



SUSPA GmbH

## Installation Instructions

English

### ELS3 Table Frame System - Bench Type



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/de/service/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 "Directive 2006/42/EC of the European Parliament and the Council for Adjustment of Legal and Administrative Regulations of Member States for Machinery" (Machinery Directive), Appendix I, Item 1.7.4.

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.

The copyright for these installation instructions is held solely by



SUSPA GmbH  
Mühlweg 33  
90518 Altdorf  
GERMANY

or its legal successor.

The contents of the user information is the intellectual property of SUSPA GmbH.

SUSPA GmbH expressly reserves the ownership of and copyright to the data contained in the user information.

Reproduction and duplication, even in excerpts, are permitted only upon the written consent of SUSPA GmbH.

Status: May 2019

1	Information concerning this document.....	5
1.1	Structure of the warnings.....	5
1.2	Signal words and signal colors.....	5
1.3	Symbols.....	6
1.3.1	Warning notice .....	6
2	Identification and Notes.....	7
2.1	Designation.....	7
2.2	Manufacturer.....	7
2.3	Intended use.....	7
2.4	Reasonably foreseeable misuse .....	8
2.5	General instructions .....	9
2.5.1	Warranty and liability.....	9
2.5.2	Objectives of the installation instructions.....	9
2.5.3	Target audience of the installation instructions.....	10
3	Safety instructions.....	11
3.1	Responsibilities .....	11
3.1.1	Responsibilities of the operating company.....	12
3.2	Residual risk.....	12
3.3	Additional instructions .....	13
4	Design and function.....	13
4.1	Technical specifications.....	13
4.1.1	ELS3-650-BTD-Q-BL lifting column (dual telescopic, big tube down).....	14
4.1.2	ELS3-650-BTD-Q-BR lifting column (dual telescopic, big tube down) .....	15
4.1.3	Dimensions, COMPACT Controller .....	16
4.1.4	Dimensions, SMART controller .....	17
4.1.5	Dimensions, SMART neo controller .....	18
4.1.6	Control elements.....	18
4.1.7	Other accessories.....	19
4.1.8	Packaging units and weights .....	19
5	Installation .....	19
5.1	Safety instructions for installation .....	19
5.2	Unpacking .....	21
5.2.1	Scope of supply.....	22
5.2.2	Disposal of transport and warehouse packaging.....	25
5.2.3	Checklist of all components included in the delivery .....	25
5.3	Operating conditions.....	26
5.4	Install components .....	27
5.4.1	General installation.....	27

5.4.2	Installation of the table frame system.....	28
5.4.2.1	Screwing the lifting columns to the frame (exemplary) .....	30
5.4.2.2	Installation of the adjusting elements .....	32
5.4.2.3	Assembling the bench connectors.....	33
5.4.2.4	Connecting the two bench "halves".....	35
5.4.2.5	Joining two bench systems to a "group of four" .....	36
5.4.2.6	Installation of the electrical controller (exemplary).....	38
5.4.2.7	Installation of the manual switch (exemplary).....	39
5.4.3	Electrical connection to the controller .....	40
5.4.3.1	Connecting the manual switch with the controller .....	40
5.4.3.2	Connecting the lifting columns with the controller .....	40
5.4.3.3	Connecting the power cable to the controller .....	41
5.4.3.4	Laying of electric wires and cables.....	42
5.5	Alignment of the tables .....	43
6	Commissioning / Operation.....	44
6.1	Safety notices for operation .....	44
6.2	Tests prior to switching on the machine .....	45
6.3	Duty cycle .....	46
6.4	Operation .....	46
6.4.1	"TOUCHbasic DN" manual switch .....	46
6.4.2	Function of the manual switch .....	47
6.4.2.1	Perform Reset.....	47
6.4.2.2	Saving a position.....	48
6.4.2.3	Moving the lifting column system to a memorized positionFehler! Textmarke nicht definiert.	48
6.5	Faults and error indications.....	49
7	Service and maintenance.....	50
7.1	General .....	50
7.2	Maintenance instructions .....	51
7.2.1	Cleaning .....	51
7.3	Maintenance .....	51
7.3.1	Changing load conditions.....	52
7.3.2	Contamination .....	52
7.3.3	Damages to Electrical Wires.....	52
8	Decommissioning .....	53
8.1	Switch off adjustment function.....	53

8.2	Storing the lifting columns.....	53
8.3	Disposal of components.....	54
9	Spare parts .....	54
10	Appendix.....	55
10.1	Index of Tables.....	55
10.2	Index of Figures.....	55
10.3	Incorporation.....	57

## 1 Information concerning this document

### 1.1 Structure of the warnings

The combination of a signal word in connection with a pictogram classifies the respective warning information. 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
 <b>DANGER</b>	Warning notice	Indicates a dangerous situation, which if ignored, leads to death or severe injuries.
 <b>WARNING</b>	Warning notice	Indicates a dangerous situation, which, if ignored may lead to injuries and damage to property
 <b>CAUTION</b>	Warning notice	Indicates a dangerous situation, which, if ignored may lead to minor injuries and damage to property

	<b>Information concerning this document</b>
--	---

<b>IMPORTANT</b>	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.
<b>SAFETY INSTRUCTION</b>	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 Bench table frame system

Consisting of:

- ELS3 lifting column
- Electrical controller
- Hand switch
- Connection cable
- Bench connector
- Mounting material

### 2.2 Manufacturer



SUSPA GmbH  
Mühlweg 33  
90518 Altdorf  
GERMANY

### 2.3 Intended use

The SUSPA ELS3 table frame 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 table frame system make up the table base frame for an office workbench. The table frame system is designed for load that applies pressure.

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

Any other or advanced use of the table frame system is deemed not to be in the manner intended and thus improper. In this case, the safety and protective functions of the table frame 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 hazards posed to the user, third parties or to the table frame system in all operating modes includes the following:

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



### **WARNING**

#### **Risk of sustaining injuries as a result of unauthorized modifications**

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 components
- improper installation, commissioning, operation and maintenance of the components
- disregarding the information in the installation instructions
- unauthorized structural modifications of the table frame 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 component 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 table frame 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 table frame system; this applies, in particular, to the safety instructions
- easily accessible at all times to all persons
- consulted even in case of slightest doubt (safety)

Objectives:

- prevent accidents
- increase the service life and reliability of the component

**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 table frame system, personnel with varied competences may come into contact with the table frame 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 table frame 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

A person who has no previous knowledge in the 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**

Dangers 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 components, 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 table frame system, immediately disconnect the controller from the power supply and contact your dealer!

### 3.1 Responsibilities



### **WARNING**

#### **Risk of sustaining injuries as a result of disregarding the safety symbols**

A risk of sustaining injuries is posed by disregarding the warning notices provided in the area of the components 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:

- Danger 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 table frame system. The following are determined as potential causes for this matter:

- Damaged cable
- External influences (EMC)
- Defects on 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)



### **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.n>

## 3.3 Additional instructions

In principle, the provisions of the accident prevention regulations of the professional association also apply to all work on the table frame 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 – table frame system (overview)	
Lifting column dimensions	
Profile cross-section:	Square
	Dual telescopic
Model:	BTD*    -BL** /-BR***
Lift:	650 mm
Retracted length:	591 mm
Extended length:	1241 mm
Controllers (overview)	
Input voltage:	230 V / 50 Hz
Standby use:	≤ 0.3 W
Performance data	
Traversing velocity:	38 mm/s
Lifting capacity:	see detailed description of the lifting column

Table 5 Technical specifications (overview)

\*BTD: Big Tube Down

\*\*BL: Bench left (column left)

\*\*\*BR: Bench right (column right)

