

# TL3

series



## Product Segments

- **Care Motion**
- **Ergo Motion**

TiMOTION's TL3 series columns are designed with an extruded aluminum square appearance, primarily for use in medical applications. Our high capacity, economical TL3 provides stable vertical lifting. This makes the engineering design process easier and safer by replacing older style lifting mechanisms that use many moving parts and have pinch points. The 3 stage telescopic design enables a greatly reduced retracted height and provides an increased stroke length while ensuring a high degree of stability.

### General Features

Maximum load	4,000N
Maximum speed at full load	24.0mm/s (with 1,000N in a push condition)
Minimum installation dimension	Stroke/2+150mm (if max. load=1,000/2,000N)
Dimension of cross section	177.4x150.7mm
Stroke	100~700mm
Certificate	ES60601-1 and IEC60601-1 compliant
Operational temperature range	+5°C~+45°C
Option	POT, Hall sensors

### Load and Speed

CODE	Rated Load		Self Locking N (PUSH)	Typical Current at Rated Load (A)	Typical Speed	
	PUSH N	Dynamic Bending Moment (NM)			No Load (32V DC) mm/s	Rated Load (24V DC) mm/s

#### Motor Speed (2200RPM)

<b>B</b>	4000	1000	4000	5.5	14.5	7.6
<b>C</b>	2000	500	2000	3.5	22.0	13.0
<b>D</b>	1000	500	1000	3.1	39.0	24.0

#### Motor Speed (2800RPM)

<b>E</b>	4000	1000	4000	7.2	18.5	11.0
<b>F</b>	2000	500	2000	5.3	37.0	23.5

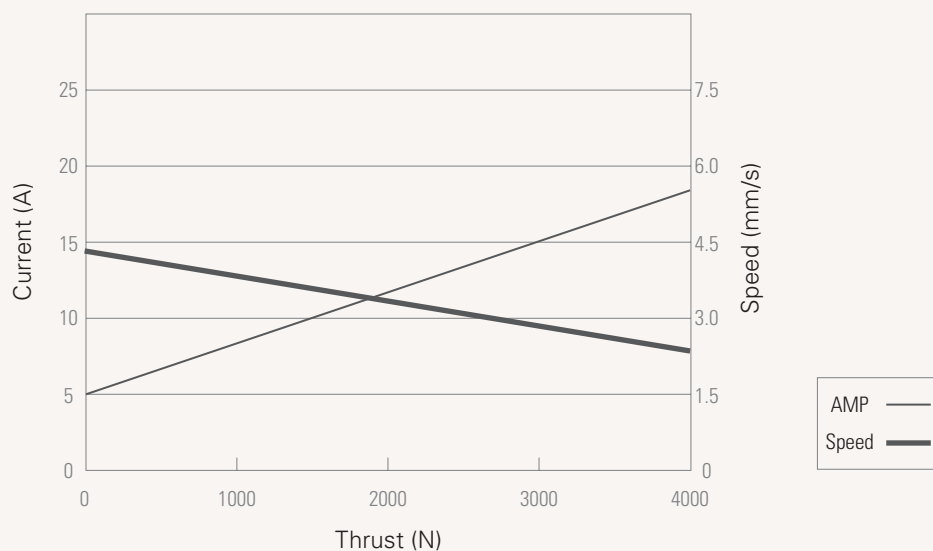
### Note

- 1 The above are the speed and current information under pushing condition.
- 2 Speed would be the same if with 12V motor, but with double current consumption.

