



Spohn+Burkhardt

Elektrotechnische Fabrik Blaubeuren

Steuerstand FSMMD Control Stand FSMMD



Betriebsanleitung Operating Instructions

Sprachen/Languages

Deutsch – Originalbetriebsanleitung	3
English – translation of original operating instructions.....	39

Impressum

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Imprint

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1. Safety

1.1. Documentation

These operating instructions are part of the product and contain all the information on the mechanical installation, the electrical connection, as well as the operation and servicing of the device. The operating instructions must always be available, in a legible condition, to the related user for the service life of the device.

1.2. Intended use

The devices described in these operating instructions are used as part of an overall system or machine. It is the responsibility of the operating organization to ensure safe, correct overall function.

Intended use always requires that all work with and on the device is undertaken based on this documentation.

The operating organization must ensure that persons who work with and on the device have read and understood these operating instructions.

These operating instructions must always be available in a legible state to all persons who work with and on the device

The manufacturer will not accept **any liability** for damage due to abnormal use, or unauthorized modifications to the device that cause injuries or damage.

1.3. Specialist personnel

All tasks on the device, as well as the integration of the device into systems and machines, are only allowed to be undertaken by trained specialist personnel authorized and trained by the operating organization.

Only specialist personnel who are able to undertake the necessary tasks due to their training, instruction and knowledge of applicable standards, laws, provisions, accident prevention regulations and safety rules are allowed to be authorized.

Work that requires specialist knowledge, e.g. of electrical engineering, mechanics or pneumatics, must be undertaken by specialists with appropriate qualifications.

By using the device as intended you will prevent injury and damage to the device and its components!

1.4. Classification of safety instructions

Hazards are classified in this documentation based on ISO 3864-2 and ANSI Z535.6 as follows:



Danger!

Serious injuries or fatality may occur if ignored.



Caution!

Minor injuries may occur if ignored.



Attention!

Damage to the device and items in the surrounding area as well as malfunctions may occur if ignored.



Note

Additional information.

1.5. Safety instructions

During all work on and with the device, always pay attention to the following safety instructions. It is the responsibility of the operating organization to ensure that the following safety instructions are observed and met by all persons who work with and on the device.



Hazard due to electric shock!

Before all work on the device, pay attention to the five safety rules in the following order:

- Disconnect from the supply of electrical power.
- Secure against switching back on.
- Check there is no electrical power present.
- Earth and short circuit.
- Cover or cordon off neighboring, electrically live parts.



Crushing hazard!

All electrically adjustable parts of the control stand will move if saved working positions are retrieved. Make sure that there are no limbs in the movement area of the electrically adjustable parts.



Crushing hazard!

During the adjustment of the horizontal console position, there is a crushing hazard between the console and the switch cabinet. During the adjustment of the horizontal console position, make sure your arm is not in the space between the console and the switch cabinet.



Crushing hazard!

With the bull's horns (footrests) folded up there is a crushing hazard during the adjustment of the consoles in the end position at the front and bottom.



Hazard due to work undertaken improperly!

Hazards will arise for persons and the device may be damaged by work undertaken improperly and unauthorized modifications to the control stand.

Spohn & Burkhardt will not accept any liability for damage caused by work undertaken improperly or unauthorized modifications to the control stand.

We strongly recommend having all work on the device undertaken by **Spohn & Burkhardt**.



Danger!

Spare parts must comply with the technical standard specified by the manufacturer. Use only original spare parts for your own safety.



Danger!

Safety belts can be retrofitted to the control stand.

Retrofitting must be undertaken taking into account the related instructions from the manufacturer and must be approved by **Spohn & Burkhardt**.



Danger!

If there is a safety belt, it must be put on before starting work. The safety belt must be checked after an accident. If the full functionality is not available, the safety belt must be replaced.

The electrical function of the contact on safety belts with an additional contact is to be checked every time before starting work. If the full functionality is not available, the safety belt must be replaced.



Danger!

You must never stand on the bull's horns (footrests) to prevent serious injuries and damage to the control stand.

The bull's horns (footrests) are only for support during operation.



Danger!

The Administrator code gives you access to the control stand's main menu. Using the main menu you can add, delete and change operator codes. No other settings (factory settings) are allowed to be changed.



Danger!

Devices without a special marking for hazardous areas are **not** allowed to be used in the following environments.

- Environments with an explosion hazard.
- Environments with harmful oils, acids, gases, vapors, dusts, radiation, etc.



Danger!

A pneumatic seat spring system DC 24 V 10 A (optional) is connected to the terminals marked in the switch cabinet.

Electrical components, if fitted, have been wired to terminals or plugs/sockets in the switch cabinet according to the requirements of the operating organization. Always follow internal regulations and safety provisions during electrical connection.

It is the responsibility of the operating organization to ensure safe, correct overall function.



Danger!

To prevent injuries,

- Persons must not stand in the rotating and swiveling area or the linear movement area of the control stand
- No objects are allowed to be stored in the rotating and swiveling area of the control stand
- The adjusting features of the control stand are not allowed to be actuated during operation.



Caution!

The correct function of the control stand must be checked each time before starting work.



Caution!

To prevent long-term harm or signs of fatigue due to an incorrect working position, adjust to the working position optimal for you before starting work.



Attention!

Make sure all wires are laid correctly without kinks or points where they can chafe.

Make sure the cable markers are not removed and mark new cables so they can be identified. Fasten together the cables using cable ties, if necessary. While laying cables, pay attention to any bending radii specified by the manufacturer.



Attention!

During the installation of the control stand, make sure all minimum distances are maintained at the installation location/in the installation space.



Attention! Damage due to transport.

Check the control stand for damage due to transport before installation. Immediately report any damage to the carrier. Damaged control stands are not allowed to be installed.



Note

The control stand is equipped with an emergency stop button (touch-button on the memory system display) to prevent injury or damage to the control stand.

Press the emergency stop button if there are anomalies or malfunctions.

2. Description



Figure 1. Control stand FSMMD

The control stands FSMMD are robust control stands for a wide variety of applications. The control stands FSMMD permit relaxed, fatigue-free working because all ergonomic requirements are taken into account. The seat and console positions are electrically adjustable for length, height and tilt. The control stands FSMMD permit a consistent arm posture and sitting posture due to the optimal interaction of seat, console and spring system.

Five different working positions for up to 30 persons can be saved using the memory system and correspondingly quickly and straightforwardly restored. The control stands FSMMD are optimally suited to multiple shift operation due to the memory system.

2.1. Overview

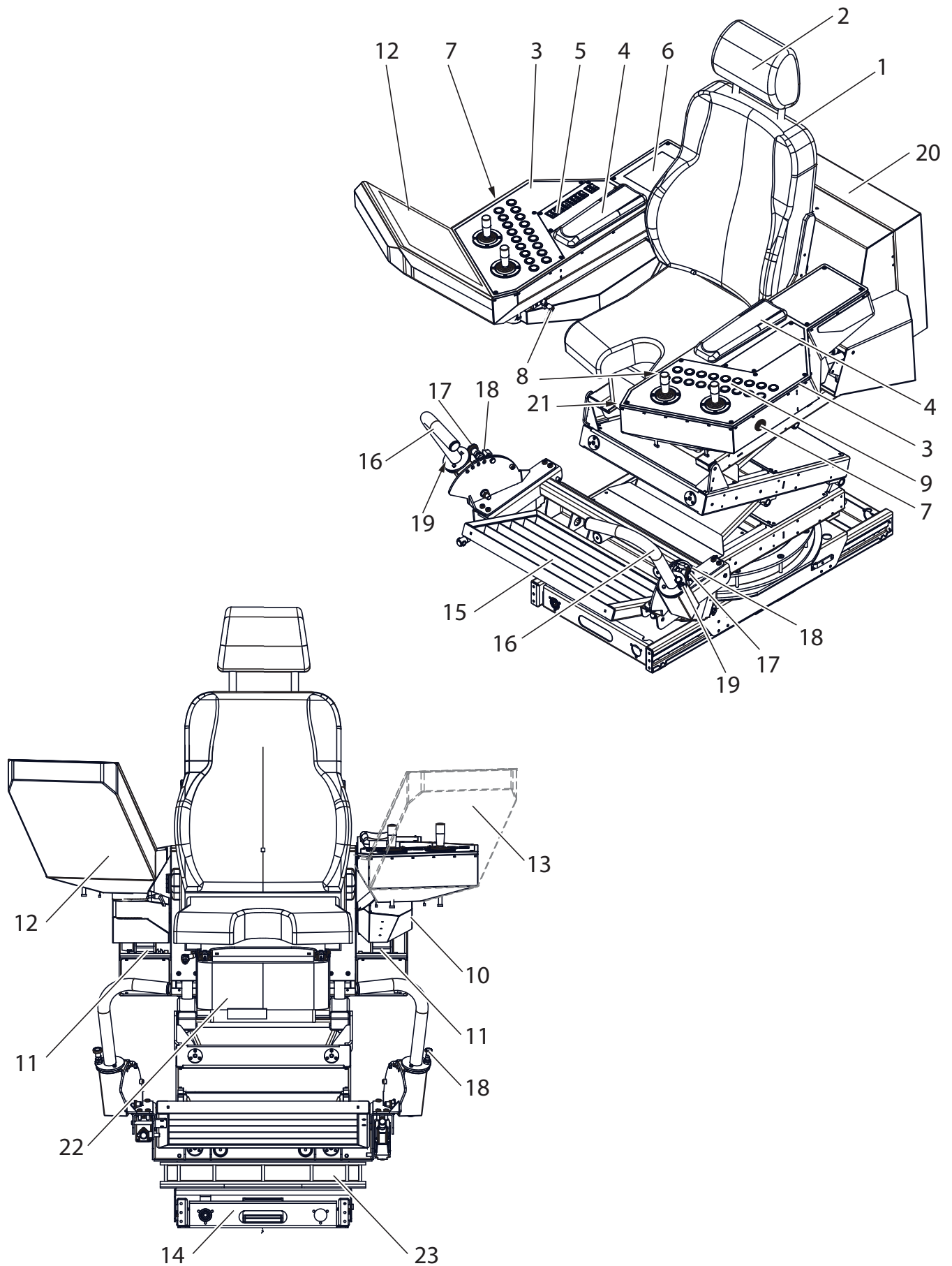


Figure 2. Control stand FSMMD – overview (example)

Item	Name	Item	Name
1	Seat	13	Monitor 2
2	Headrest	14	Slide
3	Console	15	Footrest
4	Armrest	16	Bull's horns (footrests)
5	Rocker switches, seat adjustment (electrical)	17	Locking pin, tilt adjustment of bull's horns (footrests)
6	Memory system display	18	Clamping lever, tilt adjustment of bull's horns (footrests)
7	Button, console swiveling	19	Locking pin, swiveling bull's horns (footrests)
8	Clamping lever, console longitudinal adjustment	20	Switch cabinet
9	Controls	21	Seat substructure
10	Bottom part of console – cover	22	Spring system
11	Console carrier system	23	Slewing ring
12	Monitor 1		

2.2. Technical data



Note

For the technical data on other variants and individual adaptations, refer to the related dimension drawing and the related data sheet, *see chapter 11. "Reference documents", page 71.*

Seat	
Maximum load, seat	150 kg (330,75 lbs)
Maximum load, armrest	150 kg (330,75 lbs) at the fastening pin
Power supply	DC 24 V/20 A AC 230 V
Degree of protection	IP20
Operating temperature	0° C to +50° C (32° F to 122° F)

2.3. Dimension drawings



Note

For the dimensions of the related variants, refer to the related dimension drawing, see chapter 11. "Reference documents", page 71.

