BERCHTOLD

OPERON

Operator Manual
Surgical Mobile Operating Table Models D860, D850, D 830, D820, D770, D760

CE

Read the instructions before beginning any work!

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1 General

This OPERON® Surgical Mobile Operating Table Operator Manual covers models D860, D850, D830, D820, D770, D760

1.1 About this user manual

This manual provides important instructions on how to handle the device. For safe operation, observe all safety and operating instructions. Local accident prevention and general safety regulations also apply. Read this manual thoroughly before beginning any work! The manual is considered part of the equipment and must be kept in the vicinity of equipment at all times for reference by personnel. If the device is passed to a third party, this manual must accompany it. The illustrations in this manual are intended to provide a better understanding of the device; they are not necessarily drawn to scale and may deviate slightly from the actual version of the device.

The user should be aware of the difference between table operation for tables with software versions prior to 8.040 All D860, D830, and D770 tables, and D850, D820, and D760 tables starting with the following S/Ns contain software 8.040. D850 S/N 35-XXXXX-V-10841, D820 S/N 34-XXXXX-V-10355, D760 S/N 33-XXXXX-V10254. Older tables that have been upgraded to S/W 8.040 are identified by a label annotating S/W 8.040next to the S/N label and on the CPU.

NOTICE

1. Illustrations in this manual, although potentially different from your specific OPERON® Surgical Mobile Operating Table model, are valid for all tables covered by this manual.

NOTICE

If you have any questions regarding this manual or if it applies to your table, please call BERCHTOLD Technical Service at 800-243-5135

1.2 Definition of symbols used

Warnings

Symbols are used to indicate warnings in these instructions. A signal word that reflects the extent of the danger precedes each warning. Observe all warning notices and exercise extreme caution to prevent accidents, injuries and property damage.

DANGER

Indicates an immediately dangerous situation that, if not avoided, will result in death or serious bodily injury.

WARNING

Indicates a possibly dangerous situation that, if not avoided, can result in death or serious bodily injury.

CAUTION

Indicates a possibly dangerous situation that, if not avoided, can result in moderate or minor injuries.

CAUTION

Indicates a possibly dangerous situation that, if not avoided, can result in damage to property.

Tips and recommendations

General

NOTICE

Highlights useful tips, recommendations, and information for efficient, trouble-free operation.

Special safety notices

To draw attention to particular dangers, the following symbol is used in combination with safety notices:

DANGER

Risk of electrocution!

Indicates life-threatening situations resulting from electrical current. Disregarding the safety notice can result in serious injury or death. All work must be performed exclusively by skilled electricians.

Other marks

To draw attention to operating instructions, results, listings, references, and other elements, the following marks are used in this manual.

Mark	Description
1,2,3....	Step-by-step instructions
→	Results of steps performed
↺	References to sections and related documents
▪	List without defined sequence
[Button]	Controls (e.g., button, switch) Display element (e.g., signal lights)
"Display"	Screen elements (e.g., buttons, layout, and function keys)

1.3 Liability Limitation

All specifications and notices in this manual have been compiled with consideration for applicable standards and regulations, the current state of technology, and our many years of experience and knowledge. The manufacturer assumes no liability for damages resulting from

- Non-compliance with the manual.
- Improper operation.
- Work performed by untrained personnel.
- Unauthorized modifications.
- Technical changes.
- Installation of non-approved spare parts.
- Performance of unauthorized installation and maintenance work.

Explanations and illustrations presented herein may deviate from the actual product delivered in the case of special models, additional options or the latest technical changes. Furthermore, all obligations agreed to in the delivery contract, the general terms and conditions, the manufacturer's delivery terms, and any regulations legally valid at the time the contract is concluded apply. We reserve the right to make technical modifications to improve and further develop the product.

1.4 Copyright protection

Treat this manual as confidential. It is exclusively for the use of persons handling the device. This manual may not be transferred to third parties without written approval from BERCHTOLD.

NOTICE

The specifications, text, drawings, pictures and other illustrations contained herein are protected by copyright and are subject to industrial property rights. Improper application is punishable by law.

Making photocopies of any type or form, including excerpts hereof, as well as using and/or sharing the content of this manual requires written consent from BERCHTOLD. Violators will be liable for damages. Further claims remain reserved.

1.5 Warranty provisions

The warranty provisions and general terms and conditions may be reviewed and downloaded from the Internet (back of manual).

1.6 Customer service

For technical questions, contact BERCHTOLD Technical Service at 800-243-5135, Option 2.

To contact BERCHTOLD via web, visti:

http://www.berchtoldusa.com/contact-us

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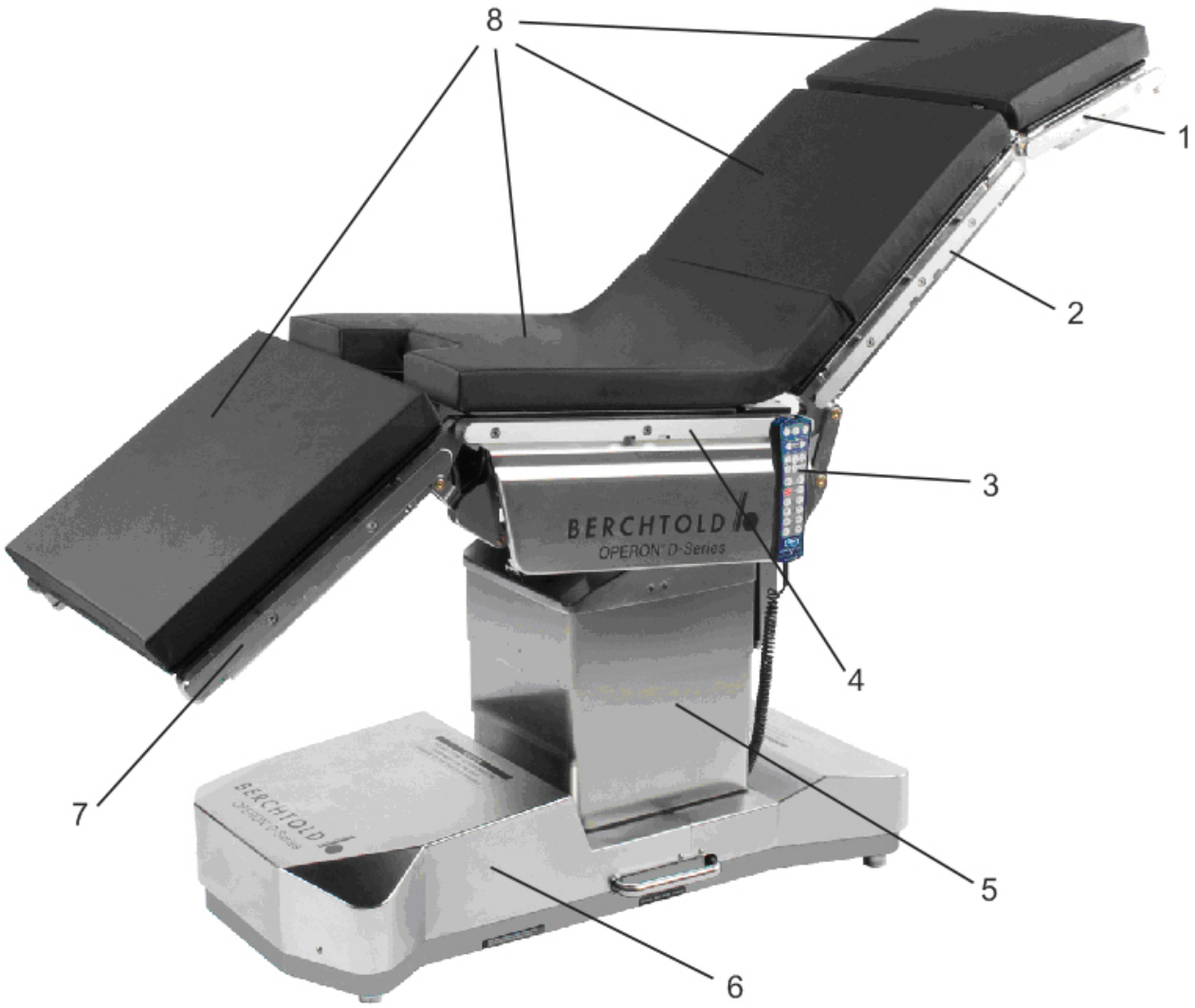
We are also always interested in feedback to improve our products.

1.7 UL Listing

This device is safety listed to ANSI/AAMI 60601-1, IEC 60601-2-46, and UL file E347014.

2 Design and function

2.1 Overview



1. Head rest	5. Column

2. Back section	6. Floor stand including cover
3. Hand pendant	7. Leg section
4. Center section	8. Pad

2.2 Brief description

The OPERON® Surgical Mobile Operating Table is a battery-driven, and has a number of adjustment options for positioning the patient. It assists in positioning the patient before and during surgery. The hand pendant can be used to move the OR table via InstaDrive™ (optional). The OR table is locked using 4 base control cylinders. The various sections of the OR table can be adjusted using the hand pendant and be individually configured by the user.

2.3 Controls

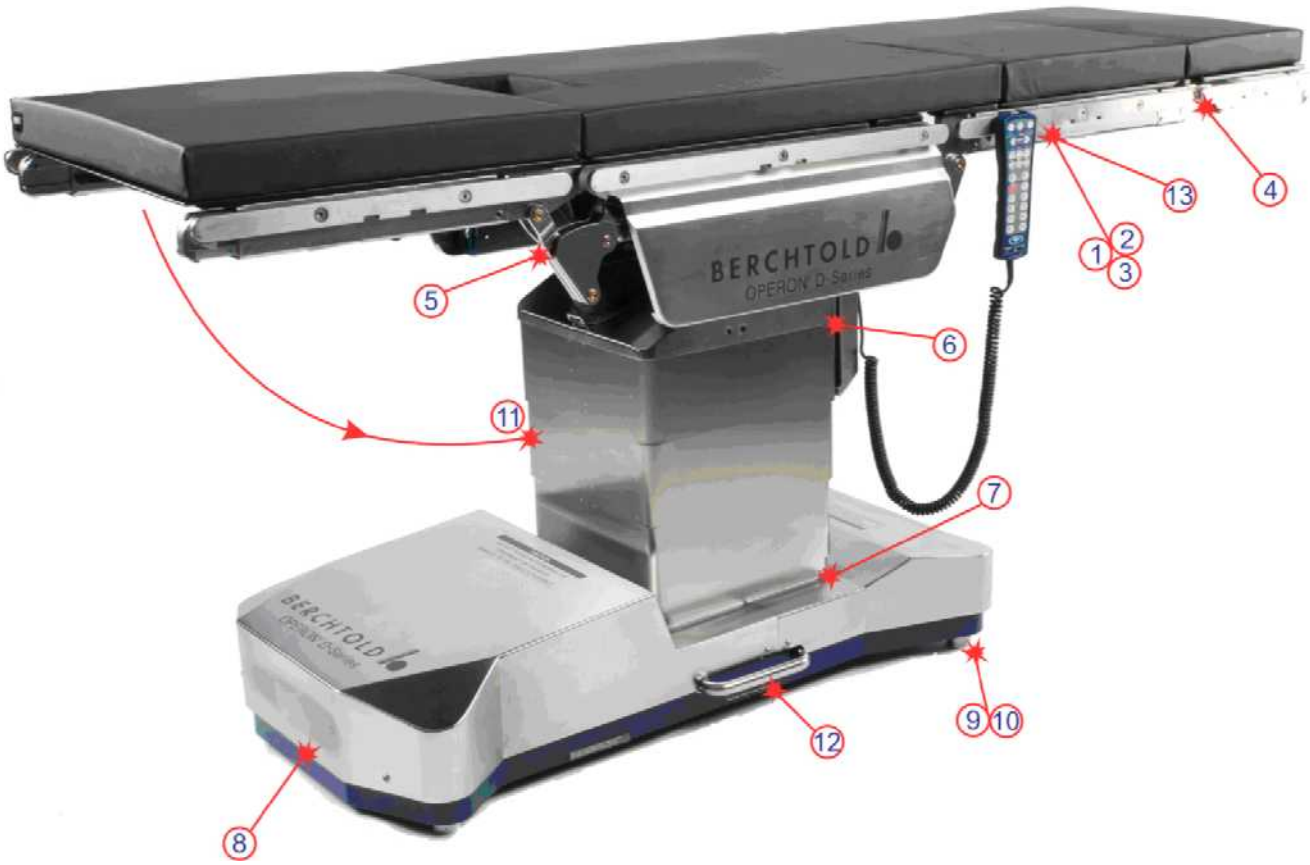
NOTICE

Functional descriptions of the controls and indicator lights are found in the “Operation” chapter.

2.4 Points with increased pinching hazard

NOTICE

The following list of pinch points is not comprehensive. Attaching accessories creates others.



1. Kidney elevator (optional)/seat section	6. Side cover/column head cover (during tilting)
2. Kidney elevator (optional)/ section frame	7. Telescope cover/base cover
3. Kidney elevator (optional)/back section	8. Base
4. Head rest at back section	9. Foot pump handle/floor
5. Back and leg plate connection, split leg section frame	10. Split leg section, Leg sections/telescope cover

2.5 Scope of delivery

OPERON® MOT OR Table

Contents of the small carton:

- Hand pendant

- Head rest
- Power cord
- Operating manual

CAUTION! Depending on scope of delivery, optional accessories may be shipped in separate boxes!

2.6 Accessories

CAUTION

1. Adding accessories may reduce the motion limits of the OR table.
2. If you are unsure about the capability of any accessory with your BERCHTOLD OPERON® Surgical Mobile Operating Table, contact BERCHTOLD Technical Service at 800-243-5135, Option 2. Some accessories have not been tested with the OPERON® Surgical Mobile Operating Table and can induce unsafe conditions.

NOTICE

Damage resulting from accessory use!

✓ Attaching accessories changes the geometry of the table and increases the risk of collision because crash prevention no longer operates to its fullest extent.

1. Only use accessories approved by the manufacturer.

NOTICE

For a full list of available accessories, see the accessories catalog (on request or via the Internet from **www.BERCHTOLD.biz**)

3 Installation and initial start-up

Improper installation and initial start-up

WARNING

Risk of injury due to improper installation and initial start-up!

Improper installation and initial start-up can cause severe injury or damage.

1. Before beginning installation, ensure there is adequate space.
2. Use caution when handling open, sharp-edged components.
3. Keep the installation site clean and organized. Components and tools lying around loose or atop one another are accidents waiting to happen.
4. Install components properly. Comply with specified torques for all fasteners.
5. Secure components from falling or over balancing.
   ⇨ Before initial installation, do the following:
6. Ensure that all installation work was performed according to the information and instructions in this operating manual and is complete.
7. Ensure that no one is in the hazard zone.

3.1 Prerequisites at the installation site

When setting up the OR table, ensure the following:

- The installation site is level.
- Ensure the OR table will stand securely.
- Use the OR table only in rooms for medical purposes
- Ensure that the OR table is easily accessible from all sides.
- Lighting is sufficient.
- Ventilation is sufficient.
- Power supply is available.
- Escape routes and life-saving equipment are freely accessible.

- A maximum relative humidity of 95% is ensured.
- Humidity is less than or equal to 95%
- The OR table is not exposed to an explosive atmosphere.
- The OR table is not exposed to a corrosive atmosphere.
- The OR table is not exposed to direct sunlight.
- Ambient heat sources cannot add external heat.
- There are no sources of dust.
- Fire prevention measures have been taken.
- The OR table is not exposed to vibration/oscillation.
- The flooring is resistant to solvents, impervious to liquids, antistatic and easy to clean.
- There are no machines nearby that would cause electrical or electro-magnetic interference. See section 11.3.

