **up to 196N** are possible. Available with **multiple mounting options** and **strokes up to 200mm** this cylinder is the perfect solution for simple applications where there is **no compressed air supply**.



E-MY2



e-Rodless Actuators

These rodless actuators combine the speed, controllability and performance of an electric actuator with the **easy functionality** of an air cylinder through the use of a simple and quick **three step set-up operation**. With a belt driven construction and strokes between **50 -1000mm** this actuator is capable of velocities up to **1000 mm/sec** and **0.5g** acceleration. Available in two sizes with either a **cam follower guide** or **high precision type** for maximum payloads of 5 or 10kg.



LX



Short Stroke type Electric Actuators

Currently available in **three compact model types**; a low profile slide table (LXF), a guide rod type (LXP) and a slide table version with increased rigidity (LXS). Incorporating either **2 or 5 phases stepper motors**, these **high performance** actuators deliver some really impressive **muscle power** and can move loads of up to **10kg at speeds up to 200mm/sec**. Additionally, they are also **highly accurate**, with position repeatability of between ± 0.03 and ± 0.05 mm dependent on model type.

More Advanced Options



LJ1

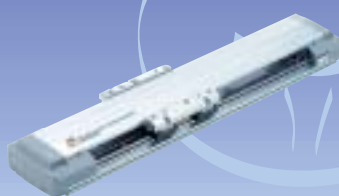


Single Axis Electric Actuator

This **comprehensive range** of electric actuators is available with two types of precise linear guides and three types of feed screws and are also designed for use with our LC8 Positioning. With **high positioning accuracy**, dual mounting and multiple cable entry options, these actuator are designed to provide **X-Y axis capability** and are the **perfect solution** for pick and place and palletizing operations.



LG1



Low profile Single Axis Electric Actuator

With its **space saving design**, this compact electric actuator, with top or bottom mounting options, offers **high rigidity** and **high linear precision** guide control. Designed for use with our latest Series LC8 Positioning Driver for AC servomotors, these actuators offer **excellent accuracy** and **high production flexibility**.



LTF



Electric Actuator with Integrated Guide

This **light weight** and **compact actuator** is the result of designing an **integrated linear guide** into the support frame to form a **one piece structure**. Additionally the **circulating type ball bearing liner guide** and **martensitic stainless steel frame** create a table with high rigidity and high sliding accuracy. Available in two sizes with **100 & 200W AC servomotors** for use with the LC8 positioning driver, this actuator is perfect for use in high performance applications wanting a space saving design.



Electric Cylinders

Basic Specifications

Thrust	Up to 80 N (LDZ□3) Up to 196 N (LDZ□5)
Speed	Up to 200 mm/s
Standard strokes	25, 40, 100, 200 mm
Motor type	24 VDC

* Contact SMC for detailed specifications and how to order



**Auto switch
capable**

Features



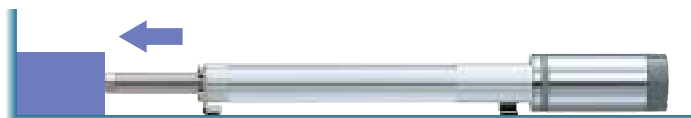
Able to control the stroke with only ON/OFF signals.
It can be operated like an air cylinder.



Simple extension and
retraction motion control



Pressure control



Suitable for an environment where an air supply is not available.

Series LZB



Series LXC



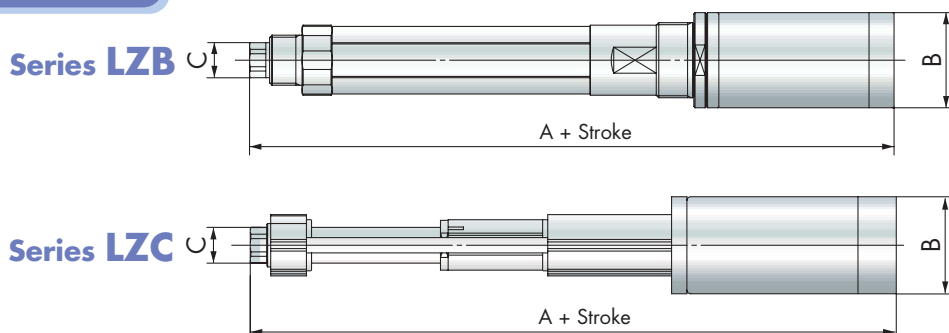


Electric Cylinders



Two sizes that offer an equivalent thrust to a $\varnothing 16$ and $\varnothing 25$ air cylinder.

