

# ACTUATOR LA31

## Features:

- 12/24 V DC permanent magnet motor
- Thrust up to 6000 N in push and up to 4000 N in pull
- Electric chromated steel piston rod eye with slot
- High-strength plastic housing protects motor and gears
- Elegant and compact design with small installation dimensions
- Standard protection class: IPX1
- Colour: black
- 2.25 m straight cable
- Built-in limit switches (not adjustable)
- Scratch and wear-resistant powder painting on outer tube  $\varnothing 30$  mm
- Zinc alloy back fixture
- Strong wear and corrosion resistant stainless steel inner tube
- Noise level 48 dB (A); measuring method DSI/EN ISO 3746, actuator not loaded

## Options:

- Flexible back fixture
- Reed switch (8 pulses per spindle revolution) for positioning of memory control
- Hall
- Fast motor
- Mechanical splines (the actuator can only push)
- Protection class IPX4, IP66
- Colour: grey
- Safety nut in push

## Usage:

- Duty cycle: Max. 10% or 2 minutes continuous use followed by 18 minutes not in use
- Ambient temperature +5°C to +40°C

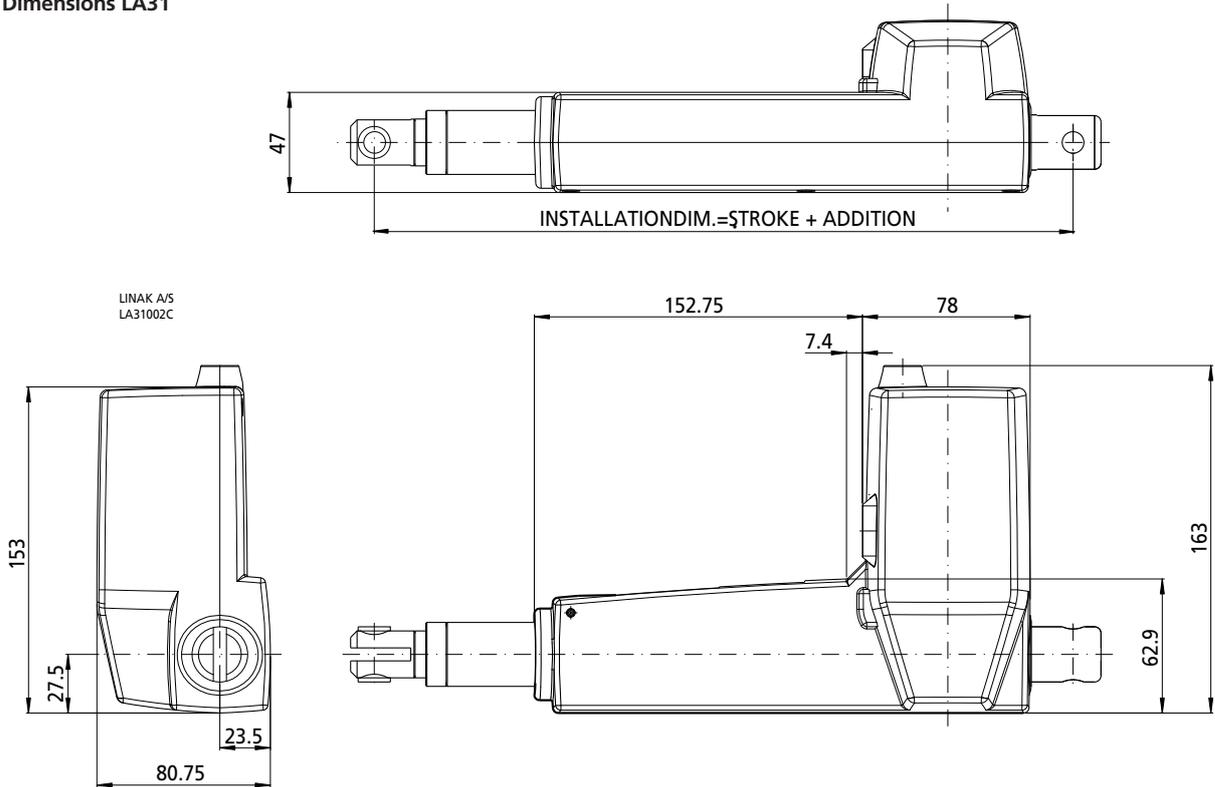


TECHLINE™  
IMPROVING FLEXIBILITY

The LA31 actuator is a very quiet and powerful actuator designed for a variety of applications. The standard LA31 actuator is available for both the TECHLINE™, HOMELINE®, CARELINE® and DESKLINE® product range.

