

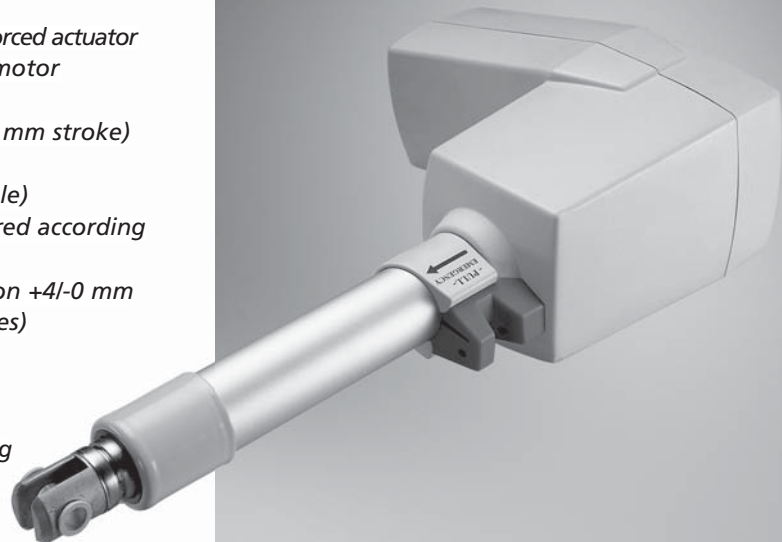
ACTUATOR LA34

Features:

- Max. thrust 10,000 N (in push only)
- Max. thrust 6,000 N (in pull) with reinforced actuator
- 12 or 24 V DC permanent magnet motor (3 standard 24 V DC types)
- Safety factor 2 (10,000 N up to 150 mm stroke)
- Safety nut in push direction
- Built-in limit switches (not adjustable)
- Noise level below 50 dB (A), measured according to DS/EN ISO 3746 (Standard LA34)
- Adjustment of installation dimension $\pm 4/-0$ mm (not possible with mechanical splines)
- Standard protection class: IPX4
- Colour: grey
- Stroke length: 100 - 400 mm
- Installation dim. S + 210 mm or long L" S + 267 mm
- 2.25 m straight cable with 6.3 mm jack plug (DIN-plug for CB9)
- All critical parts are designed in metal to obtain max. load
- The collar on the outer tube is not mounted on the LA34 with small motor

Options:

- Mechanical spline (same instal. dim. as standard)
- Quick release system (push/pull) enables stepless retraction of the actuator when lowering (mechanical emergency lowering). When ordering quick release freewheeling is automatically included
- Bowden cable solution for quick release (min. stroke 150 mm)
- Stroke length: up to 600 mm
- Double bowden cable solution for quick release
- Compact housing in 2 variants: one for the standard / fast motor, and one for the small motor version
- Safety nut in pull direction (increases the installation dimension by 10 mm)
- When HALL option is chosen for LA34QR you must inform customer that position is lost when QR function/handle is operated until initialisation is resumed
- Protection class IPX6
- Electrical splines (release force is 98N)
- Hall sensor for use with CB6 OBF, CB16 OBF, CB20
- Exchangeable cables
- Reed switch system, only as a 20% article and if the application is approved by LINAK A/S



MEDLINE
IMPROVING EFFICIENCY
TECHLINE
IMPROVING FLEXIBILITY

LA34 is a technological state-of-the-art actuator that, due to its innovative construction can push up to 10,000 N at a speed of 5 mm/sec. and with a power consumption of approx. 7 Amp.

Its compact design, the outstanding performance and a wide range of safety options makes LA34 the right choice for a variety of medical and industrial applications.


The actuator is approved according to EN 60601-1 and UL 2601-1.

