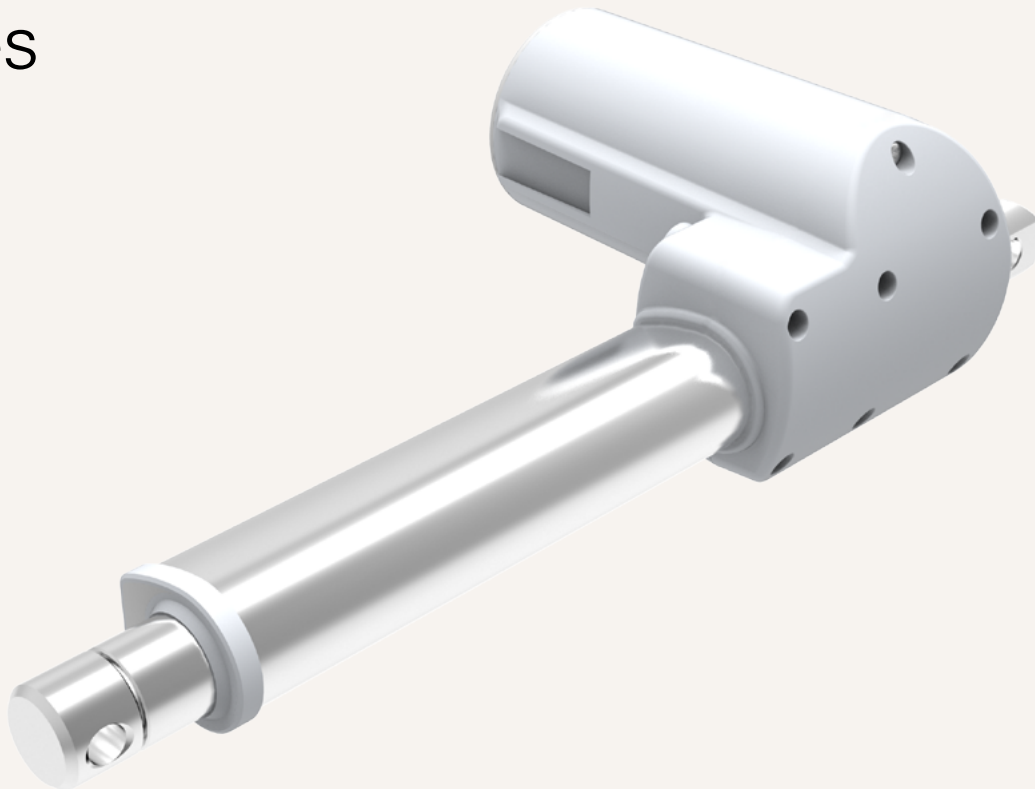


# TA23

series



## Product Segments

- **Care Motion**

TiMOTION's TA23 series is a compact linear actuator primarily used for medical applications that require high force and high speed. This linear actuator also has the ability to save installation space by mounting the control box to the actuator. The TA23 linear actuator is available with an optional IP54 or 66 rating and Hall sensors for position feedback.

### General Features

Voltage of motor	12V DC, 24V DC or 36V DC
Maximum load	10,000N in push
Maximum load	4,000N in pull
Maximum speed at full load	23.4mm/s (with 1,000N in a push or pull condition)
Minimum installation dimension	Stroke+163mm
Certificate	EN60601-1 and RoHS compliant
An economical solution with compact installation dimension	

