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: 10/31/2022
Return Request: 11/10/2022
Project: LRAFB – Bldg. 2602
Supplier: LR Winnelson
Manufacturer: Various
Submittal: Plumbing (Fixtures)
Submittal Number: 22 01 00-01
Drawing # and Installation: Plumbing Drawings

ARCHITECT
Lewis Architects Engineers
11225 Huron Lane, Suite 104
Little Rock, AR 72211
501-223-9302

ENGINEER
Lewis Architects Engineers
11225 Huron Lane, Suite 104
Little Rock, AR 72211
501-223-9302

GENERAL CONTRACTOR
A4 Services, LLC
35 Greystone Blvd.
Cabot, AR 72023
501-259-1381

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

Notes:

CSUSA PROJECT NO.
22-204
chowell@comfortar.com

CAMP ROBINSON BUILDING 2602
NORTH LITTLE ROCK, ARKANSAS

WC-1 WATER CLOSET

INSTALLATION INSTRUCTIONS

American Standard
Style That Works Better

CADET 1.6 GPF TWO-PIECE PRESSURE-ASSISTED TOILETS
- **Model 2462.016 Cadet Elongated 15"**
- **Model 2467.016 Cadet Elongated 16-1/2" High Bowl**

YORKVILLE 1.6 GPF TWO-PIECE PRESSURE-ASSISTED TOILETS
- **Model 2876.016 Yorkville Elongated 15"**
- **Model 2878.016 Yorkville Elongated 16-1/2" High Bowl**

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: *For proper operation the recommended working pressure is between 25 psi at valve when flushing and 80 psi static.*

RECOMMENDED TOOLS AND MATERIALS

Putty Knife	Regular Screwdriver	Adjustable Wrench	Sealant	Tape Measure
Hacksaw	Wax Ring/Gasket	Flexible Supply Tube	Closet Bolts	Carpenters Level
Closet Flange Set (Cadet Toilets)		*Neoprene or Graphite Felt Gasket (Yorkville Toilets)*		

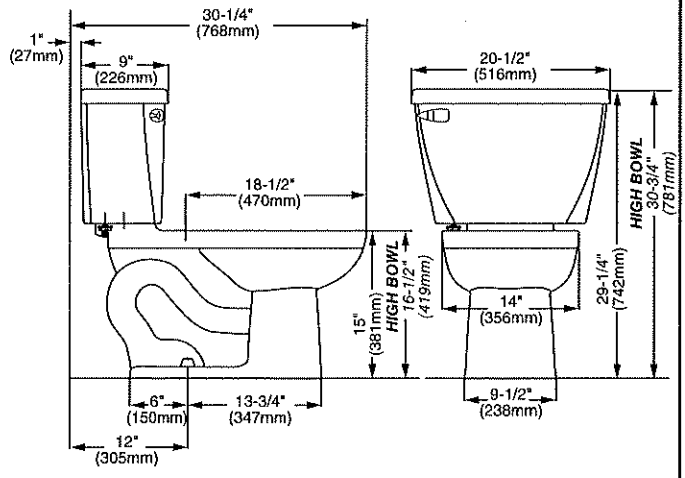
SAVE FOR FUTURE USE

1 REMOVE OLD TOILET

a. Close toilet supply valve and flush tank completely. Towel or sponge remaining water from tank and bowl.
b. Disconnect and remove supply line. NOTE: *If replacing valve, first shut off main water supply!*
c. Remove old mounting hardware, remove toilet and plug floor waste opening to prevent escaping sewer gases.
d. 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!*

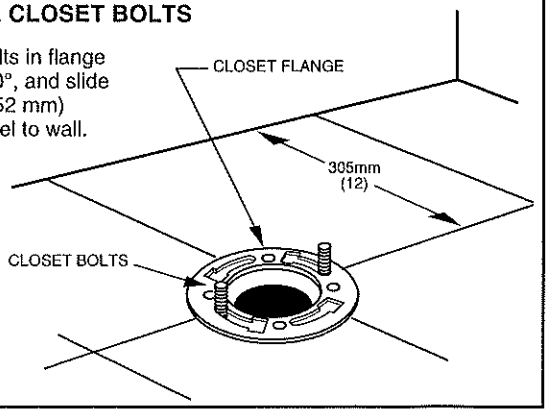
FOR CADET TOILETS:

2-1 DIMENSIONS (Nominal) NOTE: *Distance from wall to closet flange centerline (rough-in) must be 12" (305 mm)*



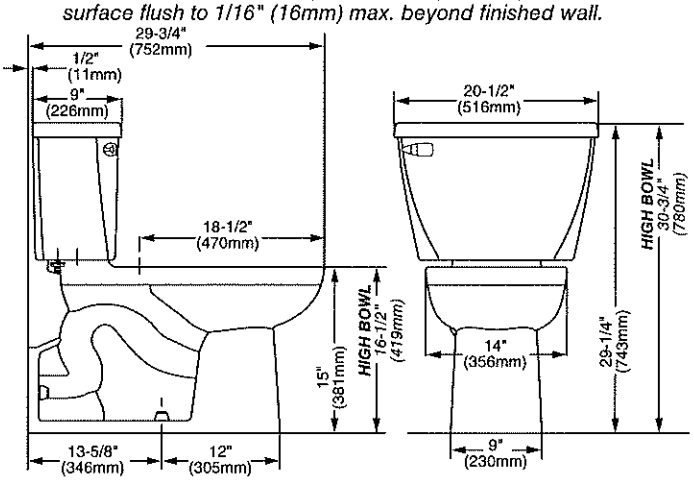
3-1 INSTALL CLOSET BOLTS

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



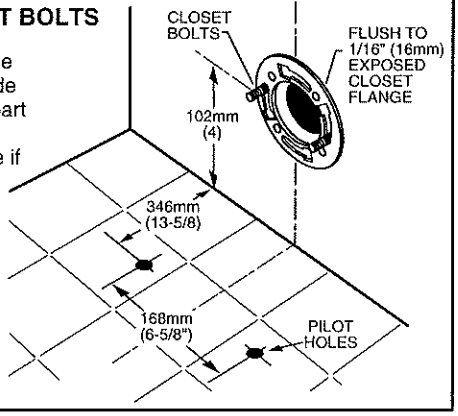
FOR YORKVILLE TOILETS:

2-2 DIMENSIONS (Nominal) NOTE: *Distance from floor to closet flange centerline (rough-in) must be 4" (102 mm) with flange surface flush to 1/16" (16mm) max. beyond finished wall.*



3-2 INSTALL CLOSET BOLTS

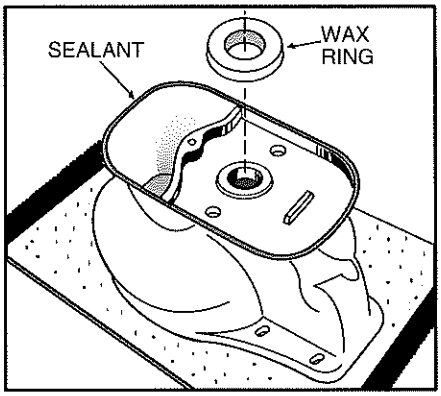
Install closet bolts in flange channel, turn 90°, and slide into place 6" (152 mm) apart and parallel to floor. (Use putty to hold bolts in place if necessary.) Brace under flooring as needed and drill two mounting pilot holes as shown.



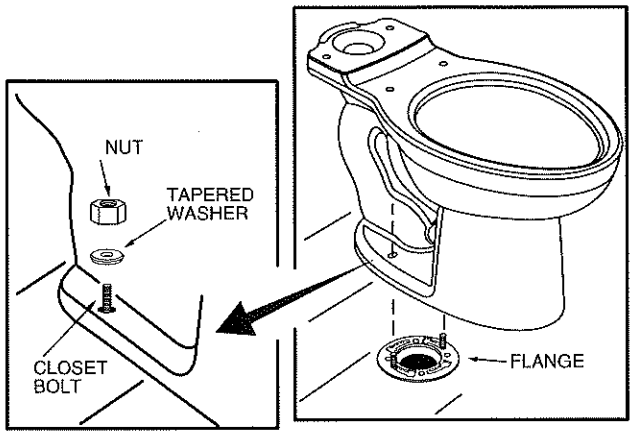
con't. FOR CADET TOILETS:

4-1 **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 base flange.



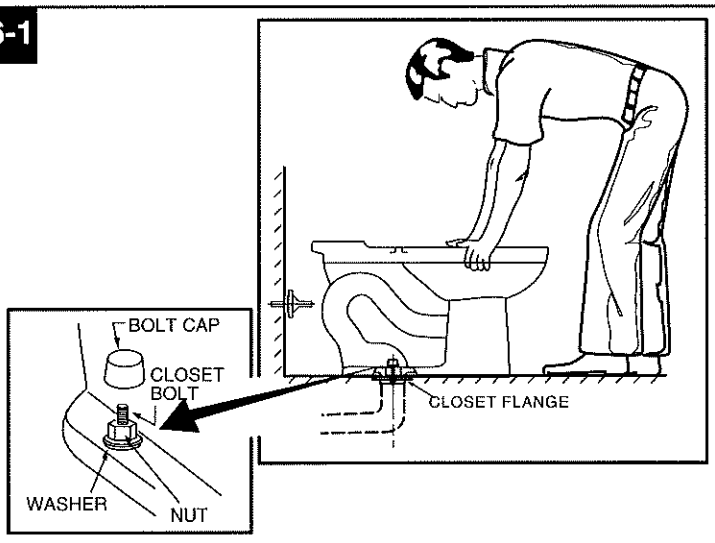
5-1



INSTALL TOILET ON FLANGE

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

6-1



INSTALL TOILET

a. 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!

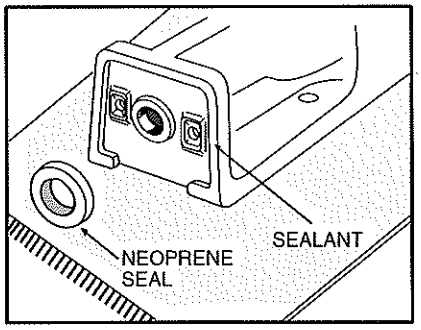
b. Install caps on washers. (If necessary, cut bolt height to size before installing caps.)
c. Smooth off the bead of sealant around base. Remove excess sealant.

con't. FOR YORKVILLE TOILETS:

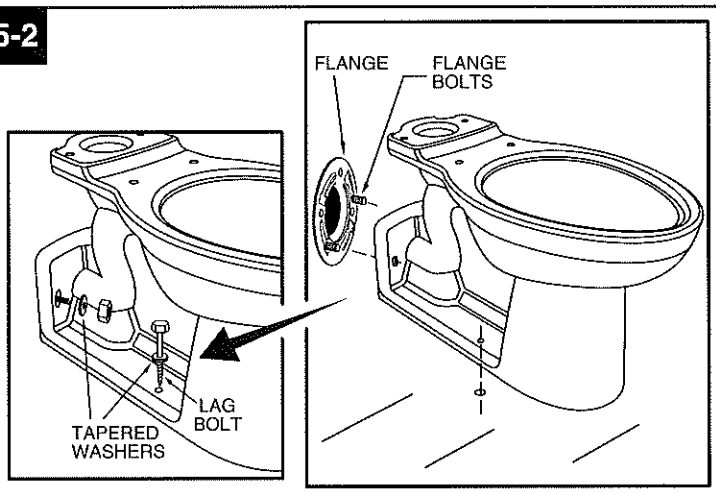
4-2 **INSTALL NEOPRENE OR GRAPHITE FELT SEAL***

Install seal evenly around waste flange (horn). Apply a thin bead of sealant around base flange.

* Note: Wax seal not recommended for this application.



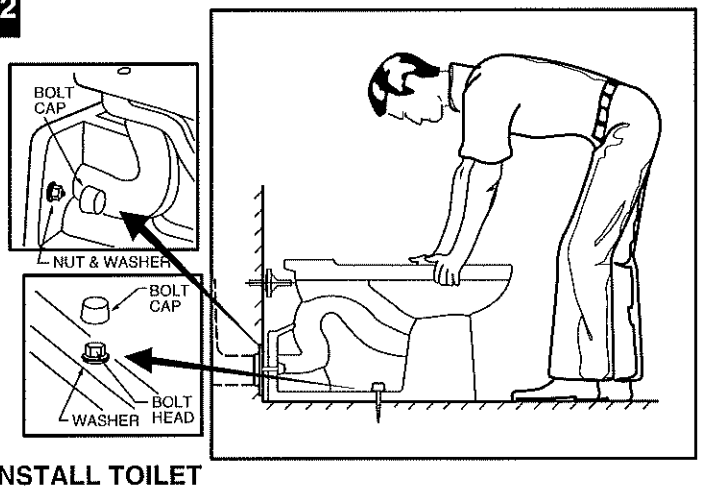
5-2



INSTALL TOILET ON FLANGE

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

6-2



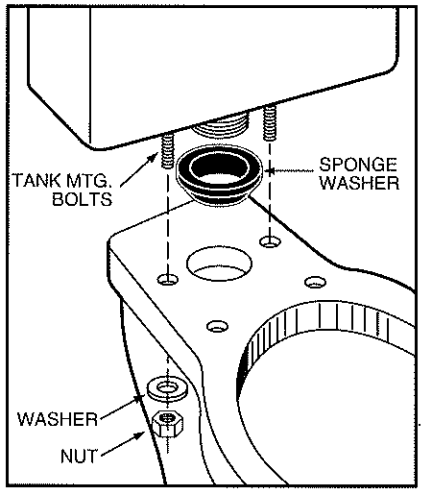
INSTALL TOILET

a. Position toilet squarely to wall and, with a rocking motion, push bowl against ring and flange. Alternately tighten nuts until toilet is firmly anchored.

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

b. Insert the tapered washers (supplied in the kit) into the lag bolts (not supplied). Insert bolts through mounting holes and tighten into pre-drilled floor openings.
c. Install the four bolt caps on tapered washers. (If necessary, cut wall bolt length to size before installing caps.)
d. Smooth off the bead of sealant around base. Remove excess sealant.

7



INSTALL TANK

a. 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, and tank mounting bolts go through mounting holes. Secure with metal washers and nuts.

b. 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

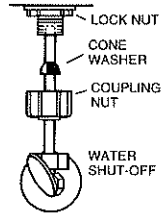
INSTALL TOILET SEAT

Install toilet seat in accordance with manufacturer's directions.

9

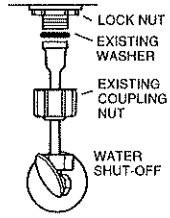
Before continuing, determine the type of water supply connecation you have from the chart below and use the appropriate assembly parts required to properly reconnect the water supply. DO NOT use plumber's putty to seal these fittings.

METAL/COPPER FLARED TUBING



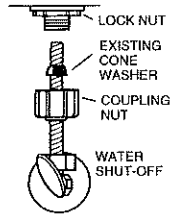
These parts must be used as illustrated to insure water-tight connection. Use of existing coupling nut may result in water leakage. Water supply tube or pipe must extend at least 1/2" inside threaded shank of valve (does not apply to flanged tubing).

METAL FLANGED TUBING



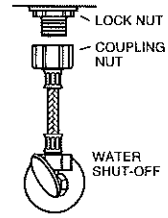
Use existing coupling nut and washer.

METAL SPIRAL TUBING



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

VINYL/BRAIDED CONNECTOR



Captive cone washers already included. No additional washers needed.

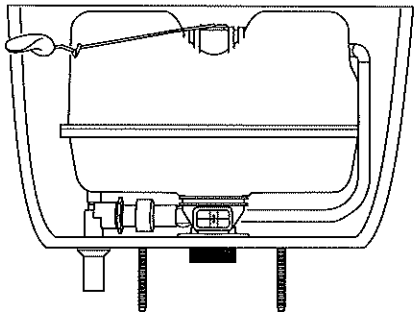
CAUTION: DO NOT USE CONE WASHER WITH PLASTIC SUPPLY LINE.

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

10

ADJUSTMENTS

The flushometer tank is designed and factory-adjusted to provide a consistent, safe seal depth in the bowl after each flush. Field refill adjustment is not required. The refill has been preset and locked.



REPAIR PARTS LIST

Repair parts are determined by toilet tank number which can be found marked inside tank.

NOTE: *"XXX" represents color or trim finish options. Specify when ordering.*

PART NO.	DESCRIPTION	TOILET	
		CADET	YORKVILLE
7381047-200	TRIP LEVER ASSEMBLY LH	✓	✓
7381049-200	TRIP LEVER ASSEMBLY, WDI PRESSURE ASSIST, RH	✓	✓
4142-016.XXX	TANK (COMPLETE WITH COUPLING COMPONENTS AND TANK TRIM)	✓	✓
4142.801.XXX	TANK (COMPLETE WITH COUPLING COMPONENTS AND RH TANK TRIM)	✓	✓
735133-400.XXX	TANK COVER	✓	✓
3481.016.XXX	BOWL, ELONGATED 15"	✓	
3483.016.XXX	BOWL, ELONGATED 16-1/2"H	✓	
3701.016.XXX	BOWL, ELONGATED 15"		✓
3703.016.XXX	BOWL, ELONGATED 16-1/2" (419mm)		✓
034783-XXX0A	BOLT CAP COVER KIT (INCL TWO COVERS/WASHERS)	✓	
034602-0070A	COUPLING GASKET	✓	✓
7381054-100	LOWER SUPPLY ASSEMBLY	✓	✓
7381053-100	UPPER SUPPLY ASSEMBLY	✓	✓
7381052-100	VALVE CARTRIDGE ASSEMBLY	✓	✓
7301320-100	TANK COUPLING KIT	✓	✓
034783-XXX0A	BOLTS AND CAPS		✓
735133-401.XXX	TANK COVER FOR LOCKING DEVICE	✓	✓
603111-0030A	COVER LOCKING DEVICE KIT	✓	✓

11 CARE AND CLEANING

When cleaning your toilet, wash it with mild, soapy water, rinse thoroughly with clear water and dry with a soft cloth. Avoid detergents, disinfectants, or cleaning products in aerosol cans. NEVER use abrasive scouring powders or abrasive pads on your toilet seat. Some bathroom chemicals and cosmetics may damage the seat's finish.

TROUBLESHOOTING GUIDE

NOTE: The presence of a small amount of water in the bottom of the tank is normal. The air inducer is designed to leak for short periods during each flush cycle as a self-cleaning action. Drippage is drained into the bowl. If used on water system containing excessive sand and/or debris, a periodic cleanup of inlet strainer is recommended. (See enclosed instructions for strainer cleaning.)

⚠ WARNING

When servicing or replacing components of the flushometer tank system, be sure that the water supply is shut off and the toilet is flushed to relieve pressure in the flushometer tank. For service of the Flushometer Tank System, see enclosed literature.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Does not flush	a. Water supply valve closed. b. Supply line blocked. c. Trip lever linkage damaged.	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. Check trip lever, linkage, and actuator wire assemblies for damage.
Poor or sluggish flush	a. Supply valve partly closed. b. Plugged inlet strainer. c. Supply pressure too low. d. Partially clogged trapway and/or drain pipe and/or vent. e. Malfunctioning pressure regulator.	a. Open supply valve fully. Be sure that proper supply tube size is used. b. Remove and clean strainer per enclosed instructions c. Normal supply pressure must be at least 25 psi. d. Remove obstruction. Consult a plumber if necessary. e. Replace lower supply assembly.
Toilet leaks	a. Poor bowl to tank/floor connection.	a. Review Step 4 through 7 of installation procedure.
Toilet does not shut off	a. Supply pressure too low.	a. Normal supply pressure must be at least 25 psi.

AS AMERICA, INC. ONE YEAR LIMITED WARRANTY

If inspection of this AS America, Inc. ("American Standard") plumbing product, within one year after its initial purchase, 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 applies only to the original purchaser and installation of these products. In the event of a limited warranty claim, proof of purchase will be required—save sales receipt.

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 limited warranty is 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 damages; 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 limited warranty does not cover any labor or other costs of removal or installation. IN NO EVENT WILL AMERICAN STANDARD BE LIABLE FOR THE COST OF REPAIR OR REPLACEMENT OF ANY INSTALLATION MATERIALS, INCLUDING BUT NOT LIMITED TO TILES, MARBLE ETC. American Standard will not 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 limited warranty. This limited warranty does not cover any liability for consequential or incidental damages, all of which are hereby expressly disclaimed, or the extension beyond the duration of this limited warranty of any implied limited warranties, including those of merchantability or fitness for an intended purpose. (Some states or provinces do not allow the exclusion or limitation of implied limited warranties, so this exclusion may not apply to you.)

This limited 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 limited 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 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

In Canada:
AS Canada ULC
2480 Stanfield Rd.
Mississauga, Ontario
Canada L4Y 1S2

Toll Free: (800) 387-0369
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

L-1 LAVATORY

T&S BRASS AND BRONZE WORKS, INC.
2 Saddleback Cove / P.O. Box 1088
Travelers Rest, SC 29690

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

Model No.
B-2711

Item No.

