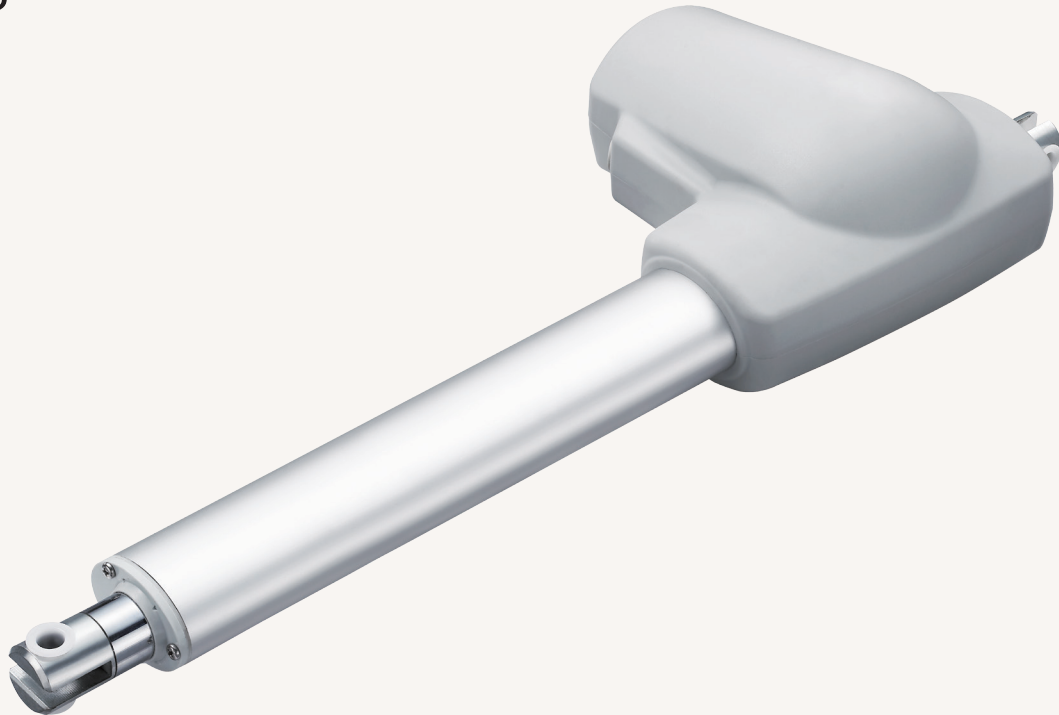


# TA12

## series



### Product Segments

- **Care Motion**
- **Industrial Motion**

TiMOTION's TA12 series linear actuator is designed primarily for high-load patient lifts and bariatric beds. These sensitive applications require a linear actuator whose design is focused on safety, reliability and effortless operation. A significant feature of the TA12 is the manual release function that allows for lowering of the patient in the event of an emergency or electrical power outage. The TA12 linear actuator has obtained the UL/EN60601-1 certification and is available with an optional IP54 or 66 rating.

#### General Features

Voltage of motor	12V DC, or 24V DC
Maximum load	12,000N in push
Maximum load	6,000N in pull
Maximum speed at full load	32.3mm/s (with 1,500N in a push or pull condition)
Minimum installation dimension	Stroke+210mm
Color	Black or grey
IP rating	Up to IP66W
Certificate	RoHS, EN60601-1 and IEC60601-1 compliant
Operational temperature range	+5°C~+45°C
Option	Safety nut, Hall/Reed/POT sensor(s), manual release

## 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 (3800RPM, Duty Cycle 10%)

<b>B</b>	12000	6000	12000	2.0	10.0	7.2	4.0
<b>C</b>	7000	6000	7000	2.5	9.0	14.4	8.1
<b>D</b>	4000	4000	4000	2.5	9.5	28.7	16.2
<b>E</b>	2500	2500	2500	2.5	8.5	43.1	24.3
<b>F</b>	1500	1500	1500	2.5	7.5	57.3	32.3

