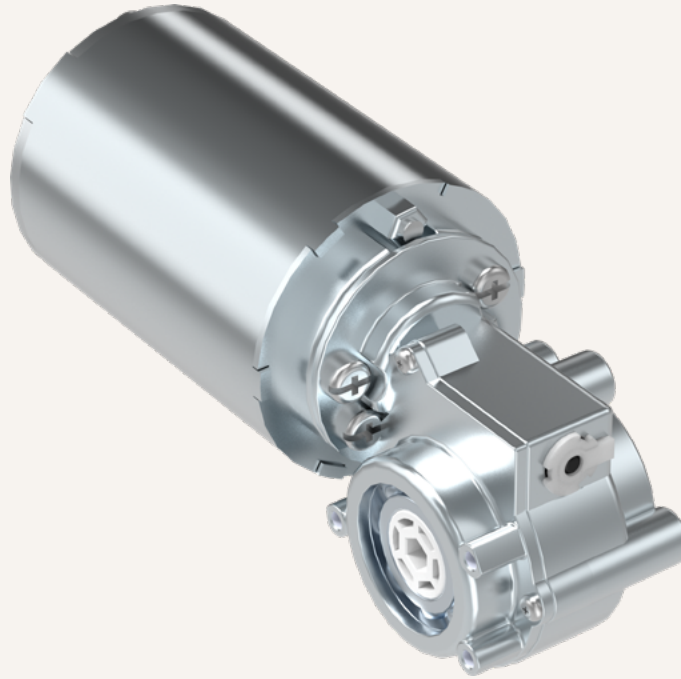


# TGM1

series



## Product Segments

- **Ergo Motion**
- **Industrial Motion**

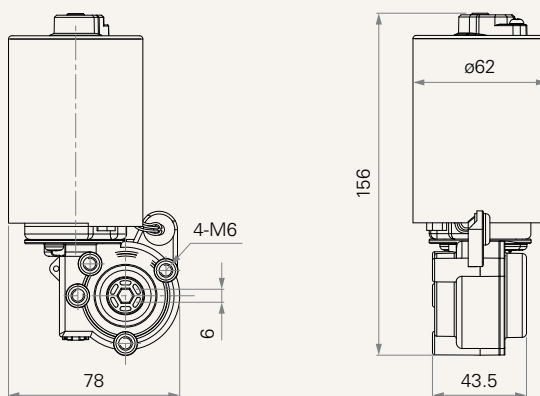
TiMOTION's TGM1 series gear motor was designed primarily for ergonomic applications like height adjustable workstations and tables, but can be used in many other applications. This economical product allows for fast, smooth and quiet adjustment of built-in spindles through the use of external limit switches. Shafting allows for the mechanical synchronization of dual spindles.

### General Features

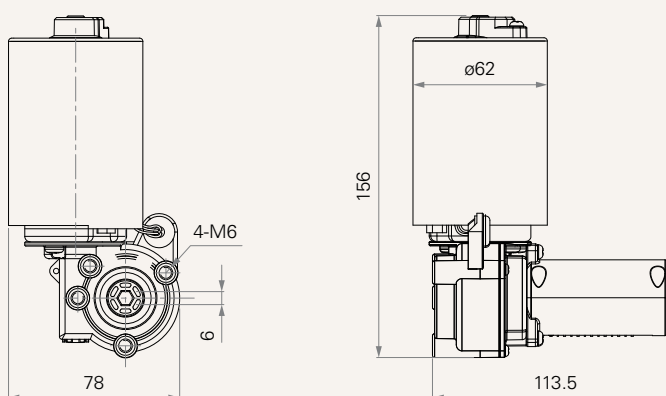
|  |                            |
|--|----------------------------|
| Max. rated torque                                    | 7.4Nm                      |
| Max. speed at max. load                              | 72RPM (±5%)                |
| Max. speed at no load                                | 262.5RPM (±5%)             |
| Certificate  | UL962                      |
| Options  | Hall sensors               |
| Voltage  | 12, 24V DC or 24V DC (PTC) |
| Operational temperature range<br>at full performance | +5°C~+45°C                 |
| Hexagon hole for the shaft by 6 or 9.1mm diameter    |                            |
| Low noise  |                            |

