



# TR 900 Height adjustable Bathtub

*Hygiene Equipment  
Designed for People*

## Operating manual

Version 2021-04-26



Registered at Medical Products Agency, Sweden as an MDR Class 1 product according to MDR 2017/745.

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



Always study this manual carefully before you attempt to operate your bathing system. The operator/user must always have access to the operating manual.

This bathing system is intended for professional use only where the patient will be under supervision of trained personnel.

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

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

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

Bathtub and shower water must be run at least every three days.



### **Warning**

Mandatory to read the Operating manual before using the equipment.



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## Introduction

Dear Customer,

Thank you for choosing one of our quality products. We hope you enjoy the TR 900 bathtub.

This manual shall, in conjunction with staff training, ensure that the operator/user is always using and/or operating the TR 900 correctly.

New colleagues must be trained by qualified and experienced staff.

TR Equipment AB requires that each user has read and understands the entire operating manual and that they can apply the instructions as specified. This applies to anyone who was not present at the in-service.

This instruction manual should generally be kept easily accessible for every user. Copying the whole manual is encouraged since its sole purpose is to improve the standard of training and safety.

Please order another copy from us if the instruction manual is lost or unusable, or if it has become illegible over time.

If you need further information, do not hesitate to contact TR Equipment AB or one of our qualified partners.



**Warning**

Mandatory to read the Operating manual before using the equipment.



**Warning**

Make sure you have read, understood, and applied the information on the following pages before using the bathtub.



## Unpacking

When you receive a TR 900 bathtub from us it's placed on a pallet surrounded by a wooden crate wrapped in plastic. Start unpacking by carefully cut and remove the plastic. **DO NOT** use any sharp tools that may scratch the bathtub.

Unscrew the wooden crate from the pallet.

Carefully lift the wooden crate away from the pallet. When lifted, do so briefly and use at least two people.

We advise to use the transport Wheel beam and ramp (Options) to get the bathtub off the pallet and to get the bathtub in place.



Place the Wheel beam under the chassis. Position the Wheel beam just behind the adjustable feet.



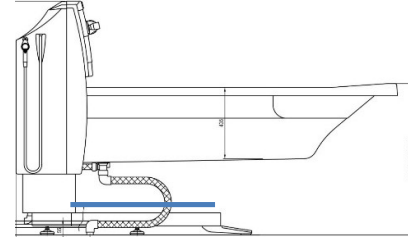
**Carefully** roll the tub off the pallet.



## Installation instructions

The TR 900 bathtub is delivered fully assembled, ready to be connected to water and power supply at the customer's premises and should be installed according to local guidelines and regulations.

When the bathtub is in place adjust the adjustable feet to get the bathtub chassis in level (Blue line).



The tub must be cleaned before the first use!

### Bathroom layout

Recommended room size is 2400mm x 3000mm, or larger.

### Plumbing

TR900 is delivered with an installation kit containing 2pcs 500mm connecting hoses R20, 2pcs ball valves R20, and 2pcs check valves. DO NOT bend the connecting hoses.

If your TR900 is equipped with a cleaning unit, the installation kit contains 1pcs 500mm connecting hose R15 and 1pcs check valve. DO NOT bend the connecting hose.

Installation of the bathtub shall be performed by certified plumber according to national/local regulations. To eliminate pipe debris, it is essential that supply pipes are thoroughly flushed before the bathtub is being connected. The drainage hose shall be connected to floor- or wall drainage. To level the bathtub, adjust the adjustable feet.



Installation kit R20 Hot- and Cold Water



Installation kit R15 Cleaning unit

### Autofill

Set the shower flowrate by adjusting the ball valve inside the panel. The ball valve is located on the pipes of the shower unit inside the panel.



#### Warning

The bathtub may only be used after it has been successfully and correctly installed.



## Installation instructions

### Electrical

The bathtub is designed for 100-120V – 50/60Hz, 10A or 220/240V – 50/60Hz, 10A.

The control box for the lifting actuator is specified for 110-230VAC, +/-10%.  
Voltage outside these norms will damage the linear actuator and control box.

The bathtub must be connected to the mains via a cord that is connected to a **GFCI, Ground Fault Circuit Interrupter**, including an easily accessible switch near the bathtub (Not supplied by TR Equipment).



All electric conduit, fitting and wiring to bath supplied must be installed by a certified electrician in accordance with national/local regulations. Main switch, main fuse and Ground Fault Circuit Interrupter are NOT included at delivery and must be supplied by others.