## 4.1.1 ELS3-650-BTD-Q-BL lifting column (dual telescopic, big tube down, square, Bench left)

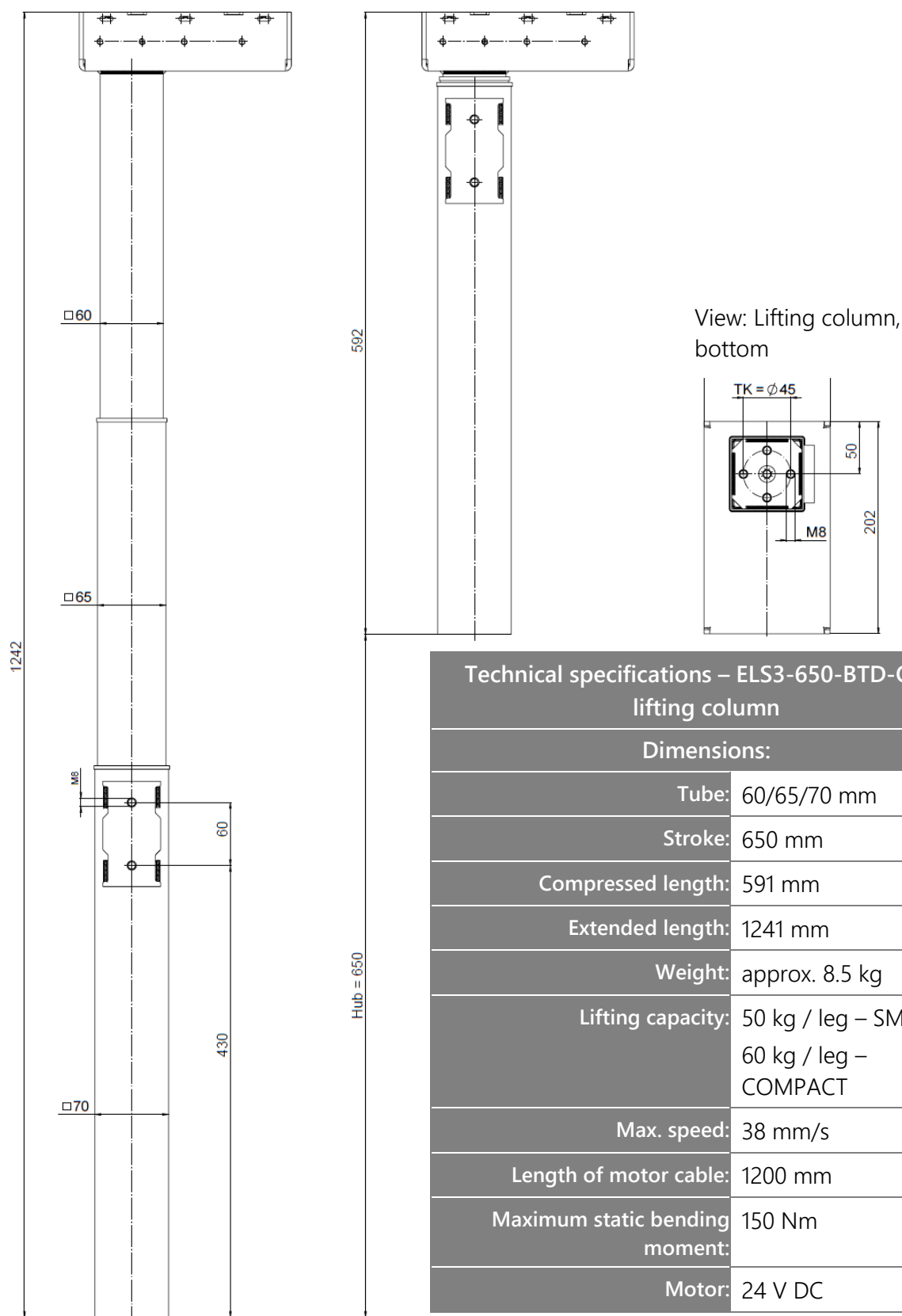


Figure 1 ELS3-650-BTD-Q-BL lifting column

Table 6 Technical specifications ELS3-650-BTD-Q-BL lifting column

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

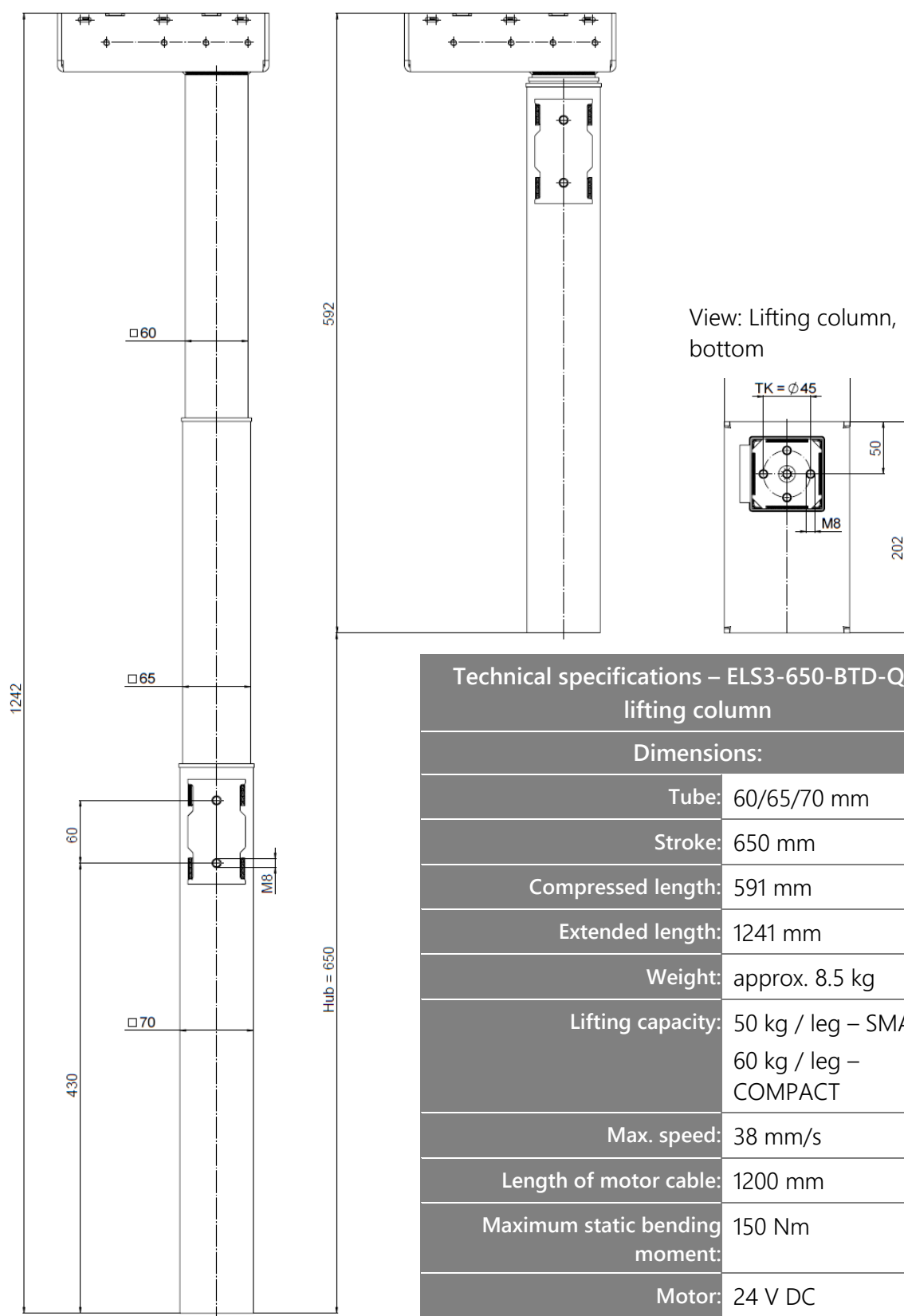


Figure 2 ELS3-650-BTD-Q-BR lifting column

Table 7 Technical specifications ELS3-650-BTD-Q-BR

## 4.1.3 Dimensions COMPACT Controller

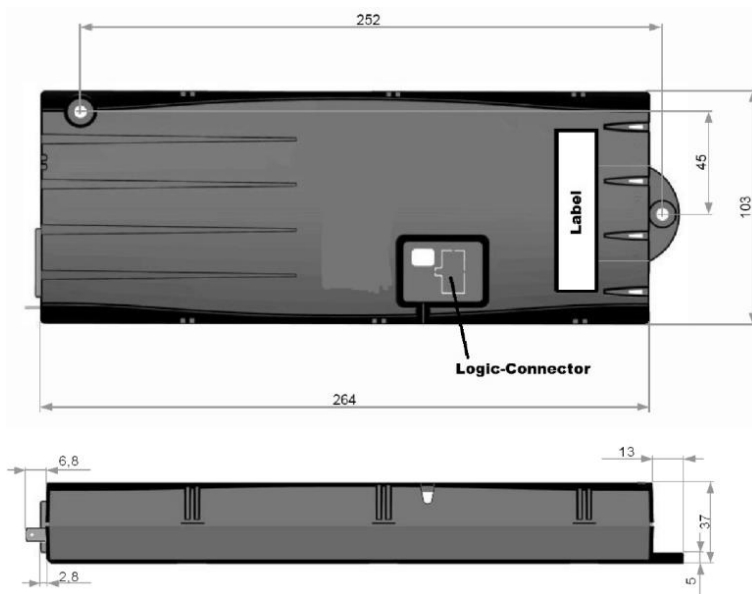


Figure 3 COMPACT Controller

Technical specifications – COMPACT controller	
Output rating:	max. 280 VA
Standby use:	$\leq 0.3$ 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 8 Technical specifications COMPACT controller



## 4.1.4 Dimensions SMART controller

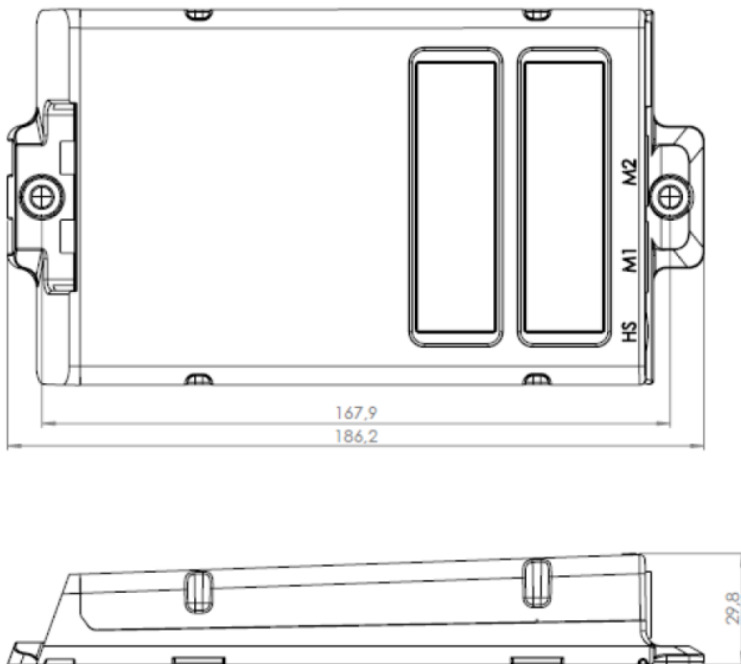


Figure 4 SMART controller

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 9 Technical specifications SMART controller

## 4.1.5 Dimensions SMART neo controller

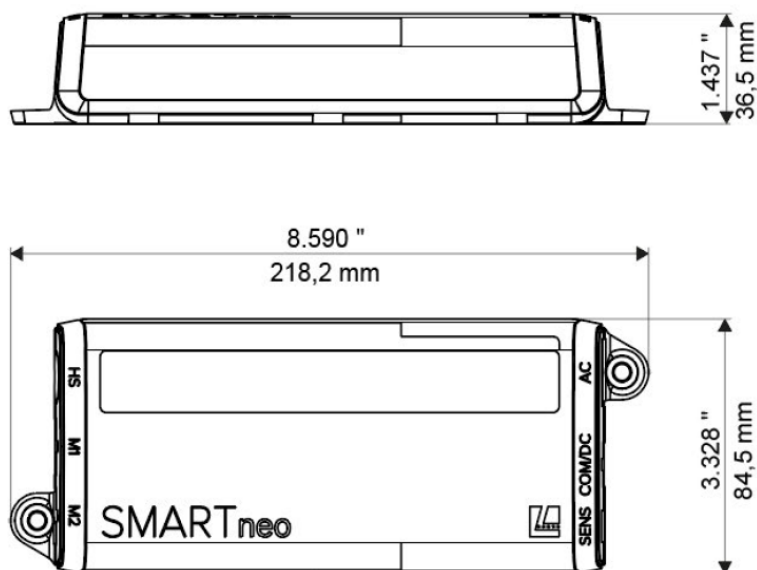


Figure 5 SMART neo controller

Technical specifications – SMART neo controller	
Output rating:	240 VA
Standby use:	≤ 0.3 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 10 Technical specifications SMART neo controller

## 4.1.6 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

## 4.1.7 Other accessories

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

## 4.1.8 Packaging units and weights

The ELS3 table frame system is - based on the design - packed into multiple packaging units for individual acceptances.

