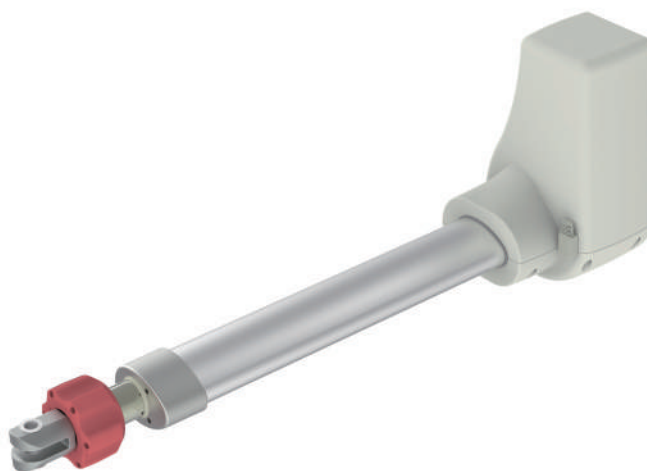


Actuator MK38

The MK38 is a quiet and powerful actuator, capable of providing a maximum thrust of 12,000N. It is specifically designed for medical and home care applications, such as patient lifts or hospital beds.



Features and Options

Main applications: Home care, medical

Standard features:

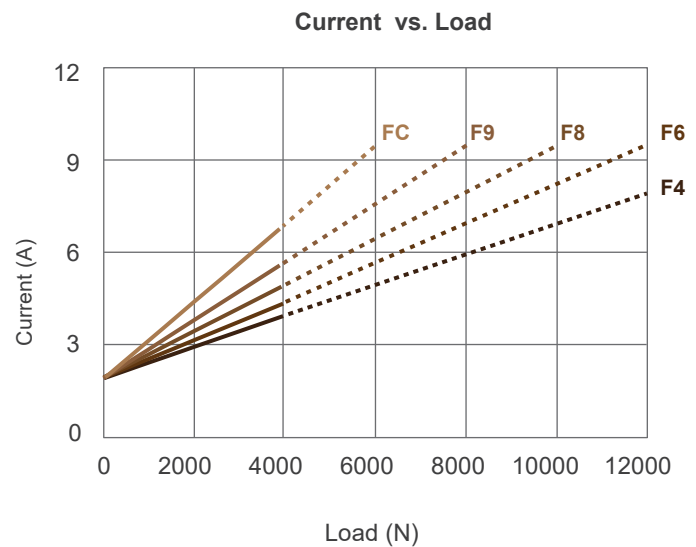
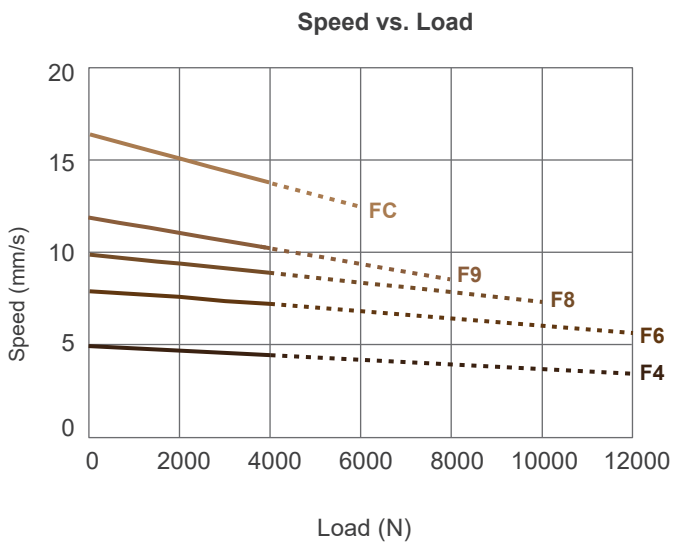
- Input voltage: 24V DC
- Max. load: 12000N (push) / 4000N (pull)
- Typical speed at full load: 5.3 mm/sec (12000N load)
- Stroke: 100 ~ 600mm
- Noise level: ≤ 50 dB
- IP level: IPX6 (static, non-action)
- Aluminum alloy outer tube
- Color: Light gray RAL 7035
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min. (No load/Full load)
- Ambient operation temperature: +5°C ~ +40°C

Options:

- Safety nut (in push direction)
- Positioning signal feedback with Hall effect sensor x 2
- Push only
- MR3 manual release: To retract actuator slowly and put down safely by turning the MR3 knob by hand when losing power in the application of patient lifting.

