# JP3
series

Product Segments

- **Industrial Motion**

TiMOTION's JP3 series inline linear actuator was designed for low load industrial applications where up to IP69K dust and liquid ingress protection is necessary. It is best suited for applications with visual or compact installation dimension requirements. Hall sensors are optional for the JP3 which allow for synchronization and position feedback.

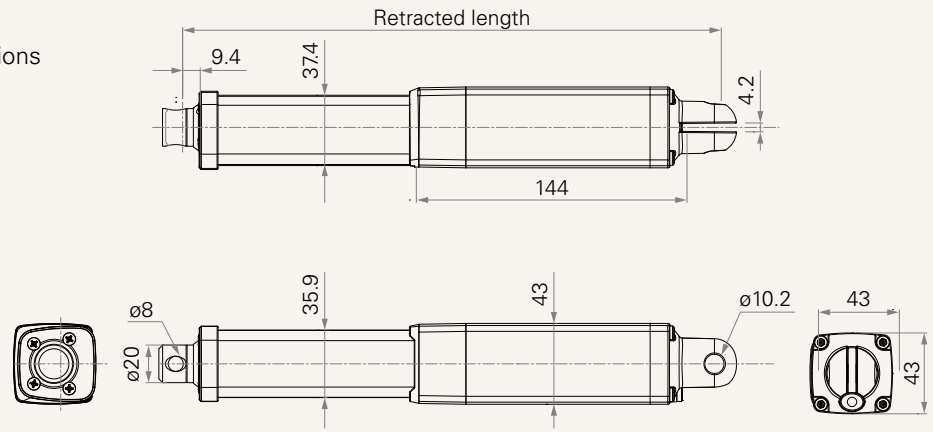
**General Features**

| | |
|---|---|
| Voltage of motor | 12V DC, 24V DC, or 24V DC (PTC) |
| Maximum load | 2,000N in push |
| Maximum load | 500N in pull |
| Maximum speed at full load | 19mm/s (with 500N in a push or pull condition) |
| Stroke | 20~1000mm |
| Minimum installation dimension | ≥ Stroke + 217mm |
| 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 |
| **Motor Speed (5600RPM, Duty Cycle 10%)** | | | | | | | |
| **B** | 2000 | 2000 | 2000 | 1.0 | 3.0 | 7.0 | 3.5 |
| **C** | 1500 | 1500 | 1500 | 1.0 | 3.0 | 10.0 | 6.5 |
| **D** | 1000 | 1000 | 1000 | 1.0 | 3.0 | 14.5 | 8.5 |
| **E** | 500 | 500 | 500 | 1.0 | 3.0 | 23.5 | 19.0 |

## Note

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

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

3 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.

4 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.

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

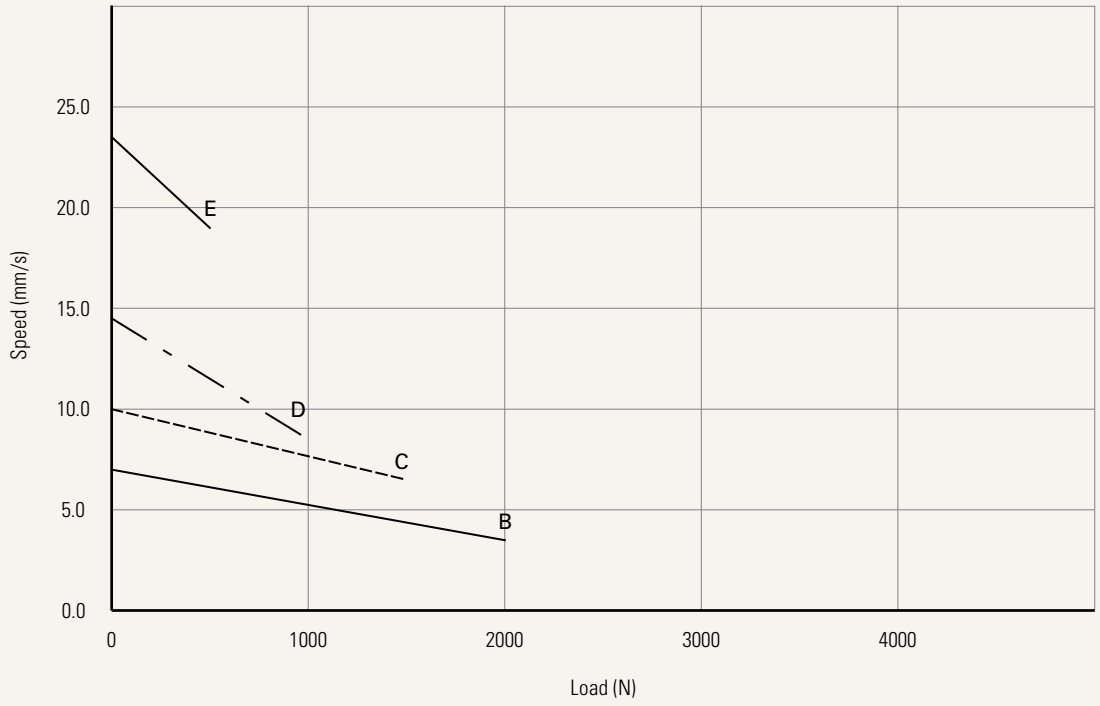
6 The current & speed in table and diagram are tested with a stable 24V DC power supply.

