



DL18/DL19 with CBD65 User manual

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Preface

Dear User,

We are delighted that you have chosen a product from LINAK®. LINAK systems are high-tech products based on many years of experience in the manufacture and development of actuators, electric control boxes, controls and chargers.

This User Manual does not address the end-user. It is intended as a source of information for the manufacturer of the equipment or system only, and it will tell you how to install, use and maintain your LINAK electronics. It is the responsibility of the manufacturer of the end-user product to provide a User Manual where relevant safety information from this manual is passed on to the end-user.

We are sure that your LINAK product/system will give you many years of problem-free operation. Before our products leave the factory, they undergo full function and quality testing. Should you nevertheless experience problems with your LINAK product/system, you are always welcome to contact your local contact. LINAK subsidiaries and some distributors situated all over the world have authorised service centres, which are always ready to help you.

LINAK provides a limited warranty on its products. This warranty is, however, subject to correct use in accordance with the specifications, maintenance being done correctly, and any repairs being carried out at a service centre, which is authorised to repair LINAK products. Changes in installation and use of LINAK products/systems can affect their operation and durability. The products are not to be opened by unauthorised personnel. You can review the full terms of the LINAK warranty on the LINAK website www.linak.com/warranty.

The User Manual has been written based on our present technical knowledge. We are constantly working on updating the information and we therefore reserve the right to carry out technical modifications.

LINAK A/S

Valid for:

This User Manual is valid for the following products:

(See the first 3 - 5 characters on the label)

Columns: 1 single DL18 / DL19 / DL19 PLUS™ / DL19 PLUS™ High-speed, or 2 in parallel

Control boxes: CBD6S 200 W, CBD6S 300 W

Controls: DPF1M/DPG1M/DPG1B (if memory function is required)
DP1CS/DPT/DPF1C/DPG1C (if memory function and display is required) or
DPA/DPB/DPH/DP1K/DPF1K/DPG1K (if only up/down is required) or DPF1D (if display is required).

Important information

Important information on LINAK® products can be found under the following headings:



Warning!

Failure to comply with these instructions may result in accidents involving serious personal injury.



Failing to follow these instructions can result in the product being damaged or being destroyed.

Safety instruction



General

Safe use of the system is possible only when the operating instructions are read completely and the instructions contained are strictly observed.

Failure to comply with instructions marked with the "NOTE" symbol may result in serious damage to the system or one of its components.



It is important for everyone who is to connect, install, or use the systems to have the necessary information and access to this User Manual. Follow the instructions for mounting – there is a risk of injury if these instructions are not followed.



The appliance is not intended for use by young children or infirm persons without supervision.



If there is visible damage to the product, do not install it.



Please note that during construction of applications in which the actuator is to be fitted, there must be no possibility of personal injury, for example squeezing of fingers or arms.



Assure free space for movement of the application in both directions to avoid blockades.

Before installation, re-installation, or troubleshooting:

- Stop the DL
- Pull out the mains plug.
- Relieve the DL of any loads, which may be released during the work.

Before start-up:

- Make sure that the system has been installed as instructed in this User Manual.
- Make sure that the voltage of the control box is correct before connecting the system to the mains.
- System connection. The individual parts must be connected before connecting the control box to the mains. See the User Manual for LINAK actuators, if necessary.

During operation:

- If the control box makes unusual noise or smells, switch off the mains voltage immediately.
- Take care that the cables are not damaged.
- Unplug the mains cable on mobile equipment before moving it.
- The products must only be used in an environment, that corresponds to their IP protection.

Misc.

The actuator system has a sound level below 55 dB(A) in typical applications.

Updated manuals and declarations can always be found here:

User manuals

Declarations

Only for EU markets



This appliance can be used by children aged from aged 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.



Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Only for Non EU markets



Persons who do not have the necessary experience or knowledge of the product/products must not use the product/products. Besides, persons with reduced physical, sensory or mental abilities must not use the product/products, unless they are under surveillance or they have been thoroughly instructed in the use of the apparatus by a person who is responsible for the safety of these persons.



Moreover, children must be under surveillance to ensure that they do not play with the product.

Misuse



Do not overload the actuators – this can cause danger of personal injury and damage to the system.



Do not use the actuator system for lifting persons. Do not sit or stand on a table while operating – risk of personal injury.



Do not use the system in environments other than the intended indoor use

Repairs

In order to avoid the risk of malfunction, all DESKLINE® repairs must only be carried out by authorised LINAK service centres or repairers, as special tools must be used and special gaskets must be fitted. Products under warranty must also be returned to authorised LINAK service centres.

Further information on DESKLINE warranty can be found on the LINAK website www.linak.com/warranty.



Warning!

If any of the DESKLINE® products are opened, there will be a risk of subsequent malfunction.



Warning!

The DESKLINE® systems do not withstand cutting oil.

Manufacturer's declaration

DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

Herewith declares that LINAK DESKLINE® products as characterized by the following models and types:

Control Boxes: CBD65a00b0A-c09 (Where -a: can be P, C or H, -b: can be 2, 3 or 4 and -c: can be 0 or 7)

Linear Actuators: LA31

Built in actuator(s): DB5, DB6, DB14,

Lifting Columns: DL1A, DL4S, DL2, DL5, DL6, DL7, DL8, DL9, DL10, DL11, DL12, DL14, DL15, DL16, DL17, DL18, DL19, DL20, DL21

Desk Panels: DPA, DPB, DPH, DPF1K, DPF1M, DPF2K, DPF3K, DPF1C, DPF1D, DPF1U, DPF1W, DPF4T, DPG1K, DPG1M, DPG1B, DPG1C, DPT, DP1V01, DP1CS, DP1K, DP1U, DP2K, DP3K, DPN, DPWA

Accessories: BLE2LIN002, BLE2LIN003, DESK SENSOR 1, USB2LIN, DCConnector

complies with the following parts of the Machinery Directive 2006/42/EC, ANNEX I, *Essential health and safety requirements relating to the design and construction of machinery:*

- 1.1.2 a) Special use*
- 1.1.2 b) Selection of the most appropriate methods*
- 1.1.2 c) Foreseeable misuse*
- 1.1.2 d) Operator constrains due to the use of personal protective equipment*
- 1.1.3 Materials and products*
- 1.2.1 Safety and reliability of control systems
- 1.2.2 Control devices. Shape, readability, overview*
- 1.2.3 Starting*
- 1.2.4 Stopping*
- 1.5.1 Electricity supply
- 1.5.10 Radiation. EMC. Emission of electromagnetic radiation, X-rays, γ -rays*
- 1.5.11 External radiation*

*need to be further evaluated in the end product

We confirm that prior to market introduction the relevant technical documentation is compiled in accordance with part B of Annex VII and the assembly instruction pursuant to Annex VI.

This documentation or part hereof will be transmitted by post or electronically to a reasoned request by the national authorities.

The products mentioned in this document are to be combined for use in height adjustable furniture.

This partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC where appropriate.

