

DH-ROBOTICS

SERVO ELECTRIC CYLINDER



DH-Robotics Technology Co.,Ltd.

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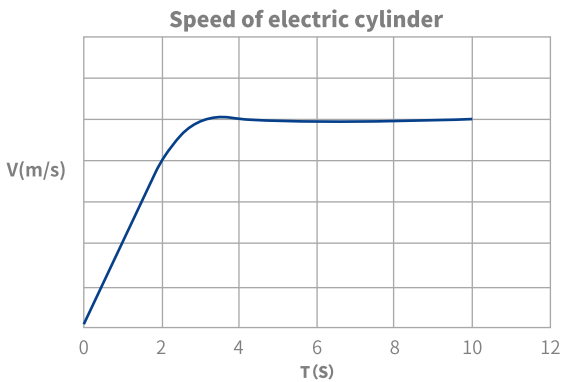
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Nanshan District, Shenzhen City, Guangdong Province, China.

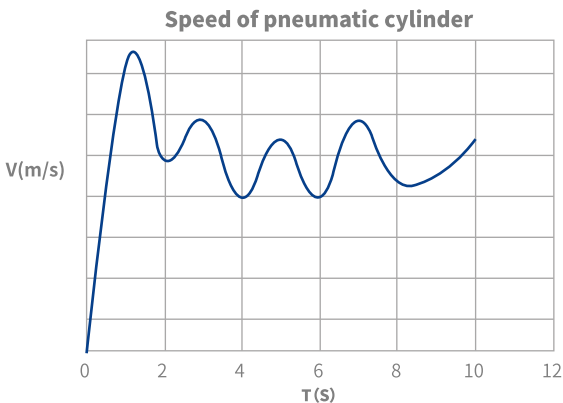
Advantages of Electric Cylinder over Pneumatic Cylinder

Flexibly adjustable position, force, and speed

	Electric cylinder	Pneumatic cylinder
Position	1. Multi-location programming 2. The accuracy is determined by the software with positioning repeatability accurate to ± 0.02 mm	1. A magnetic switch and a mechanically controlled valve are used to achieve positioning 2. The accuracy is determined by the stopper and installation method
Force	1. Controllable and programmable 2. Capable of approaching at high speed and pressing & pushing at low speed	1. The pressure of the air channel shall be adjusted in each adjustment 2. The speed is coupled with force. To apply high thrust at low speed, an air-liquid converter shall be activated
Speed	1. Multi-section acceleration and uniform motion 2. The max. speed can reach nearly 1000 mm/s by the use of a large-lead screw	1. Large speed fluctuation 2. Delayed action 3. The speed of standard pneumatic cylinders mostly ranges from 50 to 500 mm/s



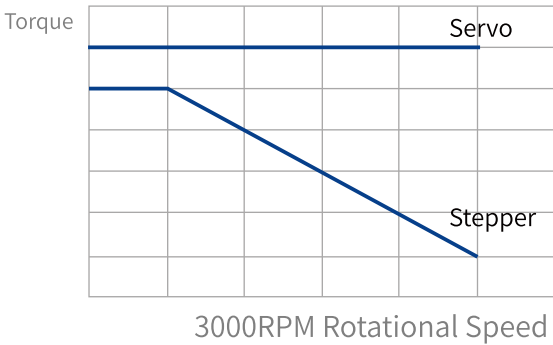
The speed and thrust of the electric cylinder are more stable and smooth



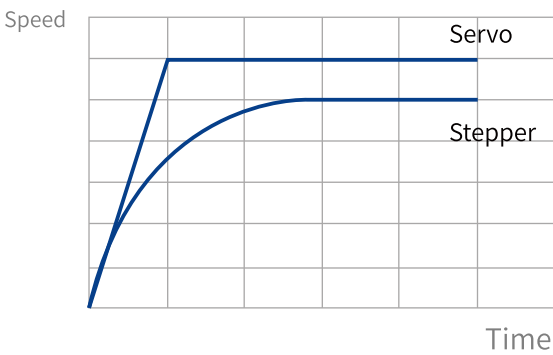
A pneumatic cylinder is compressible, resulting in poor motion stability and slow start

Advantages of Servo Electric Cylinder over Stepper Electric Cylinder

Better thrust and load

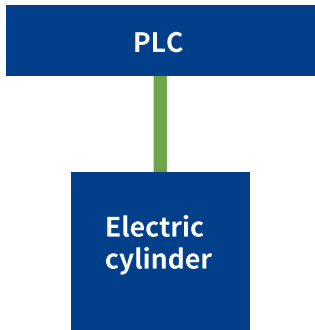


Stepper motor is limited by principle of the motor, high speed and strong force can no be met at the same time. Above 1000 RPM speed, the output torque drops sharply. At 3000 RPM speed (servo motor standard speed), the output torque of the servo motor will only be left a third or less. The output torque of the servo motor remains the same within the rated speed range, while the maximum speed and maximum torque of the stepper motor can not be achieved at the same time.



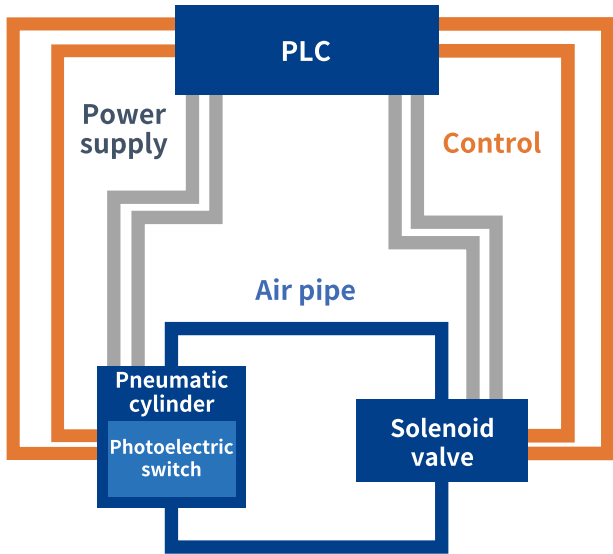
Closed-loop stepper motors have a speed limit of 3000 RPM speed, while servo motors can reach 6000 RPM speed or higher. Since stepper motors have the characteristic of decreasing torque as speed increases, the acceleration also decreases sharply as the speed increases, resulting in a longer acceleration section, making the working beat duration increase.

Plug and play



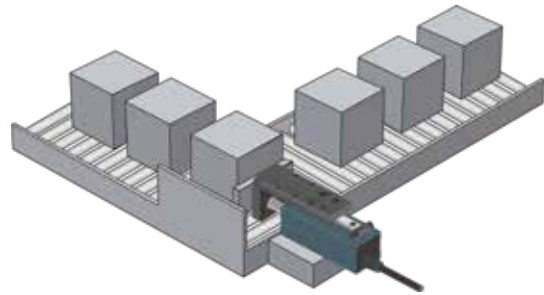
Connection diagram of electric cylinder

A controller is optional for the electric cylinder and can work simply by connecting with the PLC. Position information is returned in real time, and no external photoelectric switch is required.



Connection diagram of pneumatic cylinder

Applications

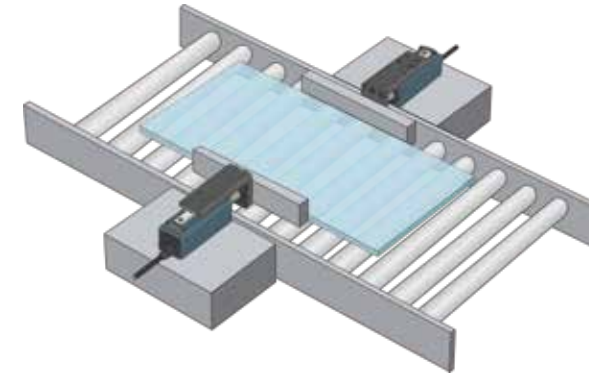


Pushing and conveying

The electric cylinder pushes the workpiece on the conveyor belt in the production line to another conveyor belt at a specific angle in place of repetitive manual operation to achieve automated production.

Advantages

The MCE series electric cylinder runs at high speed to significantly improve productivity. The thrust is adjustable up to 200 N to meet workpiece handling requirements at different weight levels. In addition, the acceleration can be programmed, enabling effective prevention of damage to workpieces, improved productivity, and reduced labour cost.

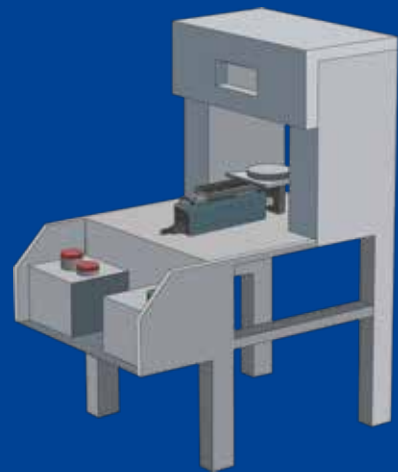


Positioning correction

The use of an electric cylinder for positioning solves the problem of large positioning error and difficult commissioning in a pneumatic cylinder. The thrust is adjustable so that damage to workpiece may be avoided. For example glass substrate positioning and panel positioning devices are used.

Advantages

The MCE series electric cylinder has the positioning repeatability of ± 0.02 mm and can perform well for accurate positioning at high speed.

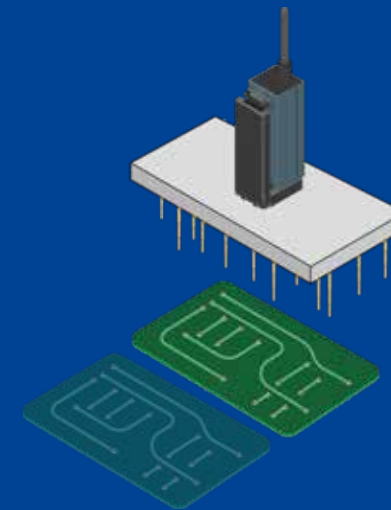


Pressure loading

The MCE miniature electric cylinder pushes a heavy workpiece into the punching machine in place of manual handling, which reduces the risk of accident and improves productivity.

Advantages

The MCE series electric cylinder has excellent load capacity, with a maximum weight capacity of 15 kg in the horizontal direction. The parameters are adjustable for accurate speed governing and positioning to ensure the machining accuracy of workpiece.

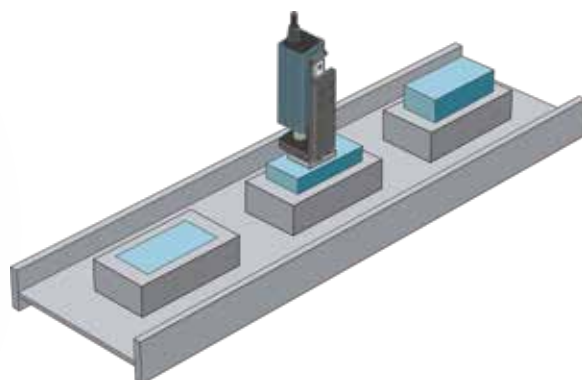


Detection

The MCE miniature electric cylinder is used to lift and lower the probes to test the conduction performance of the circuit board. The MCE miniature electric cylinder can perform well to allow multiple probes to work at a time.

Advantages

The MCE parameters are adjustable, and the position, speed, and thrust can be accurately programmed to achieve soft landing and pushing & pressing of workpieces. The MCE performs well in meeting the flexible production requirements in 3C electronics industry.

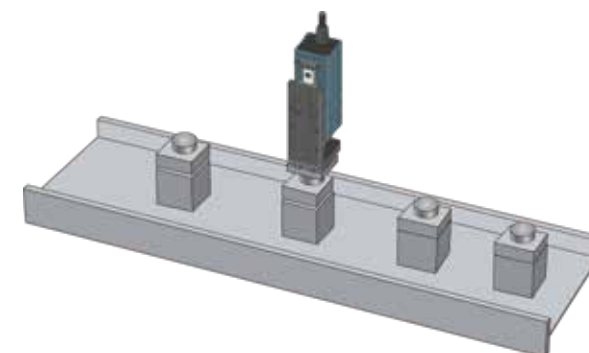


Pushing & pressing

The MCE miniature electric cylinder is used instead of conventional servo + sensor system to push and press mount components into the base in the component mounting process.

Advantages

The MCE can be programmed to achieve soft landing and pushing & pressing of workpieces at low speed after approaching the workpieces at high speed, speeding up the cycle time while reducing the defect rate and production costs.



Installation

The MCE miniature electric cylinder is used to press fit the cover of the electronic component onto the component body. The position, speed, and thrust of the electric cylinder can be governed to complete operation tasks more efficiently and stably.

Advantages

The position, speed, and thrust parameters of the MCE can be programmed to achieve soft landing and pushing & pressing of workpieces, meeting the flexible production requirements in 3C electronics industry while reducing the defect rate and downtime.

MCE Series

Miniature Electric Table Type Cylinder



Series	Width	Max payload -horizontal	Max payload -vertical	Reference Page
MCE-3G	35 mm	2-8 kg	0.5-2 kg	P7-8
MCE-3WG	46 mm	2-8 kg	0.5-2 kg	P9-10
MCE-4G	43 mm	15 kg	3-6 kg	P11-12
RCE-3M	35 mm	2-8 kg	0.5-2 kg	P13-14

Product Features

The MCE serie is miniature linear stage cylinder features high energy density, large load capacity, and a compact and exquisite design. It is suitable for various applications, enabling the completion of complex tasks such as handling arranging, and transporting.

High Energy Density

Small size, high energy, high rigidity, with a maximum horizontal load capacity of **15kg**.

Compact Design

Compact overall structure with a width of only **35mm**, allowing for sensitive.

Fast and Precise

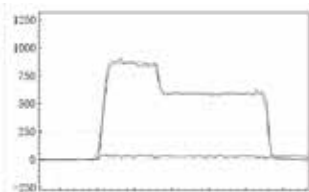
Equipped with a high-performance servo motor and precision grinding screw, achieving a maximum speed of up to **330mm/s**. The repeated positioning accuracy reaches **±0.003mm**.

Programmable Parameters Avariety of Motion Modes

The position, speed, and thrust parameters are programmable to implement essential functions of pushing, pulling, pressing, and positioning at high speed. Either the position mode or pushing & pressing mode is available.



Position Mode



Pushing & Pressing Mode

Installation



Horizontal
Mounting



Horizontal
Mounting on Side



Horizontal Ceiling
Mounting

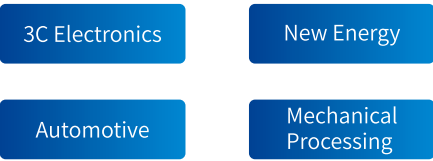


Vertical
Mounting

Preferred Applications



Application



MCE-3G

Integrated-Drive Electric Cylinder Selection Method

Series		Width/Guide	Lead/Screw	Stroke	Integrated Drive	Brake	Cable Direction	Applicable Drive IO Type	Cable Length	Customize
MCE		3G	01 ☐	030	C	O	B	M1	L1	0
01	None	Ball screw								
	P	Grind screw								
02	None	Ball screw	030						L1	1m
	P	Grind screw	050						L3	3m
04		Grind screw			B Backward				L5	5m
06		Grind screw			F Forward				L10	10m
				O Without Brake W With Brake			M1 ModbusRTU (RS485)+IO(NN) M2 ModbusRTU (RS485)+IO(PP)			0 No Customization 1 Customization

External-Drive Electric Cylinder Selection Method

Series	Width/Guide	Lead/Screw	Stroke	External Drive	Brake	Cable Direction	Applicable Drive IO Type*	Cable Length	Customization
MCE	3G	01 ☐	030	E1	O	B	S01	L1	0
01	None Ball screw								
	P Grind screw								
02	None Ball screw								
	P Grind screw								
04	Grind screw								
06	Grind screw								
		030							
		050							
		E1 ABZ* ^②							
		E2 SSI* ^③							
			O Without Brake						
			W With Brake						
				B Backward					
				F Forward					
						S01 SAC-S		L1 1m	
						S02 SAC-N		L3 3m	
						S03 SAC-NF		L5 5m	
						X01 SAC-N2		L10 10m	
									0 No Customization
									1 Customization

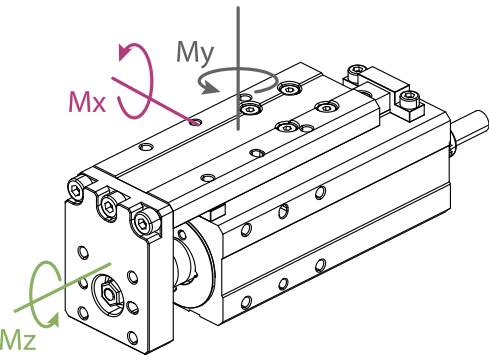
Note: *^①For customization fees, consult with the sales staff of DH-Robotics.
^② ABZ: Incremental Encoder: Phase search is required after power-up.
^③ SSI: Single-Turn Absolute Encoder: Phase search is not required after power-up.
 (It is recommended to select this type of encoder when the electric cylinder is used as the Z-axis).