Due to its high capacity, design and protection class up to IP66 the TECHLINE™ actuator is ideal for industrial applications. The various combinations of motor, spindle pitch, back fixture and piston rod eye gives a vast number of solutions, this ensures that many different needs can be covered by the LA31 TECHLINE™ actuator.

**Dimensions LA31**



**Standard installation dimensions with different combinations of Piston Rod Eyes and back fixtures to LA31.**

	LA31 Standard		LA31 Splines	
	Stroke length > 115 mm	Stroke length < 115 mm	Stroke length > 100 mm	Stroke length < 100 mm
<b>Eye</b>	0, 1, 2 and 3			
<b>Back Fixture</b>				
1/2, 5/6 and 7/8	S + 173 mm	288 mm	S + 189 mm	289 mm
A/B	S + 176 mm	291 mm	S + 192 mm	292 mm

Installation dimensions explanation of table.

**LA31 TECHLINE Standard**

With the standard LA31 TECHLINE and a stroke length greater than 115 mm, the installation dimension is = Stroke length + 173 mm (+ 176 mm with an A / B type back fixture). With a stroke length of 115 mm or less the inst. dimension will be 288 mm (291 mm with A / B type back fixture).

**LA31 TECHLINE Splines**

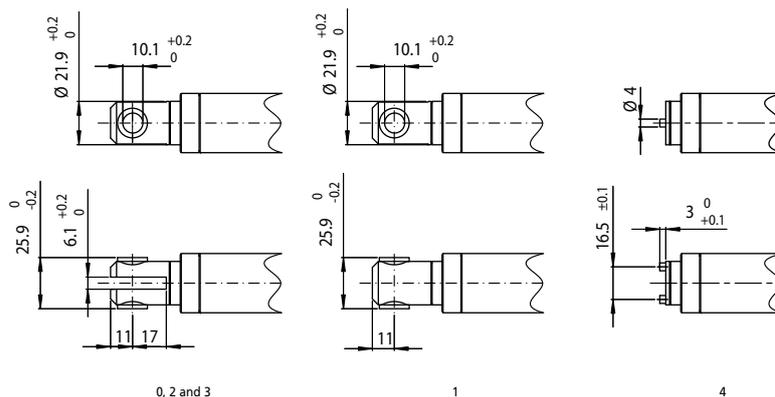
With LA31 TECHLINE Splines and a stroke length greater than 100 mm, the installation dimension is = Stroke length + 189 mm (+ 192 mm with A / B type back fixture). With a stroke length of 100 mm or less the inst. dimension will be 289 mm (292 mm with A / B type back fixture).

S = Stroke length

Minimum installation dimension is 288 mm.

Minimum installation dimension with splines is 289mm. With mechanical End stop the installation dimension is increased by 20 mm.

**Piston Rod Eyes:**



0, 2 and 3

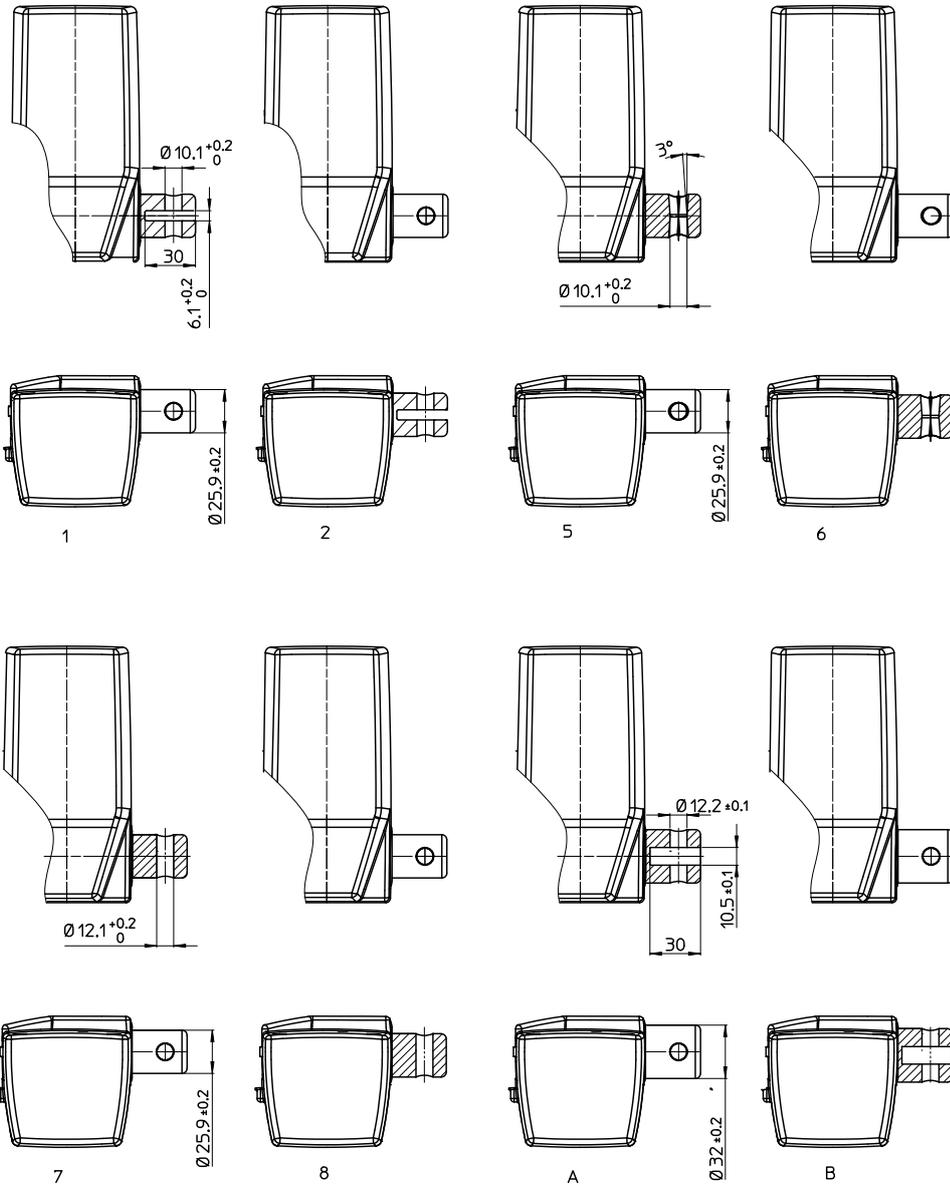
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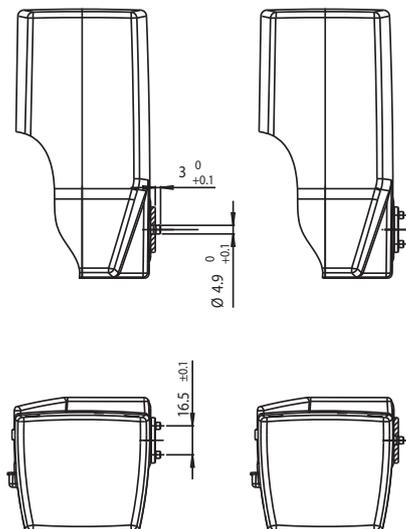


An LA31 brake in a push application brakes actively when the actuator moves in an inward direction. The same applies to an actuator mounted with a brake in a pull direction. It brakes in an outward direction. Under this condition the standard motor uses up to 4 Amp. and the fast motor uses up to 6 Amp.

Back fixtures:



LA31007B



**Technical specifications:**

Spindle type	Spindle pitch (mm)	Max load (N)		Typical Amp. Full load	Typical speed (mm/s)		Self-lock max (N)	
		Push	Pull		Unloaded	Full load	Push	Push
<b>Standard 24V motor</b>								
31.1	3	6000	4000	4.0	6.2	3.2	6000	4000
31.2	5	4000	4000	3.1	11.2	5.4	2000	2000
31.2 With brake	5	4000	4000	3.3	11.2	5.6	4000	4000
31.3 With brake	9	1500	1500	2.5	19.4	10.5	1500	1500
31.4 With brake	4	6000	4000	4.1	8.2	5.4	6000	4000
31.6 With brake	12	1000	1000	2.4	26.6	14.5	1000	1000
31.7 With brake	6	2500	2500	2.5	13.2	6.8	2500	2500
<b>Fast 24V motor</b>								
31.1	3	6000	4000	4.2	8.2	4.9	6000	4000
31.2	5	4000	4000	3.7	14	6.9	2000	2000
31.2 With brake	5	4000	4000	4.0	14	6.4	4000	4000
31.3 With brake	9	1500	1500	2.9	26.6	13	1500	1500
31.4 With brake	4	6000	4000	5.0	10.7	5.3	6000	4000
31.6 With brake	12	1000	1000	2.8	32.6	17.6	1000	1000
31.7 With brake	6	2500	2500	3.1	16.7	8.3	2500	2500
<b>Standard 12V motor</b>								
31.1	3	6000	4000	7.2	4.5	3.2	6000	4000
31.2	5	4000	4000	3.9	7.4	6.4	2000	2000
31.2 With brake	5	4000	4000	6.5	7.5	5.7	4000	4000
31.3 With brake	9	1500	1500	4.7	13	10.9	1500	1500
31.6 With brake	12	1000	1000	4.1	18	15.9	1000	1000
31.4 With brake	4	6000	4000	9.0	6	3.7	6000	4000
31.7 With brake	6	2500	2500	5.2	9.1	7.7	2500	2500

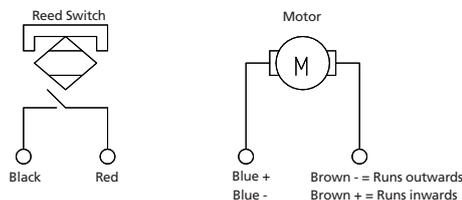
**Comments to table:**

\* LINAK control boxes are designed so that they will short-circuit the motor terminals (poles) of the actuator(s), when the actuator(s) are not running. This solution gives the actuator(s) a higher self-locking ability.  
 If the actuator(s) are not connected to a LINAK control box, the terminals of the motor must be short-circuited to achieve the self-locking ability of the actuator.

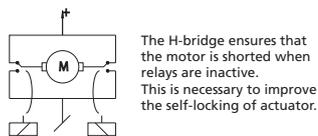
\*\* When the load in push is above 4000 N (max. 6000 N), the max. stroke length is 250 mm.

**Connections LA31:**

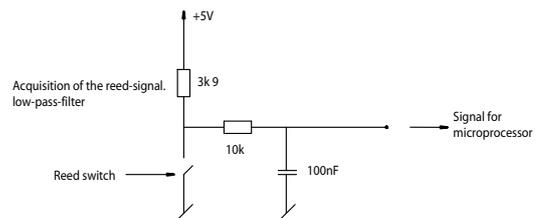
**Block diagram**



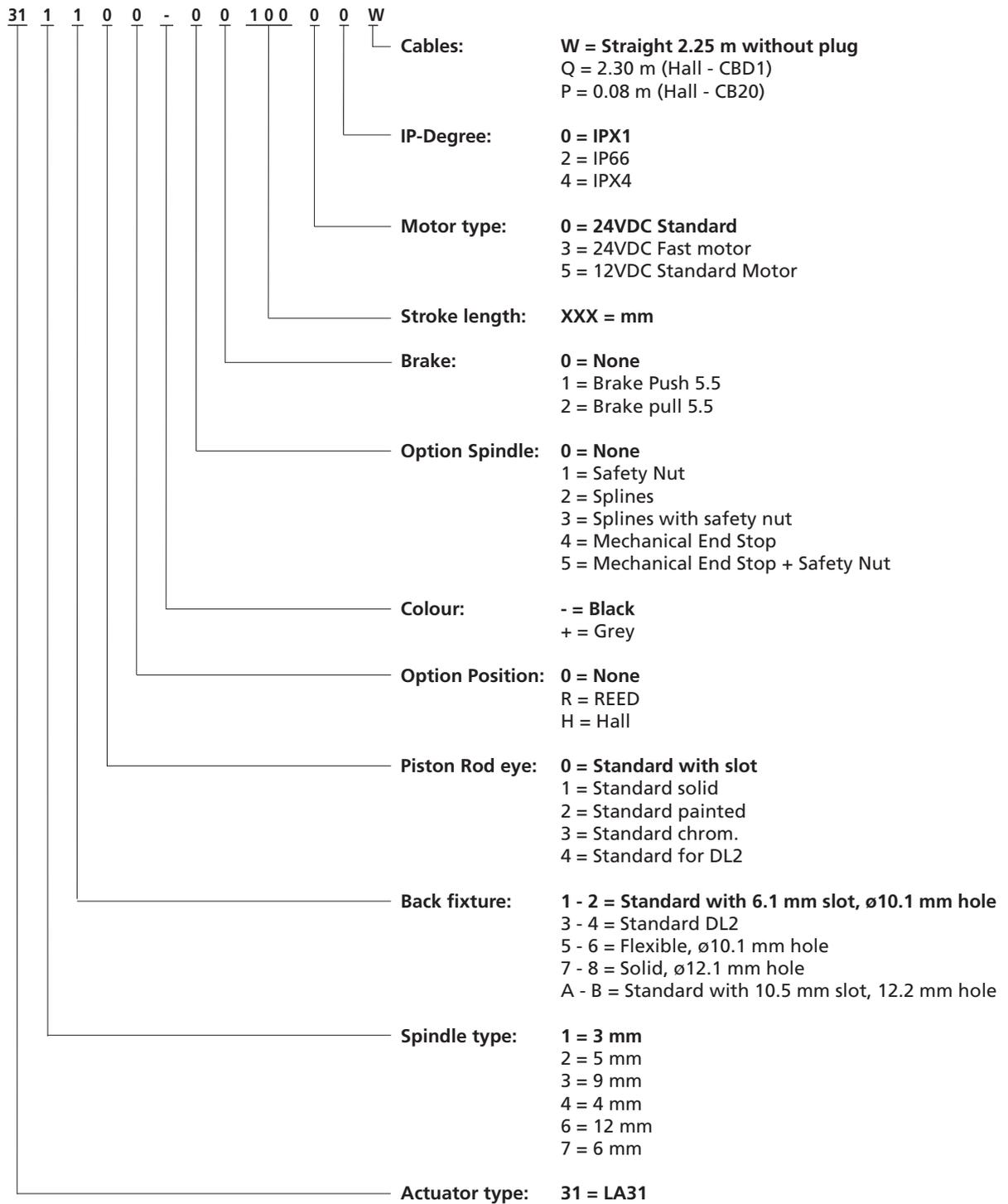
**Improved self locking ability**



**Conditioning of reed signal**

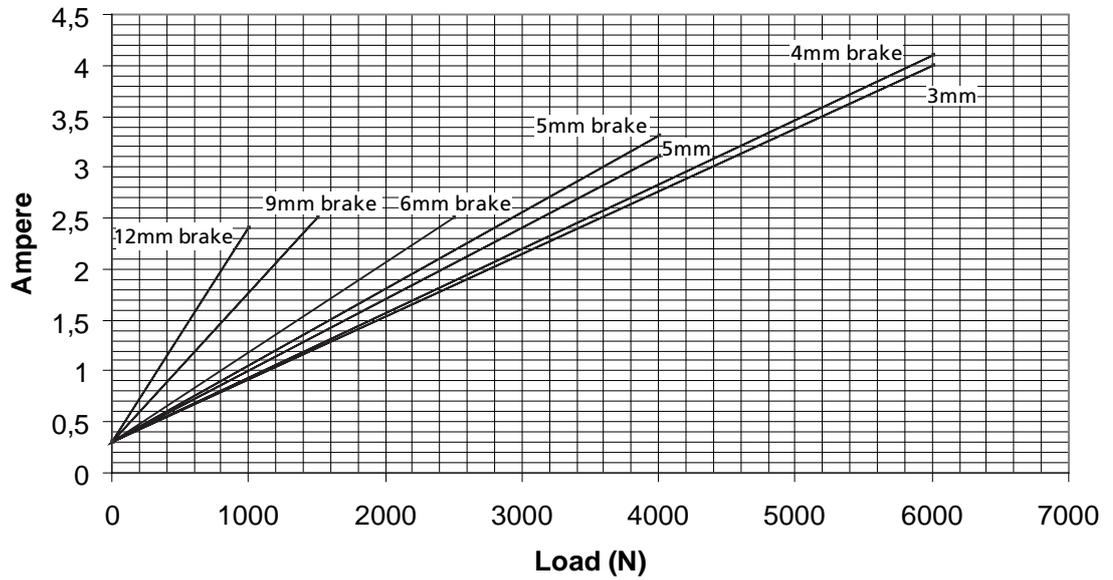


**LA31 TECHLINE**  
**Ordering example**

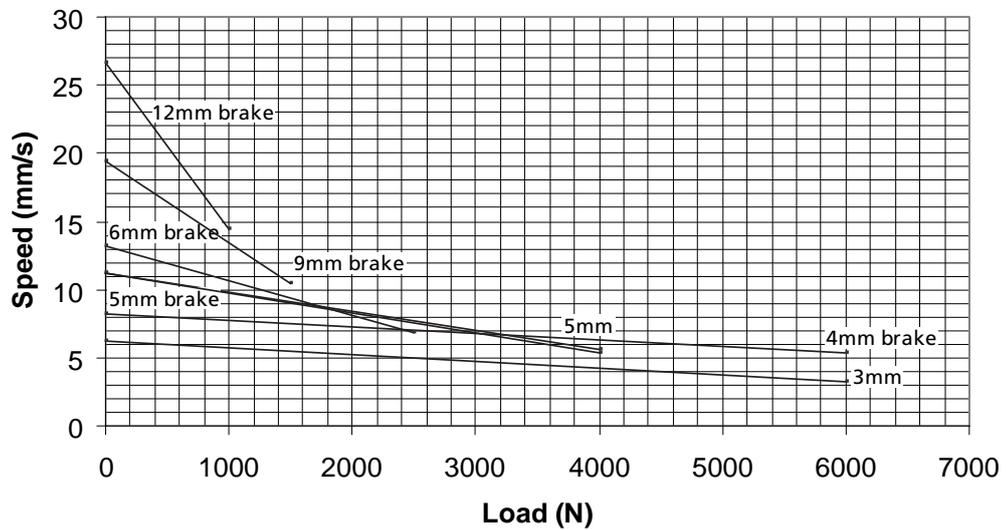


Graphs: 24V Standard motor

LA31 24V Standard motor current v's load

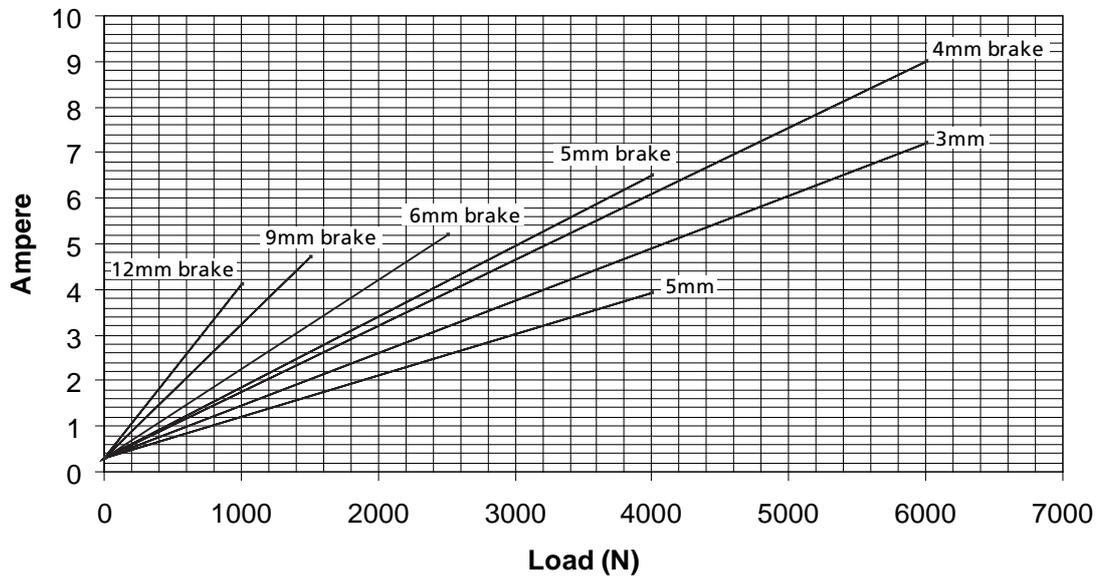


