



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 an inline actuator appearance. All the products in the JP series are ideally suited for high or low load required industrial applications where up to IP69K dust and liquid ingress protection is necessary. The JP series is made for use in limited spaces without sacrificing power.



JP3 - Page 14

Max. load

2,000N (push/pull)

Max. speed at max. load

3.5mm/s

Max. speed at no load

23.5mm/s

Retracted length

$\geq \text{Stroke} + 217\text{mm}$

IP rating

IP69K



JP4 - Page 16

Max. load

4,500N (push); 3,000N (pull)

Max. speed at max. load

2.5mm/s

Max. speed at no load

27.5mm/s

Retracted length

$\geq \text{Stroke} + 289\text{mm}$

IP rating

IP69K

MA series

TiMOTION's MA series family is specifically 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. Also, they all comply with IP69K protection that will withstand high-pressure water jets, and the ingress of dust and other solid contaminants.



MA1 - Page 18

Max. load

ACME screw: 2,500N (push/pull)

Ball screw: 4,500N (push/pull)

Max. speed at max. load

14.3mm/s (ACME screw, DC motor)

14mm/s (Ball screw, DC motor)

Max. speed at no load

58.5mm/s

(Ball screw, DC motor)

Retracted length

≥ Stroke + 160mm

(ACME screw, without POT)

≥ Stroke + 201mm

(Ball screw, without POT)

IP rating

IP69K



MA2 - Page 20

Max. load

6,000N (push/pull)

Max. speed at max. load

6.1mm/s

Max. speed at no load

52.5mm/s

Retracted length

≥ Stroke + 131mm

IP rating

IP69K



MA5 - Page 22

Max. load

3,500N (push); 2,000N (pull)

Max. speed at max. load

2.4mm/s

Max. speed at no load

56.5mm/s

Retracted length

≥ 200mm (depending on
chosen fixation type)

IP rating

IP69K

TA series

TiMOTION's TA series family is a well-developed product line for the 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 24

Max. load

1,000N (push/pull)

Max. speed at max. load

7.6mm/s

Max. speed at no load

67.5mm/s

Retracted length

≥ Stroke + 105mm
(without output signals)

IP rating

IP66D



TA2P - Page 26

Max. load

3,500N (push); 2,000N (pull)

Max. speed at max. load

2.4mm/s

Max. speed at no load

56.5mm/s

Retracted length

≥ Stroke + 108mm
(with Hall sensors or
without output signals)

IP rating

IP66D



TA16 - Page 28

Max. load

3,500N (push/pull)

Max. speed at max. load

6.2mm/s

Max. speed at no load

23.5mm/s

Retracted length

≥ Stroke + 112mm

IP rating

IP66



TA21 - Page 30

Max. load

10,000N (push); 6,000N (pull)

Max. speed at max. load

6.3mm/s

Max. speed at no load

24.7mm/s

Retracted length

≥ 67mm



TA38 - Page 32

Max. load

1,500N (push/pull)

Max. speed at max. load

7.9mm/s

Max. speed at no load

12.5mm/s

Retracted length

≥ 160mm

IP rating

IP66

VN series

TiMOTION's VN series is designed especially for automated ventilation systems. Whether trying to improve the indoor air quality in the building through lower peak summer temperatures or enhancing the interior climate in livestock houses, our VN series can meet the growing demand for ventilation applications. All the actuator in our VN series have metallic appearance with an IP66 rating.



VN1 - Page 34

NEW

Max. load

3,500N (push/pull)

Max. speed at max. load

4.2mm/s

Max. speed at no load

10.4mm/s

Retracted length

≥ 217mm (DC version)

≥ 437mm (AC version)

*depending on chosen fixation
type

IP rating

IP66



TL series



TL3 - Page 36

Max. load & self-locking force

4,000N (push)

Max. dynamic bending moment

1,000Nm

Max. speed at max. load

13.7mm/s

Max. speed at no load

39mm/s

Retracted length

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

IP rating

IPX6

TiMOTION's TL (lifting 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.



TL17 - Page 38

Max. load

2,000N (push)

Max. dynamic bending moment

250Nm

Max. speed at max. load

11.5mm/s

Max. speed at no load

41mm/s

Retracted length

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

IP rating

IPX6



TL18 - Page 40

Max. load & self-locking force
4,500N (push)

Max. dynamic bending moment
250Nm

Max. speed at max. load
6.6mm/s

Max. speed at no load
45mm/s

Retracted length
 $\geq \text{Stroke} + 147\text{mm}$

IP rating
IPX4



TL18AC - Page 42

Max. load & self-locking force
4,500N (push)

Max. dynamic bending moment
250Nm

Max. speed at max. load
6.6mm/s

Max. speed at no load
45mm/s

Retracted length
 $\geq \text{Stroke} + 183\text{mm}$

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 adjustments of built-in spindles through the use of external limit switches. Shafting allows for the mechanical synchronization of dual spindles.



TGM1 - Page 44

Max. rated torque
7.4Nm

Max. speed at max. load
72RPM ($\pm 5\%$)

Max. speed at no load
262.5RPM ($\pm 5\%$)

Options
Hall sensors



TGM2 - Page 46

Max. rated torque
18.3Nm

Max. speed at max. load
51RPM ($\pm 5\%$)

Max. speed at no load
108RPM ($\pm 5\%$)

Options
Hall sensors



TGM3 - Page 48

Max. rated torque
4.6Nm

Max. speed at max. load
61RPM ($\pm 5\%$)

Max. speed at no load
259RPM ($\pm 5\%$)

Options
Hall sensors



TGM4 - Page 50

Max. rated torque
6Nm

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

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

Options
Hall sensors



TGM7 - Page 52

Max. rated torque
7.2Nm

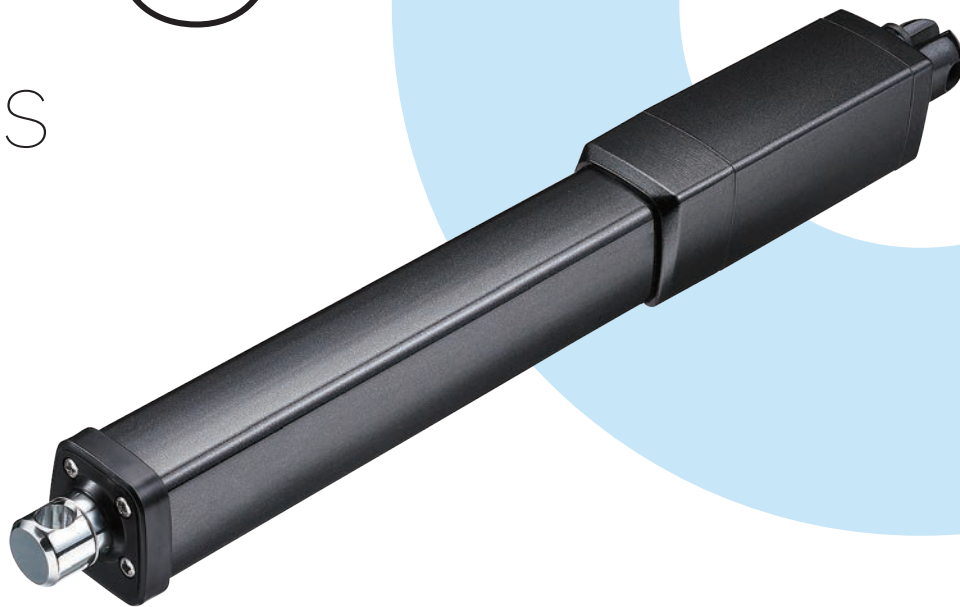
Max. speed at max. load
78RPM ($\pm 5\%$)

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

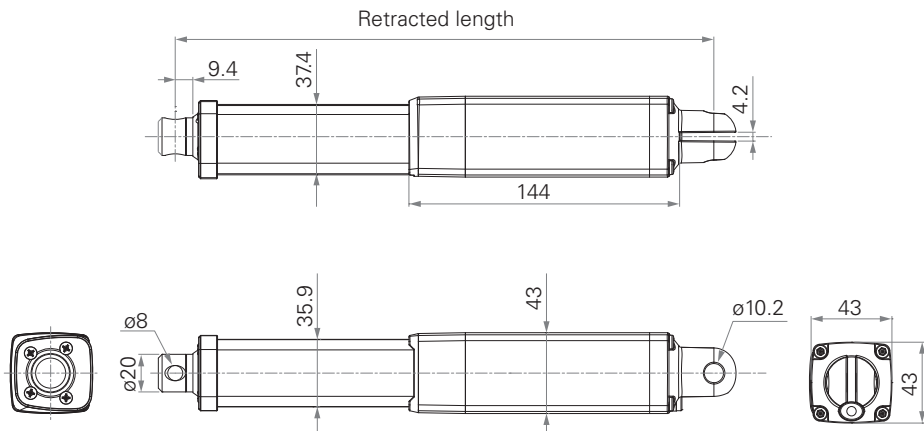
Options
Hall sensors

JP3

series



Standard Dimension (mm)