Note: *①For customization fees, consult with the sales staff of DH-Robotics.
 *② ABI: Incremental Encoder: Phase search is required after power-up.
 *③ SSI: Single-Turn Absolute Encoder: Phase search is not required after power-up.
 (It is recommended to select this type of encoder when the electric cylinder is used as the Z-axis).

*** Applicable Drive**

Name	Appearance	Controllable Maxes	Model	Control Methods	Feature	Input voltage	Power Capacity	Reference Page
Small Scale Single-Axis Dedicated Controller		1	SAC-S	RS485	ModbusRTU	DC24V	MAX 72W	SAC-S Selection Page P31-32
				I/O	Up to 16 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Controller		1	SAC-N	RS485	ModbusRTU	DC24V	MAX 200W	SAC-N Selection Page P33-34
				I/O	Up to 64 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Force Control Controller		1	SAC-NF	RS485	ModbusRTU	DC24V	MAX 200W	Please Contact us for Force Control Applications.
Dual Axis Standard Drive		2	SAC-N2	EtherCat	Standard CIA402 Axis Control	DC24V / DC48V	MAX 240W (24V) /480W (48V)	SAC-N2 Selection Page P35-36
				Pulse+I/O	Direction+Pulse			
				RS485	ModbusRTU			

Technical Specifications



Technical Parameters

Total Stroke (mm)	30, 50			
Screw Lead (mm)	1	2	4	6
Rated Thrust (N)	200	100	50	30
Min. thrust (N)	60	30	15	9
Max. speed (mm/s)	50	100	200	300
Max. acceleration (mm/s ²)	2000	3000	3000	3000
Max. weight Capacity - horizontal (kg)	8	6	3	2
Max. weight Capacity - vertical(kg)	2	1.5	0.75	0.5
Positioning Repeatability(mm)	±0.02 ±0.005 (Grinding Screw Rod)			
Idle Stroke(mm)	Below 0.1			

Operating Environment

Communication Protocol	Bulit-in:485+4-way I/O(NPN, PNP) External: Depending on the Selected Driver	
Rated Voltage	24 V DC $\pm$ 10%	
Current	1.5 A(Rated)/3 A(Peak) ^{*④}	
Rated Power	36 W	
Protection Rating	IP 40	
Recommended operating environment	0 to 40°C, below 85% RH	
Compliance with International Standards	CE, FCC, RoHS	
Stroke (mm)	30	50
Width (mm)	35	35
Weight (kg)	0.47	0.55

Allowable load moment

M_x	$9.9 \text{ N} \cdot \text{m}$
M_y	$9.9 \text{ N} \cdot \text{m}$
M_z	$3.3 \text{ N} \cdot \text{m}$

*④ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

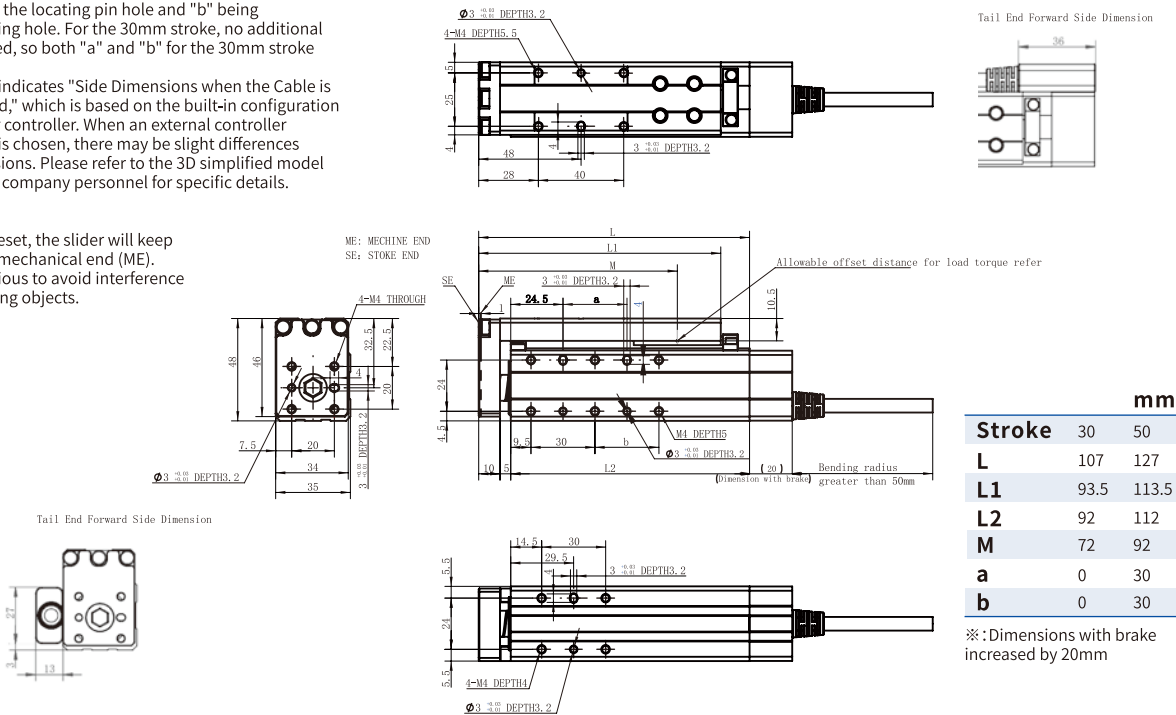
Dimensions

Note:

1. Additional holes are made for the 50mm stroke body, with "a" being the locating pin hole and "b" being the M4 mounting hole. For the 30mm stroke, no additional holes are added, so both "a" and "b" for the 30mm stroke body are 0.

2. The drawing indicates "Side Dimensions when the Cable is Facing Forward," which is based on the built-in configuration of the cylinder controller. When an external controller configuration is chosen, there may be slight differences in side dimensions. Please refer to the 3D simplified model or contact our company personnel for specific details.

Caution:
During origin reset, the slider will keep moving to the mechanical end (ME). Please be cautious to avoid interference with surrounding objects.



MCE-3WG

Integrated-Drive Electric Cylinder Selection Method

Series			Width/Guide	Lead/Screw	Stroke	Integrated Drive	Brake	Cable Direction	Applicable Drive IO Type	Cable Length	Customization
MCE			3WG	01 ☐	030	C	O	B	M1	L1	0
01	None	Ball screw									
	P	Grind screw									
02	None	Ball screw		030							
	P	Grind screw		050							
04		Grind screw				B Backward				L1 1m	0 No Customization
06		Grind screw				F Forward				L3 3m	
							M1 ModbusRTU (RS485)+IO(NN)			L5 5m	
							M2 ModbusRTU (RS485)+IO(PP)			L10 10m	1 Customization

External-Drive Electric Cylinder Selection Method

Series	Width/Guide		Lead/Screw	Stroke	External Drive	Brake	Cable Direction	Applicable Drive IO Type*	Cable Length	Customize
MCE	3WG		01 ☐	030	E1	O	B	S01	L1	0
01	None	Ball screw	030	E1	O	B	S01	L1	1m	0
	P	Grind screw								
02	None	Ball screw	050	E2	W	F	S02	L3	3m	1
	P	Grind screw								
04	Grind screw						S03	L5	5m	
06	Grind screw						X01	L10	10m	

Note: *①For customization fees, consult with the sales staff of DH-Robotics.

*②Incremental Encoder: Phase search is required after power-up.

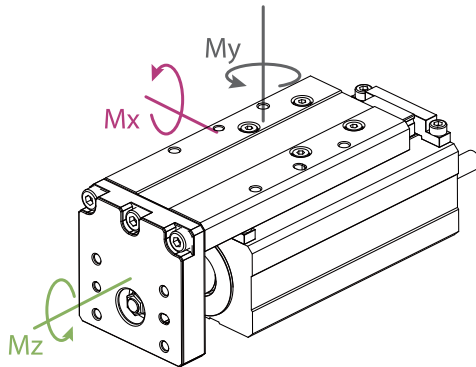
*③ SSI: Single-Turn Absolute Encoder: Phase search is not required after power-up.
(It is recommended to select this type of encoder when the electric cylinder is used as the Z-axis).

Note: *①For customization fees, consult with the sales staff of DH-Robotics.
 *② ABZ: Incremental Encoder: Phase search is required after power-up.
 *③ SSI: Single-Turn Absolute Encoder: Phase search is not required after power-up.
 (It is recommended to select this type of encoder when the electric cylinder is used as the Z-axis).

*** Applicable Drive**

Name	Appearance	Controllable Maxes	Model	Control Methods	Feature	Input voltage	Power Capacity	Reference Page
Small Scale Single-Axis Dedicated Controller		1	SAC-S	RS485	ModbusRTU	DC24V	MAX 72W	SAC-S Selection Page P31-32
				I/O	Up to 16 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Controller		1	SAC-N	RS485	ModbusRTU	DC24V	MAX 200W	SAC-N Selection Page P33-34
				I/O	Up to 64 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Force Control Controller		1	SAC-NF	RS485	ModbusRTU	DC24V	MAX 200W	Please Contact us for Force Control Applications.
Dual Axis Standard Drive		2	SAC-N2	EtherCat	Standard CIA402 Axis Control	DC24V / DC48V	MAX 240W (24V) /480W (48V)	SAC-N2 Selection Page P35-36
				Pulse+I/O	Direction+Pulse			
				RS485	ModbusRTU			

Technical Specifications



Allowable load moment

M_x	9.9 N · m
M_y	9.9 N · m
$M_z^{* (S)}$	12.2 N · m

*④ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

*⑤The MCE-3WG utilizes a stronger, wider guideway, resulting in a larger bias torque MCE-3G.

Dimensions

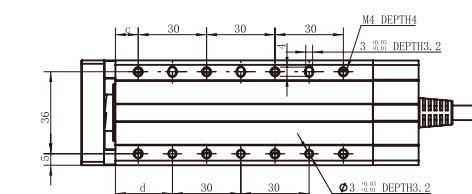
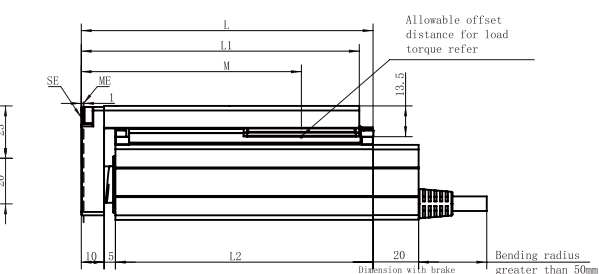
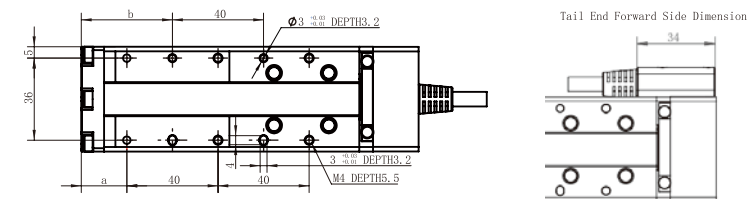
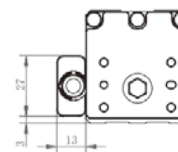
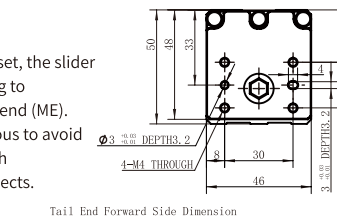
Note:

1.The number of mounting holes for the 30mm and 50mm strokebodies differs. Therefore, the drawing does not specify the exact quantity of M4 threaded holes and Ø3 pin holes.Please refer to the corresponding model's 3D simplified model for details.

The drawing indicates "Side Dimensions when the Cable is Facing Forward," based on the built-in configuration of the cylinder controller. When an external controller configuration is chosen, there may be slight differences in side dimensions. Please refer to the 3D simplified model or contact our company personnel for specific details.

Caution:

During origin reset, the slider will keep moving to the mechanical end (ME). Please be cautious to avoid interference with surrounding objects.

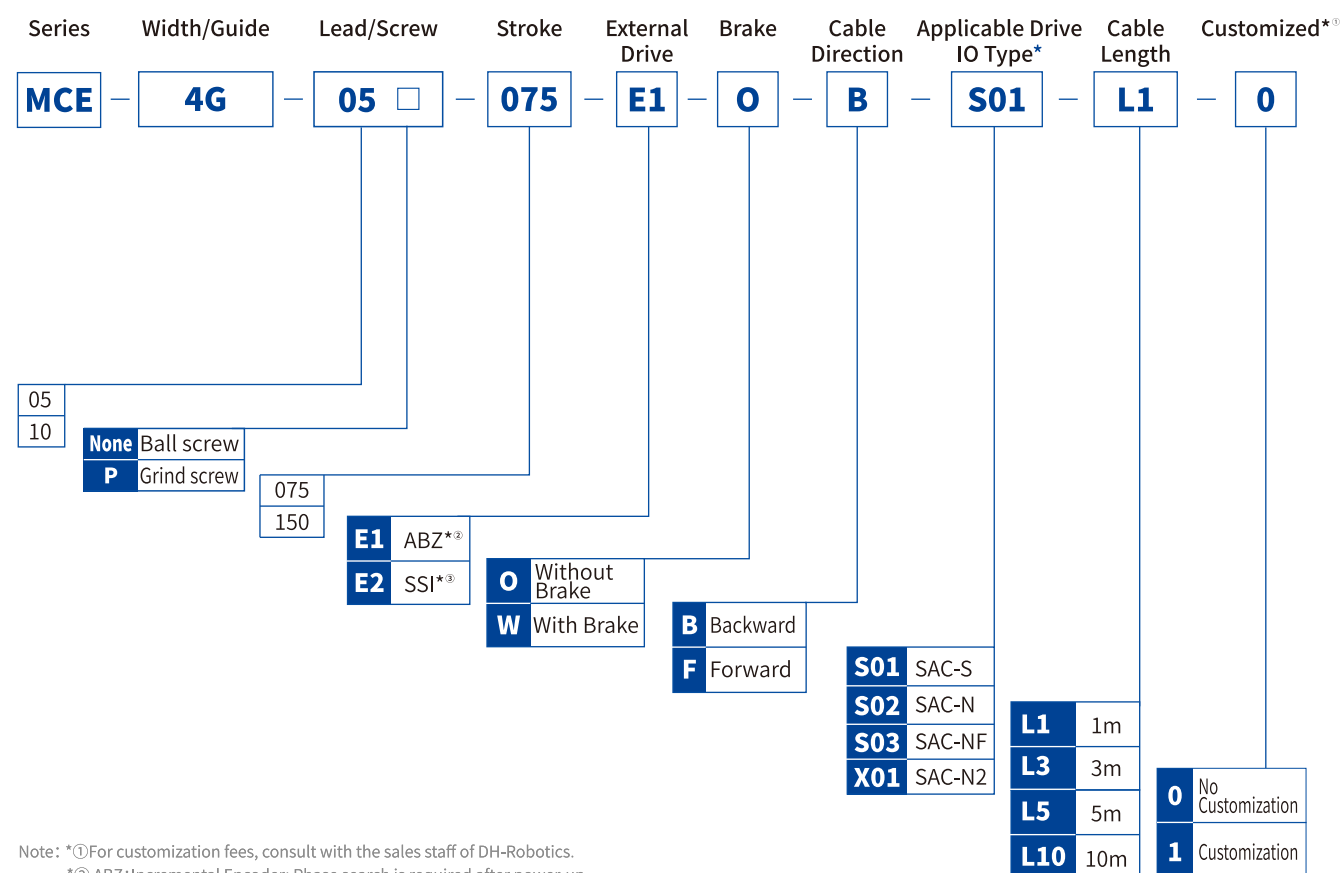


	mm	
Stroke	30	50
L	108	128
L1	102	122
L2	93	113
M	77	97
a	38	20
b	58	40
c	15	10
d	30	25

※:Dimensions with brake increased by 20mm

MCE-4G

External-Drive Electric Cylinder Selection Method

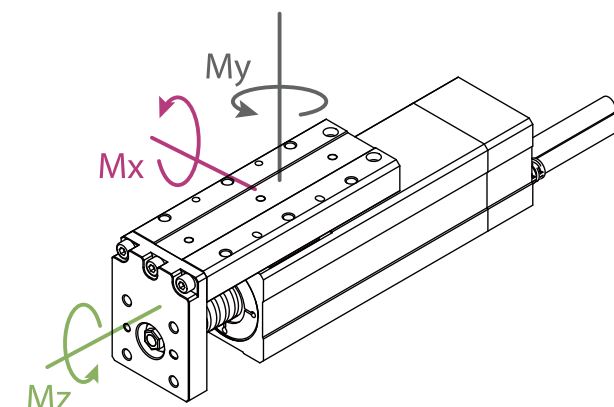


Note: *①For customization fees, consult with the sales staff of DH-Robotics.
*② ABZ:Incremental Encoder: Phase search is required after power-up.
*③ SSI: Single-Turn Absolute Encoder: Phase search is not required after power-up.
(It is recommended to select this type of encoder when the electric cylinder is used as the Z-axis).

