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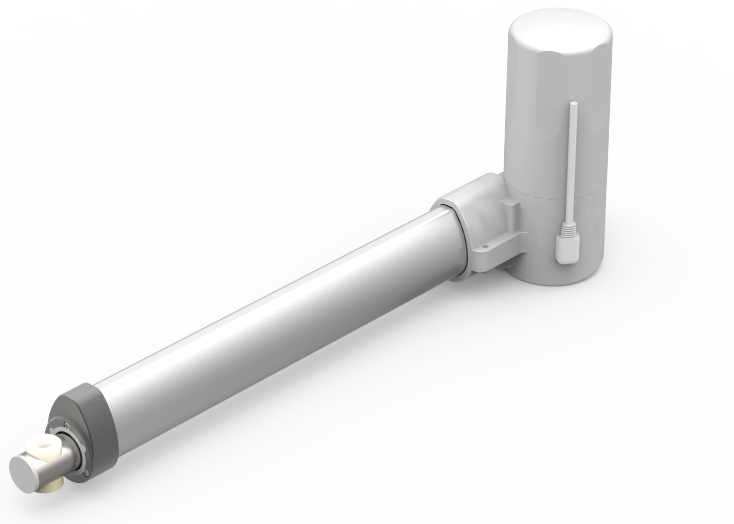
Actuator
MK36



MK36 electric actuator has a thrust of 10,000N in a relatively compact size. It adopts a metal gearbox and steel inner tube design to get it durable and quiet, and strikes the best balance between cost and performance. MK36 supports multiple options such as Hall feedback and waterproofing, making it an ideal choice for applications such as standing beds.

Features and Options

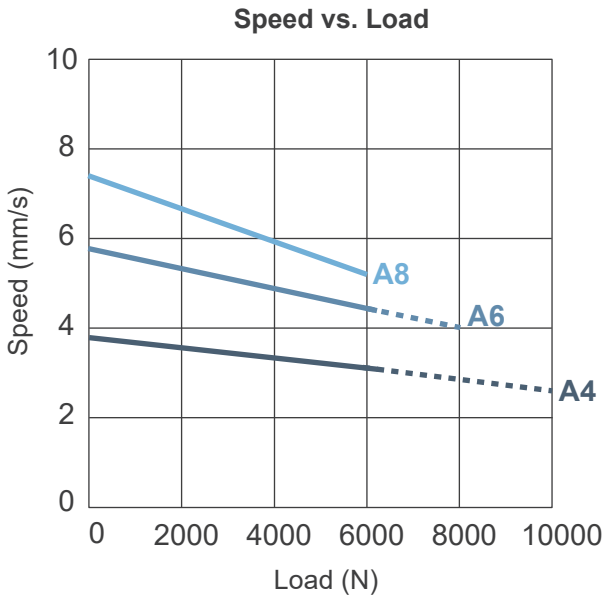
- Main application: Medical care
- Input voltage: 24V DC
- Max. load: 10000N (Push) / 6000N (Pull)
- Max. speed at no load: 7.4 mm/sec (8mm pitch, Refer to Performance Data)
- Speed at full load: 2.7 mm/sec (4mm pitch@10000N loaded, Refer to Performance Data)
- Stroke: 50 ~ 500mm
- Noise level: ≦50dB
- IP level: IPX6 (static, non-action)
- Preset limit switches
- Safety nut (in push direction)
- Steel extension tube and metal gearbox
- Color: Light gray RAL 7035
- Optional Positioning signal feedback with Hall effect sensor x 2

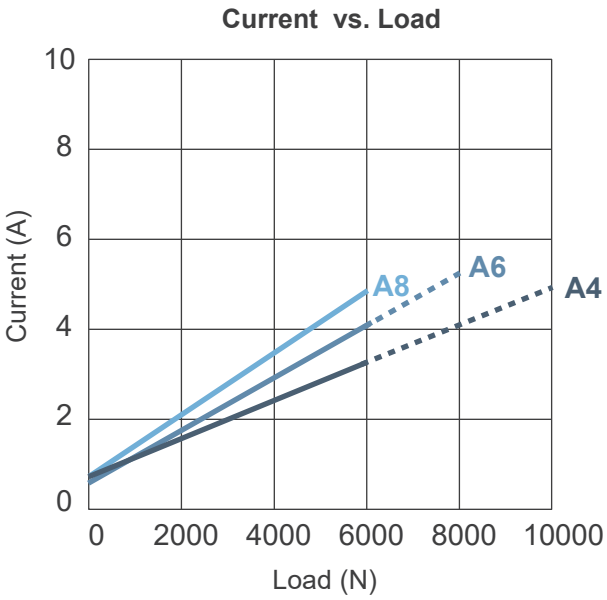
Usages

- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Operating ambient temperature: +5°C to +40°C
- Transport and storage temperature: -10°C to +50°C
- Relative humidity: 20% to 85%
- Atmospheric pressure: 71 kPa to 101.3 kPa
- Height above mean sea level: Max. 3,000 meters

