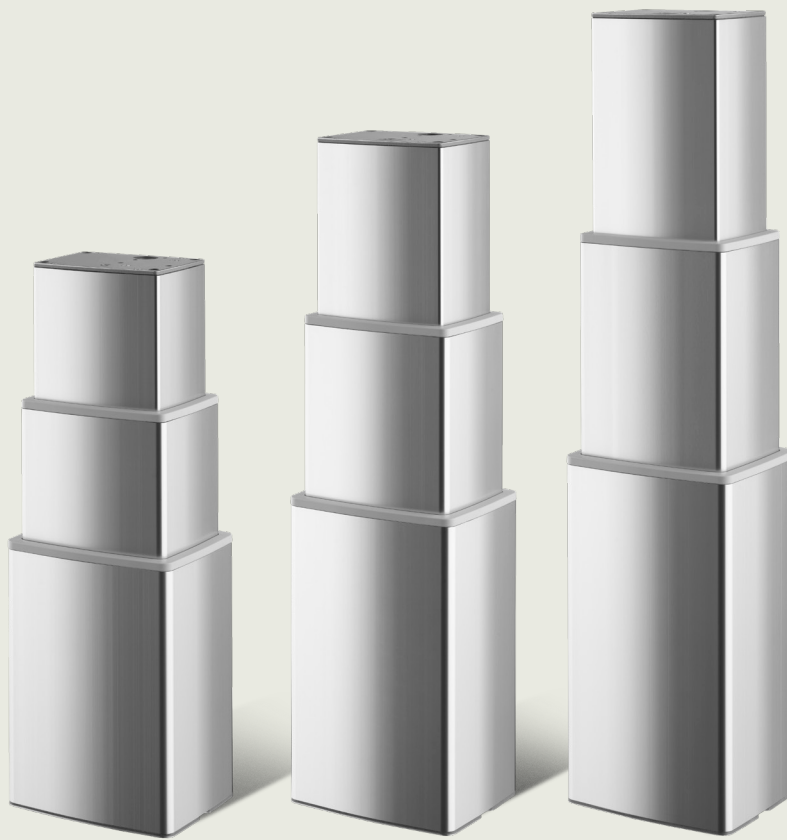


Lifting Column BL1

Data Sheet



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Introduction



The BL1 is a 3-part lifting column designed to be used for example in hospital beds, nursing home beds, treatment chairs, couches and dental chairs.

The lifting column is compact and has a long stroke length. The 3-part guidance enables an overlap between the individual profiles, which ensures a high degree of stability.

The lifting column has an open spindle actuator with a chain drive inside which is practically noiseless.

It is possible to connect the motor cable at the top plate.

The integrated cable makes the column easy to fit into an aesthetic design of applications and easy to clean.

Among benefits are:

- Short installation dimension and long stroke length is possible
- High degree of stability
- Low noise level
- Exchangeable cables



Features and options

Load in push:	2000 N
Colour:	Anodised aluminium
Protection class:	IPX6
Motor:	24 V DC, 12 V DC
Built-in dimensions:	Standard: 350 mm (+/-4) - stroke length 200mm, 300mm, 400 mm (+/-3) Medium: 312 mm (+/-4) - stroke length 324 mm(+/-3) Small: 274 mm (+/-4) - stroke length 248 mm (+/-3)
Positioning options:	Dual Hall
Noise level:	50 dB(A) (At rated voltage and with no load in accordance with EN ISO 3743-1)
Safety nut:	Optional
Built-in electrical limit switch:	Yes
Exchangeable cable:	Mini-Fit - Mini-Fit for the motor cable
Safety factor:	>2.5
Weight:	BL1 Standard: 9.8 kg BL1 Medium: 8.7 kg BL1 Small: 8.0 kg
Static bending moment:	500 Nm
Dynamic bending moment:	250 Nm
Protective grounding cable:	Optional, for potential equalisation between top and bottom plate
Connection of motor cable:	Standard top plate or optional bottom plate

Usage

Duty cycle:	10%, 2 minutes continuous use followed by 18 minutes not in use
Operation temperature:	+5 °C to +40 °C
Storage temperature:	-10 °C to +50 °C
Compatibility:	For detailed compatibility, please contact LINAK.
Relative humidity:	20% to 80% – non-condensing
Atmospheric pressure:	700 to 1060 hPa
Meters above sea level:	Max. 3000 meters
Approvals	IEC60601-1, ANSI/AAMI ES60601-1 CAN/CSA-22.2 No 60601-1 IEC 60601-1-6 IEC 60601-1-2



Technical specifications

Motor type	Spindle pitch (mm)	Push max. (N)	Pull max. (N)	*Self-lock min. (N)	Bending moment max. (static) (Nm)	Bending moment max. (dynamic) (Nm)	Built-in-dimension (mm)	Stroke length (mm)	Max. Static pull (N)		
24V	4	2000	0	2000	200mm stroke = 1000 248mm stroke = 500 300mm stroke = 750 324mm stroke = 500 400mm stroke = 500	250	350	400	1000		
								300			
								200			
							312	324			
							274	248			
12V	9	700	0	700					350	400	700
										300	
										200	
									312	324	
									274	248	

*Linak control boxes are designed to 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.

** For further specifications, see speed and current curves.

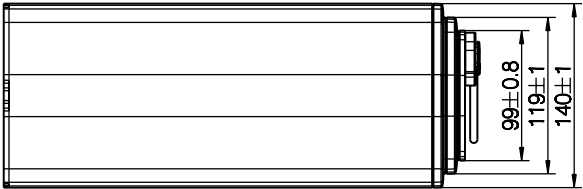


Ordering example

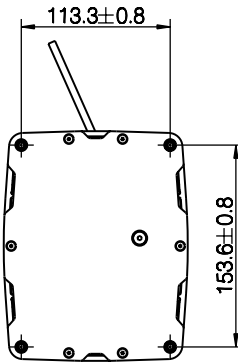
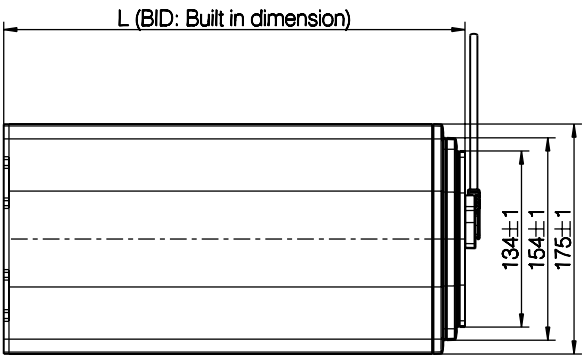
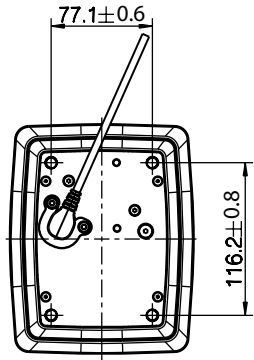
BL1	4	1	H	A	0	1	400	A	
									Built-in dimension:
									A = 350 mm
									B = 312 mm
									C = 274 mm
									Stroke:
									200 mm, 300 mm, 400mm (BID=350 mm)
									324 mm (BID=312 mm)
									248 mm (BID=274 mm)
									Motor:
									1 = Standard 24 V DC from top plate
									2 = 12 V DC from top plate
									Safety option:
									0 Without safety nut
									1 Standard with safety nut, push
									2 With potential equalisation between top and bottom plate
									3 Safety nut, push, with potential equalisation between top and bottom plate
									Colour:
									A = Anodised alu. and standard top-and bottomplate
									C = Anodised alu. and el-zinc plated top-and bottomplate
									Positionering:
									1 = End stop
									H = End stop and dual Hall
									IP degree:
									1 = IPX6
									Spindle:
									4 = 4 mm pitch
									9 = 9 mm pitch (12 V DC only)
									Actuator type:
									BL1