Dimensions



Model	A	B	C
LDZB□3	216.5	38	14
LDZB□5	285.5	54.5	22
LDZC□3	203	38	14
LDZC□5	268	54.5	22

(mm)



Series LZB Cover options

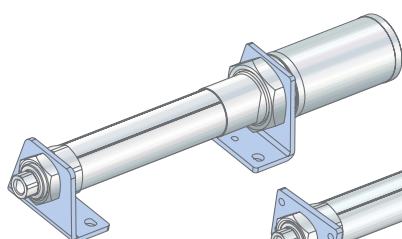
Partially covered



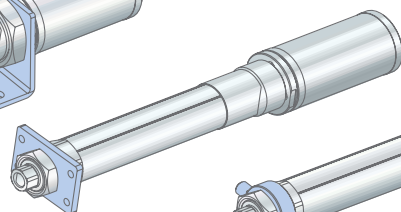
Fully covered



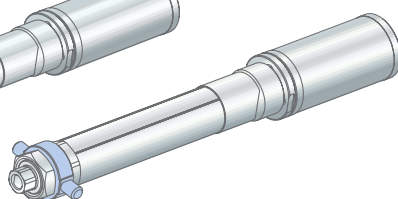
Series LZB Mounting brackets



Foot



Front flange



Front trunnion



Variations

Series	Cylinder Size	Guide type	Mounting orientation	Lead screw type	Sensor
LDZB	3	None	Horizontal Vertical	Slide screw	Auto switch
	5				
LZDC	3				
	5				



Directional Control Driver for Electric Cylinder



Able to control the stroke with only ON/OFF signals.

Directional control driver works like a solenoid valve



Able to optionally set the thrust.

Thrust can be adjusted by an adjustment trimmer.



Can be operated manually.

Easy maintenance performance for checking wiring.



Able to control with only 3 different types of input signal.

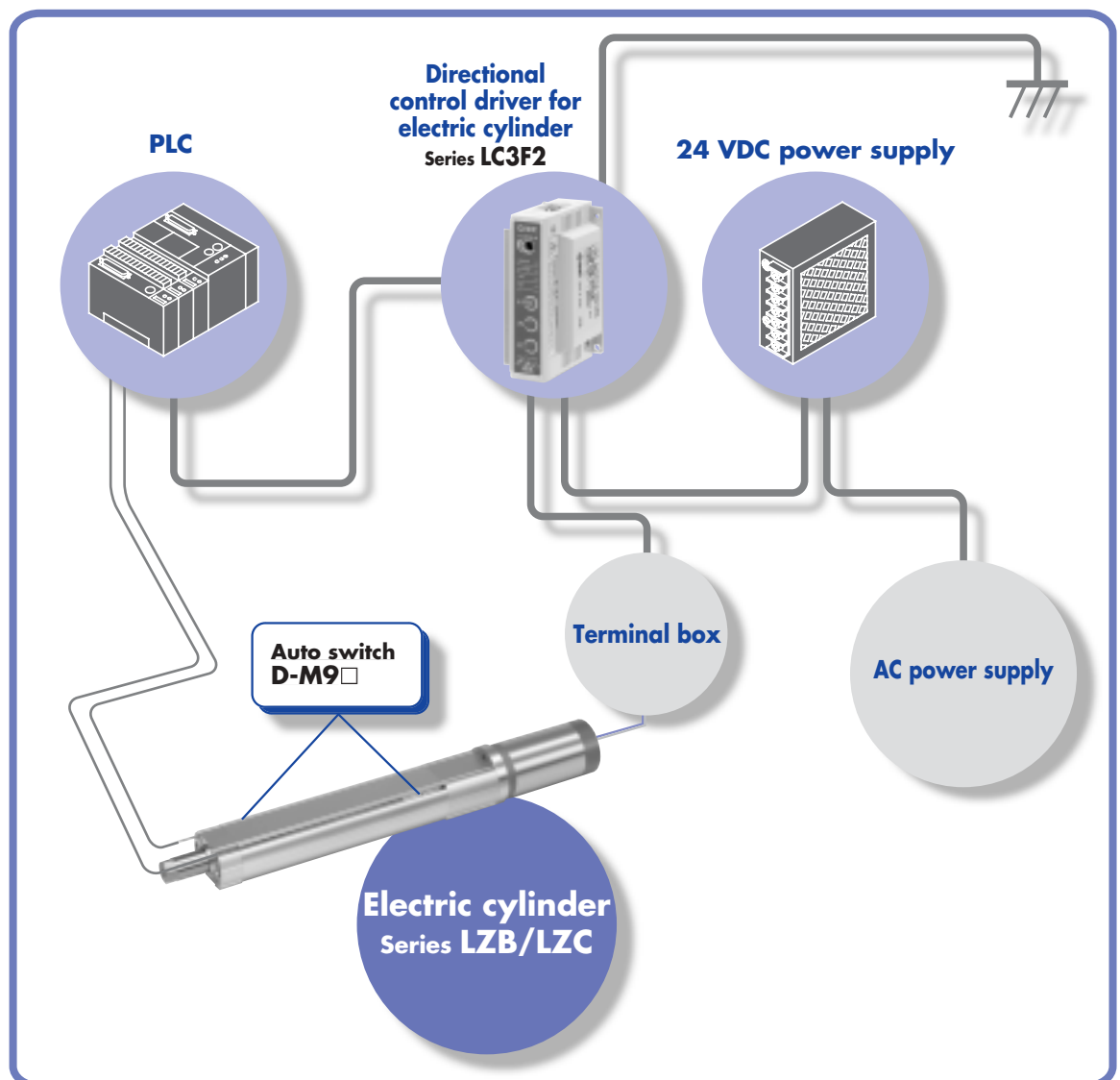
① Directional instruction ② Thrust selection ③ Output ON/OFF