Performance Data

Model	Push Max. (N)	Pull Max. (N)	*Braking ability (N)	*Typical speed (mm/s)		*Typical current (A) @ 24V	
				No load	Full load	No load	Full load
MK38-24F4...	12000	4000	12000	5	3.3	1.8	8.3
MK38-24F6...	12000	4000	12000	8	5.3	1.8	9.2
MK38-24F8...	10000	4000	10000	10	7	1.8	9.2
MK38-24F9...	8000	4000	8000	12	8.3	1.8	9.2
MK38-24FC..	6000	4000	6000	16.3	12.5	1.8	9.2



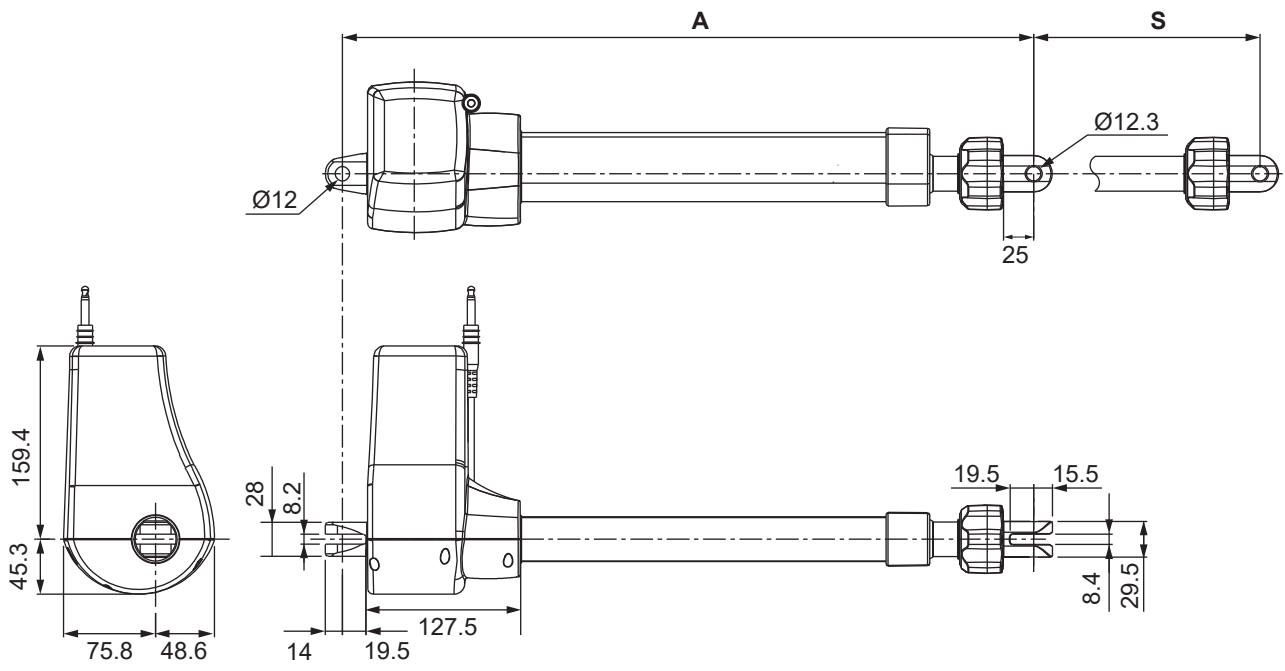
Push / Pull Load — Push Load - - -

Remarks:

1. Equipped with mechanical brakes for thrust applications only.
2. The typical speed and current are 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.

