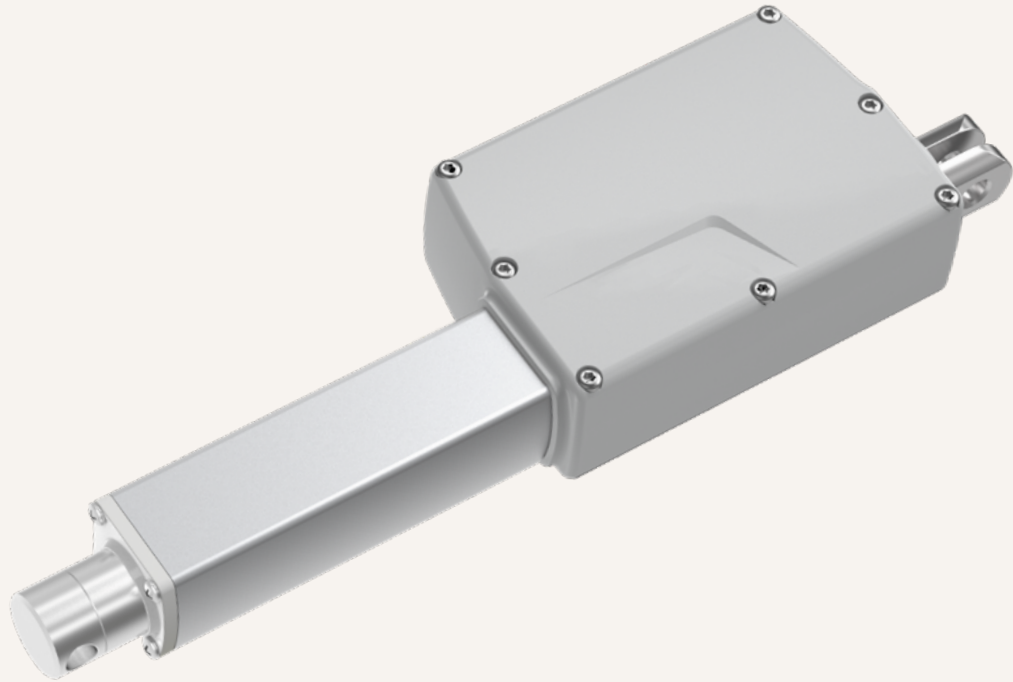


TA29

series



Product Segments

- **Care Motion**

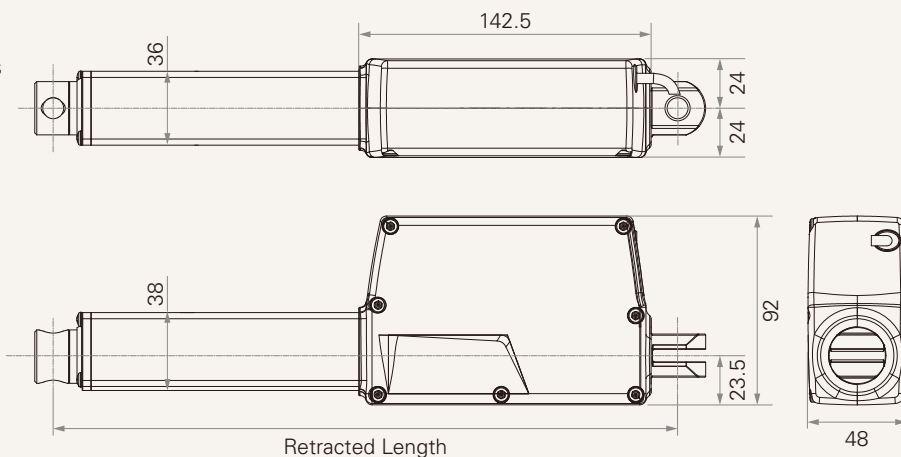
TiMOTION's TA29 is one of our new generation medical actuators, which can lift up to 4,500N, yet has compact installation dimension. In addition to this, its IP rating is up to IP66W. The TA29 is highly recommended for various medical applications that require a short retracted length, yet need to support a large force, such as the leg adjustment or sling angle actuator on the patient hoist system.