3.2 Unpacking and installing

Protective equipment:

- Protective clothing
- Protective gloves
- Safety boots

Special tools:

- Spirit level
- Protractor
- Measuring tape
- Wrench 11 mm
- Wrench 14 mm
- Wire cutters
- Flat screwdriver
- Pliers

CAUTION

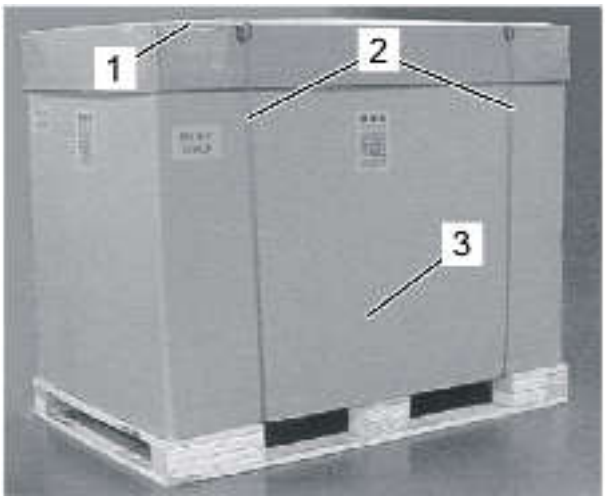
Risk of injury due to improper unpacking!

- ✓ Improper handling, such as attempting to lift the table by the top segments, can cause injury and seriously damage the OR table.

1. Be sure to follow the unpacking instructions in the order specified.

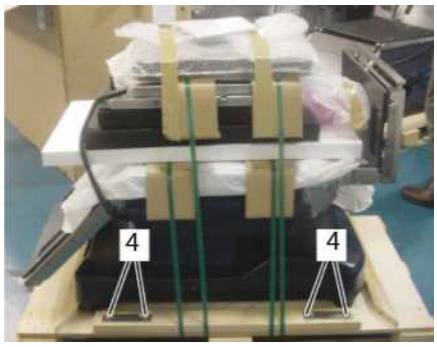
NOTICE

Contact the manufacturer prior to unpacking, otherwise the warranty is void. See page 2 for the address.

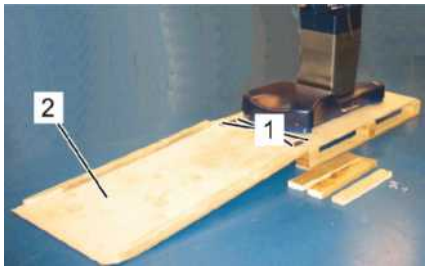


1. Cut through the straps (2) on the transport container (3) and remove the top covers (1).
2. Remove the ramp (wood cover) from the transport container.
3. Carefully cut and remove all straps and the upper cross bracing.
4. Carefully remove the plastic wrapping from the OR table.
5. Check the contents of the carton for completeness.
6. Loosen and remove the wing nuts (4).
7. Loosen and remove transport clamps and straps.

Installation and initial start-up



Attach ramp



1. Position the ramp (2) at the side of the pallet and secure it tightly with the wing nuts (1).

Roll the OR table down the ramp

1. Using two persons, secure the OR table and carefully roll it down the ramp.

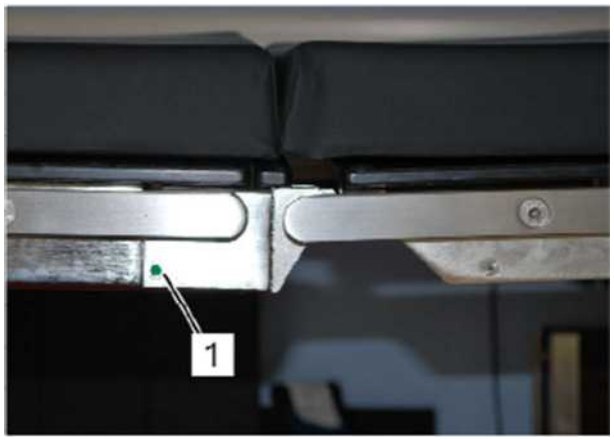
WARNING

1. Risk of pinching or crushing from OR table over balancing!

Attach module

CAUTION

Risk of pinching on section frame!



1. Carefully slide the section onto the bracket until it snaps into place on both sides. The green markings (1) on both sides of the section frame are visible..
2. Make sure the section is seated firmly by pulling out on both sides.

CAUTION! If the green marking on the module frame is not visible, then the module is not completely locked in place.

CAUTION

Risk of section detachment and patient/user injury is possible if the section is not securely locked. If the green markings on both sides of the section frame are not visible, the section is NOT completely locked into place.

3.3 Attaching the pads

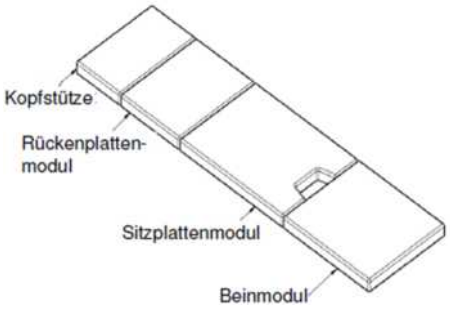
CAUTION

Risk of injury if incorrect pads are used!

✓ Using incorrect pads can compromise their antistatic properties during radiation. This can cause an electrostatic shock that can seriously injure the patient and personnel and severely damage critical components.

1. Use only antistatic, conductive, and radiolucent pads.
2. The pads should be initially installed only by the manufacturer's technicians.

1. To attach the pads, align them flush with the edge of the table.
2. Press the pads down.
   - The pads are held in place with Velcro strips.



NOTICE! Sample design. Pad shapes and variants can differ depending on the scope of delivery.

NOTICE

Removing pads!

To remove pads, slide your hand between the pad and base section and unhook the Velcro fastener.

3.4 Connecting the hand pendant

1. Attach the hand pendant to the control sleeve by connecting the cable (1) and the jack (3). To do so, open the protective cap (2). Align the red dots on the plug connections and push into the lock

3.5 Connecting the foot control (optional)

1. Attach the foot control (optional) to the control sleeve by connecting the cable and the jack. Open protective cap and align the red dots on the plug connections

- See Section 3.4 on connecting the hand pendant.

3.6 Connecting the power supply

Electrical current

WARNING

Risk of injury by electrical current!

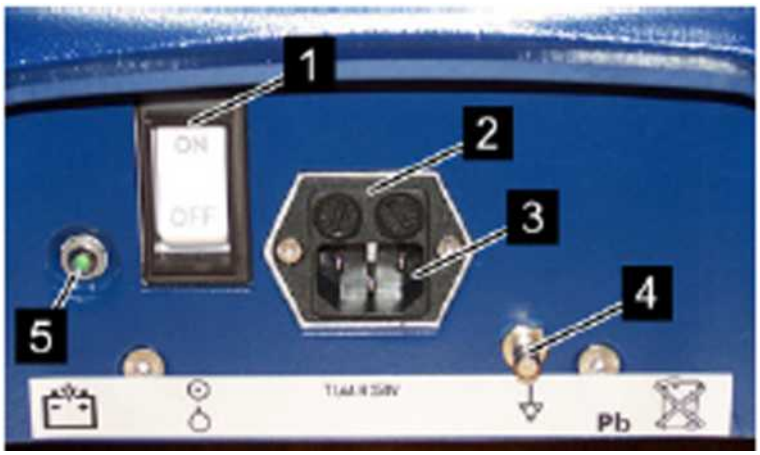
1. Touching uninsulated, live components may cause injury due to electrical shock. Damage to insulation or individual components can cause injury.
2. Electrical work is to be performed by skilled electricians only.
3. If insulation is damaged, immediately cut off the power supply and initiate repairs.
4. Do not touch plug with wet hands.
5. Disconnect the power supply by pulling out the plug; never pull on the cord.
6. Route the cord so that it cannot be bent, clamped or run over.
7. Make sure no one can trip over the cable.
8. Do not use an extension cord or multi-outlet power strip.
9. Keep an eye on the power cord when table is moving.
10. Never bypass or deactivate fuses. Make sure the amperage is correct when changing fuses.

⇨ Keep conductive parts away from humidity. It can cause a short circuit.

Personnel:

- Medical personnel

Overview of IEC connectors



- The indicator light (charge display) is lit, the batteries are charging.

1. Table power switch
2. Fuses
3. Socket for the AC power cord
4. Ground/potential equalization
5. Indicator light (AC present)

NOTICE

Make sure to ground (4) any additional components used.

3.6.1 Connecting the potential equalization

Establish potential equalization

If required by local codes, procedures, or when using other devices with requirements to do so, connect the potential equalization cable to the potential equalization pin of the mobile OR table. Connect the other end of the potential equalization cable to the potential equalization pin of the operating room.

NOTICE

An authorized service technician must check the electrical conductivity of the product annually.

3.7 Checks before initial start-up

NOTICE

The hydraulic fluid can contract/expand greatly at storage temperatures below 50°F and above 100°F, adversely affecting the stored sections. This situation resolves itself approximately 24 hours after the OR table is installed in a room and reaches room temperature.

1. Make sure that all accessories and attachments are removed from the packing material.
2. Visually inspect the OR table to ensure that all straps, spacers and other packing materials have been removed.
3. Ensure that the supply voltage is 110/120 V AC 60 Hz or 230 V AC 50 Hz.
4. Check all motion limits (“Motion range limits” section) and all functions (“Operation” section) of the OR table.
5. Check the function of the auxiliary hand pendant (“Auxiliary hand pendant” section) and the foot pump ("Operating the foot pump" section).
6. Visually check for leaking hydraulic fluid, especially under the table, at the column head covers and under the side panels. If there is a leak, contact BERCHTOLD Technical Service at 800-243-5135, Option 2.

4 Operation

4.1 Safety instructions for operation

Risk of crushing or pinching

WARNING

Risk of injury from crushing or pinching at pinch points!

✓ . When moving or repositioning the OR table, the operator can sustain a pinching or crushing injury at a pinch point

1. Point out pinch points to OR personnel and instruct them accordingly.
2. Ensure there is enough distance between persons and pinch points when the table is being moved.
3. Do not reach into or handle moving parts during use.

CAUTION

Material damage from objects on the base cover of the OR table!

Objects lying on the base cover can end up against the telescoping column shields when the OR table is being repositioned and cause damage to the covers and brackets inside the covers.

1. Never place objects on the base cover.

4.2 Patient positioning

WARNING

Risk of injury due to incorrect patient positioning!

. The OR table can over balance if the patient is positioned incorrectly, causing serious injury

1. Do not lean on the different sections or use them for support.
2. Comply with specifications provided in the technical data on patient weight, size and positioning.
3. At a Trendelenburg angle greater than 15 °, the maximum patient weight is 617 lb. (280 kg), and 500 lb. (227 kg) reverse orientation. This ensures that the longitudinal slide will work correctly.

1. Position the patient on the OR table according to the technical data ("Patient positioning" section).

4.3 Software-controlled limits of the OR table

CAUTION

Risk of pinching or crushing when operating the leg section (LEG)!

1. There is a risk of pinching or crushing when the LEG function is activated.

NOTICE

Collision detection

- ✓ The OPERON® OR table features collision detection. This function stops movement of components if they are in danger of colliding with the floor, base, column or other internal components. The user cannot override these limits with the controls.

1. Collision detection is not active when the auxiliary hand pendant is in use

NOTICE

The orange “Table Limit” LED will light when collision detection has actively intervened. When this happens, check the height adjustment for a collision point with the floor and/or check whether the table has already reached the activated function‘s limit..

NOTICE

If this yields no results, level the OR table to its starting position or slide (SLIDE function D820, D850 only) it to center (the BERCHTOLD lettering on the side skirts is in the middle above the lifting column (section 11).

The following table lists the software-controlled motion limits.

Function	Description
Trendelenburg (TREND)	The TREND function stops if any table section nears the floor, base, or column, or if internal components are at risk of colliding.
Reverse Trendelenburg (REV TREND)	The REV TREND function stops if any table section nears the floor, base, or column, or if internal components are at risk of colliding.

Operation

Function	Description
Lateral tilt (TILT)	The TILT function stops if any table section nears the floor, base, or column, or if internal components are at risk of colliding.
HEIGHT	The HEIGHT function stops if any table section nears the floor, base, or column.
Kidney elevator (optional), (KIDNEY)	The KIDNEY function stops if the back section is greater than or equal to 20°.
Back plate (BACK)	The BACK function stops at an upward angle of 20° if the kidney elevator is in use (regardless of its height).
LEG	The LEG function stops if the leg section nears the floor, base, or column.
Longitudinal slide (D820, D850 only) (SLIDE)	The SLIDE function stops if any table section nears the floor, base, or column.
CHAIR, FLEX, and LEVEL preset positions	The automatic functions stop any function that could come into contact with the floor, base, or column. The LEVEL function activates other functions to prevent collisions and finish leveling the tabletop.

NOTICE

Material damage due to incorrect movement using SPLIT LEG function!

1. Split leg sections are not taken into account by the software-controlled limits during movement. Movement does not stop and can result in a collision and material damage to the OR table.

4.4 Switching the hand pendant on and off

The following functions are adjustable via the hand pendant:

- Height adjustment
- Longitudinal slide
- Trendelenburg/Reverse Trendelenburg
- Tilt
- Back section
- Leg section
- Split leg section
- Kidney elevator (optional)
- Flex, Chair, Level

The following are manually adjustable:

- Headrest
- Split leg section spread

Indicator lights on the primary hand pendant:

1. AUX. PENDANT (flashes yellow) – The auxiliary hand pendant is active. The primary hand pendant is deactivated when the additional hand pendant is active.
2. SERVICE (red) – Error function of the OR table. Most of the functions are probably still working correctly and can still be carried out from the primary hand pendant. If the hand pendant is not working correctly, use the additional hand pendant and (if needed) the foot pump to angle the table until the problem can be repaired.

NOTICE! If the SERVICE indicator light illuminates, contact BERCHTOLD Technical Services at 800-243-5135, Option 2..

1. TABLE LIMIT (flashes yellow) – Indicates that the requested movement has reached a software-controlled limit (to avoid damaging table components).

NOTICE

To activate functions using the main hand pendant, the main switch on the base and the pendant must both be ON and the feet must be locked. If feet are not locked when a function button is pressed, the table will automati-cally lock the feet before the user is allowed to proceed with the function movement.

An exception to this is activation of the Trendelenburg function with tables running S/W version 8.040. If Trendelenburg is activated when the feet are not locked with tables running S/W 8.040, the table will move into the Trendelenburg position without first locking the feet.

Switching the hand pendant on and off

Switching the hand pendant on

→ The SERVICE, LOCK, and BATT indicator lights briefly illuminate for 1-2 seconds; this is a self-test function. The backlighting of hand pendant illuminates, the OR table and the POWER ON indicators light green. The hand pendant is now ready to use.

1. POWER ON indicator light
2. POWER button- Press to turn on

NOTICE

If supply voltage is present, the hand pendant automatically turns off after a specified time if it is not operated. It supply voltage is present (OR table is connected to the power supply via the power cord) and the indicator light (charge display) is lit, the hand pendant remains active until it is turned off.