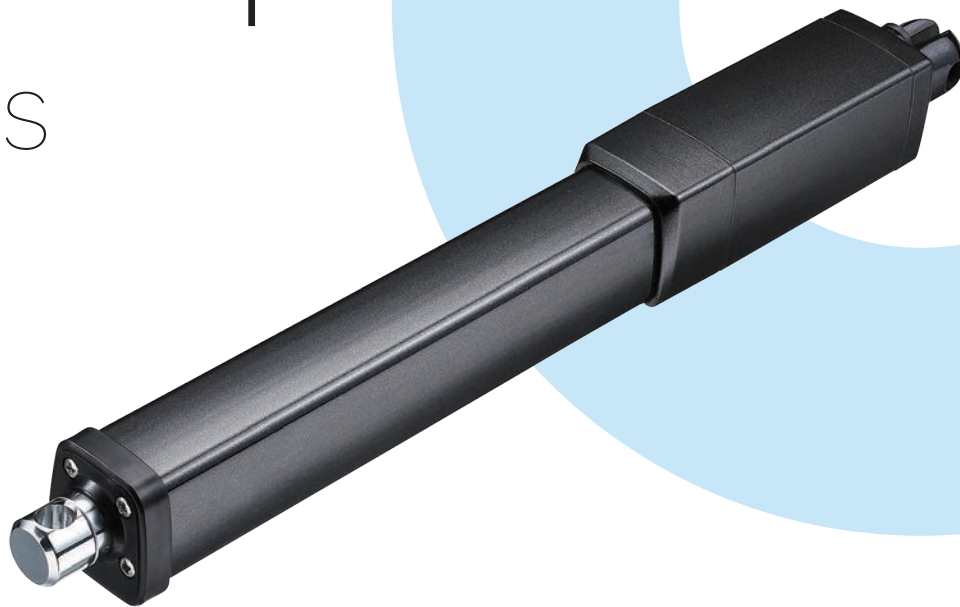
General Features

Max. load	2,000N (push/pull)
Max. speed at max. load	3.5mm/s
Max. speed at no load	23.5mm/s
Retracted length	≥ Stroke + 217mm
IP rating	IP69K
Certificate	UL73
Stroke	20~1000mm

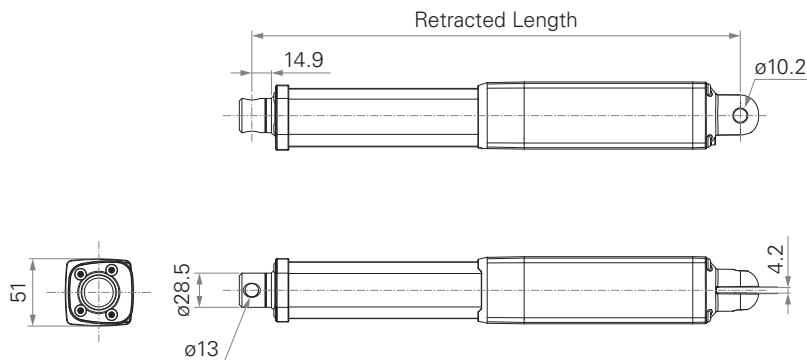
Voltage	12/24V DC or 12/24V DC (PTC)
Color	Black or grey
Operational temperature range	-5°C~+65°C
Operational temperature range at full performance	+5°C~+45°C
Storage temperature range	-40°C~+70°C
An inline actuator designed for small spaces	

JP4

series



Standard Dimension (mm)



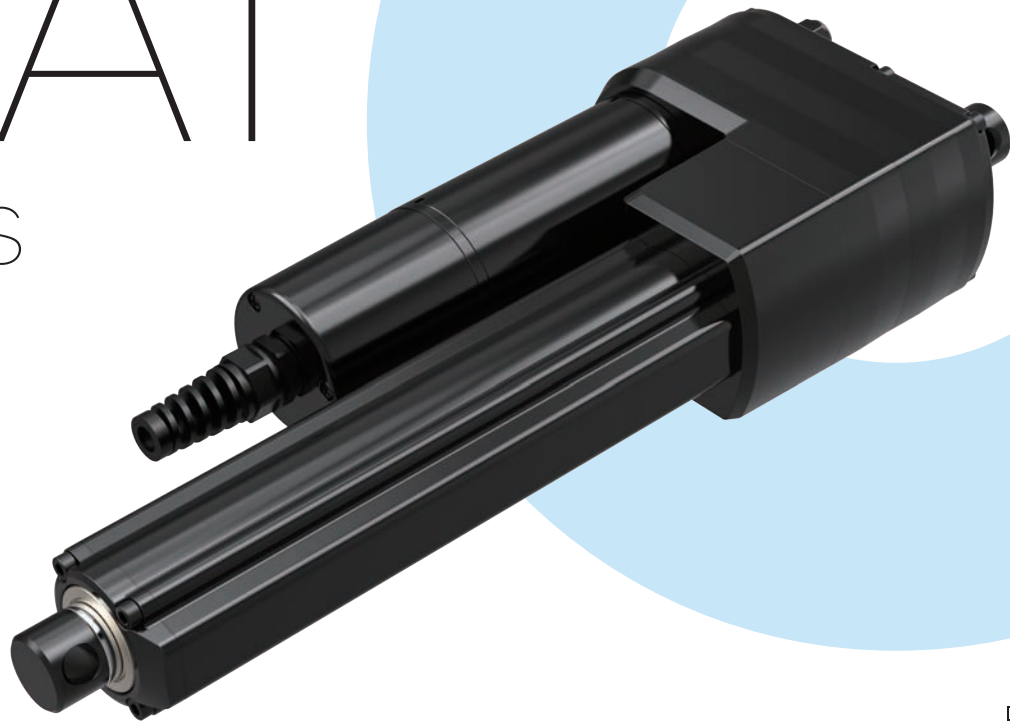
General Features

Max. load	4,500N (push); 3,000N (pull)
Max. speed at max. load	2.5mm/s
Max. speed at no load	27.5mm/s
Retracted length	≥ Stroke + 289mm
IP rating	IP69K
Certificate	UL73
Stroke	20~1000mm

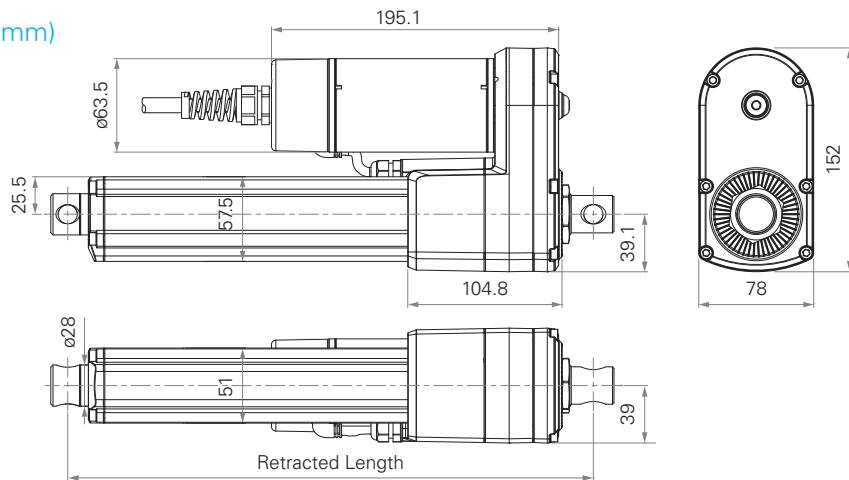
Voltage	12/24V DC or 12/24V DC (PTC)
Color	Black or grey
Operational temperature range	-5°C~+65°C
Operational temperature range at full performance	+5°C~+45°C
Storage temperature range	-40°C~+70°C
An inline actuator designed for small spaces	

MA1

series



Standard Dimension (mm)



General Features

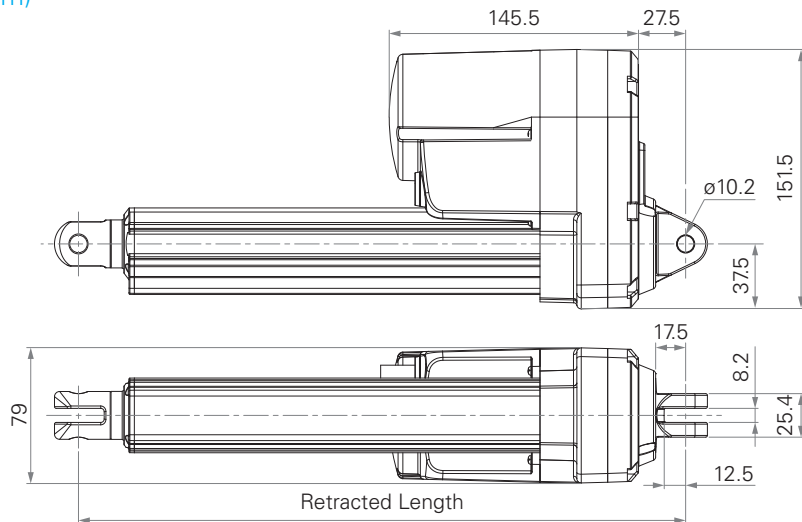
Max. load	ACME screw: 2,500N (push/pull) Ball screw: 4,500N (push/pull)	Options	Overload clutch, electromagnetic brake, Hall sensors, POT, manual crank function
Max. speed at max. load	14.3mm/s (ACME screw, DC motor) 14mm/s (Ball screw, DC motor)	Voltage	12/24/36V DC or 110/220V AC
Max. speed at no load	58.5mm/s (Ball screw, DC motor)	Spindle	ACME or Ball screw
Retracted length	≥ Stroke + 160mm (ACME screw, without POT) ≥ Stroke + 201mm (Ball screw, without POT)	Color	Black
IP rating	IP69K	Operational temperature range	-30°C~+65°C
Certificate	UL73, EMC	Operational temperature range at full performance	+5°C~+45°C
Stroke	20~1000mm (ACME screw); 50~800mm (Ball screw)		Mechanical or electromagnetic brake Higher duty cycle (25%), corrosion proof