ADA Compliant

This Space for Architect/Engineer Approval

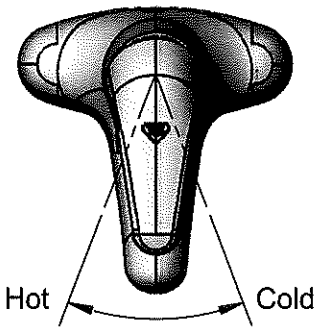
Job Name_____ Date_____

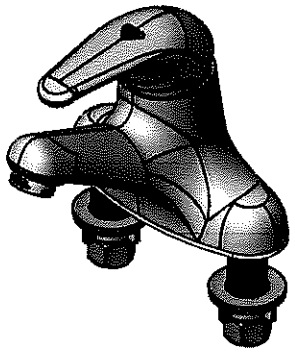
Model Specified_____ Quantity_____

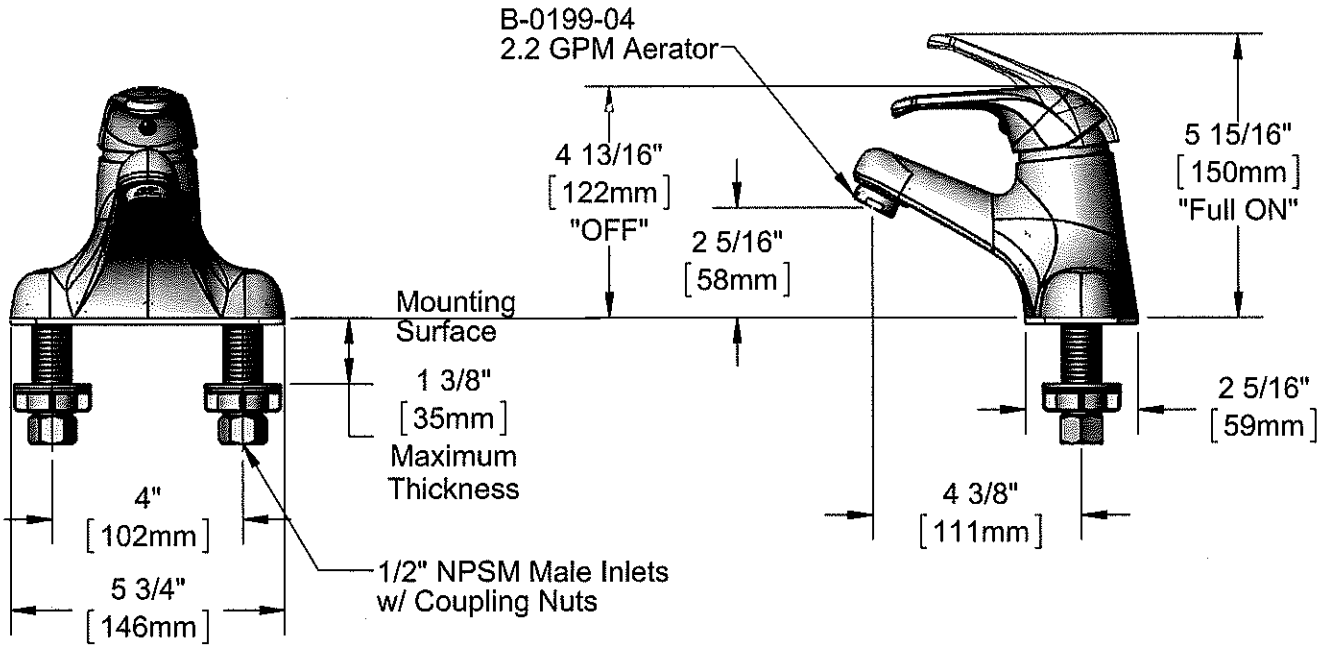
Customer/Wholesaler_____

Contractor_____

Architect/Engineer_____







Rough-In Requirement:
(2) ∅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)

Drawn:	Checked:	Approved:	Date:	Scale:	Sheet:
DMH	JRM	JHB	07/23/16	1:4	1 of 2

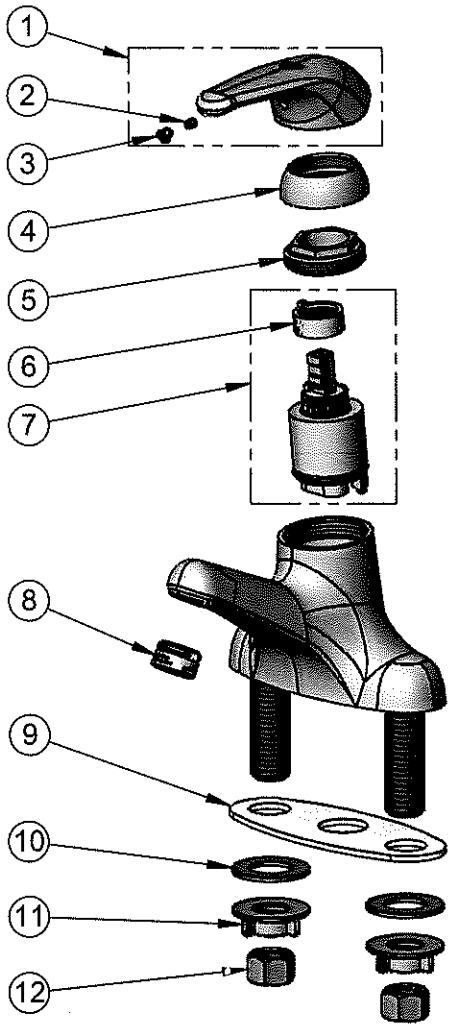
T&S BRASS AND BRONZE WORKS, INC.

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

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

Model No.
B-2711

Item No.



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)

Drawn:	Checked:	Approved:	Date:	Scale:	Sheet:
DMH	JRM	JHB	07/23/16	NTS	2 of 2

LEONARD®
WATER TEMPERATURE CONTROLS

Bulletin G-170A
October 2020

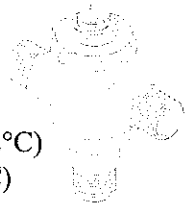
INSTALLATION & SERVICE INSTRUCTIONS MODEL 170A-LF

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

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

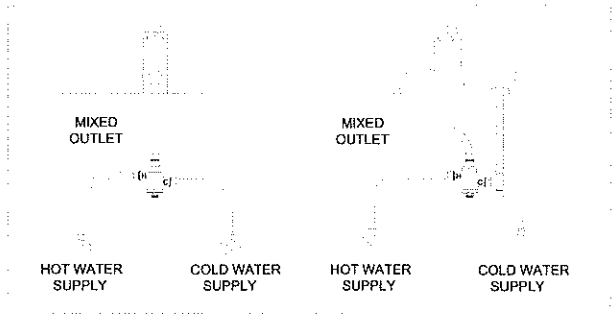
Regular inspection of the valve and the outlet temperature are required. Cleaning at a minimum of annually will help assure proper function of the mixing valve. Frequency of cleaning and inspection of the outlet temperature depends upon local water quality conditions.

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

EWH-1 WATER HEATER

Commercial Point-of-Use Electric Water Heater

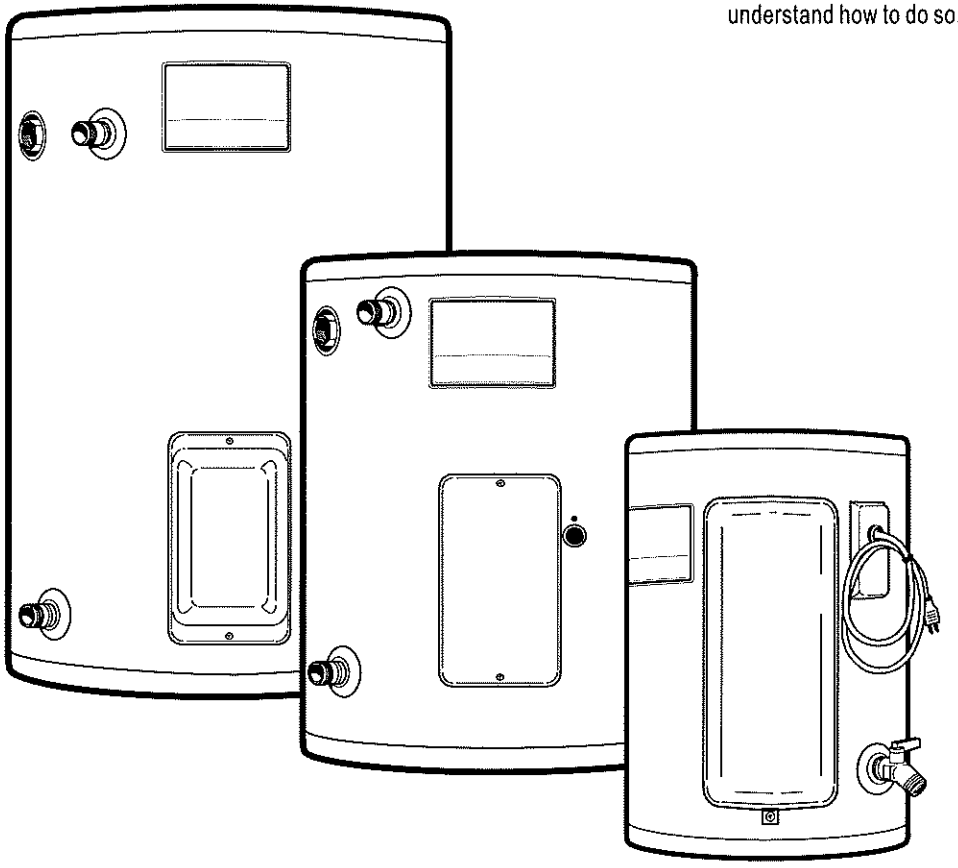
USE & CARE MANUAL

LISTED
786H

WITH INSTALLATION INSTRUCTIONS FOR THE CONTRACTOR

The purpose of this manual is twofold: one, for the installing contractor, to provide requirements and recommendations for the proper installation and adjustment of the water heater; and two, for the owner-operator, to explain the features, operation, safety precautions, maintenance and trouble shooting of the water heater. This manual also includes replacement parts information.

It is imperative that all persons who are expected to install, operate or adjust this water heater read the instructions carefully so that they may understand how to do so.



Do Not Destroy this Manual. Please read carefully and keep in a safe place for Future Reference.

Recognize this symbol as an Indication of Important Safety Information!

NOTICE: This water heater is designed for use in a commercial application and the installation and maintenance of it should be performed by qualified, licensed service personnel. If the foregoing assumption is not appropriate, then we recommend that you obtain and retain our Residential Use & Care Manual.

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

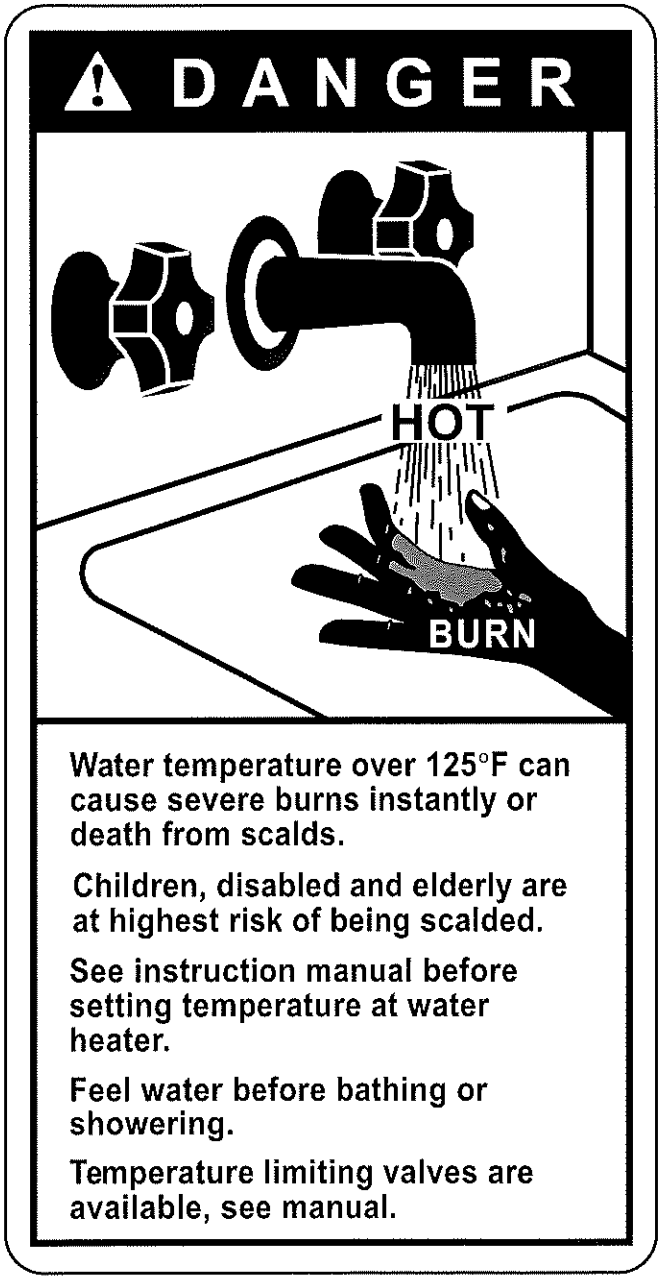
Printed in USA

AP12129-4 (01/05)

General Safety Precautions

Be sure to read and understand the entire Use & Care Manual before attempting to install or operate this water heater. It may save you time and cost. Pay particular attention to the General Safety Precautions. Failure to follow these warnings could result in serious bodily injury or death. Should you have problems understanding the instructions in this manual, or have any questions, STOP, and get help from a qualified installer, service technician, or the local electric utility.

To meet commercial water use needs, the thermostat on this water heater is adjustable to deliver water up to 170°F. However, water temperatures over 125°F. can cause severe burns instantly or death from scalds. This is the preferred starting point for setting the control for supplying general purpose hot water.



Safety and energy conservation are factors to be considered when setting the water temperature on the thermostat. The most energy efficient operation will result when the temperature setting is the lowest that satisfies the needs consistent with the application. Maximum water temperatures occur just after the thermostat has shut off the elements. To find the hot water temperature being delivered, turn on a hot water faucet and place a thermometer in the hot water stream and read the thermometer.

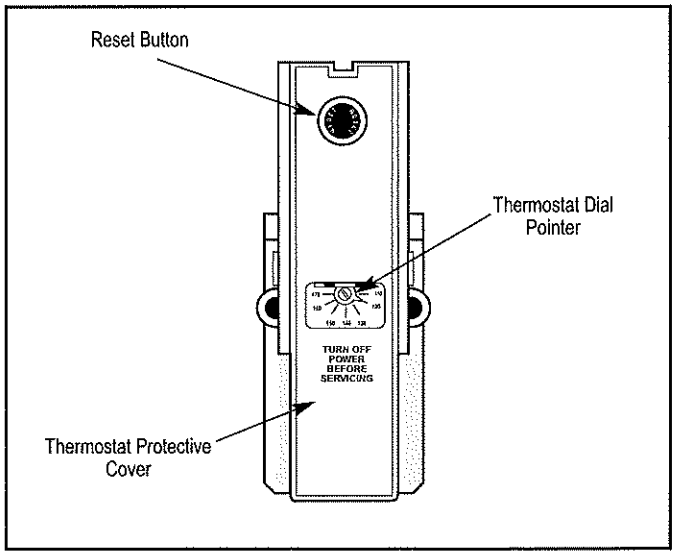
The following chart details the relationship of water temperature and time with regard to scald injury and may be used as a guide in determining the safest water temperature for your applications.

TIME / TEMPERATURE RELATIONSHIPS IN SCALDS

Temperature	Time to Produce Serious Burn
120° F	More than 5 minutes
125° F	1½ to 2 minutes
130° F	About 30 seconds
135° F	About 10 seconds
140° F	Less than 5 seconds
145° F	Less than 3 seconds
150° F	About 1½ seconds
155° F	About 1 second

Table courtesy of Shriners Burn Institute

The temperature of the water in the heater can be regulated by adjusting the thermostat. To comply with safety regulations the thermostat was set at the factory to a setting corresponding to 120°F.



The illustration above shows the temperature adjustment dial used for setting the water temperature. Refer to Operation section of this manual for detailed instructions in how to adjust the thermostat(s).

DANGER

There is a Hot Water SCALD Potential if the thermostat is set too high.

NOTE: When this water heater is supplying general purpose hot water requirements for use by individuals, a thermostatically controlled mixing valve for reducing point of use water temperature is recommended to reduce the risk of scald injury. Contact a licensed plumber or the local plumbing authority for further information.

Introduction

The location chosen for the water heater must take into consideration the following:

LOCAL INSTALLATION REGULATIONS

This water heater must be installed in accordance with these instructions, local codes, utility company requirements or, in the absence of local codes, the latest edition of the National Electrical Code. It is available from some local libraries or can be purchased from the National Fire Prevention Association, Batterymarch Park, Quincy, MA 02269 as booklet ANSI/NFPA 70.

LOCATION

This water heater is designed to meet a wide range of applications. It fulfills a demand for a small water heater that can be installed in a limited space such as under counter tops, in cabinets or in a closet. Locate the water heater in a clean dry area as near as practical to hot water fixtures, or close to the hot water faucet most frequently used. Place the water heater in such a manner that the thermostat and element access panels can be removed to permit inspection and servicing such as removal of elements or checking controls. The water heater and water lines should be protected from freezing temperatures. Do not install the water heater in outdoor, unprotected areas.

⚠ CAUTION

The water heater should not be located in an area where leakage of the tank or connections will result in damage to the area adjacent to it or to lower floors of the structure. Where such areas cannot be avoided, it is recommended that a suitable catch pan, adequately drained, be installed under the water heater.

NOTE: Auxiliary catch pan installation MUST conform to local codes.

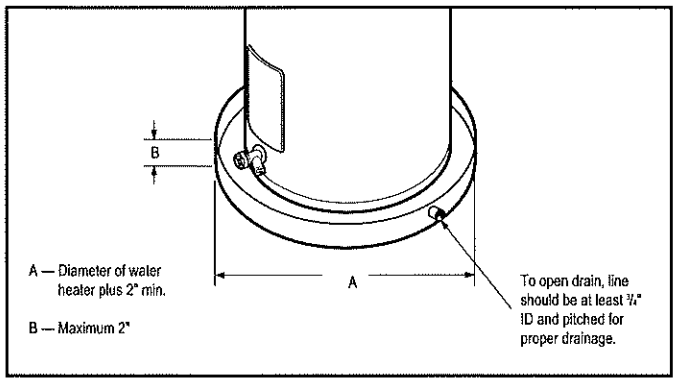


Figure 1. — Auxiliary Catch Pan

Catch Pan Kits are available from the distributor or store where the water heater was purchased

Installation

1. **INSPECT SHIPMENT** — Inspect the water heater for possible damage. Check the markings on the rating plate of the water heater to be certain the power supply corresponds to that for which the water heater is equipped.

2. **THERMAL EXPANSION — Determine if a check valve exists in the inlet water line.** It may have been installed in the cold water line as a separate back flow preventer, or it may be part of a pressure reducing valve, water meter or water softener. A check valve located in the cold water inlet line can cause what is referred to as a **"closed water system"**. A cold water inlet line with no check valve or back flow prevention device is referred to as an "open" water system.

   As water is heated, it expands in volume and creates an increase in the pressure within the water system. This action is referred to as **"thermal expansion"**. In an "open" water system, expanding water which exceeds the capacity of the water heater flows back into the city main where the pressure is easily dissipated.

   A **"closed water system"**, however, prevents the expanding water from flowing back into the main supply line, and the result of **"thermal expansion"** can create a rapid, and dangerous pressure increase in the water heater and system piping. This rapid pressure increase can quickly reach the safety setting of the relief valve, causing it to operate during each heating cycle. Thermal expansion, and the resulting rapid, and repeated expansion and contraction of components in the water heater and piping system can cause premature failure of the relief valve, and possibly the heater itself.Replacing the relief valve **will not** correct the problem!

   The suggested method of controlling thermal expansion is to install an expansion tank in the cold water line between the water heater and the check valve. The expansion tank is designed with an air cushion built in that compresses as the system pressure increases, thereby relieving the over pressure condition and eliminating the repeated operation of the relief valve. Other methods of controlling thermal expansion are also available. Contact your installing contractor, water supplier, or plumbing inspector for additional information regarding this subject.

IMPORTANT!! Do not apply heat to the hot or cold water supply fitting. If sweat connections are used, sweat tubing to adapter before fitting adapter to cold water inlet of heater. Any heat applied to the hot or cold water supply fittings will permanently damage them.

3. **WATER SUPPLY CONNECTIONS** — Refer to Fig. 2 or 3 for suggested typical installation. The installation of unions or flexible copper connectors on the water connections is recommended so that the water heater may be easily disconnected for servicing if necessary. Connect cold water supply line to 3/4" pipe connection near the bottom of water heater. (Refer to Figure 2.) Install a shut-off valve and a drain valve (not supplied) in the cold water line near the water heater (Refer to Fig. 2.). Connect hot water line to 3/4" pipe connection marked HOT on the side near the top of the water heater. On the some models, the hot and cold water connections are 1/2" pipe connections and are located on top of the heater. (Refer to Figure 3.) A drain valve is supplied on these models. Local codes may require an Anti-Syphon device on the water inlet of a side connect water heater.

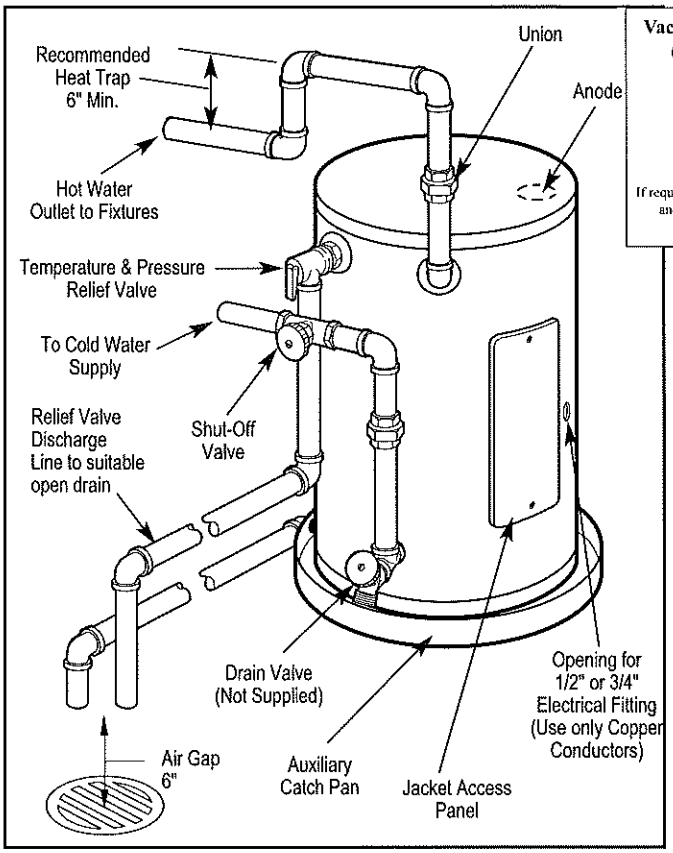


Figure 2. — Typical Side Connect Installation

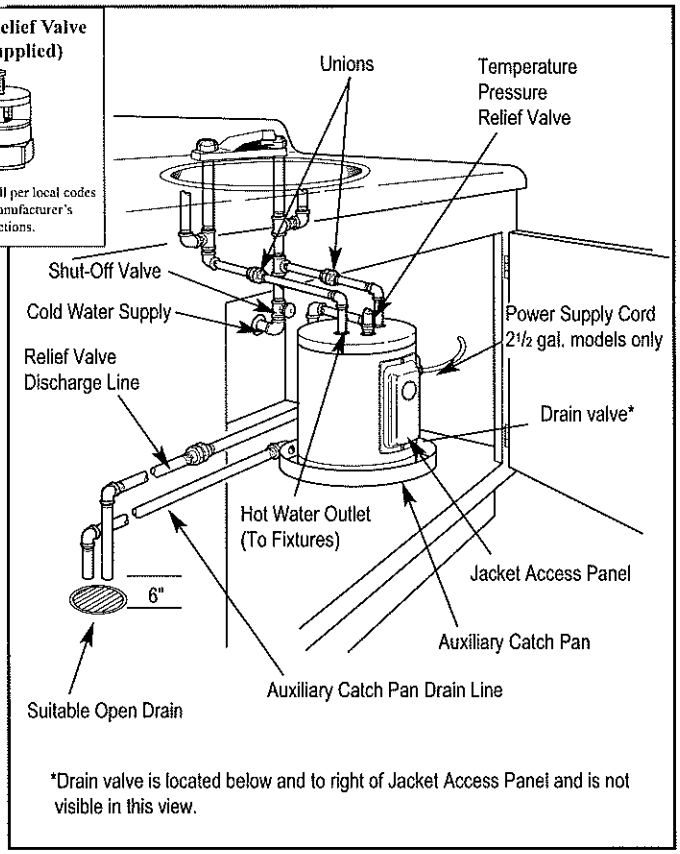


Figure 3. — Typical Under Counter Top Connect Installation

4. **RELIEF VALVE —** A new combination pressure and temperature relief valve, complying with the Standard for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22, must be installed in the opening provided and marked for the purpose on the water heater. (Refer to Fig. 2 or 3.) No valve of any type should be installed between the relief valve and the tank. Local codes shall govern the installation of relief valves.