**IMPORTANT** When handling the packaging units with ELS3 table frame 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 Installation

## 5.1 Safety instructions for installation



 **DANGER**

### **Risk of sustaining fatal injuries through cable breakage or damage to the cable**

In case of cable breakage or damage to the cable, there are dangers to life and limb or property damage caused by electric shock!

Never operate the table base frame with a damaged power cable! Only use the supplied power cable! Do not pull the cable across sharp edges! Do not bend the cable! Do not place heavy objects on the cable!

Do not pull on the cable! Pull the mains plug to disconnect the table base frame from the power supply!

Immediately disconnect the controller from the power supply at any sign of cable breakage. Please contact your specialist dealer!



## **DANGER**

### **Danger posed by improperly connected power cable**

An improperly connected power cable can cause a fire or an electric shock.

Operate the controller only at the mains voltage indicated on the nameplate! Do not use a power source with high voltage or DC voltage! Carefully check the power source!

Make sure that the power cable is connected correctly!



## **DANGER**

### **Danger due to humidity and water**

Humidity and water in the vicinity of the controller or the power cable may cause an electric shock or a malfunction.

Do not touch or grip the mains plug with wet hands!

Do not allow humidity and water to reach the controller or power cables!



## **WARNING**

### **Risk of tripping**

Excess cables and wires as well as edges can pose a risk of tripping.

Avoid having loose excess cables laying around and use cable holders and/or cable ties if necessary.



## **WARNING**

### **Risk of crushing or sustaining injuries to the hands as well as damage to property posed by moving parts**

The movements of the lifting columns can cause injury.

If there are people or objects within the effective operating range of the table base frame, there is a risk of crushing or of damage to objects.

The lifting columns do not feature integrated pinch or crushing protection!

Do not reach into the effective range of the lifting columns during operation.

Make sure that there are no people, animals or objects in the entire travel path of the lifting columns!

**⚠ WARNING** Check all connections. Make sure that the cable is routed safely when the table is adjusted!

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

**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.




## 5.2 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".

## 5.2.1 Scope of supply

The following components are included in the system:

Component	Quantity	Model	Figure
Electrical lifting column ELS3	4	<ul style="list-style-type: none"> <li>• BTD-BL / -BR (big tube down with threaded plate)</li> <li>• Q (square)</li> <li>• dual telescopic</li> </ul>	 <p><i>Figure 6 Example of lifting column (ELS3-650-BTD-BL, dual telescopic)</i></p>
Connectors Bench	2	<ul style="list-style-type: none"> <li>• with fixed length</li> <li>• connection of the twin table group</li> </ul>	 <p><i>Figure 7 Bench connector</i></p>
Bench-to-bench connector	1	<ul style="list-style-type: none"> <li>• with fixed length</li> <li>• only required for the connection of the twin bench table group with an additional (Bench-to-Bench)</li> </ul>	 <p><i>Figure 8 Bench-to-Bench connector</i></p>

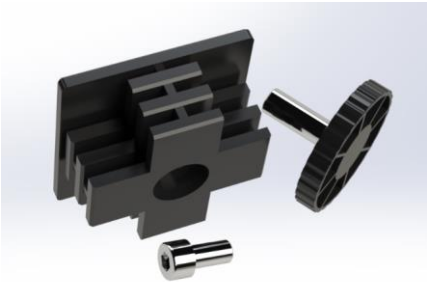





Component	Quantity	Model	Figure
Bench assembly kit	1 (2)	<ul style="list-style-type: none"> <li>• assembly kit for Bench</li> <li>(• a second assembly kit for Bench-to-Bench)</li> </ul>	 <p>Figure 9 Components of the Bench 2 assembly kit</p>
Bench-to-bench assembly kit	1	<ul style="list-style-type: none"> <li>• required for Bench-to-Bench with an assembly kit for the attachment of the Bench-to-Bench connector</li> </ul>	
Controller (different types)	2*	COMPACT	 <p>Figure 10 COMPACT controller</p>
		SMART	 <p>Figure 10 SMART controller</p>
		SMARTneo	 <p>Figure 112 SMARTneo controller</p>
Manual switch (different types)	2*	HSU-C-FL-LD	 <p>Figure 13 HSU- C-FL-LD hand switch</p>
		HSM-OD-2-LD	

			Figure 14 HSM-OD-2-LD hand switch
		HSU-MDF-4M2-LD	 <p>Figure 125 HSU-MDF-4M2-LD hand switch</p>
		TOUCHbasic DN	 <p>Figure 1613 TOUCHbasic DN hand switch</p>
		TOUCHfx	 <p>Figure 147 TOUCHfx hand switch</p>
		TOUCHbasic IL	 <p>Figure 18 TOUCHbasic IL hand switch</p>
		TOUCHinlay	 <p>Figure 19 TOUCHinlay hand switch</p>
EU power cable	2	for COMPACT controller	 <p>Figure 20 Example for a power cable</p>
		for SMART controller	
		for SMART neo controller	

Table 11 Scope of delivery

\* For Bench –to-Bench systems: 4 controllers and 4 hand switches.



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

## 5.2.2 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.

## 5.2.3 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:

Bench table frame system, square lifting columns, 650 mm lift in RAL 9006:

- 2 x ELS3-650-BTD-Q-S-BL in RAL 9006
- 2 x ELS3-650-BTD-Q-S-BR in RAL 9006
- 2x Bench connectors
- 2 x controllers, e.g. COMPACT-2
- 2 x manual switches, e.g. TOUCHbasic
- 2 x power cable
- 1 x Bench 2 assembly kit

Bench-to-Bench table frame system, square lifting columns, 650 mm lift in RAL 9003:

- 4 x ELS3-650-BTD-Q-S-BL in RAL 9003
- 4 x ELS3-650-BTD-Q-S-BR in RAL 9003
- 4 x Bench connectors
- 1 x Bench-to-Bench connector
- 4 x controller, e.g. SMART
- 4 x manual switch, e.g. HSU-MDF-4M2-LD
- 4 x power cable
- 2 x Bench 2 assembly kit
- 1 x Bench-to-Bench assembly kit

## 5.3 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 12 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 table frame 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 table frame system are met, a service life of 10,000 cycles can be expected.

## 5.4 Install components

- ➔ Note the exact information of the installation dimensions provided in the schematic diagrams of the table frame system.

### 5.4.1 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 table frame system centered under the table top.
- ➔ For the installation of the lifting columns onto the Suspa table frame, use provided screws only (included in the scope of delivery).
- ➔ Keep electrical cord away from sharp edges and moving parts.
- ➔ Avoid contact with humidity 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 the risk of tripping. Use only accessories authorized and provided by SUSPA.

The table frame 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 table frame 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.

## 5.4.2 Installation of the table frame system

For the assembly of a height-adjustable Bench system using a table frame made by SUSPA GmbH along with a customized table top to a fully assembled table group, the following requirements must be met:

- The table frame system is suitable for table tops with a depth of 600 mm – 800 mm, see figure 25. The table top is not included in the scope of delivery.
- The table frame 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.
- At least two persons are required to assemble the Bench system.

