

# RS8 Geneva Recumbent Height Adjustable / Fixed Height Bathing Tub

## PRODUCT MANUAL



Height Adjustable Model



Fixed Height Model



**NOTHING'S MORE REFRESHING THAN RANE**

## **IMPORTANT SAFETY INSTRUCTIONS**

### **PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, FETAL INJURY, DROWNING, HYPERTHERMIA, OR INJURY TO PERSONS**

#### **READ AND FOLLOW ALL INSTRUCTIONS**



**WARNING: RISK OF FETAL INJURY;** Pregnant or possibly pregnant women should consult a Physician before using a hydromassage bathtub equipped with a heater.



**WARNING: RISK OF ELECTRIC SHOCK.**

- The unit must be connected to a supply circuit that is protected by a Ground-Fault Circuit-Interrupter (GFCI) installed by a qualified service representative or Licensed Electrician.
- Install this unit in accordance with the Canadian Electric Code, part I. the control provided with this unit shall be installed out of reach of persons occupying the tub in accordance with the Canadian Electrical Code , part I *"for unit with a control not integral with the tub."*
- Do not permit electrical appliances (such as a hair dryer, lamp, telephone, radio, or television) within 5 feet or 1.5 meters of this hydromassage bathtub.
- GFCI should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power without the test button being pushed there is ground current flowing, indicating the possibility of an electric shock. Do not use this hydromassage bathtub. Disconnect the hydromassage bathtub and have the problem corrected by a qualified service representative or Licensed Electrician before using.



**WARNING: RISK OF ACCIDENTAL INJURY AND DROWNING;**

- Children should not use hydromassage bathtub without adult supervision.
- Do not use hydromassage bathtub unless all suction guards are installed to prevent body hair entrapment.
- Do not use drugs or alcohol before or during the use of the hydromassage bathtub equipped with heater to avoid unconsciousness and possible drowning.
- Do not use a hydromassage bathtub equipped with a heater immediately following strenuous exercise.
- Water temperature in excess of 100° Fahrenheit or 38° Celsius may be hazardous to your health. Check and adjust water temperature before use.
- Prolonged immersion in water hotter than normal body temperature may introduce hyperthermia.
- People using medications and/or having an adverse medical history should consult a Physician before using a hydromassage bathtub equipped with a heater.



## **WARNING: RISK OF HYPERTHERMIA**

- Do not use a hydromassage bathtub equipped with a heater immediately following strenuous exercise.
- Water temperature in excess of 100° Fahrenheit or 38° Celsius may be hazardous to your health. Check and adjust water temperature before use.
- Prolonged immersion in water hotter than normal body temperature may introduce hyperthermia.
- Symptoms of Hyperthermia;
  - Heat stroke can be life-threatening and victims can die. A person with heat stroke usually has a body temperature above 104° Fahrenheit. Other symptoms include confusion, combativeness, bizarre behavior, faintness, staggering, strong and rapid pulse, and possible delirium or coma. High body temperature is capable of producing irreversible brain damage.
  - Heat fatigue is a feeling of weakness brought on by high outdoor temperature. Symptoms include cool, moist skin and a weakened pulse. The person may feel faint.
  - Heat syncope is a sudden dizziness experienced after exercising in the heat. The skin appears pale and sweaty but is generally moist and cool. The pulse is weakened and the heart rate is usually rapid. Body temperature is normal.
  - Heat cramps are painful muscle spasms in the abdomen, arms, or legs following strenuous activity. Heat cramps are caused by a lack of salt in the body.
  - Heat exhaustion is a warning that the body is getting too hot. The person may be thirsty, giddy, weak, uncoordinated, nauseated and sweating profusely. The body temperature is normal and the pulse is normal or raised. The skin is cold and clammy.



**WARNING:** Do not permit children to use this unit unless they are closely supervised at all times.



**WARNING:** Exercise care when entering or exiting the hydromassage bathtub.



**WARNING:** Use this unit only for its intended use as described in this manual. Do not use attachments unless recommended by the manufacturer.



**WARNING:** Do not drop or insert any objects into any openings.



**WARNING:** Do not operate this unit without the guard over the suction fitting.



**WARNING:** Service or repair work needed for this hydromassage bathtub other than normal cleaning or care should be performed by an authorized and qualified service representative.

**SAVE THESE INSTRUCTIONS**

Thank you and congratulations on becoming a “RANE” customer!

This manual is intended to ensure that the equipment performs to your satisfaction. The following information is crucial to the proper operation of the equipment, and will allow for a great bathing experience for both the caregiver and the one being cared for.

If there are any questions about installation or operation of this unit, please contact your local Authorized Rane Dealer / Distributor, or Rane Bathing Systems at 888-880-7373.



**This symbol is used throughout this manual to highlight items of importance or safety. Please pay particular attention to these items to ensure proper and safe operation of the equipment.**

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# Technical Specifications

**Description:** Model RS8 is a supine / recumbent freestanding bathtub.

**Construction:** The tub shell consists of a 3/16” thick fiberglass-reinforced polyester laminate. Critical areas are reinforced with a 1/4” thick core of end-grain balsa and additional layers of fortifying laminate. The sanitary gelcoat is an ISO/NPG type-finish. The tub frame is welded aircraft grade aluminum box tube.

**Thermostatic Mixing Valve** with anti-scald protection that dispenses 15 gallons per minute for fast tub fill.

**Built-in Disinfection System** that is the most time-efficient solution for disinfection of the bath’s external surfaces and minimizes the risk of cross-infection.

**Handheld Shower Wand** for hair and upper body washing, which can be used at the same time the tub is filling.

**Analog Thermometer** for monitoring tub-fill and shower wand temperatures.

**3/4” Supply Lines** constructed of stainless steel mesh clad.

**CleanRane™ Air Spa System (if equipped)** with variable speeds and pulse mode that enhance the therapeutic and relaxing effects of bathing for the resident.

**Auto-Fill (if equipped)** is a time-saving feature that enables the caregiver to fill the tub to a pre-set level (64 gallons)

|  |                        |
|--|------------------------|
| Width(Fixed Height):                   | 35.5”                  |
| Length (Fixed Height):                 | 84”                    |
| Rim Height (Fixed Height):             | 32.5” (lowest setting) |
| Width(Height Adj.):                    | 35.5”                  |
| Length (Height Adj.):                  | 90”                    |
| Rim Height (Height Adj.):              | 30” (lowest setting)   |
| Adjustable leveling legs:              | 3” maximum             |
| Transfer device access (Fixed Height): | 10”                    |
| Transfer device access (Height Adj.):  | 5.5” (lowest setting)  |

|                             |  |
|-----------------------------|--|
| Weight capacity (resident): | 600 lbs. / 272.7 kg                          |
| Water capacity (occupied):  | 64 gallons / 242.2 L                         |
| Fill time (approx.):        | 4 minutes, 16 seconds                        |
| Drain time (approx.):       | 1 minute, 36 seconds                         |
| Water supply inlet:         | 3/4” diameter                                |
| Drain size:                 | 1.5”   |
| Electrical supply:          | 115V AC; 60Hz; 15 amp (GFCI outlet required) |

## Manufacturing and Testing

This unit is manufactured in Sparta, Tennessee, USA. Each unit passes a through quality control review and is tested for proper operation prior to shipping. This unit is manufactured to meet or exceed the following certifications: **Plumbing IAPMO Z124-2011, CSA B45.5-11 / Electrical UL 1795, CSA STD C22.2 NO. 218.2**

## Warranty

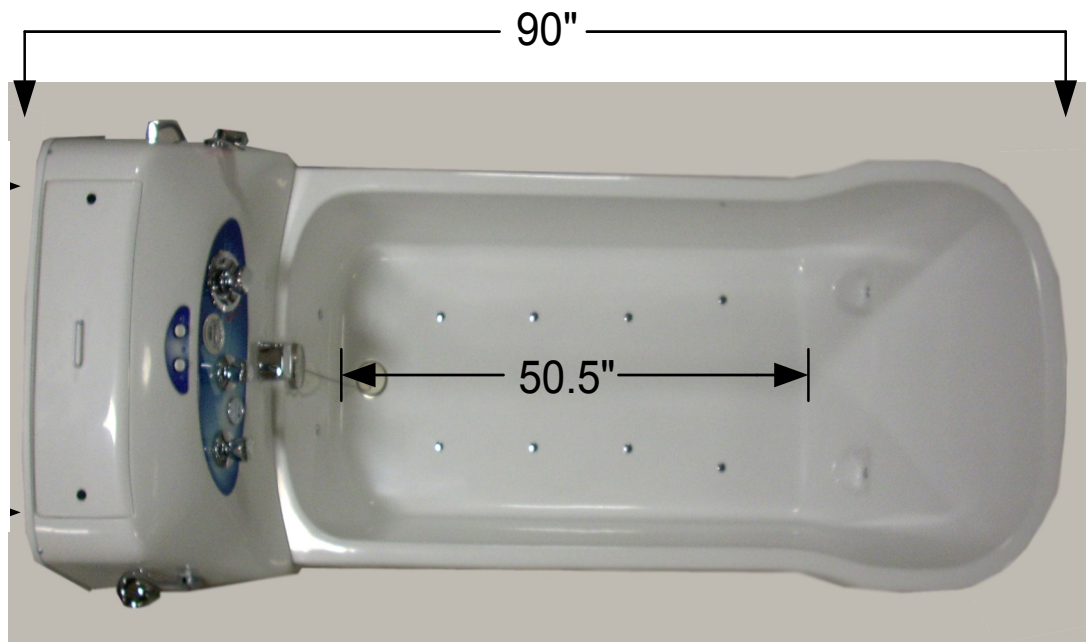
Please reference section 5 for complete warranty details.

