TA13

series

Product Segments

- **Care Motion**

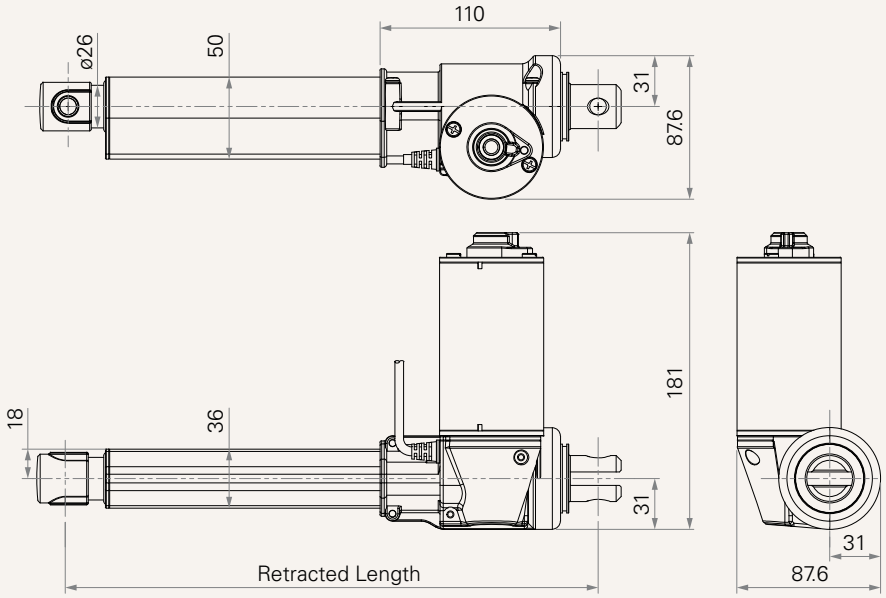
TiMOTION's TA13 series linear actuator is designed primarily for dental chairs requiring high-push load solutions, but can also be applied to a wide range of other applications. Certificates for the TA13 include IEC60601-1 and ES60601-1.

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 + 180mm
Color	Black or grey
Certificate	IEC60601-1, ES60601-1, EMC
Operational temperature range	+5°C~+45°C
Option	Hall sensor(s), push only
Suitable for dentist chair 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 (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
E	3000	3000	3000	3.0	7.0	25.8	15.7
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.

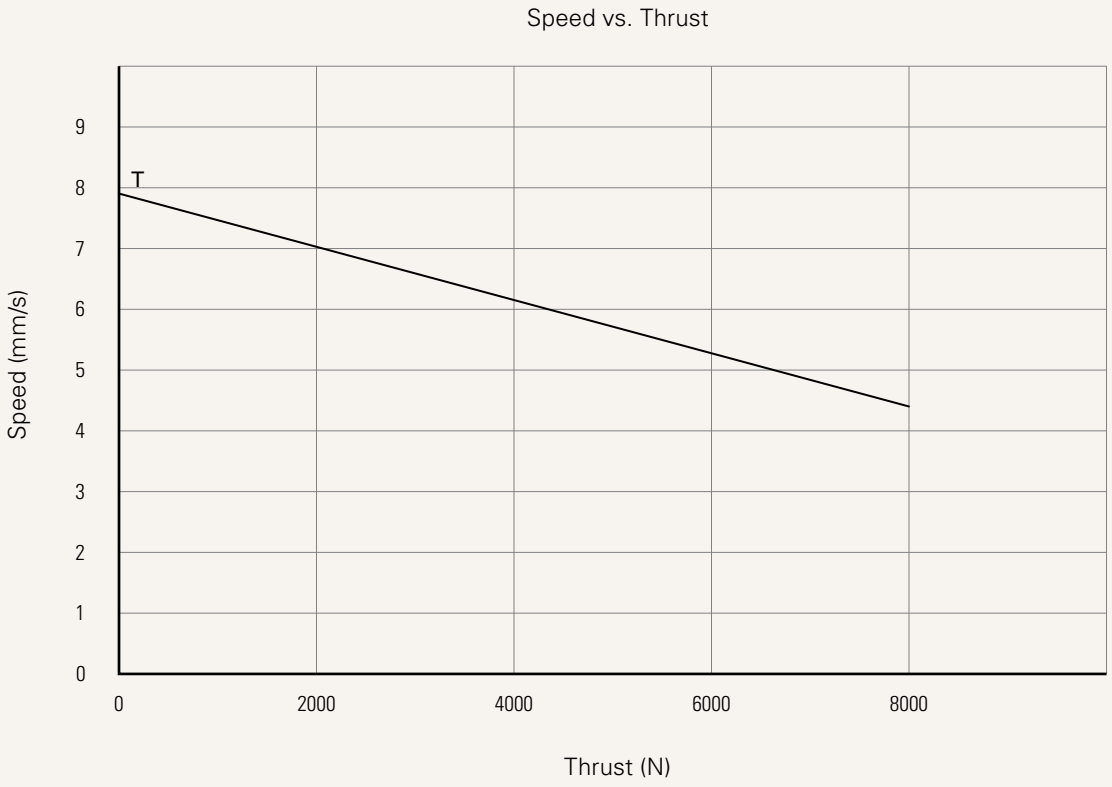
4 The current & speed in table and diagram are tested with TiMOTION control boxes, and there will be around 10% tolerance depending on different models of the control box. (Under no load condition, the voltage is around 32V DC. At rated load, the voltage output will be around 24V DC)