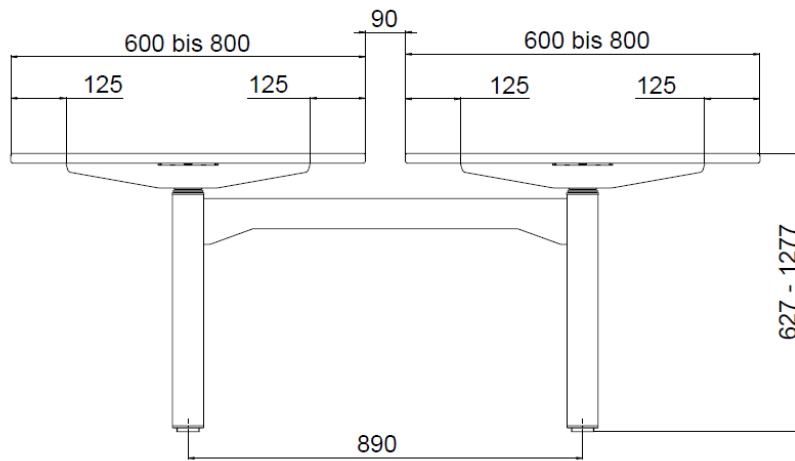


Figure 21 Aligning the table frame system with the table top (front view)

für Tischplattenlängen: 1200 mm, 1400 mm, 1600 mm,  
1800 mm und 2000 mm

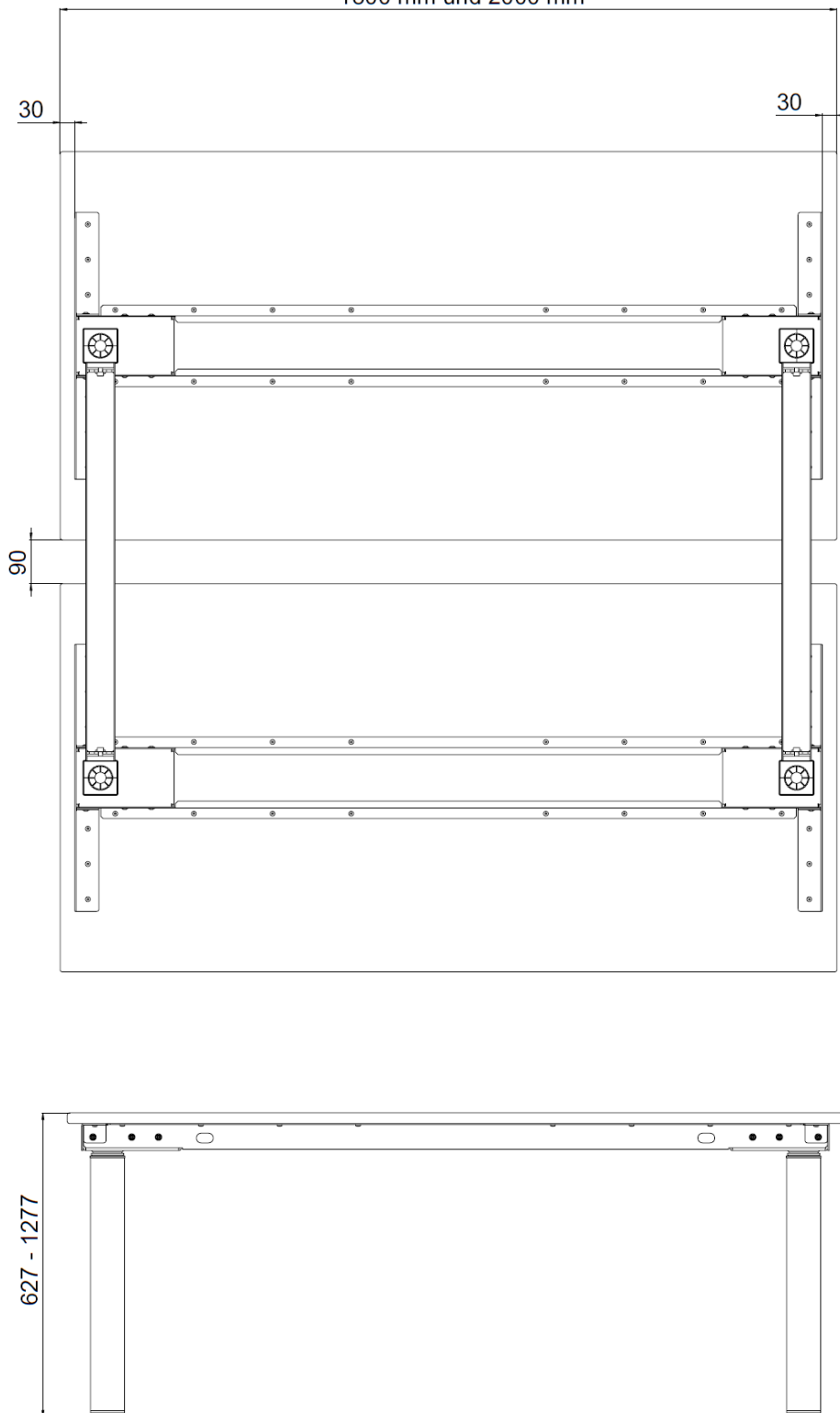


Figure 22 Aligning the table frame system with the table top (front view)

## 5.4.2.1 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.)
- ➔ Onto each frame, install one lifting column of the model on the right (-BR) and one lifting column of the model on the left (-BL).
- ➔ Screw the second pair of lifting columns onto the second frame and follow the instructions described

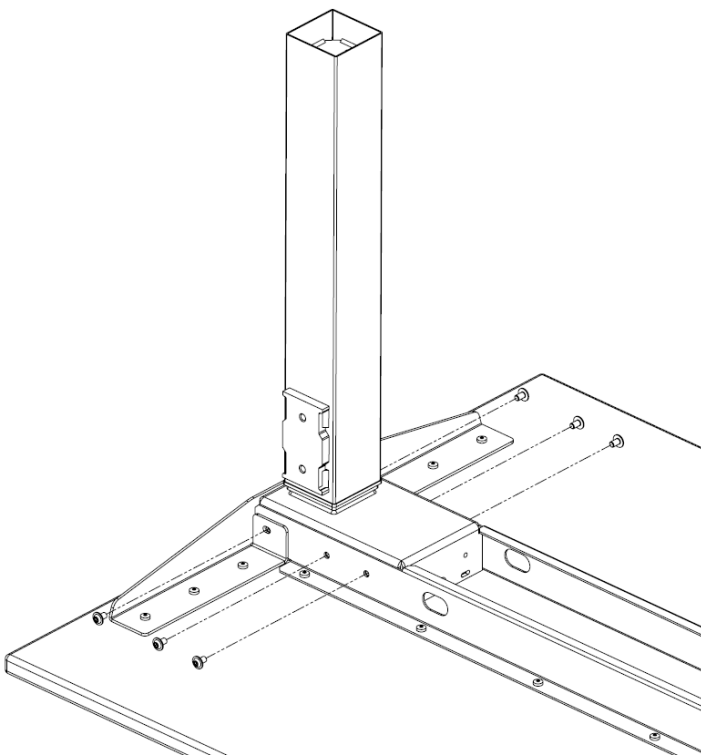


Figure 23 Fastening the lifting column (ELS3-650-BTD-Q-X-BR) to the frame using screws

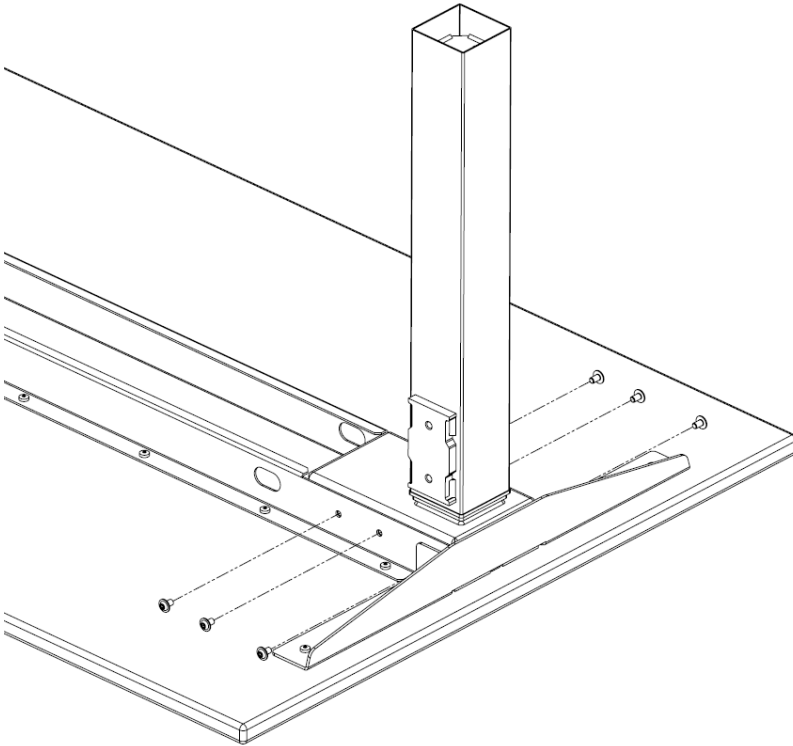


Figure 24 Fastening the lifting column (ELS3-650-BTD-Q-X-BR) to the frame using screws

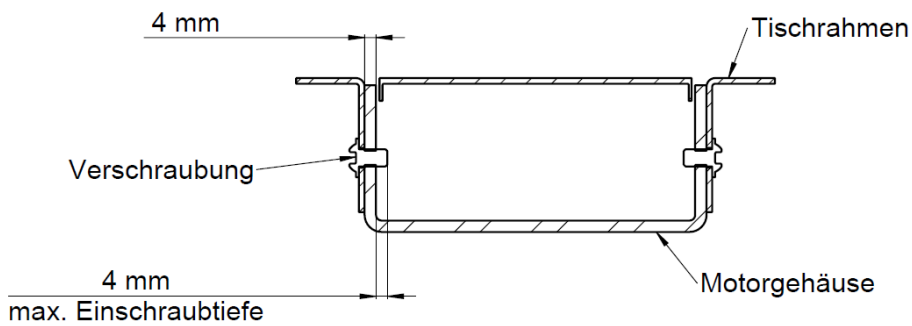


Figure 25 Maximum thread depth for the installation of the lifting columns

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

When screwing the frame to the motor housing of the lifting columns, 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.

#### 5.4.2.2 Installation of the adjusting elements

- Insert the expander plugs (scope of supply) into the pipe ends of the lifting columns. If necessary, press the expander plugs into the pipe end with a force of 200 N maximum.
- Screw the adjustable glides into the expander plugs and tighten them by hand. Then untighten the screw connection again and unscrew the adjustable glide by approx. half a rotation. These installation steps have to be carried out for all four lifting columns.

