



SUSPA GmbH

## Installation Instructions

English

### ELS3 Lifting Column System (with Electrical Components)



Read installation instructions carefully before initial use!

Follow the safety instructions!

This partly completed machinery is intended to be incorporated into other machinery, other partly completed machinery/equipment or to be joined with another framework so as to form a complete machine as specified under the Machinery Directive. The machine should be put into operation only after a conformity evaluation procedure in accordance with the Machinery Directive has been carried out for the complete machine.

No revision service applies to this documentation. The current installation instructions are available at

<http://www.suspa.com/global/downloads/>

These installation instructions are a component of the technical documentation of the system in accordance with the EC Machinery Directive.

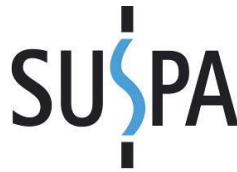
These installation instructions correspond to the "Guideline 2006/42/EC of the European Parliament and the Council for Adjustment of Legal and Administrative Regulations of Member States for Machinery" (Machinery Directive).

These installation instructions are addressed to the person in charge who must pass it on to the personnel responsible for the connection, use, and maintenance of the machine. The person in charge must ensure that the installation instructions and the information contained in the accompanying documents have been read and understood.

These installation instructions must be kept in a well-known and easily accessible location and read in case of any doubt.

The manufacturer is not liable for injuries to people or animals and damage to objects or to the machine itself arising from the improper/unauthorized use or by ignoring the safety criteria contained in these installation instructions or by modification of the machine or use of unsuitable spare parts.

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SUSPA GmbH  
Mühlweg 33  
90518 Altdorf  
GERMANY

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## 1 Information concerning this document

### 1.1 Structure of the warnings

The combination of a signal word in conjunction with a pictogram classifies the respective warning. The symbol can vary depending on the type of danger.

 **THE WARNING IS GIVEN BELOW A SIGNAL WORD THAT INDICATES THE EXTENT OF THE EXISTING DANGER.**

The first line after the signal word describes the type and source of the potential danger.

The following section describes the consequences if no measures are adopted to safeguard against the danger.

The last paragraph describes the measures to avoid the danger.

### 1.2 Signal words and signal colors

The following signal words are based on DIN EN 82079-1 and ANSI Z 535.4, and are used in this documentation. The safety colors have been taken from standard ISO 3864-1.






Signal word	Use	Explanation
	Warning notice	Indicates a dangerous situation, which, if ignored, leads to death or severe injuries.
	Warning notice	Indicates a dangerous situation, which, if ignored, may lead to injuries and damage to property.
	Warning notice	Indicates a dangerous situation, which, if ignored, may lead to minor injuries and damage to property.
	Note	Refers to ways to facilitate and simplify operation and to cross-references. It excludes the danger of damage to property and the risk of injuries.
	Safety instruction	Draws attention to specific safety-relevant instructions or procedures.

Table 1 Signal words and signal colors

## 1.3 Symbols

Some of the following special safety symbols according to DIN EN ISO 7010: 2011 are used in the corresponding sections of these installation instructions and require particular attention depending on the signal word and symbol combination:


Symbol	Use	Explanation
	Note	Important information for understanding the device or for optimized operations.

Table 2 Symbols

### 1.3.1 Warning notice




Symbol	Explanation	Symbol	Explanation
	General warning sign		Warning against hazardous electrical voltage
	Warning of hand injuries		

Table 3 Warning notice

## 2 Identification and notes

### 2.1 Designation

ELS3 lifting column system (optionally with double-click function)

Consisting of:

- ELS3 lifting column
- Electrical controller
- Hand switch
- Connection cable

### 2.2 Manufacturer



SUSPA GmbH  
Mühlweg 33  
90518 Altdorf  
GERMANY

### 2.3 Intended use

The SUSPA ELS3 lifting column system is used to adjust the height of work places in offices meant for use in seated or standing position. Together with a specifically designed frame from the SUSPA GmbH product range, the ELS3 lifting column system make up the table base frame for an office workbench. The lifting column system is designed for load that applies pressure.

**IMPORTANT** Prior to installation or commissioning, ensure that the appropriate lifting column system has been selected. Please note in this regard the technical specifications (see section 4.1 Technical specifications), in particular, the maximum load and adjustment range information.

Any other or advanced use of the lifting column system is deemed not to be in the manner intended and thus improper. In this case, the safety and protective functions of the lifting column system may be compromised.

This partly completed machinery is intended to be incorporated into other machinery, other partly completed machinery/equipment or to be joined with another framework so as to form a complete machine as specified under the Machinery Directive. The machine should be put into operation only after a conformity evaluation procedure in accordance with the Machinery Directive has been carried out for the complete machine.

SUSPA GmbH assumes no liability for damage resulting from such improper use.

Intended use also includes:

- following all instructions in the installation instructions
- following all the safety instructions
- compliance with the maintenance intervals

## 2.4 Reasonably foreseeable misuse

Improper use that could result in risks posed to the user, third parties or to the lifting column system in all operating modes includes the following:

- using the lifting column system contrary to its intended use
- installation of the lifting column system onto components that have not been approved by SUSPA GmbH for this system
- improper installation, commissioning, operation and maintenance of the system
- operating the lifting column system beyond the physical operating limits described in section "Operating conditions"
- any modifications to the lifting column system as well as any add-ons or conversions without prior consultation with the company, SUSPA GmbH
- operating the lifting column system contrary to the instructions in the operating manual, in particular the instructions on safety, installation, operation and faults
- operating the lifting column system with apparent malfunctions and/or defects



### **WARNING**

#### **Risk of sustaining injuries due to unauthorized changes**

Unauthorized modifications to the component as well as the use of spare parts from other manufacturers (not original spare parts) may pose risks.

Do not allow any unauthorized or other modifications to the component without prior approval of SUSPA GmbH.

**IMPORTANT** This equipment is not meant to be used by persons (including children) with limited physical, sensory and mental capabilities or lacking experience and/or knowledge, unless they are supervised by a person responsible for their safety or have received instructions from them about how the equipment has to be used. Children must be supervised in order to ensure that they do not play with the equipment.



## 2.5 General instructions

### 2.5.1 Warranty and liability

The "General Terms and Conditions" of SUSPA GmbH always apply. They have been made available to the owner since the contract was signed at the latest.

Warranty claims and liability claims for personal injury and material damage are excluded if they are attributed to one or more of the following causes:

- Improper use of the component
- Improper installation, commissioning, operation and maintenance of the component
- Disregarding the information in the installation instructions
- Unauthorized structural modifications of the lifting column system
- Inadequate implementation of the prescribed maintenance operations
- Disasters caused by external influence or force majeure
- Repairs that have not been carried out by the manufacturer's specialists

Read the installation instructions carefully before using and putting the component into operation. The installation instructions should familiarize the user with the handling of the components and instruct the user in the details associated with function and maintenance. The installation instructions must be made accessible to personnel at all times and must be kept available near the lifting column system. The notes provided in the installation instructions regarding maintenance and operational safety must be observed and complied with. SUSPA GmbH would be pleased to answer any questions extending beyond the scope of these installation instructions.

### 2.5.2 Objectives of the installation instructions

These installation instructions serve as a support and contain all necessary instructions that must be observed and complied with for general safety, transport, installation, operation, maintenance, storage and disposal.

These installation instructions with all safety instructions as well as all additional documents of the assemblies provided by external suppliers must be:

- observed, read and understood by all persons working on the lifting column system; this applies, in particular, to the safety instructions
- easily accessible at all times to all persons
- consulted even in case of the slightest doubt (safety)

#### Objectives:

- Prevent accidents
- Increase the service life and reliability of the components

**IMPORTANT** The right to technical modifications in the context of continuous product improvement is reserved at all times without prior notification!

## 2.5.3 Target audience of the installation instructions

At different life cycle phases of the lifting column system, personnel with varied competences may come into contact with the lifting column system.

Tasks	Specialized personnel	Company SUSPA GmbH	Private person
Shipping (Delivery)		X	
Transport (Dispatching)	X	X	X
Commissioning / Installation	X	X	X
Operation	X	X	X
Troubleshooting	X	X	X
Repairs		X	
Decommissioning / Dismantling	X	X	X

Table 4 Target group

### Specialized personnel

Persons who can evaluate the work assigned to them and recognize possible dangers on the basis of their specialized training, knowledge, experience and familiarity with the relevant standards.

### External specialized personnel (SUSPA)

External specialized personnel are specifically trained for the manufacturer's products and are familiar with every life cycle phase of the lifting column system. The life cycle phases from the transport up to the hand-over to the operating company are usually carried out by external specialized personnel.

### Private person

Persons with no previous knowledge in the field of installation of mechanical and electrical components.

Outside the Federal Republic of Germany, the accident prevention regulations and safety provisions of the respective country apply.

## 3 Safety instructions



### **WARNING**

#### **Risk of sustaining injuries and damage to property**

Risks are posed by ignoring the installation instructions and all safety instructions provided therein.

Read the installation instructions carefully before the initial commissioning. Fulfill and follow the safety conditions required.

Observe and follow both the general safety instructions and also the special safety instructions provided in the other sections.

The components have been constructed using state-of-the-art technology and in line with established safety regulations. In order to prevent danger to life and limb of the user, third parties, or to the component, use the components only for intended purpose and in perfect operating condition in terms of safety.

The operator of the components or the persons assigned by the same are liable for property damage and personal injury resulting from non-compliance with the instructions provided in the installation instructions.

If there are any problems with the ELS3 lifting column system, immediately disconnect the controller from the power supply and contact your dealer!

### 3.1 Obligations



### **WARNING**

#### **Risk of sustaining injuries by disregarding the safety symbols**

A risk of sustaining injuries is posed by disregarding the warning notices provided in the area of the component and in the installation instructions.

Heed all the warnings and safety notices in these installation instructions.

**The following circumstances could increase the hazard potential of the components:**

- Hazard posed to persons through mechanical influences
- Malfunctions that may impair the safety during operation of the components

## 3.1.1 Responsibilities of the operating company

This partly completed machinery is intended to be incorporated into other machinery, other partly completed machinery/equipment or to be joined with another framework so as to form a complete machine as specified under the Machinery Directive. The machine should be put into operation only after a conformity evaluation procedure in accordance with the Machinery Directive has been carried out for the complete machine.

## 3.2 Residual risk

**IMPORTANT** A residual risk is posed by inadvertent movement of the lifting column system. The following are determined as potential causes for this matter:

- Damaged cable
- External influences (EMC)
- Defects in the lifting elements, the controller or on the manual switch
- ➔ Take the residual risk into consideration with the construction and while preparing the operating instructions of the final product.

Operation with double-click function (with Hand switch Memory, see page 44)



### WARNING

**Risk of crushing and sustaining injuries to the hands, as well as damage to property.**

An increased risk of being crushed or pinched is posed by automatic change of position of the lifting column system via the double-click function (in particular, without the use of an anti-crushing device).