   The pressure rating of the relief valve must not exceed 150 psi, the maximum working pressure of the water heater as marked on the rating plate. The BTUH Rating of the relief valve must not be less than the input rating of the water heater as indicated on the rating label located on the front of the heater (1 watt = 3.412 BTUH).

   Connect the outlet of the relief valve to a suitable open drain so that the discharge water cannot contact live electrical parts and to eliminate potential water damage. Piping used should be of a type approved for hot water distribution. The discharge line must be no smaller than the outlet of the valve and must pitch downward from the valve to allow complete drainage (by gravity) of the relief valve and discharge line. The end of the discharge line should not be threaded or concealed and should be protected from freezing. No valve of any type, restriction or reducer coupling should be installed in the discharge line.

5. **TO FILL WATER HEATER —** Make certain drain valve is completely closed. Open shut-off valve in cold water supply line. Open each hot water faucet slowly to allow air to vent from the water heater and piping. A steady flow of water from the hot water faucet(s) indicates a full water heater.

⚠ WARNING

Tank MUST BE full of water before power is turned on. Heating element(s) WILL BE DAMAGED if energized for even a short time while tank is dry. The water heater's warranty does not cover damage or failure resulting from operation with an empty or partially empty tank. (Reference is made to the limited warranty for complete terms and conditions.)

6. **ELECTRICAL CONNECTIONS —** The voltage requirements and wattage load for all heaters is specified on the rating plate. Table 1 recommends minimum branch circuit sizing based on the National Electrical Code. All wiring must conform to local codes or latest edition of National Electrical Code ANSI/NFPA 70.

Some models are supplied with a plug connected power supply cord for use only in 120 VAC applications. The cord must be connected to a properly

Total Water Heater Wattage	Recommended Over Current Protection (Fuse or Circuit Breaker) Amperage Rating					Copper Wire Size - AWG Based on N.E.C. Table 310-16 (75°C.)				
	120V	208V	240V	277V	480V	120V	208V	240V	277V	480V
1440	15	—	—	—	—	14	—	—	—	—
1500	20	15	15	15	15	12	14	14	14	14
2000	25	15	15	15	15	10	14	14	14	14
2500	30	15	15	15	15	10	14	14	14	14
3000	35	20	20	15	15	8	12	12	14	14
4500	—	30	25	25	15	—	10	10	10	14
6000	—	40	35	30	20	—	8	8	10	12

Table 1. — Branch Circuit Sizing and Wire Size Guide Based on N.E.C. ANSI / NFPA 70

grounded receptacle on a branch circuit with copper conductors, an over current protection device and a suitable disconnect means. If desired, straight field wiring connections can be made to these models by removing the access cover on front of the heater and disconnecting the cord set from the thermostat and the grounding lug. Remove the cord set and strain relief bushing from the junction bracket. The hole in the junction bracket will accommodate 1/2" or 3/4" electrical fittings. Refer to wiring diagrams on back cover of this manual for wiring connections.

Some models are completely wired to the junction bracket inside the jacket at the front of the water heater. An opening for 1/2" or 3/4" electrical fitting is provided for field wiring connections. A separate branch circuit with copper conductors, overcurrent protective device and suitable disconnecting means must be provided by a qualified electrician. Refer to wiring diagrams on back cover of this manual for wiring connections.

⚠ CAUTION

The presence of water in the piping and water heater does not provide sufficient conduction for a ground. Non-metallic piping, dielectric unions, flexible connectors etc. can cause the water heater to be electrically isolated.
The branch circuit wiring should include either:

A. Metallic conduit or metallic sheathed cable approved for use as a grounding conductor and installed with fittings approved for the purpose.

B. Non-metallic sheathed cable or metallic conduit or metallic sheathed cable not approved for use as a ground conductor shall include a separate conductor for grounding. It should be attached to the ground terminals of the water heater and the electrical distribution box.

⚠ WARNING

The manufacturer's warranty does not cover any damage or defect caused by installation, attachment or use of any type of energy saving or other unapproved devices (other than those authorized by the manufacturer) into, onto or in conjunction with the water heater. The use of unauthorized energy saving devices may shorten the life of the water heater and may endanger life and property. The manufacturer disclaims any responsibility for such loss or injury resulting from the use of such unauthorized devices.

If local codes require external application of insulation blanket kits the manufacturer's instructions included with the kit must be carefully followed.

⚠ CAUTION

Application of any external insulation to this water heater will require careful attention to the following:

- Do not cover the temperature and pressure relief valve.
- Do not cover jacket access panels to thermostats and heating elements.
- Do not cover electrical junction box of water heater.
- Do not cover operating or warning labels attached to the water heater nor attempt to relocate them on exterior of insulation blanket.

Installation Check List

A. Water Heater Location

- ☐ Close to area of heated water demand.
- ☐ Indoors and protected from freezing temperatures.
- ☐ Area free of flammable vapors.
- ☐ Provisions made to protect area from water damage.
- ☐ Sufficient room to service water heater.

B. Water Supply

- ☐ Water heater completely filled with water.
- ☐ Water heater and piping air vented.
- ☐ Water connections tight and free of leaks

C. Relief Valve

- ☐ Temperature and Pressure Relief Valve properly installed and discharge line run to open drain
- ☐ Discharge line protected from freezing.

D. Wiring

- ☐ Power supply voltage agrees with water heater rating plate.
- ☐ Branch circuit wire and fusing or circuit breaker of proper size.
- ☐ Electrical connections tight and unit properly grounded.

Model No. _____ Serial No. _____ Date of Installation _____ Installed By: _____

Operation

SAFETY PRECAUTIONS

A. *Do* turn off power to water heater if it has been subjected to over heating, fire, flood or physical damage.

B. *Do Not* turn on water heater unless it is filled with water.

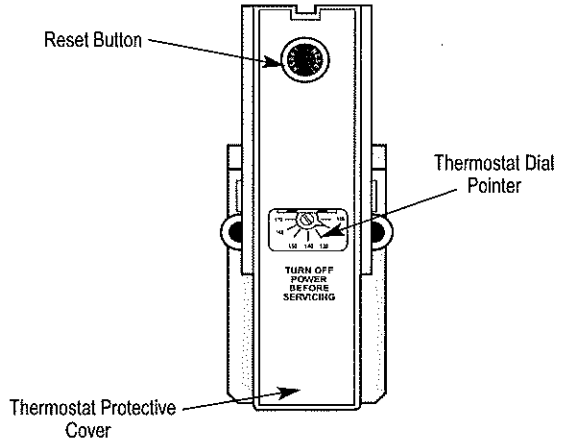
C. *Do Not* turn on water heater if cold water supply shut-off valve is closed.

D. If there is any difficulty in understanding or following the OPERATION or MAINTENANCE instructions, it is recommended that a qualified person or serviceman perform the work.

⚠ CAUTION

Hydrogen gas can be produced in a hot water system served by this water heater that has not been used for a long period of time (generally two weeks or more). HYDROGEN GAS IS EXTREMELY FLAMMABLE!! To dissipate such gas and to reduce risk of injury, it is recommended that the hot water faucet be opened for several minutes at the kitchen sink before using any electrical appliance connected to the hot water system. If hydrogen is present, there will probably be an unusual sound such as air escaping through the pipe as the water begins to flow. *Do not* smoke or use an open flame near the faucet at the time it is open.

1. **WATER TEMPERATURE SETTING —** The temperature of the water in the water heater can be regulated by setting the temperature dial of the adjustable surface mounted thermostat located behind the jacket access panel. To comply with safety regulations the thermostat is factory set at 120° F or less where local codes require.



CAUTION!! — Hotter water increases the risk of SCALDING!

This illustration shows the temperature adjustment dial used for setting the water temperature. Refer to Section 1 - Water Temperature Setting, above, for more details and safety instructions regarding water temperature setting.

Figure 4. — Thermostat and Protective Cover.

Safety and energy conservation are factors to be considered when selecting the water temperature setting of the water heater's thermostat. The lower the temperature setting the greater the savings in energy and operating costs.

⚠ DANGER

There is a Hot Water SCALD Potential if the thermostat is set too high.

NOTE: When this water heater is supplying general purpose hot water requirements for use by individuals, a thermostatically controlled mixing valve for reducing point of use water temperature is recommended to reduce the risk of scald injury. Contact a licensed plumber or the local plumbing authority for further information.

TIME / TEMPERATURE RELATIONSHIPS IN SCALDS

Temperature	Time to Produce Serious Burn
120° F	More than 5 minutes
125° F	1½ to 2 minutes
130° F	About 30 seconds
135° F	About 10 seconds
140° F	Less than 5 seconds
145° F	Less than 3 seconds
150° F	About 1½ seconds
155° F	About 1 second

Table courtesy of Shriners Burn Institute

⚠ DANGER

Make certain power to water heater is OFF before removing jacket access panel FOR ANY REASON.

If adjustment is necessary, ***turn off*** power to water heater, remove jacket access panel and insulation exposing thermostat. The thermostat protective cover ***should not be removed.*** Set thermostat dial pointer, with a small screwdriver, to desired temperature. (Refer to Fig. 4.) Replace insulation and jacket access panel. Turn on power to water heater.

2. **SAFETY CONTROLS —** The water heater is equipped with a combination Thermostat and Temperature Limiting Control (ECO) that is located above the heating element in contact with the tank surface. If for any reason the water temperature becomes excessively high, the Temperature Limiting Control (ECO) breaks the power circuit to the heating element. Once the control opens, it must be reset manually.

⚠ CAUTION

The cause of the High Temperature Condition must be investigated by qualified service personnel and corrective action taken before placing the water heater in service again.

To reset Temperature Limiting Control, ***turn off*** power to water heater, remove jacket access panel and insulation. ***The thermostat protective***

cover SHOULD NOT be removed. (Refer to Fig. 4.) Press red "RESET" button. Replace insulation and jacket access panel before turning on power to water heater.

3. **EMERGENCY INSTRUCTIONS —**

⚠ WARNING

If water heater has been subjected to flood,fire,or physical damage, turn off power and water to water heater. Do not operate the water heater again until it has been thoroughly checked by qualified service personnel.

4. **LONG TIME SHUT-DOWN —** If the water heater is to remain idle for an extended period of time, the power and water to the water heater should be turned off to conserve energy. The water heater and piping should be drained if they might be subjected to freezing temperatures.

   NOTE: Refer to "Hydrogen Gas Caution" in Safety Precautions Section on page 6.

   After a very long shut-down period, the water heater's operation and controls should be checked by qualified service personnel. Make certain the water heater is completely filled before again placing it in operation .

5. **DRAINING HEATER —**

⚠ CAUTION

Shut off power to water heater before draining water.

In order to drain water heater, turn off cold water supply, then it is necessary to open a hot water faucet or lift the handle on the relief valve to admit air to the tank. Attach a garden hose to the drain valve on the water heater and direct the stream of water to a drain where it will do no damage.

⚠ DANGER

The water drained from the tank may be hot enough to present a SCALD HAZARD and should be directed to a suitable drain to prevent injury or damage.

6. **ANODE —** This water heater is equipped with an anode rod designed to prolong the life of the glass lined tank. The anode is slowly consumed cathodically, thereby eliminating or minimizing corrosion of the glass lined tank.

   Water sometimes contains a high sulfate and/or mineral content and together with the cathodic protection process can produce a hydrogen sulfide or rotten egg odor in the heated water. Chlorination of the water supply should minimize the problem.

   NOTE: Do not remove the anode rod from the water heater's tank, except for inspection and/or replacement, as operation with the anode rod removed will shorten the life of the glass lined tank and will exclude warranty coverage.

Maintenance

Properly maintained, your water heater will provide years of dependable trouble-free service. It is suggested that a routine preventive maintenance program be established and followed by the user. It is further recommended that a periodic inspection of the operating controls, heating element and wiring should be made by service personnel qualified in electric appliance repair.

1. **ROUTINE PREVENTATIVE MAINTENANCE**

A. Most electrical appliances make some sound when in operation, even when new. If the hissing or singing sound level increases excessively, the electric heating element may require cleaning. Contact your installer or plumbing contractor to inspect.

B. The area near the water heater must be kept free of flammable liquids such as gasoline or paint thinners, adhesives or other combustible materials.

C. At least once a year, lift and release the lever handle on the temperature pressure relief valve, located near the top of the water heater, to make certain the valve operates freely and allow several gallons to flush through discharge line. Make certain the discharged water is directed to an open drain.

⚠ DANGER

Before manually operating the relief valve, make certain no one will be exposed to the danger of coming in contact with the hot water released by this valve. The water may be hot enough to create a SCALD hazard. The water released should be directed to a suitable drain to prevent injury or damage.

NOTE: If the temperature and pressure relief valve on the water heater discharges periodically, this may be due to thermal expansion in a "Closed" water system. Contact the water supplier or your plumbing contractor on how to correct this. DO NOT plug the relief valve outlet.

D. A water heater's tank can act as a settling basin for solids suspended in the water. It is, therefore, not uncommon for hard water deposits to accumulate in the bottom of the tank. It is suggested that a few quarts of water be drained from the water heater's tank through the drain valve every month to clean the tank of these deposits.

E. Rapid closing of faucets or solenoid valves in automatic water using appliances can cause a pounding "water hammer" sound. "Water hammer" can be described as a banging noise heard in a water pipe following an abrupt alteration of the flow with resulting pressure surges. Strategically located risers in the water pipe system can be used to minimize the problem. Also water hammer arresting devices are usually available from your plumber or local plumbing supply store.

2. **ANODE ROD INSPECTION —** The anode rod should be removed from the water heater's tank annually for inspection and replaced when more than 6" of core wire is exposed at either end of the rod. Refer to Fig. 2 for anode rod location. Make certain cold water supply is turned off before removing anode rod.

Replacement Parts List

Top Connect Models

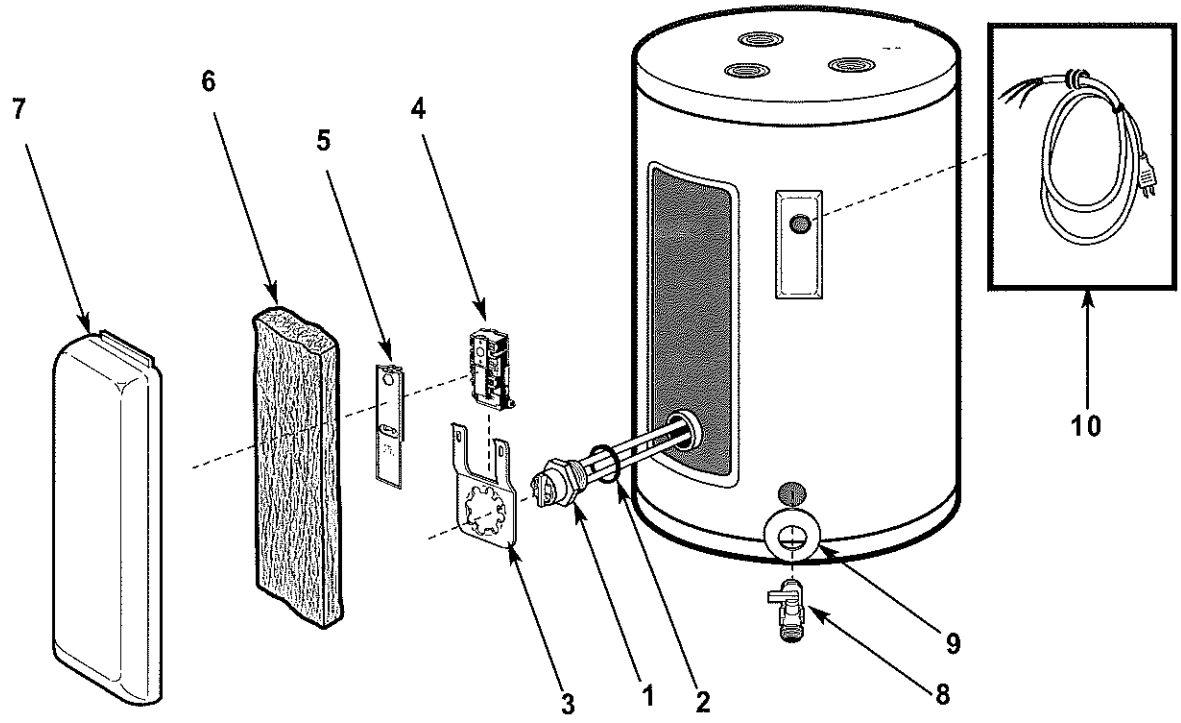
120 or 240 Volt Operation

Instructions for placing a Parts Orders:

Address parts orders to the distributor or store from where the heater was purchased.

All parts orders should include:

1. Model number and Serial number of heater (from rating plate).
2. Specify voltage and wattage as marked on rating plate.
3. Part Description (as noted below) and number of parts desired.



Ref. No.	Part Description	Qty. Req'd
1.	Heating Element	1
2.	Heating Element Gasket	1
3.	Thermostat Bracket	1
4.	Thermostat	1
5.	Thermostat Protective Cover	1
6.	Cavity Insulation	1
7.	Jacket Access Panel	1
8.	Drain Valve	1
9.	Drain Valve Shroud	1
10.	Electrical Cord Set (120 VAC models ONLY)	1

⚠ CAUTION

For your safety, DO NOT attempt repair of electrical wiring, thermostats, heating elements or other operating controls. Refer repairs to qualified service personnel.

Replacement Parts List

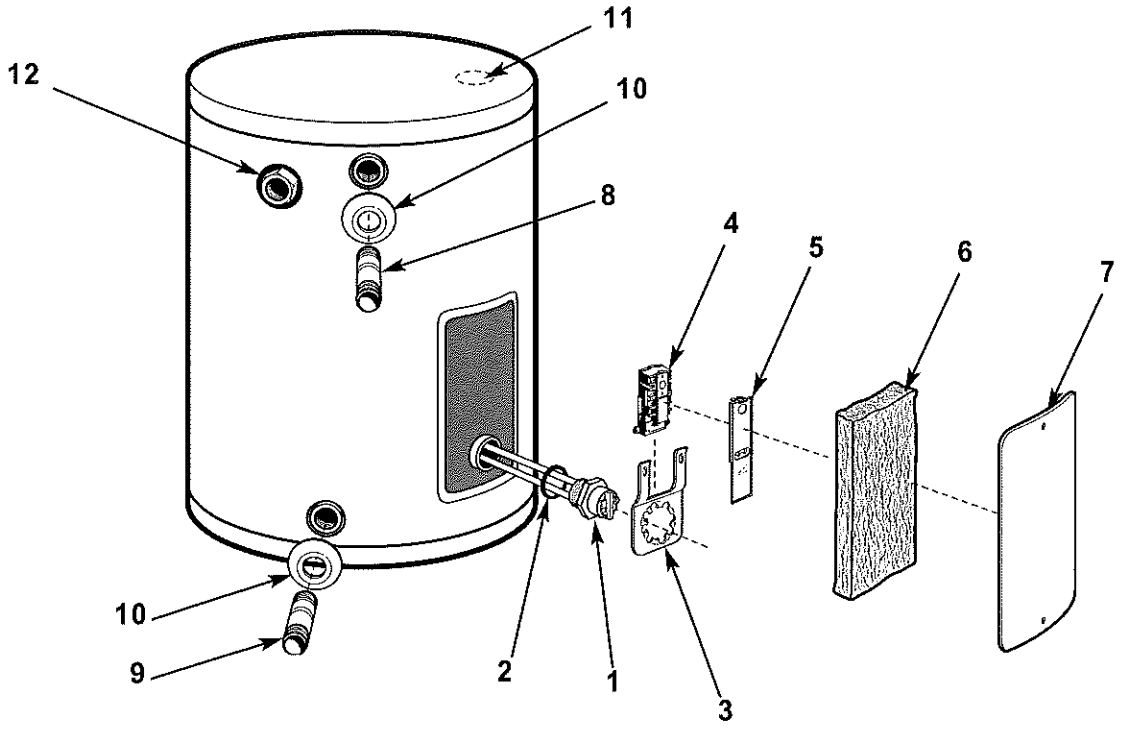
Side Connect Models 120, 208, 240, 277 or 480 Volt Operation

Instructions for placing a Parts Orders:

Address parts orders to the distributor or store from where the heater was purchased.

All parts orders should include:

1. Model number and Serial number of heater (from rating plate).
2. Specify voltage and wattage as marked on rating plate.
3. Part Description (as noted below) and number of parts desired.