LA31 24V Standard motor speed v's load

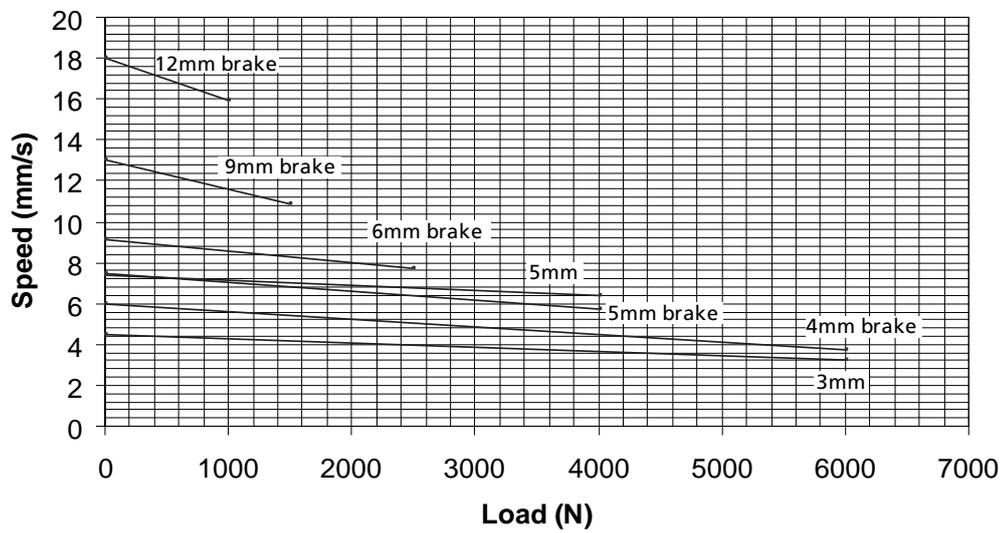


Graphs: 12V Motor

LA31 12V motor current v's load

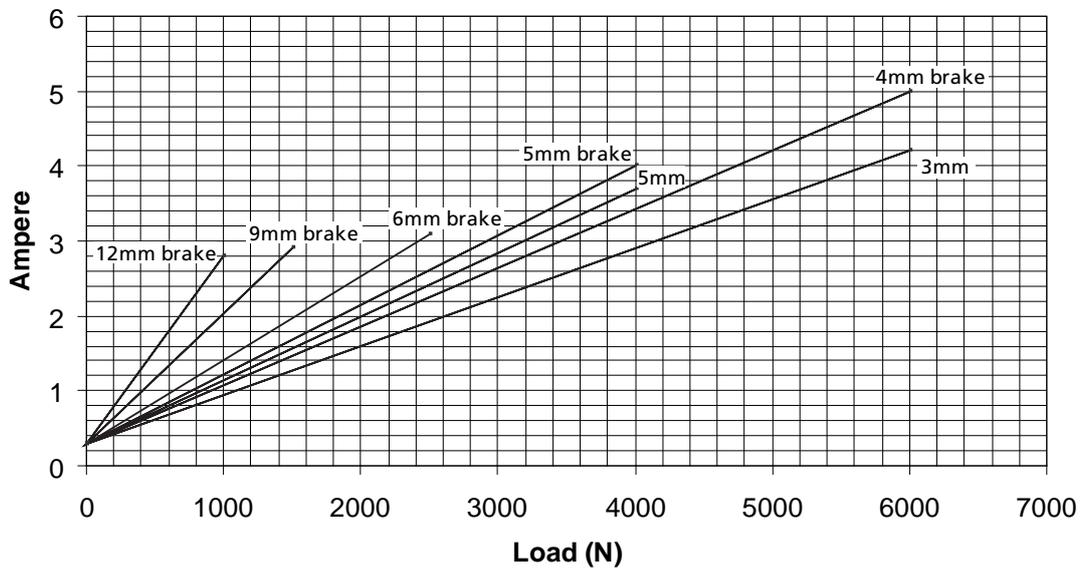


LA31 12V motor speed v's load

