Actuator
MK47



MK47 is a compact actuator that is suitable for wide range of applications including homecare, furniture, medical and industrial … etc. The motor orientation can be chosen in every 30 degrees of whole round, which makes it an ideal solution for applications where installation space is limited, such as electric wheelchairs.

Features and Options

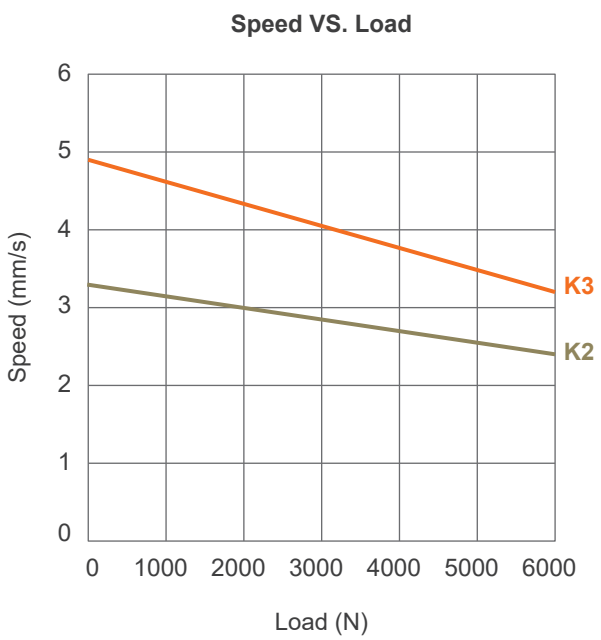
- Main applications: Furniture / Home care / Medical / Industry
- 24V Permanent-Magnet Brushed DC Motor
- Max. load: 6000N (Push / Pull)
- Max. static load: 5000N (Push / Pull)
- Spindle type: ACME screw
- Gear ratio: 61
- Max. speed at no load: 4.9mm/sec (3mm pitch, refer to performance data)
- Speed at full load: 3.2mm/sec (3mm pitch @6000N loaded, refer to performance data)
- Stroke: 50～150mm
- Motor orientation: 360° in steps of every 30°
- Noise level: ≦60dB
- Material: Aluminum extension tube (black coating)
- IP level: IPX4 (static; non-action)
- Safety nut (in push direction)
- Certified: CE Marking, EMC, EN60601-1-2, EN60601-1.

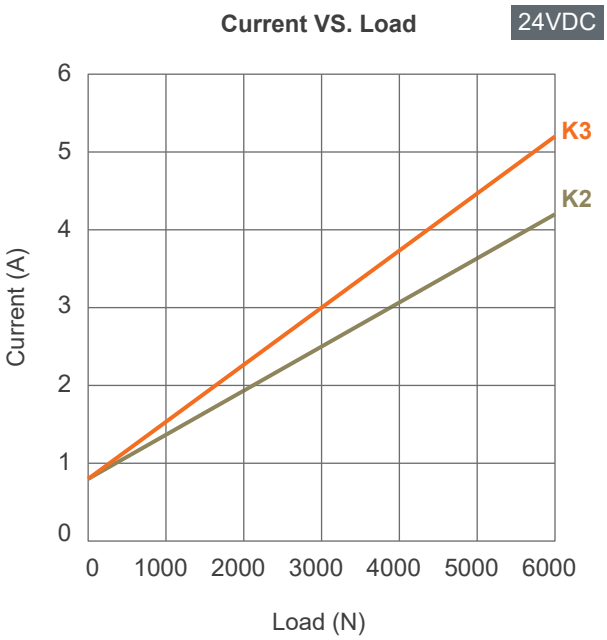
Usages

- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: +5°C～+40°C
- Storage ambient temperature: -10°C～+50°C
- Relative humidity: Full performance from 20%～85% - non-condensing
- Atmospheric pressure: 71 kPa～101.3 kPa
- Height above mean sea level: Max. 3,000 meters

Performance Data

Model No.	Push/Pull Max. (N)	Typical speed (mm/s) [1]		Typical current (A) [1]	
		No load	Full load	No load	Full load
MK47-24**K2**-XXX.XXX-XXX00XX	6000	3.3	2.4	0.8	4.3
MK47-24**K3**-XXX.XXX-XXX00XX	6000	4.9	3.2	0.8	5.2





Note:

[1] The typical speed or typical current means the average value neither upper limit nor lower limit, which measured under room temperature and stable power. The performance curves are made with typical values.