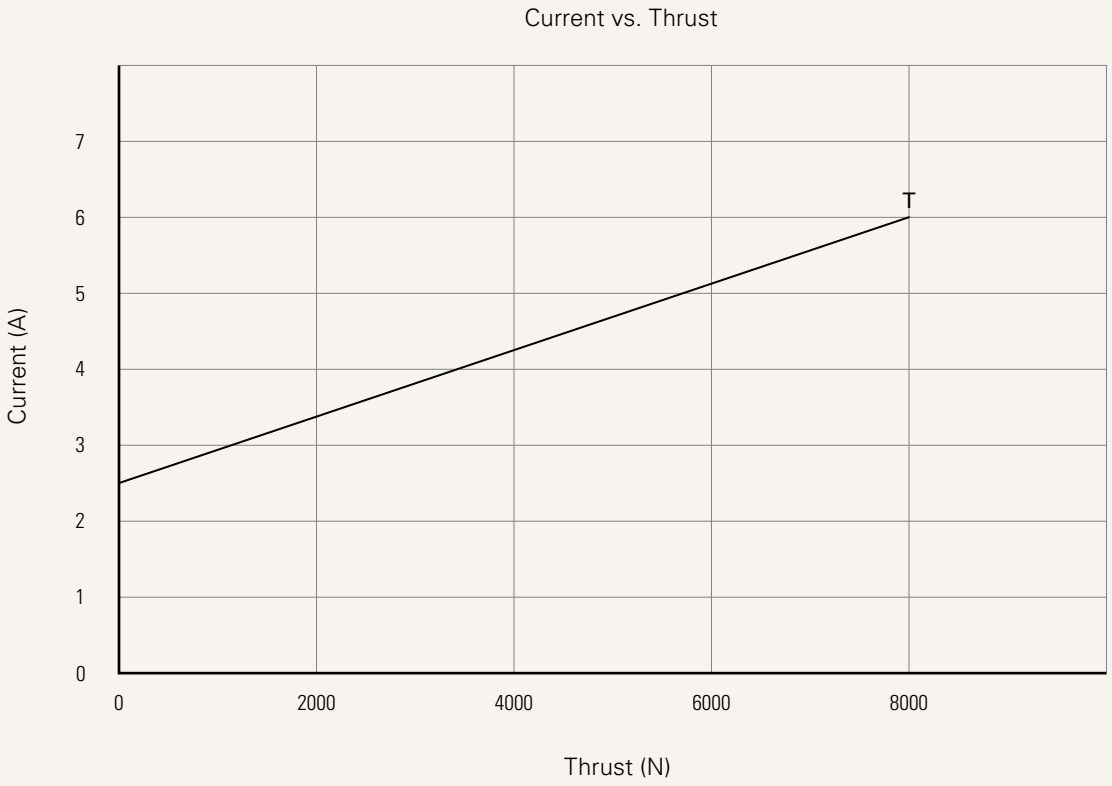
5 Standard stroke: Min. ≥ 30mm, Max. please refer to below table.

