

# Linear Actuator LA31

## Data Sheet



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## Introduction



The LA31 is a compact, quiet and powerful actuator designed for a variety of applications in the MEDLINE & CARELINE segment, such as hospital beds, couches and nursing home beds.

The standard LA31 actuator features known parts such as piston rod eye with slot, and comes in different variations with e.g. fast motor, Hall positioning. The LA31 actuator has exchangeable cables and is ideal in combination with OpenBus™ control boxes.

The LA31 actuator has an ingress protection of IPX6 and is available in version with up to 6000 N in push or 4000 N in pull.

## Features and options

- 24V DC permanent magnet motor
- Load up to 6000 N in push or 4000 N in pull
- Dynamic push and pull: Actuators are designed for push or pull applications. If a combination is required, please contact your local LINAK salesperson.
- Electric chromated steel piston rod eye
- High-strength plastic housing protects motor and gears
- Elegant and compact design with small installation dimensions
- Standard protection class: IPX1, IPX4, IPX6
- Colour: light grey (RAL 7035), dark grey (RAL 7016), black (RAL 9005)
- 2.25 m straight cable
- Built-in limit switches (not adjustable)
- Scratch and wear-resistant powder painting on outer tube Ø30mm
- Zinc alloy back fixture
- Strong wear and corrosion resistant stainless steel inner tube
- Noise level 48dB(A); measuring method DS/EN ISO 3743-1, actuator not loaded.
- Winding isolation class F (155°C)
- Flexible back fixture
- Reed switch (8 pulses per spindle revolution) for exact positioning of memory control and compatibility with CB9P
- Hall positioning
- Fast motor
- Mechanical splines (the actuator can only push)
- Jack plug for use with other control boxes than CB9
- Mini-fit cable for use with OpenBus™
- IPX6: only with cable placement standard and forward (only when actuator fully retracted)
- 0.2/0.4 m coiled cable with DIN or Jack plug
- Safety nut in push
- Mechanical end stop in both directions is possible as an option
- Exchangeable cables (also for DIN Reed)
- Hall Potentiometer (not with EL or mechanical spline). Cannot be used with LINAK control boxes
- Can be mounted together with CB7 or CB9 (without cable)
- Brake in either push or pull is possible as an option