* Applicable Drive

Name	Appearance	Controllable Maxes	Model	Control Methods	Feature	Input voltage	Power Capacity	Reference Page
Small Scale Single-Axis Dedicated Controller		1	SAC-S	RS485	ModbusRTU	DC24V	MAX 72W	SAC-S Selection Page P31-32
				I/O	Up to 16 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Controller		1	SAC-N	RS485	ModbusRTU	DC24V	MAX 200W	SAC-N Selection Page P33-34
				I/O	Up to 64 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Force Control Controller		1	SAC-NF	RS485	ModbusRTU	DC24V	MAX 200W	Please Contact us for Force Control Applications.
Dual Axis Standard Drive		2	SAC-N2	EtherCat	Standard CIA402 Axis Control	DC24V / DC48V	MAX 240W (24V) / 480W (48V)	SAC-N2 Selection Page P35-36
				Pulse+I/O	Direction+Pulse			
				RS485	ModbusRTU			

Technical Specifications



Allowable Load Moment

Mx	18.8 N·m
My	18.8 N·m
Mz	30.5 N·m

*④ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

Technical Parameters

Total Stroke (mm)	75	150
Screw Lead (mm)	5	10
Rated Thrust (N)	170	85
Min. thrust(N)	51	25.5
Max. acceleration (mm/s ²)	2000	3000
Max. speed (mm/s)	165	330
Max. weight Capacity- horizontal (kg)	15	15
Max. weight Capacity- vertical	6	3
Positioning Repeatability (mm)	±0.02	±0.005 (Grinding Screw Dod)
Idle Stroke (mm)	Below 0.1	

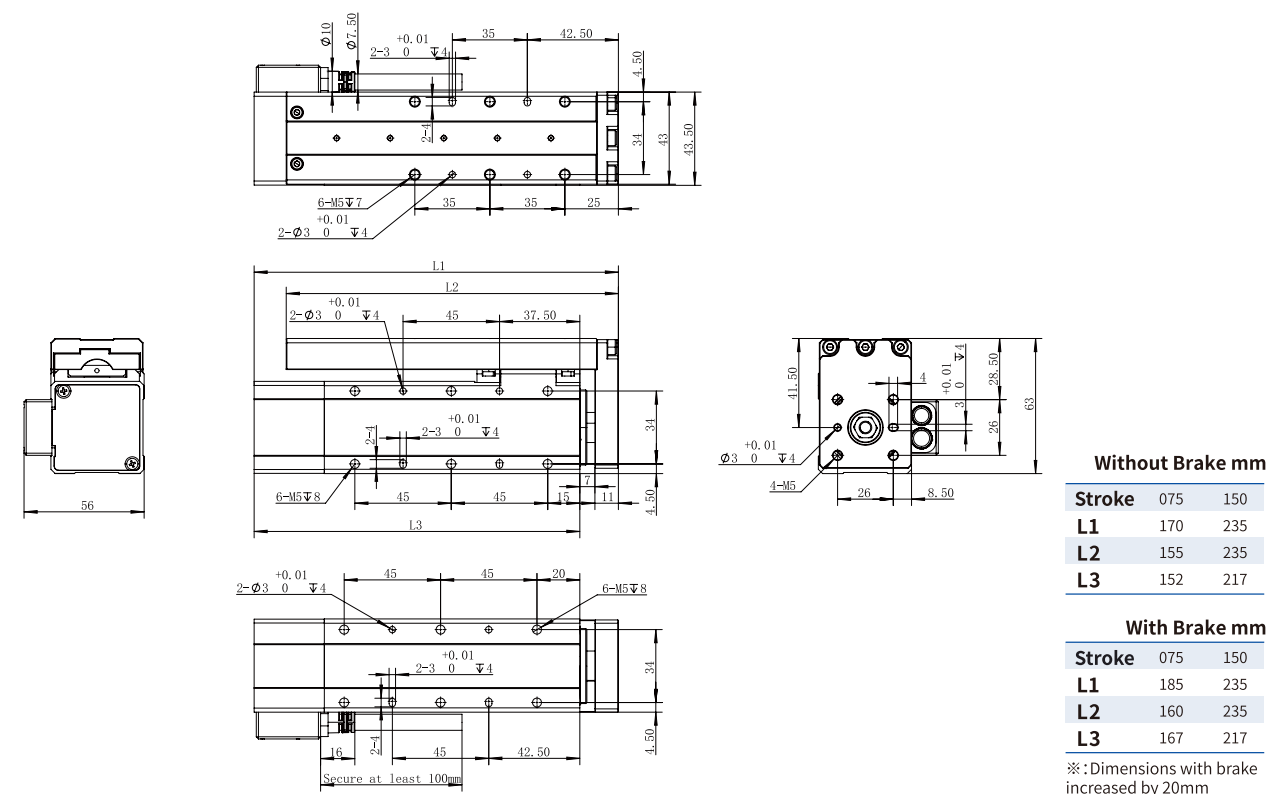
Operating Environment

Communication Protocol	External: Depending on the Selected Driver
Rated Voltage	24 V DC ± 10%
Current	2.5 A(Rated)/7 A(Peak)*④
Rated Power	60 W
Protection Rating	IP 40
Recommended Operating Environment	0 to 40°C, Below 85% RH
Compliance With International Standards	CE, FCC, RoHS

Mechanical Parameters

Stroke (mm)	75	150
Width (mm)	43.5	43.5
Weight (kg)	1.4	1.65

Dimensions



RCE-3M

Integrated-Drive Electric Cylinder Selection Method

Series	Width/Guide	Lead/Screw	Stroke	Integrated Drive	Brake	Cable Direction	Applicable Drive IO Type	Cable Length	Customized**
RCE	3M	01 ☐	030	C	O	B	M1	L1	0
01	None Ball screw P Grind screw							L1 1m L3 3m L5 5m L10 10m L15 15m	0 No Customization 1 Customization
02	None Ball screw P Grind screw	030 050			O Without Brake W With Brake	B Backward F Forward	M1 ModbusRTU (RS485)+IO(NN) M2 ModbusRTU (RS485)+IO(PP)		
04	Grind screw								
06	Grind screw								

External-Drive Electric Cylinder Selection Method

Series	Width/Guide	Lead/Screw	Stroke	External Drive	Brake	Cable Direction	Applicable Drive IO Type*	Cable Length	Customized**
RCE	3M	01 ☐	030	E1	O	B	S01	L1	0
01	None Ball screw P Grind screw							L1 1m L3 3m L5 5m L10 10m L15 15m	0 No Customization 1 Customization
02	None Ball screw P Grind screw	030 050		E1 ABZ* ^② E2 SSI* ^③	O Without Brake W With Brake	B Backward F Forward	S01 SAC-S S02 SAC-N S03 SAC-NF X01 SAC-N2		
04	Grind screw								
06	Grind screw								

Note: *①For customization fees, consult with the sales staff of DH-Robotics.

*② ABZ:Incremental Encoder: Phase search is required after power-up.

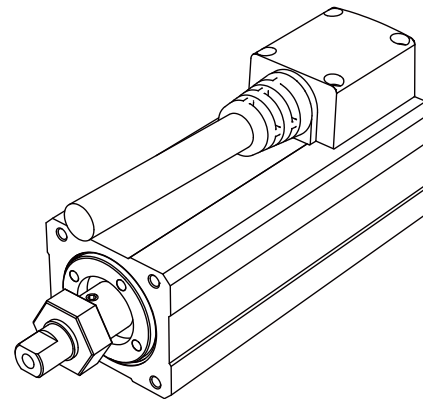
*③ SSI: Single-Turn Absolute Encoder: Phase search is not required after power-up.

(It is recommended to select this type of encoder when the electric cylinder is used as the Z-axis).

* Applicable Drive

Name	Appearance	Controllable Maxes	Model	Control Methods	Feature	Input voltage	Power Capacity	Reference Page
Small Scale Single-Axis Dedicated Controller		1	SAC-S	RS485	ModbusRTU	DC24V	MAX 72W	SAC-S Selection Page P31-32
				I/O	Up to 16 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Controller		1	SAC-N	RS485	ModbusRTU	DC24V	MAX 200W	SAC-N Selection Page P33-34
				I/O	Up to 64 I/O Points			
Single-Axis Dedicated Force Control Controller		1	SAC-NF	RS485	ModbusRTU	DC24V	MAX 200W	Please Contact us for Force Control Applications.
Dual Axis Standard Drive		2	SAC-N2	EtherCat	Standard CIA402 Axis Control	DC24V / DC48V	MAX 240W (24V) / 480W (48V)	SAC-N2 Selection Page P35-36
				Pulse+I/O	Direction+Pulse			
				RS485	ModbusRTU			

Technical Specifications



* Since the drive screw is not equipped with a stop-rotation structure, please add a structure with a stop-rotation function, such as a guide rail, to the end of the drive screw (without a stop-rotation structure, the drive screw will rotate with the rotation of the motor and cannot move back and forth). In addition, please do not use floating joints at the connection between the stop structure and the tie rod.

* The horizontal load mass is the value with the use of an external rail.

* Do not apply a load to the tie rod other than in the direction of tie rod movement.

* The use of this cylinder requires the addition of mechanical limits at the zero and end points of the stroke, resulting in abnormal cylinder seizure due to the cylinder extending out of the stroke.

*⑤ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

Technical Parameters

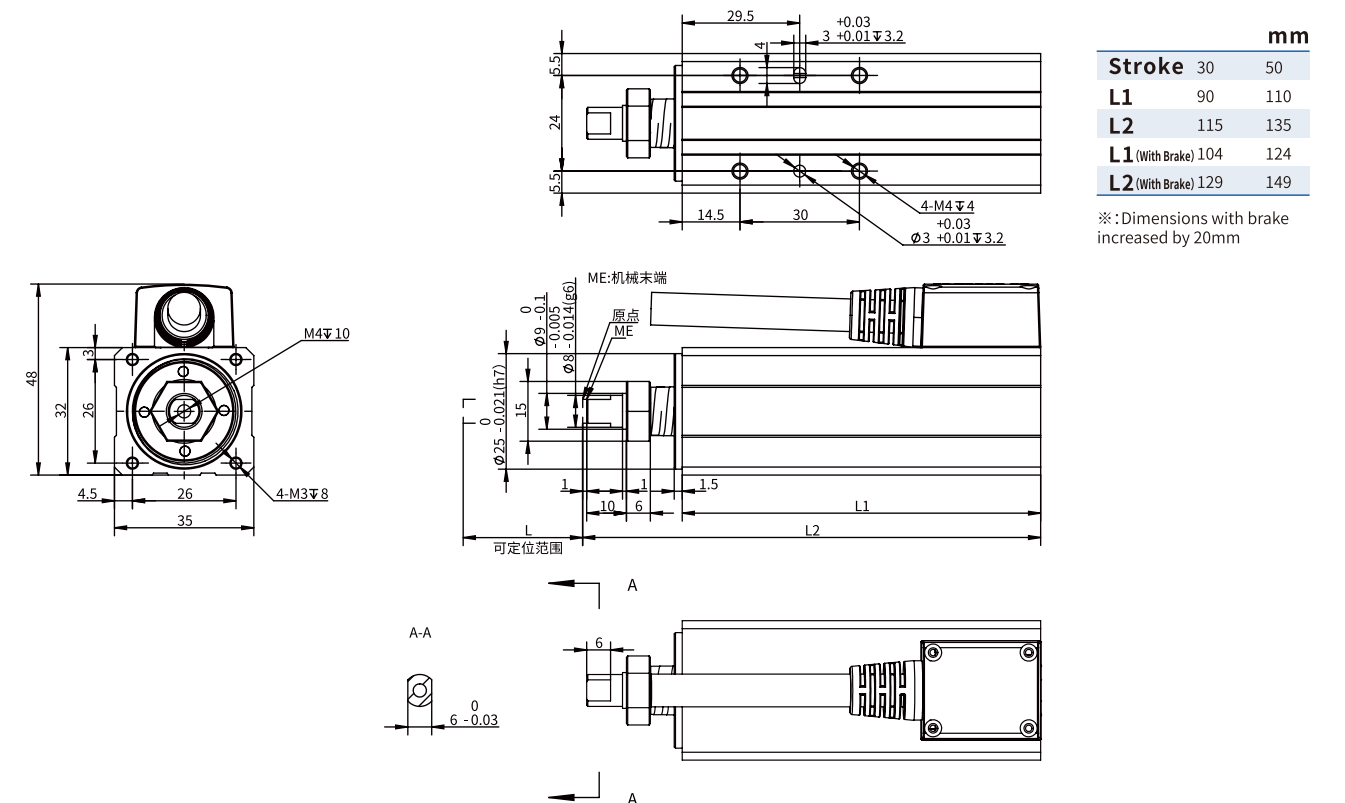
Total Stroke (mm)	30, 50			
Screw Lead (mm)	1	2	4	6
Rated Thrust (N)	200	100	50	30
Min. thrust (N)	60	30	15	9
Max. speed (mm/s)	50	100	200	300
Max. acceleration (mm/s ²)	2000	3000	3000	3000
Max. weight Capacity- horizontal (kg)	8	6	3	2
Max. weight Capacity- vertical(kg)	2	1.5	0.75	0.5
Positioning Repeatability(mm)	±0.02 ±0.005 (Grinding Screw Rod)			
Idle Stroke(mm)	Below 0.1			

Operating Environment

Communication Protocol	Bulit-in: 485+4-way I/O(NPN, PNP) External: Depending on the Selected Driver		
Rated Voltage	24 V DC ± 10%		
Current	1.5 A(Rated)/3 A(Peak)* ^⑤		
Rated Power	36 W		
Protection Rating	IP 40		
Recommended operating environment	0 to 40°C, below 85% RH		
Compliance with International Standards	CE, FCC, RoHS		

Stroke (mm)	30	50
Weight (kg)	0.47	0.55

Dimensions



LCE Series

Linear Electric Cylinder



Series	Width	Max payload -horizontal	Max payload -vertical	Reference Page
LCE-4	35 mm	12-15 kg	1.5-6 kg	P15-18
LCE-5	45 mm	15-35 kg	2.5-10 kg	P19-22
LCE-7	65 mm	35-55 kg	6-25 kg	P23-26
RCE-5	45 mm	15-35 kg	2.5-10 kg	P27-30

Product Features

The LCE series adopts an embedded rail structure, integrating a ball screw and servo motor for outstanding characteristics of long travel, high rigidity, and high precision. Widely applied in automation tasks such as positioning, picking, and handling, it provides users with a reliable and efficient solution.

Compact Precision Design

Featuring a compact and precision-engineered structure, our motor and rail integrated design significantly reduces dimensions. With a minimum width of just **35 mm**, it surpasses similar products in volume even under equivalent load conditions.

Strong Rigidity, High Load Capacity

With adjustable parameters for thrust, position, and speed, our system boasts robust rigidity and large load capacity. It seamlessly integrates with fixtures or related mechanisms to accomplish intricate tasks such as handling, arrangement, and transport, ensuring stable and outstanding load performance.

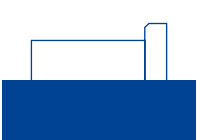
High Precision, High Speed

Equipped with a precision lead screw, the product achieves remarkable repeatability positioning accuracy of **±0.02mm**. It attains impressive speeds, with a maximum velocity of up to **1000mm/s** (for a 20mm lead), and accelerates up to **5000mm/s²**.

Compact Size, Flexible Installation

Compared to conventional assemblies, our product reduces width dimensions by **30%** under the same load, resulting in a compact size and flexible installation.