### Performance Data

#### Code B

Thrust vs. Current & Speed

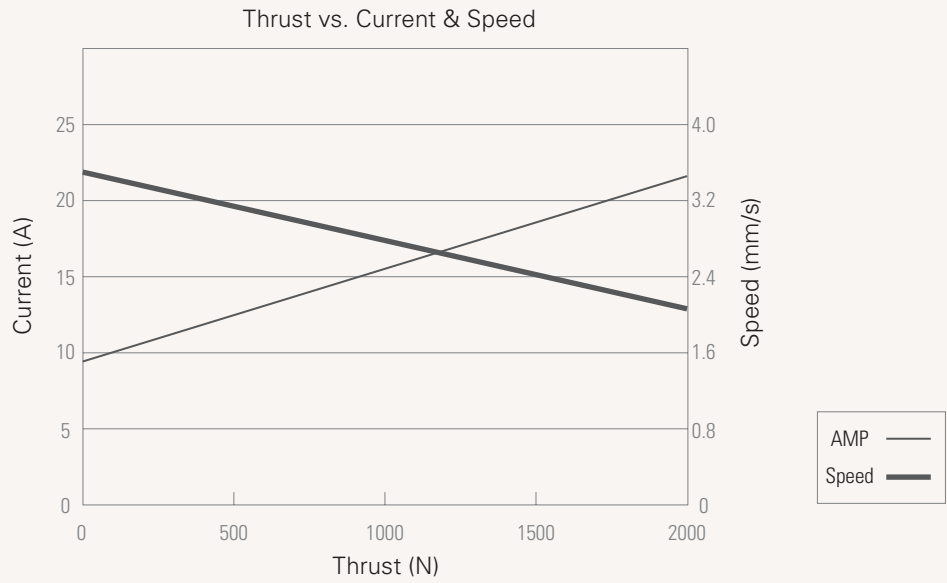


### Note

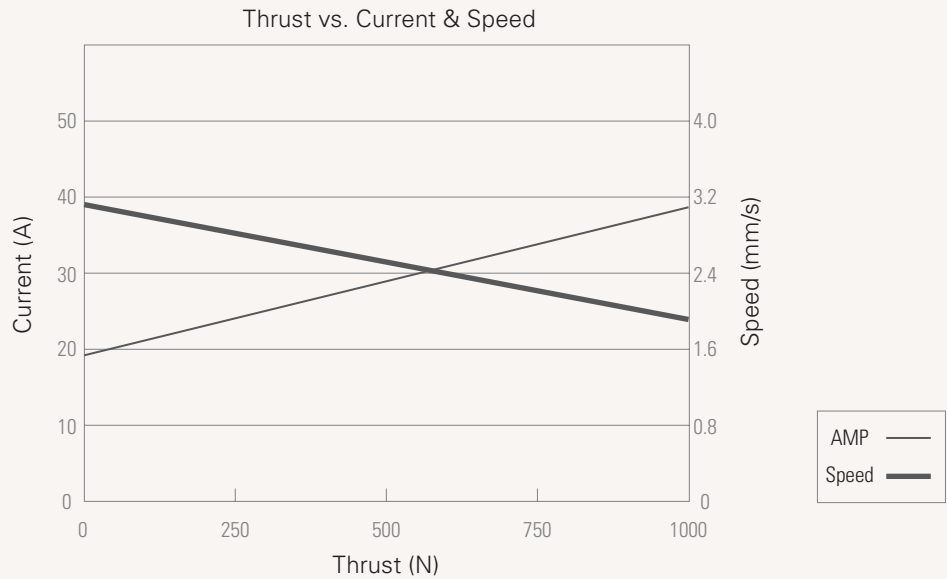
- 1 The performance data in the curve charts shows theoretical value only.