(...continued)

- Potentiometer (max. stroke lengths):
(zero positioning < 20 Ω):
LA34 with 12 mm pitch max. 250 mm
LA34 with 16 mm pitch max. 330 mm
LA34 with 20 mm pitch max. 416 mm
- Colour black (only housing and cable)

Usages:

- Duty cycle 2/18 - 2 minutes continuous use followed by 18 minutes not in use
- Ambient temperature: +5° to 40°C
- Compatible with CB9 with EAS, CB12 with EAS, CB14*, CB18, CB20 and CBJ, CB6 OBLI F, CB16 OBLI F, (* = only possible with customized software)

Precautions: 

- Power supply without current cut-off can cause serious damage to the actuator if mechanical stop is encountered or the actuator movement is blocked in another way.
 - 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.
 - The choice of the compact housing will increase the cable length by approx. 75 mm.
 - It is not possible to combine electrical splines with quick release in pull.
- Patient Lifts:**
- Long installation dimension "L" stroke length + 267 mm must always be used for patient lifts.
- Stand aids:**
- We recommend that the long installation dimension "L" (stroke length + 267 mm) is used when specifying "stand-aids" applications.
 - However there are cases where low loads and short installation dimensions are required. In such cases the short installation dimension (stroke length + 210 mm) can be used, as long as it is ensured that Safety Factor 2 is fulfilled, according to the graphs.

Technical specifications:

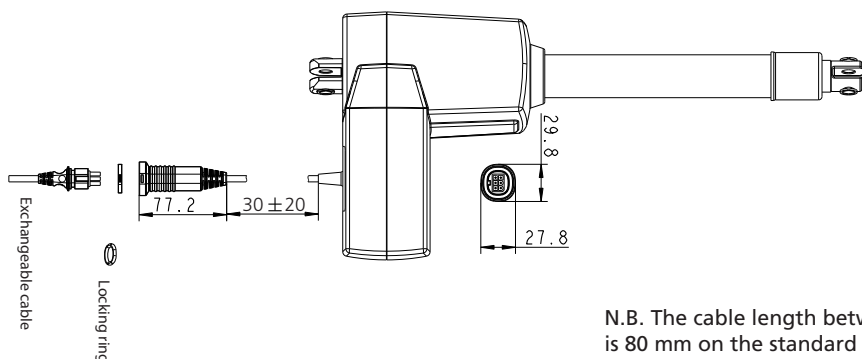
Type	Spindle pitch (mm)	Thrust max. push (N)	Thrust max. 0/full load pull (N)	*Speed at (mm/s)	Stroke length (mm)**	*Amp. at full load (A)
LA34 - Standard motor	12	10.000	6.000#	8.2 / 4.8	100 / 600	7
LA34 - Standard motor	16	7.000	6.000#	10.8 / 7.9	100 / 600	7
LA34 - Standard motor	20	5.000	5.000#	13.5 / 10.0	100 / 600	7
LA34 - Fast motor	12	10.000	6.000#	11.0 / 7.0	100 / 600	10
LA34 - Fast motor	16	7.500	6.000#	15.0 / 9.0	100 / 600	10
LA34 - Fast motor	20	5.000	5.000#	18.0 / 13.2	100 / 600	10
LA34 - Small motor	12	4.000	4.000	9.0 / 7.0	100 / 600	3.5
LA34 - Small motor	16	3.000	3.000	12.0 / 9.0	100 / 600	3.5
LA34 - Small motor	20	2.000	2.000	15.0 / 12.0	100 / 600	3.5
LA34 - 12 V motor	12	7.000	6.000#	10.0 / 5.2	100 / 600	15
LA34 - 12 V motor	16	5.500	5.500#	14.0 / 7.4	100 / 600	15
LA34 - 12 V motor	20	4.000	4.000	17.5 / 12	100 / 600	15

*Typical values, measurements are made with an actuator in connection with a stable 24V/12V power supply.

** Stroke length in steps of 50, 100, 150 mm etc.

#Has to be with a steel piston rod eye and reinforced jaw otherwise max. pull is 4000 N

