

TA14

series



Product Segments

- **Comfort Motion**

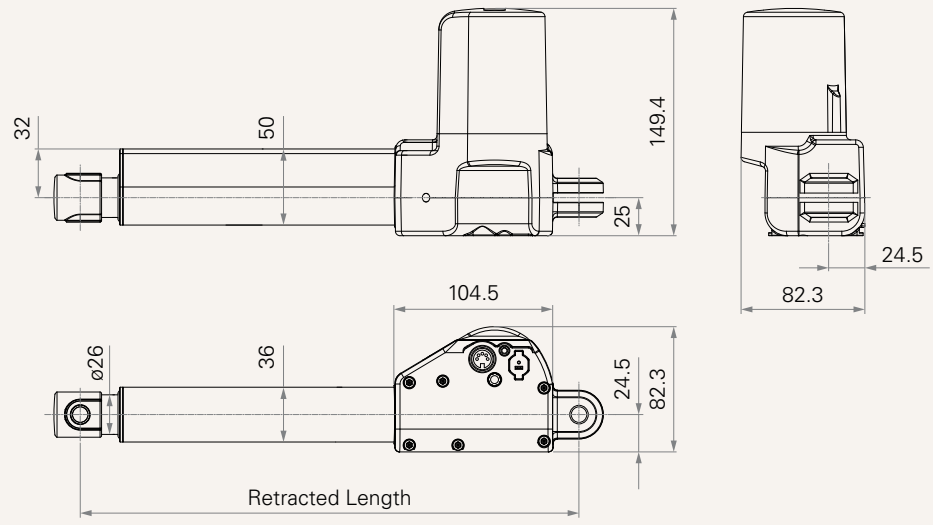
TiMOTION's TA14 linear actuator is designed for lift applications like recliners, lifting chairs and movie theater seating. This linear actuator is designed to function as a direct cut system, eliminating the need for a control box, offering a simple and economical alternative. Options for the TA14 include a safety nut and multiple mounting styles for the front attachment.

General Features

| | |
|---|------------------------------|
| Max. load | 6,000N (push); 4,000N (pull) |
| Max. speed at max. load | 4.1mm/s |
| Max. speed at no load | 39mm/s |
| Retracted length | ≥ Stroke + 163mm |
| Certificate | UL962, EMC |
| Stroke | 25~1000mm |
| Voltage | 12/24/36V DC; 24V DC (PTC) |
| Color | Black, dark grey |
| Operational temperature range | +5°C~+45°C |
| at full performance | |
| For direct-cut system: Can function without control box | |

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 (2600RPM, Duty Cycle 10%) | | | | | | | |
| C | 5000 | 4000 | 5000 | 0.8 | 3.5 | 8.0 | 4.1 |
| D | 6000 | 4000 | 6000 | 0.8 | 3.5 | 6.0 | 3.1 |
| F | 2500 | 2500 | 2500 | 0.8 | 3.2 | 15.9 | 8.3 |
| G | 2000 | 2000 | 2000 | 0.8 | 2.8 | 21.4 | 12.1 |
| H | 1000 | 1000 | 1000 | 0.8 | 2.1 | 32.1 | 19.1 |
| J | 3500 | 3500 | 3500 | 0.8 | 3.6 | 11.9 | 6.0 |
| Motor Speed (3400RPM, Duty Cycle 10%) | | | | | | | |
| L | 6000 | 4000 | 6000 | 1.0 | 4.2 | 7.3 | 4.1 |
| N | 2500 | 2500 | 2500 | 1.0 | 4.1 | 19.4 | 11.1 |
| O | 2000 | 2000 | 2000 | 1.0 | 4.0 | 26.1 | 14.9 |
| P | 1000 | 1000 | 1000 | 1.0 | 3.0 | 39.0 | 23.4 |
| Q | 3500 | 3500 | 3500 | 1.0 | 4.6 | 14.5 | 7.9 |
| T | 5000 | 4000 | 5000 | 1.0 | 4.2 | 9.8 | 5.4 |
| Motor Speed (3800RPM, Duty Cycle 10%) | | | | | | | |
| U | 5000 | 4000 | 5000 | 1.2 | 4.7 | 11.3 | 6.6 |
| W | 2500 | 2500 | 2500 | 1.2 | 4.6 | 23.0 | 13.4 |
| Z | 3500 | 3500 | 3500 | 1.2 | 5.3 | 16.8 | 9.8 |

