# SLA08G

Spec Sheet



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# Industrial Actuator Family

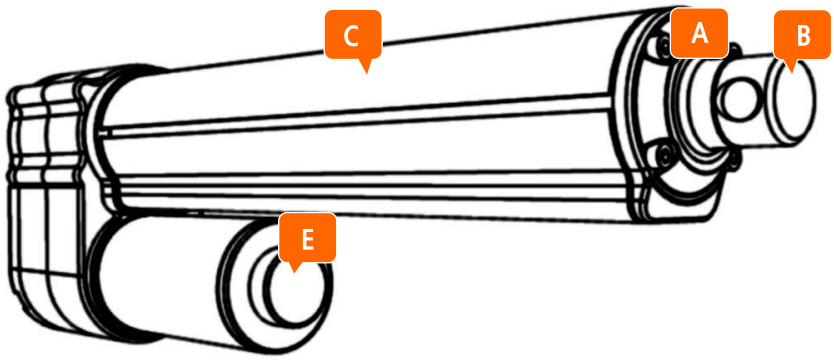
CHANGXING offers a wide range of linear actuators which can support force from 1kg to a couple of tons with various mechanical and electrical options.

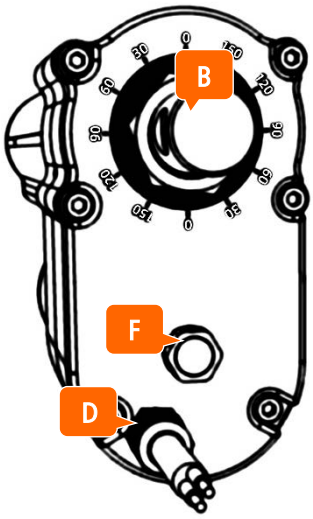
■Options for SLA08G ☐Other Models

| | | | | | | |
|---|---|---|---|---|---|---|
| Color | ■ Black | | ☐Customized | | | |
| Leadscrew | ■Acme Screw | ■Ball Screw | | | | |
| Operation Mode | ☐Electrical | ■Electrical with Manual Override | | | | |
| Application | ■Industrial | ☐Furniture | ☐Medical | | | |
| Operational Temp. | ☐5 to 40℃ | ■-10 to 65℃ | ■-40 to 65℃ | | | |
| Operating Noise | ☐≤45dB | ☐≤50dB | ■≤65dB | | | |
| Stroke Range | ■50-600mm | ■600-1000mm | | | | |
| Dynamic Load | ☐≤1,200N | ☐≤2,500N | ☐≤4,000N | ☐≤7,000N | ■≤12,000N | ☐≤20,000N |
| Duty Cycle | ☐10% | ■20% | ■25% | ■30%* | ☐50% | ☐100% |
| Motor Type | ■Brushed DC | ☐Step Motor | ☐Brushless | ☐Servo | | |
| Overload Protection | ☐None | ■Clutch | ■Electronic | ☐Thermistor | | |
| Weather Protection | ☐IP20 | ☐IP43 | ☐IP54 | ☐IP65 | ☐ IP66 | ■ IP67 |
| Position Feedback | ■None | ■End-stop Signal | ■Hall Sensor | ■Potentiometer | ☐Encoder | |
| | ■Magnetic Switches | | ☐Analog Signal | | | |
| Input Voltage | ■12VDC | ■24VDC | ■36VDC | ■48VDC | ☐110VAC | ☐220VAC |

[Table 1]

## Know About SLA08G




A: Stainless Steel Piston Rod
B: Connector
C: Aluminum Alloy Housing
D: Waterproof cable
E: Manual Override
F: Breather valve

| | |
|---|---|
| Stroke | How far the rod extends outwards from the body. The difference between fully extended length and fully retracted length. [Customizable] |
| Installation Size | As known as fully retracted size. [Customizable] |
| Shaft Mount | Optional. |
| Bottom Mount | Optional. |
| Mount Orientation | 0°or 90°. |
| Dynamic Force | The max force that actuator is able to carry when it is moving. |
| Self-locking | The max force that linear actuator is able to hold when it stops. |
| Weather Protection | IP XX. The first digit: dust protection. The second digit: liquid protection. Please refer to [Table 1]. |
| Duty Cycle | Continuous working time 'a', rest time 'b'. Duty cycle is a/(a+b)*100%. Please refer to [Table 1]. |
| Speed | Include free-load speed and full-load speed. |
| Hall Effect Sensor | Provide pulse signals. Displacement measurement is achieved through pulse counting, and the phase difference of the waveform can be used to identify the rotation direction of motor. Check [Table 1] to see if it is available. |
| Potentiometer | Potentiometer is a three-terminal variable resistor with a rotating contact which is used to measure the displacement of actuators. Check [Table 1] to see if it is available. |
| Manual Override | Can be used to extend or retract the actuator without power for emergency. Check [Table 1] to see if it is available. |

[Table 2]

## 【Parameters】 （1）Code: （2）Stroke mm:

| Transmission Code | Lead Screw | Duty Cycle | Max Dynamic Force | Self-locking | Pitch | Speed±10% (mm/s) | | Max Stroke （mm） Potentiometer | |
|---|---|---|---|---|---|---|---|---|---|
| | | | (N) | (N) | (mm) | Free Load | Full Load | NO | YES |
| A | Ball Screw | 20% | 12,000 | 15,000 | 5 | 8.5 | 7 | 500 | 300 |
| B | | 30% | 7,500 | 10,000 | 5 | 17 | 14 | 700 | 300 |
| C | | | 4,500 | 6,000 | 5 | 28 | 25 | 1,000 | 300 |
| D | | | 3,500 | 5,000 | 10 | 33.5 | 28.5 | 1,000 | 600 |
| E | | | 2,000 | 3,500 | 10 | 55.5 | 49 | 1,000 | 600 |
| F | Acme Screw | 20% | 9,000 | 12,000 | 4 | 6.7 | 6 | 500 | 240 |
| G | | 25% | 6,000 | 9,000 | 4 | 13.3 | 11 | 700 | 240 |
| H | | | 3,000 | 5,000 | 8 | 26.7 | 24 | 1,000 | 480 |
| I | | | 2,000 | 4,000 | 8 | 44.5 | 38 | 1,000 | 480 |
| J | | | 4,000 | 6,000 | 12 | 20 | 18 | 1,000 | 720 |
| K | | | 1,200 | 2,000 | 12 | 66.7 | 56 | 1,000 | 720 |