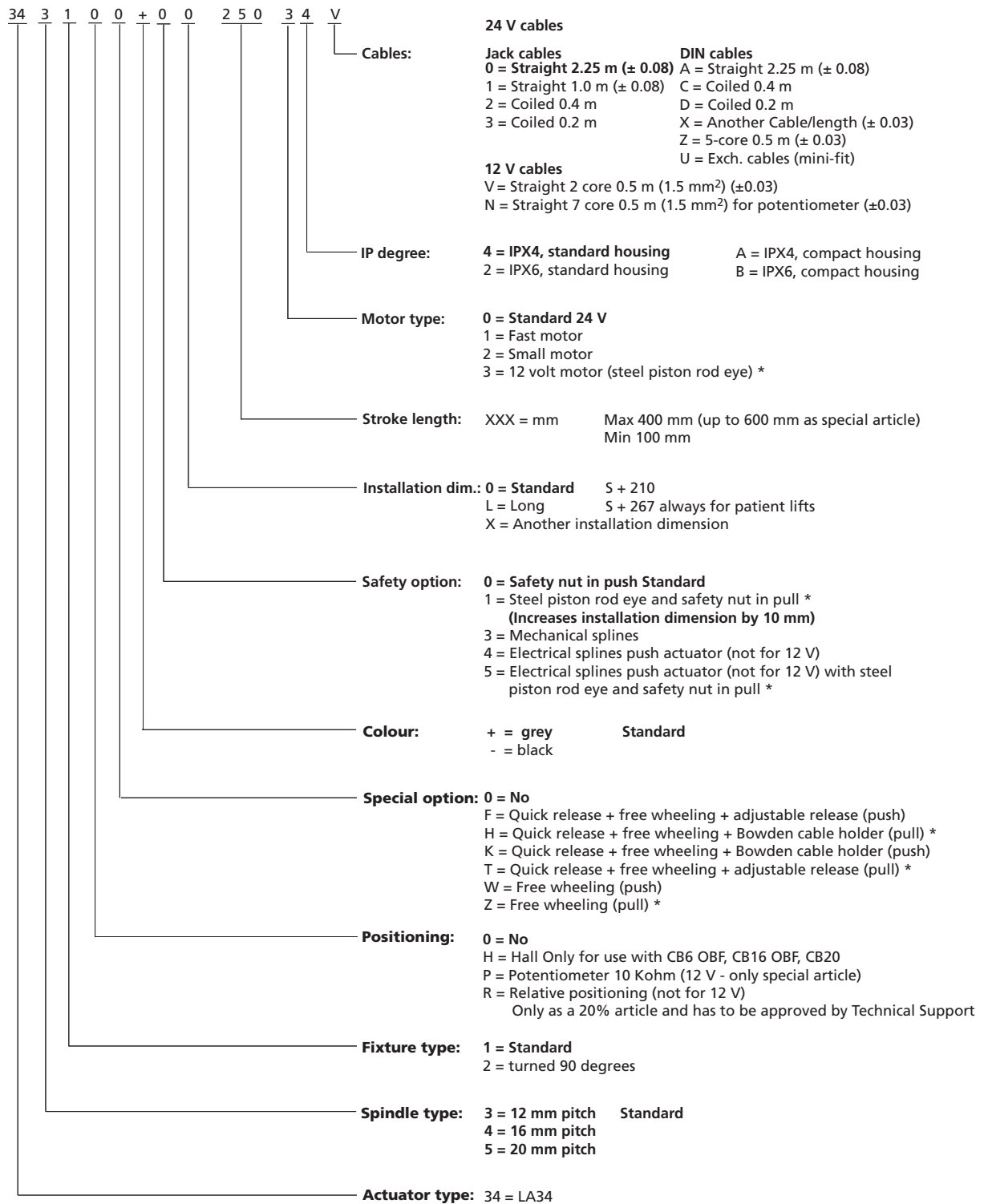
LA34 with mini-fit cable connector.



N.B. The cable length between the socket and the housing is 80 mm on the standard LA34 and 155 mm on LA34 with compact housing.

LA34

Ordering example:



* = The reinforced jaw and safety nut in pull are included (does not apply to versions with the small motor).
 "Push" safety nut also mounted.

Safety factor:

The max. load of the LA34 actuator when observing safety factor 2 will depend upon the stroke length of the actuator. The following graphs show the max. load during the entire stroke length.

Safety factor 2 curve for 150 mm S+210 mm actuator

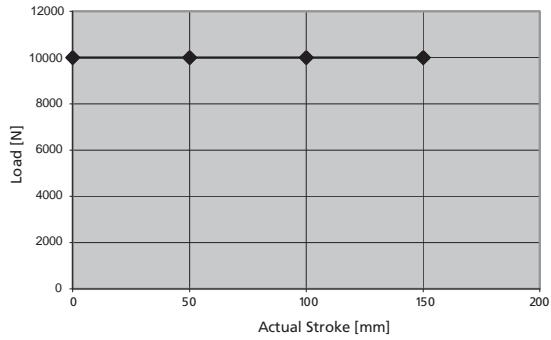


Fig. 1, 150 mm actuator (item nr. 3431XX+X0150XXX)

