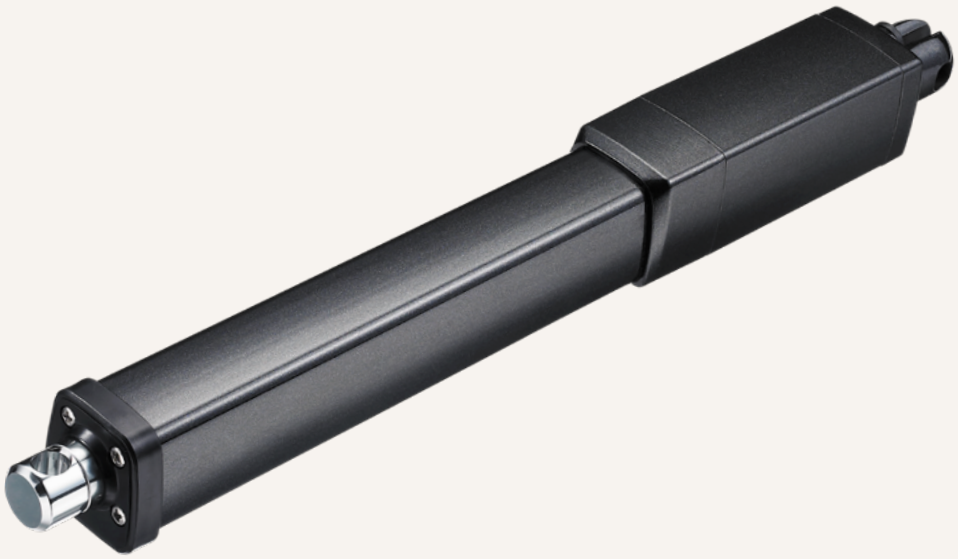
# JP4
series



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.

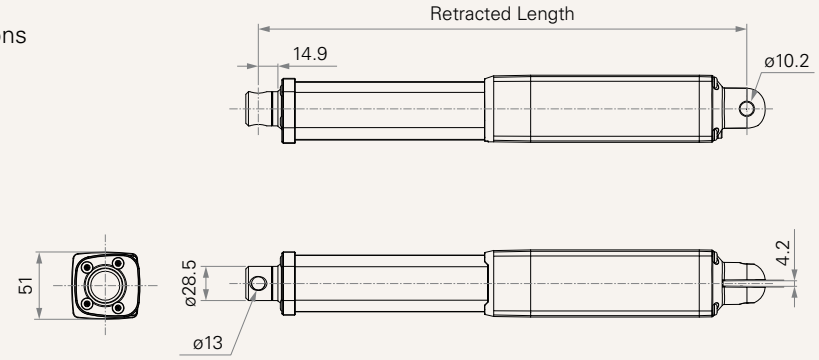
**General Features**

| | |
|---|---|
| Voltage of motor | 12/24V DC, or 12/24V 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 24V DC | With Load 24V DC | No Load 24V DC | With Load 24V DC |
| **Motor Speed (3800RPM, Duty Cycle 10%)** | | | | | | | |
| **B** | 4500 | 3000 | 4500 | 1.1 | 4.0 | 4.4 | 2.5 |
| **C** | 3500 | 3000 | 3000 | 1.1 | 4.0 | 6.5 | 4.0 |
| **D** | 2500 | 2500 | 2000 | 1.1 | 4.0 | 9.2 | 5.6 |
| **E** | 1500 | 1500 | 1000 | 1.1 | 3.0 | 12.0 | 9.5 |
| **F** | 1000 | 1000 | 700 | 1.1 | 3.0 | 18.0 | 14.0 |
| **G** | 500 | 500 | 500 | 1.1 | 3.0 | 27.5 | 24.0 |

## Note

1 Please refer to the approved drawing for the final authentic value.

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 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.