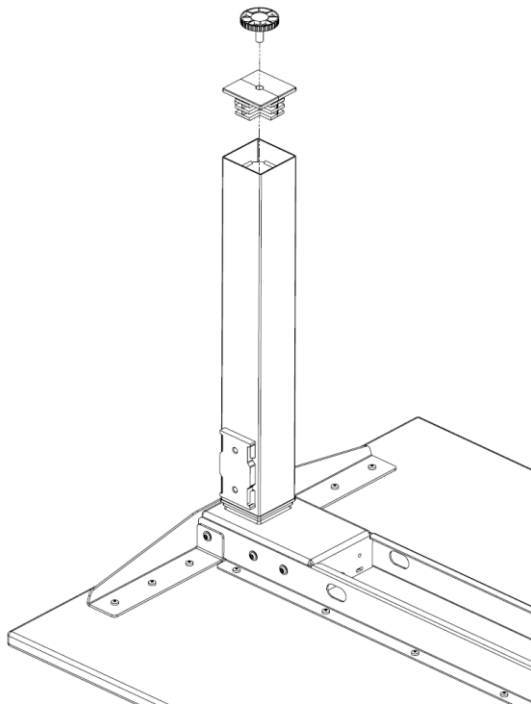


Figure 26 Installation of the adjusting elements (expander plug with adjustable glide)



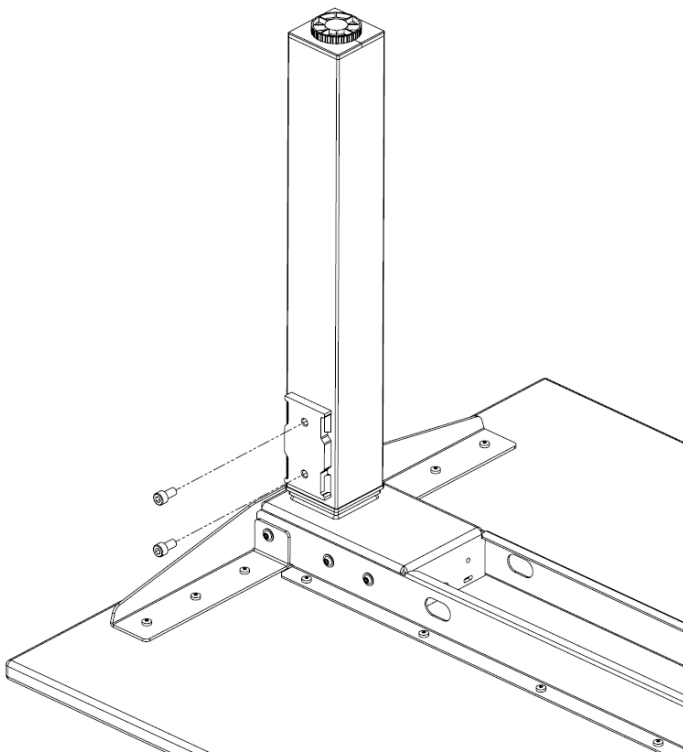
**⚠ ATTENTION** Do not pound the expander plugs into the pipe end during installation. This may damage the lifting column.

**IMPORTANT** First insert the expander plug into the lifting column without the adjustable glide and press it into the end of the pipe all the way to the stop. The maximum force to be applied must not exceed 200 N.

**IMPORTANT** Following the installation of the expander plug, the adjustable glide must be screwed in and tightened by hand. Then untighten the adjustable glide again and unscrew it by approx. half a rotation.

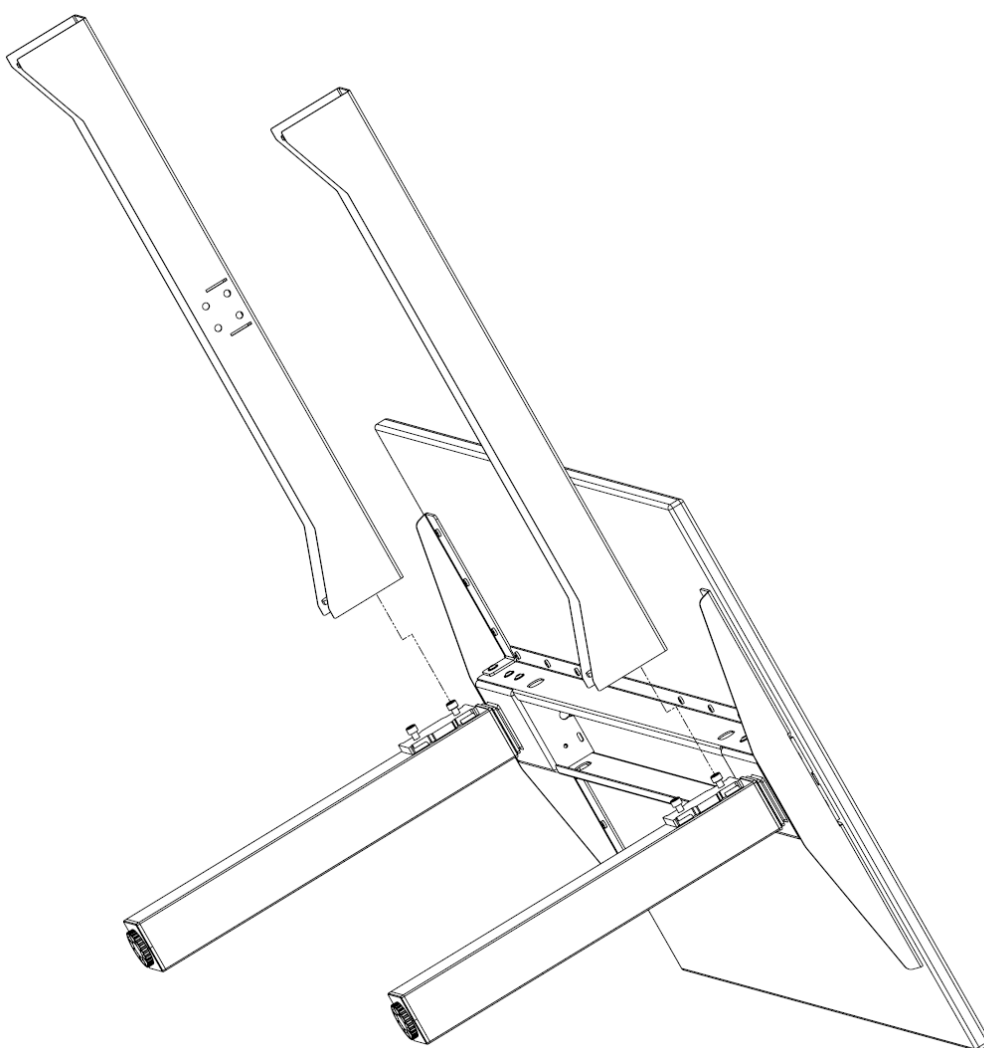
## 5.4.2.3 Assembling the bench connectors

- The upside down positioned table provides the perfect opportunity to install the electrical components. You will find the relevant instructions starting in section 5.4.2.5 Installation of the electrical controller.
- For the preparation of the bench connector installation, screw two of the provided M8x16 Allen screws into the threaded holes provided on all four lifting columns.
- Tighten the Allen screws by approx. one rotation into the threaded holes. This makes the installation of the bench connector easier.



*Figure 27 Preassembly of the M8x16 Allen screws*

- ➔ For the preassembly of the bench connector, lay the table on its side as shown in the figure 28. Use a soft pad to protect it from being scratched.
- ➔ Place the Bench connectors over the preassembled Allen screws. The top screw of the two Allen screws indicates the position of the Bench connector here – refer to the following two images.
- ➔ Make sure not to damage the coating and bordering plastic elements of the lifting columns.
- ➔ Connect the bench connector with the threaded plate of the lifting column to later ensure a secure connection.
- ➔ After adjusting the bench connector to its final position, screw in and tighten the Allen screws accordingly. The maximum permissible tightening torque is 8 Nm.



*Figure 28 Preassembly of the bench connector*

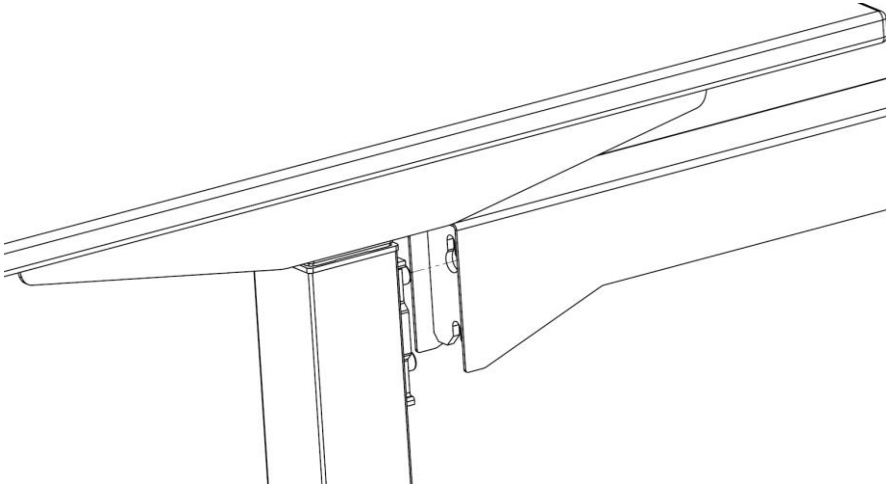


Figure 29 Position of the Allen screw towards the bench connector

**⚠ ATTENTION** Observe the maximum torque of 8Nm when tightening the screws.

#### 5.4.2.4 Connecting the two tables to a Bench system

- ➡ Place the two preassembled Bench "halves" lying on their sides in a way that allows you to lift them into the position shown below.
- ➡ Now carefully move both tables towards each other so that the Bench connector can be threaded into the Allen screws of the second bench table. Again, make sure not to damage the coating or adjoining plastic components.
- ➡ Connect the bench connector with the threaded plate of the lifting column to later ensure a secure connection.
- ➡ After adjusting the bench connector into its final position, screw in and tighten the Allen screws accordingly. The maximum permissible tightening torque is 8 Nm  $\pm$  1 Nm.