General Features

Voltage of motor	12, 24V DC; 12, 24V DC (PTC)
Maximum load	4,500N in push
Maximum load	4,000N in pull
Maximum speed at full load	17.7mm/s (with 1500N in a push / pull condition)
Minimum installation dimension	≥ 178mm
Color	Black or grey
IP rating	Up to IP66W
Operational temperature range	+5°C~+45°C
Suitable for patient hoist application	

Drawing

Standard Dimensions
(mm)



Load and Speed

CODE	Load (N)		Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)	
	Push	Pull		No Load 32V DC	With Load 24V DC	No Load 32V DC	With Load 24V DC
Motor Speed (4800RPM, Duty Cycle 10%)							
B	1500	1500	1500	1.5	5.0	30.2	17.7
C	2500	2500	2500	1.5	5.0	16.0	9.1
D	3500	3500	3500	1.5	5.0	10.9	6.5
E	4500	4000	4500	1.5	4.5	6.5	4.0
F	4500	4000	4500	1.5	5.6	8.5	4.9
Motor Speed (5200RPM, Duty Cycle 10%)							
H	1000	1000	1000	1.5	3.5	30.0	15.0
K	1500	1500	1500	1.5	3.5	20.0	10.0
L	2000	2000	2000	1.5	3.7	15.0	7.5
M	2500	2500	2500	1.5	3.7	10.0	5.0
N	4000	4000	4000	1.5	3.7	5.4	2.8

Note

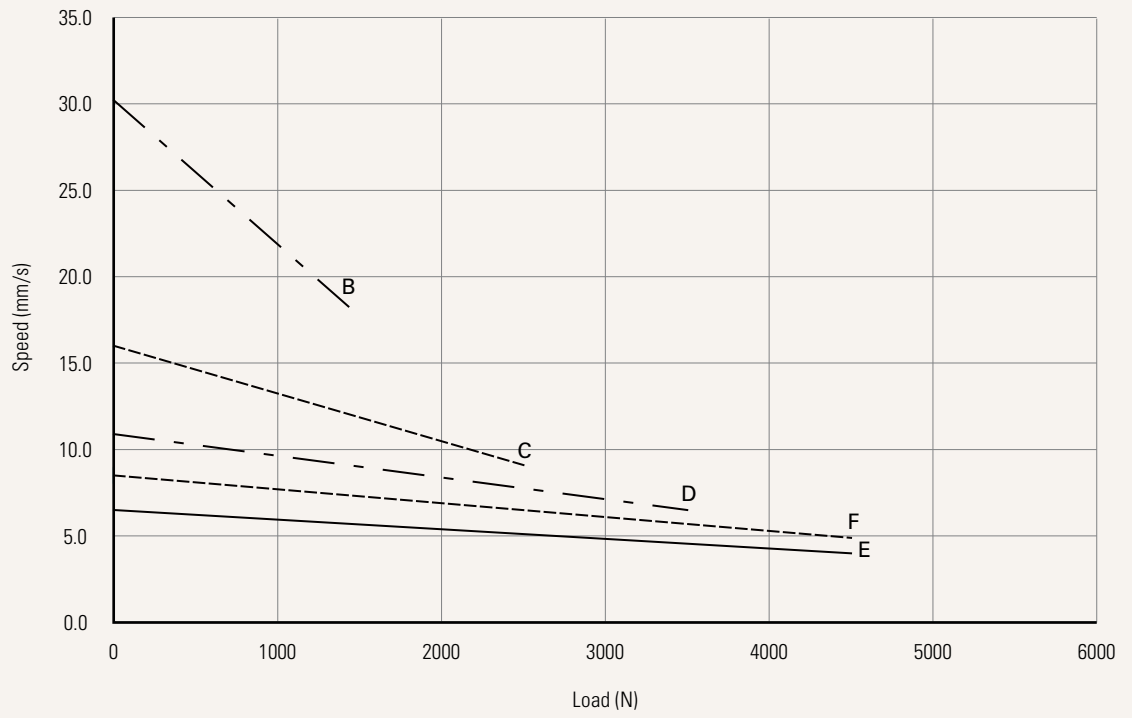
- 1 Please refer to the approved drawing for the final authentic value.
- 2 The current & speed in table are tested when the actuator is extending under push load.
- 3 Standard stroke: Min. ≥ 25mm, Max. please refer to below table.
- 4 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in.
- 5 The current & speed in table are tested with 24V DC motor. With a 12V DC motor, the current is approximately twice the current measured in 24V DC; speed will be similar for both voltages.
- 6 The current & speed in table and diagram are tested with TiMOTION control boxes, and there will be around 10% tolerance depending on different models of the control box. (Under no load condition, the voltage is around 32V DC. At rated load, the voltage output will be around 24V DC)