Note

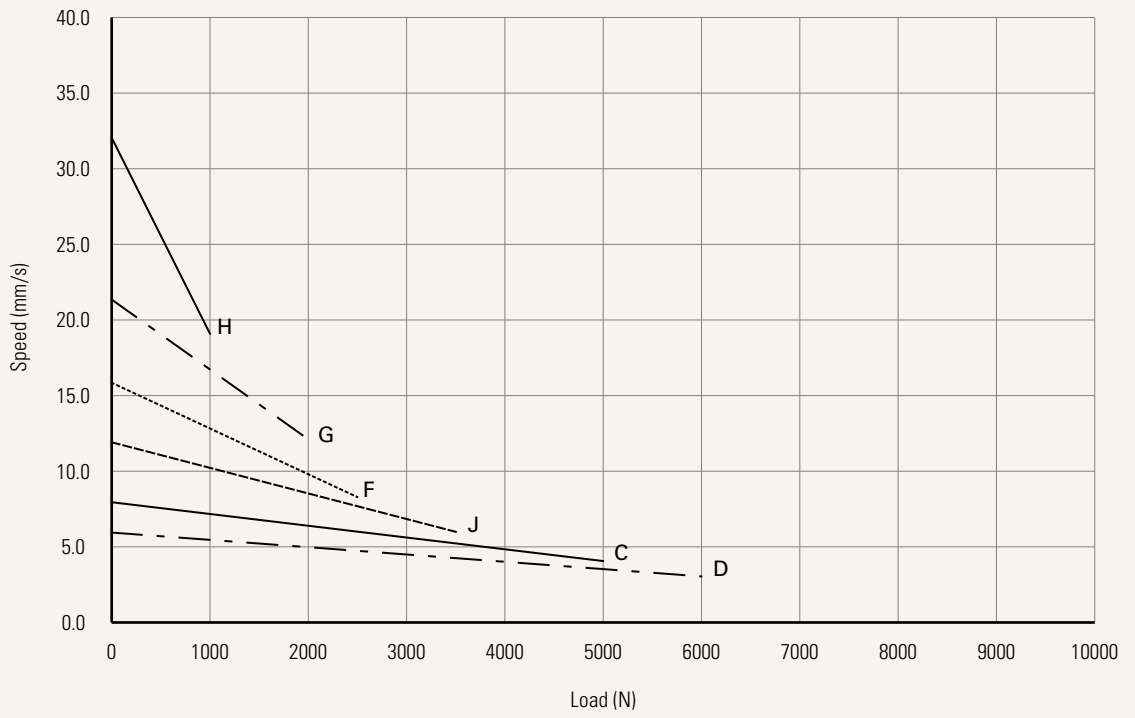
- 1 Please refer to the approved drawing for the final authentic value.
- 2 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in.
- 3 The current & speed in table are tested with 24V DC motor. With a 12V DC motor, the current is approximately twice the current measured in 24V DC. With a 36V DC motor, the current is approximately two-thirds the current measured in 24V DC. Speed will be similar for all the 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 TiMOTION control boxes, and there will be around 10% tolerance depending on different models of the control box. (Under no load condition, the voltage is around 32V DC. At rated load, the voltage output will be around 24V DC)
- 6 Standard stroke: Min. ≥ 25mm, Max. please refer to below table.

| CODE | Load (N) | Max Stroke (mm) |
|---------------|----------|-----------------|
| D, L | = 6000 | 600 |
| Others | < 6000 | 1000 |