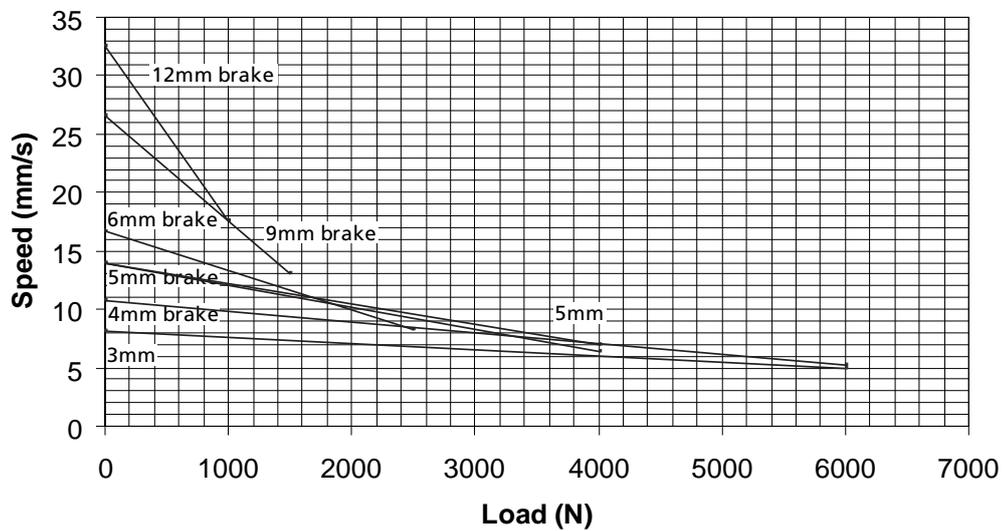


Graphs: 24V Fast motor

LA31 24V Fast motor current v's load



LA31 24V Fast motor speed v's load



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