Installation



Horizontal Mounting



Vertical Mounting

Application

3C Electronics

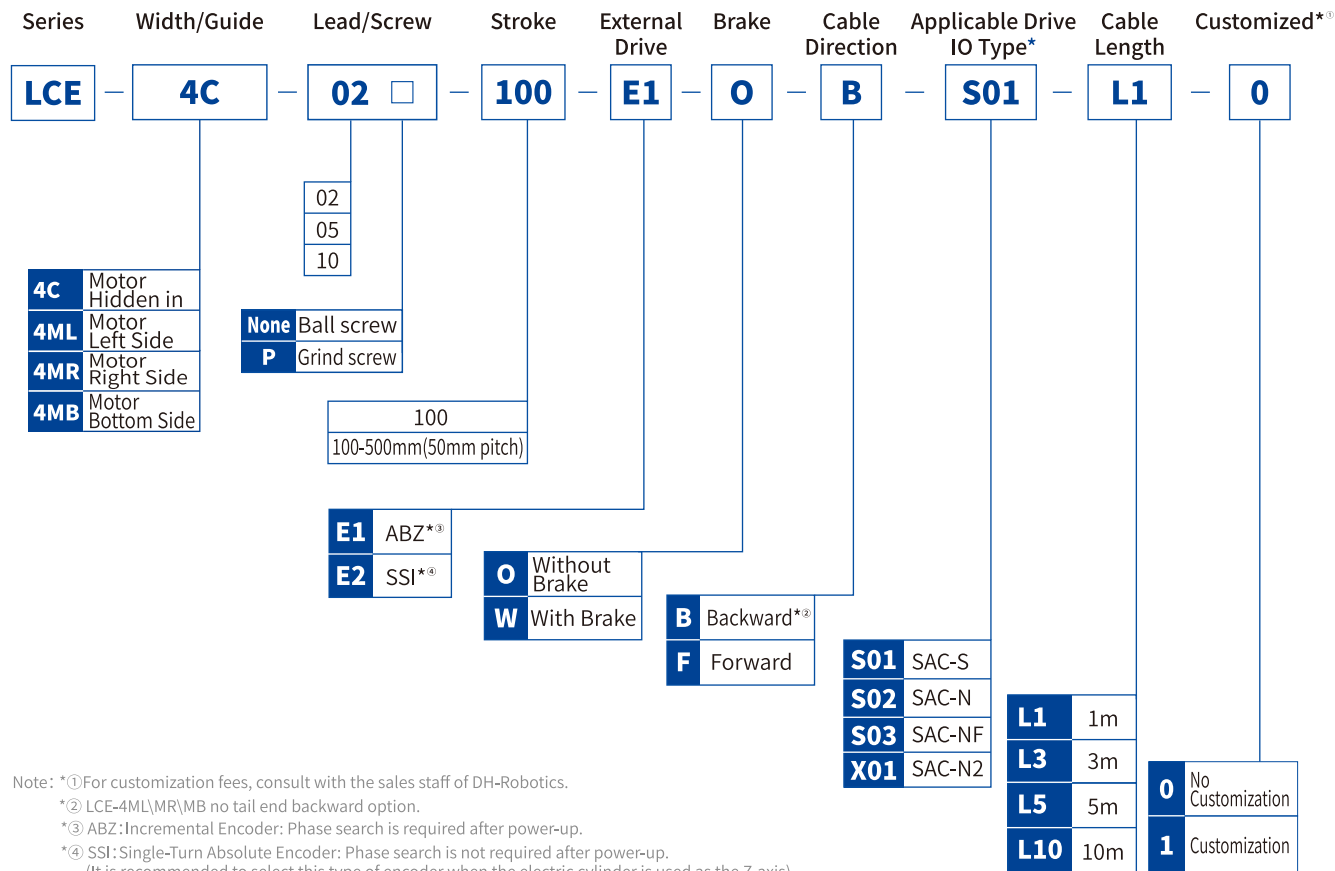
New Energy

Automotive

Mechanical Processing

LCE-4

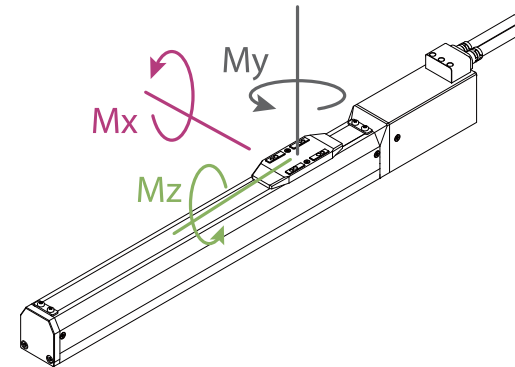
External-Drive Electric Cylinder Selection Method



* Applicable Drive

Name	Appearance	Controllable Maxes	Model	Control Methods	Feature	Input voltage	Power Capacity	Reference Page
Small Scale Single-Axis Dedicated Controller		1	SAC-S	RS485	ModbusRTU	DC24V	MAX 72W	SAC-S Selection Page P31-32
				I/O	Up to 16 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Controller		1	SAC-N	RS485	ModbusRTU	DC24V	MAX 200W	SAC-N Selection Page P33-34
				I/O	Up to 64 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Force Control Controller		1	SAC-NF	RS485	ModbusRTU	DC24V	MAX 200W	Please Contact us for Force Control Applications.
Dual Axis Standard Drive		2	SAC-N2	EtherCat	Standard CIA402 Axis Control	DC24V / DC48V	MAX 240W (24V) / 480W (48V)	SAC-N2 Selection Page P35-36
				Pulse+I/O	Direction+Pulse			
				RS485	ModbusRTU			

Technical Specifications



Allowable Load Moment

Mx	36.4 N·m
My	42.3 N·m
Mz	14.33 N·m

Stroke and Max Speed (mm/s)

Lead \ Stroke	100-500mm
2	100mm/s
5	250mm/s
10	500mm/s

Note: Represents the maximum safe speed that can be used within this stroke. If this speed is exceeded, serious resonance may occur in the electric cylinder.

Technical Parameters

Total Stroke (mm)	100~500 (50mm Pitch)		
Screw Lead (mm)	2	5	10
Rated Thrust (N)	125	50	25
Min. thrust (N)	37.5	15	7.5
Max. acceleration (mm/s ²)	100	250	500
Max. speed (mm/s ²)	5000	5000	5000
Max. weight capacity - horizontal (kg)	15	15	12
Max. weight capacity - vertical (kg)	6	3	1.5
Positioning Repeatability (mm)	±0.02 ±0.005 (Grinding Screw Dod)		
Idle Stroke (mm)	Below 0.1		

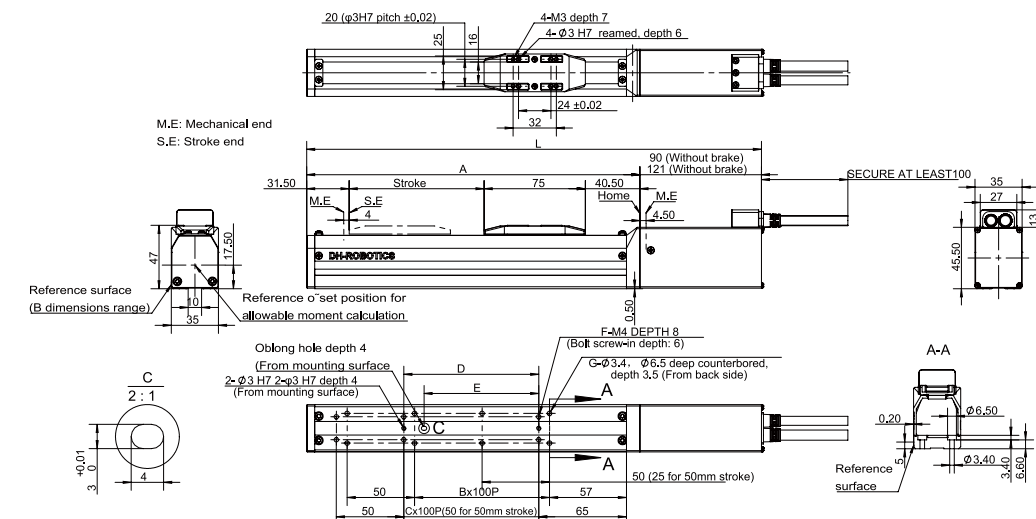
Operating Environment

Communication Protocol	External: Depending on the Selected Driver		
Rated Voltage	24 V DC ± 10%		
Current	1.5 A(Rated)/3 A(Peak)* ^④		
Rated Power	100 W		
Protection rating	IP 40		
Recommended Operating Environment	0 to 40°C, Below 85% RH		
Compliance With International Standards	CE, FCC, RoHS		

*^④ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

LCE-4C Dimensions

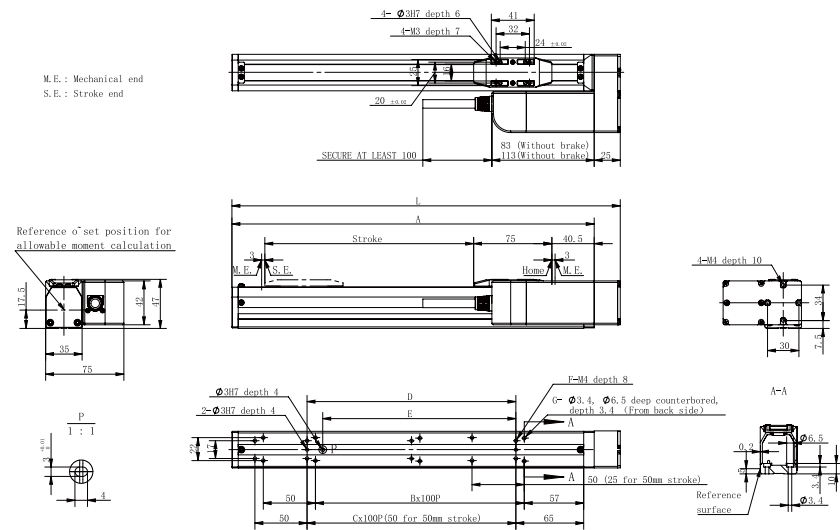
Motor Hidden in



Stroke	100	150	200	250	300	350	400	450	500
L	w/o brake	337	387	437	487	537	587	637	737
	w/ brake	367	417	467	517	567	617	667	767
A	247	297	347	397	447	497	547	597	647
B	0	1	1	2	2	3	3	4	4
C	1	1	2	2	3	3	4	4	5
D	100	100	200	200	300	300	400	400	500
E	85	85	185	185	285	285	385	385	485
F	6	6	8	8	10	10	12	12	14
G	8	10	10	12	12	14	14	16	16
Mass (kg)	w/o brake	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.2
	w/ brake	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.4

LCE-4ML Dimensions

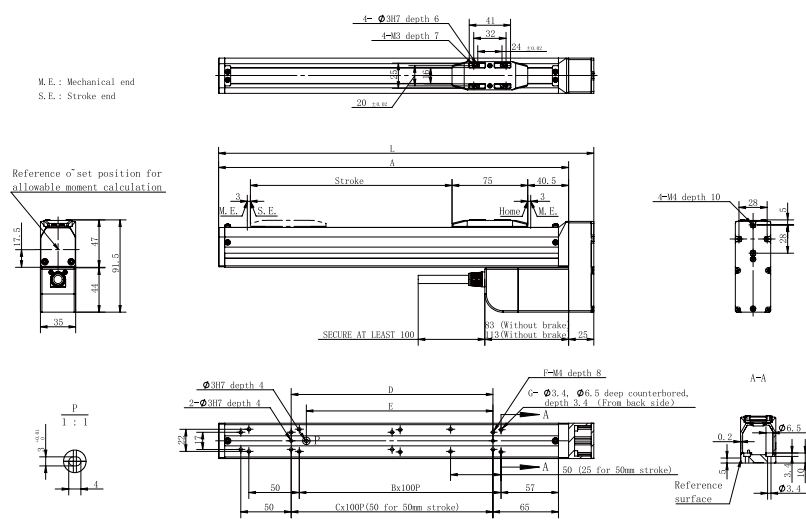
Motor Left Side



Stroke	100	150	200	250	300	350	400	450	500
L	272	322	372	422	472	522	572	622	672
A	247	297	347	397	447	497	547	597	647
B	0	1	1	2	2	3	3	4	4
C	1	1	2	2	3	3	4	4	5
D	100	100	200	200	300	300	400	400	500
E	85	85	185	185	285	285	385	385	485
F	6	6	8	8	10	10	12	12	14
G	8	10	10	12	12	14	14	16	16
Mass (kg)	w/o brake	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1
	w/ brake	1.5	1.6	1.7	1.8	1.9	2	2.2	2.3

LCE-4MB Dimensions

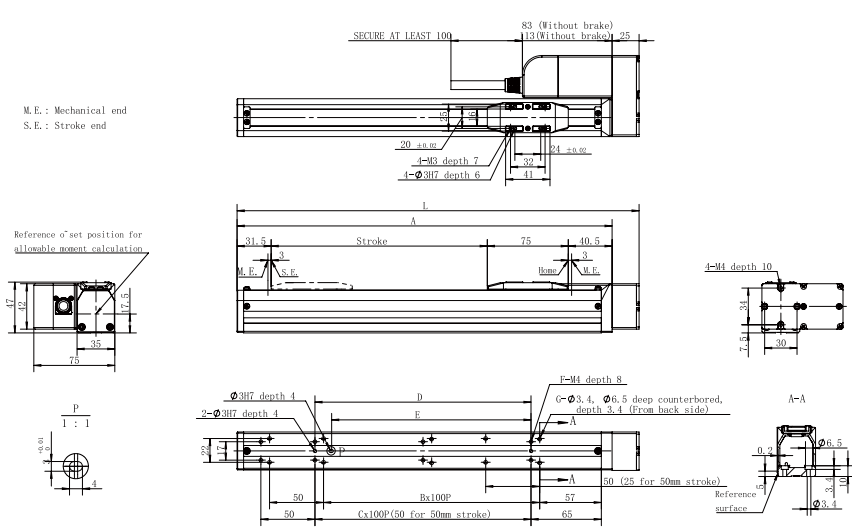
Motor Bottom Side



Stroke	100	150	200	250	300	350	400	450	500
L	272	322	372	422	472	522	572	622	672
A	247	297	347	397	447	497	547	597	647
B	0	1	1	2	2	3	3	4	4
C	1	1	2	2	3	3	4	4	5
D	100	100	200	200	300	300	400	400	500
E	85	85	185	185	285	285	385	385	485
F	6	6	8	8	10	10	12	12	14
G	8	10	10	12	12	14	14	16	16
Mass (kg)	w/o brake	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1
	w/ brake	1.5	1.6	1.7	1.8	1.9	2	2.2	2.3

LCE-4MR Dimensions

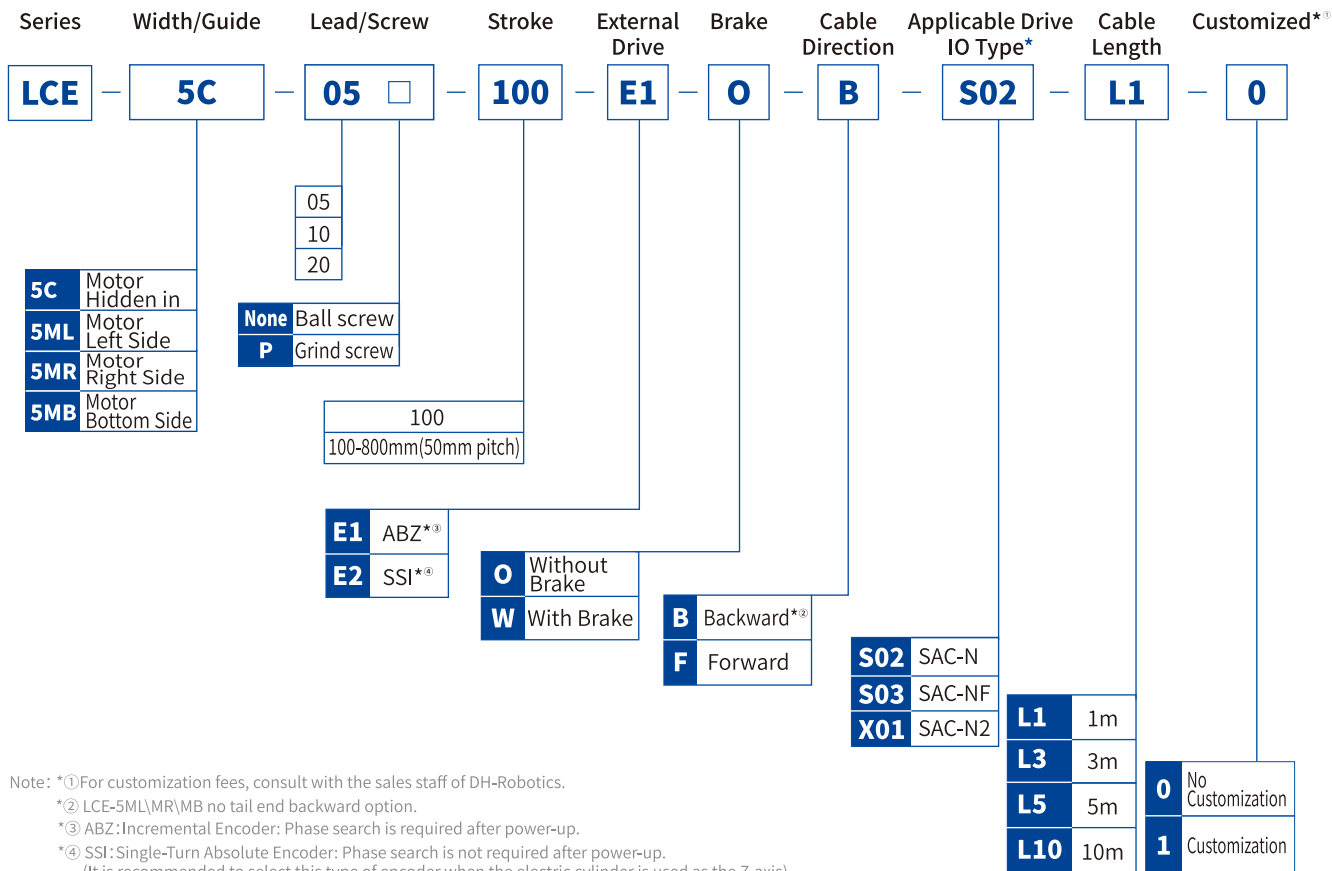
Motor Right Side



Stroke	100	150	200	250	300	350	400	450	500
L	272	322	372	422	472	522	572	622	672
A	247	297	347	397	447	497	547	597	647
B	0	1	1	2	2	3	3	4	4
C	1	1	2	2	3	3	4	4	5
D	100	100	200	200	300	300	400	400	500
E	85	85	185	185	285	285	385	385	485
F	6	6	8	8	10	10	12	12	14
G	8	10	10	12	12	14	14	16	16
Mass (kg)	w/o brake	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1
	w/ brake	1.5	1.6	1.7	1.8	1.9	2	2.2	2.3