CODE	Load (N)	Max Stroke (mm)
H	1000	650
B, K	1500	600
L	2000	550
C	2500	500
D	3500	400
E, F	4500	300

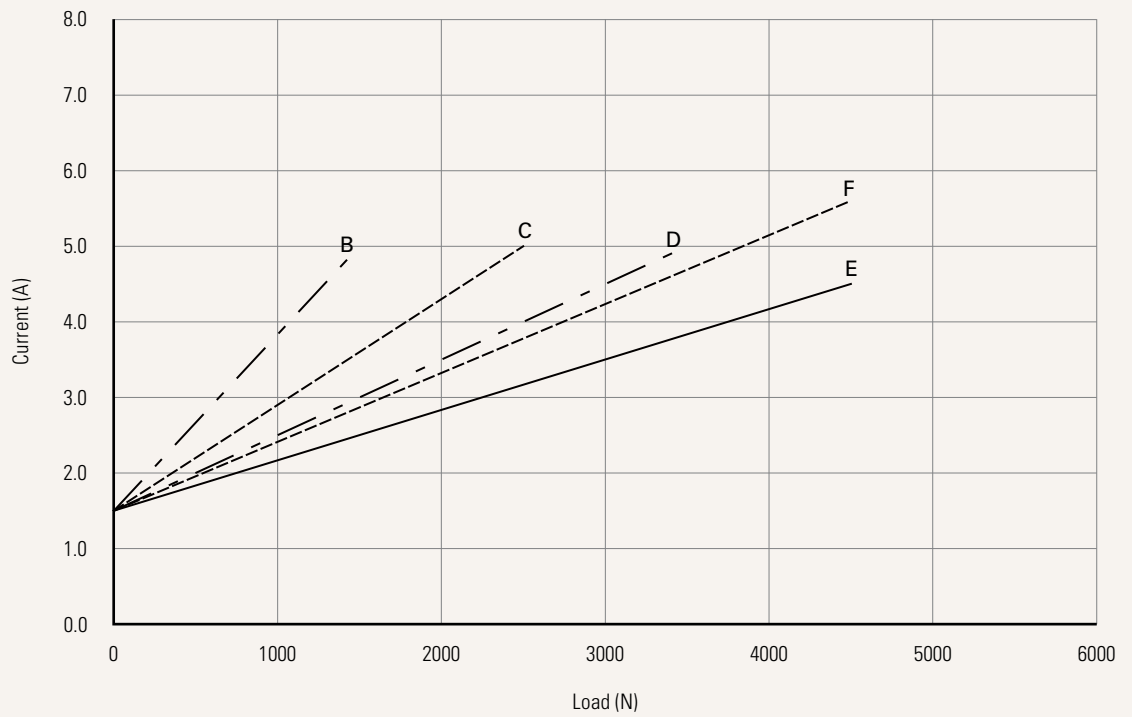
Performance Data (24V DC Motor)

Motor Speed (4800RPM, Duty Cycle 10%)

