

TL3

series



Product Segments

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

The TL3 columns from TiMOTION are made up of three extruded aluminum tubes of rectangular shape that give the system great stability and a high stroke with reduced retracted length. This electric lifting column allows for an easy integration into many height adjustable applications.

General Features

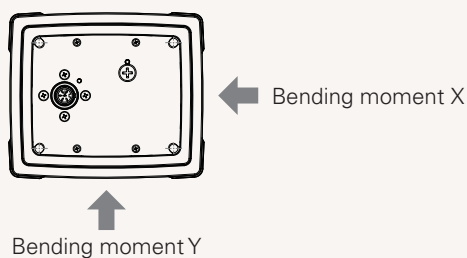
Maximum load	4,000N
Maximum dynamic bending moment	1,000Nm
Maximum static bending moment	2,000Nm
Maximum speed at full load	24.0mm/s (with 1,000N in a push condition)
Minimum installation dimension	Stroke/2+150mm (if max. load=1,000/2,000N)
Dimension of cross section	177.4x150.7mm
Stroke	100~700mm
Certificate	EN60601-1 and IEC60601-1 compliant
Operational temperature range	+5°C~+45°C
Option	POT, Hall sensors

Load and Speed

CODE	Load (N)	Dynamic Bending Moment X (Nm)	Dynamic Bending Moment Y (Nm)	Static Bending Moment X (Nm)	Static Bending Moment Y (Nm)	Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)	
	Push						No Load 32V DC	With Load 24V DC	No Load 32V DC	With Load 24V DC
Motor Speed (2200RPM)										
B	4000	1000	800	2000	1600	4000	2.5	6.3	14.5	7.6
C	2000	500	400	1000	800	2000	2.5	4.3	22.0	13.0
D	1000	500	400	1000	800	1000	2.5	3.8	39.0	24.0
Motor Speed (2800RPM)										
E	4000	1000	800	2000	1600	4000	3.5	7.5	18.5	9.4
F	2000	500	400	1000	800	2000	3.5	6.3	35.0	20.0

Note

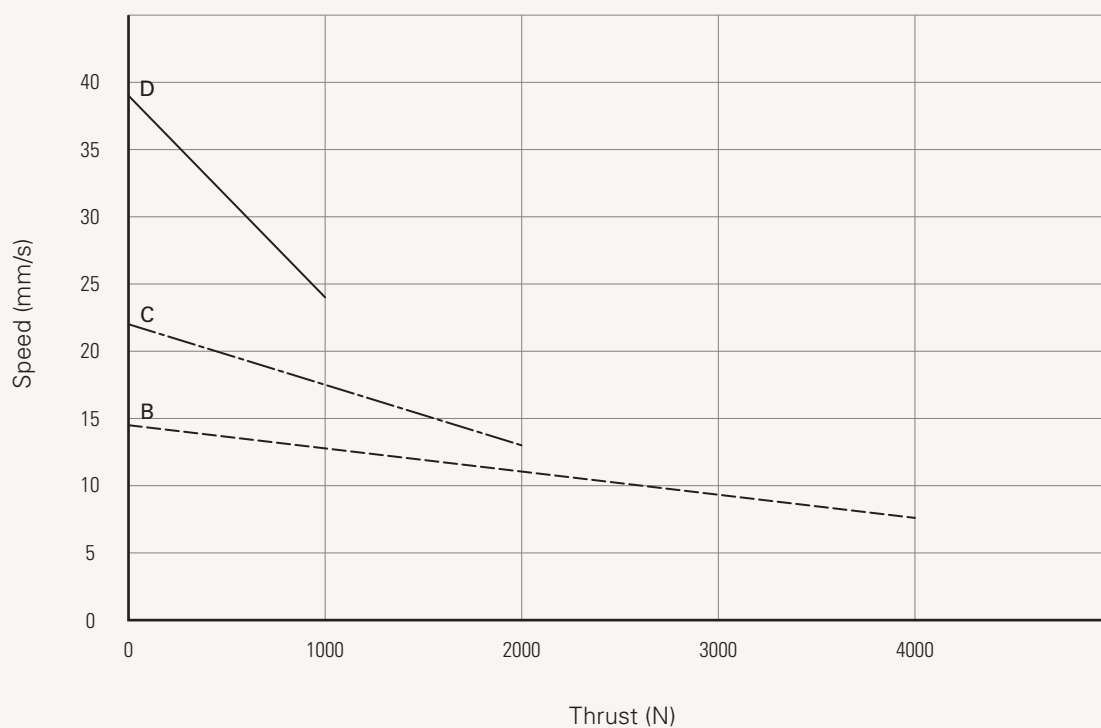
- 1 With a 12V motor, the current is approximately twice the current measured in 24V; speed will be similar for both voltages.



