

### Service manual



Registered at Medical Products Agency, Sweden, as a MD Class 1 product, MDD 93/42EEC.

TR reserves the right to make design changes and/or improvements without notice.



Always study this manual carefully before operating the Shower Trolley.

Operating instructions and recommended maintenance procedures are explained in the following pages.

If you have any questions regarding the operation or maintenance of your Shower Trolley and cannot find the answer in this manual, please contact us.

#### Only qualified staff who are trained and certified and who can understand all operating and safety procedures may operate and service this equipment.

The Trolley is designed for years of trouble free operation, with proper use and maintenance.

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Spare parts list - TR 3200







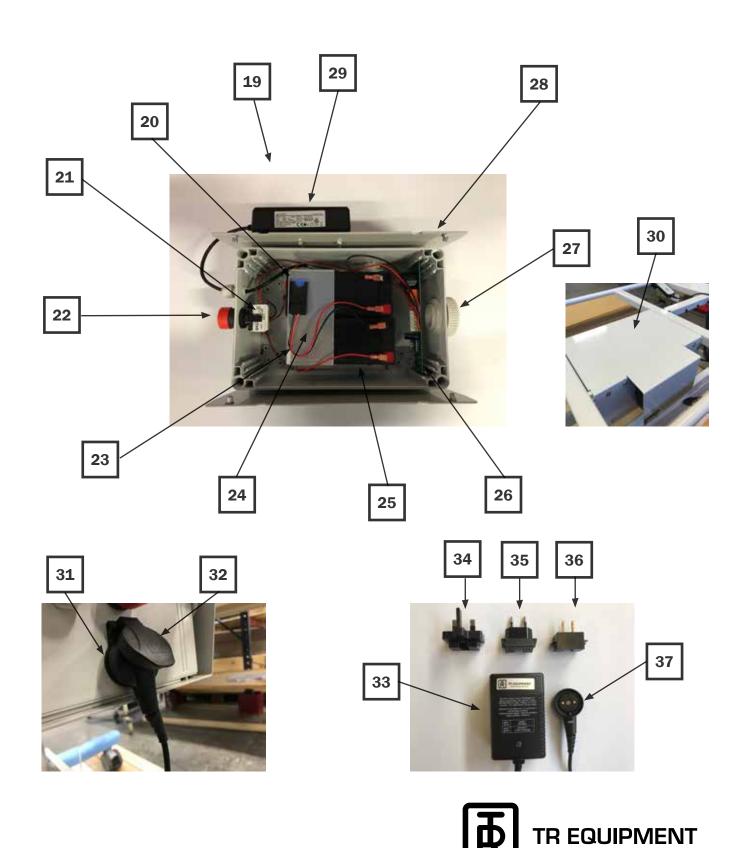
Spare parts TR 3200 / TR 3200-L, onboard batteries





Hygiene Equipment Designed for People

Spare parts TR 3200 / TR 3200-L, onboard batteries





# Spare parts TR 3200 / TR 3200-L, onboard batteries

#### When ordering spare parts please specify model and serial number, see label on the shower trolley.

Position	Art No	Description
1	7333480-04	Mattress Blue 1950x640mm
1	7333500	Mattress Blue model -L 2150x740mm
2	7419488-04	Pillow Blue (standard)
2	7418363-02	Wedge pillow 15°Blue (option)
3	829392	Drainage
4	829391	Drainplug
5	820818-4224	Drainage hose 1m
5	820818-4224-25	Drainage hose 2,5m (option)
6	851020	Plastic holder for drainage hose
7	3233208	Stretcher (exkl. side rails)
7	3233479	Stretcher model -L (exkl. side rails)
8	850721	End plug
9	3133190-08	Side rail L=1918mm
9	3133190-07	Side rail <b>model -L</b> L=2118mm
10	7333217	PVC plate 1935mm
10	7333474	PVC plate 1 for model -L 1262*780mm
10	7333474-02	PVC plate 2 for model -L 872*780mm
11	851895-02	Lifting column
12	3233204	Chassi
13	851899	Hand control
14	851760	Castor with brake, with Grey lever
15	851761	Castor with straight steering, with Black lever
16	850284	End Plug
17	3433357-02	Castor plate for castor with brake
18	3433357	Castor plate for castor with Straight steering
19	200115	Plastic enclosure incl. internal parts (exkl. control box & metal plate)
20	0530006	Fuse 15A
21	819312	Contact block
22	819310	Emergeny stop
23	7429679	Cabling incl. fuse holder
24	3330022	Battery mounting plate
25	819030	12V Battery, 2pcs required
26	819354	Circuit board
27	819171	Ventilation plug