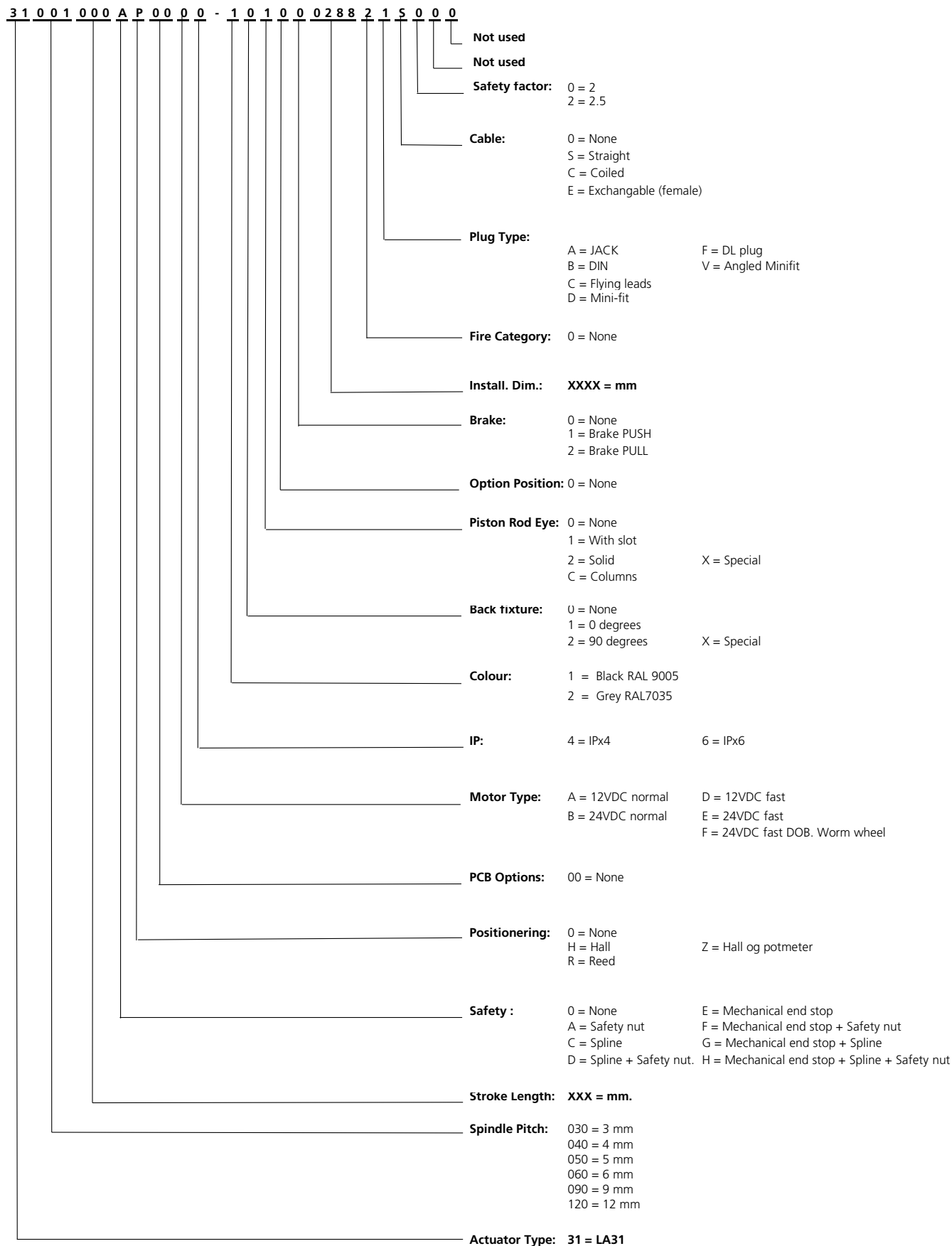


## Usage

- Duty cycle: Max 10% or 2 minutes continuous use followed by 18 minutes not in use.
- Cycles: The LA31 life cycle test has been performed with a stabilised power supply (10% duty cycle) on a 200 mm stroke actuator at max. load for 10,000 cycles (at ambient temperature)
- Ambient temperature: +5° to + 40°C
- Compatibility: Compatible with LINAK control boxes. Please contact LINAK.
- Approvals: IEC 60601-1, ANSI/AAMI ES60601-1 and CAN/CSA-22.2 No 60601-1



# Ordering example



N.B. Always configure the LA31 in the configurator eCon Smart Client before ordering.



## Installation dimensions with different combinations of features/back fixtures

### LA31 standard

LA31 Standard				
	Stroke (mm)			
	Length ≤ 115	115 < Length ≤ 250	250 < Length ≤ 300	300 < Length ≤ 350
Max. load =	6000N	6000N	4000N	4000N
Piston rod eyes: 0, 1, 2 and 3				
Back fixture	BID (minimum)	BID	BID	BID
1/2 and 7/8	288 mm	S+173 mm	S+192 mm	S+212 mm
5/6	288 mm	S+173 mm	S+192 mm	S+212 mm
A/B	291 mm	S+176 mm	S+195 mm	S+215 mm

Explanation of table:

- Min. installation dimension = 288 mm when the stroke is ≤ 115 mm.
- Min. installation dimension is S+173 when the stroke length is 115 < Length ≤ 250 and S+176 with A/B type back fixture.
- Min. installation dimension is S+192 when the stroke > 250 mm and S+195 with A/B type back fixture.
- Min. installation dimension is S+212 when the stroke > 300 mm and S+215 with A/B type back fixture.
- BID = Built-in dimension