2.3.1. Dimensions, adjustments, working positions

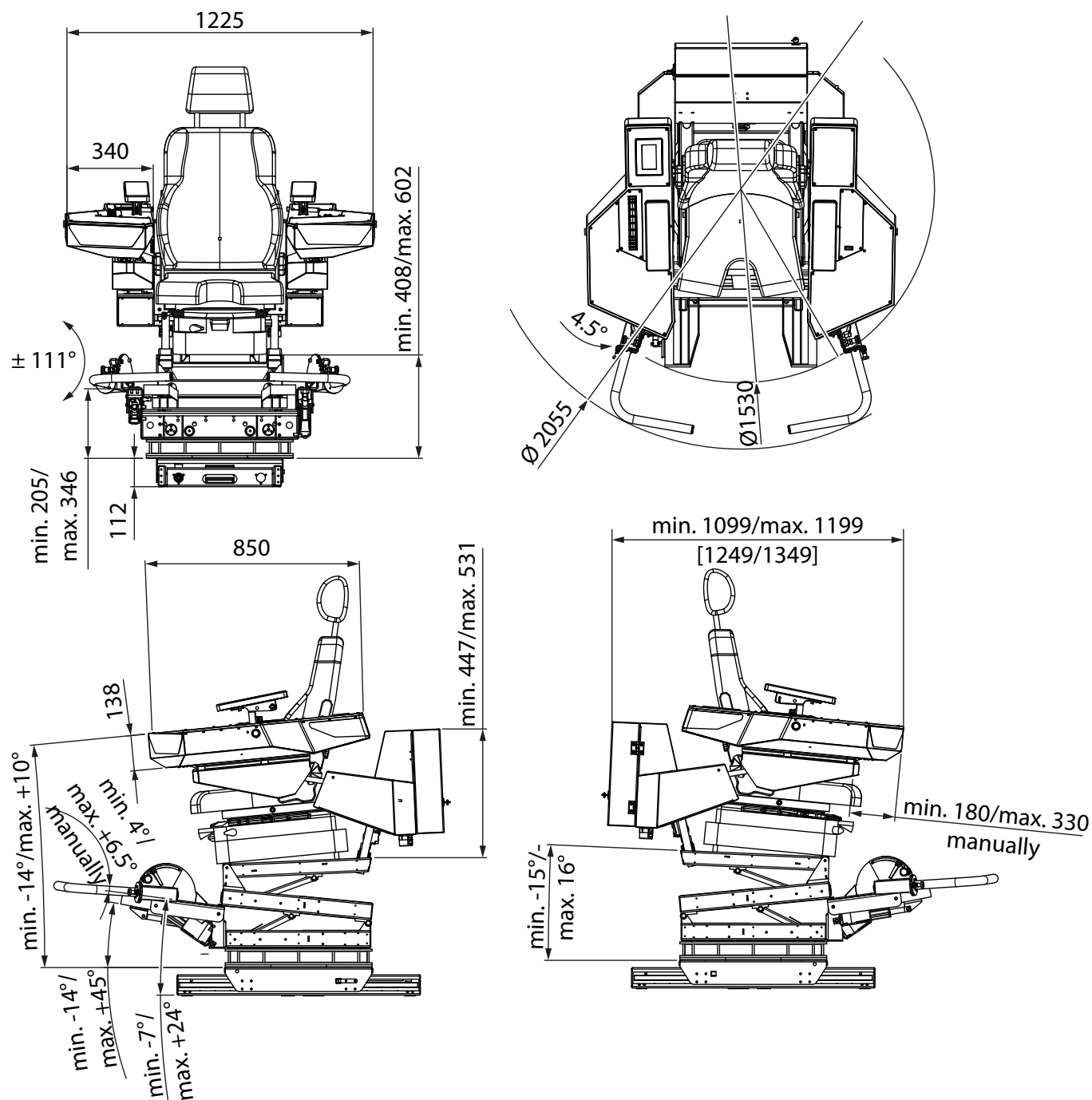


Figure 3. Dimensions, adjustments, working positions (dimensions in mm))

2.3.2. Installation dimensions

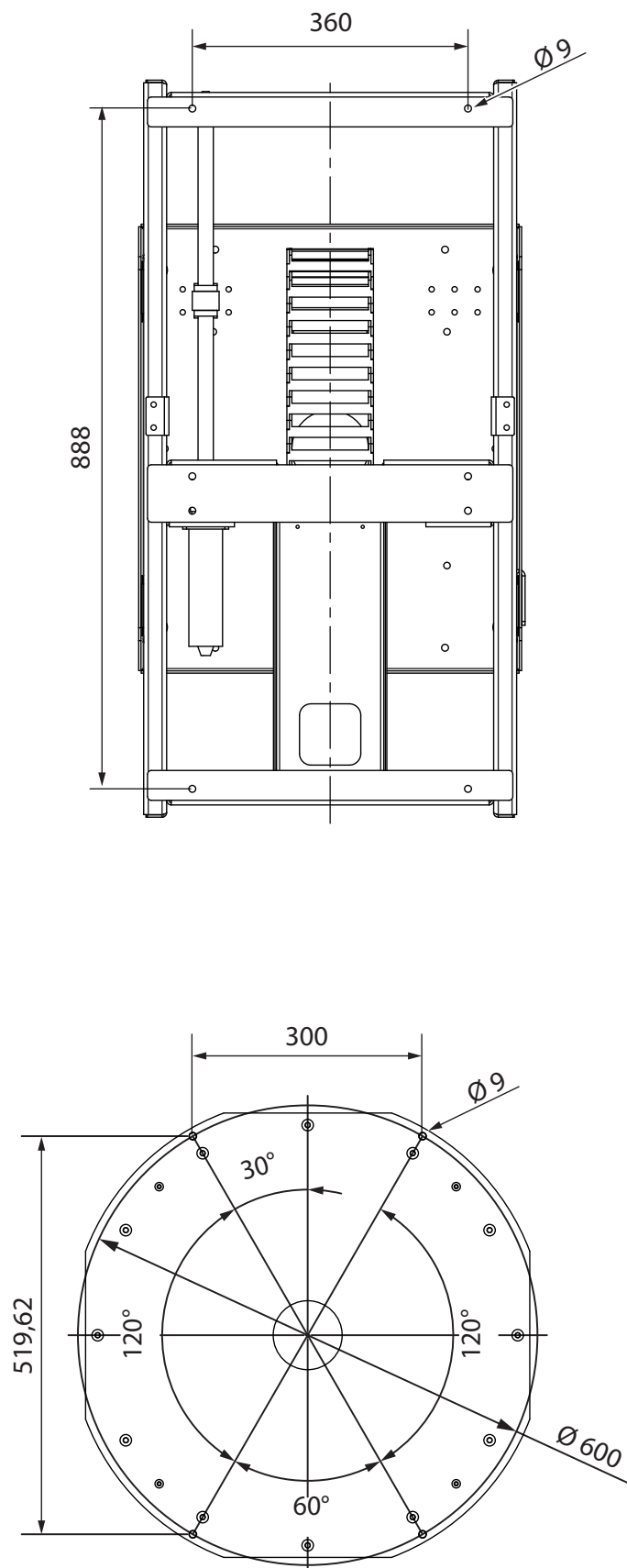


Figure 4. Installation dimensions (dimensions in mm)

3. Installation



Danger!

All tasks on the device are only allowed to be undertaken by specialist personnel taking into account the relevant safety regulations. Always pay attention to the safety instructions in *chapter 1. "Safety", page 41.*

3.1. Mechanical installation



Danger!

Transport the control stand using suitable hoisting equipment. During transport, pay attention to loose parts of the control stand.

3.1.1. Preparatory work

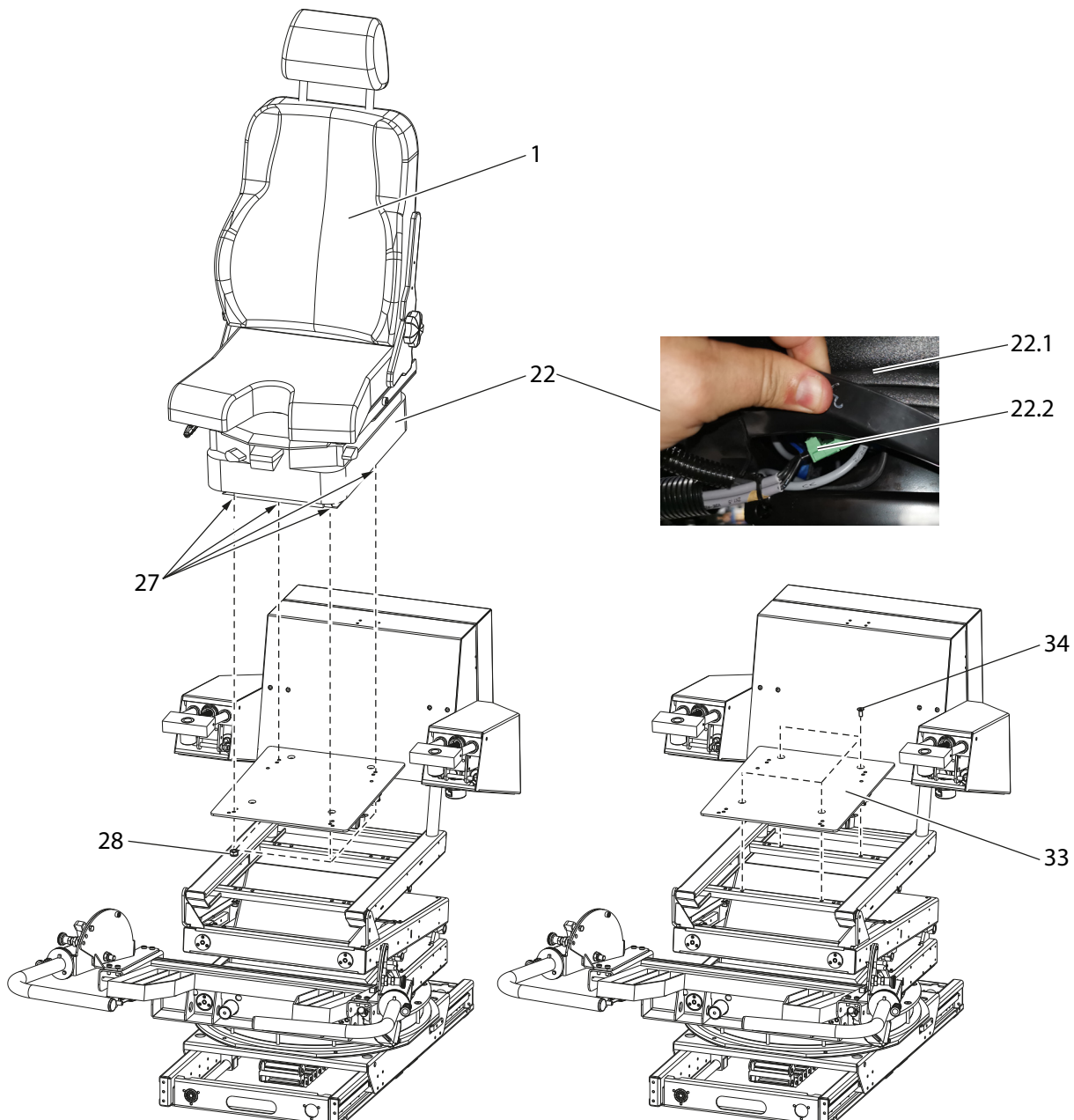


Figure 5. Preparatory work: removing seat and adapter plate (simplified illustration)

The seat (1) with the spring system (22) and the adapter plate (33) must be removed first to fit the control stand.

Only for variants with pneumatic spring system:

1. Pull up the rubber bellows (22.1) on the right-hand side of the spring system (22).
2. Disconnect the connector (22.2) underneath for the pneumatic spring system.

The following steps apply to variants with pneumatic spring system and variants with mechanical spring system.