Ref. No.	Part Description	Qty. Req'd
1.	Heating Element	1
2.	Heating Element Gasket	1
3.	Thermostat Bracket	1
4.	Thermostat	1
5.	Thermostat Protective Cover	1
6.	Cavity Insulation	1
7.	Jacket Access Panel	1
8.	Nipple, Hot Outlet/J-Tube (Not Shown)	1
9.	Nipple, Cold Inlet	1
10.	Shroud	As Req'd
11.	Anode Rod	1
12.	Snap Bushing	1

⚠ CAUTION

For your safety, DO NOT attempt repair of electrical wiring, thermostats, heating elements or other operating controls. Refer repairs to qualified service personnel.

Trouble Shooting Guide

NATURE OF TROUBLE	POSSIBLE CAUSE	SERVICE
No Hot Water	1. Manual switch turned off	Turn to ON
	2. Improper Wiring	** Rewire per Wiring Diagram
	3. No Power — blown fuse or circuit breaker tripped	
	a. Shorted wiring	** Replace or repair
	b. Circuit overloaded	** Provide adequate circuit or reduce load
	c. Improper wiring	** Rewire per diagram
	d. Grounded element or thermostat	** Replace
	4. Manual Reset Limit (ECO) open	Refer to "Operation Section"
	a. Thermostat(s) defective	** Replace
	b. Thermostat out of calibration	** Lower setting or replace
	c. Heat build-up due to loose wires	** Tighten wire connections
	d. Defective Limit (ECO)	** Replace
Not enough Hot Water	1. Heater undersized	Reduce rate of hot water use
	2. Defective Element(s)	** Check amperage, replace element if low
	3. Miswired or defective thermostat causing only one element to work	** Check wiring or replace
Water too hot or not hot enough	1. Thermostat setting too high or low	Change setting as required
	2. Thermostat out of calibration	** Replace
Noisy heating element(s)	1. Scale build-up on elements	** Remove and clean

⚠ CAUTION

** **For your safety, DO NOT attempt repair of Electrical Wiring, Thermostat(s), Heating Elements or other Operating Controls. Refer repairs to qualified service personnel.**

How to Obtain Service Assistance

1. Should you have any questions about your new water heater, or if it requires adjustment, repair, or routine maintenance, it is suggested that you first contact your installer, plumbing contractor or previously agreed upon service agency. In the event that the firm has moved, or is unavailable, refer to the telephone directory commercial listings or local utility for qualified service assistance.

2. Should your problem not be solved to your complete satisfaction, you should then contact the Manufacturer's National Service Department at the following address:

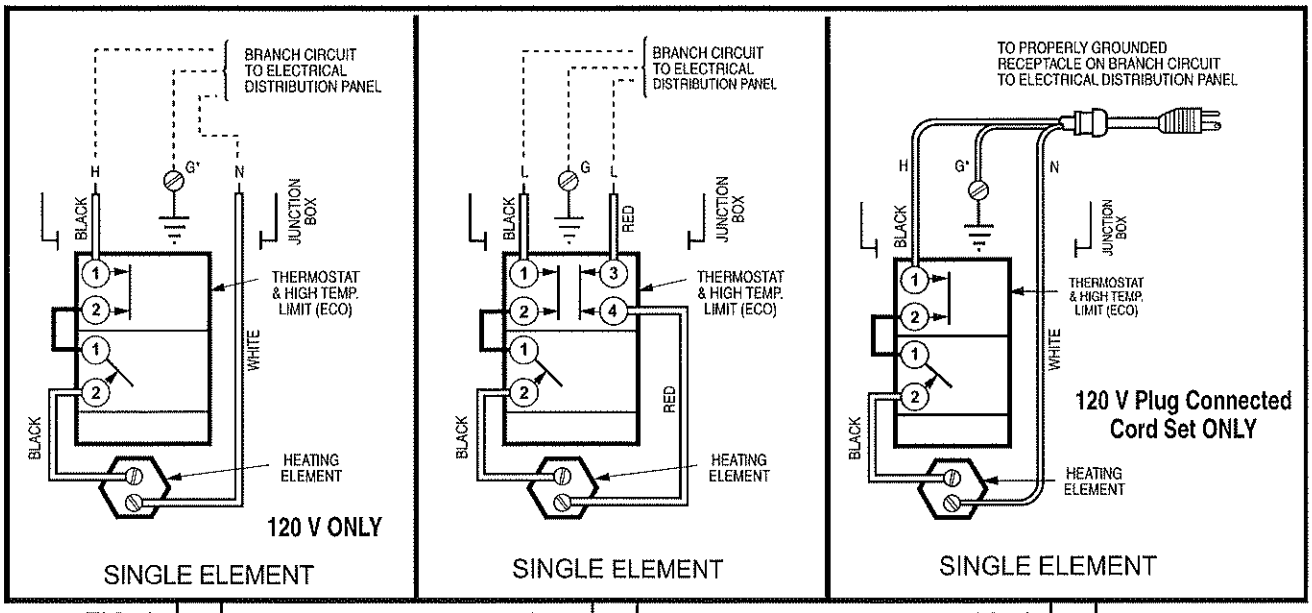
   2600 Gunter Park Drive
   Montgomery, Alabama 36109-1413
   Phone: 1-800-432-8373.

When contacting the manufacturer, the following information should be made available:

a. Model and serial numbers of the water heater as shown on the rating plate attached to the jacket of the heater.
b. Address where water heater is located and can be seen.
c. Name and address of installer and any service agency who performed service on the water heater.
d. Date of original installation and dates any service work was performed.
e. Details of the problem as you can best describe them.
f. List of people, with dates, who have been contacted regarding your problem.

THIS PAGE WAS INTENTIONALLY LEFT BLANK.

Wiring Diagrams Therm-O-Disc Thermostats (Type 59T)



THIS ELECTRIC WATER HEATER IS WIRED AS INDICATED ABOVE

ET-1 EXPANSION TANK

Model WTTA

ASME Thermal Expansion Tank

❑ Installation ❑ Maintenance Instructions

INSTALLATION
MAINTENANCE INSTRUCTIONS

Connect the thermal expansion tank to be cold water supply line between the backflow preventer or check valve and the water heater. This location is preferred for two reasons: a cool blader will last longer, and the air charge will not thermally expand. Piping Detail below illustrates the suggested configurations.

Checking and charging instructions

1. Close the isolation valve.

2. Slowly open the drain valve. Caution must be taken when opening the drain valve as it is under system pressure . The drain valve must remain open while checking and adjusting the tank pre-charge pressure

3. Check the air charge pressure using an accurate pressure gauge. The tank has a standard tire fitting (.302" - 32 valve). There are special pressure gauges fitted with the required air chuck available or a good quality tire air gauge may be used.

4. Adjust air charge pressure if required. The air charge pressure should be equal to the supply water pressure.

Air may be released from the tank by depressing the stem of the tire fitting until supply water pressure is equaled. There are a number of ways to get more air pressure in the tank.

Manual pump. A common bicycle air pump can be used. This is practical only when a small amount of additional air is required or if your in great shape and have several hours to kill.

Oil-free air compressor. A portable oil-free air compressor can be used. Most portable compressors can deliver 40-60 psig air, this may not be adequate.

Gas station fill-up. Almost all gas stations have air available at over 100 psig.

Bottled nitrogen. Rental tanks are inexpensive and 70 cu/ft, at 2000 psig, sizes are available. This size will fill even the largest thermal expansion tank. Nitrogen is not required and there is usually an extra cost for the required fitting.

5. Close the drain valve.

6. Open the isolation (System) valve.

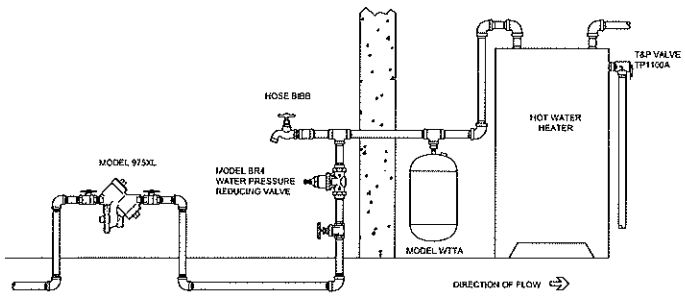
Check the air charge pressure at least once a year. Tanks can lose charge from a leaking air valve, through the bladder or diaphragm membrane, or from a loose fitting.
The Thermal trap shown on the ceiling-hung tank, as shown in the Piping Detail, prevents the tank from being heated due to convection.

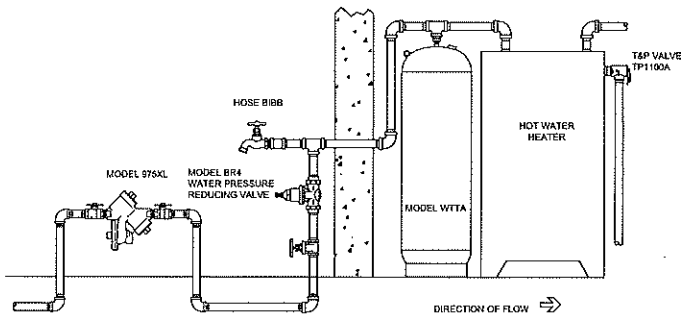
SUGGESTED SPECIFICATIONS

Furnish and install a thermal expansion tank for hot potable water as shown on the drawings. The tank shall be: (choose one)

The tank shall have a stainless steel NPT system connection and a .302" charging connection. The contractor shall field adjust the pre-charge pressure to equal the cold water supply pressure. The final adjusted pre-charge pressure to equal the cold water supply pressure. The final adjusted pre-charge pressure shall be reported in writing to the engineer. A pressure reducing valve shall be installed if the cold water supply pressure exceeds 80 psig.
An FDA approved heavy duty butyl bladder shall prevent the water from coming in contact with the tank shell. Diaphragm type tanks with a water side lining shall not be acceptable.

The tank shall be connected to the cold water supply line. This line is to be piped with a thermal trap and fitted with an isolation valve and drain valve to allow for periodic checking and adjusting of the pre-charge pressure.





WARRANTY: ZURN WILKINS Valves are guaranteed against defects of material or workmanship when used for the services recommended. If in any recommended service, a defect develops due to material or workmanship, and the device is returned, freight prepaid, to ZURN WILKINS within 12 months from date of purchase, it will be repaired or replaced free of charge. ZURN-WILKINS' liability shall be limited to our agreement to repair or replace the valve only.

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov
⚠ **ADVERTENCIA:** Cáncer y daño reproductivo - www.P65Warnings.ca.gov
⚠ **AVERTISSEMENT:** Cancer et néfastes sur la reproduction - www.P65Warnings.ca.gov

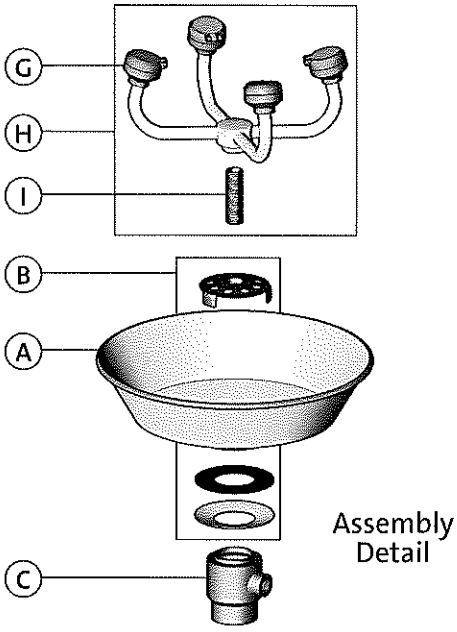
ZURN WILKINS
1747 Commerce Way, Paso Robles, CA 93446 Phone:855-663-9876, Fax:805-238-5766
www.zurn.com

EW-1 EYEWASH

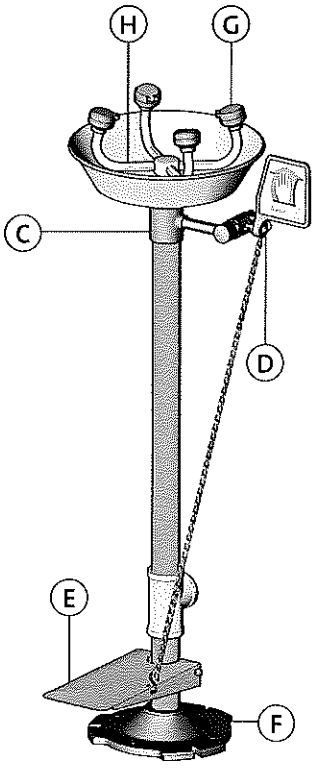
Guardian

Parts List
WideArea™ Eye/Face Washes
(4) GS-Plus™ Spray Heads

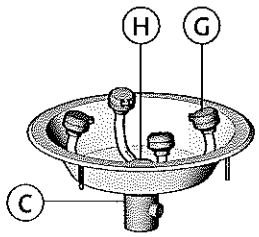
Item	Part Number	Description
Bowls		
A	100-009ORG-R	Orange ABS Plastic Bowl
	100-009GRN-R	Green ABS Plastic Bowl
	100-009YEL-R	Yellow ABS Plastic Bowl
	100-008R	Stainless Steel Bowl
	AP100-011A	Stn. Stl. Flanged Bowl For Deck Mount
Drain Plate Assemblies		
B	AP150-012A	Drain Plate Assembly for Plastic Bowls
	AP150-012B	Drain Plate Assembly for Stainless Bowls
	Note: *Includes Drain Plate, Cupped Washer, and Gasket*	
Waste Receptors		
C	150-014E-2	Cast Aluminum Waste Receptor for Wall Mount Units
	150-066-1	Cast Aluminum Waste Receptor for Pedestal Units (GBF1724 only)
	150-066-2	Cast Aluminum Waste Receptor for Pedestal Units
Ball Valve Assemblies		
D	AP600-101H	1/2" IPS Chrome Plated Brass Stay-Open Ball Valve with Flag Handle, Horizontal
	AP600-101V	1/2" IPS Chrome Plated Brass Stay-Open Ball Valve with Flag Handle, Vertical
	AP600-101HFC-H	1/2" IPS Chrome Plated Brass Stay-Open Ball Valve with Flag Handle, for Hand/Foot Control, Horizontal
	AP600-101HFC-V	1/2" IPS Chrome Plated Brass Stay-Open Ball Valve with Flag Handle, for Hand/Foot Control, Vertical
	AP600-104	1/2" IPS Brass Stay-Open Ball Valve, Push-Down Control
E	AP050-010	Stainless Steel Foot Treadle and Return Spring with Aluminum Clevis Pin
F	150-032	Powder Coated Cast Aluminum Floor Flange, 1-1/4" NPT Female Connection
G	AP470-001	GS-Plus™ Spray Head Assy.
H	AP470-120R	(4) GS-Plus™ Spray Heads with Chrome Plated Brass Fittings
I	BI136-02-04	3/8" IPS X 2-1/4" Brass Shank



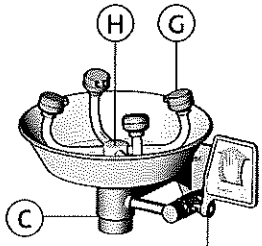
Assembly Detail



Pedestal Mounted



Recessed Deck Mounted



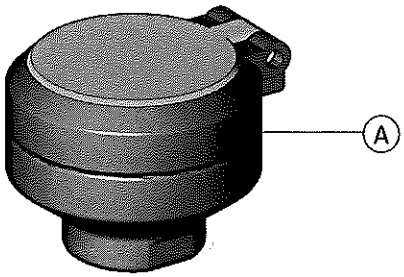
Wall Mounted

Guardian Equipment
1140 N North Branch St
Chicago, IL 60642

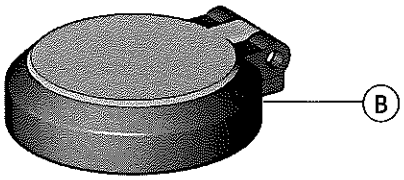
312 447 8100 TELEPHONE
312 447 8101 FACSIMILE
gesafety.com

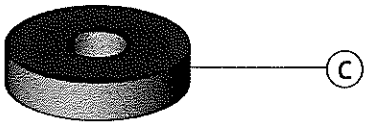
This Guardian Equipment product is equipped with GS-Plus™ spray heads. Each head features:

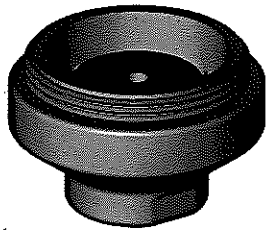
- Tough polypropylene plastic construction
- Highly visible integrated nylon dust cover
- Easily accessible 1.6 GPM flow control
- Dense (60 pore per inch) polyurethane filter
- Unique design provides a consistently soft, full spray of water across a range of working pressures from 30 to 100 PSI.



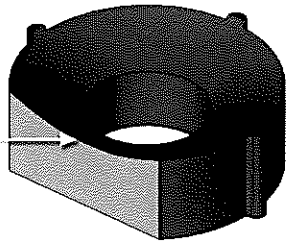
Item	Part Number	Description
A	AP470-001	GS-Plus™ Spray Head (assembled)
B	AP470-002ORG-R	Dust Cover and Cap Assembly
C	470-004R	60 PPI Polyurethane Filter
D	470-005R	1.6 GPM Flow Control







IMPORTANT
In order to operate properly, the flow control must be inserted into the body concave end first.



Guardian Equipment
1140 N North Branch St
Chicago, IL 60642

312 447 8100 TELEPHONE
312 447 8101 FACSIMILE
gesafety.com

LEONARD
WATER TEMPERATURE CONTROLS

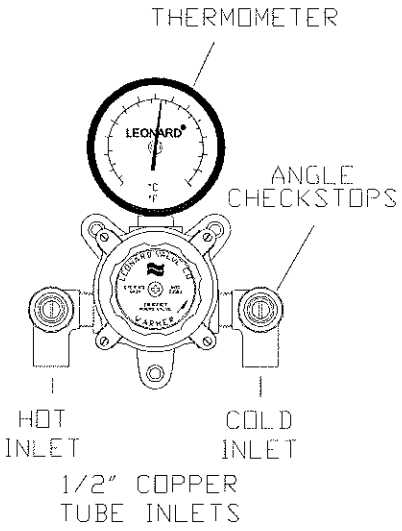
Bulletin G-5
March, 2021

INSTALLATION SETUP AND OPERATING INSTRUCTIONS
EMERGENCY MIXING VALVE SYSTEM
TA-300, TA-300-LF, TA-350, TA-350-LF

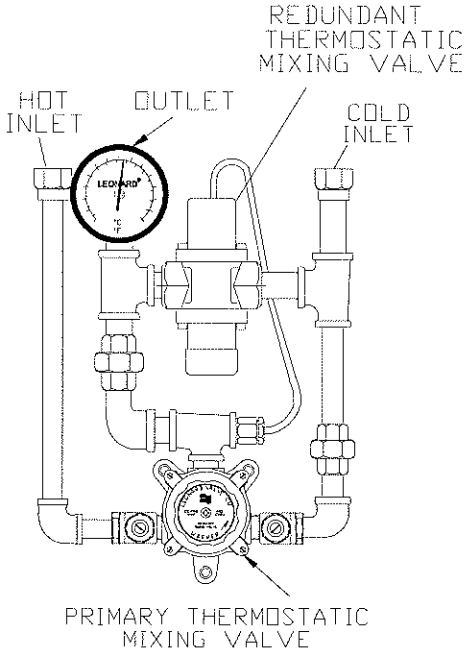
IMPORTANT! Provide valve serial number (located on valve body) when ordering parts!!
Compliance.....ANSI Z 358-1

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

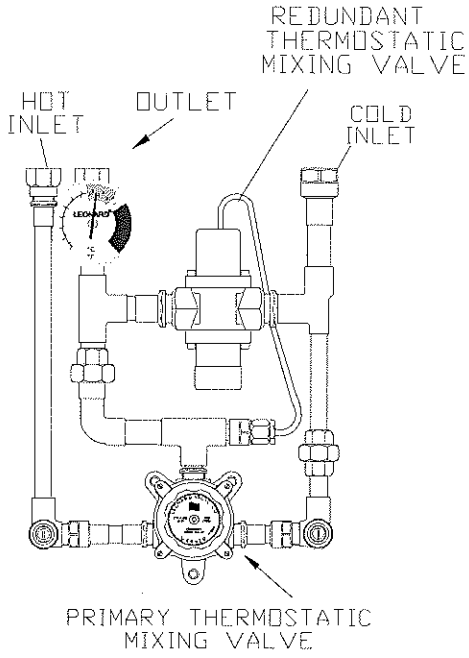
TA-300, TA-300-LF



TA-350



TA-350-LF



INSTALLATION

1. Valve should be installed at a location where it can easily be cleaned, adjusted or repaired.
2. The inlets are clearly marked on the valve body casting. Connect the hot water into the inlet marked "HOT" and cold water into the inlet marked "COLD."
3. The checkstops furnished must be installed on both supply lines as shown above.
4. Use solder or pipe cement sparingly. Supply pipes should be flushed before the valve is connected. Flush outlet pipe and valve as soon as it is connected.

   Maximum Operating Pressure 125PSI (860 KPA) for Hot and Cold Water.

NOTE: It may be necessary to recirculate the tempered water to the face/eyewash should the piping be exposed to excessive hot or cold conditions. Consult factory for proper piping.

CAUTION

IMPORTANT! These systems are designed to provide mixed water from 60 to 90°F (15 to 32°C) for eye/face wash applications only. Call Leonard for systems designed to operate at temperatures outside of this range.

REMEMBER! THIS IS A CONTROL SYSTEM WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS (SEE MAINTENANCE GUIDE AND RECORD MGR-1001).

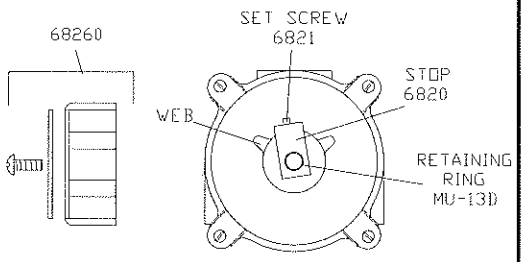
1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email:
Web Site: http://www.leonardvalve.com

ADJUSTMENT AND SERVICE

Leonard Type TA Thermostatic Water Mixing Valves are simple in design and may be easily cleaned, adjusted and repaired. If the installation is accessible, servicing may be completed without disconnecting the valve.

