



Customizable,  
High Quality, Heavy Duty,  
Industrial-Grade Actuators

# INDUSTRIAL MOTION





# TiMOTION ELECTRONIC LINEAR ACTUATORS – MOTION TECHNOLOGY THAT HELPS PROVIDE A CLEANER, BETTER FUTURE

Many industrial applications require heavy-duty automation on a large scale — especially for agricultural, construction, mining, ventilation, and process control machinery, among others. The technology is out there, and it's only getting better. Equipment manufacturers are increasingly turning to electric linear actuators as a cost-efficient and reliable alternative to previous industry standards, such as hydraulic and pneumatic motion systems. TiMOTION's Industrial Motion product line is shown within this catalog, as well as additional information about what we offer and the full benefits of our linear actuator technology.

# JP series

TiMOTION's JP series family is designed with inline actuator appearance. All the products in the JP series are ideally suitable for high or low load required industrial applications where up to IP69K dust and liquid ingress protection is necessary. JP series allows for use in limited spaces without sacrificing power.



## JP3 - Page 12

**Max. load**  
2,000N in push

**Max. speed at no load**  
23.5mm/s

**Max. speed at max. load**  
3.5mm/s

**Min. installation dimension**  
≥ Stroke + 217mm



## JP4 - Page 14

**Max. load**  
4,500N in push

**Max. speed at no load**  
27.5mm/s

**Max. speed at max. load**  
2.5mm/s

**Min. installation dimension**  
≥ Stroke + 289mm

# MA series

TiMOTION's MA series family is specially designed for harsh working environments, requiring a durable, long life solution. All of our MA series actuators are ideal for the heavy-duty machinery, industrial equipment and off road vehicles. In addition, they all comply with IP69K protection that will withstand high pressure water jets, and the ingress of dust and other solid contaminants.



## MA1 - Page 16

**Max. load**

4,500N in push

**Max. speed at no load**

58.5mm/s

**Max. speed at max. load**

14mm/s

**Min. installation dimension**

≥ Stroke + 160mm (without POT)



## MA2 - Page 18

**Max. load**

6,000N in push

**Max. speed at no load**

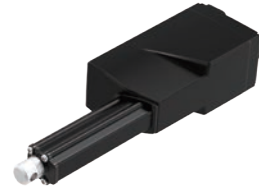
52.5mm/s

**Max. speed at max. load**

6.1mm/s

**Min. installation dimension**

≥ Stroke + 131mm



## MA5 - Page 20

**Max. load**

3,500N in push

**Max. speed at no load**

56.5mm/s

**Max. speed at max. load**

2.4mm/s

**Min. installation dimension**

≥ 200mm

# TA series

TiMOTION's TA series family is the well-developed product line for industrial market segment. All the products in the TA series have a compact design, and can meet the demands of high force, high speed, and low noise requirements. The TA series is recommended for use in small spaces where force or capability cannot be sacrificed.



TA2 - Page 22

**Max. load**  
1,000N in push

**Max. speed at no load**  
67.5mm/s

**Max. speed at max. load**  
7.6mm/s

**Min. installation dimension**  
≥ Stroke + 105mm



TA2P - Page 24

**Max. load**  
3,500N in push

**Max. speed at no load**  
56.5mm/s

**Max. speed at max. load**  
2.4mm/s

**Min. installation dimension**  
≥ Stroke + 108mm



TA16 - Page 26

**Max. load**  
3,500N in push

**Max. speed at no load**  
23.5mm/s

**Max. speed at max. load**  
6.5mm/s

**Min. installation dimension**  
≥ Stroke + 112mm



## TA21 - Page 28

**Max. load**

10,000N in push

**Max. speed at no load**

24.7mm/s

**Max. speed at max. load**

6.3mm/s

**Min. installation dimension**

≥ 67mm



## TA38 - Page 30

**Max. load**

1,500N in push / pull

**Max. speed at no load**

12.5mm/s

**Max. speed at max. load**

7.9mm/s

**Min. installation dimension**

≥ 160mm

# TL series

TiMOTION's TL (column) series is made up of two or three extruded aluminum tubes of rectangular shape that give the system great stability and a high stroke with reduced retracted length. Our electric lifting columns are perfect for industrial applications such as height adjustable workstations, screens and lifting tables.



## TL3 - Page 32

**Max. load & self-locking force**

4,000N in push

**Max. dynamic bending moment**

1,000Nm

**Max. speed at no load**

39mm/s

**Max. speed at max. load**

13.7mm/s

**Min. installation dimension**

$\geq \text{Stroke}/2 + 150\text{mm}$



## TL17 - Page 34

**Max. load & self-locking force**

2,000N in push

**Max. dynamic bending moment**

250Nm

**Max. speed at no load**

41mm/s

**Max. speed at max. load**

10.5mm/s

**Min. installation dimension**

$\geq \text{Stroke}/2 + 150\text{mm}$





## TL18 - Page 36

**Max. load & self-locking force**  
4,500N in push

**Max. dynamic bending moment**  
250Nm

**Max. speed at no load**  
45mm/s

**Max. speed at max. load**  
6.6mm/s

**Min. installation dimension**  
 $\geq$  Stroke + 147mm



## TL18AC - Page 38

**Max. load & self-locking force**  
4,500N in push

**Max. dynamic bending moment**  
250Nm

**Max. speed at no load**  
45mm/s

**Max. speed at max. load**  
6.6mm/s

**Min. installation dimension**  
 $\geq$  Stroke + 183mm

# TGM

series

TiMOTION's TGM (Gear Motor) series is primarily designed for height adjustable table applications. The TGM products allow 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.



## TGM1 - Page 40

**Max. speed at no load**

262.5RPM ( $\pm 5\%$ )

**Max. speed at max. load**

72RPM ( $\pm 5\%$ )

**Max. rated torque**

7.4Nm



## TGM2 - Page 42

**Max. speed at no load**

108RPM ( $\pm 5\%$ )

**Max. speed at max. load**

51RPM ( $\pm 5\%$ )

**Max. rated torque**

18.3Nm



## TGM3 - Page 44

**Max. speed at no load**

259RPM ( $\pm 5\%$ )

**Max. speed at max. load**

61RPM ( $\pm 5\%$ )

**Max. rated torque**

4.6Nm



## TGM4 - Page 46

**Max. speed at no load**  
219RPM ( $\pm 5\%$ )

**Max. speed at max. load**  
98RPM ( $\pm 5\%$ )

**Max. rated torque**  
6Nm



## TGM7 - Page 48

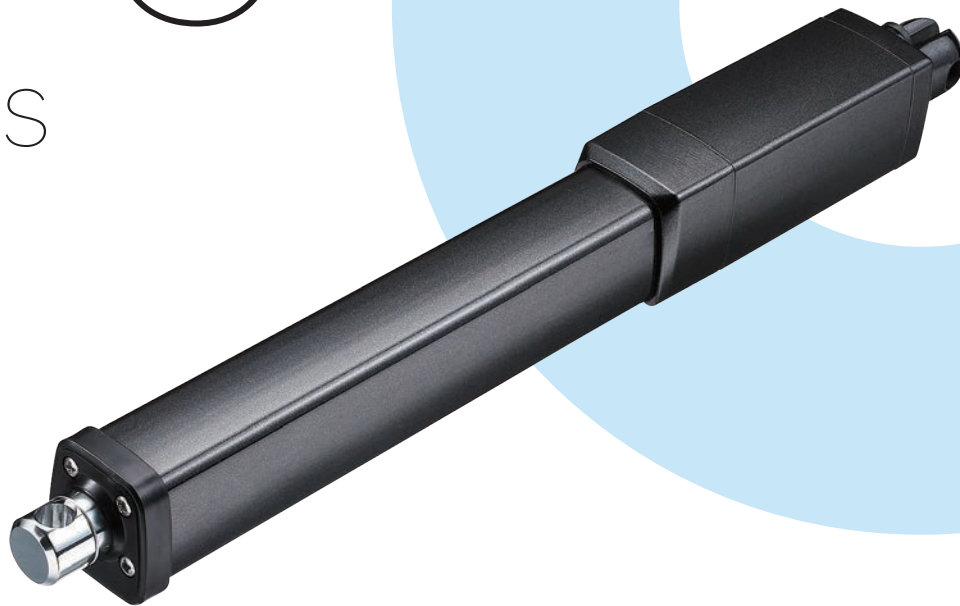
**Max. speed at no load**  
355RPM ( $\pm 5\%$ )

