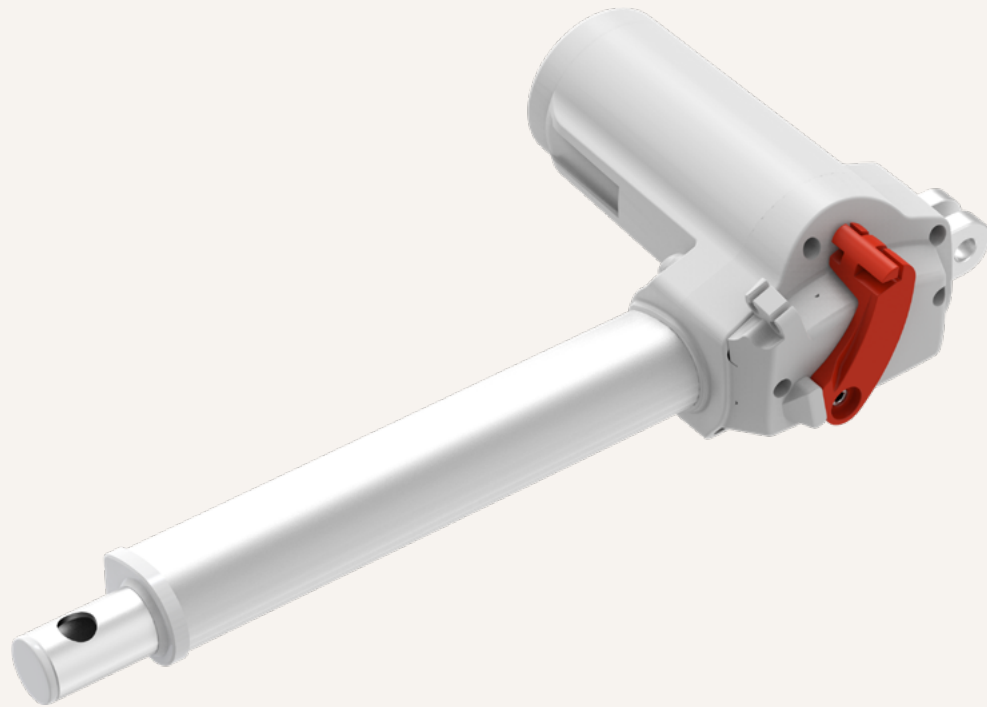


# TA31QR

series



## Product Segments

- **Care Motion**

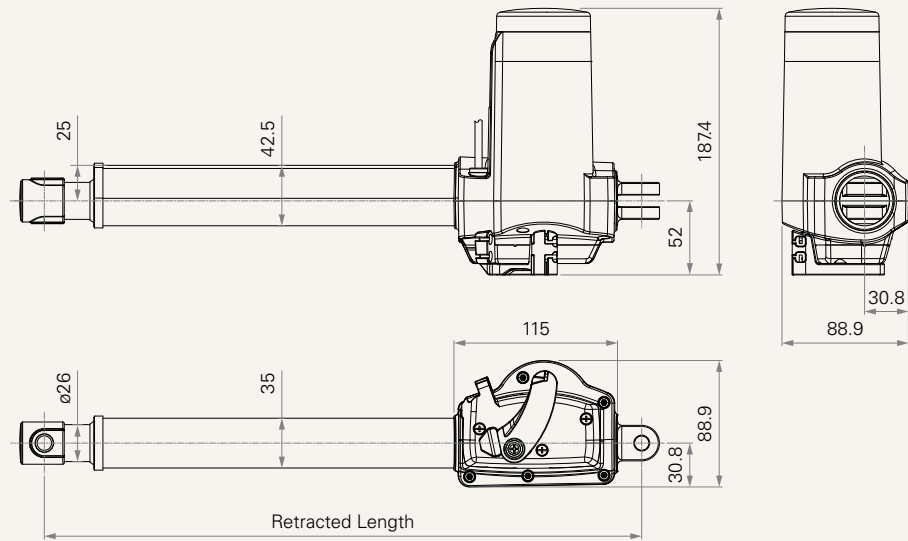
The TA31QR improves upon the TA31 with added design benefits and functionality, while providing a high quality yet economical option for medical applications. In particular, the TA31QR provides multiple output signal options. These include a spindle set Hall sensors or POT which will continue to send position feedback after the quick release action is performed. This feature allows the user to maintain accurate position within the control system without having to perform a system reset.