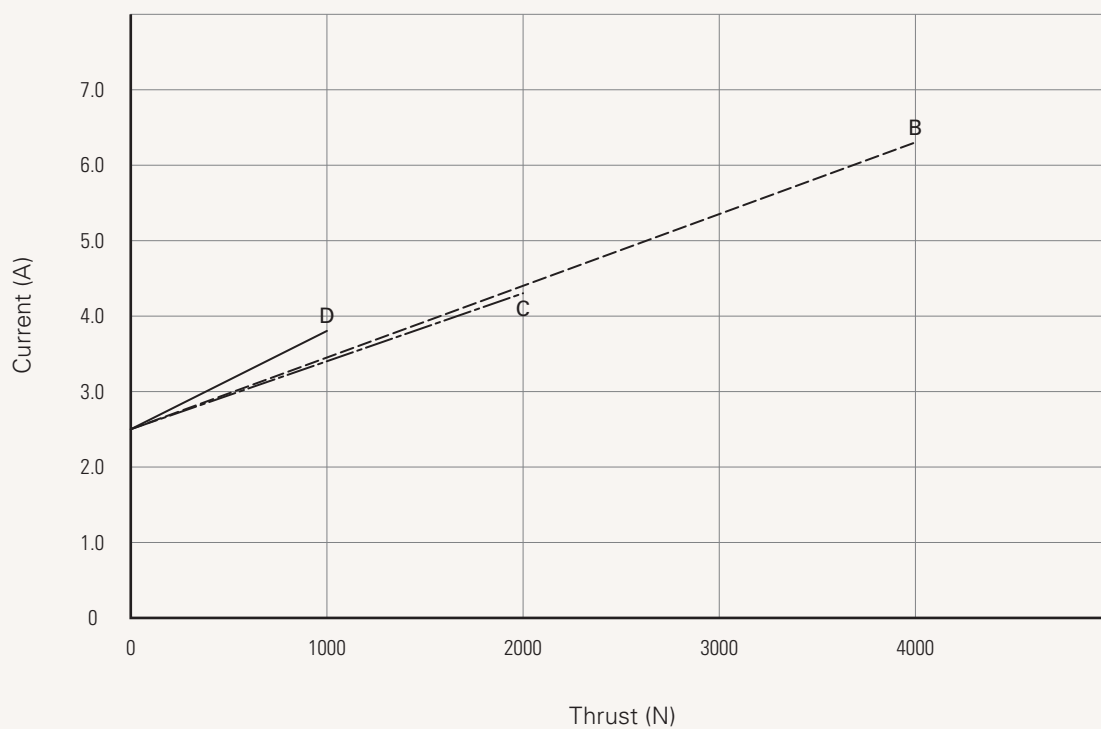
Performance Data (24V DC Motor)

Motor Speed (2200RPM)