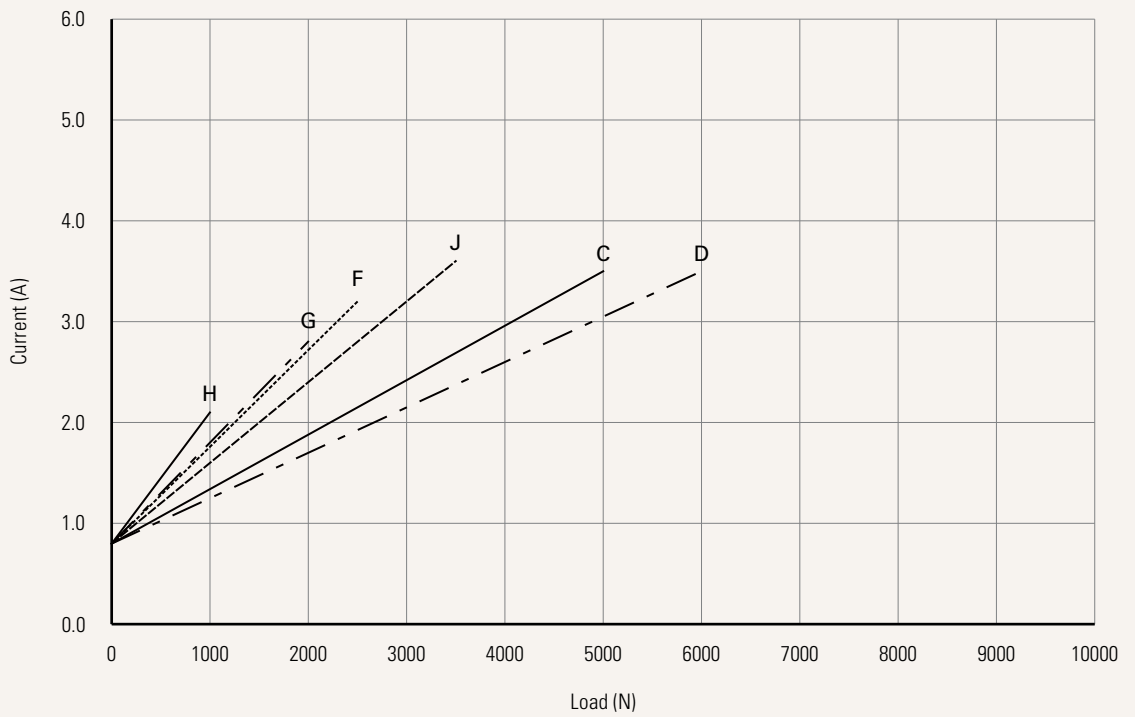
Performance Data (24V DC Motor)

Motor Speed (2600RPM, Duty Cycle 10%)