LCE-5

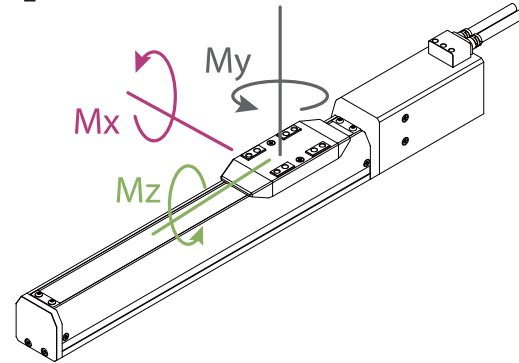
External-Drive Electric Cylinder Selection Method



* Applicable Drive

Name	Appearance	Controllable Maxes	Model	Control Methods	Feature	Input voltage	Power Capacity	Reference Page
Single-Axis Dedicated Controller		1	SAC-N	RS485	ModbusRTU	DC24V	MAX 200W	SAC-N Selection Page P33-34
				I/O	Up to 64 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Force Control Controller		1	SAC-NF	RS485	ModbusRTU	DC24V	MAX 200W	Please Contact us for Force Control Applications.
Dual Axis Standard Drive		2	SAC-N2	EtherCat	Standard CIA402 Axis Control	DC24V / DC48V	MAX 240W (24V) / 480W (48V)	SAC-N2 Selection Page P35-36
				Pulse+I/O	Direction+Pulse			
				RS485	ModbusRTU			

Technical Specifications



Allowable Load Moment

Mx	78.6 N · m
My	91.0 N · m
Mz	31.5 N · m

Stroke and Max Speed

Lead	Stroke	100-500mm	550-650mm	700-750mm	800mm
5		250mm/s	220mm/s	175mm/s	150mm/s
10		500mm/s	420mm/s	350mm/s	300mm/s
20		1000mm/s	850mm/s	700mm/s	600mm/s

Note: Represents the maximum safe speed that can be used within this stroke. If this speed is exceeded, serious resonance may occur in the electric cylinder.

Technical Parameters

Total Stroke (mm)	100~800 (50 mm Pitch)		
Screw Lead (mm)	5	10	20
Rated Thrust (N)	320	160	80
Min. thrust (N)	96	48	24
Max. acceleration (mm/s ²)	250	500	1000
Max. speed (mm/s ²)	5000	5000	5000
Max. weight capacity - horizontal (kg)	35	25	15
Max. weight capacity - vertical (kg)	10	5	2.5
Positioning Repeatability (mm)	±0.02 ±0.005 (Grinding Screw Dod)		
Idle Stroke (mm)	Below 0.1		

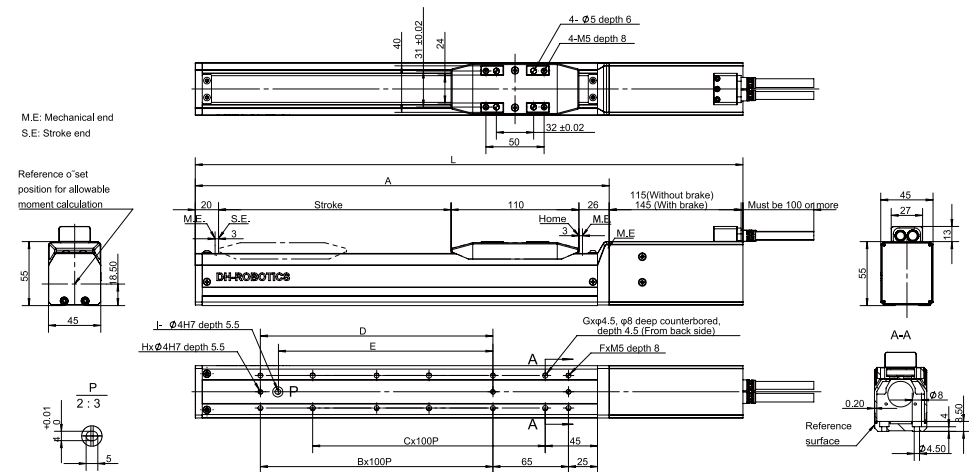
Operating Environment

Communication Protocol	External: Depending on the Selected Driver
Rated Voltage	24 V DC ± 10%
Current	4.5 A(Rated)/ 13.5 A(Peak) * ^④
Rated Power	100 W
Protection rating	IP 40
Recommended Operating Environment	0 to 40°C, Below 85% RH
Compliance With International Standards	CE, FCC, RoHS

*^④ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

LCE-5C Dimensions

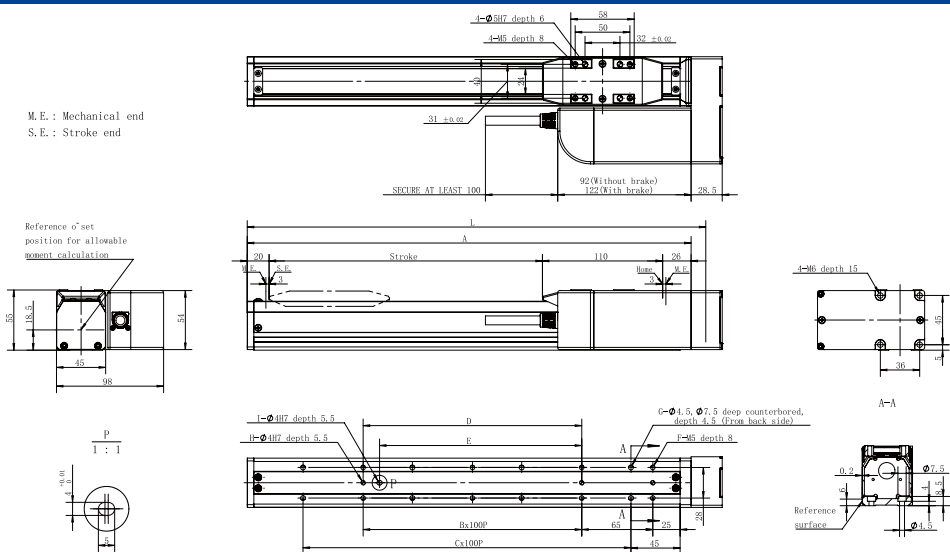
Motor Hidden in



Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L															
w/o brake	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071
w/ brake	401	451	501	551	601	651	701	751	801	851	901	951	1001	1151	1101
A	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956
B	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)															
w/o brake	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5	5.8
w/ brake	1.8	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6

LCE-5ML Dimensions

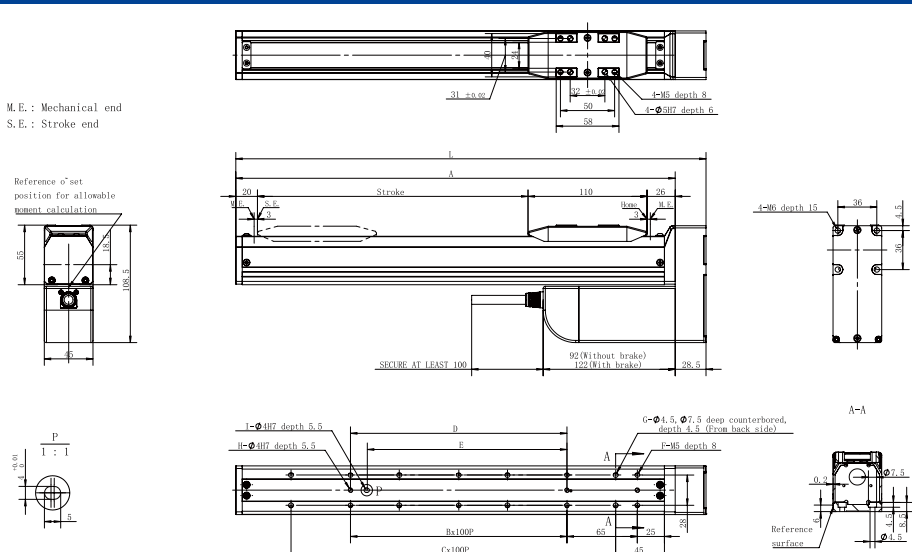
Motor Left Side



Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	284.5	334.5	384.5	434.5	484.5	534.5	584.5	634.5	684.5	734.5	784.5	834.5	884.5	934.5	984.5
A	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956
B	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)	w/o brake	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5
	w/ brake	1.8	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7

LCE-5MB Dimensions

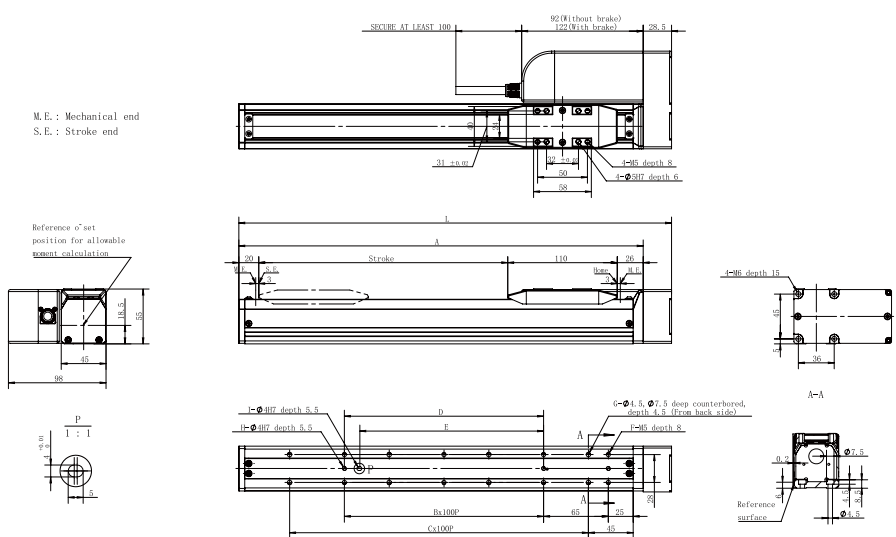
Motor Bottom Side



Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	284.5	334.5	384.5	434.5	484.5	534.5	584.5	634.5	684.5	734.5	784.5	834.5	884.5	934.5	984.5
A	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956
B	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)	w/o brake	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5
	w/ brake	1.8	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7

LCE-5MR Dimensions

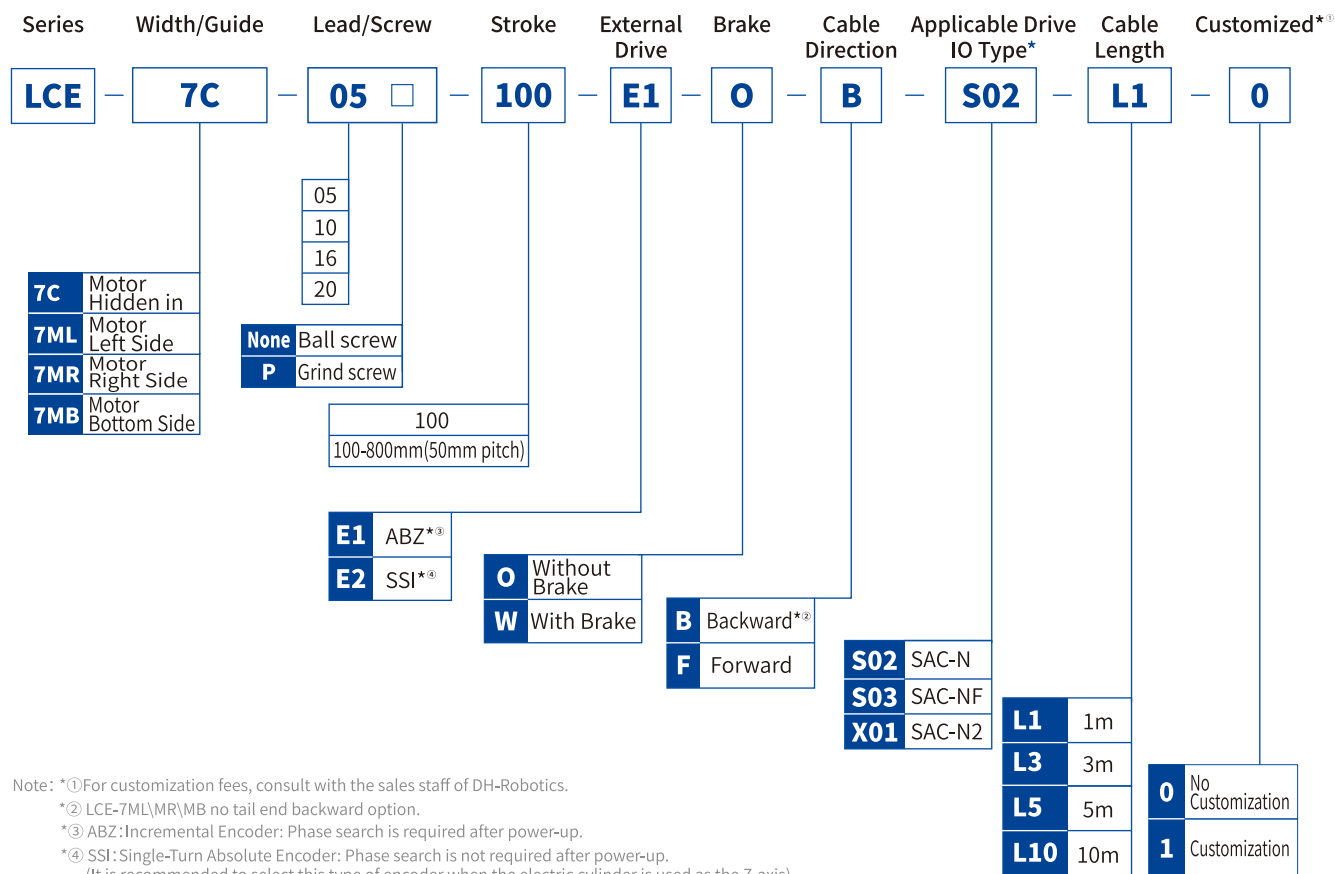
Motor Right Side



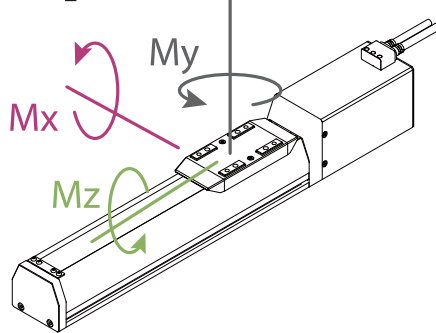
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	284.5	334.5	384.5	434.5	484.5	534.5	584.5	634.5	684.5	734.5	784.5	834.5	884.5	934.5	984.5
A	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956
B	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)	w/o brake	1.6	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5
	w/ brake	1.8	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7

LCE-7

External-Drive Electric Cylinder Selection Method



Technical Specifications



Allowable Load Moment

Mx	290 N·m
My	290 N·m
Mz	176 N·m

Stroke and Max Speed (mm/s)

Lead	Stroke	100-700mm	700-800mm
5		250mm/s	225mm/s
10		500mm/s	450mm/s
16		800mm/s	750mm/s
20		1000mm/s	900mm/s

Note: Represents the maximum safe speed that can be used within this stroke. If this speed is exceeded, serious resonance may occur in the electric cylinder.

