

# JP4

series



## Product Segments

- **Industrial Motion**

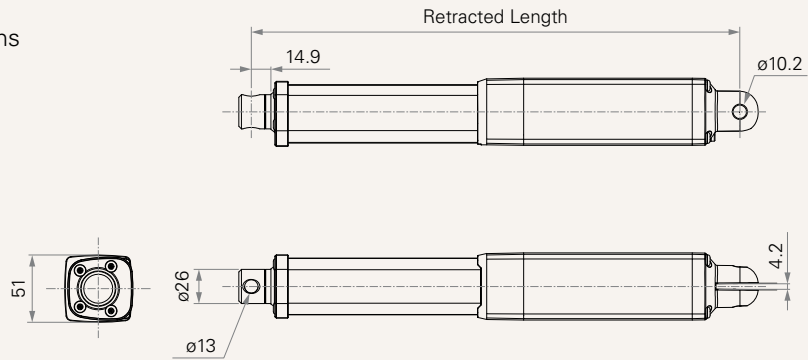
TiMOTION's JP4 series inline linear actuator is most similar to the JP3, but was designed for industrial applications that require higher load and speed. Its IP69K protection ensures it will withstand high temperature, high pressure water jets, and the ingress of dust and other solid contaminants. For synchronization and position feedback, the JP4 can be equipped with Hall sensors.

### General Features

Voltage of motor	12V DC, 24V DC, or 24V DC (PTC)
Maximum load	4,500N in push
Maximum load	3,000N in pull
Maximum speed at full load	24mm/s (with 500N in a push or pull condition)
Stroke	20~1000mm
Minimum installation dimension	Stroke + 289mm
IP rating	Up to IP69K
Color	Black or grey
Certificate	UL73
Operational temperature range	-5°C~+65°C
Operational temperature range at full performance	+5°C~+45°C
Storage temperature range	-40°C~+70°C
An inline actuator designed for small spaces	

## 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>B</b>	4500	3000	3000	1.1	4.0	4.4	2.5
<b>C</b>	3500	3000	2000	1.1	4.0	6.5	4.0
<b>D</b>	2500	2500	1000	1.1	4.0	9.2	5.6
<b>E</b>	1500	1500	500	1.1	3.0	12.0	9.5
<b>F</b>	1000	1000	250	1.1	3.0	18.0	14.0
<b>G</b>	500	500	100	1.1	3.0	27.5	24.0

## Note

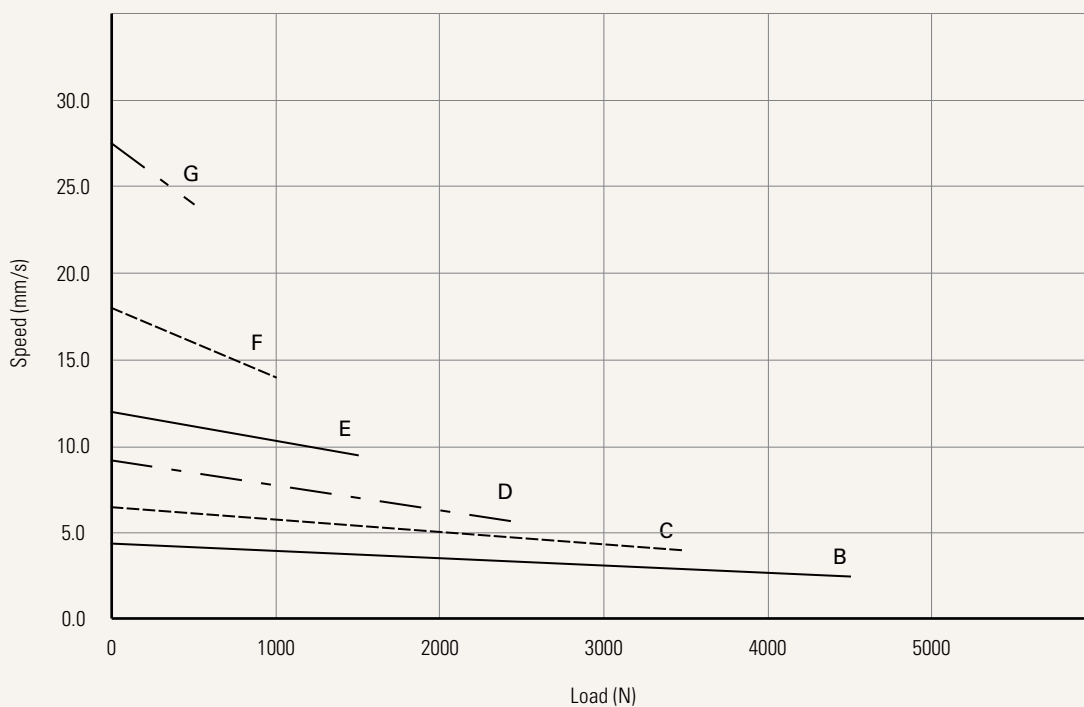
- 1 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in.
- 2 Current and speed: Tested average value when stretching in push direction.
- 3 Standard stroke: Min.  $\geq 20$ mm, Max. please refer to below table