MA2

series



Standard Dimension (mm)



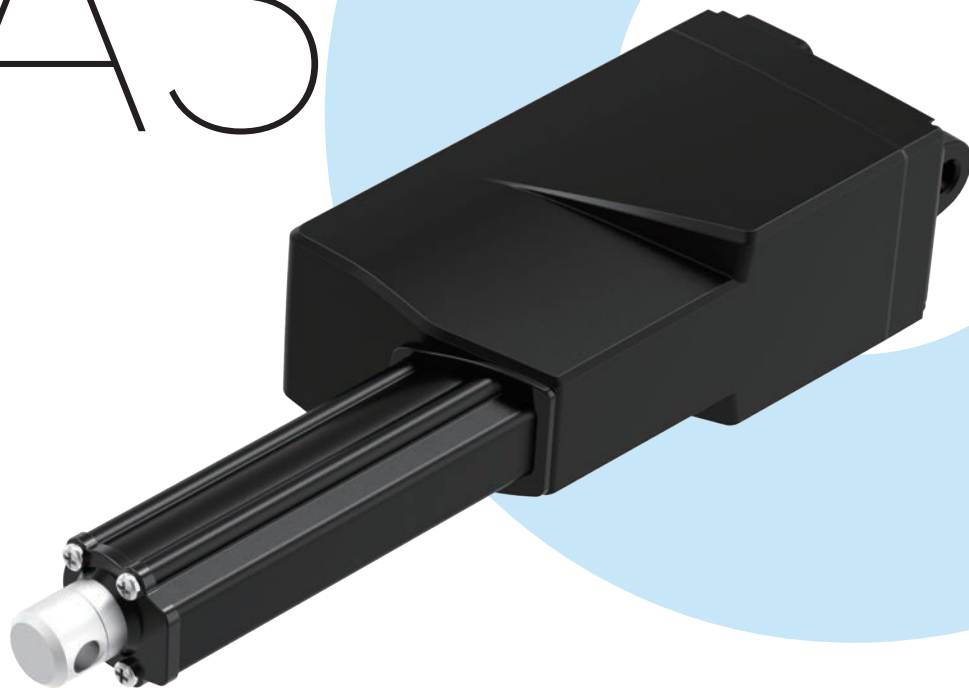
General Features

Max. load	6,000N (push/pull)
Max. speed at max. load	6.1mm/s
Max. speed at no load	52.5mm/s
Retracted length	≥ Stroke + 131mm
IP rating	IP69K
Certificate	UL73, EMC
Stroke	25~1000mm

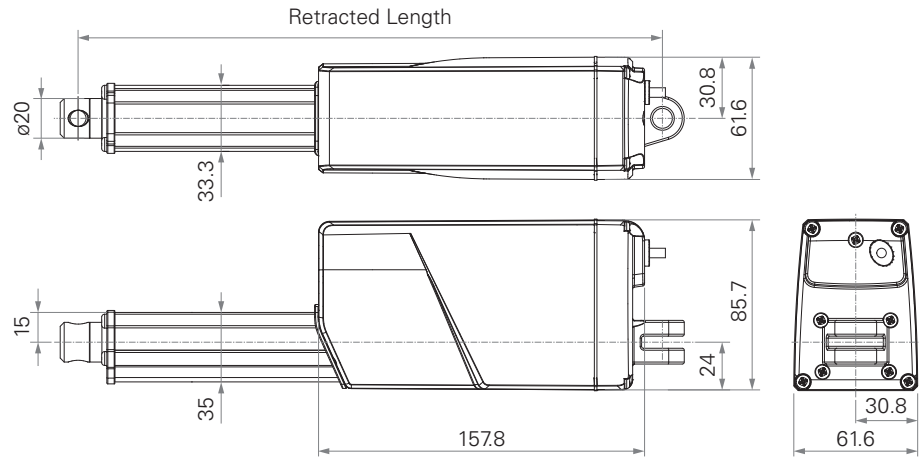
Options	Hall sensors, POT, manual drive, Reed sensor on the outer tube
Voltage	12/24/36V DC; 12/24/36V DC (thermal control)
Operational temperature range	-30°C~+65°C
Operational temperature range at full performance	+5°C~+45°C

MA5

series



Standard Dimension (mm)

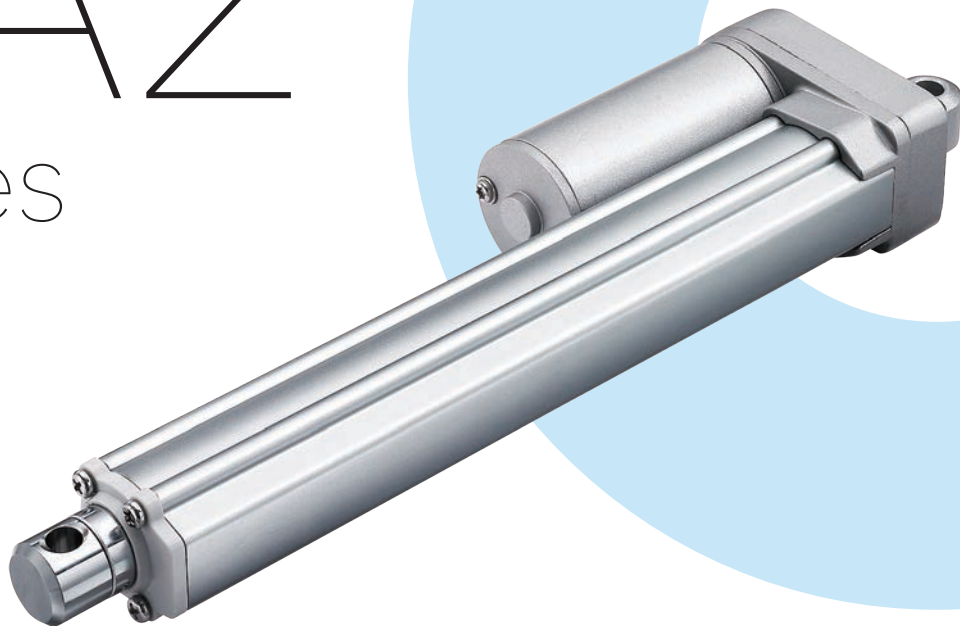


General Features

Max. load	3,500N (push); 2,000N (pull)	Stroke	20~1000mm
Max. speed at max. load	2.4mm/s	Options	Hall sensors, POT, grease chamber
Max. speed at no load	56.5mm/s	Operational temperature range	-25°C~+65°C
Retracted length	≥ 200mm (upon the front attachment)	Operational temperature range at full performance	+5°C~+45°C
IP rating	IP69K		

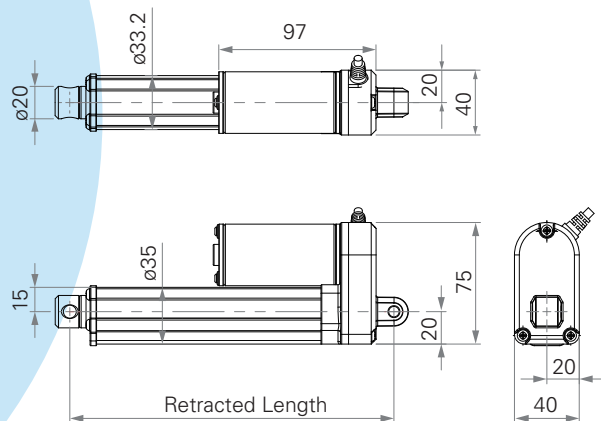
TA2

series

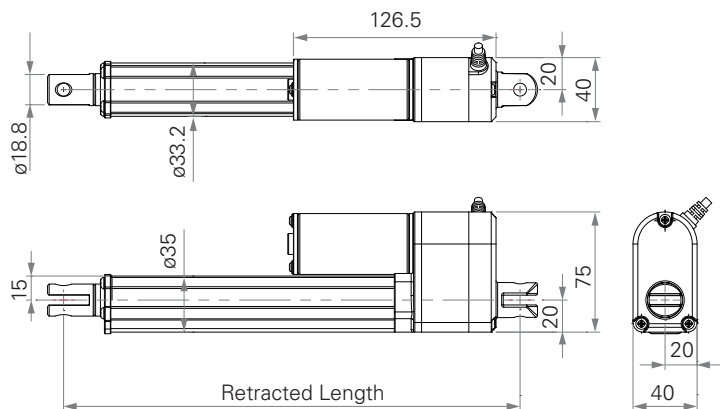


Standard Dimension (mm)