NOTE: Thermostatic Water Mixing Valves are REGULATING mechanisms, which must be regularly maintained to provide best performance. Frequency of cleaning depends on quality of local water conditions and usage. (See Maintenance Guide and Record MGR-1000 and ANSI Z358.1).

TO RESET ADJUSTABLE HIGH TEMPERATURE LIMIT STOP:



1. Remove handle, retaining ring and loosen set screw, and remove stop.
2. Turn emergency fixture on.
3. Replace handle on stem and turn stem until desired maximum temperature is reached.
4. Replace stop so it rests against the web on the LEFT side of the cover.
5. Set operating temperature, tighten set screw and resemble.

WARNING

WARNING! This Thermostatic Mixing Valve has an adjustable high temperature limit stop which must be checked. If temperature is too high, the installer **MUST RESET** this stop immediately. Always check the temperature of the mixed water when the lever handle is turned to full **HOT.** Excessively hot water is **DANGEROUS AND MAY CAUSE SCALDING!**

The high temperature limit stop is factory set at approximately 90°F (32°C) with an incoming hot water supply temperature of 135°F (57°C). If the incoming hot water on the job is higher than 135°F, the valve when turned to full hot will deliver water in excess of 90°F (32°C) and the high temperature limit stop **MUST BE RESET BY THE INSTALLER.**

TROUBLESHOOTING INSTRUCTIONS

		PARTS REQUIRED:	
PACKINGS& GASKETS	Leak at pointer rod. Leak between valve cover and base.	MU-5A 6806	O'Ring (2 req.) Cover Gasket
PORT SLEEVE ASSEMBLY	Valve outlet temperature cannot be adjusted or will not mix consistently. .	TAG-1M Or KIT# R/TA/M	Port Sleeve Assembly Rebuilding kit
THERMOSTAT GROUP	After cleaning or replacing port sleeve assembly, valve will not hold temperature.	6810 Or KIT#R/TA/M	Thermostat Group Rebuilding kit
CHECKSTOPS	Hot water bypass in cold line. Supplies cannot be shut off completely. Leak at checkstop bonnet.	KIT# 4/LVC KIT# B	(TA-300 / TA-350-LF) (TA-350)

SEE PAGE 5 FOR COMPLETE PARTS BREAKDOWN AND PARTS KITS

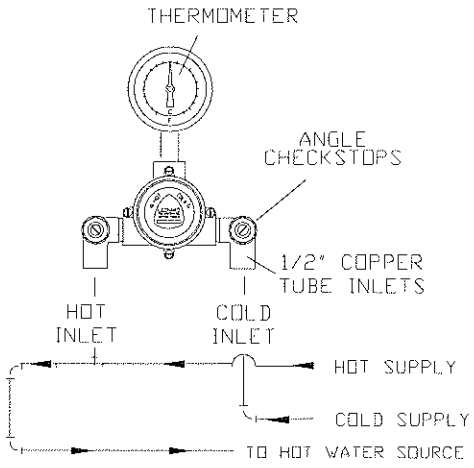
If installed on a circulated hot water system, make certain the valve is piped according to Leonard Required Methods of Piping (see page 3).

REMEMBER! THIS IS A CONTROL DEVICE WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS. (SEE MAINTENANCE GUIDE AND RECORD, MGR-1001).

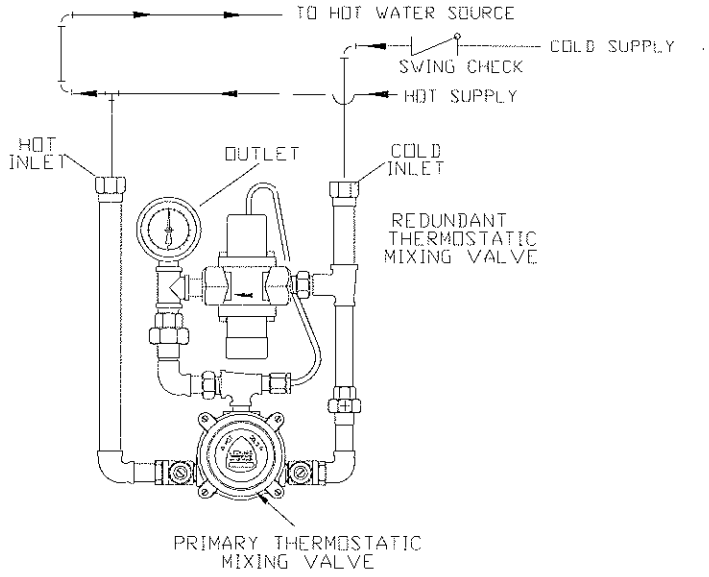
REQUIRED METHOD OF PIPING TA VALVE

METHOD #1

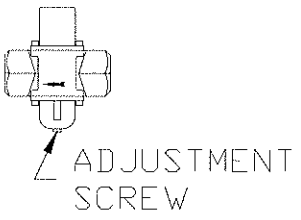
Required when hot water is to be circulated to a thermostatic mixing valve which is a substantial distance from the hot water source.



TA-300



TA-350



The TA-350 Redundant Thermostatic Mixing Valve has been factory set at 90°F (32°C). This set point can be field adjusted with a 3/8" wrench (see diagram). "Clockwise" direction will increase temperature. Maximum set point is 100°F (38°C). Consult medical advisor for correct temperature setting. As a secondary level of protection, in the event of redundant valve failure, installing contractor may wish to prevent cold water contamination by installing a swing check valve on the cold water supply to the valve (only needed on TA-350).

This unit must be cycled each time the emergency equipment is checked. See ANSI Z358.1, Maintenance and Training section.

Cycle redundant thermostat valve by, limit stop (see page 2) and setting the primary thermostatic mixing valve to full hot. (TA-350 only) Open eye/face wash and check to be sure outlet temperature does not climb above 90°F (32°C). Turn primary thermostatic valve to full cold and wait ten seconds. Turn primary thermostatic valve to full hot and wait ten seconds.	Check to be sure outlet temperature does not climb above 90°F (32°C). Turn primary thermostatic mixing valve to full cold and wait ten seconds. Set primary thermostatic mixing valve to the desired temperature, adjust limit stop (see page 2) and close eye/face wash.

INSTRUCTIONS FOR DISMANTLING VALVE

Turn off hot and cold supplies to this valve. Remove four cover screws , lift off cover and thermostat group (DWG 1). After installing new parts, it will be necessary to reset Pointer to obtain correct temperature range from Cold to Hot. See page 2 instructions "TO RESET ADJUSTABLE HIGH TEMPERATURE LIMIT STOP."

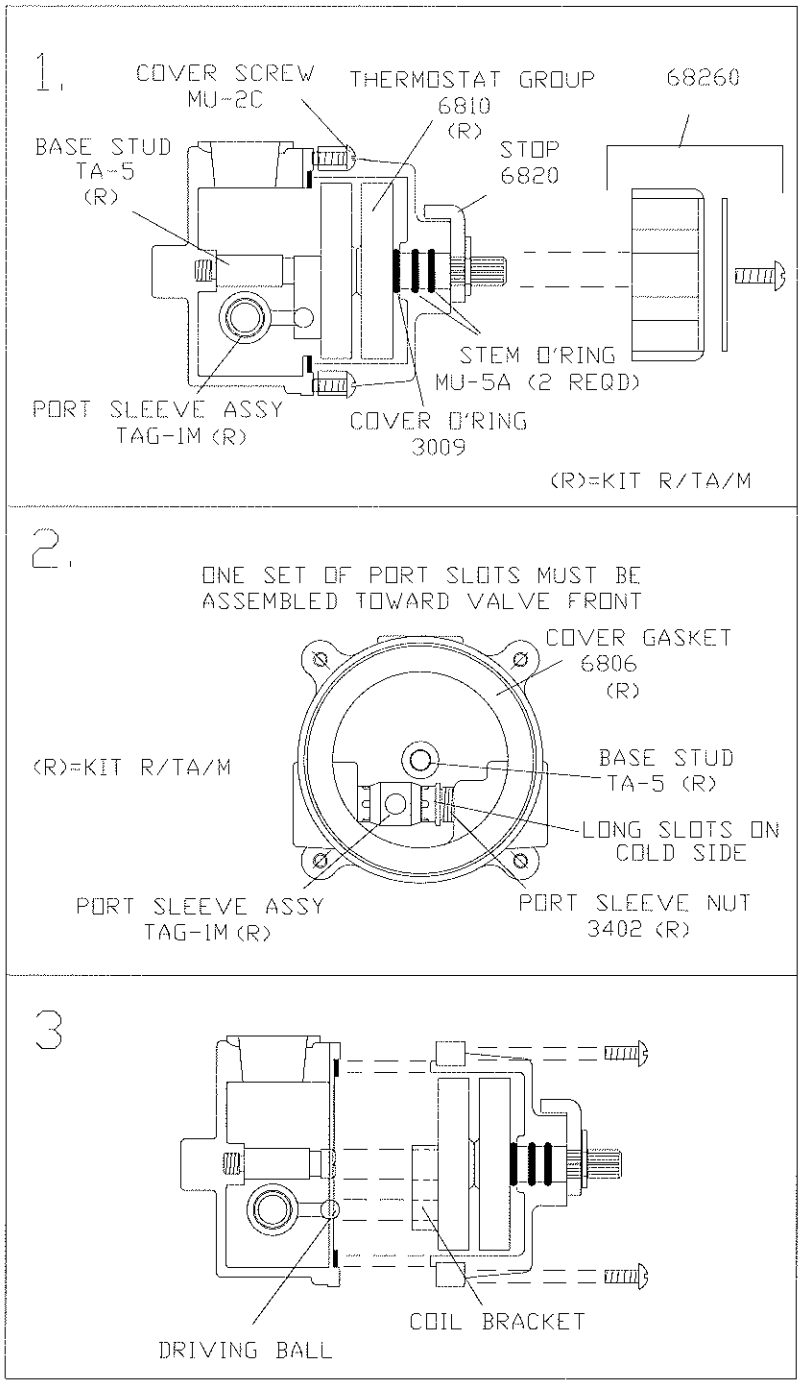
TO CLEAN PORT SLEEVE ASSEMBLY

To clean port sleeve assembly (DWG 2.): Remove base stud. Back off port sleeve nut as far as it will go into base. Slide port sleeve assembly toward port sleeve nut and lift out of valve base. Clean port sleeve with a soft cloth; **DO NOT** use abrasives such as emery cloth or sandpaper. After cleaning, wash parts in clean water and reassemble in valve base. When reassembling port sleeve assembly BE SURE TO INSTALL WITH SHORT SLOT END IN BASE AND LONG SLOT END AT PORT SLEEVE NUT. Locate one set of port slots facing directly toward front of the valve. Tighten port sleeve nut just enough to hold port sleeve in place, (do not cramp or distort port sleeve by exerting excessive pressure when tightening port sleeve nut).

TO CLEAN THERMOSTAT GROUP

To clean thermostat group (DWG 1.), remove handle by loosening lock screw and pull off. Remove stop retaining ring and stop. Remove thermostat group by pushing rod through cover. **BE CAREFUL NOT TO PULL COILS OUT OF SHAPE.** If deposit has collected on thermostat coil, clean it off with a brush in cleaning solution and wash well before reassembly. Cleaning solution should be non-corrosive and grit free.

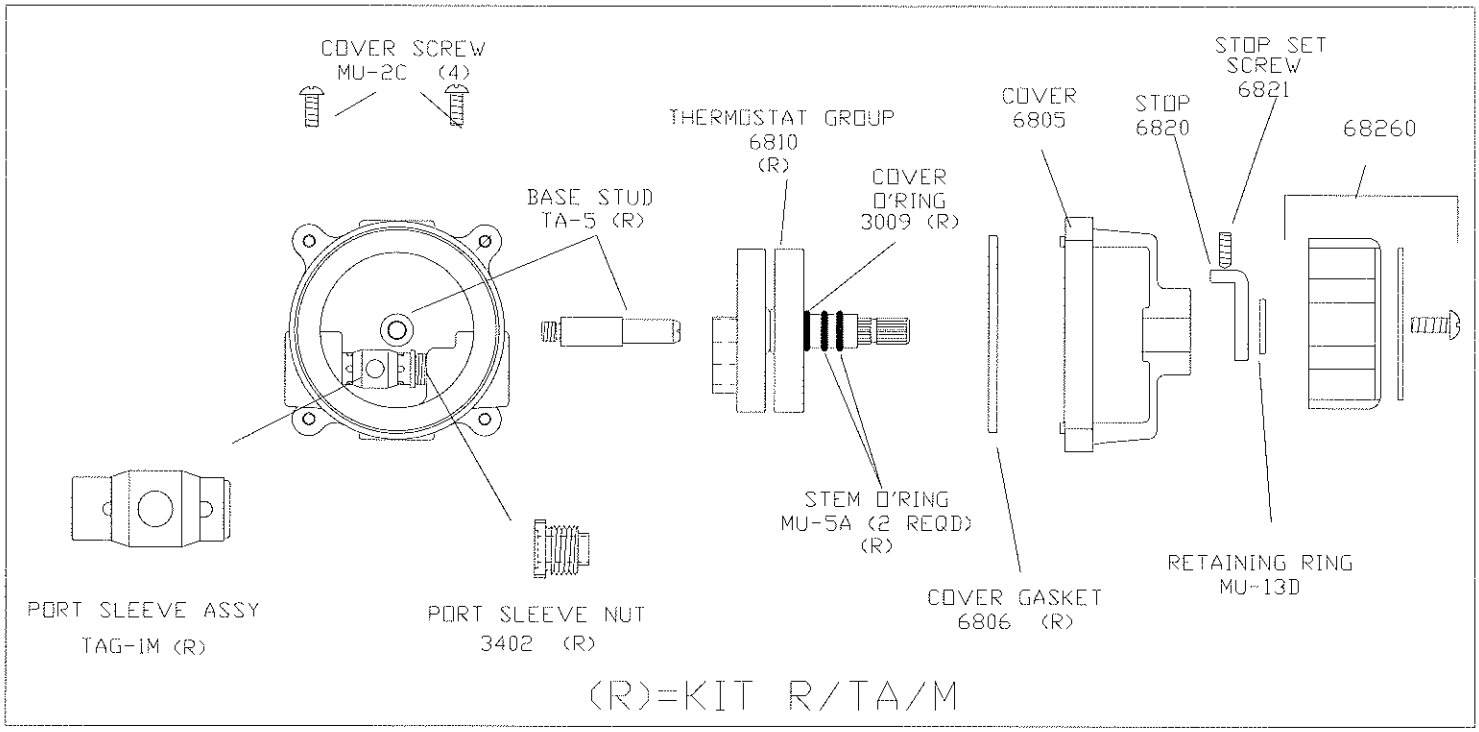
To reassemble: be sure, port sleeve assembly is in place and is working freely from side to side. Reinstall base stud, then place thermostat group on base stud and **BE SURE DRIVING BALL ON PORT SLEEVE ASSEMBLY TAG-1M IS INSERTED IN HOLE ON LOWER COIL BRACKET (DWG 3.)** Move thermostat back and forth to be sure all parts are free. Replace cover on valve base, install the four cover screws, and turn on hot and cold water supplies. See instructions below "To Reset High Temperature Limit Stop" to properly reset limit stop.



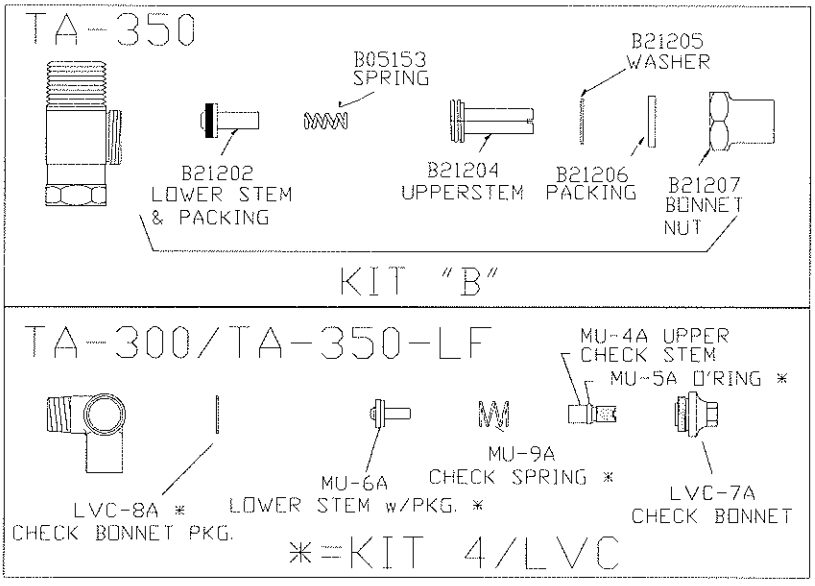
After installation, adjustment, and cleaning, always check the temperature of the valve when turned to full **HOT** per the warning on the front page, using a thermometer. Also check and if necessary adjust the temperature of the hot water source. **EXCESSIVELY HOT WATER (OVER 90°F) IS DANGEROUS AND MAY CAUSE SCALDING!!**

REMEMBER! THIS IS A CONTROL DEVICE WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS. (SEE MAINTENANCE GUIDE AND RECORD, MGR-1001).

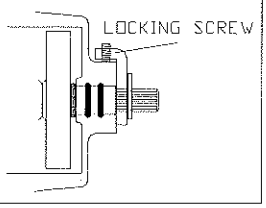
VALVE PARTS



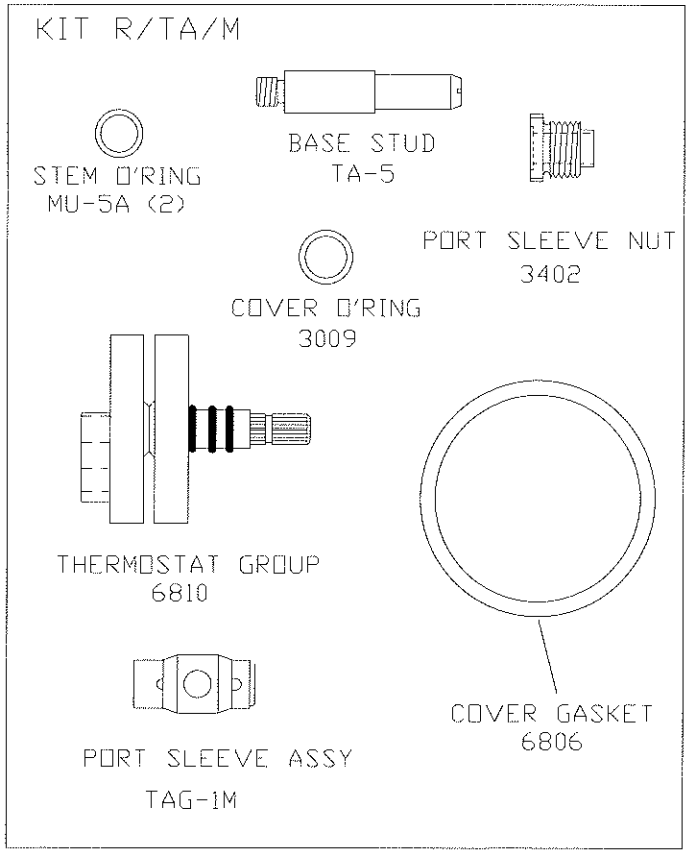
CHECKSTOP PARTS



TA-300 & TA-350 VALVES ARE FURNISHED WITH LOCKABLE POINTERS



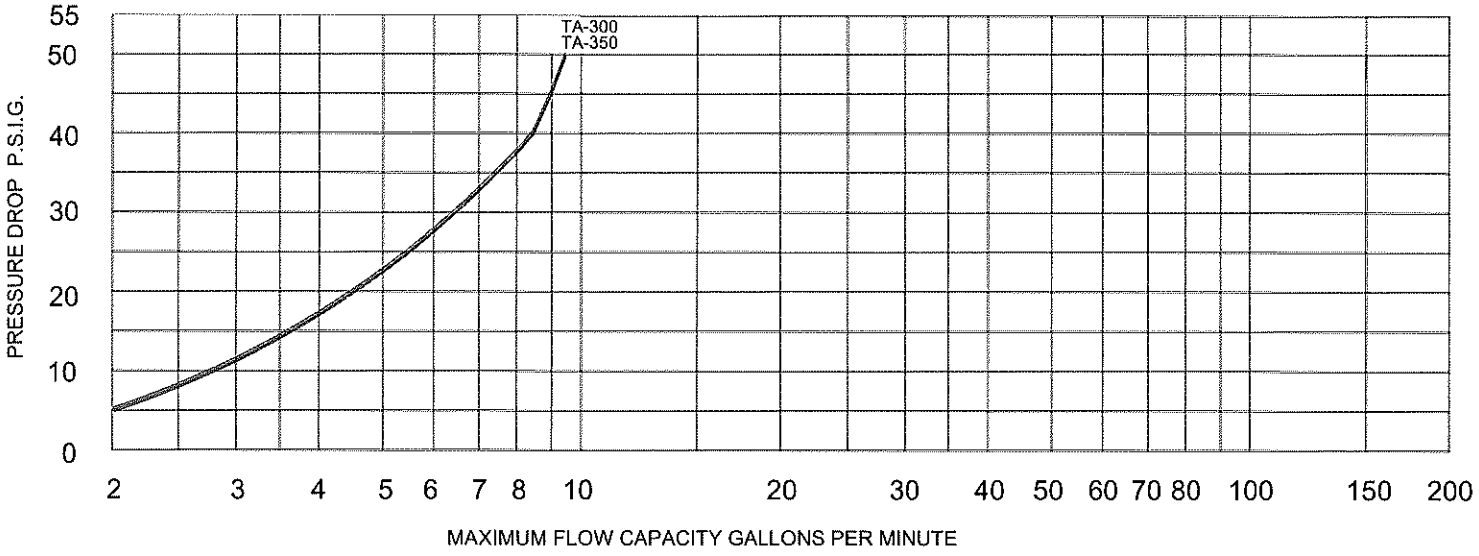
REPAIR KIT



REMEMBER! THIS IS A CONTROL DEVICE WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS (SEE MAINTENANCE GUIDE AND RECORD, MGR-1001).