Technical Parameters

Total Stroke (mm)	100~800 (50mm Pitch)			
Screw Lead (mm)	5	10	16	20
Rated Thrust (N)	680	340	210	170
Min. thrust (N)	204	102	63	51
Max. acceleration (mm/s²)	250	500	800	1000
Max. speed (mm/s²)	5000	5000	5000	5000
Max. weight capacity - horizontal (kg)	55	50	45	35
Max. weight capacity - vertical (kg)	25	15	8	6
Positioning Repeatability (mm)	±0.02 ±0.005 (Grinding Screw Dod)			
Idle Stroke (mm)	Below 0.1			

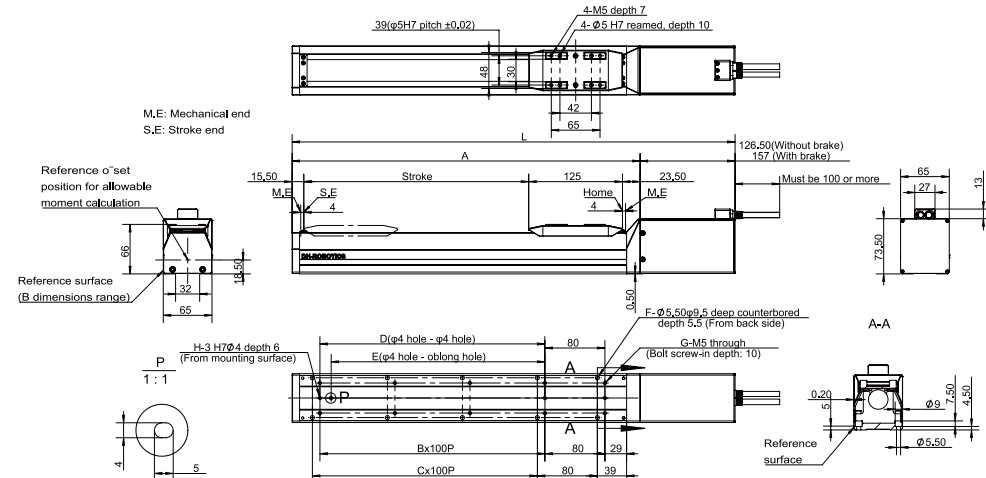
Operating Environment

Communication Protocol	External: Depending on the Selected Driver
Rated Voltage	24 V DC ± 10%
Current	12 A(Rated)/ 36 A(Peak)*④
Rated Power	200 W
Protection rating	IP 40
Recommended Operating Environment	0 to 40°C, below 85% RH
Compliance With International Standards	CE, FCC, RoHS

*④ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

LCE-7C Dimensions

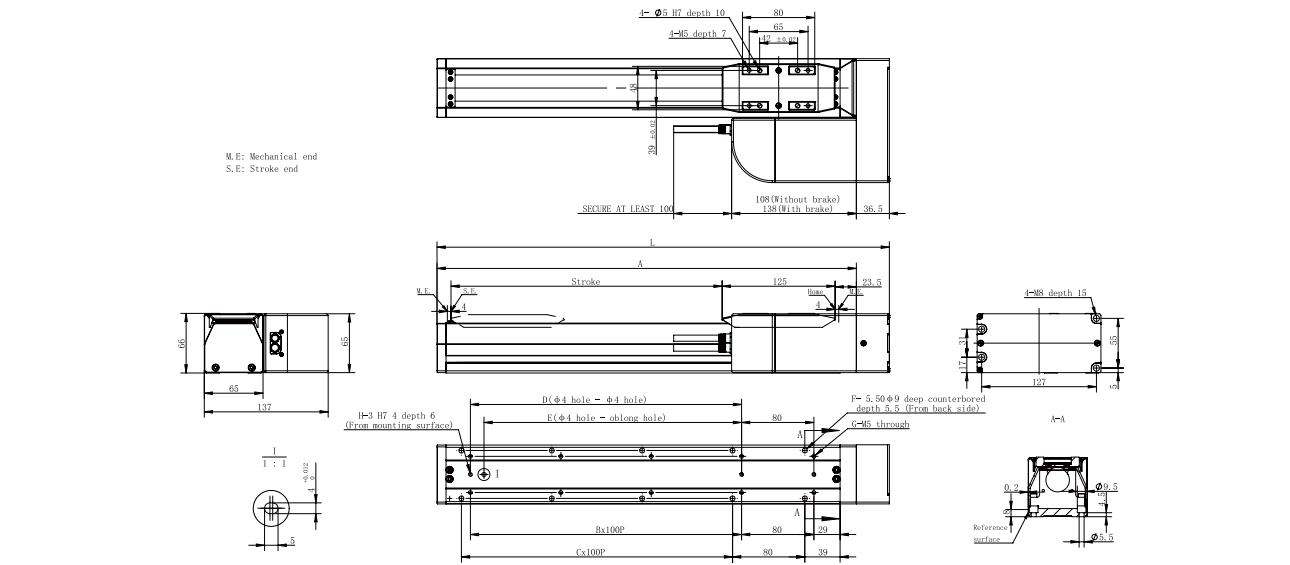
Motor Hidden in



Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	w/o brake	390.5	440.5	490.5	540.5	590.5	640.5	690.5	740.5	790.5	840.5	890.5	940.5	990.5	1090.5
	w/ brake	421	471	521	571	621	671	721	771	821	871	921	971	1021	1121
A		264	314	364	414	464	514	564	614	664	714	764	814	864	964
B		1	1	2	2	3	3	4	4	5	5	6	6	7	8
C		1	1	2	2	3	3	4	4	5	5	6	6	7	8
D		100	100	200	200	300	300	400	400	500	500	600	600	700	800
E		85	85	185	185	285	285	385	385	485	485	585	585	685	785
F		6	6	8	8	10	10	12	12	14	14	16	16	18	20
G		6	6	8	8	10	10	12	12	14	14	16	16	18	20
H		3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mass (kg)	w/o brake	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	8
	w/ brake	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.4

LCE-7ML Dimensions

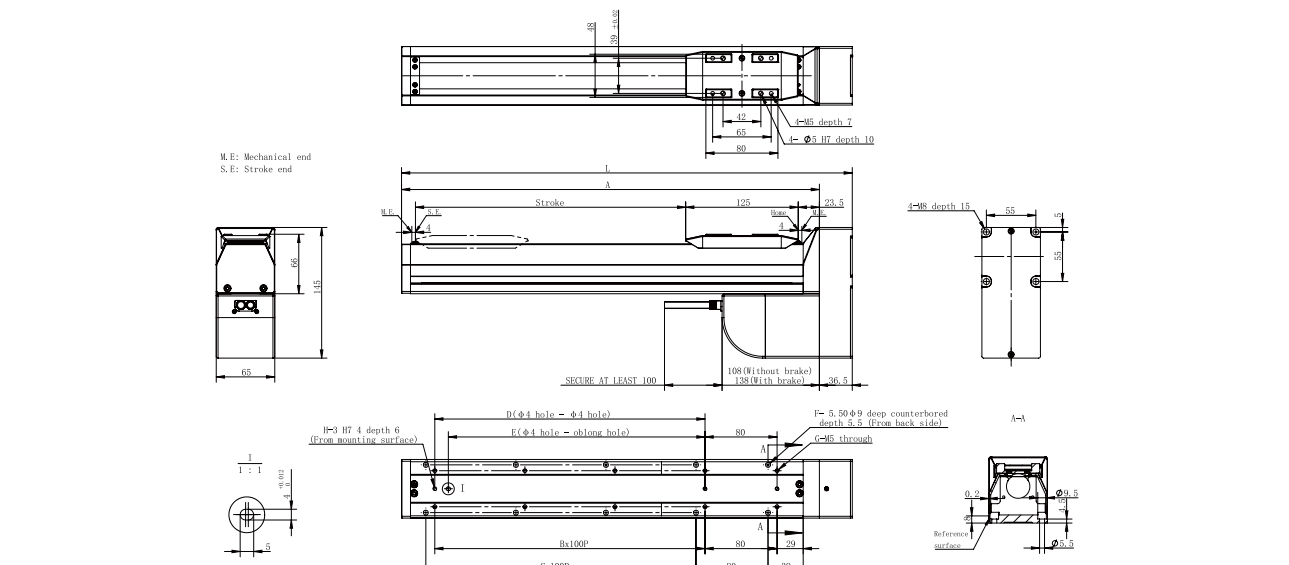
Motor Left Side



Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	300.5	350.5	400.5	450.6	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5
A	264	314	364	414	464	514	564	614	664	714	764	814	864	914	964
B	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
D	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mass (kg)	w/o brake	3.8	4.1	4.4	4.7	5	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7
	w/ brake	4.2	4.5	4.8	5.1	5.4	5.7	6	6.3	6.6	6.9	7.2	7.5	7.8	8.1

LCE-7MB 技术尺寸图

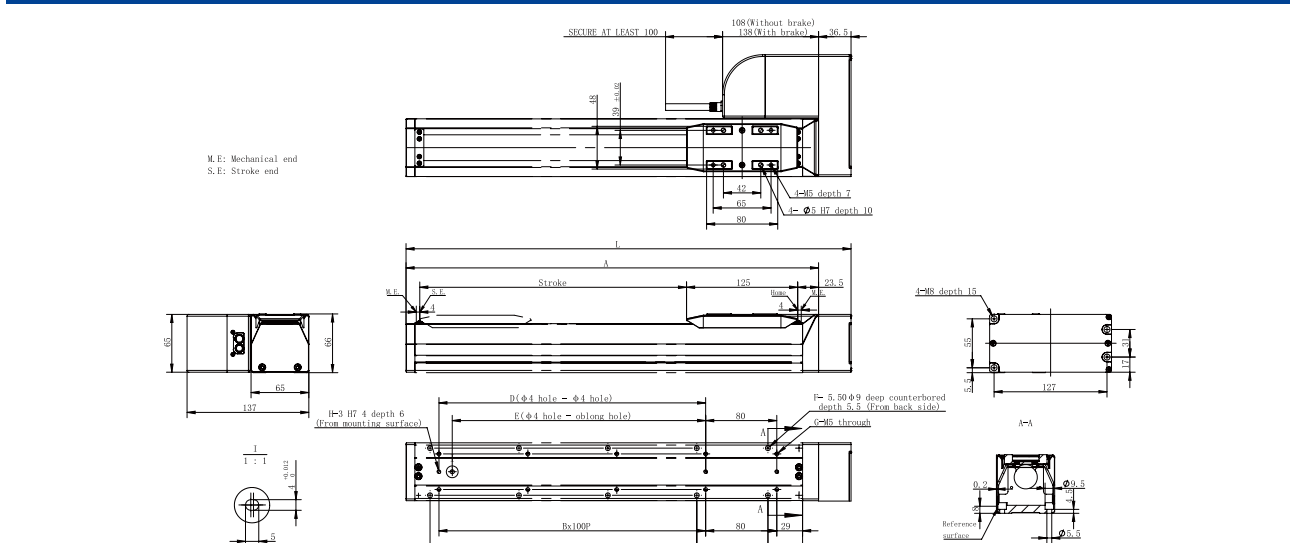
电机下折返



Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	300.5	350.5	400.5	450.6	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5
A	264	314	364	414	464	514	564	614	664	714	764	814	864	914	964
B	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
D	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mass (kg)	w/o brake	3.8	4.1	4.4	4.7	5	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7
	w/ brake	4.2	4.5	4.8	5.1	5.4	5.7	6	6.3	6.6	6.9	7.2	7.5	7.8	8.1

LCE-7MR Dimensions

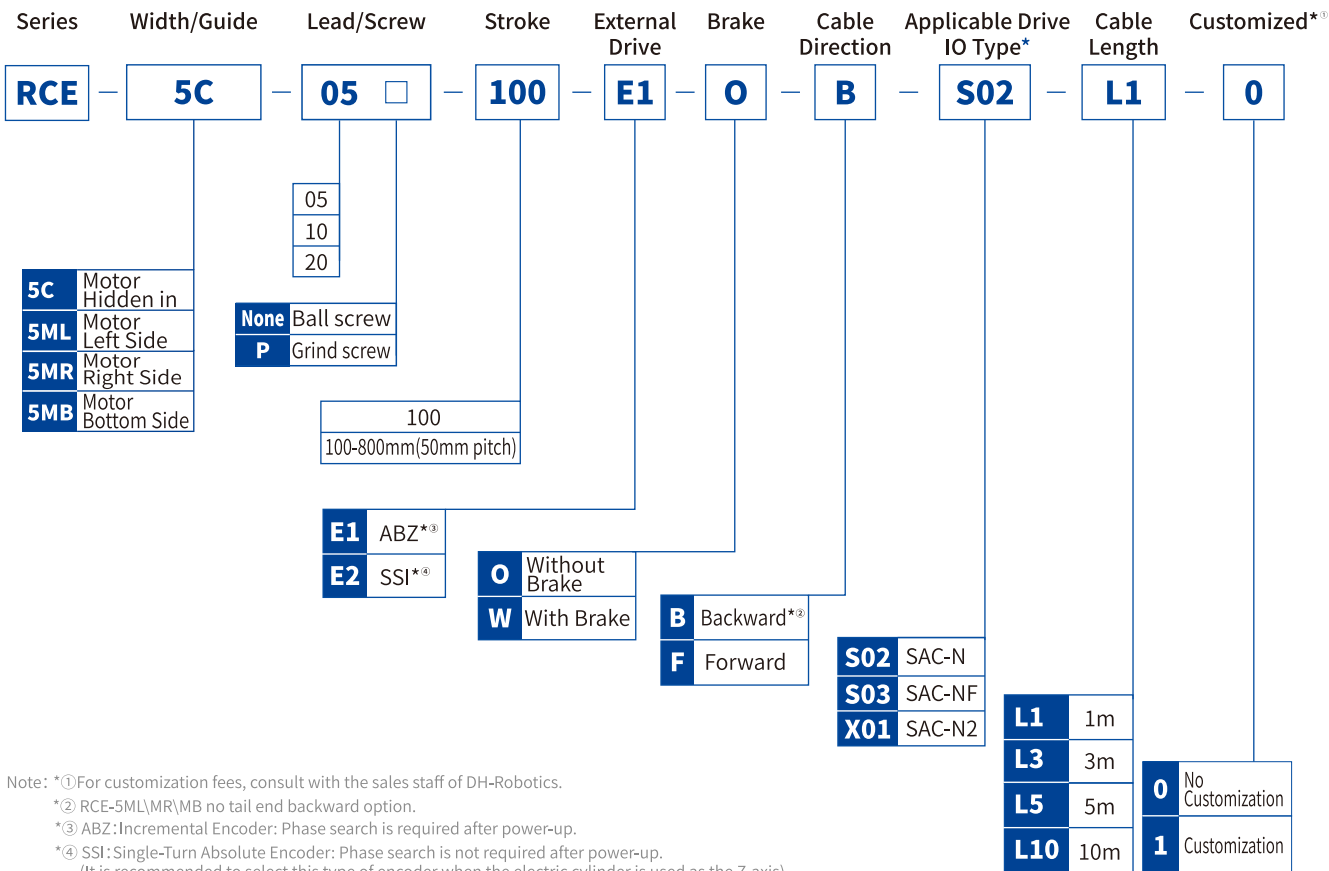
Motor Right Side



Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	300.5	350.5	400.5	450.6	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5
A	264	314	364	414	464	514	564	614	664	714	764	814	864	914	964
B	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
D	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
H	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mass (kg)	w/o brake	3.8	4.1	4.4	4.7	5	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7
	w/ brake	4.2	4.5	4.8	5.1	5.4	5.7	6	6.3	6.6	6.9	7.2	7.5	7.8	8.1

RCE-5

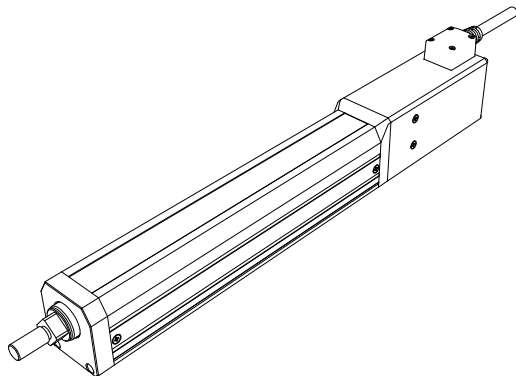
External-Drive Electric Cylinder Selection Method



* Applicable Drive

Name	Appearance	Controllable Maxes	Model	Control Methods	Feature	Input voltage	Power Capacity	Reference Page
Single-Axis Dedicated Controller		1	SAC-N	RS485	ModbusRTU	DC24V	MAX 200W	SAC-N Selection Page P33-34
				I/O	Up to 64 I/O Points			
				Pulse+I/O	Direction+Pulse			
Single-Axis Dedicated Force Control Controller		1	SAC-NF	RS485	ModbusRTU	DC24V	MAX 200W	Please Contact us for Force Control Applications.
Dual Axis Standard Drive		2	SAC-N2	EtherCat	Standard CIA402 Axis Control	DC24V / DC48V	MAX 240W (24V) / 480W (48V)	SAC-N2 Selection Page P35-36
				Pulse+I/O	Direction+Pulse			
				RS485	ModbusRTU			

Technical Specifications



*^⑤ This load condition requires the external addition of auxiliary guides to withstand radial loads.
*^⑥ With the rod fully retracted into the main body, the angular displacement at the rod end due to the maximum allowable static torque is measured (using the initial value as a reference).
*^⑦ When selecting the power supply, please select according to the peak current. If the current is lower than the parameter, it will cause the product can not work normally.