Switching the hand pendant off

- Press POWER

→ The backlighting of the hand pendant and the indicator light (POWER ON) goes out.

The hand pendant is switched off.

4.5 Checking the battery charge

The following prerequisites must be met:

- The OR table is turned on.

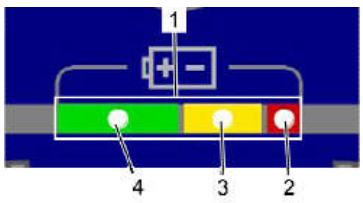


Fig. 1: Reading the battery charge

1. Charge display
2. Battery charge: Immediate charge required
3. Battery charge: Charge soon required
4. Battery charge: Battery charged

NOTICE

1. If the red LED (2) is continuously lit, the battery is discharged and requires immediate charging. The pump motor is also deactivated. In this case the foot pump and the auxiliary hand pendant must be used until AC power is restored or the batteries become sufficiently charged.
2. If the green LED (4) is lit, the batteries are fully charged and the OR table can be used normally without AC power.

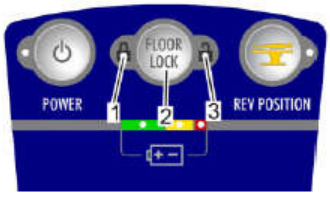
4.6 Locking and unlocking the OR table

-

The following prerequisites must be met:

- The OR table is turned on.
- Sufficient charge on batteries (if unplugged).

Locking the OR table



- Press FLOOR LOCK:

NOTICE

1. Unlocking with two presses of the button is required for all D860, D830, and D770 tables. D850, D820 and D760 tables with serial numbers prior to those specified below require only one press of the button to unlock: 35-XXXXX-T-10431, 34-XXXXX-T-10167, 33-XXXXX-T-10120. Additionally, all D850 tables starting with 3260-, 3261-, 3262-, 3263; and D820 tables starting with 3282, require 1 press of the button to unlock.

- The OR table is now locked.

Unlocking the OR table

- Press FLOOR LOCK (2x in quick succession).

- See Notice on page 6 for single press information
  - The indicator light flashes yellow after the first press and the unlocking process is confirmed within 3 seconds after the second press.
  - The base locking cylinders move up and unlock the OR table. The UNLOCK indicator light turns yellow when the process is finished.
  - The OR table can now be moved.

1. Lock activate light
2. Lock/unlock button
3. Unlock activate light

4.7 Setting reverse orientation

Personnel:

WARNING

Risk of injury due to incorrect patient positioning and unintended movement of the OR table!

Reverse orientation reverses some control functions. The operator must be aware of these functions and the ori-entation of the OR table. Failure to do this can result in movement of the wrong section and serious injury. See NOTICE on page 33

1. Do not lean on the different sections or use them for support.
2. Comply with specifications provided in the technical data on patient weight, size, and positioning. (“Patient positioning” section)
3. The patient's pelvis must not extend over the end of the seat section.
4. In reverse orientation, the maximum patient weight must not exceed 500 lb. (227 kg).
5. Carefully monitor all OPERON® table movements and stop immediately when in doubt.

Operation

Turning on reverse orientation

- Press REV POSITION

→ The REV POSITION indicator light illuminates yellow.

1. REV POSITION button (1)
2. REV POSITION indicator light (2)

D850 model tables starting with S/N 3260 and 3261 do not have the REV button. Instead they have a HI/Lo button that controls the speed of a sections movement. Hi is the standard setting and Lo is a reduced speed setting.

NOTICE

✓ The following functions operate in reverse during reverse orientation:

1. LEG
2. Back section (BACK)
3. Trendelenburg (TREND)
4. Lateral tilt (TILT)
5. Flex
6. InstaDrive™

- Hold down the corresponding button on the hand pendant until the desired position is reached (see “Changing patient position” chapter)

Turning off reverse orientation

- Press REV POSITION (1)

→ The REV POSITION indicator light goes out when reverse orientation is turned off.

CAUTION

Always make sure that the OR table is in the correction orientation!

4.8 Movement of the OR Table (on casters)

NOTICE

Certain procedures require that the table be moved after anesthetizing the patient. If this is required, the following steps must be followed:

1. Be sure that the patient is properly secured to the table with straps.
2. Center (slide) the patient over the main lift column
3. Lower the table to its lowest point.
4. Check the floor for and remove objects that may interfere with moving the table, such as power cords or table accessories.
5. Have at least one person at each end of the table
6. Unlock the table.
7. When moving the table, the people at each end must use a lateral force in the direction of motion; do not lift up on a section or push down on a section.
8. Immediately lock the table when the new location is reached.

Moving the OR table:

The InstaDrive™ option is available on the OPERON Mobile tables. The intended use of the function is to aid in the transport or movement of OR table from room to room. The OR table with or without the InstaDrive™ option is not approved for patient transport. However, there will be certain procedures that require that the table be placed on the castor or wheels and repositioned after anesthetizing the patient. In such cases, the conditions listed in section 4.9.1 must be met.

CAUTION

Two persons are required to move the OR table!

4.8.1 Conditions for Repositioning Table with Patient

CAUTION

The OPERON® Surgical Mobile Operating Table cannot be used to transport patients.

- The OR table and hand pendant are turned on.
- Patient is properly secured to the table with patient restraint straps.
- Press the Level button and hold until the table has ceased movement when it reaches the center position (see section 4.11).
- Lower table to its lowest height.
- Check the surrounding floor for and remove items that may interfere with the moving of the table such as power cords and equipment.
- Have at least one person on each end of the table.
- Unlock the table and place it on the castors (see section 4.7)
- Reposition the table. The people at each end must use a lateral force in the direction of movement. Do not lift up or push down on a table section.
- Immediately re-lock the table once it has reached its new position.

CAUTION

If repositioning the OR Table in an OR with the patient on it, be certain that the patient is securely positioned on the table and follow the steps in section 4.9.1. If the OR table cannot be leveled or slid to center, ensure that there are enough personnel around the OR table to keep the patient securely positioned on the OR table.DO NOT transport the patient outside of the OR on the OR table. DO NOT use the InstaDrive™ with a patient on the table.

4.8.2 Moving the table without InstaDrive™ (without patient)

1. Press the unlock button twice in rapid succession to unlock table (see section 4.7).
2. Push the table to move it. Do not pull the table. The recommended method is for one person to push the OR table from the head end while another person steers it from the leg sections. All casters rotate freely 360°, ensuring excellent maneuverability even in tight spaces.
3. Lock the OR table after you have moved it to the desired location (see section 4.7).

4.8.3 Moving the table using InstaDrive™ (without patient)

Forward/head-end motion

1. Press the unlock button twice in rapid succession to unlock table (see section 4.7).
2. Press and hold FWD. After a brief start-up sequence, the OR table automatically moves in the direction of the head end.
3. Always manually guide the OR table in the desired direction. The operator continues to execute the control function manually. The recommended method is for one person to operate InstaDrive™ from the head end while another person steers the table at the leg section. As an alternative, the InstaDrive™ arc , which docks onto the table's side rails can be used to have both hands on the table to operate the InstaDrive™ while steering. When InstaDrive™ is active, the forward guide rollers are blocked especially to prevent the table from drifting sideways during transport over longer distances.
4. Release FWD → The OR table stops moving → The traction drive roller then stays in passive mode for approx. 2 seconds to prevent longitudinal and traverse movement and ensures an additional electromotive braking function. The rollers are blocked during these 2 seconds. During this time, avoid moving the table at all, especially pulling or pushing it sideways suddenly.

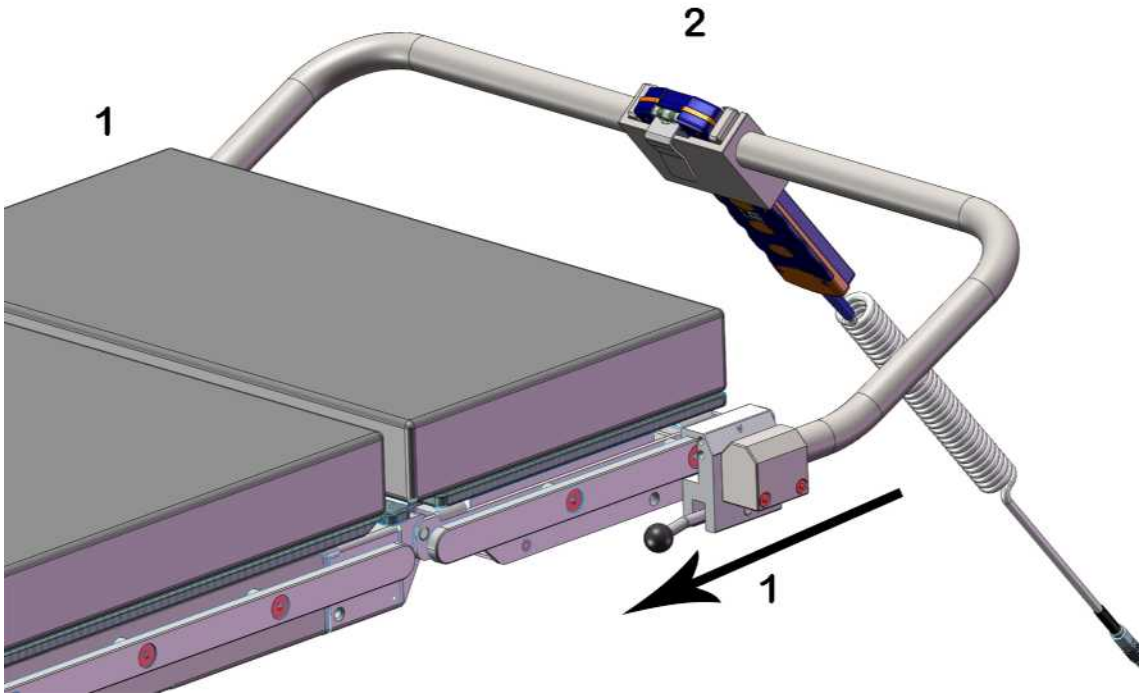
Reverse/foot-end movement:

1. Press the unlock button twice in rapid succession to unlock table (see section 4.7).
2. Position the OR table on its rollers (see section 4.7).
3. Press and hold REV. After a brief start-up sequence, the OR table automatically moves in the direction of the head end (short end of the table base for the D8XX tables).

4. Always manually guide the OR table in the desired direction. The operator continues to execute the control function manually. The recommended method is for one person to operate InstaDrive™ from the head end while another person steers the table at the leg section. As an alternative, the InstaDrive™ arc , which docks onto the table's side rails can be used to have both hands on the table to operate the InstaDrive™ while steering. When InstaDrive™ is active, the forward guide rollers are blocked especially to prevent the table from drifting sideways during transport over longer distances.
5. Release REV → The OR table stops moving → The traction drive roller then stays in passive mode for approx. 2 seconds to prevent longitudinal and traverse movement and ensures an additional electromotive braking function. The rollers are blocked during these 2 seconds. During this time, avoid moving the table at all, especially pulling or pushing it sideways suddenly.

4.9 Attaching the InstaDrive™ Arc Docking System (Optional)

OR tables equipped with the InstaDrive™ option will also be equipped with the InstaDrive™ Arc Docking System for the hand pendant. This system is helpful when moving the OR table because it allows the use of both hands to simultaneously steer and control the InstaDrive™.



To install the InstaDrive™ Arc Docking System, please make sure both clamps are opened; meaning the levers are showing in a 90° angle downwards. Slide the arc onto the table's side rails (both sides) in the direction of the arrow upon it will stop. At this point, please fasten the arc by moving the levers upwards. They will be aligned with the table side rails once fully fastened.

NOTICE

Check that both levers on the InstaDrive™ Arc Docking System are in the locked position, then slightly pull on the arc to ensure that it is secured to the side rails.

Insert the and pendant through the top of the docking station on the arc as seen in Section 4.9.4. To remove the hand pendant, pull it upwards and out. Do not use force when returning the hand pendant to its dock.

To dissemble the arc, perform the previous steps in reverse order.

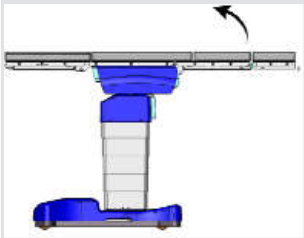
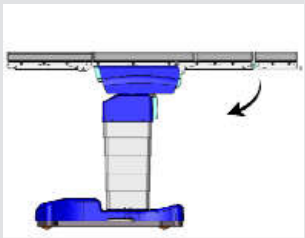
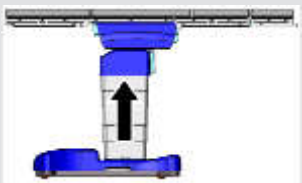
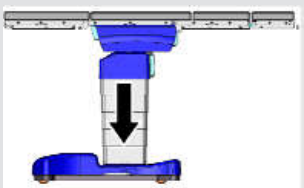
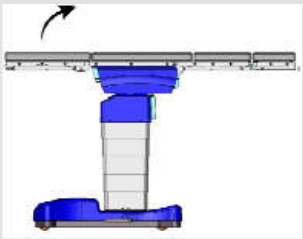
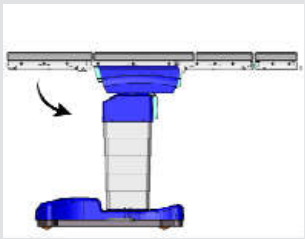
4.10 Position and height adjustment for the OPERON® Table Sections table

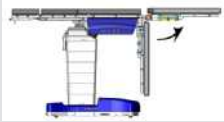
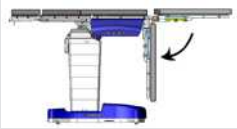
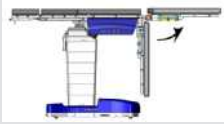
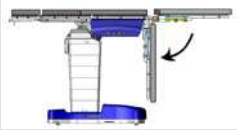
CAUTION

Risk of injury due to unwanted movement of the OR table!

✓ Unintended movements of the OR table can result in patient injuries.

1. Carefully monitor all OPERON® Table movement and stop immediately when in doubt.

Button	Result	Button	Result
BACK			
 BACK UP		 BACK DOWN	
TABLE			
			
LEG			
			

Button	Result	Button	Result
SPLIT LEG			
 (LEG UP) + (SPLIT LEG LEFT) 		 (LEG DOWN)+ (SPLIT LEG RIGHT) 	
 (LEG UP + (SPLIT LEG RIGHT) 		 (LEG DOWN+ SPLIT LEG LEFT) 	

4.11 Adjusting patient position

CAUTION

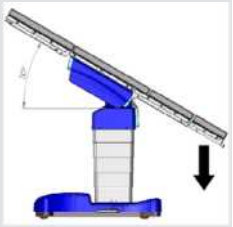
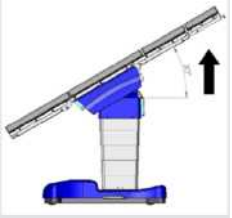
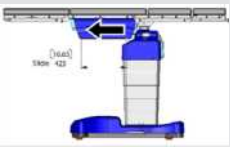
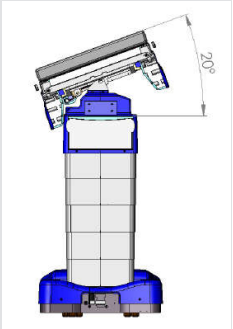
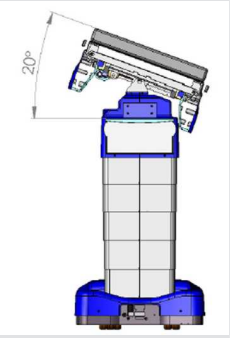
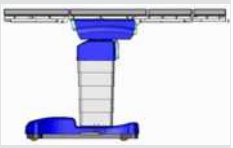
Unintended movement of the OPERON® table may cause injury!