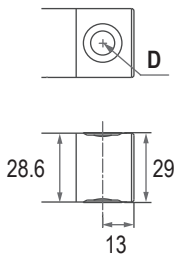
Dimensions

Unit: mm

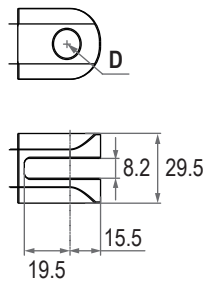


- Front connector

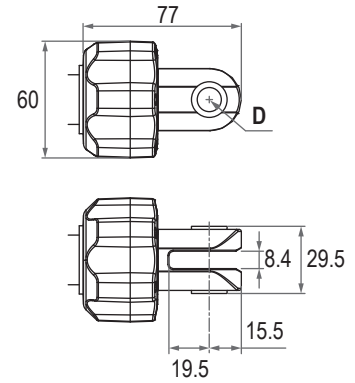
C: Metal solid



8: Zinc alloy clevis

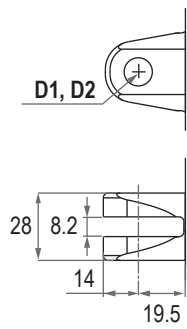


N: Zinc alloy clevis with MR3 manual release



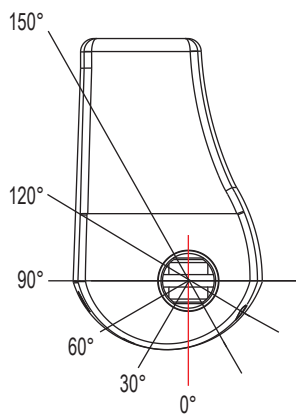
- Rear connector

1: Zinc alloy clevis



Front connector code	Diameter of pivot with bushing (D)	
C	Ø10	
8	Ø10.2	
N	Ø10.2	
Rear connector code	Diameter of pivot without bushing (D1)	Diameter of pivot with bushing (D2)
1	Ø12.2	Ø10.2

- Pivot orientation of rear connectors



Remarks:

* As an example in 0° pivot of rear connector.

- Retracted length (A) \geq Stroke (S)+170+L1+L2

Unit: mm

- L1:

Stroke (mm)	Max. load (N)			
	6000	8000	10000	12000
100~150	-	-	+5	+10
151~200	-	+5	+10	+15
201~250	+5	+10	+15	+20
251~300	+10	+15	+20	+25
301~350	+15	+20	+25	+30
351~400	+20	+25	+30	+35
401~450	+25	+30	+35	+40
451~500	+30	+35	+40	+45
501~550	+35	+40	+45	+50
551~600	+40	+45	+50	+55

- L2:

Front connector code	L2
C	+0
8	+8
N	+87

- Stroke vs. Max. load:

Max. load (N)	6000	8000	10000	12000
Stroke (mm)	600	600	600	450

Remarks:

1. The values marked in pink in the table above indicate that the actuator cannot withstand the maximum load during the full stroke. Please refer to Stroke vs. Max. load.
2. Please consult MOTECK sales representative for feasibility and the available customized length.

Compatibility

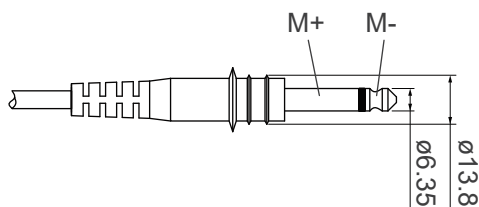
Product	Model	MK38 spec
Control box	CBP2, CBP3	<ul style="list-style-type: none"> Without positioning feedback sensors MOTECK J1 or J2-type phone jack
	CM42	<ul style="list-style-type: none"> Without positioning feedback sensors MOTECK J1-type phone jack
	CB4P-HP, CM43	<ul style="list-style-type: none"> Without positioning feedback sensors MOTECK J2-type phone jack
	CB5P-M	<ul style="list-style-type: none"> With dual Hall effect sensors for positioning MOTECK LR-type minifit 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.