**Max. speed at max. load**  
78RPM ( $\pm 5\%$ )

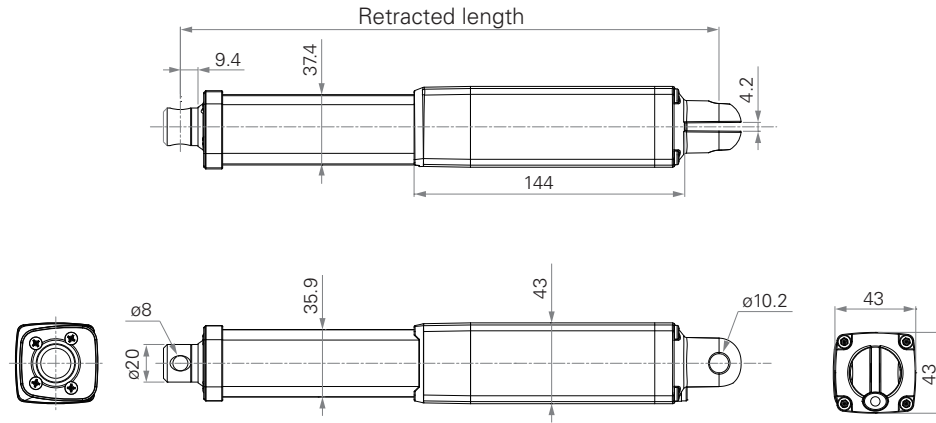
**Max. rated torque**  
7.2Nm

# JP3

series



## Standard Dimension (mm)



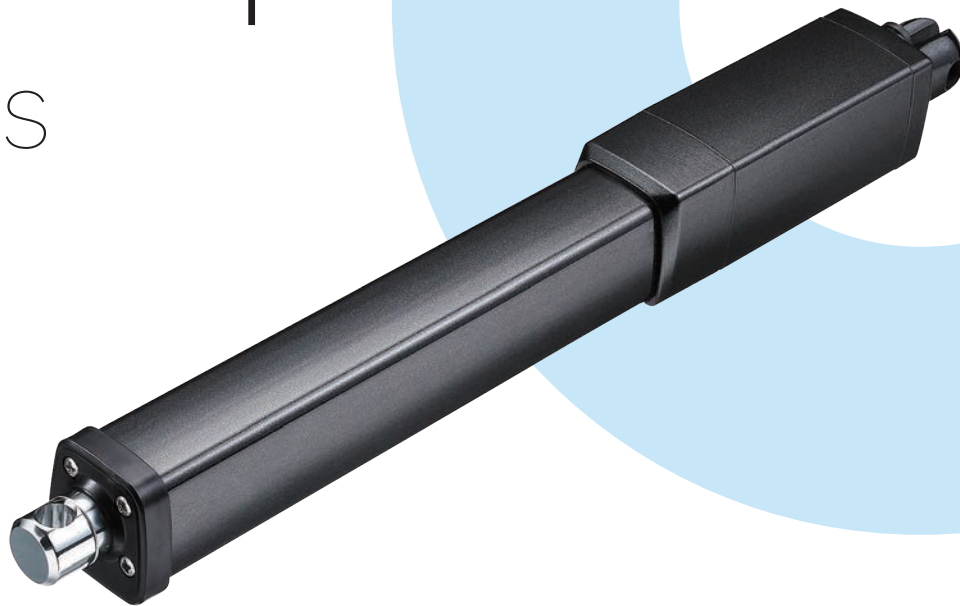
## General Features

<b>Max. load</b>	2,000N in push / pull
<b>Max. speed at max. load</b>	3.5mm/s
<b>Stroke</b>	≥ 20~1000mm
<b>Min. installation dimension</b>	≥ Stroke + 217mm
<b>IP rating</b>	Up to IP69K
<b>Color</b>	Black or grey

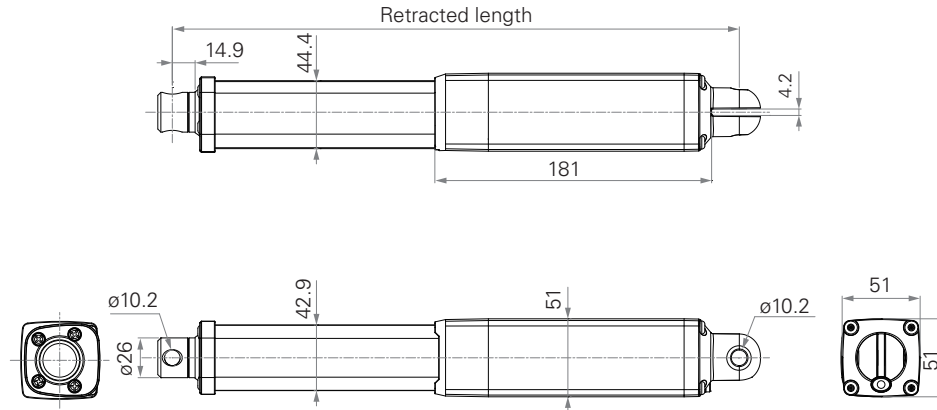
<b>Operational temperature range</b>	-5°C~+65°C
<b>Operational temperature range at full performance</b>	+5°C~+45°C
<b>Storage temperature range</b>	-40°C~+70°C
<b>Certificate</b>	UL73
An inline actuator designed for small spaces	

# JP4

series



## Standard Dimension (mm)



## General Features

<b>Max. load</b>	4,500N in push
<b>Max. load</b>	3,000N in pull
<b>Max. speed at max. load</b>	2.5mm/s
<b>Stroke</b>	≥ 20~1000mm
<b>Min. installation dimension</b>	≥ Stroke + 289mm
<b>IP rating</b>	Up to IP69K

<b>Operational temperature range</b>	-5°C~+65°C
<b>Operational temperature range at full performance</b>	+5°C~+45°C
<b>Storage temperature range</b>	-40°C~+70°C
<b>Certificate</b>	UL73
An inline actuator designed for small spaces	