3. Undo the nuts (28) from the screws (27).
4. Lift the seat (1) with the spring system (22) from the control stand.
5. Undo the countersunk head screws (34) and lift the adapter plate (33) out of the control stand.

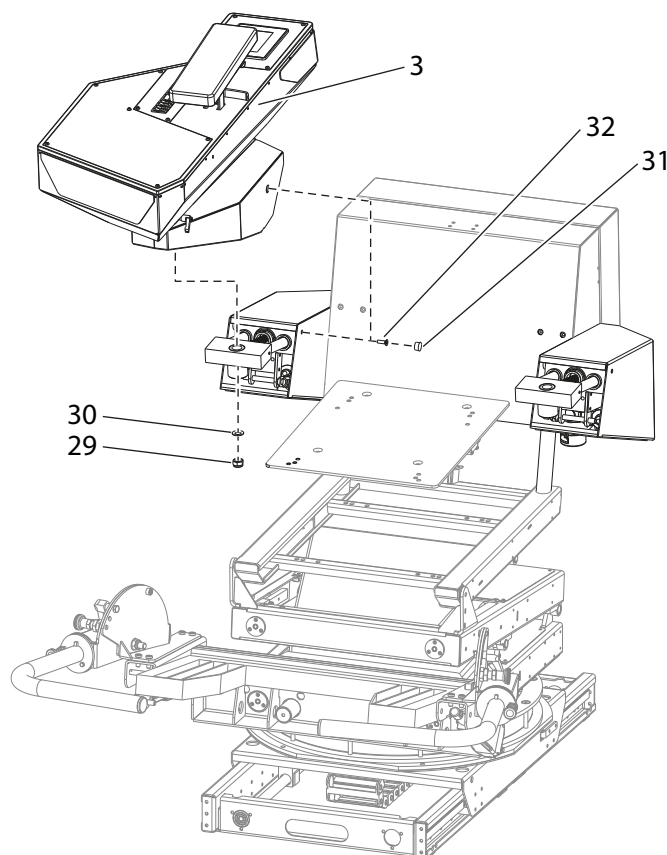


Figure 6. Preparatory work: removing consoles (simplified illustration)

If the access to the installation space is smaller than the dimensions of the control stand, also remove the consoles (3) as follows:



Note

If the access to the installation space is smaller than the dimensions of the control stand, the wiring is correspondingly prepared by **Spohn & Burkhardt** so that the electrical connections to the consoles can be disconnected.

1. Disconnect the electrical cables from the consoles (3).
2. Remove the cap (31) and undo the screw (32).
3. Undo the nut (29) and remove the nut (29) and the washer (30).
4. Remove the related console (3) from the control stand.

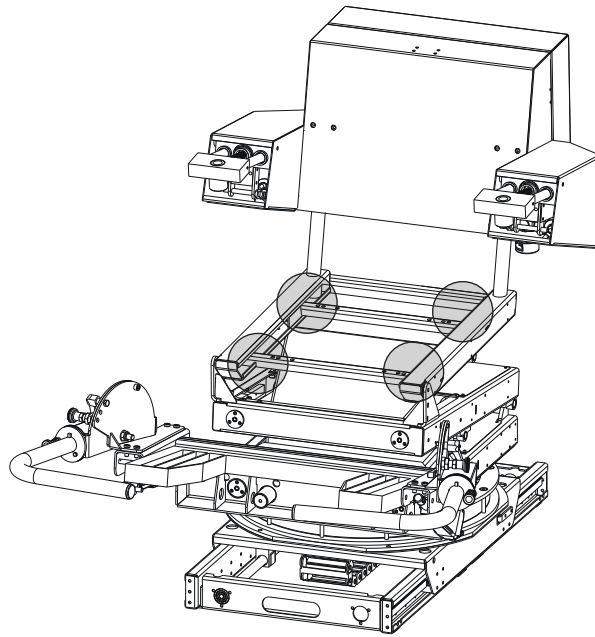


Figure 7. *Lifting points*



Danger!

Transport the control stand using suitable hoisting equipment. During transport, pay attention to loose parts of the control stand.

5. Fasten the lifting straps diagonally to at least 2 of the lifting points shown in Figure 7.
6. Lift the control stand into the installation space.

3.1.2. Installation in the installation space

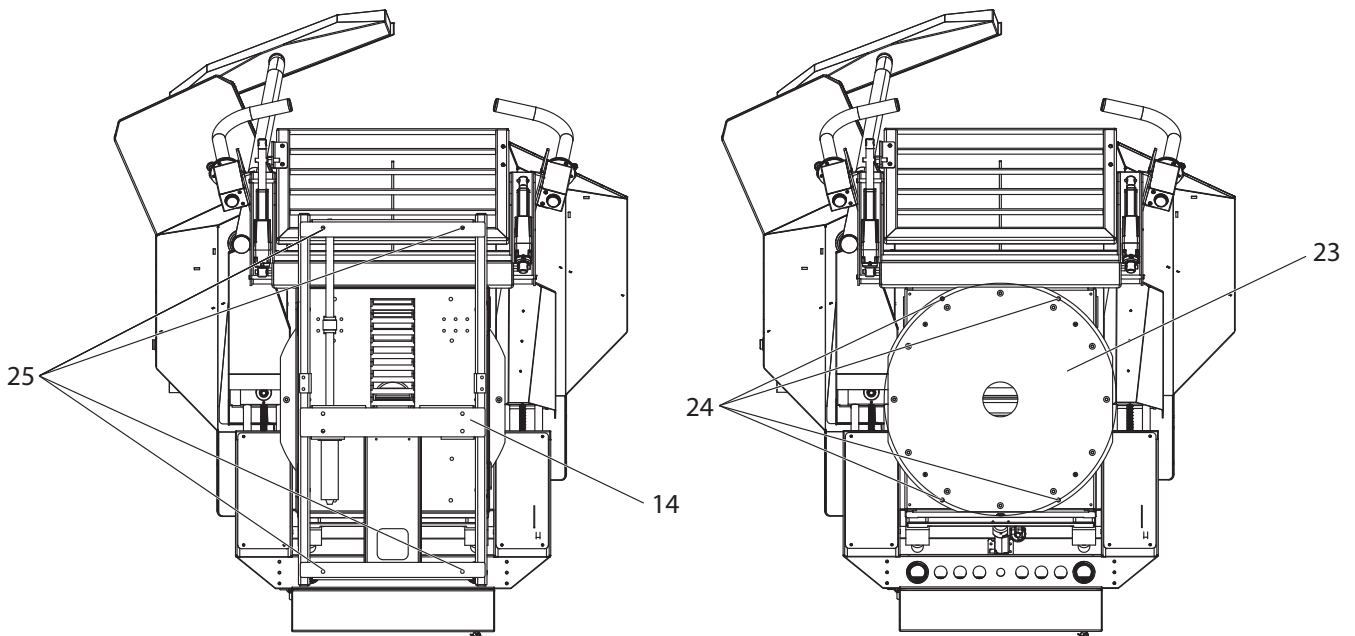


Figure 8. *Mechanical installation*

Variant without slide

1. Prepare the installation space.
2. Position the control stand in the installation location, during this process pay attention to the correct minimum distance to neighboring parts. The rotating and swiveling area of the control stand must not be blocked, installation dimensions: *see Figure 4 "Installation dimensions (dimensions in mm)", page 49.*
3. Fasten the control stand using 4 suitable screws M8 and detent-edged washers or a suitable screw locking compound (e.g. Loctite) through the fastening bores (24) in the slewing ring (23) in the installation space (**tightening torque 24 Nm**).

Steps 4 – 6 are only to be undertaken if the consoles (3) have been removed.

4. Re-fit the consoles (3) to the control stand.
5. Fasten the consoles (3) on the inside using the countersunk head screws (32) and re-fit the cap (31) to the screw (32)
6. Fasten the consoles (3) from below using the nut (29) and the washer (30)
7. Re-fit the adapter plate (33) to the control stand and fasten the adapter plate (33) using the countersunk head screws (34).
8. Re-fit the seat (1) with the spring system (22) to the control stand.
9. Fasten the seat (1) and the spring system (22) to the control stand using the screws (27) and the nuts (28).

Only for variants with pneumatic spring system:

10. Pull up the rubber bellows (22.1) on the right-hand side of the spring system (22).
11. Connect the connector (22.2) underneath for the pneumatic spring system.

Variant with slide

1. Prepare the installation space.
2. Position the control stand in the installation location, during this process pay attention to the correct minimum distance to neighboring parts. The rotating and swiveling area as well as the linear movement area of the control stand must not be blocked. Installation dimensions: *see Figure 4 "Installation dimensions (dimensions in mm)", page 49.*
3. Fasten the control stand using 4 suitable screws M8 and detent-edged washers or a suitable screw locking compound (e.g. Loctite) through the fastening bores (25) in the slide (14) in the installation space (**tightening torque 24 Nm**).

Steps 4 – 6 are only to be undertaken if the consoles (3) have been removed.

4. Re-fit the consoles (3) to the control stand.
5. Fasten the consoles (3) on the inside using the countersunk head screws (32) and re-fit the cap (31) to the screw (32).
6. Fasten the consoles (3) from below using the nut (29) and the washer (30).
7. Re-fit the adapter plate (33) to the control stand and fasten the adapter plate (33) using the countersunk head screws (34).
8. Re-fit the seat (1) with the spring system (22) to the control stand.
9. Fasten the seat (1) and the spring system (22) to the control stand using the screws (27) and the nuts (28).

Only for variants with pneumatic spring system:

10. Pull up the rubber bellows (**22.1**) on the right-hand side of the spring system (**22**). and connect the connector (**22.2**) underneath for the pneumatic spring system.

3.2. Electrical connection

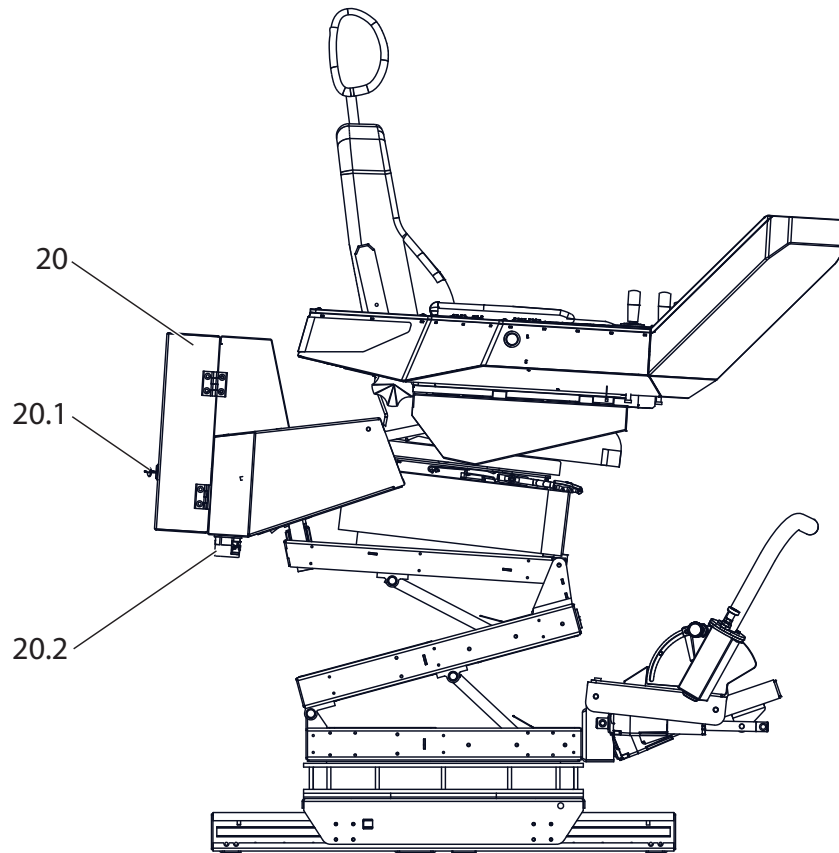


Figure 9. Electrical connection



Note

The control stand is wired to terminals or plugs/sockets according to the requirements of the operating organization.