## Pre-Installation Drawings and Dimensions

**FRONT VIEW (Height Adjustable)**



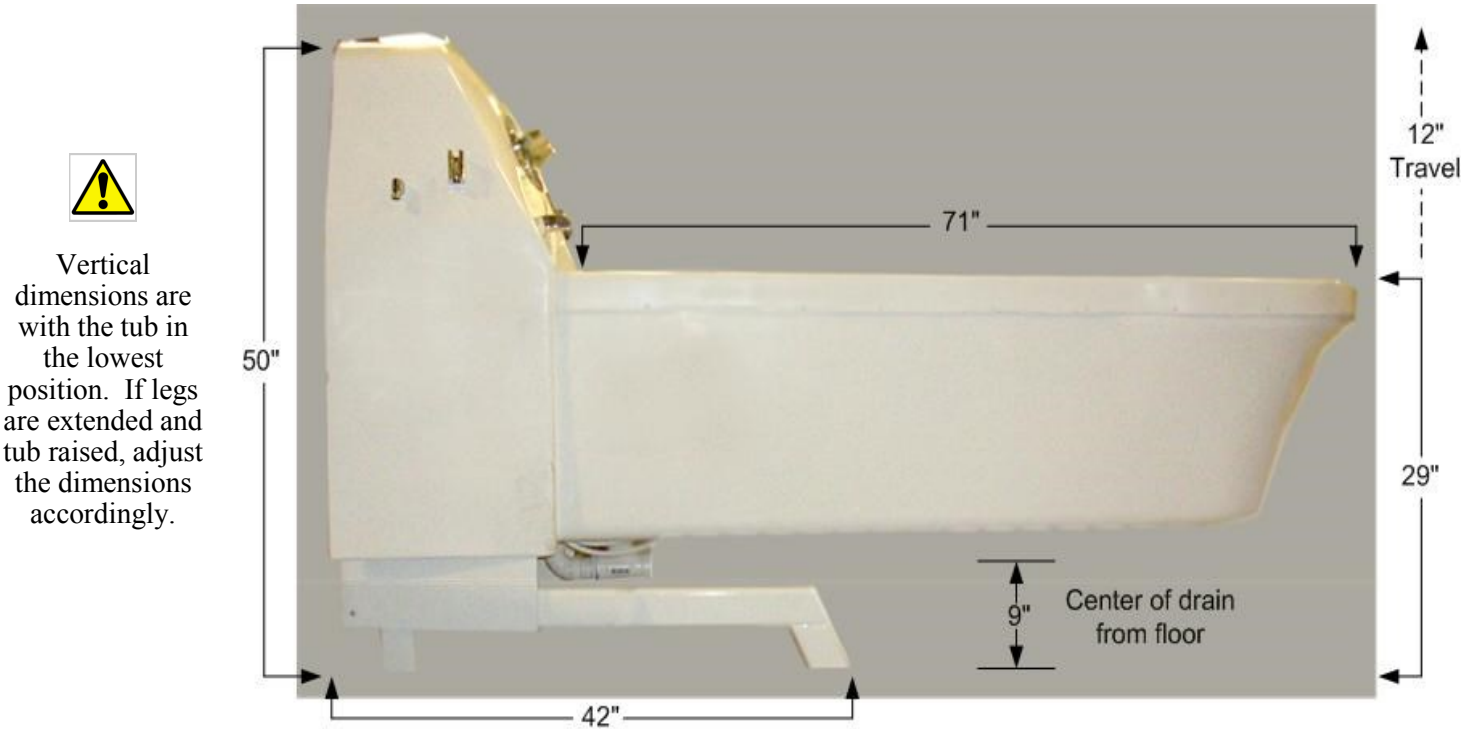
**TOP VIEW (Height Adjustable)**



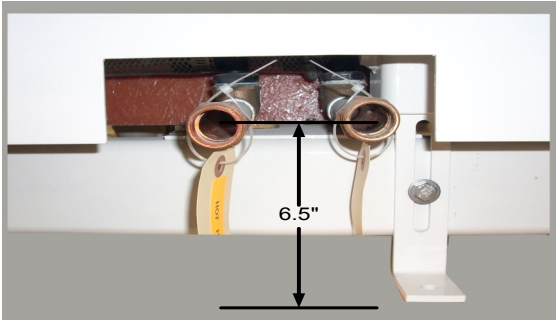
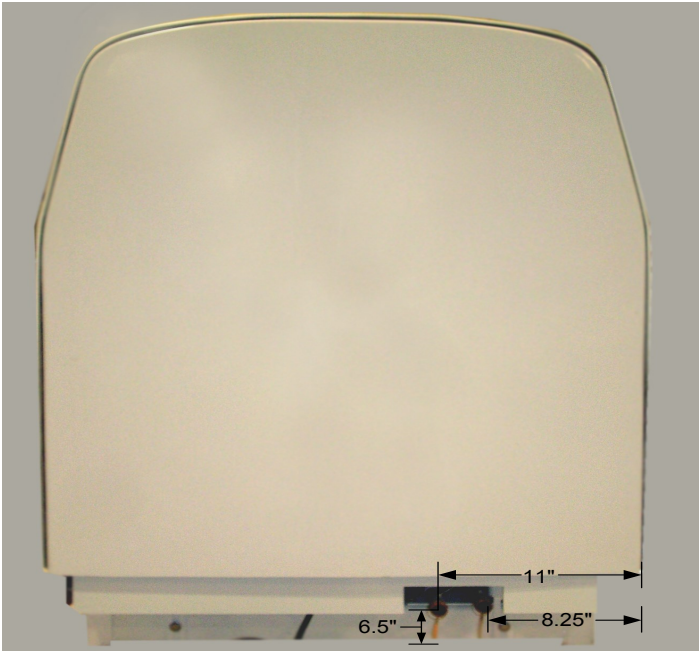


# Pre-Installation Drawings and Dimensions

SIDE VIEW (Height Adjustable)

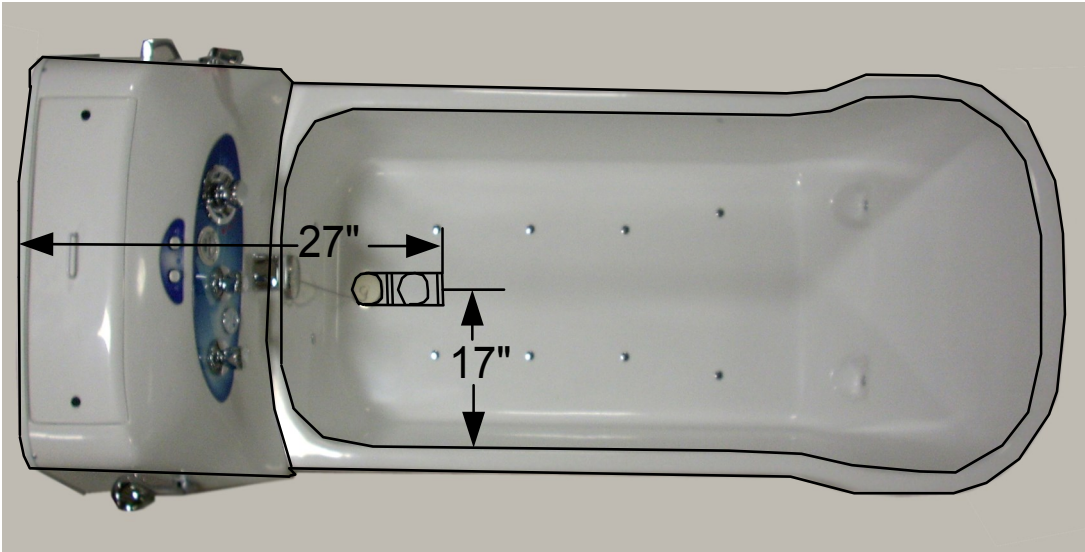


REAR PLUMBING VIEW (Height Adjustable)



# Pre-Installation Drawings and Dimensions

DRAIN VIEW (Height Adjustable)



Drain connection is 9" off floor when tub is in the lowest position.