[Table 3]

**Note:**

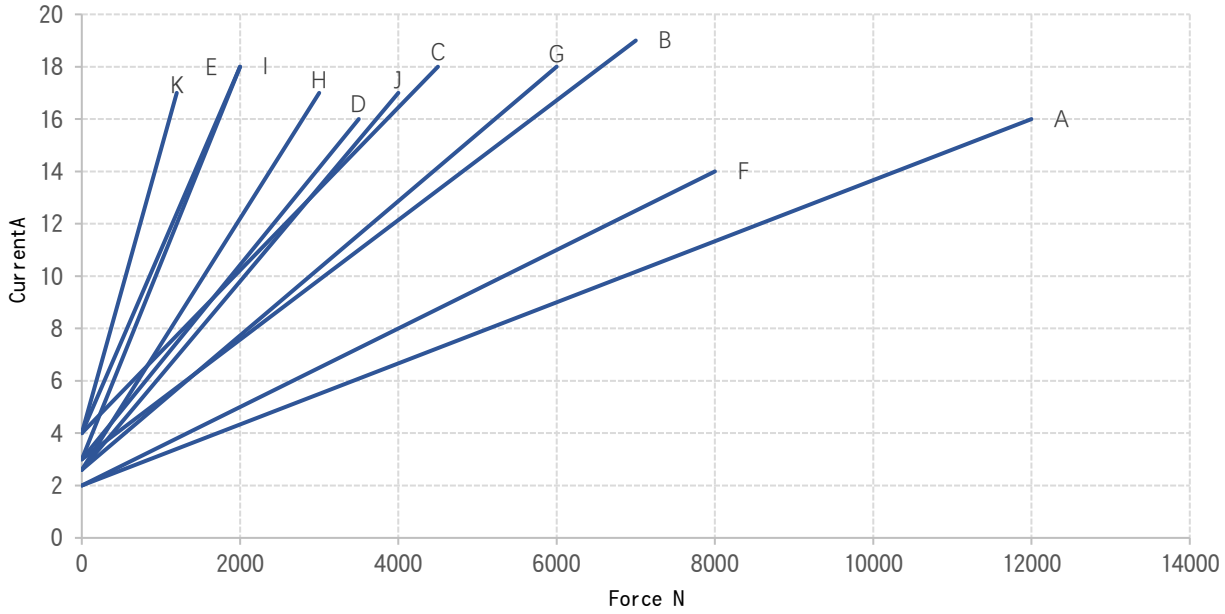
1. Measurements are made with actuators in connection with stable power supplies and ambient temperature at 20°C.
2. For example, when dealing with an actual load of 6000N，opting for code (B) or（G）is suitable，Naturally, you also have the option to select (A)(F)，each of which provides a greater load buffer, an increased safety factor, and an extended product service lifespan.
3. The max customizable stroke range is influenced by numerous factors, including load, speed, force direction, and more. Therefore, it is essential to take actual application scenarios into account. If the specific parameters you need are not provided, please don't hesitate to get in touch with our team of sales engineers.

## 【Performance Diagram】

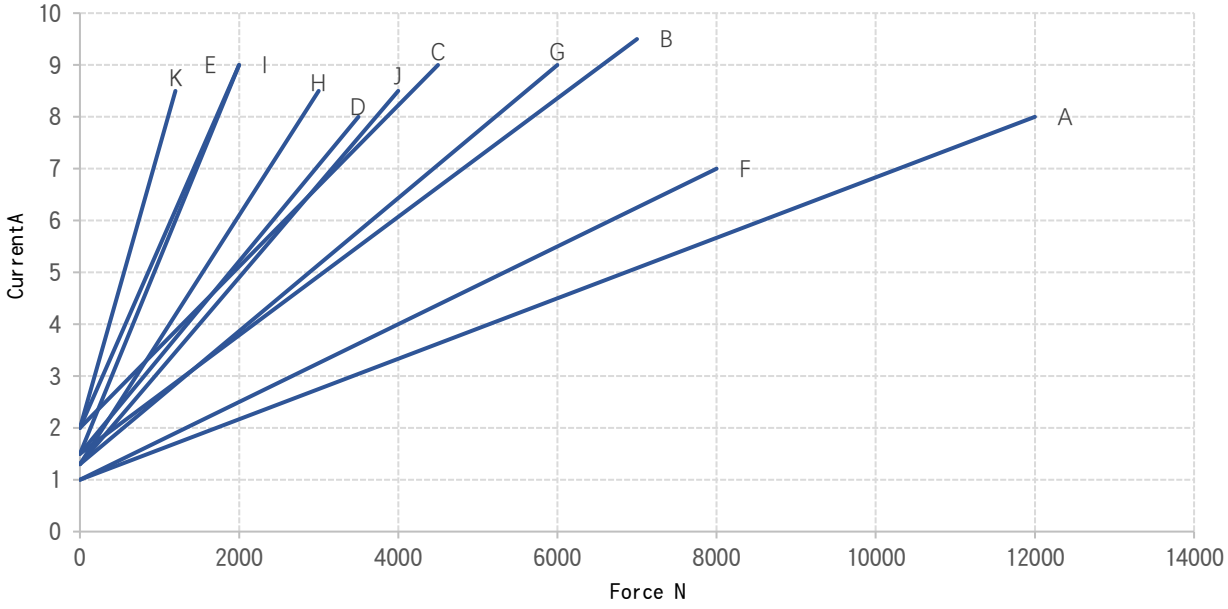
(3) Voltage Code:

### Current VS Force

**Code1:** 12V DC

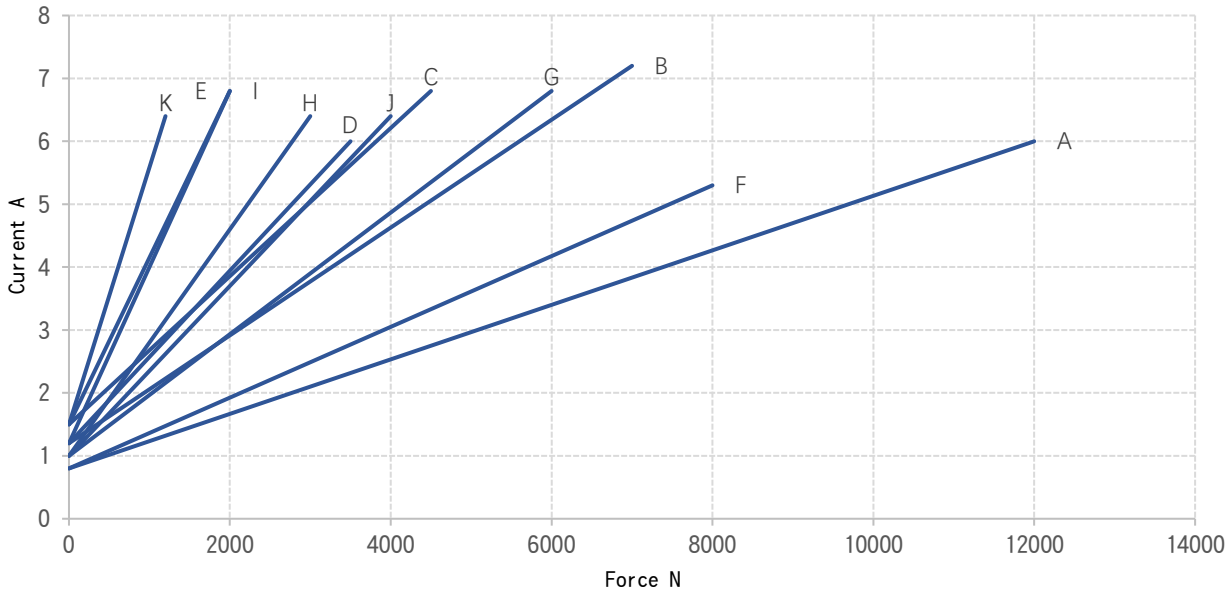



**Code2:** 24V DC

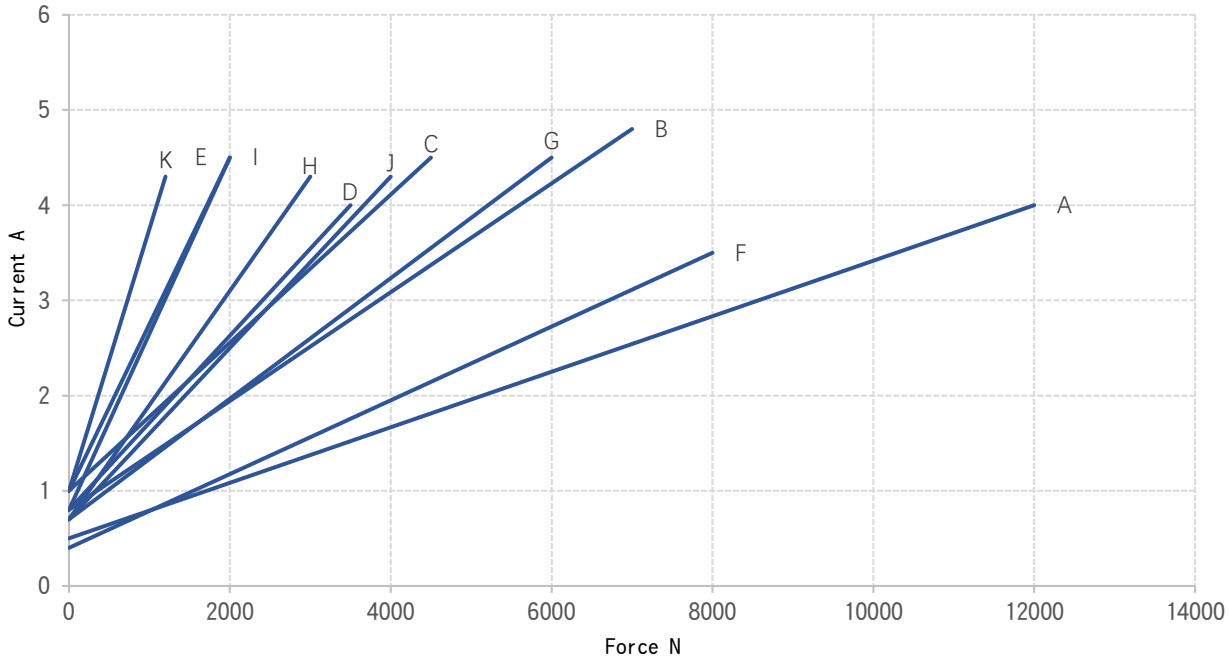


## 【Performance Diagram】

**Code3:** 36V DC

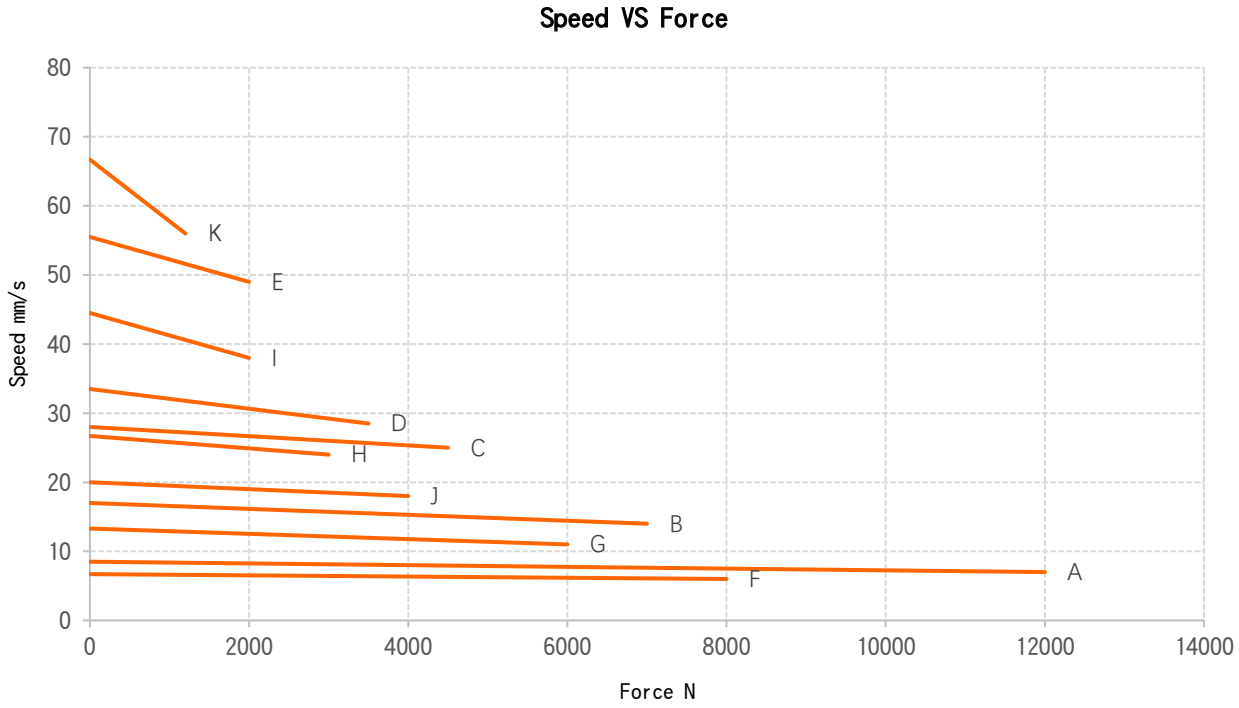



**Code4:** 48V DC




* Measurements are