The electrical connection is made specifically according to the connection diagram, the requirements of the operating organization and the related circuit diagrams, *see chapter 11. "Reference documents", page 71.*

1. Disconnect the system from the supply of electrical power.
2. Open the switch cabinet (**20**) using the related key (**20.1**).
3. Undo the nut on the cable gland and push the nut from the cable gland (**20.2**) onto the wires.
4. Guide the wires through the cable gland (**20.2**) into the switch cabinet (**20**).

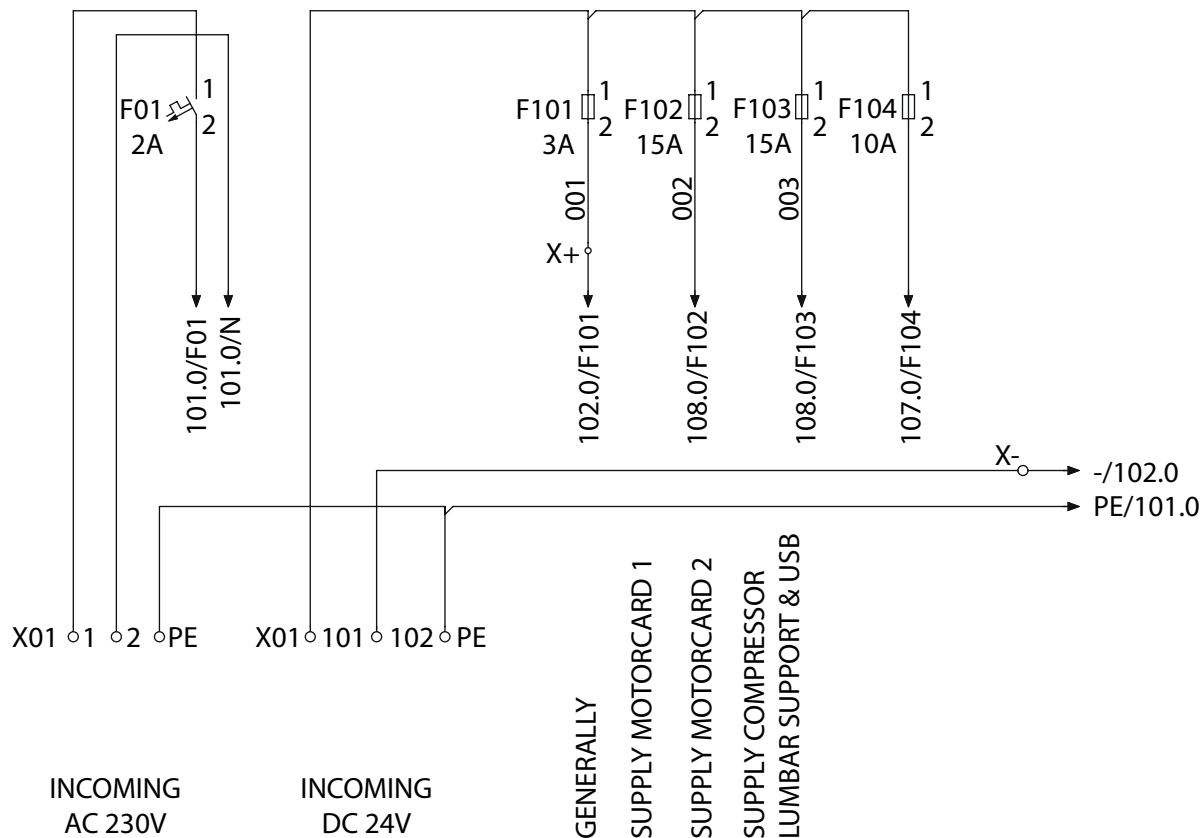


Figure 10. Connection diagram

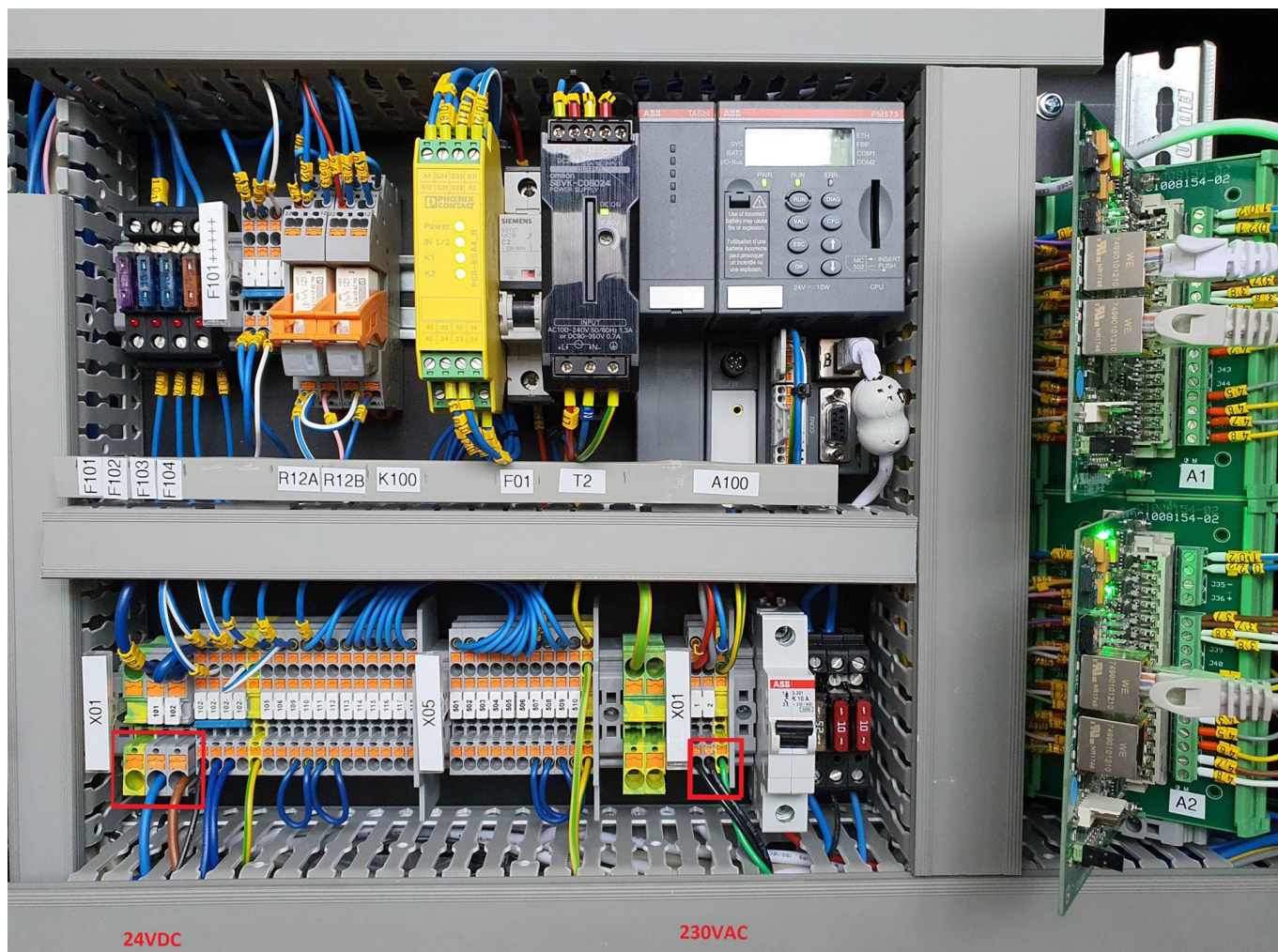


Figure 11. Electrical connections

5. Connect the connecting wires to the intended terminals or plugs/sockets as per the connection diagram (*Figure 10 "Connection diagram"*), the related circuit diagrams (*see chapter 11. "Reference documents", page 71*) and the requirements of the operating organization. Make sure all wires are laid without kinks or points where they can chafe.
6. Close the switch cabinet (**20**) using the related key (**20.1**).
7. Undertake setup, *see chapter 4. "Setup", page 56*.

4. Setup



Danger!

All tasks on the device are only allowed to be undertaken by specialist personnel taking into account the relevant safety regulations. Always pay attention to the safety instructions in *chapter 1. "Safety", page 41*.

4.1. Function test



Danger!

Damaged control stands are not allowed to be operated.

1. Check the adjustment functions of the seat as per *chapter 5. "Operation", page 57*.
 - If you are not able to operate one of the adjusting functions, take the control stand out of operation and contact **SPOHN & BURKHARDT** (*for address see Imprint, page 2*).
2. Check the functions of the control stand as per the requirements of the operating organization.

5. Operation



Danger!

All tasks on the device are only allowed to be undertaken by specialist personnel taking into account the relevant safety regulations. Always pay attention to the safety instructions in *chapter 1. "Safety", page 41*.



Note

The function of the controls, joysticks and monitors corresponds to the related requirements of the operating organization for each variant.

For information on operation, refer to the related documentation and the instructions from the operating organization.

The working position is adjusted electrically using rocker switches (5) on the right console (3) and manually using levers and buttons as well as adjusting wheels on the seat (1). The electrical settings can be saved using the memory system and retrieved at any time using the related operator code. The operator code is entered using the display (6) for the memory system. The working positions saved for the related operator code are indicated on the display (6) for the memory system and can be selected.



Caution!

The working position is not allowed to be adjusted during operation.

5.1. Working position adjustment – electrical

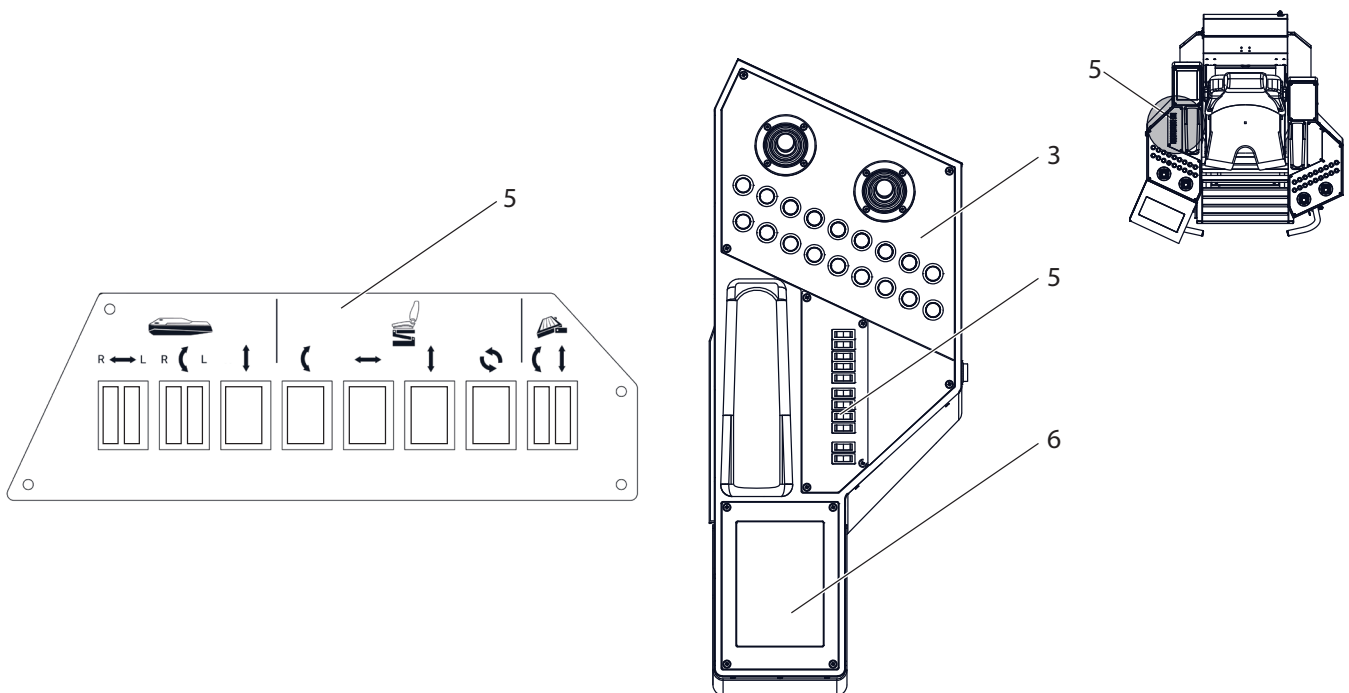





Figure 12. Controls – working position adjustment



Note

If your specific working positions are saved in the memory system, enter your operator code and select the required working position, see section 5.4 “Memory system – retrieving saved working position”, page 61.