Technical Parameters

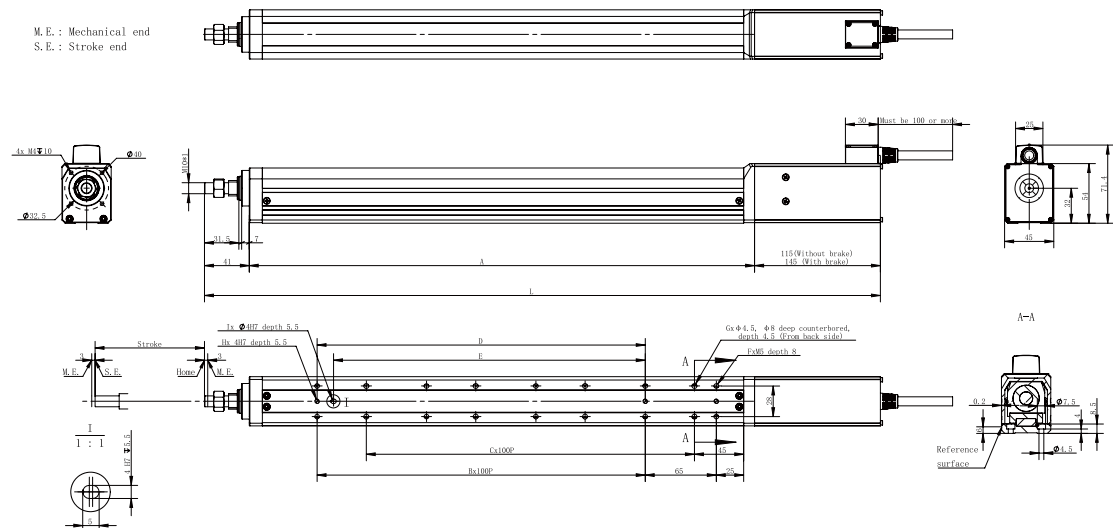
Total Stroke (mm)	100~800 (50 mm Pitch)		
Screw Lead (mm)	5	10	20
Rated Thrus (N)	320	160	80
Min. thrust(N)	96	48	24
Max. speed(mm/s)	250	500	1000
Max. weight Capacity - horizontal (kg) * ^⑤	35	25	15
Max. weight Capacity - vertical (kg)	10	5	2.5
Positioning Repeatability (mm)	±0.02 ±0.005(Grinding Screw Dod)		
Idle Stroke (mm)	Below 0.1		
Rod Diameter (mm)	φ22		
Maximum Allowable Static Torque at Rod End (N·m)	1.5		
Maximum Angular Displacement at Rod End * ^⑥	±1°		

Operating Environment

Communication Protocol	External: Depending on the Selected Driver
Rated Voltage	24 V DC ± 10%
Current	4.5 A(Rated)/ 13.5 A(Peak)* ^⑦
Rated Power	100 W
Protection Rating	IP 40
Recommended Operating Environment	0 to 40°C, Below 85% RH
Compliance with International Standards	CE, FCC, RoHS

RCE-5C Dimensions

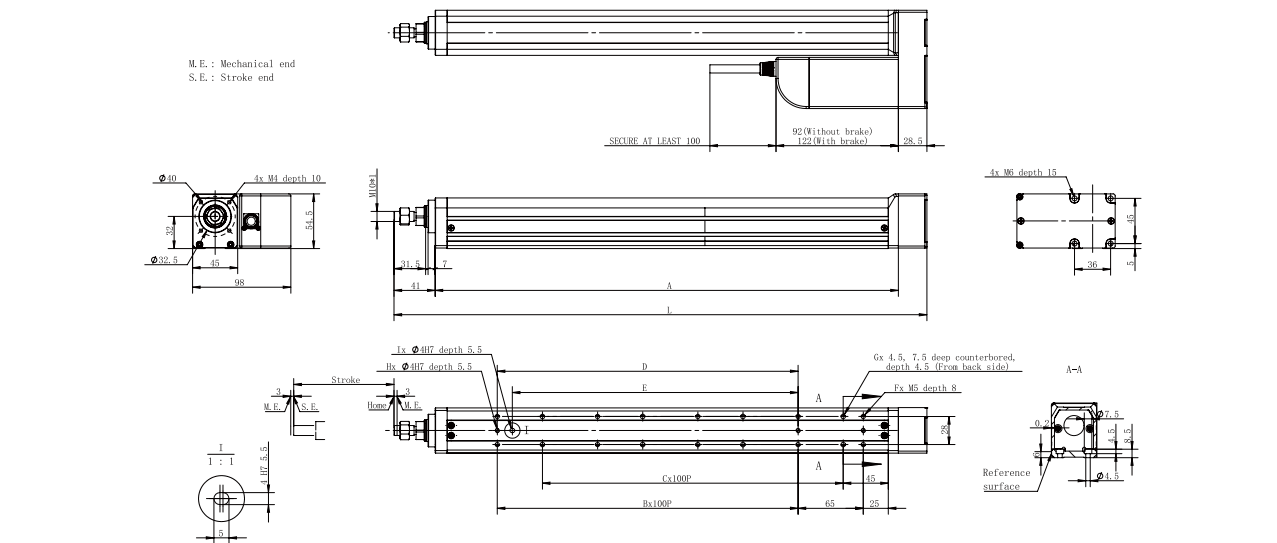
Motor Hidden in



Stroke	50	10	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	w/o brake	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1118
	w/ brake	398	448	498	548	598	648	698	748	798	848	898	948	998	1048	1148
A		212	262	321	362	412	462	512	562	612	662	712	762	812	862	962
B		0	1	1	2	2	3	3	4	4	5	5	6	6	7	8
C		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
D		0	100	100	200	200	300	300	400	400	500	500	600	600	700	800
E		0	85	85	185	185	285	285	385	385	485	485	585	585	685	785
F		4	6	6	8	8	10	10	12	12	14	14	16	16	18	20
G		4	4	6	6	8	8	10	10	12	12	14	14	16	16	18
H		2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)	w/o brake	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5	5.8	6.4
	w/ brake	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6	6.6

RCE-5ML Dimensions Motor Left Side

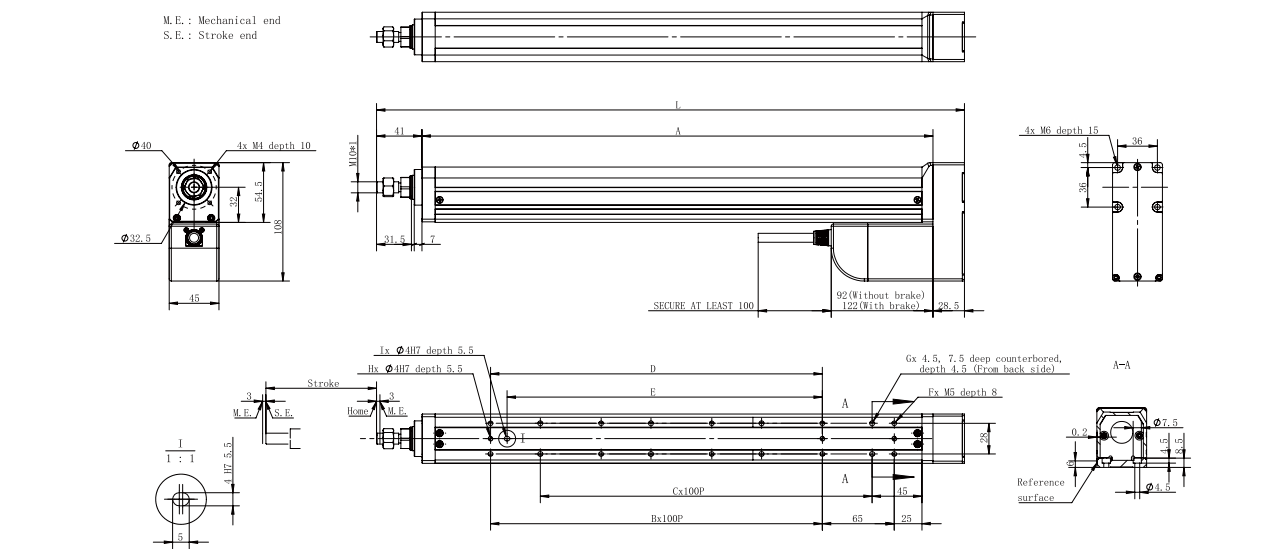
RCE-5ML Dimensions Motor Left Side



Stroke	50	10	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	281.5	331.5	381.5	431.5	481.5	531.5	581.5	631.5	681.5	731.5	781.5	831.5	881.5	931.5	981.5	1031.5
A	212	262	321	362	412	462	512	562	612	662	712	762	812	862	912	962
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)	w/o brake	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5	5.8	6.1
	w/ brake	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6	6.3

RCE-5MB Dimensions Motor Bottom Side

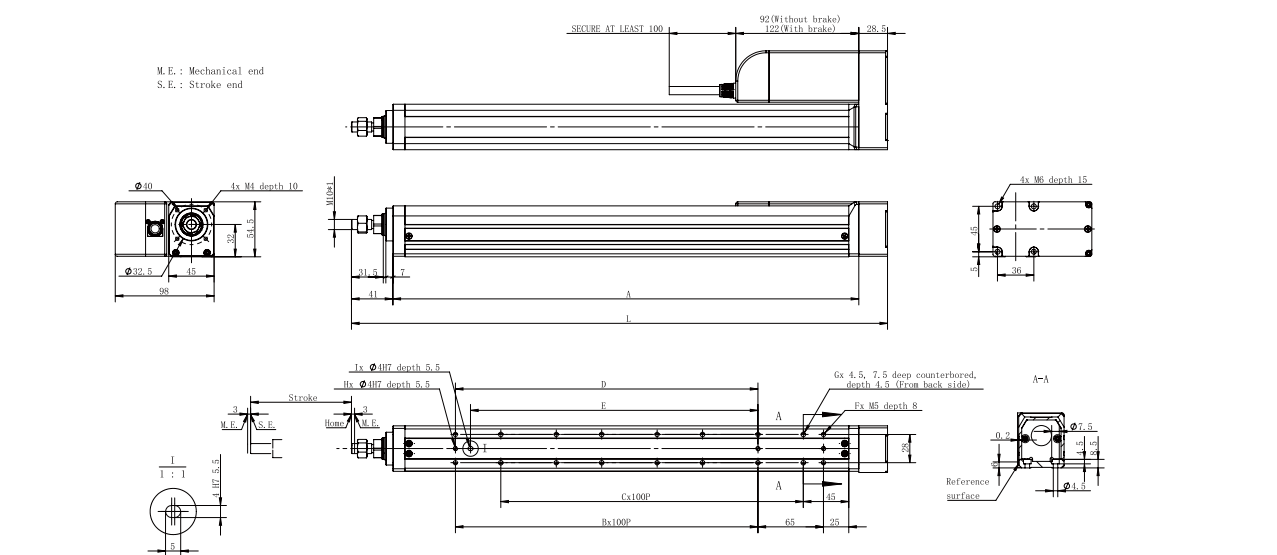
RCE-5MB Dimensions Motor Bottom Side



Stroke	50	10	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	281.5	331.5	381.5	431.5	481.5	531.5	581.5	631.5	681.5	731.5	781.5	831.5	881.5	931.5	981.5	131.5
A	212	262	312	362	412	462	512	562	612	662	712	762	812	862	912	962
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)	w/o brake	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5	5.8	6.1
	w/ brake	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6	6.3

RCE-5MR Dimensions Motor Right Side

RCE-5MR Dimensions Motor Right Side

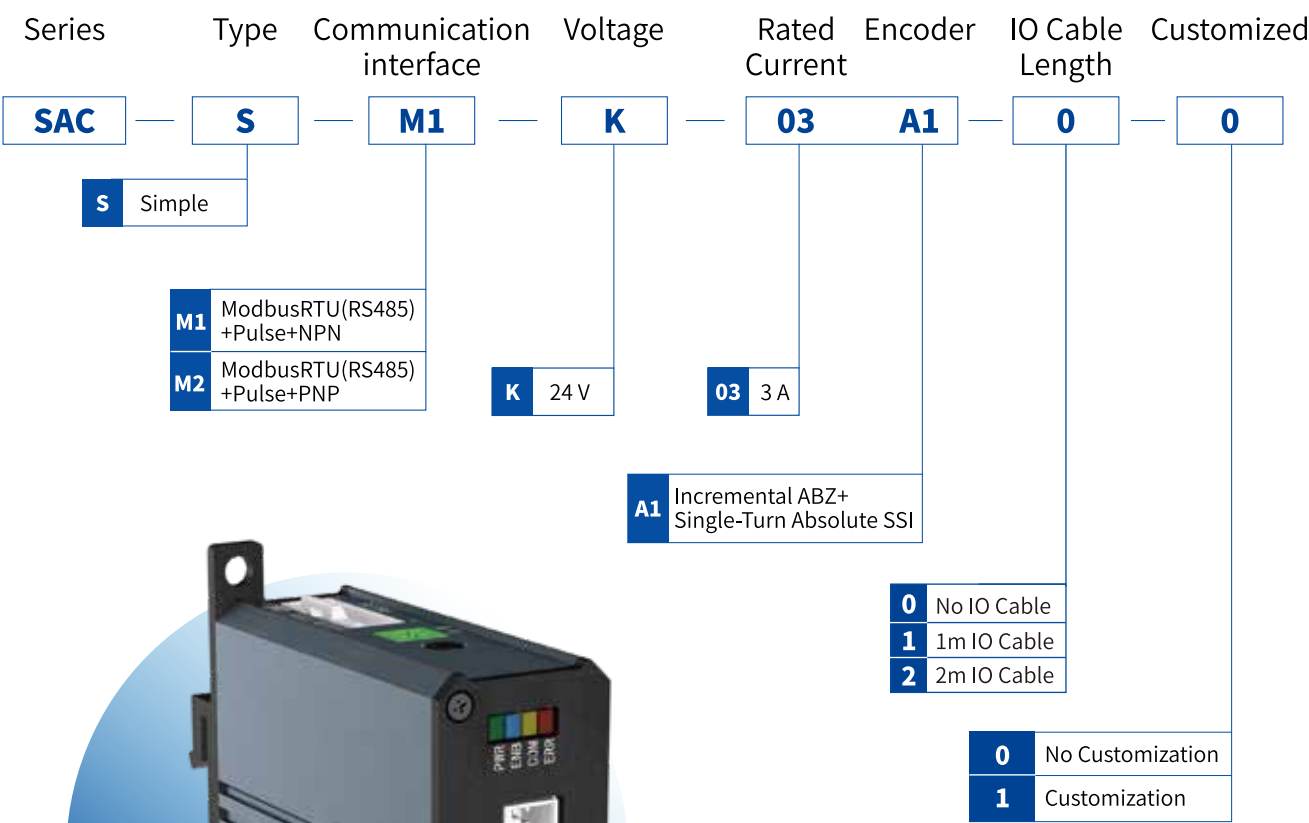


Stroke	50	10	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	281.5	331.5	381.5	431.5	481.5	531.5	581.5	631.5	681.5	731.5	781.5	831.5	881.5	931.5	981.5	1031.5
A	212	262	312	362	412	462	512	562	612	662	712	762	812	862	912	962
B	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
C	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
D	0	100	100	200	200	300	300	400	400	500	500	600	600	700	700	800
E	0	85	85	185	185	285	285	385	385	485	485	585	585	685	685	785
F	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
G	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18
H	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mass (kg)	w/o brake	1.9	2.2	2.5	2.8	3.1	3.4	3.7	4	4.3	4.6	4.9	5.2	5.5	5.8	6.1
	w/ brake	2.1	2.4	2.7	3	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6	6.3

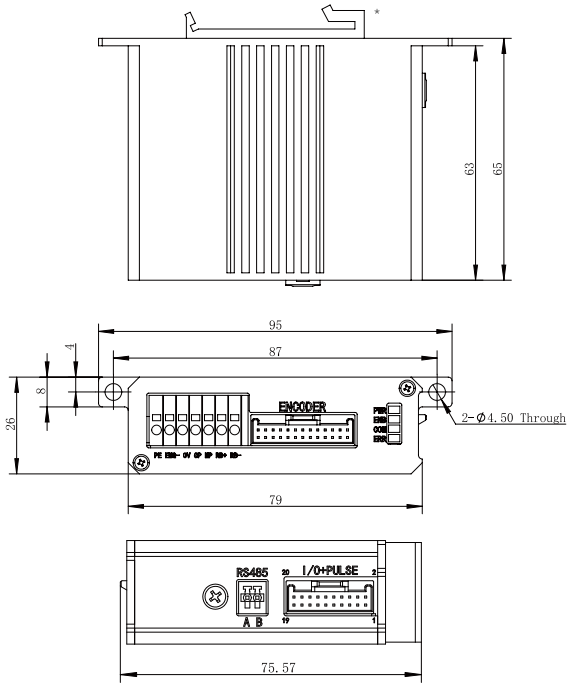
SAC-S

Single Axis Controller

Selection Method



Technical Specifications



Technical Parameters

Number of Controllable Axes	1
Support Control Methods	I/O, Pulse(24V), ModbusRTU RS485
Number of Points	16
I/O and Pulse Connection Holder	20PIN Connector
Number of I/O	8 in 8 out
Debugging Protocols	RS485(Modbus-RTU)
Pulse Type	Opticalcoupler
Max. pulse Frequency	100Kpps
Brake Control	Support
Force-controlled Closed-loop Control	No support

Operating Environment

Input Voltage	24 V DC±10%
Output Current	3 A(Rated)/9 A(Peak)
Recommended Operating Environment	0 to 40°C, below 85% RH
IP Class	IP 20
Weigh	150 g

Interface Diagram



- 1 I/O and Pulse(24V) Interface:**
20-Pin Terminal Block, including I/O interfaces and pulse (24V) input interfaces.
- 2 RS485 Interface:**
Used for debugging, control, and monitoring.
- 3 Indicators:**
Power indicator and status indicator.
- 4 Actuator Interface:**
Connects to the actuator of the electric cylinder, including motor power line, encoder line, and brake line interfaces.
- 5 Power Supply, Discharge, Emergency Stop, and PE Interface:**
Logic Power Supply Interface: Supplies power to internal logic circuits, brake, and some external interfaces.
Motor Power Supply Interface: Supplies power to the motor for motion.
PE (Protective Earth) Interface: Connects to the equipment's protective earth (ground) connection.

