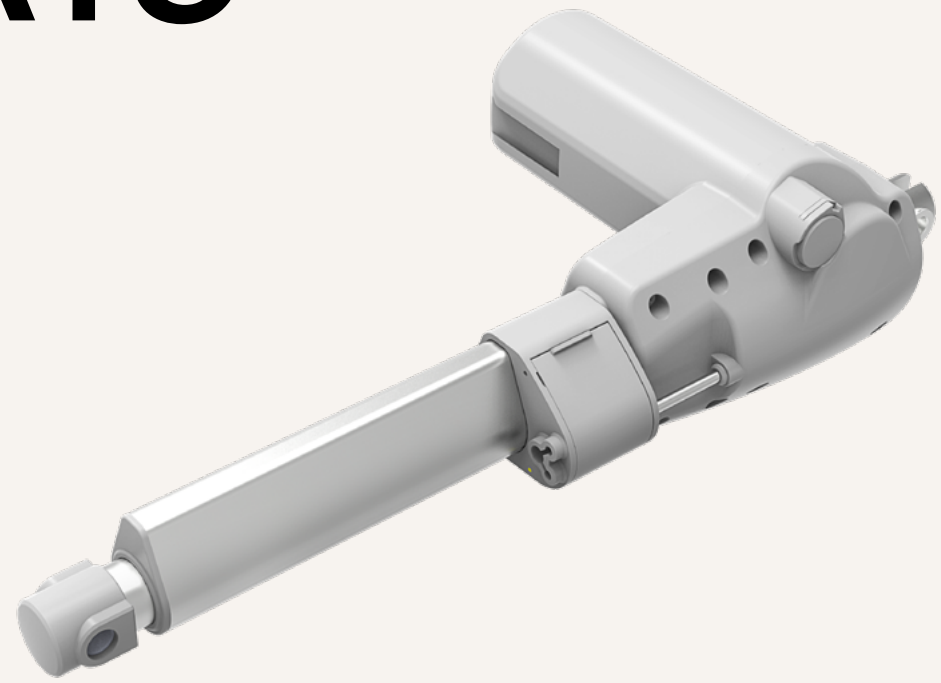
TA15
series



Product Segments

- **Care Motion**

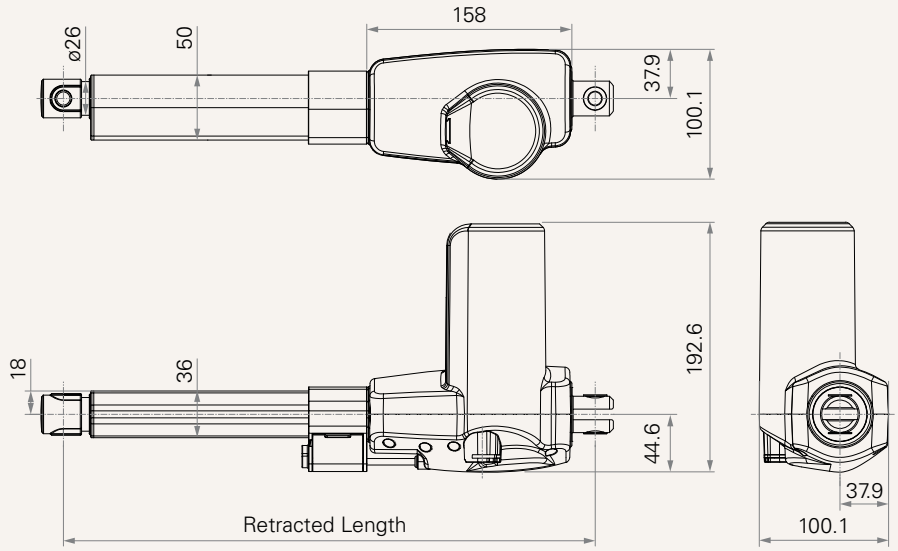
TiMOTION's TA15 series linear actuator was specifically designed for bariatric bed applications. These beds require a robust, long life solution that incorporates safety, reliability and effortless operation. A significant feature of the TA15 linear actuator is the quick release function that allows for lowering of the patient in the event of an emergency or electrical power outage.