made with actuators in connection with stable power supplies and ambient temperature at 20°C.

## 【Performance Diagram】

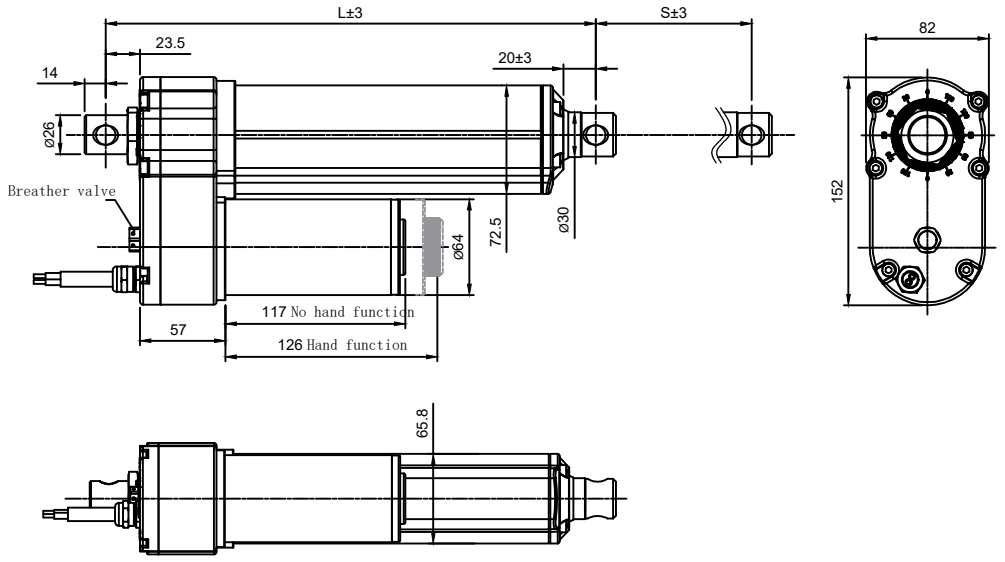



* Measurements are made with actuators in connection with stable power supplies and ambient temperature at 20°C.