Safety factor 2 curve for 200 mm S+210 mm actuator

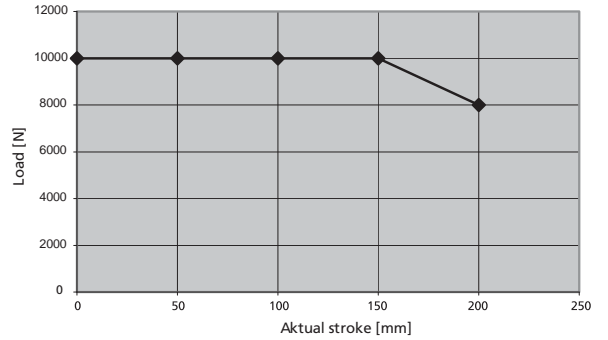


Fig. 2, 200 mm actuator (item nr. 3431XX+X0200XXX)

Safety factor 2 curve for 250 mm S+210 mm actuator

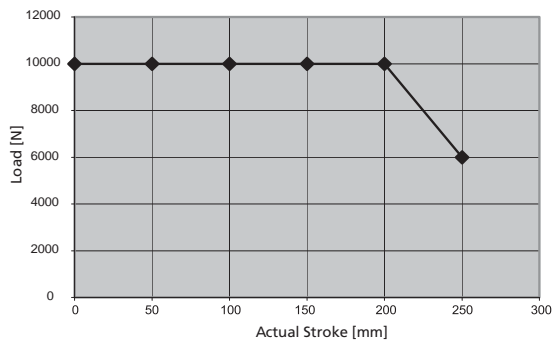


Fig. 3, 250 mm actuator (item nr. 3431XX+X0250XXX)

Safety factor 2 curve for 300 mm S+210 mm actuator

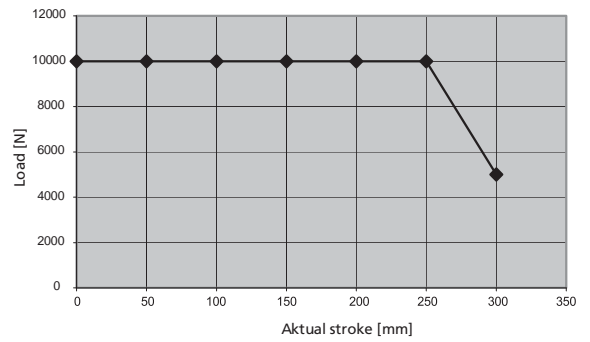


Fig. 4, 300 mm actuator (item nr. 3431XX+X0300XXX)

Safety factor 2 curve for 350 mm S+210 mm actuator

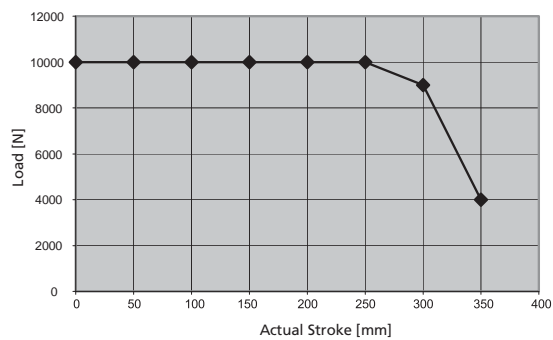


Fig. 5, 350 mm actuator (item nr. 3431XX+X0350XXX)

Safety factor 2 curve for 400 mm S+210 mm actuator

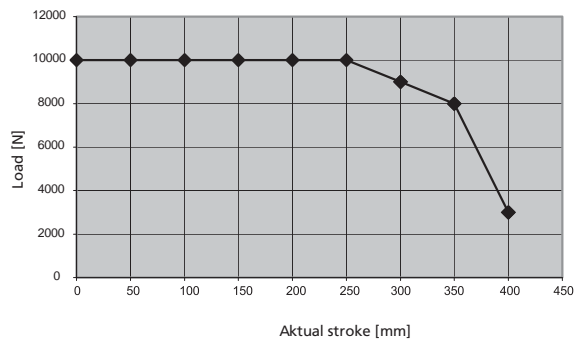


Fig. 6, 400 mm actuator (item nr. 3431XX+X0400XXX)

