Actuator
FD60

FD60 is a quiet and powerful actuator up to 6000N thrust, designed for use in furniture application. Our T control box, which can be perfectly attached and integrated to FD60, is available for customers to choose.



Feature

- Main applications: Furniture
- Input voltage: 24V DC / 12V DC
- Max. load: 6000N (push) / 4000N (pull)
- Max. speed at no load: 33.3 mm/sec
- Max. speed at full load: 2.9 mm/sec @ 6000N
- Stroke: 50 ~ 300 mm
- Noise level: ≦50dB
- IP Protection level: IP42
- Color: Black
- Preset limit switches
- Duty cycle: 10%, max. 2 min. continuous operation in 20 min.
- Ambient operation temperature: -20°C ~ +65°C
- Certified: CE Marking, EMC Directive 2014/30/EU

Option

- Positioning signal feedback with Hall effect sensor x 1
- Positioning signal feedback with Hall effect sensor x 2
- Mechanical push only extension tube
- Mechanical brake
- Turn 90° Pivot orientation of rear connector

Compatibility

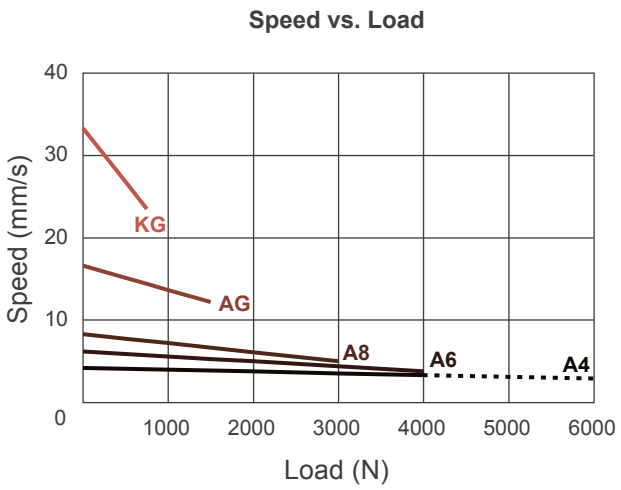
Product	Model	FD60 spec
Control box	T control, CS1, CS2, CB3T, CB4M, CBT2, CBTR	- Without positioning sensor feedback - 4-pin MOTECK F-type DIN plug
	CB3T-SY, CB4M-S, CB4M-B	- With dual Hall effect sensors - 6-pin MOTECK F-type DIN plug
Hand control	Depend on control box	- Powered by control box
	H3B, HS01, HZ01	- With MOTECK dedicated cable TL2*
	HB, H2G, HZ02, HZ03, HZ04, HZ05, HZ06	- With MOTECK dedicated cable DL1*
Accessory	Switching mode power supply: TSW1, TSW4, TSW5	- With MOTECK dedicated cable DL1 or TL2
	T Connector (Extension cable of actuator and handset, to connect to power supply or transformer box)	- 4-pin MOTECK F-type DIN plug

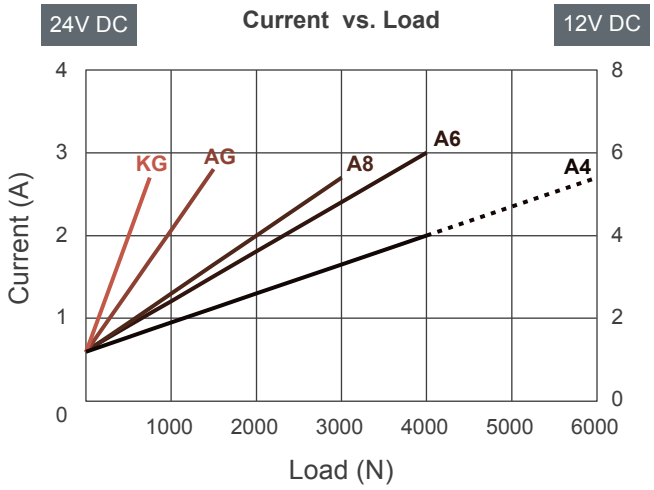
***Remarks:**
Dedicated cable DL1 or TL2 to connect to power supply and control directly, without control box.