**Warning**  
Polarity and grounding must be correct. Improper connection may result in injury.

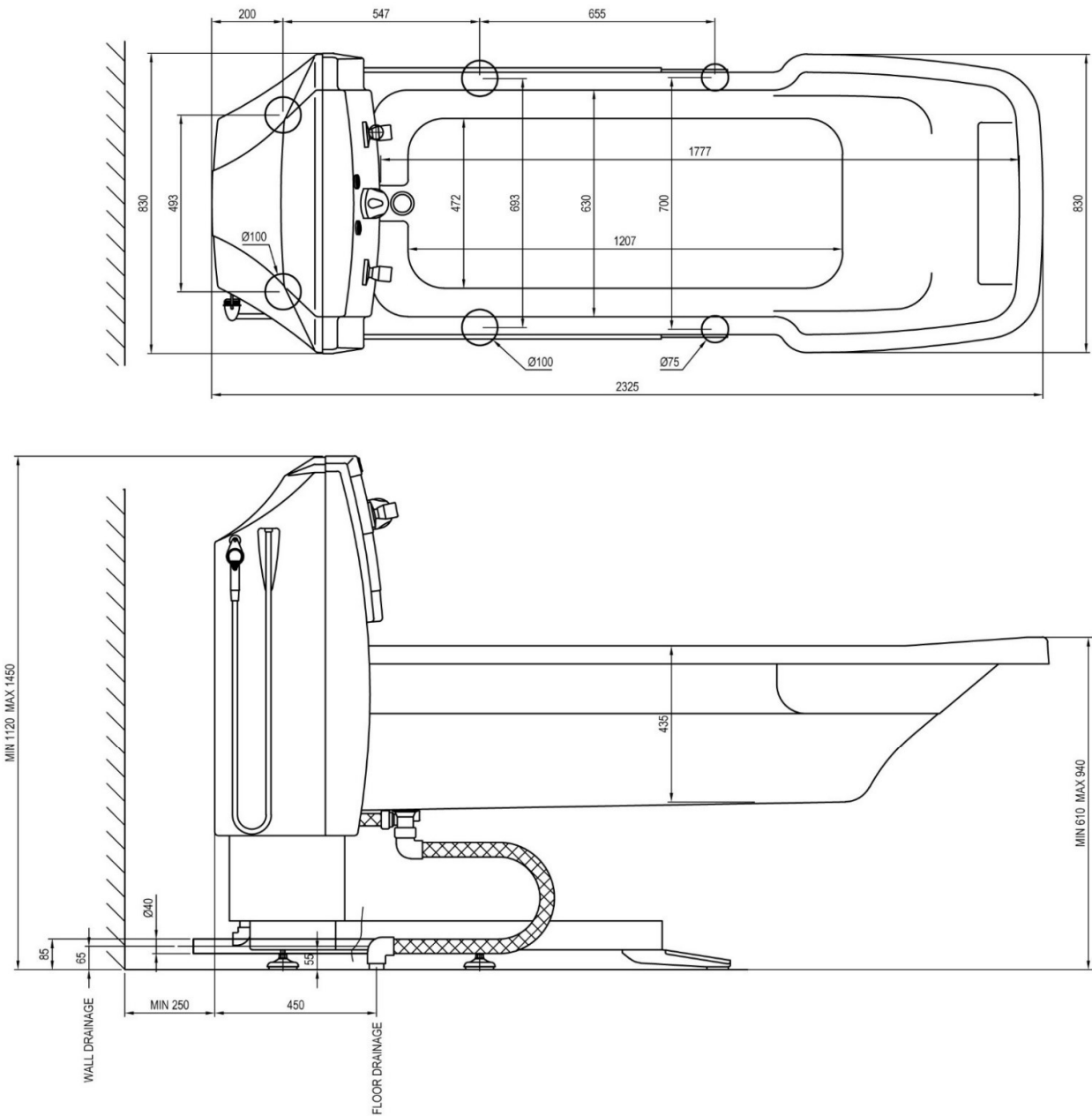


**Warning**  
The bathtub may only be used after it has been successfully and correctly installed.



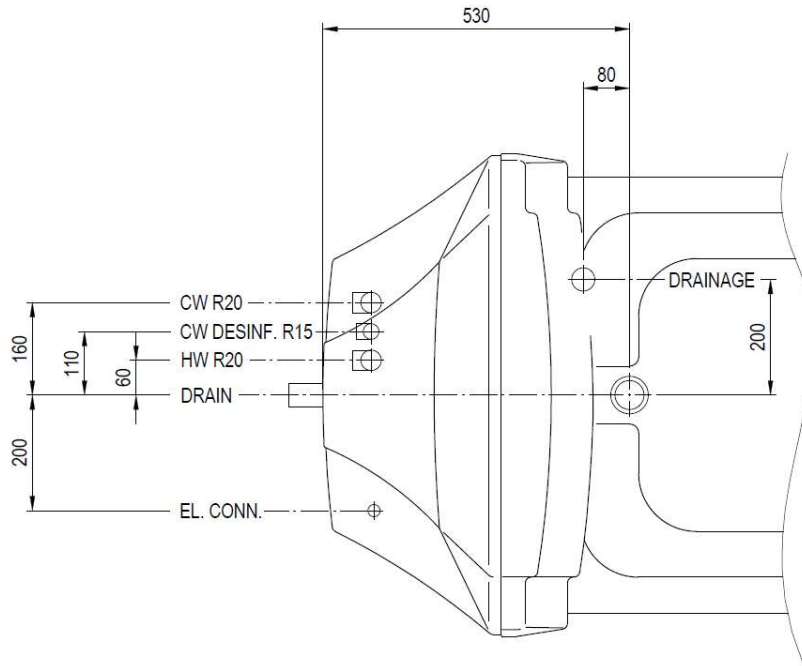


## Installation instructions



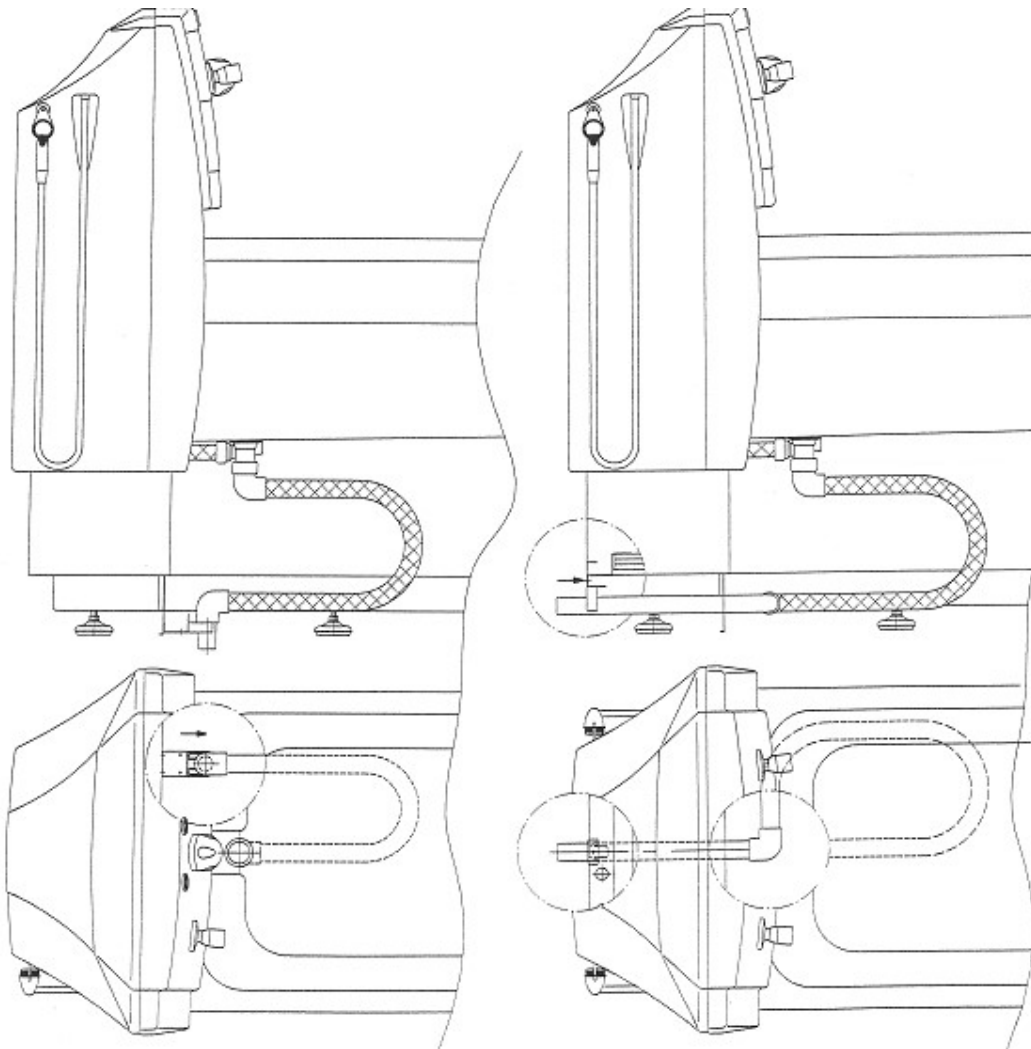


## Installation instructions





## Installation instructions



### **Floor drainage**

Assemble the drainage pipe bracket to the front of the panel. Cut the plastic pipe to a suitable length.

### **Wall drainage**

Assemble the drainage pipe bracket to the back of the panel.



## Calibration

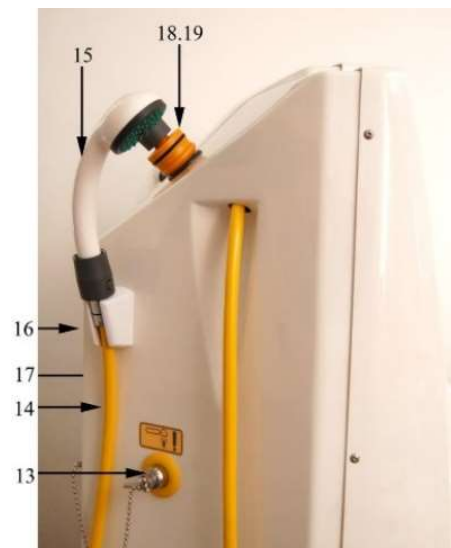
### Calibrating the detergent mixture of the Cleaning System

Detergent is automatically mixed with the cold water, in a pre-set mixture, at the factory, of 2 %.

If an alternatively calibration is needed follow the instructions below to achieve a mixture of 2 % or what is recommended by your detergent supplier.

To calibrate the mixing setting screw (17) placed on the injector inside the panel, requires a thin screwdriver, a measuring cup with a capacity of at least 20 cl, and a bucket with at least 10L capacity.

- Remove the panel cover.
- Empty the detergent bottle by loosening the hose from the injector. When empty, connect the hose to the injector again.
- Fill the measuring cup with 20 cl concentrated detergent, open the detergent bottle lid (18) and pour it into the bottle.
- Place the empty 10L bucket in the tub and hold the cleaning spray handle (15) with yellow hose over the bucket for filling.
- Open the cleaning safety valve (13) to a fully open position and spray into the bucket.
- Observe level when bucket fills, while bottle empties. Bucket should reach 10L mark at the same time as the bottle empties. If bucket fills first, turn the detergent mixing setting screw (17) on injector slightly counterclockwise, using the screwdriver. If bottle empties first, turn the detergent mixing setting screw (17) slightly clockwise.
- Repeat the steps until the injector is calibrated to required mixture.
- Close cleaning safety valve (13) and return the cleaning handle (15) to the bracket (16) on side of the panel.
- Attach the panel cover.