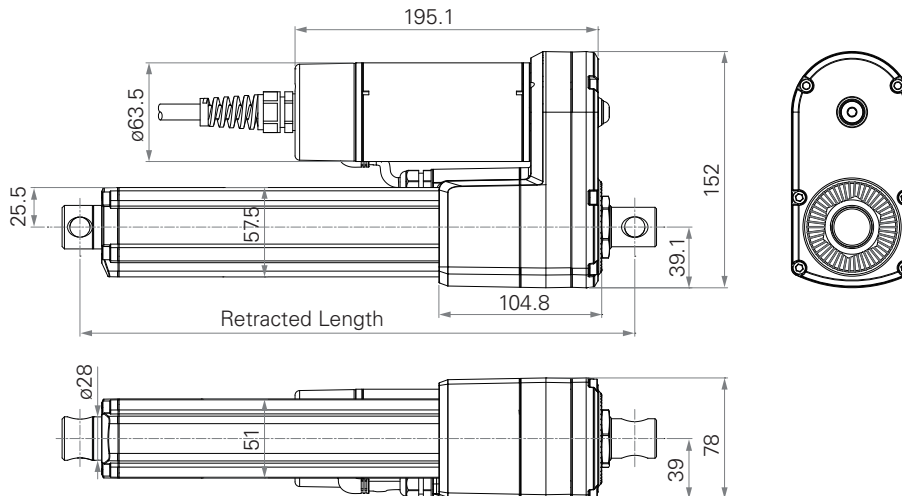
# MA1

series





## Standard Dimension (mm)

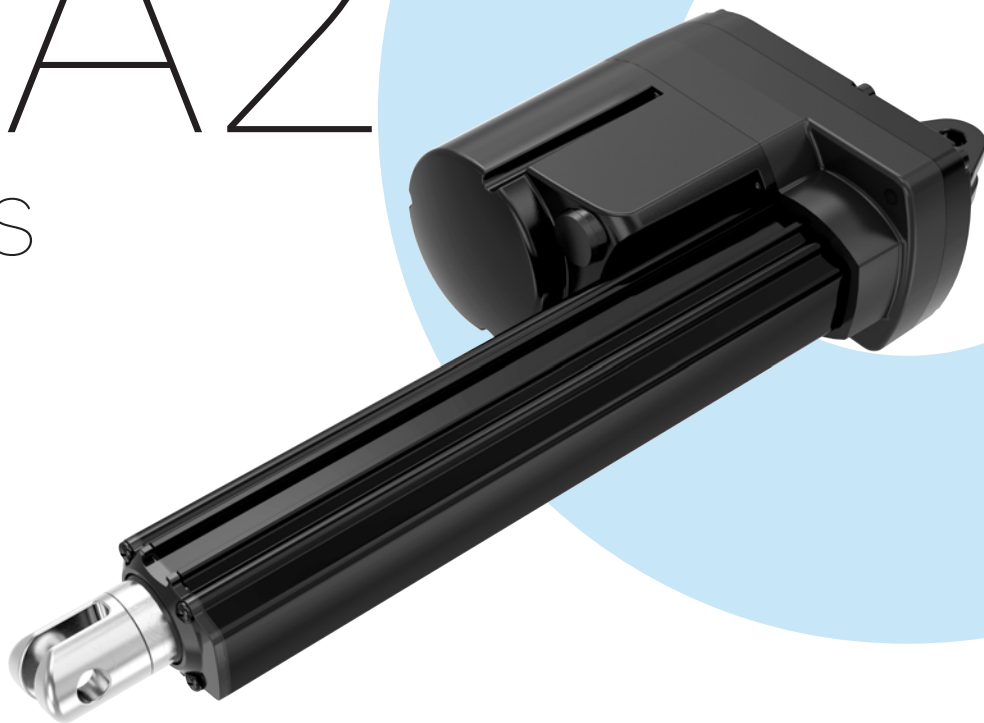


## General Features

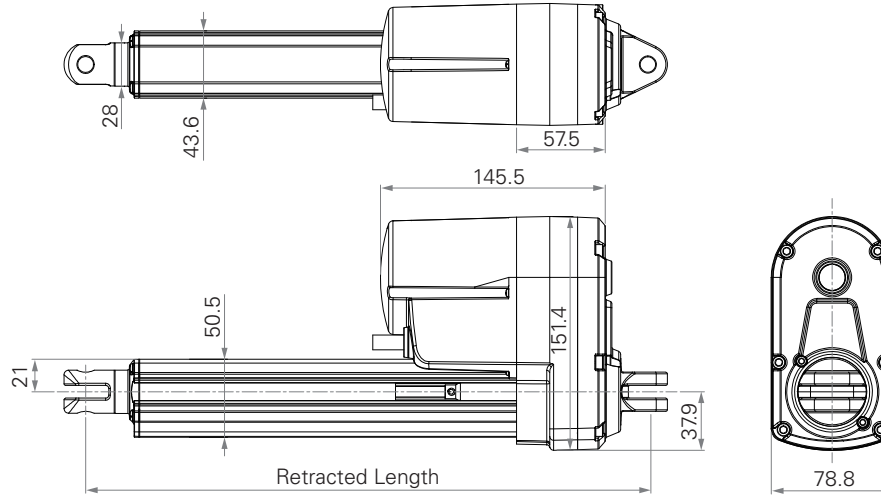
<b>Spindle</b>	ACME or Ball screw	<b>IP rating</b>	IP69K
<b>Max. load</b>	4,500N in push / pull	<b>Operational temperature range</b>	-30°C~+65°C
<b>Max. speed at max. load</b>	14mm/s (Ball screw, DC motor)	<b>Operational temperature range at full performance</b>	+5°C~+45°C
<b>Stroke</b>	20~1000mm (ACME screw); 50~800mm (Ball screw)	<b>Options</b>	Overload clutch, Hall sensor(s), POT, manual crank function
<b>Min. installation dimension</b>	≥ Stroke + 160mm (without POT)	Mechanical or electromagnetic brake Higher duty cycle (25%), corrosion proof	

# MA2

series



## Standard Dimension (mm)



## General Features

<b>Max. load</b>	6,000N in push / pull
<b>Max. speed at max. load</b>	6.1mm/s
<b>Stroke</b>	≥ 25~1000mm
<b>Min. installation dimension</b>	≥ Stroke + 131mm
<b>IP rating</b>	Up to IP69K

**Operational temperature range**

-25°C ~ +65°C

**Operational temperature range at full performance**

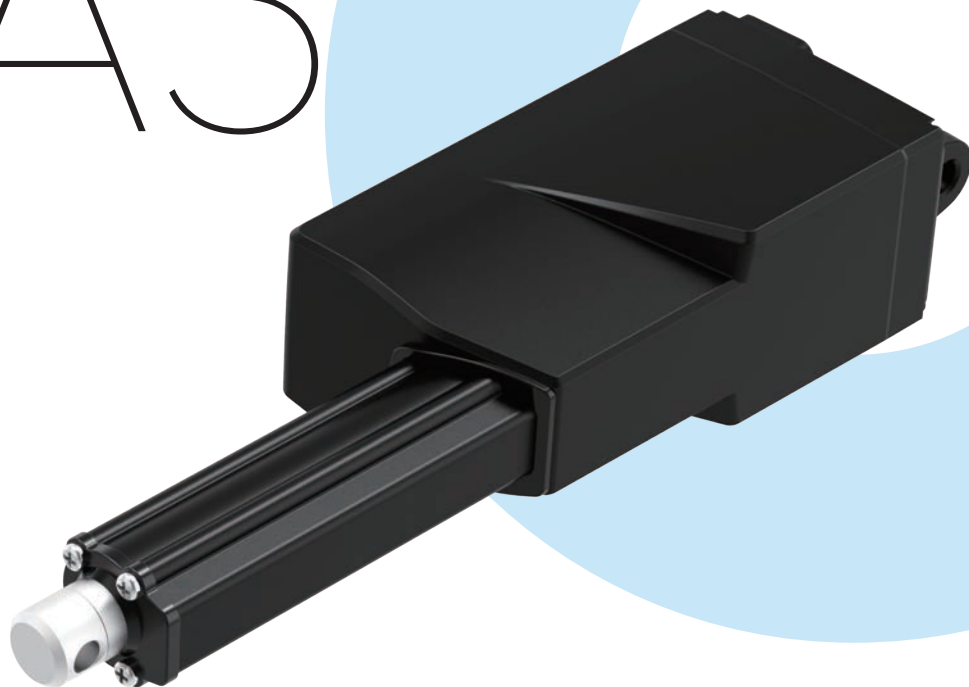
+5°C~+45°C

**Options**

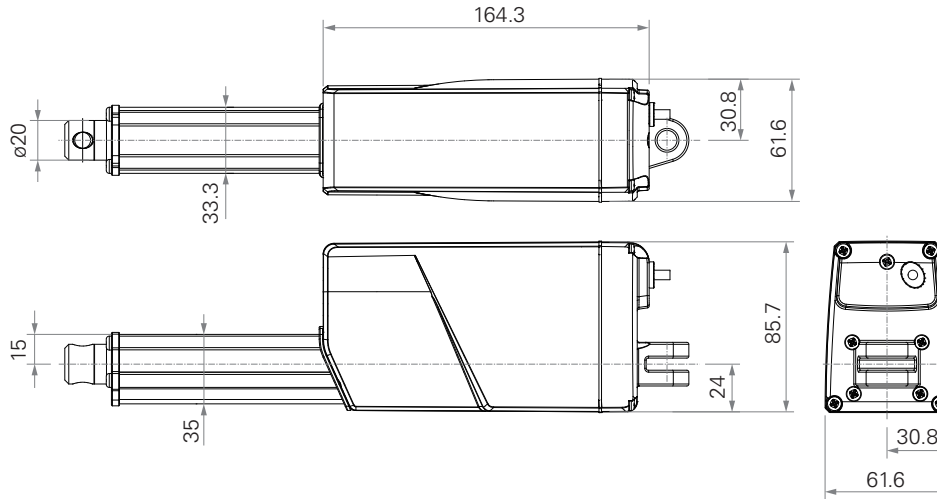
Hall sensors, POT, manual drive, Reed sensor on the outer tube