### Motor Speed (3000RPM, Duty Cycle 10%)

<b>G</b>	10000	6000	10000	2.0	10.0	11.0	5.2
<b>H</b>	12000	6000	12000	2.0	7.5	5.5	3.1
<b>J</b>	7000	6000	7000	2.0	7.5	11.3	6.0
<b>K</b>	4000	4000	4000	2.0	7.0	22.7	12.7
<b>L</b>	2500	2500	2500	2.0	6.5	34.0	19.1
<b>M</b>	1500	1500	1500	2.0	6.0	45.3	25.5

## Note

- 1 With a 12V motor, the current is approximately twice the current measured in 24V; speed will be similar for both voltages.
- 2 Self locking force: Tested average value when working with TiMOTION control system in push direction.
- 3 Current and speed: Tested average value when stretching in push direction.
- 4 Standard stroke: min needs  $\geq 20\text{mm}$ , Max refer to below table.

Load and Speed Code	Max Stroke (mm)
<b>B, H</b>	450
<b>G</b>	750
<b>C, J</b>	900
<b>D, K</b>	1000
<b>E, L</b>	1200
<b>F, M</b>	1500

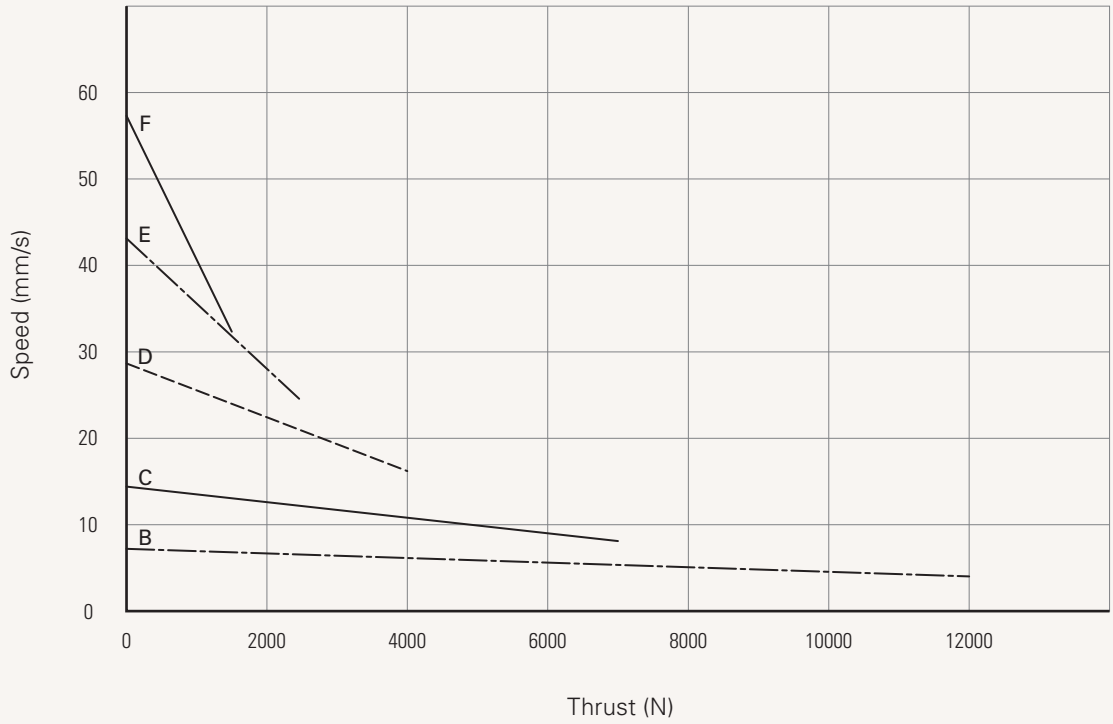
- 5 With POT signal the Max stroke.

Load and Speed Code	Max Stroke (mm)
<b>G</b>	335
<b>B, H</b>	335
<b>C, J</b>	685
<b>D, K</b>	685
<b>E, L</b>	1030
<b>F, M</b>	1400

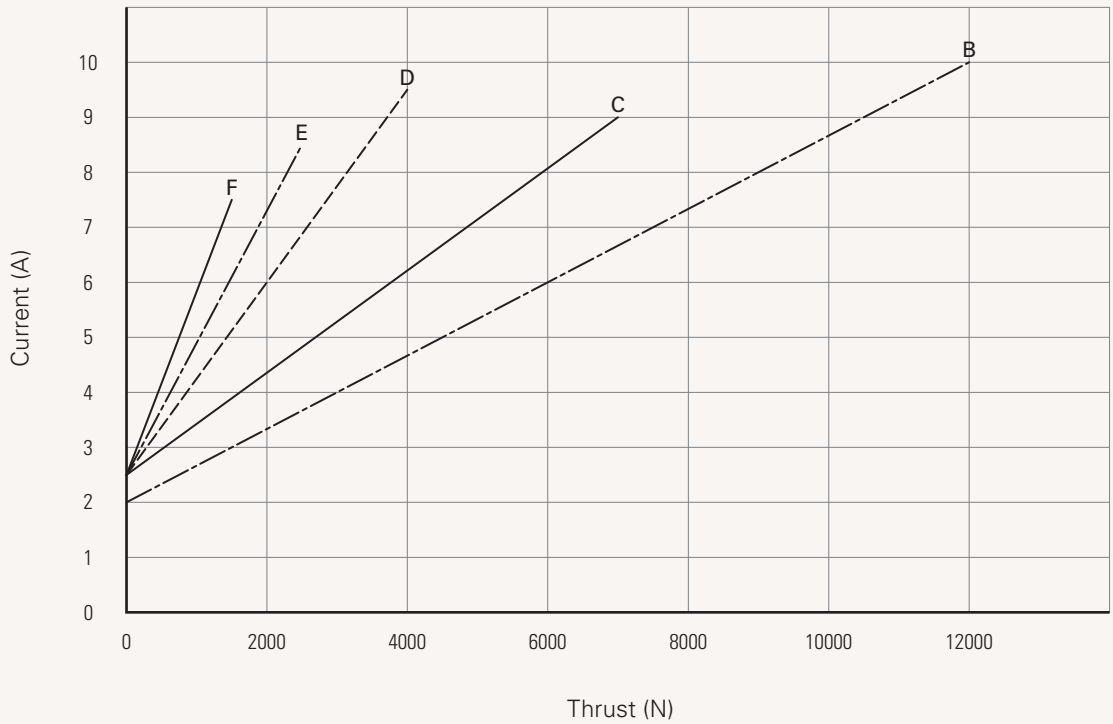
**Performance Data (24V DC Motor)**

Motor Speed (3800RPM, Duty Cycle 10%)

