

Actuator LA23

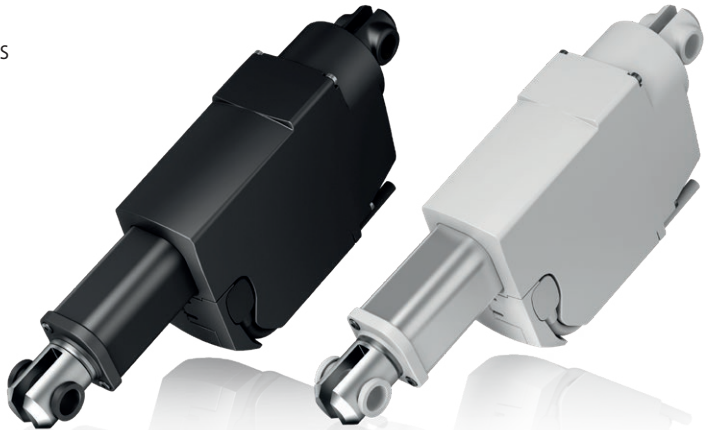
Data sheet

LA23

The LA23 actuator is a small and strong push/pull actuator (up to 2,500 N). The LA23 can be used in various applications where size is important.

Some of the benefits the LA23 offers you are:

- Compact design
- High lifting force
- Exchangeable cables



Features and options:

- Load in push: 2,500 N, 1,800 N, 1,500 N, 1,200 N, 900 N or 300 N
- Load in pull: 2,500 N, 1,800 N, 1,500 N, 1,200 N, 900 N or 300 N
- Housing colour: Black (RAL 9005), outer tube steel or black Light grey (RAL 7035), outer tube steel
- Protection class: IPX4, IPX6
- Motor: 12 V DC, 24 V DC
- Stroke length: 20 - 500 mm (for stroke 300-500 mm max. load is 1,000 N for pitch 3, 5, 6 and 9)
Pitch 12 mm (for stroke 300-500 mm max. load is 900 N)
Pitch 20 mm (for stroke 300-500 mm max. load is 300 N)
- Built-in dimensions: 110 - 146 mm + stroke length
- Positioning options: Potential free end stop signals
Hall potentiometer or Hall PWM position
Single Hall, Dual Hall
- Back fixture material: Plastic or steel
- Nut: Guided
- Safety nut: In push or pull (2,500 N and 1,800 N version only safety nut in push)
- Mechanical spline: Yes

- Built-in electrical end-stop: Yes
- Exchangeable cable: Yes
- Static safety factor: 2.5
- Noise level: Max. 58.5 dB(A) (At nominal voltage and with no load, according to EN ISO 3743-1)
- Mechanical end stop: Yes
- Integrated Control: Yes

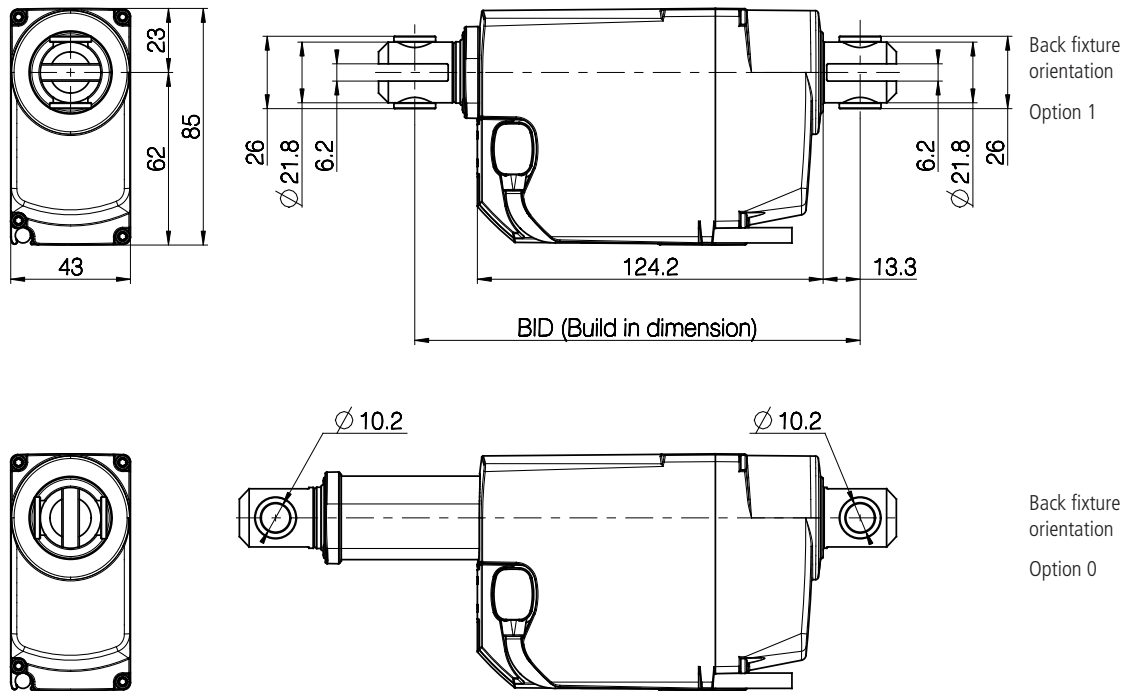
Usage:

- Duty cycle: 10%, 2 minutes continuous use followed by 18 minutes not in use
- Usage temperature: +5° - +40° normal operating temp. -30° - +50° according to test conditions: ISO 7176-9
- Storage temperature: -45°C to +70°C (according to ISO 7176-9)
- Compatibility: Compatible with LINAK control boxes. Please contact LINAK.
- Approvals: IEC60601-1, ANSI/AAMI ES60601-1, CAN/CSA 22.2 No 60601-01.
LA23IC is not approved according to the above.
LA23 in combination with CBD4, CBD5 & CBD6 has no approvals.
- Flammability rating: Enclosure UL94-V0

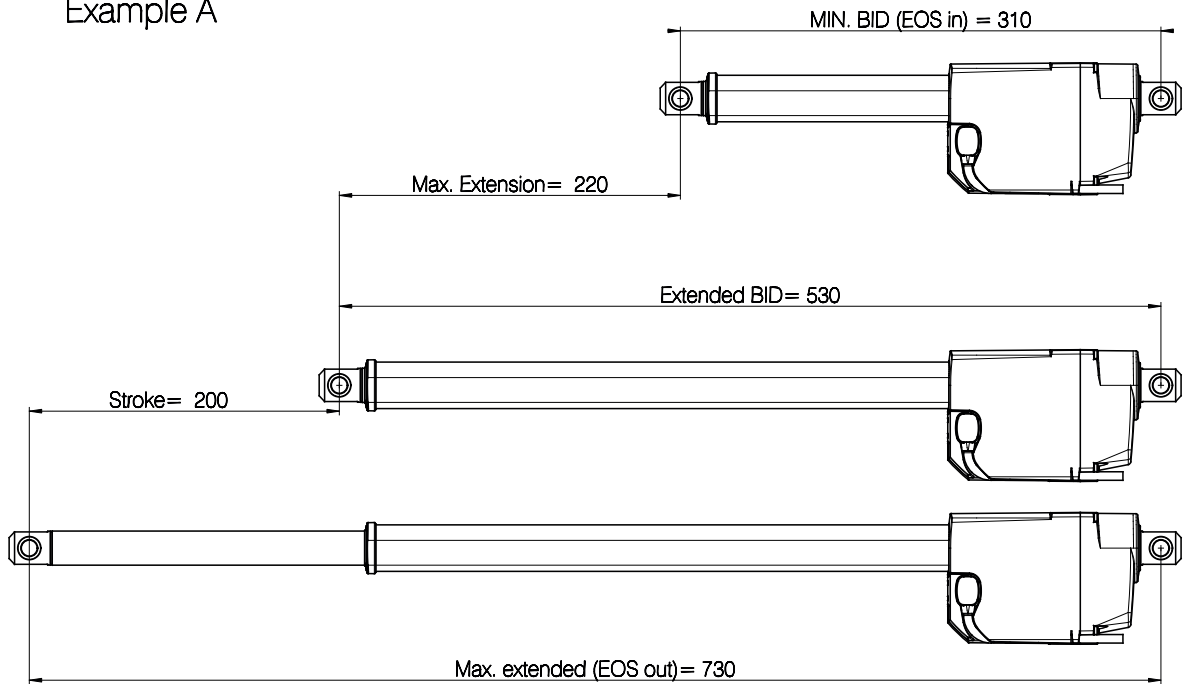
Ordering example:

IP degree:	4 = IPX4 6 = IPX6
Motortype:	A = 12 V B = 24 V (Running mainly with battery (CBJ1, CBJ2, CBJH, CBJC, wheelchairs)) G = 24 V (For OpenBus (CB20, CB16, CB6s)) not available with LA23IC
Stroke:	XXX = mm Min. 020 mm, Max. 300 mm in steps of 5 mm Recommended versions: 020 mm , 050 mm , 100 mm, 150 mm, 200 mm, 250 mm, 300 mm
Positioning:	00 = No positioning 01 = Potential free end stop signals 02 = Dual Hall digital positioning 03 = Dual Hall PNP positioning 1x = Hall potentiometer feedback 2x = Hall potentiometer feedback and potential free endstop 3x = Hall PWM position feedback 4x = Hall PWM position and potential free endstop 50 = IC with standard electrical endstop - no positioning 52 = IC with Standard Single Hall Positioning 6x = IC with Hall potentiometer feedback. 7x = IC with Hall PWM position feedback Xx for more information please call LINAK
Safety option:	0 = No safety options (pitch 3, 5, 6, 9, 12 or 20) 1 = Safety nut for push (pitch 3, 5, 6, 9 or 12) 2 = Safety nut for pull (pitch 6, 9 or 12) 3 = Mechanical spline without safety nut (pitch 3, 5, 6, 9 or 12) 4 = Mechanical spline with safety nut (pitch 3, 5, 6, 9 or 12)
Housing colour:	1 = Black (RAL 9005) 2 = Light grey (RAL 7035) 3 = Black (RAL 9005) + black outer tube
Piston rod eye:	0 = Standard (steel) with slot (6.1 mm), eye Ø10.2 mm, incl. plastic bushings 1 = Standard (steel) with slot (6.1 mm), eye Ø10.2 mm (0231033) 2 = Standard (steel) with slot (6.1 mm), eye Ø12.3 mm (0231016)
Back fixture rotation:	0 = 0° clockwise H = 60° clockwise Q = 120° clockwise A = 7.5° clockwise J = 67.5° clockwise R = 127.5° clockwise B = 15° clockwise K = 75° clockwise S = 135° clockwise C = 22.5° clockwise L = 82.5° clockwise T = 142.5° clockwise D = 30° clockwise 1 = 90° clockwise U = 150° clockwise E = 37.5° clockwise M = 97.5° clockwise V = 157.5° clockwise F = 45° clockwise N = 105° clockwise W = 165° clockwise G = 52.5° clockwise P = 112.5° clockwise Z = 172.5° clockwise
Back fixture:	1 = Plastic with slot (6.1 mm), eye Ø10.2 mm (only for Standard push load) (0231017) (only for pitch 6, 9 or 12 and safety option 0 or 1 (push)) 2 = Steel with slot (6.1 mm), eye Ø10.2 mm, incl. plastic bushings 3 = Steel with slot (6.1 mm), eye Ø10.2 mm (0231034) 4 = Steel with slot (6.1 mm), eye Ø12.3 mm (0231020)
Spindle type:	2 = 20 mm pitch (300 N) for stroke 200-500 mm max. load = 300N 3 = 3 mm pitch (2,500 N) for stroke 300-500 mm max. load = 1,000 N 5 = 5 mm pitch (1,800 N) for stroke 300-500 mm max. load = 1,000 N 6 = 6 mm pitch (1,500 N) for stroke 300-500 mm max. load = 1,000 N 9 = 9 mm pitch (1,200 N) for stroke 300-500 mm max. load = 1,000 N 0 = 12 mm pitch (900 N) for stroke 300-500 mm max. load = 900 N
Actuator type:	23 = LA23

Dimensions:



Example A



The built-in dimension depends upon the chosen safety option and stroke length. Please see the table below to decide upon the built-in dimension.

Safety option	Stroke length	Spindle pitch	Min. built-in Dimensions
0 = No safety option	20 - 49	6, 9, 12 or 20	160
0 = No safety option	20 - 49	3, 5	168
1 = Safety nut for push	20 - 49	6, 9 or 12	160
1 = Safety nut for push	20 - 49	3, 5	168
2 = Safety nut for pull	20 - 49	6, 9 or 12	172
3 = Mechanical Spline for push	20 - 49	6, 9 or 12	180
3 = Mechanical Spline for push	20 - 49	3, 5	196
4 = Mechanical Spline & safety nut for push	20 - 49	6, 9 or 12	180
4 = Mechanical Spline & safety nut for push	20 - 49	3, 5	196
0 = No safety option	50 - 200	6, 9, 12 or 20	110 + stroke
0 = No safety option	50 - 200	3, 5	118 + stroke
1 = Safety nut for push	50 - 200	6, 9 or 12	110 + stroke
1 = Safety nut for push	50 - 200	3, 5	118 + stroke
2 = Safety nut for pull	50 - 200	6, 9 or 12	122 + stroke
3 = Mechanical Spline for push	50 - 200	6, 9 or 12	130 + stroke
3 = Mechanical Spline for push	50 - 200	3, 5	146 + stroke
4 = Mechanical Spline & safety nut for push	50 - 200	6, 9 or 12	130 + stroke
4 = Mechanical Spline & safety nut for push	50 - 200	3, 5	146 + stroke
0 = No safety option	201 - 300	6, 9, 12 or 20	130 + stroke
0 = No safety option	201 - 300	3, 5	138 + stroke
1 = Safety nut for push	201 - 300	6, 9 or 12	130 + stroke
1 = Safety nut for push	201 - 300	3, 5	138 + stroke
2 = Safety nut for pull	201 - 300	6, 9 or 12	142 + stroke
3 = Mechanical Spline for push	201 - 300	6, 9 or 12	150 + stroke
3 = Mechanical Spline for push	201 - 300	3, 5	166 + stroke
4 = Mechanical Spline & safety nut for push	201 - 300	6, 9 or 12	150 + stroke
4 = Mechanical Spline & safety nut for push	201 - 300	3, 5	166 + stroke