## Load and Speed

CODE	Rated Load		Self Locking N (PUSH)	Typical Current at Rated Load (A)	Typical Speed	
	PUSH N	PULL N			No Load (32V DC) mm/s	Rated Load (24V DC) mm/s
<b>Motor Speed (2600RPM)</b>						
<b>C</b>	5000	4000	2500	3.6	8.0	4.1
<b>D</b>	6000	4000	4000	3.6	6.0	3.1
<b>F</b>	2500	2500	1500	3.3	15.9	8.3
<b>G</b>	2000	2000	1000	3.3	21.4	11.1
<b>H</b>	1000	1000	500	2.2	32.1	19.1
<b>J</b>	3500	3500	2500	3.7	11.9	6.0
<b>K</b>	8000	4000	5000	4.1	5.4	2.7
<b>Motor Speed (3400RPM)</b>						
<b>L</b>	6000	4000	4000	4.3	7.6	4.1
<b>N</b>	2500	2500	1500	4.2	20.2	11.1
<b>O</b>	2000	2000	1000	4.1	27.1	14.9
<b>P</b>	1000	1000	500	3.1	39.5	23.4
<b>Q</b>	3500	3500	2500	4.7	15.1	7.9
<b>R</b>	8000	4000	5000	5.1	6.8	3.5
<b>T</b>	5000	4000	2500	4.3	10.1	5.4
<b>Motor Speed (3800RPM)</b>						
<b>Y</b>	8000	4000	5000	5.4	7.7	4.4
<b>B</b>	10000	4000	10000	5.3	5.7	3.3
<b>U</b>	5000	4000	2500	4.6	11.4	6.6
<b>W</b>	2500	2500	1500	4.4	22.9	13.1
<b>Z</b>	3500	3500	2500	4.9	17.1	9.5

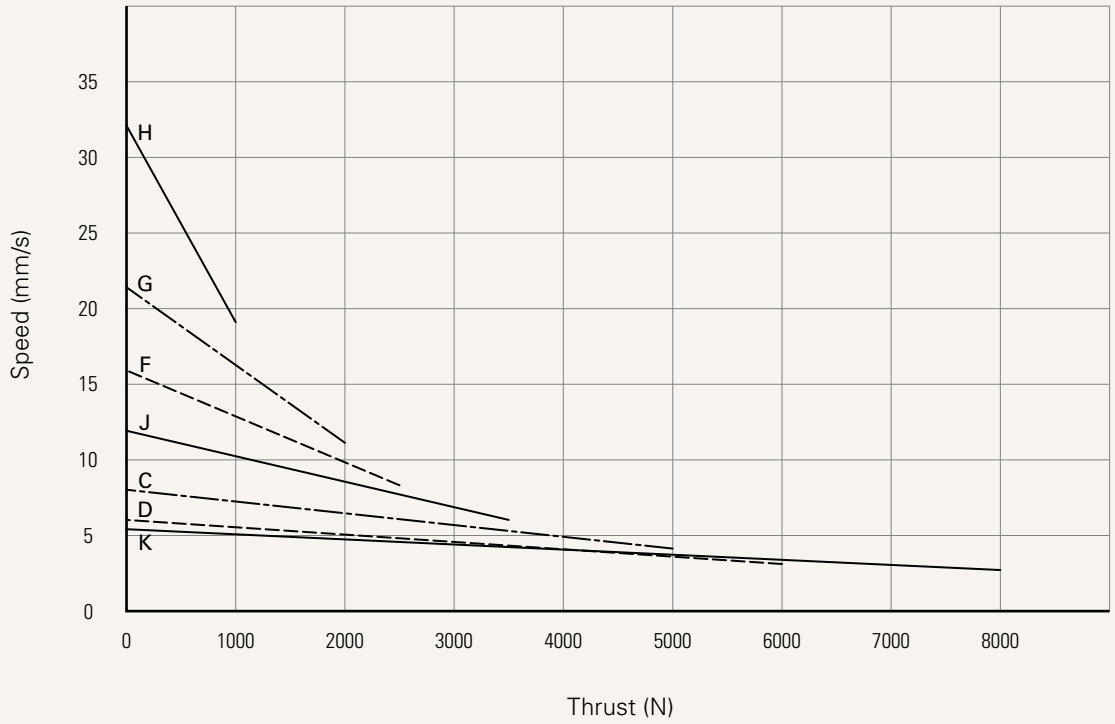
### Note

- 1 Motor 12V current is around 2 times in 24V; Motor 36V current is around 2/3 in 24V; speed is around the same.
- 2 Above self lock performance needs working with Timotion control system.