CODE	Load (N)	Max Stroke (mm)
B	10000	700
T / C	8000	750
D	5500	800
E	3000	900
F	1500	1000

Performance Data (24V DC Motor)

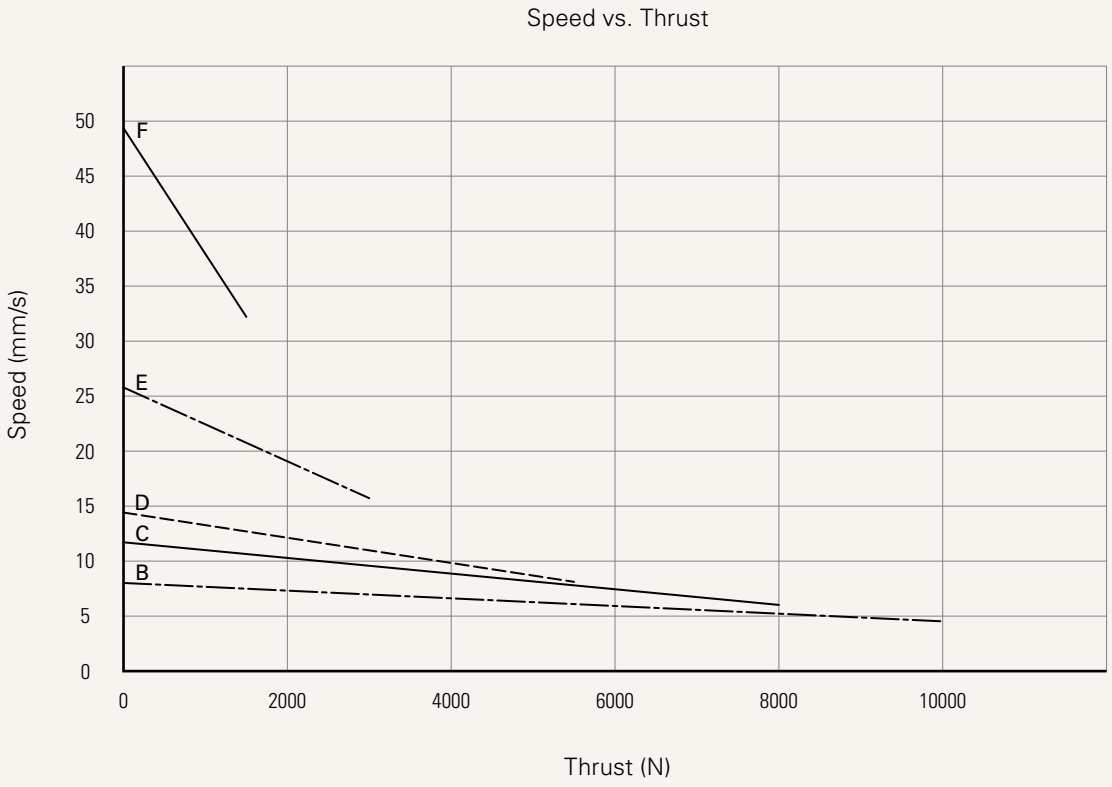
Motor Speed (3000RPM, Duty cycle 10%)