1. Press the rocker switches (5) to adjust the working position as follows.

	R ↔ L	Press the rocker switch (R) to move the right console forward or backward. Press the rocker switch (L) to move the left console forward or backward.
	R ↶ L	Press the rocker switch (R) to move the right console up or down. Press the rocker switch (L) to move the left console up or down.
	↕	Press the rocker switch to move the consoles up or down.
	↶	Press the rocker switch to tilt the seat forward or backward.
	↔	Press the rocker switch to move the seat forward or backward.
	↕	Press the rocker switch to raise or lower the seat.
	↻	Press the rocker switch to rotate the seat to the left or right.
	↶	Press the rocker switch to incline the footrest up or down.
	↕	Press the rocker switch to raise or lower the footrest.

5.2. Working position adjustment – manual

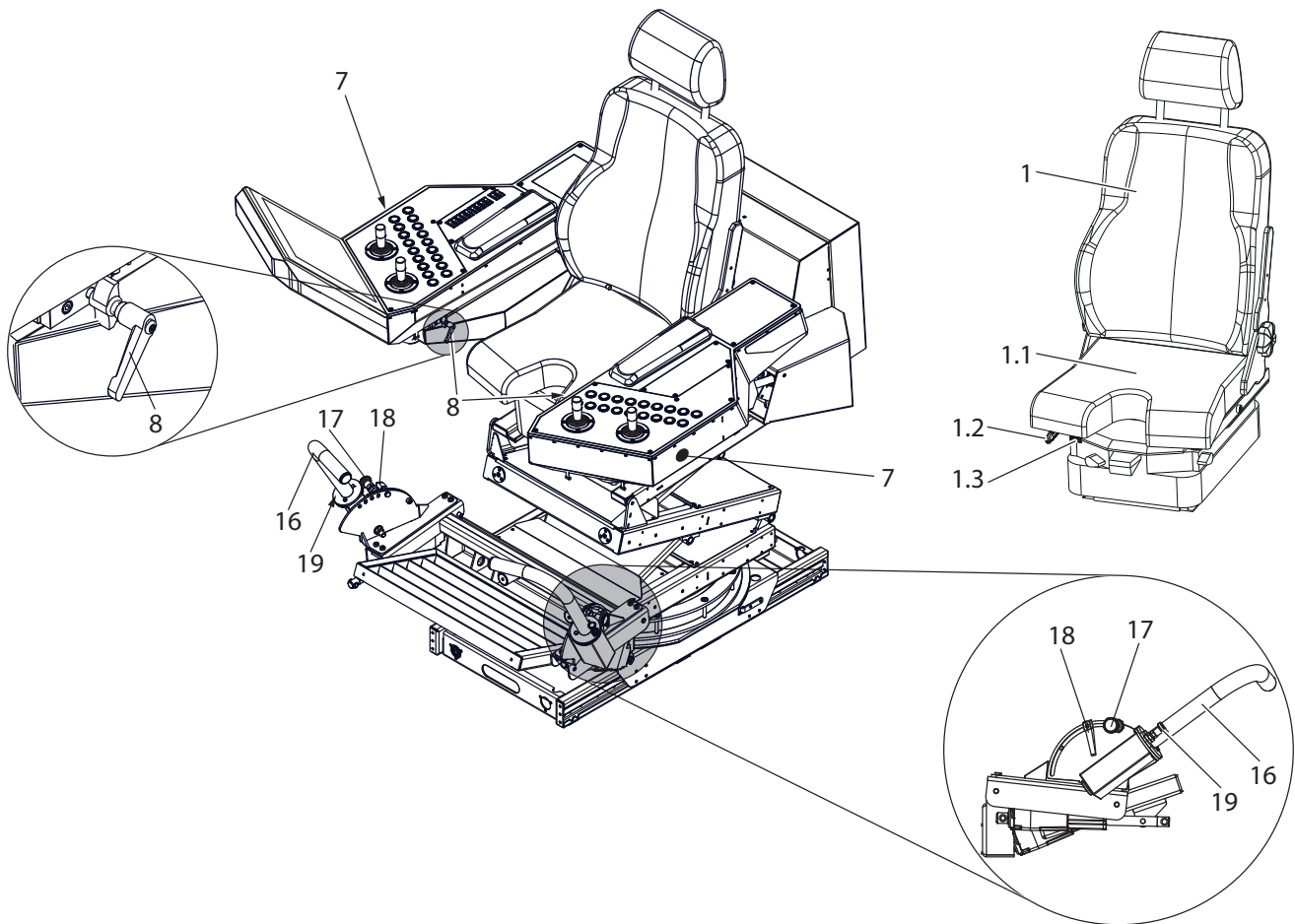


Figure 13. Controls – working position adjustment

Sit in the control stand and make the seat adjustments as follows.

5.2.1. Adjusting seat and seat cushion

To move the seat (1) forward or backward, proceed as follows:

1. Actuate the lever (1.2) and push the seat (1) forward or backward.
2. Release the lever (1.2) to lock the seat (1) in the position set.

To move the seat cushion (1.1) forward or backward, proceed as follows:

1. Actuate the lever (1.3) and push the seat cushion (1.1) forward or backward.
2. Release the lever (1.3) to lock the seat (1) in the position set.

5.2.2. Adjusting console positions

To swivel the position of the consoles (3) to the inside or outside, proceed as follows:

1. Hold down the button (7) on the left or right side and push the related console (3) to the inside or outside to the required position.
2. As soon as you stop pressing the button (7), the related console (3) is locked in the position set.

To adjust the longitudinal position of the consoles (3) independent of the seat, proceed as follows:

3. Move up the clamping lever (8) on the left or right side and push the related console (3) forward or backward to the required position.
4. Move down again the clamping lever (8) on the left or right side to lock the related console (3) in the position set. Make sure the clamping lever (8) is locked correctly.

5.2.3. Bull's horns (footrests)

To adjust the tilt on the bull's horns (footrests) (16), proceed as follows:

1. Undo the clamping lever (18) and pull the locking pin (17).
2. Keep pulling the locking pin (17) and place the bull's horns (footrests) (16) in the required position. During this process, make sure that the bull's horns (footrests) (16) engage in the position set.
3. Release the locking pin (17) and lock the position set using the locking pin (17).
4. Re-tighten the clamping lever (18).

To swivel the position of the bull's horns (footrests) (16) to the outside or inside, proceed as follows:

5. Pull the locking pin (19) and keep pulling the locking pin (19).
6. Place the bull's horns (footrests) (20) in the required position. During this process, make sure that the bull's horns (footrests) (20) engage in the position set.
7. Release the locking pin (19) to lock the bull's horns (footrests) (16) in the position set.



Note

Please refer to the related documentation for other adjustments, see chapter 11. "Reference documents", page 71.

5.3. Memory system – saving working position

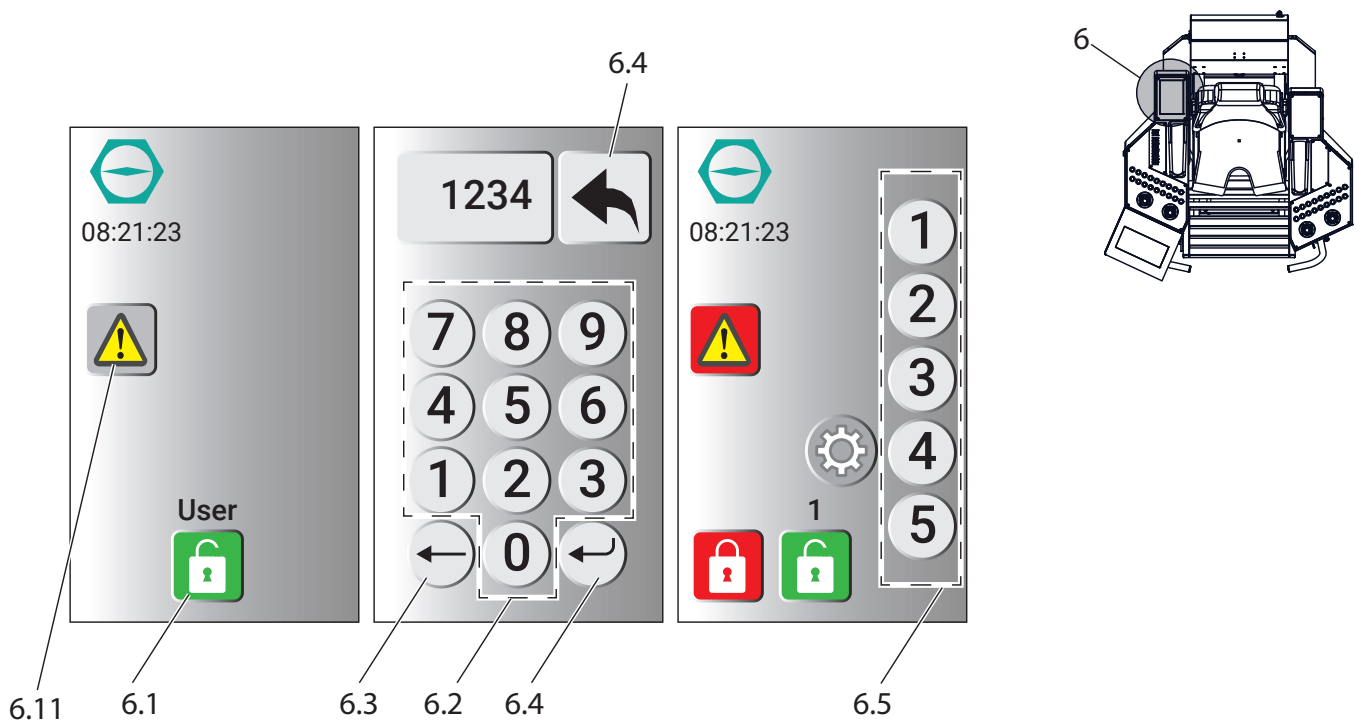


Figure 14. Memory system display – logging in and save working position (actual product may vary from figure)

Save your working positions as follows:

1. Press the "User" touch-button (6.1) on the display (6).
 - A numeric keypad (6.2) appears on the display (6).
2. Enter the 4-digit operator code using the numeric keypad (6.2) and accept the operator code using the "Enter" touch-button (6.4).



Note

You can correct any typing errors using the "Back" touch-button (6.3).

3. Set the required working position as per *section 5.1 "Working position adjustment – electrical", page 57.*
4. Press one of the touch-buttons 1 to 5 (6.5) to assign a number to the working position set.
5. Press the "Save" touch-button (6.6) to save the working position set under the number selected.