## Spare parts TR 3200 / TR 3200-L, onboard batteries

When ordering spare parts please specify model and serial number, see label on the shower trolley.

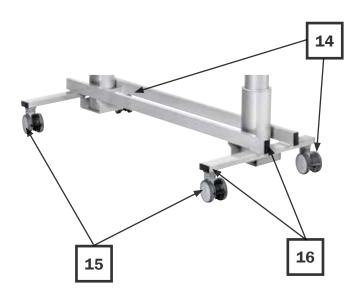
Position	Art No	Description
28	3430021	Mounting plate
29	851897-02	Control box 851897-02
30	3333563	Metal Lid
31	819148	Charger inlet connection
32	819150	Charger inlet cover
33	0541226	Battery charger 110-240V (Incl. pos 37, charger connector)
34	819140	EU Plug for battery charger
35	819142	UK Plug for battery charger
36	819141	US Plug for battery charger
37	819149	Charger connector

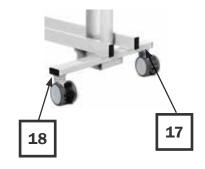




Spare parts TR 3200-R / TR 3200-LR, removable batteries



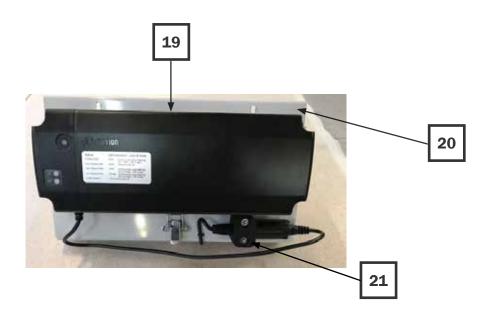




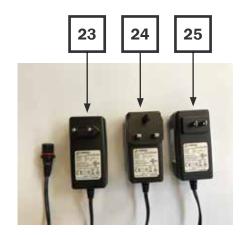




Spare parts TR 3200-R / TR 3200-LR, removable batteries













## Spare parts TR 3200-R / TR 3200-LR, removable batteries

#### When ordering spare parts please specify model and serial number, see label on the shower trolley.

Position	Art No	Description
1	7333480-04	Mattress Blue 1950x640mm
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6	851020	Plastic holder for drainage hose
7	3233208	Stretcher (exkl. side rails)
7	3233479	Stretcher model -L (exkl. side rails)
8	850721	End plug stretcher
9	3133190-08	Side rail 1918mm
9	3133190-07	Side rail <b>model -L</b> 2118mm
10	7333217	PVC plate 1935x680mm
10	7333474	PVC plate 1 for model -L 1262*780mm
10	7333474-02	PVC plate 2 for model -L 872*780mm
11	851895-02	Lifting column
12	3233204	Chassi
13	851899	Hand control
14	851760	Castor with brake, with Grey lever
15	851761	Castor with straight steering, with Black lever
16	850284	Chassi End Plug
17	3433357-02	Castor plate for castor with brake
18	3433357	Castor plate for castor with Straight steering
19	200110	12V Removable battery incl. bracket
20	3333256	Mounting plate
21	850244	Bearing bracket (2pcs required)
22	851897-02	Control box
23	0521197	EU Battery charger 110-240V
24	0521199	UK Battery charger 110-240V
25	0521198	US - Japan Battery charger 110-240V
26	3232622	External wall bracket





How to replace the castors with brake

#### Important:

Before replacing castor/castors on the shower trolley, remove mattress and plastic plate. Carefully, lay the shower trolley down and make sure that chassis, stretcher and siderails are well protected from possible damages.