Unintended movements of the OPERON® table can result in patient injuries.

1. Carefully monitor all OPERON® Table movement and stop immediately when in doubt.

The following prerequisites must be met:

- The OR table is turned on.
- The hand pendant is turned on.
- The OR table is locked.

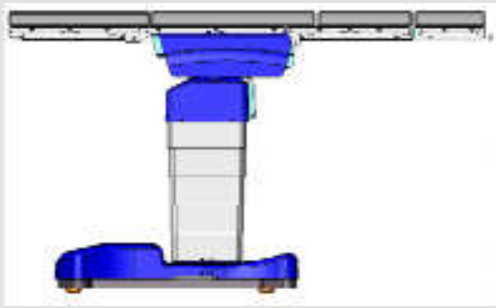
Button	Result	Button	Result
 (TREND)		 (REV TREND)	
Longitudinal slide (SLIDE)			
 (SLIDE HEAD)		 (SLIDE FOOT)	
Lateral tilt (TILT)			
 (TILT LEFT)		 (TILT RIGHT)	
Kidney elevator (KIDNEY)			
 (KIDNEY UP)		 (KIDNEY DOWN)	

NOTICE! Hold down the corresponding button until the desired position is reached

4.12 Leveling the OR table

-

Button	Result
(LEVEL)	

Button	Result
 **NOTE: Tables with software versions prior to 8.040 do not center the slide when pressing level. (see page 6)**	 . The LEVEL function returns all sections of the OPERON® Table to the zero point position by adjusting the seat section, leg sections, kidney elevator (optional), back section and slide. If present and extended, the Kidney Elevator will retract first. Tilt is brought to horizontal next. The seat section (Trend), leg sections, and back sections are then returned to their zero positions in preset, 10° increments. Finally, the slide is centered over the table's column.

NOTICE

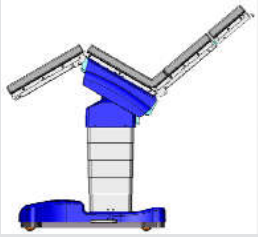
BEFORE leveling the OPERON® Table, ensure that there is sufficient clearing at the head and foot sections, allowing it to return to its center point. Pay special attention to wires or tubes connected to the patient as well as any other surgical equipment located in close proximity to the table.

1. Press and hold LEVEL to return the OPERON® Table to the starting position. The process is complete once the slide has reached center position and stopped..

NOTICE

If there is no leg section attached and the leg section adapters are angled greater than -75° when the LEVEL function is activated, the adapters are leveled last.

4.13 Using preset positions

Button	Result	Button	Result
Preset positions			
 (PRESET FLEX)		 (PRESET CHAIR)	

NOTICE

1. Hold down the corresponding button until the desired position is reached.
2. Pressing FLEX from the level position will slide the table top to the full slide to head, then move back down and the seat to re-verse trend.
3. Tables with software versions prior to 8.040 do not slide the table to the head when Flex is pressed. (see page 6).
4. Pressing FLEX from the flex position will continue to position the OPERON® Table to its full flex limit if the table is at or past the centered position toward the head side.
5. Ensure that there is sufficient clearing at the head and foot sections, allowing OPERON® Table to return to its center point. Pay special attention to wires or tubes connected to the patient as well as any other surgical equipment located in close proximity to the table.

4.14 Operating the foot control (optional)

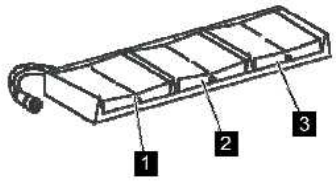
NOTICE

If the BATT indicator light is continuously red, the foot control will not function therefore the hand pendant must be used for operation.

-

NOTICE

Ensure familiarity with the functionality and handling of the ROCKER switch before using it with a patient on the OPERON® Table..



1. Trendelenburg/Reverse Trendelenburg
2. Left/right lateral tilt
3. Height up and down

4.15 Adjusting the head rest

-

CAUTION

The instability of the patient's head can cause injury.

1. Do not use the headrest to support anything except the pa-tient's head.
2. Do not use the headrest as a support for an infant. The head-rest has a maximum weight capacity of XX pounds.

Operation

1. Firmly grasp the headrest and carefully lift the handle lever (1) located underneath the headrest on the right..
2. Adjust the headrest to the desired tilt.
3. Continue holding the headrest firmly and slowly release the handle lever, ensuring that the headrest is locked.

Dual articulating headrest:

- The support surface on this model can also be adjusted horizontally.

1. Loosen the star knob (2) and move the support surface into the desired position by lifting or lowering it..
2. Then lock the headrest into position using the star knob.

CAUTION

High risk of detachment and injury if the section is not securely locked!

Pinch risk on the section frame. To avoid pinching, ensure that all objects are clear of the section frame and support surface.

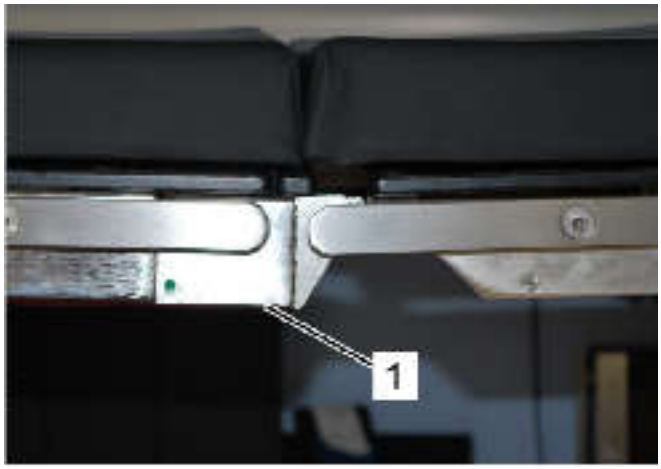
4.16 Exchanging table sections

NOTICE

The OPERON® Table must be level to properly remove or exchange sections.

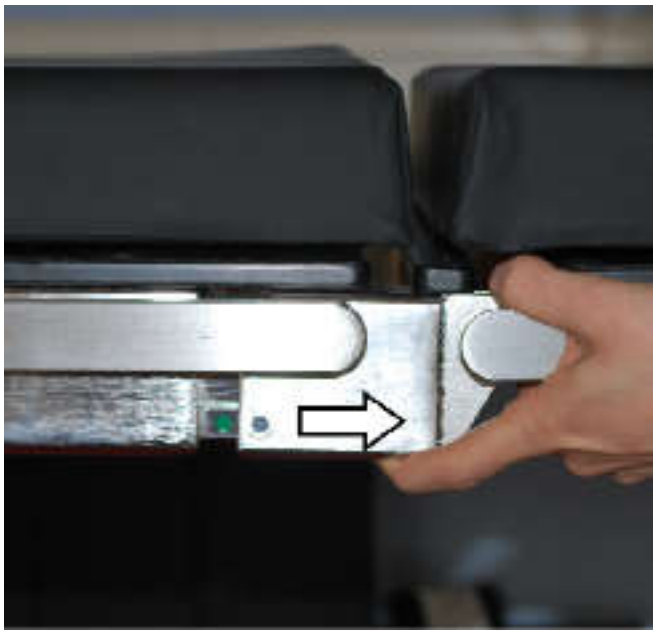
The individual sections use a connector system with coding that allows the OR table control to know where the various sections are attached at all times.

Head rest / 2-piece back plate



1. To release the section locks, press and hold the locks (1) located on both sides under each section.

Operation



2. Carefully pull out the section and keep it from falling.

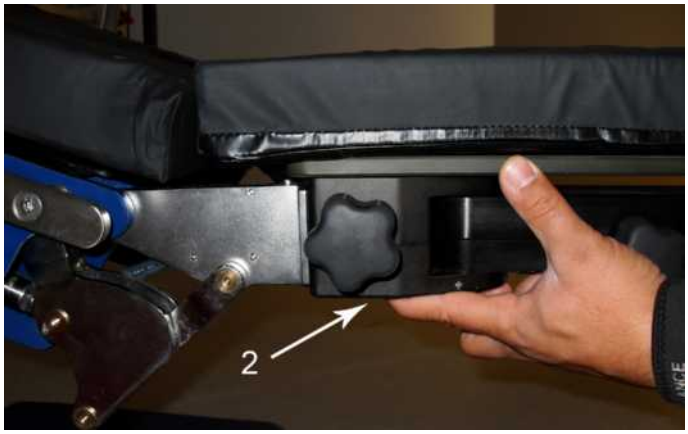
CAUTION

High risk of detachment and injury if the section is not securely locked!

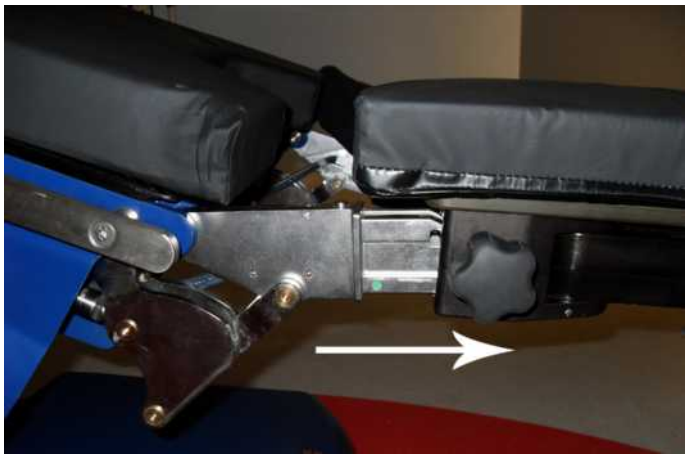
1. If the green marking on the section frame is not visible on both sides, then the section is not correctly locked in place.
2. Pinch risk on the section frame. To avoid pinching, ensure that all objects are clear of the section frame and support surface

Split leg plates

1. Loosen the star knob (1) located on the side of the split leg sections..



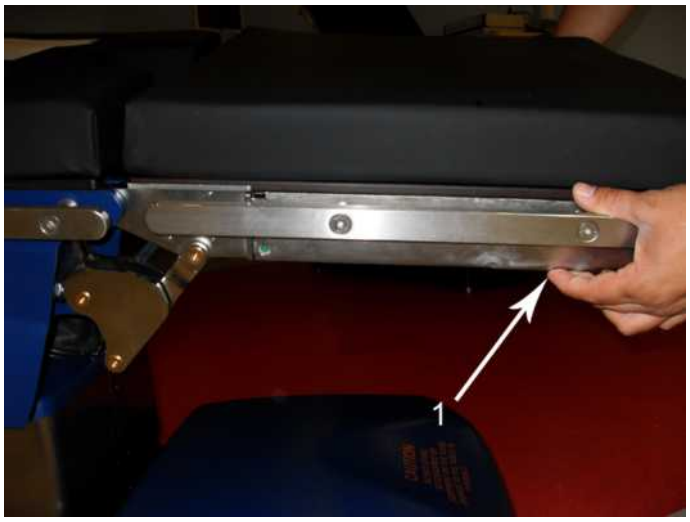
2. Press and hold the lock (2). The snap-in mechanism releases.



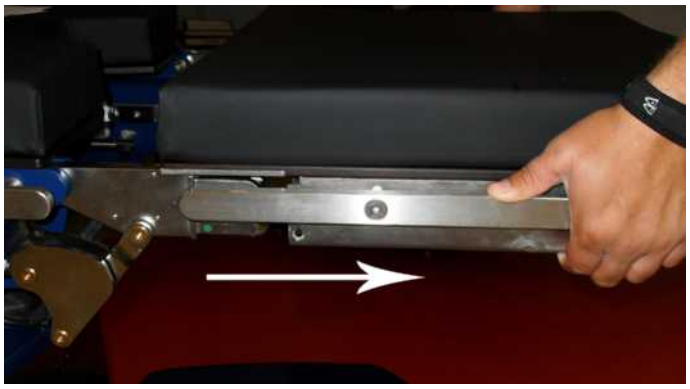
Operation

3. Carefully pull out the module and keep it from falling.

1-pc. leg section / 1-pc. back section



1. To release the section locks, press and hold the locks (1) located on both sides under the rails.



2. Carefully pull out the module and keep it from falling.

4.17 Tasks after use

Cleaning the OR table

DANGER

Risk of death from electrical current!

Touching live electrical components can result in fatal electrical shock. Damage to insulation or individual components can cause fatal injury.

1. Before all cleaning tasks, disconnect the power cord and make sure the OR table is free of voltage.
2. Never use steam or water hotter than 150°F (66°C) for cleaning.
3. Never use a high-pressure cleaner or similar equipment for cleaning.
4. Keep the OR table out of high humidity environments to prevent condensation.
5. Never clean the OR table in an automatic trolley washing system or steam sterilizer.

Operation

WARNING

Risk of injury due to corrosion or deformed components through incorrect cleaning or use of incorrect cleaning agents!

Using the wrong cleaning agents or cleaning the OR table incorrectly can cause injury from corrosion and deformed components.

1. You must comply with the following cleaning instructions.
2. Do not use abrasive, corrosive or chlorinated cleaning agents.
3. Use only mild, non-chlorinated, and non-corrosive cleaning agents.
4. Do not use any sharp, pointed or abrasive objects for cleaning.
5. Use only soft brushes for cleaning.
6. Be sure to comply with all OR regulations during cleaning procedures.

NOTICE

The operator must observe the facility's infection control program requirements. The product warranty applies to undamaged surfaces only. Non-compliance with cleaning instructions terminates any claims under warranty.

Cleaning stainless steel surfaces

Materials:

- Use only mild, non-chlorinated and non-corrosive cleaning agents.

1. Apply a mild cleaning solution to a lint-free cloth.
2. Wipe the stainless steel surfaces back and forth along the metal structure; do not use circular motions.
3. Rinse the stainless steel surfaces with clean water and wipe with a soft, lint-free cloth.
4. Dry the stainless steel surfaces with a soft, lint-free cloth.

Removing spots (e.g., blood/plaster)

Materials:

- Use 5% aluminum acetate solution/white wine vinegar

1. Apply the 5% aluminum acetate solution/white wine vinegar to a lint-free cloth.
2. Remove the spots with the cloth.
3. Rinse the surface with clean water.
4. Dry with a soft, lint-free cloth.

NOTICE

Visible impurities, such as blood and gross soiling/bioburden, must always be thoroughly cleaned off prior to disinfection.

Disinfection

Materials:

- Quaternary ammonium compounds

NOTICE

Material damage from disinfectants such as Iodophor!

Using disinfectants such as Iodophor causes spotting on the OR table.

1. Use only quaternary ammonium compounds for disinfection.

NOTICE

Material damage from sodium hydroxide and sodium hypochlorite.

The use of sodium hydroxide (lye) and sodium hypochlorite (bleach) on coated aluminum parts can lead to surface changes and affect the service life of the product.

1. Do not use sodium hydroxide or sodium hypochlorite solutions.

Operation

NOTICE

Material damage from preparations based on halogen-releasing compounds, strong organic acids and oxygen-releasing compounds, solvents, gasoline, etc.!

Using solutions containing halogen-releasing compounds, strong organic acids, oxygen-releasing compounds, solvents, gasoline, and similar products can cause material damage.