## 【Dimensions】

Unit: mm

### 1. Overall Size— Potentiometer is not available




### 2. Installation size of Ball screw （L≥A+B)

(4):Installation Size

| A. Connectors | Rear Motor End | Rear Motor End | Rear Motor End |
|---|---|---|---|
| Front Rod End | R01 - R05 | R06 | R07 |
| F01 - F03 | S+202 mm | S+187 mm | S+216 mm |
| F04, F05 | S+209 mm | S+194 mm | S+223 mm |
| F06 | S+206 mm | S+191 mm | S+220 mm |
| F07 | S+215 mm | S+200 mm | S+229 mm |
| F08 | S+240 mm | S+225 mm | S+254mm |
| F09 | S+250 mm | S+235 mm | S+264 mm |
| **Stroke minimum 55mm** | | | |

【Table 4】

## 3. Installation Size of Acme Screw（L≥A+B)

(4):Installation Size

Unit：mm

| A. Connectors | Rear Motor End | Rear Motor End | Rear Motor End |
|---|---|---|---|
| Front Rod End | R01 - R05 | R06 | R07 |
| F01 - F03 | S+195 mm | S+180 mm | S+209 mm |
| F04, F05 | S+202 mm | S+187 mm | S+216 mm |
| F06 | S+199 mm | S+184 mm | S+213 mm |
| F07 | S+208 mm | S+193 mm | S+222 mm |
| F08 | S+233 mm | S+218 mm | S+247 mm |
| F09 | S+243 mm | S+228 mm | S+257 mm |
| **Stroke minimum 52mm** | | | |

【Table 5】

| B.Stroke Length | mm |
|---|---|
| 52 - 300 | + 0 |
| 301- 600 | + 50 |
| ＞ 600 | + 100 |

【Table 6】

### 4. Example of Calculate Installation Length

① Transmission Code：A-E

| Piston End | Motor End | Stroke S | A | B | L≥A+B |
|---|---|---|---|---|---|
| F04 | R07 | 300 | 300+223 | +0 | ≥523 |

② Transmission Code：：F-K

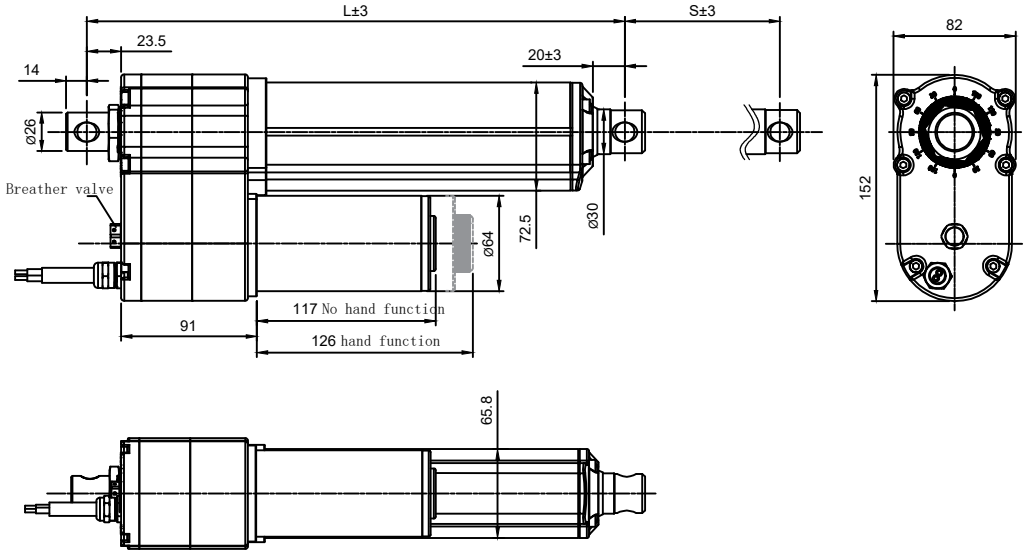
| Piston End | Motor End | Stroke S | A | B | L≥A+B |
|---|---|---|---|---|---|
| F01 | R06 | 350 | 350+180 | +50 | ≥580 |

【Table 7】

## 【Dimensions】

**Unit: mm**

### 1. Overall Size —Potentiometer is available




### 2. Installation size of Ball screw （L≥A+B)

(4):Installation Size

| A. Connectors | Rear Motor End | Rear Motor End | Rear Motor End |
|---|---|---|---|
| Front Rod End | R01 - R05 | R06 | R07 |
| F01 - F03 | S+236 mm | S+221 mm | S+250 mm |
| F04, F05 | S+243 mm | S+228 mm | S+257 mm |
| F06 | S+240 mm | S+225 mm | S+254 mm |
| F07 | S+249 mm | S+234 mm | S+263 mm |
| F08 | S+274vmm | S+259 mm | S+288 mm |
| F09 | S+284 mm | S+269 mm | S+298 mm |
| **Stroke minimum 52mm** | | | |

【Table 8】

## 3. Installation Size of Acme Screw（L≥A+B)

(4):Installation Size

**Unit：mm**

| **A. Connectors** | Rear Motor End | Rear Motor End | Rear Motor End |
|---|---|---|---|
| Front Rod End | R01 – R05 | R06 | R07 |
| F01 – F03 | S+229 ㎜ | S+214 ㎜ | S+243 ㎜ |
| F04 – F05 | S+236 ㎜ | S+221 ㎜ | S+250 ㎜ |
| F06 | S+233 ㎜ | S+218 ㎜ | S+247 ㎜ |
| F07 | S+242 ㎜ | S+227 ㎜ | S+256 ㎜ |
| F08 | S+267 ㎜ | S+252 ㎜ | S+281 ㎜ |
| F09 | S+277 ㎜ | S+262 ㎜ | S+291 ㎜ |
| **Stroke minimum 52mm** | | | |

【Table 9】

| B.Stroke Length | mm |
|---|---|
| 52 - 300 | + 0 |
| 301- 600 | + 50 |
| ＞ 600 | + 100 |

【Table 10】

① Transmission Code：A-E

| Piston End | Motor End | Stoke S | A | B | C | L≥A+B+C |
|---|---|---|---|---|---|---|
| F04 | R07 | 300 | 300+257 | +0 | +34 | ≥591 |