SAC-N

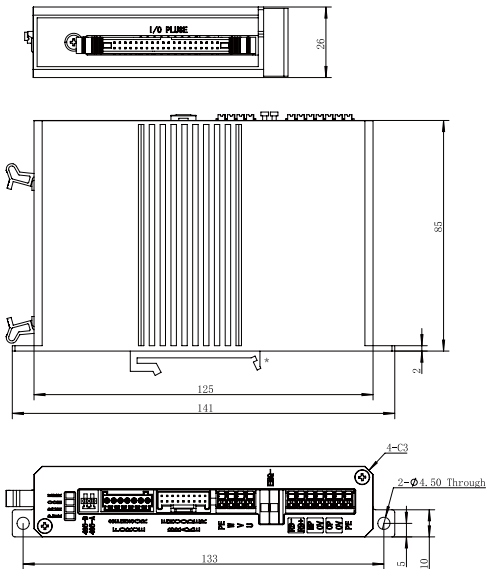
Single Axis Controller

Selection Method

Series	Type	Communication interface	Voltage	Rated Current	Encoder	IO Cable Length	Customized
SAC	N	M0	K	03	A1	0	0
N	Standard						
NF	Standard + Closed-loop force control ^{*①}						
M0	ModbusRTU(RS485) +Pulse+IO(NPN/PNP Compatible)						
M1	ModbusRTU(RS485) +Pulse+NPN						
M2	ModbusRTU(RS485) +Pulse+PNP						
			K 24 V				
				03 3 A			
				10 10 A			
				A1 Incremental ABZ+ Single-Turn Absolute SSI			
						0 No IO Cable	
						1 1m IO Cable	
						2 2m IO Cable	
							0 No Customization
							1 Customization



Technical Specifications



*Guide rail clips are industry standard size and can be removed when installed with screws

Technical Parameters

Number of Controllable Axes	1
Support Control Methods	I/O, Pulse(24V), ModbusRTU RS485
Number of Points	64
I/O and Pulse Connection Holder	40PIN Connector
Number of I/O	16 in 16 out
Debugging Protocols	RS485(Modbus-RTU)
Pulse Type	Opticalcoupler
Max. pulse Frequency	100Kpps
Brake Control	Support
Force-controlled Closed-loop Control	Support

Operating Environment

Input Voltage	24 V DC±10%
Output Current	3 A(Rated)/9 A(Peak) 10A(Rated)/25A(Peak)
Recommended Operating Environment	0 to 40°C, below 85% RH
IP Class	IP 20
Weigh	300 g

Interface Diagram



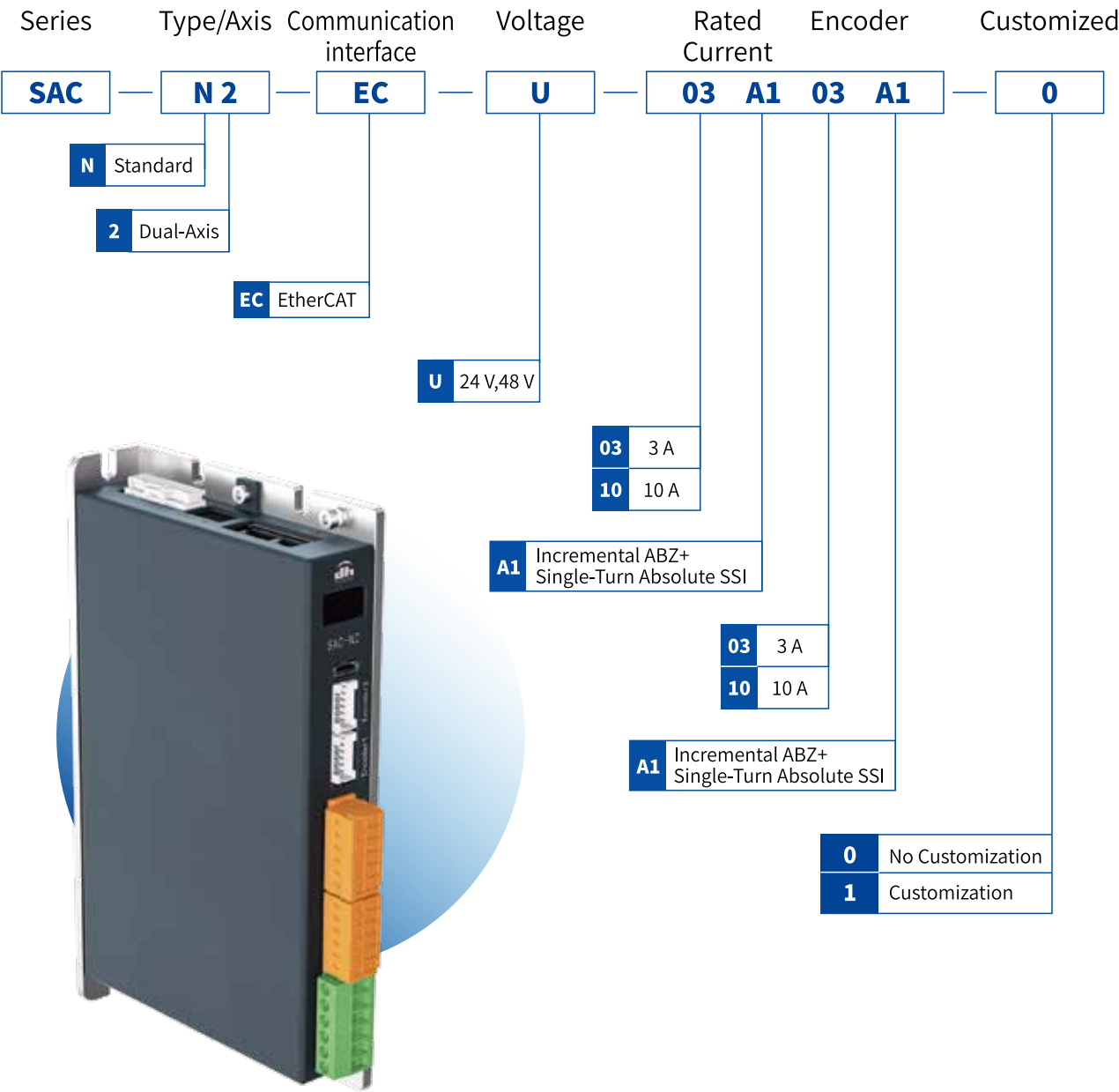
- I/O and Pulse (24V) Interface:**
40-Pin Terminal Block, including I/O interfaces and pulse(24V) input interfaces.
- Indicators:**
Power indicator and status indicator.
- RS485 Interface:**
Used for debugging, control, and monitoring.
- Sensor Interface:**
Relay sensor interface.
- Feedback and Brake Interface:**
Connects to the encoder and brake of the actuator.
- Motor Interface:**
UVW and PE connections for the motor of the actuator.
- Emergency Stop:**
Emergency Stop Control Interface: Used for emergency stop control.
- Power Supply, Discharge, and PE Interface:**
Logic Power Supply Interface: Supplies power to internal logic circuits, brake, and some external interfaces.
Motor Power Supply Interface: Supplies power to the motor for motion.
PE (Protective Earth) Interface: Connects to the equipment's protective earth (ground) connection.

注: *① For SAC-NF selection, please contact DH technical support for application and process confirmation.

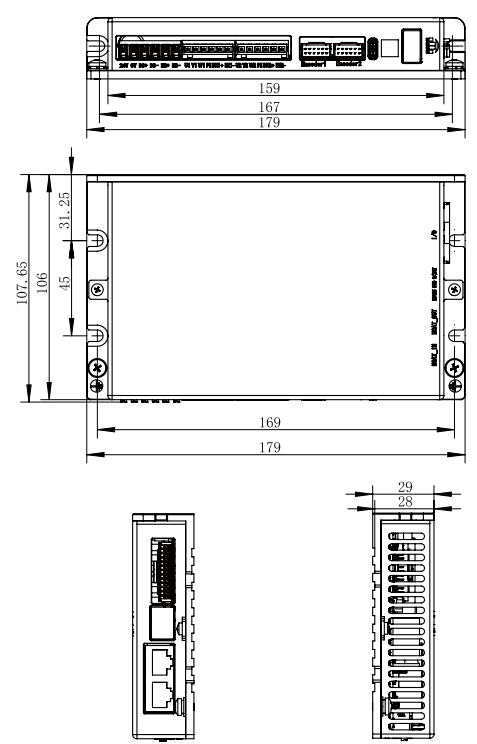
SAC-N2

Dual Axis Drive

Selection Method

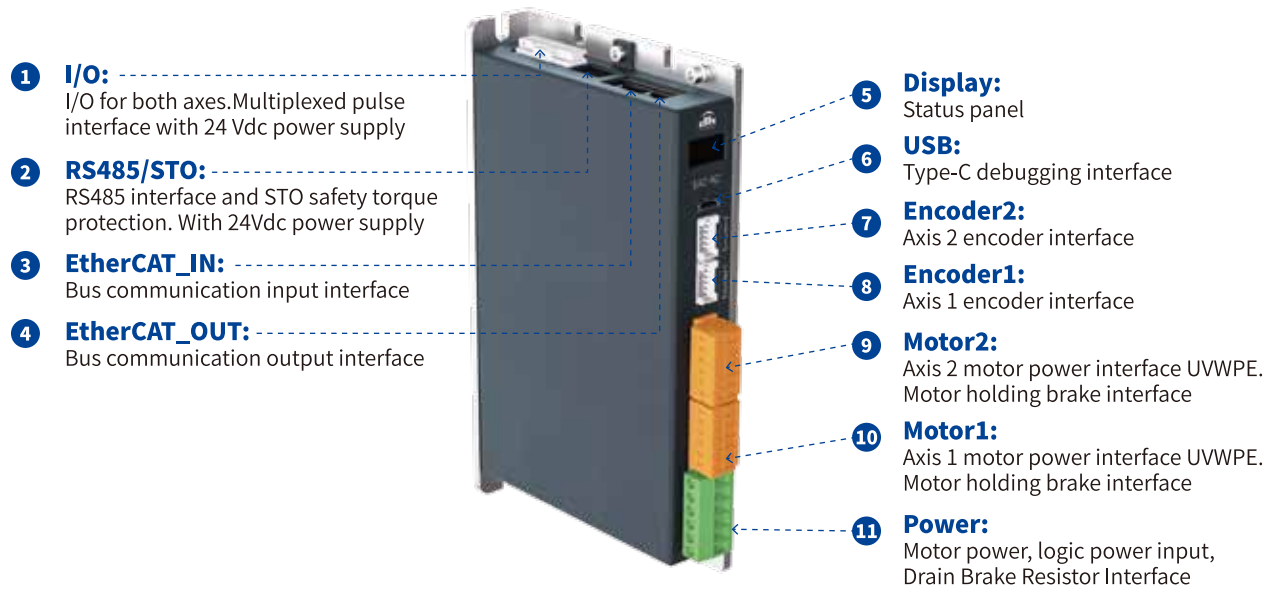


Technical Specifications



Technical Parameters		
Controlled Axis	2	
Supported Control Methods	EtherCAT, IO, MODBUS	
EtherCAT Control Modes	Position Mode, Velocity Mode, Torque Mode, and Hybrid Mode	
Power Supply Voltage	24 V	
Motor Voltage	24V / 48V	
Model	SAC-N2-EC-U-03A1-03A1	SAC-N2-EC-U-10A1-10A1
Output Rated Current	3A	10A
Output Peak Current	9A	18A
Power Supply Voltage	24V, 72W 48V, 144W	24V, 240W 48V, 480W
Encoder	Supports BissC\SSI\Endat\Motegi\ABZ	
Limit Switch, Home Position, Probe	Supported	
Size	179mm*107.65mm*29mm	
Operating Environment		
Overload	3 times overload for more than 2.5 seconds	
Minimum EtherCAT Period	200 us	
Filters	4 or more	
Closed-Loop Control	Supported	
Gantry Control	Synchronized in nanoseconds	
High-Precision Encoder and Sampling	Supports 23-bit resolution	
Auto-Tuning Gain	Supported	
Protection	Overcurrent, Overvoltage, Overheating protection; STO (Safe Torque Off) function	
Speed Loop Response	3.5 KHz	
Weight	<0.6 KG	
Maximum Power	24 V,240 W; 48 V 480 W	
Protection Level	IP20	
Operating Temperature	0~55 °C	

Interface Diagram



DH-Robotics’ Gripper and Cylinder Communication Converter

The communication within DH-Robotics' Servo Gripper and Servo Electric Cylinder defaults to Modbus RTU (RS485) and a small number of I/O. If customers choose other communication protocols, they will need to use the communication converter. The following communication converter are available for selection:

	Communication Converter Name	Ordering Model
	EtherCAT 1-1	M2E-B1-1
	EtherCAT 1-4	M2E-B1-4
	EtherCAT转 I/O 1-more	Please contact our technical staff confirm the specific parameters
	TCP/IP 1-1	M2T-B1-1-YBT
	PROFINET 1-2	M2P2-B1-2-HJ
	PROFINET 1-11	M2P-B1-11-9

Customer Trust

More than 800 customers around the world are using DH-Robotics products
The number of customers continues to grow rapidly. . .



Product Distribution

Chinese Agent Distribution Cties

Beijing/Changchun/Changsha/Chengdu/Chongqing/Dalian/Dongguan/
Guangzhou/Hangzhou/Hefei/Jinan/Nanchang/Nanjing/Ningbo/Qingdao/
Shanghai/Shenyang/Shenzhen/Suzhou/Wuhan/Wuxi/Xi'an/Xiamen/Yantai/
Yangzhou/Zhengzhou/Zhuhai

Overseas Agents Distribution Area

Europe: Spain / France / Italy / Germany / UK / Czech Republic / Romania / Russia /
Netherlands / Lithuania / Sweden / Denmark / Norway
Asia: Israel / Bangladesh / India / Japan / Thailand / South Korea / Malaysia
Australia: Australia / New Zealand
America: United States / Mexico
Middle East: Saudi Arabia / Tunisia / Türkiye

DH-ROBOTICS

is committed to provide first-class
core components of precision motion control.

Version Change Log

Revision Date	Released Version	Change Log
2024.11	CN.2411	· SAC-N New Optional Parameter: M0 ModbusRTU(RS485) +Pulse+IO (NPN/PNP Compatible)
2024.07	CN.2407	· Supplemented products with rated current, peak current, and rated power parameters, and added notes on power supply options · Added new product: RCE-3M · Set default ground screw types for MCE-3G, MCE-3WG, RCE-3M 04, and 06 lead · Set default ground screw types for MCE-3G, MCE-3WG, RCE-3M 04, and 06 lead · Updated technical dimension diagrams for LCE-7ML and LCE-7MR · Added selection guidelines for the SAC-NF · Supplemented parameters for SAC-N2
2024.03	CN.2403	· Updated selection codes for electric cylinders and drivers. · Updated repeat positioning accuracy of grinding screw rods. · Added description for applicable drivers. · Added stroke and maximum safe speed for LCE series. · Added grinding screw rod types for LCE series.

Due to continuous product upgrades, content changes may occur without prior notice.
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