1. Never use solutions containing halogen-releasing compounds, strong organic acids, oxygen-releasing compounds, solvents, gasoline, or similar products.

NOTICE

Material damage from incorrect disinfectants or incorrect use of disinfectants!

Using the incorrect disinfectants or using the disinfectant incorrectly can cause damage to the product, therefore you must comply with the following disinfection instructions.

1. It is important to only use surface disinfectants in the concen-trations specified by the manufacturer.
2. If surface disinfectants not applied correctly causing a large amount of fluid to remain on the surface, surface deposits may develop since the product is applied and not removed. If increased surface deposits due to surface disinfectants occur, the system must be thoroughly cleaned.
3. Only use disinfectants that are chloride or halogen free to avoid damaging the stainless steel parts.
4. Avoid contact with aldehyde- and amine-base products! Perform a preliminary cleaning before first use of aldehyde disinfectants (especially if an amine-containing product was previously used). Non-compliance can result in residues that are impossible to remove.
5. Immediately rinse and dry all surfaces that come into contact with quaternary cleaning agents! Table components can otherwise corrode over time.
6. Contact the manufacturer of the disinfectant with any questions or concerns about microbiological efficacy.

Cleaning finished surfaces

NOTICE

Material damage from harsh cleaning products!

Harsh cleaning products can damage finished surfaces.

1. Do not use harsh cleaning products!

1. Clean finished surfaces weekly with mild, soapy water and a clean, damp and frequently rinsed cloth.

Operation

Cleaning conductive objects like pads and straps

Materials:

- Quaternary ammonium compounds or phenol-containing disinfectants

CAUTION

Risk of operator injury from compromised conductivity of patient pads due to damage or soiling!

Conductivity may be compromised if pads are not properly cleaned and maintained.

1. Replace damaged pads immediately.

NOTICE

Material damage from disinfectants such as Iodophor!

Using disinfectants such as Iodophor causes spotting on pads and reduces their service life.

1. Use only quaternary ammonium compounds or phenol-containing disinfectants for cleaning.

NOTICE

Material damage from incorrect cleaning agents!

Using the wrong cleaning agents can damage the pads.

1. Do not use any solvents, such as thinners or acetone, to clean pads.
2. Do not treat pads in sterilizers.
3. Do not use any sharp, pointed or abrasive objects for cleaning.

NOTICE

Material damage from highly concentrated cleaning agents!

Using highly concentrated cleaning agents reduces the service life of the pads.

1. Use only the concentration recommended by the manufacturer.

NOTICE

Material damage from submersion in liquids!

Submerging the pad in liquid can damage it.

1. Only wipe the pad.
2. Never submerge pads in liquids.
3. Never place pads and straps on a damp tabletop.

NOTICE

Removing pads

To remove pads, slide your hand between the pad and base section and unhook the Velcro fastener.

NOTICE

Pads and other accessories must be clean to maintain proper grounding.

NOTICE

Grounding pads, straps and other components can be cleaned immediately after soiling by washing them with a mild soap solution. Remove stubborn spots with a mild, soapy solution and a soft brush..

1. Use only quaternary ammonium compounds or phenol-containing disinfectants for cleaning according the manufacturer's instructions.

4.17.1 Charging the batteries

The batteries need charging when the BATT indicator light (1) is continuously lit red.

Personnel:

- Medical specialists

1. Connect the OR table to the power supply (“Connecting to the power supply” section)

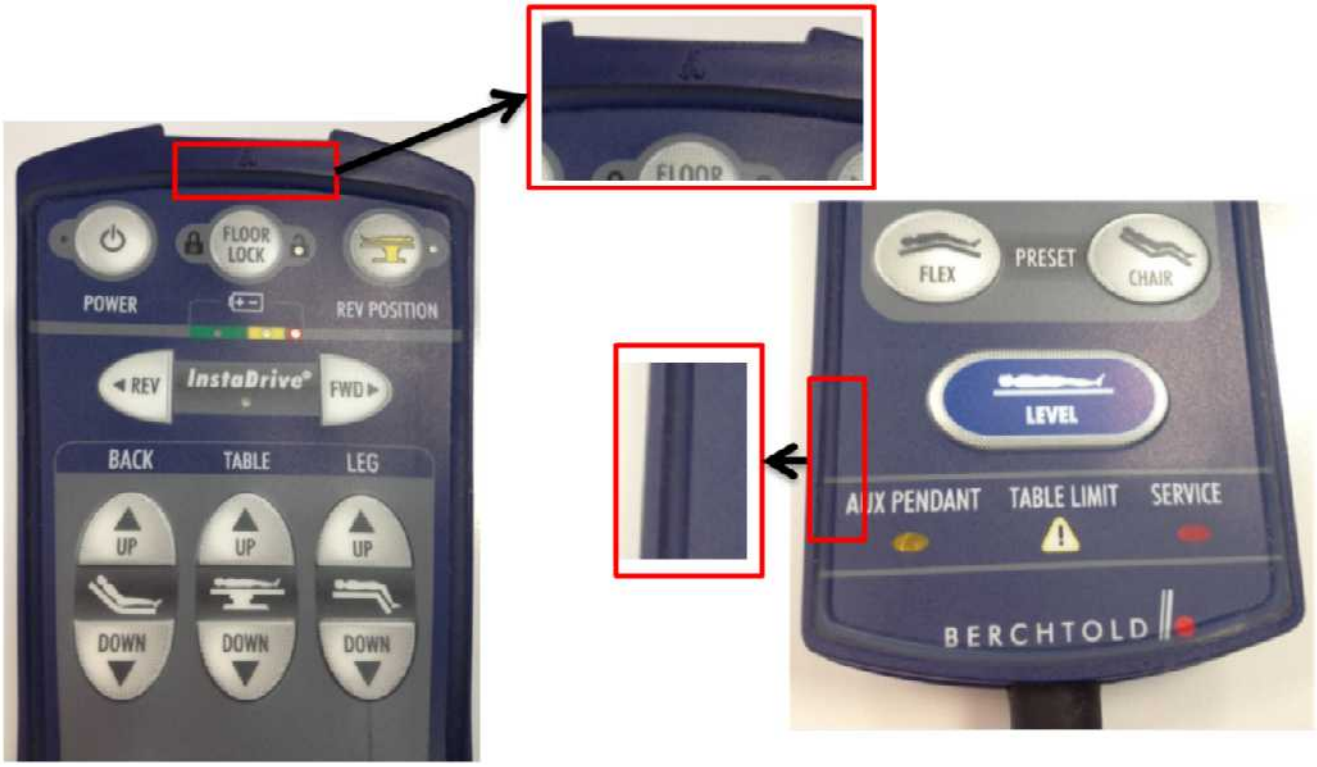
4.18 Hand pendant care

This section provides instructions for care, cleaning, and disinfection of BERCHTOLD OPERON® D-Series Surgical Table Hand Pendant.

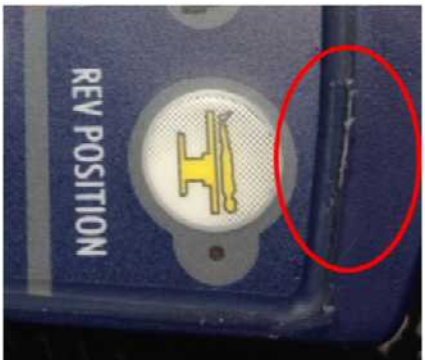
1. If dropped, inspect immediately for damage, otherwise remove from service until a thorough inspection for cracks and dam-aged seals can be performed
2. When the hand control is not actively being used ensure it is hung from the medical rail on the head section.
3. Prevent hand control from being exposed to gross soiling and bio-burden.
4. If hand control is exposed to gross soiling/bio-burden during a procedure disconnect hand control from the table immediately.
5. Remove gross soiling/bio-burden with a cloth dampened with a mild detergent then dry.
6. After cleaning, ensure no fluids are allowed to pool or stand on the hand control.

7. BERCHTOLD has tested quaternary disinfectants for compatibility with the hand control materials, and approves their use.
8. BERCHTOLD contraindicates the use of disinfectants that contain sodium hypochlorite on hand controls. E.g., Clorox Health-care Dispatch.
9. BERCHTOLD cannot recommend the use of other types of disinfectants on the hand controls.
10. Allow hand controls to fully dry after disinfectant manufacturer's recommended "set time" before re-cleaning.
11. Do not submerge the hand control in any fluids.
12. If the hand control is submerged, remove the hand control from service immediately. Contact BERCHTOLD technical service for evaluation assistance
13. Do not use abrasive cleaners (solutions with pumice, scotch bright pads, etc…) when cleaning and disinfecting hand controls.
14. Before each use, users should inspect the hand control for signs of damage or abuse (e.g. frayed cable, cracked housing, missing fasteners, lack of glue beak on face. etc…)
15. If damage is suspected, remove from service immediately and contact BERCHTOLD technical service.
16. The maintenance activity of the facility should put hand controls on a monthly PM schedule for a thorough inspection.
17. The following provide areas for inspection and key points for inspection and cleaning of hand controls

Operation



1. Figures 1 and 2 illustrate a good sealing bead around the perimeter of the touchpad.



2. Figures 3 and 4 illustrate a sealing bead that is starting to wear. Figure 5 illustrates a case that is sealed with signs that it is starting to separate. These are acceptable but should be close-ly monitored. If questionable, contact BERCHTOLD Service.

1. When cleaning and disinfecting, do not allow fluids to pool on the hand controls. Figure 9 illustrates pooling of fluids.

Cleaning Velcro fasteners

Materials:

- Mild spray disinfectant

NOTICE

Material damage from cleaning with cloths!

Cloths leave fibers cleaning with cloths!

NOTICE

Material damage due to long application times of alcohol containing disinfectant!

If alcohol-containing disinfectant are left on too long, the Velcro fasteners can become damaged and flammable air-gas mixtures may from.

1. Use a mild disinfectant.
2. Alcohol-containing disinfectants should be allowed to sit for a short time only.

Washing the restraint straps

Materials:

- Detergent

1. Close the restraint straps
2. Wash at a max. temperature of 140°F (60°C), do not spin, do not dry clean.

NOTICE

Closing the restraint straps protects both the straps and other items from damage during the laundering process.

5 Technical Data

Technical Data	D 850 / D 860	D 820 / D 830	D 760 / D 770
Max. patient weight	1000 lb. (454 kg) for normal position 500 lb. (227 kg) for reverse position		
Max. Load Capacity1	1250 lb. (567 kg)	1000 lb. (454 kg)	1000 lb. (454 kg)
Height adjustment	22.6 in. – 46.4 in. (575-1179 mm)		25.0 in.—42.3 in. (635-1074 mm)
Longitudinal slide	16.92 in. (430 mm)		
Trendelenburg/reverse Trendelenburg	30°/31°		
Tilt left/right	+20°/-20°		
Back section up/down	+90°/-45°		
Leg section up/down	+30°/ -105°[3]		
Split leg section up/down	+30°/ -90°[3]		
Headrest up/down	+45°/-90°		
Kidney elevator (optional)	Lift to 3'' (75 mm[3])		
Flex	225°		
Tabletop width (including side rails)	21 in. (534 mm), 23.1 in. (587 mm) with rails		
Image width	18.3 in. (465 mm)		
X-ray cassette channel	continuous		
Manual backup system	integrated		
Collision protection	integrated		
Serial interface	integrated		
Battery capacity	5-8 days		
Tabletop segments[3]	up to 8		
Tabletop material	Carbon fiber/phenol		
Table base composition	Fiber-reinforced synthetic material/ABS polymer or Stainless Steel		

Values subject to general industry tolerance of +/- 3%,

[1] Max Load Capacity applies once the table is in the horizontal level (all sections) and the slide is in 0 (see section 4.12)	[2] With kidney elevator
[4] Varies depending on configuration	

5.1 Dimension sheets

NOTICE

The numbers in square brackets are the dimensions in inches; the other numbers represent mm.

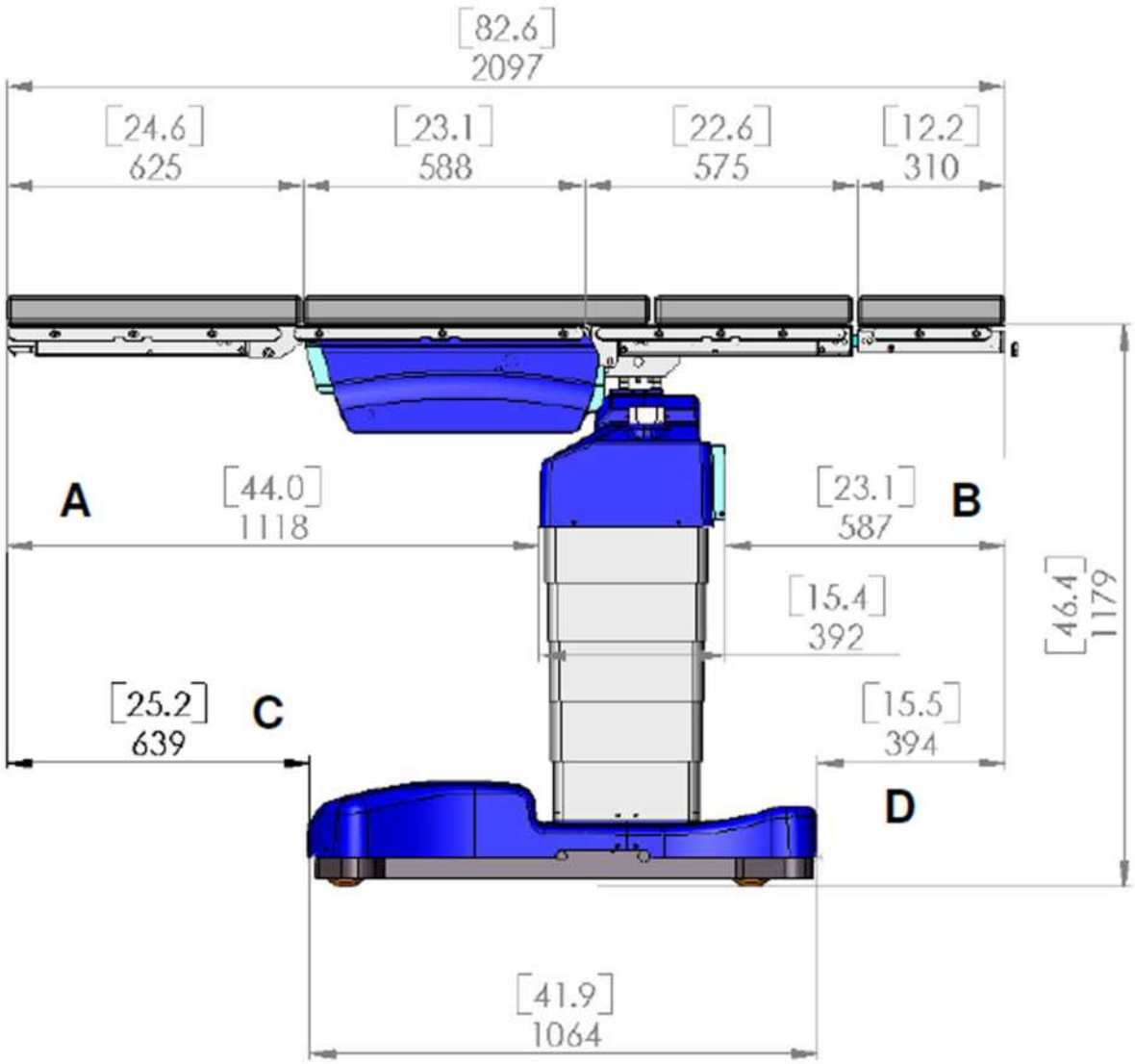
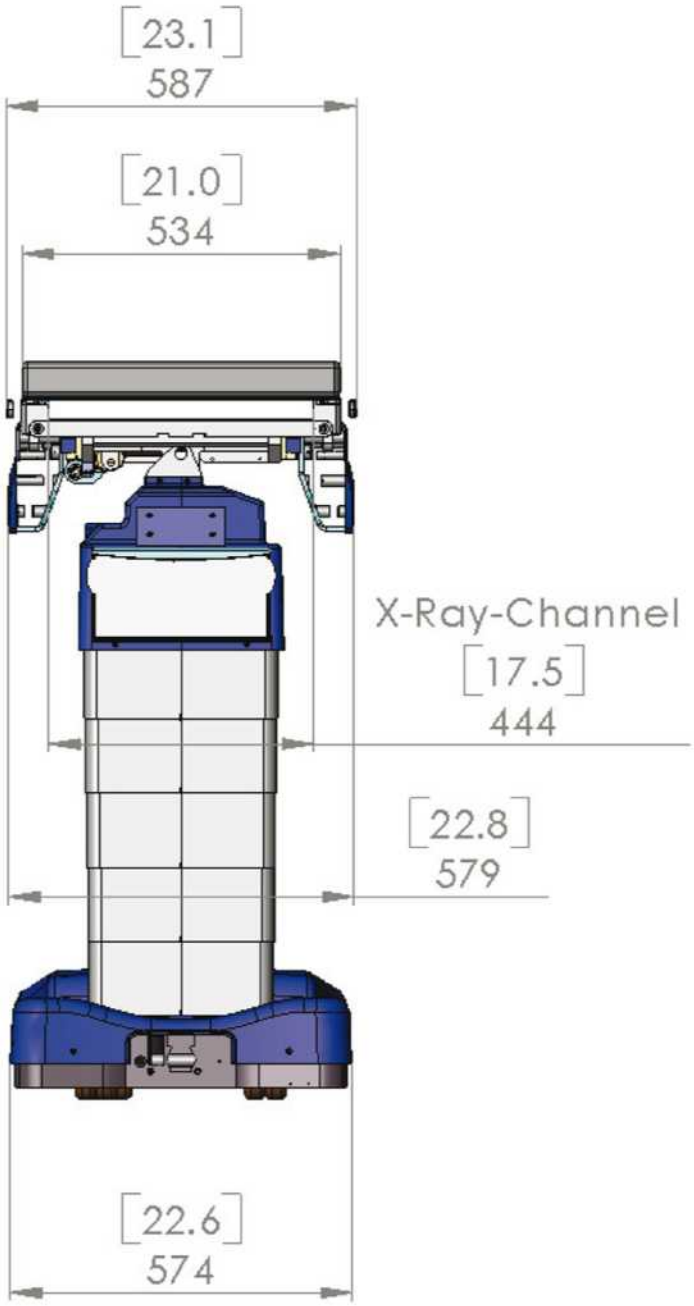


