

# ACTUATOR LA31

## Features:

- 12V or 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
- Duty cycle: Max. 10% or 2 minutes continuous use followed by 18 minutes not in use
- Ambient temperature +5°C to +40°C
- High-strength plastic housing protects motor and gears
- Elegant and compact design with small installation dimensions
- Standard protection class: IP 51
- Colour: black
- 2.30 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 45 dB (A); measuring method DSIEN ISO 3746, actuator not loaded.

## Options:

- Various back fixtures
- Various piston rod eyes
- Reed switch (8 pulses per spindle revolution) for exact positioning of memory control
- Fast motor
- Mechanical splines (the actuator can only push)
- Protection class IP 54, IP 66.
- Colour: grey
- Safety nut in push

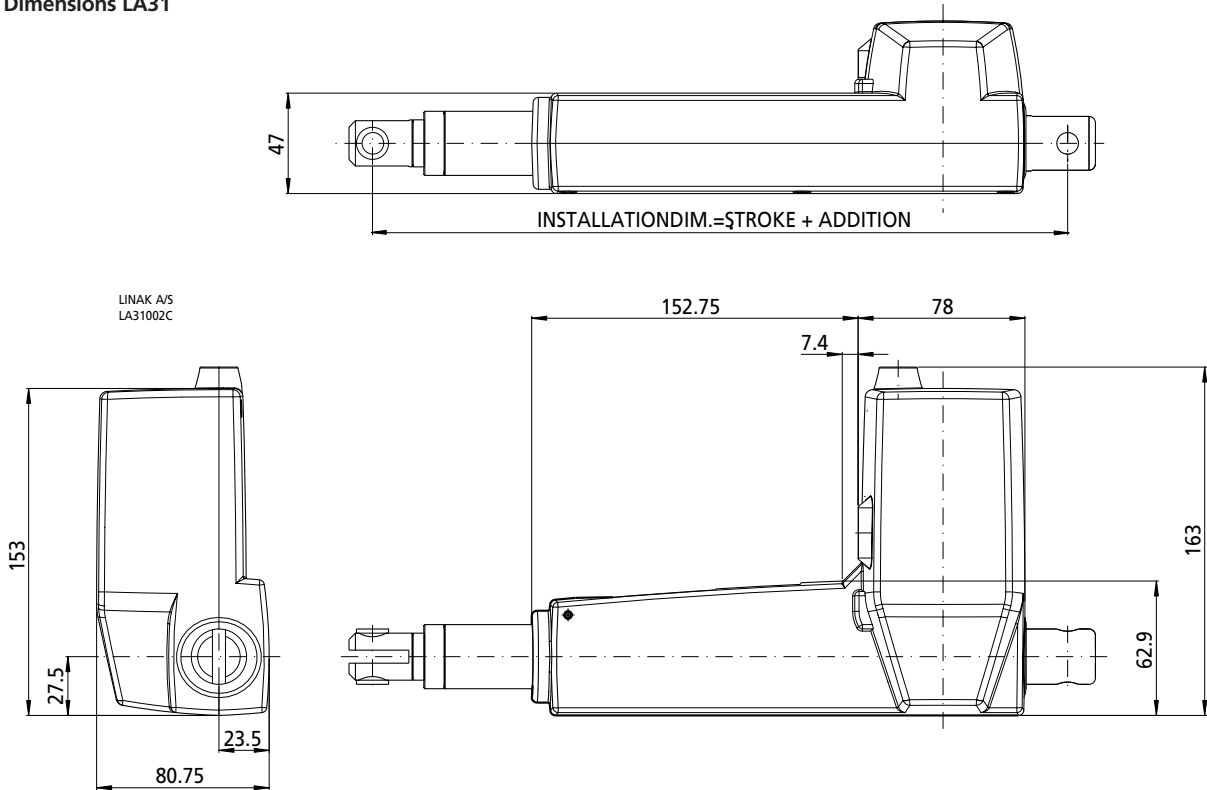


The LA31 actuator is a very quiet and powerful actuator designed for a variety of applications. The standard LA31 actuator is available for both the TECHLINE®, HOMELINE®, CARELINE® and DESKLINE® product range.