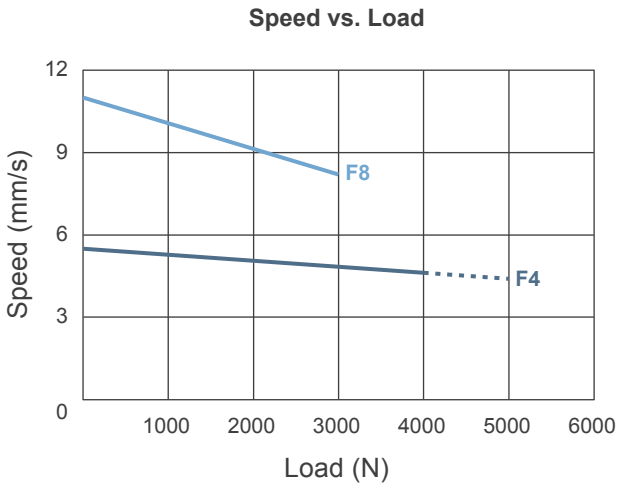
Performance Data

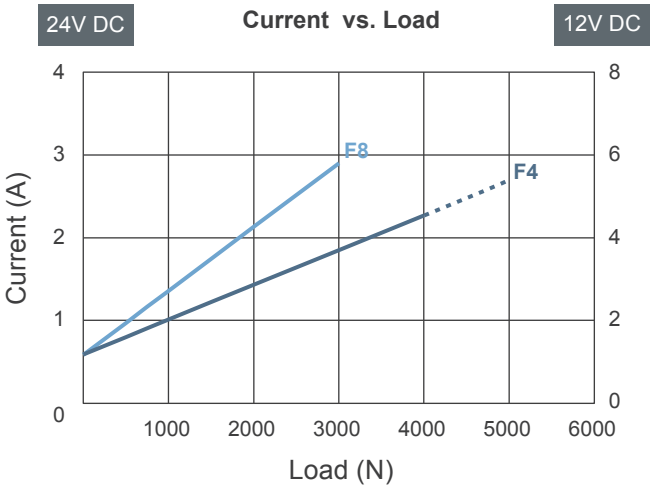
Model No.	Push Max. (N)	Pull Max. (N)	*Self-locking ability (N)	Typical Speed (mm/s)		Typical Current (A)			
				No load	Full load	No load		Full load	
						12V	24V	12V	24V
FD60-XX-**A4**	6000	4000	5000	4.2	2.9	0.8	0.6	5.4	2.7
FD60-XX-**A6**	4000	4000	2500	6.2	3.8	0.4	0.6	6.0	3.0
FD60-XX-**A8**	3000	3000	2000	8.3	5.0	0.6	0.6	5.4	2.7
FD60-XX-**AG**	1500	1500	700	16.6	12.2	0.4	0.6	5.6	2.8
FD60-XX-**KG**	750	750	0	33.3	23.5	0.4	0.6	5.2	2.7
FD60-XX-**F4**	5000	4000	5000	5.5	4.4	0.8	0.6	5.6	2.8
FD60-XX-**F8**	3000	3000	2000	11.0	8.2	1.0	0.6	5.8	2.9