Speed vs. Thrust



Current vs. Thrust



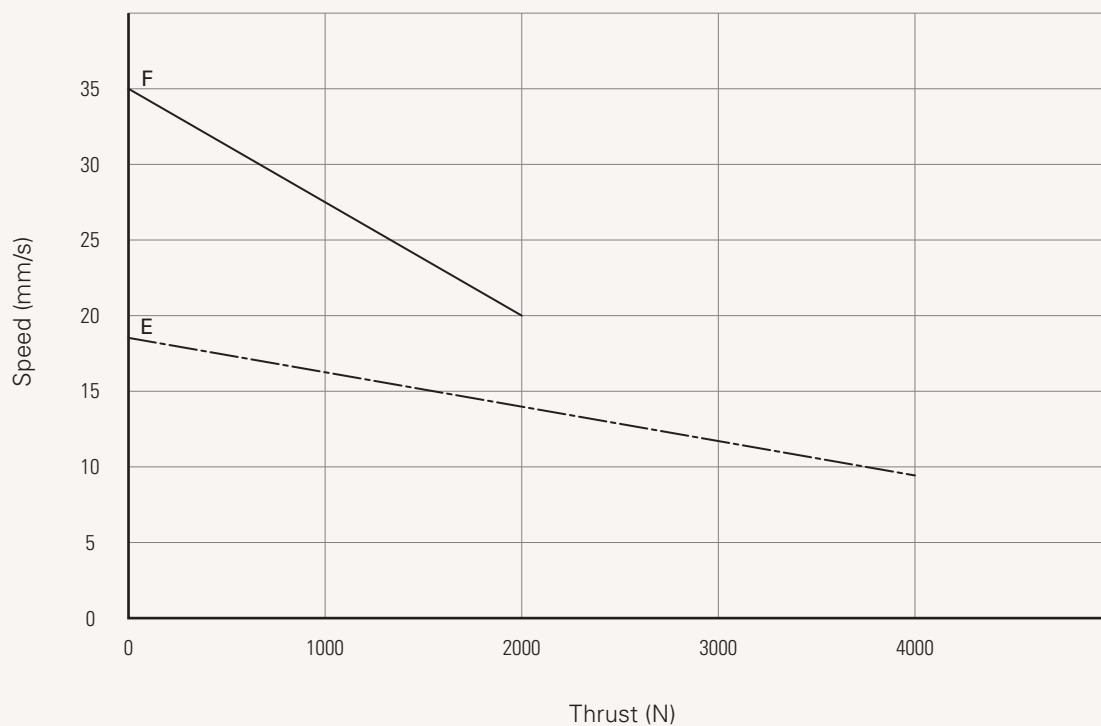
Note

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

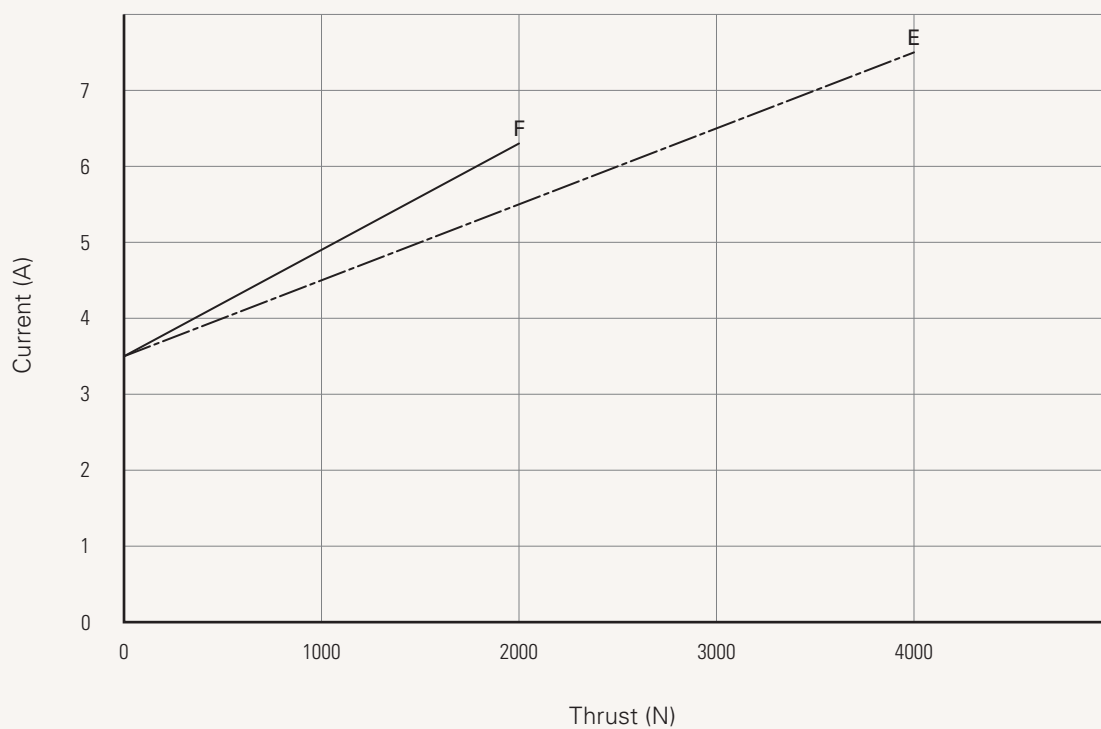
Performance Data (24V DC Motor)