Due to its high capacity, design and protection class up to IP 66 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**



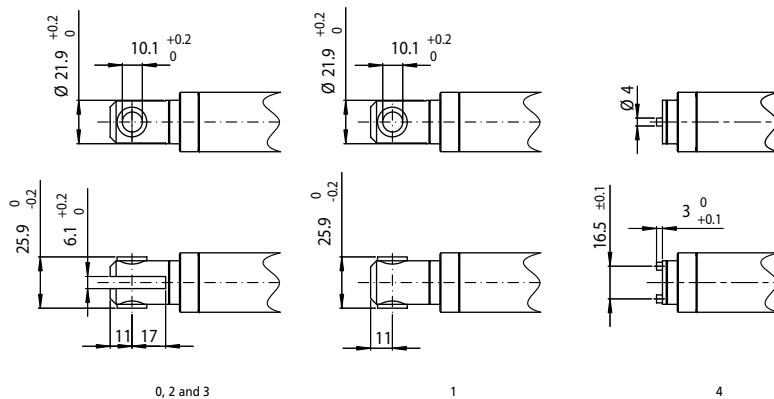
**Standard installation dimensions with different combinations of Piston Rod Eyes and back fixtures to LA31.**

Eye	LA31 Standard		LA31 Splines	
	Stroke length > 115mm	Stroke length < 115mm	Stroke length > 100mm	Stroke length < 100mm
	0, 1, 2 and 3	0, 1, 2 and 3	0, 1, 2 and 3	0, 1, 2 and 3

**Back Fixture**

1/2 and 7/8	S + 173mm	288mm	S + 189mm	289mm
5/6	S + 173mm	288mm	S + 189mm	289mm
A/B	S + 176mm	291mm	S + 192mm	292mm