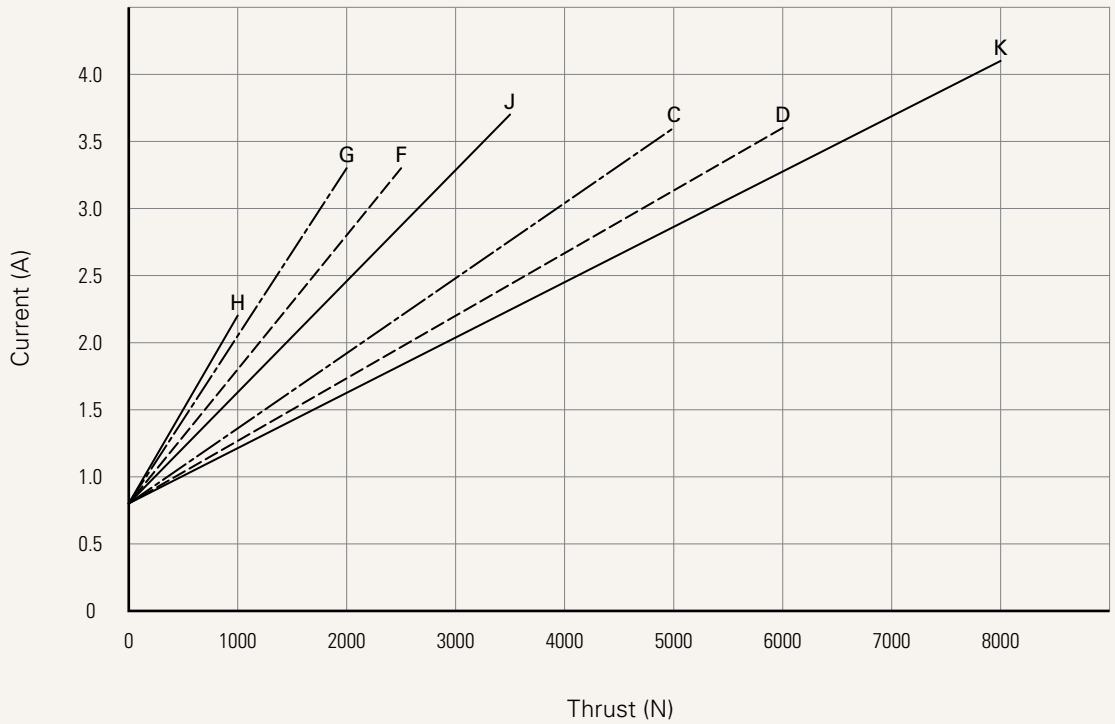
Performance Data

Motor Speed (2600RPM)