CODE	Load (N)	Max Stroke (mm)
<b>B</b>	4500	400
<b>C</b>	3500	500
<b>D</b>	2500	600
<b>E</b>	1500	700
<b>F</b>	1000	800
<b>G</b>	500	1000

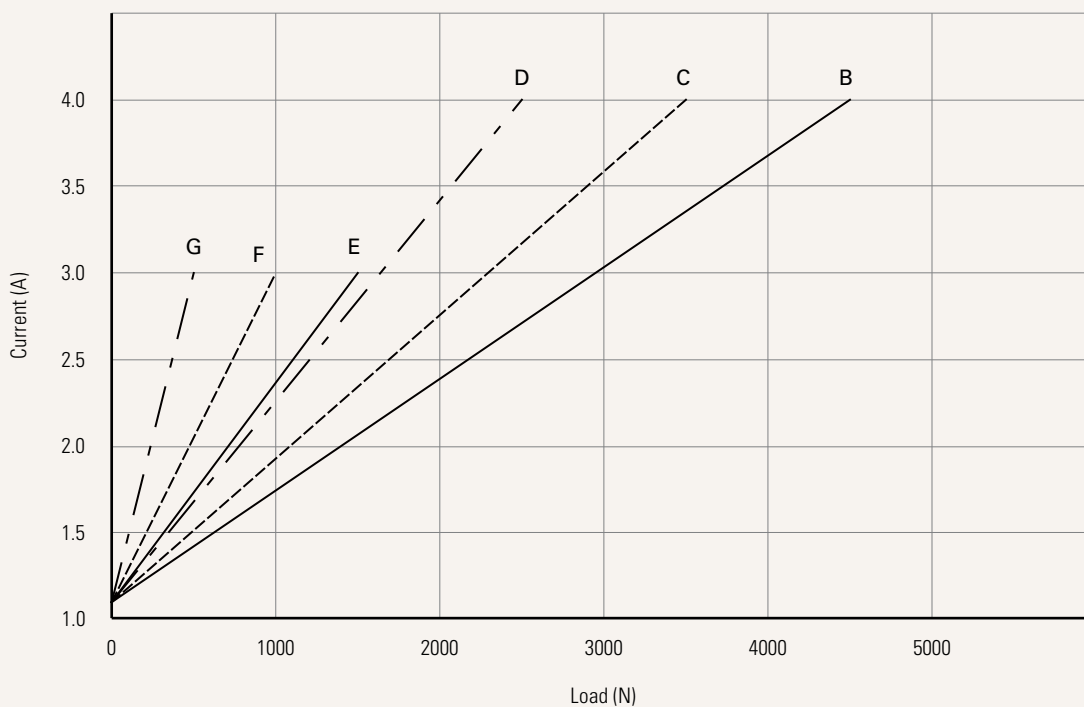
**Performance Data (24V DC Motor)**

Motor Speed (3800RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



**Note**

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

<b>Voltage</b>	1 = 12V DC	2 = 24V DC	5 = 24V DC, PTC	6 = 12V DC, PTC
<b>Load and Speed</b>	<a href="#">See page 2</a>			
<b>Stroke (mm)</b>				
<b>Retracted Length (mm)</b>	<a href="#">See page 2</a>			
<b>Rear Attachment (mm)</b>	1 = Aluminum casting, U clevis, slot 4.2, depth 18.0, hole 10.2			
	<a href="#">See page 6</a>			
<b>Front Attachment (mm)</b>	1 = Aluminum CNC, no slot, hole 13.0			
	<a href="#">See page 6</a>			
<b>Direction of Rear Attachment (Counterclockwise)</b>	1 = 0°			
	<a href="#">See page 6</a>			
<b>Color</b>	1 = Black	2 = Grey (Pantone 428C)		
<b>IP Rating</b>	1 = Without 2 = IP54	3 = IP66 5 = IP66W	6 = IP66D 7 = IP68	8 = IP69K
<b>Special Functions for Spindle Sub-Assembly</b>	0 = Without (Standard)			
<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 + 3rd LS 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 + 3rd LS to send signal			
	<a href="#">See page 7</a>			
<b>Output Signals</b>	0 = Without	1 = One Hall sensor	2 = Two Hall sensors	
<b>Connector</b>	1 = DIN 6P, 90° plug	2 = Tinned leads		
	<a href="#">See page 7</a>			
<b>Cable Length (mm)</b>	0 = Straight, 100	1 = Straight, 500	3 = Straight, 1000	