Speed vs. Load



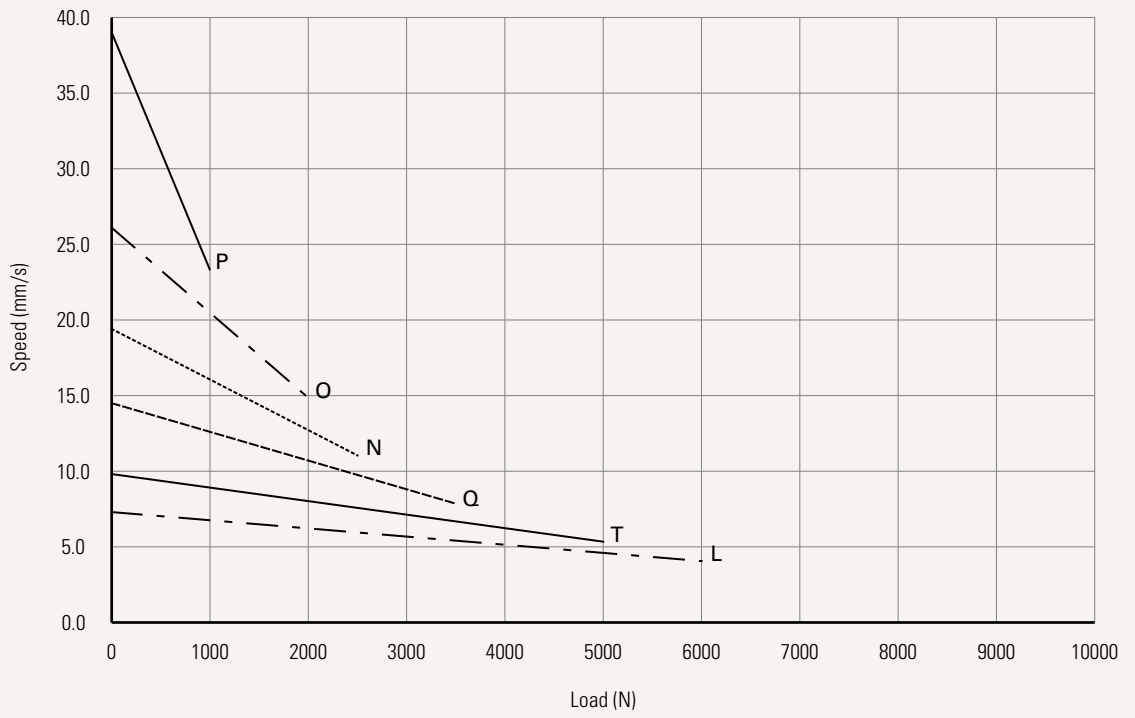
Current vs. Load



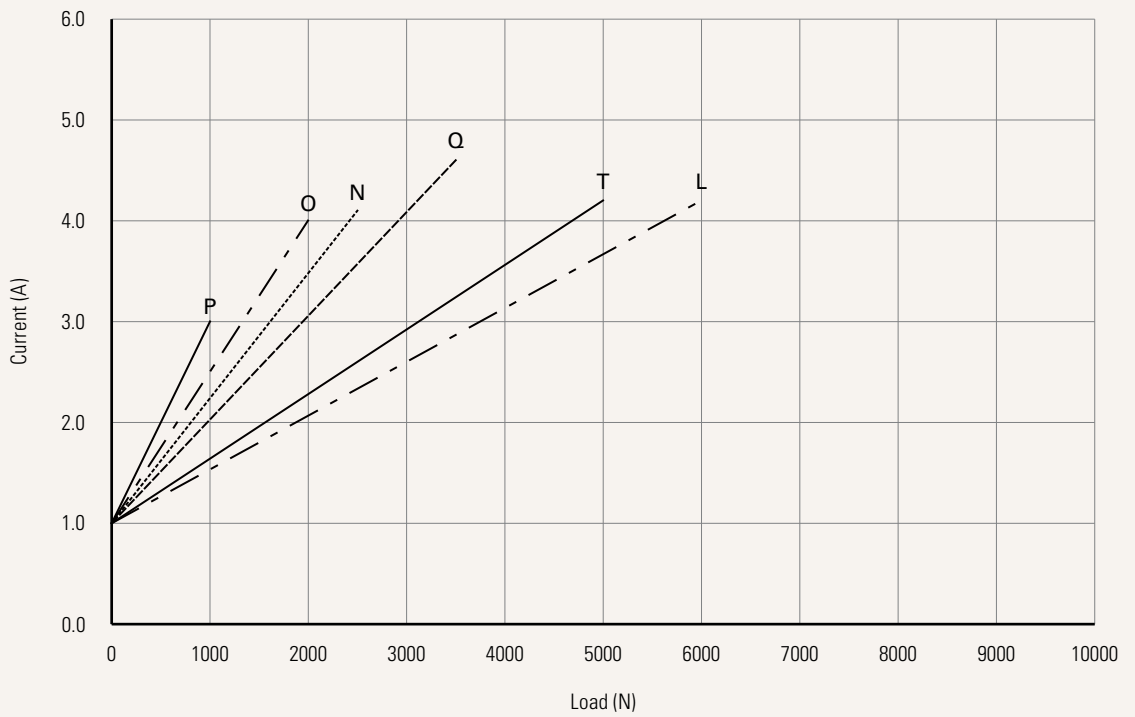
Performance Data (24V DC Motor)

Motor Speed (3400RPM, Duty Cycle 10%)