### Drawing

Standard Dimensions -  
Without TES2  
(mm)



Standard Dimensions -  
With TES2  
(mm)



### Load and Speed

| CODE                         | Torque Load (Nm) | Self Locking Force (Nm) | Typical Current (A) |           | Typical Speed (RPM, ±5%) |           | Hall Sensor Output |                |                  |
|------------------------------|------------------|-------------------------|---------------------|-----------|--------------------------|-----------|--------------------|----------------|------------------|
|                              |                  |                         | No Load             | With Load | No Load                  | With Load | Magnet Poles       | Period (ms)    |                  |
|                              |                  |                         | 32V DC              | 24V DC    | 32V DC                   | 24V DC    |                    | No Load 32V DC | With Load 24V DC |
| <b>Motor Speed (3800RPM)</b> |                  |                         |                     |           |                          |           |                    |                |                  |
| <b>A</b>                     | 7.4              | 4.4                     | 1.0                 | 5.5       | 131                      | 72        | 2                  | 10.9~12.3      | 14.6~16.4        |
| <b>D</b>                     | 3.7              | 1.9                     | 1.0                 | 5.5       | 262.5                    | 144       | 2                  | 10.9~12.3      | 14.6~16.4        |
| <b>Motor Speed (3400RPM)</b> |                  |                         |                     |           |                          |           |                    |                |                  |
| <b>B</b>                     | 7.0              | 4.4                     | 1.0                 | 5.0       | 112.5                    | 64        | 4                  | 6.6~7.1        | 8.8~9.5          |
| <b>E</b>                     | 3.5              | 1.9                     | 1.0                 | 5.0       | 225                      | 128       | 4                  | 6.6~7.1        | 8.8~9.5          |
| <b>Motor Speed (2600RPM)</b> |                  |                         |                     |           |                          |           |                    |                |                  |
| <b>C</b>                     | 5.8              | 4.4                     | 1.0                 | 3.5       | 89.5                     | 51        | 4                  | 8.3~9.4        | 11.1~12.5        |
| <b>F</b>                     | 2.9              | 1.9                     | 1.0                 | 3.5       | 179                      | 102       | 4                  | 8.3~9.4        | 11.1~12.5        |