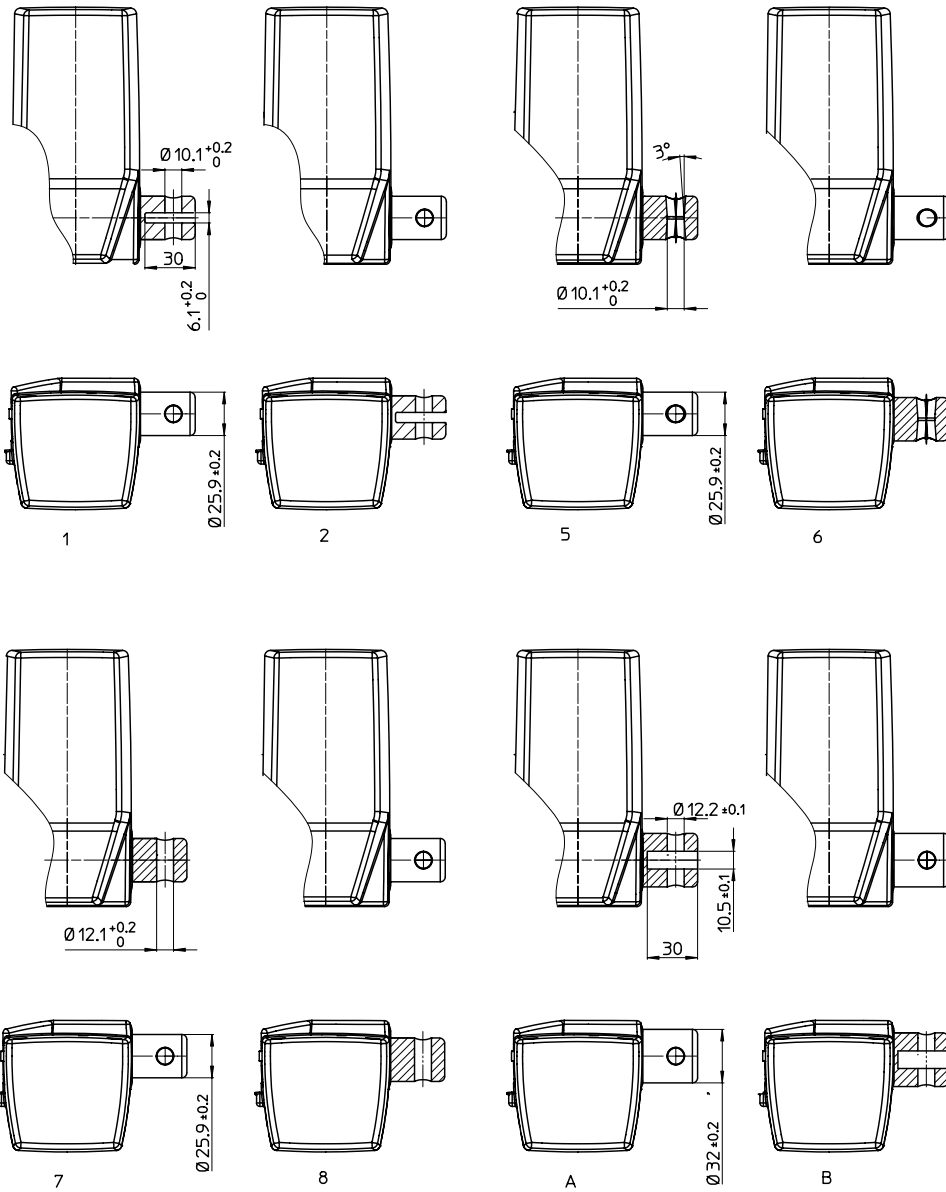
**Piston Rod Eyes:**



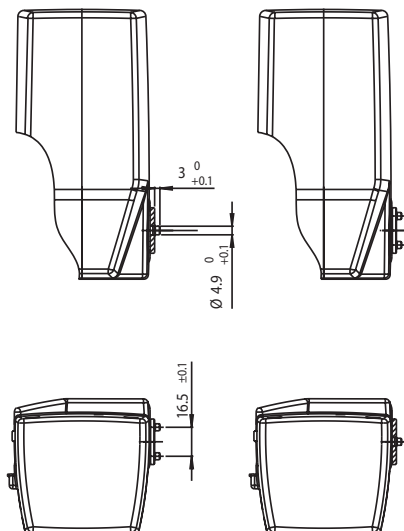


An LA31 brake in a push application brakes actively when the actuator moves in an inward direction. The same applies to an actuator mounted with a brake in a pull direction. It brakes in an outward direction. Under this condition the standard motor uses up to 4 Amp. and the fast motor uses up to 6 Amp.

Back fixtures:



LA31007B



**Technical specifications:**

Spindle type	Spindle pitch (mm)	Max. load		Typical Amp. (N)	Typical speed 0/Full load (mm/s)	Self-lock	
		Push (N)	Pull (N)			Push (N)	Push (N)
<b>Standard 24 V motor</b>							
31.1	3	6000	4000	3.5	6/4	6000	4000
31.2	5	4000	4000	2.9	11/7	2000	2000
31.2 With brake	5	4000	4000	3.5	11/7	4000	4000
31.3 With brake	9	1500	1500	1.8	19/15	1500	1500
31.6 With brake	12	1000	1000	1.7	27/20	1000	1000
31.4 With brake	4	6000	4000	4.3	8/4	6000	4000
31.7 With brake	6	2500	2500	2.2	13/9	2500	2500