Nordborg, 2020-10-28

LINAK A/S
Dragan Macura,
Regulatory Compliance Manager
Desklina and Homeline Segments
Authorized to compile the relevant technical documentation

Original Declaration

EC Declaration of Conformity

EC DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

hereby declares under our sole responsibility that LINAK Actuator System for DESKLINE composed of:

Control Box(s)	CBD6Sa000b0A-c09, (Where -a: can be P, C or H, -b: can be 2, 3 or 4 and -c: can be 0 or 7)
And Linear Actuator(s)	LA31: 31abcH-defff50S, (Where -a: can be 1, 3, 6 or 7; - b can be from 1 to 8, or A or B; - c can be from 0 to 4; - d can be 0 or 1; - e can be 0 or 1; - fff can be max 500)
Built in actuator(s)	DB5, DB6, DB14: DBabbcdefghhiii, (Where: - a: can be 5, 6 or 14.; - b: can be 0, 1, 3 or 9; - c: can be 0, 1, B, L or S; - d: can be 0, 1 or 2; - e: can be 0, A, B or X; - f: can be 0, or A; - g: can be from 0, M, S or E; - hhh: can be from 000 to 675; - iii: can be from 000 to 630);
Lifting Column(s)	Standard columns: DLabcdefghhiii, (Where: - a: can be 1A, 4S, 5, 6, from 8 to 12, from 14 to 21; - b: can be 0, 2, 3 or 5; - c: can be 0, A, B, D, W or x; - d: can be 0, 1, L, R or X; - e: can be A, B, D or X; - f: can be 0, N, M, P or x; - g: can be 0 or E; - hhh: can be from 600 to 1100; - iii: can be from 000 to 785); DL12: DL12abcdeffggghh (where - a can be A or B; - b can be 0 or E; -c can be 0, L, R or X; - d can be A, B, D or X; - e can be 0 or M; - f can be 0 or E; - ggg can be max 1100; - hhh can be max 785) DL7: DL73a0b00470645 (where - a can be 0 or R; - b can be A, B, C or D) DL2: DL2abCdefffggg (where - a can be 3, 6 or 7; - b can be from 0 to 3; - c can be A or B; - d can be 0, F or G; -e can be from 0 to 7; -fff can be from 300 to 500; -ggg can be from 445 to 655) BASELIFT: BASE1000A0F100100
Desk Panel(s)	DPA, DPB, DPH, DPF1K, DPF1M, DPF2K, DPF3K, DPF1C, DPF1D, DPF1U, DPF1W, DPF4T, DPG1K, DPG1M, DPG1B, DPG1C, DPT, DP1V01, DP1CS, DP1K, DP1U, DP2K, DP3K, DPN, DPWA
Accessories	BLE2LIN002, BLE2LIN003, DESK SENSOR 1, USB2LIN, DCCconnector, CHUSB

Complies with EMC Directive: **2014/30/EU** according to following standards:
EN 61000-6-2:2005/AC:2005
EN 61000-6-3:2007/A1:2011/AC:2012

Complies with Low Voltage Directive **2014/35/EU** according to the standard:
EN 60335-1:2012+AC:2014+A11:2014+A13:2017+A1:2019 +A14:2019 +A2:2019
EN 62233:2008 + AC:2008

Complies with RoHS2 Directive **2011/65/EU** and RoHS3 Directive **2015/863** (amending Annex II to Directive 2011/65/EU) according to the standard:
EN 50581:2012

And the applicable Desk Panels and Accessories complies with the Radio Equipment Directive **2014/53/EU** according to the standards listed in the RED DoC for the individual radio products.

Additional information:

The system does also comply with the standard: EN 61000-6-2:2019 and EN 13849-1:2015 SRP/CS Cat. B, PL = b and SRESW PL = b
Note 1: Exempted CBD6S with SW03003007 printed on the label.

Nordborg, 2021-11-24

LINAK A/S
Dragan Macura
Regulatory Compliance Manager
Desklina and Homeline Segments
Authorized to compile the relevant technical documentation

Original Declaration

UK Declaration of Conformity

UK DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

hereby declares under our sole responsibility that the LINAK Actuator System for DESKLINE composed of:

Control Box(s)	CBD6Sa000b0A-c09, (Where -a: can be P, C or H, -b: can be 2, 3 or 4 and -c: can be 0 or 7)
And Linear Actuator(s)	LA31: 31abcH-defff50S, (Where -a: can be 1, 3, 6 or 7; - b can be from 1 to 8, or A or B; - c can be from 0 to 4; - d can be 0 or 1; - e can be 0 or 1; - fff can be max 500)
Built in actuator(s)	DB5, DB6, DB14: DBabbcddefghhhiii, (Where: - a: can be 5, 6 or 14;; - b: can be 0, 1, 3 or 9; - c: can be 0, 1, B, L or X; - d: can be 0, 1 or 2; - e: can be 0, A, B or X; - f: can be 0, or A; - g: can be from 0, M, S or E; - hhh: can be from 000 to 675; - iii: can be from 000 to 630);
Lifting Column(s)	Standard columns: DLabcdeffghhhiii, (Where: - a: can be 1A, 4S, 5, 6, from 8 to 12, from 14 to 21; - b: can be 0, 2, 3 or 5; - c: can be 0, A, B, D, W or x; - d: can be 0, 1, L, R or X; - e: can be A, B, D or X; - f: can be 0, N, M, P or x; - g: can be 0 or E; - hhh: can be from 600 to 1100; - iii: can be from 000 to 785); DL12: DL12abcdeffggghhh (where - a can be A or B; - b can be 0 or E; - c can be 0, L, R or X; - d can be A, B, D or X; - e can be 0 or M; - f can be 0 or E; - ggg can be max 1100; - hhh can be max 785) DL7: DL73a0b00470645 (where - a can be 0 or R; - b can be A, B, C or D) DL2: DL2abCdeffggg (where - a can be 3, 6 or 7; - b can be from 0 to 3; - c can be A or B; - d can be 0, F or G; -e can be from 0 to 7; - fff can be from 300 to 500; -ggg can be from 445 to 655) BASELIFT: BASE1000A0F100100
Desk Panel(s)	DPA, DPB, DPH, DPF1K, DPF1M, DPF2K, DPF3K, DPF1C, DPF1D, DPF1U, DPF1W, DPF4T, DPG1K, DPG1M, DPG1B, DPG1C, DPT, DP1V01, DP1CS, DP1K, DP1U, DP2K, DP3K, DPN, DPWA
Accessories	BLE2LIN002, BLE2LIN003, DESK SENSOR 1, USB2LIN, DCCconnector

Complies with **Electromagnetic Compatibility Regulations 2016** according to following standards:
BS EN 61000-6-2:2005/AC:2005
BS EN 61000-6-3:2007/A1:2011/AC:2012

Complies with **Electrical Equipment (Safety) Regulations 2016** according to the standard:
BS EN 60335-1:2012+AC:2014+A11:2014+A13:2017+A1:2019 +A14:2019 +A2:2019
BS EN 62233:2008 + AC:2008

Complies with **The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012** according to the standard:
BS EN 50581:2012

And the applicable Desk Panels and Accessories complies with the **Radio Equipment Regulations 2017** according to the standards listed in the UK DoC for the individual radio products.

Additional information:
The system does also comply with the standard: BS EN 61000-6-2:2019 and
BS EN 13849-1:2015 SRP/CS Cat. B, PL = b and SRESW PL = b
Note 1: Exempted CBD6S with SW03003007 printed on the label.

Nordborg, 2021-11-24

LINAK A/S
Dragan Macura
Regulatory Compliance Manager
Desklines and Homeline Segments
Authorized to compile the relevant technical documentation

Original Declaration

The RoHS mark is only applicable for the end product. Therefore, it must be obtained by the manufacturer of the end products. LINAK® can, however, supply the required material information on our products.

For more information, visit: <https://www.linak.com/about/declarations/>

or contact: chemicalcompliance@linak.com

Misc. on the DESKLINE® DL18/DL19 system

This system is a DESKLINE system developed for desks and for indoor use in offices. Do not use it in industrial kitchens or in other environments that have to be cleaned with aggressive detergents.

Do not bolt the legs to the floor so that free movement is prevented. This could cause serious damage to the legs in fault situations.