# MA5

series



## Standard Dimension (mm)



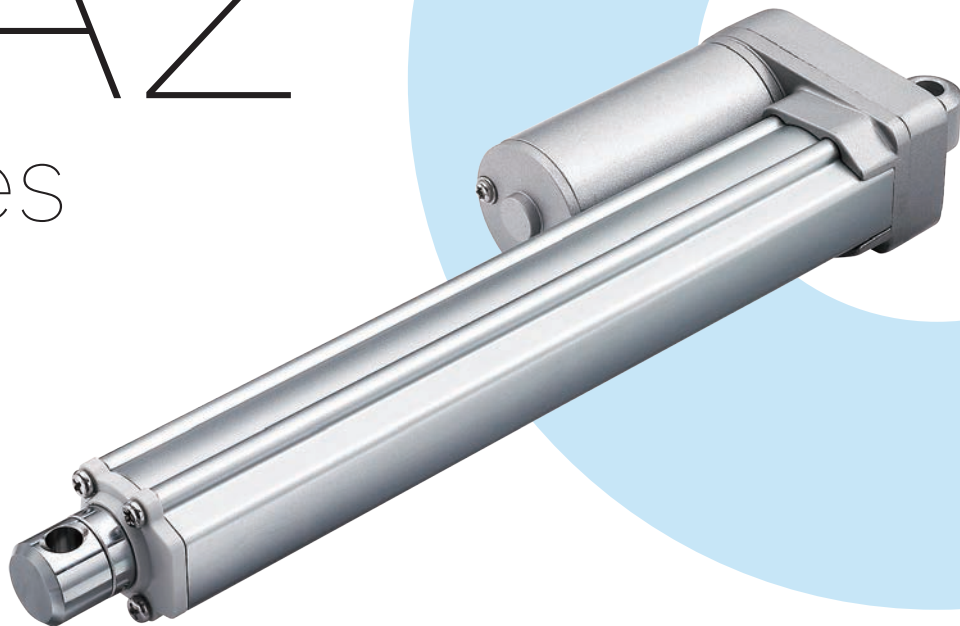
## General Features

<b>Max. load</b>	3,500N in push
<b>Max. load</b>	2,000N in pull
<b>Max. speed at max. load</b>	2.4mm/s
<b>Stroke</b>	$\geq 20 \sim 1000$ mm
<b>Min. installation dimension</b>	$\geq 200$ mm (upon the front attachment)

<b>IP rating</b>	Up to IP69K
<b>Operational temperature range</b>	$-25^{\circ}\text{C} \sim +65^{\circ}\text{C}$
<b>Operational temperature range at full performance</b>	$+5^{\circ}\text{C} \sim +45^{\circ}\text{C}$
<b>Options</b>	Hall sensors, POT, grease chamber

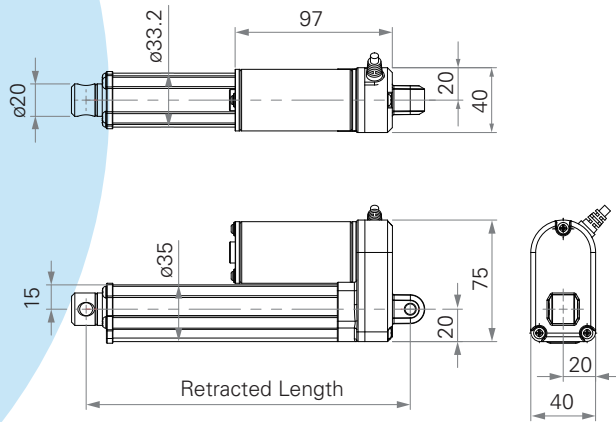
# TA2

series

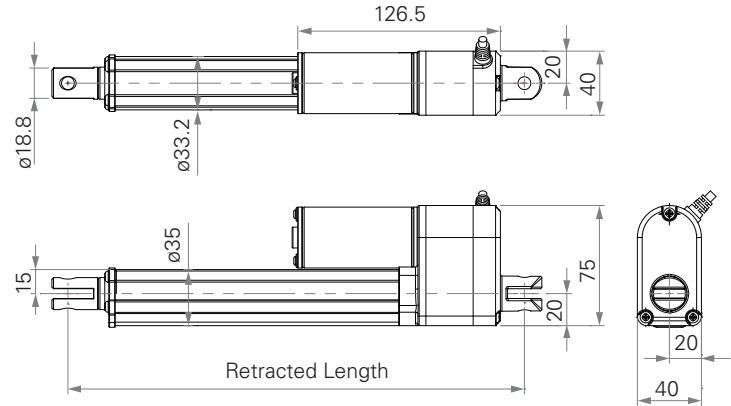


## Standard Dimension (mm)

Without Output Signal



Output Signal #1, 2, 3, 4, 5



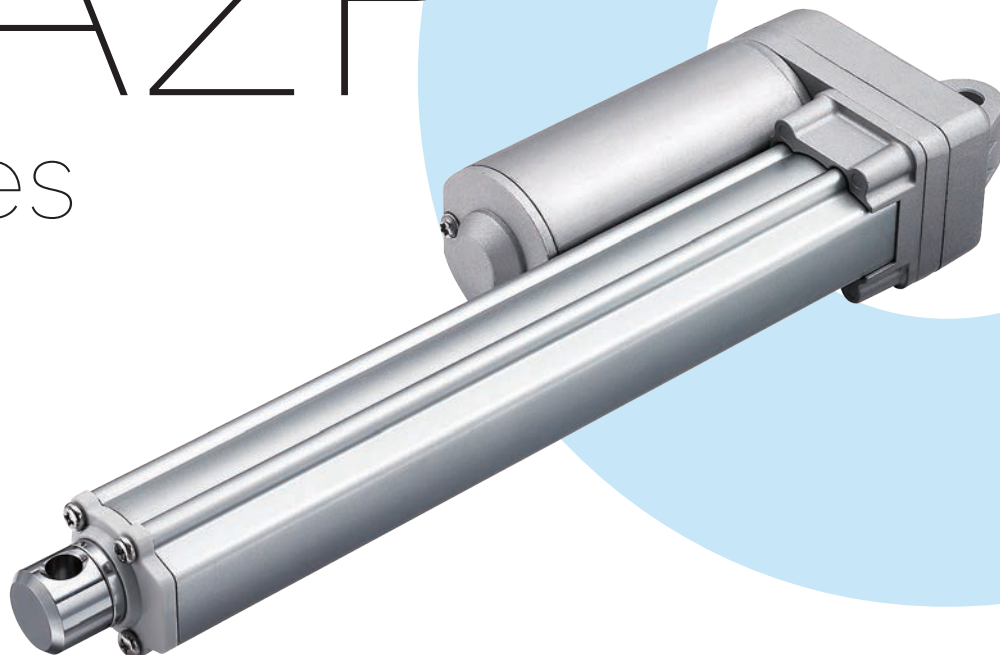
## General Features

<b>Max. load</b>	1,000N in push / pull
<b>Max. speed at max. load</b>	7.6mm/s
<b>Stroke</b>	20~1000mm
<b>Min. installation dimension</b>	≥ Stroke + 105mm (without output signals)
<b>Operational temperature range</b>	Load < 500N: +5°C~+45°C Load ≥ 500N: -25°C~+65°C

<b>Operational temperature range at full performance</b>	+5°C~+45°C
<b>IP rating</b>	Up to IP66D
<b>Options</b>	POT, Reed, Hall sensors
Compact size for limited space	