<b>Fast 24V motor</b>							
31.1	3	6000	4000	4.1	8/4	6000	4000
31.2	5	4000	4000	2.9	14/8	2000	2000
31.2 With brake	5	4000	4000	4	14/8	4000	4000
31.3 With brake	9	1500	1500	2.4	27/18	1500	1500
31.6 With brake	12	1000	1000	2.2	33/25	1000	1000
31.4 With brake	4	6000	4000	5.1	11/5	6000	4000
31.7 With brake	6	2500	2500	2.7	17/12	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:**

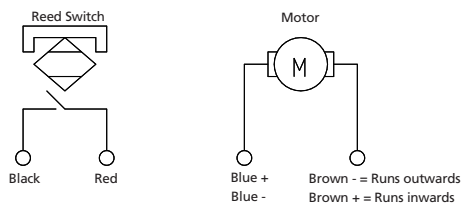


\* LINAK control boxes are designed so that they will short-circuit the motor terminals (poles) of the actuator(s), when the actuator(s) are not running. This solution gives the actuator(s) a higher self-locking ability. If the actuator(s) are not connected to a LINAK control box, the terminals of the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

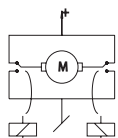
\*\* When the load in push is above 4000 N (max. 6000 N), the max. stroke length is 250 mm.