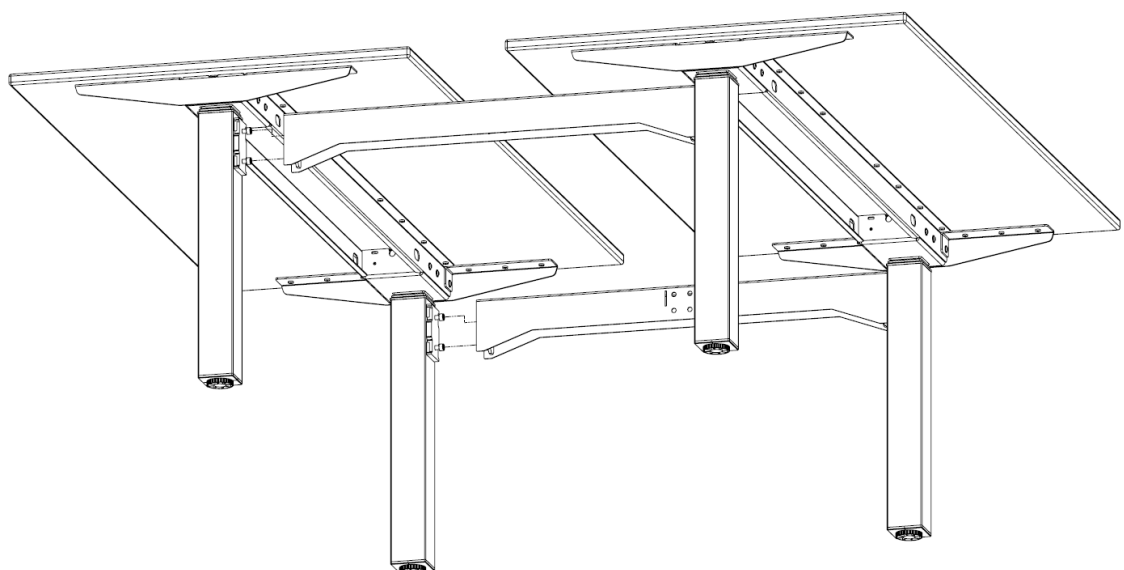


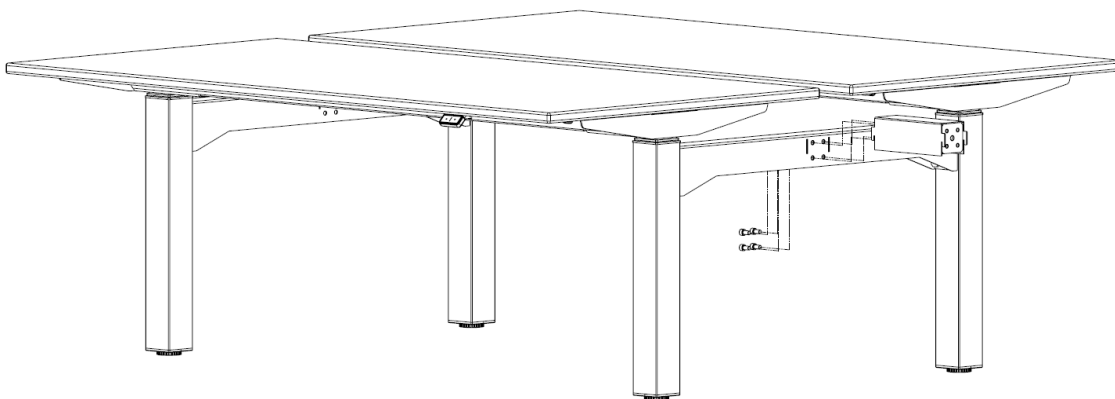
Figure 30 Connecting both bench tables

**⚠ ATTENTION** Observe the maximum torque of 8Nm when tightening the screws.

**⚠ CAUTION** Make sure that no-one is at risk of being pinched when putting both bench system halves together.

## 5.4.2.5 Joining two bench systems to a "group of four"

- ➡ The option is provided to combine two bench systems to join them into a "group of four".
- ➡ Joining two bench systems requires a bench connector installed on each of the two systems with the hole pattern pointing to the outside.
- ➡ Join the Bench-to-Bench connector with the Bench-connector of the first bench system and connect both components using the Allen screws from the Bench-to-Bench installation kit.
- ➡ In doing so, ensure that the tightening torque for the screw connection between the bench connector and the Bench-to-Bench connector does not exceed 8 Nm  $\pm$  1 Nm.



*Figure 31 Installation of the Bench-to-Bench connector onto the bench connector*

- ➡ Position the second bench system in a way towards the prepared first bench system that allows you to join the Bench-to-Bench connector with the bench connector of the second bench system. At least 3 persons are needed to do so.
- ➡ Join the two bench systems at the bench connector / Bench-to-Bench connector interface by carefully pushing the bench systems together.
- ➡ Connect the two bench systems at the bench connector / Bench-to-Bench connector interface using the Allen screws from the Bench-to-Bench installation kit.

- ➔ In doing so, ensure that the tightening torque for the screw connection between the bench connector and the Bench-to-Bench connector does not exceed  $8 \text{ Nm} \pm 1 \text{ Nm}$ .

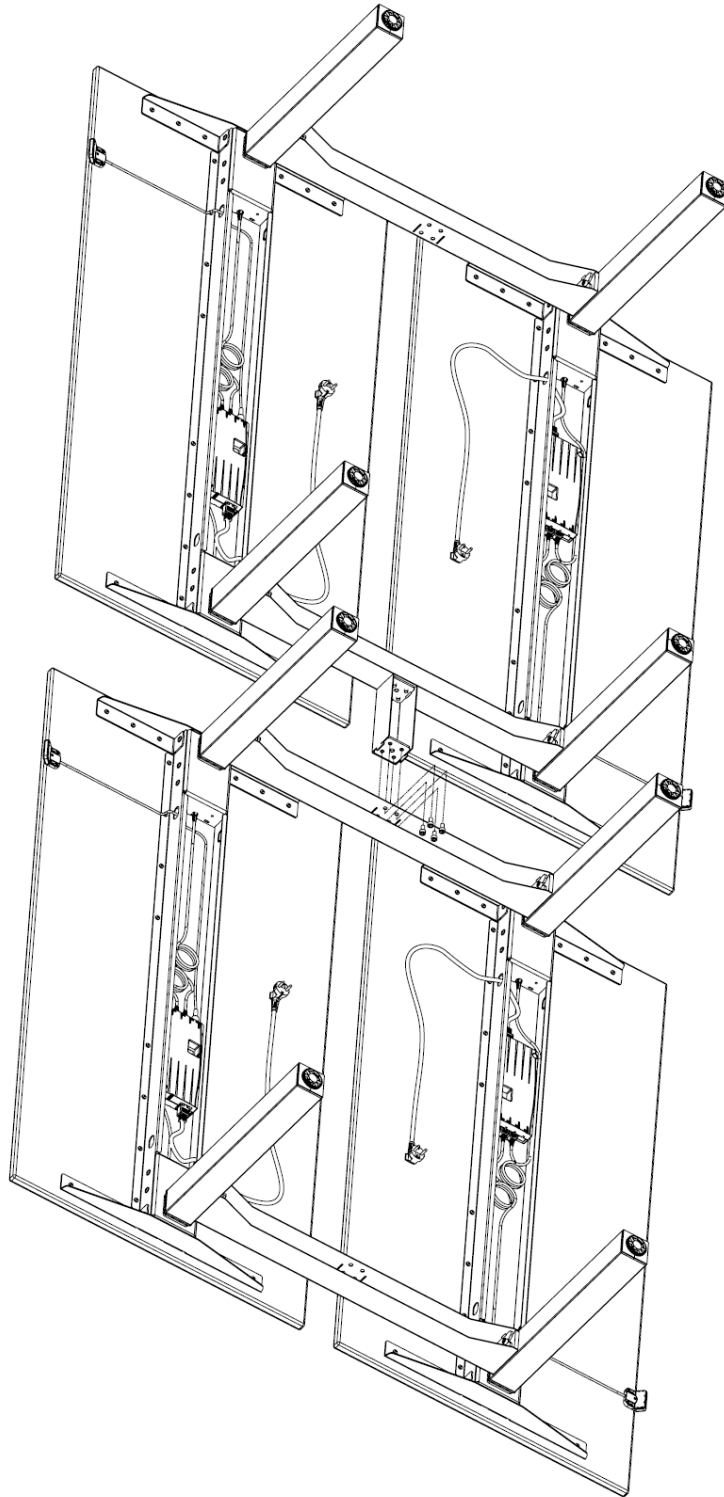


Figure 32 Connecting two bench systems

**⚠ ATTENTION** Observe the maximum torque of 8Nm when tightening the screws.

**⚠ CAUTION** Make sure that no-one is at risk of being pinched when putting both bench systems together.

## 5.4.2.6 Installation of the electrical controller (exemplary)

- ➔ All electrical components are preferably installed after work step 5.4.2.2 Installation of the adjusting elements.
- ➔ Place the controller between the two lifting columns or at another suitable position on the bottom surface 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 surface of the table top using two screws (not included in the scope of delivery).

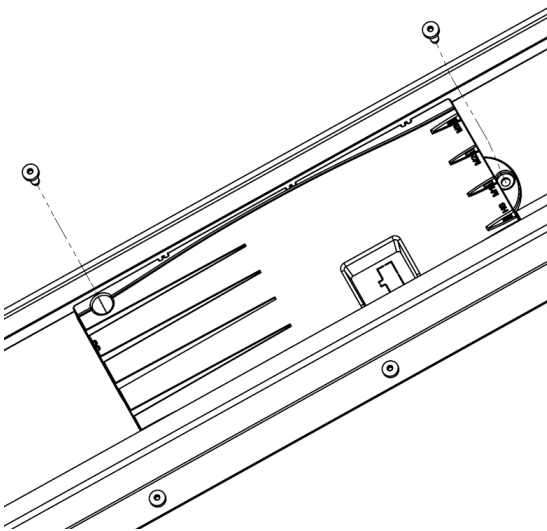


Figure 33 Installation of the controller

**⚠ 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.

## 5.4.2.7 Installation of the manual switch (exemplary)

- ➔ Fasten the manual switch at the required spot on the bottom surface 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.