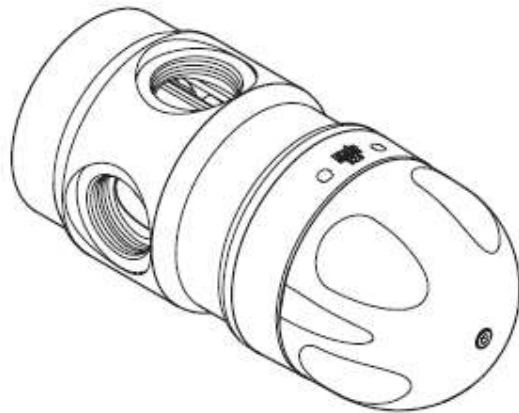


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## Calibration

### Thermostatic mixer

See **Product manual Rada 320** for instructions how to calibrate the thermostatic mixer. The manual is supplied at delivery.





## Intended use

- Height adjustable bathtub TR 900 is intended for bathing and showering patients.
- The patient is typically a person who is unable to take care of their own personal hygiene.
- The TR 900 **is not** intended to be used with patients that exceeds a weight of 150kg/330lbs.
- The TR 900 is only intended for short term use (<60min) when in contact with breached or compromised skin.
- The TR 900 is intended to be used indoors in all types of care facilities including hygiene areas.
- The user is any adult person who is capable of reading and understanding the Operating manual and is qualified to care for dependent persons/patients.



**Warning**

Mandatory to read the Operating manual before using the equipment.



**Warning**

Make sure you have read, understood, and applied the information on the following pages before using the bathtub.



## Safety instructions

If you have questions regarding the operation or maintenance of your TR900 and cannot find the answer in this manual, please contact us.

- The height adjustable, TR 900 bathtub may only be operated by qualified and trained staff.
- New colleagues must be trained by qualified and experienced staff.
- All safety and operating instructions must be read, understood, adhered to and applied when using the bath.
- The TR 900 may only be installed according to the installation instructions in this Operating manual.
- All electrical conduit on site must be performed by a certified electrician and according to national/local regulations.
- All plumbing installations must be performed by a certified plumber according to national/local regulations.
- Even if you have chosen TR Equipment AB or a TR Equipment representative to install the bathtub, all water supply and electrical wiring is under responsibility of the buyer.
- All repairs and maintenance must be performed by a certified service company or trained staff.
- Repairs shall only be carried out after consulting TR Equipment AB or a TR Equipment representative and using original spare parts.
- Always physically check the water temperature before and during bathing and showering to ensure that the thermostatic mixer is working properly.
- The thermostatic mixer is factory pre-set at maximum 43° under ideal installation conditions.
- Make sure that all parts that come in contact with the patient are intact and without sharp edges that might hurt the patient.
- Check that hoses, tub controls, connections, thermostatic mixer and thermometer are free from damage.

If the patient can enter the bath themselves **but with assistance** from care giver:

- Only step into the height adjustable TR 900 bathtub when the bathtub is in its lowest position.
- Only step out of the height adjustable TR900 bathtub when the bathtub is in its lowest position.



## Safety instructions

If you have questions regarding the operation or maintenance of your TR900 and cannot find the answer in this manual, please contact us.

- When using the TR 900 together with our Mobile bath lift TR 9650 the patient must be seated comfortably on the chair and/or stretcher, with the safety belts securely attached. Safety belts must be maintained in good condition.
- Raise the stretcher/chair to ensure clearance of all body parts over the tub. This to avoid pinching injuries between the tub rim and chair/stretcher.
- Before raising or lowering the tub, make sure that the patient hands firmly grasps the stabilizing bar or that the patient arms are crossed over the chest. This to avoid pinching injuries between tub rim and chair/stretcher frame.
- Wipe beneath stretcher/chair to prevent water dripping on the floor.
- Always physically check the water temperature before and during bathing and showering to ensure that the thermostatic mixer is working properly.
- The thermostatic mixer is factory pre-set at maximum 43° under ideal installation conditions.



**Warning**

Never leave the patient unattended



**Warning**

Always check the water temperature by hand before using the shower on the patient to prevent patients from being scalded or shocked by cold/hot water.



**Warning**

Always disconnect the electricity before attempting any service or repair.



**Warning**

The TR 900 shall not be used in any way that varies from the safety precautions and operating procedures described in this manual. The equipment shall not be operated by anyone until the user has read and understands the Operating manual.





## Safety instructions

**Note:**

In case of a serious incident when using the TR 900, this should be reported to the manufacturer and to the local authorities where you are established.



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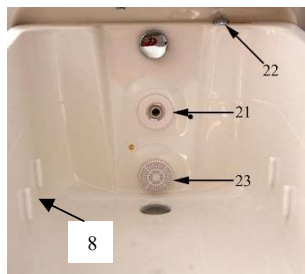
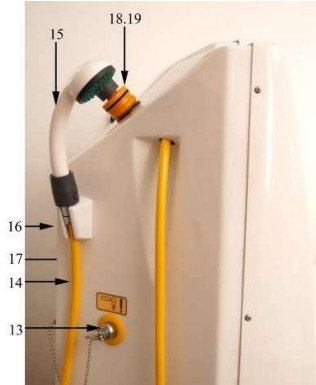
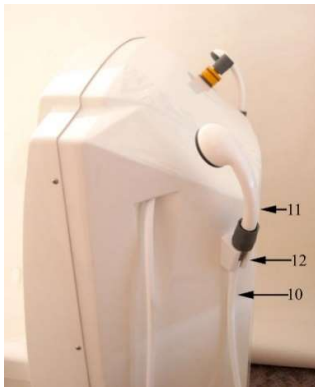
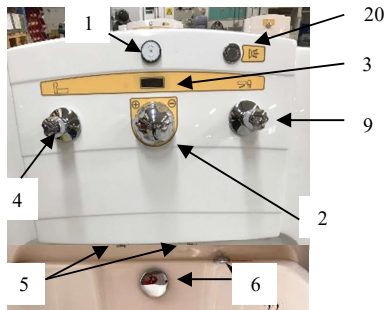
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## Features and controls

### Features and controls for TR900 & TR900SS, -C, CW



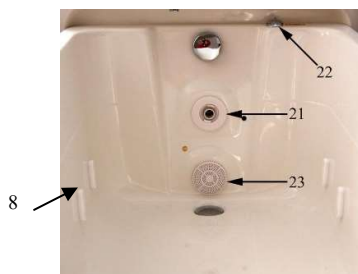
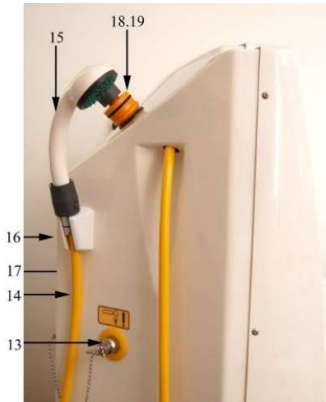
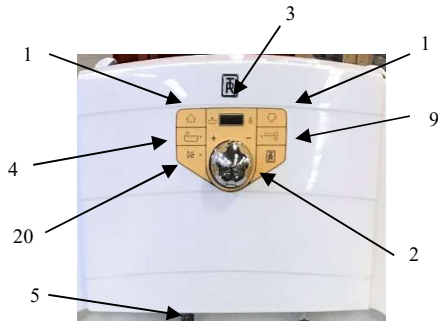
1	Control button, height adjustment UP/DOWN
2	Thermostatic mixer
3	Digital Thermometer C° Digital Thermometer F° (USA)
4	Tub filling valve, open/close
5	Bathtub filling spouts
6	Overflow drainage
6	Drainage control knob open/close
8	Adjustable footrest
9	Shower valve, open/close
10	Patient shower hose, White
11	Patient shower handle
12	Bracket for shower handle
13	Cleaning Safety valve open/close
14	Cleaning hose, Yellow
15	Cleaning handle
16	Bracket for Cleaning handle
17	Setting screw Cleaning injector (inside the panel)
18	Cleaning detergent filling
19	Cleaning adaptor for Whirlpool
20	Whirlpool ON/OFF button
21	Whirlpool jet (adjustable)
22	Whirlpool air control
23	Whirlpool inlet safety screen





## Features and controls

### Features and controls for TR 900A & TR 900A-SS, -C, CW



1	Control buttons, height adjustment UP/DOWN
2	Thermostatic mixer
3	Digital Thermometer C° Digital Thermometer F° (USA)
4	Tub filling button ON/OFF
5	Bathtub filling spout
6	Overflow drainage
6	Drainage control knob open/close
8	Adjustable footrest
9	Shower button ON/OFF
10	Patient shower hose, White
11	Patient shower handle
12	Bracket for shower handle
13	Cleaning Safety valve open/close
14	Cleaning hose, Yellow
15	Cleaning handle
16	Bracket for Cleaning handle
17	Setting screw Cleaning injector (inside the panel)
18	Cleaning detergent filling
19	Cleaning adaptor for Whirlpool
20	Whirlpool ON/OFF button
21	Whirlpool jet (adjustable)
22	Whirlpool air control
23	Whirlpool inlet safety screen





## Product description

### TR 900 & TR 900SS, -C, CW

An height adjustable bathtub as standard delivered with a fiberglass tub, foot support, manual tub filling valve, a manual shower valve, control button for height adjustment, thermostatic mixer, digital thermometer, filling spouts, overflow drainage, shower hose, shower handle, drainage, drainage hose, adjustable feet and lifting actuator.