Fig. 2: Dimensions displayed based on: D850 one-piece long leg plate, kidney elevator, and one-piece back plate (max. slide at foot end).

Technical Data



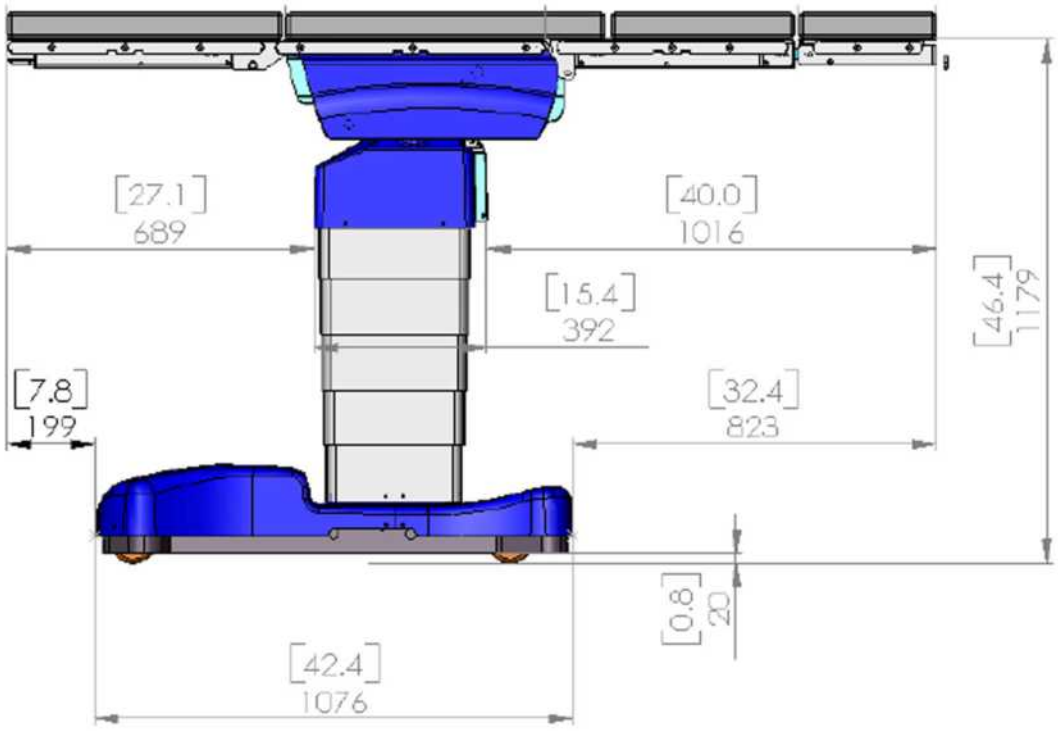


Fig. 3: Dimensions displayed based on: D850 one-piece long leg plate, kidney elevator, and one-piece back plate (max. slide at head end).

5.2 Patient positioning

5.2.1 Patient weight and size

NOTICE

The OPERON® Surgical Mobile Operating Table can be used in both normal and reverse orientation. Its orientation depends on where the patient's head is positioned. The dimension sheet shows normal orientation. Normal and reverse orientations differ in the maximum load capacity and the module adjustment options.

1. Maximum load capacity in normal orientation: 1000 lb. (454 kg)
2. Maximum load capacity in reverse orientation: 500 lb. (227 kg)
3. Reverse orientation with split leg sections (optional) is not possible.

5.3 Motion range limits

NOTICE

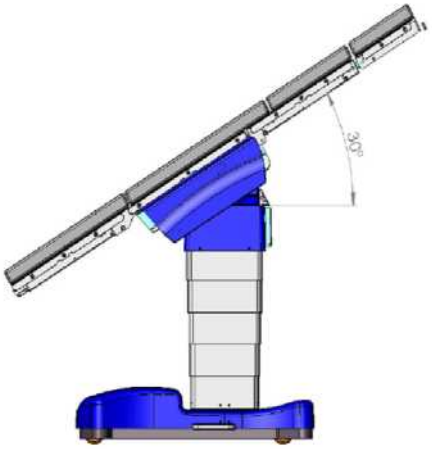
The add-ons and accessories can further restrict the motion ranges.

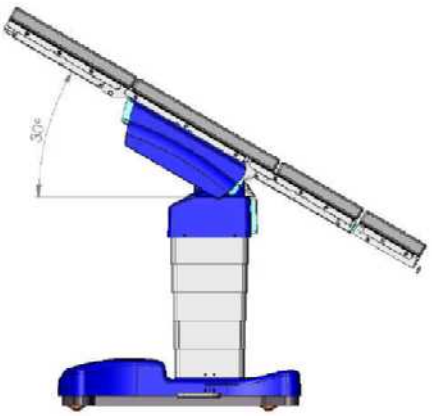
NOTICE

1. If the Trendelenburg or reverse Trendelenburg angle is larger than 15°, the maximum load for longitudinal slide is 280 kg (226 kg for reverse orientation).

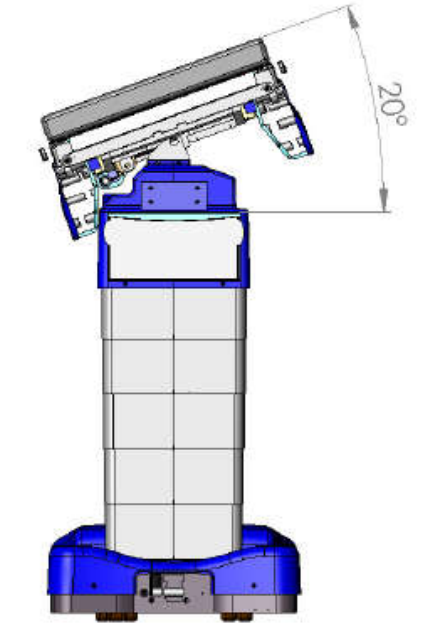
Technical Data

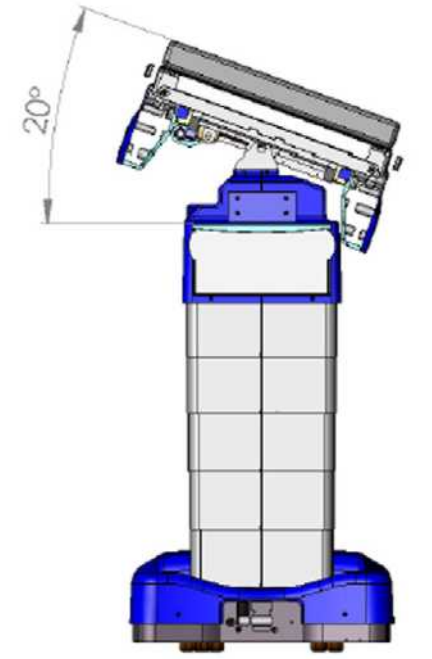
Trendelenburg (TREND)





Lateral tilt (TILT)





Technical Data

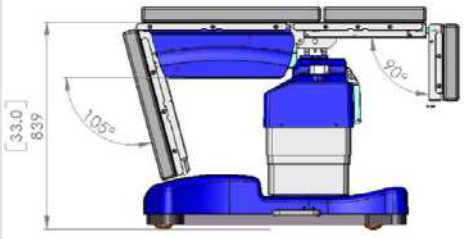
Longitudinal slide (SLIDE)

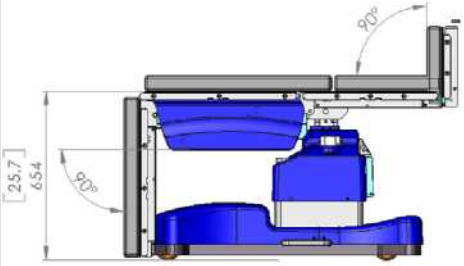
Slide center

Slide max. head

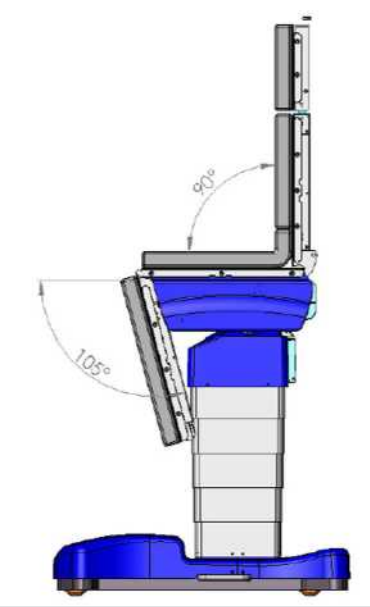
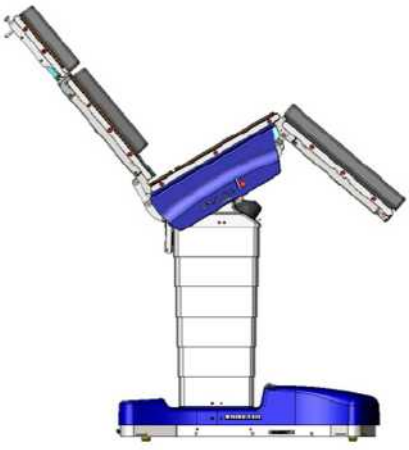
Slide max. leg

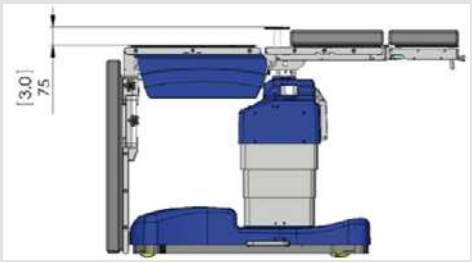
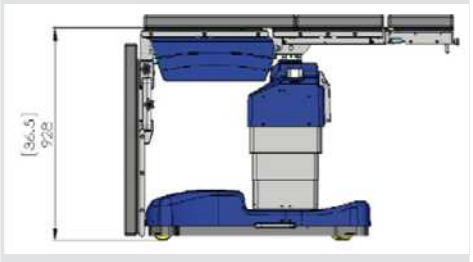
Leg section/headrest (LEG/HEAD)





Technical Data

Leg/back section (LEG/BACK)	Flex
	
BEACH CHAIR	**Trendelenburg/lateral tilt (TREND/ TILT)**
	

Kidney elevator (KIDNEY), (optional)	Split leg sections (SPLIT/LEG)
	

5.4 General information

> *NOTICE*
>
> All specifications refer to the OPERON® Surgical Mobile Operating Table without a foot rest or split leg sections (optional).

Specification	Value
Weight	606-725 lb. (275-329 kg)
Length	66.2-94.6 in. (1681-2389 mm)
Width (with side rails)	23 - 23.1 in. (583 - 587 mm) and 23.78 in. (604 mm) with rails
Width (without side rails)	21 in. (534 mm)
Height range	22.64-46.46 in. (575-1180 mm)

Head rest

Specification	Value
Length	14.17-14.49 in. (360-368 mm)
Width	21 in. (534 mm)

Back section, long

Specification	Value
Length	21.69 in. (551 mm)
Width	21 in. (534 mm)

Split back section (both segments)

Specification	Value
Length	21.06 in. (535 mm)
Width	21 in. (534 mm)

Center section with kidney elevator (optional)

Specification	Value
Length	23.15 in. (588 mm)
Width	21 in. (534 mm)

Center section without kidney elevator

Specification	Value
Length	18.3 in. (465 mm)
Width	21 in. (534 mm)

Leg section, short (optional)

Specification	Value
Length	20.7 in. (525 mm)
Width	21 in. (534 mm)

Leg section, long (optional)

Specification	Value
Length	24.6 in. (625 mm)
Width	21 in. (534 mm)

Split leg section, long (optional)

Specification	Value
Length	35 in. (888 mm)
Width	9.45 in. (240 mm)

Split leg section, short (optional)

Specification	Value
Length	27 in. (678 mm)
Width	9.45 in. (240 mm)

5.5 Connection loads

Electrical

Specification	Value	Unit
Voltage ± 10 % at 50/60 Hz	120	V
Voltage ± 10 % at 50/60 Hz	100	V
Voltage ± 10 % at 50/60 Hz	230	V
Current consumption at 120 V, maximum	3.0	A
Current consumption at 230 V, maximum	2.0	A
Fuse protection at 120 V	1.6	A
Fuse protection at 230 V	3.15	A
Protection class	24	IP

Specification	Value	Unit
Length of power cord	16.4 ft. (5 M9	ft. (m)

5.6 Emissions

NOTICE

A full explanation of the fulfillment of EMC guidelines is located in the appendix (“Details on electromagnetic compatibility (EMC)”)

5.7 Classification

UL Classification to 60601-1

Specification	Value
Safety class	I
Application part type	B
Operating mode Cycle time	10on/20off

5.8 Load capacity

Lift and movement

Specification	Value
Normal orientation (all movements)	1000 lb. (454 kg)
Reverse orientation (all movements)	500 lb- (227 kg)
Lift only Capacity (only valid for D 850/D 860)	1250 lb. (567 kg)

5.9 Operating conditions

Environment

Specification	Value
Temperature range	50-100.4°F (10-38°C)
Relative humidity, maximum	10-95%
Barometric pressure	700-1060 hPa

Transport and storage

Specification	Value
Temperature range	14-122°F (-10-50°C)
Relative humidity, maximum	0-85%
Barometric pressure	500-1060 hPa

Duration

Specification	Value
Maximum duration of operation at one time	10 minutes
Pause until next movement	20 minutes

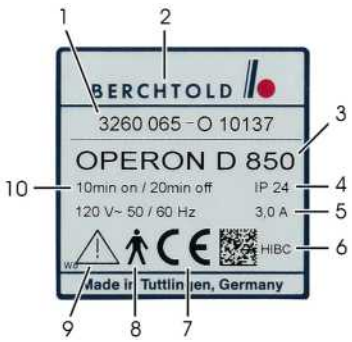
5.10 Operating fluids

Operating fluid	Type	Fill quantity	Unit
Hydraulic fluid	Data on hydraulic fluid can be requested by contacting BERCH-TOLD Technical Service at 800-243-5135, Option 2.	4	l

5.11 Product Label

The product label is located at the head end above the holder for the auxiliary hand pendant and contains the following information:

NOTICE! Example depicted; the end user configuration and type may differ depending on the model ordered.