LC3F212-5A3□

LC3F212-5A5□

System Overview





Basic Specifications

Maximum load weight	Up to 5 kg (E-MY2□16) Up to 10 kg (E-MY2□25)
Speed	100 up to 1000 mm/s
Standard strokes	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000 mm
Motor type	Stepper with encoder

* Contact SMC for detailed specifications and how to order

High precision guide type
Series E-MY2H

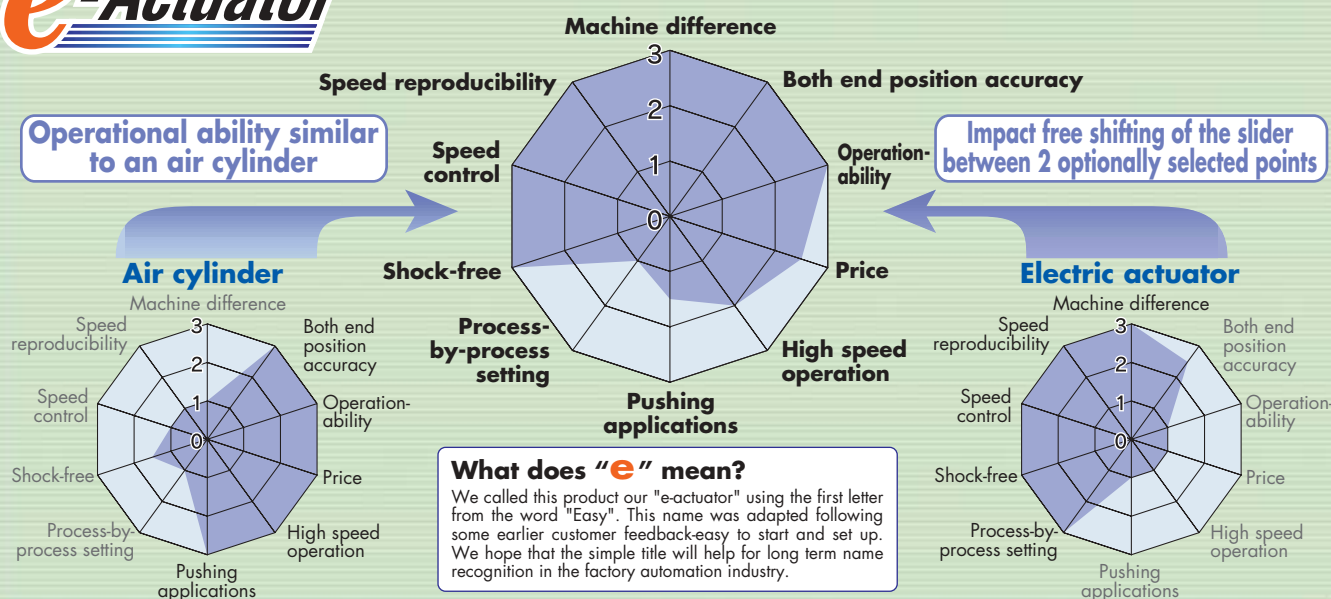
Cam follower guide type
Series E-MY2C



Having both the operational ability of an air cylinder and the speed controllability of an electric actuator

New Actuator Concept

e-Actuator



E-MY2 e-Rodless Actuator

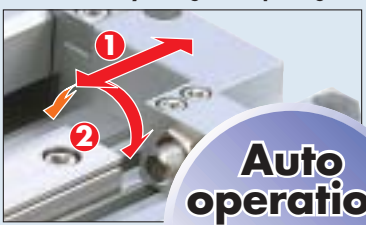
No programming required

Realising electric controllability similar to that of an air cylinder by 3 step operation

1

Stroke adjustment


① Movable stroke adjusting unit
② Small incremental adjustments can be made by using an adjusting bolt



Auto operation
Possible to operate by using the same signals as those for a solenoid valve (with a PLC)