***Remarks:**
Mechanical brake is available upon request, to further enhance the self-locking ability.





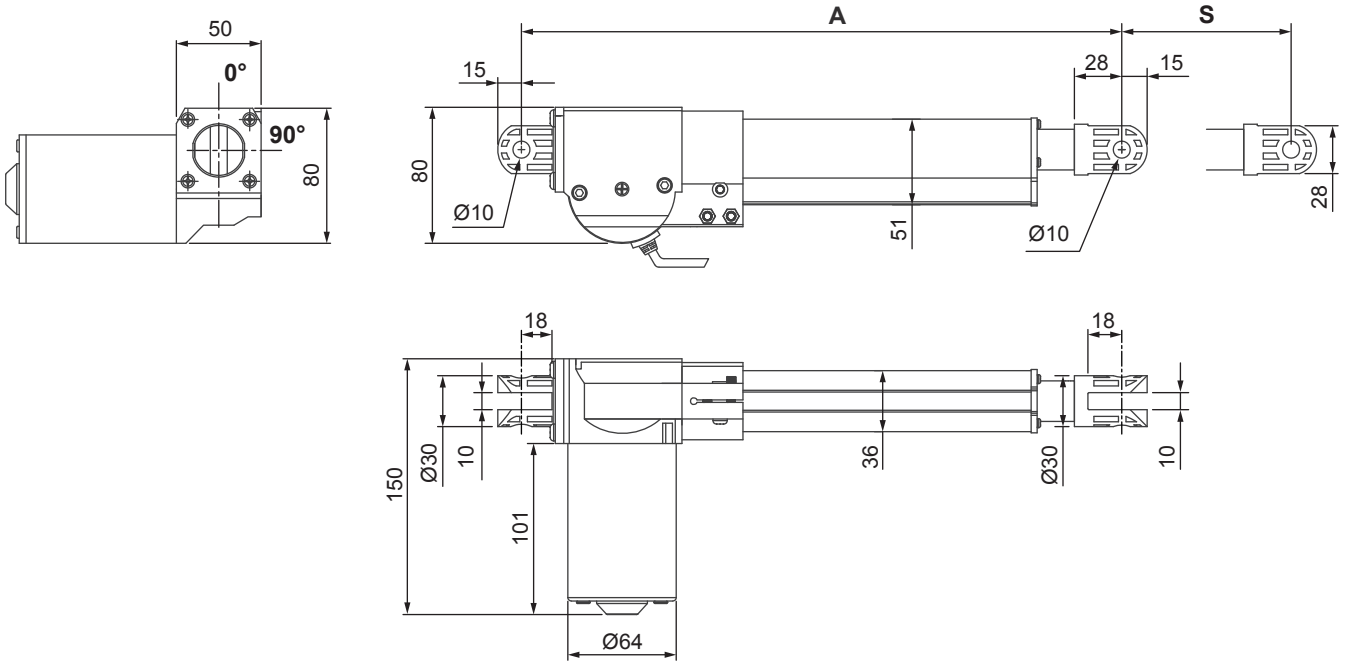




Push / Pull Load —— Push Load - - -

Dimensions

Pivot orientation



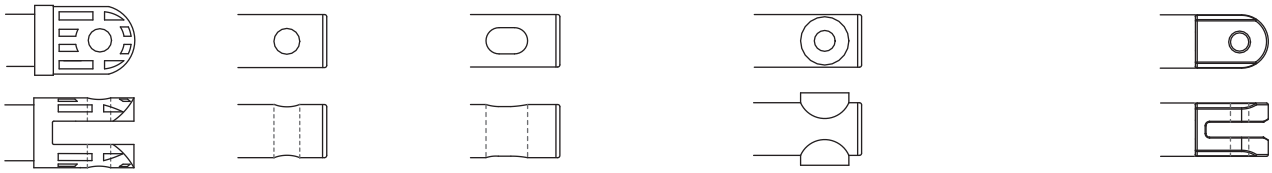
Installation Dimension

Front connector code	Rear connector code	Retracted length (A)
1, 5, 8	**1, 2**	A≧S+188mm (±3mm)
2, 3, 4, 7		A≧S+160mm (±3mm)
1, 5, 8	**5** (with crank function)	A≧S+198mm (±3mm)
2, 3, 4, 7		A ≧S+170mm (±3mm)

Available stroke (S) range = 50 ～ 300 mm
Extended length = S + A

Front Connector

1: Plastic **3**: Drilled hole **4**: Oval hole **2**: Drilled hole with brass bushing **8**: Enhanced metal
5: Metal **7**: Drilled hole with nylon bushing



Front connector code	Diameter of pivot without bushing	Diameter of pivot with plastic bushing	Slot width	Slot depth
1	Ø8, Ø10, Ø12	N/A	10	18
2	Ø10	N/A	N/A	N/A
3	Ø8, Ø10, Ø12, Ø14	Ø8, Ø10	N/A	N/A
4	Ø8x20, Ø8x25, Ø10x15	N/A	N/A	N/A
5	Ø8, Ø10, Ø12	Ø8, Ø10	10	18
7	Ø10	N/A	N/A	N/A
8	Ø10, Ø12	Ø8, Ø10	8	18.8

Rear Connector

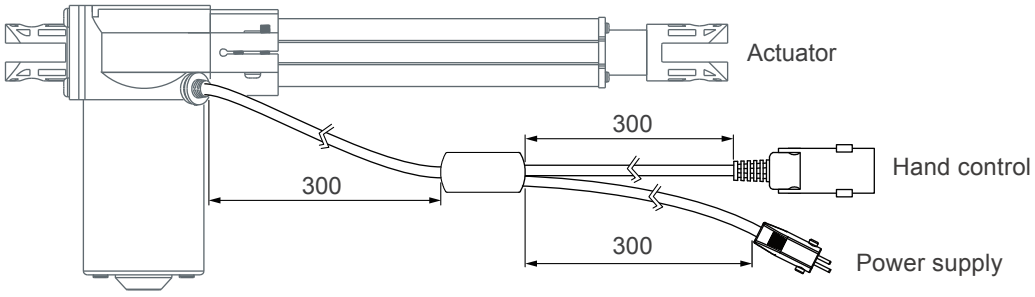
1: Plastic
2: Metal
5: Metal (with crank function)