4 The current & speed in table are tested when the actuator is extending under push load.

5 The current & speed in table and diagram are tested with a stable 24V DC power supply.

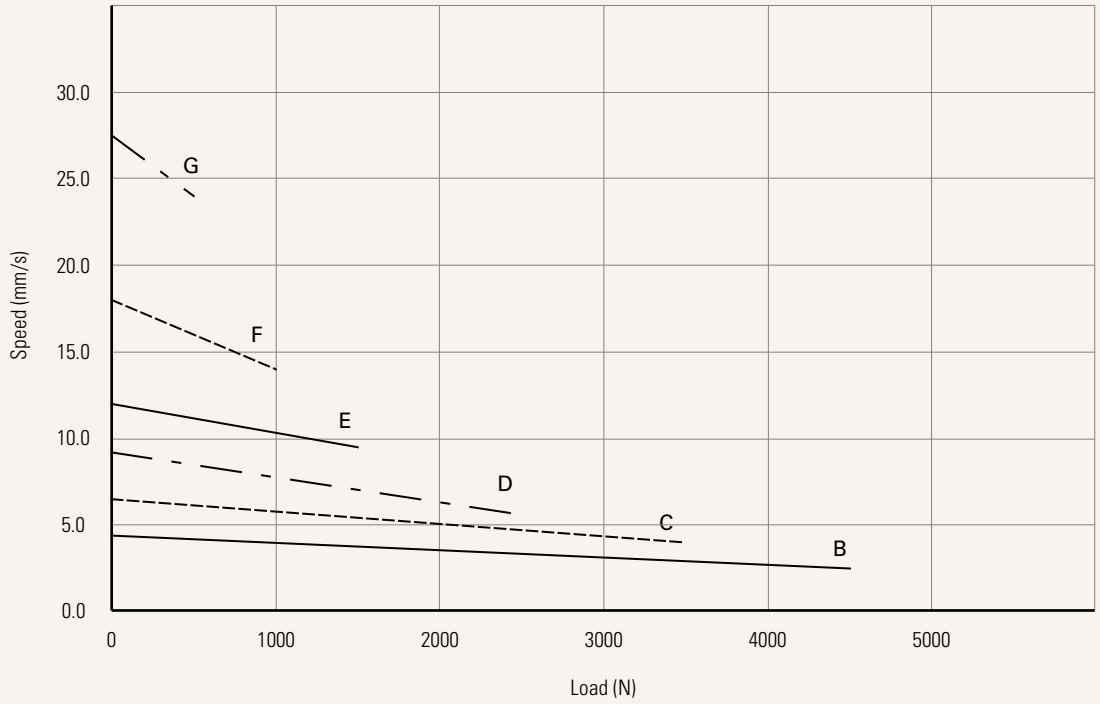
6 Standard stroke: Min. ≥ 20mm, Max. please refer to below table

| CODE | Load (N) | Max Stroke (mm) |
|---|---|---|
| **B** | 4500 | 400 |
| **C** | 3500 | 500 |
| **D** | 2500 | 600 |
| **E** | 1500 | 700 |
| **F** | 1000 | 800 |
| **G** | 500 | 1000 |

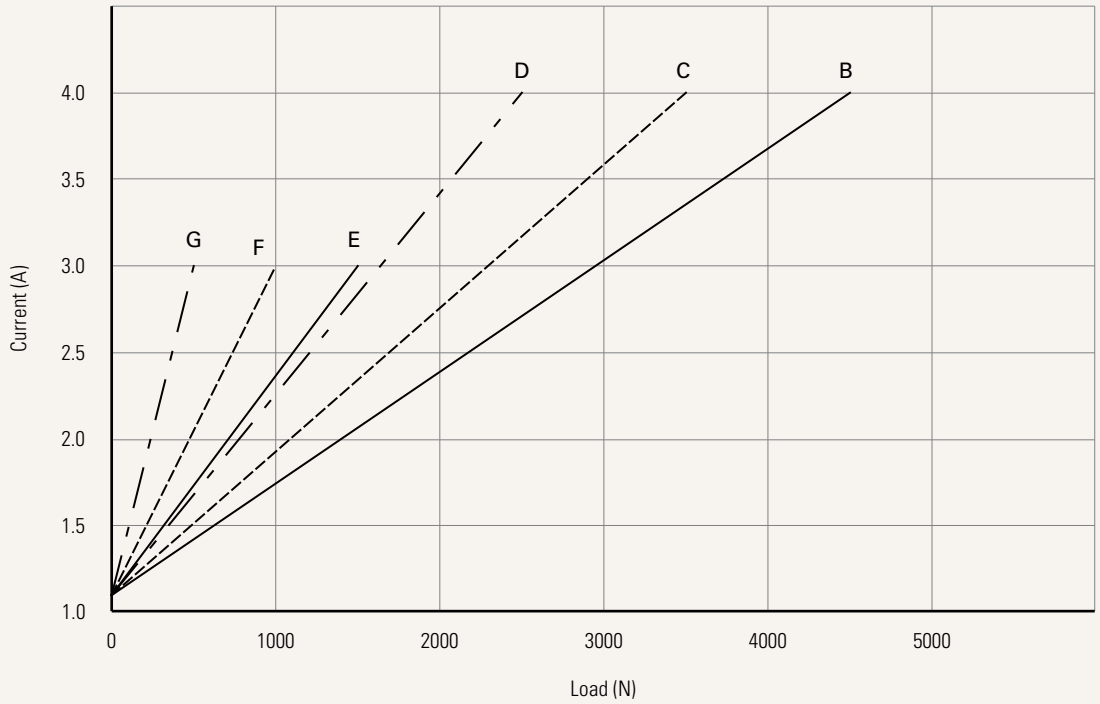
**Performance Data (24V DC Motor)**

Motor Speed (3800RPM, Duty Cycle 10%)