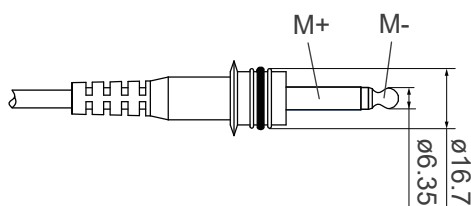
Cable Plug

- Without positioning feedback
 - MOTECK J1-type phone jack



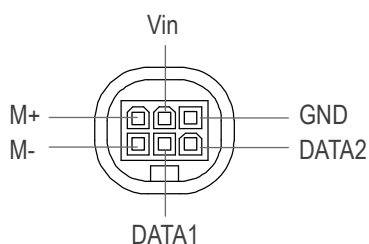
J1-type

- MOTECK J2-type phone jack



J2-type

- With dual Hall effect sensors for positioning
 - MOTECK LR-type minifit plug



6-pin minifit plug



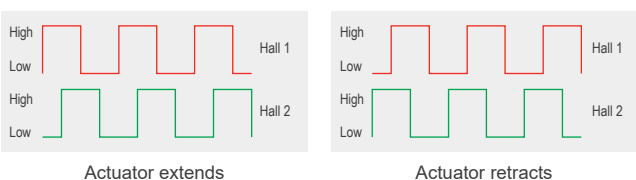
LR-type

Cable with Flying Leads

Without positioning feedback

	Wire color	Definition	Comments
Power wires	White	DC power	Connect white wire to "Vdc +" & black wire to "Vdc -" of DC power to extend the actuator. Switch the polarity of DC input to retract it.
	Black		

With dual Hall effect sensors for positioning

	Wire color	Definition	Comments												
Power wires	Blue	DC power	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.												
	Brown														
Signal wires	Yellow	Vin	Voltage input range: 5 ~ 20V												
	Red	Hall 1 output	High= Input - 1.2V ($\pm 0.6V$) Low= GND Hall signal data: 												
	Green	Hall 2 output	Hall effect sensor resolution: <table border="1" data-bbox="638 1120 1340 1388"> <thead> <tr> <th>Model No.</th> <th>Resolution (pulses/mm)</th> </tr> </thead> <tbody> <tr> <td>MK38-24F4-XXX.XXX-XXXXXXX</td> <td>10.50</td> </tr> <tr> <td>MK38-24F6-XXX.XXX-XXXXXXX</td> <td>7.00</td> </tr> <tr> <td>MK38-24F8-XXX.XXX-XXXXXXX</td> <td>5.25</td> </tr> <tr> <td>MK38-24F9-XXX.XXX-XXXXXXX</td> <td>4.66</td> </tr> <tr> <td>MK38-24FC-XXX.XXX-XXXXXXX</td> <td>3.50</td> </tr> </tbody> </table>	Model No.	Resolution (pulses/mm)	MK38-24F4-XXX.XXX-XXXXXXX	10.50	MK38-24F6-XXX.XXX-XXXXXXX	7.00	MK38-24F8-XXX.XXX-XXXXXXX	5.25	MK38-24F9-XXX.XXX-XXXXXXX	4.66	MK38-24FC-XXX.XXX-XXXXXXX	3.50
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MK38-24F8-XXX.XXX-XXXXXXX	5.25														
MK38-24F9-XXX.XXX-XXXXXXX	4.66														
MK38-24FC-XXX.XXX-XXXXXXX	3.50														
Black	GND														

Ordering Key

MK38 - 24 - F 4 - 280 - 380 - C 1 0 0 A 6 3

Input voltage	24: 24V DC
Motor	F: 3300rpm
Spindle	4: 4 mm pitch 6: 6 mm pitch 8: 8 mm pitch 9: 9 mm pitch C: 12 mm pitch
Retracted length	XXX (Refer to Dimensions)
Extended length	XXX (Refer to Dimensions)
Front connector	C: Metal solid 8: Zinc alloy clevis N: Zinc alloy clevis with MR3 manual release (must with options PO+SN)
Rear connector	1: Zinc alloy clevis
Pivot orientation of rear connector	0: 0° (Standard) 3: 30° 6: 60° 9: 90° C: 120° F: 150°
Positioning feedback	0: none (2-core wire) H: positioning signal feedback with Hall effect sensor x 2 (6-core wire)
Option	0: None S: Safety nut (SN) P: Push Only (PO) A: Push Only (PO)+Safety nut (SN)
IP level	6: IPX6 (static, non-action)
Cable length	0: 300mm straight 3: 1000mm straight 6: 2000mm straight A: 400mm with 200mm coiled (must with 2-core wire)

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