| CODE | Load (N) | Max Stroke (mm) |
|---|---|---|
| **B** | 2000 | 500 |
| **C** | 1500 | 600 |
| **D** | 1000 | 800 |
| **E** | 500 | 1000 |

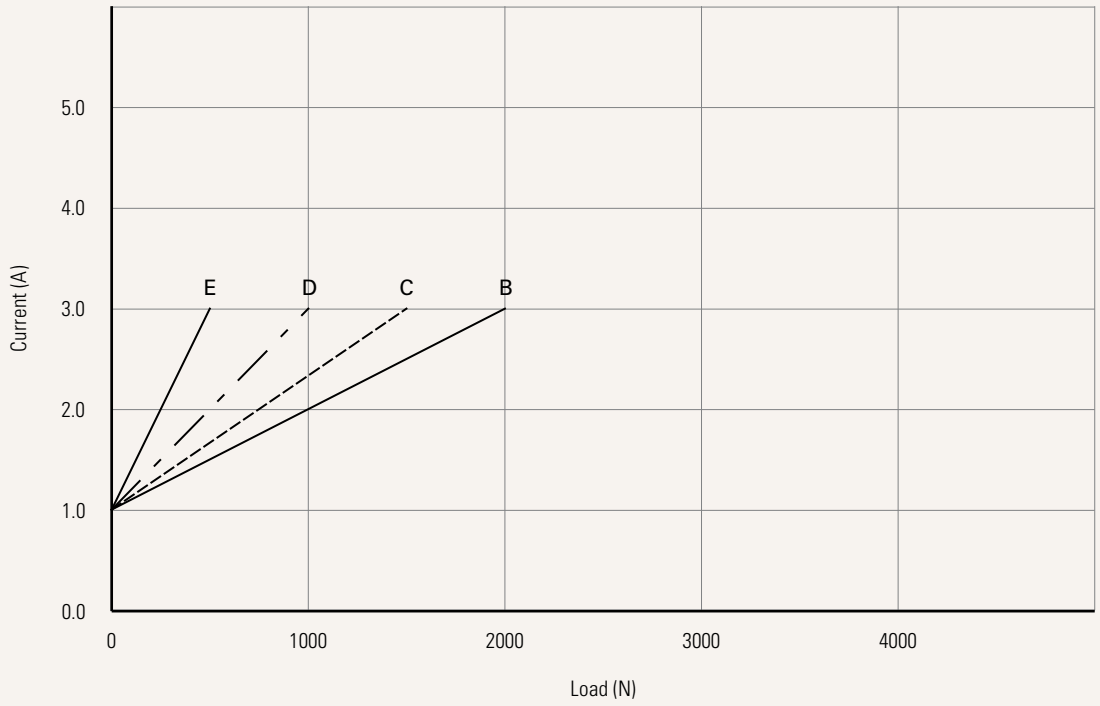
**Performance Data (24V DC Motor)**

Motor Speed (5600RPM, Duty Cycle 10%)

Speed vs. Load




Current vs. Load




**Note**

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

# **JP3** Ordering Key

JP3

Version: 20181015-D

| | | | | |
|---|---|---|---|---|
| **Voltage** | 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 casting, no slot, hole 6.4<br>2 = Aluminum casting, no slot, hole 8.0<br>3 = Aluminum CNC, U clevis, slot 6.0, depth 13.0, hole 10.0<br>4 = Aluminum CNC, U clevis, slot 6.0, depth 13.0, hole 6.4<br>5 = Aluminum CNC, U clevis, slot 6.0, depth 13.0, hole 8.0<br>6 = Aluminum casting, hole 10.0 | | | |
| **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 sensor * 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 | |