**Connections LA31:**

**Block diagram**

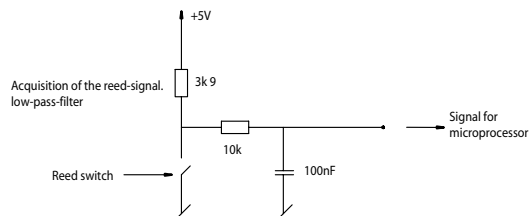


**Improved self locking ability**

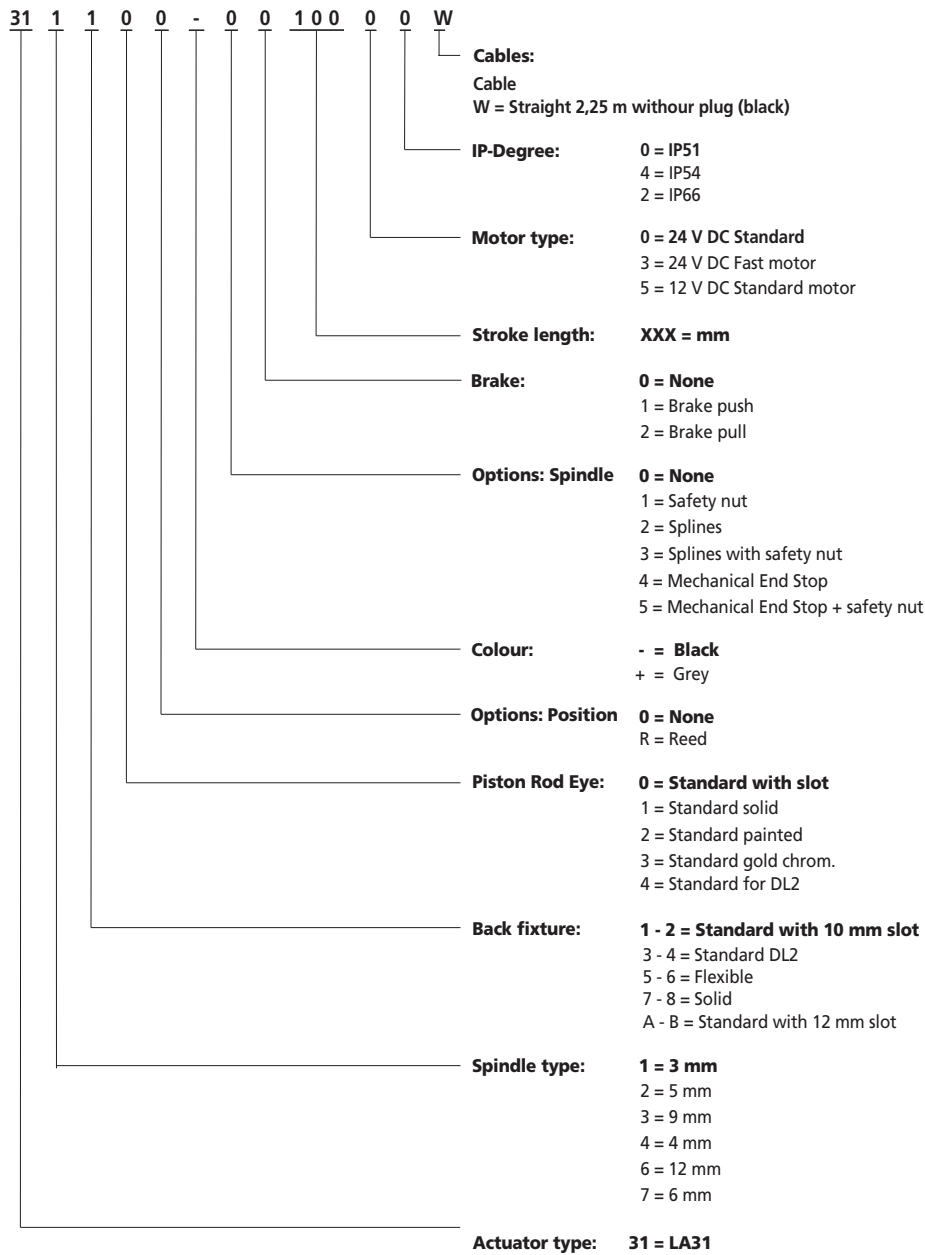


The H-bridge ensures that the motor is shorted when relays are inactive. This is necessary to improve the self-locking of actuator.