### LA31 with mechanical splines

LA31 mechanical splines				
	Stroke (mm)			
	length ≤ 100	100 < Length ≤ 250	250 < Length ≤ 300	300 < Length ≤ 350
Max. load =	6000N	6000N	4000N	4000N
Piston rod eyes: 0, 1, 2 and 3				
Back fixture	BID (minimum)	BID	BID	BID
1/2 and 7/8	289 mm	S+189 mm	S+189 mm	S+211 mm
5/6	289 mm	S+189 mm	S+189 mm	S+211 mm
A/B	292 mm	S+192 mm	S+192 mm	S+214 mm

### LA31 with mechanical end stop

LA31 mechanical end stop				
	Stroke (mm)			
	length ≤ 95	95 < Length ≤ 250	250 < Length ≤ 300	300 < Length ≤ 350
Max. load =	6000N	6000N	4000N	4000N
Piston rod eyes: 0, 1, 2 and 3				
Back fixture	BID (minimum)	BID	BID	BID
1/2 and 7/8	288 mm	S+193 mm	S+193 mm	S+212 mm
5/6	288 mm	S+193 mm	S+193 mm	S+212 mm
A/B	291 mm	S+196 mm	S+196 mm	S+215 mm



## LA31 mechanical splines + mechanical end stop

LA31 mechanical splines + mechanical end stop to patient lifts				
	Stroke (mm)			
	length ≤ 100	100 < Length ≤ 250	250 < Length ≤ 300	300 < Length ≤ 350
Max. load =	6000 N	6000 N	6000 N	4000 N
	Piston rod eyes: 0, 1, 2 and 3			
Back fixture	BID (minimum)	BID	BID	BID
1/2 and 7/8	309 mm	S+209 mm	S+219 mm	S+219 mm
5/6	309 mm	S+209 mm	S+219 mm	S+219 mm
A/B	312 mm	S+212 mm	S+222 mm	S+222 mm