Performance Data

Model No.	Push Max.(N)	Pull Max.(N)	*Self-locking ability (N)	**Typical Speed (mm/s)		**Typical Current (A)	
				No load	Full load	No load	Full load
MK36-24**A4**...	10000	6000	10000	3.8	2.7	0.8	5.0
MK36-24**A6**...	8000	6000	8000	5.8	4.0	0.7	5.3
MK36-24**A8**...	6000	6000	6000	7.4	5.2	0.8	4.9





Push / Pull Load —— Push Load ·····

Remarks:

* The self-locking ability is performed by short circuit the motor terminals when the actuator is stopped. All MOTECK compatible control boxes are designed with this feature.

** The typical speed or typical current means the average value neither upper limit nor lower limit. 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 MK36 can reach about 3 times of the typical current under the actuator 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

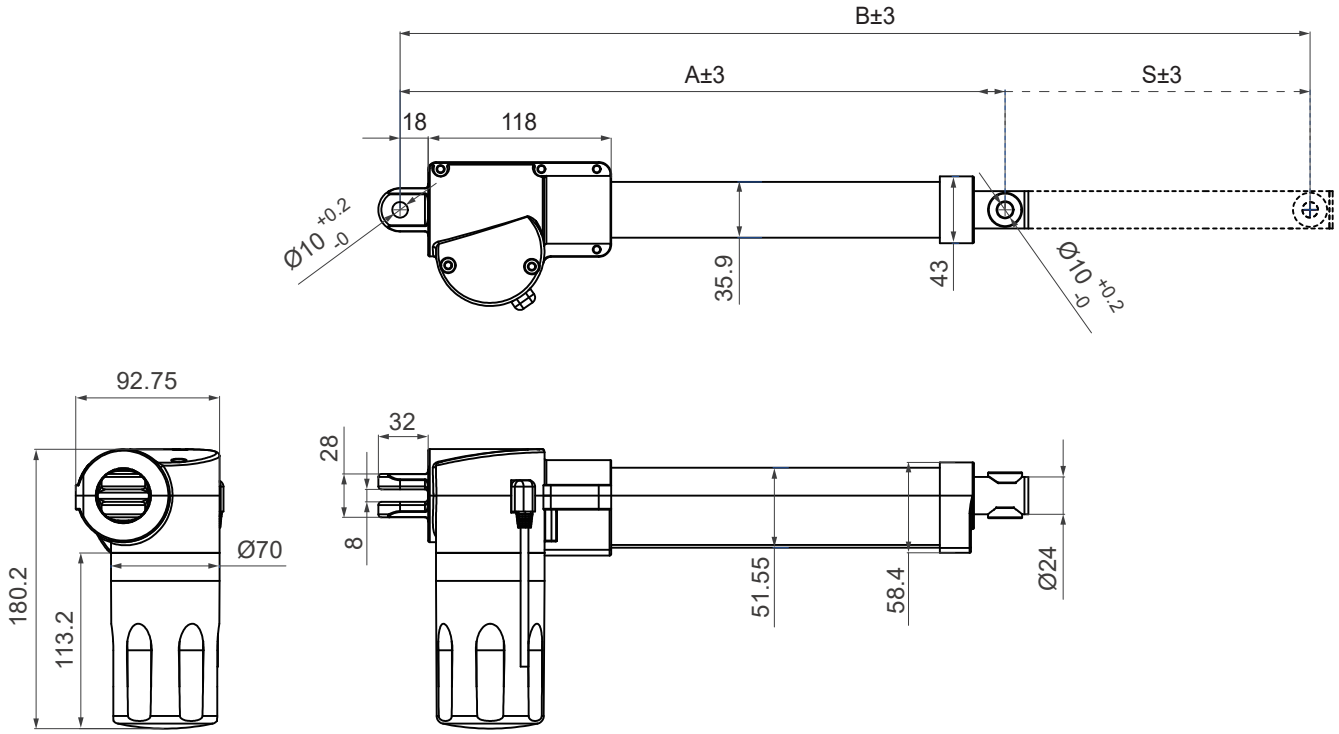
1. Installation dimension

- Available stroke (S) range = 50～500mm (±3mm)
- Retracted length (A) ≧ (S) + 187mm + L1 + L2
- Extended length (B) = Retracted length (A) + Stroke (S)
- S≧501mm, Please consult MOTECK sales representative for feasibility and the available retracted length.