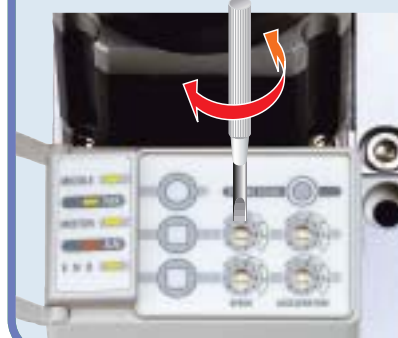
2

Stroke learning
Press **STROKE STUDY** switch



3

Speed and acceleration setting
Adjust **SPEED, ACCELERATION**

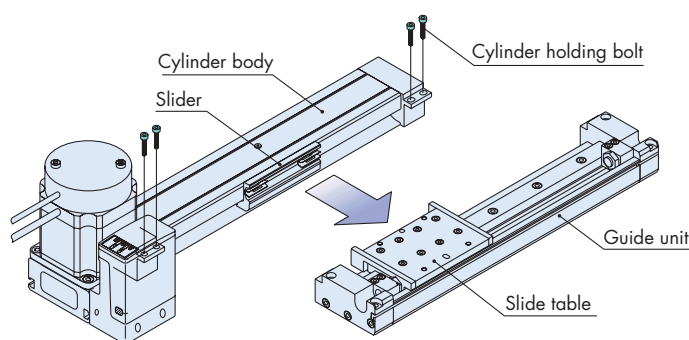


Features

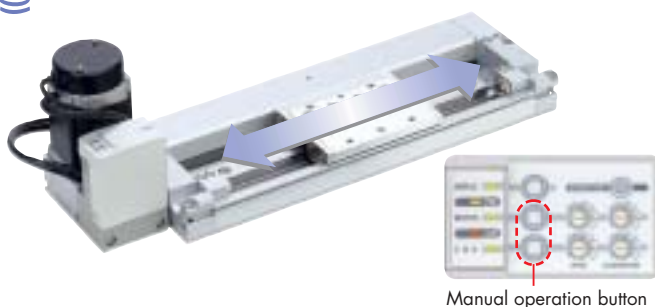


Easy Maintenance

The actuating part and the guide unit can be separated from the cylinder body.

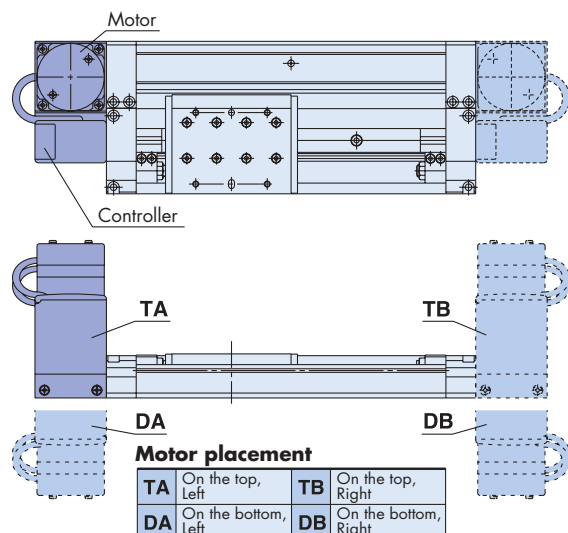


Manual Operation Is Possible.



Motor Placement

Mounting position of the motor is user selectable and can either be on the top, bottom, left, or right of the actuator.



Acceleration and deceleration can be set from 0.49 up to 4.90 m/s²

Electric Actuators

E-MY2 e-Rodless Actuator

Remote Control Type

Easy to reset after installation as a result of the remote controller.
Suited for installing where it is difficult to reach because the controller can be operated in an easily accessible location.

- Cable length is selectable from 1 m, 3 m and 5 m
- Improvement in the maximum operating temperature from 40°C to **50°C** (Actuator part only)
- Mounting method can be selected among 3 types

Direct mount



DIN rail mount



L-bracket mount



Position Repeatability

Both ends	±0.01 mm
Intermediate	±0.1 mm

Intermediate Stops are Possible.

3-points stoppable type

(2-point for both ends and 1-point for an intermediate stop)

5-points stoppable type

(2-point for both ends and 3-points for intermediate stop)

3-point stoppable type



5-point stoppable type (with bar on label)



Stop Function by External Input (5-point stoppable type only)

Stop command by an external input such as a PLC or PC makes it possible to decelerate or stop a slider (as programmed).