Without Output Signal



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



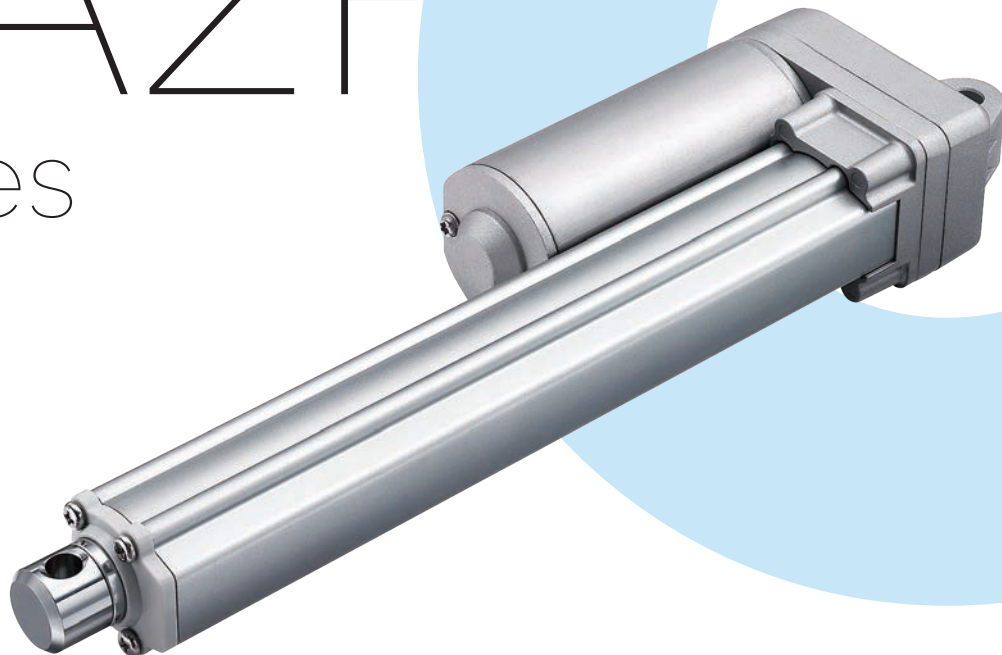
General Features

Max. load	1,000N (push/pull)
Max. speed at max. load	7.6mm/s
Max. speed at no load	67.5mm/s
Retracted length	≥ Stroke + 105mm (without output signals)
IP rating	IP66D
Certificate	IEC60601-1, ES60601-1, EMC
Stroke	20~1000mm

Options	POT, Reed, Hall sensors
Voltage	12/24/36/48V DC; 12/24/36/48V DC (PTC)
Color	Silver
Operational temperature range	+5°C~+45°C (Load < 500N); -25°C~+65°C (Load ≥ 500N)
Operational temperature range at full performance	+5°C~+45°C
Compact size for limited space	

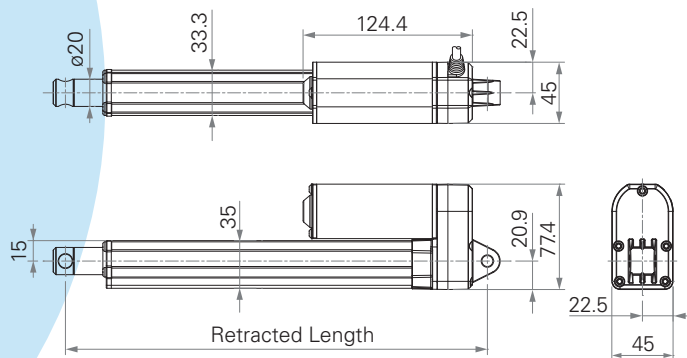
TA2P

series

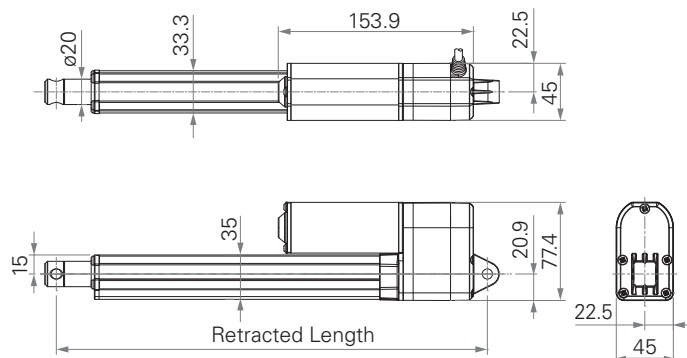


Standard Dimension (mm)

Without Output Signal



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



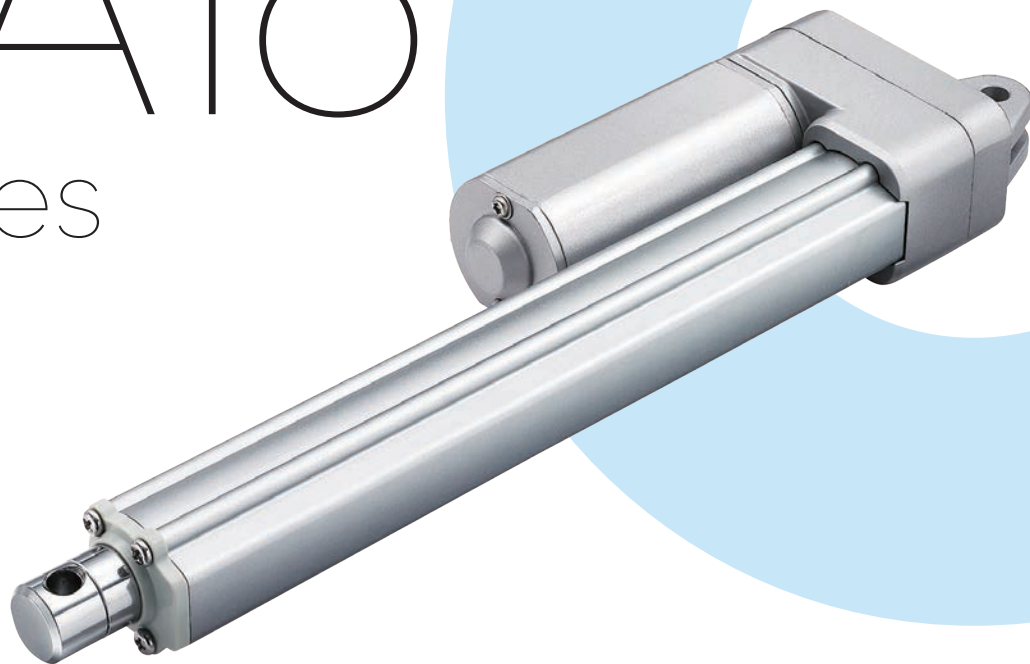
General Features

Max. load	3,500N (push); 2,000N (pull)
Max. speed at max. load	2.4mm/s
Max. speed at no load	56.5mm/s
Retracted length	≥ Stroke + 108mm (with Hall sensors or without output signals)
IP rating	IP66D
Certificate	IEC60601-1, ES60601-1, EN61000-6-1, EN61000-6-3, UL73

Stroke	20~1000mm
Options	POT, Reed or Hall sensors
Voltage	12/24/36V DC, 12/24V DC (PTC)
Color	Silver
Operational temperature range	-25°C~+65°C
Operational temperature range at full performance	+5°C~+45°C

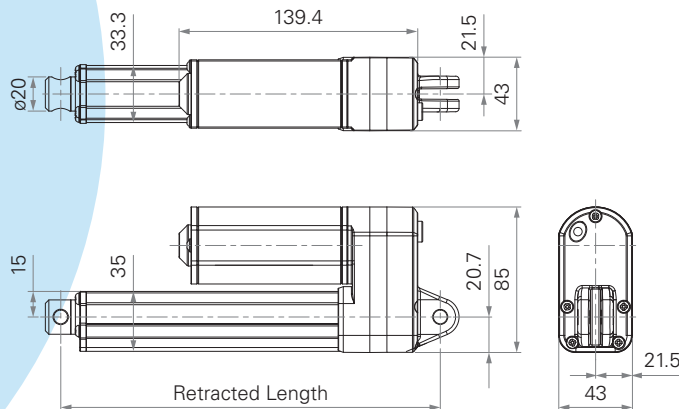
TA16

series

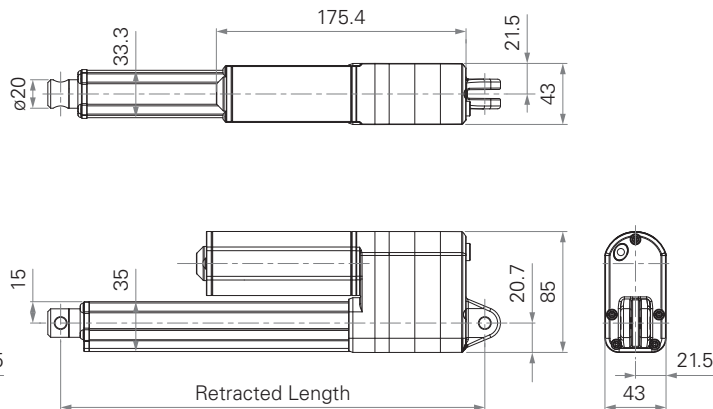


Standard Dimension (mm)

Dimensions without Output Signal or with Hall Sensors



Dimensions with POT



General Features

Max. load	3,500N (push/pull)
Max. speed at max. load	6.2mm/s
Max. speed at no load	23.5mm/s
Retracted length	≥ Stroke + 112mm
IP rating	IP66
Certificate	IEC60601-1, ES60601-1, IEC60601-1-2, UL962, EMC
Stroke	20~600mm