Warranty

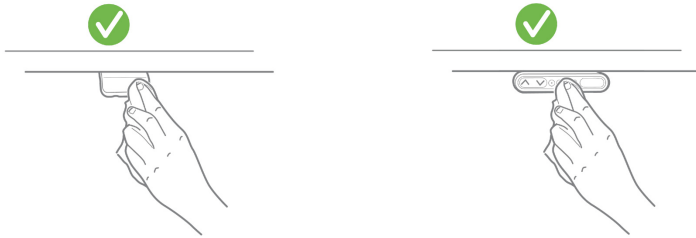
This DESKLINE product is subject to warranty pursuant to the terms of LINAK DESKLINE Warranty Paper, available on the LINAK website www.linak.com/warranty.

Maintenance

Clean dust and dirt on the outside of the system at appropriate intervals and inspect them for damage and breaks. Inspect the connections, cables, and plugs and check for correct functioning as well as fixing points.

Cleaning the desk panel

Clean your desk panel with a soft damp cloth. Universal cleaning detergents may be used.



For disinfection of the desk panel, use a 70 percent isopropyl alcohol either as a wipe or add a small amount to a soft cloth.



The desk panel is not a sealed unit and there are electronics inside it. If liquids or moisture enter an opening, the PCB may be damaged, and the desk panel ruined.

Thus:

- Avoid moisture penetrating any openings as this may damage the PCB inside the desk panel
- Avoid spraying the cleaning agent or disinfectant directly on the desk panel as moisture may penetrate openings damaging the PCB inside the desk panel



- Cleaning agents and disinfectants must not be highly alkaline or acidic (pH value must be 6 to 8), and they must not contain bleach or chlorine
- Do not use hand sanitizer gel as a cleaning agent

Service of double-insulated products:



Class II

A Class II or **double insulated** electrical appliance is one which has been designed in such a way that it does not require a safety electric earth connection (US: ground).

The basic requirement is that no single failure can result in dangerous voltage becoming exposed so that it might cause an electric shock and that this is achieved without relying on an earthed metal casing. This is usually achieved at least in part by having two layers of insulating material surrounding live parts or by using reinforced insulation.

There is no earthing/grounding means provided on the product, and no earthing/grounding means is to be added to the product.

In Europe, a double insulated appliance must be labelled "Class II", "double insulated" or bear the double insulation symbol (a square inside another square).

Servicing a double-insulated product requires extreme care and knowledge of the system, and is to be done only by qualified service personnel. Replacement parts for a double-insulated product must be identical to the parts they replace.

ETL-marking

Due to space limitations, the complete ETL-marking demands are not represented on the marking plates.

The full ETL Recognized Component markings are shown here.



C/N 120690

Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09

ETL Recognized Component mark for Canada and United States



C/N 9901916

Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09

ETL Recognized Component mark for Canada and United States



C/N 4008003

Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09

ETL Recognized Component mark for Canada and United States



C/N 4008004

Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09

ETL Recognized Component mark for Canada and United States



C/N 4008005

Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09

ETL Recognized Component mark for Canada and United States



C/N 4008671

Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09

ETL Recognized Component mark for Canada and United States



C/N 4009507

Conforms to UL962
Cert. to CSA Std. C22.2 No. 68-09

ETL Recognized Component mark for Canada and United States

Description of the DESKLINE® DL18/DL19 system

Each DESKLINE® DL18/DL19 lifting units is equipped with a motor and parallel/memory drive is ensured by means of software in the CBD6S (SMPS) that also takes account of oblique load on the desk. Soft start and stop are also part of this software, which ensures a soft start and stop when adjusting the desk.

Application of the DESKLINE® DL18/DL19 system:

Irrespective of the load the **duty cycle 10 % \approx 2 minutes continuous use at full load, followed by 18 minutes pause** stated in the data sheets, must **NOT** be exceeded as this will result in a superheating of the motor, the brake and the spindle nut. Exceeding the duty cycle will result in a considerable reduction of the life of the system.

The DESKLINE® DL18/DL19 system range contains the following products:

- 1 control box CBD6S 200 W or CBD6S 300 W (SMPS - Switch Mode Power Supply)
- 1 single DL18 / DL19 / DL19 PLUS™ / DL19 PLUS™ High-speed, or 2 in parallel
- 1 exchangeable mains cable
- 1 or 2 motor cables
- DP1U/DPF1M/DPG1M/DPG1B (if memory function is required)
DP1C/DPT/DPF1C/DPG1C (if memory function and display is required) or
DPA/DPB/DPH/DP1K/DP1V/DPF1K/DPG1K (if only up/down is required) or DPF1D (if display is required).

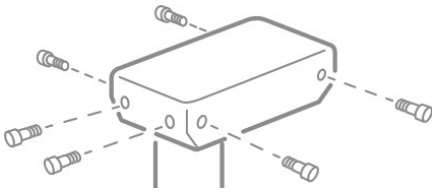
Installation

Mounting the DL18/DL19

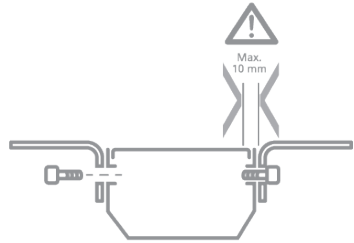
Mounting the motor housing

The motor housing is supplied with six M6 threaded holes for mounting on the top frame.

1. Mount motor housing on top frame using six M6 screws with the following specifications:
Quality: Min. grade 8.8
Length: Max. 10 mm (plus top frame thickness). The screw must not go further than max. 10 mm into the motor housing
2. Fasten screws thoroughly (torque: max. 7.5 Nm).



Always use six M6 screws for mounting the motor housing on the top frame



Mounting screws must not go further than max. 10 mm into the motor housing



Sufficient stability of the desk is only obtained if all six M6 screws are used for mounting the motor housing on the top frame. Tests with fixing the motor housing using only four M6 screws have proved that the torsional stability of the desk this is insufficient.

Alternatively, use the Kick & Click™ top frame and avoid screws to get easy desk assembly.



LINAK recommends using the DL18/DL19 DESKLINE® system in push applications with the motor housing mounted upwards.

Mounting the feet

The DL18/DL19 bottom plate is supplied with four M6 and two M8 threaded holes.

1. Mount column bottom on desk feet using four M6 or two M8 screws with the following specifications:

Quality: Min. grade 8.8

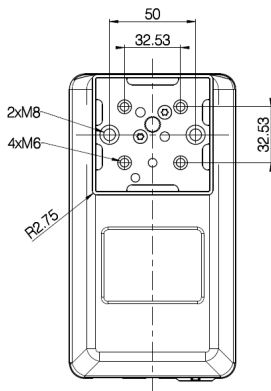
Length: Min. 10 mm (plus foot thickness);

Max. 16 mm (plus foot thickness) for M6

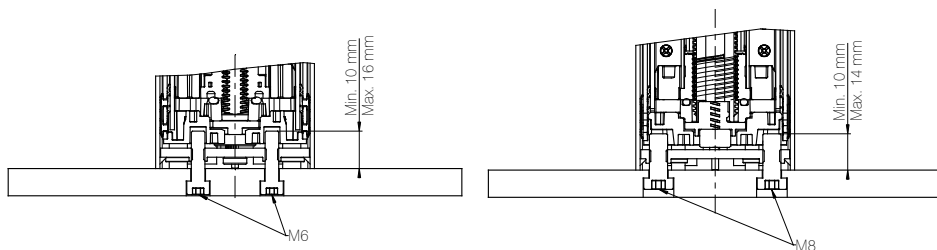
Max. 14 mm (plus foot thickness) for M8

2. Fasten screws thoroughly (torque: max. 10 Nm).

The holes in the foot must be sufficiently larger than $\varnothing 6/\varnothing 8$ to ensure space for the screw heads to be screwed fully into the foot.