Safety factor 2 curve for 450 mm S+210 mm actuator

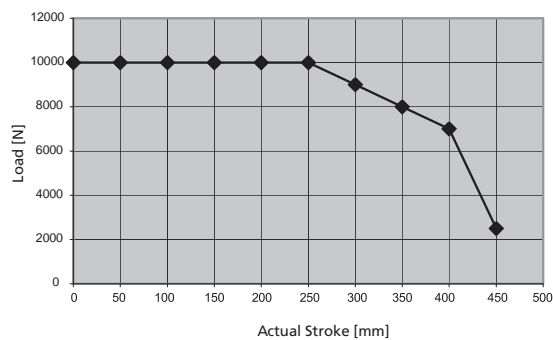


Fig. 7, 450 mm actuator (item nr. 3431XX+X0450XXX)

Safety factor 2 curve for 500 mm S+210 mm actuator

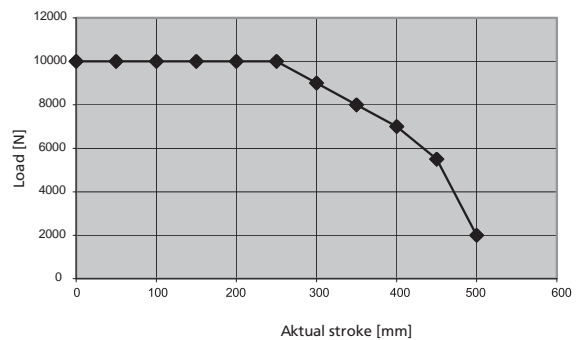


Fig. 8, 500 mm actuator (item nr. 3431XX+X0500XXX)

Safety factor 2 curve for 550 mm S+210 mm actuator

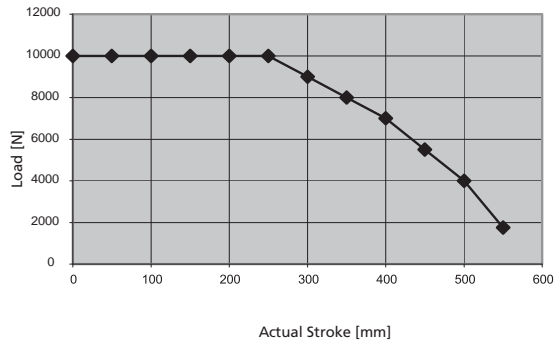


Fig. 9, 550 mm actuator (item nr. 3431XX+X0550XXX)

Safety factor 2 curve for 600 mm S+210 mm actuator

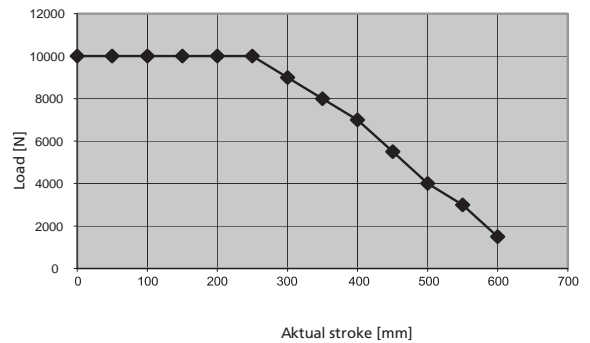


Fig. 10, 600 mm actuator (item nr. 3431XX+X0600XXX)

The graphs show that standard installation (S + 210 mm) LA34 with strokes up till 150 mm, has a safety factor 2 with a 10,000 N load (fig. 2). With a further increase of the stroke the safety factor 2 is no longer observed with 10,000 N load at the full stroke length.

Not all applications require a safety factor of 2.

LINAK recommends that a safety factor of minimum 1.5 is always observed in all applications, even though the actuator is to be used in a situation with norms or standards specifying a lower factor. The load limit of maximum 10,000 N must never be exceeded regardless of the safety factor used.