Therefore, ensure that no objects or persons are in the danger zone (500 mm around the lifting column system), and nobody reaches into the danger zone.



### WARNING

**Risk of sustaining injuries due to unsupervised traversing movements**

By double-clicking a position memory key, the lifting column system automatically moves to the memorized lifting column position. Persons or objects present in the danger zone are subject to an increased risk of being crushed.

Therefore, keep a safety clearance of at least 500 mm during the automatic traversing movement.

Never leave the lifting column system unattended during automatic traversing movements.

**IMPORTANT** Observe the manuals and, in particular, the safety instructions and warnings of the manual switch and the controller manufacturer: <http://www.logicdata.net>.

## 3.3 Additional instructions

Basically, the provisions of the accident prevention regulations of the professional association also apply to all work on the lifting column system.

### **In addition, observe and follow**

- applicable and binding accident-prevention regulations
- applicable and binding regulations at the place of use
- recognized technical regulations for safe and professional working methods
- existing environmental protection regulations
- other applicable regulations

## 4 Design and function

### 4.1 Technical specifications

Technical specifications – Lifting column system (overview)							
Lifting column dimensions							
Profile:	Square				Rectangle		
	Dual telescopic		Single telescopic		Dual telescopic		
Position of bit tube:	BTU*	BTD**	BTU*	BTD**	BTU*	BTD**	
Adjustment range (stroke):	650 mm		500 mm		650 mm		
Compressed length:	565 mm		650 mm / 680 mm		565 mm		
Extended length:	1215 mm		1150 mm / 1180 mm		1215 mm		
Controllers (overview)							
Input voltage:	230 V / 50 Hz						
Standby use:	≤ 0,3 W (COMPACT, SMART) / ≤ 0,1 W (SMARTneo-2G)						
Performance data							
Adjustment speed:	38 mm/s		35 mm /s		38 mm/s		35 mm/s
Lifting capacity:	see detailed description of the lifting column (page 15)						

Table 5 Technical specifications (overview)

\* BTU: Big Tube Up

\*\*BTD: Big Tube Down

**IMPORTANT** The designation of the respective model can be found on the rating plate of the controller and the lifting column, e. g. “ELS3-650-BTD” or “ELS3-473S-BTU”, etc.. It must be made sure that the lifting columns are only operated with controllers with the same designation.