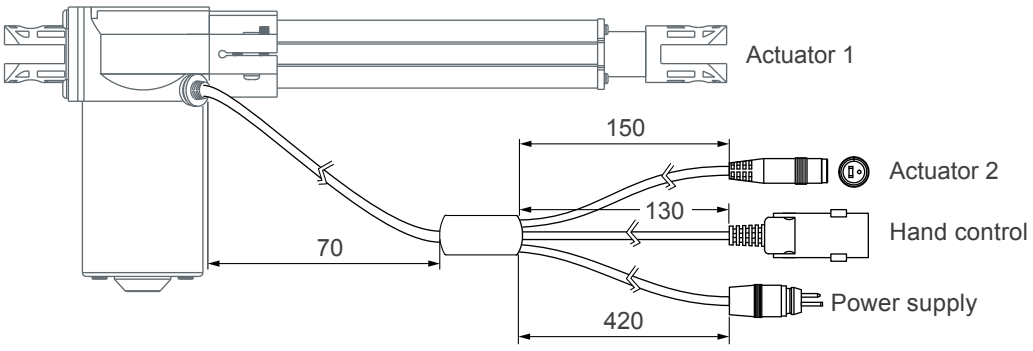
Front connector code	Diameter of pivot without bushing	Diameter of pivot with plastic bushing	Slot width	Slot depth
1	Ø8, Ø10, Ø12	N/A	6, 10	18
2	Ø8, Ø10, Ø12	Ø8, Ø10	6, 10	18
5	Ø14.5	N/A	N/A	N/A

Cable Length

Dedicated cable DL1



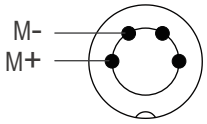
Dedicated cable TL2



Cable Plug

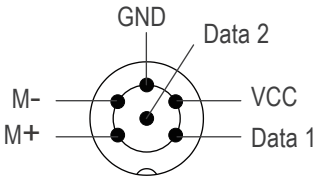
With MOTECK F-type DIN plug to connect to control box

- Without positioning sensor feedback



4-pin DIN plug

- With dual Hall effect sensors



6-pin DIN plug



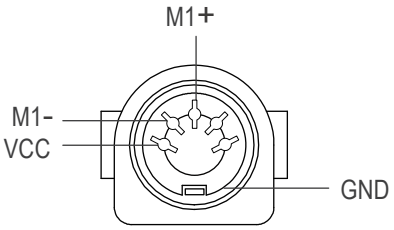
F-type

Note:
Connect Pin (M+) to "+" & Pin (M-) to "-" of DC power, the actuator will extend.

Dedicated cable DL1 or TL2 to connect to hand control and power supply directly, without control box.

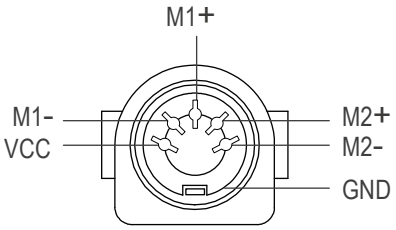
Hand control connector: with MOTECK U-type female connector

- 1 drive



5-pin connector
(Moteck pinout: C-DIN-51H)

- 2 drives



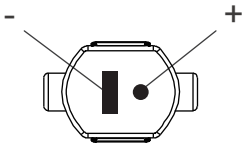
5-pin connector
(Moteck pinout: C-DIN-52H)



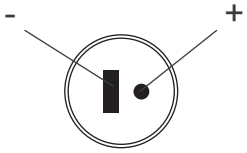
U-type

Note:
Connect pin (M1+) to "+" & pin (M1-) to "-" of DC power, the M1 actuator will extend.
Definition of M2 actuator is the same.

Power plug: with MOTECK S-type or R-type DIN 41529 male plug



DIN 41529 plug (S-type for DL1 only)



DIN 41529 plug (R-type for TL2 only)

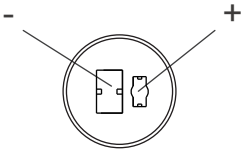


S-type



R-type

Connector for 2nd actuator: with MOTECK R-type DIN 41529 female (for TL2 only)



DIN 41529 connector



R-type

Ordering Key

FD60 - 24 - A4 - 350 . 470 - C 1 2 - HS3 - PO-BK - A

Input voltage	**12**: 12V DC **24**: 24V DC
Motor and Spindle type	**A4** **A6** **A8** **AG** **KG** **F4** **F8** (Refer to Performance Data)
Retracted length	**XXX** (Refer to Dimensions)
Extended length	**XXX** (Refer to Dimensions)
Front connector	**1**: Plastic **2**: Drilled hole with brass bushing **3**: Drilled hole **4**: Oval hole **5**: Metal **7**: Drilled hole with nylon bushing **8**: Enhanced metal (Refer to Dimensions)
Rear connector	**1**: Plastic **2**: Metal **5**: Metal (with crank function) (Refer to Dimensions)
Positioning feedback	**Blank**: None **HS3**: Hall effect sensor x 1 **HS4**: Hall effect sensor x 2
Option	**Blank**: None **PO**: Push only **BK**: Mechanical brake (Note: Multiple choice is allowed)
Cable	**0**: 300 mm straight **1**: 1000 mm straight **2**: 450 mm with 300 mm coiled **A**: Dedicated cable DL1, without control box (Refer to page 5) **B**: Dedicated cable TL2, without control box (Refer to page 5)

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