TA29

series

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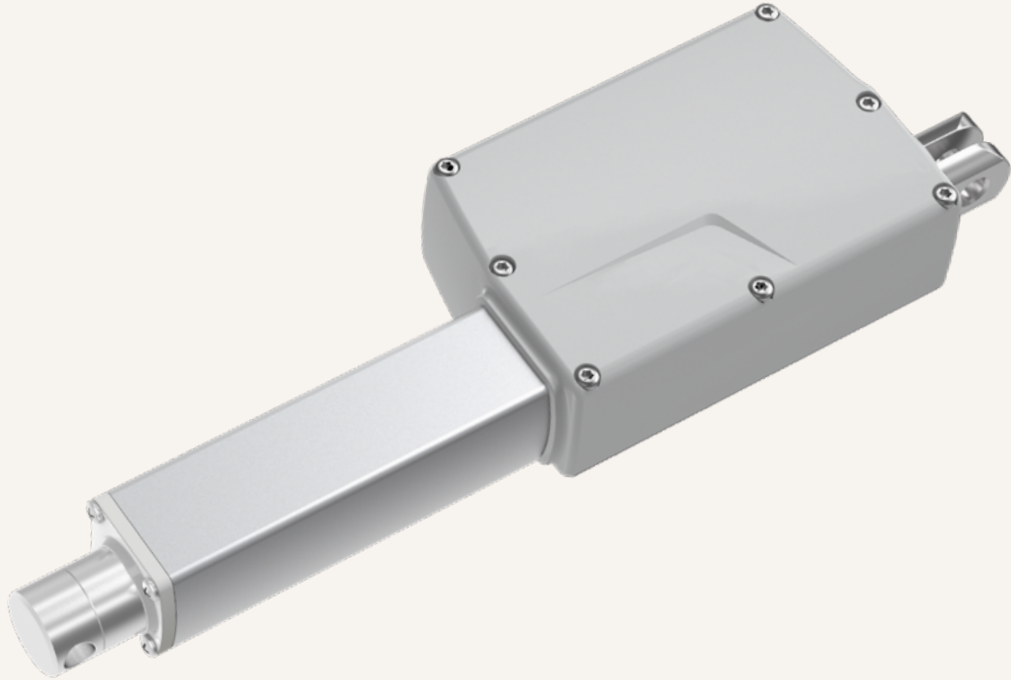
Product Segments

• 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	6,000N 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)

Retracted Length
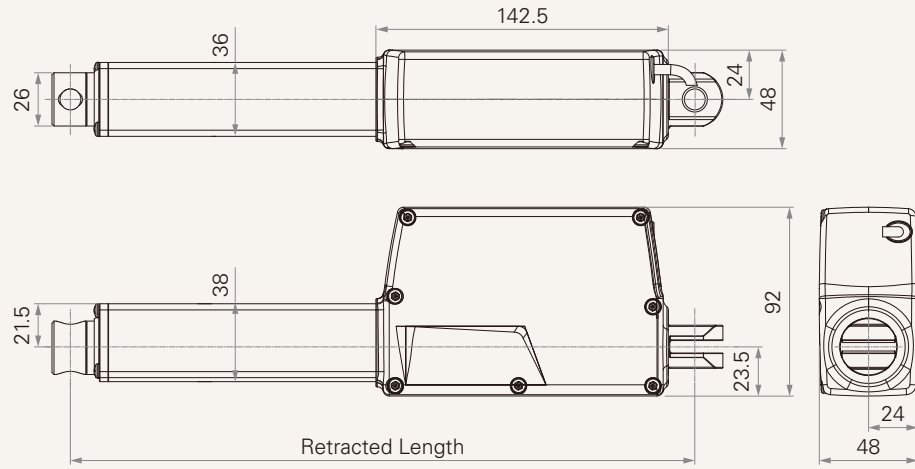
Load and Speed

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
G	6000	4000	6000	1.5	5.0	6.0	3.5
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 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.

3 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.

4 The current & speed in table are tested when the actuator is extending under push load.

5 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)

6 Standard stroke: Min. ≥ 25mm, Max. please refer to below table.

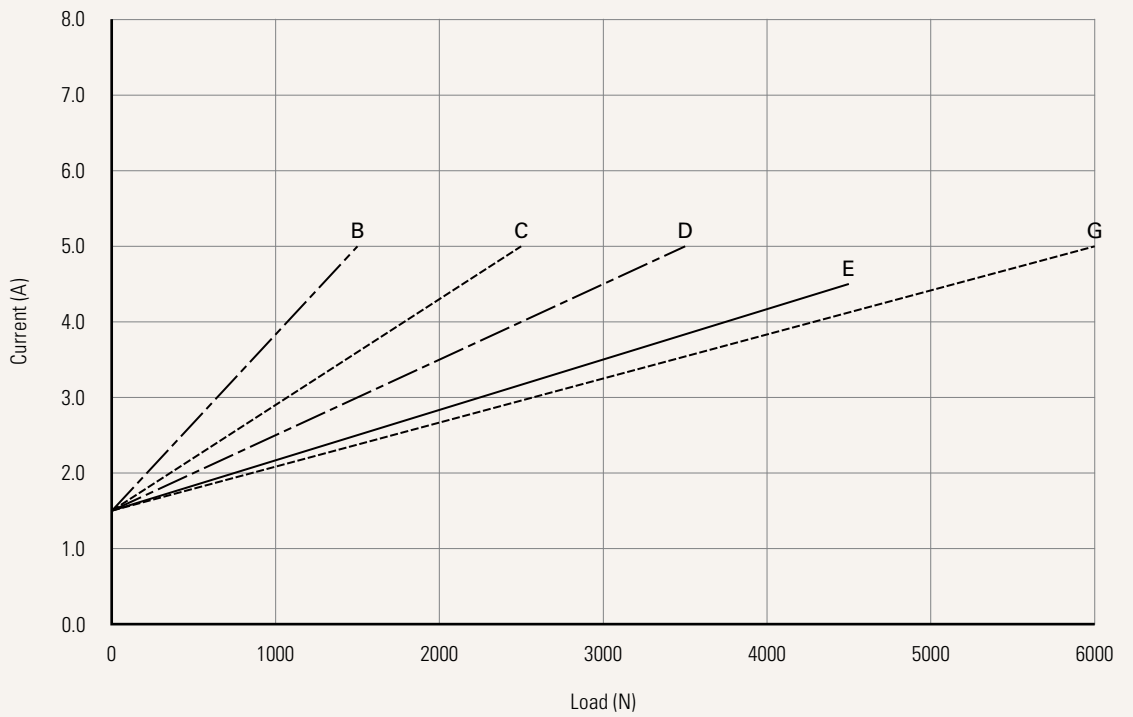| Load (N)	Max Stroke (mm)
6000	450
3500 ≤ load ≤ 4500	600
< 3500	1000

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Performance Data (24V DC Motor)

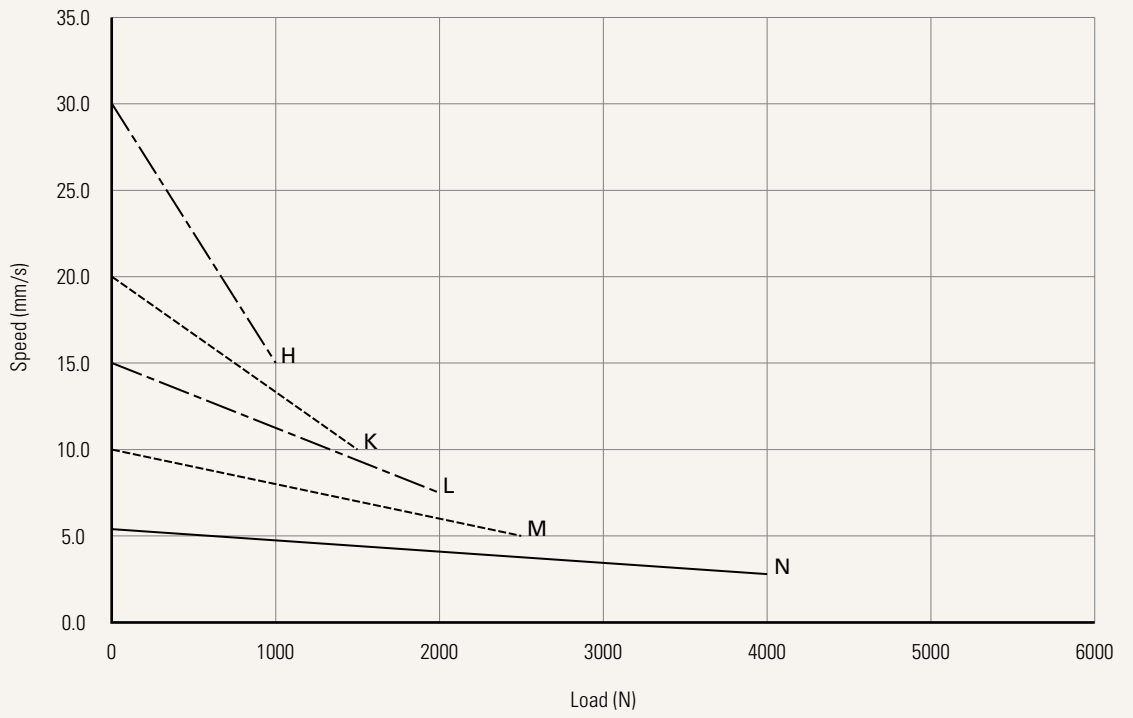Motor Speed (4800RPM, Duty Cycle 10%)
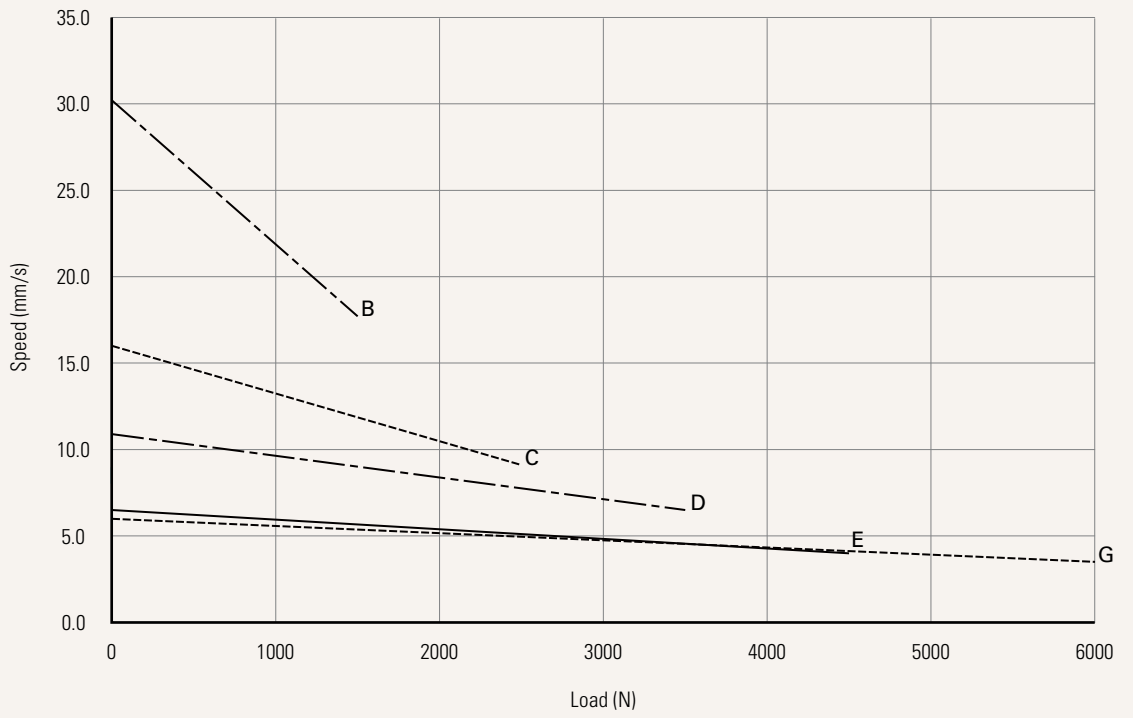
Speed vs. Load

Current vs. Load

Performance Data (24V DC Motor)

Motor Speed (5200RPM, Duty Cycle 10%)

Speed vs. Load

Current vs. Load

TA29 Ordering Key

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Voltage	1 = 12V DC	2 = 24V DC	5 = 24V DC, PTC	6 = 12V DC, PTC
Load and Speed	See page 3			
Stroke (mm)	See page 3			
Retracted Length (mm)	See page 7			
Rear Attachment (mm) See page 8	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) See page 8	3 = Aluminum CNC, without slot, hole 10.2		4 = Aluminum CNC, without slot, hole 12.2	
Direction of Rear Attachment (Counterclockwise) See page 8	1 = 90°	2 = 0°		
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 See page 9	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)			
Output Signals	0 = Without	2 = Hall sensor * 2		
Connector See page 9	1 = DIN 6P, 90° plug 2 = Tinned leads 4 = Big 01P, plug	C = Y cable (for direct cut system, water proof, anti pull)	E = Molex 8P, plug F = DIN 6P, 180° plug	
Cable Length (mm)	0 = Straight, 100 1 = Straight, 500 2 = Straight, 750	3 = Straight, 1000 4 = Straight, 1250 5 = Straight, 1500	6 = Straight, 2000 7 = Curly, 200 8 = Curly, 400	B~H = For direct cut system See page 7

Retracted Length (mm)

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

A. Front Attachment

3, 4	+112

B. Stroke

Stroke (mm)	Load (N)				
	< 3500	3500	4000	4500	6000
25~150	-	+5	+10	+15	+30
151~200	+8	+13	+18	+23	+38
201~250	+8	+13	+18	+23	+38
251~300	+13	+18	+23	+28	+43
301~350	+13	+18	+23	+28	+43
351~400	+18	+23	+28	+33	+48
401~450	+23	+28	+33	+38	+53
451~500	+28	+33	+38	+43	+58
501~550	+33	+38	+43	+48	+63
551~600	+38	+43	+48	+53	+68
For Push Application	+6	+6	+6	+6	0

Rear Attachment (mm)

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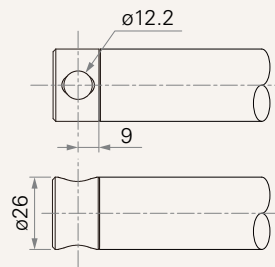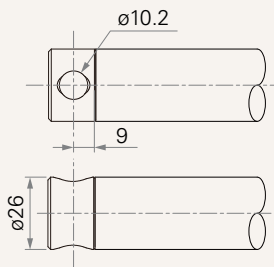6.2, depth 12.2, hole 10.2

4 = Aluminum casting, U clevis, slot
6.2, depth 12.2, hole 12.2
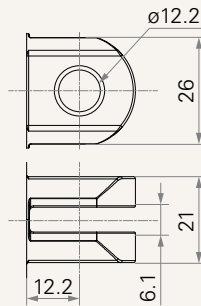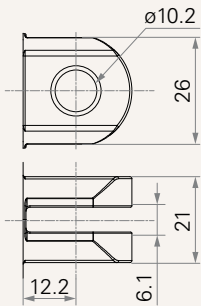
Front Attachment (mm)

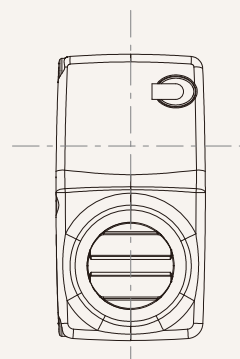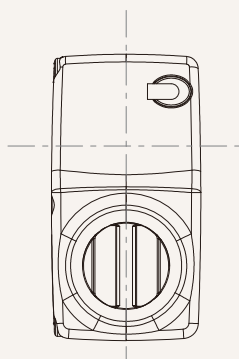3 = Aluminum CNC, without slot,
hole 10.2

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

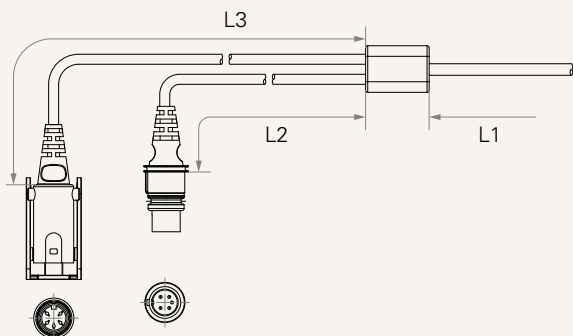## Connector

1 = DIN 6P, 90° plug
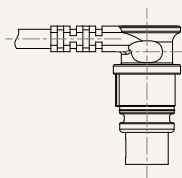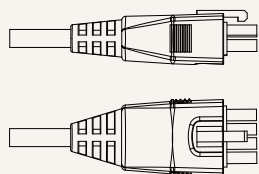

2 = Tinned leads
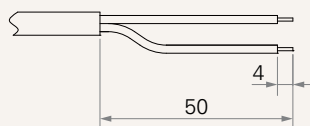
4 = Big 01P, plug
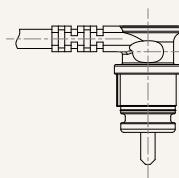
C = Y cable (for direct cut system, water proof, anti pull)

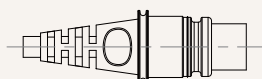### Cable length for direct cut system (mm)

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

Terms of Use

The user is responsible for determining the suitability of TiMOTION products for a specific application.
TiMOTION products are subject to change without prior notice.