Speed vs. Load



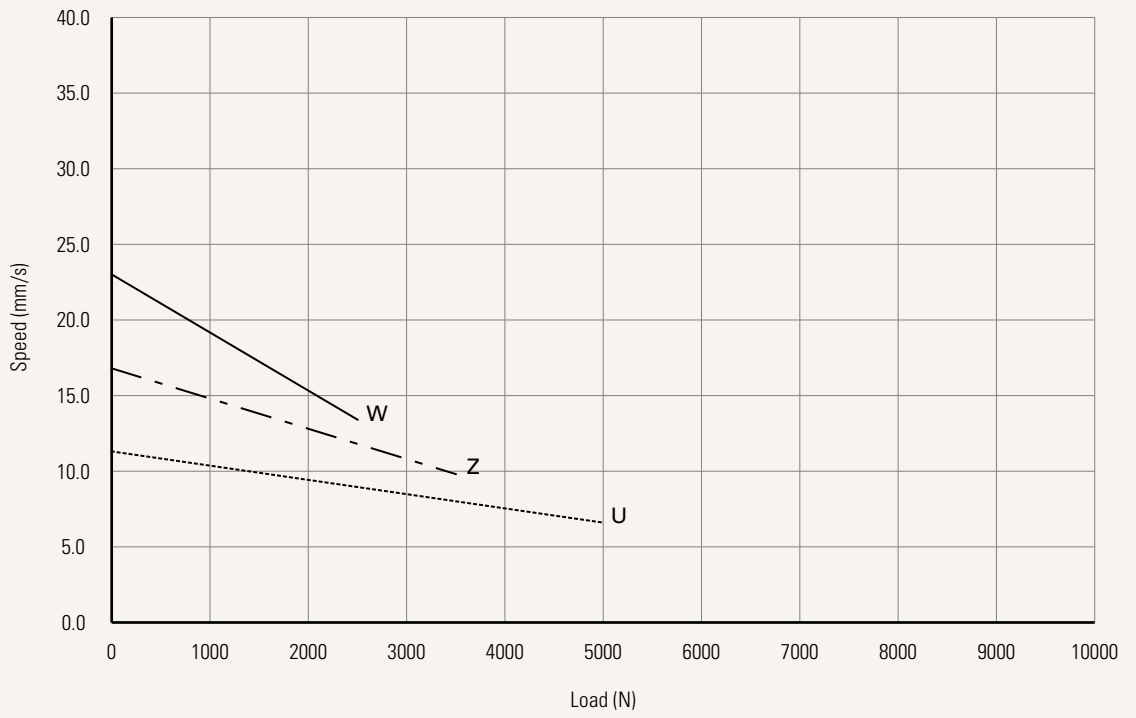
Current vs. Load



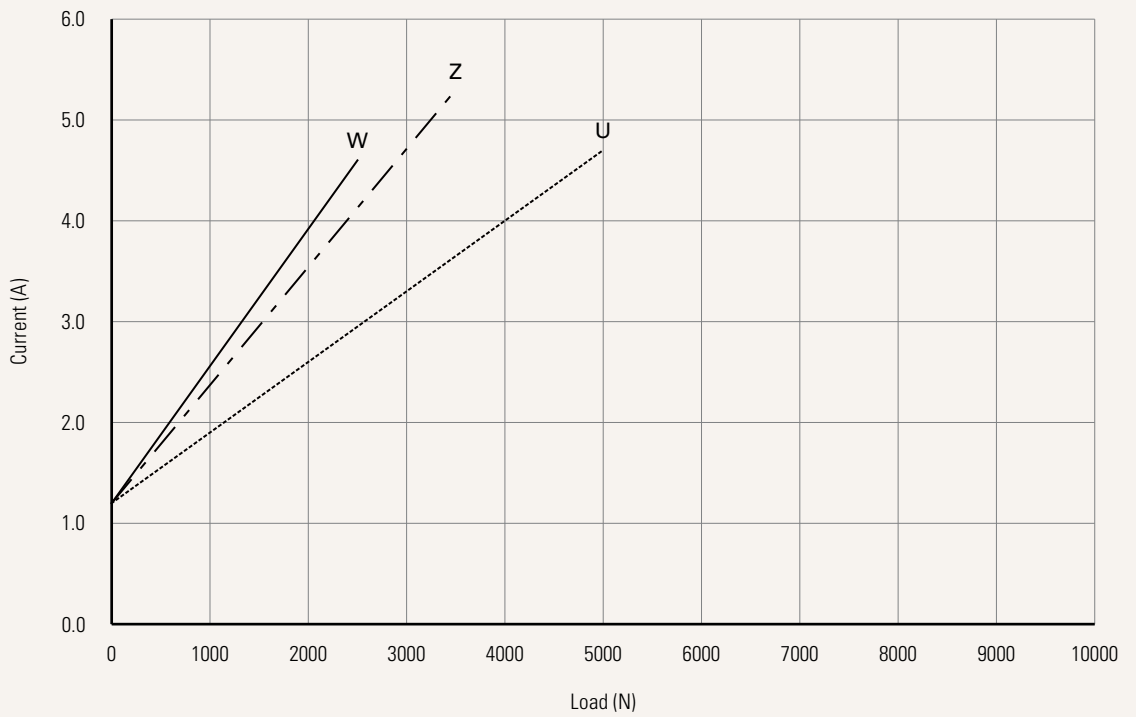
Performance Data (24V DC Motor)

Motor Speed (3800RPM, Duty Cycle 10%)