**Performance Data**

**Code C**



**Code D**

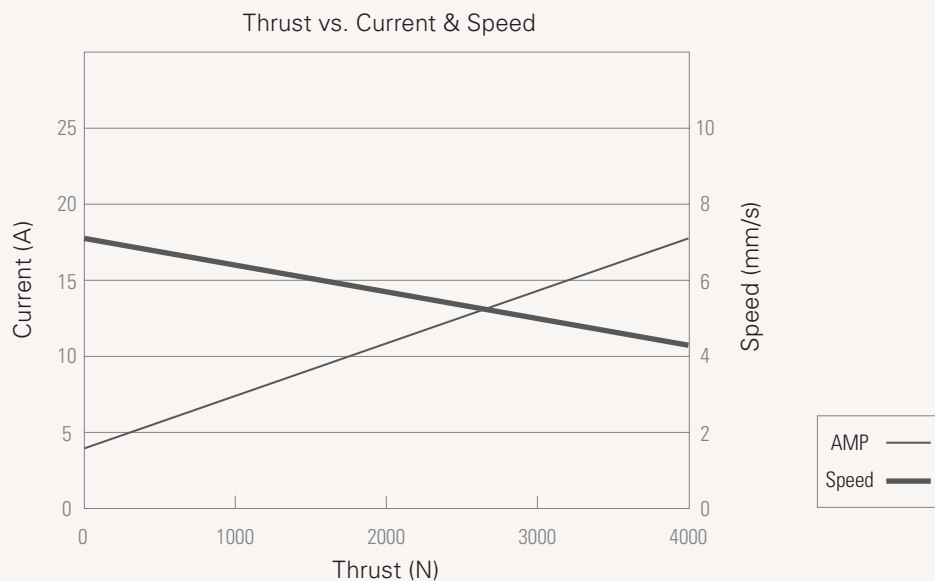


**Note**

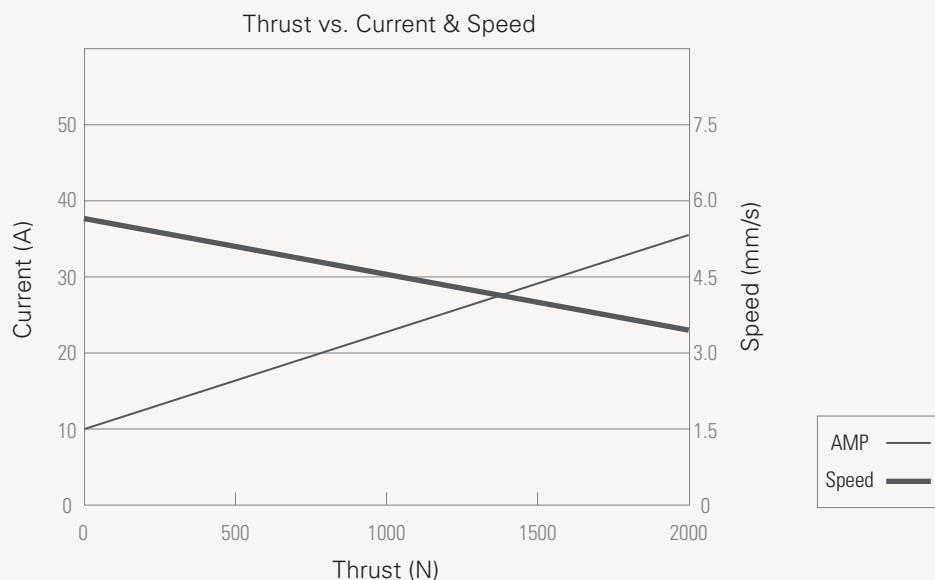
<sup>1</sup> The performance data in the curve charts shows theoretical value only.