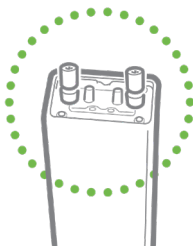
Bottom plate



Column bottom mounted on desk foot (left: M6; right: M8)

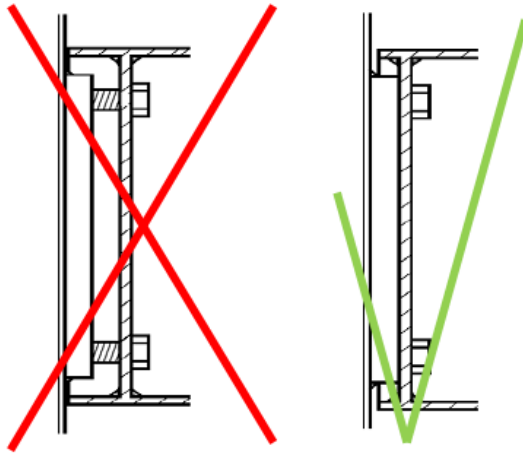
Click-on

The DL19 column is delivered with two pre-mounted mounting screws.



Mounting crossbar

We have experienced a few cases where customers have designed a desk with a crossbar with a hidden column bracket, where the bracket has been pulled out when tightening the crossbar. To eliminate this failure, please follow the guidelines below when constructing a desk.



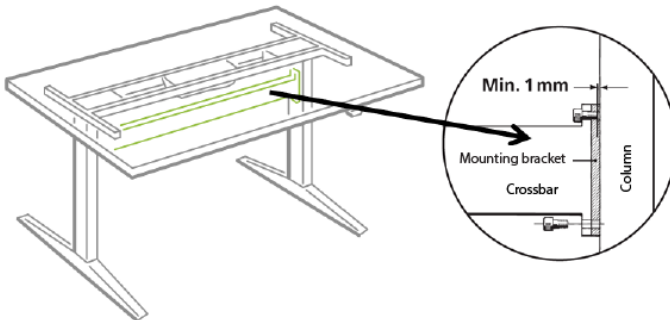
If the crossbar connection is made with a design where the bracket is hidden inside the crossbar profile, make sure that you do not pull out the bracket in the column when tightening the screws for the assembly.



The maximum torque for tightening the 2 x M8 screws in the bracket is 15 Nm.

To avoid damage of the lifting unit there must be at least 1 mm space between the ends of the two M8 screws for the mounting bracket and the lifting unit surface. Screws that are too long will come into contact with the inner parts. This will result in an irregular operation or even damage the lifting unit.

These guidelines also apply to a bench solution.

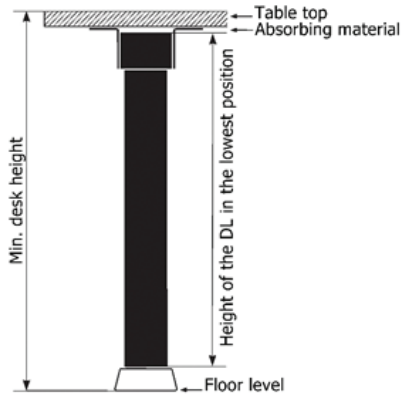


Requirement: Min. 1 mm space between ends of screws and lifting unit surface

Mounting of the tabletop

The sound from the lifting column spreads as vibrations to the tabletop which amplifies the sound. This can, however, be reduced.

1. Place vibration/shock-absorbing material between tabletop and top frame.

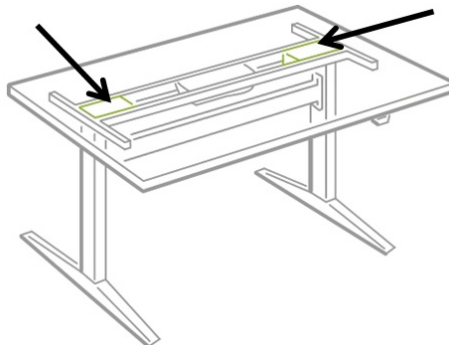


Assembled desk

Placing the monitor

Placement of a monitor directly above the motor housing may cause malfunction of the monitor.

Magnets inside the motor may interrupt the picture on the monitor depending on distance and type of monitor. If this is the case, the problem may be solved by placing an iron plate/tube or another magnetic material, somewhat larger than the motor housing, between the motor and the tabletop.



Recommended placement of an iron plate/tube or another magnetic material

Installation of CBD6S (SMPS)



Do not pack the CBD6S in heat insulating material.
Place the CBD6S so it can emit heat through its surface to the surroundings.

Mounting the CBD6S

1. Plug the mains cable into the CBD6S.
2. Place the mains cable in the groove for cable relief.



3. If needed, place the other cables in the grooves to optimise the desk design and manage the system cables.



4. Mount the CBD6S using two screws with a head diameter of 10 mm (8 to 10 mm can be used).
5. Fasten the mounting screws (max. torque 1 Nm).

Notes:

- If the control box is mounted in a top frame bar with the width of the motor housing, it can be mounted with one screw only
- The surface to which the control box is mounted should have an evenness better than ± 0.5 mm
- The control box can also be mounted using one or two M6 nuts and screw counterparts, see Dimensional drawings
- The mains plug must be accessible when the CBD6S is mounted so that the supply to the CBD6S can be disconnected if replacement is required.

For mounting and operation of the desk panel, please see the separate user manual for desk panels.

Electric connection of the DL18/DL19 system



The control box must only be connected to the voltage stated on the label.



It is important to ensure that the motor cables are fixed, but not tightened, near the control box **and** near the columns.

Fix the cable to the tabletop using a clip observing the **30 mm minimum bending radius (R)**.



Connecting the system

1. Connect the first DL/DB to socket 1 next to port A2 on the control box using the 6-pin plug on the motor cable.
Channel 1 is the channel closest to the control port.
2. Connect further DL/DB to sockets 2, 3 and 4 in sequence.
3. Connect the desk panel to control port A1 or control port A2.
4. Check that the voltage stated on the label corresponds to the mains power.
If not, do **not** plug in mains cable.
5. Plug in the mains cable.
6. Switch on the power.



Figure 4

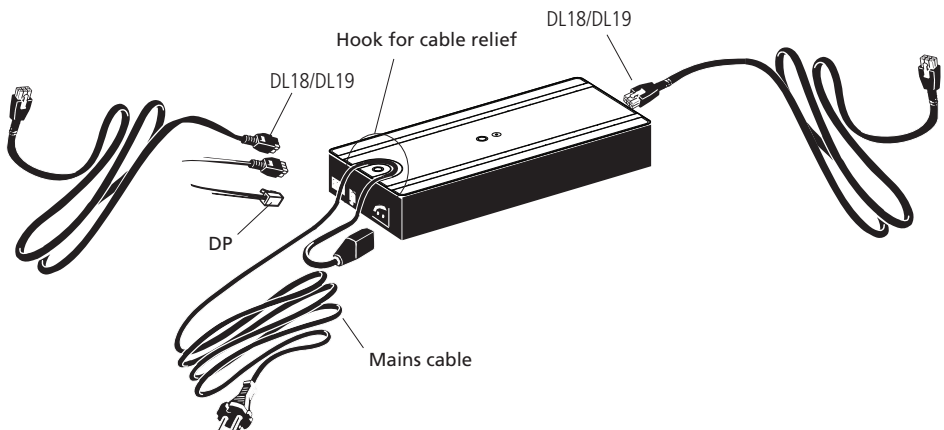


Figure 5

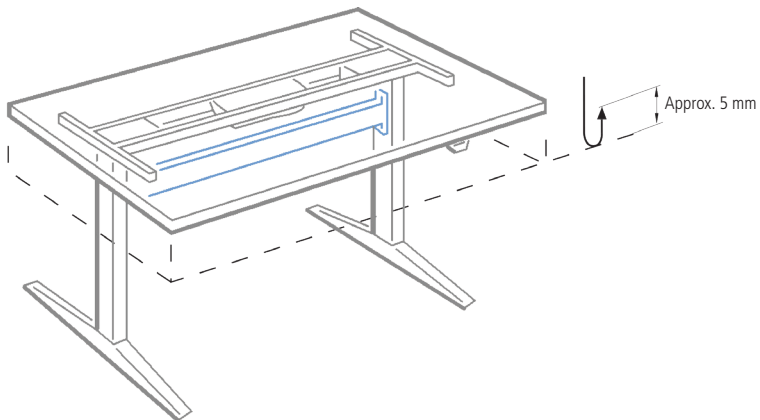
Initialisation of the DESKLINE® parallel system