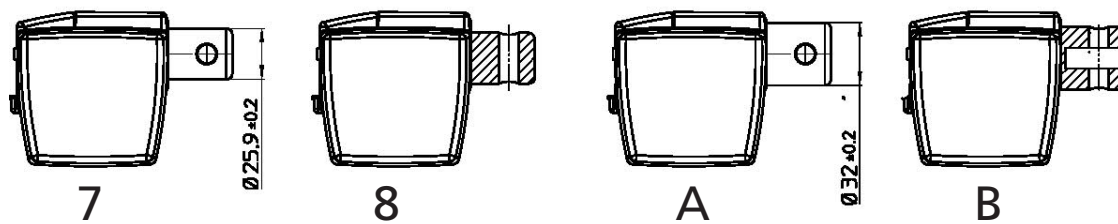
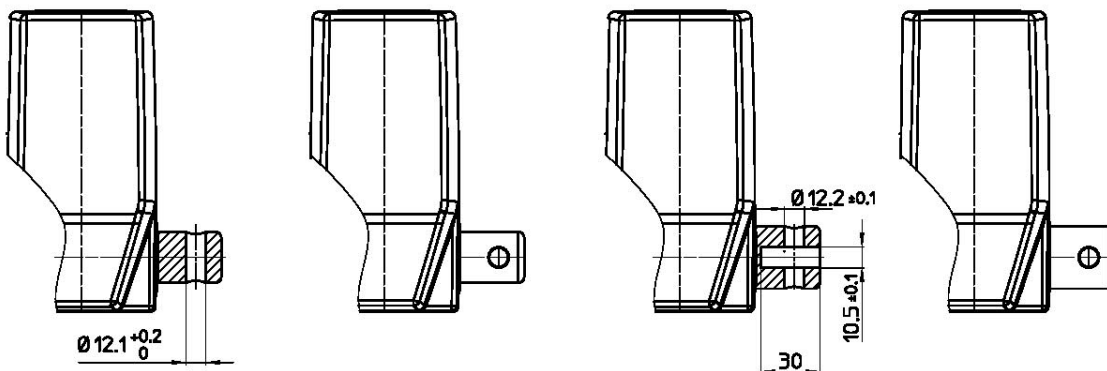
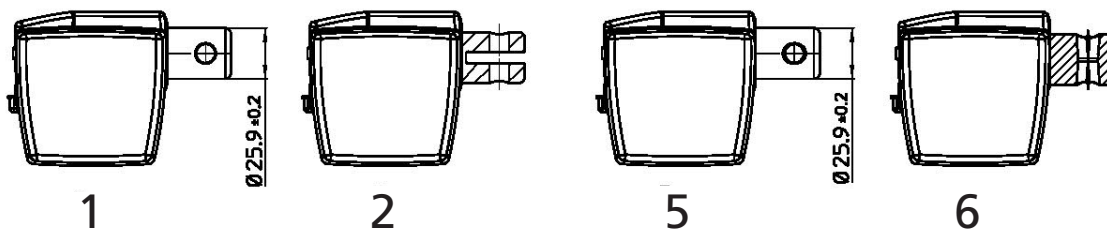
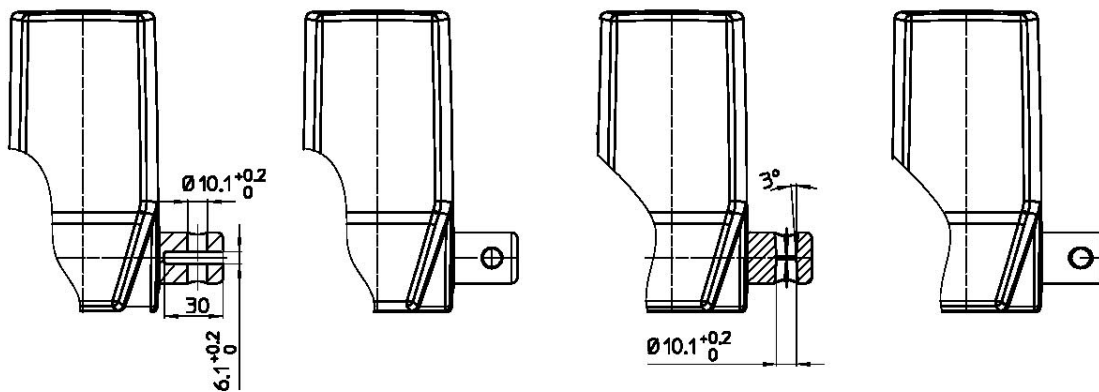
Side load is max. 1000 N with stroke lengths up to 300 mm.

## Exchangeable cables



When using LA31 with reed feedback in combination with the following control boxes: CB8, CB14 and JUMBO control boxes, please use the cable type 10A31-X5XXXXXX-XXXX-X to avoid control box damage.

