

*Quality People. Building Solutions.*

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Little Rock, AR 72231  
Phone 501-834-3320  
Fax 501-834-5416

**Date:** 7/20/2023

**Return Request:** 7/30/2023

**Project:** Beebe Restrooms

**Supplier:** Sanders

**Manufacturer:** Various

**Submittal:** Fixtures

**Submittal Number:**

**Drawing # and Installation:** MP Drawings

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Lewis Architects Engineers  
11205 Huron Lane Suite 104  
Little Rock, AR 72211  
501-223-9302

**ENGINEER**

Lewis Architects Engineer  
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**GENERAL CONTRACTOR**

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501-834-3320

Notes:

[chowell@comfortar.com](mailto:chowell@comfortar.com)

9924 Landers Rd.  
No. Little Rock, AR 72117

# **Beebe Restrooms Remodel**

**Beebe, AR**

**Comfort Systems USA**

**North Little Rock, AR**

**Operation & Maintenance**

***Sanders Supply***



**Hot Springs, AR**

**November 15, 2023**

**WC-1**

# INSTALLATION INSTRUCTIONS CARE AND MAINTENANCE

*American Standard*

Style That Works Better

## BABY DEVORO - 1.28 GPF TWO-PIECE TOILET Model 2315



Thank you for selecting American Standard - the benchmark of fine quality for over 100 years. To ensure this product is installed properly, please read these instructions carefully before you begin. (Certain installations may require professional help.) Also be sure your installation conforms to local codes.

**CAUTION: PRODUCT IS FRAGILE. TO AVOID BREAKAGE AND POSSIBLE INJURY HANDLE WITH CARE!**  
NOTE: Pictures may not exactly define contour of china and components.

### RECOMMENDED TOOLS AND MATERIALS

Putty Knife	Regular Screwdriver	Adjustable Wrench	Sealant	Tape Measure
Hacksaw	Wax Ring/Gasket	Flexible Supply Tube	Closet Bolts	Carpenter's Level

**1 REMOVE OLD TOILET**

- Close toilet supply valve and flush tank completely. Towel or sponge remaining water from tank and bowl.
- Disconnect and remove supply line.  
**NOTE:** If replacing valve, first shut off main water supply!
- Remove old mounting hardware, remove toilet and plug floor waste opening to prevent escaping sewer gases.
- Remove closet bolts from flange and clean away old wax, putty, etc. from base area.

**NOTE:** Mounting surface must be clean and level **before** new toilet is installed!

**2 ROUGHING-IN DIMENSIONS:**  
NOTE: Distance from wall to closet flange centerline must be as listed below:

**3**

**INSTALL CLOSET BOLTS**  
Install closet bolts in flange channel, turn 90°, and slide into place 6" (152mm) apart and parallel to wall.

**4**

**INSTALL WAX SEAL**  
Invert toilet on floor (cushion to prevent damage), and install wax ring evenly around waste flange (horn), with tapered end of ring facing toilet. Apply a thin bead of sealant around toilet base.

**5**

**POSITION TOILET ON FLANGE**

- Unplug floor waste opening and install toilet on closet flange so bolts project through mounting holes.
- Loosely install retainer washers and nuts. Side of washers marked "THIS SIDE UP" must face up!

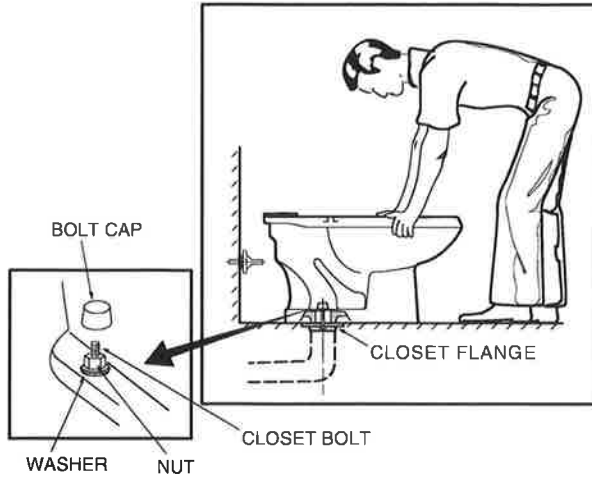
SAVE FOR FUTURE USE



Product names listed herein are trademarks of AS America, Inc.  
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7301860-100

6



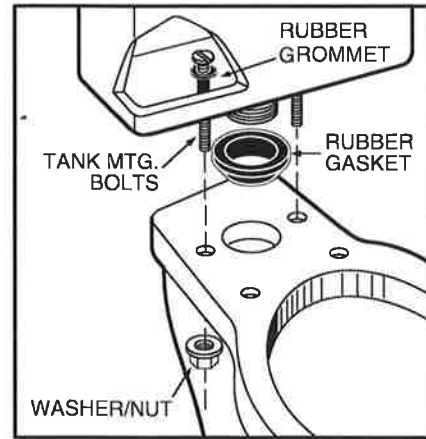
### INSTALL TOILET

- Position toilet squarely to wall and, with a rocking motion, press bowl down fully on wax ring and flange. Alternately tighten nuts until toilet is firmly seated on floor.

**CAUTION:**  
DO NOT OVERTIGHTEN NUTS  
OR BASE MAY BE DAMAGED!

- Install caps on washers. (If necessary, cut bolt height to size before installing caps.)
- Smooth off the bead of sealant around base. Remove excess sealant.

7



### INSTALL TANK

- Insert rubber grommets through holes in the tank then insert bolts through holes in the grommets.
- Install large rubber gasket over threaded outlet on bottom of tank and lower tank onto bowl so that tapered end of gasket fits evenly into bowl water inlet opening.
- With tank parallel to wall, alternately tighten nuts until tank is snugged down evenly against bowl surface.

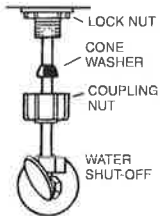
**CAUTION:**  
DO NOT OVERTIGHTEN NUTS MORE  
THAN REQUIRED FOR A SNUG FIT!

### 8 INSTALL TOILET SEAT Install toilet seat in accordance with manufacturer's directions.

9a

Before continuing, determine the type of water supply connection you have from the chart below and use the appropriate assembly parts required to properly reconnect the water supply. **DO NOT** use plumber's putty to seal these fittings.

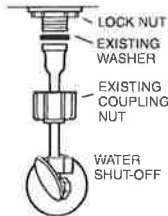
#### METAL / COPPER FLARED TUBING



These parts must be used as illustrated to insure water-tight connection. Use of existing coupling nut may result in water leakage. Water supply tube or pipe must extend at least 1/2" inside threaded shank of valve (does not apply to flanged tubing).

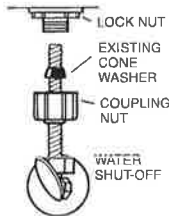
**CAUTION: DO NOT USE  
CONE WASHER WITH  
PLASTIC SUPPLY LINE.**

#### METAL FLANGED TUBING



Use existing coupling nut and washer.

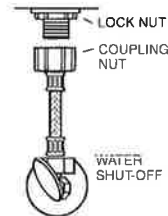
#### METAL SPIRAL TUBING



Use existing spiral cone washer. Fluidmaster cone washer may not seal completely on spiral type supply line.

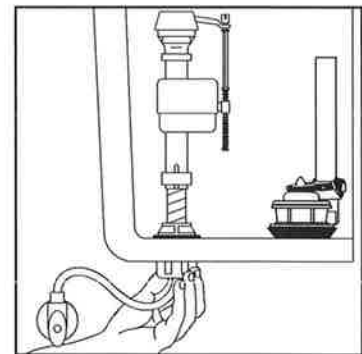
**CAUTION: Overtightening of  
LOCK NUT or COUPLING NUT  
could result in breakage and  
potential flooding.**

#### VINYL / BRAIDED CONNECTOR



Captive cone washers already included. No additional washers needed.

9b



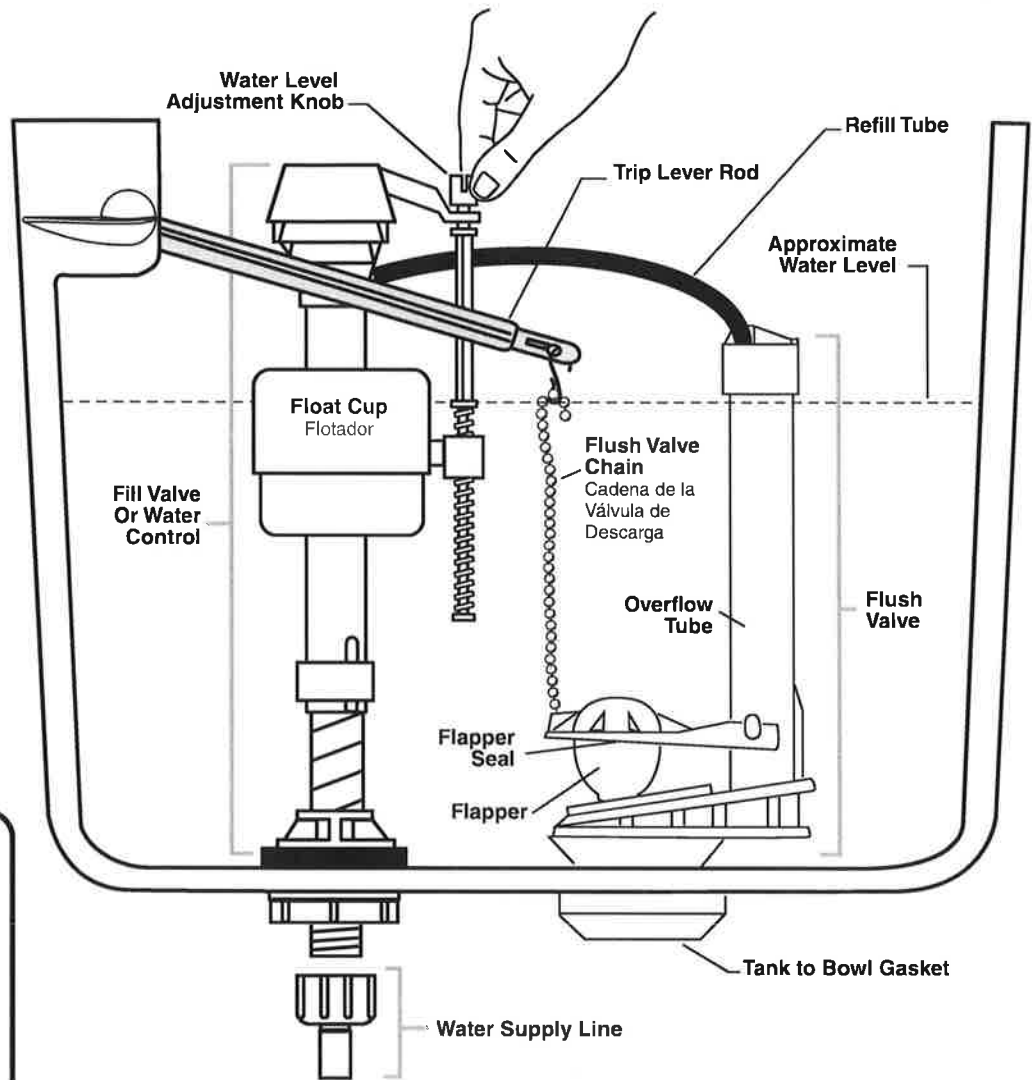
With correct washers in place (see Step 9a), tighten COUPLING NUT 1/4 turn beyond hand tight.

DO NOT OVERTIGHTEN.

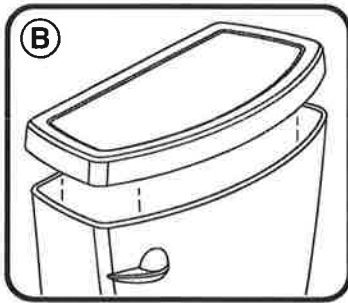
**WARNING:** Do not use plumber's putty, pipe dope, or any other sealant on the water supply connection to this tank. If the connection leaks after hand tightening, replace the supply line. If the connection continues to leak with the new supply line, replace the fill valve. **Warranty is void if any type of sealant is used on the water supply connection.**

A

Adjust Water Level To Level Indicated On Tank By Turning Water Level Adjustment Knob To Move Float Cup Up Or Down.



B



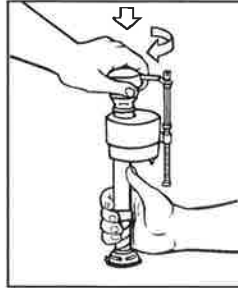
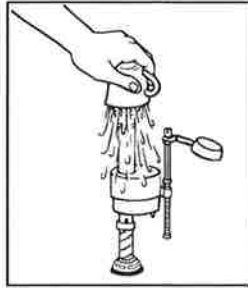
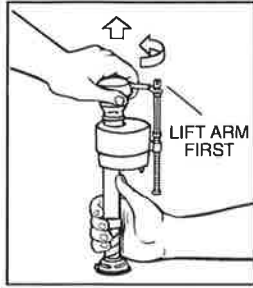
## CARE AND CLEANING

When cleaning your toilet, wash it with mild, soapy water, rinse thoroughly with clear water and dry with a soft cloth.

**WARNING:** Do not use in-tank cleaners. These products can seriously corrode fittings in the tank. This damage can cause leakage and property damage.

**American Standard shall not be responsible or liable for any damage caused by the use of in-tank cleaners.**

12



**IMPORTANT: Always clear sand and rust from system.**

- Make sure water supply is off. Remove valve TOP by lifting arm and rotating top and arm 1/8 turn counterclockwise, pressing down slightly on cap.

- While holding a container over the uncapped VALVE to prevent splashing, turn water supply on and off a few times. Leave water supply off.

- Replace TOP by engaging lugs and rotating 1/8 turn clockwise. **MAKE CERTAIN TIP IS TURNED TO THE LOCKED POSITION. VALVE MAY NOT TURN ON IF TOP IS NOT FULLY TURNED TO THE LOCKED POSITION.**

**TROUBLESHOOTING**

**IF FILL VALVE SHUTS OFF BUT CONTINUES TO LEAK SLOWLY,** repeat Step 13.

**IF FILL VALVE TURNS OFF AND ON DURING PERIODS OF NON-USE,** it is a signal you are wasting water because:

- The end of the refill tube is inserted into overflow pipe, below water level in tank. Attach refill tube to overflow pipe using "S" clip provided.
- The flush valve is leaking because it's worn, dirty or misaligned with tank ball or flapper (replace with a new flapper).

**IF FILL VALVE WON'T TURN ON OR SHUT OFF or REFILL OF TANK WATER IS SLOW** after valve has been in use for some time, Fluidmaster Model 242 Replacement Seal may be needed.

Go to our website at [www.fluidmaster.com](http://www.fluidmaster.com) for more solutions to toilet problems.

For troubleshooting information please contact:

**Fluidmaster Inc**

30800 Rancho Viejo Road  
San Juan Capistrano, CA 92675  
(949) 728-2000 (800) 631-2011  
[www.fluidmaster.com](http://www.fluidmaster.com)

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Always use quality Fluidmaster repair parts when maintaining your Fluidmaster products. Fluidmaster shall not be responsible or liable for any damages caused by products used with Fluidmaster valves that were not manufactured by Fluidmaster, Inc.

See Step 10 For Diagram

**Troubleshooting Guide**

Problem	Possible Cause	Corrective Action
Does not flush	a. Water supply valve closed. b. Supply line blocked.  c. Flush valve chain too loose or disconnected. d. Sand or debris lodged in water control.	a. Open valve and allow water to fill tank. b. Shut off water supply, disconnect supply line and inspect all gaskets and washers. Reassemble. c. Readjust chain length as required. d. Shut off water supply. Remove cap and clean as per Fluidmaster maintenance instructions at: <a href="http://www.americanstandard-us.com/enews/fluidmasterguide.pdf">www.americanstandard-us.com/enews/fluidmasterguide.pdf</a>
Poor or sluggish flush	a. Bowl water level too low. b. Supply valve partly closed. c. Partially clogged trapway and/or drain pipe and/or vent. d. Supply pressure too low.	a. Check that refill tube is connected to water control and inserted into overflow tube without being kinked or damaged. b. Open supply valve fully. Be sure that proper supply tube size is used. c. Remove obstruction. Consult a plumber if necessary.  d. Normal supply pressure must be at least 20 psi.
Toilet leaks	a. Poor supply line connection. b. Poor bowl to tank/floor connection.	a. Review Step 8 of installation procedure. b. Review Step 1 through 6 of installation procedure.
Toilet does not shut off	a. Flapper seal leaking or deformed. b. Sand or debris lodged in water control.  c. Flush valve chain too tight, holding flapper open.	a. Clean debris from seal surface. Replace flapper seal as needed. b. Shut off water supply. Remove cap and clean as per Fluidmaster maintenance instructions at: <a href="http://www.americanstandard-us.com/enews/fluidmasterguide.pdf">www.americanstandard-us.com/enews/fluidmasterguide.pdf</a> c. Readjust chain length as needed.
Toilet bowl rocks after installation	a. Wax ring not fully compressed. b. Floor not level.	a. Retighten bowl-to-floor knobs. b. Use toilet shims and /or place a bead of caulk around the base of the toilet.

**FOR REPAIR PARTS LIST, SEE UNDER TANK LID.**

**In the United States:**  
American Standard Brands  
P.O. Box 6820  
Piscataway, New Jersey 08855  
Attention: Director of Consumer Affairs

For residents of the United States, warranty information may also be obtained by calling the following toll free number: (800) 442-1902 [www.americanstandard-us.com](http://www.americanstandard-us.com)

**In Canada:**  
AS Canada ULC  
5900 Avebury Rd.  
Mississauga, Ontario  
Canada L5R 3M3

Toll Free: (800) 387-0369  
[www.americanstandard.ca](http://www.americanstandard.ca)

**In Mexico:**  
Customer Service Manager  
AS Maquila, S.A. de C.V.  
Via Morelos #330  
Col. Santa Clara  
Ecatepec 55540 Edo. Mexico  
[www.americanstandard.com.mx](http://www.americanstandard.com.mx)

**One year commercial warranty**

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[Installation Videos](#)

[Warranty](#)

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## Warranty

### Warranty Statement

All products are guaranteed against defects in material and workmanship for a period of one (1) year from date of purchase.

This guarantee does not apply to any compression molded wood, solid wood, decorator, or economy residential plastic toilet seats used in nonresidential installations, including hotels and motels.

This guarantee does not apply to any toilet seats which are modified in any way or used on any type of installation or unit other than conventional water closets. We assume no liability for toilet seats modified or installed on anything other than conventional water closets.

**TOILETSEATS.COM**

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**L-1**



# Wall Hung Bathroom Sink

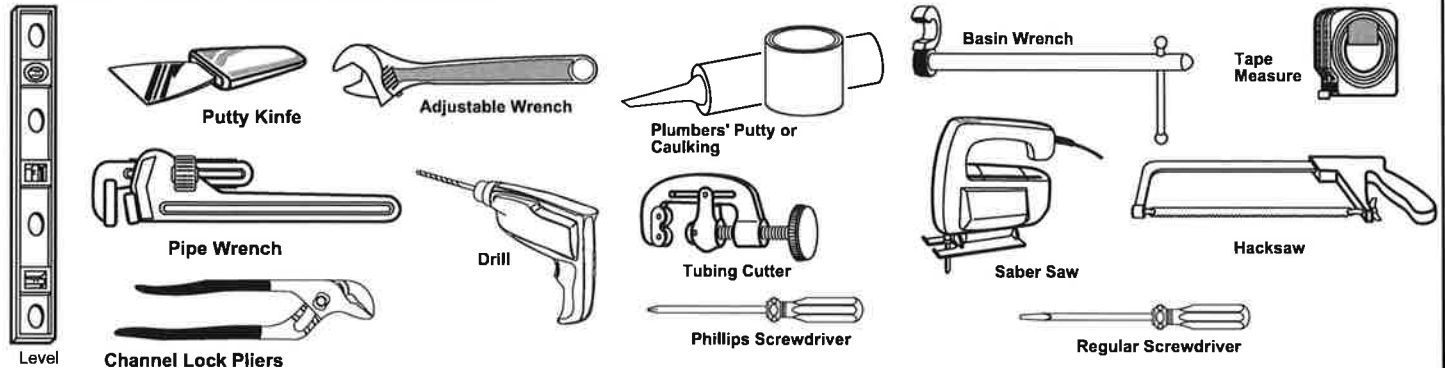
**\*NOTE:** For installation of models using concealed or exposed arms, follow instruction provided by arms manufacturer.

**Introduction:** Thank you for selecting our products...products which have been the benchmarks of fine quality for years. To help insure that the installation process will proceed smoothly, please read these instructions carefully before you begin. Also, review the recommended tools and materials list; carefully unpack and examine your new plumbing fixture.

**⚠ CAUTION: PRODUCT IS FRAGILE. TO AVOID BREAKAGE AND POSSIBLE INJURY HANDLE WITH CARE!**

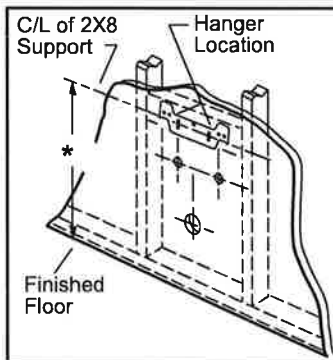
**NOTE:** Pictures may not exactly define contour of china and components.

## Recommended Tools & Materials



**1** Provide suitable reinforcement behind finished wall for lavatory hanger mounting screws. \*Determine horizontal center line location of support from the table listed in Step 2. (Make sure support bottom extends to lavatory back wall bottom.)

**NOTE:** If replacing an existing sink be certain to shut off water supply before removing old sink.



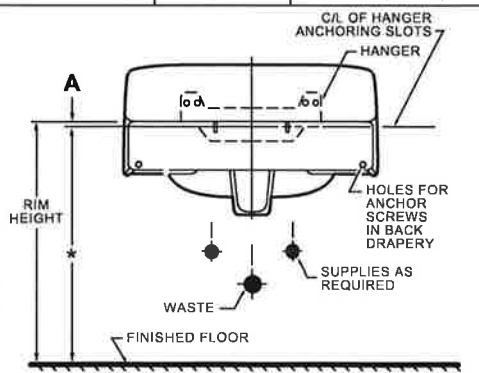
**3** Position hanger according to Step 2, making sure its center is aligned with the waste hole centerline. Mark the hanger screw locations through its mounting holes.

**2** Determine the desired rim height (for example 32") then select from the Table at right the height of the hanger mounting bolts centerline

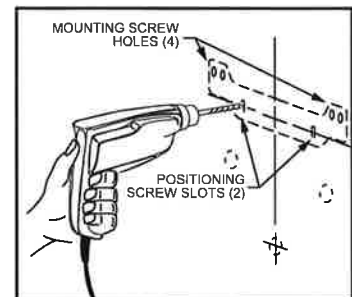
Part #	Model	Distance "A"
0124	Comrade	- 2-1/2" (64mm)
0321	Declyn	- 2-3/4" (70mm)
0355/0356	Lucerne	- 1" (25mm)
0372/0373	Penlyn	- 1/8" (3mm)
4300	Ledgewood	+ 2-7/8" (73mm)
4867/4869	Regalyn	+ 2-3/4" (70mm)
5300	Ledgemere	+ 2-1/2" (64mm)

**EXAMPLE:**

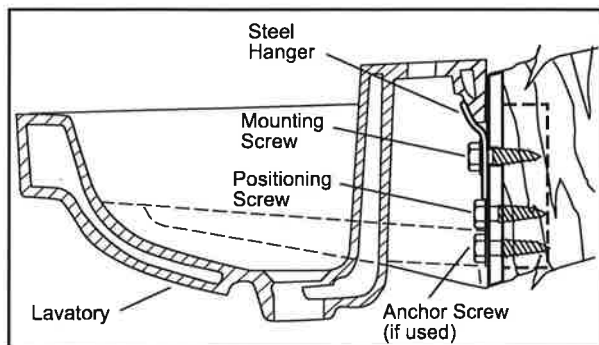
**For Lucerne:**  
32"-1"=31"  
**For Ledgewood:**  
32"+2-7/8"=34-7/8"



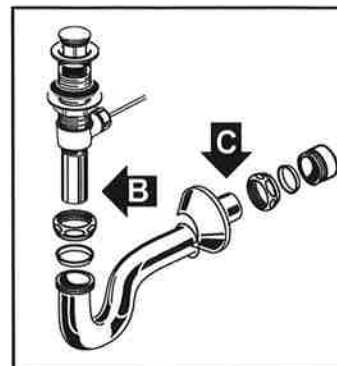
**4** Drill pilot holes in positioning screw slots of hanger. (Note: Some models are supplied with anchor screws, or steel hangers for lavatory installations. Other models are not provided with mounting hardware which can be purchased at local hardware outlets. Lavator-ies with bottom anchor screw holes should be secured with anchor screws in addition to hangers.



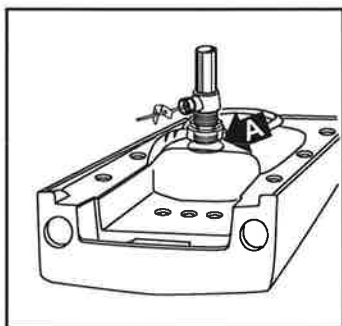
**5** Affix hanger to wall (hand tighten only). Mount lavatory for positioning, level the deck, and mark bottom anchor screw holes (if applicable). Remove lavatory, tighten the hanger positioning screws and drill pilot holes for anchor screws and 4 mounting screws. Install and tighten the mounting screws.



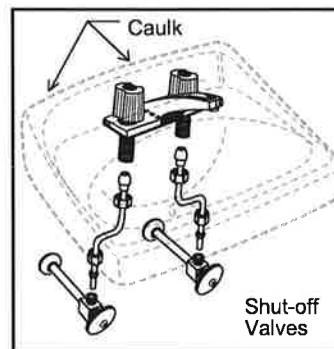
**7** Return the fitted lavatory to the installed position. Connect trap to drain assembly hand tight to check alignment. It may be necessary to cut off part of the tailpiece (area "B") or part of the horizontal leg of the trap (area "C").



**6** Following manufacturers instructions, install faucet and drain assembly. (Not included). Be certain to apply a bead of sealing putty on the underside of the drain (Part "A") in order to ensure a watertight seal between the lavatory and drain. Remove excess putty after installing drain on lavatory.



**8** Secure lavatory on hanger as shown in 5. Insert and tighten anchor screws if applicable. Connect hot and cold supply lines to the shut-off valves. Tighten trap joints for watertight assembly. Apply a bead of caulk around the edge which contacts the wall as shown.



*American Standard*

*Ideal Standard*

*Inessa Standard*

*Sadara Standard*

*Cedexca*

**Saniwares**

**AMERICAN STANDARD ONE-YEAR LIMITED WARRANTY**

If inspection of this American Standard plumbing product, within one year after its initial installation, confirms that it is defective in materials or workmanship, American Standard will repair or, at its option, exchange the product for a similar model.

This limited warranty **does not apply** to local building code compliance; since local building codes vary considerably, the purchaser of this product should check with a local building or plumbing contractor to insure local code compliance before installation.

This warranty **shall be void** if the product has been moved from its initial place of installation; if it has been subjected to faulty maintenance, abuse, misuse, accident or other damage; if it was not installed in accordance with American Standard's instructions; or if it has been modified in a manner inconsistent with the product as shipped by American Standard.

American Standard's option to repair or exchange the product under this warranty does not cover any labor or other costs of removal or installation, **nor shall American Standard be responsible for any other incidental or consequential damages attributable to a product defect or to the repair or exchange of a defective product, all of which are expressly excluded from this warranty.** (Some states or provinces do not allow the exclusion or limitation of implied warranties, so this exclusion may not apply to you.)

This warranty gives you specific legal rights. You may have other statutory rights that vary from state to state or from province to province, in which case this warranty does not affect such statutory rights.

For service under this warranty, it is suggested that a claim be made through the contractor or dealer from or through whom the product was purchased, or that a service request (including a description of the product model and of the defect) be sent to the following address:

**In the United States:**

American Standard, Inc.  
One Centennial Ave.  
Piscataway, New Jersey 08855  
Attention: Director of Consumer Affairs

Toll Free: (800) 442-1902

**In Canada:**

American Standard, Inc.  
2480 Stanfield Rd.,  
Mississauga, Ontario  
Canada L4Y 1S2  
Toll Free: (800) 387-0369

**In Mexico:**

Customer Service Manager  
American Standard, Inc.  
Via Morelos #330  
Col. Santa Clara  
Ecatepec 55540 Edo. Mexico



# Installation and Maintenance Instructions

## Limited One Year Warranty

T&S warrants to the original purchaser (other than for purposes of resale) that such product is free from defects in material and workmanship for a period of one (1) year from the date of purchase. During this one-year warranty period, if the product is found to be defective, T&S shall, at its options, repair and/or replace it. To obtain warranty service, products must be returned to...

*T&S Brass and Bronze Works, Inc.  
Attn: Warranty Repair Department  
2 Saddleback Cove  
Travelers Rest, SC 29690*

Shipping, freight, insurance, and other transportation charges of the product to T&S and the return of repaired or replaced product to the purchaser are the responsibility of the purchaser. Repair and/or replacement shall be made within a reasonable time after receipt by T&S of the returned product. This warranty does not cover items which have received secondary finishing or have been altered or modified after purchase, or for defects caused by physical abuse to or misuse of the product, or shipment of the products.

Any express warranty not provided herein, and any remedy for Breach of Contract which might arise, is hereby excluded and disclaimed. Any implied warranties of merchantability or fitness for a particular purpose are limited to one year in duration. Under no circumstances shall T&S be liable for loss of use or any special consequential costs, expenses or damages.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. Specific rights under this warranty and other rights vary from state to state.

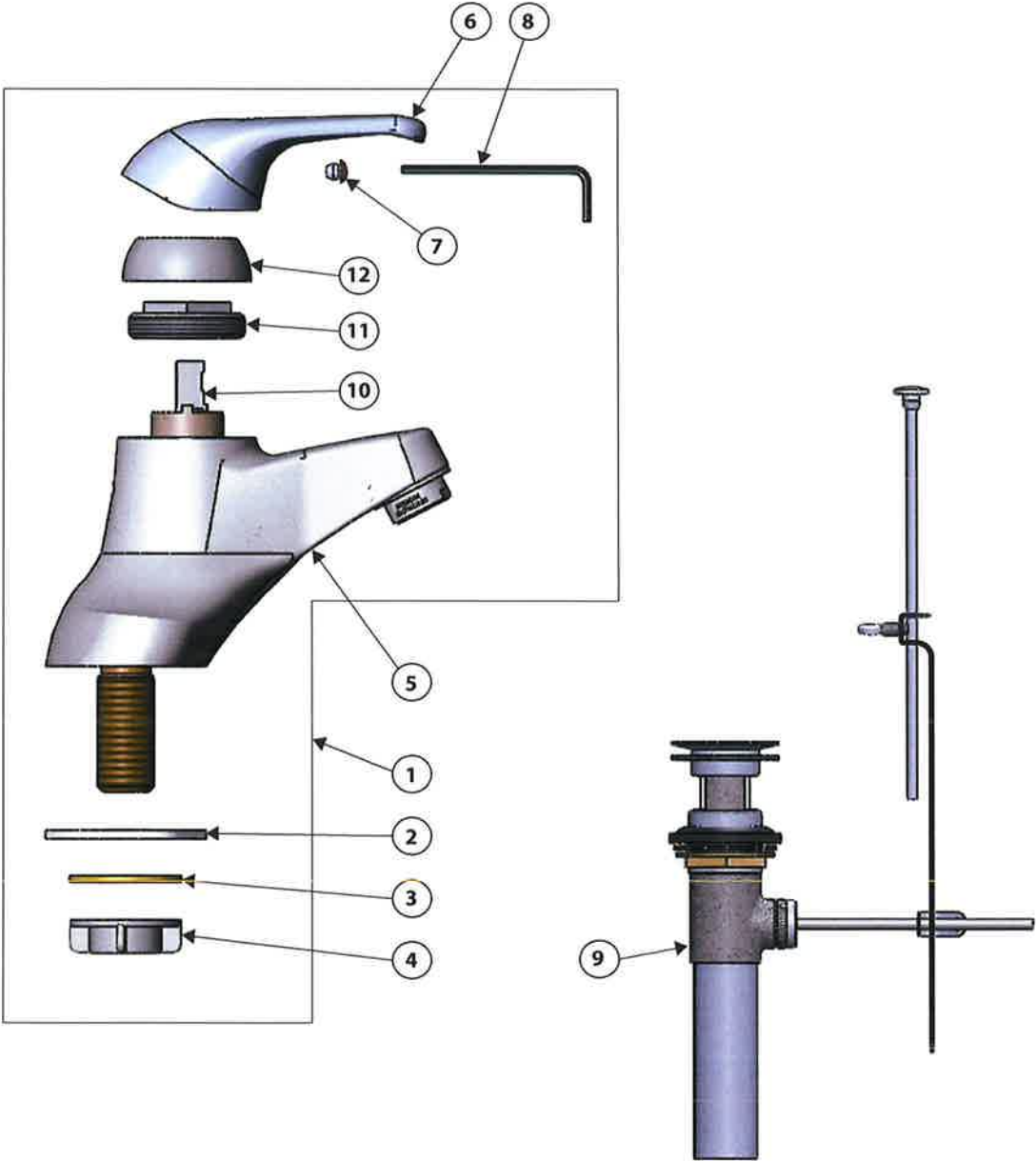


## B-2701, B-2703, B-2710 & B-2711 SERIES SINGLE LEVER FAUCETS (with or without Pop-Up)

P/N: 098-013122-45 Rev.5  
Date: 03-09-11  
Drawn: TEH  
Checked: DMH 03-11-11  
Approved: JHB 03-16-11

# Exploded View

## B-2710 & B-2711 Series



# Part Number Guide

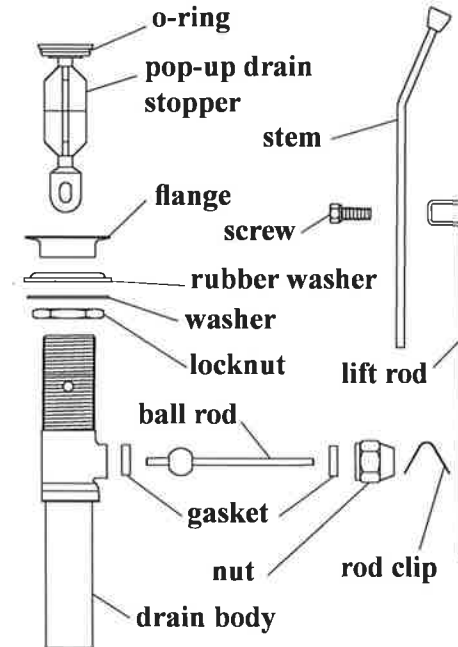
1	Asm, Single Lever Rigid Base Faucet	B-2701
	Asm, Single Lever Rigid Base Faucet w/ 4" Deckplate	B-2703
	Asm, Single Lever Faucet w/ Pop-Up Drain	B-2710
	Asm, Single Lever Faucet	B-2711
2	Gasket, Waterproof	014167-45
3	Lock Washer	000999-45
4	Lock Nut	016673-45
	Kit, Lock Washer and Lock Nut	014166-45
5	Faucet Body	N/A
6	Handle	013113-45
7	Plug	014173-45
8	3/32" or 2.5mm Hex Key (not included)	017267-45
9	Pop-Up Drain	B-0898
10	Cartridge, Metal Stem w/ Temperature Limit Stop	013111-45
11	Retaining Nut	016663-45
12	Retaining Ring	016661-45
13	4" Deckplate	013824-40

# General Instructions

## Faucet Installation (B-2701 & B-2703)

(Refer to diagram on page 2)

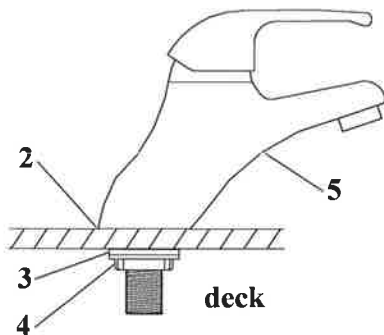
1. Shut off water supply lines. Drill a 1-1/2" diameter hole in countertop where no.5 will be installed.
2. Clean countertop and bottom of no.5. Apply putty to bottom of no.5.
3. If installing no.13, apply putty to bottom contact face of no.13.
4. With no.14 and no.15 removed place hoses and threaded rod at bottom of no.5 through the 1-1/2" diameter hole.
5. Place no.14 and no.15 on threaded rod and tighten.
6. Connect water supply and check for leaks.



## Faucet Installation (B-2710 & B-2711)

(Refer to diagram below)

1. Shut off water supply and drain lines. Clean sink surface thoroughly.
2. Install no.5 with no.2 on top of the deck or sink.
3. Place no.3 and no.4 on the shank of no.5 and tighten fully.

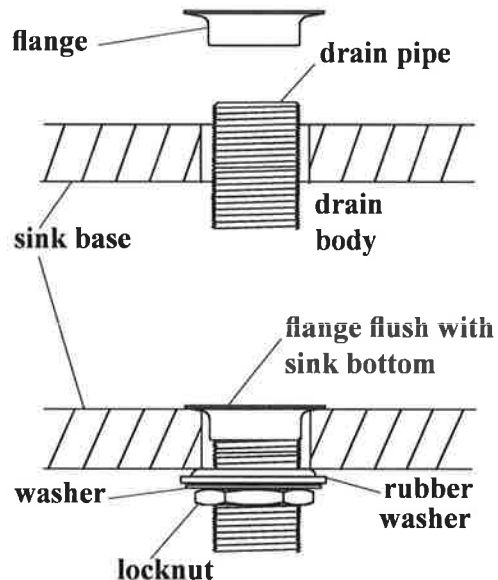


4. Connect water supply lines and check for leaks.

## Pop-Up Valve Installation

1. Remove pop-up drain stopper, with o-ring and flange, from pop-up assembly.
2. Remove rod clip, lift rod, rod guide nut and rod ball assembly from drain body.

3. Insert drain body from bottom of sink drain hole, reassemble flange to drain body, tightening as far possible.



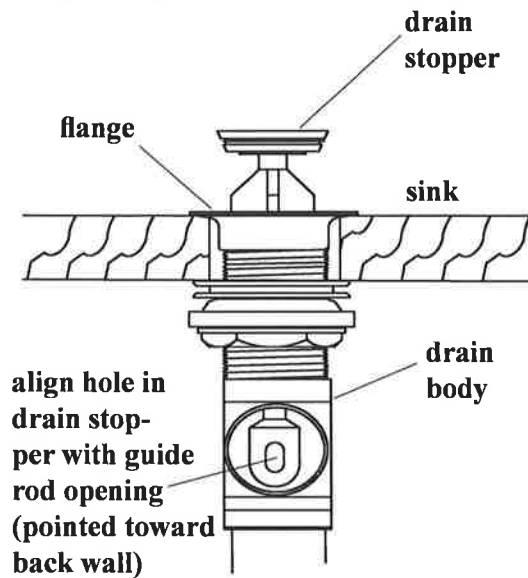
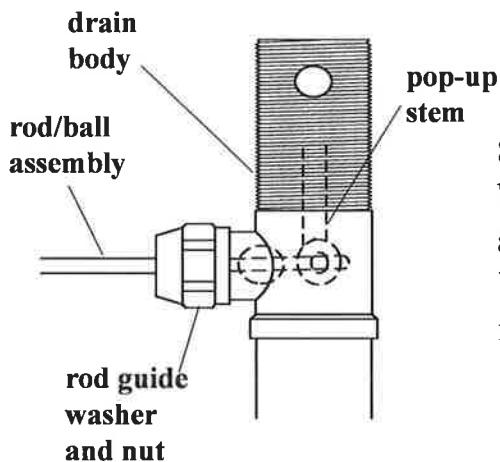
4. Slide rubber washer on drain pipe up against bottom of sink. Tighten washer and locknut firmly against base for a tight seal.

# General Instructions

5. Replace **pop-up drain stopper** in **drain body**, with 'o'-ring in place, and align stopper hole with guide and opening.

6. Reinsert **rod ball assembly** back into **drain body** and through hole in **drain stopper**.

7. Insert **pop-up stem** through hole in faucet body. Attach **lift rod** to **pop-up stem** by inserting **stem** through hole in **lift rod**. Reassemble **rod guide**, **washer** and **nut**, and tighten firmly.

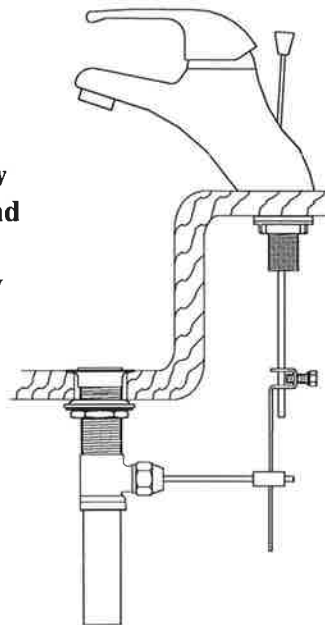


8. Adjust **pop-up stem** to correct height by opening drain, and sliding **lift rod** and **rod clip** at the same time onto **rod/ball assembly**. Readjust **lift rod screw** if necessary, hand-tighten.

9. Make connection to supply lines.

10. Turn on water supply and check for leaks.

Side view faucet and pop-up assembly





# General Instructions

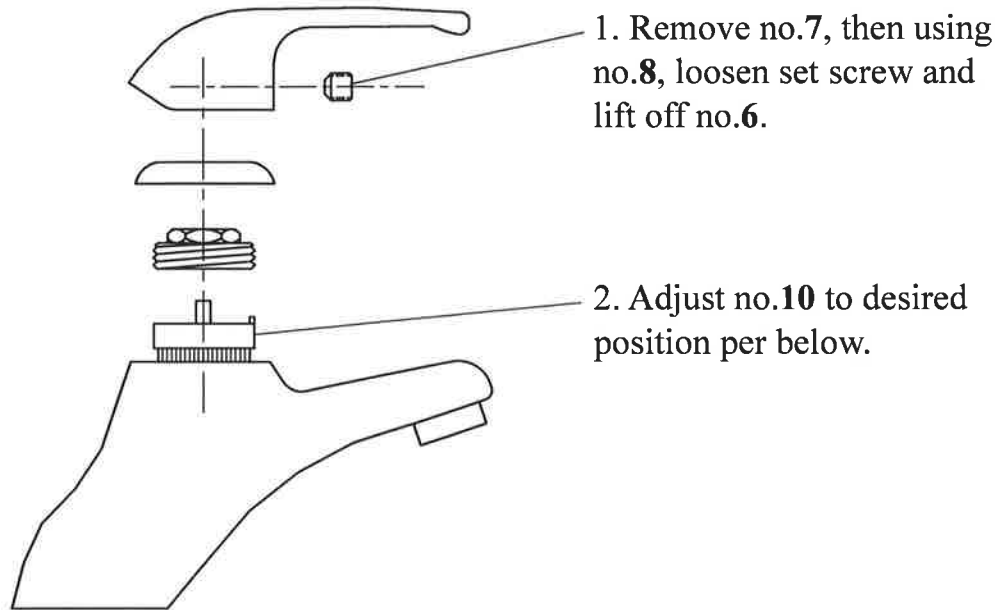
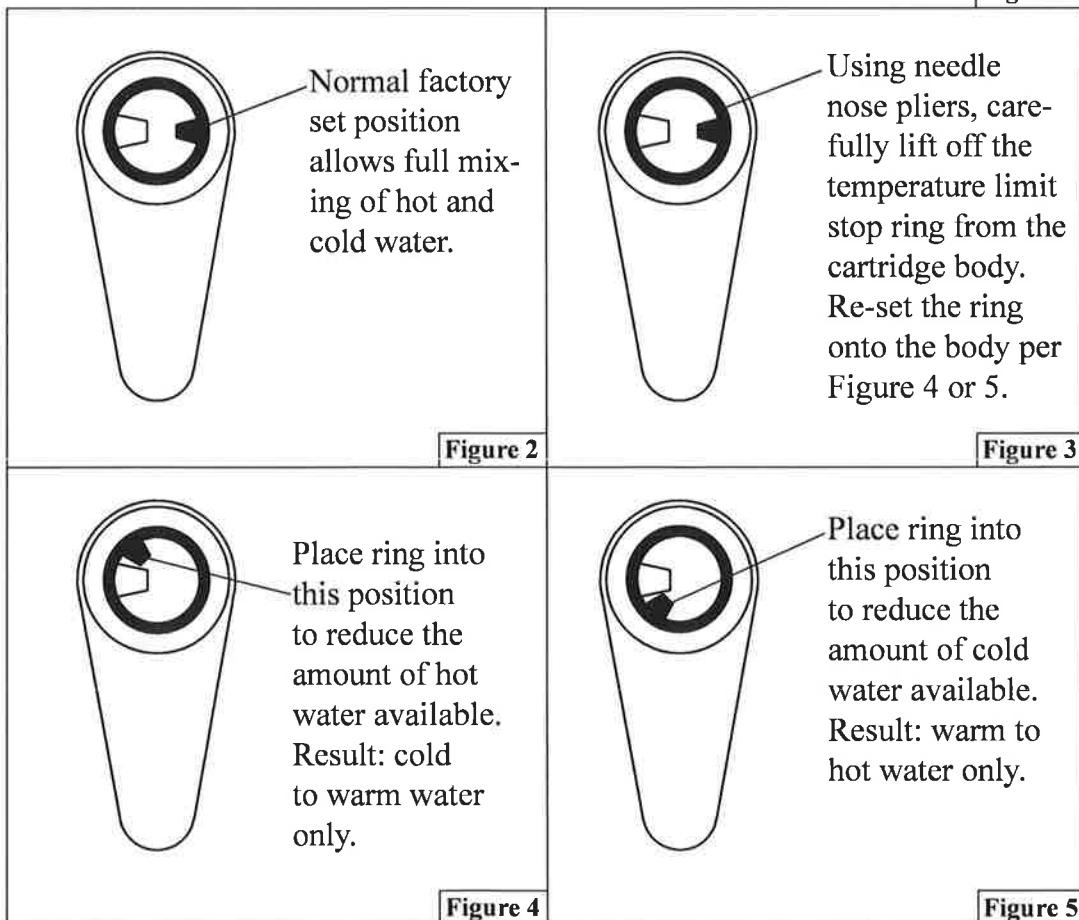


Figure 1



**Maintenance:**

1. To change no.10, remove no.7 by hand.
2. Insert no.8 into hole of no.6 and loosen set screw of no.6. Remove no.6.
3. Unscrew no.12 and remove.
4. Unscrew no.11 and remove.
5. Remove no.10 and replace with new no.10.
6. Replace no.11, no.12 and no.6 and tighten set screw.
7. Replace no.7.

**Mantenimiento:**

1. Para cambiar la parte No.10, remueva a mano la parte No.7.
2. Ensarte la parte No.8 en el hueco de la parte No.6 y afloje el tornillo presión de la parte No.6. Remueva la parte No.6.
3. Destornille la parte No.12 y remuévala.
4. Destornille la parte No.11 y remuévala.
5. Remueva la parte No.10 y reemplace con una parte nueva No.10.
6. Reemplace la parte No.11, No.12 y la parte No.6. Apriete el tornillo de presión.
7. Reemplace la parte No.7.



**B-2730 & B-2731  
Single Lever  
Faucets**

---

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2441 CW Nieuwveen  
The Netherlands



**RELIABILITY BUILT IN™**



# INSTALLATION & SERVICE INSTRUCTIONS MODEL 170A-LF

Bulletin G-170A  
October 2020

## 170A-LF 3/8" COMPRESSION

ASSE 1070 CERTIFIED

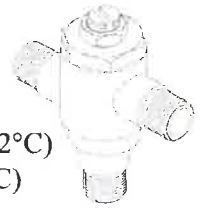


**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to [www.P66.ca.gov/info](http://www.P66.ca.gov/info)

**NOTE: DO NOT USE THREAD SEALANT ON COMPRESSION CONNECTIONS**

## PERFORMANCE:

- Maximum Pressure: 125 PSI (8.6 BAR)
- Maximum Hot water temperature: 180°F (82°C)
- Hot water inlet temperature range: 120-180°F (49-82°C)
- Cold water inlet temperature range: 33-80°F (1-27°C)
- Outlet temperature range: 95-120°F (35-49°C)
- Minimum flow certified to ASSE 1070: 0.25 GPM
- Maximum flow: 4 GPM



**⚠ WARNING!! ⚠**

**WATER TEMPERATURES IN EXCESS OF 110°F (43°C) MAY CAUSE SCALDING, SEVERE INJURY, OR DEATH!! IMPORTANT!**

This thermostatic water mixing valves is NOT pre-set and can be adjusted to deliver water at temperatures exceeding 110°F (43°C). After installation, the installer must check the outlet water temperature and adjust the temperature setting to ensure delivery of a safe water temperature not exceeding 110°F (43°C).

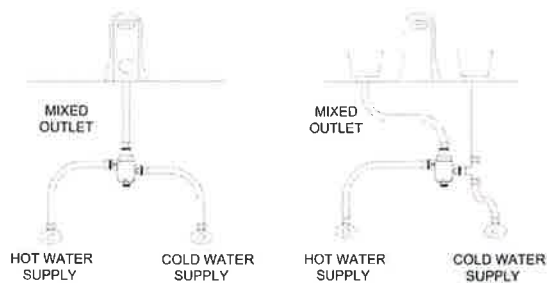
**Periodic inspection and maintenance is required**  
Regular inspection of the valve and the outlet temperature are required. Cleaning at a minimum of annually will help assure proper function of the mixing valve. Frequency of cleaning and inspection of the outlet temperature depends upon local water quality conditions.

1. Valve should be installed where it can be easily cleaned, adjusted or repaired. Leonard recommends that shutoffs are installed on the inlets to the mixing valve.
2. Inlets are furnished with 3/8" compression connections. If using copper tubing, do NOT extend tubing more than 3/16" beyond the compression ferrule. **DO NOT use thread sealant.**
3. Tighten compression nuts by hand, then tighten only 1/4 turn, overtightening will cause leaks and possibly crush checks.
4. Flush the hot and cold water lines before installing mixing valve.
5. "H" and "C" are clearly marked on the inlets, install hot water line to inlet marked "H" and cold water line to the inlet marked "C". Valve can be installed in any position.
6. Valve is NOT pre-set and must be set after installation. Run water for at least 1-2 minutes to allow water to stabilize.
7. Loosen locknut on stem, turn stem (screwdriver adjustment) counter-clockwise (stem coming out of valve) for hotter and clockwise (stem going into valve) for colder outlet temperature. Do not force the valve to below 90° F.
8. Tighten down the locknut to prevent unauthorized adjustment.
9. Verify the outlet temperature is set to the correct temperature.

## TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Cannot reach desired outlet temperature	Valve is full of debris or Inlets supplies are reversed	Flush valve with water Pipe hot to hot inlet, cold to cold inlet
Flow rate reduced or fluctuating	Inlet screen filled with debris	Check inlet screens for debris
No flow from outlet	Hot or Cold water supply failure	Restore Hot and Cold water inlet supplies
No flow from outlet	Inlet supply tube extending more than 3/16" beyond ferrule	Shorten tube and replace inlet checks
Hot water flows into Cold water supply or vice versa	Check valve has debris, inlets were not properly flushed	Replace inlet check valves and screens
Outlet temperature not warm enough	Hot water supply not 10° F above required outlet temperature (5° F with equal pressures)	Increase Hot water inlet temperature

## INSTALLATION



170A - BP ONLY



**PACKING  
PART # 7539**

**CHECK KIT - KIT 4/108  
INCLUDES CHECKS  
AND SCREENS**

## LIMITED WARRANTY

Leonard Valve Company warrants the original purchaser that products manufactured by them (not by others) will be free from defects in materials and workmanship under normal conditions of use, when properly installed and maintained in accordance with Leonard Valve Company's instructions, for a period of one year from date of shipment. During this period the Leonard Valve Company will at its option repair or replace any product, or part thereof, which shall be returned, freight prepaid, to the Leonard factory and determined by Leonard to be defective in materials or workmanship. There are no warranties, express or implied, which extend beyond the description contained herein. There are no implied warranties of merchantability or of fitness for a particular purpose. In no event will Leonard be liable for labor or incidental or consequential damages. Any alteration or improper installation or use of the product will void this limited warranty.

1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

Email:

Web Site: <http://www.leonardvalve.com>



a Bead Industries, Inc. company

## Warranty, Terms and Return Policies

**TERMS:** All sales are subject to credit approval. Terms are 2% ten days – net 30.

**RETURNED GOODS:** Requests for returning purchased items are subject to factory approval.

A Returned Goods Authorization (RGA) must be obtained from the factory prior to any return. Returned merchandise must be in their original cartons, listed in our current List Price Sheet and in clean saleable condition.

Restocking charge:

- Material that was shipped within 18 months of the return request is subject to a 25% restocking charge.
- Material that was shipped more than 18 months of the return request but less than 3 years is subject to a 50% restocking charge.
- Material returned more than 18 months after it was shipped is not subject to any stock rotation agreement.
- Material that was shipped more than 3 years before the return request is not returnable.
- Invoice dates as well as dates on packaging will control.

The restocking charge may be reduced if a new order of equal value is placed at the time the RGA is requested:

- 25% may be reduced to 15%
- 50% may be reduced to 35%

### **MINIMUM RETURN POLICY:**

Return requests less than \$200 net will be charged \$50 processing fee in lieu of any restocking charge.

### **INVOICE:**

We reserve the right to invoice all merchandise at prices in effect at time of shipment.

### **NO MINIMUM ORDER:**

Orders less than \$200 list will be invoiced at list price less 35% (.65 multiplier).

## **McGuire Manufacturing Co., Inc.**

60 grandview court • cheshire • ct • 06410

tel 203-699-1801 • fax 203-699-1813

[mcguiremfg.com](http://mcguiremfg.com)

[customerservice@mcguiremfg.com](mailto:customerservice@mcguiremfg.com)

**FREIGHT:**

We will pay freight on shipments within the continental United States when the order (pre-tax) totals more than \$2200 net. We select the method of shipment and carrier when we pay the freight.

## Limited Warranty Information

McGuire Manufacturing Co., Inc. (McGuire) warrants its product to be free from defects in material and workmanship for the period indicated below by product type measure from the date of purchase:

ITEM	WARRANTY PERIOD
Brass products	15 years
ProWrap	5 years
Eco P-Traps, Eco Strainers and Valve Strainers	1 year
Stainless Steel products	1 year
Lite Commercial P-Traps	1 year

McGuire's sole responsibility will be to replace, at no additional charge, any product which proves to be defective within the applicable warranty period. Shipping costs for product located outside the continental United States will be the sole responsibility of the customer. Duties and taxes, if levied, shall be the sole responsibility of the customer.

The above Limited Warranty shall not apply if the product has been damaged due to abuse, misuse, improper installation, accident, or other cause not within McGuire's control.

THE ABOVE LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY. ALL OTHER WARRANTIES ARE DISCLAIMED, WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL MCGUIRE BE RESPONSIBLE OR LIABLE FOR ANY SPECIAL INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR LOSSES ARISING FROM THE USE OF THIS PRODUCT.

McGuire may, at its option, alter the contents of this LIMITED WARRANTY at anytime. These changes will affect products manufactured after the effective date of this policy.

## **McGuire Manufacturing Co., Inc.**

60 grandview court • cheshire • ct • 06410

tel 203-699-1801 • fax 203-699-1813

[mcguiremfg.com](http://mcguiremfg.com)

[customerservice@mcguiremfg.com](mailto:customerservice@mcguiremfg.com)



## Terms and Conditions

**FREIGHT TERMS:** All shipments are F.O.B. shipping point. Shipments from the factory of less than 500 lbs., or \$3,500.00 net are F.O.B. factory. Factory shipments over 500 lbs., \$7,000.00 list or \$3,500.00 net will be prepaid and allowed within Canada when made at the lowest motor carrier transportation rate. Short shipments and/or damaged goods must be reported within 72 hours.

**PAYMENT TERMS:** Invoices are due and payable 30 days from the date of invoice.

**STOCKING WHOLESALER MINIMUM CHARGE:** A minimum billing charge of \$75.00 applies to shipments F.O.B. factory. Stocking Wholesaler Customers are encouraged to order sufficient material to avoid this charge which is necessitated by increased costs of processing small orders.

**SPECIAL PRODUCTS:** Orders for special or modified products are non-cancellable and non-returnable. In the event that an order for such products is cancelled, **Watts Water Technologies (Canada), Inc. shall charge an amount equal to the Company's costs and expenses incurred in performing the purchase order prior to receipt of notice of cancellation.**

**LIMITED WARRANTY:** This limited warranty is provided by WATTS Water Technologies (Canada) Inc., 5435 North Service Road Burlington, Ontario, Canada L7L 5H7 (the "Company"). The Company warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.

This warranty may be transferred to subsequent product owners.

Subject to applicable laws, including consumer protection legislation, the limited warranty set forth above is given expressly and is the only warranty given by the Company with respect to the product. The Company makes no other warranties, express or implied. The Company hereby specifically disclaims all other representations, warranties or conditions, express or implied, including but not limited to the implied representations, conditions and warranties of merchantability and fitness for a particular purpose.

Subject to applicable laws, including consumer protection legislation, the remedy described in the first paragraph of this warranty shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labour charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. The Company shall not be responsible for shipping or freight changes associated with warranty claims.

The warranty set forth above shall be invalidated by any abuse, misuse, misapplications, improper installation or improper maintenance or alteration of the product.

For claims within the warranty period, contact the Company at 1-888-208-8927.

**THE COMPANY MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED EXCEPT AS PROVIDED IN THIS LIMITED WARRANTY.**

**RETURNED GOODS RESTOCKING CHARGE:** No material shall be returned without authorization. When credit is issued it will be at the price charged, or prevailing price if lower, less handling charges based on costs of reconditioning, boxing, etc. However, a minimum 25% handling charge will apply. A minimum handling charge of \$35.00 is applied whenever the 25% handling deduction does not total \$35.00. Products which are obsolete or made to special order are not returnable.

**NOTE:** Prices and terms are subject to change without notice and supersede all previous quotations. The right is reserved to change or modify product design or construction without prior notice and without incurring any obligation to make such changes and modifications on products previously or subsequently sold.

**WATTS Water Technologies (Canada) Inc.** reserves the right to modify or change product design or construction without prior notice and without incurring any obligation to make similar changes and modifications to products previously or subsequently sold.

**See your WATTS representative for any clarification.**

**TWH-1,2**





## INSTALLATION GUIDE AND OWNER'S MANUAL

LavAdvantage™, AccuMix II™, & FlowCo™



### ELECTRIC INSTANTANEOUS WATER HEATERS



**WARNING** BEFORE ATTEMPTING ANY INSTALLATION, MODIFICATION OR SERVICE OF THE HEATER, MAKE SURE THE ELECTRICAL POWER IS DISCONNECTED.

Read and understand the instructions thoroughly before attempting the installation or service of the water heater. Failure to follow the instructions can result in serious injury, death and/or property damage. The warranty of the water heater will depend upon proper installation according to the instructions. Some heaters come supplied with separate faucet aerators. If supplied, the aerator must be installed in the faucet for optimum performance. The heater must only be used to heat water and must be installed in a location where it is not subject to freezing temperatures. The manufacturer is not liable for any damages resulting from improper installation or misuse.

The installation must conform to the latest requirements of the National Electrical Code and all applicable state and local codes. This information is available through local authorities. You must fully understand the requirements before beginning this installation.

This water heater is not required by UL 499 to employ a temperature and pressure relief valve (T&P). Check with local codes to find out if one is required. If it is, the T&P valve must be installed in the outlet hot water pipe between the heater and the isolation valve.

## IMPORTANT SAFETY INSTRUCTIONS

When using electrical equipment, basic safety precautions should always be followed, including the following:

### READ AND FOLLOW ALL INSTRUCTIONS

Supply the water heater only from a grounded system. A green terminal (or a wire connector marked "G", "GR", "Ground", or "GROUNDING") is provided for wiring the appliance. To reduce the risk of electric shock, connect this terminal, or connector, to the grounding terminal of the electric service or supply panel with a continuous copper wire. Connection should be made in accordance with the electrical installation code.

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**CAUTION** DO NOT INSTALL IN A BATH ENCLOSURE OR SHOWER STALL OR CONNECT TO A SALT-REGENERATED WATER SOFTENER OR A WATER SUPPLY OF SALT WATER. ATTENTION: NE PAS INSTALLER DANS UNE BAIGNOIRE OU UNE CABINE DE DOUCHE ET NE PAS BRANCHER À UN ADOUCISSEUR D'EAU RÉGÉNÉRÉ AVEC DU SEL OU À UN APPROVISIONNEMENT EN EAU SALÉE.

**CAUTION** (CANADIAN INSTALLATIONS ONLY) CONNECT ONLY TO A CIRCUIT PROTECTED BY A CLASS A GROUND FAULT CIRCUIT INTERRUPTER. ATTENTION: BRANCHER UNIQUEMENT À UN CIRCUIT PROTÉGÉ PAR UN DISJONCTEUR DE FUITE DE TERRE DE CLASSE A.

**CAUTION** (CANADIAN INSTALLATIONS ONLY) USE COPPER CONDUCTORS ONLY. USE BONDING CONDUCTOR IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE PART I. UTILISEZ DES CONDUCTEURS EN CUIVE UNIQUEMENT. UTILISEZ DES CONDUCTEURS DE MISE À LA MASSE CONFORMEMENT AU CODE CANADIEN DE L'ÉLECTRICITÉ, PARTIE I.

### SAVE THESE INSTRUCTIONS



Hot water can be dangerous, especially for infants or children, the elderly, or infirm. There is hot water scald potential if the thermostat is set too high.

Water temperatures over 125° F (51° C) can cause severe burns or scalding resulting in death.

Hot water can cause first degree burns with exposure for as little as:

3 seconds at 140° F (60° C)

20 seconds at 130° F (54° C)

8 minutes at 120° F (48° C)

Test the temperature of the water before placing a child in the bath or shower.

Do not leave a child or an infirm person in the bath unsupervised.

# 1. GENERAL

Eemax® offers thermostatic, thermostatic with an integrated mixing valve, and non-thermostatic tankless electric water heaters.

NOTICE: LavAdvantage and FloCo models are tested @ 125 deg. per Department of Energy (DOE) 10CFR Part 430, Energy Conservation Program for Consumer Products.

To obtain optimum performance and energy savings, the water heater should be located as close as possible to the point-of-use. The unit is supplied with compression rings and nuts suitable for direct coupling to 3/8" copper or PEX™ piping. Do not use additional screwed fittings, pipe dope or teflon tape – doing so will void the warranty. **DO NOT SOLDER PIPES WHILE THE UNIT IS INSTALLED** as serious damage to the heater will result and the warranty will be voided.

LavAdvantage™, thermostatic heaters are designed to accept cold or preheated water and heat it to temperatures suitable for normal domestic usage up to a maximum temperature setpoint of 140°F. Models featuring the "S" option can be used as a temperature booster for sanitation applications up to maximum temperature setpoint of 180°F. "ML" option units are factory set to a maximum temperature setpoint of 110°F and are recommended for multi-lavatory handwashing applications – refer to section 2 for supplied aerator details. The "EE" option units are factory set to a maximum temperature setpoint of 90°F, making them suitable for emergency eyewash applications.

AccuMix II™, thermostatic heaters with an integrated mixing valve, are designed to take in cold water and heat it to temperatures suitable for handwashing and other mild temperature uses up to a factory preset of 105°F. The heaters are also equipped with an ASSE 1070-2004 approved mixing valve to meet UPC 407.3 and similar plumbing codes for public handwashing applications.

NOTICE for testing – The Accumix II models have been tested and rated in accordance with the Department of Energy 10 CFR 430 Subpart B Appendix E for Uniform Energy Factor requirements. During the testing, to achieve and maintain a water temperature of 125° F, the mixing valve was fully opened. THIS IS NOT AN ADJUSTMENT THAT IS TO BE MADE BY THE END-USER. The Accumix II models are preset at the factory to 105° F and the mixing valve is locked to ensure compliance with ASSE 1070 standard and to specifically limit delivered water temperatures. This notice is strictly for informational purposes intended for laboratory testing.

FlowCo™, non-thermostatic heaters, are designed to take in cold water and heat it to temperatures suitable for handwashing and other fixed-flow applications.

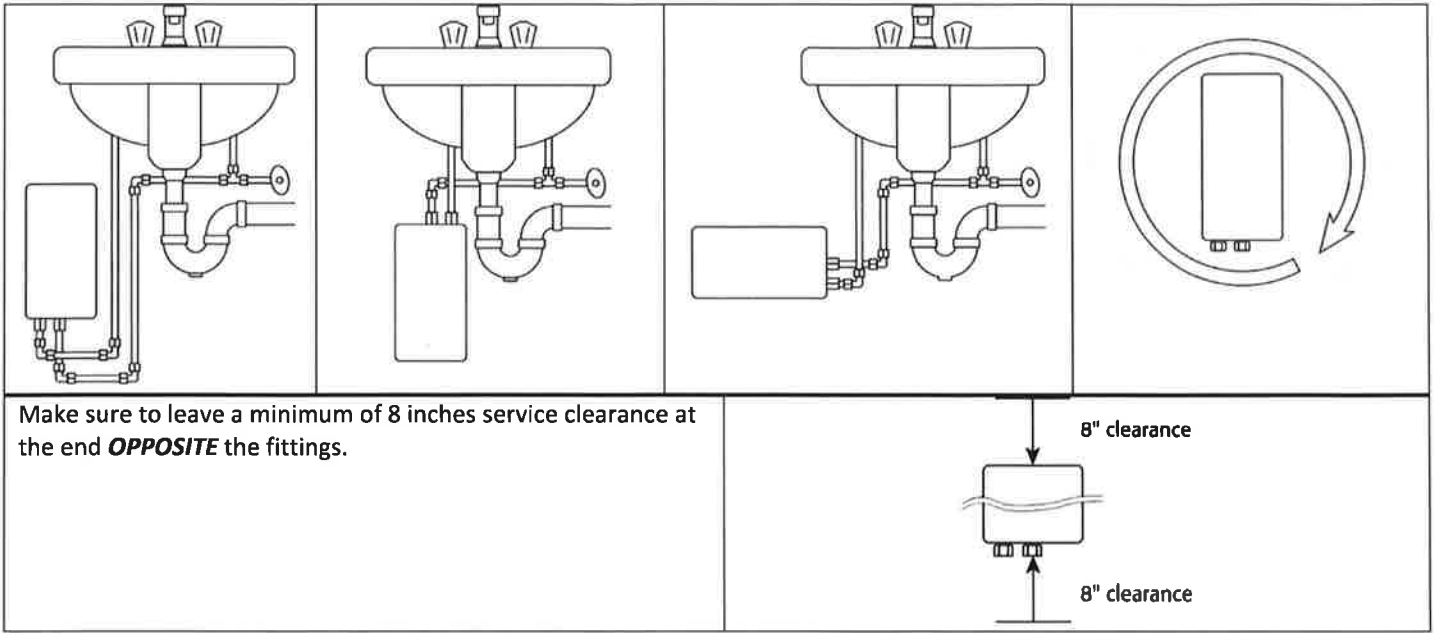
# 2. MOUNTING THE UNIT TO THE WALL



***THIS HEATER MUST BE INSTALLED IN A LOCATION WHERE IT IS NOT SUBJECT TO FREEZING TEMPERATURES.***

The heater should be mounted on the wall under the sink, as close to the point-of-use as possible. Ideal position is fittings pointed down; however, the heater may be mounted in any orientation.

Note: a logo decal has been provided to ensure branding is clearly displayed in any mounting orientation.

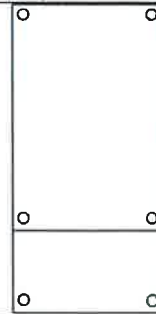


Remove the cover and fasten to the wall using the mounting holes at each corner of the back plate. Replace the cover.

**FlowCo  
LavAdvantage**



**AccuMix II**



### 3. PLUMBING HOOK-UP

The water heater is supplied with 3/8" brass compression fittings that are compatible with either copper or plastic pipes. Make sure these fittings are used for this installation. Contact your Eemax representative for further information.

**CAUTION** NEVER SUBSTITUTE THREADED PIPE FITTINGS USING PIPE DOPE OR TEFLON TAPE AND NEVER SOLDER ANY PIPE CONNECTIONS WHILE ATTACHED TO THIS HEATER BECAUSE DAMAGE TO THE HEATER WILL RESULT. DOING THIS WILL VOID THE WARRANTY!

Eemax strongly recommends that the heater be supplied directly from the main cold water trunk line when possible. This helps to avoid a potential water flow interruption to the water heater which could lead to a failure of the heating element.

**System Requirements:**

- Minimum turn on flow rates are family dependent:
  - **LavAdvantage:** 0.2 GPM
  - **AccuMix II:** 0.3 GPM
  - **FlowCo:** vary by model (refer to the table below)
- Minimum/maximum working pressure: 30 PSI/150 PSI
- Optimal operating pressure range: 35 to 80 PSI

Base Model*	Turn On Flow Rate, GPM (LPM)						
	0.2 (0.76)	0.25 (0.95)	0.3 (1.14)	0.4 (1.51)	0.5 (1.89)	0.7 (2.65)	0.8 (3.03)
SPEX1812	•						
SPEX2412		•					
SPEX3012		•					
SPEX3512			•				
SPEX35			•				
SPEX48				•			
SPEX55					•		
SPEX65						•	
SPEX75						•	
SPEX95							•
SPEX3208		•					
SPEX4208				•			
SPEX8208						•	
SPEX3277		•					
SPEX4277				•			
SPEX60						•	
SPEX80						•	
SPEX90						•	
SPEX100							•

\*Special suffixed models (i.e. CA, etc.), will have identical temperature rises as their base model

For optimum performance, Eemax recommends the use of isolation valves (full flow ball type) on the inlet and outlet pipes and a 40 mesh Y-Strainer on the inlet of the heater.

Clean screen periodically for best performance.



**BEFORE ATTEMPTING ANY INSTALLATION, MODIFICATION OR SERVICE OF THIS HEATER, MAKE SURE THE ELECTRICAL POWER IS DISCONNECTED.**

The heater's water INLET and OUTLET are labeled. Install full flow ball valves to the inlet and outlet pipes and run water through the inlet pipe into a bucket to purge it of any debris. Close the inlet ball valve.

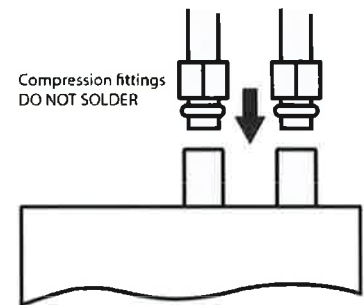
\*Failure to do so may clog the inlet water screen.



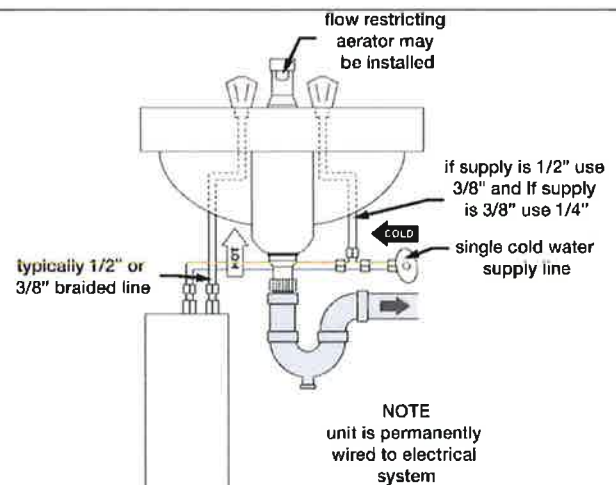
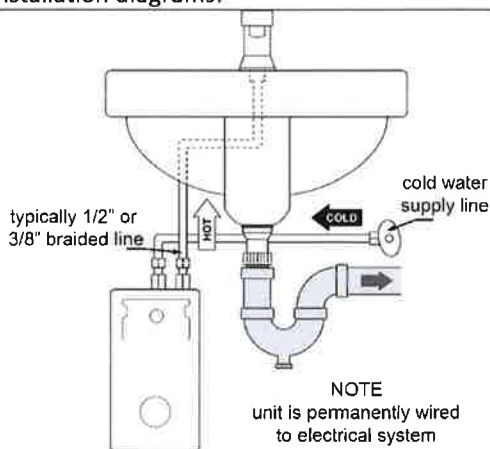
Make sure the inlet filter screen is present in the inlet fitting and the inlet and outlet pipes are correctly aligned with the heater connections to minimize stress on the heater.



Remove the cover. Connect the pre-assembled inlet and outlet pipes to the heater (**do not overtighten compression fittings**) and fully open the inlet and outlet ball valves. Check the system for water leaks at all plumbing connections. If a leak is present at the compression fitting, **slowly** tighten compression nut until it stops – **do not overtighten**.



Sample installation diagrams:



**Note: LavAdvantage and AccuMix II only**



Open the hot water faucet and run water for a minimum of 60 seconds and until the flow is continuous and free of air pockets. Close the faucet and install the aerator (if supplied).

Failure to install aerator will result in less-than-favorable heater performance.

MODEL	# OF AERATORS
<b>LAVADVANTAGE**</b>	
SPEX3512T ML	2
SPEX35T ML	2
SPEX48T ML	2
SPEX55T ML	2
SPEX65T ML	2
SPEX75T ML	2
SPEX95T ML	3
SPEX012240T ML	3

MODEL	# OF AERATORS
<b>LAVADVANTAGE**</b>	
SPEX3208T ML	2
SPEX4208T ML	2
SPEX3277T ML	2
SPEX4277T ML	2
SPEX8208T ML	3
SPEX60T ML	2
SPEX80T ML	2
SPEX90T ML	3
SPEX100T ML	3

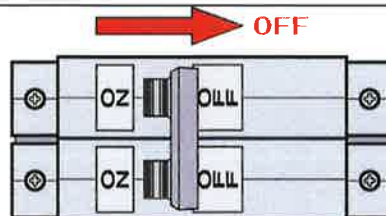
MODEL	# OF AERATORS
<b>ACCUMIX II</b>	
AM004120T	1
AM005240T	1
AM007240T	2
AM010240T	3
AM012240T	4
AM004277T	1
AM008277T	2
AM010277T	3

\*\*ML thermostatic models are designed to deliver a flow of 0.35 GPM to each lavatory. Please install the supplied aerators to ensure maximum heating performance.



#### 4. ELECTRICAL HOOK-UP

**WARNING** BEFORE BEGINNING ANY WORK ON THIS INSTALLATION, CONFIRM THE ELECTRICAL BREAKER IS "OFF" AND THAT ALL MOUNTING AND PLUMBING WORK HAS BEEN COMPLETED PER THE STATED INSTRUCTIONS.



For use on an individual branch circuit only. The heater shall be installed using insulated, UL listed, 2 wire cable (2 wire plus ground) of the appropriate size suitable for up to 75°C and protected by the correctly rated circuit breaker.

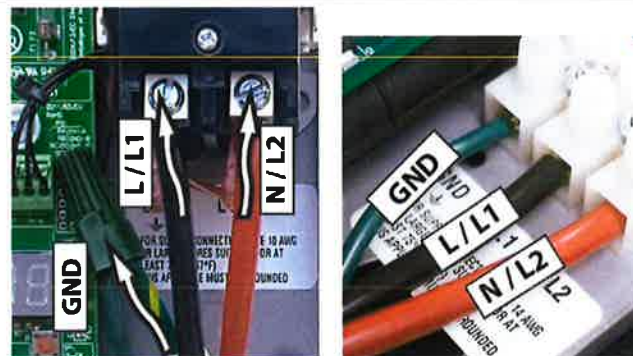
Refer to the chart below for recommended copper wiring for conductors with a temperature rating of 75°C:

FlowCo	LavAdvantage	AccuMix II	Voltage (VAC)	Max power (kW)	Max current (A)	Minimum wire size (AWG) @75°C
SPEX1812	SPEX1812T	-	120	1.8	15	14
SPEX2412	SPEX2412T	-	120	2.4	20	14
SPEX3012	SPEX3012T	-	120	3	25	12
SPEX3512	SPEX3512T	AM004120T	120	3.5	29	10
SPEX35	SPEX35T	-	240	3.5	15	14
SPEX48	SPEX48T	AM005240T	240	4.8	20	14
SPEX55	SPEX55T	-	240	5.5	23	12
SPEX65	SPEX65T	AM007240T	240	6.5	27	10
SPEX75	SPEX75T	-	240	7.5	32	10
SPEX95	SPEX95T	AM010240T	240	9.5	40	8
-	SPEX012240T	AM012240T	240	11.5	48	8
SPEX3208	SPEX3208T	-	208	3	15	14
SPEX4208	SPEX4208T	-	208	4.1	20	14
SPEX8208	SPEX8208T	-	208	8.3	40	8
SPEX3277	SPEX3277T	-	277	3	11	14
SPEX4277	SPEX4277T	AM004277T	277	4.1	14.8	14
SPEX60	SPEX60T	-	277	6	22	12
SPEX80	SPEX80T	AM008277T	277	8	29	10
SPEX90	SPEX90T	-	277	9	33	10
SPEX100	SPEX100T	AM010277T	277	10	36	8

Power cable entry to the heater should be made through one of the knock-out holes located on the back plate or top/bottom ends of the unit. Use the appropriate strain relief fitting.

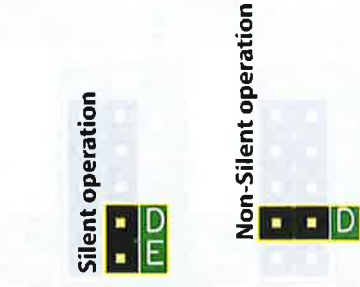
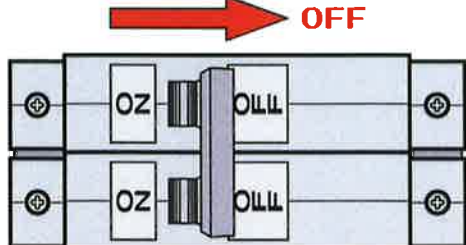


The power leads are to be secured to the L1 and L2 or L and N connectors on the terminal block or relay. The ground lead is to be secured to the GND connector on the block or the green ground wire with the provided wire nut.



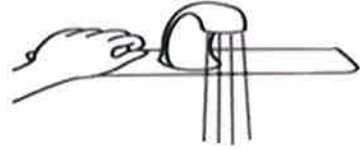
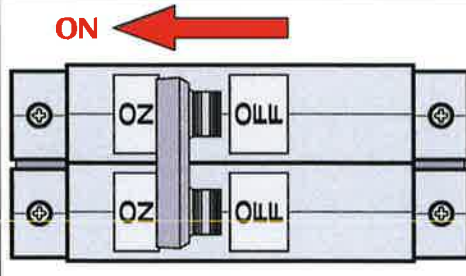
**FAILURE TO GROUND THE SYSTEM MAY RESULT IN SERIOUS INJURY, DEATH AND/OR PROPERTY DAMAGE.**



<p><b>Optional:</b> AccuMix II heaters comes preset in silent mode. If silent mode is the intended use, please proceed to step 4. To switch between silent and non-silent operation place the jumper on the control board in position "D".</p>	
<p>Leave the breaker in the "OFF" position. Proceed to the next section: <b>COMMISSIONING THE HEATER</b></p>	


## 5. COMMISSIONING THE HEATER

**CAUTION** BEFORE SWITCHING THE ELECTRICAL BREAKER "ON", VERIFY THE INLET AND OUTLET BALL VALVES ARE FULLY OPEN AND WATER IS FLOWING THROUGH THE HOT WATER FAUCET FOR A MINUTE OR TWO UNTIL THE FLOW IS CONTINUOUS AND FREE FROM AIR POCKETS. DO NOT SWITCH THE BREAKER "ON" IF THERE IS A POSSIBILITY THE WATER IN THE HEATER IS FROZEN.

<p>Verify water is flowing through the faucet.</p>	
<p>Switch "ON" the electric power supply at the breaker.</p>	

The following steps are dependent on the water heater, please be sure to read all instructions to best commission the appropriate model.

### LAVADVANTAGE & ACCUMIX II

<p>Keep water flowing through the faucet for the next step. The display on the circuit board should come "ON". With the flow running, the heater will go through the 60 seconds startup/self-calibration procedure. The display will count down from 60 to 0. When the display timer reaches 45, the unit starts heating and continues counting down to 0.</p>	
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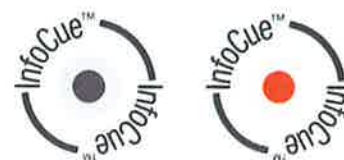
After the 60 seconds in step 4, the display will show the temperature setpoint. See **The heater is commissioned at this point.** Faucet can be turned off and used as needed.

Note: the temperature display will turn off after 5 minutes of inactivity. Display turns on when water flows through heater.

## FLOWCO

The InfoCue™ will flash rapidly while water flows through the unit. Maintain flow. After 15 seconds, the InfoCue will turn solid red and there will be an audible click. **The heater is commissioned at this point.** The faucet can be turned off and used as needed.

Note: with no flow, the unit will flash every 4 seconds, indicating normal stand-by mode.



## Congratulations!

**Your Eemax tankless electric water heater is installed and ready for use!**

For temperature rise at specified flow rate, please consult the table below:

BASE MODEL *		FLOW RATE, GPM (LPM)													
LavAdvantage	AccuMix II	0.35	(1.33)	0.5	(1.89)	1	(3.79)	1.5	(5.68)	2	(7.58)	2.5	(9.48)	3	(11.37)
		TEMPERATURE RISE, °F (°C)													
SPEX1812T	-	35	(19)	25	(14)	12	(7)	8	(4)	6	(3)	5	(3)	4	(2)
SPEX2412T	-	47	(26)	33	(18)	16	(9)	11	(6)	8	(4)	7	(4)	5	(3)
SPEX3012T	-	59	(33)	41	(23)	20	(11)	14	(8)	10	(6)	8	(4)	7	(4)
SPEX3512T	AM004120T	68	(38)	48	(27)	24	(13)	16	(9)	12	(7)	10	(6)	8	(4)
SPEX35T	-	68	(38)	48	(27)	24	(13)	16	(9)	12	(7)	10	(6)	8	(4)
SPEX48T	AM005240T	94**	(52)	66	(37)	33	(18)	22	(12)	16	(9)	13	(7)	11	(6)
SPEX55T	-	107**	(59)	75	(42)	38	(21)	25	(14)	19	(11)	15	(8)	13	(7)
SPEX65T	AM007240T	127**	(71)	89	(49)	44	(24)	30	(17)	22	(12)	18	(10)	15	(8)
SPEX75T	-	146**	(81)	102**	(57)	51	(28)	34	(19)	26	(14)	20	(11)	17	(9)
SPEX95T	AM010240T	185**	(103)	130**	(72)	65	(36)	43	(24)	32	(18)	26	(14)	22	(12)
SPEX012240T	AM012240T	224**	(124)	157**	(87)	79	(44)	52	(29)	39	(22)	31	(17)	26	(14)
SPEX3208T	-	59	(33)	41	(23)	20	(11)	14	(8)	10	(6)	8	(4)	7	(4)
SPEX4208T	-	80	(44)	56	(31)	28	(16)	19	(11)	14	(8)	11	(6)	9	(5)
SPEX8208T	-	162**	(90)	113**	(63)	57	(32)	38	(21)	28	(16)	23	(13)	19	(11)
SPEX3277T	-	59	(33)	41	(23)	20	(11)	14	(8)	10	(6)	8	(4)	7	(4)
SPEX4277T	AM004277T	78	(43)	56	(31)	28	(16)	19	(11)	14	(8)	11	(6)	9	(5)
SPEX60T	-	117**	(65)	82	(46)	41	(23)	27	(15)	20	(11)	16	(9)	14	(8)
SPEX80T	AM008277T	156**	(87)	109**	(61)	55	(31)	36	(20)	27	(15)	22	(12)	18	(10)
SPEX90T	-	176**	(98)	123**	(68)	61	(34)	41	(23)	31	(17)	25	(14)	20	(11)
SPEX100T	AM010277T	195**	(108)	137**	(76)	68	(38)	46	(26)	34	(19)	27	(15)	23	(13)

\*\*Note: the heaters' actual temperature rises are limited by their thermostatic controls (max 90°F, max 110°F, max 140°F, max 180°F, based on model suffix). The theoretical values shown above are only for comparison purposes.

BASE MODEL *	FLOW RATE, GPM (LPM)															
	0.2	(0.76)	0.25	(0.95)	0.3	(1.14)	0.4	(1.51)	0.5	(1.89)	0.7	(2.65)	0.8	(3.03)	1	(3.79)
	TEMPERATURE RISE, °F (°C)															
SPEX1812	61	(34)	49	(27)	41	(23)	31	(17)	25	(14)	18	(10)	15	(8)	12	(7)
SPEX2412	82	(46)	66	(37)	55	(31)	41	(23)	33	(18)	23	(13)	20	(11)	16	(9)
SPEX3012	-	-	82	(46)	68	(38)	51	(28)	41	(23)	29	(16)	26	(14)	20	(11)
SPEX3512	-	-	-	-	80	(44)	60	(33)	48	(27)	34	(19)	30	(17)	24	(13)
SPEX35	-	-	-	-	80	(44)	60	(33)	48	(27)	34	(19)	30	(17)	24	(13)
SPEX48	-	-	-	-	-	-	82	(46)	66	(37)	47	(26)	41	(23)	33	(18)
SPEX55	-	-	-	-	-	-	-	-	75	(42)	54	(30)	47	(26)	38	(21)
SPEX65	-	-	-	-	-	-	-	-	-	-	63	(35)	55	(31)	44	(24)
SPEX75	-	-	-	-	-	-	-	-	-	-	73	(41)	64	(36)	51	(28)
SPEX95	-	-	-	-	-	-	-	-	-	-	-	-	81	(45)	65	(36)
SPEX3208	-	-	82	(46)	68	(38)	51	(28)	41	(23)	29	(16)	26	(14)	20	(11)
SPEX4208	-	-	-	-	-	-	70	(39)	56	(31)	40	(22)	35	(19)	28	(16)
SPEX8208	-	-	-	-	-	-	-	-	-	-	81	(45)	71	(39)	57	(32)
SPEX3277	-	-	82	(46)	68	(38)	51	(28)	41	(23)	29	(16)	26	(14)	20	(11)
SPEX4277	-	-	-	-	-	-	70	(39)	56	(31)	40	(22)	35	(19)	28	(16)
SPEX60	-	-	-	-	-	-	-	-	82	(46)	59	(33)	51	(28)	41	(23)
SPEX80	-	-	-	-	-	-	-	-	-	-	78	(43)	68	(38)	55	(31)
SPEX90	-	-	-	-	-	-	-	-	-	-	-	-	77	(43)	61	(34)
SPEX100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	(38)

Note: the values shown above are only for comparison purposes.

\*Special suffixed models (i.e. CA, etc.), will have identical temperature rises as their base model

"-" Flow rate below turn on flow for this model

## 6. LAVADVANTAGE UNIT OPERATION

Factory temperature setpoints/maximum adjustable range:

Suffix		Default Setpoint (°F)	Minimum Setpoint (°F)	Maximum Setpoint (°F)
Base Model	<4kW	105	70	140
	>4kW	120		
S (Sanitation)		120	70	180
ML (Multi-Lavatory)		110	70	110
EE (Emergency Eyewash)		90	70	90

### CHANGING SETPOINT TEMPERATURE

To INCREASE temperature, tap the "+" button repeatedly, or hold the "+" down to INCREASE the temperature quickly. To DECREASE temperature, tap the "-" button repeatedly, or hold the "-" down to DECREASE the temperature quickly.

### ADVANCED FUNCTIONS

With the display showing the current setpoint temperature, press BOTH "+" AND "-" buttons simultaneously for 3 seconds.

Screen Info	Title	Units	Description
Flow Rate	FLO	GPM or LPM	Current water flow rate through unit
Inlet temperature	IN	°F or °C	Cold water temperature
Outlet temperature	OUT	°F or °C	Hot water temperature
Power Factor	PF	%	How hard the heater is working
Software Revision	SR	-	For Technical Support assistance

Hold "-" to display the current screen title.

Press "+" to advance to the next screen.

Holding both "+" and "-" at any time for 3 seconds returns the display to the temperature set point, or just let the heater return to set point display on its own after a period of time.

**ERROR CODES & UNITS**

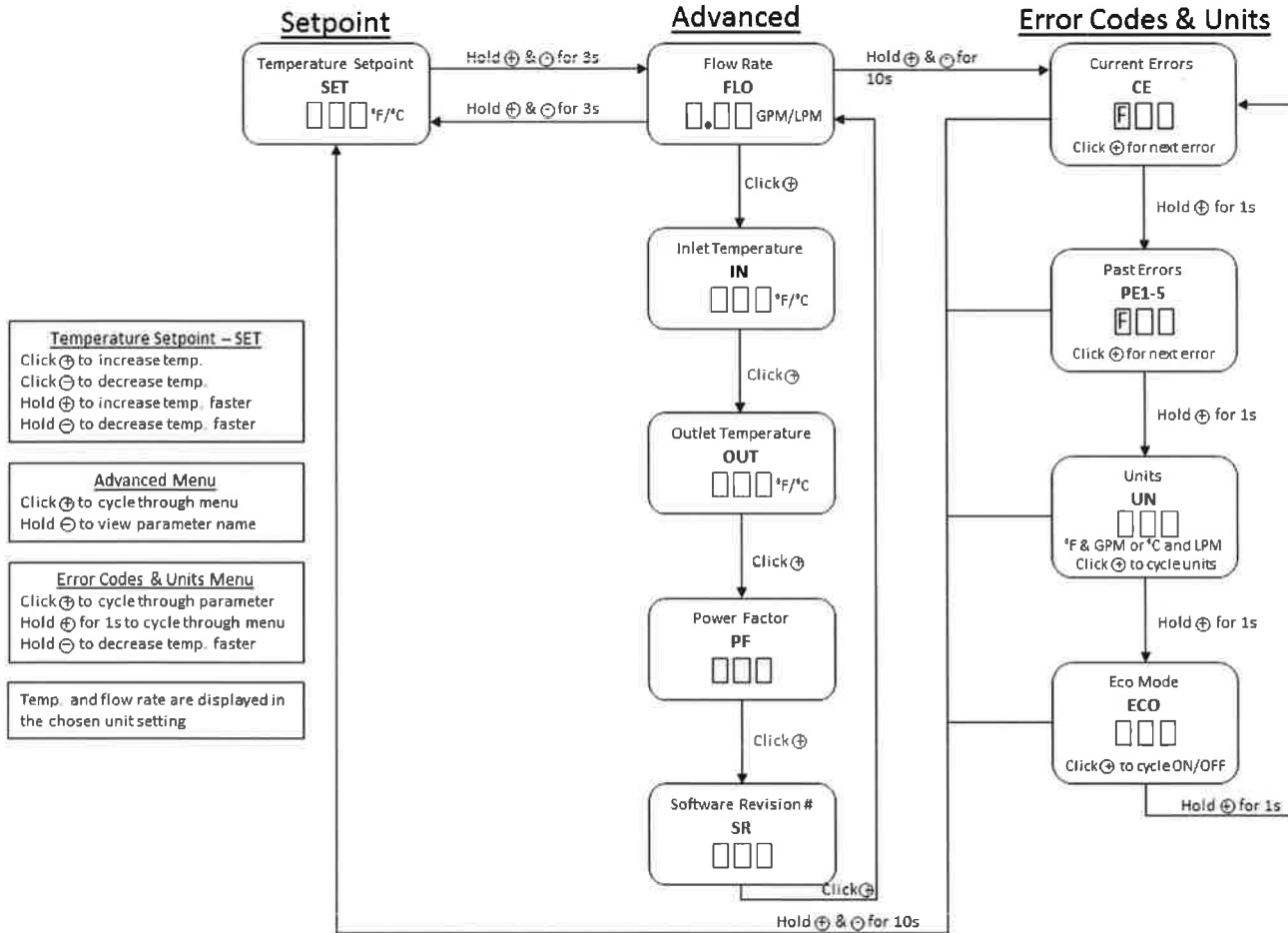
From Advanced Menu, press and hold the “+” and “-” buttons for 10 seconds.

Screen Info	Title	Description
Current Error(s)	CE	Any errors currently present (F0 displays if no errors are present)
Past Errors	PE	Previous 5 errors and faults
Units	UN	Choose between °F/GPM and °C/LPM
Non-Silent Mode	NS	Toggle non-silent operation

Pressing “-” at any time will display screen title (CE, PE1-5, UN, ECO).

Press the “+” button for 1 second to cycle through the following screens:

To return to setpoint hold “+” and “-” for 10 seconds, or just let the heater return to setpoint display or display turn-off on its own after a period of time.



## 7. TROUBLESHOOTING



### CAUTION

**ENSURE POWER TO THE UNIT IS "OFF" BEFORE REMOVING THE PROTECTIVE COVER FOR ANY REASON.**

For status resolution, please consult the table for your heater model below.

LAVADVANTAGE & ACCUMIX II				
Code	Name	Possible causes	Heater response	Possible solutions
F23	No heat	- element failure - ECO tripped/malfunctioning - triac(s) failed open - relay/contactor malfunctioning - control board failure - inlet water supply out of spec	Heating will be disabled after 30 seconds of continuous no heat condition.	- measure element resistance with the unit completely turned off
F24	Low heat	- undervoltage - triac(s) failed open - control board failure - inlet/outlet thermistor(s) failure	Heating enabled, reduced performance (lower outlet temperature).	- verify power supply (voltage) while heater is running
F33	Residual heat	- internal water temperature elevated without flow - both triacs failed closed	Heating disabled until outlet temperature falls below the reactivation temperature (see default parameters table).	- run water through the unit
F34	Overvoltage	- inlet voltage is too high compared to the stated heater specifications	Heating enabled, reduced performance (higher outlet temperature).	- have certified personnel verify the inlet voltage - provide voltage within specified range
F36	Undervoltage	- inlet voltage is too low compared to the stated heater specifications	Heating enabled, reduced performance (lower outlet temperature).	- have certified personnel verify the inlet voltage - provide voltage within specified range
F38	High flow	- flow is too high to heat the water to setpoint temperature	Heating enabled, unit operates as intended (lower outlet temperature possible).	- reduce flow (outlet flow restrictor, faucet aerator)
F47	Inlet thermistor failure	- inlet thermistor interrupted or disconnected	Heating enabled based on default inlet temperature setting (see default parameters table; higher/lower outlet temperature possible).	- inspect connections/wiring of inlet thermistor
F48	Outlet thermistor failure	- outlet thermistor interrupted or disconnected	Heating enabled, auto calibration disabled.	- inspect connections/wiring of outlet thermistor
F64	Freeze warning	- inlet temperature is too low (below 35°F)	Heating disabled while condition is present.	- increase inlet water temperature above 35°F

LAVADVANTAGE & ACCUMIX II DEFAULT PARAMETERS			
Status code	Model suffix	Default values	
F33	T, ML	Trip	170°F
		Reactivation	140°F
	EE	Trip	100°F
		Reactivation	95°F
	S	Trip	195°F
		Reactivation	165°F

FLOWCO				
LED Pattern	Status/Problem	Possible causes	Heater response	Possible solutions
Solid light	Heating	N/A	N/A	N/A
One flash every four seconds	Idle	N/A	- unit waits for flow	N/A

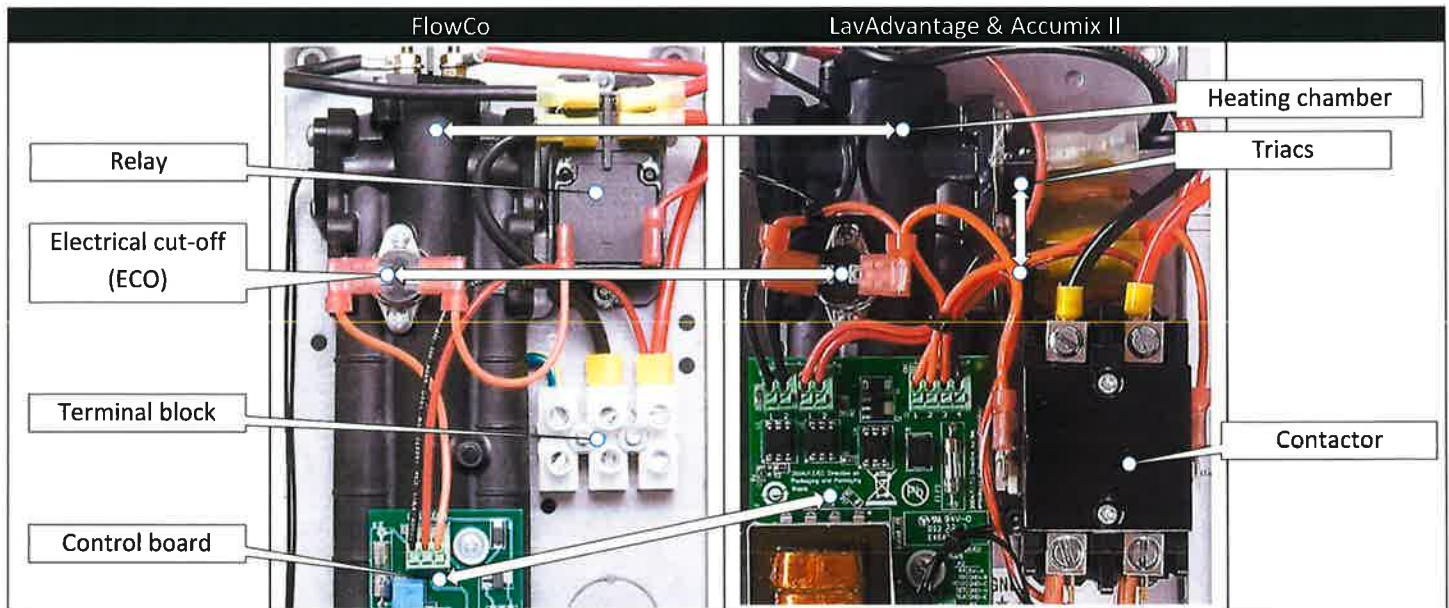


<b>Two flashes once, three second pause</b>	Low heat	- outlet temperature below 90°F/32°C for 5 seconds of flow - element failure - ECO tripped/malfunctioning - relay/contactor malfunctioning - control board failure - inlet water supply out of spec	- unit keeps running, LED flashes a warning pattern	- reduce flow through unit
<b>Two flashes twice, three second pause</b>	Outlet thermistor failure	- outlet thermistor interrupted or disconnected	- unit keeps running, LED flashes a warning pattern	- inspect connections/wiring of outlet thermistor
<b>Two flashes three times, three second pause</b>	Over-temperature Warning	- outlet temperature exceeds 110°F/38°C	- unit keeps running, LED flashes a warning pattern	-increase flow through unit. If this temperature is desired no action is required
<b>Three flashes once, three second pause</b>	Over-temperature Protection	- outlet temperature exceeds 150°F/65°C	- unit stops heating until outlet temperature falls below preset minimum	- increase flow through unit to decrease the overall temperature rise
<b>Three flashes twice, three second pause</b>	Freeze warning	- inlet temperature is too low (below 35°F/2°C)	- heating disabled	- increase temperature of inlet water to meet product specifications

## 8. PERIODIC MAINTENANCE

The heater is designed for many years of carefree use. In order to maintain consistent water flow, it may be necessary to periodically clean the faucet aerator or the filter screen located in the brass inlet fitting at the heater.

<p>Element cartridge installs inside heating chamber of all heaters</p>	
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## 9. REPLACEMENT PART NUMBERS

COMPRESSION FITTINGS	
3/8" NUT	EX68B
3/8" SLEEVE	EX68C

AERATORS	
0.35 GPM	EX0061-0.3-AER
0.5 GPM	EX0061-0.5-AER

Energy Cut-Off (ECO)	
LavAdvantage (by suffix)	
Base, ML	EX278A-KIT
EE	EX278E-KIT
S	EX278D-KIT

PLUMBING ADAPTORS	
MALE 13/16"-27 X MALE 55/64"-27	EX61-339
FEMALE 3/4"-27 X MALE 55/64"-27	EX61-341
FEMALE 13/16"-24 X MALE 55/64"-27	EX61-349
MALE 15/16"-27 X MALE 55/64"-27	EX61-336
MALE 11/16"-27 X MALE 55/64"-27	EX61-344
MALE M24X1/FEMALE M22X1 X MALE 55/64"-27	EX61-387

AccuMix II	
Base	EX278A-KIT

FlowCo	
Base	EX278A-KIT
CA	EX08100-03-KIT

## 10. REPAIR PARTS

### LavAdvantage & AccuMix II

MODEL NUMBER*		ELEMENT CARTRIDGE	CONTROL BOARD	RELAY
LAVADVANTAGE	ACCUMIX II			
SPEX1812T	-	EX800 PRT	EX384-120	EX259B
SPEX2412T	-	EX610	EX384-120	EX259B
SPEX3012T	-	EX480	EX384-120	EX259B
SPEX3512T	AM004120T	EX410	EX384-120	EX259B
SPEX35T	-	EX1650	EX384-240	EX255B
SPEX48T	AM005240T	EX1200	EX384-240	EX255B
SPEX55T	-	EX1050	EX384-240	EX255B
SPEX65T	AM007240T	EX890	EX384-240	EX255B
SPEX75T	-	EX770	EX384-240	EX255B
SPEX95T	AM010240T	EX630	EX384-240	EX255B
SPEX012240T	AM012240T	EX500 PRT	EX384-240	EX1050-1
SPEX3208T	-	EX1440	EX384-240	EX255B
SPEX4208T	-	EX1050	EX384-240	EX255B
SPEX8202T	-	EX520	EX384-240	EX255B
SPEX3277T	-	EX260	EX384-277	EX253B
SPEX4277T	AM004277T	EX1920	EX384-277	EX253B
SPEX60T	-	EX1280	EX384-277	EX253B
SPEX80T	AM008277T	EX960	EX384-277	EX253B
SPEX90T	-	EX850	EX384-277	EX253B
SPEX100T	AM010277T	EX760	EX384-277	EX253B

### FlowCo

MODEL NUMBER*	ELEMENT CARTRIDGE	CONTROL BOARD	RELAY
SPEX1812	EX800 PRT	EX383	EX250B
SPEX2412	EX610	EX383	EX250B
SPEX3012	EX480	EX383	EX250B
SPEX3512	EX410	EX383	EX250B
SPEX35	EX1650	EX383	EX254
SPEX48	EX1200	EX383	EX254
SPEX55	EX1050	EX383	EX254
SPEX65	EX890	EX383	EX254
SPEX75	EX770	EX383	EX255B
SPEX95	EX630	EX383	EX255B
SPEX3208	EX1440	EX383	EX254B
SPEX4208	EX1050	EX383	EX254B
SPEX8208	EX520	EX383	EX255B
SPEX3277	EX260	EX383	EX251B
SPEX4277	EX1870	EX383	EX251B
SPEX60	EX1280	EX383	EX251B
SPEX80	EX960	EX383	EX251B
SPEX90	EX850	EX383	EX253B
SPEX100	EX760	EX383	EX253B

\*If heater has suffix "DI" order element with suffix "SS."

If you need any assistance from our Technical Service Department, make sure you can identify this water heater by having

model no: \_\_\_\_\_

and serial number: \_\_\_\_\_

Manufacturer's National Service Department | 400 Captain Neville Dr. Waterbury, CT 06705  
Eemax® 800-543-6163 | EcoSmart® 877-474-6473 | Rheem® or Richmond® 800-374-8806





## Warranty Information

### Limited Warranty Information – Eemax Electric Tankless Water Heaters

Subject to the terms and conditions set forth in this limited warranty, each Eemax Tankless Water Heater is warranted to the original owner (“Owner”) against (i) mechanical or electrical failure of any component solely due to defects in materials or Manufacturer’s workmanship for a period of one year from the date of original purchase and (ii) leaks solely due to defects in materials or Manufacturer’s workmanship for the later of (x) five years from the date of original purchase or (y) the date of Owner’s occupancy of a new dwelling in which the Eemax Tankless Water Heater is installed. However, if Owner cannot document the original date of purchase with the original sales receipt, then the limited warranty period begins on the date the Eemax Tankless Water Heater was manufactured. As Owner’s sole and exclusive remedy, Manufacturer shall, at Manufacturer’s sole election, either repair or replace the Eemax Tankless Water Heater or the defective portion of such product. Manufacturer is not liable for any costs incurred by Owner, including, without limitation, the cost of any labor. Manufacturer’s maximum liability is limited to the value of the water heater. This limited warranty shall be governed by the laws of the United States.

THIS LIMITED WARRANTY SHALL BE THE EXCLUSIVE WARRANTY MADE BY MANUFACTURER AND IS MADE IN LIEU OF ALL OTHER WARRANTIES, STATUTORY, EXPRESSED OR IMPLIED (WHETHER WRITTEN OR ORAL), INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. MANUFACTURER EXPRESSLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. OWNER’S SOLE AND EXCLUSIVE REMEDY IS PRODUCT REPAIR OR REPLACED, AS PROVIDED IN THIS LIMITED WARRANTY, AND ALL OTHER CLAIMS FOR DAMAGES ARE EXCLUDED.

THE REMEDIES SET FORTH IN THIS LIMITED WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO OWNER OR ANY PERSON FOR BREACH OF ANY COVENANT, DUTY OR OBLIGATION ON THE PART OF MANUFACTURER. MANUFACTURER IS NOT LIABLE TO OWNER OR ANY THIRD PARTY FOR ANY LOSS, PERSONAL INJURY OR PROPERTY DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE EEMAX TANKLESS WATER HEATER. UNDER NO CIRCUMSTANCES IS MANUFACTURER LIABLE TO OWNER OR ANY THIRD PARTY FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL, CONTINGENT, OR PUNITIVE DAMAGES OF ANY DESCRIPTION, WHETHER ANY SUCH CLAIM BE BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORT, OR OTHERWISE.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO OWNER. IN SUCH CASES, THE WARRANTY SHALL BE

LIMITED TO ONE YEAR FROM THE ORIGINAL DATE OF PURCHASE OR DATE OF MANUFACTURE, AS PROVIDED IN THIS LIMITED WARRANTY, OR THE SHORTEST PERIOD ALLOWED BY LAW. THIS WARRANTY GIVES OWNER SPECIFIC LEGAL RIGHTS AND OWNER MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

**Exclusions of Coverage from this Limited Warranty:**

1. Manufacturer is not liable for any water damage or other damages arising, directly or indirectly, from any defect in the Eemax Tankless Water Heater component part(s) or from its use.
2. Manufacturer is not liable under this limited warranty or otherwise if:
  - a. The water heater or any of its component parts have been subject to misuse, alteration, neglect or accident; or
  - b. The water heater has not been installed in accordance with the applicable local plumbing and/or building code(s) and/or regulation(s); or
  - c. The water heater has not been installed or maintained in accordance with Manufacturer's printed instructions, or installed with improper orientation, improper fastening, improper use of pipe dope/plumbers putty or with the use of any non Manufacturer approved sealant; or
  - d. The water heater has not been continuously supplied with potable water or the water's inlet temperature is above Manufacturer's recommended maximum temperature; or
  - e. The water heater experiences any water pressure or flow interruptions, normal inlet water pressure is outside of the published specification for the heater; is exposed to any condition that causes the heater to turn on before the air is purged from the heater also know as dry fire; or
  - f. The water heater has been exposed to conditions resulting from floods, earthquakes, winds, fire, freezing, lightning, or circumstances beyond the Manufacturer's control; or
  - g. The water heater has been removed from its original installation location; or
  - h. The water heater has been used for other than the intended purpose.
3. Owner, and not Manufacturer or its agent/representative, is liable for and shall pay for all field charges for labor or other expenses incurred in the removal and/or repair of the water heater or any expense incurred by Owner in order to repair the water heater.

Subject to the terms and conditions set forth in this limited warranty, if the Eemax Tankless Water Heater fails or leaks because of defects in materials or Manufacturer's workmanship during the applicable warranty period set forth above, Owner should contact Manufacturer for a Returned Merchandise Authorization (RMA). No returns will be accepted by Manufacturer without an RMA number and Manufacturer assumes no responsibility for a water heater returned without an RMA number. Water heaters should be wrapped and packaged securely to avoid shipping damage. All shipments of parts from the Manufacturer to the Owner to replace defective components shall be made via normal ground transportation. If expedited shipment is required, it will be provided at Owner's additional cost.



<u>Routing</u>
Fax
Courier
Overnight
Express
<b>E-Mail</b>
Pick-up
Deliver
Procure

TO: Lewis Architects Engineers

DATE: 7/21/2023

JOB: Beebe Restroom Renovation

ATTENTION: Ryne Pruitt

We are sending you:                      Herewith    (XX)                      Under Separate cover                      ( )

DESCRIPTION
22 0000- 01 Plumbing Piping and Fixtures

- These are:
- (X) for approval.
  - ( ) returned approved.
  - ( ) returned approved as noted
  - ( ) returned disapproved, resubmit
  - ( ) for files and use on job
  - ( ) for quotation only
  - ( ) for closeout purposes

Remarks:

Approved  (X)  
 Approved as Corrected ( )  
 If checked above fabrication MAY be undertaken. Approval does not authorize changes to Contract Sum unless stated in separated letter or Change Order.

If checked below fabrication MAY NOT be undertaken. Resubmit corrected copies for final approval. Correction shall be limited to items marked.  
 Revise and Resubmit ( )  
 Not Approved ( )  
 Review is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Approval of the submittal does not relieve the contractor of responsibility for dimension, quantities or errors and omissions in this submittal.

LEWIS, ELLIOTT, McMORRAN, VADEN  
 RAGSDALE, WOODWARD, INC.

Date: 07-21-23 By: kpruss

NABHOLZ CONSTRUCTION INC.  
 Reviewed for general compliance with the Design Documents. Subcontractor or vendor is fully responsible for all materials, accessories, coordination with contract documents and other trades, detailing and field measurements, and related construction criteria necessary to produce a complete, properly functioning and coordinated product, prepared for installation in full compliance with the contract documents, Nabholz Construction Corporation Subcontract or Purchase Order.

*William Hopkins*                      07/21/2023  
 Signature                                      Date

Respectfully submitted:  
 NABHOLZ CONSTRUCTION CORPORATION  
 By: William Hopkins

*Quality People. Building Solutions.*

Comfort Systems USA (Arkansas), Inc.  
P.O. Box 16620  
Little Rock, AR 72231  
Phone 501-834-3320  
Fax 501-834-5416

**Date:** 7/20/2023

**Return Request:** 7/30/2023

**Project:** Beebe Restrooms

**Supplier:** Sanders

**Manufacturer:** Various

**Submittal:** Fixtures

**Submittal Number:**

**Drawing # and Installation:** MP Drawings

**ARCHITECT**

Lewis Architects Engineers  
11205 Huron Lane Suite 104  
Little Rock, AR 72211  
501-223-9302

**ENGINEER**

Lewis Architects Engineer  
11205 Huron Lane Suite 104  
Little Rock, AR 72211  
501-223-9302

**GENERAL CONTRACTOR**

Nabholz  
612 Garland  
Conway, AR 72032  
501-505-5800

**MECHANICAL SUBCONTRACTOR**

Comfort Systems USA (Arkansas), Inc.  
9924 Landers Rd.  
N. Little Rock, AR 72117  
501-834-3320

Notes:

[chowell@comfortar.com](mailto:chowell@comfortar.com)

9924 Landers Rd.  
No. Little Rock, AR 72117

# **Beebe School Restrooms**

**Beebe, AR**

**Comfort Systems USA**

**North Little Rock, AR**

**Plumbing Submittals**

***Sanders Supply***



**Hot Springs, AR**

**July 17, 2023**

# Beebe School Restrooms

## Plumbing Fixture Schedule Index

<u>TAB</u>	<u>Description</u>
WC-1	Water Closet
WC-2	Water Closet ADA
L-1	Lavatory ADA
FD-1	Floor Drain
TWH-1,2	Tankless Water Heater
TWCO	Two-way Cleanout

**WC-1**

**Baby Devoro™ FloWise® 10" High Elongated Toilet**

**2315.228**

- Vitreous china
- High Efficiency, Low Consumption (4.8 Lpf / 1.28 gpf)
- Meets definition of HET (High Efficiency Toilet)
- 10-1/4" rim height
- 10" roughing-in
- Elongated siphon action bowl
- Chrome trip lever
- Sanitary dam on bowl
- Fully glazed trapway
- 2 color-matched bolt caps
- ADA and TAS Compliant

**3128.001** Elongated Bowl with bolt caps

**4019.228** Tank complete with coupling components and tank trim (1.28gpf / 4.8Lpf)

**Nominal Dimensions:**

633 x 439 x 622mm  
(25" x 17-1/4" x 24-1/2")

**Alternative Tank Configurations Available:**

**4019.613** Tank with locking device complete with coupling components and tank trim

**4019.828** Tank complete with trip lever on right side

Fixture only, seat and supply are not included and must be purchased separately.

**Compliance Certifications -**

**Meets or Exceeds the Following Specifications:**

- ASME A112.19.2-2008 / CSA B45.1-08 for Vitreous China Fixtures

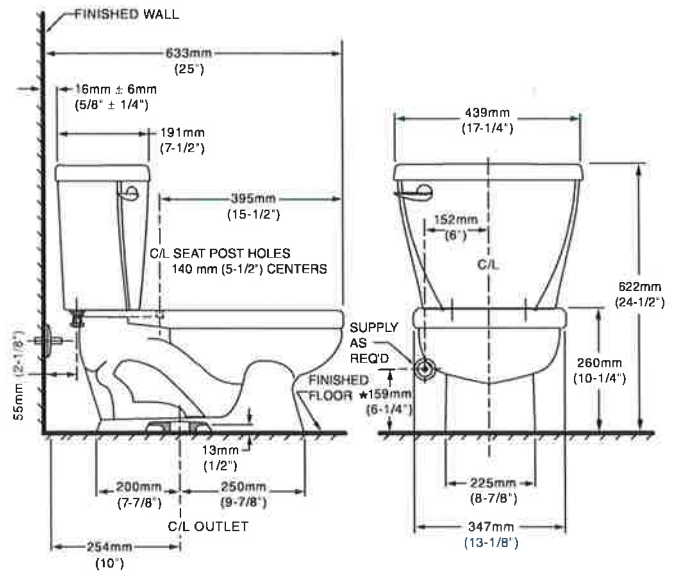
**System MaP\* Score:**

- 500 grams of miso @ 1.28 gpf

\* Maximum Performance (MaP) testing performed by IAPMO R&T Lab. MaP Report conducted by Veritec Consulting, Inc. and Koeller and Company.

**To Be Specified:**

- Color:  White
- Seat: #5001G-055 Baby Devoro Seat open front with EverClean® less cover
- Supply with Stop:



**NOTES:**  
THIS COMBINATION IS DESIGNED TO ROUGH-IN AT A MINIMUM DIMENSION OF 254mm (10) FROM FINISHED WALL TO C/L OF OUTLET  
\* DIMENSION SHOWN FOR LOCATION OF SUPPLY IS SUGGESTED. SUPPLY NOT INCLUDED AND MUST BE ORDERED SEPARATELY.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.

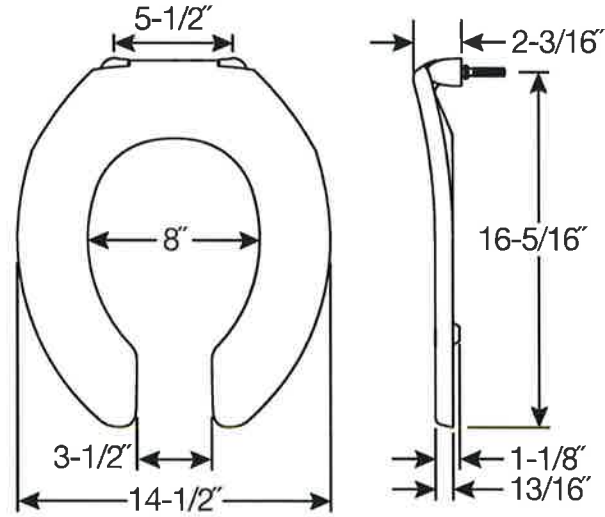






# 955CT / 955SSCT

COMMERCIAL HEAVY-DUTY  
PLASTIC TOILET SEAT



## FEATURES:

- STA-TITE® Commercial Fastening System™  
Eliminates callbacks for loosened seats

## SPECIFICATIONS:

**Size:** Round

**Material:** Plastic

**Style:** Open Front less Cover

**Ring Bumpers:** Two

**Hinges:** Plastic Non Self-Sustaining Check Hinges (955CT) or Self-Sustaining Check Hinges (955SSCT) with Non-Corroding 300 Series Stainless Steel Posts and Pintles

**Hardware:** STA-TITE® Commercial Fastening System™

**Codes & Standards:**



Complies with  
IAPMO/ANSI Z124.5  
Performance Standards  
Heavy-Duty Commercial



Proudly Made in the USA

Eco-Friendly





**McGuire Manufacturing Co., Inc.**

60 Grandview Court  
 P.O. Box 746 • Cheshire, CT 06410  
 203-699-1801 • Fax: 203-699-1813  
 www.mcguiremfg.com

**PRODUCT SPECIFICATION**

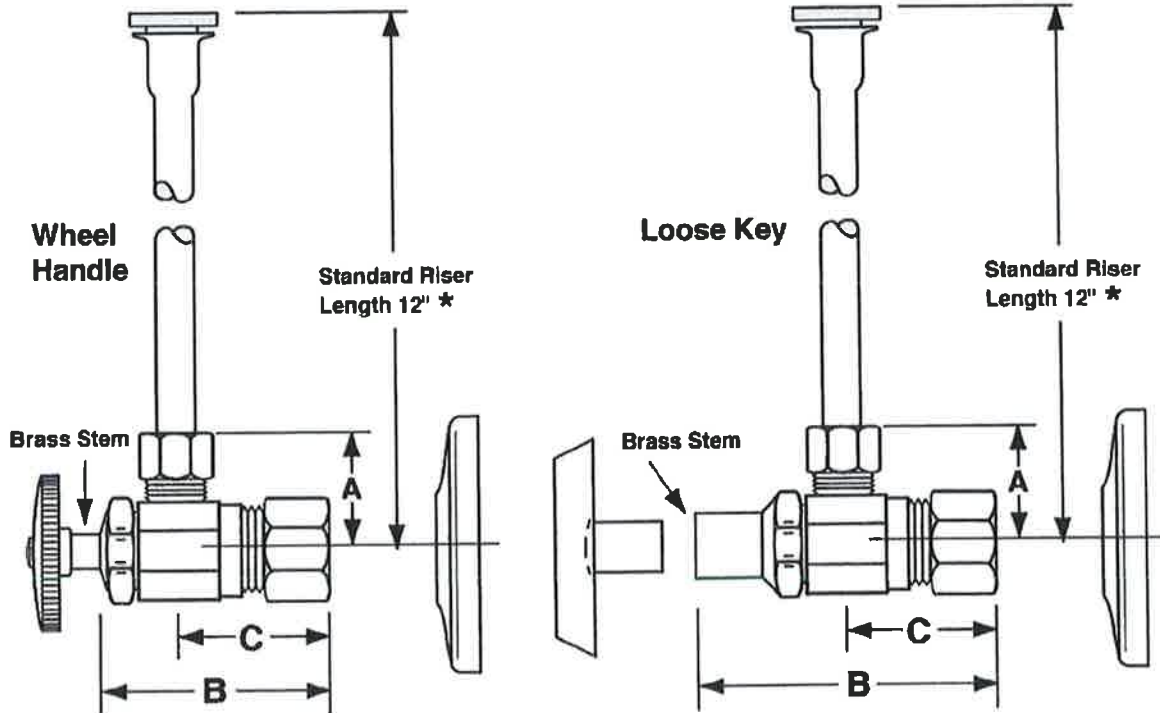
Part No.

**LF2166CC**, LF2166CCLK,  
 LF2169CC, LF2169CCLK

Compression x Compression  
 Closet Supply

Job Name: \_\_\_\_\_

Submittal Number: \_\_\_\_\_



NO.	DESCRIPTION	ROUGHING MEASUREMENTS		
		A	B	C
➔ <b>LF2166CC</b>	1/2" Nominal x 3/8" O.D.	1"	1-1/2"	3/4"
LF2166CCLK	1/2" Nominal x 3/8" O.D.	1"	2-1/4"	3/4"
LF2169CC	1/2" Nominal x 1/2" O.D.	1"	1-1/2"	3/4"
LF2169CCLK	1/2" Nominal x 1/2" O.D.	1"	2-1/4"	3/4"



LK designates Loose Key

\* See options and accessories section for details on product variations.

**Specifications:**

Supply kit shall include lead free chrome plated brass supply stop valves with full turn brass stem, no plastic, (12, 15, 20) inch chrome plated risers and (shallow, deep, bell) (steel, brass) or (forged brass with set screw) flange. Inlet shall be (3/8, 1/2) inch (IPS, sweat, compression). Outlet shall be (3/8, 1/2) inch (IPS, compression). Supply kit shall be McGuire \_\_\_\_\_. Supply kit shall be certified by recognized authority and bear manufacturer and testing mark.

**WC-2**



# Madera™ FloWise® 16-1/2" Height Elongated Flushometer Toilet

VITREOUS CHINA LESS EVERCLEAN®



## Madera™ FloWise® 16-1/2" Height Elongated LESS EverClean®

- Floor mount flushometer valve toilet
- Vitreous china
- High Efficiency, Low Consumption. Operates in the range of 1.1 gpf to 1.6 gpf (4.2 Lpf to 6.0 Lpf)
- Meets definition of HET (High Efficiency Toilet) when used with a high efficiency flush valve (1.1, 1.28 gpf or 1.6 / 1.1 gpf dual flush)
- Fully glazed 2-1/8" trapway
- Elongated bowl
- 10" or 12" roughing-in
- 16-1/2" rim height for accessible application
- Condensation channel
- Powerful direct-fed siphon jet action
- 10" x 12" water surface area
- 1-1/2" inlet spud
- 2 bolt caps included
- Tested to support static weight load of 2,500 lbs. (1,134 kg)



SEE REVERSE FOR ROUGHING-IN DIMENSIONS

### System MaP\* Score:

- 1,000 grams of miso @ 1.1 gpf, 1.28 gpf or 1.6 gpf when used with an American Standard flush valve

\* Maximum Performance (MaP) testing performed by IAPMO R&T Lab. MaP Report conducted by Veritec Consulting, Inc. and Koeller and Company.

### OPERATING PRESSURE:

25 psi (flowing) - 80 psi (static)

### FLOW REQUIREMENT:

25 gpm (94.6 L/min.)

### Component Parts:

- 047007-0070A** Inlet Spud (furnished with bowl)
- 034783-0200A** Bolt caps with retainers (furnished with bowl)

### Nominal Dimensions:

718 x 356 x 419mm  
(28-1/4" x 14" x 16-1/2")

Fixture only, less seat and flush valve

### Compliance Certifications -

#### Meets or Exceeds the Following Specifications:

- ASME A112.19.2 / CSA B45.1 for Vitreous China Fixtures

➔  **3043.001** Elongated bowl only, top spud

- ~~3248.001~~ Elongated bowl only, top spud with slotted rim for bedpan holding
- 3249.001** Elongated bowl only, back spud

### To Be Specified:

- Color:  White
- Seat:
  - American Standard #5901.100 Heavy duty open front less cover
  - American Standard #5901.100SS Extra heavy duty open front less cover with EverClean®
- Flushometer Valve:



MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 REQUIREMENTS FOR ACCESSIBLE AND USABLE BUILDING FACILITIES - CHECK LOCAL CODES.



ENVIRONMENTAL PRODUCT DECLARATION

CEC



When used with 1.1 or 1.28 gpf toilet flush valves

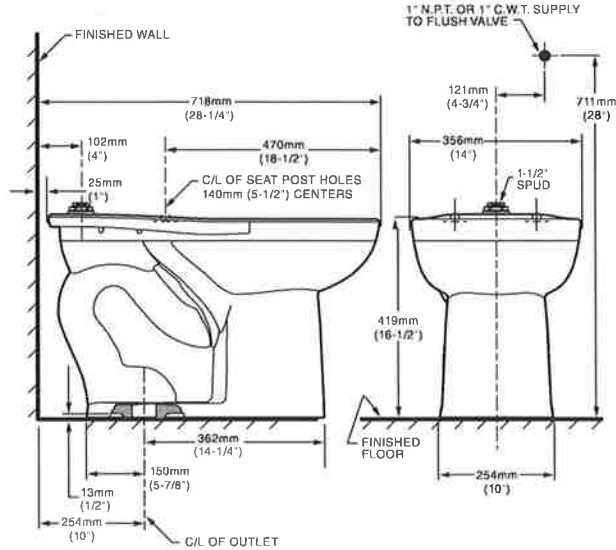


EVERCLEAN

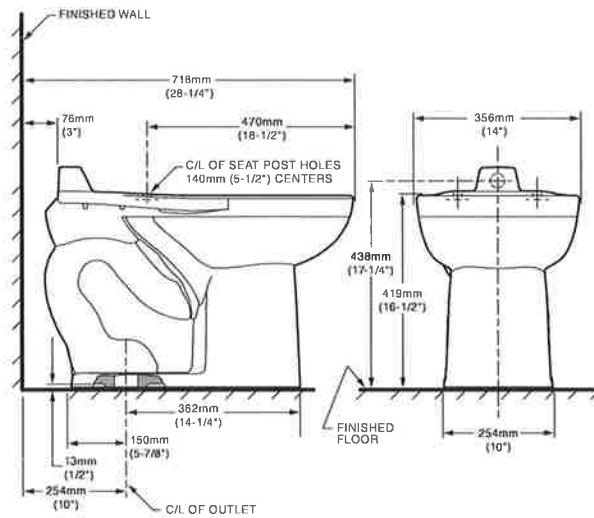


WATER EFFICIENT

3043.001/3248.001



3249.001

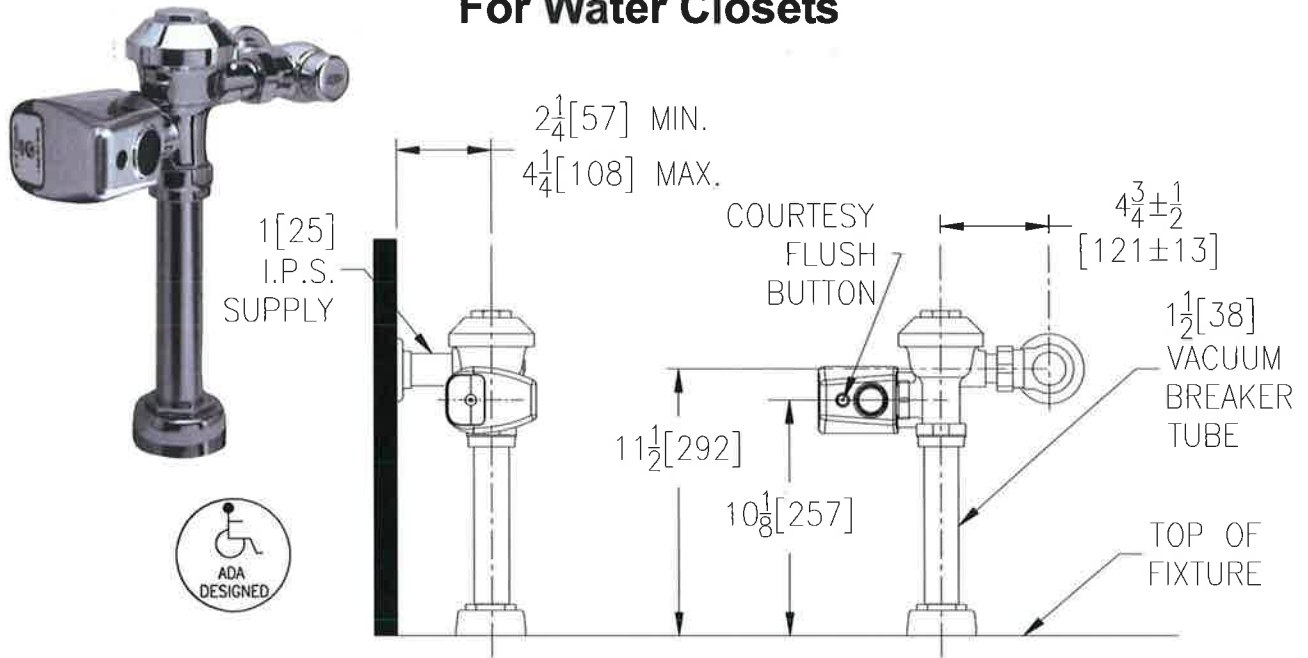


**NOTES:**  
 PRODUCT 3043 SHOWN, 3248 SAME EXCEPT WITH SLOTTED RIM FOR BED PAN HOLDING.  
 TO COMPLY WITH AREA CODE GOVERNING THE HEIGHT OF VACUUM BREAKER ON THE FLUSHOMETER VALVE, THE PLUMBER MUST VERIFY DIMENSIONS SHOWN FOR SUPPLY ROUGHING.  
 THIS TOILET DESIGNED TO ROUGH-IN AT A MINIMUM DIMENSION OF 254MM (10") AND A MAXIMUM DIMENSION OF 305MM (12") FROM FINISHED WALL TO C/L OF OUTLET.  
 FLUSHOMETER VALVE NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED SEPARATELY. FLUSHOMETER VALVE REQUIREMENTS FOR 12" (305MM) ROUGH-IN: SWEAT EXTENSION NIPPLE IS REQUIRED. REFER TO VALVE MANUFACTURER AND LOCAL CODES.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.



**Exposed ZER6000PL-CP Model**  
**Sensor Operated Battery Powered Flush Valve**  
**For Water Closets**



Flow Options	
<input checked="" type="checkbox"/> -WS1	1.6 Gal. Low Consumption
<input type="checkbox"/> -FP	4.5 Gal. Full Flush
<input type="checkbox"/> Standard Flush	3.5 Gallons Per Flush

**Suffix Options (Check/Specify Appropriate Options)**

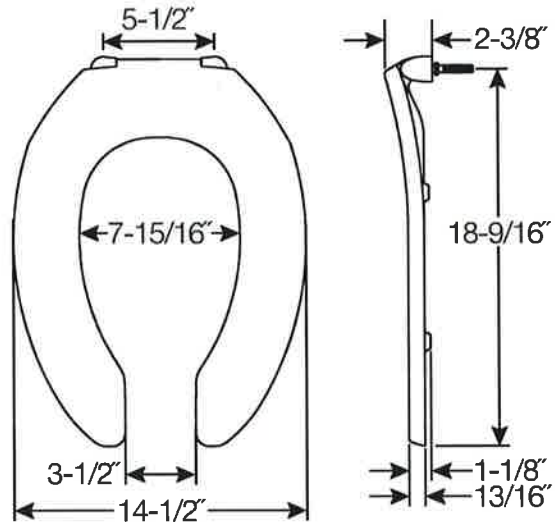
<input type="checkbox"/> -YJ	Split Ring Pipe Support
<input type="checkbox"/> -YK	Solid Ring Pipe Support
<input type="checkbox"/> -YO	Bumper On Angle Stop
<input type="checkbox"/>	Other

This space is for Architectural/engineering Approval

**ENGINEERING SPECIFICATION: ZURN ZER6000PL-CP AquaSense® Exposed Closet Flush Valve** - Exposed, quiet diaphragm-type, chrome plated flushometer valve with a polished exterior. Complete with chloramine resistant, dual seal diaphragm with a clog resistant by-pass. The valve incorporates a 6VDC motor actuator, a battery powered automatic sensor, high impact resistant polycarbonate housing and chrome plated plastic cover with manual override push button and 10 degree angled sensor, high back pressure vacuum breaker, one piece hex coupling nut, adjustable tailpiece, spud coupling and flange for top spud connection. Control stop has internal siphon-guard protection. The AquaFlush® Plus is also furnished with a sweat solder kit, vandal resistant stop cap, and cast wall flange with set screw. Internal seals are made of chloramine resistant materials.

ZURN INDUSTRIES, LLC. ♦ COMMERCIAL BRASS OPERATION ♦ 5900 ELWIN BUCHANAN DRIVE ♦ SANFORD NC 27330  
 Phone: 1-800-997-3876 ♦ Fax: 919-775-3541 ♦ World Wide Web: www.zurn.com

In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905-405-8272 Fax: 905-405-1292



**FEATURES:**

- **STA-TITE® Commercial Fastening System™**  
Eliminates callbacks for loosened seats

**SPECIFICATIONS:**

- Size:** Elongated
- Material:** Plastic
- Style:** Open Front less Cover
- Ring Bumpers:** Four

➔ **Hinges:** Plastic Non Self-Sustaining Check Hinges (295CT) or **Self-Sustaining Check Hinges (295SSCT) with Non-Corroding 300 Series Stainless Steel Posts and Pintles**

**Hardware:** STA-TITE® Commercial Fastening System™

**Codes & Standards:**



Complies with  
IAPMO/ANSI Z124.5  
Performance Standards  
Heavy-Duty Commercial



Proudly Made in the USA



**L-1**



**Lucerne™ Wall-Hung Lavatory**

- Wall-hung sink
- Vitreous china
- Front overflow
- D-shaped bowl
- Self-draining deck area with contoured back and side splash shields
- Faucet ledge
- Compliant with Texas Accessibility Standard (TAS) for children age group 13 and up

**Faucet holes on 203 mm (8") centers:**

- 0356.028** For exposed bracket support (by others)
- 0356.015** For wall hanger (included) or concealed arms support (by others)
- 0356.915** For wall hanger (included) or concealed arms support (by others) less overflow
- 0356.037** For wall hanger (included) or concealed arms support (by others) with extra 35 mm (1-3/8") hole for soap/lotion dispenser (by others) on right-hand side

**Faucet holes on 102 mm (4") centers:**

- ~~0355.027~~ For exposed bracket support (by others)
- 0355.012** For wall hanger (included) or concealed arms support (by others)
- 0355.912** For wall hanger (included) or concealed arms support (by others) less overflow
- 0355.056** For wall hanger (included) or concealed arms support (by others) with extra 35 mm (1-3/8") hole for soap/lotion dispenser (by others) on left-hand side
- 0355.034** For wall hanger (included) or concealed arms support (by others) with extra 35 mm (1-3/8") hole for soap/lotion dispenser (by others) on right-hand side
- 0355.041** With two holes spaced 343 mm (13-1/2") in back splash for 10 mm (3/8") bolts (by others)

**Single center faucet hole:**

- 0356.041** For exposed bracket support (by others)
- 0356.421** For wall hanger (included) or concealed arms support (by others)
- 0356.921** For wall hanger (included) or concealed arms support (by others) less overflow
- 0356.439** For wall hanger (included) or concealed arms support (by others) with single faucet hole on right
- 0356.066** For exposed bracket support (by others) with single faucet hole on right
- 0356.115** For wall hanger (included) or concealed arms support (by others) with extra 35 mm (1-3/8") hole for soap/lotion dispenser (by others) on left-hand side
- 0356.137** For wall hanger (included) or concealed arms support (by others) with extra 35 mm (1-3/8") hole for soap/lotion dispenser (by others) on right-hand side



0355.012



0356.041

SEE FOLLOWING PAGES FOR ROUGHING-IN DIMENSIONS

**Compliance Certifications -**

- Meets or Exceeds the Following Specifications:
- ASME A112.19.2 / CSA B45.1 for Vitreous China Fixtures

**Nominal Dimensions:**

540 x 464 mm  
(21-1/4" x 18-1/4")

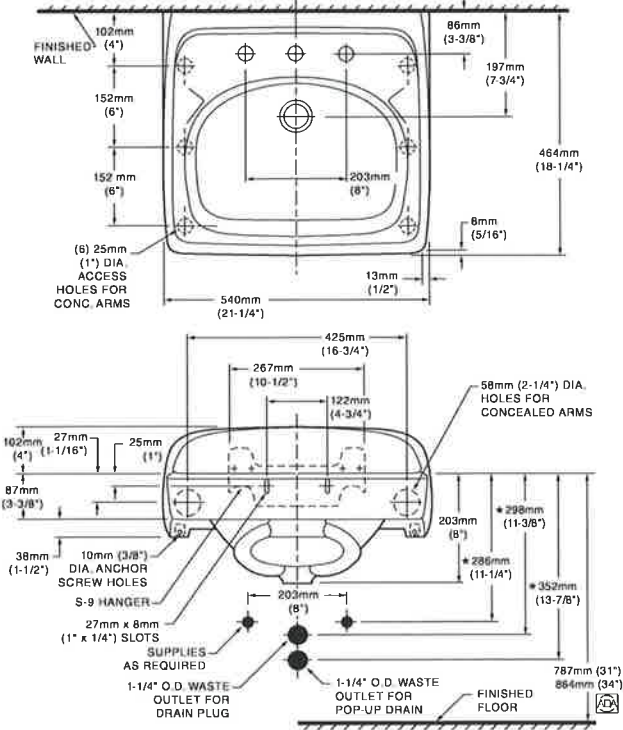
**Bowl sizes:**

379 mm (14-7/8") wide  
254 mm (10") front to back  
165 mm (6-1/2") deep

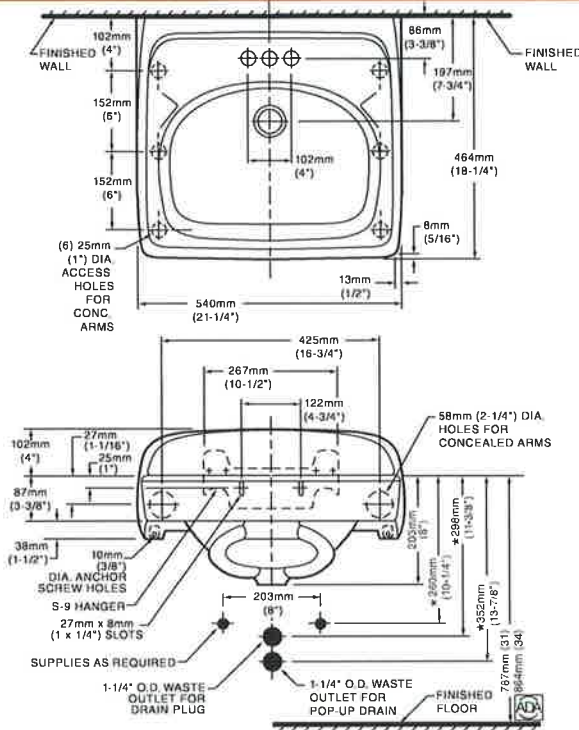
**To Be Specified:**

- Color: White
- Faucet:
- Faucet Finish:
- Supplies:
- 1-1/4" Trap:
- Bracket Support (by others):
- Concealed Arms Support (by others):

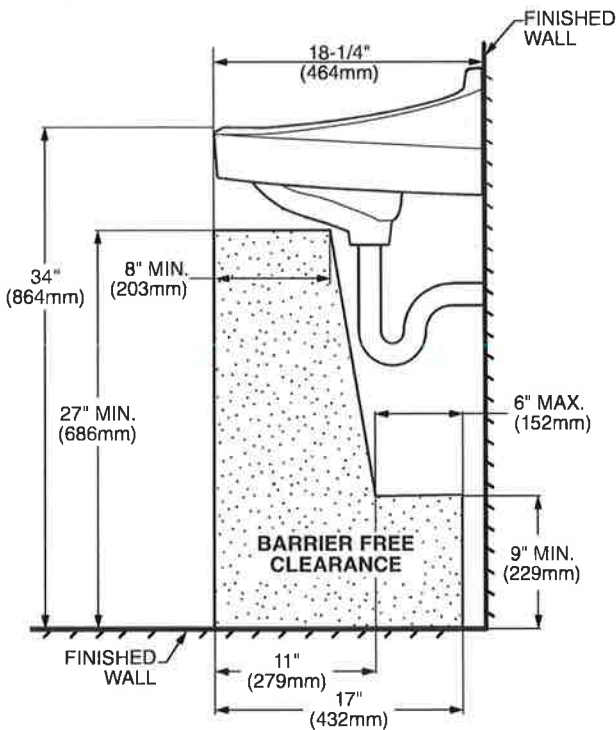
**8" CENTER CONFIGURATIONS**  
All Wall Hanger (included) or Concealed Arm Configurations



**4" CENTER CONFIGURATIONS**  
All Wall Hanger (included) or Concealed Arm Configurations



**SIDE VIEW - ALL CONFIGURATIONS**



**NOTES:**  
\* DIMENSIONS SHOWN FOR LOCATION OF SUPPLIES AND "P" TRAP ARE SUGGESTED. PROVIDE SUITABLE REINFORCEMENT FOR ALL WALL SUPPORTS. FITTINGS NOT INCLUDED AND MUST BE ORDERED SEPARATELY. CONCEALED ARM SUPPORT AS REQUIRED TO BE FURNISHED BY OTHERS.

**IMPORTANT:** Dimensions of fixtures are nominal and may vary within the range of tolerances established by ANSI Standard A112.19.2. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.

**ADA MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES - CHECK LOCAL CODES.**  
Top of front rim mounted 864mm (34") from finished floor.



# T&S BRASS AND BRONZE WORKS, INC.

2 Saddleback Cove / P.O. Box 1088  
Travelers Rest, SC 29690

Model No.

**B-2711**

Item No.

Travelers Rest, SC: 800-476-4103 • Simi Valley, CA: 800-423-0150 • Fax: 864-834-3518 • www.tsbrass.com



**ADA Compliant**

This Space for Architect/Engineer Approval

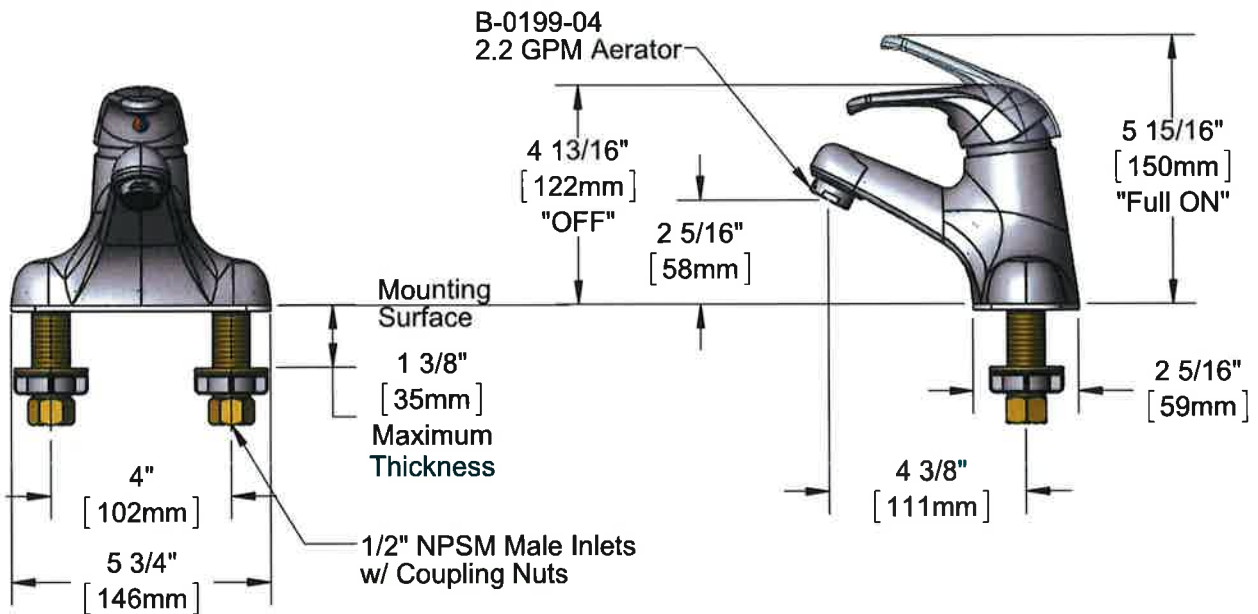
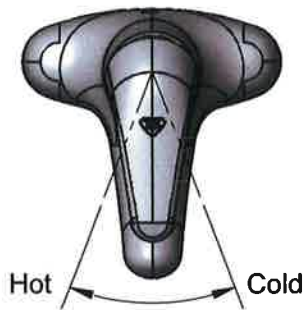
Job Name \_\_\_\_\_ Date \_\_\_\_\_

Model Specified \_\_\_\_\_ Quantity \_\_\_\_\_

Customer/Wholesaler \_\_\_\_\_

Contractor \_\_\_\_\_

Architect/Engineer \_\_\_\_\_



**Rough-In Requirement:**  
(2)  $\varnothing$  1" [25mm] Mounting Holes

**Product Specifications:**  
4" Deck Mount Single Lever Faucet, Temperature Limit Stop,  
Ceramic Cartridge, 2.2 GPM Aerator & 1/2" NPSM Male Inlets

**Product Compliance:**  
ASME A112.18.1 / CSA B125.1  
NSF 61 - Section 9  
NSF 372 (Low Lead Content)  
ANSI A117.1 (ADA)



**T&S BRASS AND BRONZE WORKS, INC.**

2 Saddleback Cove / P.O. Box 1088  
Travelers Rest, SC 29690

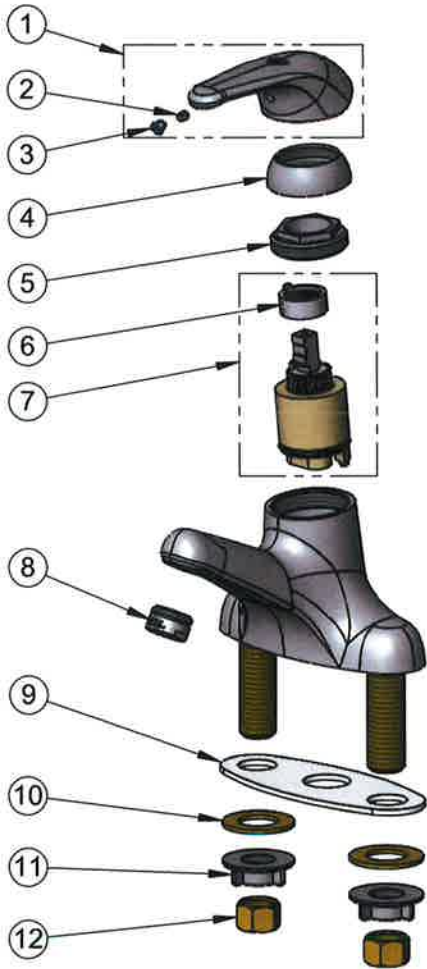
Model No.

**B-2711**

Item No.

Travelers Rest, SC: 800-476-4103 • Simi Valley, CA: 800-423-0150 • Fax: 864-834-3518 • www.tsbrass.com

ITEM NO.	SALES NO.	DESCRIPTION
1	013113-45	Single Lever Short Handle
2	016675-45	Set Screw
3	014173-45	Index, Temperature
4	016661-45	Trim Ring
5	016663-45	Locking Nut
6	015400-45	Temperature Limit Stop
7	013111-45	Single Lever Ceramic Cartridge
8	B-0199-04	2.2 GPM Aerator, 15/16-27 Male
9	014167-45	Deck Gasket
10	000999-45	Brass Lock Washer
11	016673-45	Shank Nut
12	000958-20	Coupling Nut

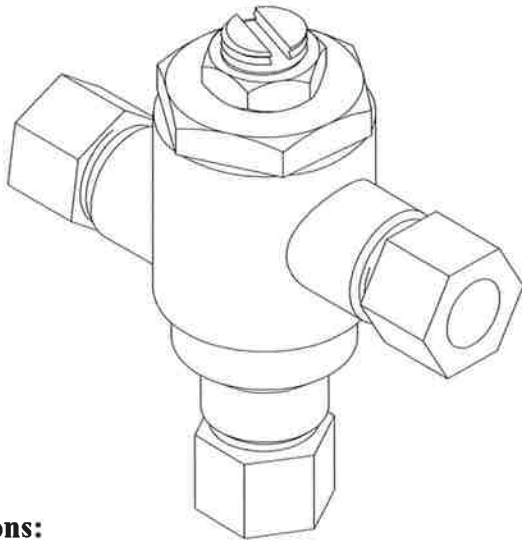


**Product Specifications:**  
4" Deck Mount Single Lever Faucet, Temperature Limit Stop, Ceramic Cartridge, 2.2 GPM Aerator & 1/2" NPSM Male Inlets

**Product Compliance:**  
ASME A112.18.1 / CSA B125.1  
NSF 61 - Section 9  
NSF 372 (Low Lead Content)  
ANSI A117.1 (ADA)

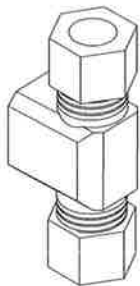


# 170A-LF

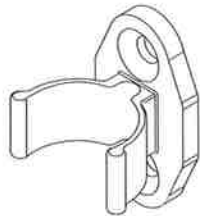


**Options:**

- \_\_\_ STSTL REC- Stainless steel cabinet, #4 finish, recessed
- \_\_\_ STSTL EXP- Stainless steel cabinet, #4 finish, exposed
- \_\_\_ BWE REC- Steel cabinet, baked white, recessed
- \_\_\_ BWE EXP- Steel cabinet, baked white, exposed
- \_\_\_ BP- Cold water By-Pass (shipped loose)
- \_\_\_ BRKT- mounting bracket (shipped loose)
- \_\_\_ CP- Chrome plated finish



BP option



BRKT option



**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* This product is certified to meet Low Lead requirements of wetted surface area containing less than 0.25% lead by weight

**Application:**

The Model 170A-LF is a high performance thermostatic temperature limiting device used to supply single outlets. Can be used to supply one sensor faucet or one two handle manual faucet.


**Features:**

- Certified to ASSE 1070 to control down to 0.25 GPM
- Eco-Mix Certified Lead-Free\* construction
- Integral inlet checks and stainless steel screens
- Vandal resistant locknut to prevent accidental adjustment
- Easy 3/8" tubing or flex hose installation

**Specifications:**

- Minimum flow: 0.25 GPM (0.95 l/Min) Certified to ASSE
- Maximum flow: 4 GPM
- Maximum pressure: 125 PSI (8.6 BAR)
- Maximum hot water temperature: 180°F (82°C)
- Hot water inlet temperature range: 120-180°F (49-82°C)
- Cold water inlet temperature range: 33-80°F (1-27°C)
- Temperature adjustment range: 95-120°F (35-49°C)

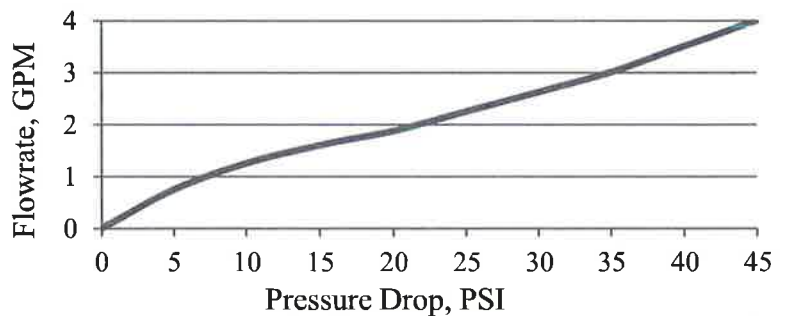
**Certifications:**

ASSE 1070-2015 

CSA B125.70-15 

Certified to NSF61 thru the ASSE 1070 testing process

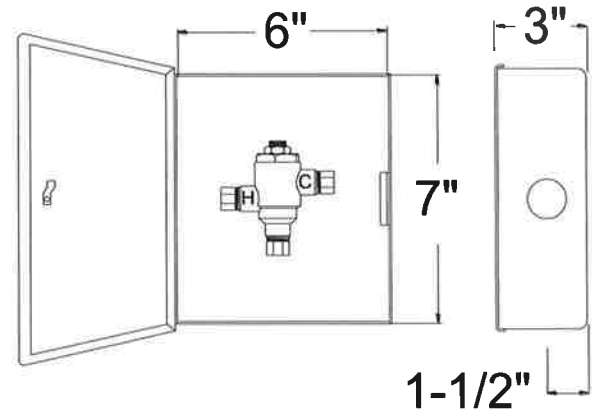
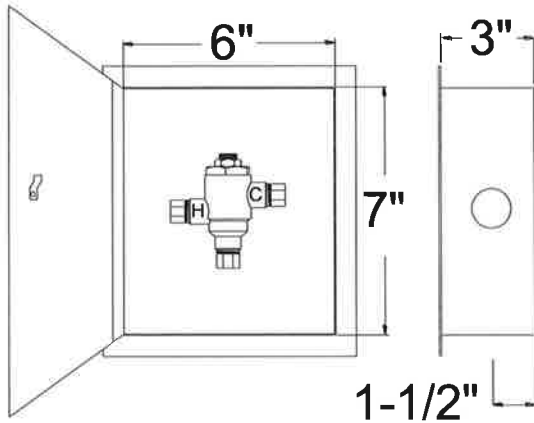
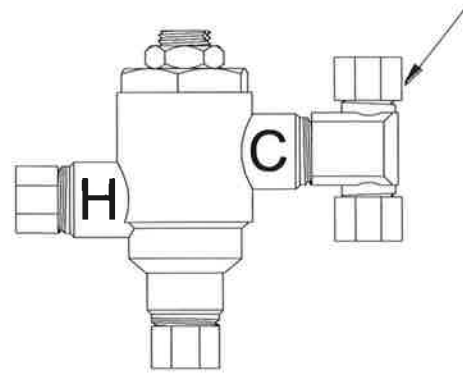
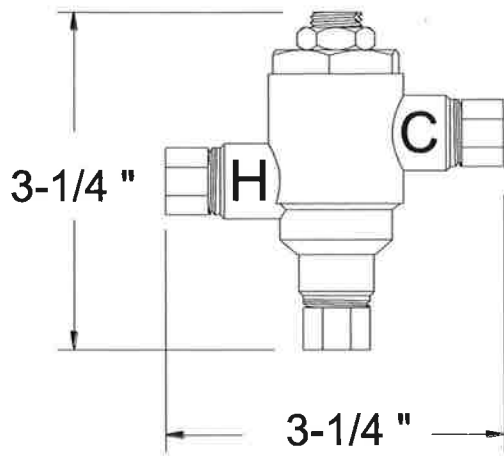
PRESSURE DROP						
5	10	15	20	30	45	PSI
.35	.70	1.05	1.4	2.1	3.1	BAR
0.75	1.25	1.6	1.88	2.63	4	GPM
2.84	4.73	6.06	7.1	10	15	L/MIN



1360 Elmwood Avenue, Cranston, RI 02910 USA  
 Phone: 401.461.1200 Fax: 401.941.5310  
 Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)  
 Web Site: <http://www.leonardvalve.com>

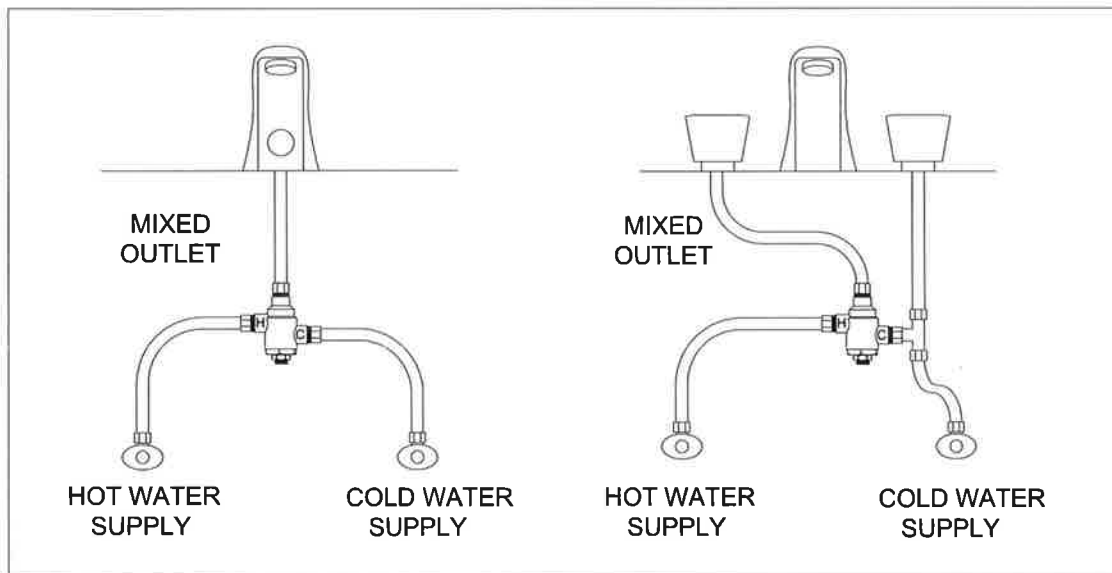
<b>Engineer's Approval</b>	Job # _____
	Arch/Eng. _____
	Contractor _____

BP-OPTION



**170A-LF-REC**

**170A-LF-EXP**



**170A-LF**

**170A-LF-BP**



Note: Leonard Valve Company reserves the right of product, or design modifications without notice or obligation.

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1360 Elmwood Avenue, Cranston, RI 02910 USA

Phone: 401.461.1200 Fax: 401.941.5310

Email: [info@leonardvalve.com](mailto:info@leonardvalve.com)

Web Site: <http://www.leonardvalve.com>



**McGuire Manufacturing Co., Inc.**  
60 Grandview Court  
P.O. Box 746 ♣ Cheshire, CT 06410  
203-699-1801 ♣ Fax: 203-699-1813  
www.mcguiremfg.com  
**PRODUCT SPECIFICATION**

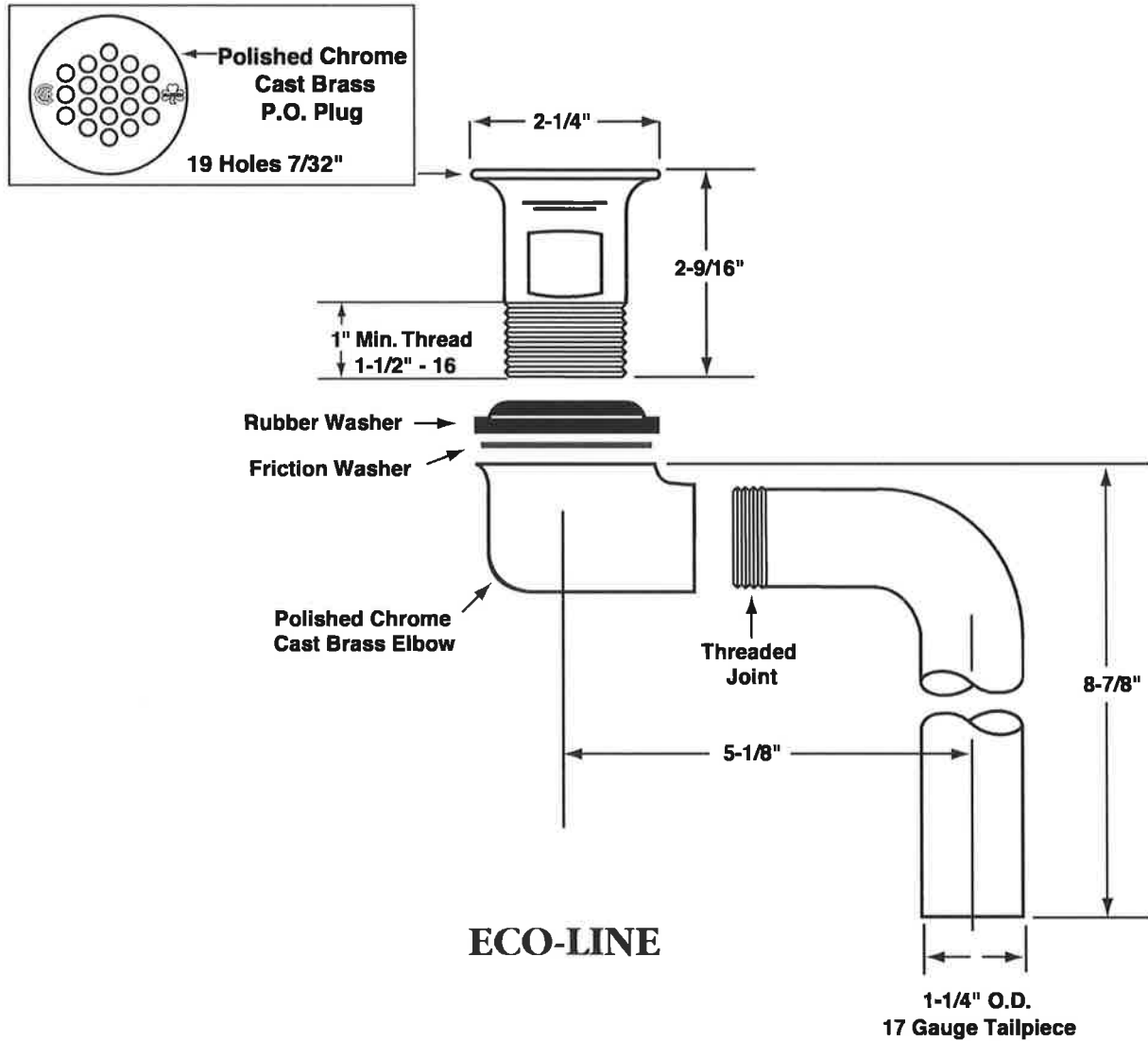
**Part No.**

**155WCECO**

**Offset Lavatory  
Grid Strainer**

**Job Name:**

**Submittal Number:**



A.D.A.



### **Specifications:**

Cast Brass Chrome Plated Offset Wheelchair Strainer with polished chrome cast brass elbow, 17 gauge 1-1/4 inch seamless brass offset tailpiece, heavy rubber basin washer and fiber friction washer. Offset lavatory strainer shall be in compliance with CSA or other recognized testing authority and bear both manufacturer and testing mark.



**McGuire Manufacturing Co., Inc.**

60 Grandview Court  
 Cheshire, Connecticut 06410  
 (203) 699-1801 Fax (203) 699-1813  
 customerservice@mcguiremfg.com mcguiremfg.com

Part No.

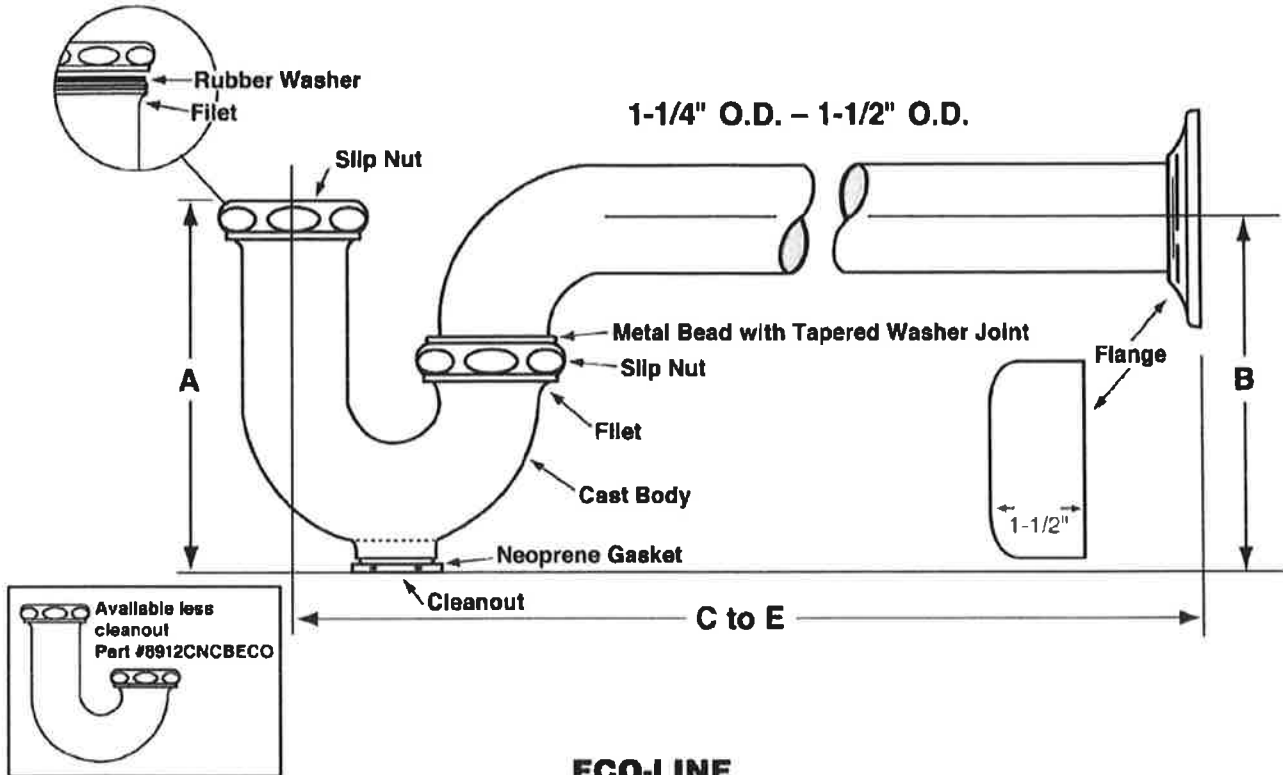
**C8872CECO**

**PRODUCT SPECIFICATION**

**Cast Body P-Trap With  
 or Without Cleanout**

Job Name:

Submittal Number:



**ECO-LINE**

**ROUGHING MEASUREMENTS**

MODEL NO.	TRAP DIMENSIONS		A	B	C to E	FLANGE	SLIP NUT
	INLET	OUTLET					
<b>C8872CECO</b>	1-1/4"	1-1/4"	4-1/2"	4-1/2"	10"	Shallow	Zinc

**FED SPEC W.W.P. 541  
 CAST BRASS P-TRAP  
 MINIMUM SEAL 2"**



ASME A112.18.2/CSA B125.2

**Specifications:**

Chrome plated P-Trap shall be cast brass body, with or without cleanout, with 17 gauge seamless tubular wall bend and flange.



**WARNING:**

This product can expose you to chemicals including lead, which is known to the State of California to cause cancer, and birth defects or other reproductive harm. For more information go to [www.P85Warnings.ca.gov](http://www.P85Warnings.ca.gov).





**McGuire Manufacturing Co., Inc.**

60 Grandview Court  
 P.O. Box 746 • Cheshire, CT 06410  
 203-699-1801 • Fax: 203-699-1813  
 www.mcguiremfg.com

**PRODUCT SPECIFICATION**

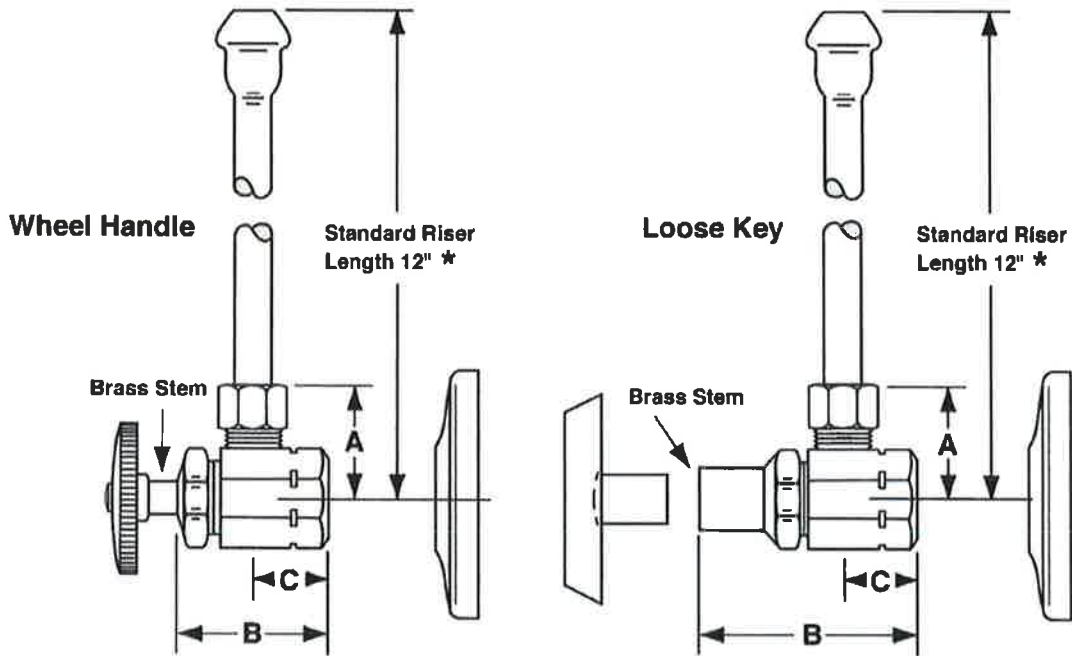
**Part No.**

LF2165, **LF2165LK**,  
 LF2167, LF2167LK

**Lavatory Supply**  
**1/2" I.P.S. x O.D.**

**Job Name:**

**Submittal Number:**



NO.	DESCRIPTION	ROUGHING MEASUREMENTS		
		A	B	C
LF2165	1/2" I.P.S. x 3/8" O.D.	1-3/16"	1-1/2"	3/4"
<b>LF2165LK</b>	1/2" I.P.S. x 3/8" O.D.	1-3/16"	2-1/4"	3/4"
LF2167	1/2" I.P.S. x 1/2" O.D.	1-3/16"	1-1/2"	3/4"
LF2167LK	1/2" I.P.S. x 1/2" O.D.	1-3/16"	2-1/4"	3/4"



**LK** designates Loose Key

\* See options and accessories section for details on product variations.



**Specifications:**

Supply kit shall include low lead chrome plated brass supply stop valves with full turn brass stem, no plastic, (12, 15, 20) inch chrome plated risers and (shallow, deep, bell) (steel, brass) or (forged brass with set screw) flange. Inlet shall be (3/8, 1/2) inch (IPS, compression). Outlet shall be (3/8, 1/2) inch compression. Supply kit shall be McGuire \_\_\_\_\_. Supply kit shall be low lead certified by recognized authority and bear manufacturer and testing mark.



# COMBINATION KIT: ONE TRAP, TWO SUPPLY STOP PROTECTORS, AND ONE OFFSET DRAIN PROTECTOR

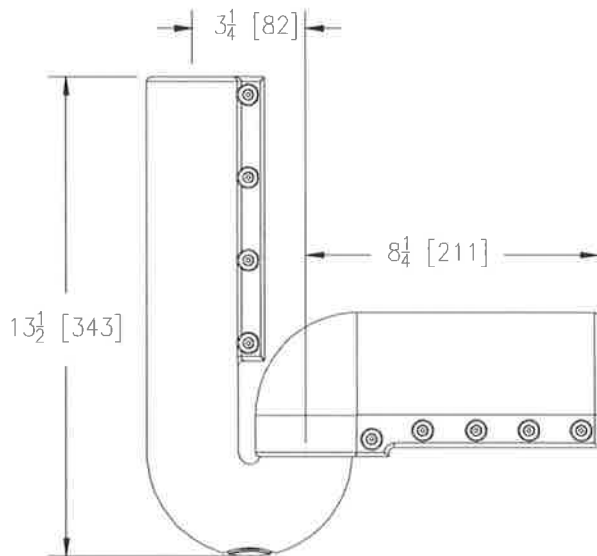
**Z8946-3-NT**

TAG \_\_\_\_\_

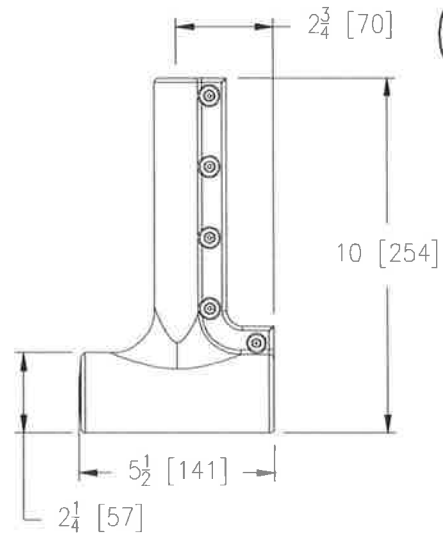


**ENGINEERING SPECIFICATION:** ZURN Z8946-3-NT Combination Kit: One trap protector, two supply stop protectors and one offset drain protector, satin white PVC resin. Antimicrobial, resists thermal transfer, and is ADA compliant. Trap protector fits both tubular and semi-cast P traps.

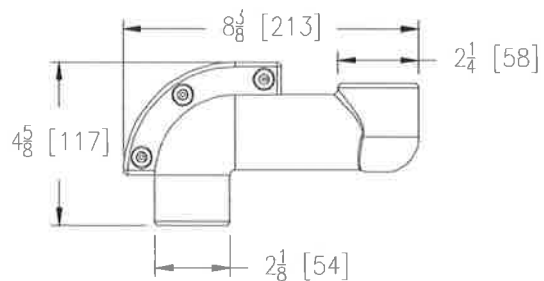
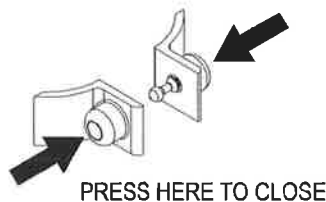
Patent Pending



TRAP PROTECTOR



SUPPLY STOP PROTECTOR



OFFSET DRAIN PROTECTOR

ZURN INDUSTRIES, LLC. ♦ COMMERCIAL BRASS OPERATION ♦ 5900 ELWIN BUCHANAN DRIVE ♦ SANFORD NC 27330

Phone: 1-800-997-3876 ♦ Fax: 919-775-3541 ♦ World Wide Web: [www.zurn.com](http://www.zurn.com)

In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905-405-8272 Fax: 905-405-1292

AquaSpec® is a registered trademark of Zurn Industries, LLC.

Rev. B  
Dwg. No. 66245

Date: 3/4/2015  
Product No. Z8946-3-NT

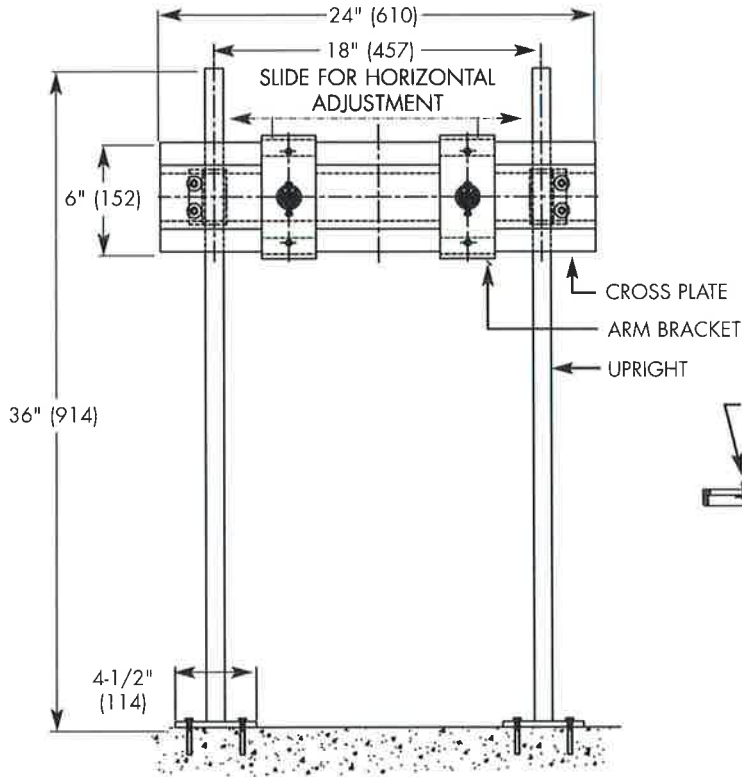


**TCA-411**

Tag: L-1

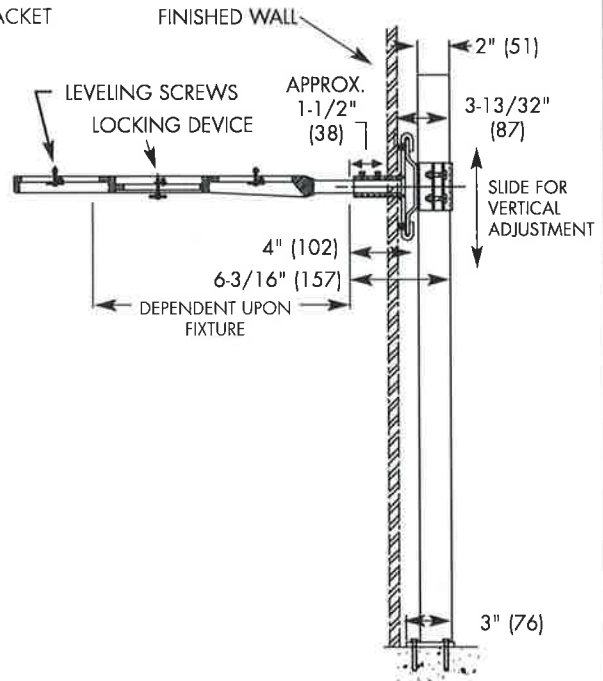
### Floor Mounted Concealed Arm "Track" Lavatory Carrier

**SPECIFICATION:** Watts Drainage TCA-411 epoxy coated floor mounted concealed arm track lavatory carrier with heavy gauge steel offset uprights with welded feet, steel cross plate with integral mounting brackets, sliding adjustable arm brackets, and adjustable cast iron concealed arms with mounting clips, leveling screws, and basin locking device.



Options (Select One or More)		
Suffix	Description	
-M42	42" Long Carrier Leg	<input type="checkbox"/>
-M54	2" Chrome Plated Escutcheons, Single	<input type="checkbox"/>
-M55	4" Chrome Plated Escutcheons, Single	<input type="checkbox"/>
-M60	Knee Operated Valve Support Plate Single	<input type="checkbox"/>

**NOTE: ANCHOR LEGS TO CONCRETE FLOOR WITH MINIMUM 1/2" (13) ANCHOR BOLTS (BY OTHERS)**



\*Patent Pending

Job Name Beebe Restrooms Contractor Comfort Systems USA

Job Location Beebe Contractor's P.O. No. \_\_\_\_\_

Engineer Ragsdale Representative Sanders Supply

WATTS Drainage reserves the right to modify or change product design or construction without prior notice and without incurring any obligation to make similar changes and modifications to products previously or subsequently sold. See your WATTS Drainage representative for any clarification. Dimensions are subject to manufacturing tolerances.



Specification Drainage Products

USA: 100 Watts Road, Spindale, NC, 28160-2298; TEL: 828-288-2179 TOLL-FREE: 1-800-338-2581 www.watts.com

**FD-1**

# Engineering Specification

Job Name Beebe Restrooms  
 Job Location Beebe  
 Engineer Ragsdale  
 Approval \_\_\_\_\_  
 Tag **FD-1**

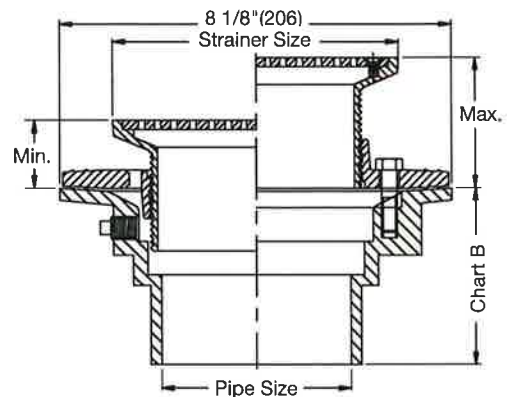
Contractor Comfort Systems USA  
 Approval \_\_\_\_\_  
 Contractor's P.O. No. \_\_\_\_\_  
 Representative Sanders Supply

## FD-100-A

### Floor Drain with Round Strainer

#### Specification

Watts FD-100-A epoxy coated cast iron floor drain with anchor flange, reversible clamping collar with primary and secondary weepholes, adjustable round heel proof nickel bronze strainer, and no hub (standard) outlet.



Pipe Sizing	
Suffix	Description
2	2"(51) Pipe Size <input type="checkbox"/>
3	3"(76) Pipe Size <input type="checkbox"/>
4	4"(102) Pipe Size <input type="checkbox"/>
6	6"(152) Pipe Size (NH Only) <input type="checkbox"/>

Outlet Type	
Suffix	Description
NH	No Hub (MD) <input type="checkbox"/>
P	Push On <input checked="" type="checkbox"/>
T	Threaded Outlet <input type="checkbox"/>
X	Inside Caulk <input type="checkbox"/>

Strainer	
Suffix	Description
A5	5"(127) Dia., Nickel Bronze <input type="checkbox"/>
A6	6"(127) Dia., Nickel Bronze <input checked="" type="checkbox"/>
A7	7"(178) Dia., Nickel Bronze <input type="checkbox"/>
A8	8"(203) Dia., Nickel Bronze <input type="checkbox"/>
A10	10"(254) Dia., Nickel Bronze <input type="checkbox"/>

Options	
Suffix	Description
-5	Sediment Bucket <input type="checkbox"/>
-6	Vandal Proof <input type="checkbox"/>
-7	Trap Primer Tapping <input checked="" type="checkbox"/>
-8	Backwater Valve (2, 3, 4" Only) <input type="checkbox"/>
-13	Galvanized Body <input type="checkbox"/>
-15	Strainer Extension (DD-50) <input type="checkbox"/>
-F4-50	4" Round Cast Iron Funnel <input type="checkbox"/>
-F4-1	4" Round Nickel Bronze Funnel <input type="checkbox"/>
-F6-1	6" Round Nickel Bronze Funnel <input type="checkbox"/>
-G-50	4x9" Oval Cast Iron Funnel <input type="checkbox"/>
-G-1	4x9" Oval Nickel Bronze Funnel <input type="checkbox"/>
-S0	Side Outlet <input type="checkbox"/>

Optional Body Material	
Suffix	Description
-60	PVC Body w/Socket Outlet (2, 3, 4" Only) <input type="checkbox"/>
-61	ABS Body w/Socket Outlet (2, 3, 4" Only) <input type="checkbox"/>

Strainer Size				
Str. Dia.	Min.	Max.	Load Rating	Free Area Sq. In.
5"(127)	13/16"(21)	3 1/4"(83)	*MD	8
6"(152)	7/8"(22)	3 3/8"(86)	*MD	9
7"(178)	11/16"(17)	3 1/4"(83)	*MD	12
8"(203)	7/8"(22)	3 1/4"(83)	*MD	18
10"(254)	1 1/4"(32)	3 1/4"(83)	*MD	28

#### NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Chart B					
Pipe Size	Std. No Hub	P Push On	T Female Thread	X Inside Caulk	60/61 PVC/ABS
2"(52)	3 5/8"(92)	4 1/4"(108)	4 1/4"(108)	4 1/2"(114)	4"(102)
3"(76)	3 5/8"(92)	4 1/4"(108)	4 1/4"(108)	4 1/2"(114)	4"(102)
4"(102)	3 5/8"(92)	4 1/4"(108)	4 1/4"(108)	4 1/2"(114)	4"(102)
6"(152)	3 1/2"(89)				

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



USA: T: (800) 338-2581 • Watts.com  
 Canada: T: (888) 208-8927 • Watts.ca  
 Latin America: T: (52) 55-4122-0138 • Watts.com



Location: FD-1



**MI-GARD®**

**FLOOR DRAIN TRAP SEAL**

**Specification:** MIFAB® MI-GARD® Series inline floor drain trap seal with UV resistant ABS plastic frame, silicon rubber sealing flapper and four flexible sealing ribs. Tested and certified to the ASSE 1072 Standard and listed with IAPMO and I.P.C. Specify connection size (1 1/2", 2", 3", 3 1/2", 4" or 6"). 10 year warranty is included.

**Function:** Used in the outlet connections of floor drain bodies, or the inside of floor drain strainers to seal the opening to prevent odors, sewer gases, and insects from entering up through the floor drain grate. The MI-GARD®'s four flexible silicone sealing ribs ensure easy installation into openings that have variations in size. The MI-GARD® will open to allow drainage and close when there is no water flow.



MODEL NO.	"A" (PIPE SIZE)	"B" (HEIGHT)
○ MI-GARD-1.5	1-1/2" (38)	2" (51)
○ MI-GARD-2	2" (51)	2" (51)
○ MI-GARD-3	3" (76)	2" (51)
○ MI-GARD-3.5	3 1/2" (89)	2" (51)
○ MI-GARD-4	4" (102)	2" (51)
○ MI-GARD-6	6" (152)	2" (51)

MI-GARD® prevents the following from entering through the top of floor drains:

- Odors and sewer gases
- Insects

Not intended to be used in lieu of a trap seal primer. 6" MI-GARD not IAPMO certified. Note:

The MI-GARD-6 is designed in accordance with industry standards but is not listed. MI-GARD Floor Drain Trap Seals are in compliance with International Plumbing Code (I.P.C.)



MI-GARD-1.5

CALIFORNIA PROPOSITION 65 WARNING. This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Job Name: BeebeRestrooms Page No: \_\_\_\_\_

Section No: \_\_\_\_\_ Contractor: ComfortSystemsUSA

Schedule No: \_\_\_\_\_ Purchase Order No: \_\_\_\_\_

MIFAB® reserves the right to make changes in material and design without formal notice and obligation.

USA: 1-800-465-2736 www.mifab.com CAN: 1-800-387-3880

2022-07-07

**TWH-1,TWH-2**

Non-Thermostatic Heater Ideal for Handwashing And Other Fixed-Flow Applications

### Applications

- Non-public handwashing
- Kitchen, bar, utility sink
- Point-of-use & fixed-flow fixture
- One (1) lavatory faucet, sensor faucet or metering faucet

### Performance Features

- Self-diagnostics with intelligent controls actively protect heater in installed environment
- InfoCue™ visible LED indicator communicates system status and heater operation feedback
- SafeStart™ technology engages upon start-up to help avoid dry-fire occurrence
- Low activation flow starting at 0.2 GPM turn on (model dependent)
- Mounts in any orientation for a flexible installation
- Compact size fits almost anywhere; suitable for ADA compliant facilities
- Only one cold water line needed for an easy installation
- No T&P relief valve needed (check local codes)
- Save water and time by installing unit at the point-of-use
- Integral 3/8" compression fittings; no soldering or sweat connections required
- Control system activates heater only on demand
- High temperature limit switch enables safe operation
- 5-year limited warranty on leaks, 1-year on parts

### Product Specifications

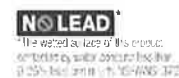
<b>Dimensions:</b>	10.75" H x 5.25" W x 3" D
<b>Product Weight:</b> (model dependent)	2.75 lb/3 lb
<b>Cover:</b>	ABS-UL 94 5VA
<b>Color:</b>	White
<b>Min. Operating Pressure:</b>	30 PSI
<b>Max. Operating Pressure:</b>	150 PSI
<b>Element:</b>	Replaceable nichrome cartridge insert
<b>Fittings:</b>	3/8" compression fittings
<b>UL listed file number:</b>	E86887

### Special Design Service

Inquiries for units for unique applications are welcome. Call our Technical Service department at **1 800 543 6163**.



WaterSense  
Water Fixtures Approved  
EPA Model No. 32214  
by EPA and USDOH



Note: For optimum performance, mounting location should be within 2 feet of fixture.

### Suggested Specification

Tankless water heater shall be an Eemax model number **SPEX 3208**.

Unit shall have ABS-UL 94 5VA rated cover. Unit shall allow mounting in any orientation. Element shall be replaceable cartridge insert. Element shall be iron-free, nickel-chrome material. Unit shall have replaceable filter in the inlet connector. Unit shall include an integrated flow meter to ensure accurate turn-on / turn-off flow rate. Heater shall be fitted with 3/8" compression fittings to eliminate the need for soldering. Maximum operating pressure of 150 PSI. Diagnostic features to include LED error/fault indicator. Heater shall employ technology that engages upon start-up to avoid dry-fire occurrence. Hot water storage tanks prohibited. Unit shall be Eemax or approved equal.

NOTE: Refer to rating chart for product information.

Specification options to be included with SPEX models:

- \_\_\_ **N4** NEMA 4 steel cabinet with powder coat finish
- \_\_\_ **N4X** NEMA 4 stainless steel, corrosion-resistant cabinet

**EX68031-15** Disconnect Switch (see page 42-43)

**NOTE:** Unit should not be used in a recirculation application. Contact an EEMAX representative for alternative recommendations.



# FlowCo

Non-Thermostatic Heater Ideal for Handwashing And Other Fixed-Flow Applications

## Specifications

Tankless Electric Water Heater

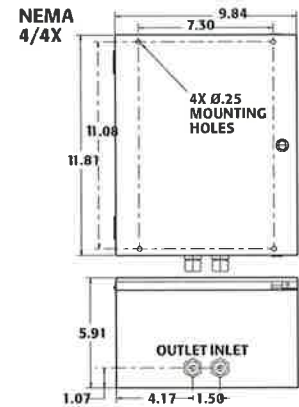
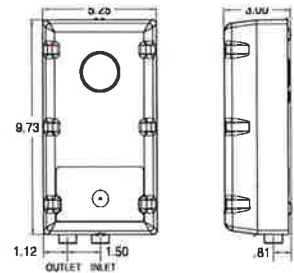
### TEMPERATURE RISE °F

	KW	TOTAL AMP DRAW	CIRCUITS REQUIRED X BREAKER SIZE	RECOMMENDED WIRE SIZE (75° C/CU)	TURN ON (GPM)	0.3 GPM	0.5 GPM	.75 GPM	1.0 GPM	1.5 GPM	2.0 GPM	
<b>VOLTS 120</b>												
	<b>SPEX1812</b>	1.8	15	(1x15)	14 AWG	0.2	41°	25°	16°	12°	8°	6°
C	<b>SPEX1812CA</b> (Canadian model)	1.8	15	(1x15)	14 AWG	0.2	41°	25°	16°	12°	8°	6°
	<b>SPEX2412</b>	2.4	20	(1x20)	14 AWG	0.25	55°	33°	22°	16°	11°	8°
C	<b>SPEX2412CA</b> (Canadian model)	2.4	20	(1x20)	14 AWG	0.25	55°	33°	22°	16°	11°	8°
	<b>SPEX3012</b>	3.0	25	(1x25)	12 AWG	0.25	68°	41°	27°	20°	14°	10°
C	<b>SPEX3012CA</b> (Canadian model)	3.0	25	(1x25)	12 AWG	0.25	68°	41°	27°	20°	14°	10°
	<b>SPEX3512</b>	3.5	30	(1x30)	10 AWG	0.3	80°	48°	32°	24°	16°	12°
C	<b>SPEX3512CA</b> (Canadian model)	3.5	30	(1x30)	10 AWG	0.3	80°	48°	32°	24°	16°	12°
<b>VOLTS 208 Single Phase</b>												
	<b>SPEX3208</b>	3.0	15	(1x15)	14 AWG	0.25	68°	41°	27°	20°	14°	10°
C	<b>SPEX3208CA</b> (Canadian model)	3.0	15	(1x15)	14 AWG	0.25	68°	41°	27°	20°	14°	10°
	<b>SPEX4208</b>	4.1	20	(1x20)	14 AWG	0.4	-	56°	37°	28°	19°	14°
C	<b>SPEX4208CA</b> (Canadian model)	4.1	20	(1x20)	14 AWG	0.4	-	56°	37°	28°	19°	14°
	<b>SPEX8208</b>	8.3	40	(1x40)	8 AWG	0.7	-	-	76°	57°	38°	28°
C	<b>SPEX8208CA</b> (Canadian model)	8.3	40	(1x40)	8 AWG	0.7	-	-	76°	57°	38°	28°
<b>VOLTS 240*</b>												
	<b>SPEX35</b>	3.5	15	(1x15)	14 AWG	0.3	80°	48°	32°	24°	16°	12°
	<b>SPEX35</b> (derated 208V performance)	2.6	13	(1x15)	14 AWG	0.3	-	36°	24°	18°	12°	9°
C	<b>SPEX35CA</b> (Canadian model)	3.5	15	(1x15)	14 AWG	0.3	80°	48°	32°	24°	16°	12°
	<b>SPEX48</b>	4.8	20	(1x20)	14 AWG	0.4	-	66°	44°	33°	22°	16°
	<b>SPEX48</b> (derated 208V performance)	3.6	17	(1x20)	14 AWG	0.4	-	49°	33°	25°	16°	12°
C	<b>SPEX48CA</b> (Canadian model)	4.8	20	(1x20)	14 AWG	0.4	-	66°	44°	33°	22°	16°
	<b>SPEX55</b>	5.5	23	(1x25)	12 AWG	0.5	-	75°	50°	38°	25°	19°
	<b>SPEX55</b> (derated 208V performance)	4.1	20	(1x20)	14 AWG	0.5	-	56°	37°	28°	19°	14°
C	<b>SPEX55CA</b> (Canadian model)	5.5	23	(1x25)	12 AWG	0.5	-	75°	50°	38°	25°	19°
	<b>SPEX65</b>	6.5	27	(1x30)	10 AWG	0.7	-	-	59°	44°	30°	22°
	<b>SPEX65</b> (derated 208V performance)	4.8	23	(1x25)	12 AWG	0.7	-	-	44°	33°	22°	16°
C	<b>SPEX65CA</b> (Canadian model)	6.5	27	(1x30)	10 AWG	0.7	-	-	59°	44°	30°	22°
	<b>SPEX75</b>	7.5	32	(1x40)	10 AWG	0.7	-	-	68°	51°	34°	26°
	<b>SPEX75</b> (derated 208V performance)	5.6	27	(1x30)	12 AWG	0.7	-	-	51°	38°	25°	19°
C	<b>SPEX75CA</b> (Canadian model)	7.5	32	(1x40)	10 AWG	0.7	-	-	68°	51°	34°	26°
	<b>SPEX95</b>	9.5	40	(1x40)	8 AWG	0.8	-	-	65°	43°	32°	24°
	<b>SPEX95</b> (derated 208V performance)	7.0	34	(1x40)	8 AWG	0.8	-	-	96°	48°	32°	24°
C	<b>SPEX95CA</b> (Canadian model)	9.5	40	(1x40)	8 AWG	0.8	-	-	65°	43°	32°	24°
<b>VOLTS 277 Single Phase</b>												
	<b>SPEX3277</b>	3.0	11	(1x15)	14 AWG	0.25	68°	41°	27°	20°	14°	10°
C	<b>SPEX3277CA</b> (Canadian model)	3.0	11	(1x15)	14 AWG	0.25	68°	41°	27°	20°	14°	10°
	<b>SPEX4277</b>	4.1	15	(1x15)	14 AWG	0.4	-	56°	37°	28°	19°	14°
C	<b>SPEX4277CA</b> (Canadian model)	4.1	15	(1x15)	14 AWG	0.4	-	56°	37°	28°	19°	14°
	<b>SPEX60</b>	6.0	22	(1x25)	12 AWG	0.7	-	-	55°	41°	27°	20°
C	<b>SPEX60CA</b> (Canadian model)	6.0	22	(1x25)	12 AWG	0.7	-	-	55°	41°	27°	20°
	<b>SPEX80</b>	8.0	29	(1x30)	10 AWG	0.7	-	-	73°	55°	36°	27°
C	<b>SPEX80CA</b> (Canadian model)	8.0	29	(1x30)	10 AWG	0.7	-	-	73°	55°	36°	27°
	<b>SPEX90</b>	9.0	33	(1x35)	10 AWG	0.7	-	-	82°	61°	41°	31°
C	<b>SPEX90CA</b> (Canadian model)	9.0	33	(1x35)	10 AWG	0.7	-	-	82°	61°	41°	31°
	<b>SPEX100</b>	10.0	36	(1x40)	8 AWG	0.8	-	-	68°	46°	34°	26°
C	<b>SPEX100CA</b> (Canadian model)	10.0	36	(1x40)	8 AWG	0.8	-	-	68°	46°	34°	26°

**NOTE:** Unit should not be used in a recirculation application. Contact an EEMAX representative for alternative recommendations.

\*240V units can be used on 208V single phase with 25% reduced temperature output. Please note per UL standards the rating plate and installation instructions will all be according to a 240V applied voltage. Check with local officials prior to derating the electrical infrastructure.

\*C "indicates evaluation and compliance to either Underwriters Laboratories (UL) or Intertek (ETL) under CAN/CSA-C22.2 No. 64/No. 88.



**TWCO**

# Please advise on outlet type and options

CO-200-RX-4 2137

## Engineering Specification

Job Name **Beebe Restrooms**  
 Job Location **Beebe**  
 Engineer **Ragsdale**  
 Approval \_\_\_\_\_  
 Tag **TWCO**

Contractor **Comfort Systems USA**  
 Approval \_\_\_\_\_  
 Contractor's P.O. No. \_\_\_\_\_  
 Representative **Sanders Supply**

## CO-200-RX-4 Floor Cleanout with Ductile Iron Top Specification

Watts Drainage CO-200-RX-4 epoxy coated cast iron floor cleanout with 5"(127) round adjustable gasketed heavy duty ductile iron top, removable gas tight gasketed brass cleanout plug, and no hub (standard) outlet.



Pipe Sizing	
Suffix	Description
2	2"(51) Pipe Size <input type="checkbox"/>
3	3"(76) Pipe Size <input type="checkbox"/>
4	4"(102) Pipe Size <input type="checkbox"/>

Outlet Type	
Suffix	Description
NH	No Hub (MJ) <input type="checkbox"/>
P	Push On <input checked="" type="checkbox"/>
X	Inside Caulk <input type="checkbox"/>

Options	
Suffix	Description
-C	Membrane Clamp <input type="checkbox"/>
-6	Vandal Proof <input type="checkbox"/>
-13	Galvanized Body <input type="checkbox"/>

Optional Body Material	
Suffix	Description
-60	PVC Body w/Poly Plug <input type="checkbox"/>
-61	ABS Body w/Poly Plug <input type="checkbox"/>

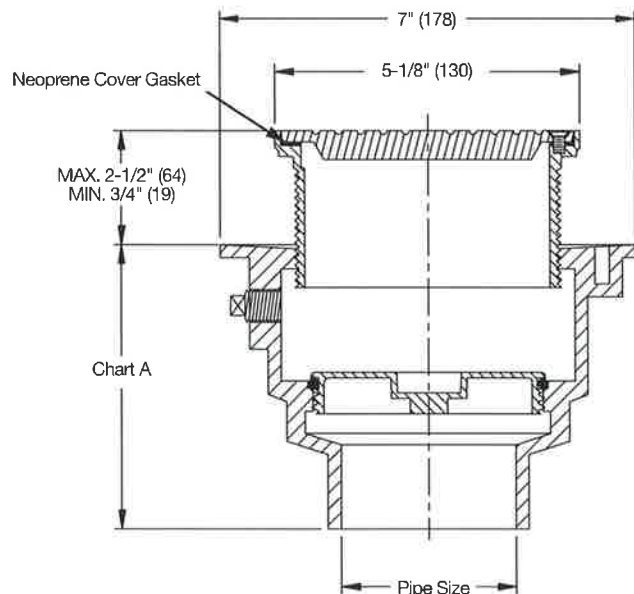


Chart A

	NH(MJ)	P	60/61
Pipe Size	No Hub	Push On	PVC/ABS
2"	4-1/2" (114)	5-1/2" (140)	4" (102)
3"	4-1/2" (114)	5-1/2" (140)	4" (102)
4"	4-3/4" (121)	5-1/2" (140)	4" (102)

Load Rating
*XHD

\*The load classifications are in accordance with the American National Standards ASME A112.21.1M ASME Ratings are as follows:  
 XHD - Safe Live Load 7500-10000 lbs.(3375-4500kg)  
 The above categories are given as a guide only.  
 Please consult factory.

### NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



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