### General Features

Max. load	5,000N (push) 3,000N (pull)
Max. speed at max. load	4.7mm/s
Max. speed at no load	11.2mm/s
Retracted length	≥ Stroke + 178mm
IP rating	IP66W
Stroke	25~450mm
Options	Safety nut, Hall sensors, POT, spindle set Hall sensors
Voltage	12/24V DC 12/24V DC (PTC) 24V DC, overcurrent module 24V DC, PTC, overcurrent module
Color	Black or grey
Operational temperature range	+5°C~+45°C

## 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
<b>Motor Speed (3800RPM, Duty Cycle 10%)</b>							
<b>J</b>	3500	3000	1000	0.8	3.5	11.2	6.3
<b>K</b>	5000	3000	1500	0.8	3.5	9.0	4.7

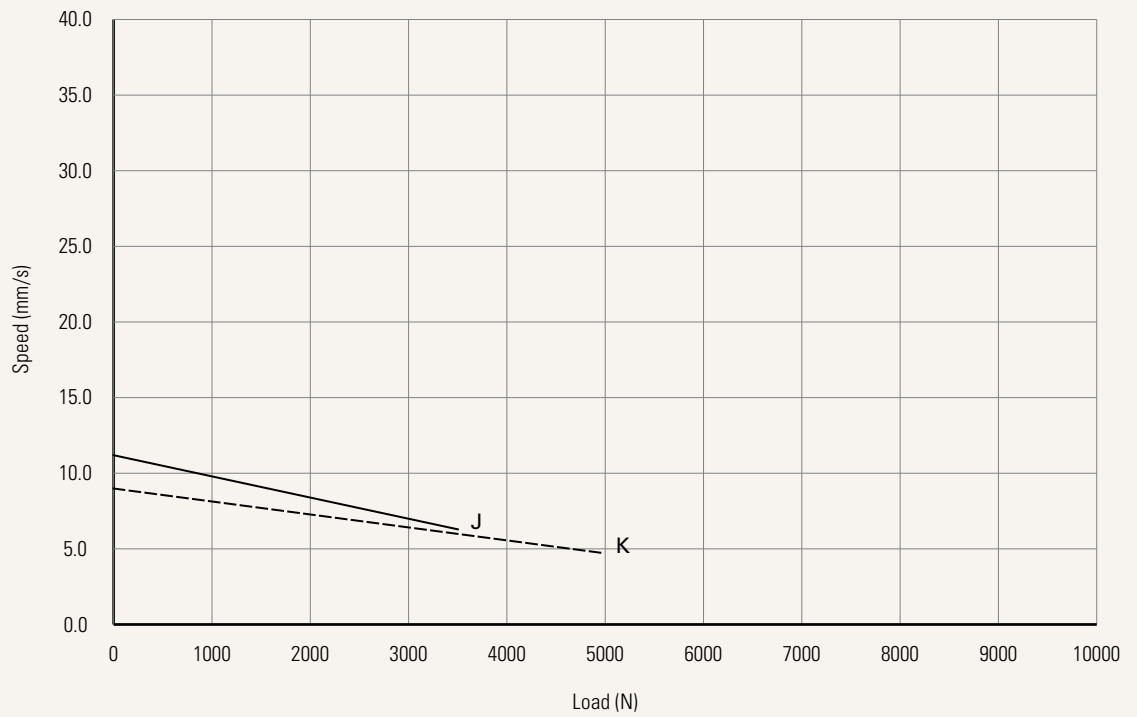
## Note

- 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; speed will be similar for both 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 Standard stroke: 25~450mm