Long installation (S + 267 mm):

Safety factor 2 with full stroke S+267 mm

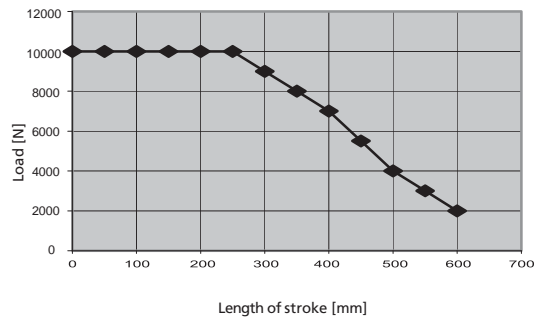


Fig. 11, Safety factor 2 with LA34 (S+267 mm)

Safety factor 1.5 with full stroke S+267 mm

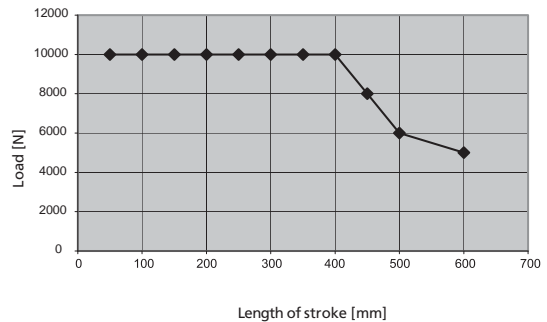


Fig. 12, Safety factor 1.5 with LA34 (S+267 mm)

The long installation dimension (S + 267 mm) is designed for use in patient hoist applications where safety factor 1.5 is required. See the safety factor 1.5 graph in fig. 12.

The long installation dimension (S + 267 mm) can also be used in hospital bed applications where safety factor 2 is required. Using the long installation dimension you get a higher max. load with safety factor 2 at the same stroke length. The safety factor 2 graph is shown in fig. 11.

LA34 with quick release

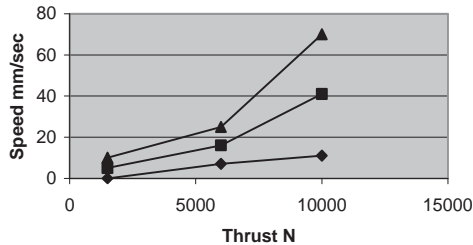
LA34 is available with quick release as an option. The quick release is mounted on the motor part.

The quick release is e.g. used for emergency lowering on a patient lift or for manual lowering of the head part of a bed. The quick release is available with a manual activation where a finger grip is mounted on the actuator. When pulling the finger grip the declutching is activated.

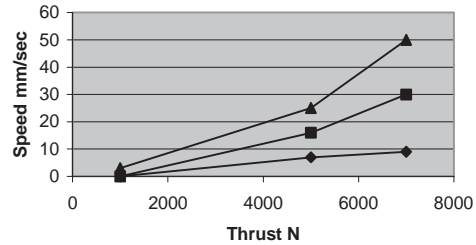
To release the handle it is necessary to pull approx. 10 mm with 80-100 N.

The function can also be extended with one or two bowden cables which are connected to the finger grip. Below the finger grip there is an adjusting screw that determines the speed of the lowering. The adjusting screw is adjusted from the factory.

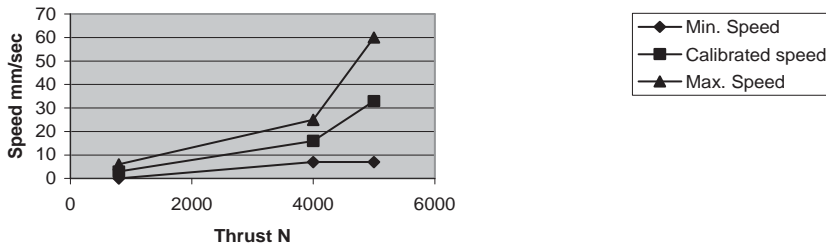
LA34.3 12 mm pitch - Standard Calibration: 6000 N



LA34.4 16 mm pitch-Standard Calibration: 5000 N



LA34.5 20 mm pitch-Standard Calibration: 4000 N



Legend:
 ◆ Min. Speed
 ■ Calibrated speed
 ▲ Max. Speed

LA34 spindle and motor parts:

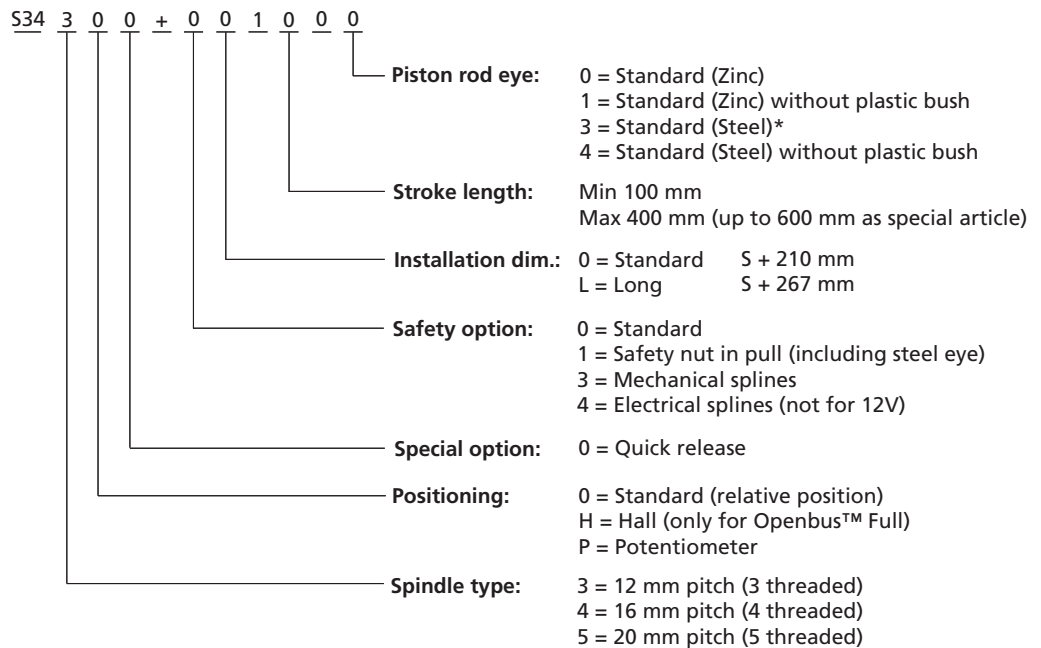
It is possible to order spindle and motor parts for LA34, which optimises delivery and repair service towards customers. The assembly must only be done in authorised service shops.

The LA34 parts are divided into following groups:

- Spindle parts
- Motor parts
- Plastic housings
- Cable
- Kit set (minor parts for assembly)

LA34 parts

Ordering example:



* = Has to be used in pull applications

LA34 parts

Ordering example:

M 34 0 0 0 - 0 0

0	Motor	0 = Standard 1 = Fast 2 = 4000 N motor 3 = 12V motor
0	Safety Option	0 = Safety Nut in Pull Standard 1 = Pull actuator (reinforced claw) 4 = Push Actuator with EI-spline (not 12V) 5 = Pull Actuator with EI-spline (reinforced claw)
0	Special Option	0 = None F = Quick release + freewheeling + adjustable release (Push act.) H = Quick release + free wheel + adjustable release+ Bauden cable (Pull act.) K = Quick release + free wheel + adjustable release+ Bauden cable (Push act.) T = Quick release + free wheel + adjustable release (Pull act.) Z = Free Wheel (Pull act.)(Remember 1 under safety option) W = Free Wheel (Push act.)
-	Positioning	0 = None H = Hall for use with CB6 OBF, CB16 OBF, CB20 P = Potentiometer R = Reed (Relative position prepared for Jack) (not 12V) * S = Reed (Relative position prepared for DIN) (Not 12V) *
0	Back Fixture	1 = Standard 2 = Rotated 90 degrees

* Includes safety nut in pull and reinforced jaw.

LA34 cables

Ordering example:

C 34 0 - 0

0	Cable type	Jack	DIN
		0 = Straight 2,25 m 1 = Straight 1,0 m 2 = Coiled 0,4 m 3 = Coiled 0,2 m (not Reed/Pot)	A = Straight 2,25 C = Coiled 0,4 m D = Coiled 0,2 m
	Other cables:	N = 7-Core 0,5 m (only 12V pot./Reed) V = 2-core 0,5 m (only 12V) Z = 5-Core 0,5 m (only Pot, not 12V version)	Only black cable Only black cable Only black cable
-	Colour	- = Black + = Grey	
	Function	0 = Standard H = Hall for use with CB6 OBF, CB16 OBF, CB20 P = Potentiometer (not DIN) R = Reed (not 12V)	

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