Downward direction

The DESKLINE system is initialised by pressing the down button once and holding it down until the lifting column runs into end stop. Release the button and press down again within 10 seconds. The desk will run further in and then run approx. 5 mm out again. Do not release the down button until the movement has stopped completely.



If the button is released before the sequence is completed, the initialisation is interrupted and must be started again from the beginning.



Upward direction

PIEZO columns (IID):

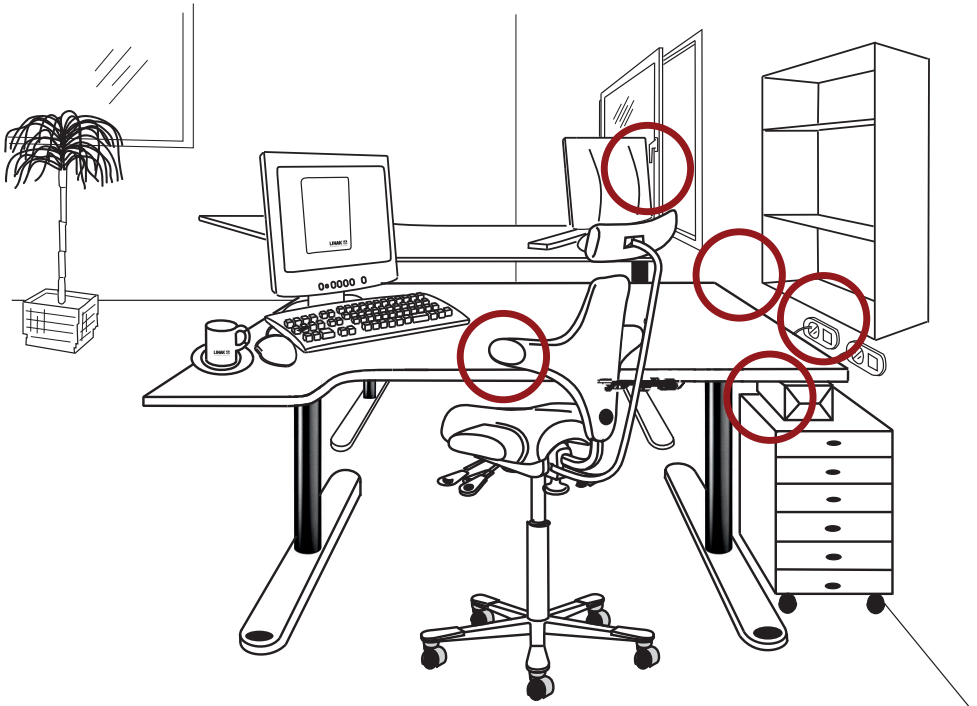
No initialisation in upward direction required.

Non-PIEZO columns (no IID):

The first two times the system moves into end stop in upward direction, the system will detect overload. Afterwards the system will only run to approximately 2 mm before end stop.

Anti-collision

When using height-adjustable desks there is always a risk of driving the desk into an object – solid or soft. This could cause damage to the desk or the object or – if the desk tilts – damage to computers, monitors and other objects placed on or close to the desk.



There are various ways of protecting the desk from being damaged when driven into such objects. This feature is called an anti-collision system. To a certain extent, this feature also increases the personal safety, but it does not comply with the legislation covering personal safety.

The way to minimise the damage to a desk is fast detection of a collision with an object followed by reverse driving of the desk.

LINAK® offers various anti-collision solutions:

- Desk Sensor™ 1 (Gyroscope technology)
- PIEZO™ (Piezo-electric sensor)
- Anti-Collision™ (Software)

Desk Sensor™ 1



The Desk Sensor™ 1 (DS1) is a small, compact adapter to be plugged into the control box or, in IC systems, into the master column. The DS1 is based on gyroscope-technology, and it detects even little tilting of the desk when the desk is driving up or down. Upon detected tilting, the system stops and drives in the opposite direction to avoid collision and damage to the desk or the object. The DS1 can detect both hard and soft obstacles, and it works with both 2-part and 3-part columns.

Optionally, the DS1 can also be combined with the well-known PIEZO™ technology ensuring an even higher level of anti-collision.

PIEZO™



The PIEZO-electric sensor is an electronic sensor integrated in the column, which reacts on load changes. If the desk drives into an obstacle, the load changes. This load change is picked up by the PIEZO-electric sensor and the signal is sent to the control box.

For optimised safety against squeezing and blocking on a desk, LINAK has developed a DL19 columns with integrated sensor, called PIEZO. The option minimises the risk for damages on a desk caused by squeezing or blocking of obstacles in up and down direction. Examples could be driving down into an office chair or into a container or up into a windowsill. To a certain extent, the system also increases the personal safety, but it does not comply with legislation describing personal safety.

PIEZO allows the DL19 columns to have the standard built-in dimension and the standard stroke length. There are no visible changes to the column.



Do not use the DL19 with PIEZO in combination with a crossbar or a foot construction where you place the column in a tube welded on the foot.

Anti-Collision™

This function is an option for the standard CBD6S (SMPS) control box.

Enabling the anti-collision

To enable the anti-collision function a little plug called a dongle must be mounted in one of the 2 control ports. The function is only active when the dongle is mounted. – If you remove the dongle again you disable the function.

Method of operation

When the lifting columns are running the CBD6S (SMPS) monitors the current consumption on each channel using a special algorithm. If the current consumption on one channel is increased more than a predefined slope, a collision is assumed, and all channels are stopped immediately, and all lifting columns will start to run in the opposite direction (approx. 50 mm). This return drive is done automatically and continues with or without any control key pressed (for max. 2.5 sec.).

The anti-collision sensitivity is different in upward and downward direction. In downward direction the software is less sensitive and requires a higher load to activate the function. Thus, the Anti-Collision™ is not recommended for applications with light-weight desks.

The Anti-Collision function is not activated if the collision happens:

- during the initialisation procedure
- within the first second of desk panel activation (ramp-up time) or within the first second after the desk panel has been released (ramp-down time)
- in downward direction and the load at the point of collision is too low
- over too long time, e.g., if the collision is with a soft object

Accessories

Ordering accessories

Order from your nearest LINAK® contact, distributor or subsidiary.

Accessories

Please contact your nearest LINAK contact, distributor or subsidiary.



Warning!

By unauthorised opening of the system there is a risk that it may malfunction at a later date.

Spare parts

Please contact your nearest LINAK contact for information on spare parts.

Disposal of LINAK product

As LINAK customers often ask us how our products can be disposed or scrapped we have prepared this guide that enables a classification to different waste fractions for recycling or combustion.

Guide

We recommend our products to be disassembled as much as possible and divided into different waste groups for recycling or combustion.

For example, waste can be sorted into metals, plastics, cable scrap, combustible material, and recoverable resources.