## 4.1.1 ELS3-650-BTU-Q lifting column (dual telescopic, big tube up, square)

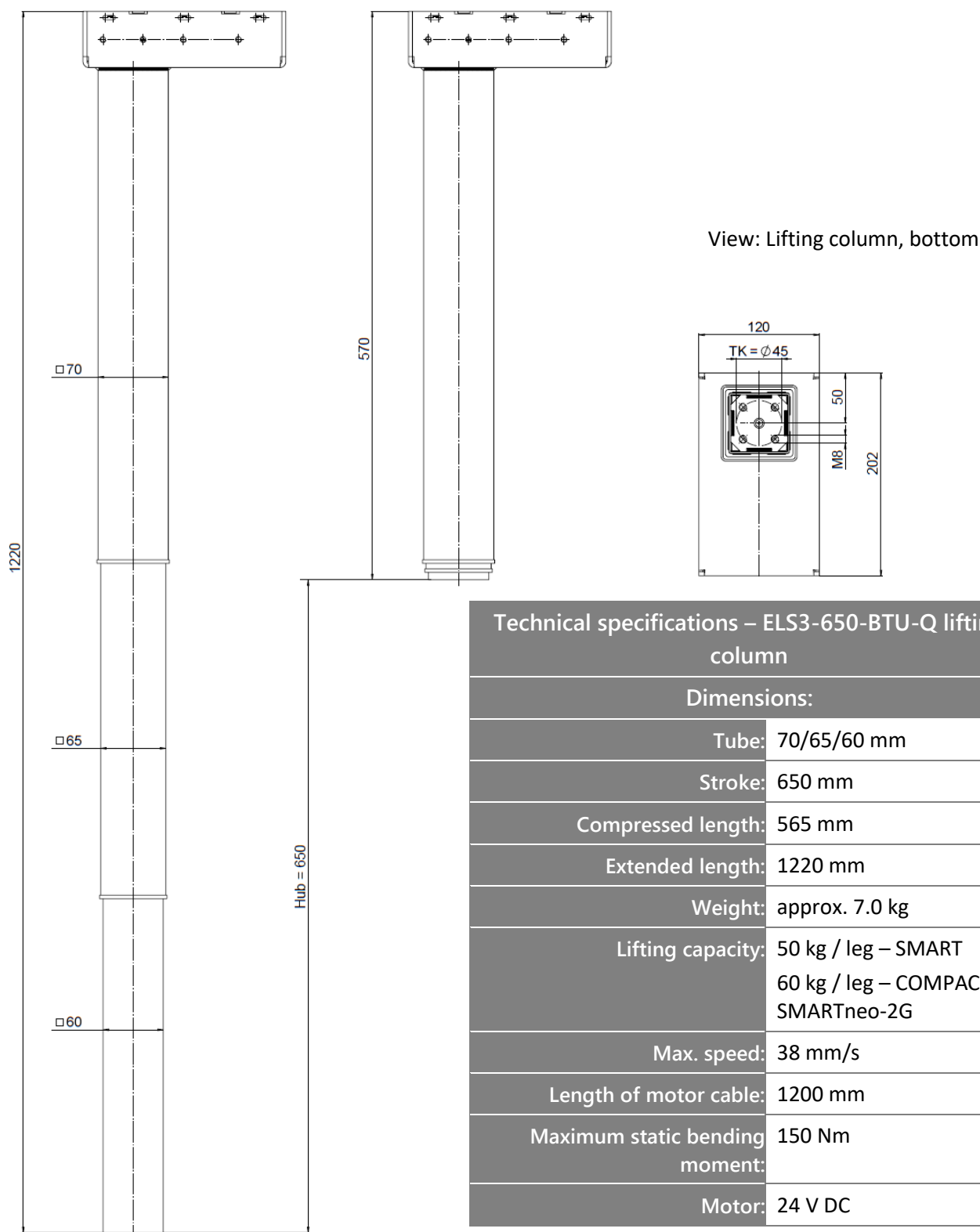


Figure 1 ELS3-650-BTU-Q lifting column

Table 6 Technical specifications ELS3-650-BTU-Q lifting column

## 4.1.2 ELS3-650-BTD-Q lifting column (dual telescopic, big tube down, square)

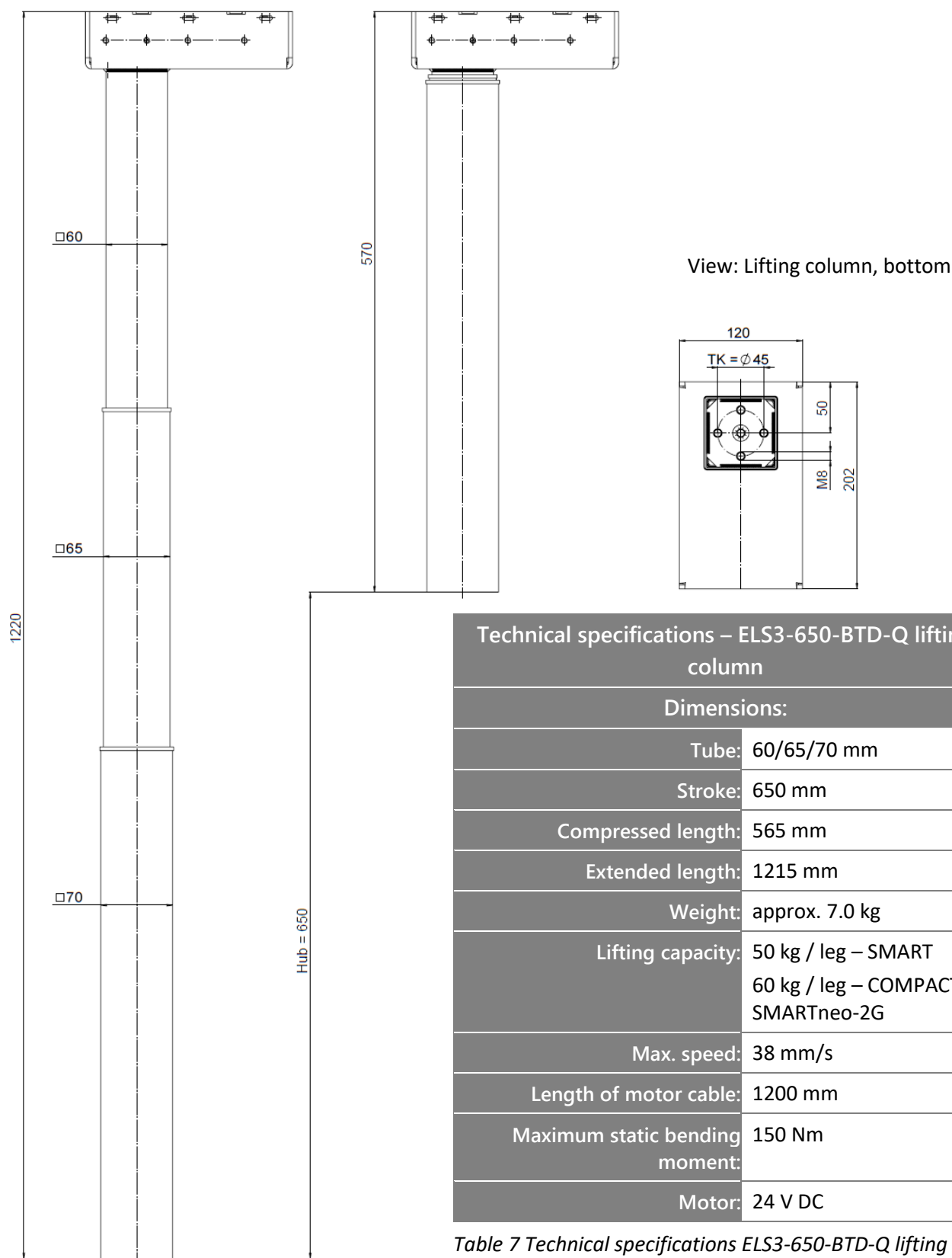


Figure 2 ELS3-650-BTD-Q lifting column

Table 7 Technical specifications ELS3-650-BTD-Q lifting column



## 4.1.3 ELS3-500-BTU-Q lifting column (single telescopic, big tube up, square)

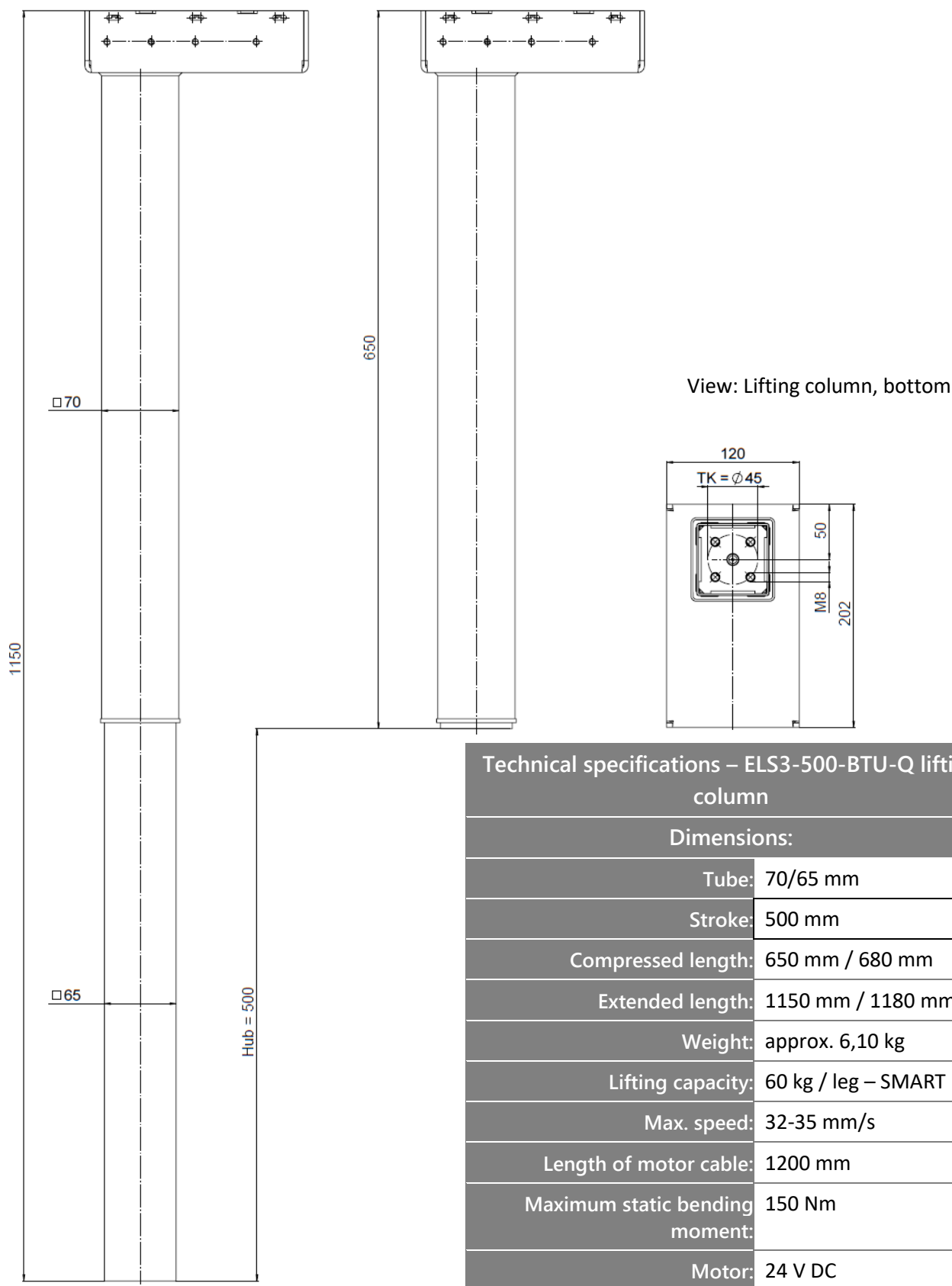


Figure 3 ELS3-500-BTU-Q lifting column

Table 8 Technical specifications ELS3-500-BTU-Q lifting column

## 4.1.4 ELS3-500-BTD-Q lifting column (single telescopic, big tube down square)

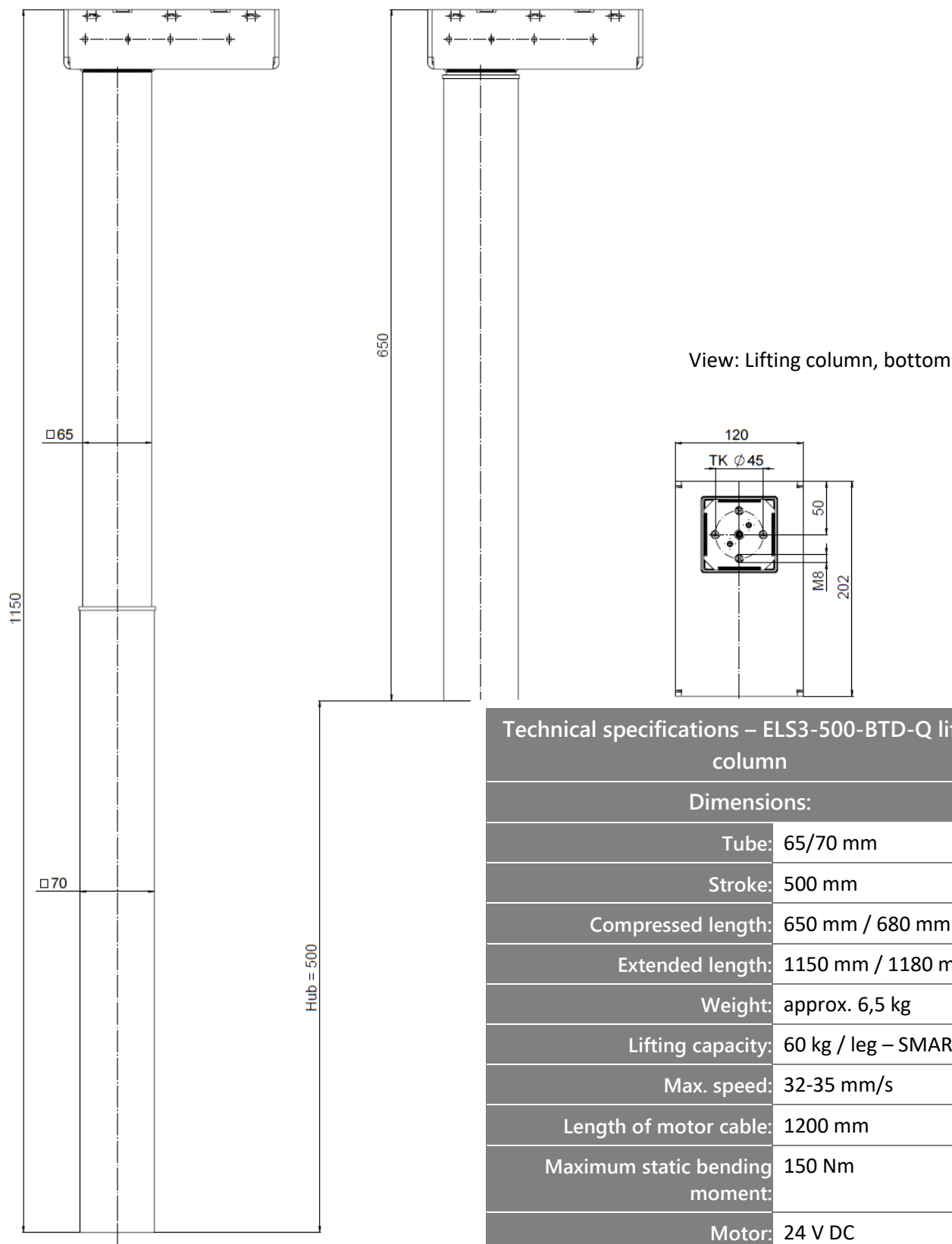


Figure 4 ELS3-500-BTD-Q lifting column

Table 9 Technical specifications ELS3-500-BTD-Q lifting column

## 4.1.5 ELS3-650-BTU-RE lifting column (dual telescopic, big tube up, rectangular)

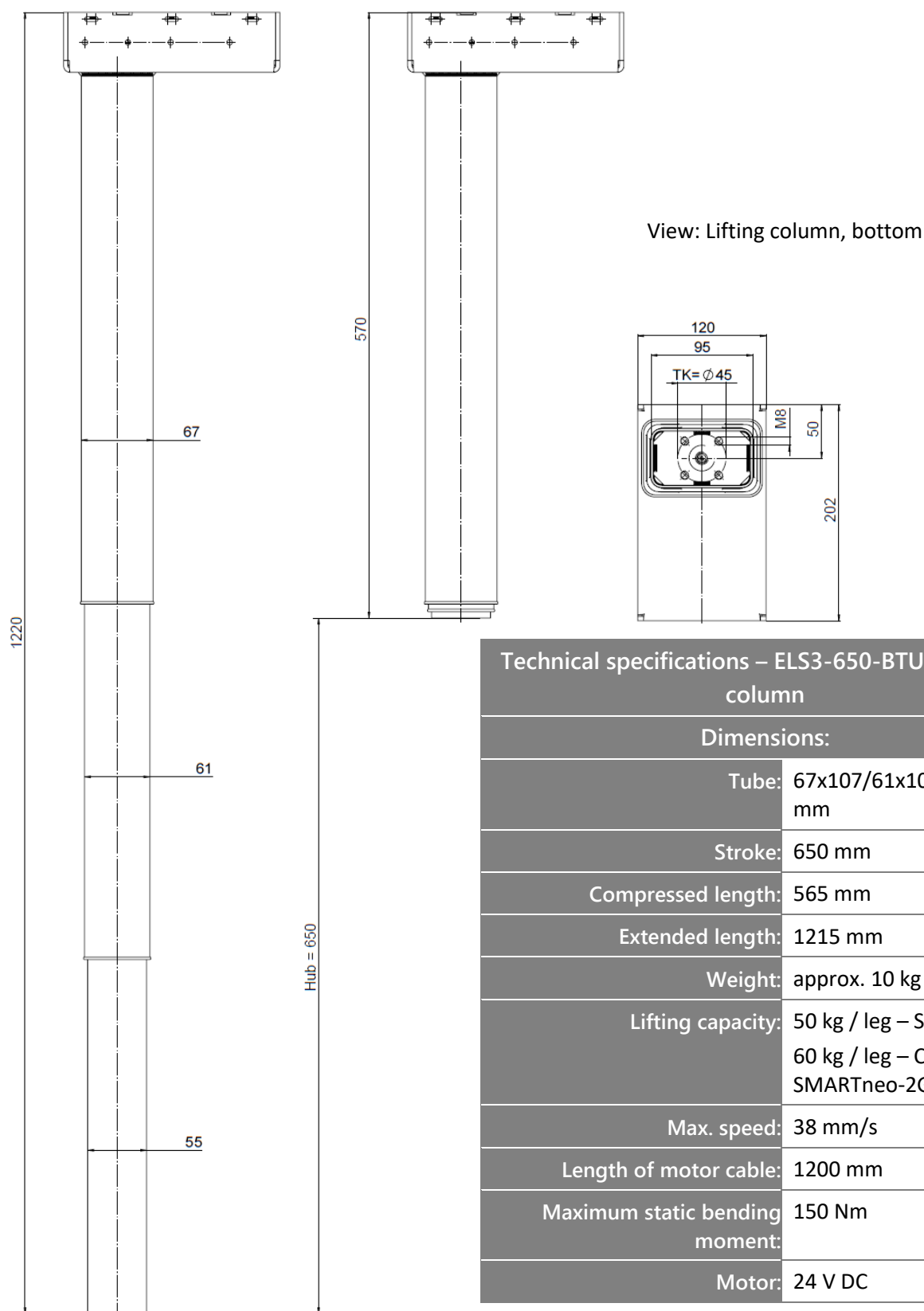


Figure 5 ELS3-650-BTU-RE lifting column

Table 10 Technical specifications ELS3-650-BTU-RE lifting column

## 4.1.6 ELS3-650-BTD-RE lifting column (dual telescopic, big tube down, rectangular)

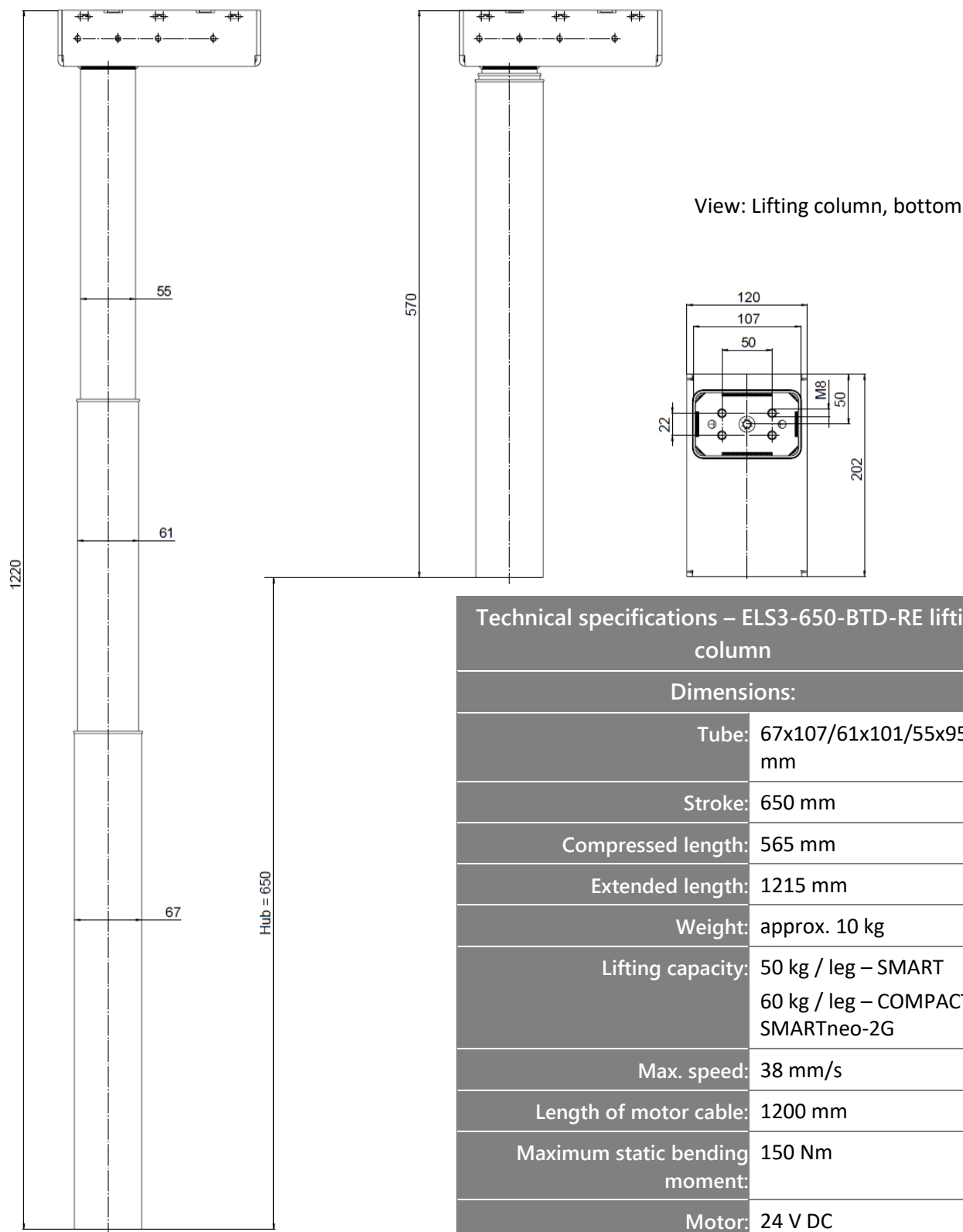


Figure 6 ELS3-650-BTD-RE lifting column

Table 11 Technical specifications ELS3-650-BTD-RE lifting column

## 4.1.7 Dimensions, COMPACT Controller

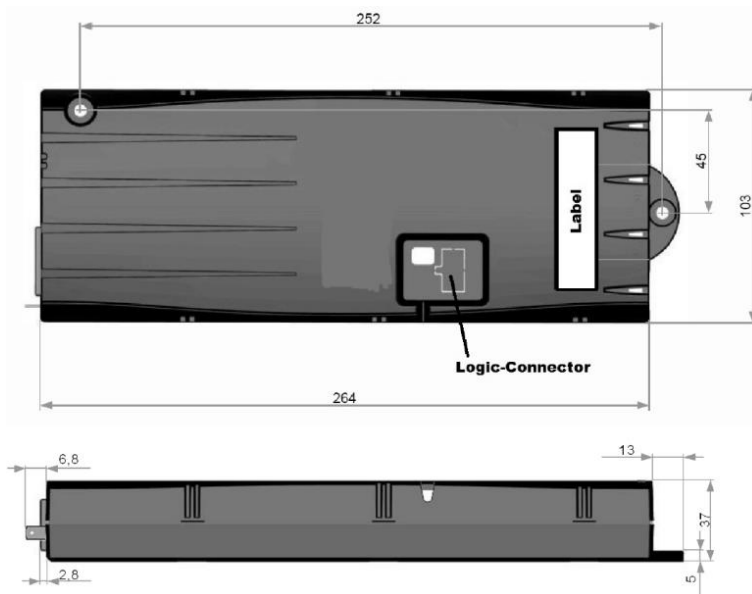


Figure 7 COMPACT Controller

Technical specifications – COMPACT controller	
Output rating:	max. 360 VA
Standby use:	≤ 0.3 W
Weight:	approx. 420 g
Dimensions:	264 x 103 x 37 mm
Rated voltage:	230 V / 50 Hz