DRAIN CONNECTION VIEW (Height Adjustable)




Facility drain connection to the tub must be flexible hose and allow for 12" of vertical travel.

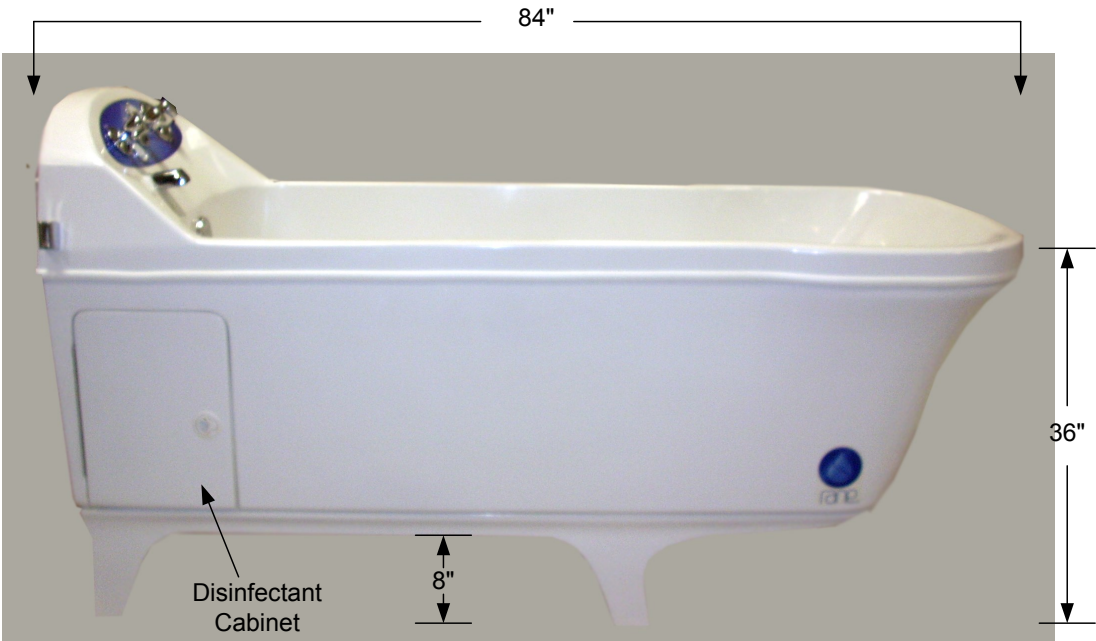
2" PVC Drain Sanitary Tee



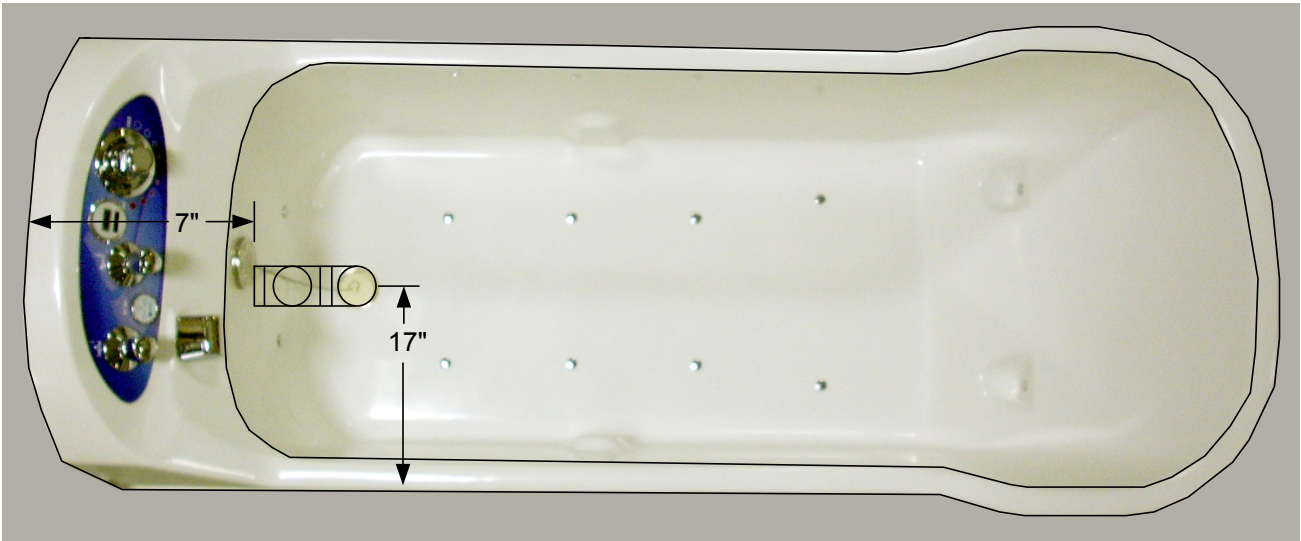
**Pre-Installation Drawings and Dimensions**

**SIDE VIEW (Fixed Height)**

  
Vertical dimensions are with the tub in the lowest position. The tub can be raised a maximum of 3".



**DRAIN VIEW (Fixed Height)**



## Pre-Installation Drawings and Dimensions

### REAR PLUMBING VIEW (Fixed Height)



- Unit must be grounded to a Ground Fault Circuit (GFCI) outlet
- 8' Electrical Cord with Standard Hospital Grade Plug
- 3' Stainless Steel Braided hot and cold flexible hoses with 3/4" FIP Connection (provided)



# **Installing the Tub**

The RS8 is designed to be installed as a freestanding recumbent / supine unit. Several items of precaution should be taken during installation:

- **USE THIS PRODUCT ONLY FOR ITS INTENDED USE AS DESCRIBED IN THESE INSTRUCTIONS.**
- **DURING CONSTRUCTION, THE TUB'S SHELL IS VULNERABLE TO DAMAGE CAUSED BY FALLING OBJECTS, SUCH AS TOOLS AND CONSTRUCTION MATERIALS. DO NOT STAND IN THE TUB DURING INSTALLATION.**
- **NEVER STORE ANY CONSTRUCTION MATERIALS INSIDE THE TUB.**
- **PRINTED DIMENSIONS ARE FOR REFERENCE ONLY. MEASUREMENTS SHOULD BE TAKEN FROM THE ACTUAL TUB.**
- **THE TUB MUST BE WATER TESTED FOR LEAKS BEFORE THE TUB IS COMPLETELY ENCLOSED AND INSTALLED.**

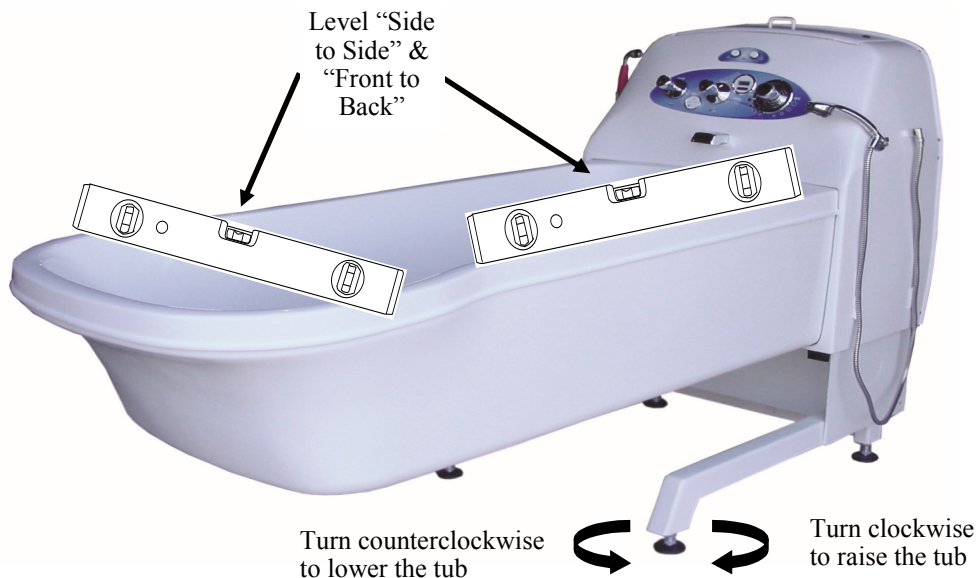
**Step 1:** Determine final location and review framework for the tub. Rough-in plumbing and electrical hook-ups must meet building codes and regulations. Please review section 2 for rough-in dimensions and allow for the spacing needed. Review the space requirements for lifting devices.

**Step 2:** Remove all packing material and cardboard packaging from tub. Set aside the accessory box which is located underneath or inside the tub. Remove the tub from the pallet.



**NOTE:** Check all applicable building codes. All electrical and plumbing work must be performed by qualified personnel.