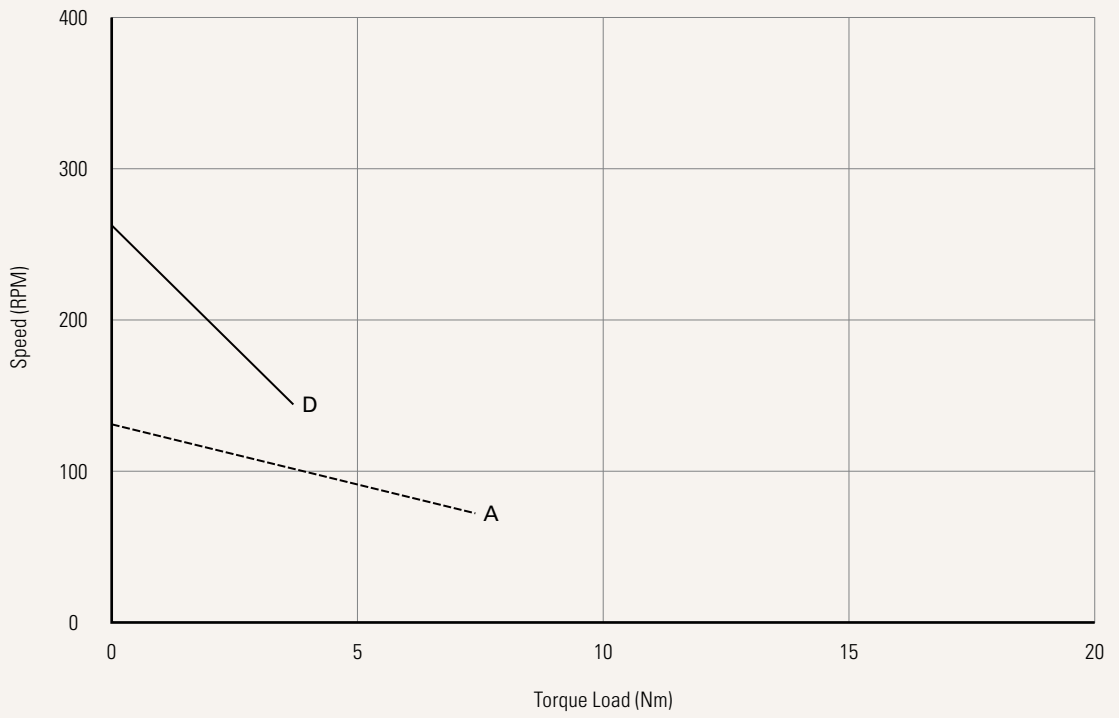
### Note

- Please refer to the approved drawing for the final authentic value.
- 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)

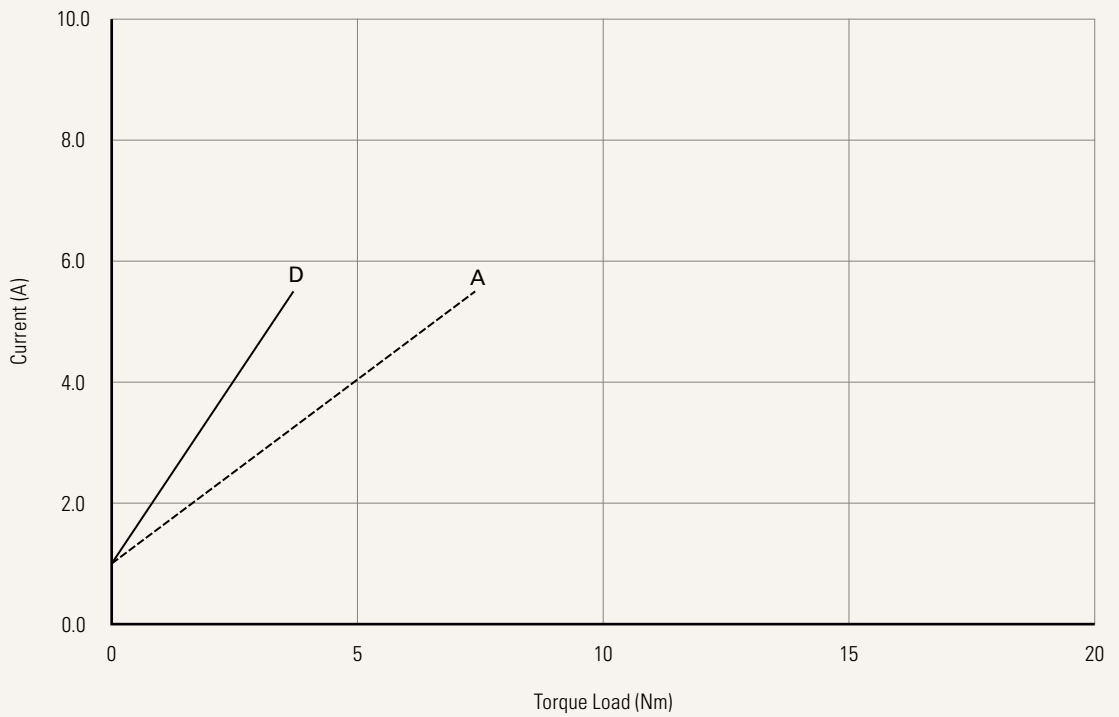
**Performance Data (24V DC Motor)**

Motor Speed (3800RPM)