Application example 1

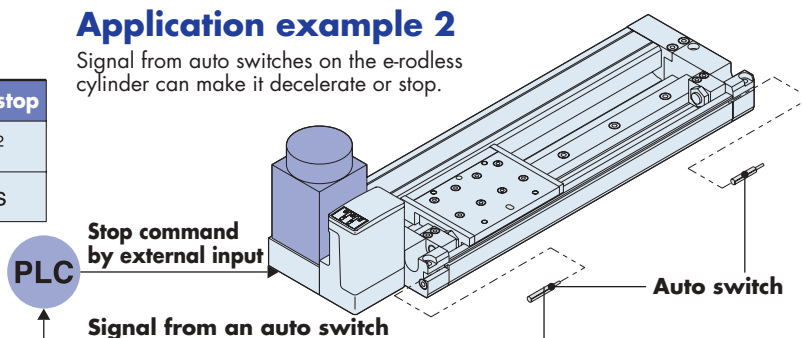
Quick start-up is possible after stopping.

Stop method	Stop by external input	Emergency stop
Stopping acceleration (deceleration)	Value of switch for setting acceleration	4.9 m/s ²
Initial speed after restarting	Value of the switch for setting the speed	50 mm/s

* Settings for emergency acceleration and speed cannot be changed.

Application example 2

Signal from auto switches on the e-rodless cylinder can make it decelerate or stop.



Variations

Series	Nominal Size	Guide type	Mounting orientation	Drive type	Sensor
E-MY2C	16	Cam follower guide	Horizontal	Belt drive	Auto switch
	25				
E-MY2H	16	High precision guide			
	25				



Short Stroke Electric Actuators

Guide Variations

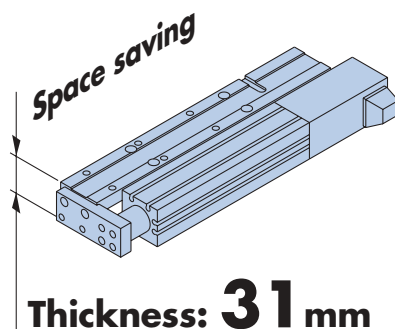
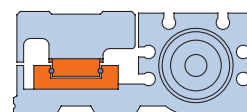
Series LXF

Low profile slide table type with stepper motor

Basic Specifications

Maximum work load	Up to 3 kg
Speed	Up to 200 mm/s
Standard strokes	25, 50, 75, 100 mm
Motor type	Stepper

* Contact SMC for detailed specifications and how to order



Without brake

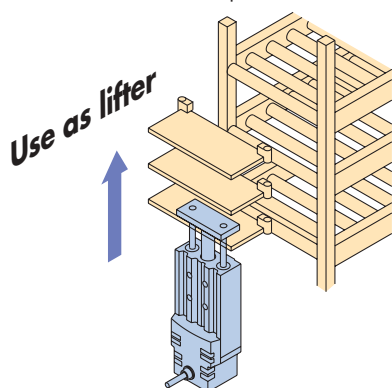
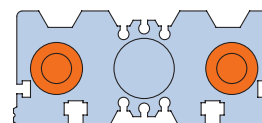
Series LXP

Guide rod type with stepper motor

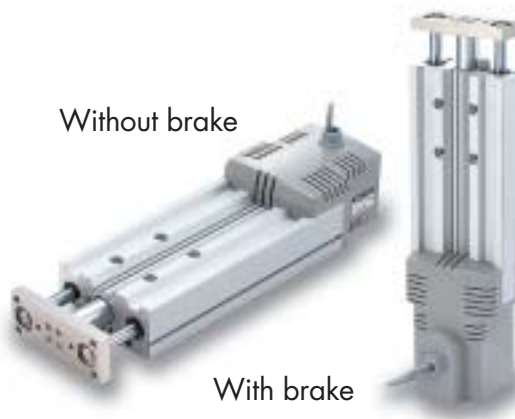
Basic Specifications

Maximum work load	Up to 6 kg (Horizontal mounting) Up to 5 kg (Vertical mounting)
Speed	Up to 200 mm/s
Standard strokes	50, 75, 100, 150, 175, 200 mm
Motor type	Stepper

* Contact SMC for detailed specifications and how to order



Without brake



With brake

Electric Actuators

LX

Short Stroke Electric Actuators

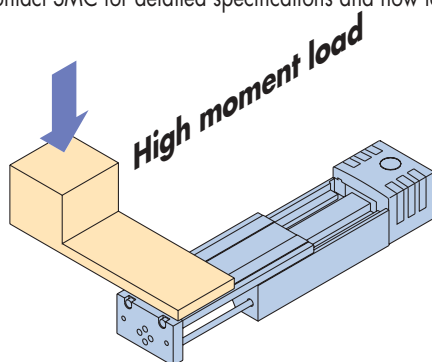
Series LXS

High rigidity slide table type with stepper motor

Basic Specifications

Maximum work load	Up to 6 kg (Horizontal mounting) Up to 5 kg (Vertical mounting)
Speed	Up to 200 mm/s
Standard strokes	50, 75, 100, 150, 175, 200 mm
Motor type	Stepper

* Contact SMC for detailed specifications and how to order



Without brake



With brake



All short stroke electric actuators have a position repeatability of ± 0.05 for the slide screw and ± 0.03 for the ball screw.