NOTE: AFTER INSTALLING NEW PARTS IT WILL BE NECESSARY TO RESET THE ADJUSTABLE HIGH TEMPERATURE LIMIT STOP, (SEE PAGE 2).

FLOW CAPACITIES



MODEL	IN	OUT	MINIMUM FLOW (GPM) / L\MIN	INTERNAL COLD WATER BY-PASS MINIMUM	PRESSURE DROP 5	10	15	20	25	30	35	40	45	PSI / BAR
					0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	BAR
TA-300 TA-350	1/2"	1/2"	2.0	4	2.0	2.7	3.5	4.5	5.5	6.5	7.5	8.5	9.0	GPM
			7.6	15	7.6	10	13	17	21	25	28	32	34	L\MIN
MAXIMUM FLOW CAPACITY														

CAUTION! All thermostatic water mixing valves have limitations. They will not provide the desired accuracy outside of their flow capacity range. Consult the capacity chart and **DO NOT OVERSIZE.** Minimum flow must be no less than shown below.

IMPORTANT! These systems are designed to provide mixed water from 60 to 90°F (15 to 32°C) for face/eyewash applications only. Call Leonard for systems designed to operate at temperatures outside of this range.

LIMITED WARRANTY

Leonard Valve Company (hereinafter, "Leonard") warrants the original purchaser that products manufactured by Leonard will be free from defects in material or workmanship under normal conditions of use, when properly installed and maintained in accordance with Leonard's instructions, for a period of one year from the date of shipment. During this period, Leonard 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. Leonard provides no warranty, express or implied, which extends beyond the description contained herein. LEONARD SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Nonetheless, some jurisdictions may not allow the disclaimer of certain implied warranties, in which case Leonard hereby limits such implied warranties to the duration of the limited warranty period contained herein. Some jurisdictions may not allow limitations on how long an implied warranty lasts, so the foregoing durational limitation may not apply to you. In no event will Leonard be liable for labor or incidental or consequential damages. Any alteration or improper installation or use of this product will void this limited warranty. If any provision of this limited warranty is prohibited by law in the applicable jurisdiction, such provision shall be null and void, but the remainder of this limited warranty shall continue in full force and effect.

1360 Elmwood Avenue, Cranston RI 02910 USA
Phone 401-461-1200 Fax 401-941-5310
EMAIL: WEB: http://www.leonardvalve.com

CAMP ROBINSON BUILDING 2602
NORTH LITTLE ROCK, ARKANSAS

WC-1 WATER CLOSET
AM. STANDARD 2467.016 PRESSURE ASSIST
CLOSET COMBINATION
CENTOCO 500STSCCSS CLOSET SEAT
Z8802CR SUPPLY AND STOP

Cadet Chair Height Elongated Pressure-Assisted Toilet 1.6 gpf / 6.0 Lpf

VITREOUS CHINA

BARRIER FREE

Cadet Chair Height Elongated
Pressure-Assisted Toilet
1.6 gpf/ 6.0 Lpf

2467.016
- Vitreous china
- Low-consumption (1.6 gpf/6.0 Lpf)
- EverClean® surface inhibits the growth of stain- and odor-causing bacteria, mold, and mildew on the surface
- Bowl rim at 16-1/2" for accessible applications
- Elongated bowl
- Pressure-assisted siphon jet flush action
- Fully-glazed 2-1/8" trapway
- 10 x 12" water surface area
- Close-coupled Flushometer tank*
- Metal chrome trip lever
- Speed Connect® tank/bowl coupling system
- Sanitary dam on bowl
- Two bolt caps
- 100% factory flush tested
- 12" Rough-in

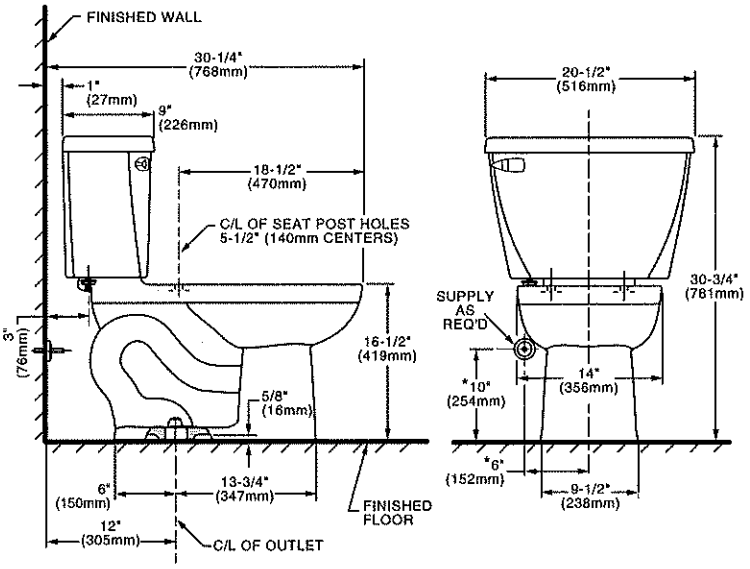
- ❑ **2467.164** Same as above except with slotted rim bowl for bed pan holding (white only)
- ❑ **3483.016** Bowl with two bolt caps
- ❑ **3483.001** Same as above, Universal Bowl
- ❑ **3484.001** Bowl with slotted rim for bed pan holding with two bolt caps (white only)
- ❑ **4142.016** Tank complete with coupling components

Nominal Dimensions:
768 x 521 x 781mm
(30-1/4" x 20-1/2" x 30-3/4")

Fixture only, seat and supply by others

Recommended working pressure range
25 psi - 80 psi

Alternate Configurations Available:
- ❑ **4142.600** Tank and tank cover only with tank cover locking device
- ❑ **4142.800** Tank and tank cover only with right hand trip lever
- ❑ **4142.900** Tank complete with right hand trip lever and tank cover locking device



Compliance Certifications -
Meets or Exceeds the Following Specifications:
- ASME A112.19.2-2008 / CSA B45.1-08 for Vitreous China Fixtures

To Be Specified:
- ❑ Color: White
- ❑ Seat: American Standard #5503A00B Transitional slow-close solid plastic closed front seat with cover
- ❑ American Standard #5257A65MT Cardiff EverClean® slow-close solid plastic closed front seat with cover
- ❑ Alternate Seat:

NOTES:
THIS TOILET IS DESIGNED TO ROUGH-IN AT A MINIMUM DIMENSION OF 305mm (12") FROM FINISHED WALL TO C/L OF OUTLET.
SUPPLY NOT INCLUDED WITH FIXTURE AND MUST BE ORDERED SEPARATELY.
* DIMENSION SHOWN FOR LOCATION OF SUPPLY IS SUGGESTED.

IMPORTANT: Dimensions of fixtures are nominal and may vary within the range of tolerances established by ASME A112.19.2-2008 / CSH B45.1-08. These measurements are subject to change or cancellation. No responsibility is assumed for use of superseded or voided pages.

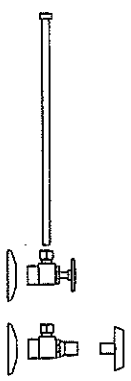
ADA **MEETS THE AMERICANS WITH DISABILITIES ACT GUIDELINES AND ANSI A117.1 REQUIREMENTS FOR ACCESSIBLE AND USABLE BUILDING FACILITIES - CHECK LOCAL CODES.**

ZURN STANDARD STOP W/ FLEXIBLE CLOSET SUPPLY

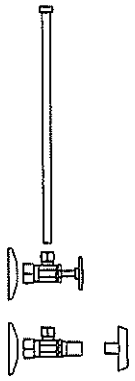
Z8800CR-PC TO Z8809CRLK-PC

TAG _____

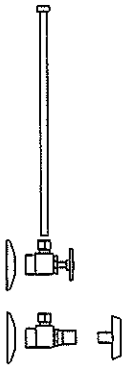
Engineering Specification: Zurn Z8800CR-PC TO Z8809CRLK-PC One Zurn chrome plated, solid brass angle stop with round wheel handle or loose key as specified, one 12[305] flexible chrome plated copper closet riser complete with one chrome plated steel flange. Z8808CR-PC and Z8809CR-PC include one 5[127] chrome plated copper extension tube with deep bell steel flange.



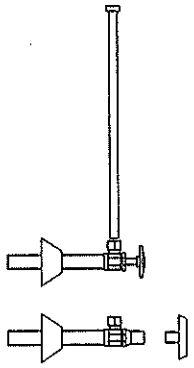
Z8800 THRU Z8803



Z8804 THRU Z8805



Z8806 THRU Z8807



Z8808 THRU ZH8809

PRODUCT NUMBER	CONNECTIONS	EXT.	MASTER CARTON	WEIGHT CARTON	
				CR	CRLK
Z8800CR-PC	3/8 [10] IPS x 3/8 [10] OD	–	25	15	
Z8800CRLK-PC	3/8 [10] IPS x 3/8 [10] OD	–	25		15
Z8801CR-PC	3/8 [10] IPS x 1/2 [13] OD	–	25	15	
Z8801CRLK-PC	3/8 [10] IPS x 1/2 [13] OD	–	25		15
Z8802CR-PC	1/2 [13] IPS x 3/8 [10] OD	–	25	15	
Z8802CRLK-PC	1/2 [13] IPS x 3/8 [10] OD	–	25		15
Z8803CR-PC	1/2 [13] IPS x 1/2 [13] OD	–	25	15	
Z8803CRLK-PC	1/2 [13] IPS x 1/2 [13] OD	–	25		15
Z8804CR-PC	1/2 [13] NOM x 3/8 [10] OD	–	25	15	
Z8804CRLK-PC	1/2 [13] NOM x 3/8 [10] OD	–	25		15
Z8805CR-PC	1/2 [13] NOM x 1/2 [13] OD	–	25	15	
Z8805CRLK-PC	1/2 [13] NOM x 1/2 [13] OD	–	25		15
Z8806CR-PC	1/2 [13] SWT x 3/8 [10] OD	–	25	15	
Z8806CRLK-PC	1/2 [13] SWT x 3/8 [10] OD	–	25		15
Z8807CR-PC	1/2 [13] SWT x 1/2 [13] OD	–	25	15	
Z8807CRLK-PC	1/2 [13] SWT x 1/2 [13] OD	–	25		15
Z8808CR-PC	1/2 [13] SWT x 3/8 [10] OD	5	25	16	
Z8808CRLK-PC	1/2 [13] SWT x 3/8 [10] OD	5	25		18
Z8809CR-PC	1/2 [13] SWT x 1/2 [13] OD	5	25	16	
Z8809CRLK-PC	1/2 [13] SWT x 1/2 [13] OD	5	25		18

SUFFIXES

____ **- C1** Standard Line Lock Shield Cap
____ **- CE** Chrome Plated, Cast Brass, Flange with setscrew
____ **- D** Chrome Plated Steel, Deep Bell Flange (Bell Type)
____ **- WD** Wrought Brass, Deep Flange, (Bell Type)
____ **- XP** Cross Handle
____ **- 3** 3[76] Nipple
____ **- 5** 5[127] Nipple
____ **- 15** 15[381] Supply Tube
____ **- 20** 20[508] Supply Tube

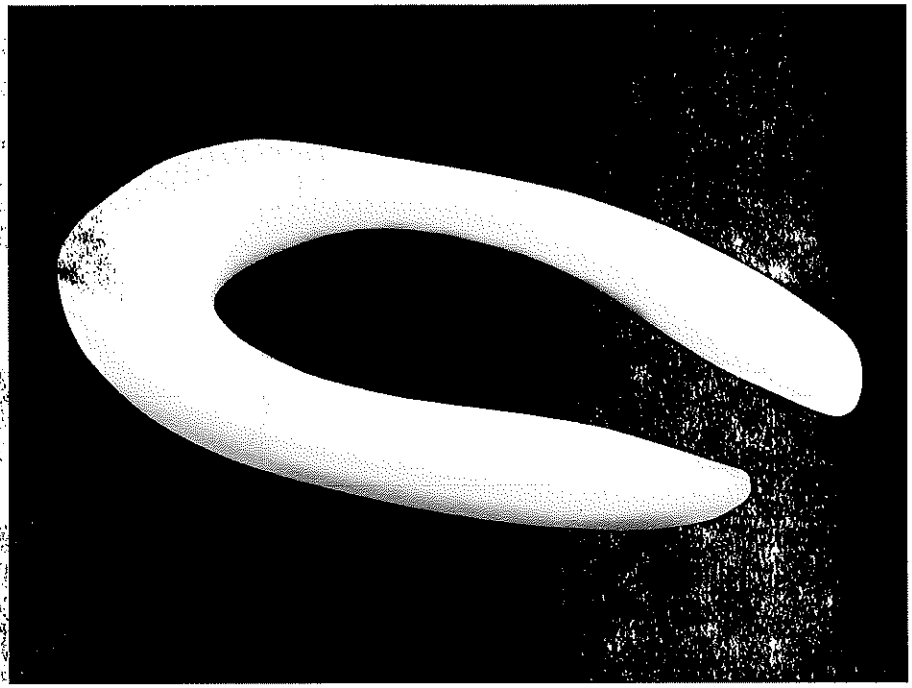
ZURN INDUSTRIES, LLC ♦ COMMERCIAL BRASS OPERATION ♦ 2640 SOUTH WORK STREET ♦ FALCONER NY 14733
Phone: 1-716-665-1132 ♦ Fax: 1-716-665-1135 ♦ World Wide Web: www.zurn.com
In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

Rev. D Date: 1/19/09 C.N. No. 108226
Dwg. No. 60974 Product No. Z8800CR-PC TO Z8809CRLK-PC

CENTOCO

500STSCCSS-001

COMMERCIAL HEAVY DUTY



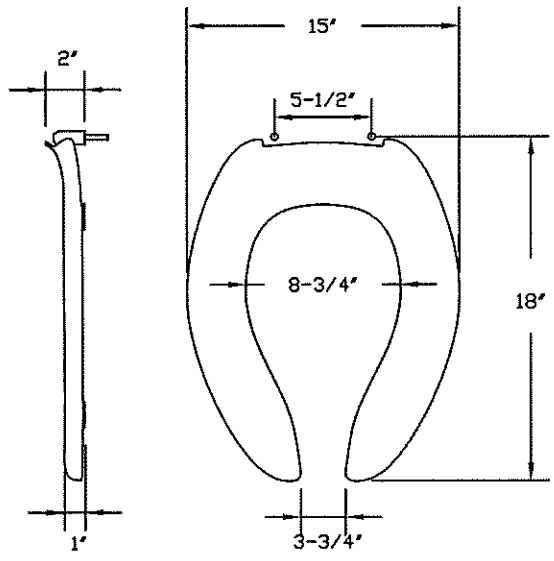
Product Specifications

Shape	Elongated
Seat Material	Polypropylene
Seat Form	Open front
Commercial Hinge	Yes
Bolt Material	Stainless steel
Hardware Material	Stainless Steel
Check Hinge	Yes
Cover	No
Custom Gasket	Yes
Color	White

Warranty 1 year limited warranty

Available Colors

White, black, bone, biscuit,



Features

Self Sustaining

Self Sustaining hinge holds commercial seats in place and avoids slamming.

Commercial Hinge

Includes commercial grade hinges. One piece solid metal hinge pin and bolt over molded with plastic.

Dimensions shown are nominal and may vary within a range of tolerance. Product specifications are subject to change without notice.

L-1 LAVATORY
AM. STANDARD 0355.012 WALL HUNG LAVATORY
T&S B-2711 SINGLE LEVER FAUVET
170A LF MIXING VALVE
Z8746 OFFSET GRID DRAIN
Z8802XL-LRLK-PC SUPPLY AND STOP
Z8700PC 1-1/4" CAST BRASS P-TRAP
Z1231 LAVATORY CARRIER

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:

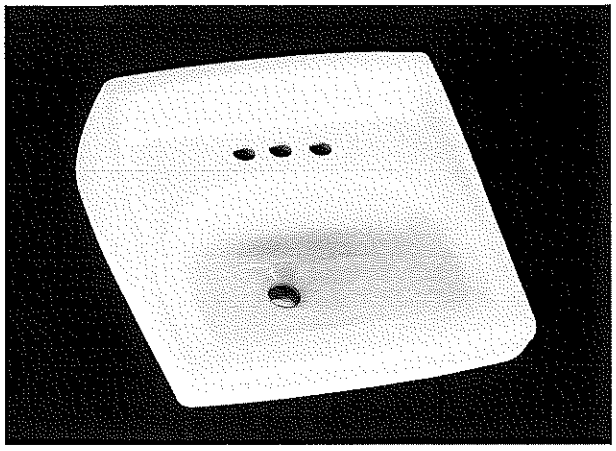
- ❑ **0356.028** For exposed bracket support (by others)
- ❑ **0356.015** For wall hanger (included) or concealed arms support (by others)
- ❑ **0356.915** For wall hanger (included) or concealed arms support (by others) less overflow
- ❑ **0356.037** For wall hanger (included) or concealed arms support (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:

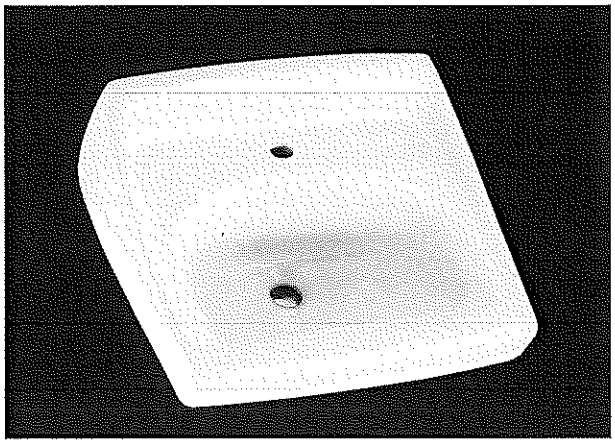
- ❑ **0355.027** For exposed bracket support (by others)
- ❑ **0355.012** For wall hanger (included) or concealed arms support (by others)
- ❑ **0355.912** For wall hanger (included) or concealed arms support (by others) less overflow
- ❑ **0355.056** For wall hanger (included) or concealed arms support (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):

American Standard

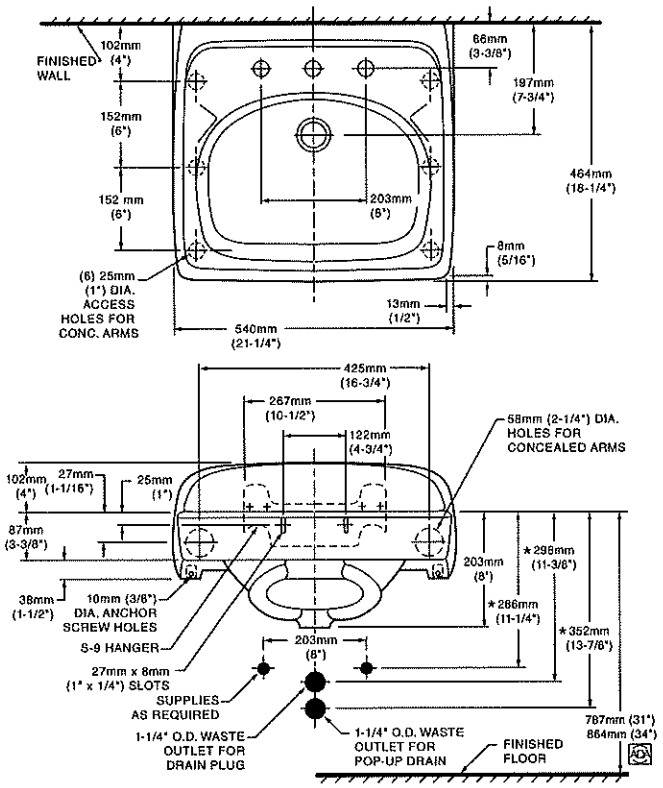
Lucerne™ Wall-Hung Lavatory

VITREOUS CHINA

Ⓐ BARRIER FREE

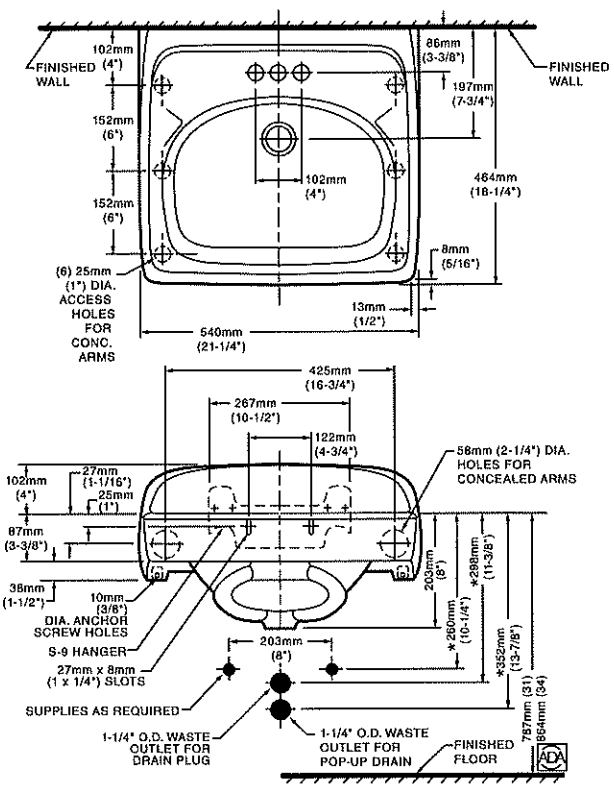
8" CENTER CONFIGURATIONS

All Wall Hanger (included) or Concealed Arm Configurations

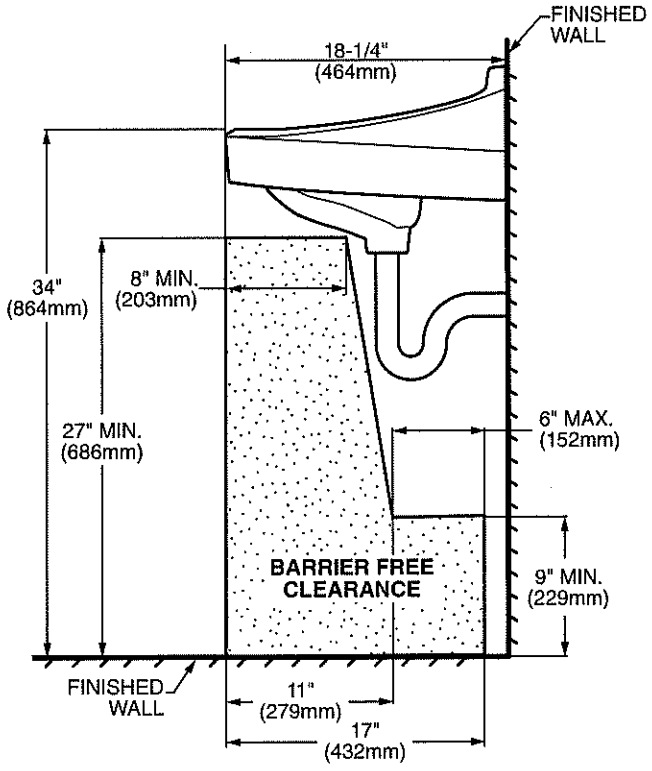


4" CENTER CONFIGURATIONS

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

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

Model No.
B-2711

Item No.