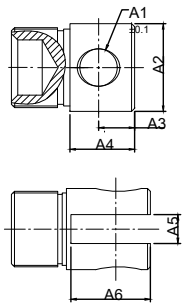
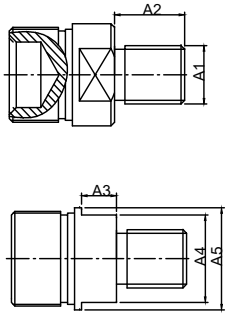
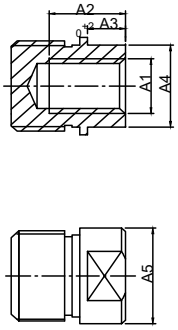
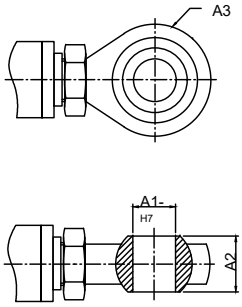
① Transmission Code：：F-K

| Piston End | Motor End | Stoke S | A | B | C | L≥A+B+C |
|---|---|---|---|---|---|---|
| F02 | R03 | 350 | 350+229 | +50 | +34 | ≥663 |

## 【Mounting Connectors】

### 1. Front Rod End

（5）Code:

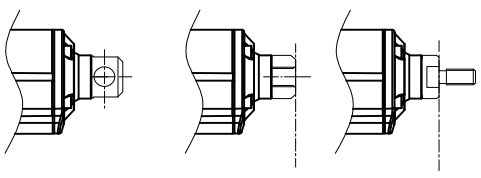
| **Type A:** Cross Hole<br>**Code:** F01 – F05 | **Type B:** Male Thread<br>**Code:** F06 | **Type C:** Female Thread<br>**Code:** F07 | **Type D:** Joint Bearing<br>**Code:** F08, F09 |
|---|---|---|---|
|  |  |  |  |

【Table 12】

| Code | A1 | A2 | A3 | A4 | A5 | A6 |
|---|---|---|---|---|---|---|
| **F01** | Ø 12.2 | Ø 29 | 11.5 | 20 | w/o slot | |
| **F02** | Ø 13.2 | Ø 29 | 11.5 | 20 | | |
| **F03** | Ø 14.2 | Ø 29 | 11.5 | 20 | | |
| **F04** | Ø 12.2 | Ø 29 | 11.5 | 29 | 10 | 27.5 |
| **F05** | Ø 13.2 | Ø 29 | 11.5 | 29 | 10 | 27.5 |
| **F06** | M16*2 | 20 | 10 | 24 | Ø29 | – |
| **F07** | M16*2 | 20 | 10 | 24 | Ø29 | – |
| **F08** | Ø12 | 16 | Ø32 | – | – | – |
| **F09** | Ø16 | 21 | Ø42 | – | – | – |

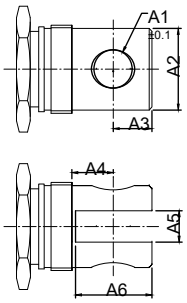
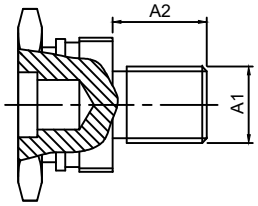
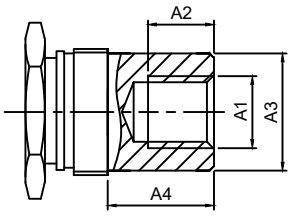
【Table 13】

About Installation Size



## 【Mounting Connectors】

**2. Rear Motor End** （6） Code：

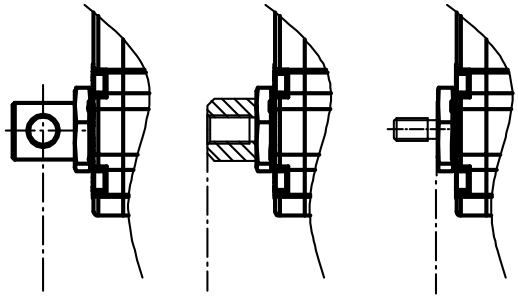
| **Type A：** Cross Hole<br>**Code:** R01-R05 | **Type B：** Male Tread<br>Code: R06 | **Type B：** Female Tread<br>Code: R07 |
|---|---|---|
|  |  |  |

【Table 14】

| Code | A1 | A2 | A3 | A4 | A5 | A6 |
|---|---|---|---|---|---|---|
| **R01** | Ø 12.2 | Ø 26 | 14 | 15 | w/o slot | |
| **R02** | Ø 13.2 | Ø 26 | 14 | 15 | | |
| **R03** | Ø 14.2 | Ø 26 | 14 | 15 | | |
| **R04** | Ø 12.2 | Ø 26 | 14 | 15 | 10 | 27 |
| **R05** | Ø 13.2 | Ø 26 | 14 | 15 | 10 | 27 |
| **R06** | M16*2 | 20 | - | - | - | - |
| **R07** | M16*2 | 20 | Ø 26 | 29 | - | - |