Variations

Series	Motor type (Stepper motor)	Guide type	Mounting orientation	Lead screw type	Sensor
LXF	5 phase	Direct acting guide	Horizontal	Ball screw Slide screw	Auto switch Proximity switch
LXP	2 phase 5 phase	Ball bushing	Horizontal Vertical		Auto switch
LXS		High rigidity direct acting guide			Auto switch Proximity switch

LC6D

Stepper Motor Driver



- Can be mounted on a DIN rail
- Driver position controlled by a pulse signal
- Can be controlled by a general positioning unit or controller
- Full or half step operation is possible

System Overview

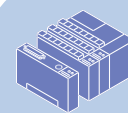
Stepper Motor Driver LC6D

To power supply

Electric Actuator LX



Positioning unit



Series LJ1 Single Axis Electric Actuator



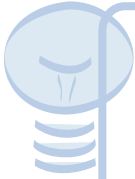
High rigidity linear guide or slider guide

Series LG1 Low Profile Electric Actuator



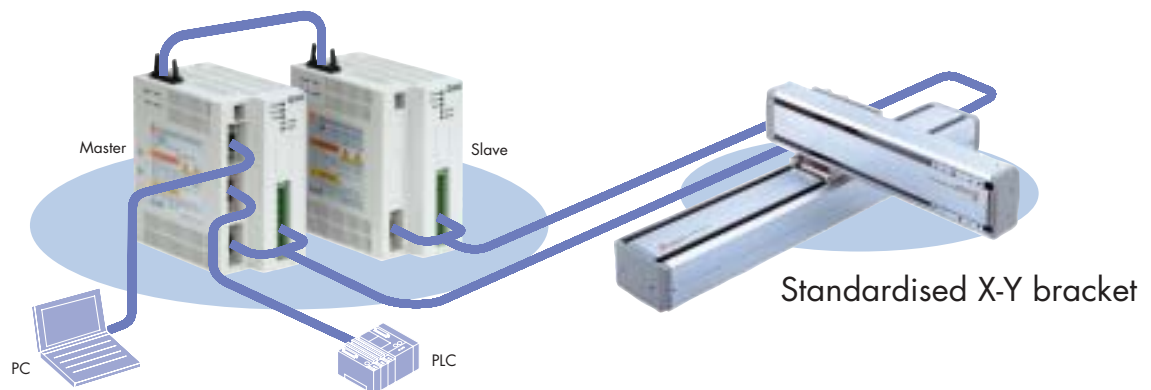
Low profile: 55 mm

Series LTF Electric Actuator with Integrated Guide



Incorporating recirculating ball frame-type linear guide

Series LC8 Positioning Driver (for AC servomotor)



Up to 117 programmable positioning steps can be operated using I/O from a PLC.



All system parameters can be set using an easy to use Windows® based software.



Up to 6 slave units can be attached for multi-axis systems.



For use with Series LJ1, LG1 and LTF electric actuators.



Single Axis Electric Actuator

LJ1H/High Rigidity Direct Acting Guide
LJ1S/Slider Guide



Basic Specifications

Maximum work load	Up to 60 kg
Speed	Up to 1000 mm/s
Standard strokes	100, 200, 300, 400, 500, 600, 800, 1000, 1200, 1500 mm
Motor type	AC Servomotor

* Contact SMC for detailed specifications and how to order



High

Positioning accuracy

Low

Maximum Work load

Slider guide	5 to 20 kg
High rigidity direct acting guide	10 to 60 kg

LJ1H
High rigidity direct acting guide + Ground ball screw

Positioning repeatability

Slide screw	±0.1 mm
Rolled ball screw	±0.05 mm
Ground ball screw	±0.02 mm

LJ1H
High rigidity direct acting guide + Rolled ball screw

LJ1S

Slider guide + Slide screw

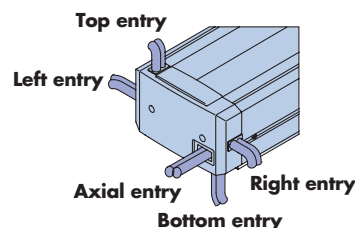
LJ1H
High rigidity direct acting guide + Slide screw

Low Work load/Allowable moment High

Two Types of Guide and Three Types of Lead Screw

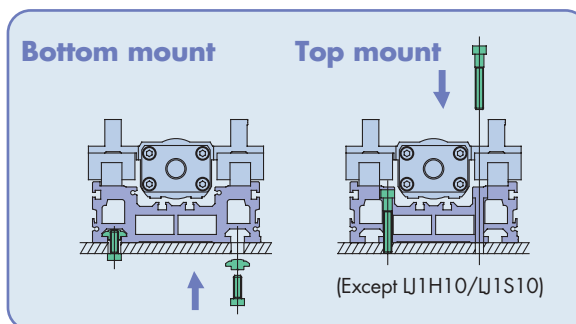
Low noise (slide screw type)
Slide screw + Slider guide: 47 dB (LJ1S)
Slide screw + Linear guide: 53 dB (LJ1H)

Cable entry is possible from 5 directions



Two mounting styles

T-slots enable highly flexible mounting.