Speed vs. Load



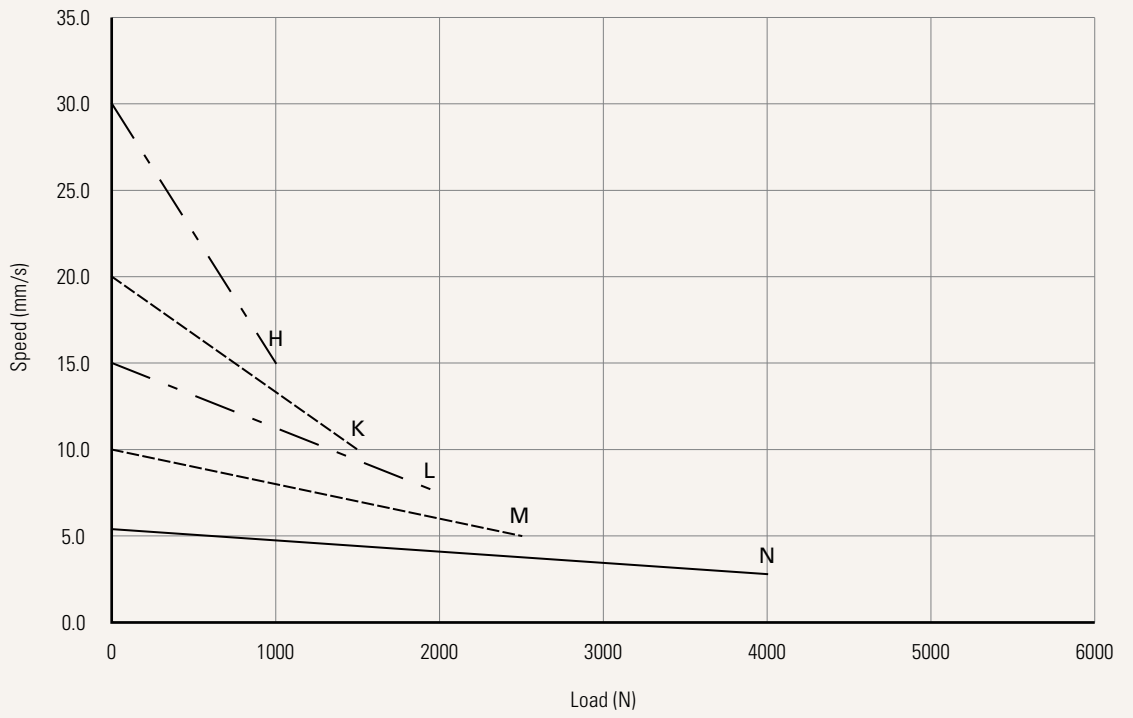
Current vs. Load



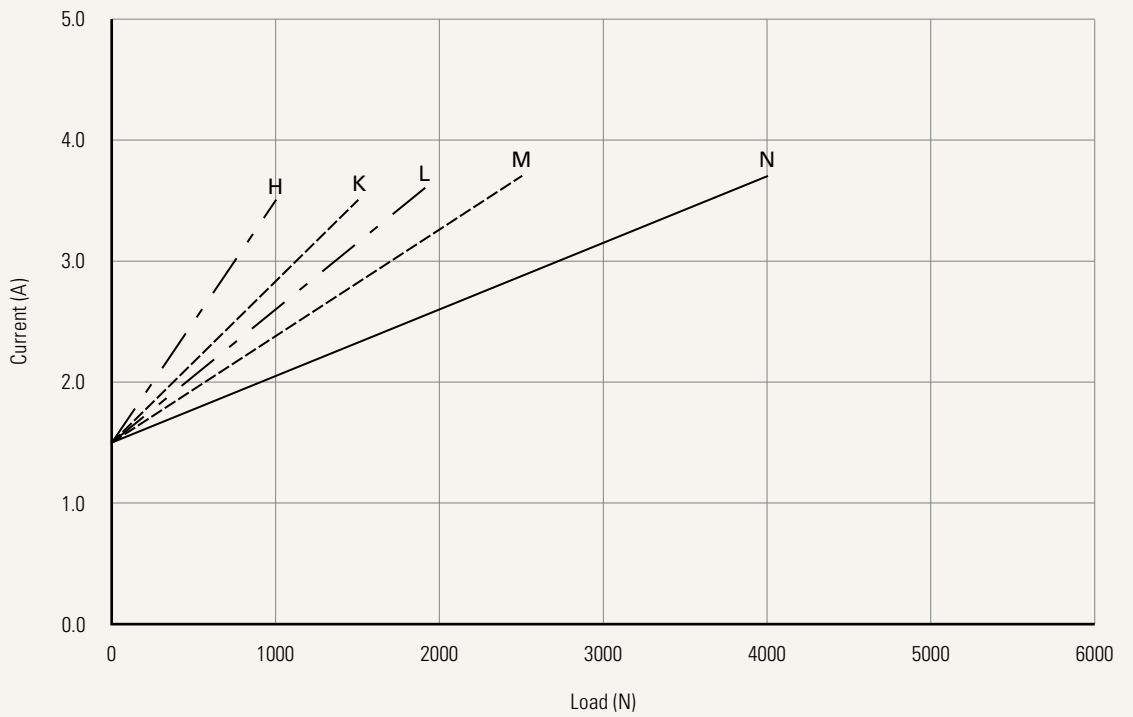
Performance Data (24V DC Motor)