For further details, see manufacturer data sheet at: <a href="http://www.logicdata.net">http://www.logicdata.net</a>	

Table 12 Technical specifications COMPACT controller

## 4.1.8 Dimensions, SMART controller

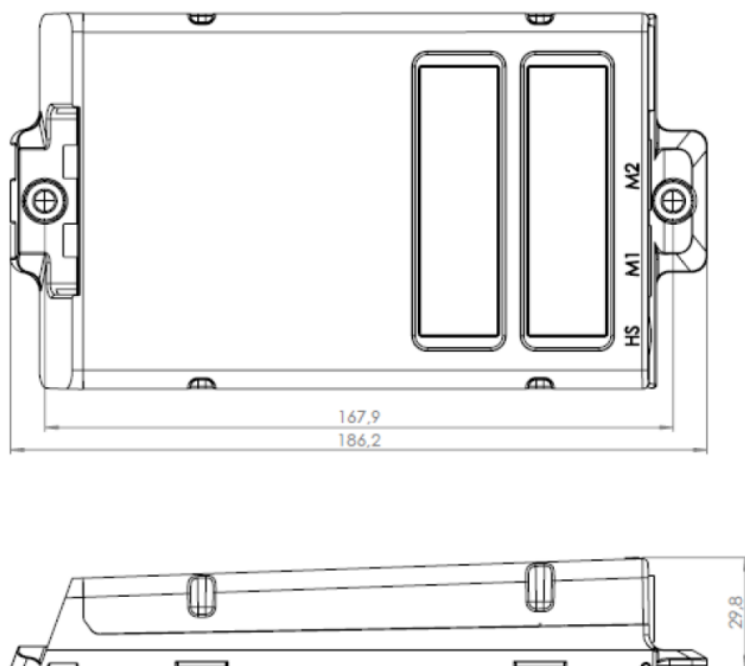


Figure 8 SMART controller

Technical specifications – SMART controller	
Output rating:	216 VA
Standby use:	≤ 0.3 W
Weight:	approx. 305 g
Dimensions:	186 x 100 x 30 mm
Rated voltage:	230V / 50 Hz
For further details, see manufacturer data sheet at: <a href="http://www.logicdata.net">http://www.logicdata.net</a>	

Table 13 Technical specifications SMART controller

## 4.1.9 Dimensions, SMARTneo-2G controller

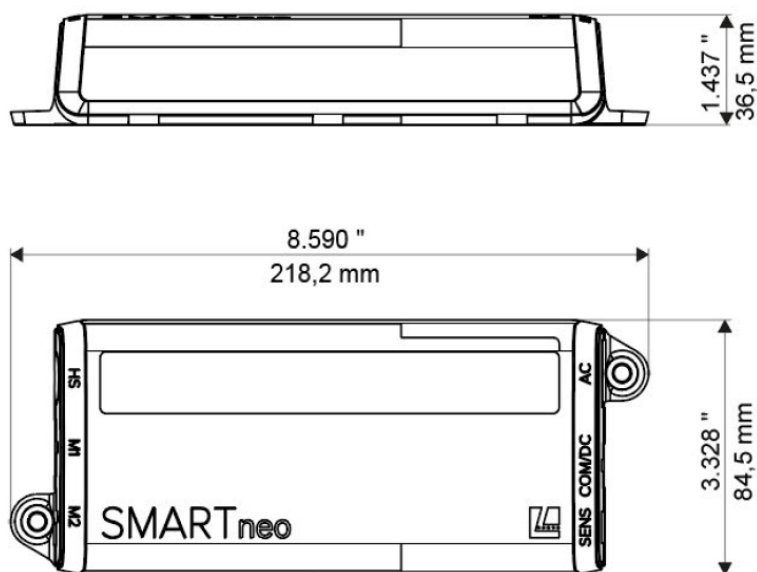


Figure 9 SMARTneo-2G controller

Technical specifications – SMARTneo-2G controller	
Output rating:	240 VA
Standby use:	≤ 0.1 W
Weight:	approx. 317 g
Dimensions:	219 x 85 x 37 mm
Rated voltage:	230 V / 50 Hz
For further details, see manufacturer data sheet at: <a href="http://www.logicdata.net">http://www.logicdata.net</a>	

Table 14 Technical specifications SMARTneo-2G controller

## 4.1.10 Control elements

- Hand switch HSU-C-FL-LD
- Hand switch HSM-OD-2-LD
- Hand switch HSU-MDF-4M2-LD
- Hand switch TOUCHbasic DN
- Hand switch TOUCHfx
- Hand switch TOUCHbasic IL
- Hand switch TOUCHinlay

## 4.1.11 Other accessories

- LOGIClink communication center
- Power cable (for different countries)

## 4.1.12 Packaging units and weights

The complete ELS3 lifting column system is combined into one packaging unit for individual acceptances. Therefore, the total weight of the packaging unit depends on the configuration of the ELS3 lifting column systems. The total weight of the packaging unit amounts between 15 and 25 kg here.