Features

High rigidity

High rigidity achieved by the use of a hollow box type aluminum construction.

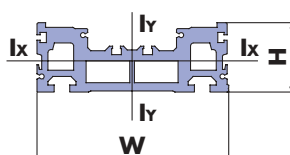
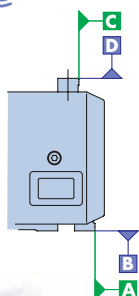


Table traveling accuracy



Model	Traveling accuracy / 300mm	
	C side against A side	D side against B side
LJ1H10	0.07 or less	0.07 or less
LJ1H20	0.06 or less	0.03 or less
LJ1H30	0.03 or less	0.09 or less
LJ1S10	0.015 or less	0.12 or less
LJ1S20	0.1 or less	0.1 or less
LJ1S30	0.1 or less	0.1 or less

Variations

Series	Motor type	Guide type	Mounting orientation	Lead screw type
LJ1H10	AC servomotor 50W	High rigidity direct acting guide	Horizontal	Ground ball screw Rolled ball screw Slide screw
LJ1H20	AC servomotor 100W			
LJ1H30	AC servomotor 200W			
LJ1S10	AC servomotor 50W	Slider guide	Horizontal	Slide screw
LJ1S20	AC servomotor 100W			
LJ1S30	AC servomotor 200W			



Low Profile Electric Actuator

Basic Specifications

Maximum work load	Up to 30 kg
Speed	Up to 1000 mm/s
Standard strokes	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200 mm
Motor type	AC Servomotor

* Contact SMC for detailed specifications and how to order

Features



Low Profile/Reduced Height



Low profile: **55 mm** (35 mm less than LJ1H20)

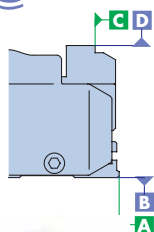


Positioning Repeatability

Slide screw	± 0.1 mm
Rolled ball screw	± 0.05 mm
Ground ball screw	± 0.02 mm



Table traveling accuracy



Model	Traveling accuracy / 30mm	
	C side against A side	D side against B side
LG1H	0.1 or less	0.1 or less

Variations

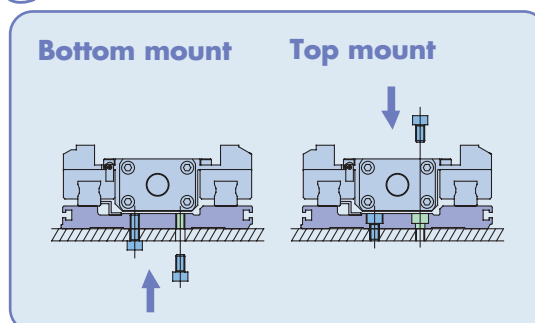


Two types of body material

In addition to aluminum frames, stainless steel frames are available for customers requiring more rigidity.



Two mounting styles



Series	Motor type	Guide type	Mounting Orientation	Lead screw type
LG1□H21	AC Servomotor 100W	High rigidity direct acting guide	Horizontal	Ground ball screw Rolled ball screw Slide screw



Basic Specifications

Maximum work load	Up to 50 kg
Speed	Up to 1000 mm/s
Standard strokes	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000 mm
Motor type	AC Servomotor

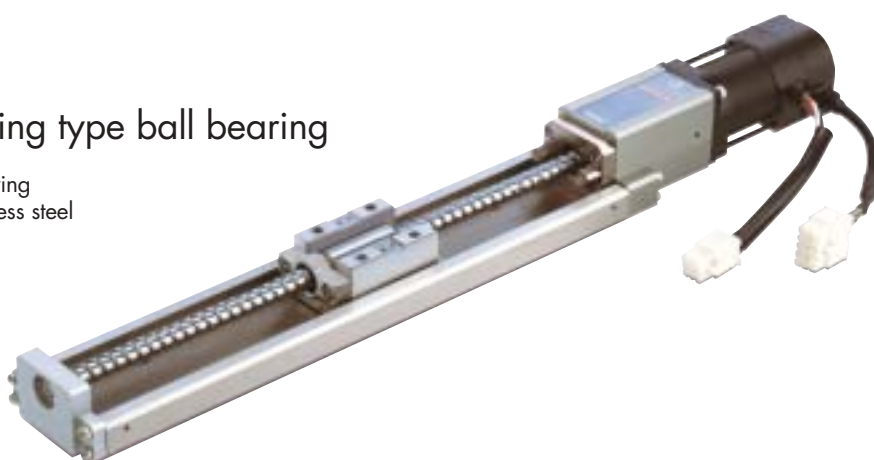
* Contact SMC for detailed specifications and how to order