Stroke	L1
≦300mm	+ 0mm
301≦S≦400mm	+ 10mm
401≦S≦500mm	+ 20mm

Front connector	L2
7	+ 0mm
8	+ 18mm

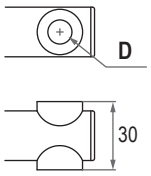
2. Drawing



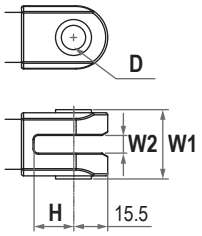
Unit: mm

3. Front connector

7: Plastic bushing



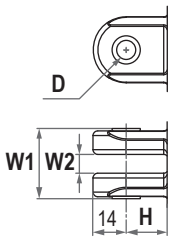
8: Aluminum alloy clevis



Front connector code	Diameter of pivot with bushing (D)	Width with bushing (W1)	Slot width (W2)	Slot depth (H)
7	Ø10	N/A	N/A	N/A
8	Ø10	31.5	8.3	19.5

4. Rear connector

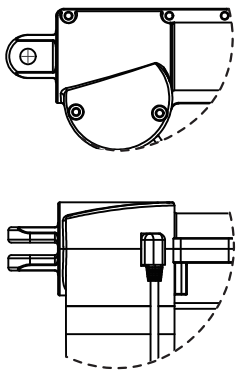
2: Iron clevis



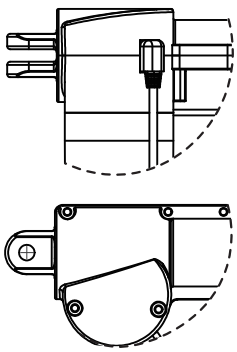
Rear connector code	Diameter of pivot with bushing (D)	Width with bushing (W1)	Slot width (W2)	Slot depth (H)
2	Ø8, Ø10	28	8	32

5. Pivot orientation of rear connectors

0: 0° (Standard)



9: 90°



Compatibility

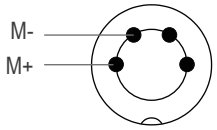
Product	Model	MK36 spec
Control box	CM45*	- Without positioning feedback sensors - With Moteck H-type DIN 4-pin plug
	CM41-M*, CB5P-M*	- With dual Hall effect sensors for positioning - With Moteck LR-type minifit 6-pin plug

Remarks:
* If the current limit of the selected control box is lower than the typical current of the actuator model under full load, the actuator could not be operated in full performance.

Plug

● **Without positioning feedback sensors**

- Moteck H-type 4-pin DIN plug

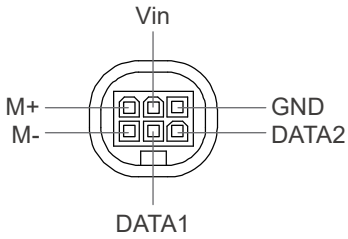


4-pin DIN plug

H-type

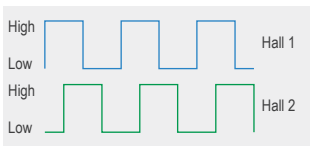
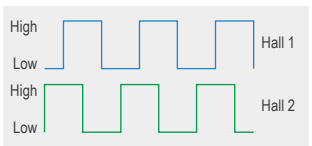
● **With dual Hall effect sensors for positioning**

- Moteck LR-type minifit 6-pin plug



LR-type

Note:

	Definition	Comments
Power	M+	Connect blue wire to “Vdc +” & Brown wire to “Vdc -“ of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	M-	
Signal	Vin	Voltage input range (Vin): 5 ~ 20V
	Hall 1 output	High = Input - 1.2V (±0.6V) Low = GND Hall signal data:  Actuator extends  Actuator retracts
	Hall 2 output	Hall effect sensor resolution:
	GND	

Model No.	Resolution (pulses/mm)
MD36-24**A4**-XXX.XXX-XXXH0XX	10.25
MD36-24**A6**-XXX.XXX-XXXH0XX	6.83
MD36-24**A8**-XXX.XXX-XXXH0XX	5.13

Ordering Key

MK36 - 24 A 8 - 300 . 400 - 8 2 0 H 0 6 A

Input voltage	**24**: 24V DC
Motor	**A**: 2500rpm
Spindle	**4**: 4mm pitch **6**: 6mm pitch **8**: 8mm pitch
Retracted length	**XXX** *(Refer to Page 4)*
Extended length	**XXX** *(Refer to Page 4)*
Front connector	**7**: Plastic bushing **8**: Zinc alloy clevis
Rear connector	**2**: Iron clevis
Pivot orientation of rear connector	**0**: 0° *(Standard)* **9**: 90°
Positioning feedback	**0**: None **H**: Hall effect sensor x 2
Reserved	**0**
IP Level *(static (non-action))*	**6**: IPX6 *(Standard)*
Cable length	**0**: 300mm straight **3**: 1000mm straight **A**: 400mm with 200mm coiled

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