Speed vs. Torque Load



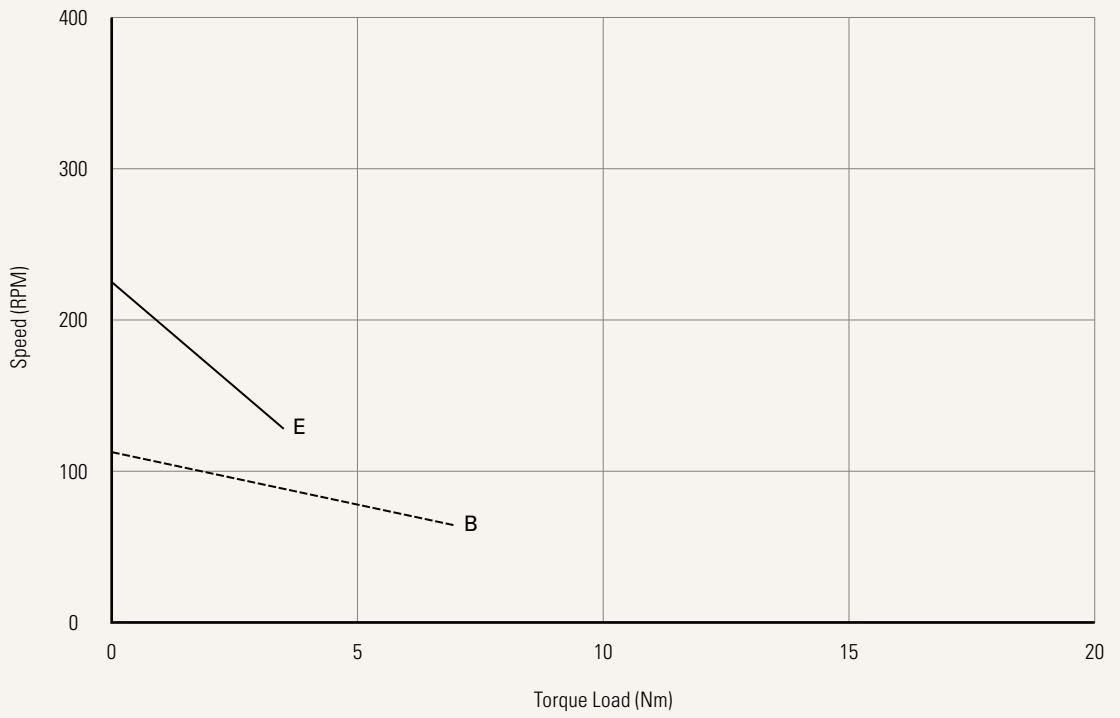
Current vs. Torque Load



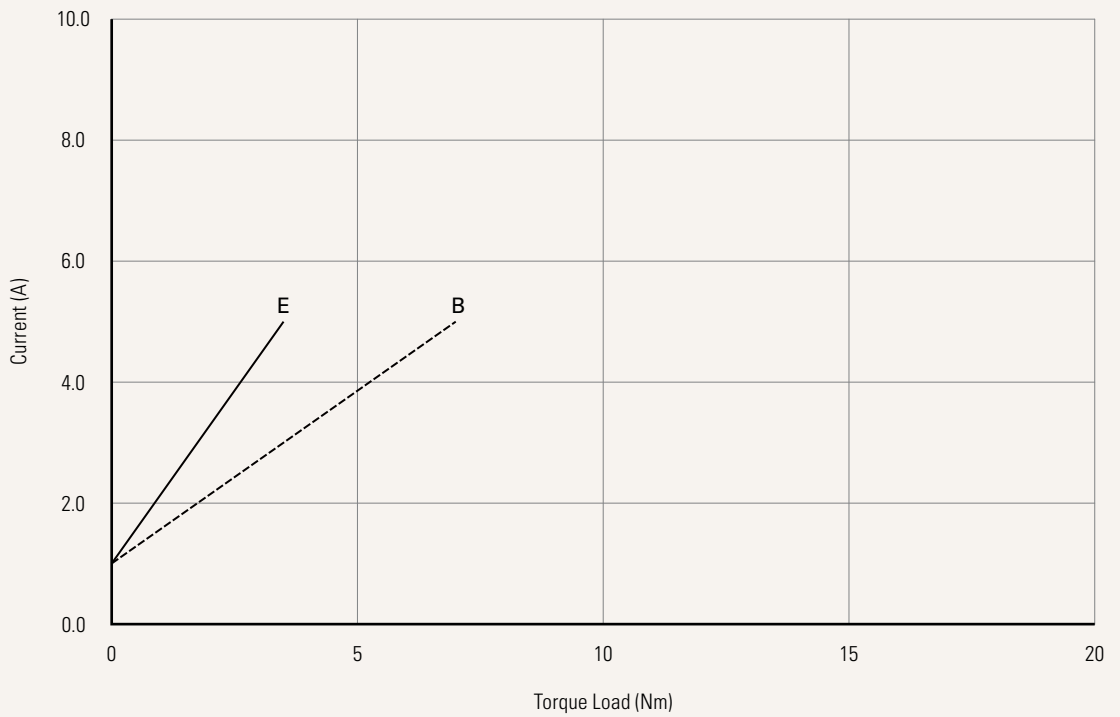
**Performance Data (24V DC Motor)**

Motor Speed (3400RPM)