Features



Linear guide with recirculating type ball bearing

Linear guide with recirculating type ball bearing
The material of the guide is martensitic stainless steel

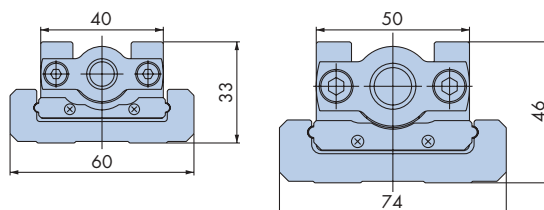


Space saving and lightweight design

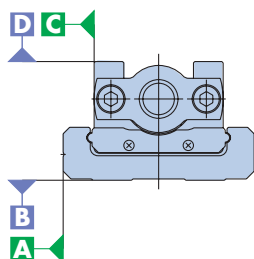
The linear guide is built into the actuator body

	Cross section dimensions for LTF6	Cross section dimensions for LTF8
Overall length*	357.5 mm	412 mm
Weight*	2.2 kg	4.6 kg
Max.stroke	600 mm	1000 mm

* Value for standard motor with 100 mm stroke



Slide running accuracy



Model	Slide running accuracy / 200mm	
	C side against A side	D side against B side
LTF6	0.02 or less	0.02 or less
LTF8	0.02 or less	0.02 or less



Position Repeatability

Rolled ball screw	±0.05 mm
Ground ball screw	±0.02 mm

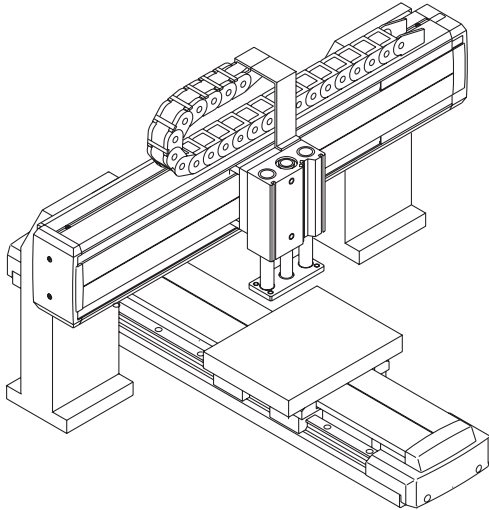
Variations

Series	Motor type	Guide	Mounting orientation	Lead screw type
LTF6	AC Servomotor 100W	Actuator body with built-in linear guide	Horizontal	Rolled ball screw
LTF8	AC Servomotor 200W			Ground ball screw

SMC's Customised Proposals for Automation



An integrated pneumatic/electric solution which can be fully optimised for each application.



A system designed and produced by SMC's skilled automation team in conjunction with the customer.








A system that provides the perfect solution from simple single motion products right up to full pick and place modules.



Please contact SMC if you require further information or would like to arrange for one of our sales engineers to call you.



A system created from SMC's wide range of automation products.

	Hardware	
(X-Y)		LJ1 LG1 LTF
Z-axis		LX □ LTF MX □ CX □
θ-axis		CR □ MS □
End effector (Gripping)		MH □ Z □
Positioning work (Securing, Clamping)		MX □ CQ □ LX □

Individual catalogues



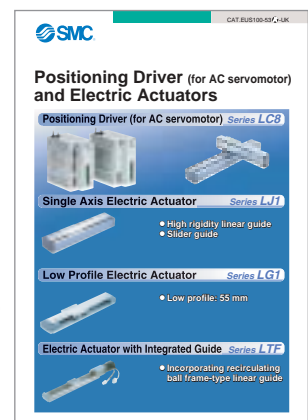
Electric Cylinders
Series LZ
EUS100-58B



e-Rodless Actuator
Series E-MY2C/2H
EUS100-51C



Electric Actuators
Series LX/LC6D
EMC-LX/LC6D-01



Positioning Driver and Electric Actuators
Series LC8, LJ1, LG1, LTF
EUS100-53A

This leaflet contains only limited product information. If you require any further technical assistance on any of the products contained in this document, please refer to our individual products catalogues, our **product information** available on cd, our web page: **www.smceu.com** or by contacting your **nearest SMC office**.



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http://www.smc.bg



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