5.4. Memory system – retrieving saved working position

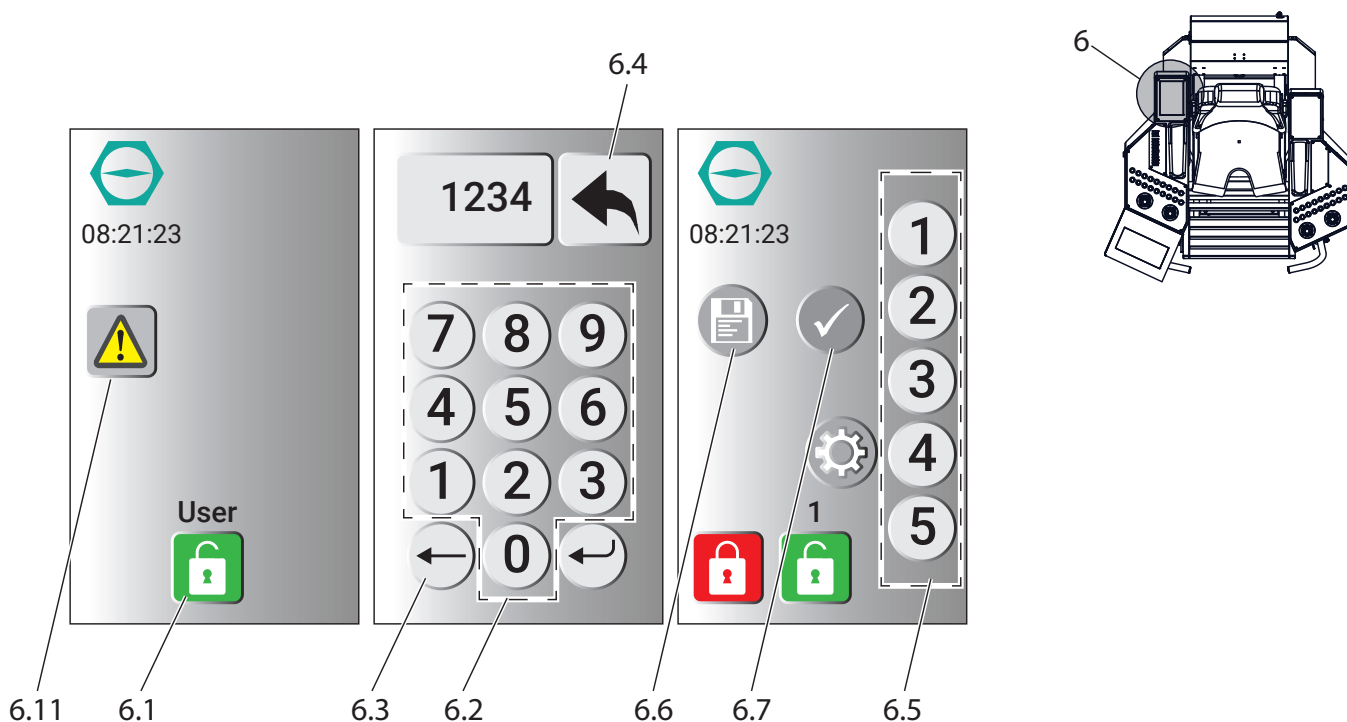


Figure 15. Memory system display – logging in and retrieving saved working position (actual product may vary from figure)

Retrieve the saved working positions as follows:

1. Press the "User" touch-button (6.1) on the display (6).
 - A numeric keypad (6.2) appears on the display (6).
2. Enter the 4-digit operator code using the numeric keypad (6.2) and accept the operator code using the "Enter" touch-button (6.4).



Note

You can correct any typing errors using the "Back" touch-button (6.3).

3. The touch-buttons 1 to 5 (6.5) appear on the display (6); these are for the working positions saved in this operator code.
4. Using the touch-buttons 1 to 5 (6.5), select the required working position and accept the entry using the "OK" touch-button (6.7).
 - The working position saved is now set automatically.

5.5. Memory system – administrator functions

5.5.1. Administrator login



Danger!

All tasks on the device are only allowed to be undertaken by specialist personnel taking into account the relevant safety regulations. Always pay attention to the safety instructions in *chapter 1. "Safety", page 41.*



Danger!

The Administrator code gives you access to the control stand's main menu. Using the main menu you can add, change or delete operator codes. No other settings (factory settings) are allowed to be changed.

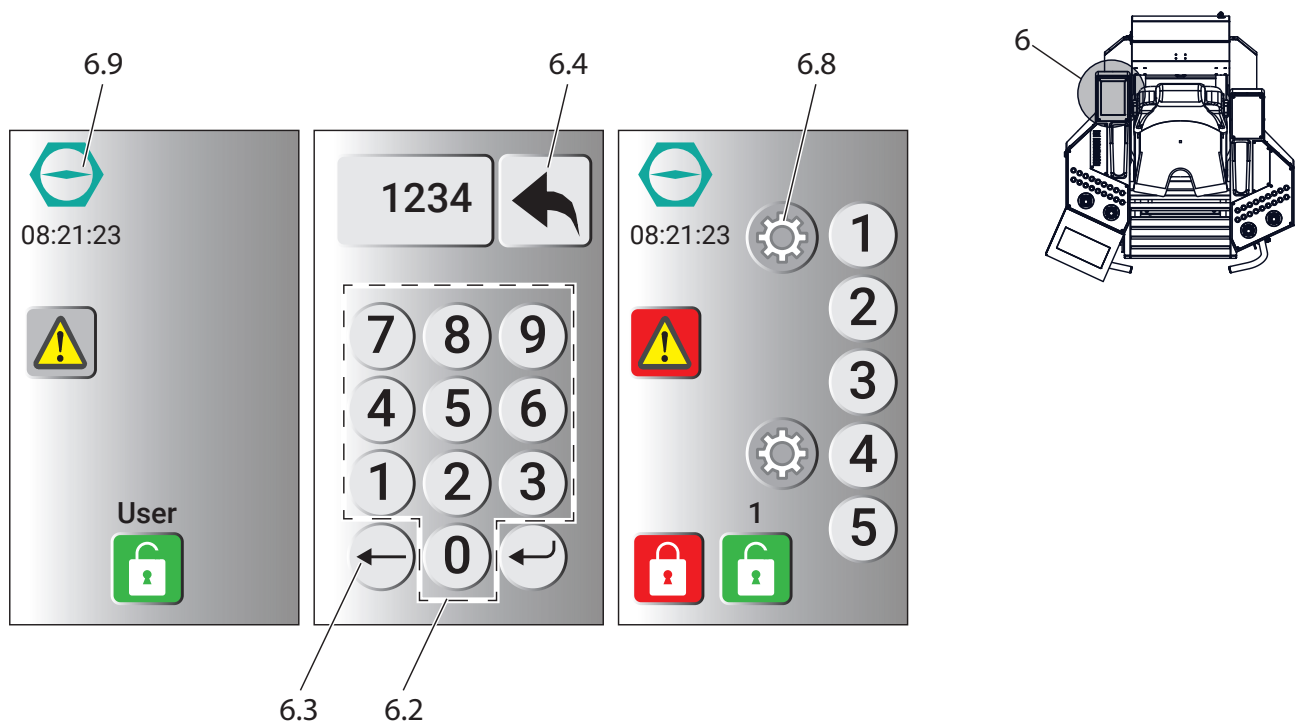


Figure 16. Administrator login (actual product may vary from figure)

You will receive an administrator code included with the control stand. This code gives you access to the control stand's main menu:

Log in as the administrator as follows:

1. Press the "logo" touch-button (6.9) on the display (6).
 - A numeric keypad (6.2) appears on the display (6).
2. Enter the 4-digit administrator code using the numeric keypad (6.2) and accept the administrator code using the "Enter" touch-button (6.4).



Note

You can correct any typing errors using the "Back" touch-button (6.3).

3. Press the "Settings" touch-button (6.8).
 - The main menu appears on the display (6).

5.5.2. Setting language

Press the touch-button with the corresponding flag to select the required language.

5.5.3. Administering operator codes

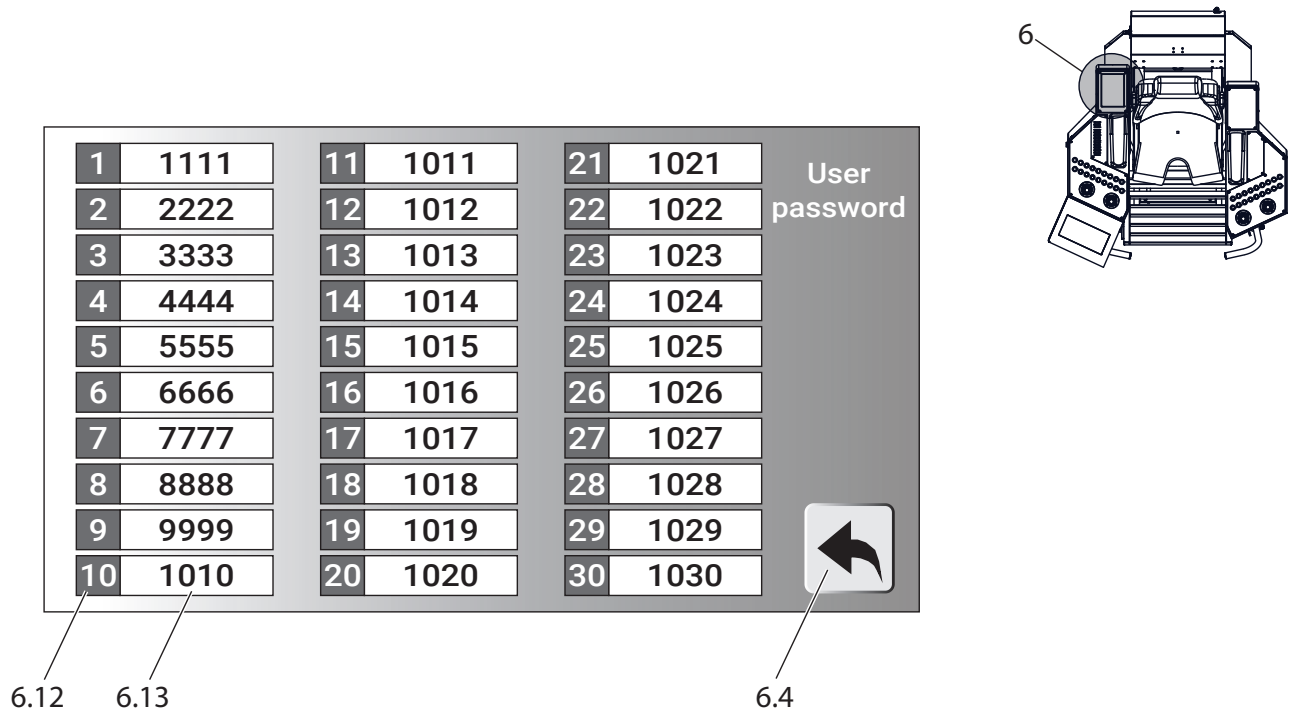


Figure 17. Administrator – administering operator codes (actual product may vary from figure)

1. Log in as the administrator, see section 5.5.1 "Administrator login", page 62.
2. Navigate through the menu as follows: "User – admin – administration".
 - The page for administration appears on display (6).
3. Press the touch-button (6.12) with the required number, you can now
 - Add a new code (6.13),
 - Delete a code (6.13), or
 - Change a code (6.13).
4. Accept your entry using the "Enter" touch-button (6.4).

5.6. Standing working position



Danger!

To prevent serious injuries and damage to the control stand, you must never stand on the bull's horns (footrests) (16).

The bull's horns (footrests) (16) are only for support during operation in the seated working position.