TR900 SS is delivered with a stainless-steel tub.

#### TR 900 & TR900SS are available with following options:

- Cleaning unit (-C)
- Cleaning and Whirlpool (-CW)
- Local treatment
- Emergency lowering
- UK-TMV3
- UK-Risk 5 Gantry

All options are factory mounted

#### Accessories:

- PVC Pillow
- Transport wheel beam





## Product description

### **TR 900A & TR 900A-SS, -C, CW**

An height adjustable bathtub as standard delivered with a fiberglass tub, foot support, manual tub filling valve, a manual shower valve, control button for height adjustment, thermostatic mixer, digital thermometer, filling spouts, overflow drainage, shower hose, shower handle, drainage, drainage hose, adjustable feet and lifting actuator.

TR900 SS is delivered with a stainless-steel tub.

### TR 900A & TR900A-SS are available with following options:

- Cleaning unit (-C)
- Cleaning and Whirlpool (-CW)
- Local treatment
- Emergency lowering
- UK-TMV3
- UK-Risk 5 Gantry

All options are factory mounted



### Accessories:

- PVC Pillow
- Transport wheel beam





## Product description

Product description	Version
TR 900/-SS & TR 900A/-SS	100 - 230V/50Hz, 10A

Possible configurations and options		
Cleaning (-C)	Whirlpool (-CW)	Customized drainage hoses
UK - TMV3 (UK)	UK - Risk 5 Gantry	Emergency lowering
GE - Rohrunterbrecher (shower)		

Possible equipment combinations	
TR 900/-SS & TR900A/-SS incl. options, height adjustable bathtub	TR9650 - Chair lift
TR 900/-SS & TR900A/-SS incl. options, height adjustable bathtub	TR9650 - Stretcher lift
TR 900/-SS & TR900A/-SS incl. options, height adjustable bathtub	TR9650 - Combi lift





## Technical specification

TR 900/-SS & TR 900A/-SS, height adjustable bathtub supplied with Rada 320 thermostatic mixer.

Input Voltage	1-Phase 100 – 230V 50/60Hz, 10A
Control voltage	24V DC
Maximum load	Patient weight shall not exceed 150Kg
Water volume	Approximately 320L without patient in the tub. Approximately 250L with a patient (80Kg) in the tub.
Tub material	Glass fiber or Stainless-steel
Bathtub panel material	Glass fiber
Outside length	2325mm / 92”
Outside with	830mm / 33”
Inside width (head end)	700mm / 28”
Inside width (foot end)	630mm / 25”
Inside width (tub body)	472mm / 19”
Overall weight	265kg / 584lbs
Adjustable height	From 610mm – 940mm/ 24” – 37”
Access height	610mm / 24”
Clearance between floor and the bottom of the tub	175mm / 7”
Lift stroke	330mm / 13”
Lift speed	13mm/s
Lifting time (filled bathtub)	25 sec (from lowest to highest position)
Lowering time (filled bathtub)	25 sec (from highest to lowest position)
Lifting power, Lifting actuator	7000N / 700kg
Recommended water pressure	2-6 bar. Inlet dynamic pressures nominally balanced within 10% of each other during flow.
Maximum static water pressure	5 bar
Flow rate (thermostatic mixer)	6-120L/min
Recommended hot water temperature supplied to mixer.	65° C (50° C difference between Hot- and Cold-water)
Maximum hot water temperature supplied from mixer	43° (factory pre-set)
Connection hoses hot and cold water	BSP ¾ female / R20

### Transport and storage

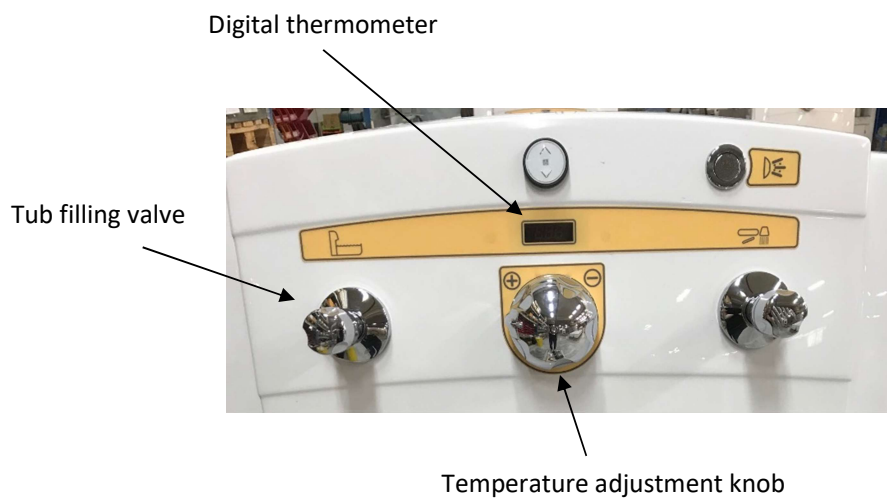
Ambient temperature	-20° C - +70° C -4° F - +158° F
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## User instructions

### TR 900/-SS, -C, CW - How to fill the bathtub with water:

- Turn the overflow valve knob to close the drain plug.
- Start filling the tub with water by open the tub filling valve (turn counterclockwise).
- The temperature shown on the digital thermometer is the tub filling temperature.
- Adjust the outlet water temperature by turning the temperature knob on the bathtub panel. Maximum outlet temperature from the thermostatic mixer is factory pre-set to 43 °C.
- Close the tub filling valve when you have reached a suitable water level (turn the knob clockwise).
- Always check the water temperature physically, by hand or with a thermometer during the filling process to ensure that the thermostatic mixer is working properly.
- Empty the tub by turning the overflow valve counterclockwise to open the drain plug.



#### **Warning**

Always check the water temperature by hand or a bath thermometer **before** lowering the patient into the bath. This to prevent patients from being scalded or shocked by hot or cold water.

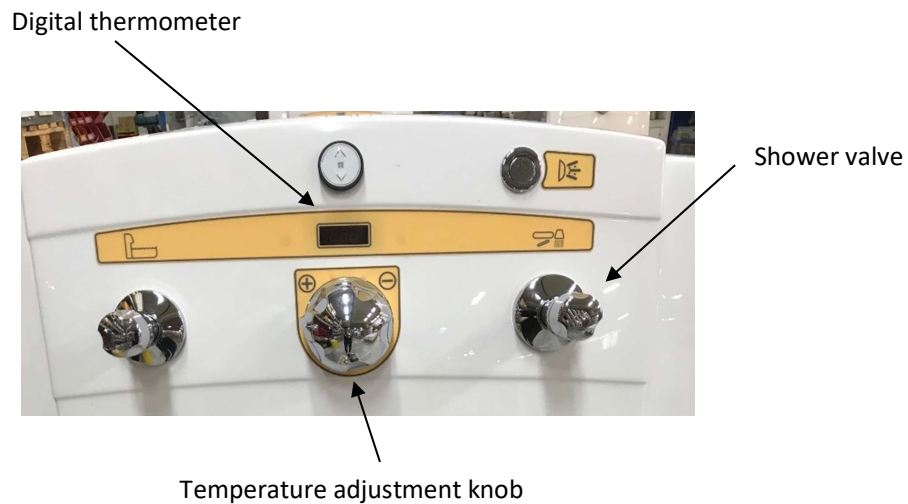




## User instructions

### TR 900/-SS, -C, CW – Showering

- Grab the shower handle and hold it over the tub.
- Start the shower by open the shower valve (turn counterclockwise).
- The temperature shown on the digital thermometer is the showering temperature.
- Adjust the water temperature with the temperature adjustment knob on the panel. Maximum outlet temperature from the thermostatic mixer is factory pre-set to 43°.
- Turn the shower off by closing the shower valve (turn clockwise).