Some of these main groups can be further divided into subgroups; e.g. metal can be divided into steel/aluminium/copper and plastic can be divided into ABS/PA/PE/PP.

As an example, the table below breaks down the different components in LINAK products to various recycling groups:

Product	Components	Recycling group
Columns/ Actuator :	Spindle and motor Plastic housing Cable PCB boards	Scrap Plastic recycling or combustion Cable scrap or combustion Electronics scrap
Control Box :	PCB boards Plastic housing	Electronics scrap Plastic recycling or combustion
Handset/Control :	Plastic housing Cable PCB board	Plastic recycling or combustion Cable scrap or combustion Electronics scrap

By now almost all our cast plastic parts are supplied with an interior code for plastic type and fibre content, if any.

Main groups of disposal

Product main groups	Metal Scrap	Cable scrap	Electronics scrap	Plastic recycling or combustion	Comments
DL18/DL19	X	X	X	X	
CBD6S (SMPS)			X	X	
DPXX		X	X	X	

Disposal of batteries

Details regarding safe disposal of used and leaking batteries:

Batteries should be disposed in accordance with appropriate federal, state and local regulations. LINAK recommends that used or leaking batteries are disposed through local recycling system. Please do not throw used or leaking batteries in normal household waste or in nature. This will cause damage to the environment.

How to deal with leaking batteries

Leaking batteries should be disposed as described above.

If leaking batteries are discovered in the products, the batteries must be moved immediately to minimise damage to the product. If leaking batteries are left in the product it might become defect.

It is recommended to use plastic gloves when handling of leaking batteries. The contents of a leaking batteries can cause chemical burns and respiratory irritation.

If exposed to the contents of a leaking battery, please wash with soap and water. If irritation persists, please seek medical attention. In case of eye contact, please flush eyes thoroughly with water for 15 minutes and seek medical attention."

Labels


Label for DL18

LINAK® 

Designed in Denmark
DK - 6430 Nordborg

Item No. : DL18000BP0500645
Prod. Date : 2020.05.28
Max. Load : 800 N
Power Rate : 18 V $\bar{=}$, Max. 10.0 A
Duty Cycle : 10%, Max 2 min. / 18 min.

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL.
NE PAS OUVRIER PAR DU PERSONNEL NON AUTORISE

W/O #12345678-0001 MADE IN DENMARK

Label for DL19 - 800 N

LINAK® 

Designed in Denmark
DK - 6430 Nordborg

Item No. : DL19000B00650560
Prod. Date : 2017.06.02
Max Load : 800 N
Power Rate : 18 V $\bar{=}$ / Max. 10.0 A
Duty Cycle : 10%, Max 2 min. / 18 min.

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL.
NE PAS OUVRIER PAR DU PERSONNEL NON AUTORISE

W/O #1234567-0001 MADE IN DENMARK

Label for DL19 - 1200 N

LINAK® 

Designed in Denmark
DK - 6430 Nordborg

Item No. : DL19100B00650560
Prod. Date : 2017.06.02
Max Load : 1200 N
Power Rate : 18 V $\bar{=}$ / Max. 10.0 A
Duty Cycle : 10%, Max 2 min. / 18 min.

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL.
NE PAS OUVRIER PAR DU PERSONNEL NON AUTORISE

W/O #1234567-0001 MADE IN DENMARK

Label for CBD6S 200W (SMPS)

LINAK® 

GROUP HEADQUARTERS
SMEDEVAENGET 8
DK 6430 NØRDBORG

WE IMPROVE YOUR LIFE
DESIGNED IN DENMARK

Item : CBD6SP00020A-009
Date : 2012.11.09
U In : 230 V $\bar{=}$, 50 Hz
P In : 300 W
U Out : 12 V $\bar{=}$ - 40 V $\bar{=}$
Op. : Int. 10%, Max. 2 min. / 18 min.
S.W. P/N: 03002000 Ver. B1.00

 0.1 W
Standby
Power

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL.
NE PAS OUVRIER PAR DU PERSONNEL NON AUTORISE

P.O.1234567-0001 MADE BY LINAK A/S DENMARK

Label for CBD6S 300W (SMPS) up to 4 channels

LINAK® 

GROUP HEADQUARTERS
SMEDEVAENGET 8
DESIGNED IN DENMARK DK 6430 NØRDBORG

WE IMPROVE YOUR LIFE

Item : CBD6SP00020A-709
Date : 2014.02.07
U In : 90 V - 240 V $\bar{=}$, 48 Hz - 63 HZ
P In : 450 W
U Out : 12 V $\bar{=}$ - 40 V $\bar{=}$
Op. : Int. 10%, Max. 2 min./18 min.
S.W. P/N: 03002000 Ver. XXX

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL.
NE PAS OUVRIER PAR DU PERSONNEL NON AUTORISE



P.O.-0000

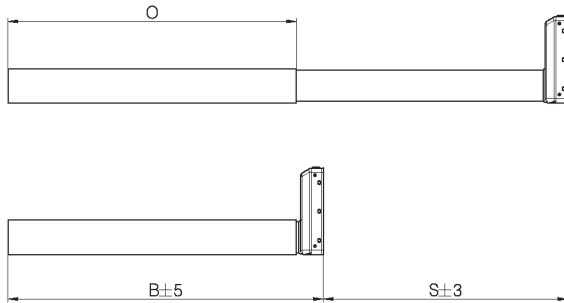
Assembled in China 01

DRAWING APPENDIX

DL18



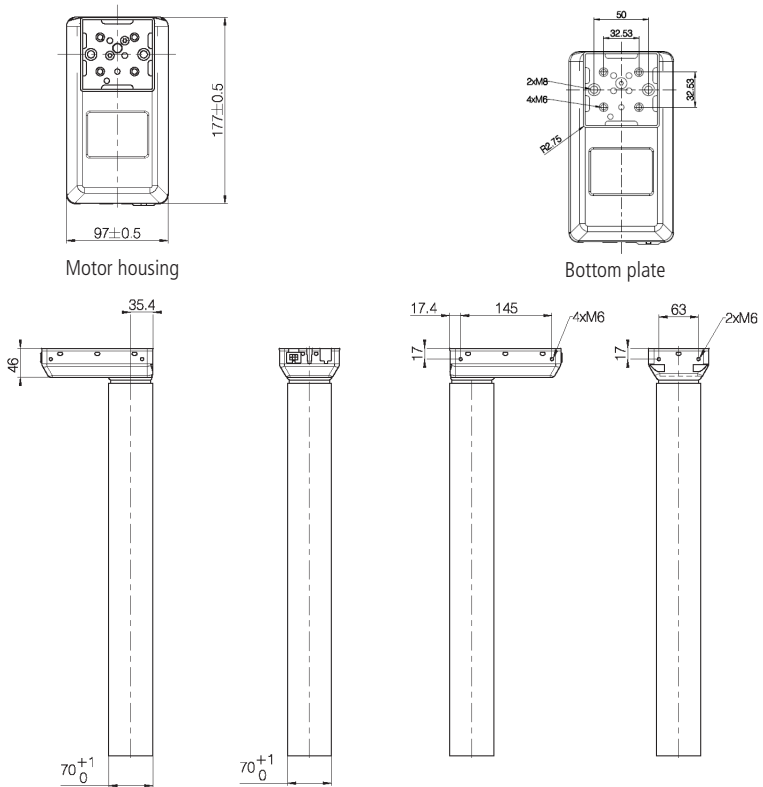
All measurements are without powder coating.