Motor Speed (2800RPM)

Speed vs. Thrust



Current vs. Thrust

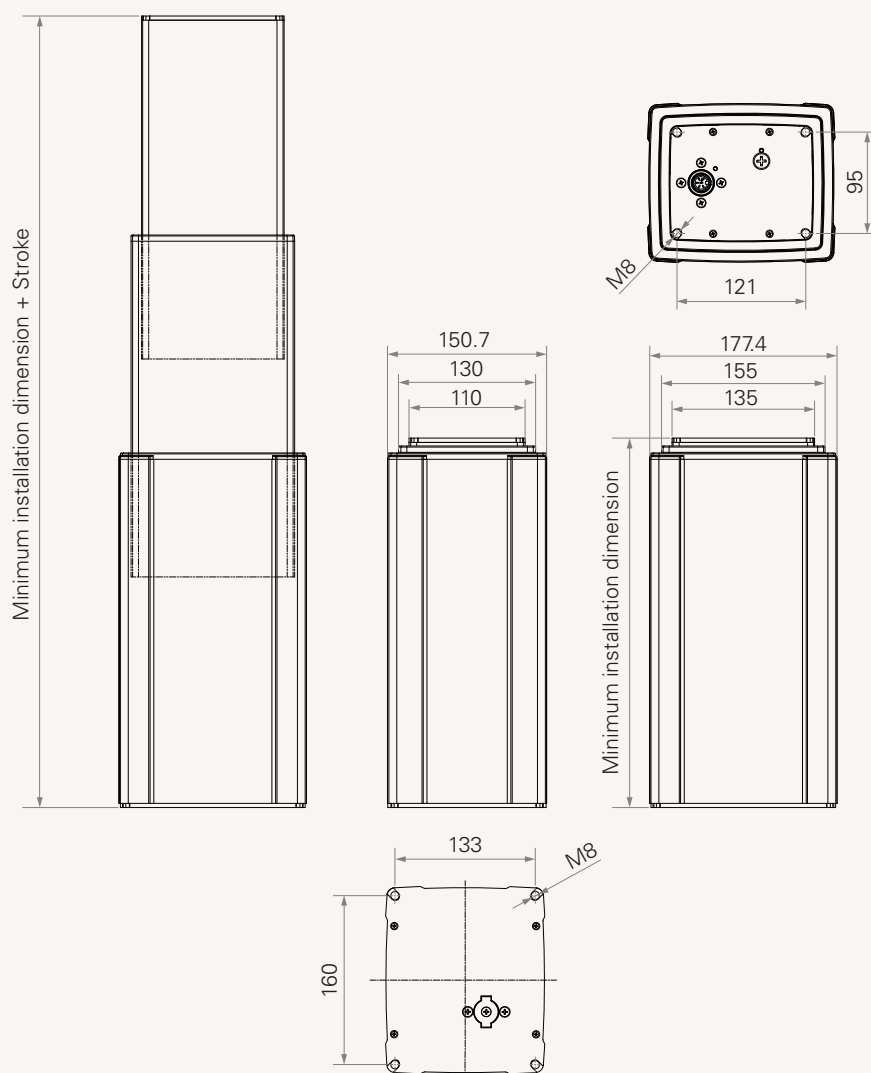


Note

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

Drawing

Standard Dimensions
(mm)