1.	Serial number
2.	Manufacturer
3.	Model
4.	Safety class
5.	Current consumption
6.	Health Industry Bar Code
7.	CE mark
8.	Note on operating manual
9.	Note on operating manual
10	Read manual
11	Voltage

Technical Data

12	Operating duration

6 Safety

This section provides an overview of all important safety information for optimal protection of personnel and safe, trouble-free operation.

Non-compliance with the operating and safety instructions in this manual can result in considerable danger and may result in serious injury to operator and/or patient.

6.1 Intended use

The OPERON® OR table is used exclusively for positioning and bearing the patient. The OR table may be used only in rooms used for medical purposes.

Intended use also includes compliance with all instructions provided in this operating manual. Any use for purposes beyond or other than those intended is considered misuse.

The OPERON® OR table is used for bearing and positioning patients for surgical treatment before, during, and after the surgical phase. The design of the tabletop of the OR table makes it suitable for all surgical disciplines.

The OPERON® OR table may not be used:

- For patients weighing more than 1250 lbs. (568 kg) for D 850/ D 860 models and 1000 lbs. (454 kg.) for D 820/D 830 and D 760/ D 770 models, with accessories not approved by BERCHTOLD.
- In rooms with an MRI scanner.

WARNING

Danger if used incorrectly!

- ✓ Misuse of the OPERON® OR table can lead to dangerous situations.

1. Never use the unit without pads.
2. Never use the unit as a storage surface for objects.
3. Never use the unit with too much weight; load specifications and centers of gravity are listed in the technical data and must be complied with.
4. Never use the unit in areas where there is a risk of explosion.
5. Never use the unit to transport a patient.
6. Never stand on the unit.
7. Never use as lifting device for equipment.

6.2 Fundamental dangers

The following section describes residual risks that can arise even from proper use of the product. To reduce risk of injuries and material damage and prevent dangerous situations, observe the safety instructions provided here and those in other sections of this operating manual.

6.3 General risks at the workplace

Risk of infection

WARNING

Risk of infection due to insufficient hygiene, disinfection and sterilization!

1. Clean and disinfect the unit before each use.
2. Comply with all locally applicable requirements for infection control.

Fluid accumulation

CAUTION

Risk of injury from slipping in accumulated fluids!

✓ Slipping on fluid accumulations on the floor can cause falls. Falling can result in injury.

1. Clean up accumulated fluids immediately using the appropriate aids.
2. Wear non-slip safety shoes.
3. Post warning and mandatory signs at or near areas where fluids may accumulate on the floor.

6.4 Danger due to mechanical parts

Risk of crushing or pinching

WARNING

Risk of injury from crushing or pinching at pinch points!

✓ When moving the OR table, the operator can sustain a pinching or crushing injury at a pinch point.

1. Point out pinch points to OR personnel and instruct them accordingly.
2. Ensure there is enough distance between persons and pinch points when the table is being moved.
3. Do not reach into or handle moving parts during use.

6.5 Note on X-ray exposure

NOTICE

Damage to the upper or lower side of section surfaces from nicks and scratches (deeper than

127 micrometers) can be visible on X-ray. Damaged or

scratched base plates need to be replaced if X-ray quality is compromised.

6.6 Responsibility of the Device Owner

Device Owner

The Device Owner is the person who operates the device for commercial or business purposes himself or entrusts operation/use to a third party, and who bears the legal product responsibility to protect the user, personnel, or third parties during operation of the unit.

Responsibilities of the Device Owner

The device is used in the medical field. The device owner has certain legal obligations, including with respect to occupational and patient safety.

NOTICE

1. The device owner is also obligated to know and comply with all relevant, locally applicable laws and related standards and guidelines at the time the device is in use.

Risk assessment

- The device owner must obtain information on the applicable accident-prevention and hygiene regulations and also conduct a risk assessment to identify hazards that arise from the particular working conditions at the place where the device is used. Such risks must be presented in the form of operating instructions.
- Throughout the period the device is used, the device owner must check whether the operating instructions created correspond to the latest edition of the standard regulations and make adjustments as required.

Responsibilities of personnel

- The device owner must clearly regulate and establish the responsibilities for installation, operation, troubleshooting, maintenance, and cleaning.
- The device owner must ensure that all employees working with the device have read and understood this operating manual. Furthermore, the operator must periodically train personnel and review the dangers.
- The device owner must ensure that the maintenance intervals and safety inspections specified in this operating manual are observed.
- The device owner must ensure that only accessories exclusively approved and released by BERCHTOLD are used in conjunction with the device.

Safety inspections

- The device owner must have periodic safety inspections performed.
- Safety inspections may be performed only by BERCHTOLD employees or authorized, knowledgeable professionals who have obtained written permission from BERCHTOLD.
- If defects are found that pose a risk to patients, employees or third parties, the device owner must immediately notify the responsible authorities.
- The protocol prepared by the authorized, knowledgeable professional concerning the employed measurement procedures and results and other evaluations must be retained until the next inspection.

NOTICE

No liability for non-compliance with time intervals!

1. The manufacturer assumes no liability for material damage or personal injury if safety inspections are not ordered and carried out by the due date.

Accident and damage reports

- Functional failures and problems with the device that have resulted in personal injury must be immediately reported to the responsible authorities and the manufacturer.
- The safety evaluation must include the following information:
- What was the cause of the event?
- Was the device in proper condition?
- Was the risk eliminated after the defect was corrected?
- Was new knowledge obtained that requires other or additional precautions be taken?

Maintenance Record

- The device owner should maintain a maintenance record with the following information:
- Designation and specifications that identify the device
- Testing, PMs and corrective maintenance actions from initial startup throughout the life of the device.

6.7 Personnel requirements

6.7.1 Qualifications

The various tasks described in this manual require the persons performing them to have the necessary qualifications.

WARNING

Risk of injury due to inadequately trained persons!

Inadequately qualified persons are unable to assess the risks associated with handling the device and expose themselves and others to the danger of serious and fatal injury.

1. All activities are to be carried out only by qualified persons.
2. Keep inadequately qualified persons out of the work area.

The following section of this manual lists the qualifications needed by personnel to perform the various tasks:

BERCHTOLD/authorized company

Certain tasks may be performed only by BERCHTOLD technicians or personnel authorized by BERCHTOLD. Other personnel are not permitted to perform these tasks. Contact our customer service to perform tasks needed.

Engineer or Biomedical Engineer

A facilities Engineer or Biomedical Engineer on the basis of his or her training, skills, and experience and well as knowledge of relevant standards and regulations, is able to work on electrical systems and can independently detect and avoid possible dangers.

A facilities Engineer or Biomedical Engineer is trained specifically for the work environment in which they are deployed and are aware of the relevant standards and provisions.

Manufacturer

Certain tasks may be carried out only by the manufacturer's technicians. Other personnel are not permitted to perform these tasks. Contact BERCHTOLD Technical Service at Tel 800-243-5135, Option 2.

Medical specialists

Medical specialists are trained to work in the medical field. Medical specialists know the content of all valid regulations, guidelines and standards applicable for safe use of the device and are able to implement them accordingly.

Furthermore, medical specialists are able to safely perform their assigned tasks by virtue of training based on this manual as well as their medical education and experience, and to independently identify, evaluate and avoid possible risks.

Medical specialists have the required technical knowledge for properly using the device in the given area of application and comply especially conscientiously with all hygiene regulations for rooms used for medical purposes and for the use of medical devices.

6.7.2 Unauthorized persons

WARNING

Risk of death to unauthorized persons from hazards in danger and work zones!

- ✓ Unauthorized persons who do not meet the requirements cited herein do not recognize the dangers in the work area. Unauthorized persons are therefore exposed to serious injury and even death.

1. Keep unauthorized persons out of danger and work zones.
2. In case of doubt, always speak to persons and guide them out of the danger and work zone.
3. Suspend all work as long as unauthorized persons are in the danger and work zone.

6.7.3 Instruction

The device owner must provide instruction to the operator/user on a regular basis. For better tracking, an instruction protocol with a minimum of the following information must be maintained.

- Date of instruction
- Name of person instructed
- Topics covered
- Name of instructor
- Signatures of person instructed and instructor

6.7.4 Personal protective equipment

Personal protective equipment protects persons from

unsafe situations and safeguards their health at the workplace.

When performing various tasks at or with the device, personnel must wear the personal protective equipment specified in each of the individual sections of this operating manual or as specified by local policies and procedures.

- Individuals must put on the required personal protective equipment specified in the various sections of this manual prior to beginning any work.
- Follow the information on the personal protection equipment posted in the work area.

Description of personal protective equipment

Protective clothing

Protective clothing is close-fitting work clothing with low tear resistance, narrow sleeves, and no protruding parts. It is used primarily for protection against getting caught in moving machine parts. Do not wear rings, necklaces or other jewelry.

Protective gloves

Protective gloves are worn to protect against friction, abrasion, punctures and deeper injuries as well as hot surfaces.

Safety shoes

Safety boots protect feet from crushing, falling objects and slipping.

6.7.5 Environmental protection

NOTICE

Danger to the environment due to incorrect handling of environmentally hazardous substances!

- ✓ Incorrect handling of environmentally hazardous substances, especially incorrect disposal, can result in significant damage to the environment.

1. Always follow the instructions provided below for handling environmentally hazardous substances.
2. Take appropriate measures immediately should hazardous substances accidentally be released into the environment. In case of doubt, notify the responsible local authorities regarding the damage and ask for measures to be taken.

The following environmentally hazardous substances are used:

Hydraulic fluid

Hydraulic fluid should not be released into the environment. Hydraulic fluid causes long-term harm to bodies of water. Disposal must be handled by disposal specialists according to local regulations.

Lead batteries

Lead batteries contain toxic heavy metals., They require special handling and must be taken to municipal collection sites or disposed of by a professional disposal company according to local regulations.

Cleaning fluids

Cleaning agents that contain solvents contain toxic substances. They should not be released into the environment. Disposal must be handled by disposal specialists according to local regulations.

6.7.6 Signage and labels

The following symbols and signs are found in the work area. They apply to the immediate work area in which they are posted.

WARNING

Danger due to illegible signage!

Over time labels may become soiled or illegible, obscuring hazard warnings and preventing required instructions from being followed. Risk of injury may result if labels cannot be read.

1. Always keep all safety, warning, and instruction signs in legible condition.
2. Immediately replace damaged signs and labels.

6.7.7 Warnings on the device

TIPPING PATIENT SAFEGUARDS

This warning is located to the right of the main switch at the head end of the OR table.

DO NOT STORE OBJECTS

- This warning is located on the top of the base cover in two places, one at the head end and one at the leg end of the OR table.

NOTICE

The OR table cannot detect objects placed on the base cover. Placing objects/accessories on the OR table base can cause damage to the table and/or accessories if the table surface is lowered or a collision occurs.

6.7.8 Spare parts

WARNING

Risk of injury if incorrect spare parts are used!

✓ Using incorrect or faulty spare parts poses a danger to personnel and patients and can cause damage, malfunctions, or total failure.

1. Use only original spare parts from the manufacturer or spare parts approved by the manufacturer.
2. Contact the manufacturer with any doubts or concerns.

NOTICE

1. Failure to comply voids warranty if damage occurs
2. .Use of non-approved spare parts voids warranty.

Obtain spare parts through authorized dealers or directly from the manufacturer.

6.7.9 Securing device during maintenance

WARNING

Risk of death through unauthorized or accidental power-up!

✓ Unauthorized or accidental power-up of the device can cause serious injury and even death during maintenance.

1. Before turning the device back on, make sure that all covers are installed and functional and that there are no hazards present.
2. Always follow the procedure described below to secure the device against accidental switch-on.

1. Disconnect the power cord and turn the device off at the main switch.
2. Notify responsible parties about work on the device

3. Post a sign on the OR table concerning the work being done and prohibit turning it on. The sign must display the following information:
   - Turned off on:
   - Turned off at:
   - Turned off by:
   - Note: Do not turn on!
   - Note: Turn on only after it is certain that there is no longer a hazard.

7 Transport, packaging and storage

7.1 Transport safety instructions

Improper transport

NOTICE

Material damage due to improper transport!

✓ Improper transport can result in components falling or over balancing. The damage can be expensive.

1. Exercise due care when unloading shipping containers upon delivery and during internal transfer. Be sure to comply with the symbols and instructions on the packaging.
2. Use designated attachment points only.
3. Packaging should not be removed until just prior to assembly.

7.2 Transport inspection

Check the delivery immediately for completeness and any damage during transport.

For obvious transport damage, do the following:

- Do not accept the delivery, or accept it only conditionally.
- Note the extent of the damage on the shipping documents or on the transporter's delivery note.
- File a complaint by calling BERCHTOLD Technical Services at 800-243-5135, Option 2.

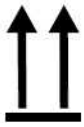
NOTICE

Report every defect as soon as it is discovered. Claims for damages may be submitted only within the applicable claim period.

7.3 Symbols on the packaging

The following symbols are located on the packaging. Always heed symbols during transport.

Up



The tips of the arrows indicate the top of the package. They must always point up or contents could be damaged.

Protect from wetness.

Keep packages dry and protect from wetness.

Fragile

Identifies packages with fragile or sensitive contents.

Handle the package with care, do not drop it, and keep it from being bumped.

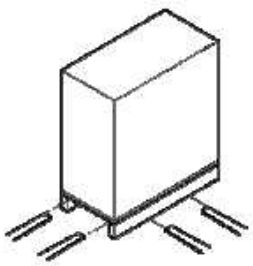
7.4 Transport

Transporting pallets with a forklift truck

Shipping items attached to pallets can be transported with a forklift under the following conditions:

- The construction of the forklift truck must be appropriate for the weight of the units under transport,
- The item must be firmly secured to the pallet.