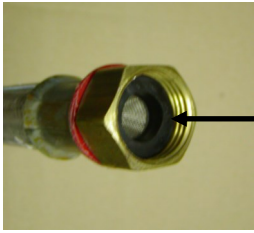
**Step 3:** Move the tub into the final location. Use a level across the back and side of the tub. If adjustment is needed, level the unit by turning the adjustable legs to raise or lower the tub. See picture below for more information.



**Step 4:** Before hooking up the two 3/4 water lines, clean the main hot and cold water supply lines of debris prior to connection. Valves, shower wand, and accessories may become clogged and or damaged if the lines are not free of debris. Make sure that the screens are present and the hoses are not kinked or bent after hookup. The threaded connections are NOT “hose thread”, but rather “National Pipe Thread” (NPT). **The warranty does not cover damage caused by debris in the lines.**


## Installing the Tub (cont'd)

**Step 5:** Connect the hot and cold water hoses, drain, and electrical connection. Double check all connections for proper fit and installation.



Make sure hose screens are present and inserted in the end of each supply line

 **NOTE:** Make sure the unit is level prior to fastening to the floor. Do not over tighten the floor connections. This could cause the unit to become un-level.

 **NOTE:** If mobile lifts are used for transferring, verify that the lift base clears the plumbing and electrical connections. If possible damage could occur, you must install blocking or a stop to prevent contact between the lift base and the plumbing and electrical connections.

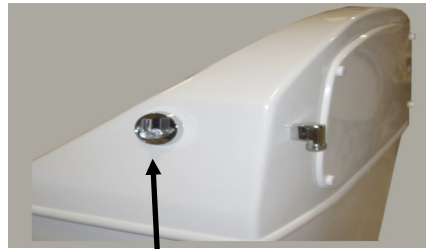
**Step 6:** Make drain connection from sanitary tee on tub to the facility drain.

**Step 7:** If tub has air spa, plug the electrical cord into the GFCI outlet.

**Step 8:** Attach any accessories, including shower wand and disinfect hose assembly. The shower hose is concealed inside tub, and can be pulled out.




Disinfectant Wand Holder



Shower Wand Holder

**Step 9:** Test tub for proper operation. Be sure to clean inside of tub prior to filling unit. Excess debris may damage the air spa jets or gel coat. Check the unit for any leaks.

**Step 10:** Remove any installation labels and directions. Clean tub with warm water and a non-abrasive cleaner.

 **NOTE:** The thorough inspection and startup of the tub is required before first use. It is the installer's responsibility to check and tighten threaded and drain connections before using tub.



# Using the Tub

## RS8 "Geneva" (Height Adjustable) Operating and Disinfecting Procedures

### Operating Procedures

- Raise or lower the tub to the desired height using the "Raise / Lower" buttons located below or on sides of the control panel.
- Put drain stopper in place over the drain.
- Turn on water with "Tub-Fill" valve or press the "Auto-Fill" button (if equipped). If "Auto-Fill" is activated, the tub will fill and shut-off automatically when the proper water level is reached.
- Check temperature with your hand as you adjust the "Water Temperature Control" valve. Confirm the water temperature on the "Thermometer".



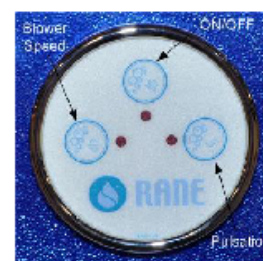
**TEMPERATURE OVER 110 DEGREES CAN SCALD.**

- To use the "Shower Wand" turn on the "Shower Diverter" valve and hold wand away from resident. Check the water temperature with your hand and "Thermometer" before showering the resident. The "Shower Wand" may be used while filling the tub.
- Use *non-foaming* bathing solutions and /or bath oils, which are ideal for tubs with air spa systems.
- Pull the drain plug. Rinse and dry the resident while the tub is draining.



### Air Spa System (if equipped w/ Touch / Keypad)

- "On / Off" button
  - 1<sup>st</sup> press: blower turns on
  - 2<sup>nd</sup> press: blower turns off
- "Blower Speed" button.
  - 1<sup>st</sup> press: press and hold button to increase blower speed, release button at desired setting.
  - 2<sup>nd</sup> press: press and hold button to decrease blower speed, release button at desired setting.
- "Pulsation" button.
  - 1<sup>st</sup> press: wave - blower speed will go from maximum to minimum gradually.
  - 2<sup>nd</sup> press: pulse - blower speed will go from maximum to minimum quickly.
  - 3<sup>rd</sup> press: exits pulsation mode and returns to normal blower speed.



### Air Spa System (if equipped with chrome High-Rise Button)

- 1<sup>st</sup> press: Blower turns on at high speed
- 2<sup>nd</sup> press: Blower changes to low speed
- 3<sup>rd</sup> press: Blower turns off



*\* The air spa blower motor has a safety feature that automatically shuts it down after it runs continuously for 20 minutes. If a longer bathing experience is needed, press the on/off button and the motor will stay on for another 20 minutes.*

### Drying Cycle (Purge Cycle)

An automatic drying cycle will start **10 minutes** after the blower is turned off. The ON/OFF LED (if equipped with a touch / keypad) will blink indicating the purge cycle is activated. Once the purge cycle begins, the Air Spa blower will run for one (1) continuous minute at maximum speed. The Air Spa blower **cannot** be turned off during the purge cycle.

### Disinfecting Procedure



**THE TUB MUST BE UNOCCUPIED AND SAFETY PROCEDURES FOLLOWED.**

- Unlock and open the "Disinfectant Cabinet" door.
- Remove the "Disinfectant Wand" from its holder and point spray head into the tub.
- Turn the "Disinfectant Valve" to the "DISINFECT" position.
- Spray the interior surface of the tub. Use brush or sponge if needed.
- Turn the "Disinfectant Valve" to the "OFF" position.
- Allow disinfectant solution to remain on the interior surface of the tub for the period of time recommended by the manufacturer.
- Turn the "Disinfectant Valve" to the "RINSE" position. Thoroughly rinse the interior surface of the tub.
- Turn the "Disinfectant Valve" to the "OFF" position. Return the "Disinfectant Wand" to its holder and lock the "Disinfectant Cabinet" door.



**TO ORDER THE RECOMMENDED DISINFECTANT  
FOR YOUR RANE BATHING SYSTEM PLEASE CALL**

**1-888-880-7373**



# Using the Tub

## RS8 "Geneva" (Fixed Height) Operating and Disinfecting Procedures

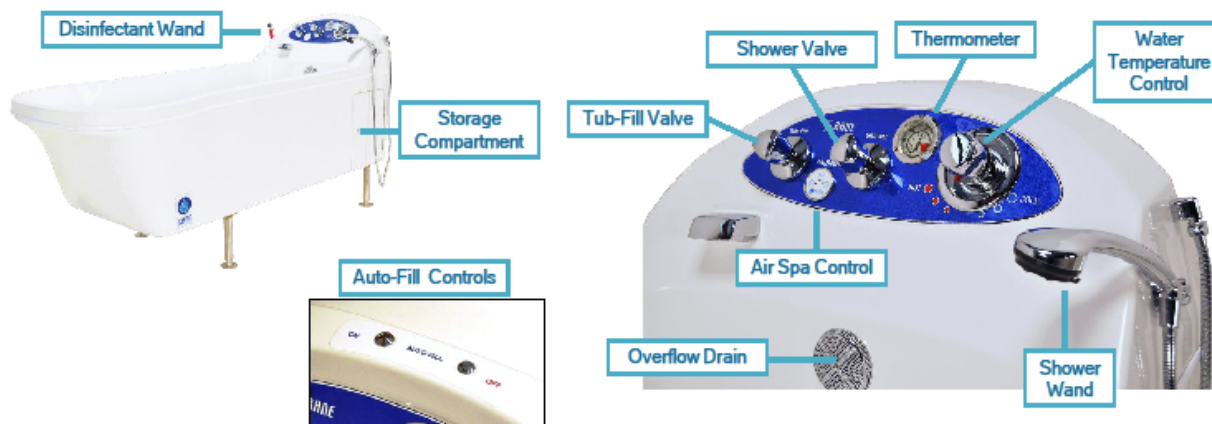
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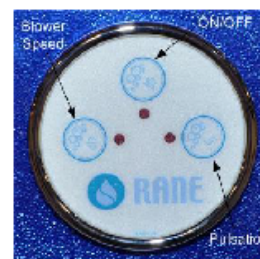
**TEMPERATURE OVER 110 DEGREES CAN SCALD.**

- To use the "Shower Wand" turn on the "Shower Diverter" valve and hold wand away from resident. Check the water temperature with your hand and "Thermometer" before showering the resident. The "Shower Wand" may be used while filling the tub.
- Use *non-foaming* bathing solutions and /or bath oils, which are ideal for tubs with air spa systems.
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**TO ORDER THE RECOMMENDED DISINFECTANT  
FOR YOUR RAN BATHING SYSTEM PLEASE CALL  
1-888-880-7373**



## LIMITED WARRANTY

Rane Bathing Systems products are warranted to be free from defects in materials and workmanship for a period of *five (5) years* for external finishes and composite shell, *three (3) years* for all moving and stationary parts, including but not limited to, valves, air spa blower, whirlpool pumps, actuators, door mechanisms, hinges, gauges, thermometers, and *Lifetime* for the door seal. *Shower and disinfectant hoses, handheld shower wands, and disinfectant spray wands are excluded from this warranty.*

### *Commencement of Warranty Period*

Warranty commences on the date of shipment to Customer and/or Dealer. Warranty Registration Card must be received by Rane to ensure activation of warranty coverage.