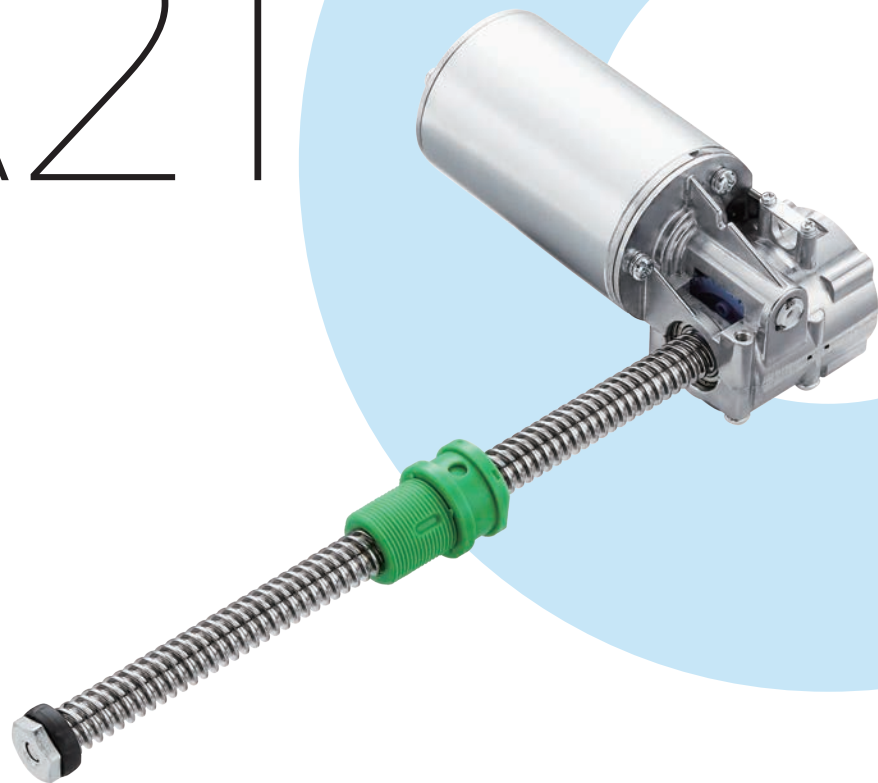
Options	POT, Hall sensor(s)
Voltage	12/24/36/48V DC
Color	Silver
Operational temperature range at full performance	+5°C~+45°C

With very low noise, small size for easy installation

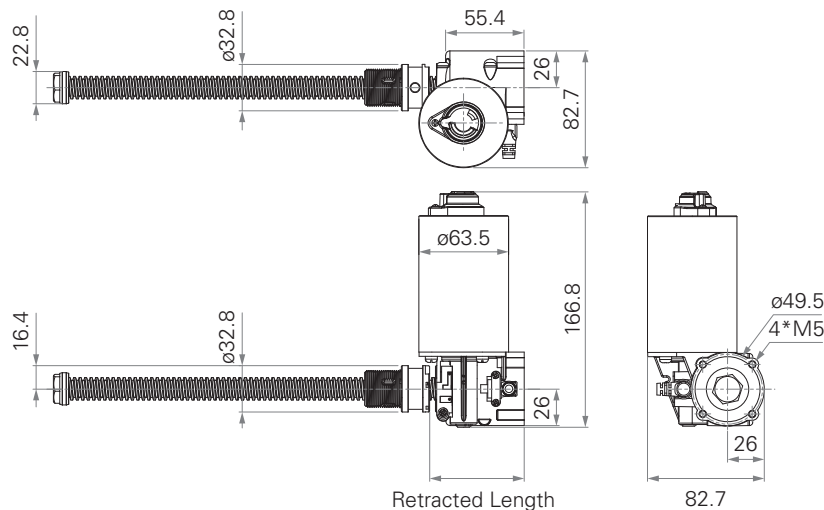
Suitable for patient hoist application

TA21

series



Standard Dimension (mm)



General Features

Max. load	10,000N (push); 6,000N (pull)
Max. speed at max. load	6.3mm/s
Max. speed at no load	24.7mm/s
Retracted length	≥ 67mm
Certificate	UL962
Stroke	25~400mm

Options

Safety nut, Hall / Reed sensor(s)

Voltage

24V DC, 24V DC (UL)

Color

Black or grey

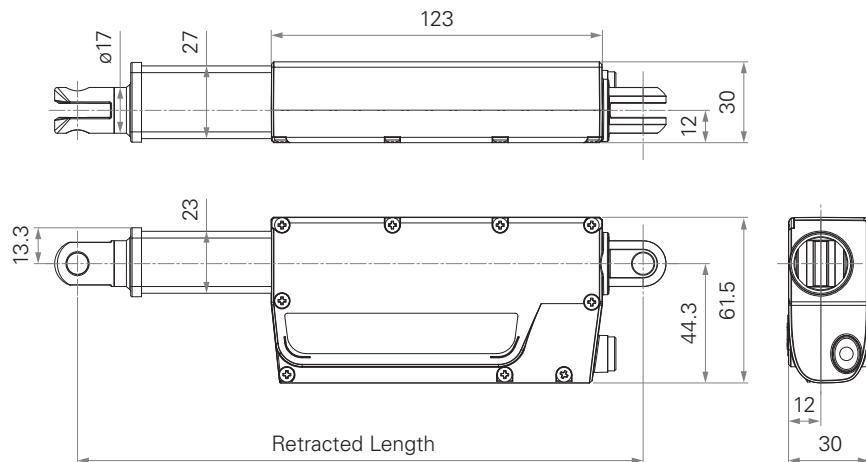
High design flexibility

TA38

series



Standard Dimension (mm)

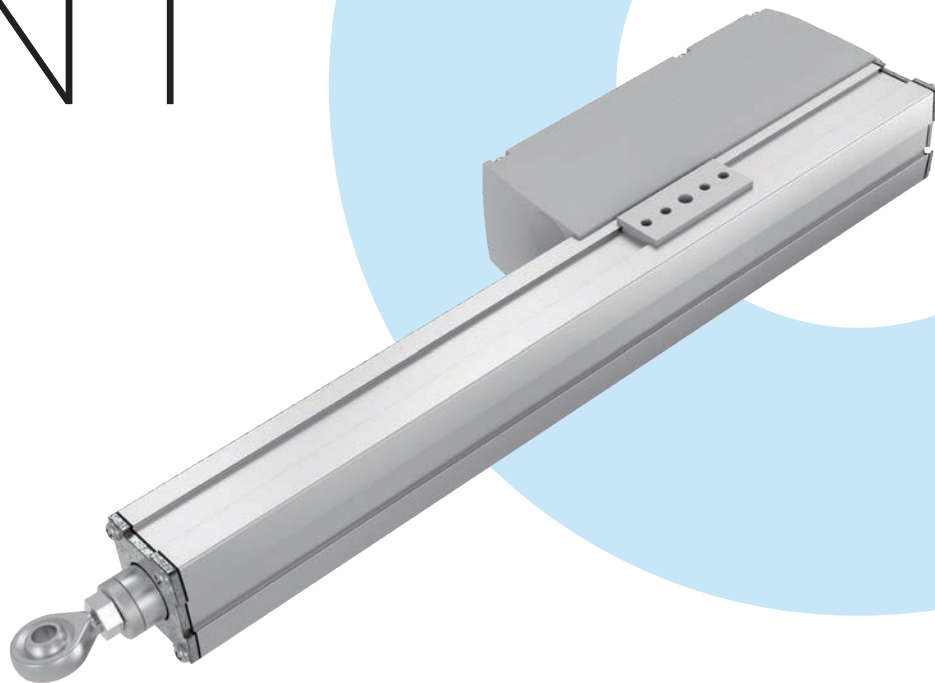


General Features

Max. load	1,500N (push/pull)	Stroke	20~200mm
Max. speed at max. load	7.9mm/s	Options	Hall sensors
Max. speed at no load	12.5mm.s	Voltage	24V DC, 12/24V DC (PTC)
Retracted length	≥ 160 mm	Color	Black or grey
IP rating	IP66	Operational temperature range	+5°C~+45°C

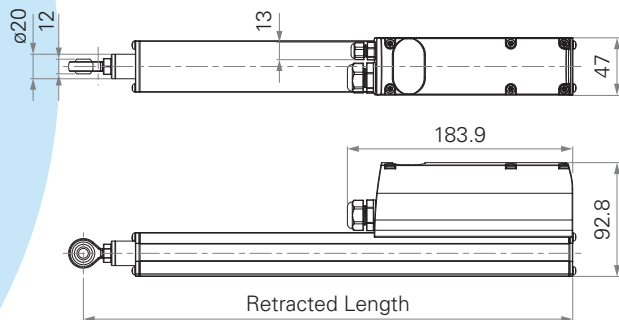
VN1

series

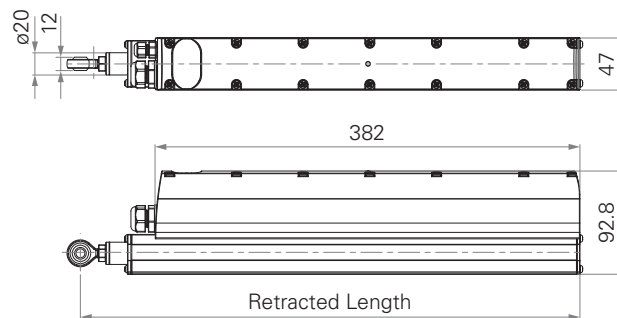


Standard Dimension (mm)