Transport



1. Drive the forklift truck forward, positioning the forks between or beneath the pallet rails.
2. Drive forward until the forks protrude from the opposite side.
3. If the center of gravity is off-center, make sure the pallet cannot over balance, by applying restraint straps.
4. Lift the pallet with the item and begin transport.

7.5 Storage

Storing packages

Observe the following conditions during storage:

- Do not store outdoors.
- Keep dry and free of dust.
- Protect from sunlight.
- Avoid mechanical vibrations.
- Store at -14 to 122°F (-10 to 50 °C).
- Relative humidity: max. 85%
- Barometric pressure: 400 hPa to 1060 hPa
- When storing for 3 months or longer, periodically check the general condition of all components and the packaging. Refresh or renew anti-corrosion protection if applicable.

NOTICE

Certain boxes may be labeled with storage instructions that are more extensive than the requirements cited here. Follow them accordingly.

8 Maintenance

8.1 Safety instructions for maintenance

Improperly performed maintenance tasks

WARNING

Risk of injury due to improperly performed maintenance!

- ✓ Improper maintenance can cause severe injury or damage.

1. Before beginning installation, ensure there is adequate space.
2. Keep the installation site clean and organized. Components and tools lying around loose or atop one another are accidents waiting to happen.
3. If components are removed, ensure that they are reinstalled correctly. Reinstall all fasteners correctly and apply correct tightening torques.
4. Observe the following prior to re-start:
5. Ensure that all maintenance work has been performed and completed in accordance with the specifications and instructions in this operating manual.
6. Ensure that no one is in the hazard zone.
7. Ensure that all covers and safety equipment are installed and working properly.

8.2 Maintenance schedule

The following sections describe the maintenance work required for optimal and trouble-free operation of the device.

If regular inspections reveal increased wear, shorten maintenance intervals according to the actual wear and tear. Contact the manufacturer with any questions about maintenance work or intervals; see contact information on page 2.

Maintenance

NOTICE

Maintenance tasks are explained in the separate service manual. On request, BERCHTOLD provides circuit diagrams, parts lists, descriptions, and other information needed for repairing the OR table.

Interval	Maintenance task
Every 6 months	Check operation of hydraulic system
Annually	General maintenance
After each use	Clean the OR table (see "Cleaning the OR table")
	Charge batteries (see "Charging the batteries")

Maintenance item	Maintenance interval
Check:	
Electrical safety (visual)	Monthly
Operation of hydraulic system	Every 6 months
Ground continuity/leakage current	Every 6 months
Flexible hydraulic lines	Annually
Condition of hydraulic fluid	Annually or if a leak is suspected or if hydraulic components were replaced.
Fasteners and restraining clamps	Annually
Clamps and accessories	Monthly (accessories can be changed often)
Screws on the longitudinal slide drive belt	Annually
Structural integrity of the table	Annually
Spare part:	
Batteries	Every 3 years or if the charge/discharge cycle drops below 5 – 8 hours.

8.3 Measures after completed maintenance

After maintenance tasks are complete and before turning the device back on, complete the following steps:

1. Check any loosened screw connections to be sure they are secure.
2. Ensure that any safety equipment or covers that were removed have been reinstalled properly.
3. Ensure that all tools, materials, and other equipment used have been removed from the work area.
4. Clean up the work area, including any materials that leaked out or dropped, e.g., fluids, processing materials, and the like.
5. Make sure all the safety equipment on the device is functioning properly.

9 Malfunctions

The following section describes possible causes for malfunctions and how to correct them. If malfunctions occur more and more frequently, shorten the maintenance intervals according to the actual use of the equipment. For malfunctions that cannot be rectified by the following instructions, contact the manufacturer; see page 2 for contact information.

9.1 Malfunction indicators

NOTICE

Malfunctions are reported via various indicator lights on the hand pendant and the charge indicator light next to the main switch.

9.2 Table of malfunctions

Problem description	Cause	Remedy
Charge indicator light does not illuminate even though supply voltage is present at the wall	Defective supply voltage fuse or short/break in electrical cord	Replace fuse or replace cord; Contact BERCHTOLD Technical Services at 800-243-5135, Option 2.
The hand pendant will not turn on	The OR table is off, or the hand pendant is not connected properly.	Turn on the OR table
Hand pendant does not work, even through it is plugged in properly and the OR table is switched "ON"	Hand pendant is defective	Use auxiliary hand pen-dant (see “Using the auxiliary hand pendant”), if needed, supply hydraulic power using the foot pump (see “Operating the foot pump”), and Contact BERCHTOLD Technical Services at 800-243-5135, Option 2

Problem description	Cause	Remedy
Head rest or back or leg section cannot be removed	The lock on the section frame is stuck	Using the same amount of force on both sides, carefully try to release the particular section, and if needed, Con-tact BERCHTOLD Techni-cal Services at 800-243-5135, Option 2
SERVICE light is lit	Problems with OR table functions	Contact manufacturer/medical technician
Hand pendant works, hydraulics do not respond	Motor is overheated	Wait 15 minutes or select the function using the Auxiliary hand pendant and use the foot pump to provide hydraulic power. Contact BERCHTOLD Technical Services at 800-243-5135, Option 2.
	Pump or controller problem	Contact BERCHTOLD/authorized company
Pump motor works but modules do not move	Controller malfunction	Contact BERCHTOLD/authorized company
Emergency hand pendant does not work	Emergency hand pendant defective or problem on auxiliary switch	Contact BERCHTOLD/authorized company

9.3 Troubleshooting tasks

Operating the foot pump

NOTICE

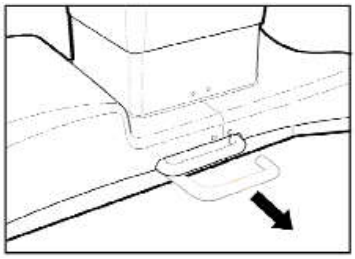
The foot pump may be used only after the current surgery is complete.

Malfunctions

Activating the foot pump

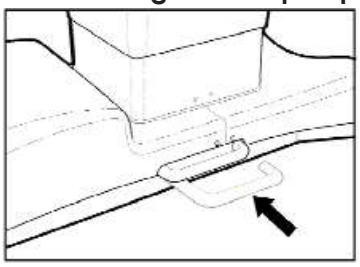
NOTICE

The foot pump pedal is located on the left side of the patient (with table in normal orientation) near the head end of the base. Using the foot pump pedal deactivates the hand pendant and activates the auxiliary hand pendant.



1. Keeping it straight, pull out the foot pump pedal to the first end stop.
2. Turn pedal counterclockwise.
3. Pull out the foot pump pedal to the second end stop.
   - Foot pump is now activated and the main hand pendant id de-activated.

Deactivating the foot pump

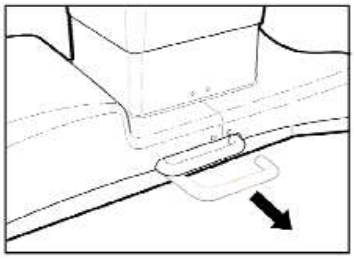


1. Push the pedal back into the table until the end reaches the base cover.
2. Push the pedal further into the table until it snaps into position.
   - The foot pump is deactivated and the hand pendant is activated.

Emergency release

NOTICE

In the unlikely event that the hand pendant and the emergency hand pendant are deactivated, there is an emergency switch that will release the table and allow it to move. It is connected directly to the batteries. The batteries must still have enough voltage to open the magnetic valves. The emergency switch is located in the base near where the foot pump pedal is stored.



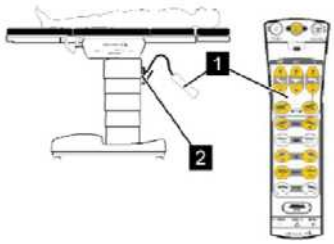
1. Keeping it straight, pull out the foot pump pedal to the first end stop.
2. Turn pedal counterclockwise.
3. Pull out the foot pump pedal to the second end stop.

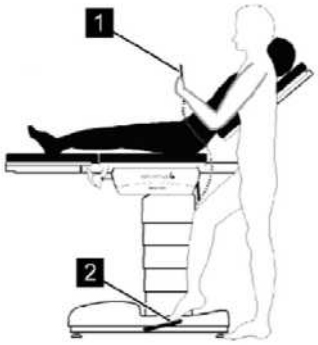
Fig. 4: Emergency release

4. Stick your finger into the opening where the pedal is stored and press the emergency release button.
   - The power supply on the magnetic valve is activated, which releases the OR table and allows it to be moved as long as the button remains pressed.

9.4 Using the Auxiliary hand pendant

9.4.1 Auxiliary hand pendant D 850





The following prerequisites must be met:

- The foot pump is activated (see section 9.3).
- The Auxiliary hand pendant is activated, the AUX PENDANT indicator light on the hand pendant is yellow.

1. Take the Auxiliary hand pendant from its storage box (head end) (2).
2. To tilt the table, press and hold the desired function key on the emergency hand pendant (1).
3. Simultaneously operate the foot pump pedal (2) with your foot.
   ⇨ The OR table performs the desired function.
4. Switch off the Auxiliary hand pendant.
   ⇨ The AUX PENDANT light on the Auxiliary hand pendant goes out.
5. Return the Auxiliary hand pendant to its storage box (2) after use.

NOTICE

The following functions will not work with the Auxiliary Hand Pendent: Slide, Level, Chair and Flex.

9.4.2 Auxiliary hand pendant D 820, D 760

Fig. 5:

The following prerequisites must be met:

- The foot pump is activated
- The Auxiliary hand pendant is activated.

1. To tilt the table, press the desired function key on the Auxiliary hand pendant (1).
2. Operate the foot pump pedal with your foot.
   – The OR table performs the desired function.
3. Switch off the Auxiliary hand pendant / return foot pump to its starting position.

The column-mounted Auxiliary hand pendant D 820, D 760 is identical to the Auxiliary hand pendant D 850 (section 9.4.1). However, it is permanently attached to the column and does not have any indicator lights.

NOTICE

The following functions will not work with the Auxiliary Hand Pendant: Slide, Level, Chair and Flex.

10 Disassembly and disposal

Once the device has reached the end of its service life, it must be disassembled and disposed of in accordance with environmental regulations and with local law/policy.

10.1 Safety instructions for disassembly and disposal

Improper disassembly

WARNING

Risk of injury due to improper disassembly!

- ✓ Parts still under load, sharp components, points and corners on or in the device or on required tools can cause injury.

1. Before beginning any work, make sure there is adequate space.
2. Use caution when handling open, sharp-edged components.
3. Keep the work site clean and organized. Components and tools lying around loose or atop one another are accidents waiting to happen.
4. Disassemble components properly. Components are heavy -- be careful. Use hoists if necessary.
5. Secure components from falling or over balancing.
6. Always contact the manufacturer with any doubts or concerns.

10.2 Disassembly

Before you begin disassembly:

- Switch off the device and secure it against switching back on.
- Physically separate the entire power supply of the device, discharge stored residual power.
- Remove operating and auxiliary materials and leftover processing materials and dispose of them in an environmentally responsible way to comply with local laws.

Professionally clean all sections and components and dismantle them in accordance with local occupational safety and environmental regulations.

10.3 Disposal

In the event there is no return or disposal agreement, recycle disassembled parts:

- Scrap metals.
- Recycle plastic elements.
- Sort the other components based on their material properties.
- Pads can be disposed of in regular trash.
- BERCHTOLD takes back products that are used or no longer used. For more information, please contact your BERCHTOLD representative.
- Batteries can be disposed of with local disposal authorities.

National regulations for disposal and handling of waste electronic and electrical equipment must be observed.

Environment

- The packaging is made of environmentally sound materials.

NOTICE

Danger to the environment due to improper disposal!

✓ Improper disposal poses dangers to the environment.

1. Lead batteries contain toxic substances and are subject to special waste handling. Remove lead batteries after use and dispose of them as hazardous waste.
2. Electronic scrap, electronic components, lubricants and other auxiliary materials must be disposed of by a professional disposal company.
3. If you have any questions or concerns regarding environmentally sound disposal, contact your local municipal authorities or specialized disposal companies.

11 Appendix

11.1 Information on electromagnetic compatibility (EMC)

Electrical medical devices such as this are subject to special EMC precautions and must be installed and put into operation in accordance with the instructions in the operating manual.

OPERON ® surgical tables are intended for operation in the electromagnetic environments specified below. The operator of the OR tables must ensure that they are used only in such environments.

WARNING

Eleoctromagnetic Interference

1. When using the table in the vicinity of high-frequency surgical equipment, such as cardiac defibrillators and various types of monitors, refer to the equipment manufacturers' instructions to ensure compatibility issues are considered.
2. When using the table in the vicinity of neurodiagnostic monitoring equipment, interference may appear on the monitoring device. To eliminate this, if interference is present set the BACKLIGHT TIMER to 1 sec using the service software.

11.2 Guidelines and manufacturer's declaration – Electromagnetic emissions

Measurement of emissions	Compliance	Electromagnetic environment guidelines
RF emissions per CISPR11	Class B	OPERON ® surgical tables are intended for use in all facilities, including residential areas and those that are directly connected
Harmonic emissions per IEC 61000-3-2	Class A	

Measurement of emissions	Compliance	Electromagnetic environment guidelines
Voltage fluctuations	Fulfilled	to a public power grid that also supplies buildings used for residential purposes.

11.3 Guidelines and manufacturer's declaration – Electromagnetic interference immunity

Interference immunity checks	IEC 60601 test/compliance level	Electromagnetic environment – guidelines
Electrostatic discharge (ESD) per IEC 61000-4-2	± 4kV Contact discharge	Synthetic floors should be antistatic and the relative humidity at least 30%.
	±8kV Air discharge	
Electrical fast transient bursts per IEC 61000-4-4	±2 kV For power grids	The supply voltage quality should correspond to that of a typical commercial or hospital environment.
Surges per IEC 61000-4-5	± 2 kV Countervoltage	The supply voltage quality should correspond to that of a typical commercial or hospital environment.
	± 1 kV Asymmetrical voltage	
Voltage drops, short interruptions and fluctuations in the power supply voltage per IEC 61000-4-11 (V_T AC line power voltage prior to use of test level)	>5% VT t=10 ms (> 95% dip)	The supply voltage quality should correspond to that of a typical commercial or hospital environment. To ensure uninterrupted operation of the OPERON® OR tables, they must also be connected to an emergency power supply in accordance with DIN VDE 0100–710.
	40% VT t=100 ms (60% dip)	
	70% VT t=500 ms (30% dip)	

Appendix

Interference immunity checks	IEC 60601 test/compliance level	Electromagnetic environment – guidelines
	>5% VT t=5000 ms (> 95% dip)	

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For over 90 years, BERCHTOLD has been a world leader in the design and manufacture of quality medical equipment. With our focus on improving patient outcomes, we deliver best in class products, experienced planning and project management and service with a personal touch. We measure our success by the quality of our customer and employee relationships.

Our products and services ...

- CHROMOPHARE® surgical and examination lights
- ChromoVision® video and camera systems
- ChromoView® monitor arms
- TELETOM® equipment management systems
- OPERON® surgical tables including a full range of accessories
- SUPERSUITE® custom surgical environments
- ByDesign™ surgical room design software
- Design, consulting, project management and customer support
- Factory trained service and installation support
- IntegraMount™ construction mounting solution

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