### *Repair or Replacement*

During the warranty period, Rane will repair or replace any defective parts or portion thereof returned by Customer and/or Dealer if Rane determines was defective due to faulty materials or workmanship. The Customer and/or Dealer must obtain a Return Goods Authorization (RGA) number from Rane. *The Customer and/or Dealer will pay all related labor and return costs incurred in the replacement, installation, or repair of the defective parts or portion thereof to Rane.* Rane retains the exclusive right to repair or replace the defective products or parts or portion thereof at its sole discretion. In the event that it is determined that the cost of warranty repairs and/or parts is excessive, Rane may require the Customer and/or Dealer to provide a written report and pictures of defect for review. In the event that replacement parts are sent by Rane to the Customer and/or Dealer before the defective parts have been received and reviewed by Rane, the Customer and/or Dealer will be invoiced for the replacement parts and shipping costs. Once the defective parts have been received by Rane, and deemed to be defective due to faulty materials or workmanship, a credit or refund will be issued to the Customer and/or Dealer.

### *Disclaimer and Limitation of Remedies*

The warranties and remedies contained herein are exclusive and in lieu of all other warranties express or implied or statutory, including any liability arising under any warranty of merchantability or fitness for a particular purpose, statutory or otherwise. In no event shall Rane be liable for any incidental, special, indirect or consequential damages, whether resulting from the use, misuse, or inability to use this Product or defects in the Product. Warranty of parts subject to "normal wear and tear" (i.e. cushions, pads, lap and shoulder belts, shower wands, and hoses) are not covered under this warranty except as it applies to the defects in materials and workmanship.

### *Voiding of Warranties*

The warranty does not cover products or parts thereof that have been subjected to abuse, misuse, neglect, unauthorized alteration or repair, damage during installation, or improper installation as per the instructions provided by Rane.

**FOR PARTS AND SERVICE, CONTACT YOUR LOCAL AUTHORIZED RANE DEALER**

# Maintenance and Adjustments

## Routine Maintenance

Contact your local Authorized Rane Dealer / Distributor or Rane Bathing Systems for periodic updates to this schedule.

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

| Check List   | Monthly  | 3 Months | 6 Months | Yearly   |
|--|----------|----------|----------|----------|
| Inspect and Test GFCI                                | <b>X</b> |          |          |          |
| Check Disinfectant System                            |          | <b>X</b> |          |          |
| Check Hand-Held Shower Wand and Hose                 |          | <b>X</b> |          |          |
| Check Tub-Fill and Shower Valve Operation            |          | <b>X</b> |          |          |
| Check Hoses and Connections                          |          |          | <b>X</b> |          |
| Check Thermometer for Accuracy                       |          |          | <b>X</b> |          |
| Check Thermostatic Mixing Valve                      |          |          | <b>X</b> |          |
| Check Maximum Water Temperature                      |          |          | <b>X</b> |          |
| Clean Hot and Cold Supply Hose Screens               |          |          | <b>X</b> |          |
| Check that all Access Panels are secure              |          |          |          | <b>X</b> |
| Check Air Spa Functions and Controls (if applicable) |          |          | <b>X</b> |          |
| Replace Air Spa Jet Inserts (if applicable)          |          |          |          | <b>X</b> |
| Check and Clean Door Seal (if applicable)            | <b>X</b> |          |          |          |
| Check Door Mechanism (if applicable)                 | <b>X</b> |          |          |          |
| Check Door Alignment (if applicable)                 |          |          | <b>X</b> |          |
| Check Hinge Screws (if applicable)                   |          |          | <b>X</b> |          |
| Check Raise / Lower Buttons (RR7-II & RS8)           |          |          | <b>X</b> |          |
| Inspect and Lubricate Actuator (RR7-II & RS8)        |          |          | <b>X</b> |          |
| Check Auto-Fill Buttons / Operation (RR7-II & RS8)   |          |          | <b>X</b> |          |