Speed vs. Thrust



Current vs. Thrust



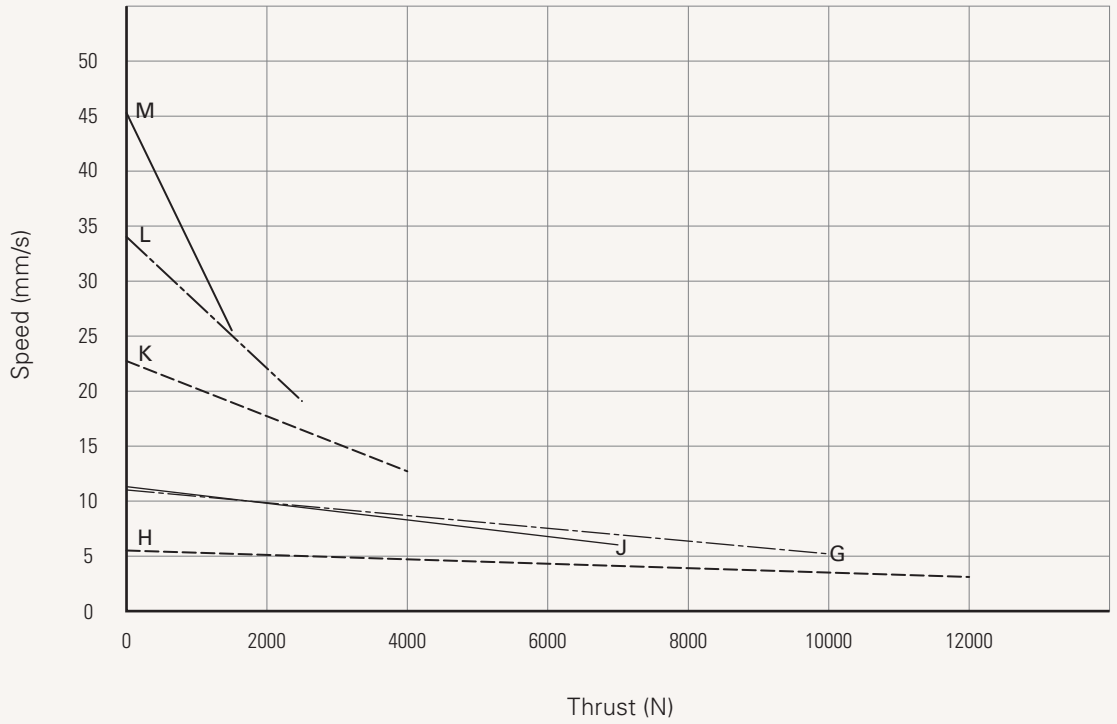
**Note**

1 The performance data in the curve charts shows theoretical value.

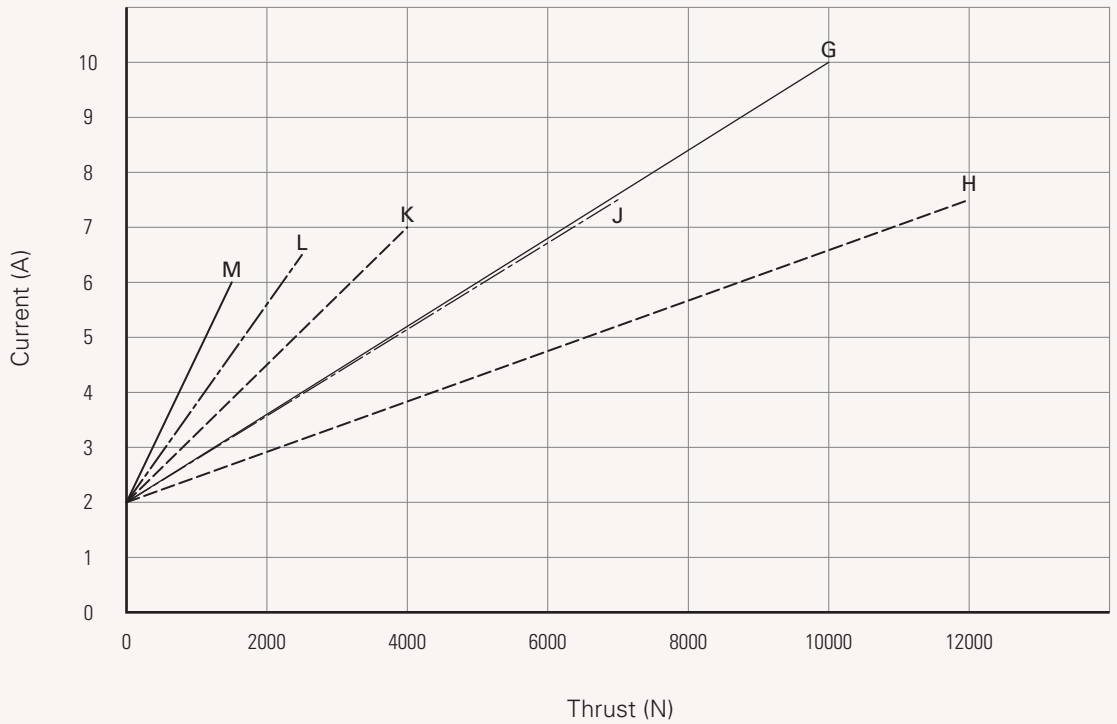
Performance Data (24V DC Motor)