Speed vs. Torque Load



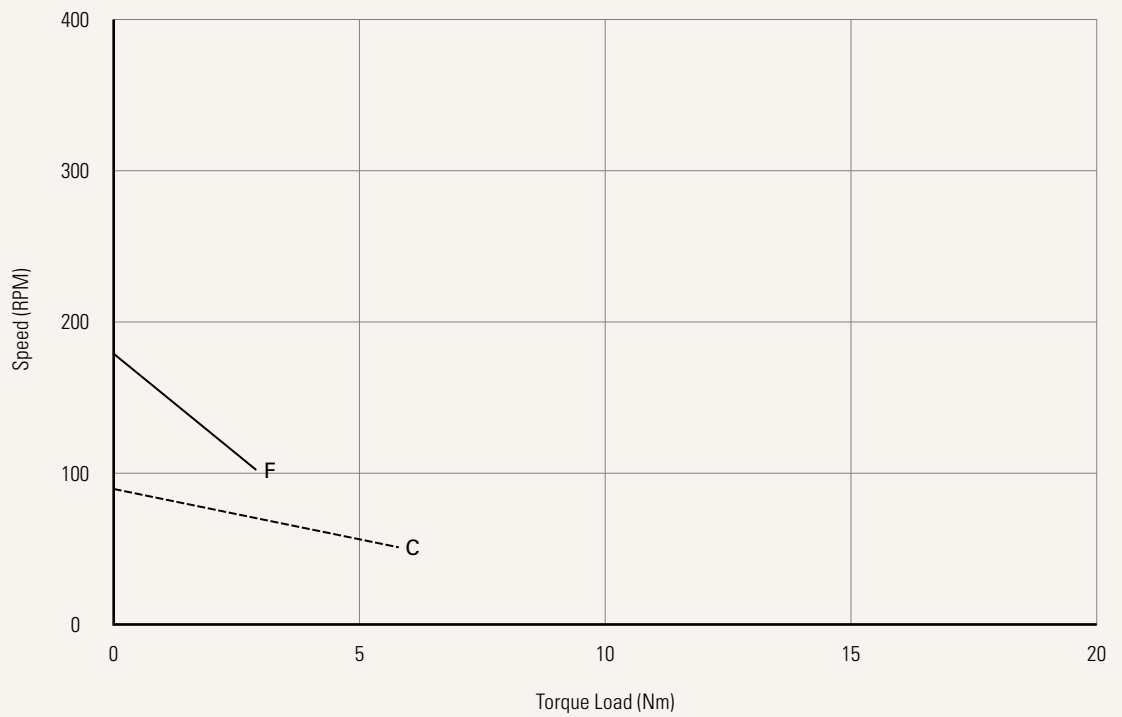
Current vs. Torque Load