# TA2P

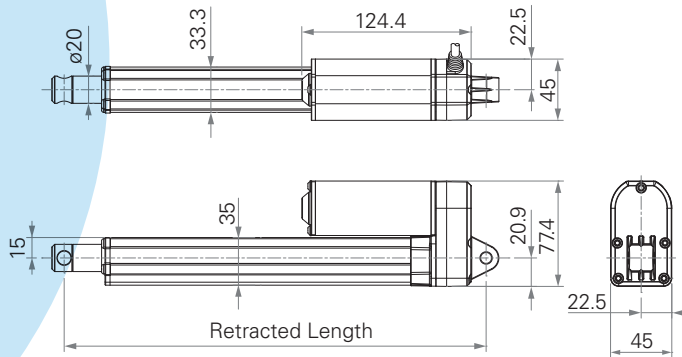
series



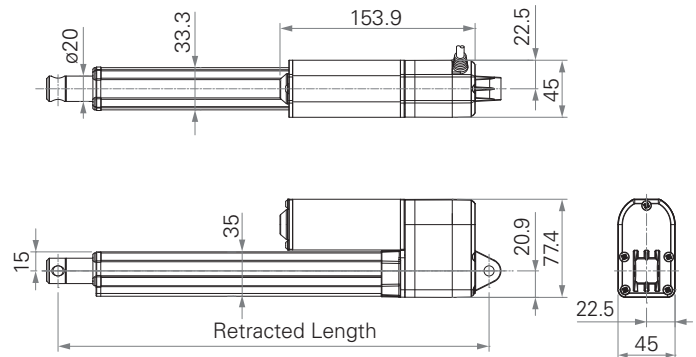


## Standard Dimension (mm)

Without Output Signal



Output Signal #1, 2, 3, 4, 5



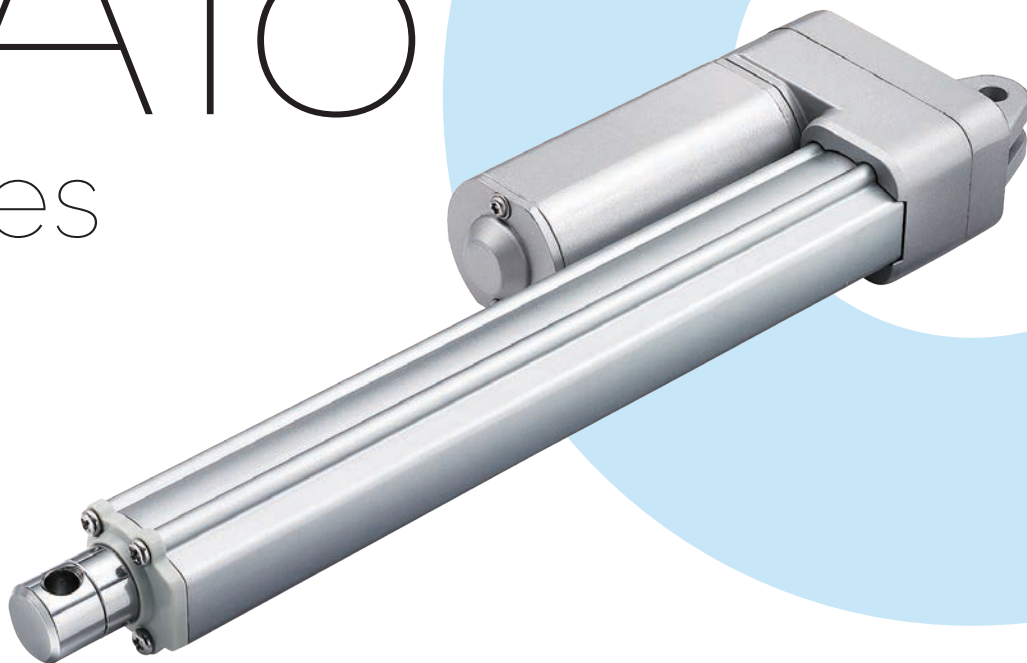
## General Features

<b>Max. load</b>	3,500N in push
<b>Max. load</b>	2,000N in pull
<b>Max. speed at max. load</b>	2.4mm/s
<b>Stroke</b>	20~1000mm
<b>Min. installation dimension</b>	≥ Stroke + 108mm (with Hall sensors or without output signals)

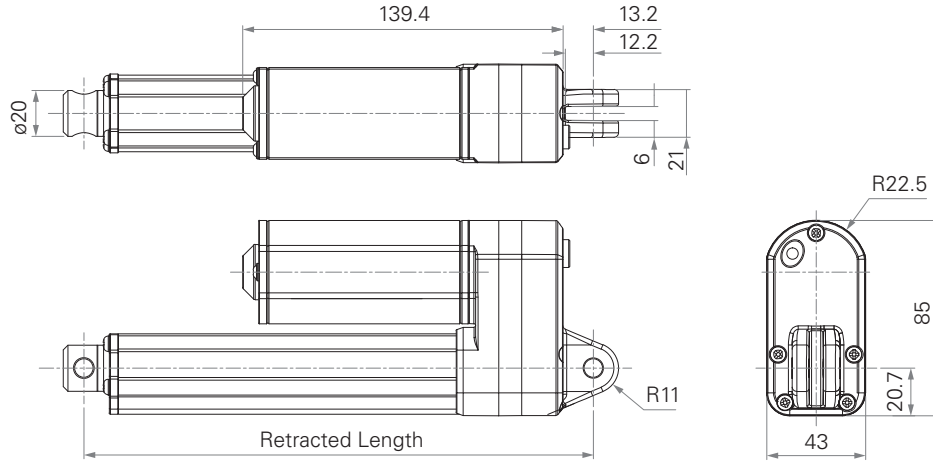
<b>IP rating</b>	Up to IP66D
<b>Operational temperature range</b>	-25°C ~ +65°C
<b>Operational temperature range at full performance</b>	+5°C ~ +45°C
<b>Options</b>	POT, Optical, Reed or Hall sensors

# TA16

series



## Standard Dimension (mm)

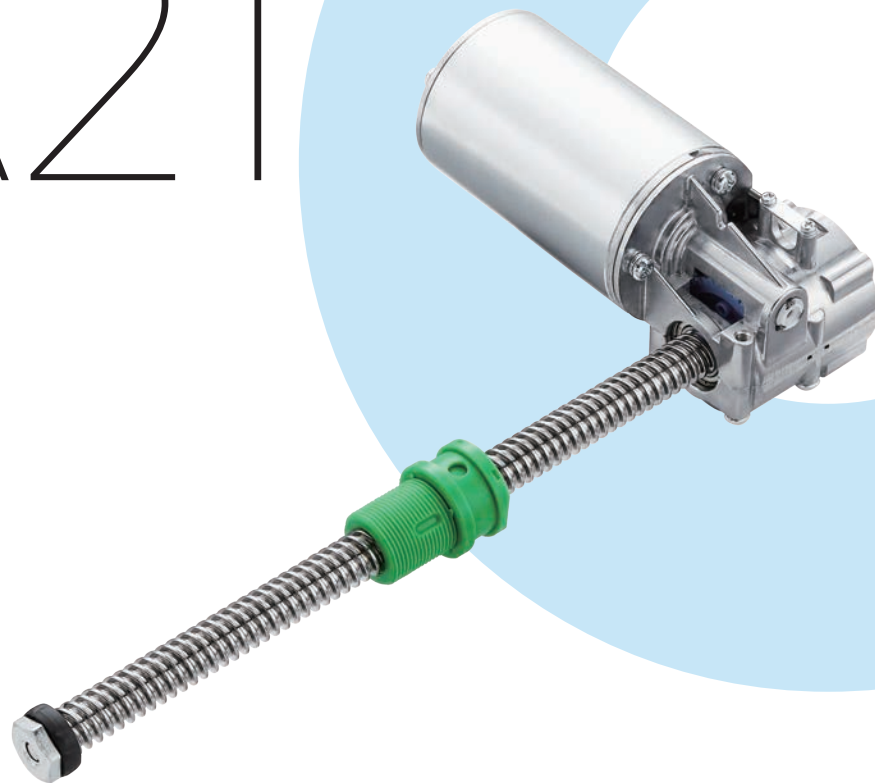


## General Features

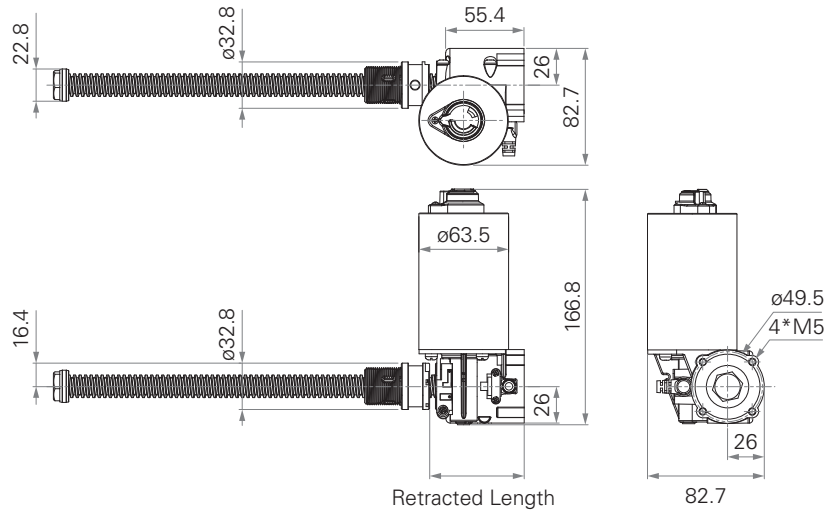
<b>Max. load</b>	3,500N in push / pull	<b>IP rating</b>	Up to IP66
<b>Max. speed at max. load</b>	6.5mm/s	<b>Options</b>	POT, Hall sensor(s)
<b>Stroke</b>	$\geq 20\sim 600\text{mm}$	<b>Operational temperature range</b>	$+5^{\circ}\text{C}\sim +45^{\circ}\text{C}$
<b>Min. installation dimension</b>	$\geq \text{Stroke} + 112\text{mm}$		With very low noise, small size for easy installation