General Features

Voltage of motor	24V DC or 36V DC
Maximum load	10,000N in push
Maximum load	5,500N in pull
Maximum speed at full load	32.2mm/s (with 1,500N in a push or pull condition)
Minimum installation dimension	≥ Stroke + 210mm
Color	Black or grey
IP rating	Up to IP66
Operational Temperature range	+5°C~+45°C
Certificate	IEC60601-1, ES60601-1, IEC60601-1-2

Drawing

Standard Dimension
(mm)



Load and Speed

CODE	Load (N)		Self Locking Push (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 (3000RPM, Duty cycle 10%)							
T	8000	4000	8000	2.5	6.0	7.9	4.4
Motor Speed (3800RPM, Duty cycle 10%)							
B	10000	4000	10000	2.5	8.5	8.0	4.5
C	8000	4000	8000	2.5	8.5	10.7	6.0
D	5500	5500	5500	2.5	8.0	14.4	8.1
F	1500	1500	1500	2.5	6.5	49.4	32.2

Note

1 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. With a 36V DC motor, the current is approximately two-thirds the current measured in 24V DC. Speed will be similar for all the voltages.

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 when the actuator is extending under push load.

4 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)

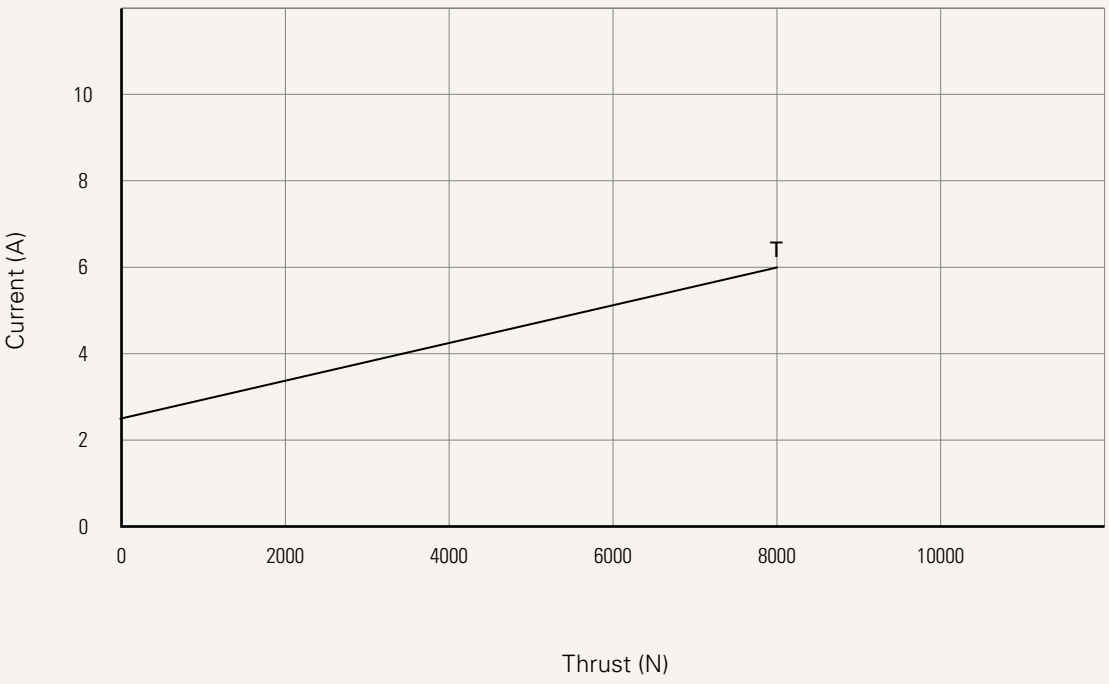
5 Standard stroke: Min. ≥ 30mm, Max. please refer to below table.