Speed vs. Thrust



Current vs. Thrust



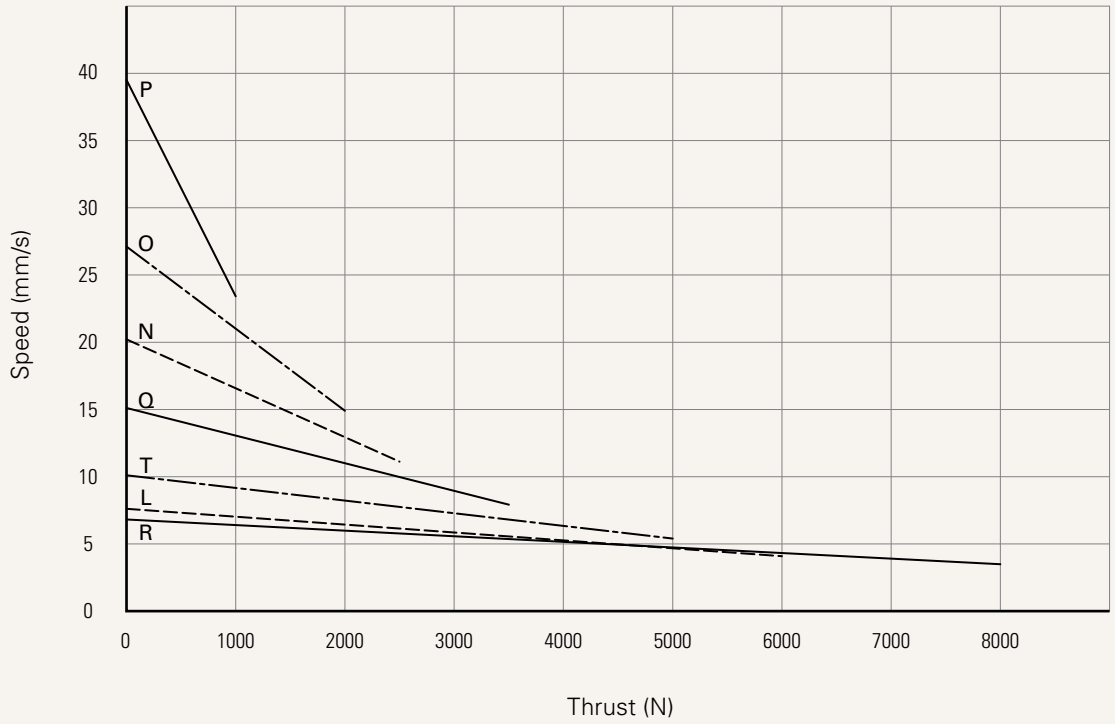
Note

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

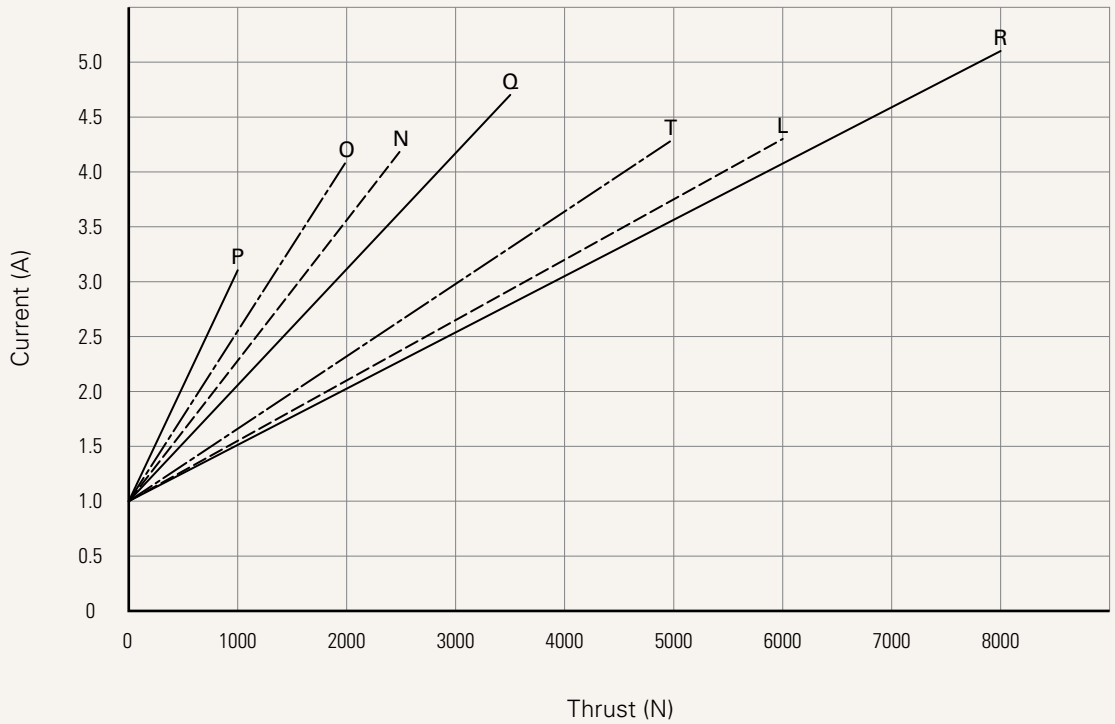
Performance Data

Motor Speed (3400RPM)