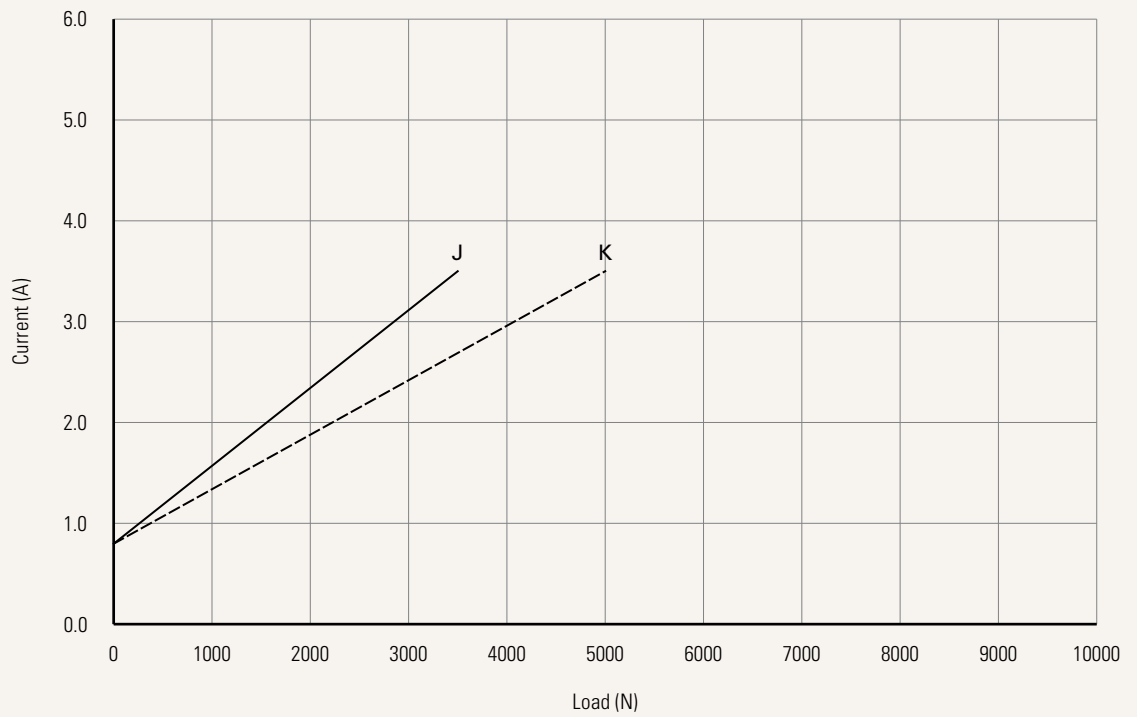
**Performance Data (24V DC Motor)**

Motor Speed (3800RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



**Note**

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



## Retracted Length (mm)

1. Calculate  $A+B+C+D = Y$
2. Retracted length needs to  $\geq$  Stroke + Y

### A. Front Attachment

#### CODE

<b>1, 2, 5, 6</b>	+178
<b>3, 4</b>	+201
<b>7, 8, 9</b>	+193
<b>B,C</b>	+201

### B. Load V.S. Stroke

Stroke (mm)	Load (N)	
	3500	5000
<b>25~150</b>	-	-
<b>151~200</b>	-	-
<b>201~250</b>	-	-
<b>251~300</b>	-	-
<b>301~350</b>	+5	+5
<b>351~400</b>	+10	+10
<b>401~450</b>	+15	+15

### C. Load V.S. Special Functions for Spindle Sub-Assembly

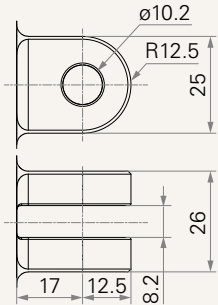
CODE	Load (N)	
	3500	5000
<b>0</b>	-	-
<b>1</b>	-	-
<b>2</b>	-	+3
<b>3</b>	-	+3