Code	Load (N)	Max Stroke (mm)
B	10000	500
T/C	8000	500
D	5500	800
F	1500	1000

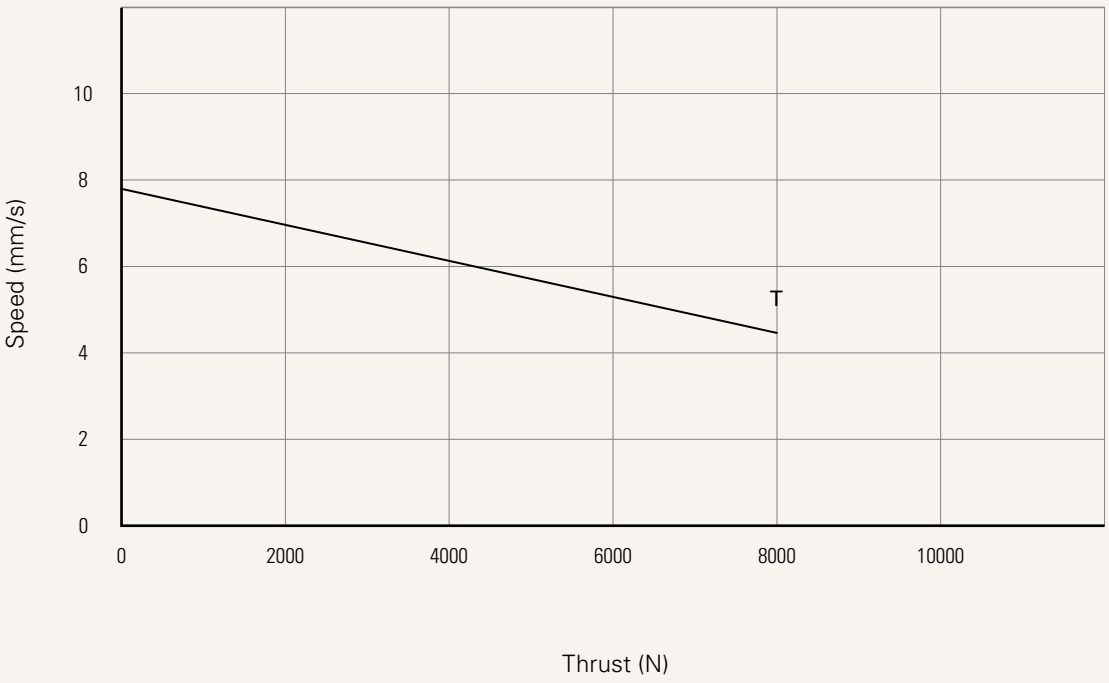
Performance Data (24V)

Motor Speed (3000RPM, Duty cycle 10%)