**IMPORTANT** When handling the packaging units with ELS3 lifting column systems and individual components - in this instance the lifting columns – observe the respective weight limits. In particular, adhere to applicable regulations, provisions and laws regarding the lifting and carrying of loads.



## 5 Transport

### 5.1 Safety instructions for transport



#### **WARNING**

##### **Risk of falling loads**

Risks are posed by human misconduct and inadequately secured loads.

Allow only those individuals who have been specially trained to perform transportation work. Secure the load against changing its position.

Pay attention to the position of the center of gravity of the component during transport.

Secure the component for transport by heavy goods vehicle on the loading surfaces with suitable means.



#### **WARNING**

##### **Risk of sustaining injuries due to unsecured transport routes**

A risk of tripping or slipping is posed while transporting the components.

Arrange for proper illumination of the routes, ramps and steps over which loads are moved. Remove obstacles and stumbling points.



#### **CAUTION**

##### **Damage caused by improper transport**

Transport with extended lifting elements may result in risk of damage to property or personal injury.

Retract the lifting element completely when transporting.

### 5.2 Transportation procedure

The components have to be moved by suitable means. Use suitable cables, chains or straps for loading and unloading according to the load / weight.

**IMPORTANT** The shipment must be made by specialized personnel of SUSPA GmbH. The further transport must be made by specialized personnel and private persons. The following points must be observed for transporting / unloading of the components:

- Note the center of gravity.
- Avoid rubbing cables and lifting straps against sharp edges and corners.
- Check the delivered components for completeness, damage or any other abnormalities. Observe the applicable safety and accident prevention regulations during transport.

## 6 Installation

### 6.1 Safety instructions for installation



#### CAUTION

##### **Danger of crushing**

A risk of crushing is posed due to the short distance to other objects and structures.

Make sure that the workplace has a minimum distance of 50 mm from other objects or structures. Make sure that walls, furniture, electrical wiring, or other solid structures do not impede the movement of the workplace during operation.

**IMPORTANT** The installation of the component must be carried out by specialized personnel of SUSPA GmbH, other specialized personnel, maintenance personnel and private persons.

**IMPORTANT** Do not lift the Height Adjustment System on the motor cables or power cords. Keep the motor cable and power cable away from heat, sharp edges, and moisture. Immediately suspend the operation of the product if you notice that the motor cable or power cord are damaged and replace the damaged components without delay. Never attempt to repair damaged motor cables or power cords.

**IMPORTANT** Check all components for any damage that may have occurred during transport or installation before operating the system. Do not try to dismantle the system or system components. Contact SUSPA GmbH in the event that components must be repaired or replaced.





### 6.2 Unpacking

Proceed with the necessary diligence and caution when unpacking the system components. Do not use any sharp-edged objects, cutters or knife blades in order to prevent damage to near electrical cables or components that may get damaged easily.


- ➔ Check the delivery for completeness, damage or anything else that is conspicuous!
- ➔ Observe the applicable safety and accident prevention regulations during transport.
- ➔ Contact details can be found in section 2 "Identification".

## 6.2.1 Scope of supply

The following components are included in the system:

Component	Quantity	Model	Figure
Electrical lifting columns ELS3	2	BTU (big tube up) or BTD (big tube down)	 <p><i>Figure 10 Example of lifting column (ELS3-650-BTU-Q, dual telescopic)</i></p>
		Q (square tube cross-section) or RE (rectangular tube cross-section)	
		Single telescopic or dual telescopic	
Controller (different versions)	1	COMPACT	 <p><i>Figure 11 COMPACT controller</i></p>
		SMART	 <p><i>Figure 12 SMART controller</i></p>
		SMARTneo-2G	 <p><i>Figure 13 SMARTneo-2G controller</i></p>

*Continued on the next page*

Component	Quantity	Model	Figure
Manual switch (different versions)	1	HSU-C-FL-LD	 <p>Figure 74 HSM-OD-2-LD manual switch</p>
		HSM-OD-2-LD	 <p>Figure 85 HSM-OD-2-LD manual switch</p>
		HSU-MDF-4M2-LD	 <p>Figure 96 HSU-MDF-4M2-LD manual switch</p>
		TOUCHbasic DN	 <p>Figure 107 TOUCHbasic DN manual switch</p>
		TOUCHfx	 <p>Figure 118 TOUCHfx manual switch</p>
		TOUCHbasic IL	 <p>Figure 19 TOUCHbasic IL manual switch</p>


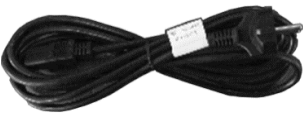
		TOUCHinlay	 <p>Figure 20 TOUCHinlay manual switch</p>
Component	Quantity	Model	Figure
EU power cable (different versions)	1	for COMPACT controller	 <p>Figure 21 Example for a power cable</p>
		for SMART controller	
		for SMARTneo-2G controller	

Table 15 Scope of delivery

**IMPORTANT** The table top, table frame and required mounting material are not included in the scope of delivery!

## 6.2.2 Disposal of transport and warehouse packaging

The disposal of the transport and warehouse packaging should be performed in accordance with the local disposal regulations and environmental protection laws applicable in the operator's country.

## 6.2.3 Checklist of all components included in the delivery

Check the completeness of the delivery while unpacking the components. Use the appropriate delivery notes on the contents of the pallets and the manufacturer's packing list for this purpose.

Examples of scope of delivery would be:

**ELS lifting column system, square lifting columns, 650 mm lift in RAL 9006:**

- 2 x ELS3-650-BTU-Q-S in RAL 9006
- 1 x controller, e.g. COMPACT
- 1 x manual switches, e.g. TOUCHbasic
- 1 x power cable

**ELS lifting column system, rectangular lifting columns, 500 mm lift in RAL 9003:**

- 2 x ELS3-500-BTU-RE-W
- 1 x controller, e.g. SMART
- 1 x manual switch, e.g. HSU-C-FL-LD
- 1 x power cable

## 6.3 Operating conditions

Physical operating conditions	
Operating site	Office
Operating range:	Functional operation <ul style="list-style-type: none"> <li>Minimum: + 15 °C</li> <li>Maximum: + 30 °C</li> </ul> Relative humidity: <ul style="list-style-type: none"> <li>30 % to 60 %</li> </ul>
Contamination:	No heavy contamination due to dust, acids, corrosive gases

Table 16 Operating conditions

- ➔ Do not operate the system outdoors. Do not expose the system to damp or wet conditions.
- ➔ Avoid environments with chemical agents or corrosive environments.
- ➔ Do not operate the system near flammable solvents, propellants and/or explosive substances (e.g. gas, vapor, dust, etc.).
- ➔ Do not expose the components of the lifting column system to any vibrations and/or shock loads.
- ➔ Do not use the controller near the equipment that generates strong electromagnetic fields. This may impair the function.
- ➔ If stipulated operating conditions and maintenance instructions for the lifting column system are met, a service life of 10,000 cycles can be expected.

## 6.4 Installation of components

- ➔ Note the exact information of the installation dimensions provided in the schematic diagrams of the lifting column system.

### 6.4.1 General installation

**⚠ CAUTION** Electrical components (lifting elements, electrical controllers, manual switches) should be connected or disconnected only with the power plug pulled out!

- ➔ Install the lifting column system centered under the table top.
- ➔ Please use suitable screws when mounting the lifting columns (see 6.4.2.1 and 6.4.2.2), they are not included. For the table frames VariFrame and FixFrame the screws are part of the scope of delivery.
- ➔ Keep electrical cord away from sharp edges and moving parts.
- ➔ Avoid contact with moisture and heat.
- ➔ Attach the electrical wires and power cords to the workstation or structure using cable ties or clips.

**IMPORTANT** When laying cables, make sure that the cable is not crushed or stretched. Position the power cord to prevent tripping hazards. Use only accessories authorized and provided by SUSPA.

The lifting column system works properly only if it has been put into operation properly and individual components are controlled correctly.

- ➔ First check whether the individual components are damaged. If this is the case, do not put the lifting column system into operation, but have the damaged components replaced by your supplier.
- ➔ First check whether the lifting columns are damaged. If this is the case, do not put them into operation, but have the damaged components replaced by your supplier.
- ➔ Check whether the controller is damaged. If this is the case, do not put it into operation, but have the damaged components replaced by your supplier.
- ➔ Also check the power cable for damage. Make sure to replace damaged power cables in any case.

## 6.4.2 Installation of the lifting-column system

For the full assembly of a height-adjustable table using the lifting column system, a table frame made by SUSPA GmbH along with a customized table top, the following requirements must be met:

- The lifting column system is suitable for table tops with a depth of 600 mm – 800 mm, see figure 5.
- The table top should not protrude more than 100 mm on each side over the lifting column system, see figure 22
- The lifting column system can be loaded with a maximum of 90 kg. This load is the combined total of the table top weight and the additional load on the table top, such as a computer screen and keyboard, etc.