### D. Signal Outputs

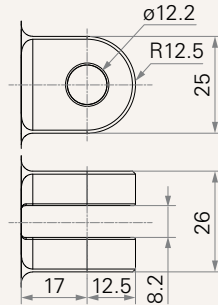
CODE	
<b>0</b>	-
<b>1</b>	-
<b>2</b>	-
<b>P</b>	+7
<b>H</b>	-

## Rear Attachment (mm)

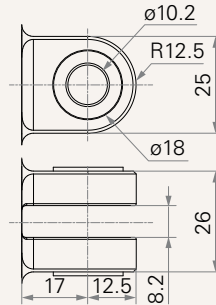
2 = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 10.2



3 = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 12.2

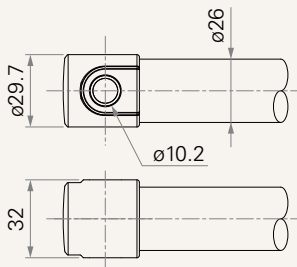


C = Aluminum casting, U clevis, slot 8.2, depth 17.0, hole 10.2, with T-bushing

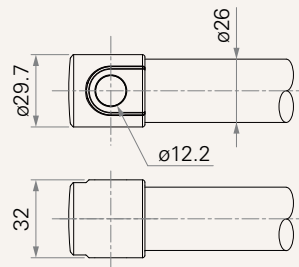


## Front Attachment (mm)

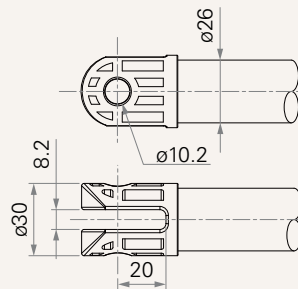
1 = Punched hole on inner tube + plastic cap, without slot, hole 10.2, with plastic bush



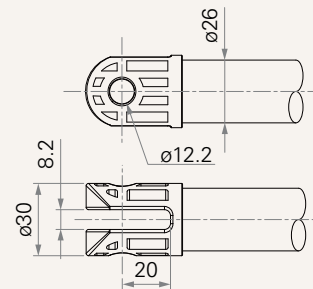
2 = Punched hole on inner tube + plastic cap, without slot, hole 12.2



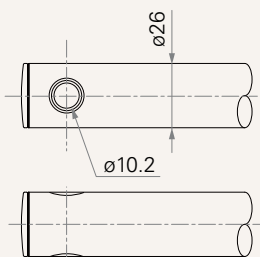
3 = Plastic, U clevis, width 8.2, depth 20.0, hole 10.2, for push < 4000N and pull < 2500N



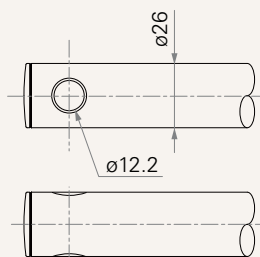
4 = Plastic, U clevis, width 8.2, depth 20.0, hole 12.2, for push < 4000N and pull < 2500N



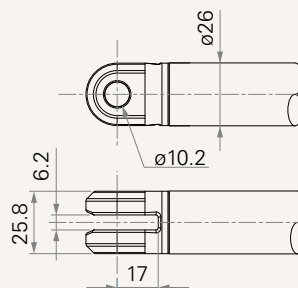
5 = Punched hole on inner tube, without slot, hole 10.2, with plastic bush



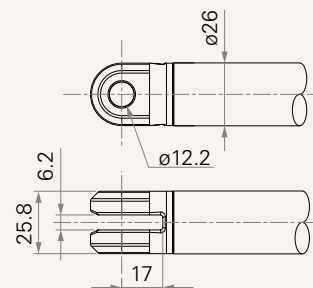
6 = Punched hole on inner tube, without slot, hole 12.2



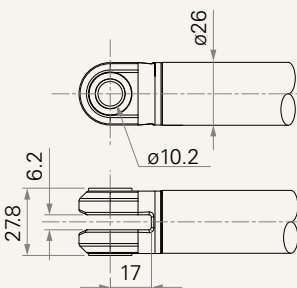
7 = Aluminum casting, U clevis, width 6.2, depth 17.0, hole 10.2