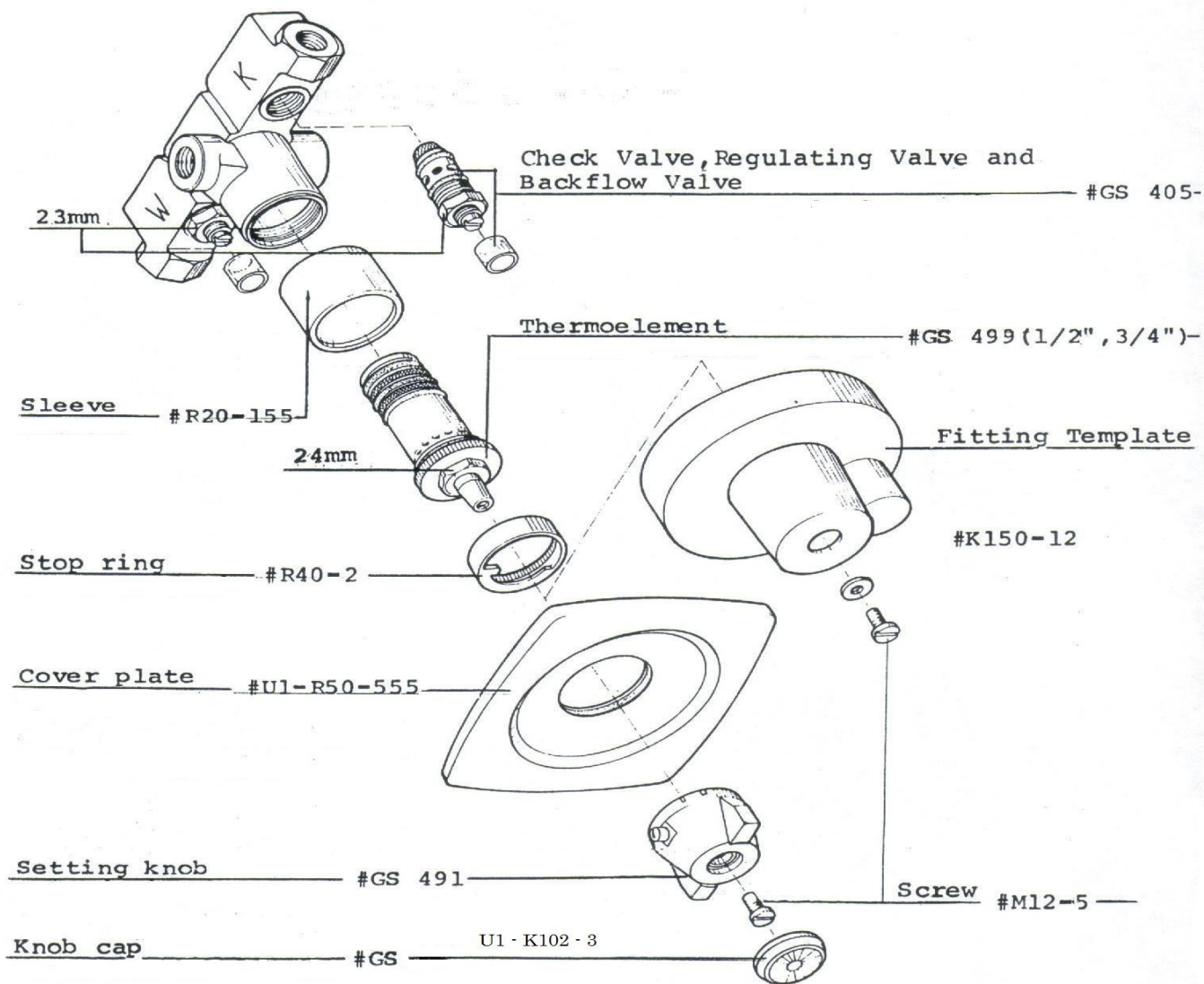
# Troubleshooting

| Problem / Issue   | Check  | Action / Solution  |
|---|--|--|
| Water too hot or too cold   | Check hose washer / screen in end of supply hoses                                | Remove and check for debris or build-up, clean or replace if needed                              |
|   | Check hot and cold supply lines for kink(s) or damage                            | Remove kink(s) or replace if needed  |
|   | Check if hot and cold connections are properly installed                         | Reverse connections if backwards   |
|   | Check if water supply dynamic pressures are within 10% of each other             | Consult with a local Plumber   |
|   | Check thermostatic mixing valve for proper temperature calibration               | Calibrate (see Section 8.2)  |
|   | Check thermostatic mixing valve cartridge  | Remove and check for debris or build-up (see Section 8.3)  |
| Valve package not working properly (ie. tub-fill and shower valves) | Check knobs  | see Section 9  |
|   | Check valve stems  | Check if damaged or properly tightened (see Section 9)   |
| Raise / Lower mechanism malfunctioning                              | Check if plugged into outlet and/or damage to the electrical cord                | Plug-in and/or replace the electrical cord if needed   |
|   | Check if GFCI outlet is working properly   | Reset GFCI outlet / breaker  |
|   | Check Actuator   | Contact an Authorized Dealer or Rane Bathing Systems for assistance                              |
| Air Spa not working properly (if equipped)                          | Check if plugged into outlet and/or damage to the electrical cord                | Plug-in and/or replace the electrical cord if needed   |
|   | Check if GFCI outlet is working properly   | Reset GFCI outlet / breaker  |
|   | Check gray hose for either kink(s) or has come off the air spa motor or manifold | Remove kink(s) or re-attach gray hose to air spa motor or manifold by tightening the hose clamps |
|   | Check Air Spa Jets (12 total)  | Clean or replace spring loaded check valve (see Section 10.1)                                    |
|   | Check Air Spa Touch / Keypad   | Replace if needed (see Section 10.2)   |
|   | Check Air Spa Motor  | Replace if needed (see Section 10.3)   |
|   | Check for User error   | see Section 4 (Using the Tub)  |
| Disinfectant System not working properly                            | Check clear tube that goes into the disinfectant bottle                          | Un-clog the clear tube and/or mesh filter on the end of the tube                                 |
|   | Check disinfectant knob  | Tighten if needed (see Section 11)   |
|   | Check DEMA Valve   | Remove and clean (See section 11)  |

# Thermostatic Mixing Valve

SCHMIEDL Thermostatic Mixer

GS 450 1/2" (3/4")

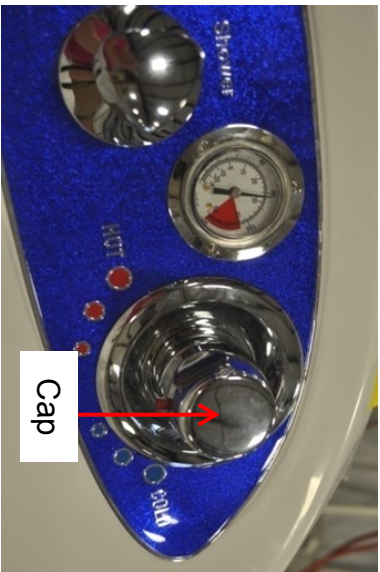




# Thermostatic Mixing Valve (cont'd)

## HOW TO CALIBRATE THERMOSTATIC MIXING VALVE?

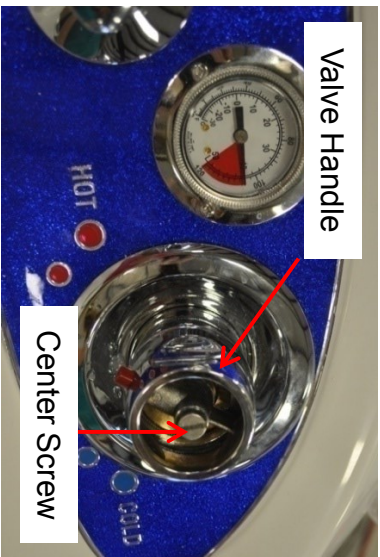
**TOOLS NEEDED: SMALL FLATHEAD SCREWDRIVER & LARGE FLATHEAD SCREWDRIVER**



**Step 1:** Use a small flathead screwdriver and find the notch under the cap and remove it. **Be careful not to scratch the chrome finish.**



**Step 3:** Once temperature is reached, loosen center screw and pull valve handle towards you until valve handle is loose. Turn valve handle clockwise towards hot until valve handle stops. Tighten center screw.



**Step 2:** Loosen center screw and pull valve handle towards you until valve handle is loose. Next, turn valve handle towards cold. Tighten screw. Turn valve handle clockwise towards hot. Turn in small increments until desired temperature is achieved. **104° F maximum is recommended.**

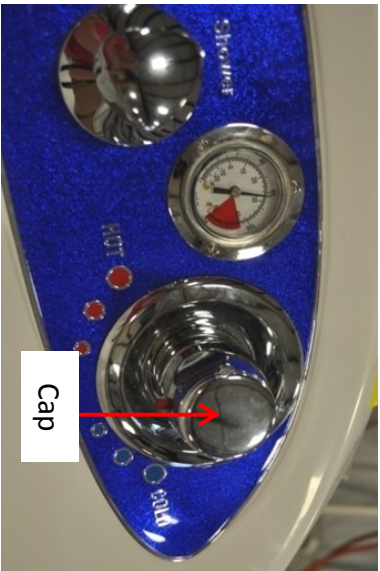


**Step 4:** Re-install cap. The tub temperature is now calibrated and ready for use.

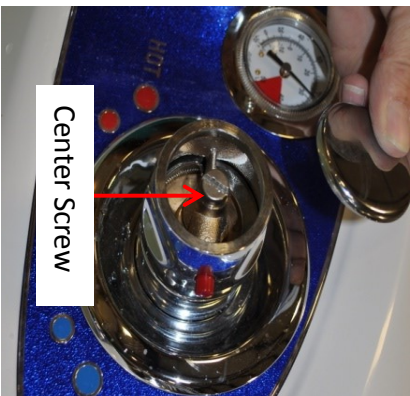
## Thermostatic Mixing Valve (cont'd)

### HOW TO REMOVE THERMOSTATIC MIXING VALVE CARTRIDGE?

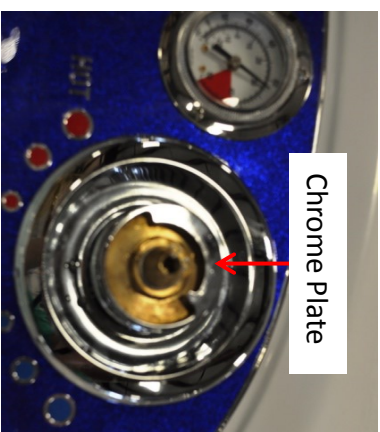
TOOLS NEEDED: SMALL FLAT TIP SCREWDRIVER, LARGE FLAT TIP SCREWDRIVER, CRESCENT WRENCH



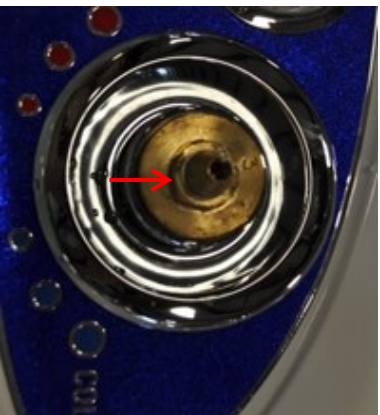
**Step 1:** Use the small flat tip screwdriver and find the notch under the cap to remove the cap. **Be careful not to scratch the chrome finish.**



**Step 2:** Hold the valve handle with one hand and use a large flat tip screwdriver to remove the center large screw. Pull to remove handle.



**Step 3:** Remove chrome plate from top of valve. Insert a large flat tip screwdriver under the chrome plate to gently pry off.



**Step 4:** Using a Crescent Wrench, turn nut on mixing valve cartridge counterclockwise to remove.



**Step 5:** Pull out mixing valve cartridge and soak **overnight** in Vinegar or CLR solution.



**Step 6:** Install mixing valve cartridge. Calibrate temperature before first use. See mixing valve calibration instructions.