Speed vs. Load



Current vs. Load



| | | | | |
|---|--|--------------------------|---|---------------------------------------|
| Voltage | 1 = 12V DC | 2 = 24V DC | 3 = 36V DC | 5 = 24V DC, PTC |
| Load and Speed | See page 3 | | | |
| Stroke (mm) | See page 3 | | | |
| Retracted Length (mm) | See page 8 | | | |
| Rear Attachment (mm) | 1 = Plastic, U clevis, slot 6.1, depth 17.0, hole 10.2 | | | |
| | See page 9 | | | |
| Front Attachment (mm) | 1 = Punched hole on inner tube + plastic cap, without slot, hole 10.2, plastic bush | | 6 = Punched hole on inner tube, without slot, hole 12.2 | |
| | 2 = Punched hole on inner tube + plastic cap, without slot, hole 12.2 | | 7 = Aluminum casting, U clevis, slot 6.2, depth 17.0, hole 10.2 | |
| | 3 = Plastic, U clevis, slot 8.2, depth 20.2, hole 10.2, for load push < 4000N & pull < 2500N | | 8 = Aluminum casting, U clevis, slot 6.2, depth 17.0, hole 12.2 | |
| | 4 = Plastic, U clevis, slot 8.2, depth 20.2, hole 12.2, for load push < 4000N & pull < 2500N | | 9 = Aluminum casting, U clevis, slot 6.2, depth 17.0, hole 10.2, T-bush | |
| | 5 = Punched hole on inner tube, without slot, hole 10.2, plastic bush | | | |
| Color (Gear box) | 1 = Black | | 5 = Dark grey | |
| Special Functions for Spindle Sub-Assembly | 0 = Without | 1 = Safety nut | 2 = Standard push only | 3 = Safety nut and standard push only |
| Connector | 1 = Direct cut operation with single actuator | | P = Molex 8P, 90° plug, without anti-clip | |
| | 2 = Direct cut operation with 2 actuators | | Q = Molex 6P, 90° plug (40511-123) | |
| Output Signals | 0 = Without | | | |
| Brake | 0 = Without | 4 = Spindle brake (4.5N) | M = Motor brake | |
| Load Type | T = Push | P = Pull | 1 = Push + Pull, mainly push 2 = Push + Pull, mainly pull | |
| IP Rating | 1 = Without | | | |

Retracted Length (mm)

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

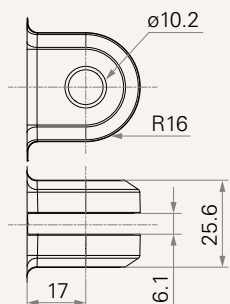
| A. | |
|---------------|------|
| Front Attach. | |
| 1, 2, 5, 6 | +163 |
| 3, 4 | +185 |
| 7, 8, 9 | +175 |

| B. | | |
|-------------|----------|--------|
| Stroke (mm) | Load (N) | |
| | < 6000 | = 6000 |
| 25~150 | - | - |
| 151~200 | - | - |
| 201~250 | - | +5 |
| 251~300 | - | +10 |
| 301~350 | +5 | +15 |
| 351~400 | +10 | +20 |
| 401~450 | +15 | +25 |
| 451~500 | +20 | +30 |
| 501~550 | +25 | +35 |
| 551~600 | +30 | +40 |
| 601~650 | +35 | x |
| 651~700 | +40 | x |
| 701~750 | +45 | x |
| 751~800 | +50 | x |
| 801~850 | +55 | x |
| 851~900 | +60 | x |
| 901~950 | +65 | x |
| 951~1000 | +70 | x |

| C. | | |
|------------------------|------------------|------|
| Front Attach. | Spindle Function | |
| | 0, 1 | 2, 3 |
| Load < 5000 (N) | | |
| 1, 2, 5, 6 | - | +5 |
| 3, 4 | - | - |
| 7, 8, 9 | - | - |
| Load = 5000 / 6000 (N) | | |
| 1, 2, 5, 6 | - | +8 |
| 3, 4 | - | - |
| 7, 8, 9 | - | - |

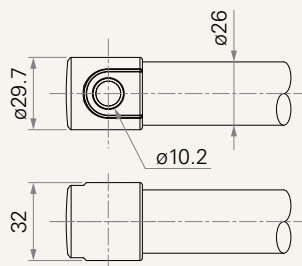
Rear Attachment (mm)

1 = Plastic, U clevis, slot 6.1, depth 17.0, hole 10.2

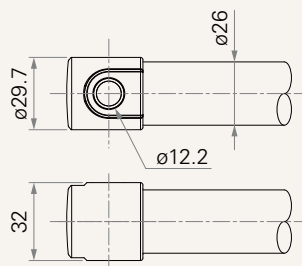


Front Attachment (mm)