1. Remove the protective cap by turning it counter clockwise with a screwdriver.



4. Insert the bolt and washer through the castor body.



7. Assemble the cap by pressing it and turn it clockwise with a screwdriver.



2. Unscrew the bolt and remove the castor.



5. Place the castor plate between castor and chassis. Note the position of the angle on the plate.



3. If necessary, carefully clean the threads from Loctite with an M10 tap.



6. Fasten the bolt.

#### Note:

When replacing castors we recommend to also replace the bolt and washer. If the bolt is re-used, Loctite must be applied to the bolt.



Bolt M10, Part.no: 831051-0070D Washer M10, Part.no: 842011-0105







How to replace the castors with straight steering

### Important:

Before replacing castor/castors on the shower trolley, remove mattress and plastic plate. Carefully, lay the shower trolley down and make sure that chassis, stretcher and siderails are well protected from possible damages.



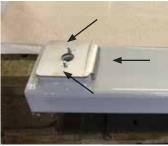
1. Remove the protective cap by turning it counter clockwise with a screwdriver.



2. Unscrew the bolt and remove the castor.



3. If necessary, carefully clean the threads from Loctite with an M10 tap.



4. Place the straight steering plate onto the chassis. Note the position of the angle on the plate and the pins.



5. Adjust the straight steering by pressing the black lever until it clicks into position.



6. Rotate the disc on the castor body until it clicks into position.



7. Insert the bolt and washer through the castor body.



8. The black lever on the straight steering castors shall point inwards (both left and right castor) when the castor is fastened. This will be the position when the straight steering mechanism engages in use.



9. Fasten the bolt.



10. Assemble the cap by pressing it and turn it clockwise with a screwdriver.



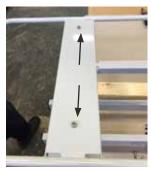




### How to replace the castors with brake

#### Important:

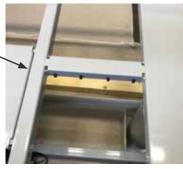
Before replacing lifting columns/columns, position and lock castor brakes and straight steering castors. Remove mattress and plastic plate.



1. Loosen the stretcher by unscrewing the four M10x12D bolts.



4. Remove the four M8x30 bolts attached to the lifting column and remove the bracket with the dampers.



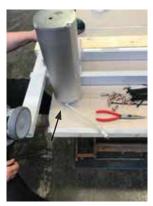
2. Cut the plastic stripes and loosen the cables connected to the actuator.



5. Turn the chassi around and remove the four M8x30D bolts that 's attached to the column from under neath.



3. Disconnect the actuator cable/cables and remove the stretcher.



6. Place the lifting column upside down. Note the position of the cables

#### Note:

When replacing lifting columns we recommend to also replace the bolts. If the bolts are re-used, Loctite must be applied to the bolts.



Bolt M10x12D (stretcher) Part.no: 833121-0012D



Bolt M8x30D (actuators) Part.no: 834680-8030D







How to replace the lifting columns

#### Important:

Before replacing lifting columns/columns, position and lock castor brakes and straight steering castors. Remove mattress and plastic plate.



7. Fasten the actuators from underneath with four bolts.



10. Fasten the stretcher with the four M10x12D bolts.



8. Turn the chassis around and fasten the columns with four M8x30 bolts ontop.



11. Connect the actuator cable with the cable from the controlbox.



9. Put the stretcher back onto the chassis.



12. Fasten the cables with plastic stripes again and the put plastic plate and mattress back on the stretcher.

When a lifting column has been replaced an initialization/calibration must be done. See table of contents for instructions.

#### Note:

When replacing lifting columns we recommend to also replace the bolts. If the bolts are re-used, Loctite must be applied to the bolts.



Bolt M10x12D (stretcher) Part.no: 833121-0012D



Bolt M8x30DL (actuators) Part.no: 834680-8030D

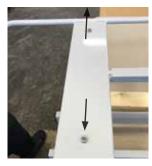




How to replace the stretcher

#### Important:

Before replacing stretcher, position and lock castor brakes and straight steering castors. Remove mattress and plastic plate.