Version	Combination code	B (Built-in length) [mm]	S (Stroke length) [mm]	O (Outer profile length) [mm]
EU	DL18xxxxx500645	645	500	590

DL18 built-in length, stroke length, and outer profile length (mm)

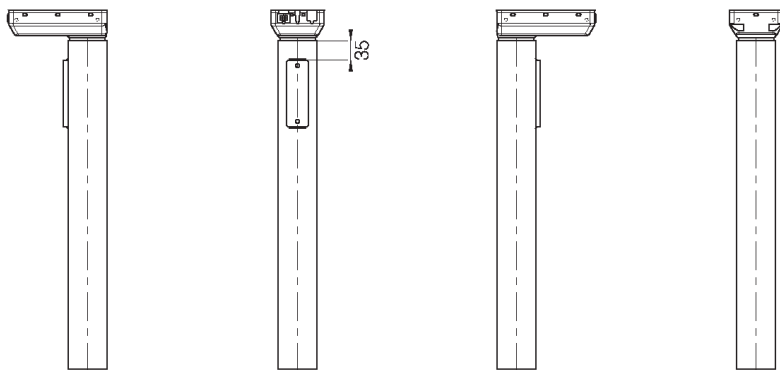
DL18 motor housing and profile dimensions (mm)



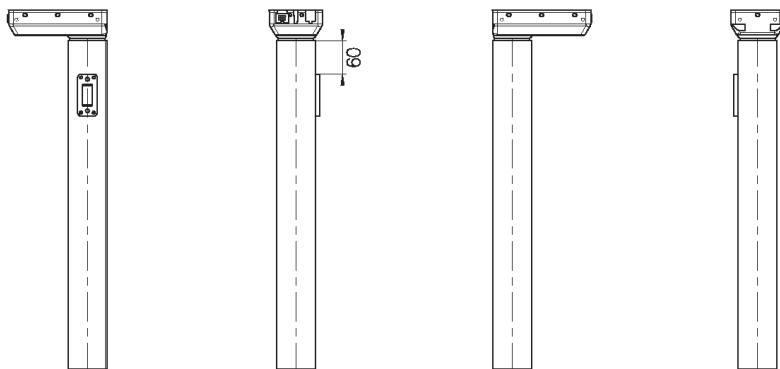
DL18 dimensions (mm)

DL18 Bracket options

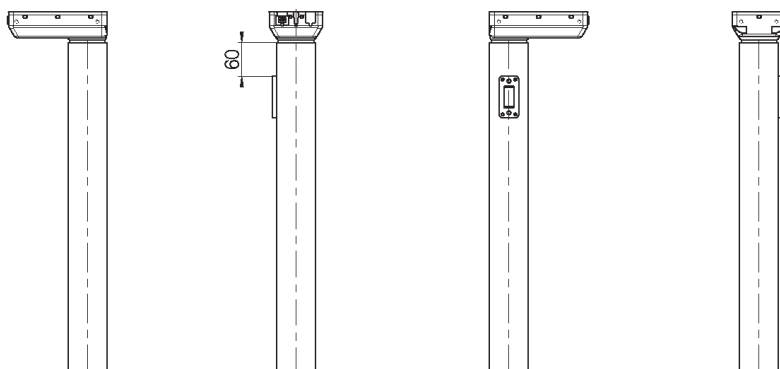
Std bracket



Bench left



Bench right

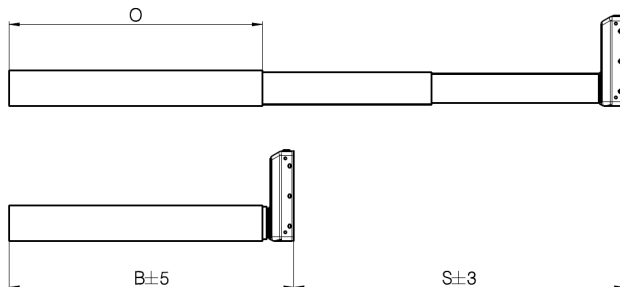


Combination code	Std bracket	Bench left	Bench right
DL18xx1xxxxxxxxx	X		
DL18xxLxxxxxxxxx		X	
DL18xxRxxxxxxxxx			X

Bracket options (dimensions in mm)



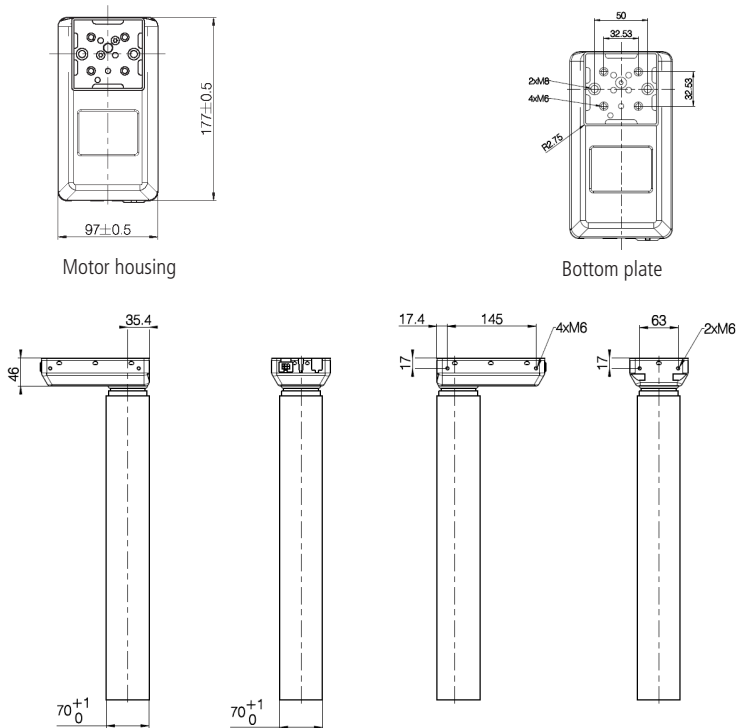
All measurements are without powder coating.



Version	Combination code	B (Built-in length) [mm]	S (Stroke length) [mm]	O (Outer profile length) [mm]
EU	DL19xxxxxx650560	560	650	498

DL19 built-in length, stroke length, and outer profile length (mm)

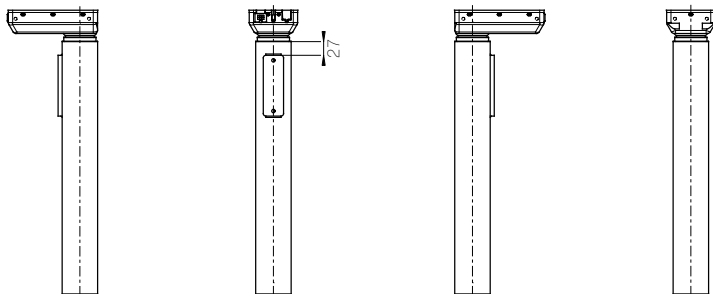
DL19 motor housing and profile dimensions (mm)



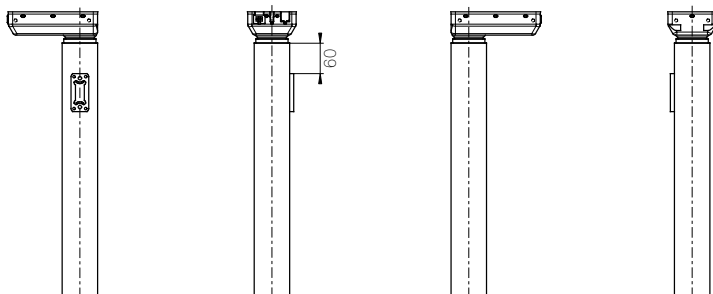
DL19 motor housing and profile dimensions (mm)