【Table 15】

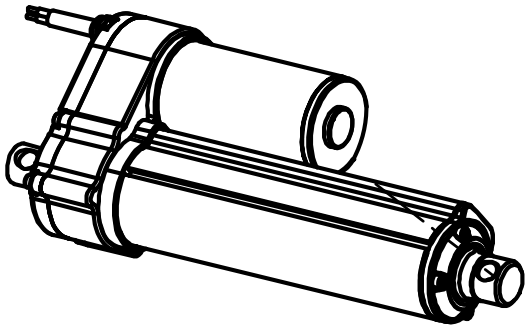
About Installation Size



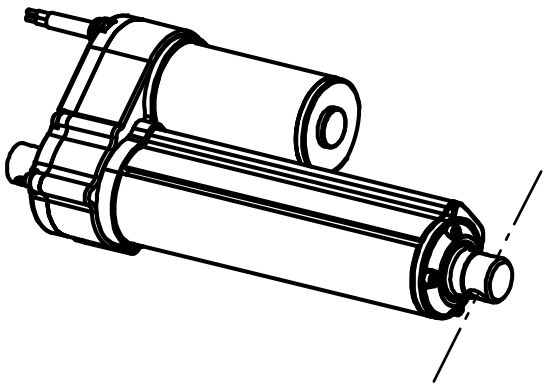
【Mount Orientation】

（7）Front Hole

**Code1：** 90°

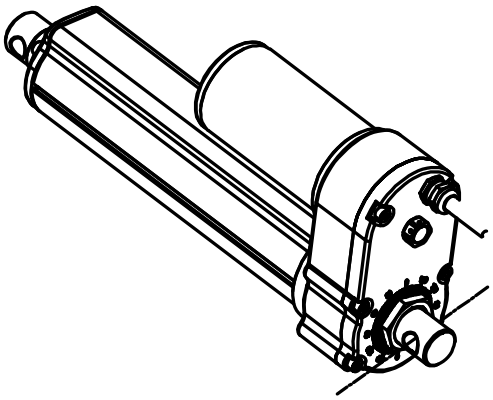


**Code2：** 0°

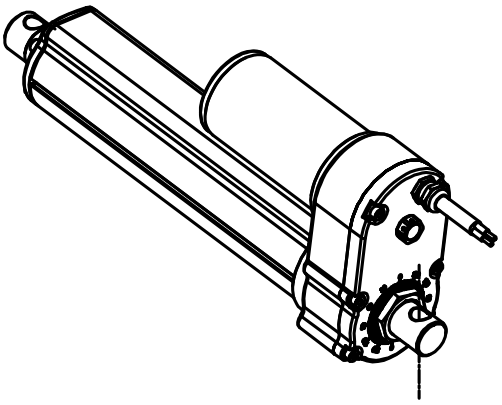


（8）Rear Hole

**Code1：** 90°



**Code2：** 0°



## 【Position Feedback】 (9) Code: 5

### Code 0: Standard limit switches without position feedback

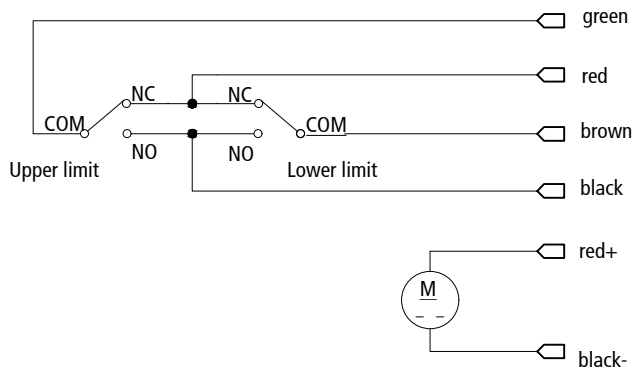
Standard SLA08G comes with limit switches that shut off the motor automatically at the end of its travel.

| | Black | Red |
|---|---|---|
| Extend | - | + |
| Retract | + | - |

【Table 11】

### Code1: Endpoint singal:

The limit switch signal can be customized.Equipped with two separated switches. One is to cut off power supply at either end of stroke, and the other is to supply signals.




【Table 17】

| Expansion action wiring mode | | |
|---|---|---|
| Line color | black | red |
| stretch | - | + |
| shrinkage | + | - |
| Signal line correspondence | | |
| black | Upper、Lower limit NO | |
| red | Uppc 、Lmwc limit NO | |
| green | Upper limit COM. | |
| brown | Lower limit COM. | |

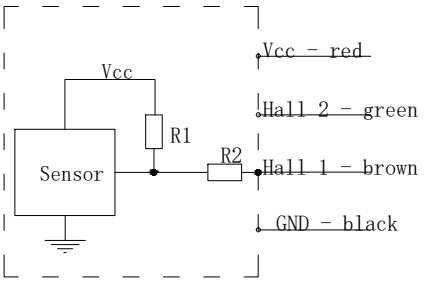
【Table 18】

### Code 2: Hall Effect Sensor (Dual hall as standard)

| Code | Feedback mode | Number of poles | Equivalent * pulse/mm |
|---|---|---|---|
| A | Hall | quadrupole | 32 |
| B | | | 16 |
| C | | | 9.6 |
| D | | | 8 |
| E | | | 4.8 |
| F | | | 40 |
| G | | | 20 |
| H | | | 10 |
| I | | | 6 |
| J | | | 13.3 |
| K | | | 4 |

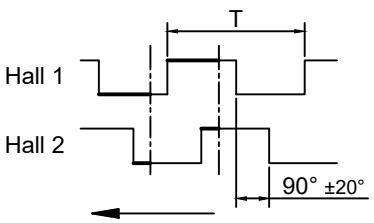
* The number of pulse signals corresponding to each 1mm stroke of a single hall

【Table 19】



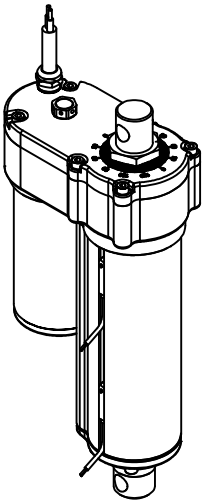

voltage range V=5~24V

Wiring Diagram




Oscillogram

**Code 4: Externally Adjustable Magnetic Switches:**

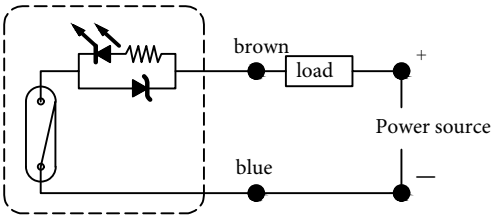


Normally open signal is customized by default, and normally closed signal can also be customized

Voltage range: 5～24V DC

Maximum switching current: ＜100mA

Two wire magnetic reed switch schematic diagram

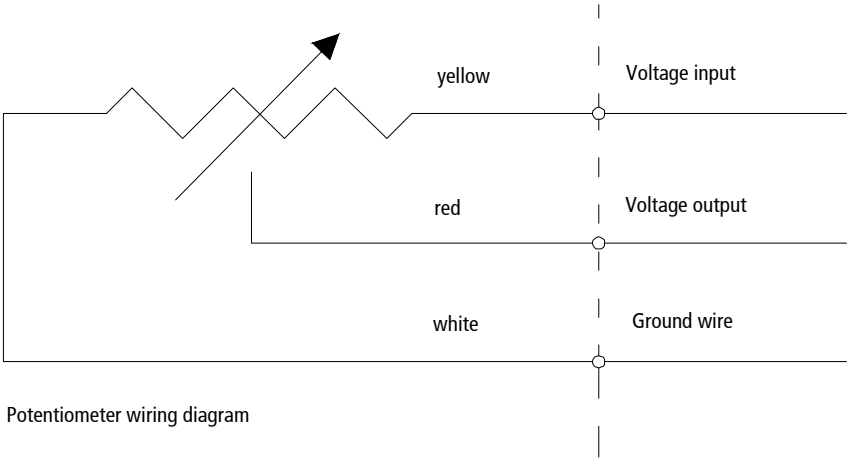



**Code 5: Potentiometer**

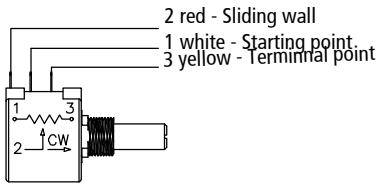
Potentiometer configuration range

| Code | Support maximum stroke length | Resistance value for each 1mm stroke |
|---|---|---|
| A, B, C | 300 mm | 0.0294 KΩ |
| D, E | 600 mm | 0.0147 KΩ |
| F, G | 240 mm | 0.037 KΩ |
| H, I | 480 mm | 0.0184 KΩ |
| J, K | 720mm | 0.0123 KΩ |

Attention: Potentiometer resistance starting value≤0.3KΩ 【Table 12】




Potentiometer wiring diagram




Unfold thelinear actuator, the white and resistance values become larger.

## 【Applications】

SLA08G comes with increased load capacity, higher transmission efficiency with diverse control options. These features position it as a versatile and reliable solution suitable for a wide range of applications. Its robust construction and environmental resilience make it particularly competitive compared to traditional hydraulic systems and fully electric alternatives, especially in applications requiring dependable performance and resilience in varying operating environments.

Beyond just the product's inherent quality, it is important to consider specific operational conditions and potential extreme usage scenarios when selecting a product. These considerations influence whether the product's performance will meet your design requirements effectively. When configuring or selecting a product, providing detailed information about your application scenario is critical.

（13）Operating temp.: **Code 1**: -10℃ to 65℃ **Code 2**: -40℃ to 65℃

（15）Estimated cycles work per day:

（16）Estimated working days per year:

（17）Expected lifespan:

（18）Detailed application description:



工程车辆和机械
Construction Vehicle and Machinery



农业机械
Agricultural Machinery



户外动力设备
Outdoor Power Equipment



工业自动化
Industrial Automation



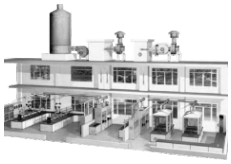
医疗用床设备
Bed Equipment for Medical Use



残疾人车辆自动化
Vehicle for Diverse Abilities



餐饮自动化
Catering Automation



通风及畜牧业解决方案
Ventilation and Animal Husbandry



多功能沙发
Multifunctional Sofa



太阳能光伏及风能
PV Solar and Wind energy



太阳能光热发电
CSP Power Plant



智能装配
Inteligent Industrial Equipments

## 【Ordering Code of SLA08G】

| | | |
|---|---|---|
| | （1）Force and Speed | 【Table 3】 |
| | （2）Stroke mm | Should the required stroke fall outside the specified range, kindly reach out to us for further assistance. |
| | （3）Voltage | 1 = 12V DC　2 = 24V DC　3 = 36V DC　4 = 48V DC |
| | （4）Body Length mm | 【Table 4】-【Table 5】　【Table 8】-【Table 9】 |
| | （5）Front Rod End | F01 – F09　FX = Custom |
| | （7）Rear Motor End | R01 - R07　RX = Custom |
| | （6）（8）Orientation | Shaft End 1 = 90°　2 = 0°　Motor End 1 = 90°　2 = 0° |
| | （9）Position Feedback | 0 = None　1 = Endpoint singal　2 = Hall Effect Sensor<br>3 =Externally Adjustable Magnetic Switches　4 = Potentiometer |
| | （10）Cable | 1 = 600mm　2 = 1,000mm　3 = 1,500mm　4 = 2,000mm　X = Custom |
| | （11）Cable Connector | 0 = Tinned Bare Wire　X = Custom |
| | （12）Overload protection mode | 1= Clutch　2=Adjustable overcurrent protection |
| | （13）Temperature | 1 = -10℃ to 65℃　2 = -40℃ to 65℃ |
| | （14）Manual adjustment | 0 = None　1 = YES |
| Lifespan | （15）-（17）Lifespan | Cycles per day　Working days per year<br>Expected lifecycles |
| Application | （18）End use | Application Description. |
| | Your Contact | Company<br>Name　Phone<br>Email |