# Valve Package

## HOW TO REPLACE A TUB-FILL OR SHOWER DIVERTER VALVE STEM?

TOOLS NEEDED: CRESCENT WRENCH, SILICONE ADHESIVE AND 17MM SOCKET (if needed)

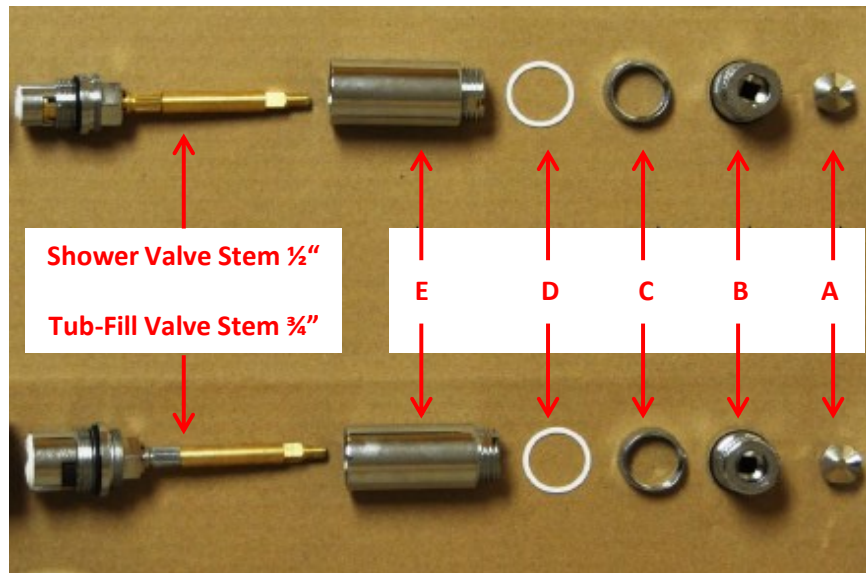


Figure 1



**Step 1:** Using both hands, grip the knob firmly. Pull firmly and steady to remove the knob.



**Step 2:** Remove the chrome escutcheon and gently peel off the rubber gasket.

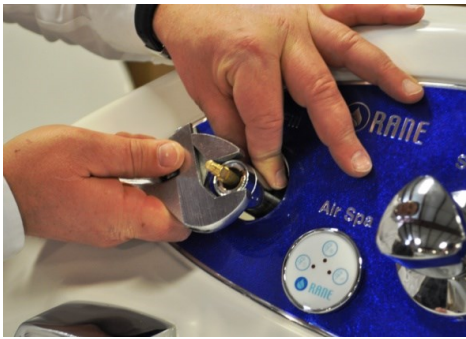


**Step 3:** Using a crescent wrench, remove part A (fig. 1). Hold the valve assembly firmly with your fingers.



**Step 4:** Remove part B (fig. 1). Simply pull straight out.

## Valve Package (cont'd)



**Step 5:** Using a crescent wrench, remove part C (fig. 1).



**Step 6:** Remove part D (fig. 1).



**Step 7:** Using a crescent wrench, remove part E (fig. 1).



**Step 8:** Use crescent wrench on square tip of the valve stem and remove.



**Step 9:** Insert and carefully thread in new valve stem. **Hand tighten.**



**Step 10:** Use crescent wrench on square tip of the valve stem and tighten till it stops. **Note: Be careful not to over tighten and snap the stem.**



**Step 11:** Re-install part E (fig. 1).  
**Note: Do not over tighten.**



**Step 12:** Re-install part D (fig. 1).



**Step 13:** Using a crescent wrench, Re-install part C (fig. 1).



**Step 14:** Re-install part B (fig. 1)



## Valve Package (cont'd)



**Step 15:** Re-install part A (fig. 1). Hand tighten until it stops, then using the crescent wrench, tighten 2 full turns. **Note: Do not over tighten.** If turning the valve on and off is stiff or makes a grinding noise, the nut is too tight. Back off by loosening a ½ to 1 turn. The valve should be fluid and easy to turn on and off.



**Step 16:** Re-install the chrome escutcheon and rubber gasket. **Note: If rubber gasket loses its adhesive backing during removal in step 2, use a small bead of silicone adhesive around the entire rubber gasket. Wipe off any excess silicone.**



**Step 17:** Align the teeth inside the knob with the teeth on part B (fig. 1). Using the palm of your hand, push in the knob firmly till it locks into place. **Note: If knob doesn't lock into place, use a small amount of shampoo or body wash on the teeth for lubrication.**



**Note:** If the valve stem is broken off, use either a 17mm socket or channel locks to remove it. Remove all of the parts (A-E on fig. 1) from the broken valve and begin at step 9. If parts cannot be removed from the broken valve, you'll need to order the complete valve package (item # 1685-1/2" shower valve or # 1690-3/4" tub-fill valve).



## HOW TO REPLACE AN AIR SPA JET ASSEMBLY?

**TOOLS NEEDED: SMALL FLAT TIP SCREWDRIVER AND SMALL NEEDLE NOSE PLIERS**

**Step 1:** Turn on air spa motor for 30 seconds to blow out any water in the assembly.

**Step 2:** Place the drain plug over drain hole or close cable drain to avoid any parts falling into the tub drain.



**Step 3:** Using a small flat tip screwdriver, insert tip into one of the 6 small openings in the jet cover cap and gently pop off. **Be careful not to damage gelcoat or nylon assembly.** Using small needle nose pliers, remove the "Y" piece (see Fig. 1) to expose the internal parts of the jet assembly and remove the old brass insert and spring. **Do not lose or throw out the "Y" piece,** set aside.

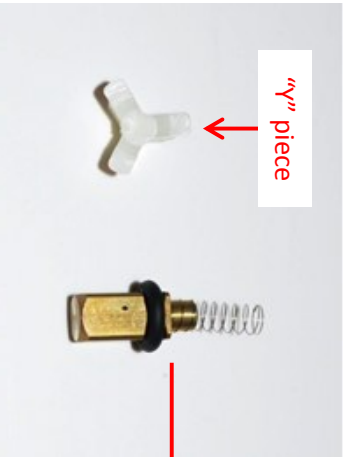
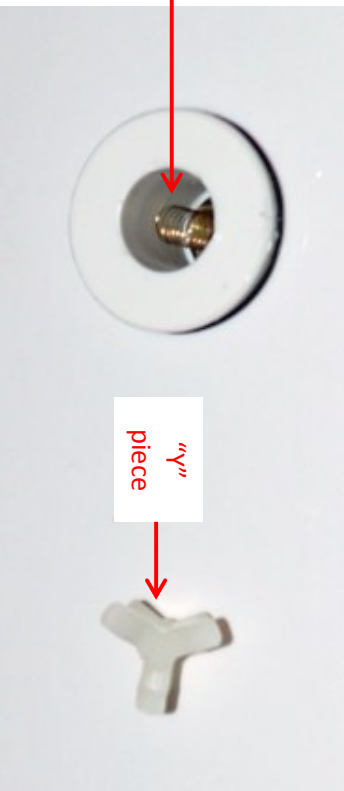


Fig. 1



**Step 5: Make sure the jet assembly is free of debris, mildew, or any buildup before inserting new brass insert and spring.** Clean with cotton swab if needed. Insert the new brass insert and spring into the existing jet assembly. Make sure the spring is installed directly in the center of the jet assembly.



**Step 6:** Insert the "Y" piece directly centered on the spring. Push down on the "Y" piece till it snaps into place. Spring must be centered to work properly (see above picture). Install jet cover cap. Press until you hear a snap noise indicating it's in the correct position.

## Air Spa System (cont'd)

### HOW TO REPLACE AN AIR SPA KEYPAD (INSTITUTIONAL)?

TOOLS NEEDED: SMALL FLAT HEAD SCREWDRIVER



**Step 1:** Insert a small flat head screwdriver behind the existing air spa keypad and gently pull up. Be careful not to scratch tub.



**Step 2:** Pull air spa keypad off the faceplate. The gray CAT5 cable will be attached. Be careful not to pull too hard on the cable.



**Step 3:** Disconnect gray CAT5 cable from back of old air spa keypad. Be careful not to allow the cable to fall into the hole.



**Step 4:** Using the alcohol swab included with the new keypad kit, clean and remove any remaining glue or debris.



**Step 5:** Remove the adhesive covering on the new air spa keypad.



**Step 6:** Insert gray CAT5 cable into the new key pad. Make sure the clip snaps into place.



**Step 7:** Insert new air spa keypad into tub with RANE logo on bottom and straight. Press on the edges around the keypad to make sure it adheres to the faceplate.



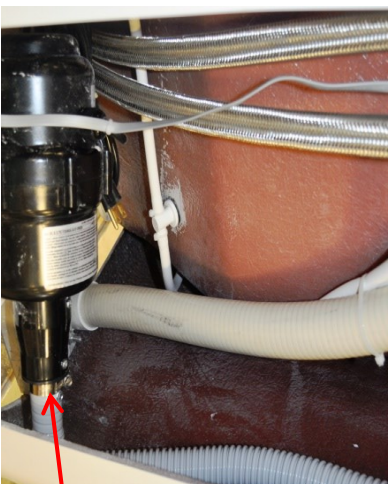
## HOW TO REPLACE AN AIR SPA MOTOR (HEALTHCARE FACILITY TUBS)?