1. Unscrew the four M10x12 bolts holding the stretcher.



4. Unscrew the lid for the battery box.



6. Put the new stretcher onto the shower trolley.



2. Cut off the plastic stripes to loosen the cables connected to the actuator.



5.Unscrew the plate holding the battery box.



7. Fasten the stretcher with the four M10x12 bolts.



3. Disconnect the actuator cables.





How to replace the stretcher

#### Important:

Before replacing stretcher, position and lock castor brakes and straight steering castors. Remove mattress and plastic plate.



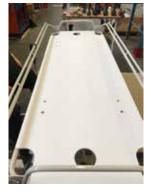
8. Fasten the plate and battery box with the four M5x12D screws.



11. Fasten the lid to the battery box With four M5x12D screws.



9. Connect the actuator cables.



12. Put the plastic plate and mattress back onto the shower trolley.

10. Fasten the cables with plastic stripes again and the put plastic plate and mattress back on the stretcher.

When a lifting column has been disconnected, an initialization/calibration must be done. See table of contents for instructions.

#### Note:

When replacing the stretcher we recommend to also replace bolt and screws. If the bolts and screws are re-used, Loctite must be ap-



Bolt M10x12D (stretcher) Part.no: 833121-0012D



plied to the bolts.

Screw M5x12D (Plate & Lid) Part.no: 834680-5012D



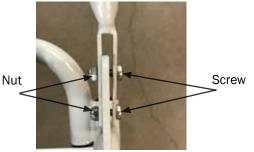


How to replace the side rails

#### Important:

Before replacing side rails, position and lock castor brakes and straight steering castors. Remove the mattress.

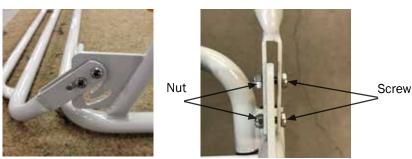




1. Unscrew the screws holding the side rails..



2. Put the side rail ends over the support plate on the stretcher.

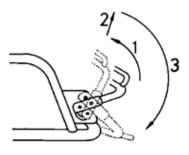


3. Insert screw and nut according to the picture.









Tighten the M6x20 screw and M6 locking nut 50% only. It must be possible to raise and lower the side rails.





How to replace the control box

### Important:

- Before replacing the control box:
- Position and lock castor brakes and straight steering castors.
- Remove mattress and plastic plate.

Press the emergency stop to cut the power. The emergency stop shall be activated until the new control box is installed.





1. Unscrew the four M5x12D screws to remove the metal lid on the stretcher.



2. Unscrew and remove the plastic lid on the battery box.



 Pull up the circuit board, loosen and remove leads 5 & 6.



4. Pull out the connector cover with your finger.



5. Disconnect the lifting column- and hand control cables and cut the cable ties.

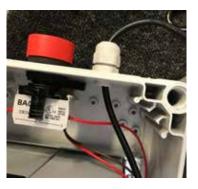




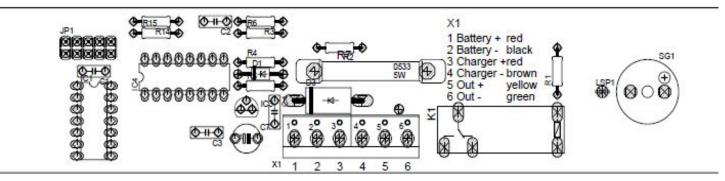
How to replace the control box



6. Press the lever behind the control box and push the control box to the right.



7. Pull out the cable from the enclosure.



8. Connect the control box according to the wiring diagram.



9. When the control box is connected to the circuit board, release the emergency stop by turning it clockwise.A "click" shall be heard from the control box.





How to replace the batteries

#### Important:

Before replacing the onboard batteries:

- Position and lock castor brakes and straight steering castors.
- Remove mattress and plastic plate.

- Press the Emergency stop button to cut the power to the circuit board. The button must be pressed until the batteries are replaced and plugged in.





1. Unscrew the four M5x12D screws to remove the metal lid on the stretcher.



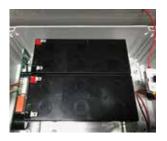
2. Unscrew the plastic lid on the battery box.