Dimensions with DC Voltage



Dimensions with AC Voltage



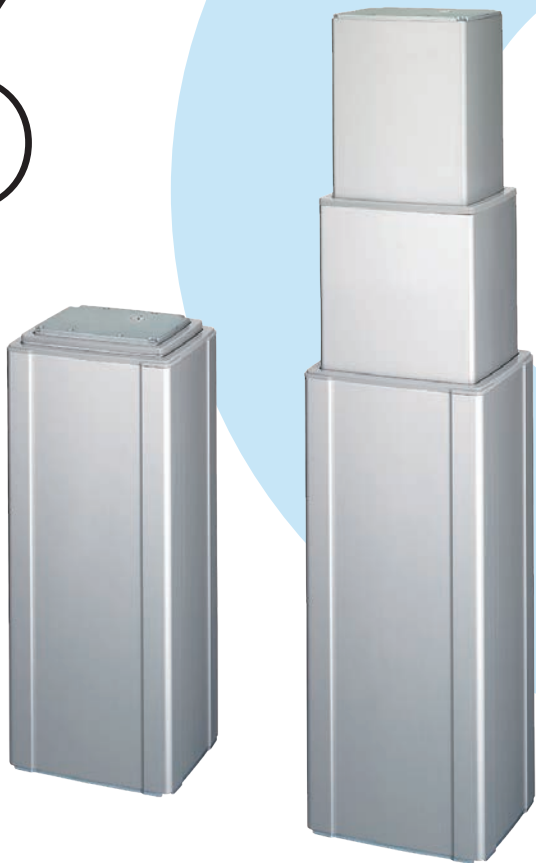
General Features

Max. load	3,500N (push/pull)
Max. speed at max. load	4.2mm/s
Max. speed at no load	10.4mm/s
Retracted length	≥ 217 mm (DC version) ≥ 437 mm (AC version) *upon the front attachment
IP rating	IP66
Stroke	20~500mm

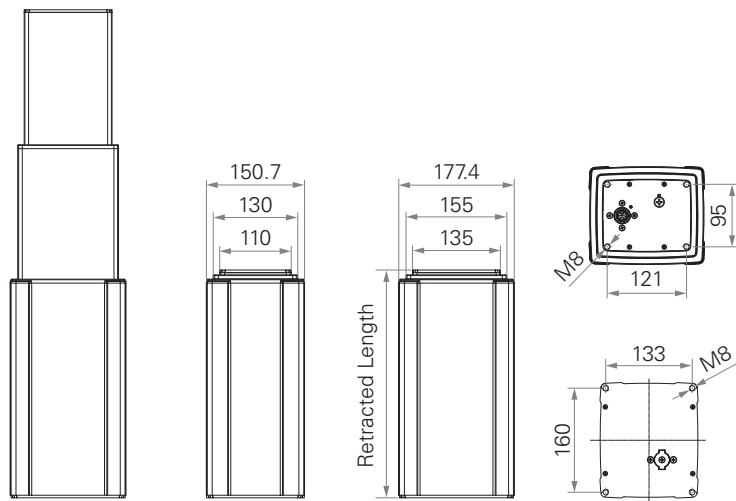
Options	Hall sensors, safety nut, window seal mechanism
Voltage	12/24V DC, 100~240V AC
Color	Black, grey
Operational temperature range	-15°C~+50°C
Operational temperature range at full performance	+5°C~+45°C

TL3

series



Standard Dimension (mm)



General Features

Max. load & self - locking force	4,000N (push)
Max. dynamic bending moment	1,000Nm
Max. static bending moment	2,000Nm
Max. speed at max. load	13.7mm/s
Max. speed at no load	39mm/s
Retracted length	$\geq \text{Stroke}/2 + 150\text{mm}$
IP rating	IPX6

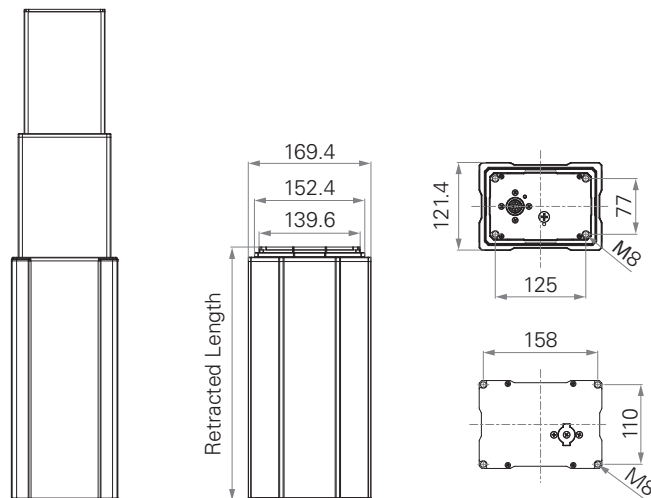
Dimension of outer tube	3-stage, 177.4*150.7mm rectangular
Stroke	250~1200mm
Certificate	IEC60601-1, EMC
Options	POT, Hall sensor(s), direct cut system
Operational temperature range	+5°C~+45°C

TL17

series



Standard Dimension (mm)



General Features

Max. load	2,000N (push)
Max. dynamic bending moment	250Nm
Max. static bending moment	500Nm
Max. speed at max. load	11.5mm/s
Max. speed at no load	41mm/s
Retracted length	$\geq \text{Stroke}/2 + 150\text{mm}$
IP rating	IPX6

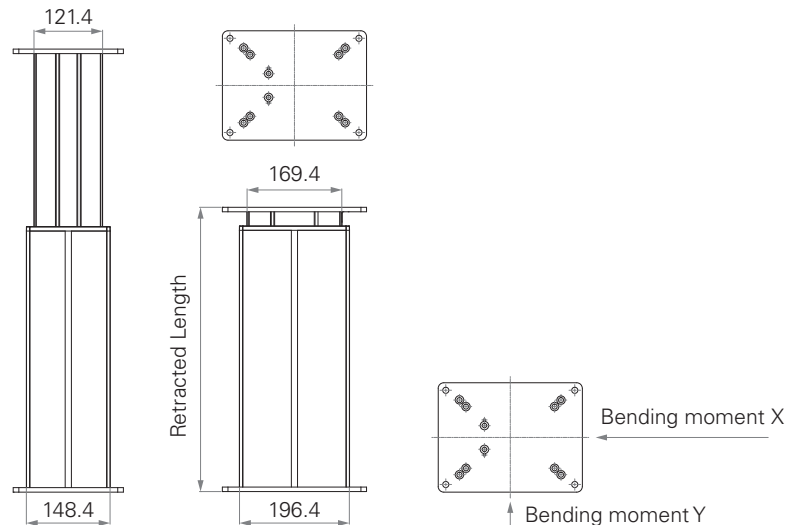
Dimension of outer tube	3-stage, 169.4*121.4mm rectangular
Stroke	250~1200mm
Certificate	IEC60601-1, ES60601-1, IEC60601-1-2
Options	Hall sensor(s)
Color	Silver, black
Operational temperature range	+5°C~+45°C

TL18

series



Standard Dimension (mm)

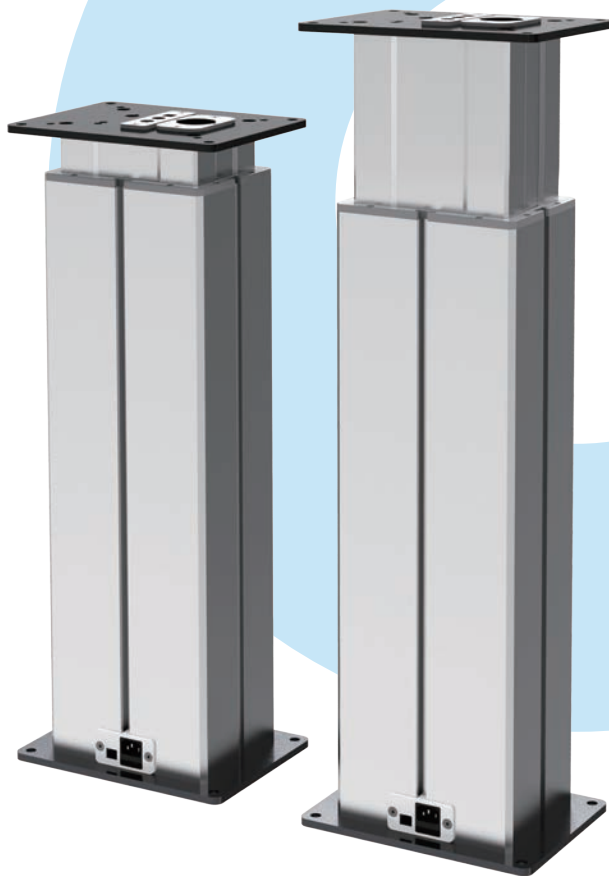


General Features

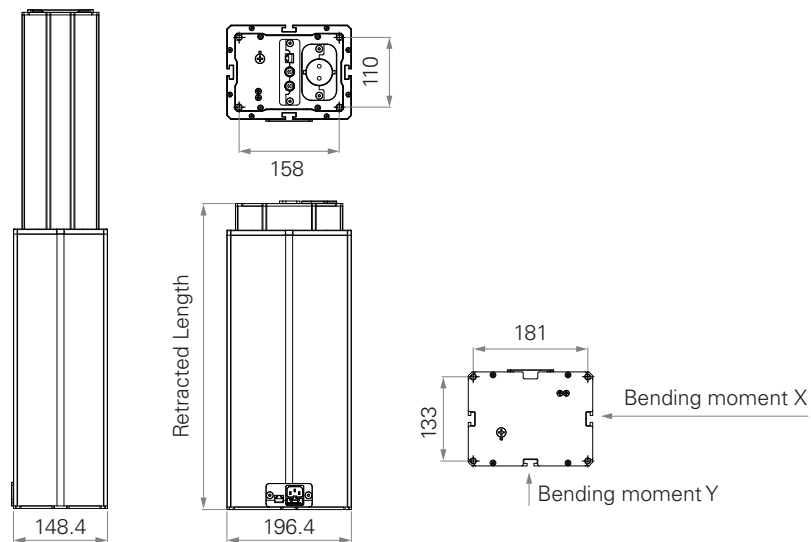
Max. load & self - locking force	4,500N (push)
Max. dynamic bending moment	250Nm
Max. static bending moment	500Nm
Max. speed at max. load	6.6mm/s
Max. speed at no load	45mm/s
Retracted length	$\geq \text{Stroke} + 147\text{mm}$
IP rating	IPX4