**TOOLS NEEDED: #2 PHILLIPS SCREWDRIVER, TWO 7/16" WRENCHES, PVC CEMENT, 5/16" SOCKET OR LARGE FLAT TIP SCREWDRIVER**

**Step 1:** Remove access panel and unplug Air Spa Motor from GFCI outlet.



**Step 2:** Follow the grey CAT5 cable from the Air Spa Motor to the back of the Air Spa Keypad, press tab and remove.



**Step 3:** Using a 5/16" socket or large flat tip screwdriver, remove the hose clamp and self tapping screw (if installed), which secures the grey flexible hose to the Air Spa Motor. **Do not remove the grey flexible hose.**



**Step 4:** Using two 7/16" wrenches, remove Air Spa Motor mount nuts, bolts, and washers (top bolt and nut underneath). Remove the Air Spa Motor, including the grey CAT5 cable.



**Step 5:** Install new Air Spa Motor (see Step 4). Install new CAT5 cable and plug into the Air Spa Keypad (see Step 2), which comes with the new Air Spa Motor.



**Step 6:** Put a light coat of PVC Cement on the area where the grey flexible hose slides onto the Air Spa Motor. Re-attach the grey flexible hose to the Air Spa Motor. Using the 5/16" socket or large flat tip screwdriver, tighten the hose clamp that secures the grey flexible hose. Wipe off any excess PVC Cement. **\* Make sure there are no kinks or obstructions in the flexible grey hose, which can cause overheating leading to failure and/or damage to the Air Spa Motor.**

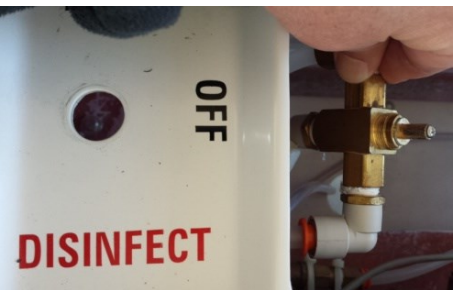
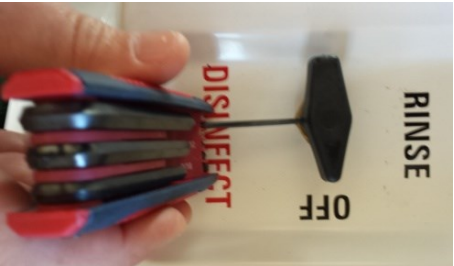
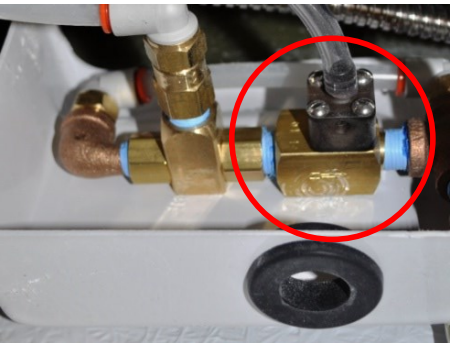
**Step 7:** Plug the Air Spa Motor into GFCI outlet and test using the Air Spa Keypad. Test all functions.

**Step 8:** Re-attach access panel.

# Disinfectant System

## HOW TO CLEAN AND/OR REPLACE A DEMA VALVE?

TOOLS NEEDED: ADJUSTABLE WRENCH, 3/32" ALLEN WRENCH, FLATHEAD SCREWDRIVER

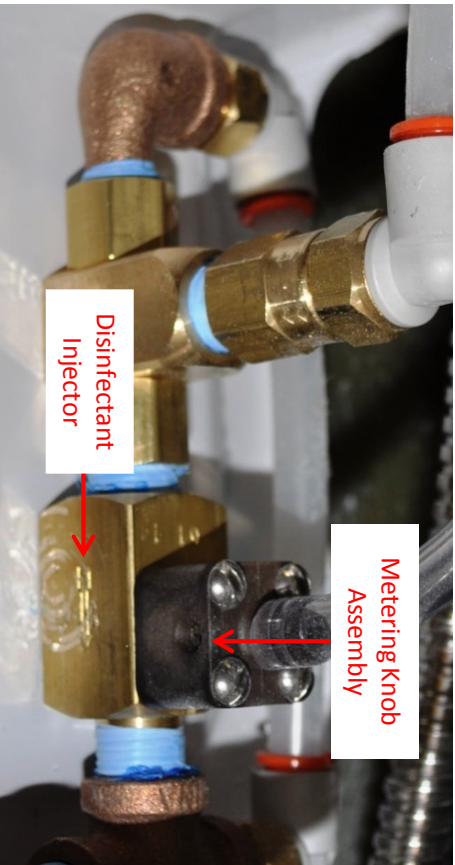


**Step 1:** Turn cold water supply off and identify the Disinfectant Valve System, which consists of a Metering Knob Assembly and Disinfectant Injector.

**Step 2:** Remove the knob using a 3/32" Allen wrench. Remove the large nut holding the 3-way Valve in place with an Adjustable wrench. Simply pull or push the disinfectant valve system out of the hole, which will allow easy access for the repair/cleaning.



**Step 3:** Remove the clear hose that goes from the Metering Knob Assembly to the disinfectant bottle. Run hot water through the hose and filter on the end to remove debris or build-up.



**Step 4:** Label or mark the hoses to insure they are reconnected correctly. Remove the hoses using the quick disconnects and/or compression nut (Adjustable wrench needed). *\* Removing the hoses is not required, however, it makes it easier to perform the task.*



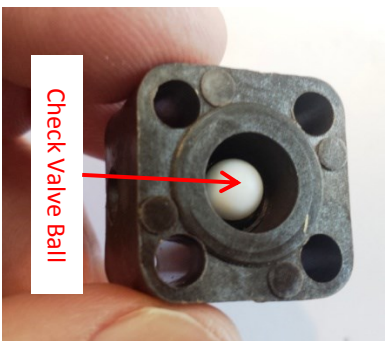
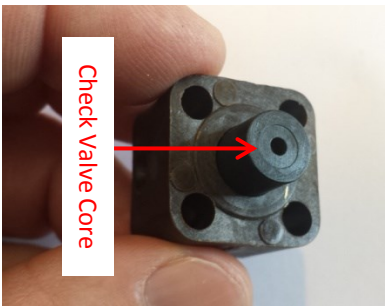
# Disinfectant System



**Step 5:** Using a flathead screwdriver, remove the 4 screws that secure the Metering Knob Assembly to the Disinfectant Injector. Pull the Metering Knob Assembly out of the Disinfectant Injector. *\* Be careful not to lose the Metering Knob O-ring.*



**Step 7:** With hot water, clean the Metering Knob Assembly, Check Valve Core w/spring, Check Valve Ball, and Check Valve O-ring. Remove any debris or build-up.



**Step 6:** Remove the Check Valve Core exposing the Check Valve Ball (white teflon) and the Check Valve O-ring, which is underneath the Check Valve Ball. *\* Be careful not to lose the parts, which may fall out.*



**Step 8:** Reinstall the Check Valve O-ring first, Check Valve Ball second, then the Check Valve Core w/ spring. *\* Make sure that the Check Valve Core moves in and out smoothly and springs back when pushed in. If not, check for debris that may be interfering with movement.*



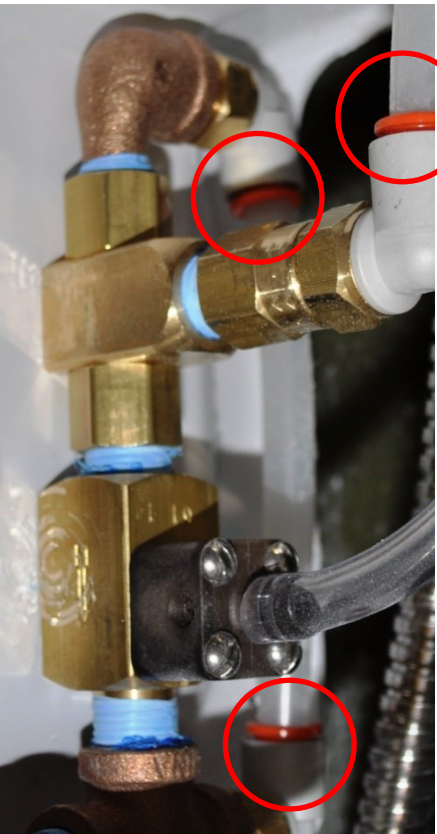
# Disinfectant System



**Step 9:** Reinstall the Metering Knob O-ring first. Reinstall the Metering Knob Assembly to the Disinfectant Injector and snugly tighten all 4 screws.



**Step 10:** Reinstall the clear hose that goes from the Metering Knob Assembly to the disinfectant bottle. *\* If the end of the hose is stretched out and loose, cut a ¼" off the end and reinstall.*



**Step 11:** Reinstall the hoses using the quick disconnects and/or compression nut (Adjustable wrench needed). *\* Make sure the hoses are reconnected correctly.*



**Step 12:** Put the 3-way Valve back into the hole. Reinstall the nut using an adjustable wrench. Reinstall the knob using a 3/32" Allen wrench. *\* Make sure the knob lines up with the labels (OFF / RINSE / DISINFECT).*