# **JP3** Ordering Key Appendix

## Retracted Length (mm)

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

| A. Front Attachment | |
|---|---|
| **1, 2, 6** | +217 |
| **3, 4, 5** | +230 |

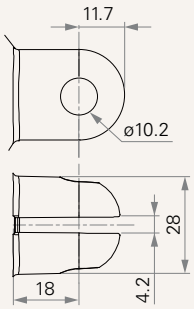
| B. Stroke (mm) | |
|---|---|
| **20~150** | - |
| **151~200** | - |
| **201~250** | +5 |
| **251~300** | +10 |
| **301~350** | +15 |
| **351~400** | +20 |
| **401~450** | +25 |
| **451~500** | +30 |
| **501~550** | +35 |
| **551~600** | +40 |
| **601~650** | +45 |
| **651~700** | +50 |
| **701~750** | +55 |
| **751~800** | +60 |
| **801~850** | +65 |
| **851~900** | +70 |
| **901~950** | +75 |
| **951~1000** | +80 |

| C. Output Signal | |
|---|---|
| **0** | - |
| **2** | +13 |

# **JP3** Ordering Key Appendix

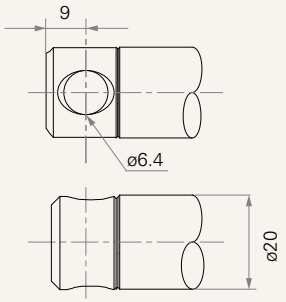
## Rear Attachment (mm)

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

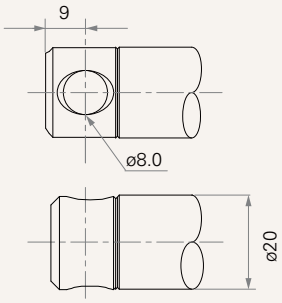



## Front Attachment (mm)

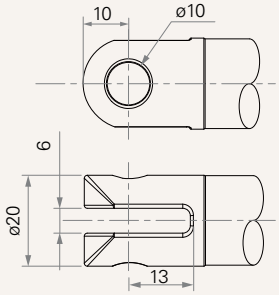
1 = Aluminum casting, no slot, hole 6.4



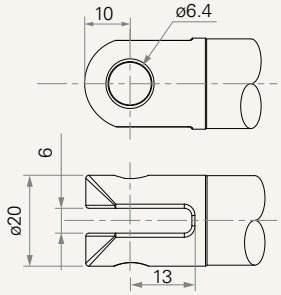

2 = Aluminum casting, no slot, hole 8.0



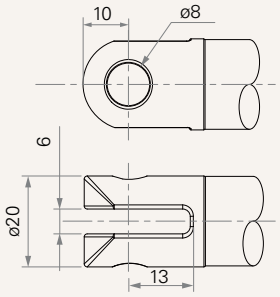

3 = Aluminum CNC, U clevis, slot 6.0, depth 13.0, hole 10.0



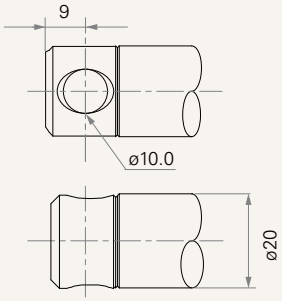

4 = Aluminum CNC, U clevis, slot 6.0, depth 13.0, hole 6.4




5 = Aluminum CNC, U clevis, slot 6.0, depth 13.0, hole 8.0

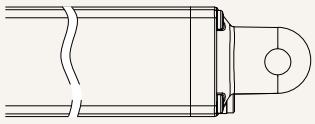



6 = Aluminum casting, hole 10.0




## Direction of Rear Attachment (Counterclockwise)

1 = 0°



# **JP3** Ordering Key Appendix

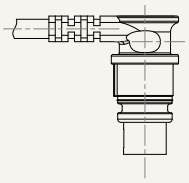
## Functions for Limit Switches

**Wire Definitions**

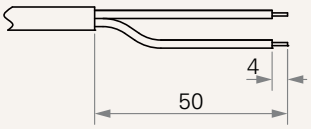
| CODE | Pin | | | | | |
|---|---|---|---|---|---|---|
| | 1 (Green) | 2 (Red) | 3 (White) | 4 (Black) | 5 (Yellow) | 6 (Blue) |
| **1** | extend (VDC+) | N/A | N/A | N/A | retract (VDC+) | N/A |
| **2** | extend (VDC+) | N/A | middle switch pin B | middle switch pin A | retract (VDC+) | N/A |
| **3**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

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