#### **Warning**

Always check the water temperature by hand or a bath thermometer **before** lowering the patient into the bath. This to prevent patients from being scalded or shocked by hot or cold water.

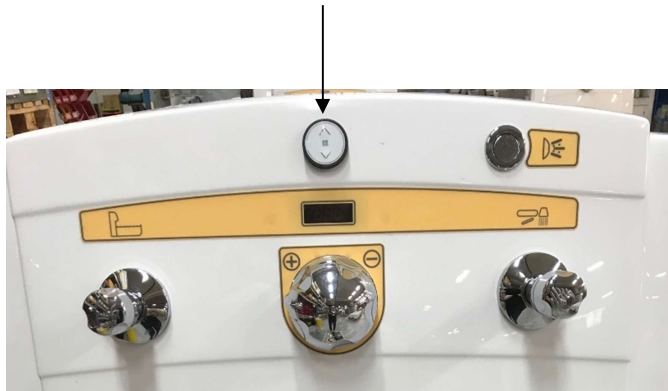


## User instructions

### TR 900/-SS, -C, CW – Height adjustment

- Raise or lower the tub by using the UP/DOWN control button.
- Press the UP symbol to raise the tub.
- Press the DOWN symbol to lower the tub.

UP/DOWN control button



#### **Warning**

Always check the water temperature by hand or a bath thermometer **before** lowering the patient into the bath. This to prevent patients from being scalded or shocked by hot or cold water.



#### **Warning**

Before raising or lowering the tub, make sure that the patient hands firmly grasps the stabilizing bar or that the patient arms are crossed over the chest. This to avoid pinching injuries between tub rim and chair/stretchers frame.

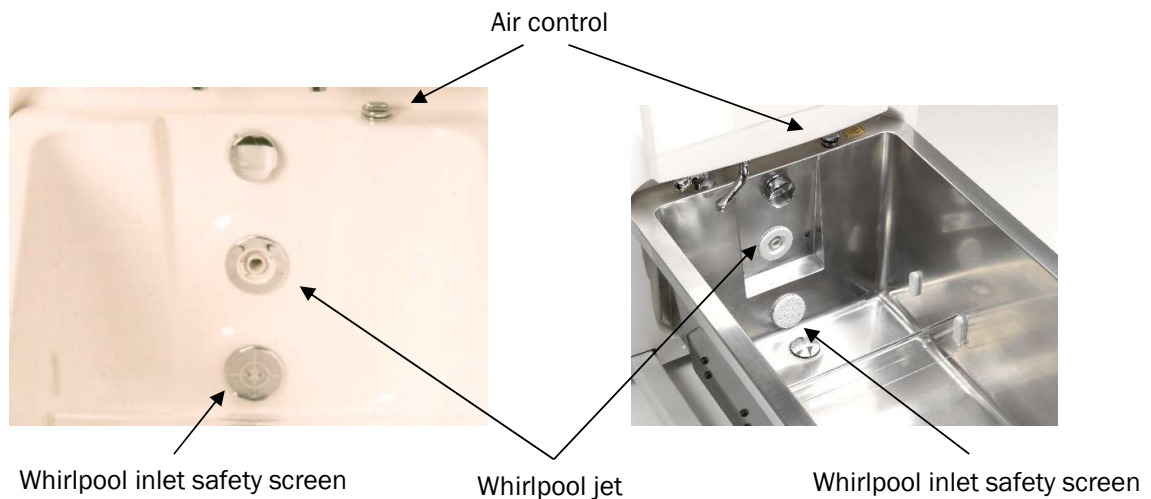


## User instructions

### TR 900/-SS, -C, CW – Whirlpool (-CW)

The Whirlpool system allows you to regulate both waterflow directions and quantity of air.

- Make sure that the Whirlpool jet is fully open. If necessary, turn the disc around the Whirlpool jet counterclockwise to open.
- Make sure that the Whirlpool inlet safety screen is in place. Never start the Whirlpool if the Whirlpool inlet safety screen is not in place.
- The direction of the Whirlpool jet can manually be adjusted up & down and from side to side.
- START & STOP the Whirlpool pump by pressing the Whirlpool button.
- Adjust the Whirlpool stream with the Air control (turn clockwise or counterclockwise).

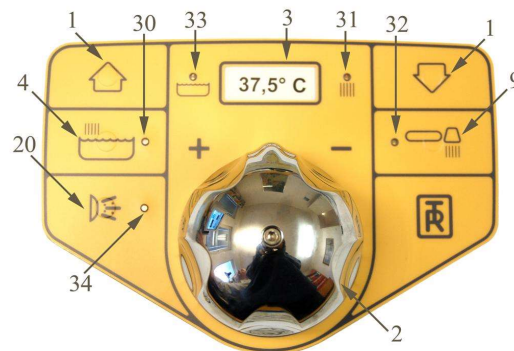




## User instructions

### TR 900A (Autofill)/-SS, -C, -CW - How to fill the bathtub with water:

- Turn the overflow valve knob to close the drain plug.
- Start filling the tub with water by pressing the tub filling button (4). During the tub filling a Green light (30) will be lit.
- The Red “running water” light (31) says that temperatures shown on the digital thermometer is the tub filling temperature.
- If necessary, adjust the outlet water temperature by turning the temperature knob (2) on the bathtub panel. Maximum outlet temperature from the thermostatic mixer is factory pre-set to 43°C.
- When the water reaches the temperature sensor in the tub the digital thermometer (3) will show the water temperature in the tub and the light (33) will inform that the Digital thermometer shows the water temperature in the tub.
- The tub filling will shut off when the water reaches the “waterline” level sensor in the tub (+1 minute). The Green light and the Red light will be switched off at the same time.
- Press the tub filling button (4) again and the tub filling will start again and work for 1 minute/press. The Green light will flash. After 1 minute the tub filling stops.
- If more water is needed, press the tub filling (4) again.
- It is always possible to turn the tub filling off by pressing the tub filling button (4).
- Always check the water temperature physically, by hand or with a thermometer during the filling process to ensure that the thermostatic mixer is working properly.



#### Warning

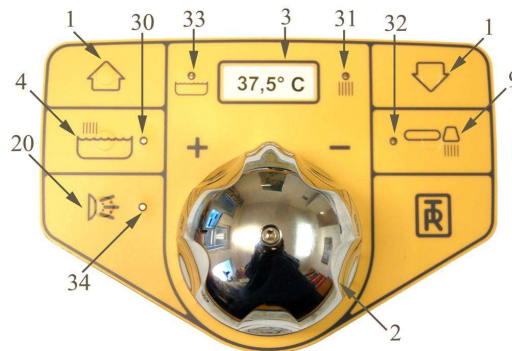
Always check the water temperature by hand or a bath thermometer **before** lowering the patient into the bath. This to prevent patients from being scalded or shocked by hot or cold water.



## User instructions

### TR 900A (Autofill)/-SS, -C, -CW - Showering

- Grab the Shower handle and hold it over the tub.
- Start the shower by pressing the showering button (9). The Green light (32) will be lit.
- The Red “running water” light (31) indicates that the temperature shown on the digital thermometer is the showering temperature.
- If necessary, adjust the water temperature with the temperature adjustment knob (2) on the panel. Maximum outlet temperature from the thermostatic mixer is factory pre-set to 43°.
- Shut the shower OFF by pressing the shower button (9). The Green light and the Red light will be switched off at the same time.
- The water flow for the shower can be adjusted with the ball valve on the showering unit inside the panel.