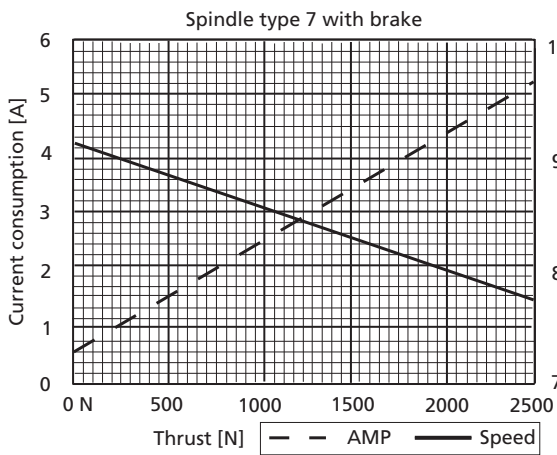
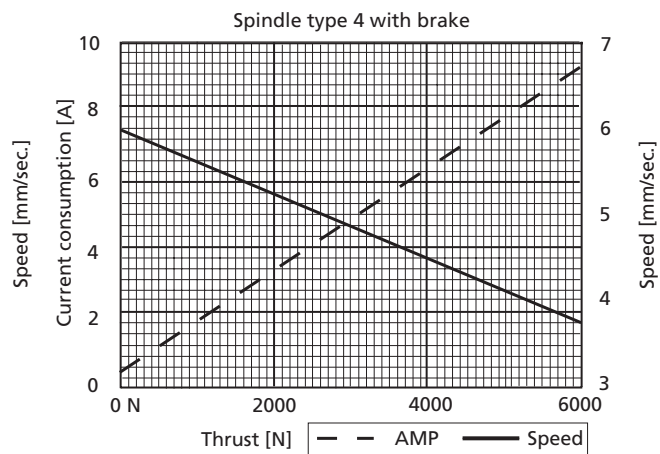
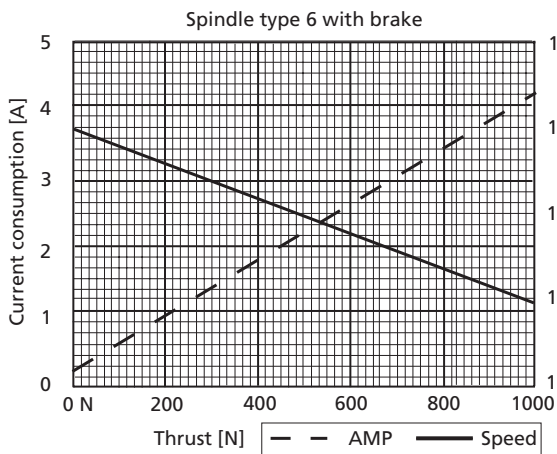
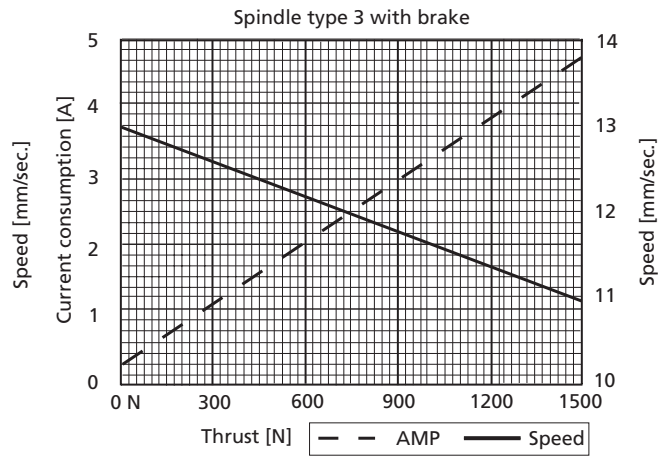
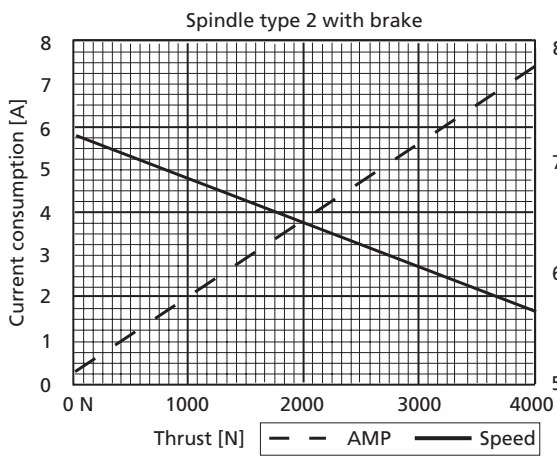
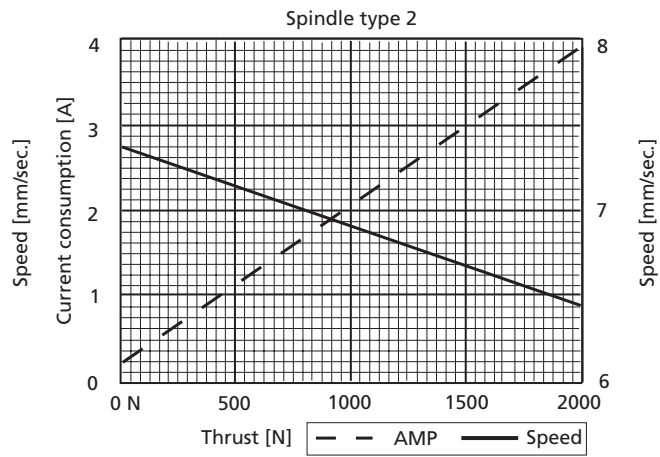
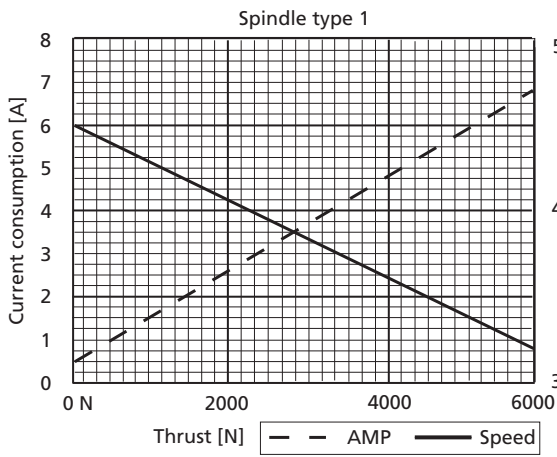
**Conditioning of reed signal**