Bracket options

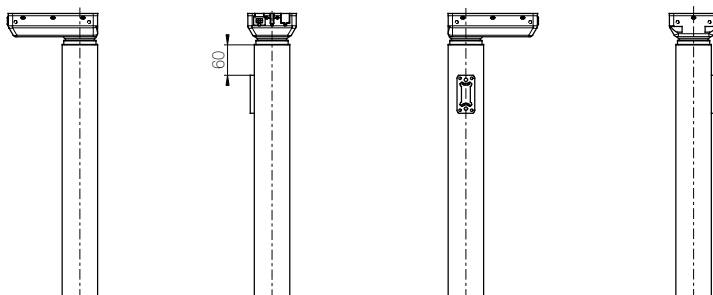
Std bracket



Bench left



Bench right



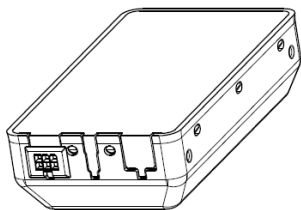
DL19 motor housing and profile dimensions (mm)

Combination code	Std bracket	Bench left	Bench right
DL19xx1xPxxxxxxxx	X *		
DL19xxLxxxxxxxx		X	
DL19xxRxxxxxxxx			X

Bracket options (dimensions in mm)

* Only available with PLUS™ columns

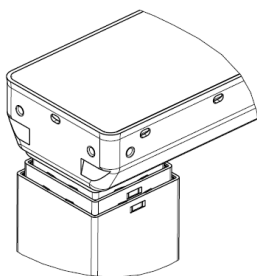
Sockets



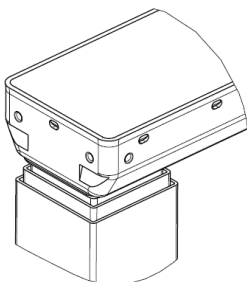
Standard

Combination code	Type
DL18xxxxx0xxxxxx	Standard
DL19xxxxx0xxxxxx	Standard
DL19xxxxxExxxxxx	Standard

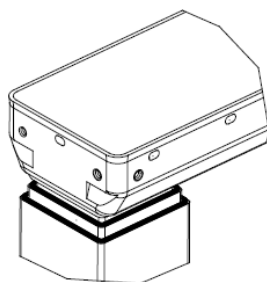
Profile designs



Standard



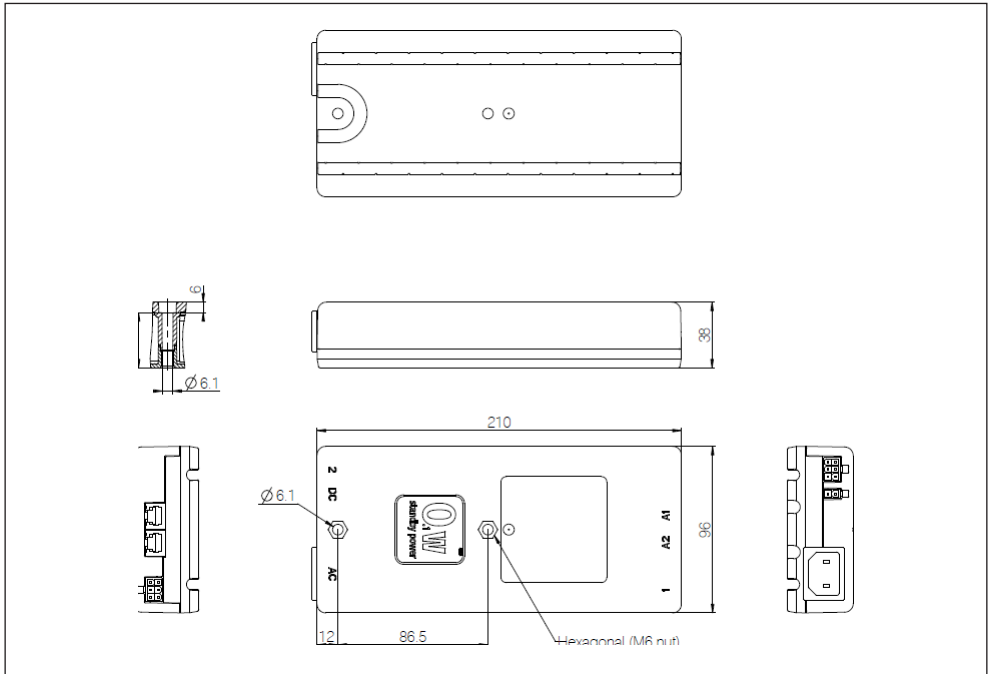
PLUS™ without trim rings



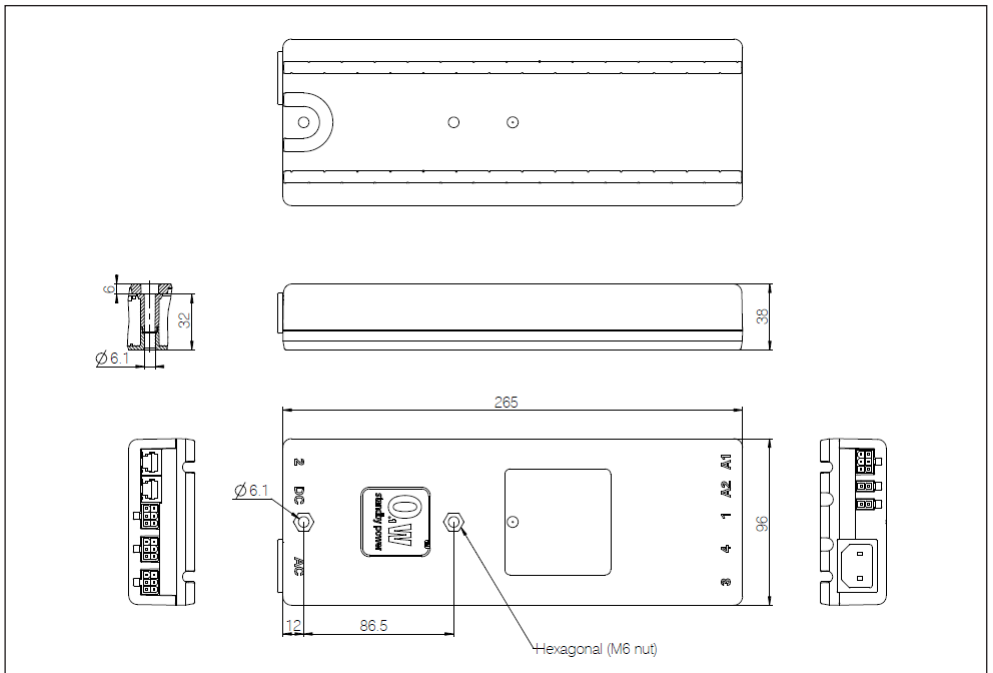
PLUS™ with trim rings

Profile designs

CBD6S 200W (SMPS)



CBD6S 300W (SMPS) up to 4 channels



LINAK APPLICATION POLICY

The purpose of the application policy is to define areas of responsibilities in relation to applying a LINAK product defined as hardware, software, technical advice, etc. related to an existing or a new customer application.

LINAK products, as defined above, are applicable for a wide range of applications within the Medical, Furniture, Desk and Industry areas. Yet, LINAK cannot know all the conditions under which LINAK products will be installed, used, and operated, as each individual application is unique.

The suitability and functionality of the LINAK product and its performance under varying conditions (application, vibration, load, humidity, temperature, frequency, etc.) can only be verified by testing, and shall ultimately be the responsibility of the LINAK customer using any LINAK product.

LINAK shall be responsible solely that LINAK products comply with the specifications set out by LINAK and it shall be the responsibility of the LINAK customer to ensure that the specific LINAK product can be used for the application in question.

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