**Performance Data**

**Code E**



**Code F**

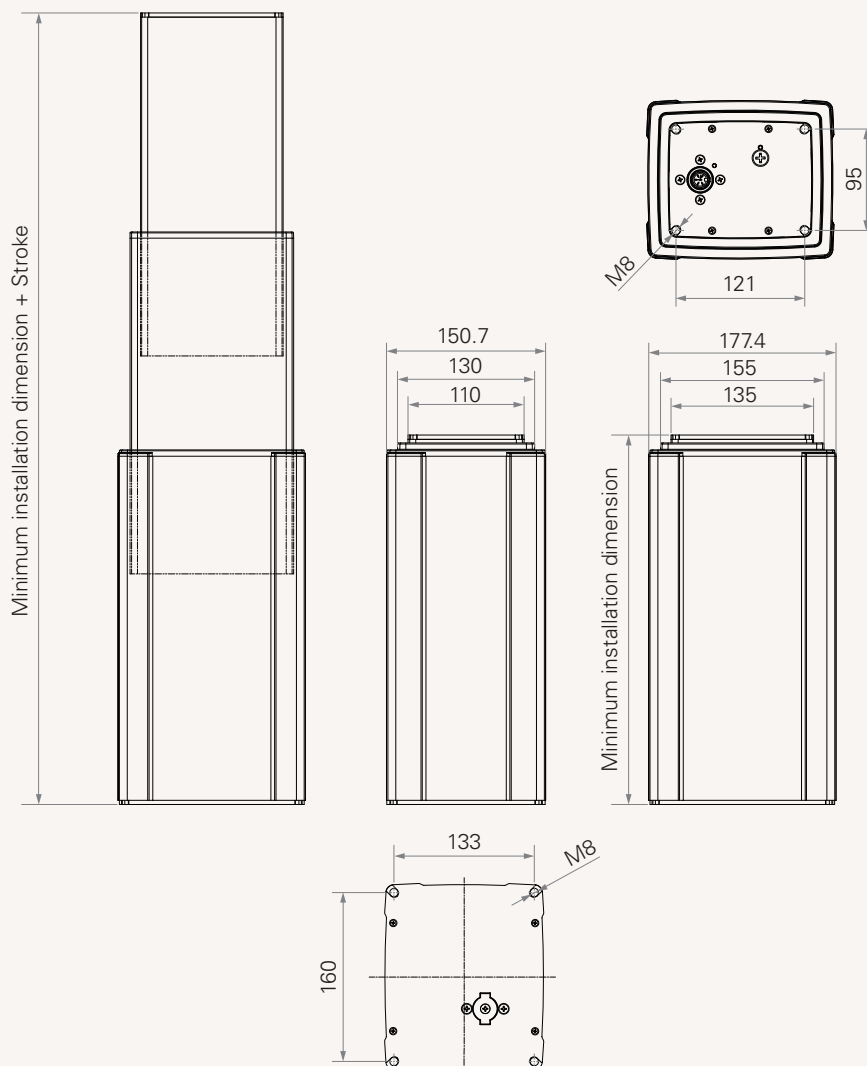


**Note**

<sup>1</sup> The performance data in the curve charts shows theoretical value only.

**Drawing**

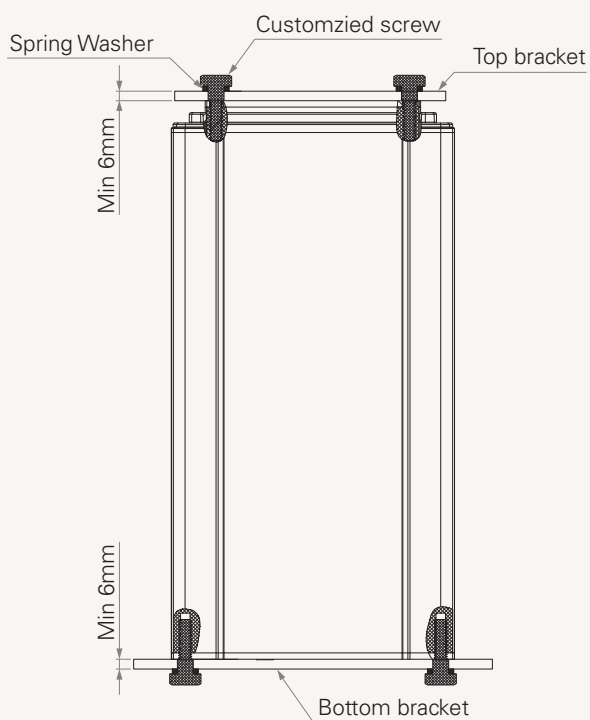
Standard Dimensions  
(mm)