#### Warning

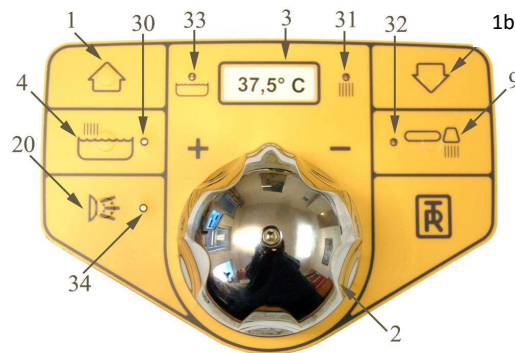
Always check the water temperature by hand or a bath thermometer **before** lowering the patient into the bath. This to prevent patients from being scalded or shocked by hot or cold water.



## User instructions

### TR 900A (Autofill)/-SS, -C, -CW – Height adjustment

- Raise the tub by pressing the UP button (1).
- Lower the tub by pressing the DOWN button (1b).



#### Warning

Always check the water temperature by hand or a bath thermometer **before** lowering the patient into the bath. This to prevent patients from being scalded or shocked by hot or cold water.



#### Warning

Before raising or lowering the tub, make sure that the patient hands firmly grasps the stabilizing bar or that the patient arms are crossed over the chest. This to avoid pinching injuries between tub rim and chair/stretchers frame.

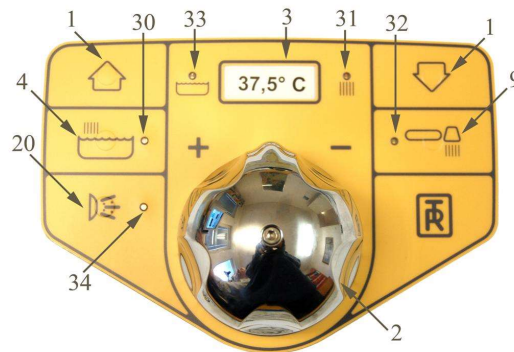


## User instructions

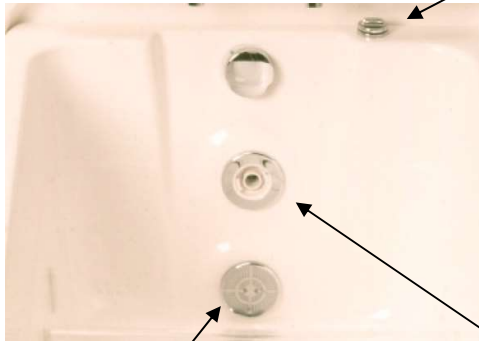
### TR 900A (Autofill)/-SS, -C, CW – Whirlpool (-CW)

The Whirlpool system allows you to regulate both waterflow directions and quantity of air.

- Make sure that the Whirlpool jet is fully open. If necessary, turn the disc around the Whirlpool jet counterclockwise to open.
- Make sure that the Whirlpool inlet safety screen is in place. Never start the Whirlpool if the Whirlpool inlet safety screen is not in place.
- The direction of the Whirlpool jet can manually be adjusted up & down and from side to side.
- START the Whirlpool pump by pressing the Whirlpool button (20). LED light (34) will be lit.
- STOP the Whirlpool pump by pressing the Whirlpool button (20). LED light (34) will be switched off.
- Adjust the Whirlpool stream with the Air control (turn clockwise or counterclockwise).



Air control



Whirlpool inlet safety screen



Whirlpool jet

Whirlpool inlet safety screen



## User instructions

### All TR 900 – Cleaning (-C)

- Use the cleaning unit to clean the tub after each use.
- Grab the Cleaning handle and hold it over the tub.
- Open the Cleaning Safety valve with the key (turn counterclockwise).
- The cleaning detergent is mixed with cold water to minimize inhalation.
- The mixture of cleaning detergent is factory pre-set to approximately 2%.
- Spray the tub with cleaning detergent and let it act for 2-5 minutes.
- Close the Cleaning safety valve (turn clockwise) and put the Cleaning handle in the bracket.
- Use the shower to rinse the tub with fresh water.



### **Warning**

Never use the Cleaning on patients. Only on equipment.





## User instructions

### Patient transfer – Ambulatory patients

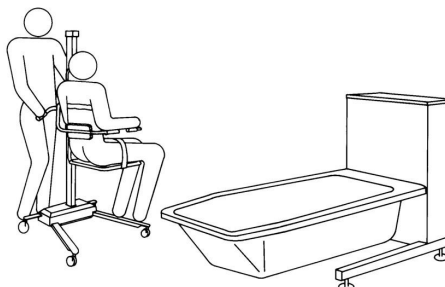
For patient's comfort and safety, we recommend that ambulatory patients are transferred directly into a prefilled TR 900 bathtub on a TR 9650 Stretcher- or Chair lift.

See patient handling instructions for the Stretcher- and Chair lift in the Operating manual for the TR 9650 Mobile Bath Lifts.

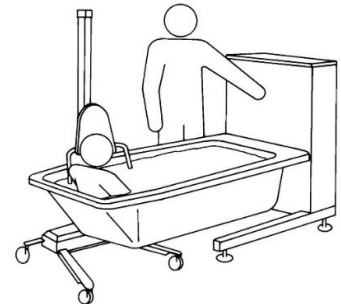
Ambulatory patients can also step into and out of the tub themselves, but only when the tub is in its lowest position, and always with assistance from caregiver.



TR 9650 – Stretcher lift



TR 9650 – Chair lift



**Warning**

Never leave the patient unattended



**Warning**

Always check the water temperature by hand before using the shower on the patient to prevent patients from being scalded or shocked by cold/hot water.



**Warning**

The TR 900 shall not be used in any way that varies from the safety precautions and operating procedures described in this manual. The equipment shall not be operated by anyone until the user has read and understands the Operating manual.

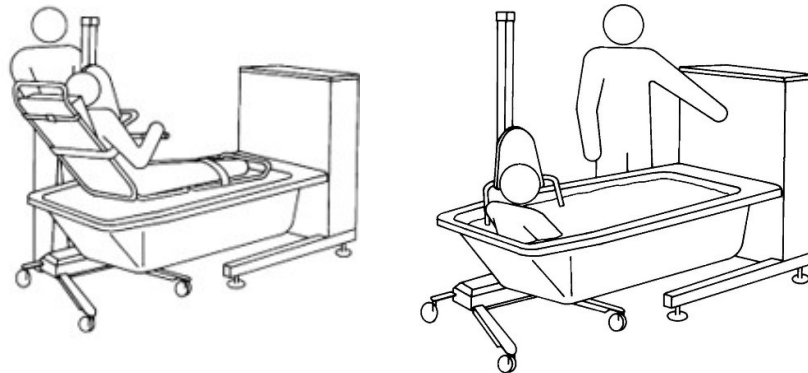


## User instructions

### Patient transfer – Recumbent patients

For patient's comfort and safety, we recommend that recumbent patients are transferred directly into a prefilled TR 900 bathtub on a TR 9650 Stretcher lift.

See patient handling instructions for the Stretcher lift in the Operating manual for the TR 9650 Mobile Bath Lifts.



TR 9650 – Stretcher lift



**Warning**

Never leave the patient unattended



**Warning**

Always check the water temperature by hand before using the shower on the patient to prevent patients from being scalded or shocked by cold/hot water.



**Warning**

The TR 900 shall not be used in any way that varies from the safety precautions and operating procedures described in this manual. The equipment shall not be operated by anyone until the user has read and understands the Operating manual.



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## System components

### Linear actuator

Only certified engineers and/or trained staff are authorized to carry out any repairs or maintenance on the lifting system (linear actuator).

Do not attempt work on the lifting system without consulting TR Equipment AB as this will void the warranty.

### Thermostatic mixer

See separate **Product manual Rada 320** for repairs, maintenance, or service of the thermostatic mixer. The Product manual Rada 320 is supplied at delivery.

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320



#### **Warranty**









Maintenance and/or repairs may only be carried out by the manufacturer or qualified staff authorized by the manufacturer, otherwise warranty expires immediately.