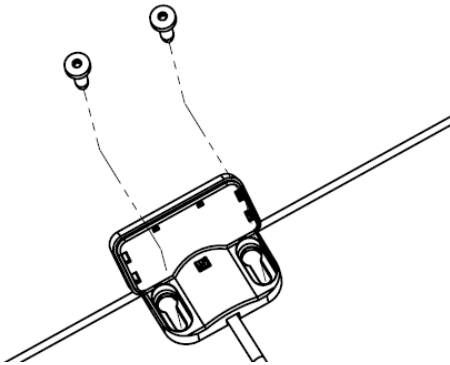


Figure 34 Installation of the manual switch

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

**⚠ WARNUNG** When using a controller, the lifting column system can be automatically moved to a memorized position by double-clicking (by double-clicking a position memory button). An increased risk of being crushed is posed in the process. 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.

**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.

### 5.4.3 Electrical connection to the controller

#### 5.4.3.1 Connecting the manual switch with the controller

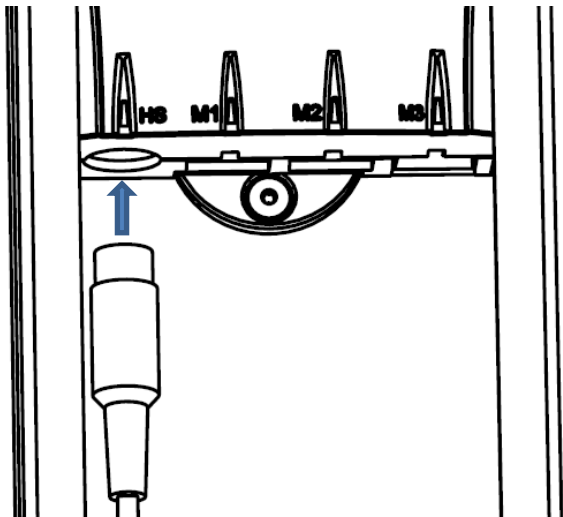


Figure 35 Connection of the manual switch

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

#### 5.4.3.2 Connecting the lifting columns with the controller

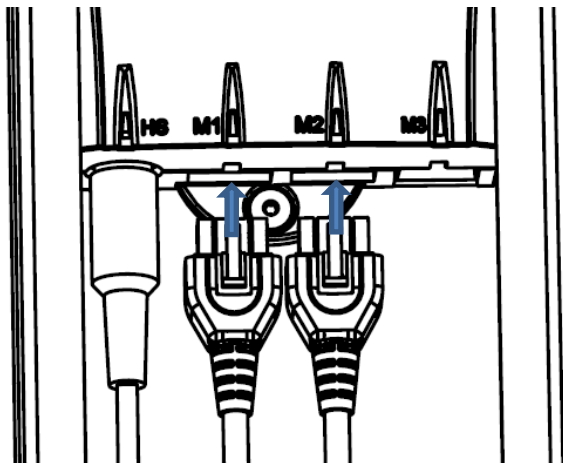


Figure 36 Connection of the two lifting columns

- ➔ Plug the connectors of both lifting columns into the electrical controller (socket M1 and M2)
- ➔ For a three-legged table frame system, plug the connector of the third lifting column into the M3 socket.



**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.

## 5.4.3.3 Connecting the power cable to the controller

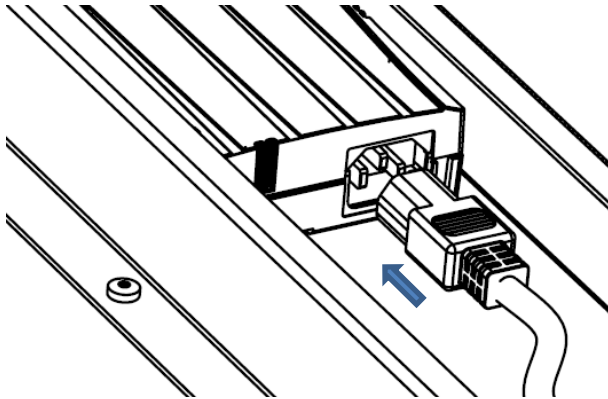
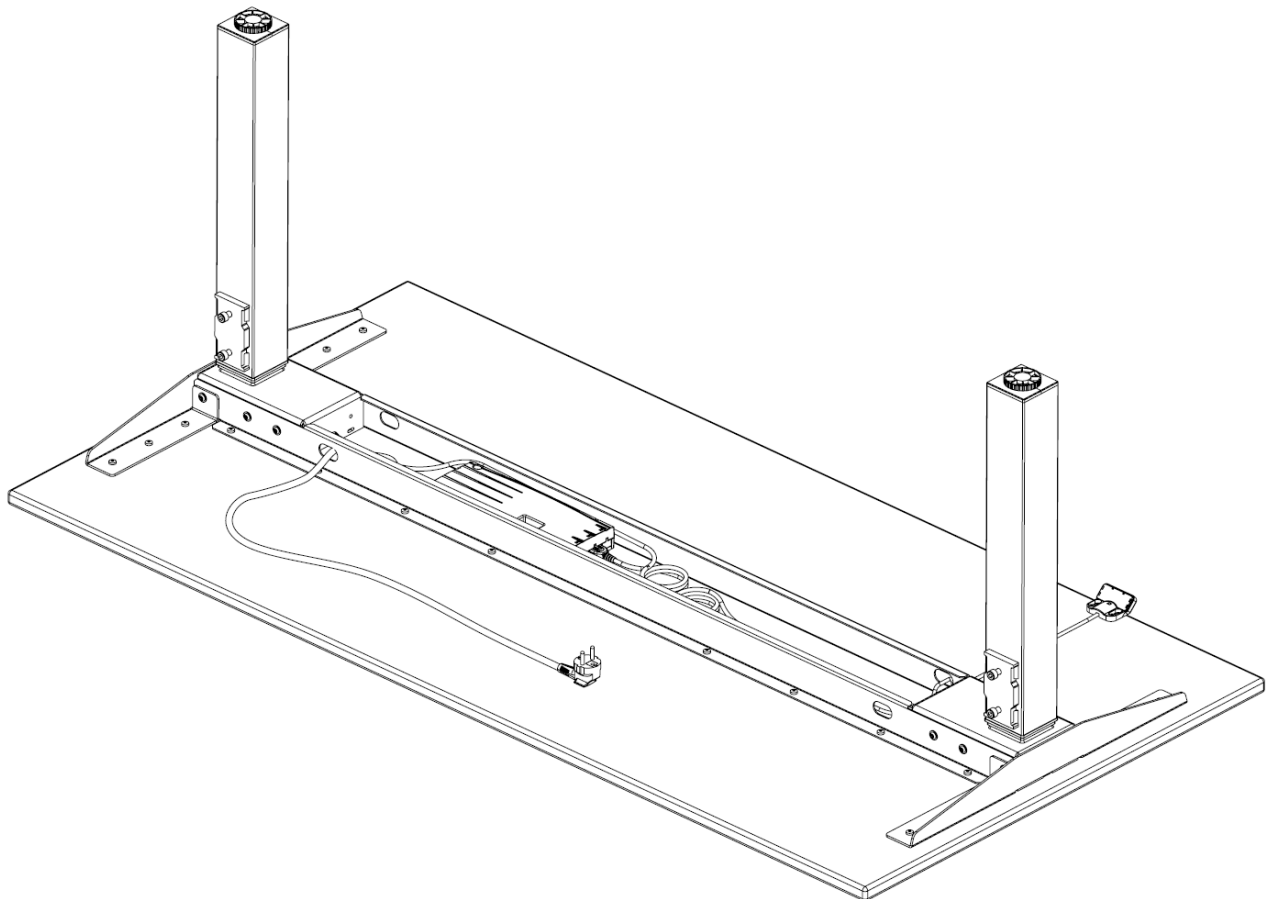


Figure 37 Power cable connection

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

## 5.4.3.4 Laying of electric wires and cables

- ➔ When laying the cables, 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.

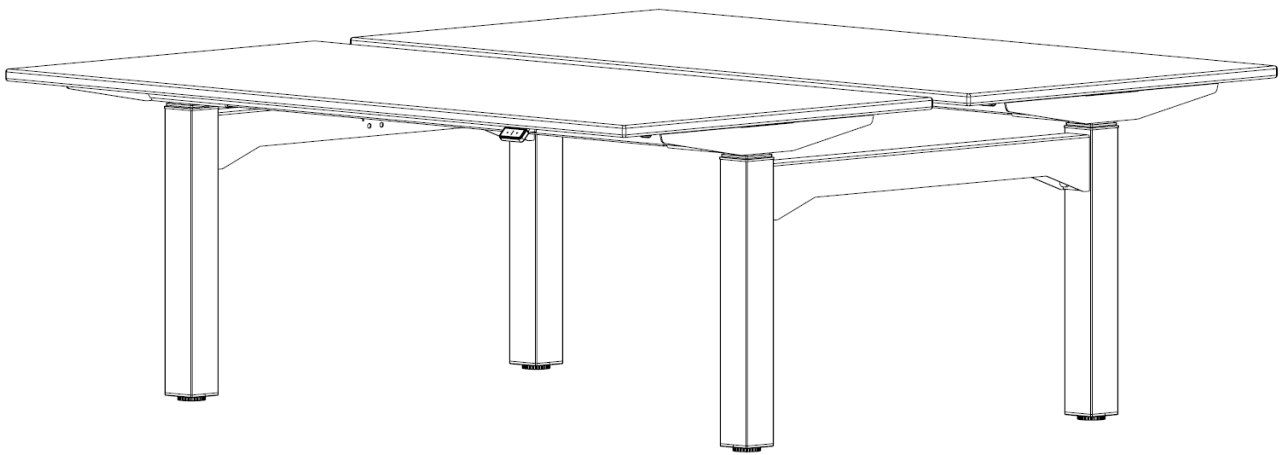


*Figure 38 Installation of electrical lines – to the bottom surface of the table*

## 5.5 Alignment of the tables

The tables are aligned via the setting of the adjusting elements of the adjustable glide.