3. Disconnect + and - leads from the circuit board to the battery and also + and leads from the fuse holder.



4. Unscrew the bracket holding the batteries. Remove the bracket and batteries.



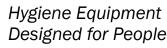
5. Insert the new batteries in the plastic enclosure.



6. Place the bracket on the batteries and fasten it.







TR 3200

Shower trolley

How to replace the batteries



7. Connect fuse + and cables and + and - cable from the circuit board. See wiring diagram on page 27



8. When the leads are reconnected, release the Emergency stop by turning it clockwise, a "click" shall be heard from the control box.



9. Put the plastic lid back onto the plastic enclosure. Fasten it by tightening the fours screws on the lid.



10. Put the metal lid back onto the stretcher and fasten it by tightening the four M5x12D screws.

When the batteries has been disconnected, an initialization/calibration must be done. See table of contents for instructions.





How to replace the circuit board

#### Important:

Before replacing the circuit board:

- Position and lock castor brakes and straight steering castors.
- Remove mattress and plastic plate.
- Press the Emergency stop button to cut the power to the circuit board. The button must be pressed until the circuit board is replaced and the leads are connected according to the wiring diagram on page ??.

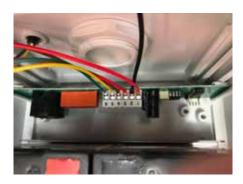




1. Unscrew the four M5x12D screws to remove the metal lid on the stretcher.



2. Unscrew and remove the plastic lid on the battery box.



3. Pull out the circuit board and disconnect the leads, port 1-6.



4. Connect the leads to the new circuit board.See wiring diagram on page 27



5. Insert the new circuit board into the battery box



6. Release the emergency stop by turning it clockwise, a "click" shall be heard from the control box.







How to replace the circuit board



7. Put the plastic lid back onto the plastic enclosure. Fasten it by tightening the four screws on the lid.



8. Put the metal lid back onto the stretcher and fasten it by tightening the four M5x12D screws





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### **Service instructions Onboard batteries**

How to replace the charging connector and cover



1. Unscrew and remove the metal lid on the stretcher by loosening the four M5x12D screws.



2. Unscrew and remove the plastic lid on the battery box by loosening the four screws on the plastic lid



3. Remove the fuse from the fuse holder to cut the power.



4. Remove the contact block from the emergency stop by squeezing the clip.



5. Remove the + and - lead from the charging connector.



6. Loosen the connector with a pliers by turning the fastening nut counter clockwise. Remove the connector and connector cover.





How to replace the charging connector and cover



7. Insert the new connector and cover into the battery box.



8. Fasten the connector by turning the fastening nut clockwise. Use a pliers for proper fastening.



9. Connect + and - leads from the circuit board. See page 27 for wiring diagram



10. Reconnect the contact block on the emergency stop by squeezing the clip.



13. Put the metal lid back onto the stretcher and fasten it by tightening the four M5x12D screws.



11. Insert the fuse into the fuse holder. A "click" shall be heard from the control box.



12. Put the plastic lid back onto the plastic enclosure. Fasten it by tightening the fout screws on the lid.





### Hygiene Equipment Designed for People

## **Service instructions Onboard batteries**

How to replace the fuse and fuse cabling

#### Important:

- Before replacing the fuse cabling:
- Position and lock castor brakes and straight steering castors.
- Remove mattress and plastic plate.
- Press the Emergency stop button to cut the power to the circuit board. The button must be pressed until the fuse cabling is mounted.





1. Unscrew and remove the metal lid on the stretcher by loosening the four M5x12D screws.



4. To replace the fuse cabling, remove + and - lead from the batteries. Insert the new fuse cabling incl. the fuse by connecting + and - leads to the batteries.