## Labels and Symbols


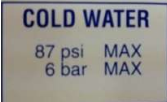






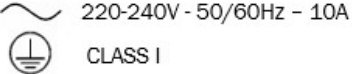
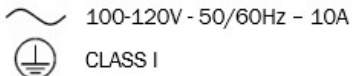

### Product label



	TR Equipment logotype
	Medical equipment according to MDR 2017/745
	CE marking
	Manufacturing date
	Factory address
	Part number
	Serial number
	Mandatory to read the operating manual before use



## Labels and Symbols

	Maximum patient weight
	Maximum pressure for cold water supplied to the bathtub.
	Maximum temperature and pressure for the hot water supplied to the bathtub.
	Maximum pressure for the cold water supplied to the Cleaning unit.
	Shower head for Cleaning system.
	Cleaning detergent. Maximum 1.5L / 0,4 gallon.
	Whirlpool
	Whirlpool air mixture
	Alternate current 220-240V – 50/60Hz Protective earth Class I
	Alternate current 100-120V – 50/60Hz Protective earth Class I
	Applied part B



## Routine maintenance

General information / Warranty



**Warning**

Even though the thermostatic mixers are covered by warranty from the manufacturer, problems related to the quality of the water are not covered by the warranty from the manufacturer. Water quality is the responsibility of the customer.



**Warning**

Iodine, Bromine and Methylene blue might discolor the bathtub.



**Warning**

Adjustment of the thermostatic mixer must be performed by a certified plumber before use.



**Warning**

The thermal components of the thermostatic mixer must be inspected regularly and if scaled they must be cleaned by a certified plumber or a qualified technician.



**Warning**

Any damage or problems caused by failure to comply with the installation instructions or through unsuitable use are excluded from the warranty and may not be the subject of claims for damages or reimbursement.



**Warning**

If the bathtub is used in an area with hard water, ensure that the mixer cartridge and strainers are clean. See instructions in the manual from the manufacturer of the thermostatic mixer (manual supplied at delivery). This must be done by a certified plumber or a qualified technician.



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## Routine maintenance

### Important information regarding the Thermostatic mixer

The use of the word 'failsafe' to describe the function of a thermostatic mixing valve is both incorrect and misleading.

In keeping with every other mechanism, it cannot be considered as being functionally infallible.

Malfunction of thermostatic mixing valves is almost always progressive in nature and will be detected during proper temperature checking and maintenance routines.

Certain types of system can result in the thermostatic mixing valve having excessive 'dead-legs' of pipework. Others allow an auxiliary cold-water supply to be added to the mixed water from the mixing valve. Such systems can disguise the onset of thermostatic mixing valve malfunction.

**Ultimately, the user or attendant must exercise due diligence to ensure that the delivery of warm water is at a stable, safe temperature.**

This is particularly important in such healthcare procedures as supervised bathing of patients unable to respond immediately to unsafe temperatures.

In healthcare applications such as hospitals, residential care homes, etc. and in any other applications where the user is similarly at risk, irrespective of supply and usage conditions or the evidence of in-service tests. TR Equipment recommends the critical components replaced at intervals of **no more than 5 years**.



## Routine maintenance

### Before every use

Visual inspection:

- Make sure that the bathtub stands securely on the floor.
- Make sure that the tub is in its lowest position.
- Make sure that the tub is in level when raising and lowering the tub.
- Make sure there are no nicks or cracks on the tub which may scratch the patient.
- Make sure that all electrical cords are in good condition and without damages.
- Make sure that the connecting- and shower hoses do not leak.
- Check the water temperature by hand or with a bath thermometer.

### Daily maintenance

- Clean the tub after every use.
- Avoid abrasive cleaners which may scratch the surface of the tub and side covers.
- Lower the tub to its lowest position after every use and make sure all valves are closed.
- Clean the strainers on the shower handle by rubbing it with your thumb.
- After use make sure the bathtub is in its lowest position.
- After use, make sure all valves are properly closed.



If your TR 900 is equipped with a cleaning system:

- Make sure there is cleaning liquid in the cleaning container.
- Clean the strainers on the cleaning shower handle by rubbing it with your thumb.



#### **Warning**

Do not use Iodine, Bromine and Methylene blue when cleaning the glass fiber tub, this might discolor the bathtub.



#### **Warning**

Do not use Chlorine tablets when cleaning the **Stainless-steel tub (-SS)**, this might cause rust stains on the tub.





## Routine maintenance

### Monthly maintenance

- Monthly maintenance must be performed by certified engineer and/or trained staff.
- Repeat **Before every use** and **Daily maintenance**.
- Make sure that the connecting hot- and cold-water hoses are fitted correctly and do not leak.
- Make sure that the power cord is in good condition and free from damage.
- Exercise the thermostatic mixer to ensure that the water temperature is stable and at a safe temperature. See description for exercising the mixer in the Product Manual Rada 320 (supplied at delivery).
- If the bathtub is used in an area with hard water, ensure that the mixer cartridge and strainers are clean. See instructions in Product manual Rada 320 (manual supplied at delivery).



#### **Warning**

Scalding risk when flushing with hot water!



#### **Important**

The shower hose on the TR 900 manage 60°C / 140°F for 10 minutes.



## Routine maintenance

### Annual maintenance

Maintenance and Service manual including check list is available. Contact TR Equipment for an updated manual.

Maintenance and inspection must be performed by qualified technician and according to local regulations.

- Repeat **Before every use, Daily maintenance, and Monthly maintenance.**
- Inspections according to local requirements of electric parts, power cords and earth cables must be performed by a qualified/certified person.
- Inspection according to local requirements of the plumbing installation, connecting hoses, shower hoses, check valves, vacuum breakers must be performed by a qualified/certified person.

### Perform a scalding test:

- Start filling the bathtub with water
- Shut off the cold-water supply to the bathtub. After 1-2 seconds the thermostatic mixer shall shut off automatically.

**If the thermostatic mixer doesn't shut off the thermostatic mixer or the mixer cartridge must be replaced.**

### Autofill (-A):

- If your TR 900 is equipped with Autofill function perform a function test.
- Press the tub filling button to make sure the water is being filled to level no.1 and shuts off automatically.
- When you press the tub filling button again the tub filling shall work for 1 minute and then it will shut off automatically.
- Press the shower button and make sure water comes out from the shower handle.
- Shut the shower off by pressing the shower button again.

### Cleaning system (-C):

- If your TR 900 is equipped with a Cleaning system perform a function test. Open the Cleaning safety valve with the key and make sure that cleaning detergent and water are mixed properly.
- Remove the panel cover and make sure that the check valve between Cleaning injector and vacuum breaker inside the panel is working properly.



#### **Warning**

Never use the Cleaning on patients. Only on equipment.



## Routine maintenance

### Annual maintenance

Replacement of parts

Depending on the hardness of water TR equipment recommends that following parts shall be replaced within 1-3 years.

#### Shower unit:

- Replace the Valve stem for the Shower valve. Part.no: 829307
- Replace the check valve between vacuum breaker and shower hose. Part.no: 829080
- Replace the repair kit on the vacuum breaker. Part.no: Contact TR Equipment

#### Cleaning unit Option (-C):

- Replace the valve stem for the Cleaning safety valve. Part.no: 829307
- Replace the check valve between the vacuum breaker and the Cleaning injector. Part.no: 829080
- Replace the repair kit on the vacuum breaker. Part.no: Contact TR Equipment

#### Installation kit:

- Replace the check valves Part.no: 829066



#### Installation kit Cleaning:

- Replace the check valve Part.no: 820495-0127



#### **Note:**

The recommended frequency of these maintenance procedures will depend on the hardness of your water supply and how often the equipment is used. It is good practice to establish these routine procedures on a weekly basis and then adjust the frequency as your conditions indicate.



## Routine maintenance

### Maintenance every 3 year

Maintenance and inspection must be performed by qualified technician and according to local regulations.

Repeat **Before every use**, **Daily maintenance**, **Monthly maintenance**, and **Annual maintenance**.

TR Equipment recommends that following parts shall be replaced during the 3 years maintenance:

#### Shower unit:

- See replacement of parts, annual maintenance.
- Replace the White shower hose
- Replace the shower handle

Part.no: 829097

Part.no: 829171

#### Cleaning unit Option (-C):

- See replacement of parts, annual maintenance.
- Replace the Yellow Cleaning hose
- Replace the Cleaning handle

Part.no: 829096

Part.no: 829171

#### Installation kit:

- Replace the check valves

Part.no: 829066



#### Installation kit Cleaning:

- Replace the check valve

Part.no: 820495-0127



#### **Note:**

The recommended frequency of these maintenance procedures will depend on the hardness of your water supply and how often the equipment is used. It is good practice to establish these routine procedures on a weekly basis and then adjust the frequency as your conditions indicate.