Current vs. Thrust



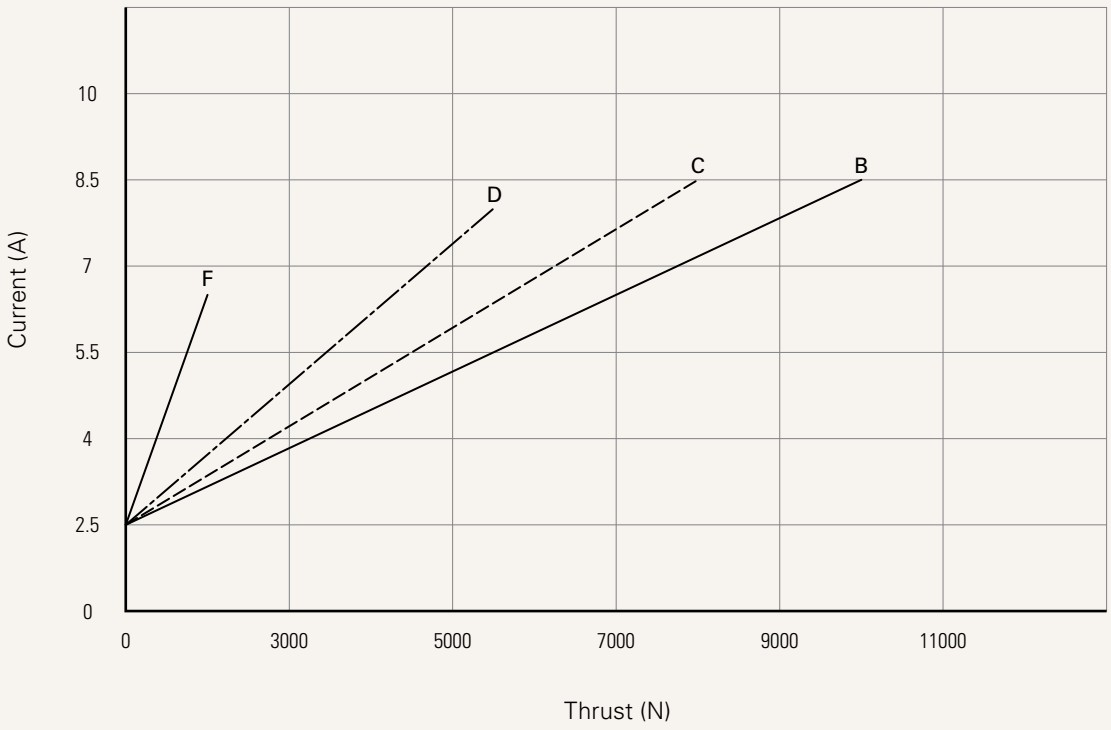
Speed vs. Thrust



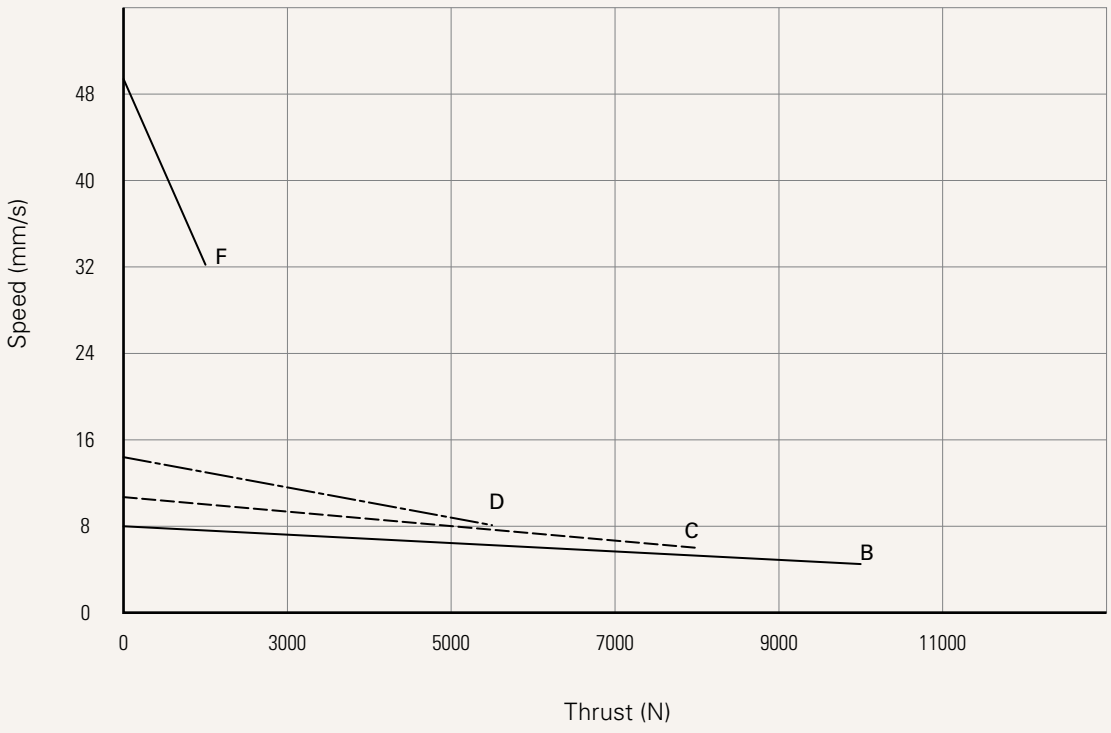
Performance Data (24V)