ADA Compliant

This Space for Architect/Engineer Approval

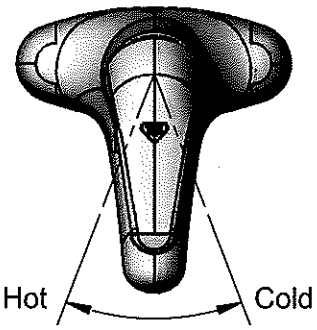
Job Name_____ Date_____

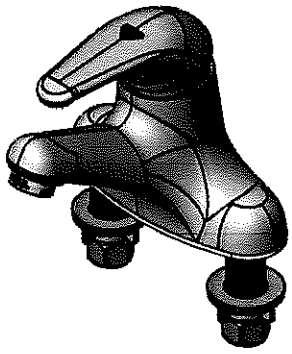
Model Specified_____ Quantity_____

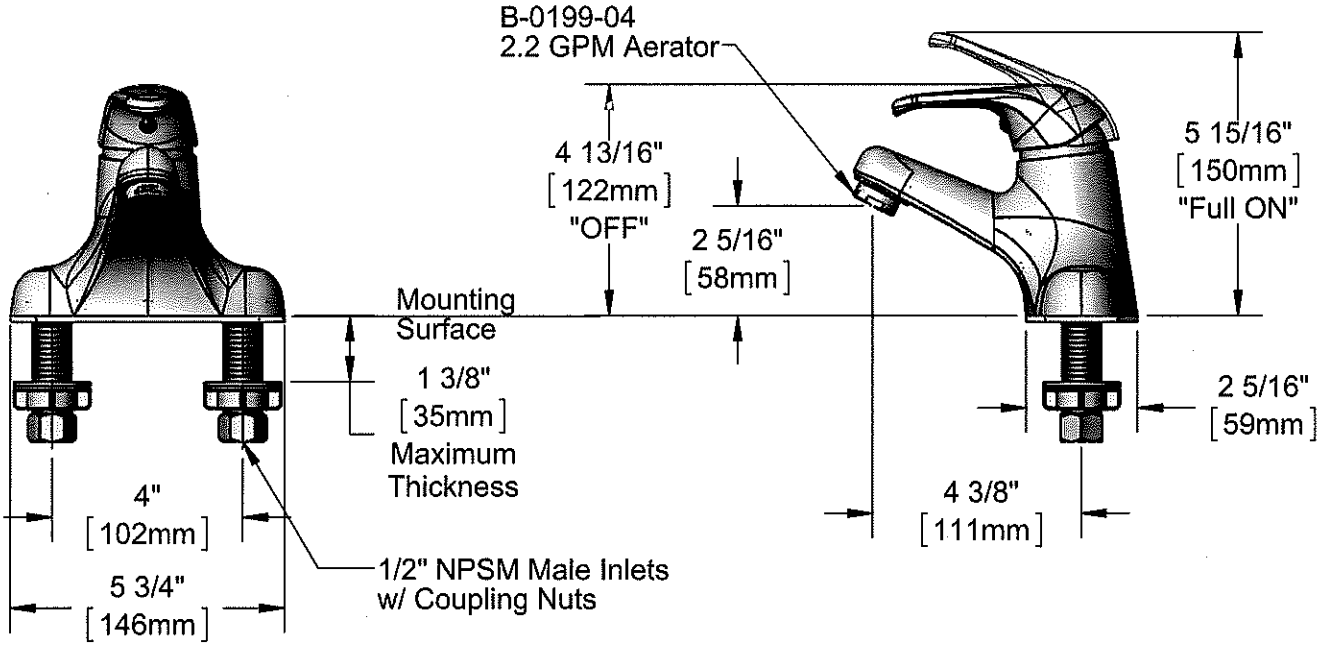
Customer/Wholesaler_____

Contractor_____

Architect/Engineer_____







Rough-In Requirement:
(2) ∅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)

Drawn:	Checked:	Approved:	Date:	Scale:	Sheet:
DMH	JRM	JHB	07/23/16	1:4	1 of 2

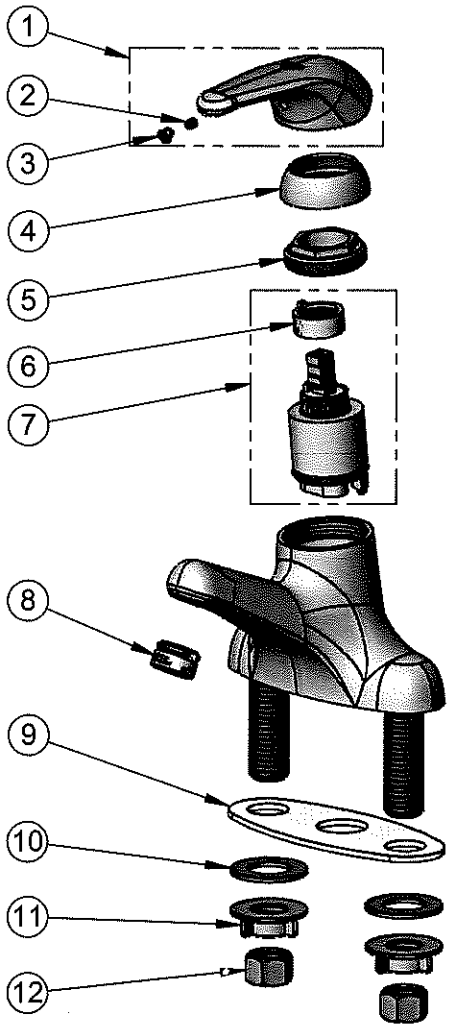
T&S BRASS AND BRONZE WORKS, INC.

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

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

Model No.
B-2711

Item No.



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:

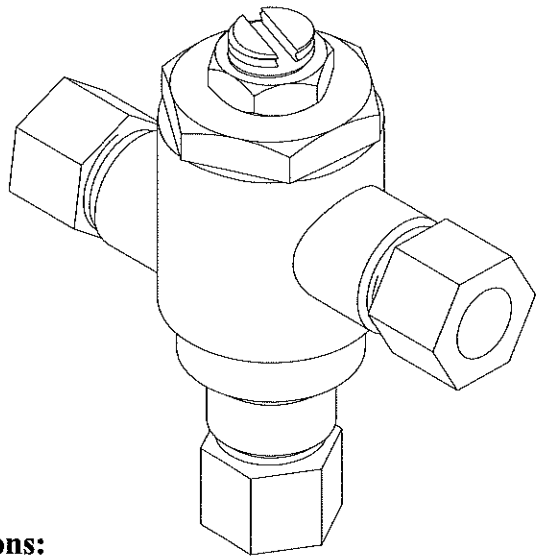
4" Deck Mount Single Lever Faucet, Temperature Limit Stop, Ceramic Cartridge, 2.2 GPM Aerator & 1/2" NPSM Male Inlets

Product Compliance:

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

Drawn:	Checked:	Approved:	Date:	Scale:	Sheet:
DMH	JRM	JHB	07/23/16	NTS	2 of 2

170A-LF



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)

Options:

___ STSTL REC- Stainless steel cabinet, #4 finish, recessed

___ STSTL EXP- Stainless steel cabinet, #4 finish, exposed

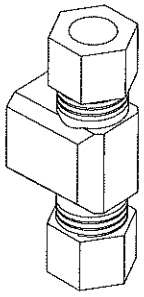
___ BWE REC- Steel cabinet, baked white, recessed

___ BWE EXP- Steel cabinet, baked white, exposed

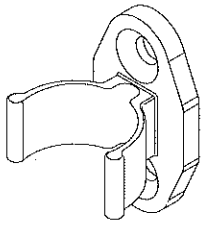
___ BP- Cold water By-Pass (shipped loose)

___ BRKT- mounting bracket (shipped loose)

___ CP- Chrome plated finish



BP option



BRKT option

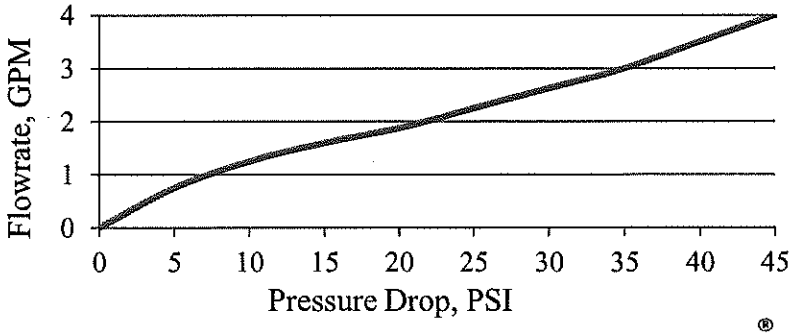
Certifications:

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



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

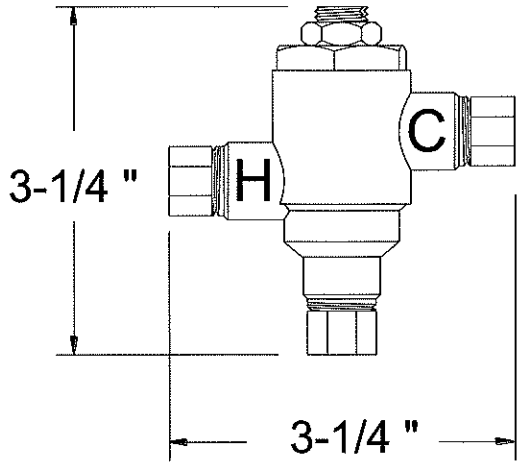
* This product is certified to meet Low Lead requirements of wetted surface area containing less than 0.25% lead by weight

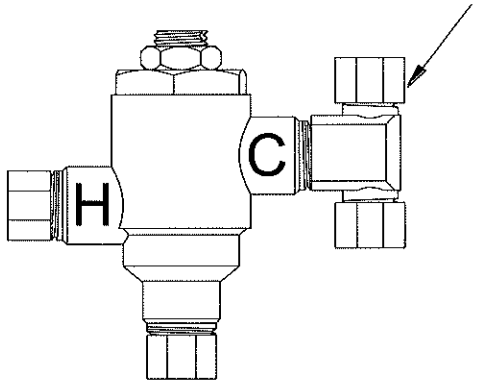
Engineer's Approval	Job # _____
	Arch/Eng. _____
	Contractor _____

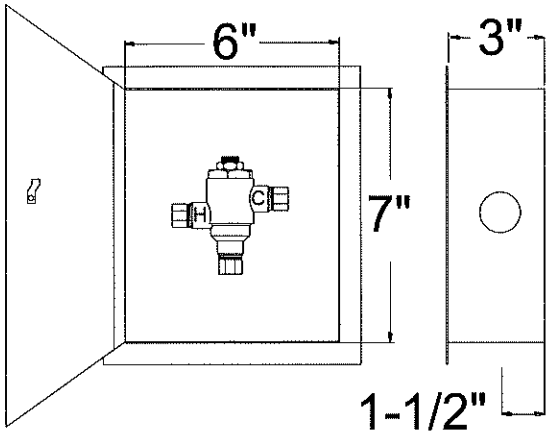
LEONARD®
WATER TEMPERATURE CONTROLS

1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email: sales@leonardvalve.com
Web Site: http://www.leonardvalve.com

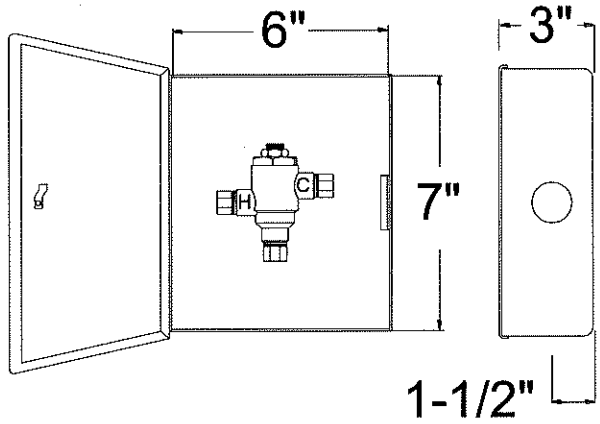
BP-OPTION



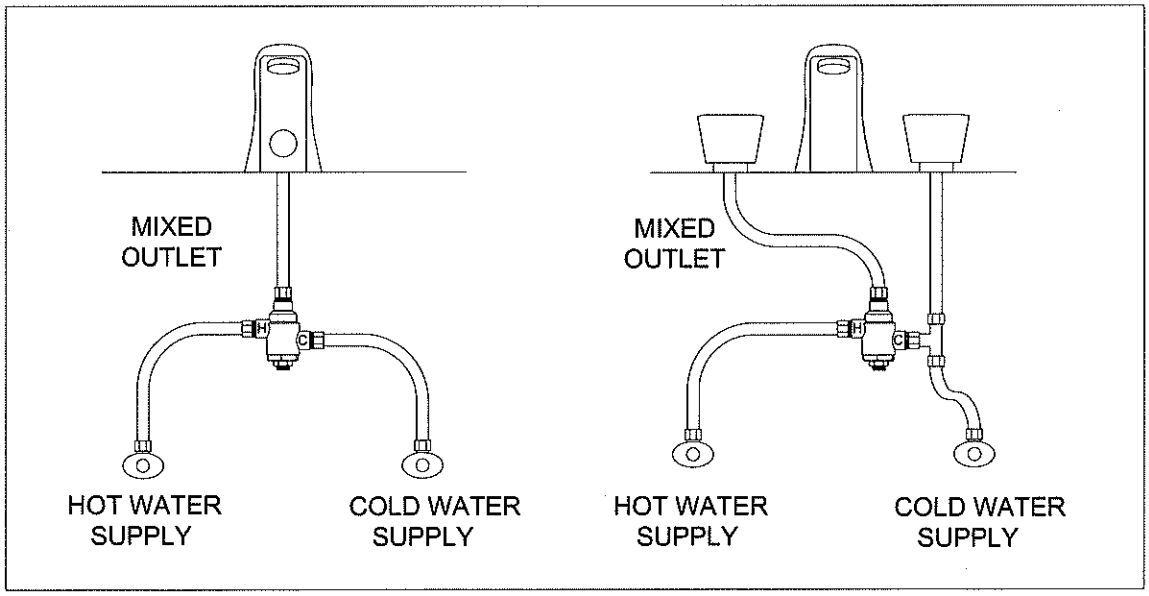




170A-LF-REC



170A-LF-EXP



170A-LF **170A-LF-BP**

LEONARD®
WATER TEMPERATURE CONTROLS

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

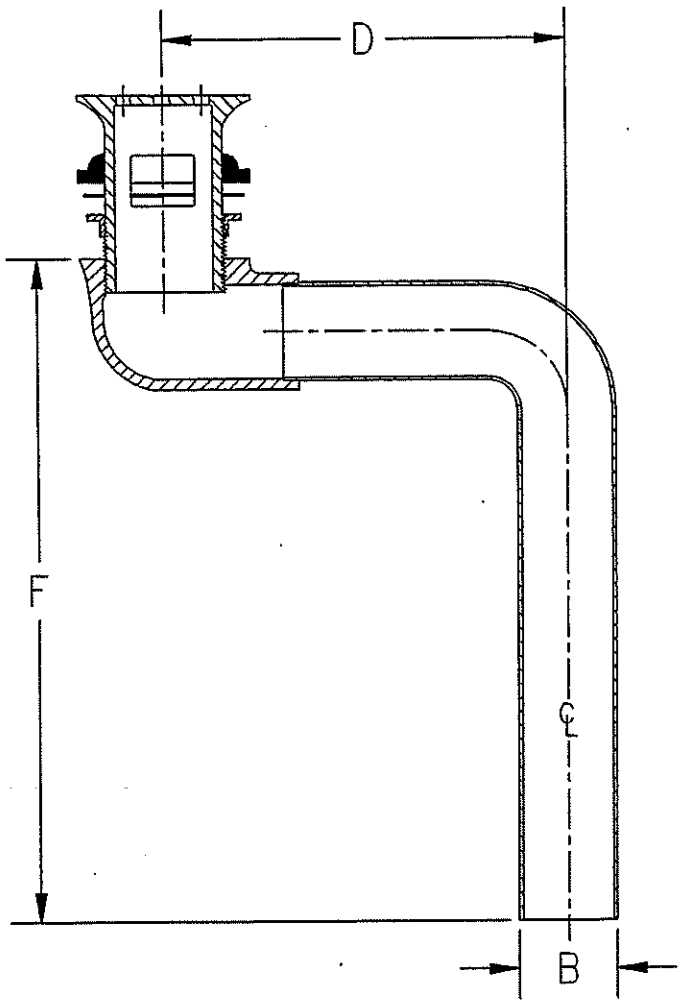
1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email: [redacted]
Web Site: http://www.leonardvalve.com

OFFSET LAVATORY STRAINERS ADA COMPLIANT

Z8746-PC

TAG _____

Engineering Specification: Zurn Z8746-PC – Chrome plated cast brass open grid drain strainer, and chrome plated cast brass elbow. Furnished with 1-1/4[32] 17 gauge, chrome plated tubular brass offset tailpiece for sink depth to 2-1/2[57].



ADA DESIGNED

Note: *All dimensions are for reference only. Do not use for pre-plumbing*

PRODUCT NUMBER	B OUTLET	DIMENSIONS D	DIMENSIONS F	MASTER CARTON	WEIGHT CARTON
Z8746-PC	1-1/4[32]	5-1/8[130]	8-3/4[222]	24	40

OPTIONAL ACCESSORIES

Suffix	Description
____-NOF	No Overflow

ZURN INDUSTRIES, LLC ♦ COMMERCIAL BRASS OPERATION ♦ 2640 SOUTH WORK STREET ♦ FALCONER NY 14733
Phone: 1-800-997-3876 ♦ Fax: 1-919-775-3541 ♦ www.zurn.com
In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

Rev. E Date: 8/12/10 C.N. No. 126768
Dwg. No. 60961 Product No. Z8746-PC

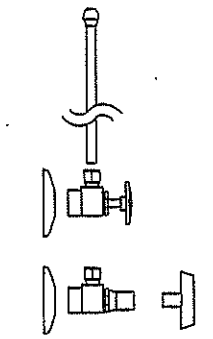
STANDARD STOP WITH FLEXIBLE LAVATORY SUPPLY

Z8800-XL-LR-PC TO Z8809-XL-LRLK-PC

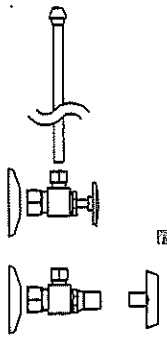
TAG _____

Engineering Specification: Zurn Z8800-XL-LR-PC to Z8809-XL-LRLK-PC Two Zurn chrome plated, solid brass angle stops with round wheel handles or loose key as specified, two 12"[305mm] flexible chrome plated copper lavatory risers complete with two chrome plated steel flanges. Z8808-XL-LR-PC to Z8809-XL-LRLK-PC include 5"[127mm] chrome plated copper extension tubes and deep bell steel flanges.

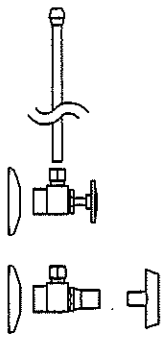
Zurn Lead Compliant* "XL" products are a line of durable, high quality brass faucets and fixtures that are designed and manufactured to comply with state laws and local codes that mandate lead content levels. Zurn "XL" products are manufactured with *not more than 0.25% lead content when used with respect to wetted surfaces of pipes and pipe fittings, plumbing fitting and fixtures: California Health & Safety Code § 116875; Vermont 9 VCA § 2470h.