Retracted Length (mm)

1. Calculate $A+B = Y$
2. Minimum retracted length needs to $\geq (\text{Stroke}/2)+Y$

A. Load and Type	Type		
Load and Speed Code	Top End Socket	Side Cable	Direct Cut
B, E (4,000N)	+220	+240	+240
C, F (2,000N)	+150	+170	+170
D (1,000N)	+150	+170	+170

B. When choosing POT	Type		
Load and Speed Code	Top End Socket	Side Cable	Direct Cut
B, E (4,000N)	+40	+20	+20
C, F (2,000N)	+40	+20	+20
D (1,000N)	+40	+20	+20

Example

- 1 Top end Socket, stroke 400mm, without POT. Minimum Retracted length needs to $\geq (400/2)+150+0=350\text{mm}$

TL3 - Top End Socket Ordering Key

TL3

Version: 20161014-H

☐	Voltage	1 = 12V	5 = 24V, thermal protector
☐	Load and Speed	See page 2.	
☐	Stroke (mm)	100-700mm	
☐			
☐			
☐	Retracted Length (mm)	See page 6.	
☐			
☐			
☐	Cable Exit	1 = Top end socket	
☐	Special Functions for Spindle Sub-Assembly	0 = Without (standard)	
☐	Functions for Limit Switches	1 = Two switches at full retracted/extended positions to cut current 3 = Two switches at full retracted/extended positions to send signal	
☐	IP Rating	1 = Without	2 = IPX4 3 = IPX6
☐	Output Signals	0 = Without	2 = Two Hall sensors 3 = POT
☐	Connector	1 = DIN 6pin, socket	
☐	Cable Length	0 = Without (the corresponding extension cable TEC needs to be ordered seperately, please contact TiMOTION.)	

TL3 - Side Cable Ordering Key

TL3

Version: 20161014-H

☐	Voltage	1 = 12V	5 = 24V, thermal protector
☐	Load and Speed	See page 2.	
☐	Stroke (mm)	100-700mm	
☐			
☐			
☐	Retracted Length (mm)	See page 6.	
☐			
☐			
☐	Cable Exit	2 = Bottom side cable	3 = Top side cable
☐	Special Functions for Spindle Sub-Assembly	0 = Without (standard)	
☐	Functions for Limit Switches	1 = Two switches at full retracted/extended positions to cut current 3 = Two switches at full retracted/extended positions to send signal	
☐	IP Rating	1 = Without	2 = IPX4 3 = IPX6
☐	Output Signals	0 = Without	2 = Two Hall sensors 3 = POT
☐	Connector	1 = DIN 6pin, 90° plug	
☐	Cable Length	1 = Straight, 500mm 2 = Straight, 750mm	3 = Straight, 1000mm 4 = Straight, 1250mm 5 = Straight, 1500mm 6 = Straight, 1750mm

TL3 - Direct Cut Ordering Key

TL3

Version: 20161014-H

☐	Voltage	5 = 24V, thermal protector		
☐	Load and Speed	See page 2.		
☐	Stroke (mm)	100-700mm		
☐				
☐				
☐	Retracted Length (mm)	See page 6.		
☐				
☐				
☐	Cable Exit	B = Top side- for control; bottom side- for power supply C = Bottom side- Y cable, for control + power supply D = Top side- for the 2nd column; bottom side- for control & power supply; direct cut operation with 2 columns E = Top side- for the 2nd column & control; bottom side- for power supply; direct cut operation with 2 columns		
☐	Special Functions for Spindle Sub-Assembly	0 = Without (standard)		
☐	Functions for Limit Switches	1 = Two switches at full retracted/extended positions to cut current		
☐	IP Rating	1 = Without	2 = IPX4	3 = IPX6
☐	Output Signals	0 = Without		
☐	Connector	C = For control: long DIN 5pin, 180° socket (with anti pull clip); for power supply: long DIN 5pin, 180° plug (with o ring)		
☐	Cable Length	A = For direct cut system, please contact TiMOTION.		

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.