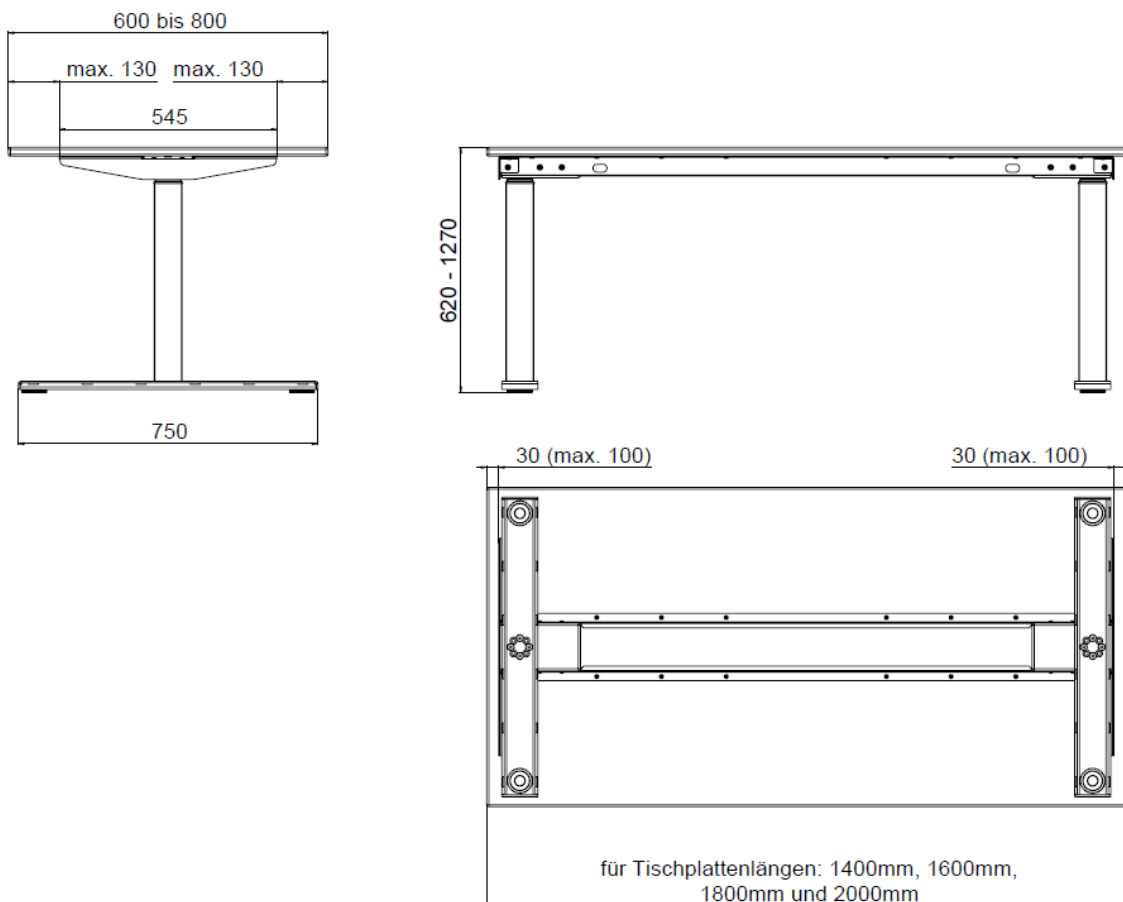


Figure 22 Alignment of the lifting column system with the table top



## 6.4.2.1 Screwing the lifting columns to the frame (exemplary)

- ➔ Remove the lifting columns from the packaging and check them for damage.
- ➔ Remove the controller, control panel and connecting cable from the packaging and check those for damage.
- ➔ Align the lifting columns with the matching installation points on the frame (not included in the scope of delivery).
- ➔ Screw each lifting column to the frame. (The screws are not included in the scope of delivery. Observe the following instructions regarding the torques of the screws and the depth of thread.)

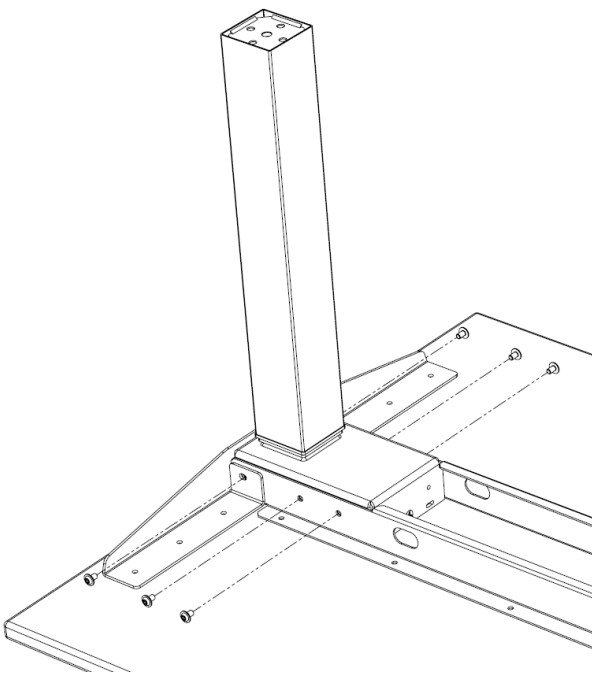


Figure 23 Screwing the lifting columns to the frame

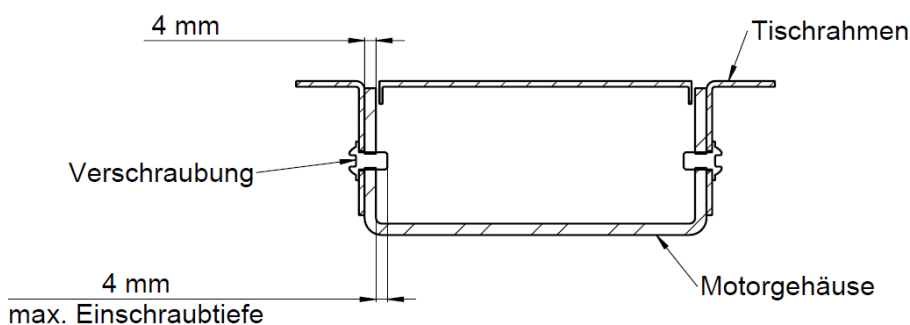


Figure 24 Maximum thread depth for the installation of the lifting columns

**⚠ ATTENTION** Make sure that the screws do not penetrate the housing by more than 5 mm.

When attaching the frame to the motor housing of the lifting columns using screws, make sure that the correct type of screw is used (M6 thread). Screws are not included in the scope of delivery for the lifting columns!

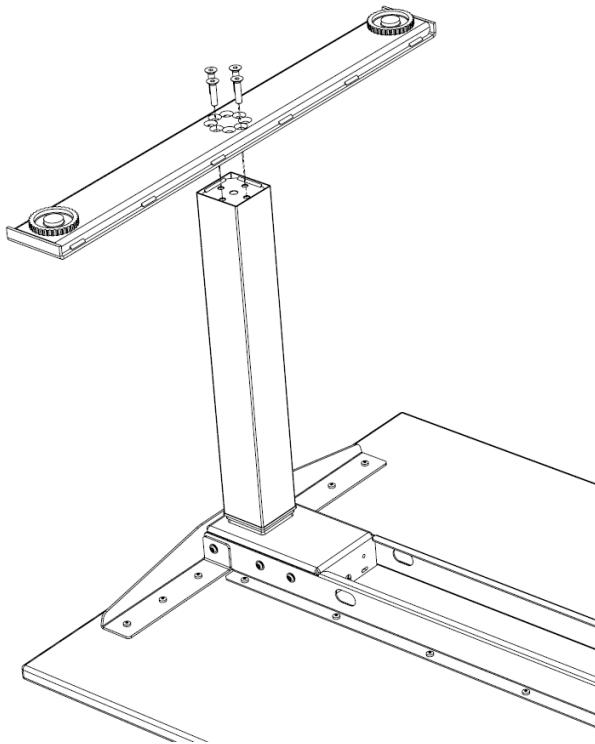
Observe the maximum torque of 7Nm when tightening the screws.

**⚠ ATTENTION** The lifting columns must be fastened with at least six screw connections between the frame and the lifting columns. For this purpose, at least three screws must be tightened with the respective torque on the longitudinal sides of the motor housing. If multiple bore holes are provided, additional screws may be added.

- ➔ **IMPORTANT** Screws to fasten the lifting columns to the frame are not included in the scope of delivery. For the table frames VariFrame and FixFrame the screws are part of the scope of delivery.

## 6.4.2.2 Installation of the foot base to the lifting columns (exemplary)

- ➔ Screw the foot base to the lifting columns using M8 screws. The maximum tightening torque is **10 Nm**.
- ➔ Retighten the screws crosswise to fasten the extension feet to ensure they are well anchored.



*Figure 25 Screwing the foot base to the lifting column*

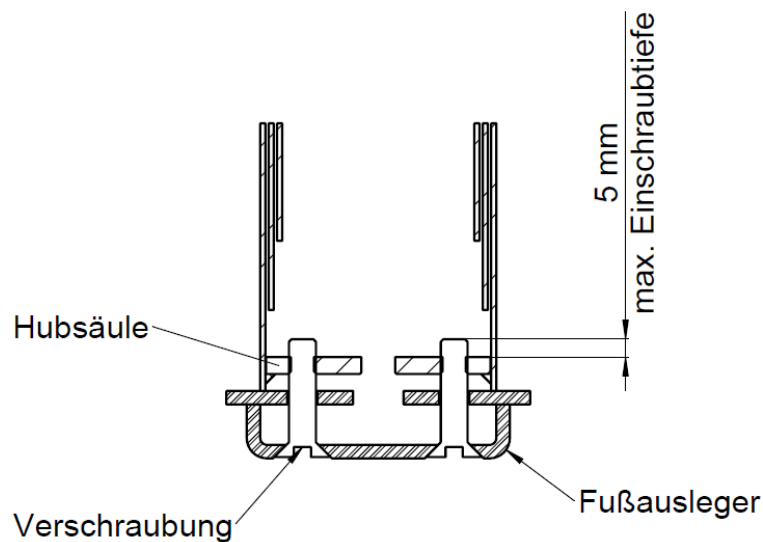


Figure 26 Maximum thread depth for the installation of the lifting columns on the foot base

**⚠ ATTENTION** Ensure that only the appropriate screw type is used to install the foot base! The screws must not penetrate the lifting column by more than 5mm.

The lifting function is guaranteed to work properly only if screws with the appropriate thread are used!

Observe the maximum torque of 10 Nm for the screws!

**⚠ ATTENTION** The foot base must each be fastened with four screw connections between the foot base and the lifting column. The screws are tightened crosswise with the specified torque.

**IMPORTANT** Screws to fasten the foot base to the lifting columns are not included in the scope of delivery.

## 6.4.2.3 Installation of the electrical controller (exemplary)

- ➔ Place the controller between the two lifting columns or at another suitable position on the bottom of the table top.
- ➔ In doing so, make sure that the connecting cable of the lifting columns can be plugged into the controller in any case.
- ➔ Fasten the controller at the designated boreholes on the bottom of the table top using two screws (not included in the scope of delivery).

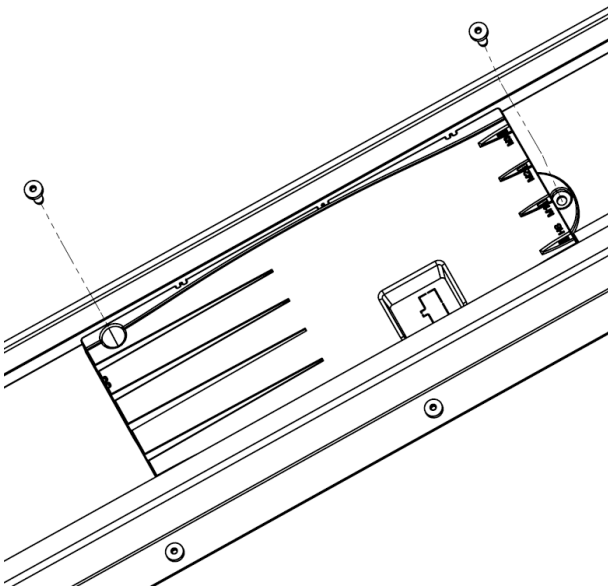


Figure 27 Installation of the controller

**⚠ WARNING** A risk of sustaining injuries due to protruding screws is posed. Make sure the screws have the appropriate length.

**IMPORTANT** The controller must be fastened in a position that allows all lifting columns to be connected by the motor cable!