2. Unscrew and remove the plastic lid on the battery box by loosening the four screws on the plastic lid



3. To replace only the fuse, pull out the fuse from the fuse holder and insert a new 15A fuse.



5. Release the emergency stop by turning it clockwise, a "click" shall be heard from the control box.





Wiring diagram

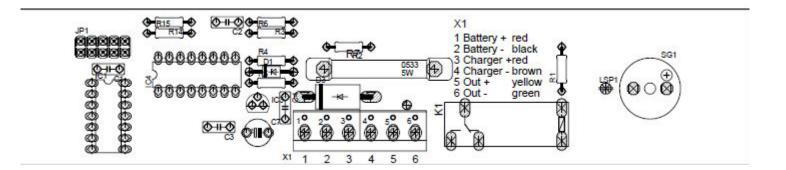




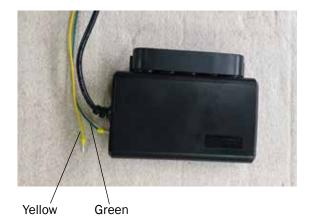
Charger MagCode connector

Red +

Brown -



Control box







How to replace the control box



1. Remove mattress and plastic plate.



2. Disconnect the battery from the control box connector.



3. Cut the cable ties holding the control box cable.



4. Unscrew the bracket holding the control box connector.



5. Loosen and remove handcontrol- and lifting column cables.



6. Press the lever and push the control box to the right.



7. Push the new control box to the left to fasten in it onto the plastic bracket. A click sound will be heard when its in position.



8. Fasten the control box connector in the bracket.



9. Fix the cables with cable ties and attach the handcontrol- and lifting column connectors.







How to replace the battery



1. Disconnect the battery from the control box connector.



2. Loosen and remove the battery.



3. Attach the new battery onto the bracket. Make sure the battery is properly attached.



4. Connect the battery to the control box connector.

Before replacing the battery make sure that the new battery has been charged for at least 24 hours.





How to replace the hand control



1. Remove mattress and plastic plate.



2. Cut the cable ties holding the hand contol cable.



3. Remove the bracket on the control box.



4. Attach the new hand control.



5. Fasten the bracket on the control box.



6. Fasten the hand control cabel with a cable tie.





Control box connection guide



- 1. Hand control
- 2. Lifting column
- 3. Lifting column





### **Service instructions**

### How to Initialize/calibrate the lifting columns

#### Initialization/Calibration of the columns

For functions on the columns to work correctly an initialization should be carried out the very first time the shower trolley is started up.

#### Initialization/Calibration:

- Use the hand control and press both the UP and DOWN button simultaneously. Keep pressing both buttons through the complete Initialization/calibration.
- After approximately 8 seconds the shower trolley will automatically start to lower the columns.
- Continue to hold the buttons until the shower trolley goes all the way down.
- Once the shower trolley has reached the bottom position the shower trolley is calibrated.







The recommended frequency of the maintenance routine procedures will depend on how often the equipment is used. It is good practice to establish these procedures and then adjust the frequency as your condition indicate.

TR Equipment recommends that a schedule is kept on file with signatures of the individual(s) conducting the inspections if questions should arise at a later date.

The shower trolley TR3200 should immediately be taken out of operation if defects or irregularities are noted. Prompt service is required.

#### Before every use:

- Visually inspection, make sure that the shower trolley is properly cleaned, dried and in good condition.
- Make sure that the batteries are charged and works properly.
- Make sure that it 's possible to raise, lower and tilt the stretcher with the hand control.
- Make sure that it 's possible to raise and lower the side rails.
- Make sure that brakes and straight steering on the castors works properly.

#### **Daily maintenance:**

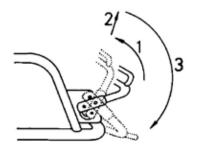
- Clean the shower trolley after every use according to the cleaning instructions on page 38
- If the lifting columns are exposed to faeces or other contaminants during operation, immediately clean the columns. **Dry the columns before raising, lowering or tilting the stretcher.**
- Charge the batteries on a daily basis or whenever the shower trolley is not in use. The batteries on the TR3200 cannot be over charged.

#### Note:

If the batteries on the TR3200 are not charged continuously they will eventually loose their ability to hold a charge.

#### Weekly maintenance:

- Repeat before every use and daily maintenance.
- Visually inspect the shower trolley interior to make sure that there are no nicks or cracks which may scratch the resident.







#### Monthly maintenance:

- Make sure that screws and fastenings are tightened. It is important that all screws and fastenings are checked and tightened if needed, including those not easily visible.
- Make sure that all castors are tightened. When replacing castors use only castors and fasteners supplied by TR Equipment.
- · Inspect the castors to ensure they are cleaned and make sure brakes and straight steering are fully functioning.
- Make sure that raise and lowering function works properly the entire lift range.
- Make sure the tilting functions works properly.