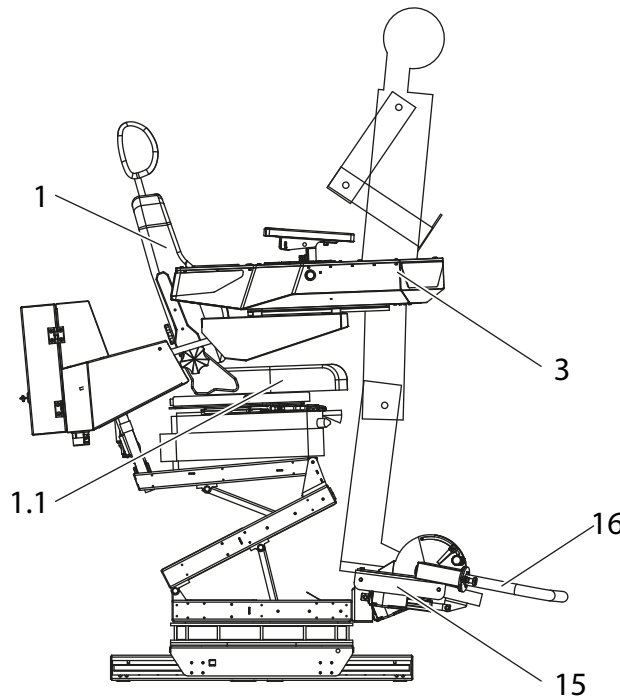


Figure 18. Standing working position

For fatigue-free and ergonomic working, the control stand FSMMD allows you to change between a seated and a standing working position. To change from the seated to the standing working position, proceed as follows:



Caution!

Make sure that only the elements for adjusting the related working position are actuated while changing the working position. The controls and joysticks for operation are NOT allowed to be actuated while changing the working position.

1. Stand on the footrest (15).
2. Move the seat (1) and the seat cushion (1.1) to the rearmost position (see chapter 5.2. „Working position adjustment – manual“, Seite 59).
3. Adjust the footrest (15) to the required position (see chapter 5.1. „Working position adjustment – electrical“, Seite 57), make sure you are standing stably and securely.
4. Move the seat (1) to the topmost position (see chapter 5.1. „Working position adjustment – electrical“, Seite 57).
5. Adjust the consoles (3) to the required position (see chapter 5.1. „Working position adjustment – electrical“, Seite 57).
6. Continue operation.

To return to the seated working position, proceed as follows:



Caution!

Make sure that only the elements for adjusting the related working position are actuated while changing the working position. The controls and joysticks for operation are NOT allowed to be actuated while changing the working position

7. Move the seat (**1**) back to the corresponding seat height (see chapter 5.2. „Working position adjustment – manual“, Seite 59).
8. Move the seat cushion (**1.1**) back to the corresponding seat depth (see chapter 5.2. „Working position adjustment – manual“, Seite 59).
9. Sit in the seat (**1**).
10. Adjust the footrest (**15**) and the consoles (**3**) to the required position (see chapter 5.1. „Working position adjustment – electrical“, Seite 57).
11. Continue operation.

6. Servicing



Danger!

All tasks on the device are only allowed to be undertaken by specialist personnel taking into account the relevant safety regulations. Always pay attention to the safety instructions in chapter 1. “Safety“, page 41.

6.1. Control stand

Servicing measure	Interval
Visual inspection/cleaning	Regularly
Function test	Regularly
Checking screw joints	Regularly
Lubricating freely accessible motor parts and motor spindles	Annually

6.1.1. Visual inspection



Danger!

Transport the control stand using suitable hoisting equipment. During transport, pay attention to loose parts of the control stand.

1. Check the entire control stand and its components for soiling.
 - If necessary, remove any soiling.
2. Check the control stand and its components for damage:
 - Take damaged control stands out of operation.
 - Replace damaged components, see chapter 7. “Repair“, page 67.

6.1.2. Function test



Danger!

Damaged control stands are not allowed to be operated.

1. Check the adjustment functions of the seat as per *chapter 5. "Operation", page 57*.
 - If you are not able to operate one of the adjusting functions, take the control stand out of operation and contact **SPOHN & BURKHARDT** (for address see *Imprint, page 2*).
2. Check the functions of the control stand as per the requirements of the operating organization.

6.1.3. Checking screw joints

Check all screw joints for correct seating.

Tighten the screws if necessary.

6.1.4. Lubricating motor parts and motor spindles

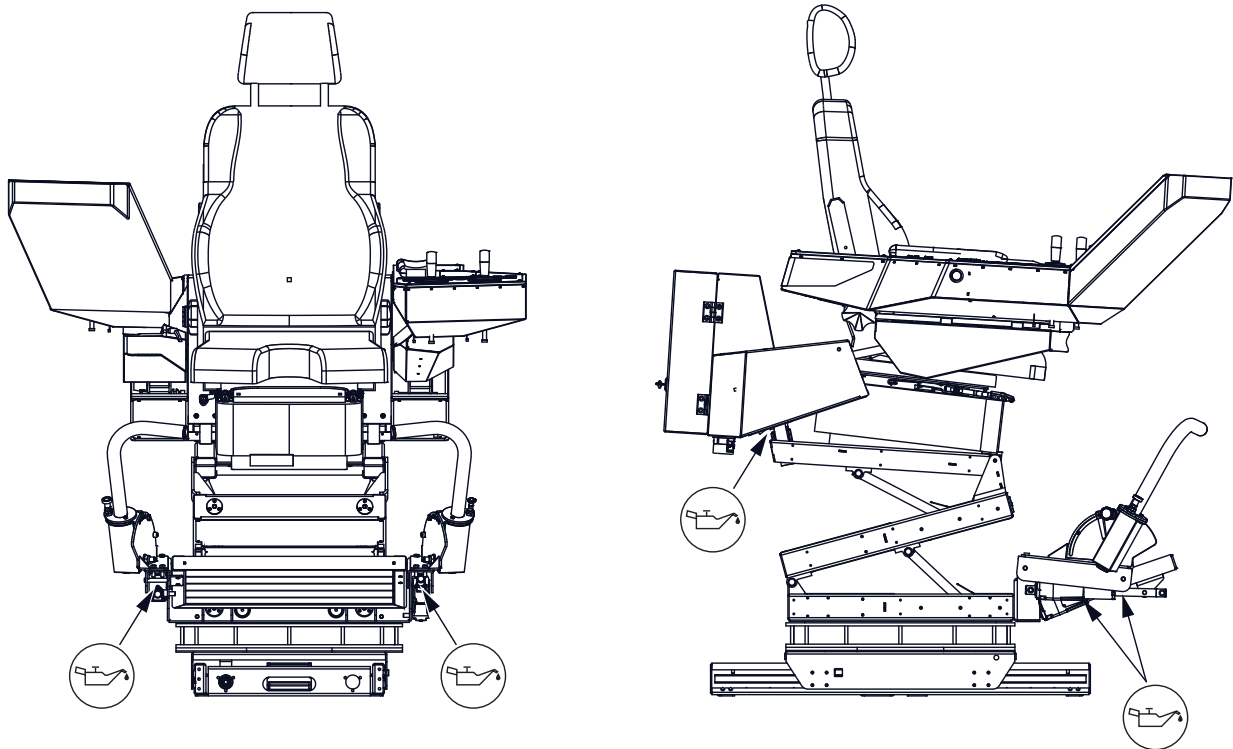


Figure 19. Lubrication points

Lubricate freely accessible motor parts and motor spindles at least once a year.

- Lubricant: Gleitmo 746 (or equivalent lubricant).

6.2. Components

See the related documentation for information on the servicing of the individual components of the control stand.

7. Repair



Danger!

All tasks on the device are only allowed to be undertaken by specialist personnel taking into account the relevant safety regulations. Always pay attention to the safety instructions in *chapter 1. "Safety", page 41*.

7.1. Control stand

The repair of the control stand by the operating organization is not intended. If repair is necessary, contact **SPOHN & BURKHARDT** (for address see *Imprint, page 2*).

7.2. Components

See the related documentation for information on the replacement and repair of the individual components of the control stand.

8. Spare parts

For the complete list of spare parts, contact **SPOHN & BURKHARDT** (for address see *Imprint, page 2*).

9. Removal



Danger!

All tasks on the device are only allowed to be undertaken by specialist personnel taking into account the relevant safety regulations. Always pay attention to the safety instructions in *chapter 1. "Safety", page 41*.

9.1. Disconnecting electrical connection



Note!

The control stand is wired to terminals or plugs/sockets according to the requirements of the operating organization.

The electrical connections are disconnected according to the connection diagram, the requirements of the operating organization and the related circuit diagrams, see *chapter . „Spohn & Burkhardt“, page 36*.

1. Disconnect the system from the supply of electrical power.
2. Open the switch cabinet (20) using the related key (20.1).
3. Disconnect the connecting wires from the terminals or plugs/sockets.
4. Undo the nut on the cable gland (20.2) and pull out the wires.

9.2. Mechanical removal

9.2.1. Preparatory work

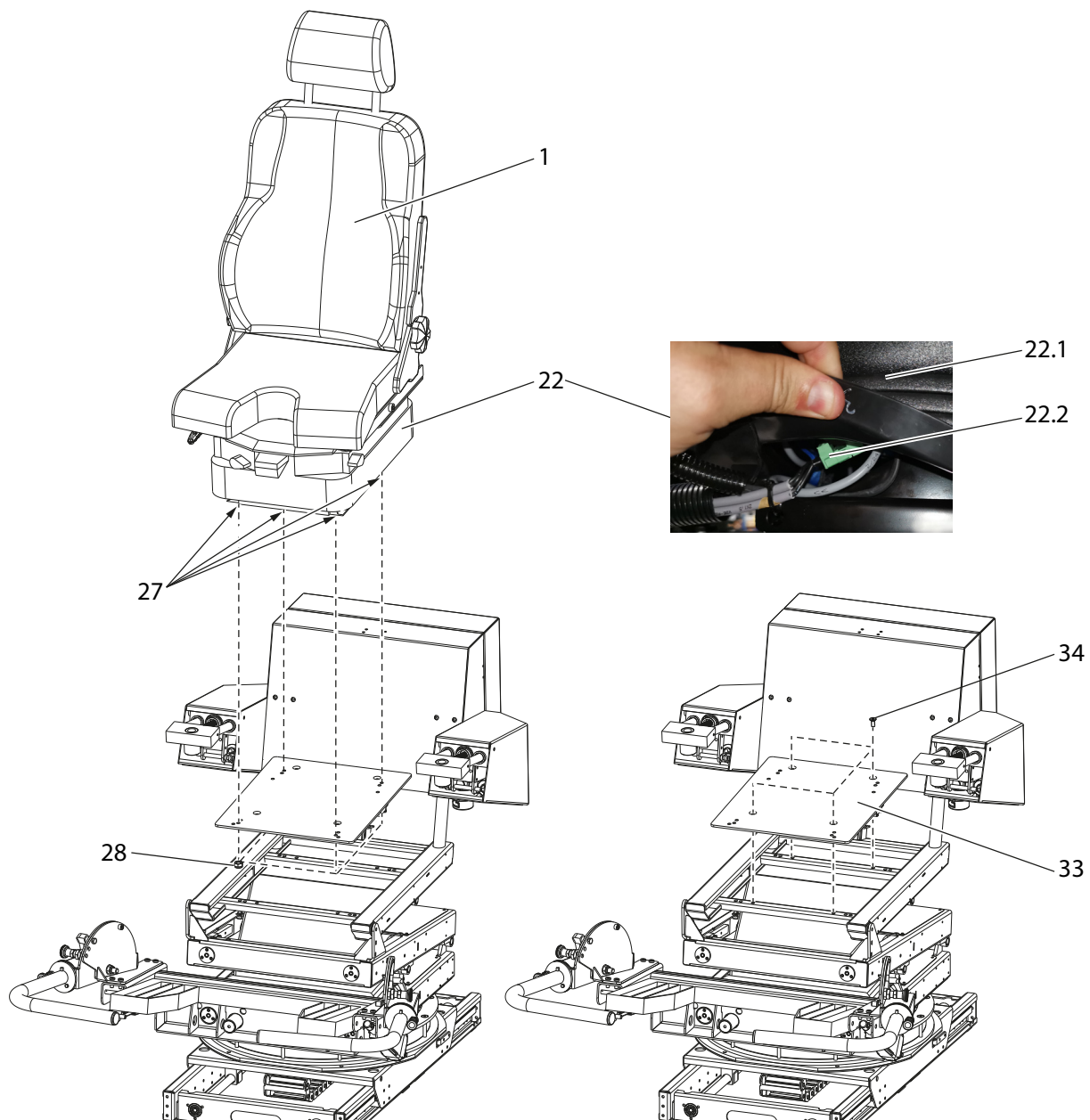


Figure 20. Preparatory work: removing seat and adapter plate (simplified illustration)

The seat (1) with the spring system (22) and the adapter plate (33) must be removed first to remove the control stand.