**IMPORTANT** The controller must always move with the lifting columns on their travel path!

**IMPORTANT** Screws to fasten the controller to the table top are not included in the scope of delivery.

## 6.4.2.4 Installation of the manual switch (exemplary)

- ➔ Fasten the manual switch at the required spot on the bottom of the table top using two screws (not included in the scope of delivery). It is preferred that the manual switch is easily accessible by the user in the installed position.
- ➔ In doing so, ensure that the connecting cable of the manual switch can be plugged into the controller.

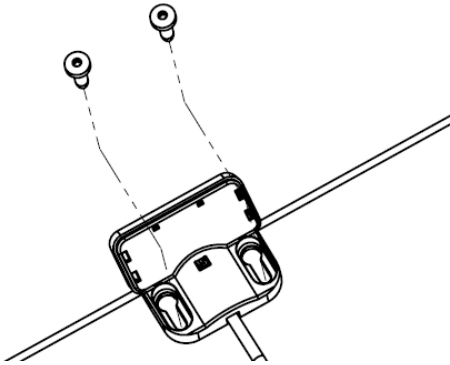


Figure 28 Installation of the manual switch

**⚠ WARNING** A risk of sustaining injuries due to protruding screws is posed. Make sure the screws have the appropriate length.

**IMPORTANT** The manual switch must be fastened in a position that allows it to be connected to the controller!

**IMPORTANT** The manual switch must always move with the lifting columns on their travel path!

**IMPORTANT** Screws to fasten the manual switch to the table top are not included in the scope of delivery.

## 6.4.3 Electrical connection to the controller

### 6.4.3.1 Connecting the manual switch with the controller

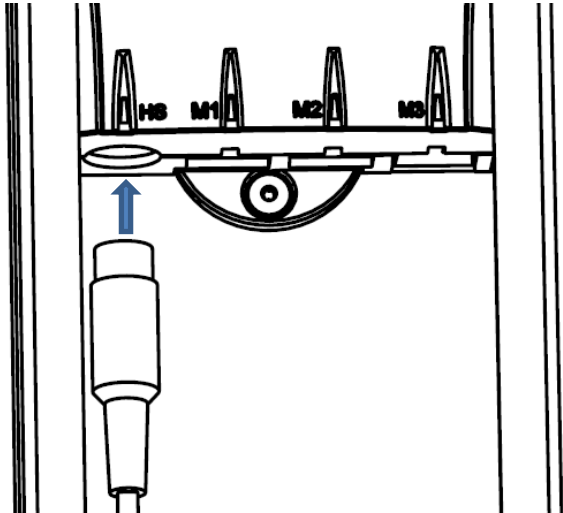


Figure 29 Connection of the manual switch

- ➔ Connect the DIN-plug of the manual switch to the electrical controller using the input labeled “MS” (8 socket MS)

### 6.4.3.2 Connecting the lifting columns with the controller

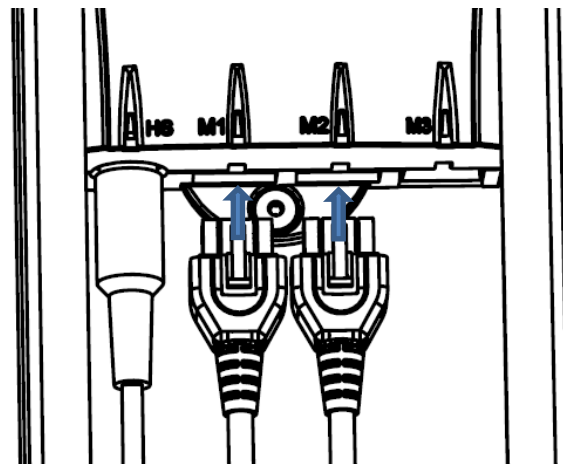


Figure 30 Connection of the two lifting columns

- ➔ Plug the connectors of both lifting columns into the electrical controller (socket M1 and M2)

**IMPORTANT** Connect the power cable in a way to ensure sufficient cable length over the entire adjustment range.

The controller may only be operated after installation.

## 6.4.3.3 Connecting the power cable to the controller

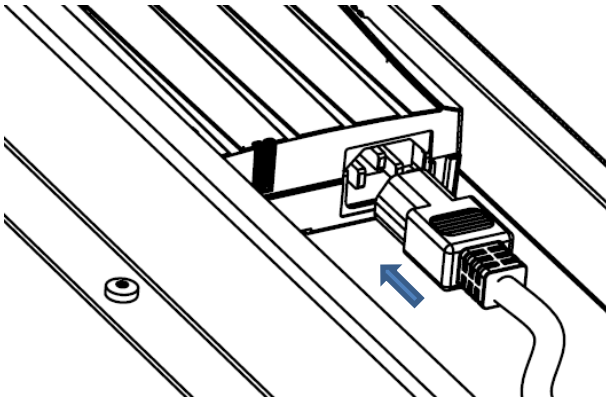


Figure 31 Power cable connection

- ➔ Plug the power cable into the matching input on the controller.

## 6.4.4 Laying electric wires and cables

- ➔ When laying the lines, make sure that
  - they cannot get jammed
  - they are not subjected to mechanical loads or stresses (tension, pressure or bending etc.)
  - they cannot be damaged in any other way
- ➔ Fasten the lines with adequate strain relief and adequate protection against kinks.
- ➔ Wind up long electrical lines and attach them with adequate cable holders (not included in the scope of delivery) to the bottom surface of the table top.
- ➔ Use caution so as not to damage the lines.
- ➔ Check the electrical lines and cables to ensure that they are fastened securely and have not been damaged.

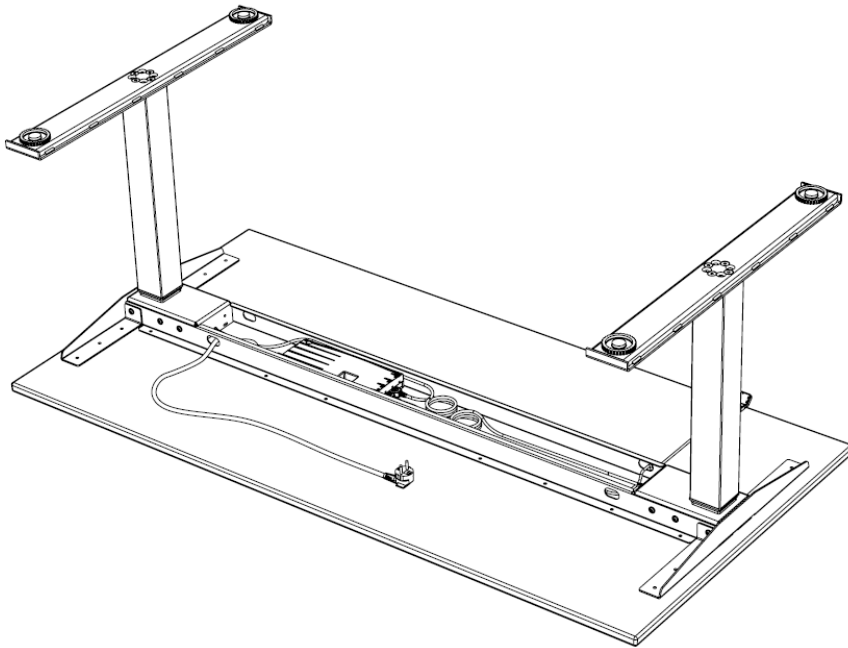


Figure 32 Installation of electrical lines – to the bottom surface of the table

## 6.5 Setting up and aligning the table

The table is aligned via the setting of the adjusting elements of the extension feet.

- At least two people are needed to place the fully assembled table on its feet.
- If necessary, level the table using the adjustable glides.
- Reset the system (see section 7.4.2.1 and <http://www.logicdata.net/download> ).

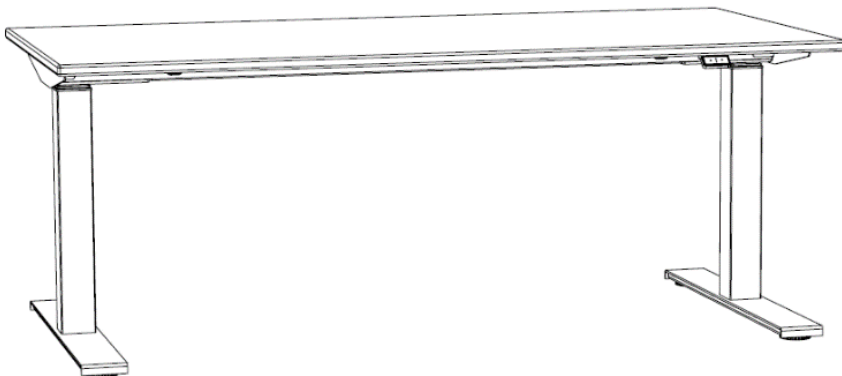


Figure 33 Fully assembled table

**IMPORTANT** Ensure that the adjustable glides are not unscrewed too far to protrude from the extension feet.



## 7 Commissioning / Operation

### 7.1 Warning notices for operation



#### **WARNING**

##### **Crushing or amputation risk due to moving parts**

Risks are posed by removing components of the protective housing.

Do not operate the height adjustment system if the protective housing of the components has been removed.

**IMPORTANT** Do not allow children to operate the electrical height adjustment system. If the device is used near children, ensure supervision by adults and activate the childproof lock.

### 7.2 Tests prior to switching on the machine

- Check all electrical and mechanical connections.
- Check whether there are damages to electrical wires which may have occurred during unpacking or installing of the system.
- Check all system components in order to ensure that they are fastened securely to the workplace.
- Make sure that the maximum load is not exceeded. The maximum load is the total load, including the table top and all objects that are on top of the work surface.
- Connect the lifting column system to the power supply only after checking the above-mentioned aspects.
- Allow the controller to adjust to the change from cold to hot environments for a few hours before putting them into operation, otherwise condensed water may damage them.

**IMPORTANT** Ensure that the load is distributed evenly on the lifting column system. Too heavy and lopsided loads may lead to premature wear of the lifting column system.

## 7.3 Duty Cycle

The duty cycle refers to the time period in which a motor or system is in motion, compared with the rest period.

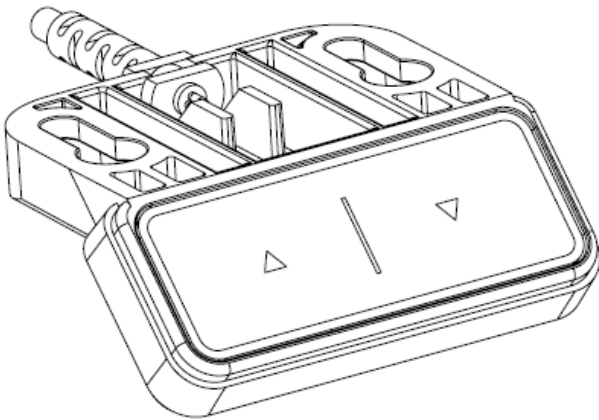
The lifting column system is not designed for continuous operation without rest periods. It is designed for intermittent use and has a maximum 10% duty cycle. This means that after operating the lifting column system for two minutes, you must let it rest for at least 18 minutes before reusing it. It should be noted that the maximum period of continuous operation is two minutes. The limited duty cycle of 10% is stored as a security measure in the electrical controller system.