Dimension of outer tube	2-stage, 196.4*148.4mm rectangular
Stroke	100~700mm
Certificate	IEC60601-1, ES60601-1, IEC60601-1-2, UL73, EMC
Options	Hall sensor(s), cable exit from top / bottom side, direct cut system
Operational temperature range	+5°C~+45°C

TL18 AC series



Standard Dimension (mm)



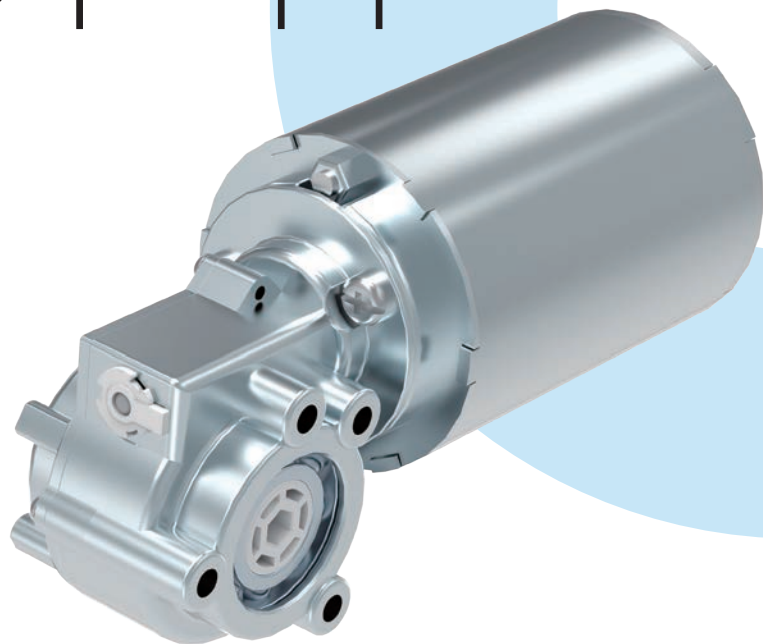
General Features

Max. load & self- locking force	4,500N (push)
Max. dynamic bending moment	250Nm
Max. static bending moment	500Nm
Max. speed at max. load	6.6mm/s
Max. speed at no load	45mm/s
Retracted length	$\geq \text{Stroke} + 183\text{mm}$

Dimension of outer tube	2-stage, 196.4*148.4mm rectangular
Stroke	200~700mm
Options	AC cable exit from top end, top side; Ethernet socket
Operational temperature range	+5°C~+45°C

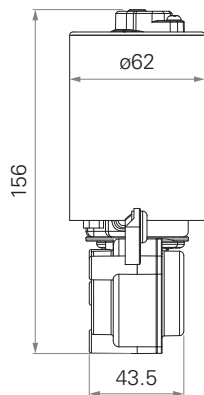
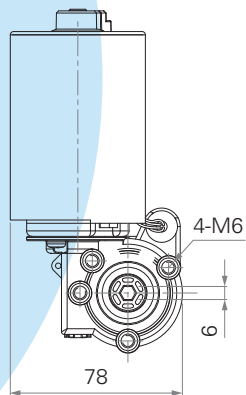
TGM1

series

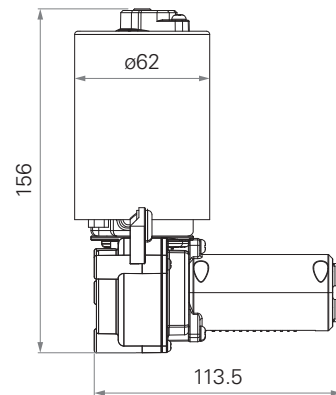
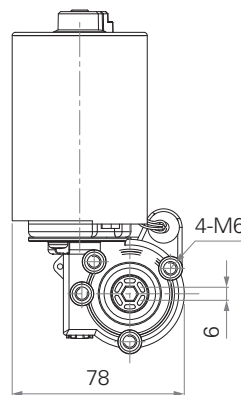


Standard Dimension (mm)

Without TES2



With TES2



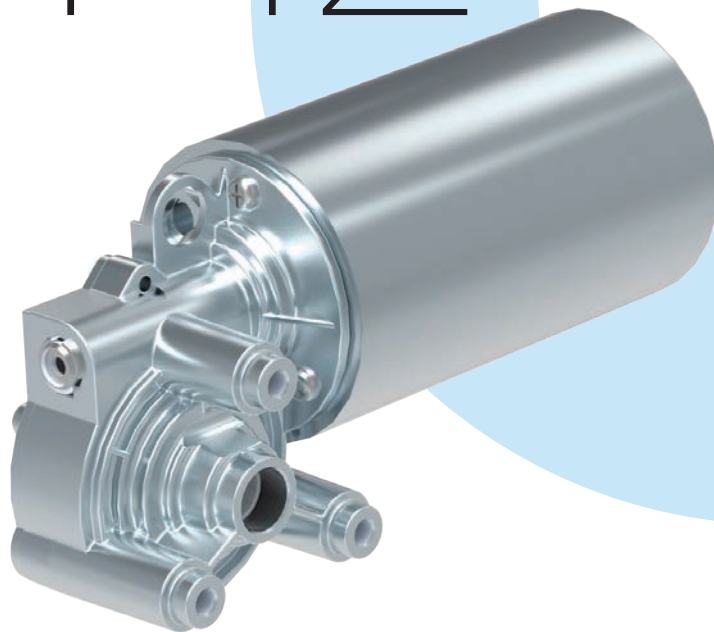
General Features

Max. rated torque	7.4Nm
Max. speed at max. load	72RPM ($\pm 5\%$)
Max. speed at no load	262.5RPM ($\pm 5\%$)
Certificate	UL962
Options	Hall sensors

Voltage	12, 24V DC or 24V DC (PTC)
Operational temperature range at full performance	+5°C~+45°C
Hexagon hole for the shaft by 6 or 9.1mm diameter	
Low noise	

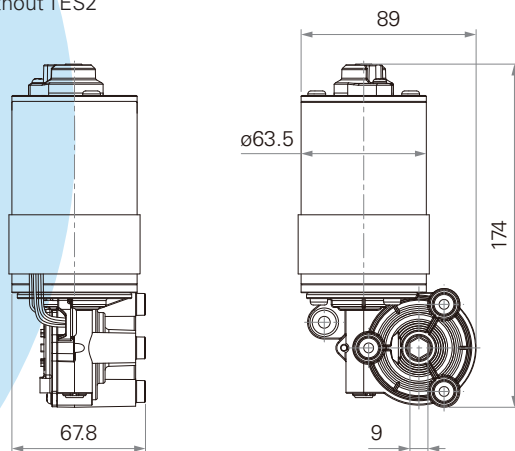
TGM2

series

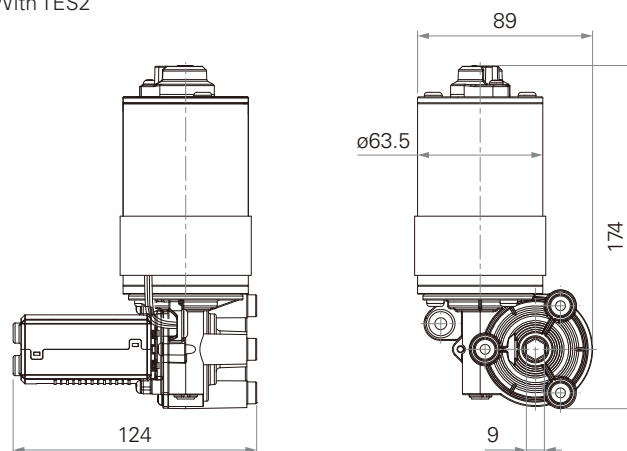


Standard Dimension (mm)

Without TES2



With TES2



General Features

Max. rated torque

18.3Nm

Max. speed at max. load

51RPM ($\pm 5\%$)

Max. speed at no load

108RPM ($\pm 5\%$)