Only for variants with pneumatic spring system:

1. Pull up the rubber bellows (22.1) on the right-hand side of the spring system (22).
2. Disconnect the connector (22.2) underneath for the pneumatic spring system.

The following steps apply to variants with pneumatic spring system and variants with mechanical spring system.

3. Undo the nuts (28) from the screws (27).
4. Lift the seat (1) with the spring system (22) from the control stand.
5. Undo the countersunk head screws (34) and lift the adapter plate (33) out of the control stand.

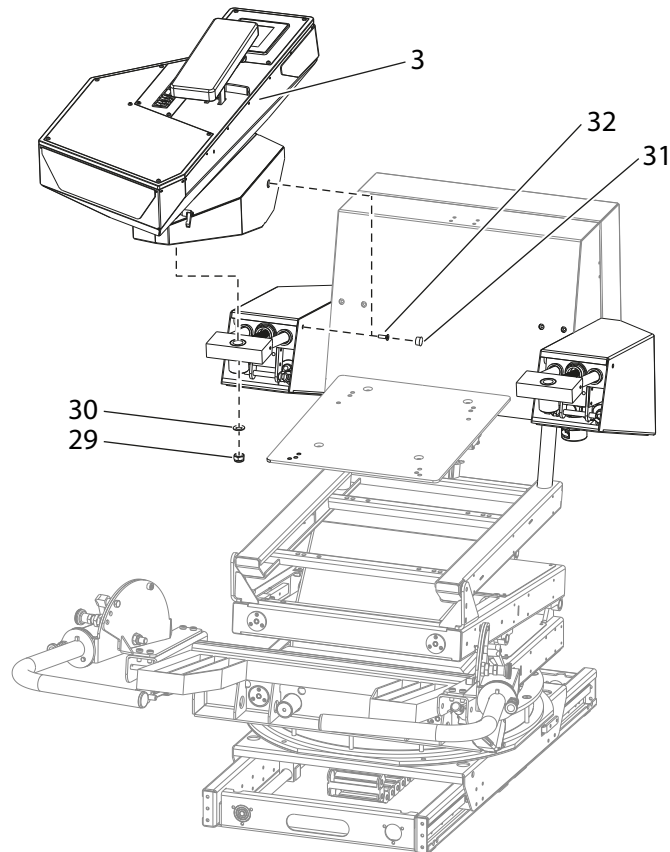


Figure 21. Preparatory work: removing consoles (simplified illustration)

If the access to the installation space is smaller than the dimensions of the control stand, also remove the consoles (3) as follows:



Note

If the access to the installation space is smaller than the dimensions of the control stand, the wiring is correspondingly prepared by Spohn & Burkhardt so that the electrical connections to the consoles can be disconnected.

6. Disconnect the electrical cables from the consoles (3).
7. Remove the cap (31) and undo the screw (32).
8. Undo the nut (29) and remove the nut (29) and the washer (30).
9. Remove the related console (3) from the control stand.

9.2.2. Removal from the installation space

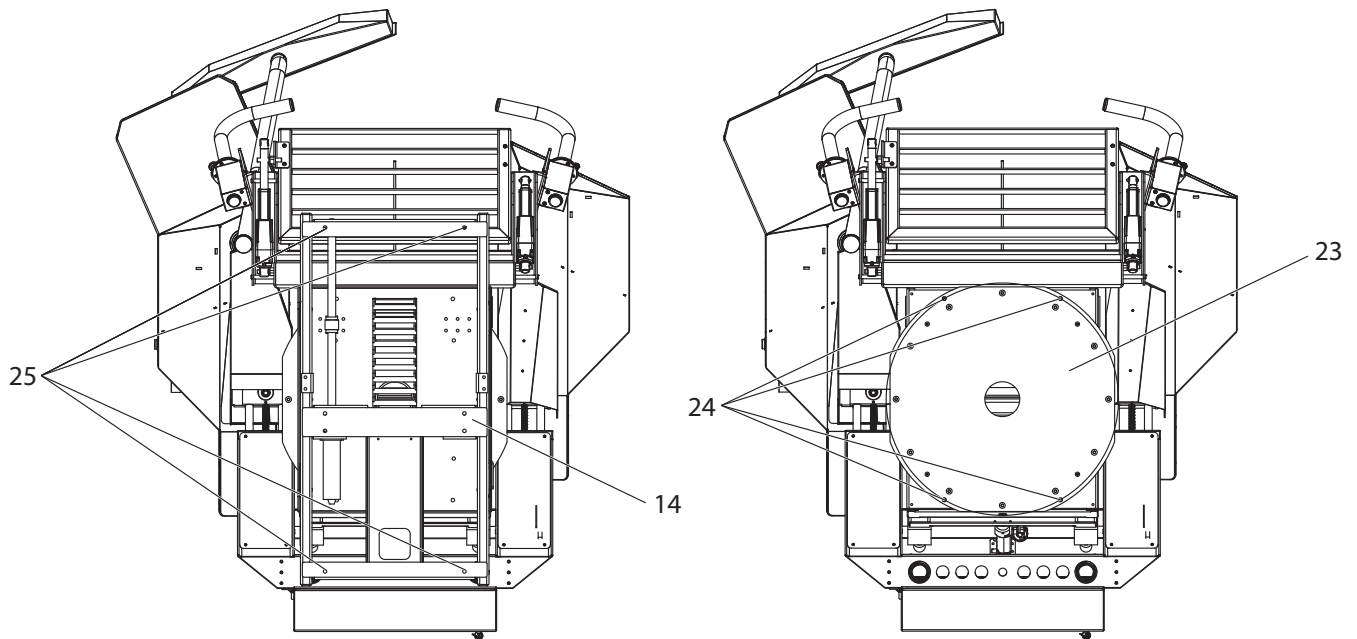


Figure 22. Mechanical removal

Remove the control stand as follows:

Variant without slide

1. Undo the 4 screws M8 and remove detent-edged washers from the fastening bores (24) in the slewing ring (23).

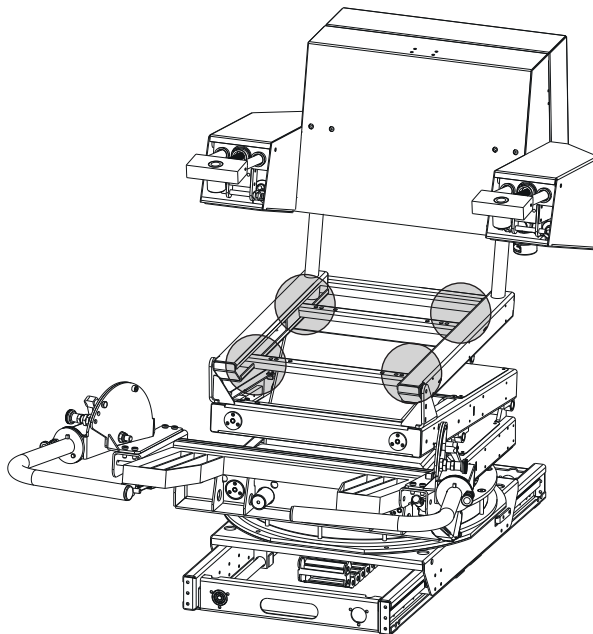


Figure 23. Lifting points



Danger!

Transport the control stand using suitable hoisting equipment. During transport, pay attention to loose parts of the control stand.

2. Fasten the lifting straps diagonally to at least 2 of the lifting points shown in Figure 23 .
3. Lift the control stand out of the installation space.

Variant with slide

4. Undo the screws M8 from the fastening bores (25) in the slide (14).



Danger!

Transport the control stand using suitable hoisting equipment. During transport, pay attention to loose parts of the control stand.

5. Fasten the lifting straps diagonally to at least 2 of the lifting points shown in *Figure 23 „Lifting points“*, page 70.
6. Lift the control stand out of the installation space.

10. Disposal

The device is to be disposed of as per the national and international laws and regulations.

11. Reference documents

Technical data	You will receive the related technical data for each version of the control stand FSMMD.
Dimension drawings	You will receive the dimension drawings for each version of the control stand FSMMD.
Circuit diagrams	You will receive the circuit diagrams for each version of the control stand FSMMD.
Spare parts	You will receive the related spare parts list for each version of the control stand FSMMD.

12. Declaration of incorporation

EINBAUERKLÄRUNG

für eine unvollständige Maschine
(Anhang II 1 B der Maschinenrichtlinie 2006/42/EG)



DECLARATION OF INCORPORATION

for partly completed machinery
(Annex II 1 B Machinery Directive 2006/42/EC)

Spohn & Burkhardt GmbH & Co. KG
Mauergasse 5
89143 Blaubeuren
Deutschland / Germany

Originalerklärung / original declaration

Beschreibung und Identifizierung der unvollständigen Maschine
Description and identification of the Partly Completed Machinery

Bezeichnung, name: Steuerstand
Modell / Typ, model / type: FSMMD

Angewandte und eingehaltene Anforderungen der Maschinenrichtlinie 2006/42/EG
Applied and fulfilled requirements of the Machinery Directive 2006/42/EC

Anhang I, Kapitel 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.1.7, 1.1.8, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5, 1.2.6,
Annex I, chapter 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.7, 1.5.1, 1.5.8, 1.5.9, 1.5.15, 1.7.1,

Die speziellen technischen Unterlagen wurden gemäß Anhang VII Teil B der Maschinenrichtlinie 2006/42/EG erstellt.

The special technical documents were created in accordance with Annex VII Part B of the Machinery Directive 2006/42/EC.

Weitere angewandte und eingehaltene Anforderungen
Further requirements applied and fulfilled

2014/30/EU Richtlinie Elektromagnetische Verträglichkeit
2014/30/EU EMC Directive

Bevollmächtigt für die Zusammenstellung der technischen Unterlagen
Authorised for the compilation of the technical documentation

Thomas Hahn, Mauergasse 5, 89143 Blaubeuren, Deutschland / Germany

Die unvollständige Maschine darf erst dann in Betrieb genommen werden, wenn gegebenenfalls festgestellt wurde, dass die Maschine, in die die unvollständige Maschine eingebaut werden soll, den Bestimmungen der Maschinenrichtlinie entspricht.

The commissioning of the partly completed machinery remains prohibited until the partly completed machinery is incorporated as an integral part into a machine and this machine conforms to the requirements of the EC Machinery Directive.

Ort und Datum der Ausstellung
Place and date of issue

Blaubeuren, 20. November 2020



Spohn & Burkhardt GmbH & Co. KG
Elektrotechn. Fabrik 89143 Blaubeuren
www.spohn.de

Rechtsverbindliche Unterschrift / Legally binding signature

ppa. Thomas Hahn
(Geschäftsleitung Technik / CTO, CIO)



Spohn + Burkhardt

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