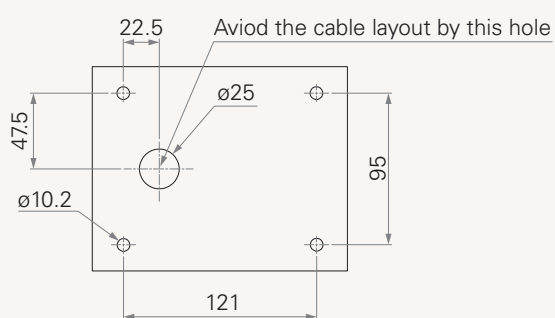
**Retracted Length**

	Cable Exit from Front End	Cable Exit from Rear End
<b>Load &amp; speed #B, #E (4000N)</b>	Stroke/2 + 220mm	Stroke/2 + 240mm
<b>Load &amp; speed #C, #F (2000N)</b>	Stroke/2 + 150mm	Stroke/2 + 170mm
<b>Load &amp; speed #D (1000N)</b>	Stroke/2 + 150mm	Stroke/2 + 170mm

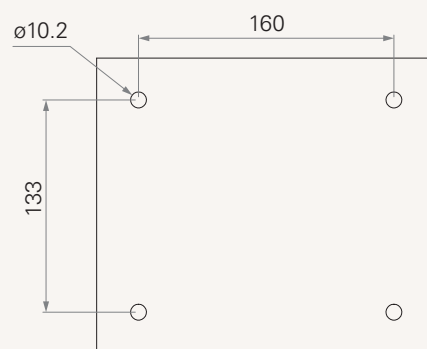
## Installation Guide



Installation Guide of Top Bracket  
(mm)



Bottom Bracket Installation Guide  
(mm)



### Note

- 1 The thickness of the bottom bracket is no less than 6mm; the suggestion size is 6~8mm.
- 2 While placing sample or formal orders, please advise specially if you don't need "spring washer" and/or "customized screw". Or, we'll use the suggested parts.
- 3 There is a hole on the top of bracket. It designs for the power cable.

## TL3

Version: 20150714-E

<input type="checkbox"/>	<b>Voltage</b>	1 = 12V	2 = 24V	3 = 36V
<input type="checkbox"/>	<b>Load and Speed</b>	See page 2.		
<input type="checkbox"/>	<b>Stroke (mm)</b>	100-700mm		
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>	<b>Retracted Length (mm)</b>	See page 5.		
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>	<b>Cable Exit Location</b>	1 = From front end (removable cable set)	2 = From rear end (the cable set fixed on TL3)	
		Note : if one chooses option #1 (removable cable set), one must place an order for the cable specifically; besides, one must choose cable length option #0 (without cable).		
<input type="checkbox"/>	<b>Special Functions for Spindle Sub-Assembly</b>	0 = Without (standard)		
<input type="checkbox"/>	<b>Functions for Limit Switches</b>	1 = Two switches at the retracted/extended positions to cut current 3 = Two switches at the retracted/extended positions to send signal A = Customized		
<input type="checkbox"/>	<b>IP Protection</b>	1 = Without	2 = IPX6	
		Note : please follow the standard installation.		
<input type="checkbox"/>	<b>Output Signals</b>	0 = Without	2 = Two Hall sensors	3 = POT
<input type="checkbox"/>				
<input type="checkbox"/>	<b>Plug</b>	1 = Standard DIN 6pin 90° plug	2 = Tinned leads	A = Customized
		Note : if one chooses "cable exit location" option #1 ( removable cable set), please select plug option #1 (Standard DIN 6pin 90° plug)		
<input type="checkbox"/>	<b>Cable Length</b>	0 = Without (if choose Cable exit location option #1_ removable cable set)	2 = Straight, 750mm	5 = Straight, 1500mm
		1 = Straight, 500mm	3 = Straight, 1000mm	6 = Straight, 1750mm
			4 = Straight, 1250mm	A = Customized

### 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.