#### Annual maintenance:

It's recommended to consult an authorized service/maintenance technician to perform a full inspection of the shower trolley annually.

- Thorough inspection of before every use, daily-, weekly- and monthly maintenance instructions. See check list on page 35.
- Make sure that the mattress and pillow are in good condition.
- Replace drainages, drain plugs and drainage hose.
- The shower trolley should be immediately taken out of operation if defects or irregularities are noted. Prompt service is required.

#### Maintenance every 5 years:

- Replace both lifting columns and control box.
- Replace castors.





### Check list annual maintenance

Chassis   Is the shower trolley properly   cleaned and dried?   Yes No	Comment:	Action:
<b>Chassis</b> Are screws and fasteners tightened?	Comment:	Action:
Yes No		
<b>Chassis</b> Any signs of wear or damages?	Comment:	Action:
Yes No		
Mattress and pillow Are mattress and pillow cleaned properly and in good condition?	Comment:	Action:
Yes No		
<b>Side rails</b> Is it possible to raise and lower the side rails?	Comment:	Action:
Yes No		
<b>Drainage</b> Replace drainage, drainage hose and drainage plugs.	Comment:	Action:
Yes No		





### Check list annual maintenance

Lifting columns Is it possible to raise and lower the lifting columns the entire lift range? (Use the hand control) Yes No	Comment:	Action:
Lifting columns Is it possible to tilt the stretcher? (Use the hand control) Yes No	Comment:	Action:
Lifting columns   Calibrate/Initialize the lifting columns. See instruction on page 32   Yes No	Comment:	Action:
Castors   Are the castors cleaned and fully functioning?   Yes No	Comment:	Action:
Castors   Are brakes and straight steering functioning properly?   Yes No	Comment:	Action:
Castors Are the castors properly fastened? Yes No	Comment:	Action:





Check list annual maintenance, every 5 years maintenance

Lifting columns   Replace lifting columns and control box.   Yes No	Comment:	Action:
Castors   Replace castors   Yes No	Comment:	Action:
Shower trolley Approved and OK   to use:   Yes No	Comment:	Action:

### Note:

The shower trolley should be immediately taken out of operation if defects or irregularities are noted. Prompt service is required! Contact your TR Equipment representative.

### Order or download a new Service and maintenance manual after annual maintenance!

Company / Person

Serial number

Maintenance date

Signature







### Cleaning instructions

#### Note:

The user/operator is responsible selecting the correct cleaning liquid/detergent and additives according to local regulations and safety standards. Please read the cleaning liquid/detergent supplier's instruction manual and find out whether the product is suitable for use with this product.

#### General cleaning recommendations for mattress, pillow and plastic plate:

- Select cleaning interval according to the degree of contamination.
- Contaminations should be removed as soon as possible in order to prevent material damage.
- DO NOT use tools which might damage the surface of the mattress and pillow, instead use a towel, sponge or a soft brush.
- The mattress, pillow, plastic plate and chassis must be dried when the shower trolley is not in use.

#### General guideline for cleaning liquids/detergents:

- No solvent based or strong alkaline cleaning liquids/detergents, use of these products may cause damage.
- Use only nonbrasive types of detergent.
- Less than 5Wt% chloride content.
- Less than 3Wt% alcohol content.

#### **Cleaning process:**

- Lightly brush off loose dirt particles first, then rinse material with clear water.
- Spray on the cleaning liquid/detergent in recommended concentration or apply with a clean towel. Dose the amount according to the degree of contamination.
- Allow cleaning liquid/detergent to act for a short while (2-5 minutes) and wipe off with a towel.
- Rinse off dirt and cleaning liquid/detergent residues thoroughly with cold or lukewarm water to prevent material discolorations.
- When the shower trolley is not in use, all parts on the shower trolley must be properly cleaned and dry.

### Note:

After cleaning the lifting columns, dry them before use.

#### Note:

Swimming pool areas are an aggressive environment and will shorten the life time of the product.