## 7.4 Operation

### 7.4.1 "TOUCHbasic DN" manual switch

All functions of the lifting column system can be controlled using the manual switch.

The "TOUCHbasic DN" manual switch is a simple manual switch with control buttons to move the lifting columns up and/or down.



*Figure 34 TOUCHbasic DN manual switch*

## 7.4.2 Function of the manual switch

**IMPORTANT** Observe the manufacturer manuals for the manual switch and the controller:

<http://www.logicdata.net>.




Symbol	Function
	Up: Moves the table upward.
	Down: Moves the table downward.
 5 to 20 sec.	Reset: Keep the down button pressed (for approx. 5 – 20 seconds)

Table 17 TOUCHbasic DN function

### 7.4.2.1 Perform reset

- ➔ Connect the power cable with the mains supply.
- ➔ Press the down switch on the manual switch until (approx. 5-20 seconds) the lifting columns have moved down to the lowest position followed by an upward movement of approx. 2-3 mm.

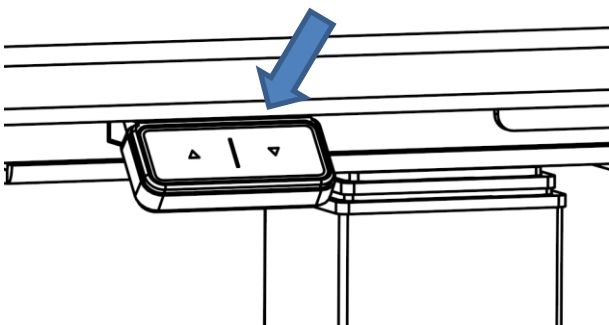


Figure 35 TOUCHbasic DN manual switch - reset drive

**IMPORTANT** Perform a reset after every disassembly or exchange of the lifting columns and/or controller!

## 7.4.2.2 Saving a position



Some manual switches provide the option to save a position.

Proceed as follows to save a position:

- Move the lifting column system to the required position using the arrow keys.
- The display shows the table top's height (e.g. 76cm)
- Press and hold the save button "Save" or "S"
- Press the required position button (e.g. "2"). "S2" will appear on the display. After approx.. 2 seconds the display will show the table top's height. The position is saved.

## 7.4.2.3 Moving the lifting column system to a memorized position

### Without double-click function

Proceed as follows to move the lifting column system to a memorized position:

- Press and hold the required position button. The lifting column system moves into the memorized position. If you let go of the position button, the lifting column system will stop immediately and will no longer move into the memorized position.
- If the lifting column system reaches the memorized position, you can let go of the position button.

### With double-click function

When using a controller with double-click function, the lifting column system can be automatically moved to a memorized position.

Proceed as follows to have the lifting column system move automatically to a memorized position:

- Double-click the desired position button. The lifting column system automatically moves to the memorized position.



## **WARNING**

### **Risk of sustaining injuries due to unsupervised traversing movements**

By double-clicking a position memory key, the lifting column system automatically moves to the memorized lifting column position. Persons or objects present in the danger zone are subject to an increased risk of being crushed.

Therefore, keep a safety clearance of at least 500 mm during the automatic traversing movement.

Never leave the lifting column system unattended during automatic traversing movements.

**IMPORTANT** If another button is pressed during the automatic traverse of the lifting column system to a memorized position, the lifting column system will stop immediately. Then the automatic traverse of the lifting column systems to a memorized position must be reactivated.

## 7.5 Faults and error indications

Malfunctions may occur during operation. These are caused by:

- Collision with an obstacle during upward/downward movement of the lifting system.
- Overload of the lifting system with a mechanical load that is too heavy.
- Overload of the lifting system caused by traversing the system too frequently.
- Sudden power supply outage for the lifting system

Details and particulars regarding occurring errors and the rectification thereof can be found in the manual of the respective controller: [www.logicdata.net](http://www.logicdata.net).

## 8 Service and maintenance

### 8.1 General

- ➔ Observe and follow the general accident prevention guidelines.
- ➔ Carry out prescribed adjustment, maintenance, and upkeep work according to schedule.
- ➔ Replace defective components as quickly as possible.
- ➔ Only use tools that are in perfect condition.
- ➔ Keep suitable containers ready for small parts that may have to be disassembled.
- ➔ Use only original spare parts approved by the manufacturer.
- ➔ Tighten screw connections that have been loosened after doing maintenance and service work.
- ➔ Reattach disassembled protective devices before the first re-commissioning. Make sure that the protective equipment is functioning properly.
- ➔ Perform a functional test (test run) after maintenance or repair work.
- ➔ Check the proper function of all safety and protective devices.
- ➔ Remove any used tools, screws, aids or other objects from the operational area of the lifting column system.

## 8.2 Maintenance instructions

### 8.2.1 Cleaning



#### **WARNING**

#### **Risk of sustaining injuries by disregarding the manufacturer's instructions**

The function of the components may be impaired as a result of ignoring the manufacturer's cleaning instructions.

Follow all applicable environmental regulations when cleaning.

- ➡ Remove all cleaning aids after performing cleaning work.
- ➡ Retract the lifting column system before cleaning.
- ➡ Remove the load from all lifting elements before carrying out maintenance work.
- ➡ Unplug the motor control from the mains before cleaning.
- ➡ Clean the system components with a mild detergent and a damp cloth.
- ➡ Allow the components to cool off before cleaning.
- ➡ Clean the system components with a mild detergent and a damp cloth.
- ➡ Liquid entry of any kind must be strictly avoided.
- ➡ Do not use any corrosive detergents or high pressure washing systems to clean the components of the lifting column system.
- ➡ Grease may be carried over during operation, leading to so-called run marks on visible pipe surfaces. These may be wiped off with mild cleaning agent and a cloth.
- ➡ Before restarting operation make sure the system is clean and dry.

## 8.3 Maintenance

The lifting column system should be checked regularly to determine whether there are conditions that lead to excessive wear or damage to components. Especially the following possible causes of system failure should be considered.

**IMPORTANT** The maintenance instructions given in the following must be understood as recommendations by the manufacturer. Observe the maintenance instructions from the manufacturers of purchased parts!

## 8.3.1 Changing load conditions

- ➔ Correct the overload conditions immediately and also make sure that there is even load distribution on the workplace in order to avoid premature wear of the mechanical components.

## 8.3.2 Contamination

No sterile cleanliness is necessary, but regular cleaning will prolong the life of the system. Dust and dirt can cause wear in moving components, such as shafts and bearings. Therefore, efforts should be made to keep the components clean during the entire operating period.

Grease may be carried over during operation, leading to so-called run marks on visible pipe surfaces. These may be wiped off with mild cleaning agent and a cloth.

## 8.3.3 Damages to electrical wires

Check the insulation of the electrical wires for visible signs of aging and wear. Replace defective or damaged wiring.



## 9 Decommissioning

### 9.1 Switch off adjustment function

- ➔ Disconnect the power cable from the mains voltage.

### 9.2 Storing the lifting columns

The storage area should be cool and dry in order to prevent corrosion of the individual parts of the lifting column system.

- ➔ Package the lifting columns so as not to be damaged by external influences whilst in storage.
- ➔ Use cardboard containers and other packing material, if necessary.

Transport and storage conditions	
Temperature:	+10 °C to +30 °C
Rel. humidity:	max. 60%

Table 18 Transport and storage conditions

### 9.3 Disposal of components

- ➔ Dispose of the packaging material in accordance with national regulations.
- ➔ Dispose of cardboard packaging, protective packaging made of plastics and preserving agents separately and professionally.

The users are obliged to return the old equipment to a recycling center for old electrical and electronic equipment.

The disposal of the controller is subject to the Elektro-G (Electrical Equipment Act), the EC Directive 2002/95/EC internationally (RoHS with effect from 7/1/2006) or the respective national legislation. The disposal of the components (also operating materials) in other countries should be performed in accordance with the local disposal regulations and environmental protection laws in the country where the machine is used.

If the equipment has reached the end of its life cycle, ensure a safe and professional disposal when dismantling, in particular for those parts or substances which are hazardous for the environment. This includes lubricants, plastics and batteries etc.

- ➔ Have the machine disposed of properly by an authorized specialist company on account of the potential risk of environmental pollution.

## 10 Spare parts

- Use only spare parts from the manufacturer of the lifting columns, SUSPA GmbH.
- For ordering spare parts, please contact us at the following address:

SUSPA GmbH  
 Mühlweg 33  
 90518 Altdorf  
 GERMANY  
 Telephone: +49 91 87 / 9 30-0  
 Fax: +49 91 87 / 9 30-229  
 email: [info@de.suspa.com](mailto:info@de.suspa.com)  
 Website: [www.suspa.com](http://www.suspa.com)

You need the material number and description to place an order.

Please refer to section “Scope of supply” for more information.

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## 11.3 Incorporation

EC-Declaration of incorporation

in accordance with Machinery Directive (2006/42/EC)

The manufacturer declares herewith

SUSPA GmbH  
Mühlweg 33  
90518 Altdorf  
GERMANY

that the design of the partly completed machine

Machine designation: ELS3 lifting column system (optionally with double-click function)

Year of manufacture: 2021

Intended use: The electrically adjustable lifting column system is used to raise a countertop for seating or standing workstations in the office.

The delivered version is compliant with Directive 2006/42/EC of the European Parliament and of the Council dated 17 May 2006 on machinery, and conforms with the following harmonized standards and normative documents to which this declaration refers:

Applicable directives: EC Machinery Directive (2006/42/EC)  
EC Directive for Electromagnetic Compatibility (2014/30/EU)

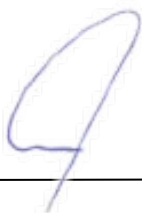
Applied harmonized standards:

- DIN EN 61000-3-2/-3-3/-6-2/-6-3
- Electromagnetic compatibility (EMC)
- DIN EN ISO 12100:2011
- Safety of machinery – Risk assessment and risk reduction
- DIN EN 60335 1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019
- DIN EN 62233:2008 + AC:2008
- Safety of electrical appliances for household and similar purposes

The technical documentation for the partly completed machine is available.

We hereby guarantee that the certification procedure has been carried out in accordance with Machinery Directive 2006/42/ EC. Commissioning is prohibited until it has been determined that the machine into which the above mentioned partly completed machine is to be installed complies with the provisions of Machinery Directive 2006/42 / EC. This declaration will lose its validity if any modifications are made to the partly completed machine without consultation with us. Any unauthorized modifications in this sense excludes any liability on our part.

Altdorf, 01 September 2021



Signature