8 = Aluminum casting, U clevis, width 6.2, depth 17.0, hole 12.2



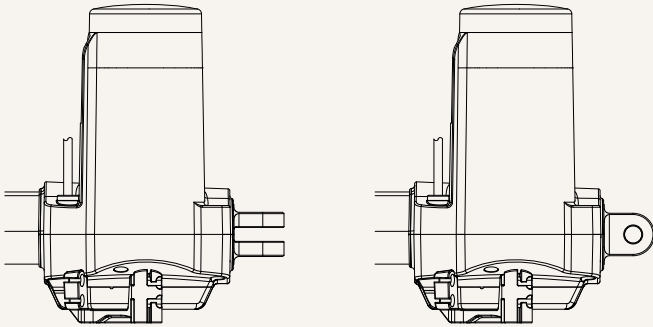
9 = Aluminum casting, U clevis, width 6.2, depth 17.0, hole 10.2, with T-bushing



## Direction of Rear Attachment (Counterclockwise)

1 = 0°

3 = 90°



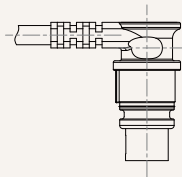
## Functions for Limit Switches

### Wire Definitions

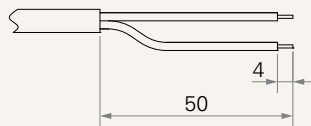
CODE	Pin					
	● 1 (Green)	● 2 (Red)	○ 3 (White)	● 4 (Black)	● 5 (Yellow)	● 6 (Blue)
1	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A	retract (VDC+)	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch
4	extend (VDC+)	common	upper limit switch	medium limit switch	retract (VDC+)	lower limit switch
5	extend (VDC+)	N/A	upper limit switch	common	retract (VDC+)	lower limit switch

## Connector

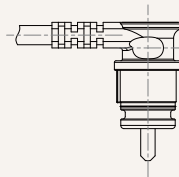
1 = DIN 6P, 90° plug



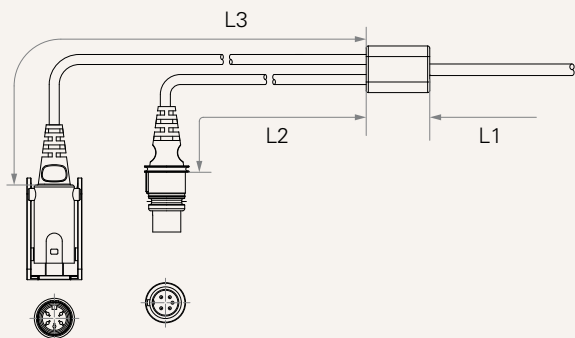
2 = Tinned leads



4 = Big 01P, plug



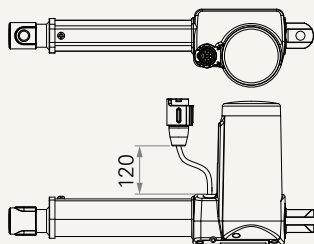
C = Y cable (direct cut, water proof, anti-pull)



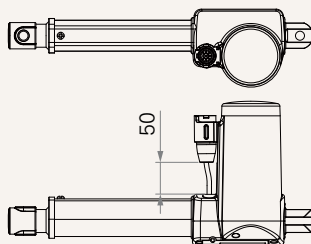
### Cable length for direct cut system (mm)

CODE	L1	L2	L3
B	100	100	100
C	100	1000	400
D	100	2700	500
E	1000	100	100
F	100	600	1000
G	1500	1000	1000
H	100	100	1200

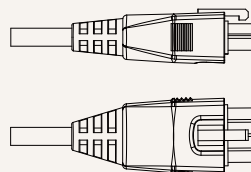
D = Extension cable, not preset on motor cover (cable length 120mm)



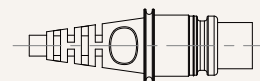
R = Extension cable, preset on motor cover (cable length 50mm)



E = Molex 8P, plug



F = DIN 6P, 180° plug



G = Audio plug



## Terms of Use

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