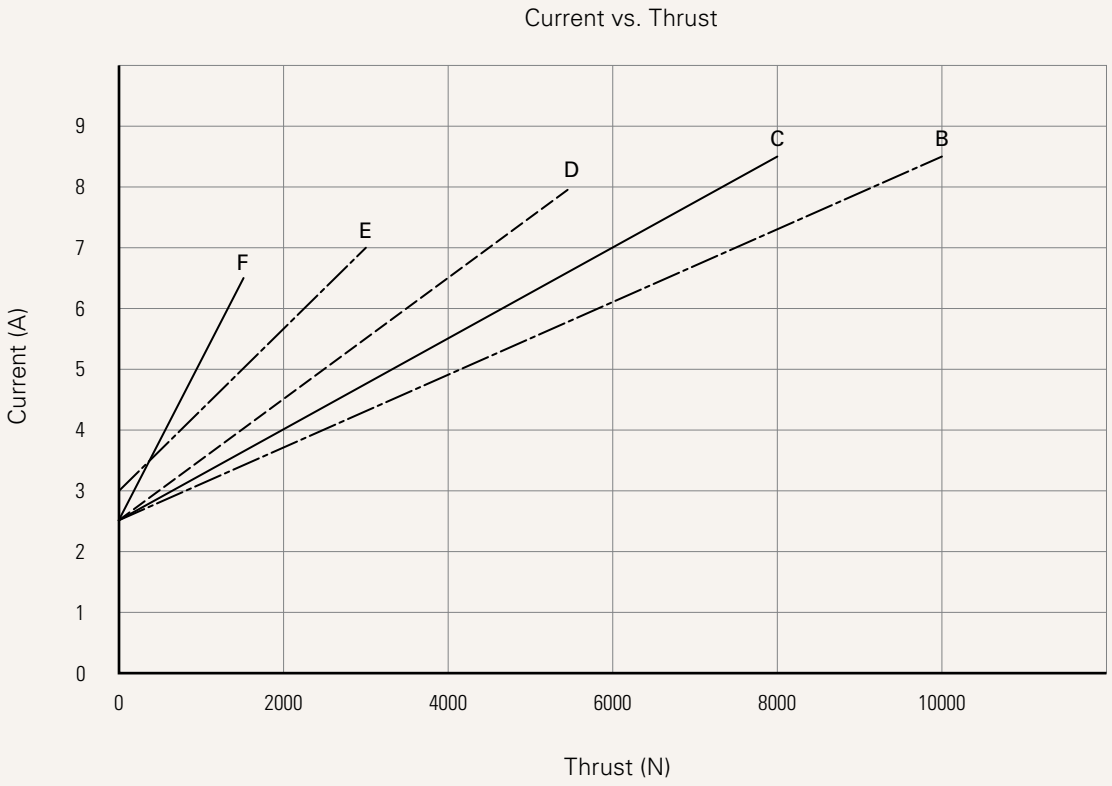




Performance Data (24V DC Motor)

Motor Speed (3800RPM, Duty cycle 10%)





Retracted Length (mm)

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

A. Front Attachment	
1, 2, 3, 4	**+185**
B, C	**+180**
J	**+180**

B. Stroke (mm)	
30 ~150	-
151~200	-
201~250	-
251~300	-
301~350	**+10**
351~400	**+20**

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

TA13 Ordering Key

TiMOTION

TA13

Version: 20161107-E

	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 8.2mm, hole 10.2mm, T bushing 2 = Iron CNC, U clevis, slot 8.2mm, hole 12.2mm		3 = Iron CNC, U clevis, slot 10.2mm, hole 10.2mm, T bushing 4 = Iron CNC, U clevis, slot 10.2mm, hole 12.2mm	
	Front Attachment	1 = Iron CNC, U clevis, slot 8.2mm, hole 10.2mm 2 = Iron CNC, U clevis, slot 8.2mm, hole 12.2mm 3 = Iron CNC, U clevis, slot 10.2mm, hole 10.2mm 4 = Iron CNC, U clevis, slot 10.2mm, hole 12.2mm B = Punched hole on inner tube + plastic cap, width 32mm, without slot, hole 10.2mm C = Punched hole on inner tube + plastic cap, width 32mm, without slot, hole 12.2mm J = Aluminum casting, without slot, hole 10.2mm, for dental chair			
	Direction of Rear Attachment (Counterclockwise)	1 = 0°		3 = 90°	
	Color (Plastic cable cover + cable, others metal color)	1 = Black (Black cable cover + black cable) 2 = Grey ((Iron grey cable cover + Pantone 428C cable)			
	Quick Release	0 = Without			
	Special Functions for Spindle Sub-Assembly	0 = Without 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 = Two switches at full retracted/extended positions to send signal + third one in between to send signal			
	Output Signals	0 = Without	1 = One Hall sensor	2 = Two Hall sensors	3 = Reed sensor
	Connector	1 = DIN 6pin, 90° plug 2 = Tinned leads		M = DIN 4pin, plug for dental chair (standard, 40510-143) N = DIN 4pin, plug for dental chair (40510-040)	
	Cable Length	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

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