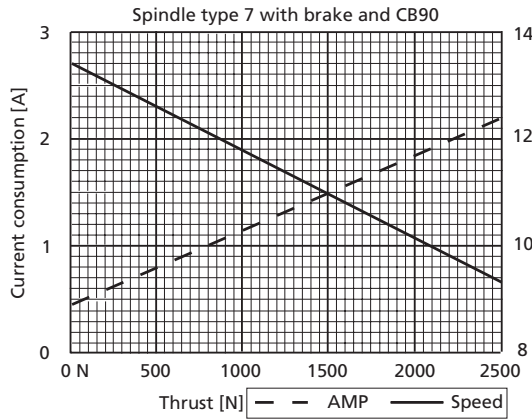
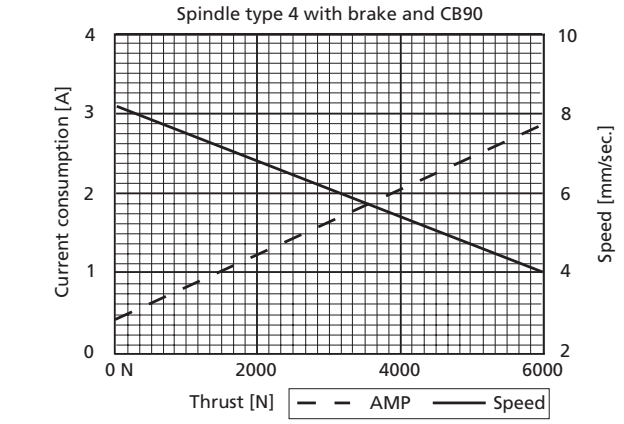
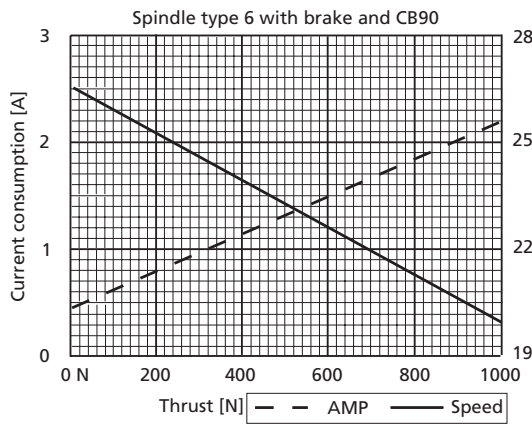
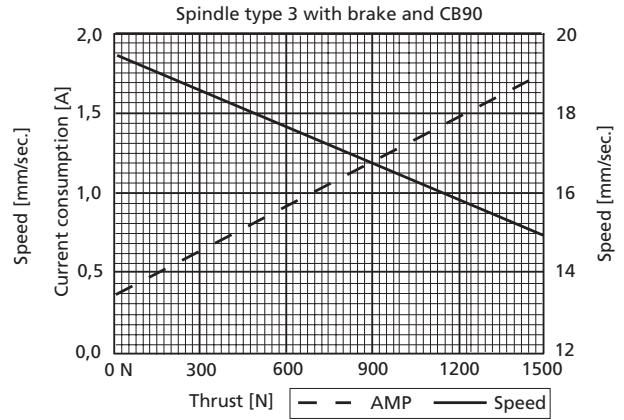
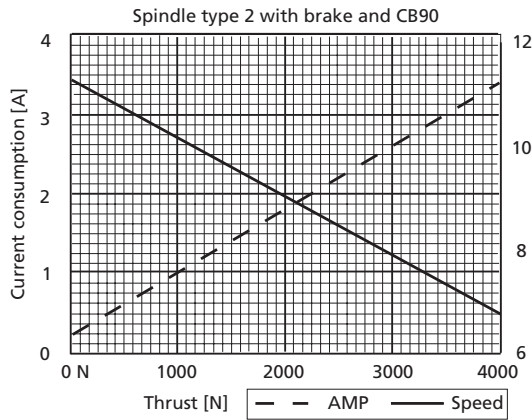
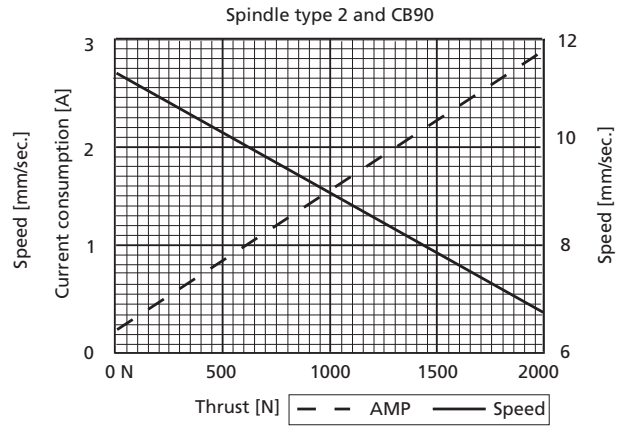
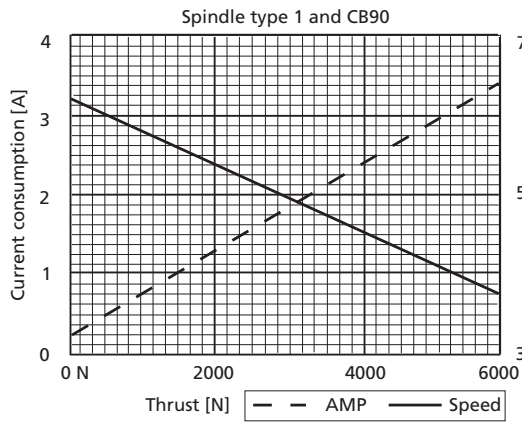
**LA31 TECHLINE**  
**Ordering example**