- ➡ It takes at least two persons to place the Bench system into the required installation position.
- ➡ If necessary, level the bench system using the adjustable glides.
- ➡ Reset the system (see section 6.4.2.1 and <http://www.logicdata.net/de/download/>).



*Figure 39 Fully assembled Bench system*

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

## 6 Commissioning / Operation

### 6.1 Safety notices for operation



#### **DANGER**

##### **Risk of sustaining fatal injuries through cable breakage or damage to the cable**

In case of cable breakage or damage to the cable, there are dangers to life and limb or property damage caused by electric shock!

Never operate the table base frame with a damaged power cable! Only use the supplied power cable! Do not pull the cable across sharp edges! Do not bend the cable! Do not place heavy objects on the cable!

Do not pull on the cable! Pull the mains plug to disconnect the table base frame from the power supply!

Immediately disconnect the controller from the power supply at any sign of cable breakage. Please contact your specialist dealer!



#### **DANGER**

##### **Danger posed by improperly connected power cable**

An improperly connected power cable can cause a fire or an electric shock.

Operate the controller only at the mains voltage indicated on the nameplate! Do not use a power source with high voltage or DC voltage! Carefully check the power source!

Make sure that the power cable is connected correctly!



#### **DANGER**

##### **Danger due to humidity and water**

Humidity and water in the vicinity of the controller or the power cable may cause an electric shock or a malfunction.

Do not touch or grip the mains plug with wet hands!

Do not allow humidity and water to reach the controller or power cables!



#### **WARNING**

##### **Risk of tripping**

Excess cables and wires as well as edges can pose a risk of tripping.

Avoid having loose excess cables laying around and use cable holders and/or cable ties if necessary.

## 6.2 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 table frame system. Too heavy and lopsided loads may lead to premature wear of the table frame system.

## 6.3 Duty cycle

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

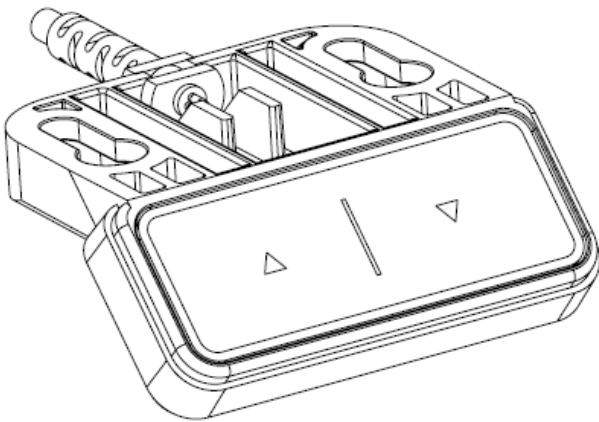
The table frame system is not designed for continuous operation without rest periods. It is designed for intermittent use and has a maximum 10% duty cycle. This means that after operating the table frame system for two minutes, you must let it rest for at least 18 minutes before reusing it. It should 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.

## 6.4 Operation

### 6.4.1 "TOUCHbasic DN" manual switch

All functions of the table frame 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 40 TOUCHbasic DN manual switch*

## 6.4.2 Function of the manual switch




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 13 TOUCHbasic DN function

### 6.4.2.1 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.

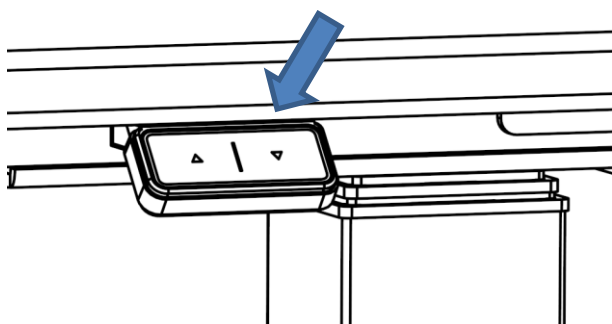


Figure 41 TOUCHbasic DN manual switch - reset drive

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

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

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

## 6.4.2.2. Saving a position



Figure 42 HSU-C-FL-LD manual switch

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 height of the table top (e.g. 76cm)
- Press and hold the button "Save" or "S"
- Press the required position button (e.g. "2"). "S2" will appear on the display. After approx. 2 seconds you see the height of the table top on the display. The position is saved.

## 6.4.2.3. 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, the lifting column system can be automatically moved to a memorized position by double-clicking the memorized button.



### **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.

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

- Double-click onto the required position button. The lifting column system moves automatically into the memorized position.

**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.

## 6.5. Faults and error indications

Malfunctions may occur during operation. These are caused by:

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

## 7. Service and maintenance

### 7.4. 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 table frame system.

## 7.5. Maintenance instructions

### 7.5.2. 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 table frame system before cleaning.
- ➔ Remove the load from all lifting elements before maintenance works.
- ➔ 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 table frame 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.

## 7.6. Maintenance

The table frame 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!

### 7.6.2. 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.

### 7.6.3. 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.

### 7.6.4. Damages to Electrical Wires

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

## 8. Decommissioning



### IMPORTANT

**Follow the safety instructions!**

For this purpose, please also refer to section "Safety instructions".

### 8.4. Switch off adjustment function

- ➔ Disconnect the power cable from the mains voltage.

### 8.5. Storing the lifting columns

The storage area should be cool and dry in order to prevent corrosion of the individual parts of the table frame 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 14 Transport and storage conditions

## 8.6. 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.

## 9. 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  
 e-mail: [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

## 10. Appendix

### 10.4. Index of Tables

Table 1 Signal words and signal colors.....	6
Table 2 Symbols.....	6
Table 3 Warning notice .....	6
Table 4 Target group .....	10
Table 5 Technical specifications (overview) .....	13
Table 6 Technical specifications ELS3-650-BTD-Q-BL lifting column .....	14
Table 7 Technical specifications ELS3-650-BTD-Q-BR lifting column.....	15
Table 8 Technical specifications COMPACT-2 controller .....	16
Table 9 Technical specifications SMART controller .....	17
Table 10 Technical specifications SMART neo controller.....	18
Table 11 Scope of delivery.....	24
Table 12 Operating conditions .....	26
Table 13 TOUCHbasic DN function.....	47
Table 14 Transport and storage conditions .....	53

### 10.5. Index of Figures

Figure 1 ELS3-650-BTD-Q-BL lifting column .....	14
Figure 2 ELS3-650-BTD-Q-BR lifting column .....	15
Figure 3 COMPACT Controller .....	16
Figure 4 SMART controller .....	17
Figure 5 SMART neo controller.....	18
Figure 6 Example of lifting column (ELS3-650-BTD-BL, dual telescopic).....	22
Figure 7 Bench connector.....	22
Figure 8 Bench-to-bench connector.....	22
Figure 9 Components of the Bench 2 assembly kit .....	23
Figure 10 COMPACT controller .....	23
Figure 11 SMART controller .....	23
Figure 12 SMARTneo controller .....	23
Figure 13 HSU-C-FL-LD manual switch .....	24

Figure 14 HSU-OD-2-LD manual switch .....	24
Figure 15 HSU-MDF-4M2-LD manual switch .....	24
Figure 16 TOUCHbasic DN manual switch .....	24
Figure 17 TOUCHfx manual switch.....	24
Figure 18 TOUCHbasic IL manual switch .....	24
Figure 19 TOUCHinlay manual switch.....	24
Figure 20 Example for a power cable .....	24
Figure 21 Aligning the table frame system with the table top (front view) .....	28
Figure 22 Aligning the table frame system with the table top (front view) .....	29
Figure 23 Fastening the lifting column (ELS3-650-BTD-Q-X-BR) to the frame using screws .....	30
Figure 24 Fastening the lifting column (ELS3-650-BTD-Q-X-BR) to the frame using screws .....	31
Figure 25 Maximum thread depth for the installation of the lifting columns .....	31
Figure 26 Installation of the adjusting elements (expander plug with adjustable glide) .....	32
Figure 27 Preassembly of the M8x16 Allen screws .....	33
Figure 28 Preassembly of the bench connector.....	34
Figure 29 Position of the Allen screw towards the bench connector.....	35
Figure 30 Connecting both bench tables .....	35
Figure 31 Installation of the Bench-to-Bench connector onto the bench connector .....	36
Figure 32 Connecting two bench systems .....	37
Figure 33 Installation of the controller .....	38
Figure 34 Installation of the manual switch .....	39
Figure 35 Connection of the manual switch.....	40
Figure 36 Connection of the two lifting columns .....	40
Figure 37 Power cable connection .....	41
Figure 38 Installation of electrical lines – to the bottom surface of the table.....	42
Figure 39 Fully assembled “Bench 2” bench system.....	43
Figure 40 TOUCHbasic DN manual switch .....	46
Figure 41 TOUCHbasic DN manual switch - reset drive .....	47
Figure 42 HSU-C-FL-LD manual switch .....	478



## 10.6. 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 table frame system

Year of manufacture: 2018

Designated use: The electrically adjustable table frame system is used to raise two individual countertops 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  
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,

on 05/14/2019

Signature