Dimensions



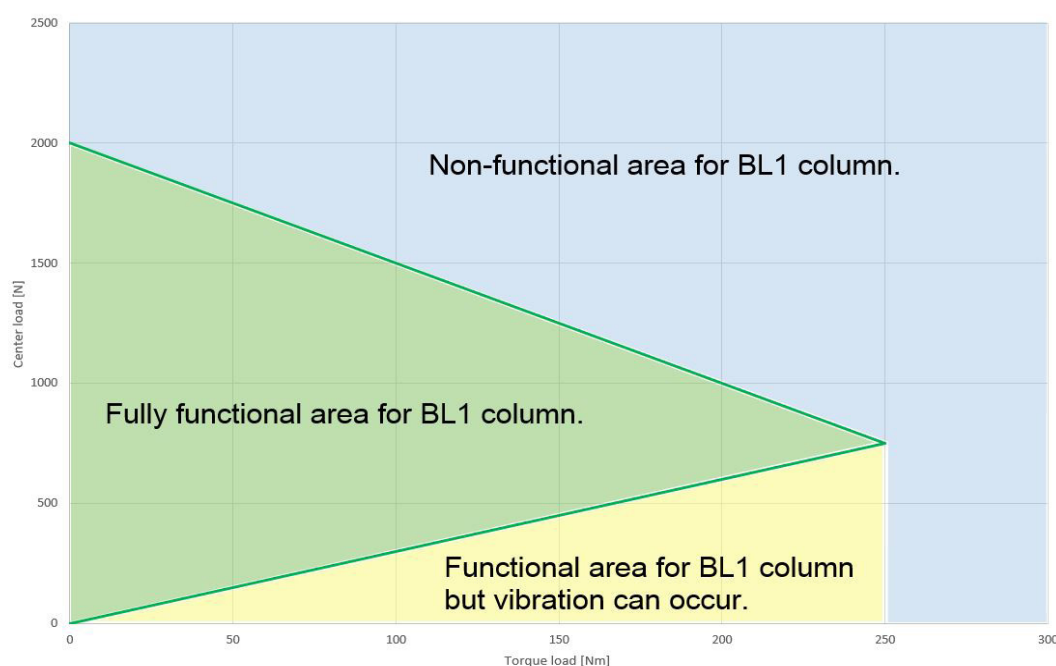
BID	L (mm)
A	350±4
B	312±4
C	274±4



Drawing no.: 0807000



Dynamic moment/load curve for BL1



Examples:

If the BL1 is loaded with a torque load of 250 Nm, a center load of 750 N is required. Vibration can occur if the center load is less than 750 N. If the center load is above 750 N, the BL1 will be overloaded.

If the BL1 is loaded with a bending moment of 100 Nm, a center load between 300 N to 1500 N is required. Vibration can occur if the center load is less than 300 N. If the center load is above 1500 N, the BL1 will be overloaded.

Details on off-centre load

LINAK offers off-centre load charts for evaluating how the BL1 column with off-centre load will perform.

The BL1 must always be operated within the IDEAL area specified in the charts. In the OVERLOAD area, internal components can break. In the UNDERLOAD area, vibration problems can occur.

The off-centre load charts offer guidance and indications only.

If off-center load is applied to a BL1 column, final testing and approval by the customer is recommended, as stability and performance depend on each specific customer application. This applies to long BL1 columns (BLD + SL = 750 mm) in particular.

The following must be investigated and evaluated:

- Possible increased current consumption due to increased bending moment and friction
- Possible lower performance such as reduced speed and lifetime
- Vibrations depending on stiffness and eigenfrequency of the application. (Applying a counter load or use of an electrical soft-start may reduce vibrations)
- Tilting angle of the column and application
- Increased dust from sliders due to increased bending moment and friction



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