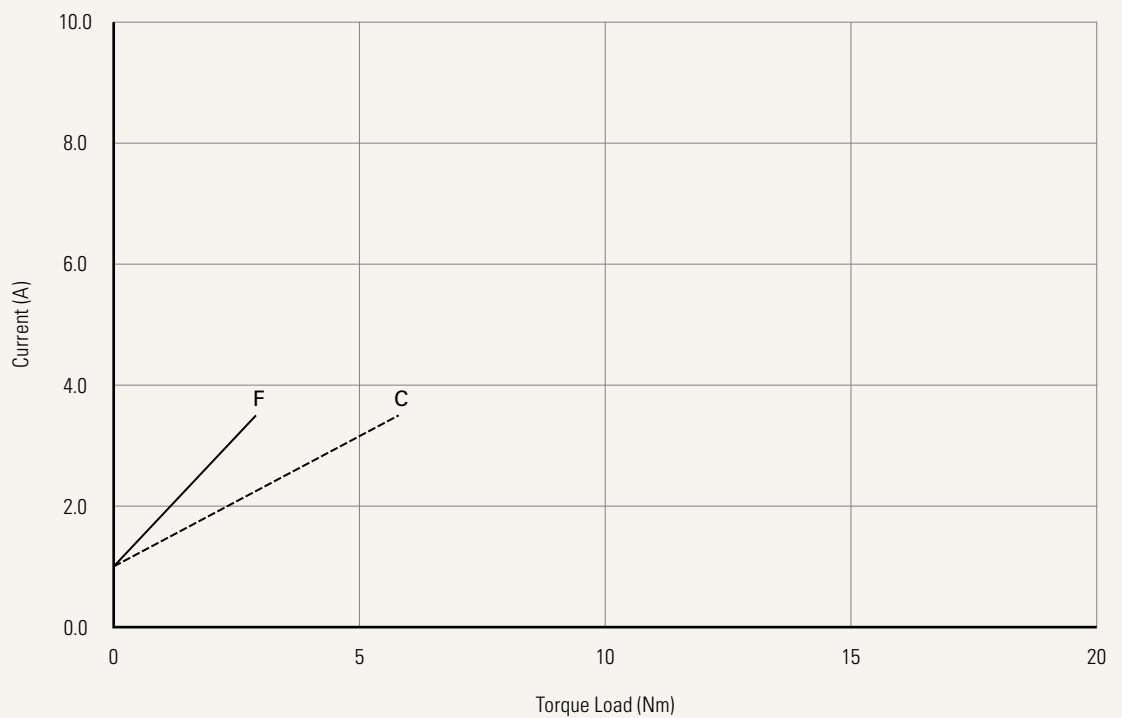
**Performance Data (24V DC Motor)**

Motor Speed (2600RPM)