Motor Speed (3800RPM, Duty cycle 10%)

Current vs. Thrust



Speed vs. Thrust



Retracted Length (mm)

1. Calculate A+B+C = Y

2. Retracted length needs to ≥ Stroke+Y

A. Front Attachment	
1, 2, 3, 4	+220
B, C	+210

B. Stroke (mm)	
0~150	-
151~200	-
201~250	-
251~300	-
301~350	+10
351~400	+20

For stroke over 300mm, +10mm for each increment of 50mm stroke.

Load with Pot, the corresponding max stroke

Load	Max Stroke	Resolution
	mm	Ω/mm
T/C	400	23.08
B	220	41.38
D	540	17.14
F	920	10.00

Functions for Limit Switches

Wire Definitions

CODE*	Pin			
	1	2	3	4
	(green)	(red)	(white)	(black)
1	extend (VDC+)	N/A	N/A	N/A
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A
3	extend (VDC+)	common	upper limit switch	N/A
4	extend (VDC+)	common	upper limit switch	medium limit switch

Note

* See ordering key - functions for limit switches

TA15 Ordering Key

TiMOTION

TA15

Version: 20170518-C

Voltage	5 = 24V thermal protector	7 = 36V thermal protector		
Load and Speed	See page 2			
Stroke (mm)				
Retracted Length (mm)	See page 5			
Rear Attachment	1 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 10.2, T bushing	2 = Iron CNC, U clevis, slot 8.2, depth 17.0, hole 12.2	3 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 10.2, T bushing	4 = Iron CNC, U clevis, slot 10.2, depth 17.0, hole 12.2
Front Attachment	1 = Iron CNC, U clevis, slot 8.2, depth 19.0, hole 10.2, T bushing	2 = Iron CNC, U clevis, slot 8.2, depth 19.0, depth 17.0, hole 12.2	3 = Iron CNC, U clevis, slot 10.2, depth 19.0, hole 10.2, T bushing	4 = Iron CNC, U clevis, slot 10.2, depth 19.0, hole 12.2
Direction of Rear Attachment (Counterclockwise)	1 = 0°	3 = 90°		
Color	1 = Black	2 = Grey (Pantone 428C)		
IP Protection	1 = Without	2 = IP54	3 = IP66	
Quick Release	0 = Without	2 = Cable type quick release (not including cable)		
Special Functions for Spindle Sub-Assembly	0 = Without (standard)	1 = Safety nut	2 = Standard push only	3 = Standard push only + Safety nut
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 = TTwo switches at full retracted/extended positions to send signal + third one in between to send signal
Output Signals	0 = Without	2 = Two Hall sensors	3 = Reed sensor	4 = POT
Connector	0 = DIN 6P, socket on gear box	1 = DIN 6P, 90° plug	2 = Tinned leads	3 = Small 01P, plug	4 = Big 01P, plug	E = MOLEX 8P, plug	F = DIN 6P, 180° plug	G = Audio plug
Cable Length	0 = Without, for socket on gear box	1 = Straight, 500mm	2 = Straight, 750mm	3 = Straight, 1000mm	4 = Straight, 1250mm	5 = Straight, 1500mm	6 = Straight, 2000mm	7 = Curly, 200mm	8 = Curly, 400mm

Terms of Use

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