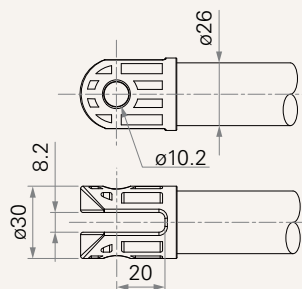
1 = Punched hole on inner tube + plastic cap, without slot, hole 10.2, plastic bush



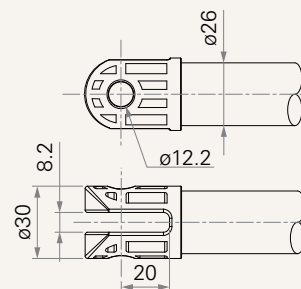
2 = Punched hole on inner tube + plastic cap, without slot, hole 12.2



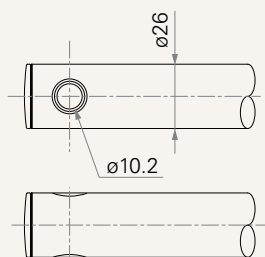
3 = Plastic, U clevis, slot 8.2, depth 20.2, hole 10.2, for load push < 4000N & pull < 2500N



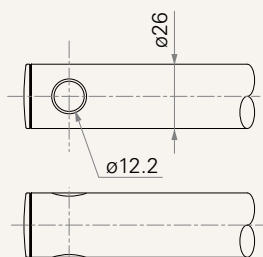
4 = Plastic, U clevis, slot 8.2, depth 20.2, hole 12.2, for load push < 4000N & pull < 2500N



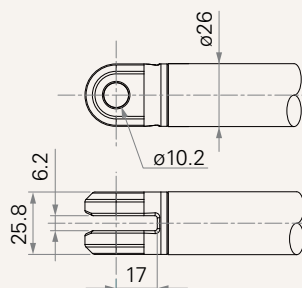
5 = Punched hole on inner tube, without slot, hole 10.2, plastic bush



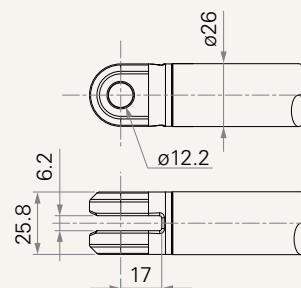
6 = Punched hole on inner tube, without slot, hole 12.2



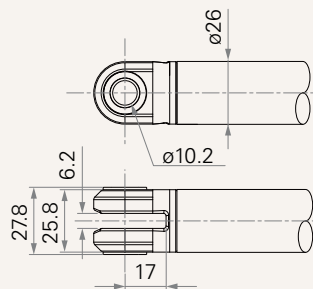
7 = Aluminum casting, U clevis, slot 6.2, depth 17.0, hole 10.2



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

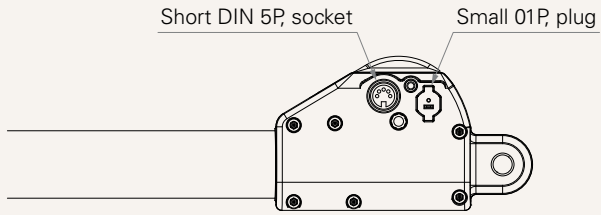


9 = Aluminum casting, U clevis, slot 6.2, depth 17.0, hole 10.2, T-bush

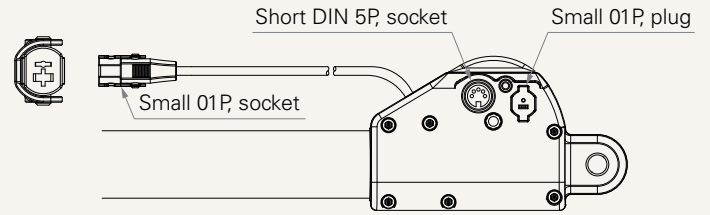


Connector

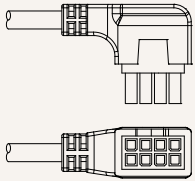
1 = Direct cut operation with single actuator



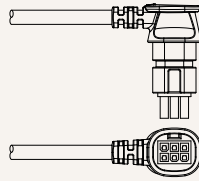
2 = Direct cut operation with 2 actuators



P = Molex 8P, 90° plug, without anti-clip



Q = Molex 6P, 90° plug (40511-123)



Terms of Use

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