## Routine maintenance

### Maintenance every 5 year

Maintenance and inspection must be performed by qualified technician and according to local regulations.

Repeat **Before every use, Daily maintenance, Monthly maintenance, and Annual maintenance.**

For maintenance of critical components such as the cartridge on the thermostatic mixer, see Product manual Rada 320 (supplied at delivery).

TR Equipment recommends that following parts shall be replaced during the 5 years maintenance:

#### Shower unit:

- |   |                 |
|---|-----------------|
| - Replace the Shower valve incl. valve stem                       | Part.no: 829288 |
| - Replace the Vacuum breaker                                      | Part.no: 829069 |
| - Replace the Check valve between Vacuum breaker and Shower hose. | Part.no: 829080 |

#### Flexible hoses (inside the panel):

- |  |                    |
|--|--------------------|
| - Replace flexible hoses for cold- and hot-water                 | Part.no: 7426193   |
| - Replace the cartridge on the thermostatic mixer                | Part.no: 829067-02 |
| - If the bathtub is used on a daily basis replace the Gas spring | Part.no: 850192-02 |

#### Cleaning unit (Option -C):

- |                                       |                 |
|---------------------------------------|-----------------|
| - Replace the complete Cleaning unit. | Part.no: 200015 |
|---------------------------------------|-----------------|

#### Autofill (Option -A):

- |  |                 |
|--|-----------------|
| - Replace the solenoid valve for the shower      | Part.no: 829180 |
| - Replace the solenoid valve for the tub filling | Part.no: 829181 |

**Important information regarding the Thermostatic mixer!** In healthcare applications such as hospitals, residential care homes, etc. and in any other applications where the user is similarly at risk, irrespective of supply and usage conditions or the evidence of in-service tests. TR Equipment recommends the critical components replaced at intervals of **no more than 5 years**.

#### **Note:**

The recommended frequency of these maintenance procedures will depend on the hardness of your water supply and how often the equipment is used. It is good practice to establish these routine procedures on a weekly basis and then adjust the frequency as your conditions indicate



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## Routine maintenance

### **Maintenance after 10 years**

Maintenance and inspection must be performed by qualified technician and according to local regulations.

Repeat **Before every use, Daily maintenance, Monthly maintenance, Annual maintenance, Maintenance 3 years and Maintenance 5 years.**

TR Equipment recommends replacement of following parts:

- |                   |                    |
|-------------------|--------------------|
| - Linear actuator | Part.no: 815001    |
| - Gas spring      | Part.no: 850192-02 |



## Cleaning instructions

**Please 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 guidelines for cleaning liquid/detergent:

- No solvent based or strong alkaline cleaning liquids, use of these products may cause damage.
- Nonabrasive type of detergent
- Less than 5 Wt% chloride content.
- Less than 3 Wt% alcohol content.

Clean the tub after every use. Avoid abrasive cleaners which may scratch the surface of the tub and side covers.

### Stainless-steel tubs (-SS):

- Never clean or use Chloride tablets when cleaning when cleaning or using the TR 900 with a stainless-steel tub, this might cause rust stains on the tub.
- Only use non-corrosive cleaning- and disinfectant products.



**Warning**

Do not use Iodine, Bromine and Methylene blue when cleaning the glass fiber tub, this might discolor the bathtub.



**Warning**

Do not use Chlorine tablets when cleaning the **Stainless-steel tub (-SS)**, this might cause rust stains on the tub.

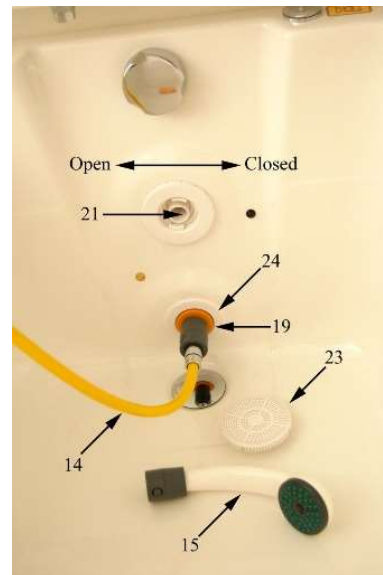
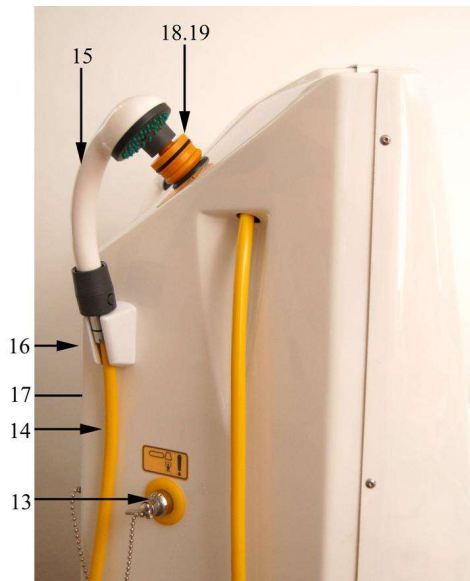


## Cleaning instructions

### All TR 900

#### Cleaning the Whirlpool system:

- Make sure that the Whirlpool jet (21) is fully open. If necessary, turn the disc around the Whirlpool jet counterclockwise to open.
- Remove the Whirlpool inlet safety screen (23) by turning it counterclockwise.
- Remove the Cleaning handle (15) from the Yellow Cleaning hose and connect the Cleaning adapter (19) to the Cleaning hose. The Cleaning hose is equipped with a Snap On/Snap Off connector to ease the replacement.
- Place the Cleaning adapter (19) into the Whirlpool inlet (24) and hold it in place during the Cleaning process.
- Open the Cleaning safety valve with the key or and start cleaning the Whirlpool system. Cleaning detergent will come out from the Whirlpool jet.
- Turn the cleaning off by closing the Cleaning safety valve (13) with the safety key (turn clockwise).
- Make the same procedure with the Shower hose, disconnect the shower handle, and connect the Cleaning adapter.
- Place the Cleaning adapter in the Whirlpool inlet and flush the Whirlpool system with fresh water.







## Cleaning instructions

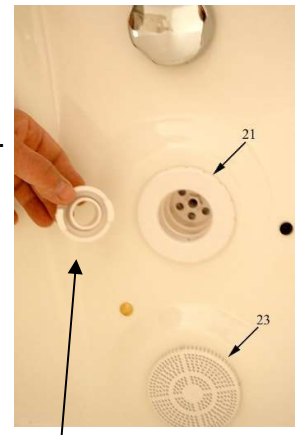
### All TR 900

#### Cleaning the Whirlpool Jet:

- Turn the Whirlpool jet housing (not the disc) 90° counterclockwise or until you hear a click and pull the Whirlpool jet right out.
- Split the two- part Whirlpool jet by pressing the two hooks together and pull the jet apart.
- Clean the Whirlpool jet parts and inside the housing (21).

#### Cleaning the Whirlpool inlet safety screen:

- Unscrew the Whirlpool inlet safety screen (23) by turn it counterclockwise.
- Clean the Whirlpool inlet safety screen (23) and reassemble it after cleaning.



Whirlpool jet



#### **Warning**

Only use the Whirlpool pump when the tub is filled with water. Never use the Whirlpool pump if the tub is empty or is the water level is below the Whirlpool jet. This will damage the Whirlpool pump.



#### **Warning**

Never use the Whirlpool if the Whirlpool inlet safety screen is not in place.



#### **Warning**

Avoid skin or eye contact with detergent, which is highly corrosive. If contact is made, immediately rinse with excess water. If irritation occurs, consult a medical doctor.



## Disposal / Recycling

### Recycle the equipment to local regulations:

- Panel, panel cover and tub are made of Glass fibre
- Chassis and lifting sledge are made of metal materials
- Lifting actuator is, control buttons, control box, electrical enclosures, circuit boards are electric and electronic materials.
- Emergency lowering battery shall be recycled as batteries.



**Important**

When replacing batteries, deposit the batteries in accordance with national regulations.



**Important**

When replacing electrical and electronic parts/components, deposit the parts/components in accordance with national regulations.

### Recycling of packaging materials.

- Wooden pallet and crate shall be recycled as wooden materials.
- Plastic shall be recycled as plastic materials.



Training record

Date:	Participants:	Signed by:

