



INSTRUCTION MANUAL



ES Series Surgical Scrub Sinks

Installation - Operation - Maintenance - Cleaning



CAUTION

Read and understand all of the instructions and safety information in this manual before operating this product.

DESCRIPTION OF PRODUCT

This manual covers manual knee operated and Infrared self-activated Economy Scrub Sink models -

- ES25 - single basin
- ES47 - double basin
- ES76 - triple basin

PURPOSE OF THIS MANUAL

This user manual details the installation, operation maintenance and cleaning of the MAC Medical Economy Scrub Sinks. This manual also contains general specifications, warnings and cautions.

Table of Contents

Warnings and Cautions Icon Key.....	3
General Specifications.....	4
Economy Sink Uncrating Instructions.....	5
Installation.....	7
<i>Recommended Mounting Specifications and Water Supply Locations - Single Basin</i>	8
<i>Recommended Mounting Specifications and Water Supply Locations - Double Basin</i>	9
<i>Recommended Mounting Specifications and Water Supply Locations - Triple Basin</i>	10
Installing and Operating the Soap Spout.....	11
Connect Drain Pipe to Drain and Plumbing to Water Lines.....	12
<i>Plumbing Install Instructions</i>	12
<i>Adjusting Mixing Valve Temperature</i>	13
<i>Troubleshooting Plumbing</i>	13
Replacement Parts for Manual Knee Operated and Infrared Self-Activated Sink Plumbing.....	14
Infrared Controls (for Infrared Self-Activated Sinks only).....	15
<i>Installation</i>	15
<i>Operation</i>	15
Optional Add-ons.....	16
Instructions for Cleaning Stainless Steel Economy Sinks.....	17
Notes.....	18
Limited Lifetime Warranty.....	20

KEEP THIS MANUAL

Warnings and Cautions Icon Key

The following is a list identifying the various warning and caution icons used in this manual.

Icon Type	Icon	Description
Warnings		(Red triangle with an exclamation point) indicates the potential for minor to severe injuries up to and including death to personnel.
Cautions		(Yellow triangle with an exclamation point) indicates the potential for minor injury to personnel and damage to equipment.
		Note: The exclamation point will not be visible where only equipment damage is present.
Burn Hazard Warnings		(Yellow triangle with radiating lines) indicates a potential burn injury to personnel.
Electrical Warnings		(Yellow triangle with a lightning bolt) indicates a possible shock hazard is present.
		Severe shock hazards shall be a lightning bolt in a red triangle.

Warnings and Cautions When Installing or Operating This Product

Prior to installation or operation, the user must read these warnings and cautions.

The following is a list of the safety precautions that must be observed when operating this equipment.



WARNING - INJURY HAZARD -

REPAIRS AND ADJUSTMENTS should be attempted only by experienced service agents fully acquainted with this equipment. The use of inexperienced, unqualified persons to service the equipment, or the installation of unauthorized parts, could cause serious personal injury, or result in costly damage. Always unplug power cord from power source prior to attempting any repairs or servicing.



WARNING - Burn Hazard

DO NOT CHANGE temperature settings on thermostatic mixing valve, unless you are a trained mechanic. ANY REPAIR or modification of mixing valve may affect the high temperature setting. The installer must check operating temperature before sink is back in operation.



CAUTION - POSSIBLE EQUIPMENT DAMAGE -

When cleaning the sink - see complete Cleaning Instructions in this manual.

NOTE: This product is to be used strictly for the purpose it was designed for. If this product is used in a manner not specified by MAC Medical, the protection provided by the equipment may be impaired. MAC Medical disclaims all liability for the consequences of this product being used for purposes other than its intended design. Product modification or misuse can be dangerous. MAC Medical disclaims all liability for the consequences of product alterations or modifications, as well as for the consequences which might result from the combination of this product with other products, whether supplied by MAC Medical or by or by other manufacturers, unless such a combination has been specifically endorsed by MAC Medical.

General Specifications

1. **Material:**

- a. Sink basin and sink top: 14 gauge, 300 series stainless steel
- b. Sink skirt: 18 gauge, 300 series stainless steel

2. **Plumbing Material**

- a. 1/2" copper or brass pipe

3. **Utility requirements:**

- a. Cold water - 20 to 50 psig 70°F max
- b. Hot water - 20 to 50 psig 120°F to 140°F
- c. Water lines should be flushed clean before water connections are made.

d. **It shall be the customer's responsibility:**

- to ensure by use of pressure regulators or other means that maximum specified pressures are not exceeded.
- to ensure that water supplies are properly protected for internal cross connection control in accordance with local building and plumbing requirements.
- to eliminate water hammer conditions should they occur in the service piping.

4. **Power requirements (for sinks with infrared sensor operations)**

- a. 120 Volt, 60 Hz, single phase, 15 amp GFCI protected electrical outlet (by others), installed per local building codes.

5. **Sink Weight**

- a. Single basin - 130 lb
- b. Double basin - 230 lb
- c. Triple basin - 320 lb

6. **Sink Certifications**

- a. UL and cUL certified
- b. California OSHPD pre-approved when mounted on a structurally sound wall.

Economy Sink Uncrating Instructions

Inspection

1. Receiving area must meet all State and Local regulations prior to unpacking.
2. Customer must inspect skid and Sink both before and after unpacking to determine if any items were damaged during shipping.
3. All damaged items must be listed on the Bill of Lading.
4. Customer is responsible for the proper disposal of all packing materials. The disposal of these items must meet all State and Local regulations.

Unpacking the Economy Sink

Economy Sinks are shipped on well-constructed wooden skids. Two steel bands secure the Sink to the skid. The stainless steel surfaces of the part are protected by heavy cardboard end-caps, and by layers of plastic wrapping.

Care must be taken while unpacking the sink to avoid damage. Do not drop tools on the sink or scratch the surfaces with sharp edges.



Caution! Do not use a box cutter or any other cutting utensil to remove the plastic wrapping around the sink. These items can scratch the protective coating on the stainless steel, allowing the surface to rust.

IMPORTANT: Wear gloves and eyewear during the unpacking operation.

Retain all shipping materials until the sink is completely unpacked and inspected for damage.

5. Use tin snips to cut the metal bands holding the box to the wooden skid.
6. Remove the plastic protective wrapping.
7. A box containing Sink Hardware accompanies the Sink. On smaller models, the hardware is in a cardboard box wrapped in foam and resting inside the basin of the sink (Figs. 1 - 2).
On larger models, the box containing the sink hardware is located beneath rear underside of the sink, resting on the wooden skid (Fig. 3).



Fig. 1: Sink Hardware Box in Basin



Fig. 3: Sink Hardware Box Bottom Rear



Fig. 2: Sink Hardware Box in Basin

8. On smaller model Economy Sinks, there is a Z Bar attached with zip ties to the bottom rear of the sink. Clip the zip ties and remove the Z Bar (Fig. 4).



Fig. 4: Z Bar and Zip Ties

Z-Bar

2 Zip-ties

9. Remove the Sink Hardware boxes from their locations and lift the sink off the wooden skid. The Economy Sink is now ready for installation.
10. Discard shipping and packing materials in compliance with State and Local regulations.
11. When not in use, sinks **MUST NOT** be double stacked while in storage. While still on their shipping crates, sinks **MUST NOT** be double stacked when not in use.

Installation

1. Check water supply and waste terminal locations -
 - A. Be sure all connections are safely accessible to the sink and in proper working condition. NOTE: For proper sink operation the hot water temperature must be 120°F.
 - B. Install sink near a hot water source.
2. Infrared sensor activated sinks will also need to be near a 110/120V outlet power source.
3. Attach wall mount sink support brackets -
 - A. Attach the "Z" bracket(s) to the wall. Recommended mounting specifications shown on pages 8, 9 and 10.
 - B. **IMPORTANT:** For wall mounted units, the wall structure must be capable of supporting the load.
4. Install the soap spout on the sink (See page 11).
5. Mount the sink body to the Z Brackets attached to the wall -
 - A. With the help of an assistant, slide the sink over the Z bracket(s) until it locks securely into place (Figs. 5 - 6, Z brackets shown in green).
6. Connect the drain pipe to the drain
7. Connect the water supply to the plumbing and set the temperature on the mixing valve (page 13).

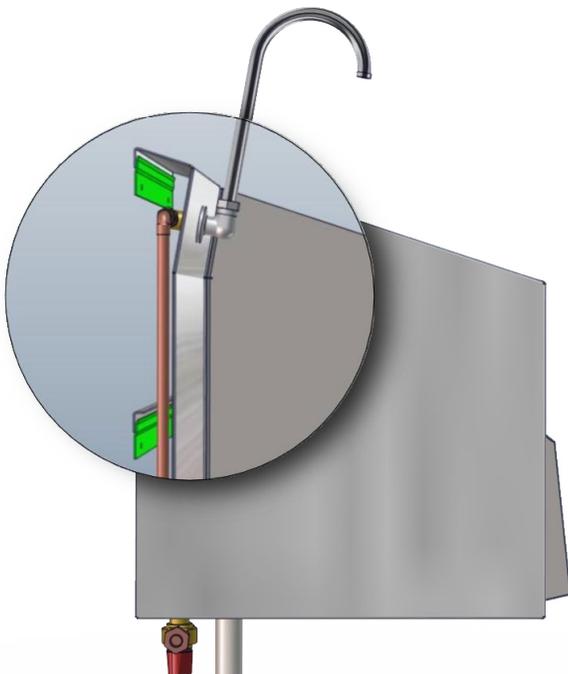


Fig. 5: Cross Section Showing Z Bracket Locations

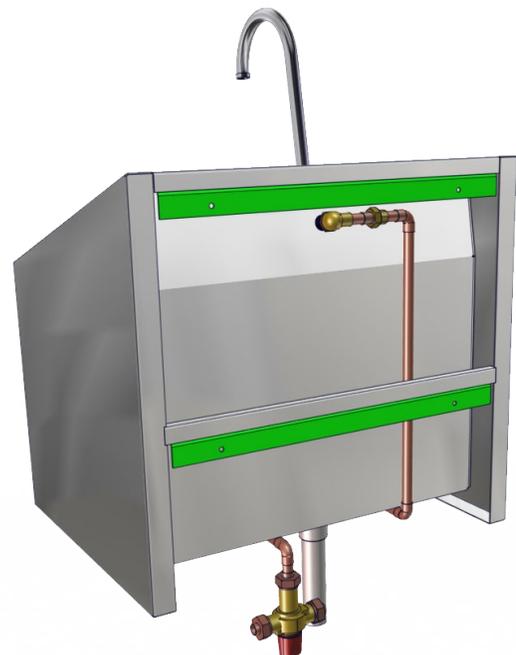
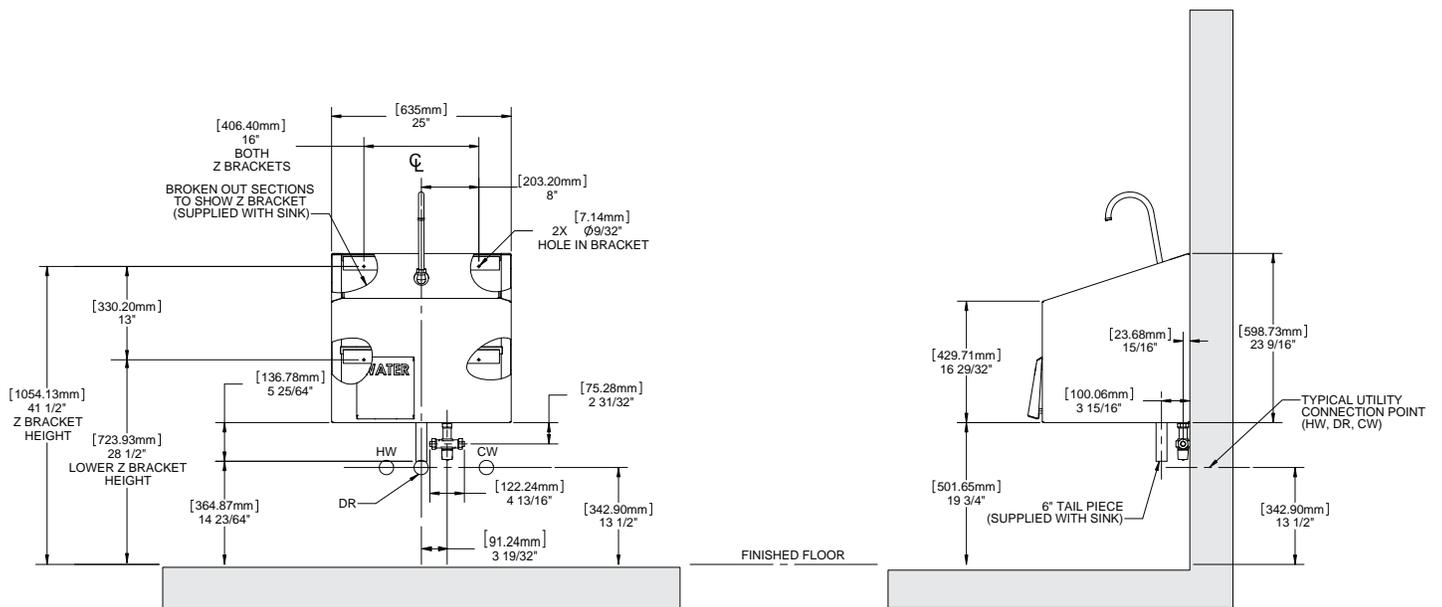
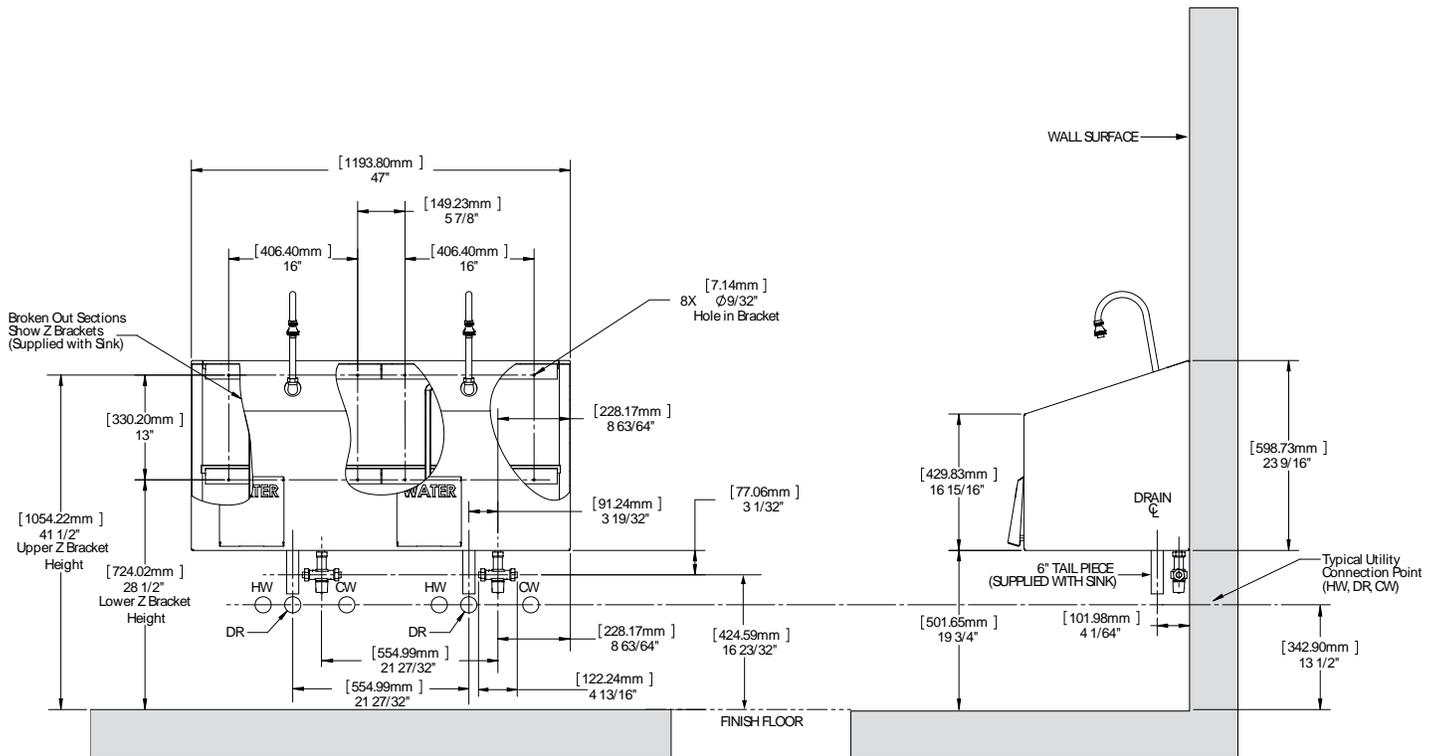


Fig. 6: Z Brackets on Sink

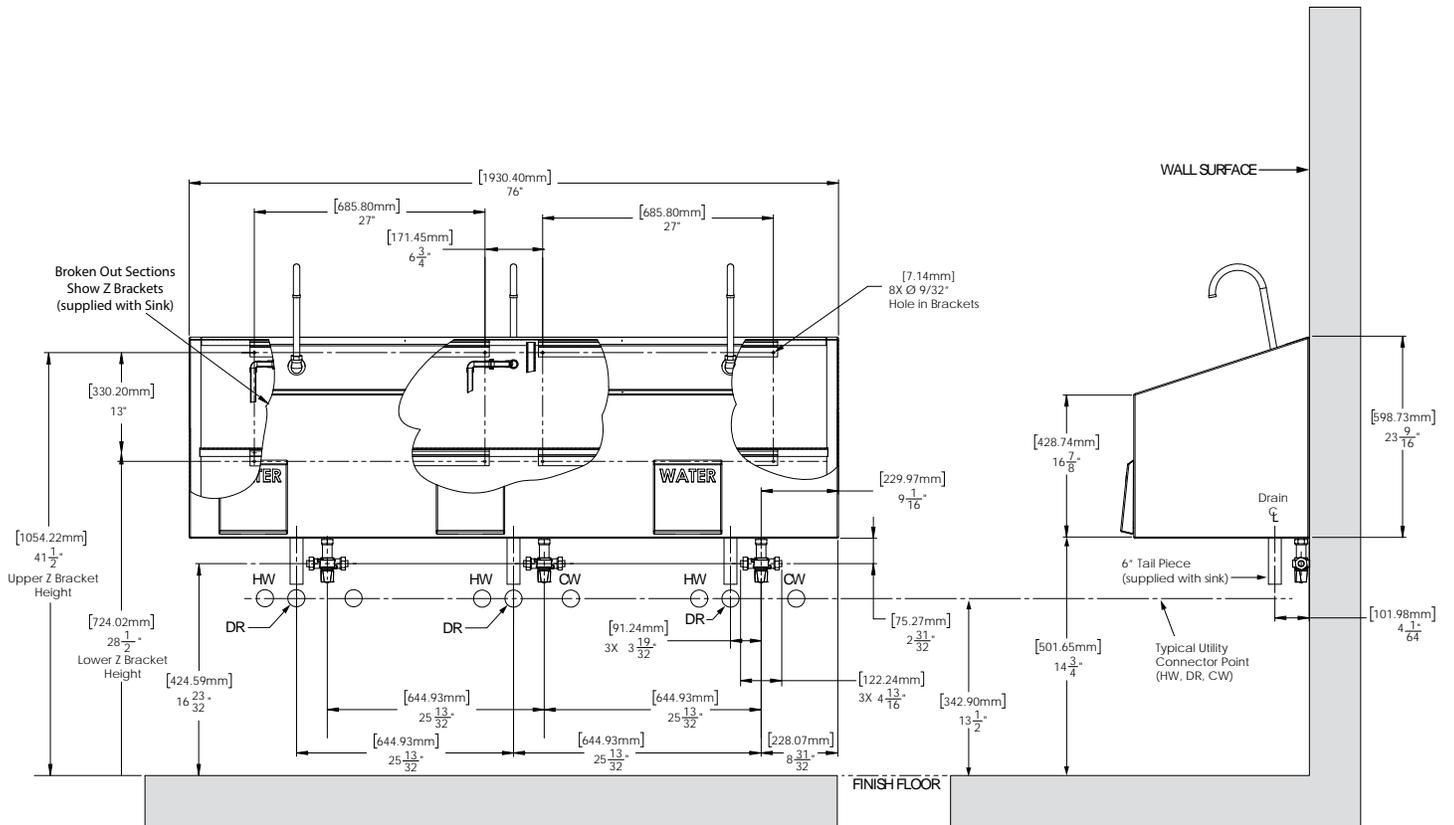
Recommended Mounting Specifications and Water Supply Locations - Single Basin



Recommended Mounting Specifications and Water Supply Locations - Double Basin



Recommended Mounting Specifications and Water Supply Locations - Triple Basin



Installing and Operating the Soap Spout

To prevent damage during shipment, the soap dispenser is stored inside the sink basin. Soap Dispenser tubing is also included. The dispenser spout should be installed before hanging the sink.

1. To install - remove the bushing (Fig. 7 - Item 3 shown in green).
2. Feed the spout (item 1) through the small hole at the top of the sink (Fig. 8). The nut (item 2) should rest on top of the sink.
3. Reinstall the bushing onto the spout from inside the cabinet (Fig. 9).
4. Attach the soap tubing to the spout and soap pump (circled in red) as shown in Fig. 10 and Fig. 11.

To Operate the Soap Pump - press the soap spout down repeatedly to start the flow of the soap.

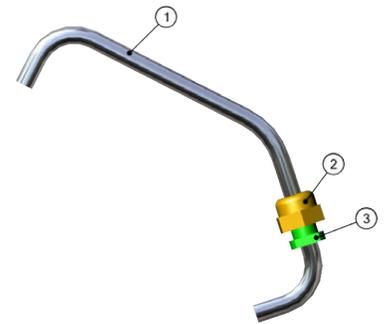


Fig. 7: Soap Spout with nut and bushing

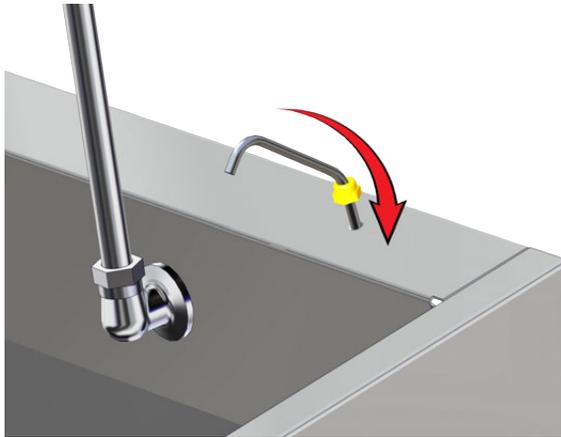


Fig. 8: Install Soap Spout

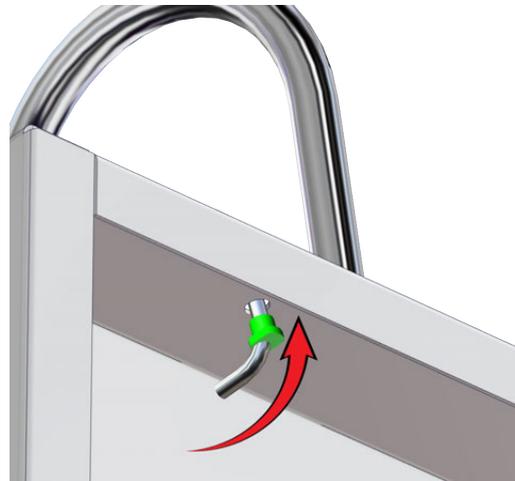


Fig. 9: Secure spout with bushing

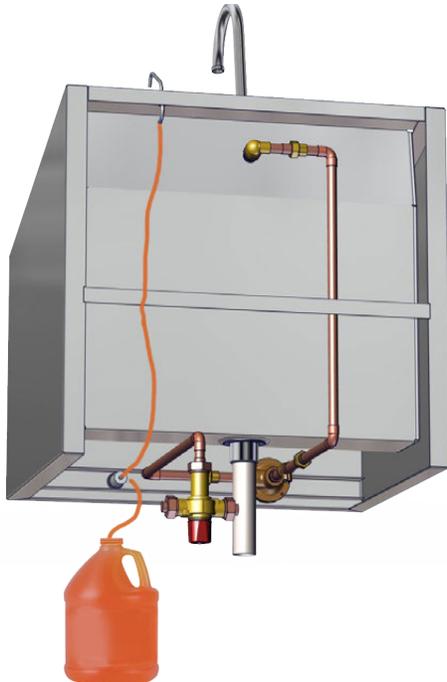


Fig. 10: Install soap dispenser tubing

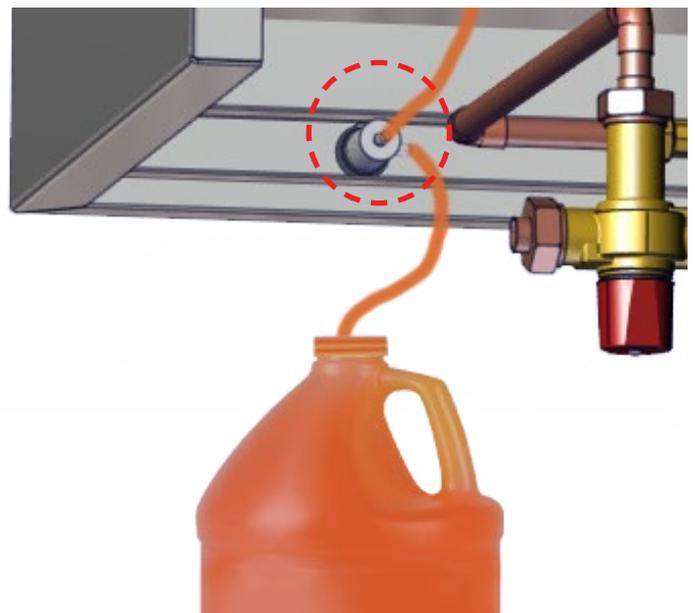


Fig. 11: Close-up of soap pump with tubing attached

Connect Drain Pipe to Drain and Plumbing to Water Lines

 Local building or plumbing codes may require modifications to the information provided. You are required to consult the local building and plumbing codes prior to installation. If the information provided here is not consistent with local building or plumbing codes, the local codes should be followed. This product must be installed by a licensed contractor in accordance with local codes and ordinances.

 FAILURE TO COMPLY WITH PROPER INSTALLATION AND MAINTENANCE INSTRUCTIONS COULD CONTRIBUTE TO VALVE FAILURE.

This hot water master tempering valve cannot be used for tempering water temperature at fixtures. Severe bodily injury (i.e., scalding or chilling) and/or death may result depending upon system water pressure changes and/or supply water temperature changes. ASSE standard 1016, 1069 or 1070 listed devices should be used at fixtures to prevent possible injury.

This hot water tempering valve is designed to be installed at or near the boiler or water heater. They are not designed to compensate for system pressure fluctuations and should not be used where ASSE standard 1016, 1069 or 1070 devices are required. These valves should never be used to provide "anti-scald" or "anti-chill" service.

The components of the system must be of materials with a construction capable of withstanding the high limit output temperatures of the water heating source.

 **Need for Periodic Inspection and Yearly Maintenance:** Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions, temperatures over 200°F, unauthorized adjustments or repair could render the valve ineffective for service intended. Regular checking and cleaning of the valve's internal components and check stops helps assure maximum life and proper product function. Frequency of cleaning and inspection depends upon local water conditions.

Plumbing Install Instructions

Plumbing Installation should be in accordance with accepted plumbing practices. Installation and field adjustment are the responsibility of the installer.

1. Flush all pipes thoroughly before installation.
1. Connect sink drain pipe to drain connection.
2. Close both hot and cold water shutoff valves upstream of the tempering valve.
3. Bleed pressure from the system.
4. Route copper tubing or piping to fit valve dimensions.
5. Remove tailpieces from the valve and make sure union nuts are over the tubing/piping before connecting to the tailpiece.
 - A. Note: If soldering, remove unions and gaskets from valve body prior to soldering to prevent damage to valve from excessive heat.
6. Flush piping again, install valve using filter gasket on hot and cold water inlets and fiber gasket on mixed water outlet.
7. Turn on the cold and hot water. If any leaks are observed, tighten connections as necessary to stop leaks before proceeding.

Adjusting Mixing Valve Temperature

The supplied mixing valve is factory pre-set to 120°F (49°C). The valve temperature adjust range: 90° - 160°F (32°C to 71°C). Maximum hot water temperature: 200°F (93°C). Temperature setting (within the valve adjustment range) to be determined by local installation requirements.

1. Let the water flow for at least two minutes to allow supply temperature to stabilize.
2. Place a thermometer in the outlet water stream.
3. Loosen handle screw with hex wrench.
4. Handle must be lifted 1/4" to adjust temperature. Rotate handle clockwise to decrease temperature and counterclockwise to increase the temperature.
5. Lower handle and tighten screw.
6. Check for outlet temperature.
 - A. Note: Pressure differential between hot and cold water supplies must be less than 25%.

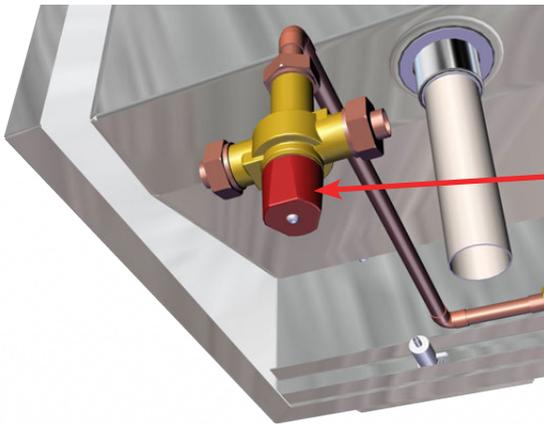


Fig. 12: View of Mixing Valve on sink

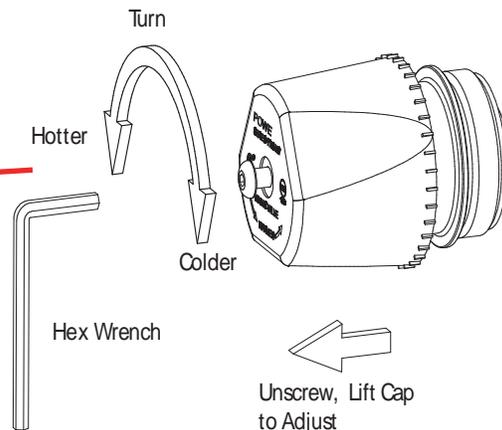


Fig. 13: Adjusting temperature on Mixing Valve

Troubleshooting Plumbing

- Fluctuating or erratic hot water temperature at fixture:
 - Unbalanced Pressure. Install balancing or throttling valve at the hot and cold water supplies and adjust accordingly for demand.
- Hot water backing up into cold water line:
 - Hot water pressure is higher than cold water pressure. Examine check valves for dirt and debris, clean as necessary.
- Cannot adjust water temperature to desired temperature:
 - Install balancing or throttling valve at the hot and cold water supplies and adjust accordingly for demand.
- High pressure drop through the tempering valve:
 - Valve undersized. Install larger thermostatic tempering valve.
- Insufficient hot water during peak demand:
 - Check flow requirement during peak demand period. Use larger thermostatic tempering valve.

Replacement Parts for Manual Knee Operated and Infrared Self-Activated Sink Plumbing

Both plumbing configurations shown below indicate which parts are replaceable. See table below for replacement part numbers.



Fig. 14: Manual knee operated sink plumbing

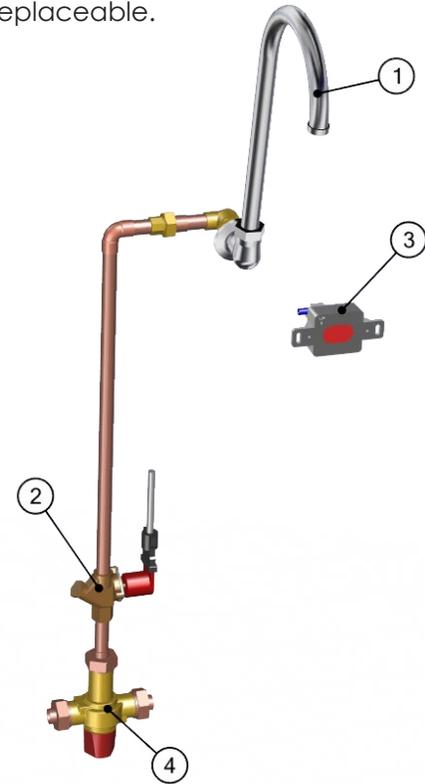
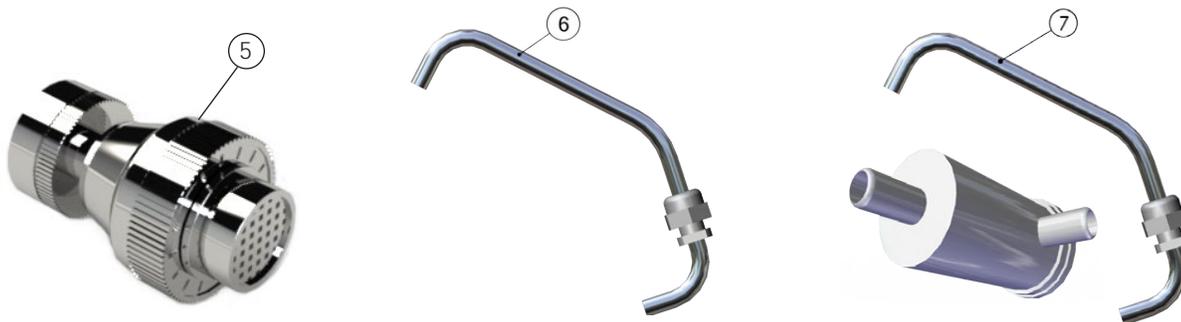


Fig. 15: Infrared self-activated sink plumbing



Item #	Description	Item #	Knee Operated	Part #	Item #	Infrared Activated	Part #	
1	Spout	for both knee operated or infrared activated plumbing						S0132-01
		2	1/2" Balance Flow Control Valve	S0024	2	Solenoid Valve (for Infrared)	S0013	
		3	Knee Operated Water Valve	S0029	3	Infrared Sensor	S0012	
4	Thermostatic Mixing Valve	for both knee operated or infrared activated plumbing						S0104
5	Swivel Aerator	for both knee operated or infrared activated plumbing						S0032
6	Soap Spout	for both knee operated or infrared activated plumbing						S0041
7	Soap Pump Kit	for both knee operated or infrared activated plumbing						S0028

Infrared Controls (for Infrared Self-Activated Sinks only)

Installation

The sinks are supplied with a 24V power transformer(s) that connects to a standard duplex outlet (110/120V outlet required).

Single basin sinks have one sensor, dual basin sinks have two sensors (one for each basin) and triple basin sinks have three sensors (one for each basin).

1. Plug the transformer(s) into the outlet.
2. A red LED will flash in the sensor window (Fig. 16 - circled in red).
 - A. **Important:** Do not interrupt the sensor beam until the light turns off.

Operation

The sensors are pre-set and equipped with a logic board. The sensors determine the range during initialization period. (The time after initial power until the light turns off is approximately 5 minutes.) The range is approximately 12-14 inches in front of the sensor and is 25 degrees at peak.

During the initialization period, the sensors allow for fixed objects that may be within the sensors' range. The sensors are equipped with a 2 second on/off delay, and no-time-out feature. This prevents the sink from turning on when walking past at a normal pace and no-time-out allows for an uninterrupted scrub.



Fig. 16: Infrared sensor on sink front

Optional Add-ons

An electronic sink timer kit (Fig. 17 - S0202-EST-KT) can be purchased and installed on economy sinks.

The installation requires some alteration in the plumbing configuration. Installation instructions are covered in MAN-028, which is available on our website (<http://macmedical.com/>) under Resources - Technical Publications - Manuals.



Fig. 17: Sink Timer Kit

Instructions for Cleaning Stainless Steel Economy Sinks

Stainless steel sinks must be cleaned on a regular basis to prevent any unnecessary damage to the stainless steel surfaces.

When cleaning Stainless steel sinks, make sure to use the proper approved cleaning agents and cleaning materials.

 CAUTION DO NOT USE these Cleaning Materials	 CAUTION DO NOT USE these Cleaning Agents
Abrasive Pads	Hard Water (water with a pH reading above 7.0)
Scrapers	Hydrochloric Acid
Steel Wool	Steam or high pressure water
Wire Brushes	Bleach or any compounds containing chlorine or Sodium hypochlorate, or ammonium chloride salts

Approved cleaning materials and agents

- Soft, clean lint-free cloth
- Non-abrasive cleaning pads
- Soft bristle brush
- Mild detergents
- Sodium Bicarbonate (baking soda)
- Distilled water (pH rating 7) alone or with a mild detergent
- White vinegar (in a spray bottle)
- Isopropyl Alcohol
- Hospital-grade non-bleach disinfectants
- Cleaners approved for use on stainless steel

Cleaning Stainless Steel Surfaces

1. Using a damp, lint-free cloth and approved cleaner, wipe down the entire exterior surface of the stainless steel sinks. Using a damp, lint-free cloth with distilled water and a mild detergent, wipe down the entire exterior surface of the stainless steel sinks.
2. Let cleaned sinks air dry.

Cleaning Decals or Printed Labels

- Use only distilled water and a mild detergent applied with a clean, dry lint-free cloth to clean decals or printed labels.
- Cleaning agents can remove or smear any printing from decals and print labels.
- Cleaning agents can damage plastic materials used in manufacturing covers for electronic items such as infrared sensor face.

Limited Lifetime Warranty

MAC Medical warrants to the original purchaser that its Proprietary Products will be free from defects in workmanship or materials under normal use and service for the life of the product, so long as owned by the original purchaser, according to the limitations set forth below.

Defective products shall be repaired or replaced at MAC Medical's option at no cost to the original purchaser provided:

1. The customer must obtain a written return authorization supplied by MAC Medical's customer service department. The product must be returned, properly packaged, with a copy of the original sales receipt and copy of the RMA authorization. Please call (877) 828-9975 or (618) 476-3550 to receive a return authorization.
2. The customer must pre-pay freight charges to and from MAC Medical and must ship merchandise properly packaged, in a way the product will not be damaged during transit to the factory. MAC Medical does not warranty any freight damage to or from the factory. It is the customer's responsibility to inspect the product for packaging damage before signing the BOL.

This warranty does not apply to products, which have been subject to abuse, misuse, accident, modification, alteration, tampering, negligence, lack of routine maintenance or misapplication; or products that have been repaired by other than MAC Medical or its authorized representatives.

This warranty does not apply to glass, fabrics, vinyl, seat coverings, cushions, padding or their stitching, gluing or installation. Component parts not manufactured by MAC Medical, such as casters, caster inserts, any components made from rubber or plastic, circuit boards, fan heaters, plumbing parts, electrical switches and other components are also excluded. For these component parts, MAC Medical will pass on the original manufacturer's warranty to MAC Medical equipment original purchasers. Please consult factory for questions regarding the warranties of these component parts. This warranty does not apply to custom fabricated products. Consult factory.

UNLESS EXPRESSLY SET FORTH IN THIS WARRANTY, THERE ARE NO OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, OF FITNESS AND/OR MERCHANTABILITY OR ANY OTHER WARRANTY IMPLIED BY CUSTOM, USAGE OR COURSE OF DEALING.

Liability of MAC Medical under this warranty is limited to the repair and/or replacement of any products. MAC Medical specifically excludes and disclaims any responsibility for any incidental or consequential damages claimed to have arisen from any defect in workmanship or materials. No representative has any authority to change or enlarge the above warranty or MAC Medical liability. This document supersedes all previous warranty provisions.

To place an order, contact our customer service department at **618-476-3550** or **877-828-9975** or by email at sales@macmedical.com

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INSPIRED
TO BE BETTER

Customer needs are our first priority.

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