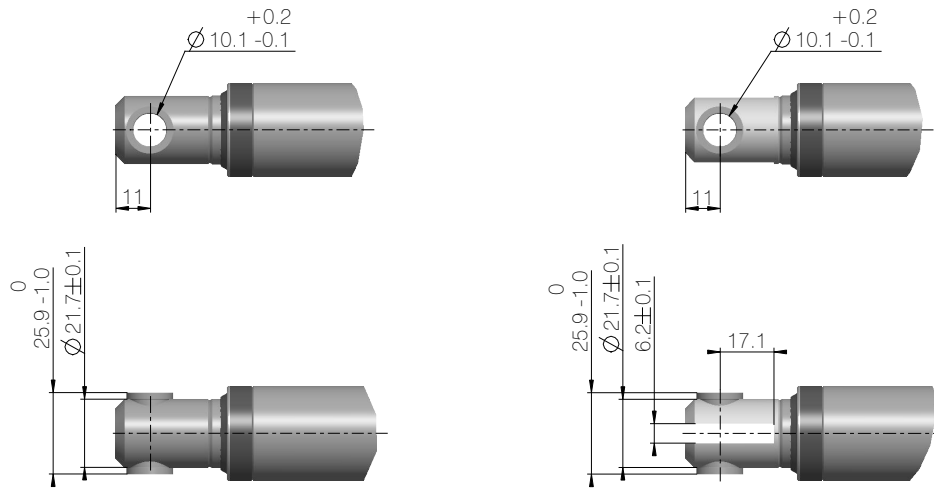
# Back fixtures



LA31007B



## Piston rod eyes



Drawing number: 0319220



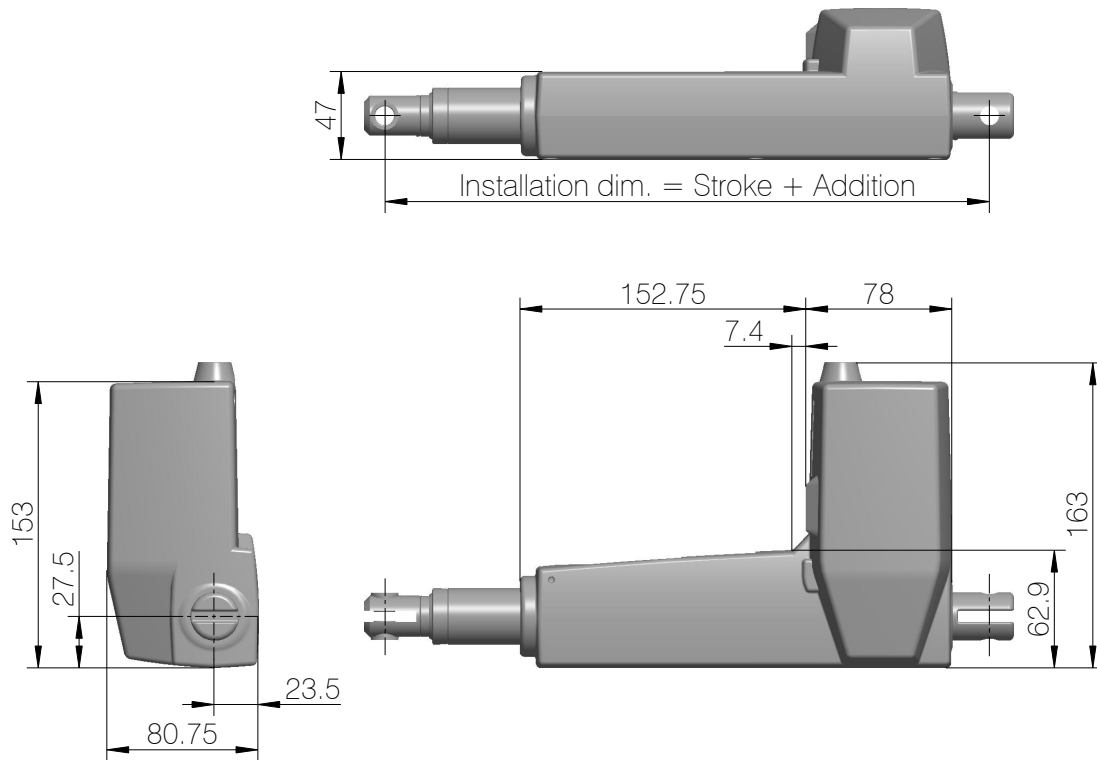
## Dimensions

Tolerance information:

± 2 mm - Installation dimension

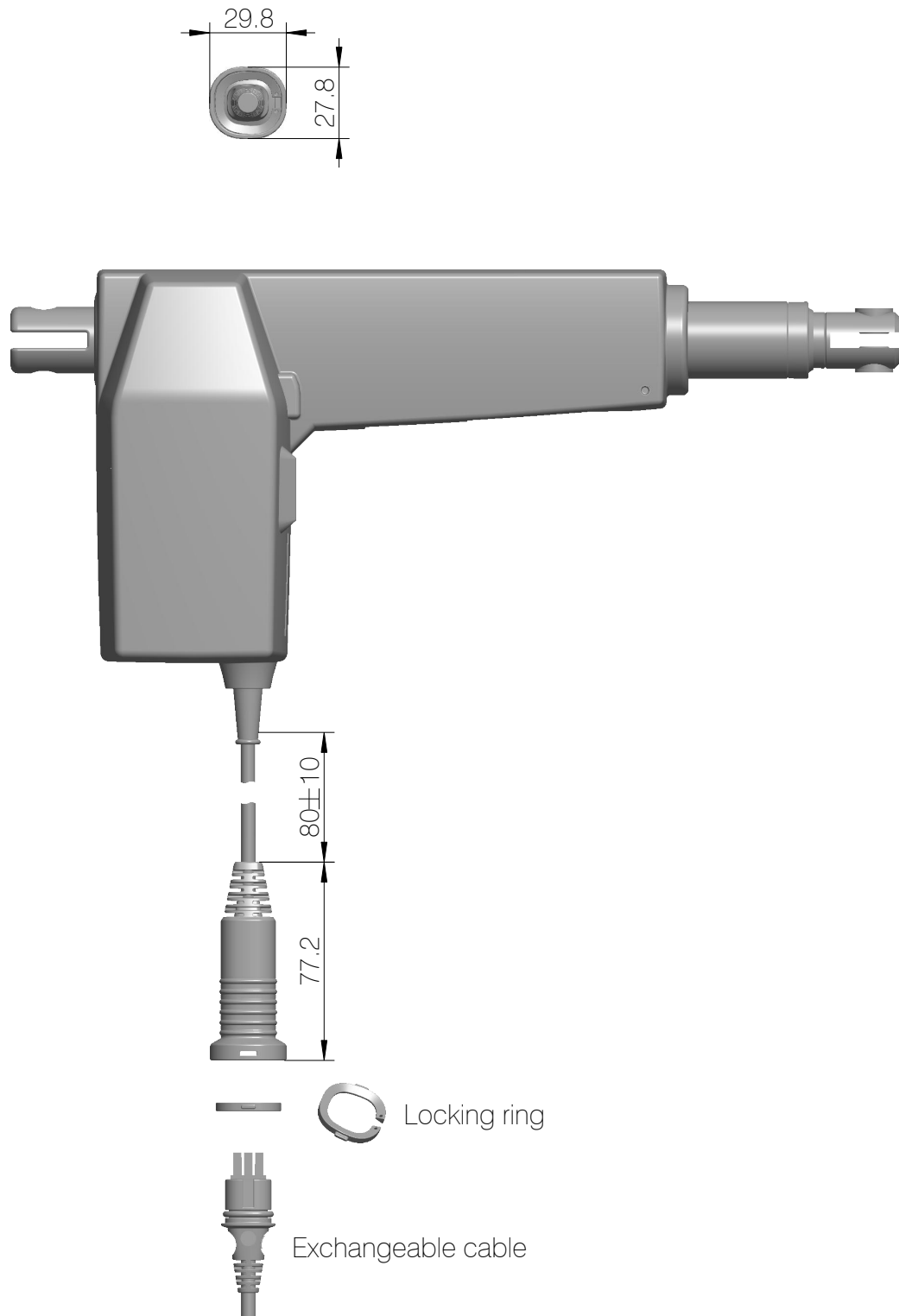
± 2 mm - Stroke length

### LA31



Drawing number: 0311069



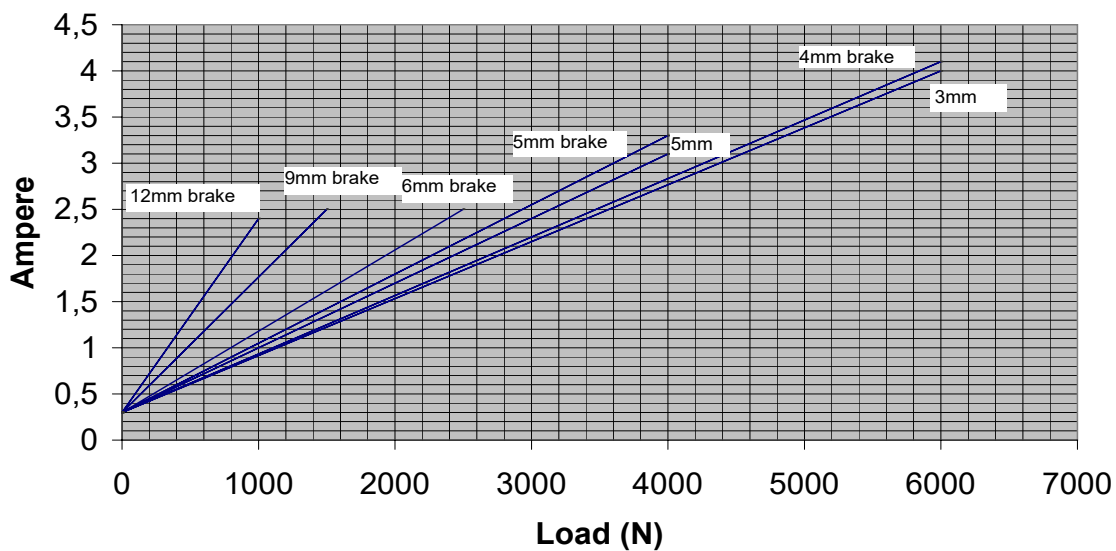
**LA31 with exchangeable cable connector and locking ring**

Drawing number: 0311070

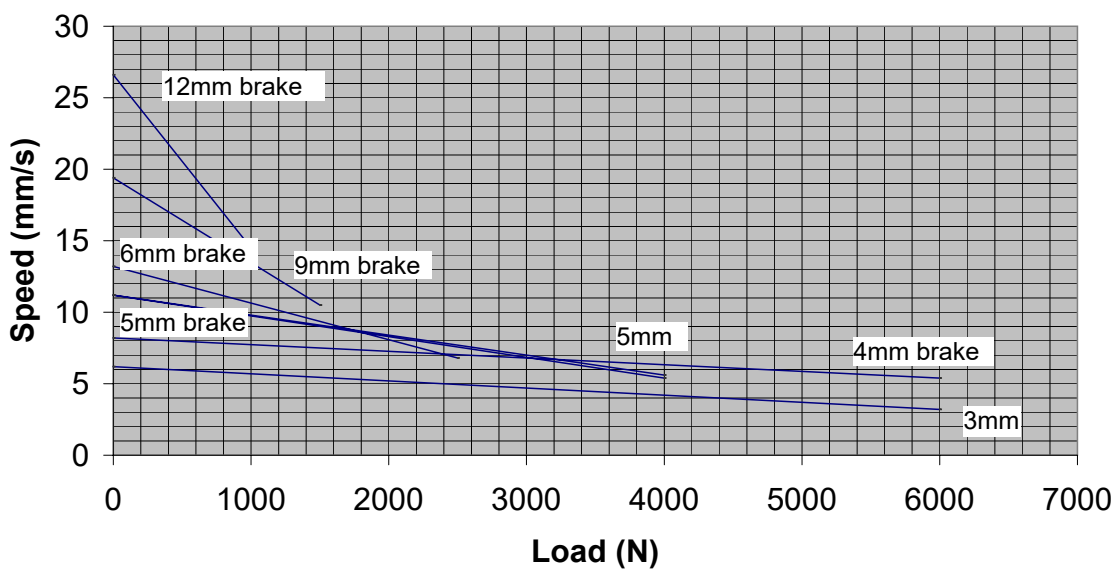


## Motor current versus load

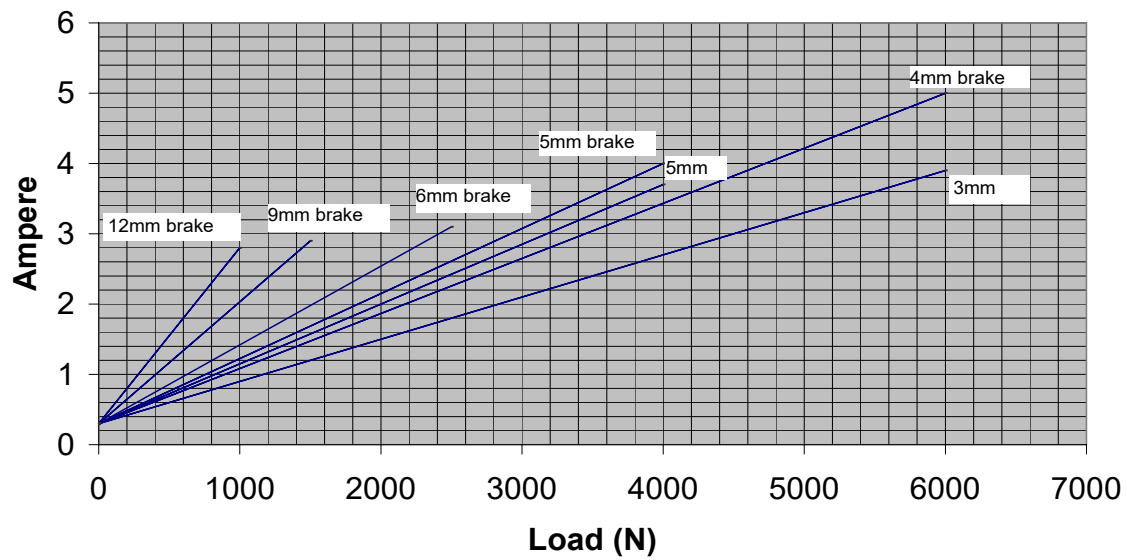
LA31 24V standard motor current vs load