## Retracted Length (mm)

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

### A. Rear Attachment

1	+289
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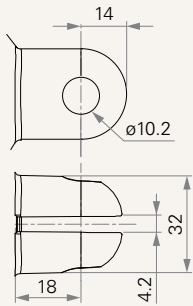
### B. Load V.S. Stroke

Stroke (mm)	Load (N)
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20~150	-
151~200	-
201~250	+10
251~300	+20
301~350	+30
351~400	+40
401~450	+50
451~500	+60
501~550	+70
551~600	+80
601~650	+90
651~700	+100
701~750	+110
751~800	+120
801~850	+130
851~900	+140
901~950	+150
951~1000	+160

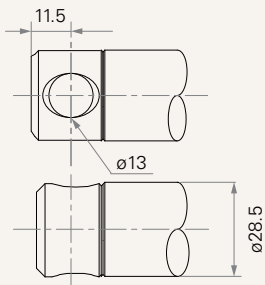
## Rear Attachment (mm)

1 = Aluminum casting, U clevis, slot  
4.2, depth 18.0, hole 10.2



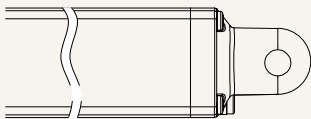
## Front Attachment (mm)

1 = Aluminum CNC, no slot, hole 13.0



## Direction of Rear Attachment (Counterclockwise)

1 =  $0^\circ$



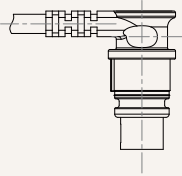
## Functions for Limit Switches

### Wire Definitions

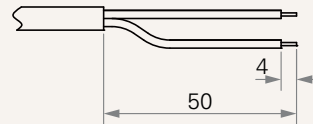
CODE	Pin					
	● 1 (Green)	● 2 (Red)	○ 3 (White)	● 4 (Black)	● 5 (Yellow)	● 6 (Blue)
1	extend (VDC+)	N/A	N/A	N/A	retract (VDC+)	N/A
2	extend (VDC+)	N/A	middle switch pin B	middle switch pin A	retract (VDC+)	N/A
3	extend (VDC+)	common	upper limit switch	N/A	retract (VDC+)	lower limit switch
4	extend (VDC+)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

### Connector

1 = DIN 6P, 90° plug



2 = Tinned leads



### 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.