Speed vs. Thrust



Current vs. Thrust



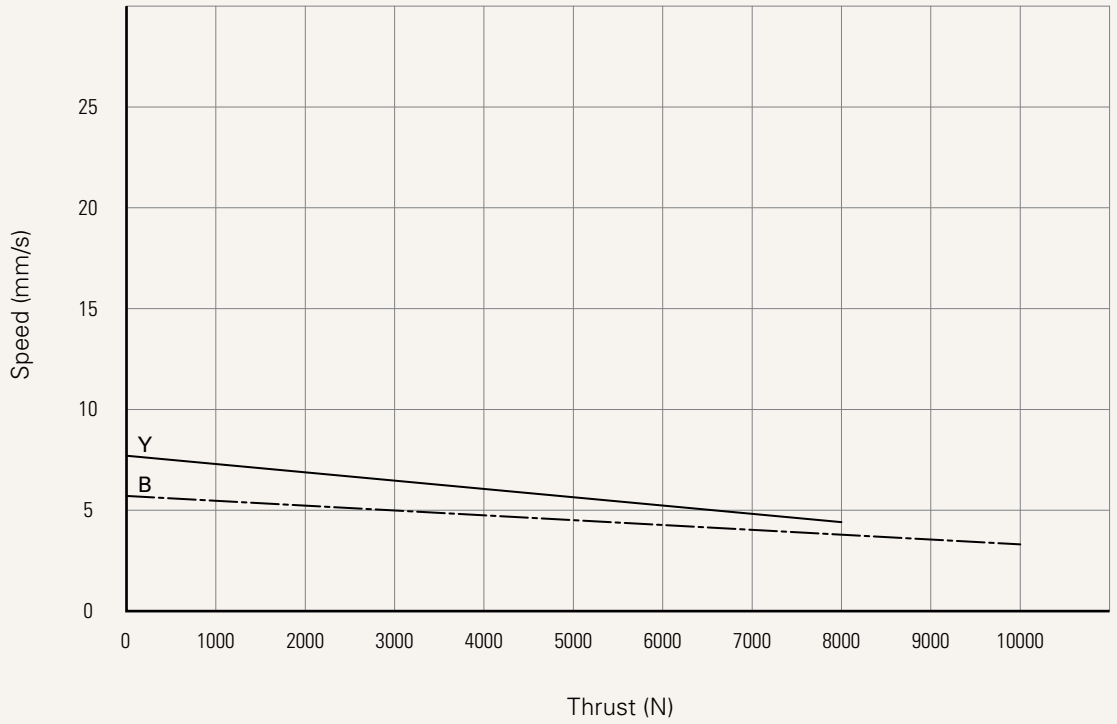
Note

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

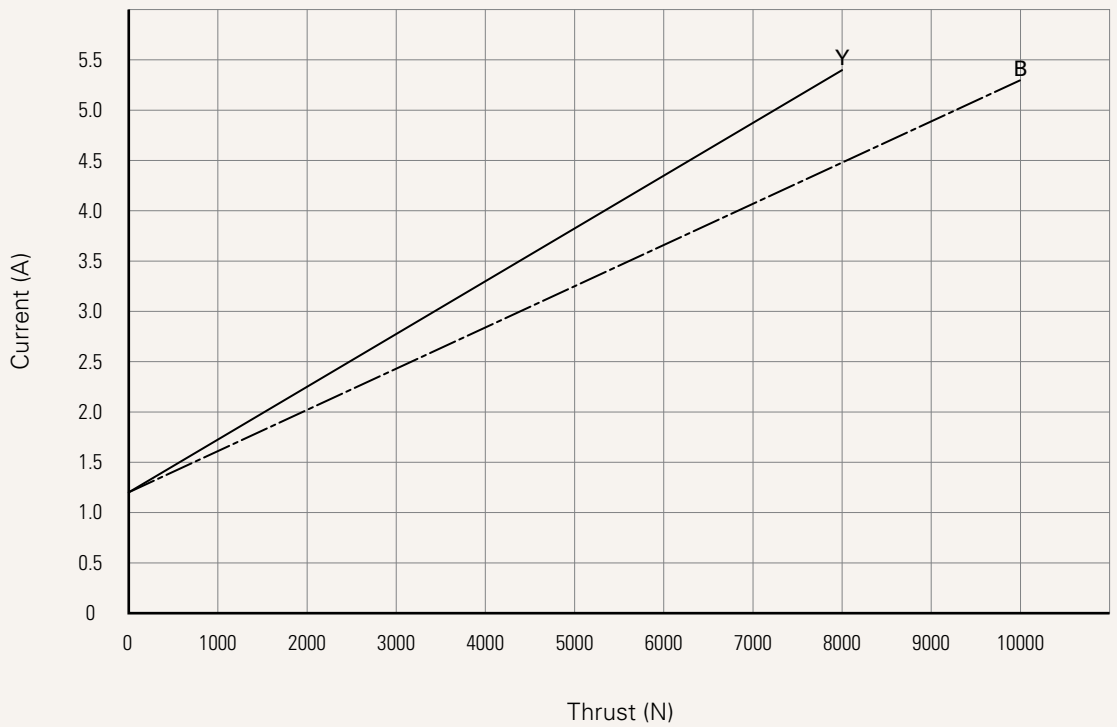
Performance Data

Motor Speed (3800RPM)

Speed vs. Thrust



Current vs. Thrust

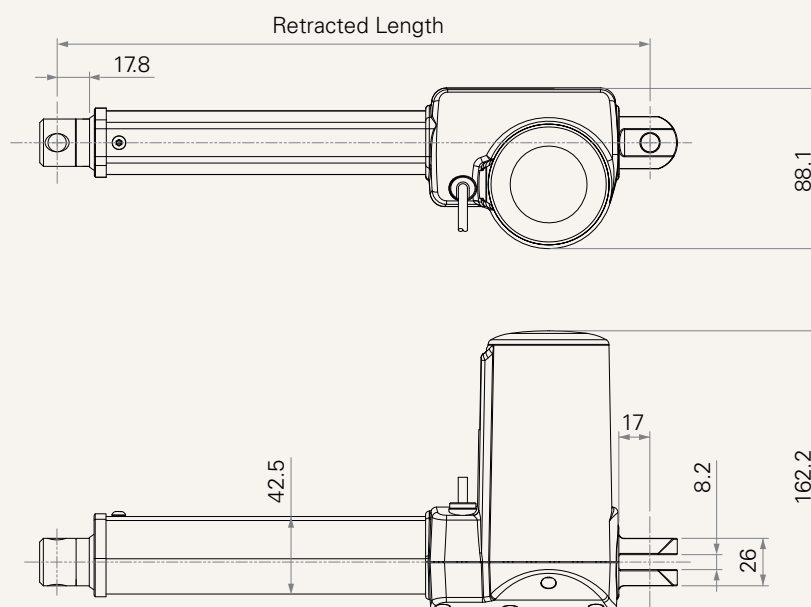


Note

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

## Drawing

Standard Dimensions  
(mm)



## Wire Definitions

CODE*	Pin	1	2	3	4	5	6
		● (green)	● (red)	○ (white)	● (black)	● (yellow)	● (blue)
1	extend (VDC+)	N/A	N/A	N/A	N/A	retract (VDC+)	N/A
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A	retract (VDC+)	N/A	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch	
4	extend (VDC+)	common	upper limit switch	medium limit switch	retract (VDC+)	lower limit switch	

## Note

\* See ordering key - functions for limit switches

### Invalid length (mm)

#### Front Attachment

##### CODE

1	+163
2	+163
3	+188
4	+188
5	+163
6	+163
7	+178
8	+178
9	+178
J	+166

#### Load V.S. Stroke Load (N)

Stroke (mm)	< 6000	= 6000	= 8000	=10000	Patient Hoise
0~150	-	-	-	+6	-
151~200	-	-	+5	+11	-
201~250	-	+5	+10	+16	-
251~300	-	+10	+15	+21	+5
301~350	+5	+15	+20	+26	+10
351~400	+10	+20	+25	+31	+15