# TA21

series



## Standard Dimension (mm)



## General Features

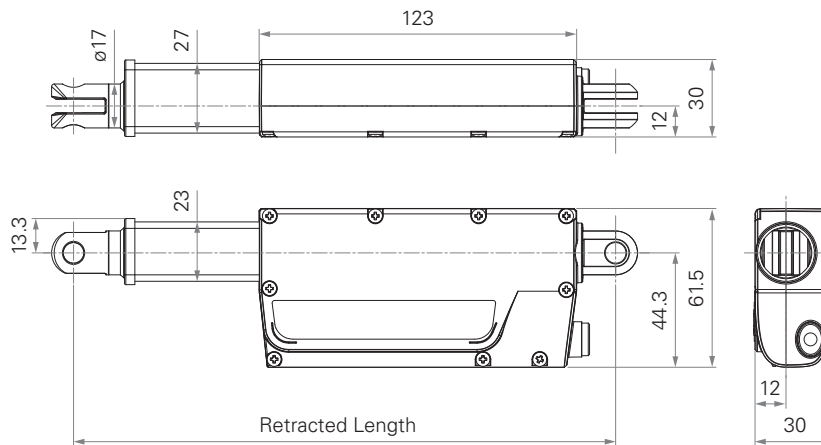
<b>Max. load</b>	10,000N in push	<b>Min. installation dimension</b>	≥ 67mm
<b>Max. load</b>	6,000N in pull	<b>Color</b>	Black or grey
<b>Max. speed at max. load</b>	6.3mm/s	<b>Options</b>	Safety nut, Reed, Hall sensors
<b>Stroke</b>	25~400mm		

# TA38

series



## Standard Dimension (mm)



## General Features

### Max. load

1500N in push / pull

### Max. speed at max. load

7.9mm/s

### Stroke

$\geq 20 \sim 200$ mm

### Min. installation dimension

$\geq 160$ mm

### Color

Black or grey

### Options

Hall sensors

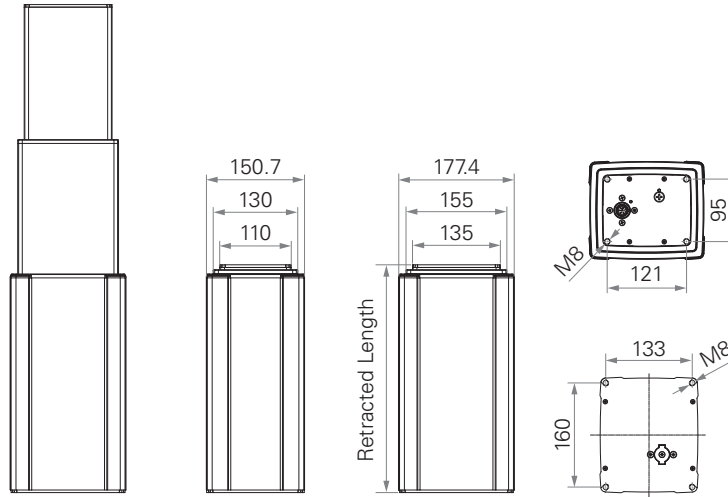
# TL3

series





## Standard Dimension (mm)



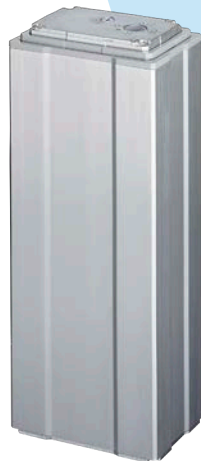
## General Features

<b>Max. load</b>	4,000N in push
<b>Max. dynamic bending moment</b>	1,000Nm
<b>Max. static bending moment</b>	2,000Nm
<b>Max. speed at max. load</b>	13.7mm/s
<b>Min. installation dimension</b>	$\geq \text{Stroke}/2 + 150\text{mm}$

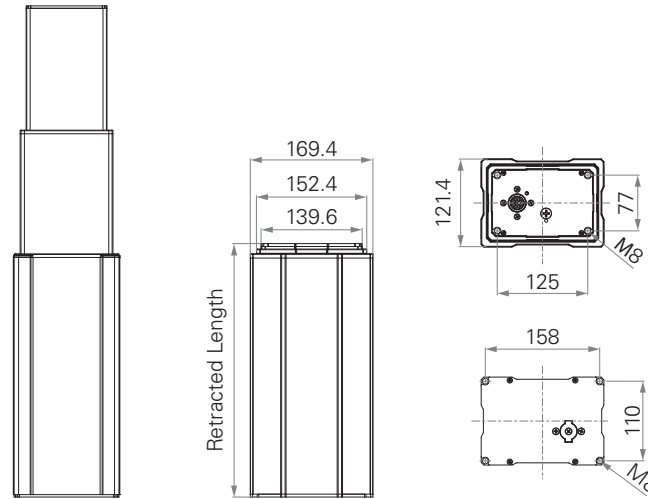
<b>Dimension of cross section</b>	177.4 x 150.7mm
<b>Stroke</b>	250~1200mm
<b>Operational temperature range</b>	+5°C~+45°C
<b>Options</b>	POT, Hall sensor(s), direct cut system

# TL17

series



## Standard Dimension (mm)



## General Features

<b>Max. load</b>	2,000N in push
<b>Max. dynamic bending moment</b>	250Nm
<b>Max. static bending moment</b>	500Nm
<b>Max. speed at max. load</b>	10.5mm/s
<b>Min. installation dimension</b>	$\geq \text{Stroke}/2 + 150\text{mm}$

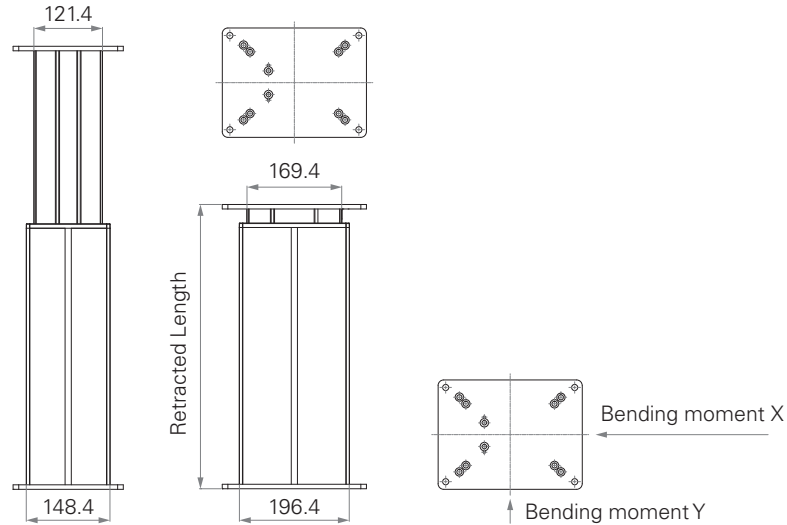
<b>Stroke</b>	250~1200mm
<b>Operational temperature range</b>	+5°C~+45°C
<b>Options</b>	Hall sensors

# TL18

series



## Standard Dimension (mm)



## General Features

<b>Max. load</b>	4,500N in push
<b>Max. dynamic bending moment</b>	250Nm
<b>Max. static bending moment</b>	500Nm
<b>Max. speed at max. load</b>	6.6mm/s
<b>Min. installation dimension</b>	≥ Stroke + 147mm

**Stroke** 100~700mm

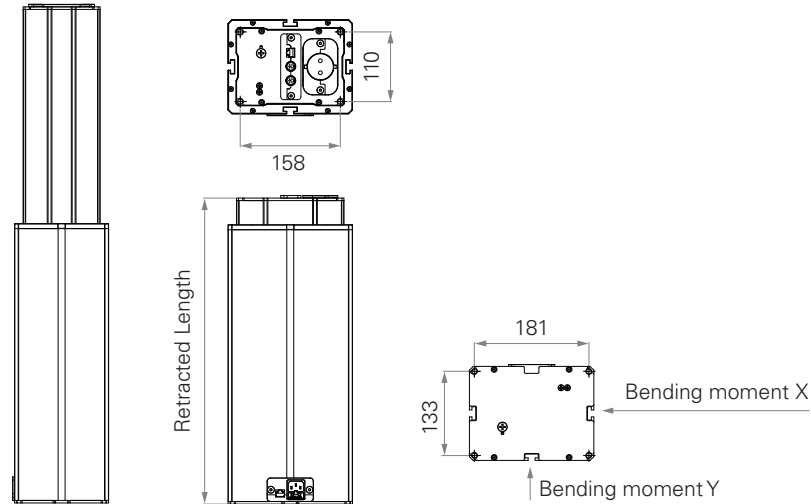
**Operational temperature range** +5°C~+45°C

**Options** Hall sensor(s), cable exit from top / bottom side, direct cut system

# TL18 AC series



## Standard Dimension (mm)



## General Features

<b>Max. load &amp; self- locking force</b>	4,500N in push
<b>Max. dynamic bending moment</b>	250Nm
<b>Max. static bending moment</b>	500Nm
<b>Max. speed at max. load</b>	6.6mm/s
<b>Min. installation dimension</b>	≥ Stroke + 183mm