Options

Hall sensors

Voltage

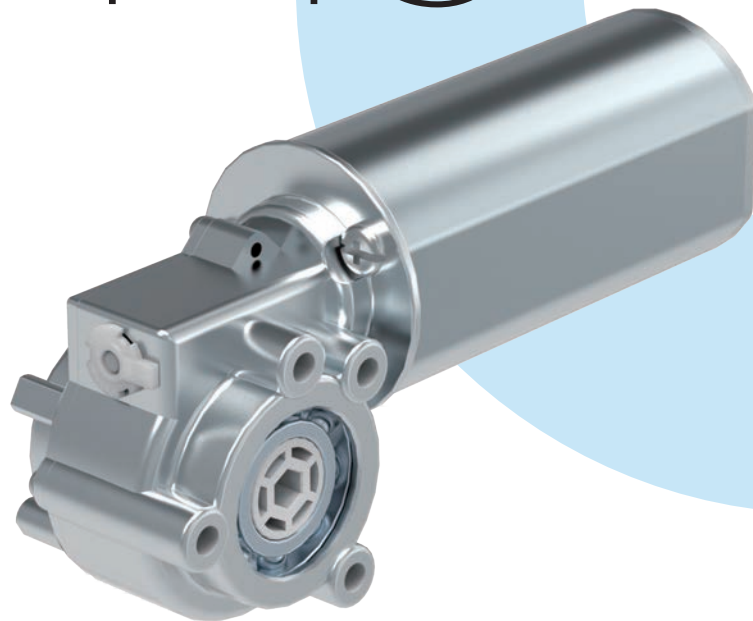
12V DC or 24V DC
(thermal protector)

Hexagon hole for the shaft by 9mm diameter

Low noise

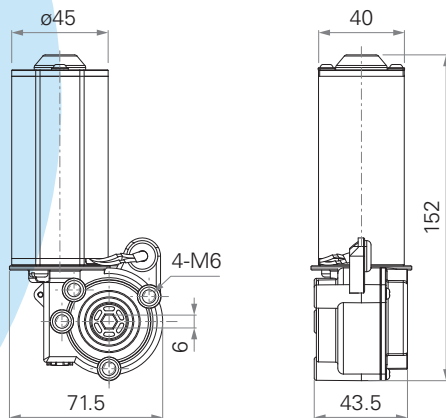
TGM3

series

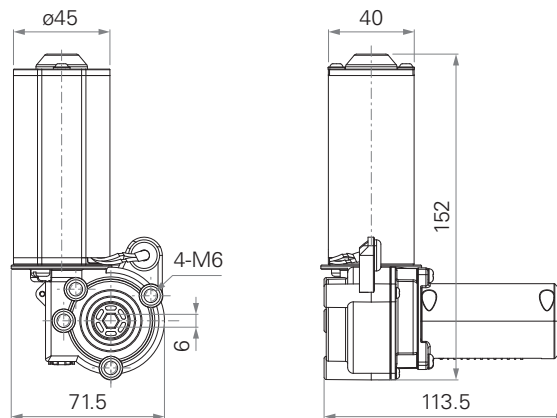


Standard Dimension (mm)

Without TES2



With TES2



General Features

Max. rated torque

4.6Nm

Max. speed at max. load

61RPM ($\pm 5\%$)

Max. speed at no load

259RPM ($\pm 5\%$)

Options

Hall sensors

Voltage

24V DC

**Operational temperature range
at full performance**

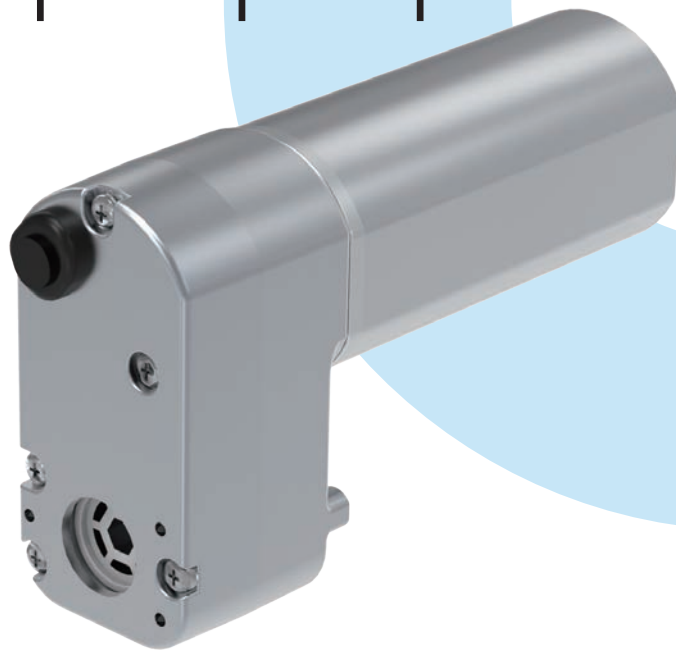
+5°C~+45°C

Hexagon hole for the shaft by 6mm diameter

Low noise

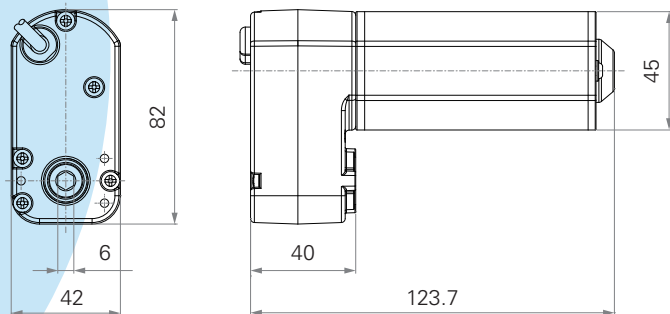
TGM4

series

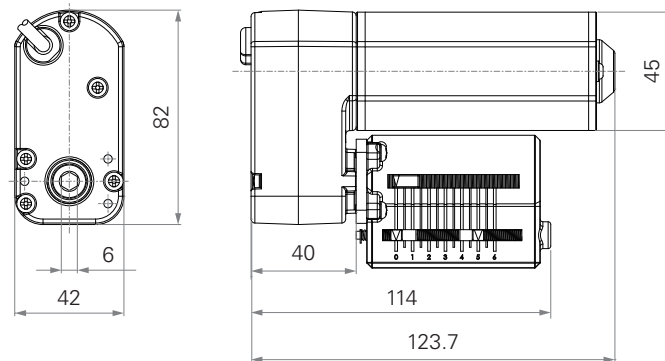


Standard Dimension (mm)

Without TES2



With TES2



General Features

Max. rated torque

6Nm

Max. speed at max. load

98RPM ($\pm 5\%$)

Max. speed at no load

219RPM ($\pm 5\%$)

Options

Hall sensors

Voltage

24V DC

**Operational temperature range
at full performance**

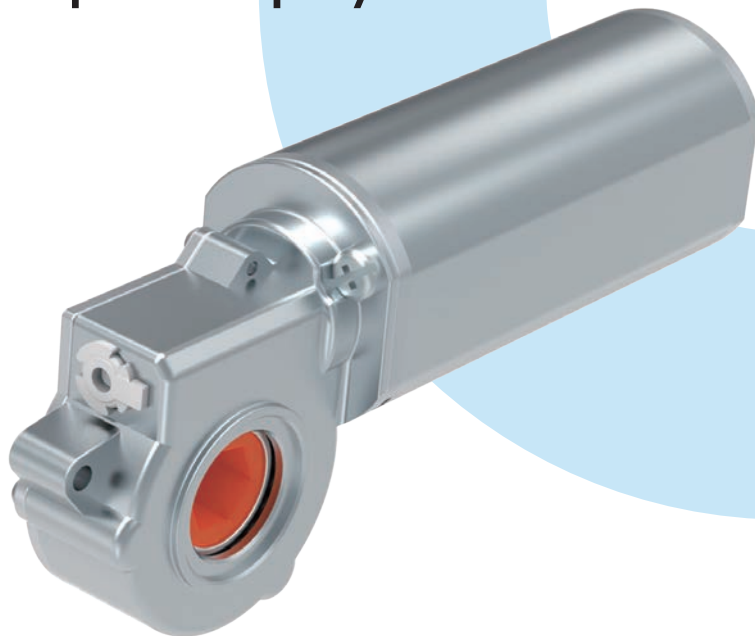
+5°C~+45°C

Hexagon hole for the shaft by 6mm diameter

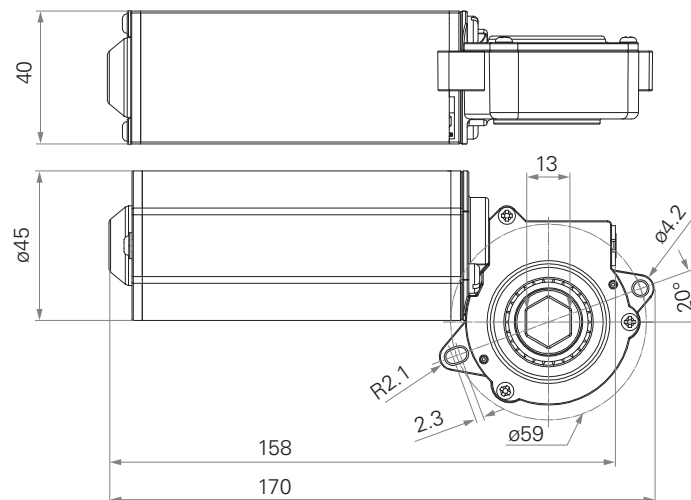
Low noise

TGM7

series



Standard Dimension (mm)



General Features

Max. rated torque

7.2Nm

Max. speed at max. load

78RPM ($\pm 5\%$)

Max. speed at no load

355RPM ($\pm 5\%$)

Options

Hall sensors

Voltage

24V DC

**Operational temperature range
at full performance**

+5°C~+45°C

Low noise

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