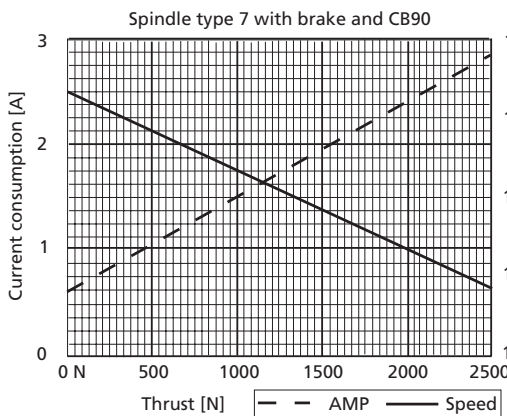
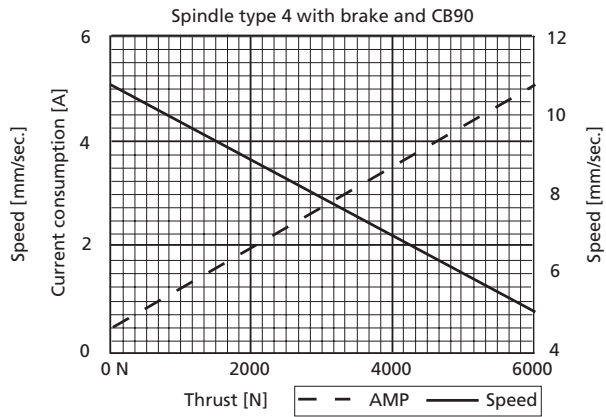
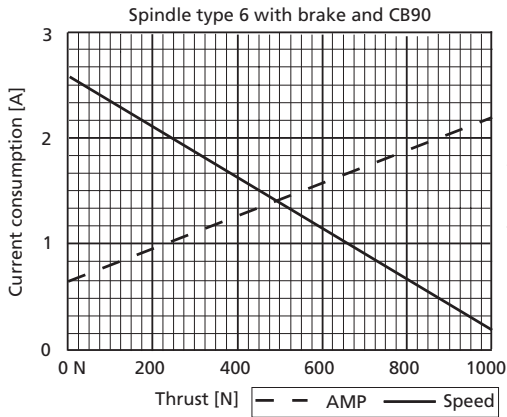
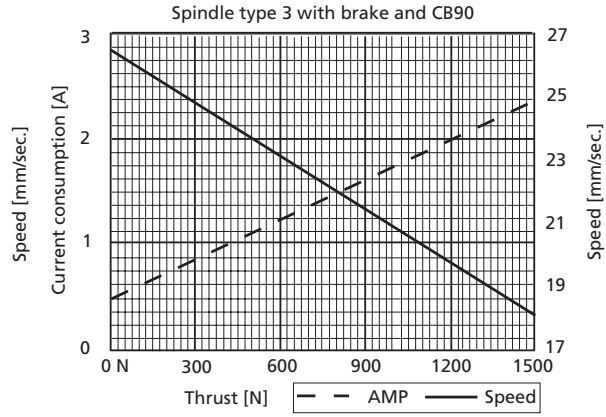
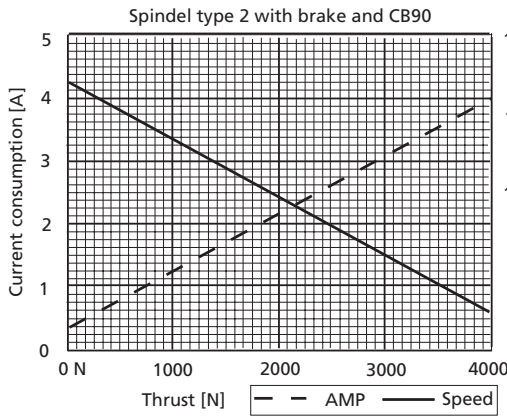
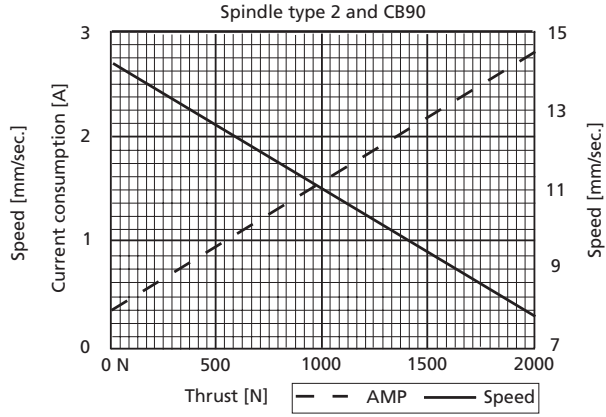
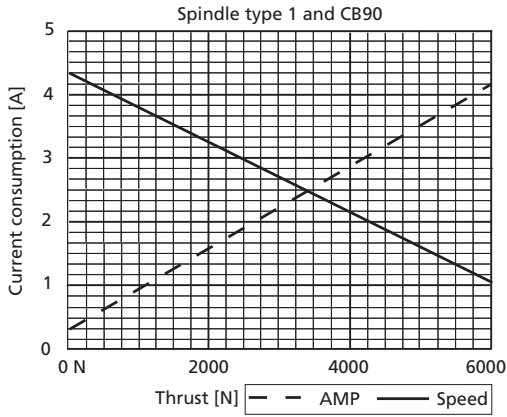
Graphs: Standard 12 V DC Motor



Graphs: Standard 24 V DC Motor



**Graphs: Fast 24 V DC Motor**



Specifications subject to change without prior notice.  
 It is the responsibility of the product user to determine the suitability of LINAK A/S products for a specific application. LINAK will at point of delivery replace/repair defective products covered by the warranty if promptly returned to the factory. No liability is assumed beyond such replacement/repair.