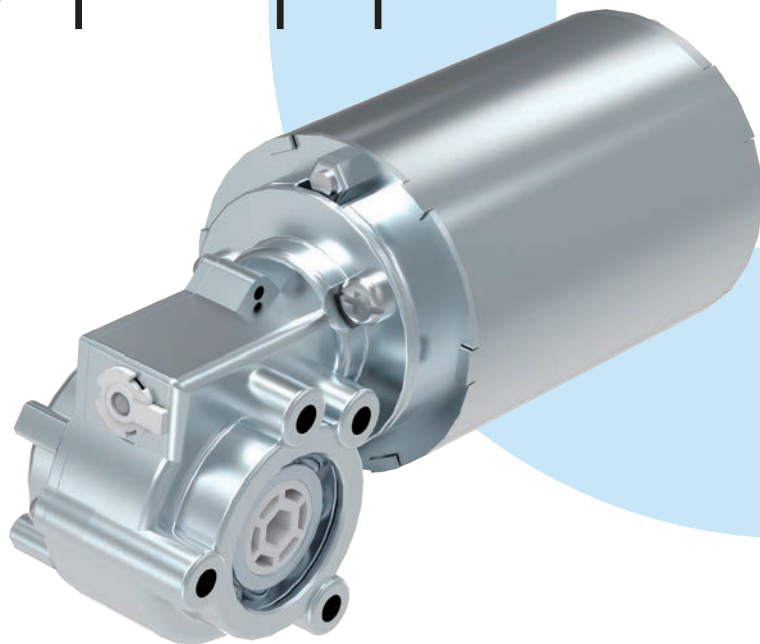
**Stroke** 200~700mm

**Operational temperature range** +5°C~+45°C

**Options** AC cable exit from top end, top side; Ethernet socket

# TGM1

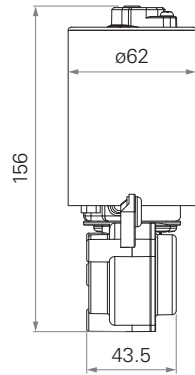
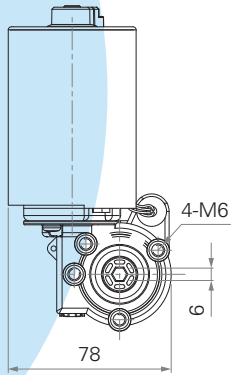
series



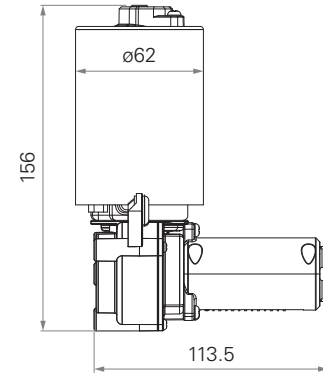
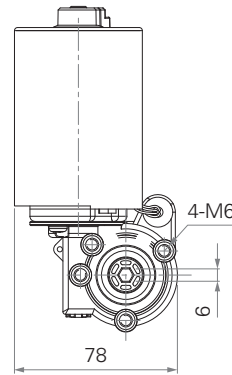


## Standard Dimension (mm)

Without TES2



With TES2



## General Features

**Voltage of motor**

24V DC or 24V DC (PTC)

**Max. speed at max. load**

72RPM ( $\pm 5\%$ )

**Max. rated torque**

7.4Nm

**Certificate**

UL962

**Operational temperature range at full performance**

+5°C~+45°C

**Options**

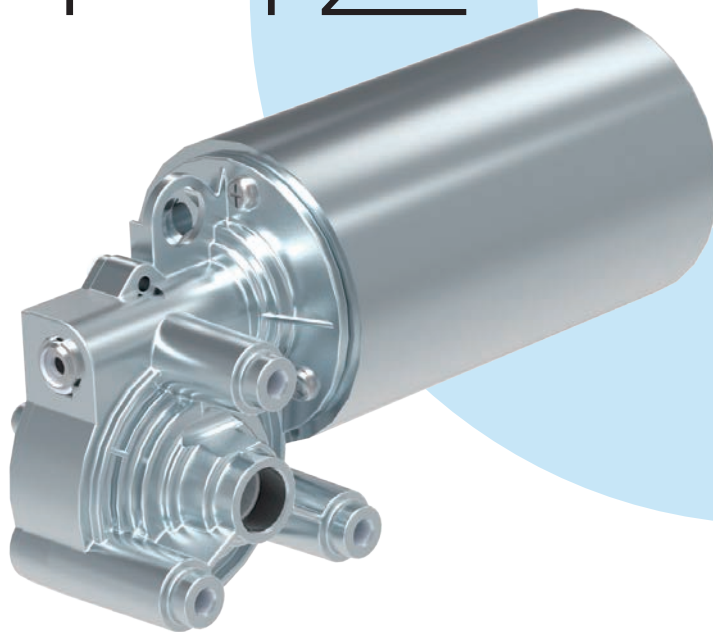
Hall sensors

Hexagon hole for the shaft by 6mm diameter

Low noise

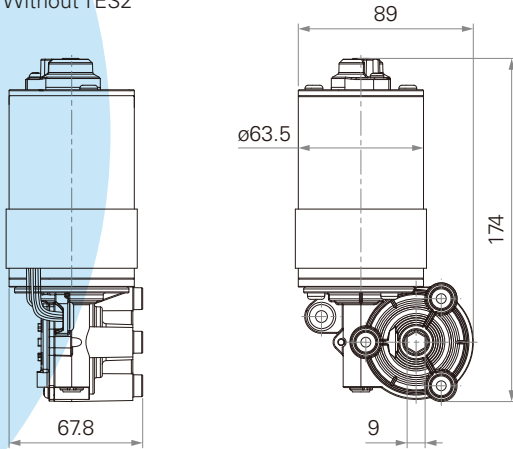
# TGM2

series

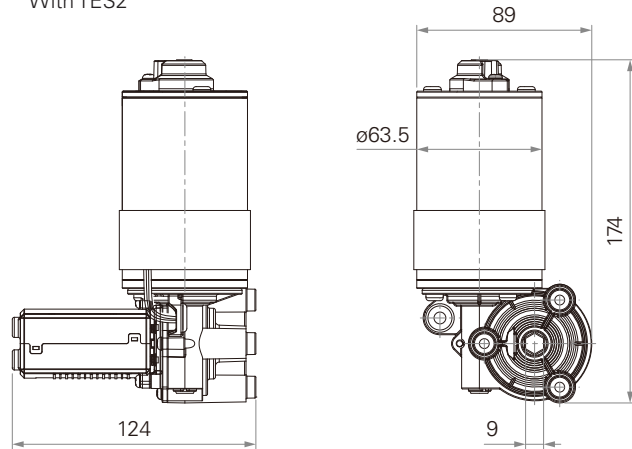


## Standard Dimension (mm)

Without TES2



With TES2



## General Features

**Voltage of motor**

24V DC, thermal protector

**Max. speed at max. load**

51RPM ( $\pm 5\%$ )