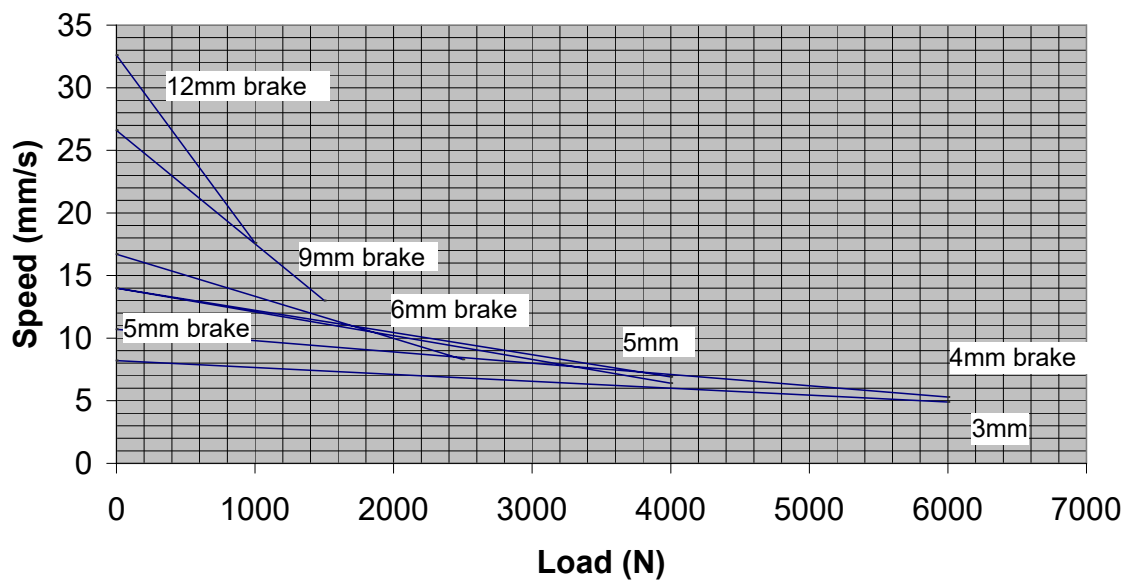
LA31 24V standard motor speed vs load



LA31 24V fast motor current vs load



LA31 24V fast motor speed vs load



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