#### Special Functions For Spindle Sub-Assembly

Push only	Load (N)	
	< 6000	≥ 6000
0	-	-
1	-	-
2	+5	+8
3	+5	+8

#### Note

\* Retracted length needs  $\geq$  stroke + invalid length

<b>Voltage</b>	1 = 12V	2 = 24V	3 = 36V
<b>Load and Speed</b>	See page 2.		
<b>Stroke (mm)</b>			
<b>Retracted Length (mm)</b>	See page 7.		
<b>Rear Attachment</b>	2 = U clevis Aluminum casting, slot 8.2mm, hole 10.2mm 3 = U clevis Aluminum casting, slot 8.2mm, hole 12.2mm	C = U clevis Aluminum casting #3 + plastic bushing, slot 8.2 mm, hole 10.2mm	
<b>Front Attachment</b>	1 = Punched hole on inner tube + plastic cap, width 32mm, without slot, hole 10.2mm 2 = Punched hole on inner tube + plastic cap, width 32mm, without slot, hole 12.2mm 3 = U clevis plastic, ø30mm, slot 8.2mm, hole 10.2mm (for load push < 4000N & pull < 2500N) 4 = U clevis plastic, ø30mm, slot 8.2mm, hole 12.2mm (for load push < 4000N & pull < 2500N) 5 = Punched hole on inner tube, width 26mm, without slot, hole 10.2mm	6 = Punched hole on inner tube, width 26mm, without slot, hole 12.2mm 7 = U clevis Aluminum casting, width 26mm, slot 6.2mm, hole 10.2mm 8 = U clevis Aluminum casting, width 26mm, slot 6.2mm, hole 12.2mm 9 = U clevis Aluminum casting #8 + plastic bushing, width 28mm, slot 6.2mm, hole 10.2mm J = Aluminum casting, ø26mm, without slot, hole 10.2mm, for application dental chair	
<b>Direction of Rear Attachment (Counterclockwise)</b>	1 = 0°	3 = 90°	
<b>Color</b>	1 = Black	2 = Grey (Pantone 428C)	
<b>IP Rating</b>	1 = Without	2 = IP54	3 = IP66 5 = IP66W
<b>Special Functions for Spindle Sub-Assembly</b>	0 = Without 1 = Safety nut	2 = Standard push only 3 = Standard push only + safety nut	
<b>Functions for Limit Switches</b>	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		
<b>Output Signals</b>	0 = Without	1 = One Hall sensor	2 = Two Hall sensors
<b>Connector</b>	1 = DIN 6pin 90° plug 2 = Tinned leads 4 = Big 01pin plug	C = Y cable ( for direct cut system, water proof, anti pull) D = Extension cable + DIN 6pin socket (with anti pull clip) F = DIN 6pin, 180° plug	G = Audio plug
<b>Cable Length</b>	0 = Straight, 100mm 1 = Straight, 500mm 2 = Straight, 750mm	3 = Straight, 1000mm 4 = Straight, 1250mm 5 = Straight, 1500mm	6 = Straight, 2000mm 7 = Coiled, 200mm 8 = Coiled, 400mm B-H = For direct cut system, please contact TiMOTION

### Terms of Use

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# TA23 - For Patient Hoist Ordering Key

TA23

Version: 20151126-D

<b>Voltage</b>	2 = 24V		
<b>Load and Speed</b>	Y = 8000N		
<b>Stroke (mm)</b>			
<b>Retracted Length (mm)</b>	Stroke+250mm		
<b>Rear Attachment</b>	C = U clevis Aluminum casting #3 + plastic bushing, slot 8.2 mm, hole 10.2mm		
<b>Front Attachment</b>	F = Manual release + plastic bushing, slot 8.2mm, hole 10.2mm		
<b>Direction of Rear Attachment (Counterclockwise)</b>	1 = 0°		
<b>Color</b>	1 = Black	2 = Grey (Pantone 428C)	
<b>IP Rating</b>	2 = IP54	3 = IP66	
<b>Special Functions for Spindle Sub-Assembly</b>	6 = Mechanical push only + safety nut		
<b>Functions for Limit Switches</b>	1 = Two switches at full retracted/extended positions to cut current		
<b>Output Signals</b>	0 = Without		
<b>Connector</b>	1 = DIN 6pin 90° plug	F = DIN 6pin, 180° plug	G = Audio plug
<b>Cable Length</b>	1 = Straight, 500mm	3 = Straight, 1000mm	

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