Motor Speed (5200RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



Voltage	1 = 12V DC	2 = 24V DC	5 = 24V DC, PTC	6 = 12V DC, PTC
Load and Speed	See page 2			
Stroke (mm)	See page 6			
Retracted Length (mm)	See page 6			
Rear Attachment (mm)	3 = Aluminum casting, U clevis, slot 6.2, depth 12.2, hole 10.2		4 = Aluminum casting, U clevis, slot 6.2, depth 12.2, hole 12.2	
	See page 7			
Front Attachment (mm)	3 = Aluminum CNC, without slot, hole 10.2		4 = Aluminum CNC, without slot, hole 12.2	
	See page 7			
Direction of Rear Attachment (Counterclockwise)	1 = 90°	2 = 0°		
	See page 7			
Color	1 = Black	2 = Grey (Pantone 428C)		
IP Rating	1 = Without	2 = IP54	3 = IP66	5 = IP66W
Special Functions for Spindle Sub-Assembly	0 = Without (Standard)			
Functions for Limit Switches	1 = Two switches at full retracted / extended positions to cut current 2 = Two switches at full retracted / extended positions to cut current + third one in between to send signal 3 = Two switches at full retracted / extended positions to send signal 4 = Two switches at full retracted / extended positions to send signal + third one in between to send signal 5 = Two switches at full retracted/extended positions to send signal (Operate with control box: TC1, TC8, TC10, TC14)			
	See page 8			
Output Signals	0 = Without	2 = Hall sensor * 2		
Connector	1 = DIN 6P, 90° plug	C = Y cable	F = DIN 6P, 180° plug	
	2 = Tinned leads	(for direct cut system, water proof, anti pull)		
	4 = Big 01P, plug	E = Molex 8P, plug		
Cable Length (mm)	0 = Straight, 100	3 = Straight, 1000	6 = Straight, 2000	B-H = For direct cut system
	1 = Straight, 500	4 = Straight, 1250	7 = Curly, 200	See page 7
	2 = Straight, 750	5 = Straight, 1500	8 = Curly, 400	

Retracted Length (mm)

1. Calculate $A+B = Y$
2. Retracted length needs to \geq Stroke + Y
3. Retracted length needs to > 178

A. Front Attachment

3, 4	+112
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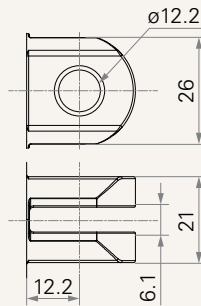
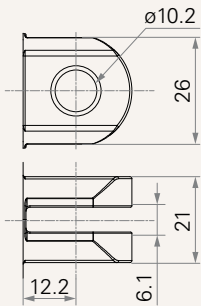
B. Stroke