Speed vs. Load




Current vs. Load



# **JP4** Ordering Key

JP4

Version: 20191204-F

| | | | | |
|---|---|---|---|---|
| **Voltage** See page 7 | 1 = 12V DC | 2 = 24V DC | 5 = 24V DC, PTC | 6 = 12V DC, PTC |
| **Load and Speed** | See page 2 | | | |
| **Stroke (mm)** | | | | |
| **Retracted Length (mm)** | See page 2 | | | |
| **Rear Attachment (mm)** See page 6 | 1 = Aluminum casting, U clevis, slot 4.2, depth 18.0, hole 10.2 | | | |
| **Front Attachment (mm)** See page 6 | 1 = Aluminum CNC, no slot, hole 13.0 | | | |
| **Direction of Rear Attachment (Counterclockwise)** See page 6 | 1 = 0° | | | |
| **Color** | 1 = Black | 2 = Grey (Pantone 428C) | | |
| **IP Rating** | 1 = Without<br>2 = IP54 | 3 = IP66<br>5 = IP66W | 6 = IP66D<br>7 = IP68 | 8 = IP69K |
| **Special Functions for Spindle Sub-Assembly** | 0 = Without (Standard) | | | |
| **Functions for Limit Switches** See page 7 | 1 = Two switches at full retracted / extended positions to cut current<br>2 = Two switches at full retracted / extended positions to cut current + 3rd LS to send signal<br>3 = Two switches at full retracted / extended positions to send signal<br>4 = Two switches at full retracted / extended positions to send signal + 3rd LS to send signal | | | |
| **Output Signal** | 0 = Without | 2 = Hall sensors*2 | | |
| **Connector** See page 7 | 1 = DIN 6P, 90° plug | 2 = Tinned leads | | |
| **Cable Length (mm)** | 0 = Straight, 100 | 1 = Straight, 500 | 3 = Straight, 1000 | |

# **JP4** Ordering Key Appendix

## Retracted Length (mm)

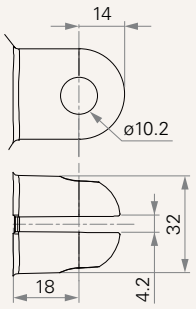
1. Calculate A+B = Y
2. Retracted length needs to ≥ Stroke + Y

| **A. Rear Attachment** | |
|---|---|
| **1** | +289 |

| **B. Load V.S. Stroke** | |
|---|---|
| **Stroke (mm)** | Load (N) |
| **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 |

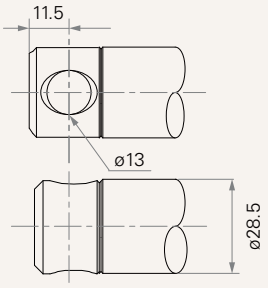
### Rear Attachment (mm)

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



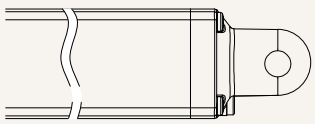

### Front Attachment (mm)

1 = Aluminum CNC, no slot, hole 13.0




### Direction of Rear Attachment (Counterclockwise)

1 = 0°



# **JP4** Ordering Key Appendix

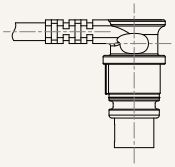
## Functions for Limit Switches

**Wire Definitions**

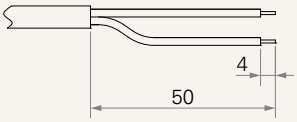
| **CODE** | Pin | | | | | |
|---|---|---|---|---|---|---|
| | 1 (Green) | 2 (Red) | 3 (White) | 4 (Black) | 5 (Yellow) | 6 (Blue) |
| **1** | extend (VDC+) | N/A | N/A | N/A | retract (VDC+) | N/A |
| **2** | extend (VDC+) | N/A | middle switch pin B | middle switch pin A | retract (VDC+) | N/A |
| **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

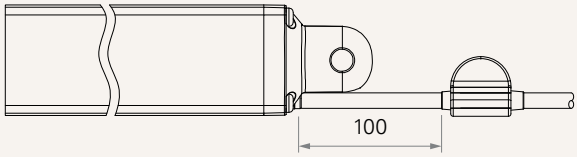
1 = DIN 6P, 90° plug



2 = Tinned leads




## Voltage

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