It is possible to order LA23 with extended built-in dimensions if the following requirements are fulfilled

	Spindle pitch = 6, 9, 12, 20	Spindle pitch = 3, 5	Spindle pitch = 6, 9, 12	Spindle pitch = 6, 9, 12	Spindle pitch = 3, 5
	Safety option 0 : No safety option		Safety option 2 : Safety nut pull	Safety option 3 : Spline without safety nut	
	Safety option 1 : Safety nut push			Safety option 4 : Spline + safety nut push	
Max. built-in dimensions	≤ 730 - stroke	≤ 738 - stroke	≤ 742 - stroke	≤ 750 - stroke	≤ 766 - stroke

Example:

A) 6 mm pitch no safety option, stroke 200, BID can be max. $(730 - 200) = 530$

B) 3 mm pitch no safety option, stroke 20, BID can be max. $(738 - 20) = 718$

Technical specifications:

Power supply	Spindle pitch (mm)	Load max. Push or Pull (N)	Motor type	*Typical speed at 0/full load (mm / sec.)	*Typical current at 0/ full load (Amp.)	Inrush current (Amp)
12 V DC	3	2,500 / 2,500	A: 12 V	3.1 / 2.5	0.8 / 3.6	13.4
CBJ1/2, CBJH and CBJC	3	2,500 / 2,500	B: 24 V	3.2 / 2.6	0.4 / 1.9	8.7
OpenBus™	3	2,500 / 2,500	G: 24 V	3.3 / 2.7	0.3 / 1.4	6.2
12 V DC	5	1,800 / 1,800	A: 12 V	5.4 / 4.2	0.8 / 3.9	13.4
CBJ1/2, CBJH and CBJC	5	1,800 / 1,800	B: 24 V	5.4 / 4.5	0.4 / 1.9	8.7
OpenBus™	5	1,800 / 1,800	G: 24 V	5.6 / 4.6	0.3 / 1.4	6.2
12 V DC	6	1,500 / 1,500	A: 12 V	6.6 / 5.2	0.8 / 3.6	13.4
CBJ1/2, CBJH and CBJC	6	1,500 / 1,500	B: 24 V	6.4 / 5.5	0.4 / 1.7	8.7
OpenBus™	6	1,500 / 1,500	G: 24 V	6.7 / 5.5	0.3 / 1.3	6.2
12 V DC	9	1,200 / 1,200	A: 12 V	9.9 / 7.5	0.9 / 4.0	13.4
CBJ1/2, CBJH and CBJC	9	1,200 / 1,200	B: 24 V	9.5 / 8.1	0.4 / 1.9	8.7
OpenBus™	9	1,200 / 1,200	G: 24 V	9.9 / 8.1	0.3 / 1.3	6.2
12 V DC	12	900 / 900	A: 12 V	13 / 9.6	0.9 / 3.8	13.4
CBJ1/2, CBJH and CBJC	12	900 / 900	B: 24 V	12.6 / 10.4	0.4 / 1.9	8.7
OpenBus™	12	900 / 900	G: 24 V	13.3 / 10.7	0.3 / 1.4	6.2
12 V DC	20	300 / 300	A: 12 V	21.5 / 18.6	0.8 / 4.3	-
CBJ1/2, CBJH and CBJC	20	300 / 300	B: 24 V	21.6 / 20.2	0.4 / 2.3	-
OpenBus™	20	300 / 300	G: 24 V	21.8 / 20.6	0.3 / 1.6	-

* Typical values, measurements are made with an actuator in connection with a stable power supply.
The typical values can have a variation of $\pm 20\%$ on the current values and $\pm 10\%$ on the speed values.

Safety nut and steel back fixture overview

Pitch (mm)	Load (N)	Safety nut	Steel back fixture	Plastic back fixture
20	300	Not an option	Required in pull	Only in push
12	900	Optional in push or pull	Required in pull	Only in push
9	1,200	Optional in push or pull	Required in pull	Only in push
6	1,500	Optional in push or pull	Required in pull	Only in push
5	1,800	Optional in push (Safety nut 2,500 N not available in pull)	Always required	Not available
3	2,500	Optional in push (Safety nut 2,500 N not available in pull)	Always required	Not available

Self-locking specifications

Spindle pitch	Without short circuit	With short circuit
20 mm pitch	100	300
12 mm pitch	750	900
9 mm pitch	750	1,200
6 mm pitch	1,200	1,500
5 mm pitch	1,600	1,800
3 mm pitch	2,500	2,500

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