Stroke (mm)	Load (N)		
	< 3500	3500	4500
25~150	-	+5	+38
151~200	+8	+13	+46
201~250	+8	+13	+46
251~300	+13	+18	+51
301~350	+13	+18	+51
351~400	+18	+23	+56
401~450	+23	+28	+61
451~500	+28	+33	+66
501~550	+33	+38	+71
551~600	+38	+43	+76

Rear Attachment (mm)

3 = Aluminum casting, U clevis, slot
6.2, depth 12.2, hole 10.2

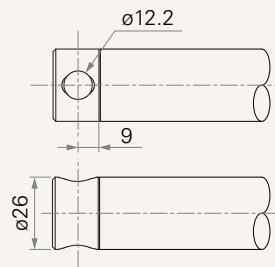
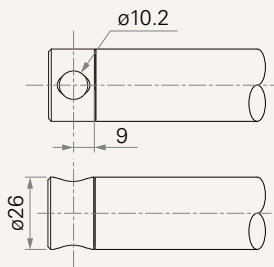
4 = Aluminum casting, U clevis, slot
6.2, depth 12.2, hole 12.2



Front Attachment (mm)

3 = Aluminum CNC, without slot,
hole 10.2

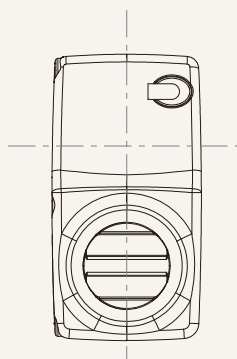
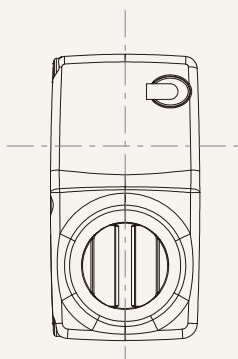
4 = Aluminum CNC, without slot,
hole 12.2



Direction of Rear Attachment (Counterclockwise)

1 = 90°

2 = 0°



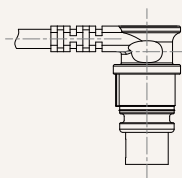
Functions for Limit Switches

Wire Definitions

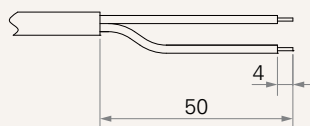
CODE	Pin					
	● 1 (Green)	● 2 (Red)	○ 3 (White)	● 4 (Black)	● 5 (Yellow)	● 6 (Blue)
1	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A	retract (VDC+)	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch
4	extend (VDC+)	common	upper limit switch	medium limit switch	retract (VDC+)	lower limit switch
5	extend (VDC+)	N/A	upper limit switch	common	retract (VDC+)	lower limit switch

Connector

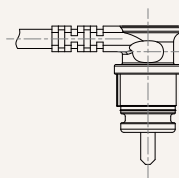
1 = DIN 6P, 90° plug



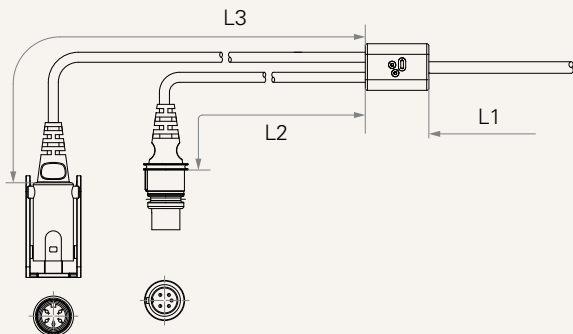
2 = Tinned leads



4 = Big 01P, plug



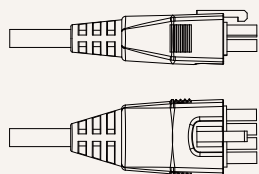
C = Y cable (for direct cut system, water proof, anti pull)



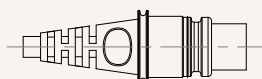
Cable length for direct cut system (mm)

CODE	L1	L2	L3
B	100	100	100
C	100	1000	400
D	100	2700	500
E	1000	100	100
F	100	600	1000
G	1500	1000	1000
H	100	100	1200

E = MOLEX 8P, plug



F = DIN 6P, 180° plug



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