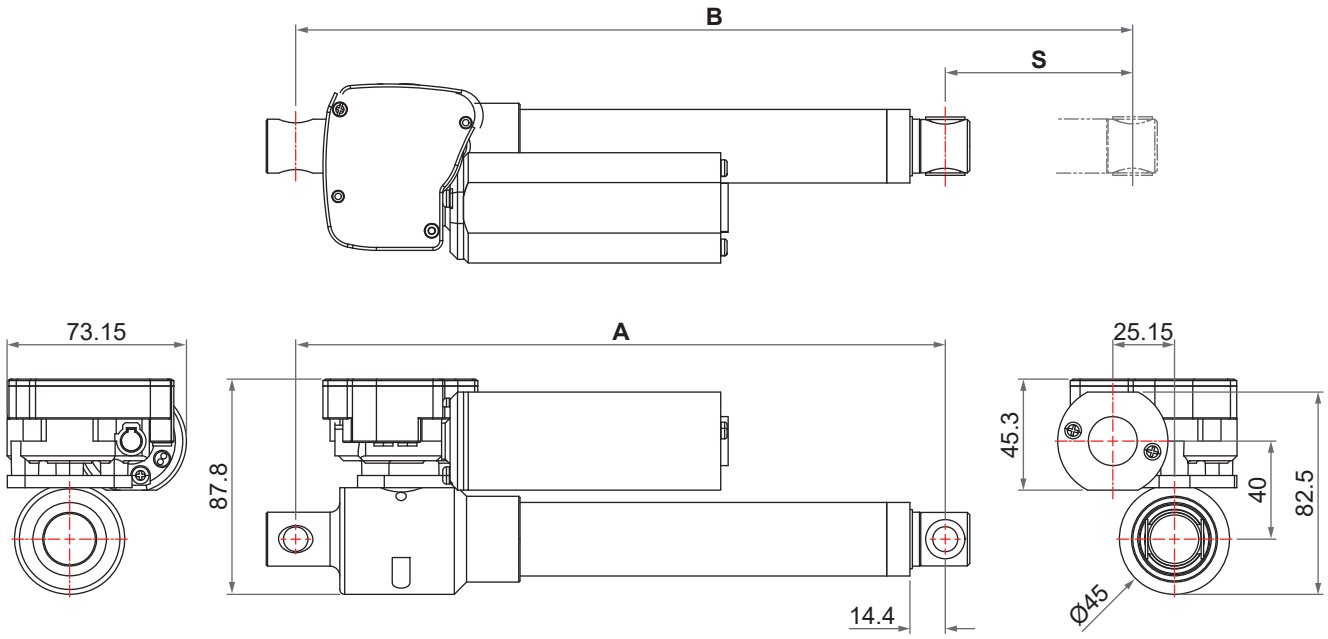
- **Inrush current**
  - When the actuator starts to operate, an inrush current of about 0.2 seconds will be generated. The starting inrush current of MK47 can reach about 3 times of the typical current under the actuator maximum load.
  - If a circuit board power supply is used, the specifications must be sufficient to handle the inrush current. If batteries are used as the power source, inrush current will not be a problem.
  - MOTECK controllers are designed to take into account the inrush current when the actuator starts. If the user provides his or her own controller, this feature must be considered in the specifications and protection mechanisms. Besides, the connectors, switches and relays selected by users must also be able to withstand the starting currents.

Dimensions

1. Installation dimension

- Available stroke (S) range = 50～150mm (±3mm)
- Retracted length (A) ≧ S+165mm (±3mm)
- Extended length (B) = Retracted length (A) + Stroke (S)

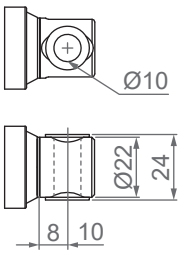
2. Drawing



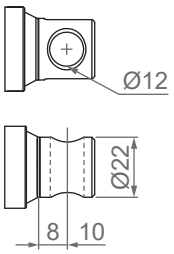
Unit: mm

3. Front connector type

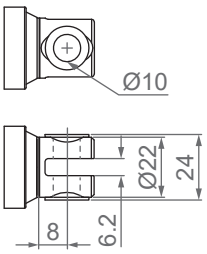
1: Solid with bushing



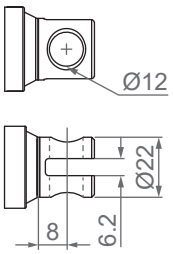
2: Solid w/o bushing



3: Slot with bushing

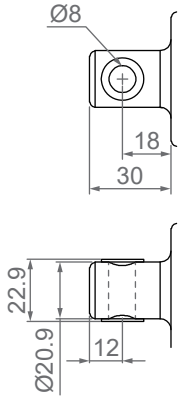


4: Slot w/o bushing

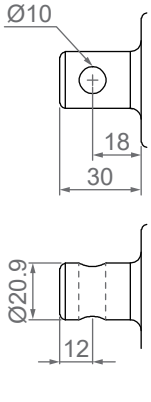


4. Rear connector type

1: Solid with bushing

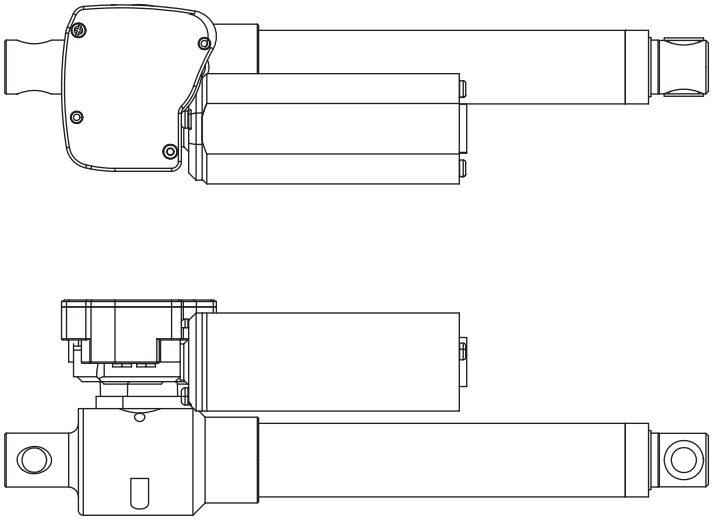


2: Solid w/o bushing



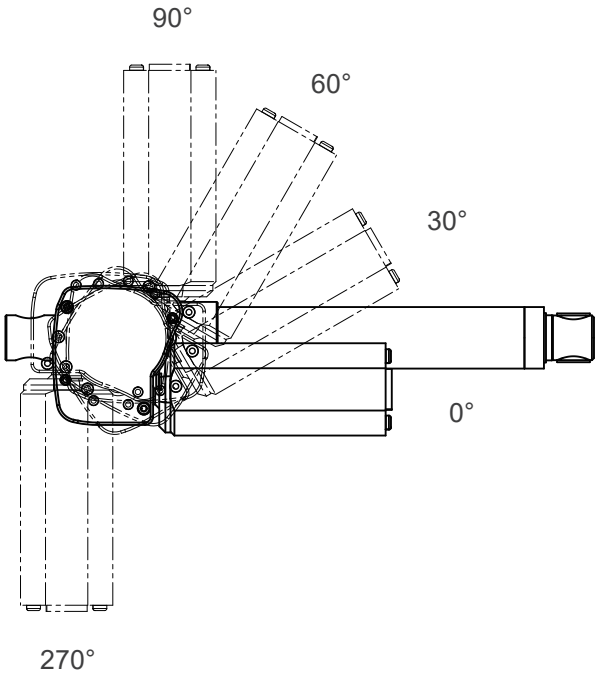
Unit: mm

5. Pivot orientation of rear connectors



Note: As an example in 0° orientation.

6. Motor orientation (can be chosen in every 30 degrees of whole round)



Compatibility

Product	Model	Application condition	MK47 spec
Control box	CI10 (1)	Max. current ≦10A	• Without limit switch • Without positioning feedback • Cable with flying leads

Note:

(1) CI10 could not automatically stop MK47 due to there is no any end-of-stroke signal feedback from MK47. Users must control it manually.

Cable with Flying Leads

● **Basic, without limit switch or positioning feedback.**

	Wire color	Definition	Descriptions
Power wires	Red	DC power	Connect red wire to “Vdc +” & black wire to “Vdc -“ of 12 or 24V DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

Ordering Key

MK47- 24 K3 - 143 . 243 - 1 1 0 0 0 0 3

Input voltage	**24**: 24V DC
Motor and Spindle type	**K2**: 6000rpm, 2mm pitch **K3**: 6000rpm, 3mm pitch
Retracted length (Refer to Page 4)	**XXX**
Extended length (Refer to Page 4)	**XXX**
Front connector type (Refer to Page 4)	**1**: Solid with bushing, Ø10mm **2**: Solid w/o bushing, Ø12mm **3**: Slot with bushing, Ø10mm **4**: Slot w/o bushing, Ø12mm
Rear connector type (Refer to Page 4)	**1**: Solid with bushing, Ø8mm **2**: Solid w/o bushing, Ø10mm
Connector orientation (Refer to Page 5)	**0**: 0° (standard) **9**: 90°
Reserved	**0**
Reserved	**0**
Motor orientation (Refer to Page 5)	**0**: 0° **3**: 30° **6**: 60° **9**: 90° **R**: 270°
Cable length	**0**: 250mm straight **2**: 750mm straight **3**: 900mm straight

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