Speed vs. Torque Load



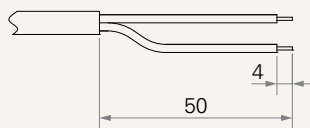
Current vs. Torque Load



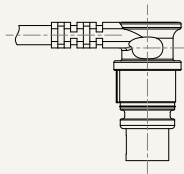
|   |   |                    |  |                 |
|---|---|--------------------|--|-----------------|
| <b>Voltage</b>  | 1 = 12V DC  | 2 = 24V DC         | 5 = 24V DC, PTC                        |                 |
| <b>Load and Speed</b>                                   | <a href="#">See page 2</a>  |                    |  |                 |
| <b>Output Signal</b>                                    | 0 = Without   | 2 = Hall sensor*2  |  |                 |
| <b>Brake</b>  | 0 = Without   | 1 = Motor brake    |  |                 |
| <b>Plug</b><br><a href="#">See page 7</a>               | 0 = Tinned leads  | 1 = DIN 6P, 90°    | 2 = Molex 8P                           |                 |
| <b>Cable Length (mm)</b>                                | 0 = Straight, 1000  | 1 = Straight, 1500 | 2 = Straight, 2000                     | 3 = Curly, 1000 |
| <b>Output Torque (mm)</b><br><a href="#">See page 7</a> | 1 = Drive shaft hole (inner hexagon 9.1)  |                    | 5 = Drive shaft hole (inner hexagon 6) |                 |
| <b>External Limit Switch (TES2)</b>                     | 00 = Without<br>XX = Number of output rotations (between 13~17 & 25~35 rotations, factory preset) |                    |  |                 |

## Plug

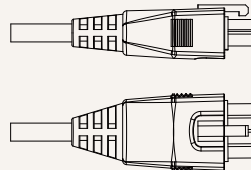
0 = Tinned leads



1 = DIN 6P, 90°

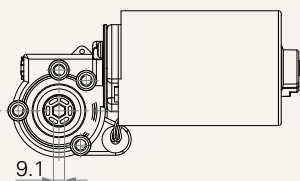


2 = MOLEX 8P

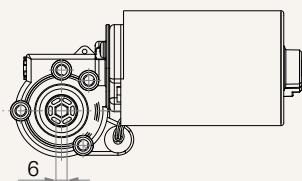


## Output torque

1 = Drive shaft hole (inner hexagon 9.1)



5 = Drive shaft hole (inner hexagon 6)



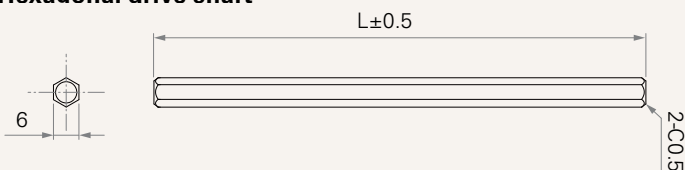
## TBS Series - the combination of TGM and TBS

| TBS   | Input Torque | TGM  |      |      |      |      |
|-------|--------------|------|------|------|------|------|
|       |              | TGM1 | TGM2 | TGM3 | TGM4 | TGM7 |
| TBS1  | #1           | V    | V    | V    | V    | -    |
| TBS2  | #1           | -    | -    | -    | -    | V    |
| TBS3  | #1           | -    | -    | -    | -    | V    |
| TBS4  | #1           | V    | V    | V    | V    | -    |
| TBS5  | #1           | V    | V    | V    | V    | -    |
| TBS9  | #1           | V    | V    | V    | V    | -    |
| TBS10 | #1           | V    | V    | V    | V    | -    |

## Note

- The combinations of TGM and TBS are marked as "v" on the above table.
- When choosing the combination of TBS2 / 3 and TGM7, the hexagonal drive shaft is not required.
- When choosing the combination of TBS1 / 4 / 5 / 9 / 10 and TGM1 / 3 / 4, the extra order of hexagonal drive shaft is needed.
- Please refer to the table below for the serial numbers and the dimensions of the component.

## Hexagonal drive shaft



| CODE             | L (mm) |
|------------------|--------|
| 32709-0101-175-1 | 175    |
| 32709-0101-200-1 | 200    |
| 32709-0101-270-1 | 270    |
| 32709-0101-375-1 | 375    |
| 32709-0101-470-1 | 470    |
| 32709-0101-570-1 | 570    |

## 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.