**Max. rated torque**

18.3Nm

**Operational temperature range  
at full performance**

+5°C~+45°C

**Options**

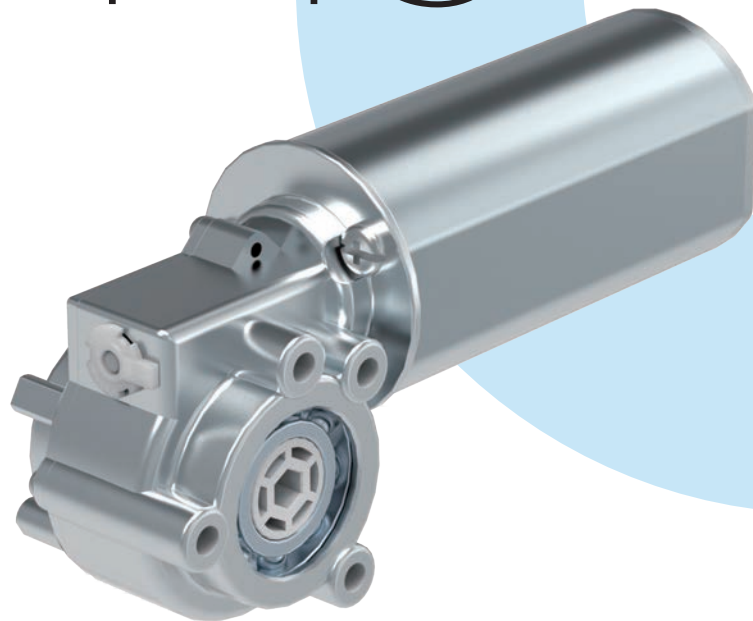
Hall sensors

Hexagon hole for the shaft by 9mm diameter

Low noise

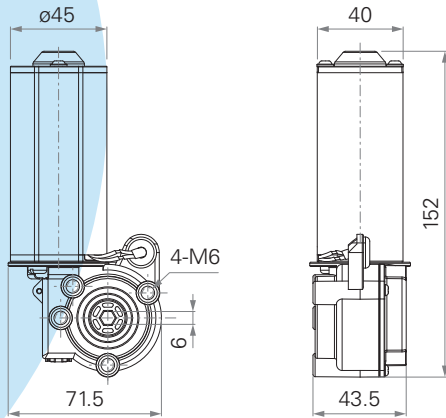
# TGM3

series

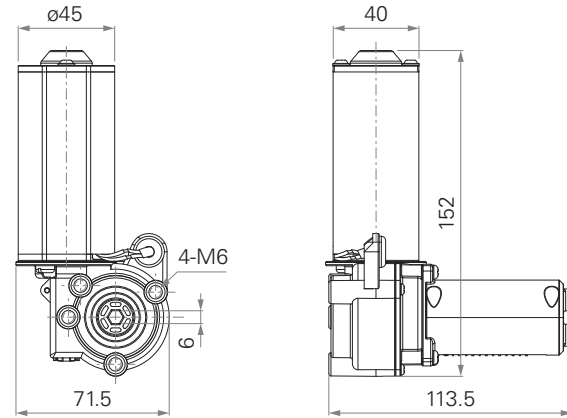


## Standard Dimension (mm)

Without TES2



With TES2



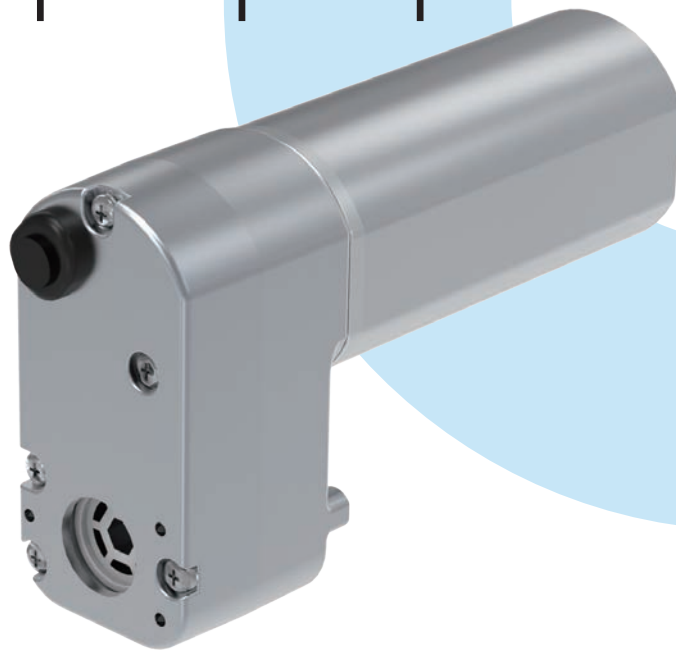
## General Features

<b>Voltage of motor</b>	24V DC
<b>Max. speed at max. load</b>	61RPM ( $\pm 5\%$ )
<b>Max. rated torque</b>	4.6Nm
<b>Operational temperature range at full performance</b>	+5°C~+45°C

<b>Options</b>	Hall sensors
	Hexagon hole for the shaft by 6mm diameter
	Low noise

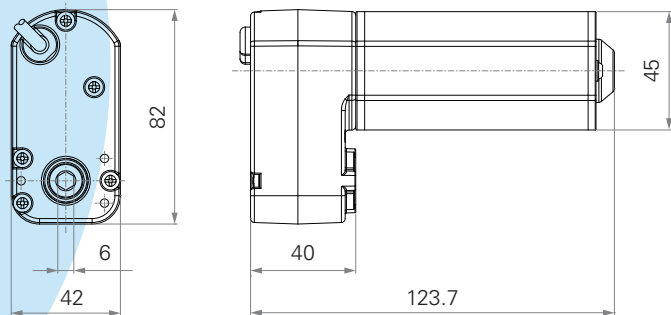
# TGM4

series

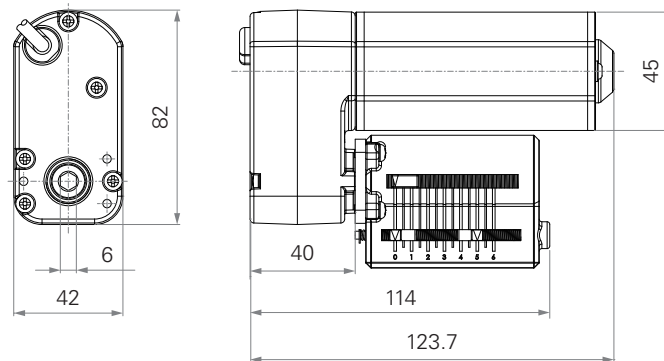


## Standard Dimension (mm)

Without TES2



With TES2



## General Features

**Voltage of motor**

24V DC

**Max. speed at max. load**

98RPM ( $\pm 5\%$ )

**Max. rated torque**

6Nm

**Operational temperature range at full performance**

+5°C~+45°C

**Options**

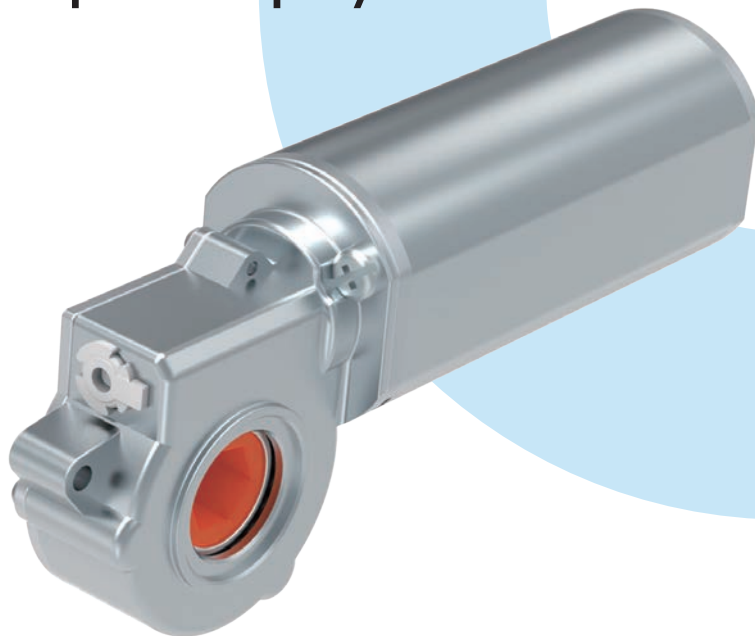
Hall sensors

Hexagon hole for the shaft by 6mm diameter

Low noise

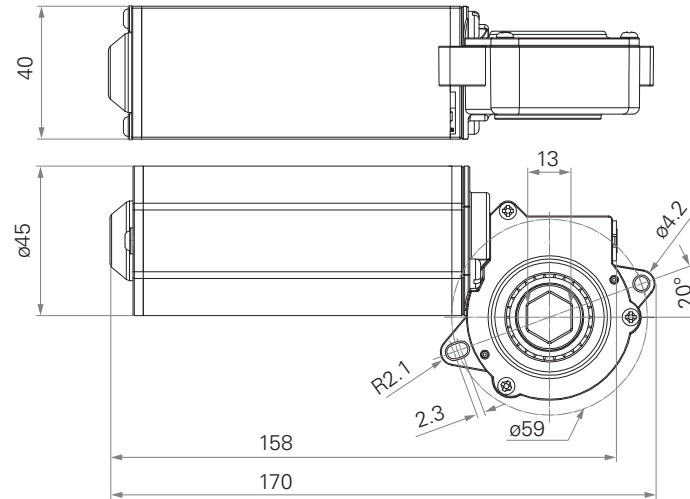
# TGM7

series





## Standard Dimension (mm)



## General Features

**Voltage of motor**

24V DC

**Max. speed at max. load**

78RPM ( $\pm 5\%$ )

**Max. rated torque**

7.2Nm

**Operational temperature range  
at full performance**

+5°C~+45°C

**Options**

Hall sensors

Low noise

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