Motor Speed (3000RPM, Duty Cycle 10%)

Speed vs. Thrust



Current vs. Thrust

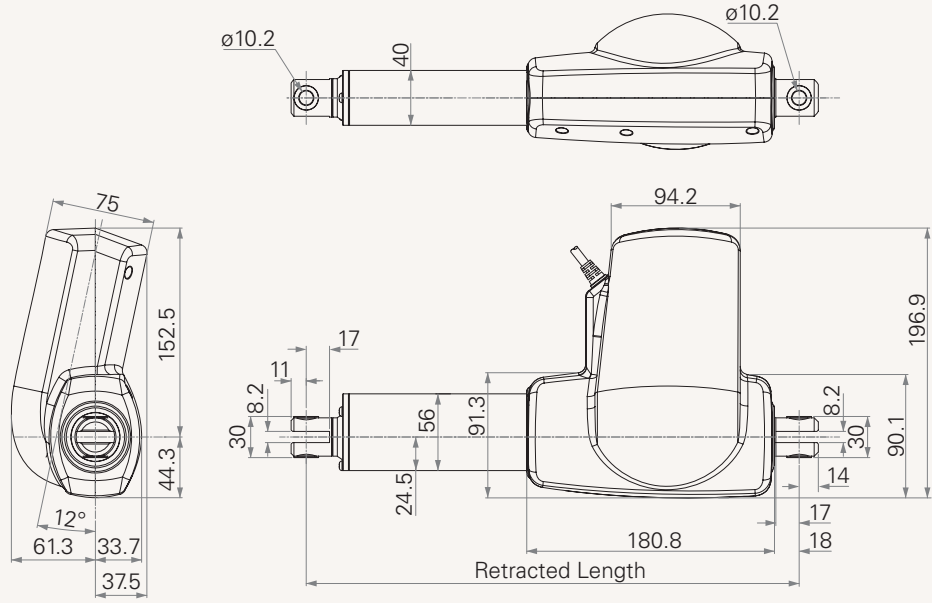


Note

1 The performance data in the curve charts shows theoretical value.

**Drawing**

Standard Dimensions  
(mm)



### Retracted length (mm)

1. Calculate  $A+B+C = Y$
2. Retracted length needs to  $\geq \text{Stroke}+Y$







A. Front attachment	Normal	Patient Hoist
1, 2	+220	-
6, 7, C (for load<8000N)	+210	-
F	-	+267

B. Stroke (mm)	Normal	Patient Hoist
20~300	-	-
301~350	+10	+10
351~400	+20	+20

For stroke over 400mm, +10mm for each incremental 50mm stroke.

C. Special Functions for Spindle Sub-Assembly	Normal	Patient Hoist
0	-	-
1	-	-
2	+15	-
3	+15	-
6	-	+15

### Wire Definitions

CODE*	Pin					
	1	2	3	4	5	6
	 (green)	 (red)	 (white)	 (black)	 (yellow)	 (blue)
<b>1</b>	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
<b>3</b>	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch

### Note

\* See ordering key - functions for limit switches

## TA12

Version: 20161101-N

<input type="checkbox"/>	<b>Voltage</b>	5 = 24V, thermal protector	6 = 12V, thermal protector		
<input type="checkbox"/>	<b>Load and Speed</b>	See page 2			
<input type="checkbox"/>	<b>Stroke (mm)</b>				
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>	<b>Retracted Length (mm)</b>	See page 6			
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>	<b>Rear Attachment (mm)</b>	1 = Iron CNC, clevis U, slot 8.2, depth 17.0, hole 10.2, T bushing 2 = Iron CNC, clevis U, slot 8.2, depth 17.0, hole 12.2 6 = Aluminum casting, clevis U, slot 8.2, depth 17.0, hole 10.2 (for load<8000N)	7 = Aluminum casting, clevis U, slot 8.2, depth 17.0, hole 12.2 (for load<8000N) C = Aluminum casting, clevis U, slot 8.2, depth 17.0, hole 10.2, T bushing (for load<8000N)		
<input type="checkbox"/>	<b>Front Attachment (mm)</b>	1 = Iron CNC, clevis U, slot 8.2, depth 17.0, hole 10.2, T bushing 2 = Iron CNC, clevis U, slot 8.2, depth 17.0, hole 12.2 6 = Aluminum casting, clevis U, slot 8.2, depth 15.0, hole 10.2 (for load<8000N)	7 = Aluminum casting, clevis U, slot 8.2, depth 15.0, hole 12.2 (for load<8000N) C = Aluminum casting, clevis U, slot 8.2, depth 15.0, hole 10.2, T bushing (for load<8000N)		
<input type="checkbox"/>	<b>Direction of Rear Attachment (Counterclockwise)</b>	1 = 0°	3 = 90°		
<input type="checkbox"/>	<b>Color</b>	1 = Black	2 = Grey (Pantone 428C)		
<input type="checkbox"/>	<b>IP Rating</b>	1 = Without	2 = IP54	3 = IP66	5 = IP66W
<input type="checkbox"/>	<b>Emergency Release Function</b>	0 = Without			
<input type="checkbox"/>	<b>Special Functions for Spindle Sub-Assembly</b>	0 = Without (standard) 1 = Safety nut	2 = Standard push only 3 = Standard push only + safety nut		
<input type="checkbox"/>	<b>Functions for Limit Switches</b>	1 = Two switches at full retracted/extended positions to cut current 3 = Two switches at full retracted/extended positions to send signal			
<input type="checkbox"/>	<b>Output Signals</b>	0 = Without	1 = One Hall sensor	2 = Two Hall sensors	4 = POT
<input type="checkbox"/>	<b>Connector</b>	1 = DIN 6pin, 90° plug	2 = Tinned leads	F = DIN 6pin, 180° plug	G = Audio plug
<input type="checkbox"/>	<b>Cable Length</b>	1 = Straight, 500mm 2 = Straight, 750mm	3 = Straight, 1000mm 4 = Straight, 1250mm	5 = Straight, 1500mm 6 = Straight, 2000mm	7 = Curly, 200mm 8 = Curly, 400mm

# TA12 - Patient Hoist Ordering Key

TA12

Version: 20161101-N

<input type="checkbox"/>	<b>Voltage</b>	5 = 24V, thermal protector		
<input type="checkbox"/>	<b>Load and Speed</b>	B = 12000N	G = 10000N	
<input type="checkbox"/>	<b>Stroke (mm)</b>			
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>	<b>Retracted Length (mm)</b>	See page 6		
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>	<b>Rear Attachment (mm)</b>	C = Aluminum casting, clevis U, slot 8.2, depth 17.0, hole 10.2, T bushing		
<input type="checkbox"/>	<b>Front Attachment (mm)</b>	F = Aluminum casting, clevis U, slot 8.2, depth 19.0, hole 10.2, T bushing (for manual release)		
<input type="checkbox"/>	<b>Direction of Rear Attachment (Counterclockwise)</b>	1 = 0°		
<input type="checkbox"/>	<b>Color</b>	1 = Black	2 = Grey (Pantone 428C)	
<input type="checkbox"/>	<b>IP Rating</b>	2 = IP54	3 = IP66	
<input type="checkbox"/>	<b>Emergency Release Function</b>	5 = Manual release		
<input type="checkbox"/>	<b>Special Functions for Spindle Sub-Assembly</b>	6 = Mechanical push only + safety nut		
<input type="checkbox"/>	<b>Functions for Limit Switches</b>	1 = Two switches at full retracted/extended positions to cut current		
<input type="checkbox"/>	<b>Output Signals</b>	0 = Without		
<input type="checkbox"/>	<b>Connector</b>	1 = DIN 6pin, 90° plug	F = DIN 6pin, 180° plug	G = Audio plug
<input type="checkbox"/>	<b>Cable Length</b>	1 = Straight, 500mm	3 = Straight, 1000mm	

## 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.