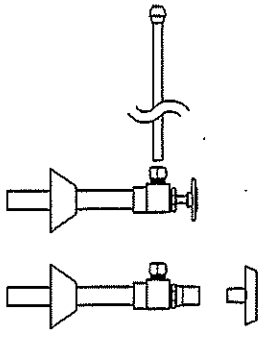
Z8800 thru Z8803



Z8804 thru Z8805



Z8806 thru Z8807



Z8808 thru Z8809

PRODUCT NUMBER	CONNECTIONS	EXT.	MASTER CARTON	WEIGHT CARTON	
				LR	LRLK
Z8800-XL-LR-PC	3/8 [10] IPS x 3/8 [10] OD	-	25	24	
Z8800-XL-LRLK-PC	3/8 [10] IPS x 3/8 [10] OD	-	25		25
Z8802-XL-LR-PC	1/2 [13] IPS x 3/8 [10]OD	-	25	24	
Z8802-XL-LRLK-PC	1/2 [13] IPS x 3/8 [10] OD	-	25		25
Z8803-XL-LR-PC	1/2 [13] IPS x 1/2 [13] OD	-	25	24	
Z8803-XL-LRLK-PC	1/2 [13] IPS x 1/2 [13] OD	-	25		25
Z8804-XL-LR-PC	1/2 [13] NOM x 3/8 [10] OD	-	25	24	
Z8804-XL-LRLK-PC	1/2 [13] NOM x 3/8 [10] OD	-	25		25
Z8805-XL-LR-PC	1/2 [13] NOM x 1/2 [13] OD	-	25	24	
Z8805-XL-LRLK-PC	1/2 [13] NOM x 1/2 [13] OD	-	25		25
Z8806-XL-LR-PC	1/2 [13] SWT x 3/8 [10] OD	-	25	24	
Z8806-XL-LRLK-PC	1/2 [13] SWT x 3/8 [10] OD	-	25		25
Z8807-XL-LR-PC	1/2 [13] SWT x 1/2 [13] OD	-	25	24	
Z8807-XL-LRLK-PC	1/2 [13] SWT x 1/2 [13] OD	-	25		25
Z8808-XL-LR-PC	1/2 [13] SWT x 3/8 [10] OD	5	25	28	
Z8808-XL-LRLK-PC	1/2 [13] SWT x 3/8 [10] OD	5	25		33
Z8809-XL-LR-PC	1/2[13] SWT x1/2[13] OD	5	25	28	
Z8809-XL-LRLK-PC	1/2 [13] SWT x 1/2 [13] OD	5	25		33

SUFFIXES

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

- ☐ **-A** Single supply option
- ☐ **-C1** Standard Line Lock Shield Cap
- ☐ **-CE** Chrome Plated, Cast Brass, Flange with setscrew
- ☐ **-D** Chrome Plated Steel, Deep Bell Flange (Bell Type)
- ☐ **-XP** Cross Handle
- Q 1/4 turn

- ☐ **-3** 3[76] Nipple
- ☐ **-5** 5[127] Nipple
- ☐ **-15** 15[381] Supply Tube
- ☐ **-20** 20[508] Supply Tube
- ☐ **-30** 30[762] Supply Tube
- ☐ **-36** 36[914] Supply Tube

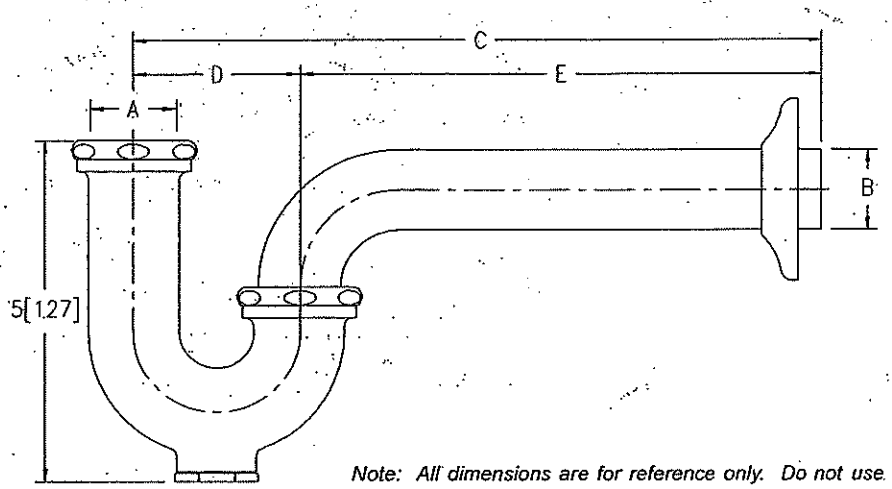
ZURN INDUSTRIES, LLC. ♦ COMMERCIAL BRASS OPERATION ♦ 5900 ELWIN BUCHANAN DRIVE ♦ SANFORD NC 27330
Phone: 1-800-997-3876 ♦ Fax: 919-775-3541 ♦ World Wide Web: www.zurn.com
In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905-405-8272 Fax: 905-405-1292

SEMI-CAST P-TRAPS WITH WALL BEND

Z8700-PC TO Z8708-PC

TAG _____

Engineering Specification: Zurn Z8700-PC to Z8708-PC. – Chrome-plated cast brass (copper alloy) body P-trap with cleanout, tubular brass wall bend as specified, die-cast nuts, and shallow escutcheon with compression inlet.



Note: All dimensions are for reference only. Do not use for pre-plumbing.

PRODUCT NUMBER	A INLET in[mm]	B OUTLET in[mm]	GAUGE	DIMENSIONS C in[mm]	D in[mm]	E in[mm]	MASTER CARTON	WEIGHT CARTON [lbs]
Z8700-PC	1 1/4[32]	1 1/4[32]	17	10[254]	2 1/2[64]	7 1/2[191]	12	24
Z8700-8-PC	1 1/4[32]	1 1/4[32]	17	11[279]	2 1/2[64]	8 1/2[216]	12	24
Z8700-15-PC	1 1/4[32]	1 1/4[32]	17	15[381]	2 1/2[64]	12 1/2[318]	18	40
Z8701-PC	1 1/4[32]	1 1/2[38]	17	10 1/2[267]	3[76]	7 1/2[191]	12	24
Z8701-9-PC	1 1/4[32]	1 1/2[38]	17	12[305]	3[76]	9[229]	12	24
Z8701-15-PC	1 1/4[32]	1 1/2[38]	17	15[381]	3[76]	12[305]	18	42
Z8702-PC*	1 1/2[38]	1 1/2[38]	17	10 1/2[267]	3[76]	7 1/2[191]	12	24
Z8702-9-PC*	1 1/2[38]	1 1/2[38]	17	12[305]	3[76]	9[229]	12	24
Z8702-15-PC*	1 1/2[38]	1 1/2[38]	17	15[381]	3[76]	12[305]	18	42
Z8703B-PC**	1 1/2[38]	2[51]	17	12 1/2[318]	3 1/2[89]	9[229]	6	18
Z8704B-PC**	2[51]	2[51]	17	12 1/2[318]	3 1/2[89]	9[229]	6	18
Z8706-PC	1 1/4[32]	1 1/4[32]	20	10[254]	2 1/2[64]	7 1/2[191]	12	24
Z8707-PC	1 1/4[32]	1 1/2[38]	20	10 1/2[267]	3[76]	7 1/2[191]	12	24
Z8708-PC*	1 1/2[38]	1 1/2[38]	20	10 1/2[267]	3[76]	7 1/2[191]	12	24

OPTIONAL ACCESSORIES

Suffix		Description
____	-B	Brass Nuts
____	-BX	Box Escutcheon
____	-CE	Cast Brass Escutcheon with Setscrew
____	-D	Deep Escutcheon (Note = not available for Z8703B-PC and Z8704B-PC)
____	-J	Metal to Metal Ground Joint Connection
____	-WC	Waste Connections - Compression
____	-15	15[381] C Dim. 1 1/4[32] and 1 1/2[38] Only
____	-18	18[457] C Dim. 1 1/4[32] and 1 1/2[38] Only

* COMES WITH OPTIONAL 1-1/2" x 1-1/4" REDUCTION POLY-WASHER FOR INLET

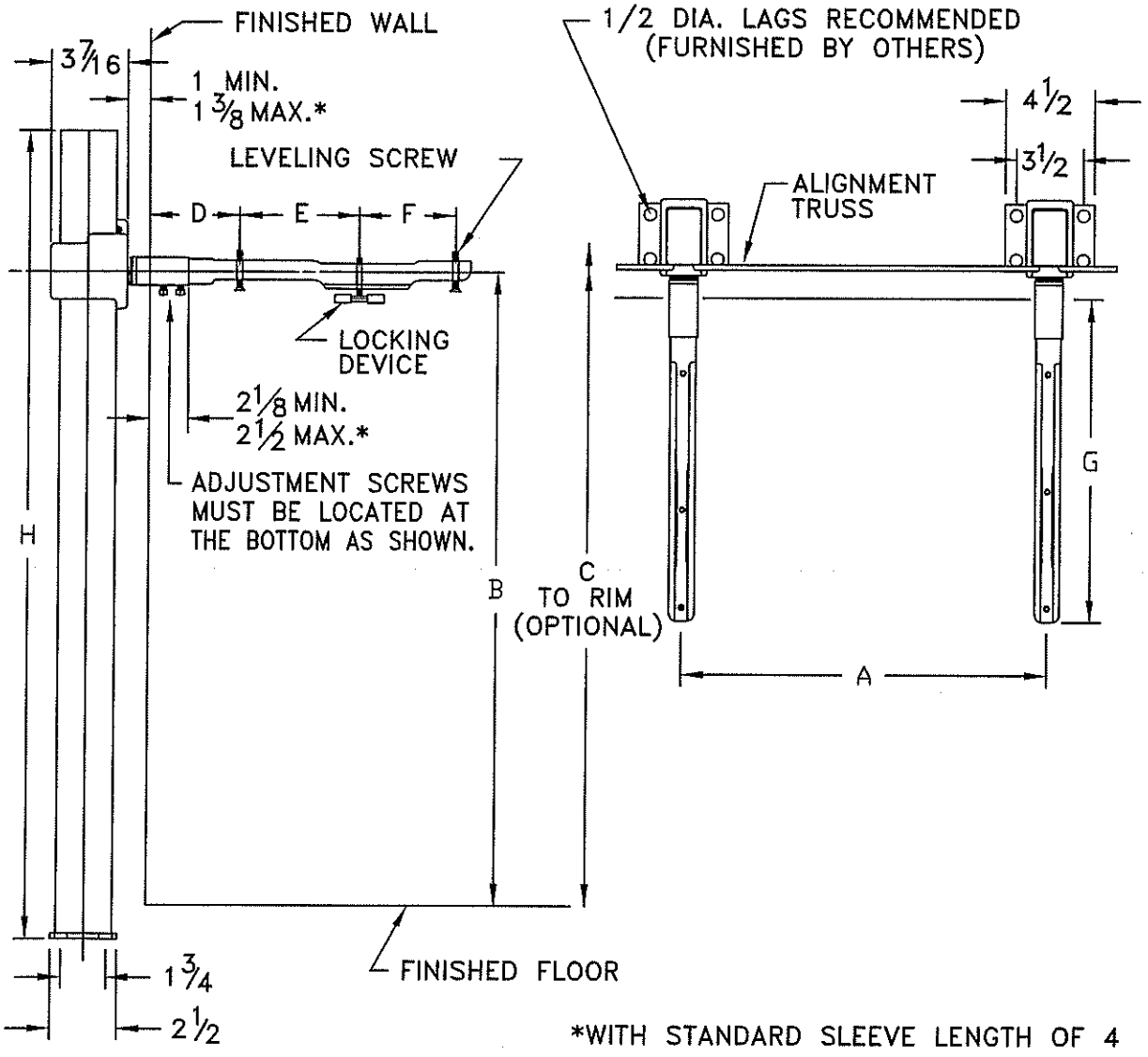
** SHIPPED WITH BRASS NUTS UNLESS OTHERWISE SPECIFIED

ZURN INDUSTRIES, LLC ♦ COMMERCIAL BRASS OPERATION ♦ 2640 SOUTH WORK STREET ♦ FALCONER NY 14733
Phone: 1-800-997-3876 ♦ Fax: 1-919-775-3541 ♦ www.zurn.com
In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

Z1231 RIGID SYSTEM FOR AMERICAN STANDARD CO. LAVATORIES

DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES

AMERICAN STANDARD CO. REF.			ZURN REFERENCE							
NAME	CATALOG NO.	SIZE	A	B	C	D	E	F	G	H
LUCERNE	0355.012, .034	20 1/2 X 18 1/4	16 3/4	29 3/4	31	4	6	6	16 1/2	36
LUCERNE	0356.015, .421, .439	20 1/2 X 18 1/4	16 3/4	29 3/4	31	4	6	6	16 1/2	36



*WITH STANDARD SLEEVE LENGTH OF 4

ENGINEERING SPECIFICATION:
AS SHOWN; "DURA-COATED" STEEL STANCHIONS WITH WELDED FEET, STEEL SLEEVES, CAST IRON HEADERS AND ARMS, ALIGNMENT TRUSS, AND MOUNTING BOLTS AND TRIM.

DATE: 2/10/05
REV. F
C.N. NO. 92944

PRODUCT NUMBER
Z1231

DRAWING NUMBER PAGE 3 OF 3
54511

EWH-1 WATER HEATER
RHEEM EGSP30 ELECTRIC WATER HEATER
208V 3P WITH PAN

The new degree of comfort.™

Point-of-Use commercial electric line is designed to provide hot water at the consumption point, eliminating costly temperature loss in long piping runs

Features & Benefits

Our family of point-of-use electric water heaters come in 2.5, 6, 10, 15, 19.9 and 30-gallon models. They are available in 1440 W through 6000 W and in 120, 208, 240, 277 and 480 voltages with a maximum temperature setting of 170° F. These units are suited for a wide variety of applications and small enough for installatioin in limited spaces where modest quantities of hot water are required.

Long Life Tank Design

Proprietary steel formulation with a unique coat of high temperature porcelain enamel maximizes corrosion resistance of the tank. Our R-Tech anode rod provides advanced technology and equalizes aggressive water action. This prolongs the effective life of the anode rod and in turn, the life of the tank.

Long Life Heating Elements

Our patented resistor elements are designed with a specially treated, double layer of magnesium oxide and copper to resist corrosion.

Efficient Design

Rigid polyurethane foam insulation provides superior insulating qualities resulting in reduced operating costs.

Optional Wall Mount Kit

The wall mounting kit provides an easy way to mount the unit off the floor, out of the way for more useable floor space in a small area. Each kit is designed to be used on walls with 16" stud centers. All necessary parts are included in this easy to install kit. (Note: The 2-1/2 gallon model comes standard with a wall mounting kit.)

Automatic Temperature Control

A surface mounted thermostat automatically cycles on and off to maintain the water temperature at a desired preset level.

Temperature Limiting Control

Automatically and safely cuts off the power in the unlikely event that the water temperature exceeds 190°F.

Temperature and Pressure Relief Valve

CSA/ASME rated and factory installed.

Warranty

3-Year limited tank warranty

See Commercial Warranty Certificate for complete information.

NEW UL Approved Electric Conversion Kits*

- Provides an easy way to convert standard models to different wattages, volt or phase depending on installation requirements
- Kits are designed for EGSP models in all gallon capacities
- All parts needed for the electric conversion are included with Rheem electric conversion kits
- Rheem electric conversion kits provide convenience for contractors, plumbers and installers which saves time and money

* Not available in Canada.

Efficiency | These models have been tested according to DOE test procedures, and exceed the minimum energy factor requirements of ASHRAE (Part of the Federally mandated Energy Policy Act (EPact)).

Also exceeds energy efficiency codes of all states including California Energy Commission (CEC).

Safety and Construction | These products are design certified by Underwriters Laboratories (UL) to meet UL standard 174 as electric storage tank water heaters. All models are North Carolina and Massachusetts Code compliant. **Certified for 150 PSI maximum working pressure.**

Continued next page

Rheem Point-of-Use

2.5 to 30-Gallon Capacities
1.5 kW through 6 kW
120, 208, 240, 277 and 480 Voltages
Single Phase
Electric

PRINTED IN U.S.A. 05/16 WP FORM NO. RR102CE-4 Rev. 17

DIMENSIONAL INFORMATION (All dimensions shown in inches)

MODEL	MIN WATTS	MAX WATTS	TANK GALLONS	A	B	C	D	E	SHIPPING WEIGHT (LBS.)
EGSP2	1,440	1,500	2-1/2	14	9-3/4	–	–	–	18
EGSP6	1,500	6,000	6	15-1/8	15-3/4	12-5/8	11-5/8	4-1/4	41
EGSP10	1,500	6,000	10	22-7/8	15-3/4	20-3/8	19-3/8	4-1/4	53
EGSP15	1,500	6,000	15	24-1/4	17-3/4	21-7/8	19-3/8	4-5/8	65
EGSP20	1,500	6,000	19.9	25-1/8	19-3/4	22-5/8	19-5/8	5-1/8	76
EGSP30	1,500	6,000	30	32	22-1/4	23	23	3	115

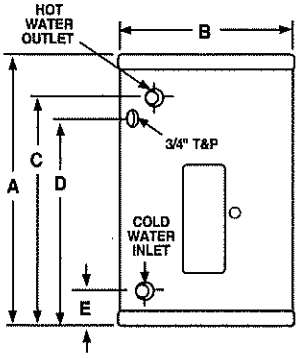
Water Temp. Ratings: Thermostat Type: Surface Mounted; Min. Delivered Temperature: 110° F; Max. Delivered Temperature: 170° F; High Temperature Limit: 190° F

NOTE: Basic model numbers are listed. When ordering, specify electrical input and kW to determine specific model number.

Canadian models have different model numbers than the U.S. models. Add a "C" before the model number (e.g. CEGSP2) when ordering.

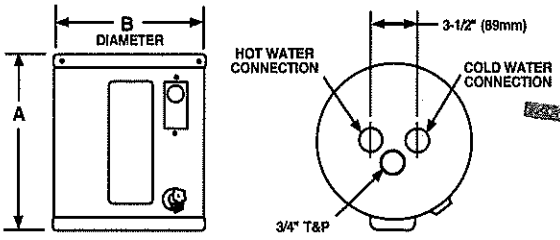
Models:
EGSP6
EGSP10
EGSP15
EGSP20
EGSP30

Water Connections
3/4" NPT



Model:
EGSP2

Water Connections
1/2" NPT



ELEMENT AVAILABILITY

WATTAGE	120 V	208 V	240 V	277 V	480 V
1,440	**Y	N/A	N/A	N/A	N/A
1,500	Y	Y	**Y	N/A	N/A
2,000	Y	Y	Y	Y	Y
2,500	Y	Y	Y	N/A	N/A
3,000	Y	Y	Y	Y	Y
4,500	N/A	Y	*Y	*Y	*Y
6,000	N/A	Y	Y	Y	Y

*Not available in EGSP6 & EGSP10
**EGSP2 available only in these configurations.

ELECTRICAL CHARACTERISTICS

ELEMENT WATTAGE	FULL LOAD CURRENT IN AMPERES				
	120 V	208 V	240 V	277 V	480 V
1,440	12.0	N/A	N/A	N/A	N/A
1,500	12.5	7.2	6.3	N/A	N/A
2,000	16.7	9.6	8.3	7.2	4.2
2,500	20.8	12.0	10.4	N/A	N/A
3,000	25.0	14.4	12.5	10.8	6.3
4,500	N/A	21.6	18.8	16.2	9.4
6,000	N/A	28.8	25.0	21.7	12.5

All models employ 1 heating element resulting in a 2-wire outlet (single phase) electrical configuration.

RECOVERY CAPACITIES

ELEMENT WATTAGE	TEMPERATURE RISE / DEGREES F - GALLONS PER HOUR					
	40°F	60°F	80°F	100°F	120°F	140°F
1,440	15	10	7	6	5	4
1,500	15	10	8	6	5	4
2,000	20	14	10	8	7	6
2,500	25	17	13	10	8	–
3,000	30	20	15	12	10	9
4,500	46	30	23	18	15	13
6,000	61	41	30	24	20	17

Recommended Specifications (for trade reference only)

Water heater(s) shall be model EGSP30, manufactured by Rheem, having electrical input of 3 kW and a recovery rate of 12 GPH at a 100°F temperature rise. Water heater(s) shall have a storage capacity of _____ gallons. Water heater(s) shall have the UL/CSA seal of certification and be factory equipped with an CSA/ASME rated temperature and pressure relief valve. Tank(s) interior shall be coated with a high temperature porcelain enamel and furnished with a magnesium anode rod rigidly supported. Water heater(s) shall meet or exceed the energy factor requirements of ASHRAE. Tanks shall have a working pressure rating of 150 psi, and shall be completely assembled. Water heater(s) shall be equipped with a copper, resistored, "screw-in" type element. Tank shall be insulated with rigid polyurethane foam insulation. Water heater(s) shall be equipped with a surface mounted thermostat with an integral, manual reset, high limit control. Water heater(s) shall be covered by a three year limited warranty against tank leaks.

Rheem Water Heating • 101 Bell Road
Montgomery, Alabama 36117-4305 • www.rheem.com

Rheem Canada Ltd./Ltée • 125 Edgeware Road, Unit 1
Brampton, Ontario L6Y 0P5 • www.rheem.com

PRINTED IN U.S.A. 05/16 WP FORM NO. RR102CE-4 Rev. 17

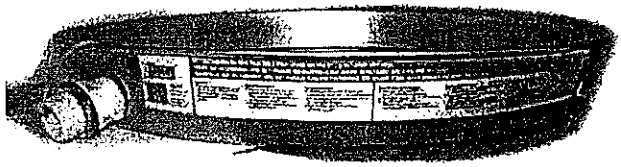
Oatey®
4700 W. 160th St.
Cleveland, Ohio 44135
Ph: (800) 321-9532
Fax: (800) 321-9535
www.oatey.com

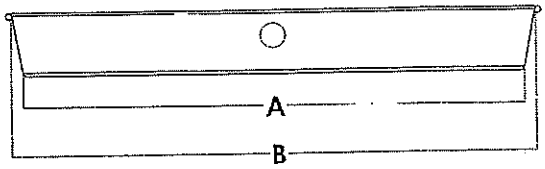
SUBMITTAL SPECIFICATION

ALUMINUM WATER HEATER PANS

Engineering Specification: Oatey Aluminum Water Heater Pans can be installed under gas or electric water heaters to protect from water damage. Available with 1" PVC, 1-½" PVC or 1" CPVC drain fittings to allow for connection to indirect drain.

Job Reference





(All dimensions in inches)

- Manufactured from .032 Prime Aluminum
- Pre-cut side opening accommodates drain fitting
- Meets requirements of Southern Building Code
- Pan depth is minimum 2-½"

✓	Prod. No.	Description	Qty	Inside Diameter (A)	Outside Diameter (B)
		WATER HEATER PANS WITH 1" CPVC FITTING			
	34170	18" Aluminum Water Heater Pan - Bulk	6	18	19
	34171	20" Aluminum Water Heater Pan – Bulk	6	20	21
	34172	22" Aluminum Water Heater Pan – Bulk	6	22	23
	34173	24" Aluminum Water Heater Pan – Bulk	6	24	25
	34174	26" Aluminum Water Heater Pan – Bulk	6	26	27
	34176	28" Aluminum Water Heater Pan – Bulk	6	28	29
	34175	30" Aluminum Water Heater Pan - Bulk	6	30	31
		WATER HEATER PANS WITH 1" PVC FITTING			
	34079	18" Aluminum Water Heater Pan - Bulk	6	18	19
	34151	20" Aluminum Water Heater Pan - Bulk	6	20	21
	34152	22" Aluminum Water Heater Pan - Bulk	6	22	23
	34153	24" Aluminum Water Heater Pan - Bulk	6	24	25
	34154	26" Aluminum Water Heater Pan - Bulk	6	26	27
	34156	28" Aluminum Water Heater Pan - Bulk	6	28	29
	34085	30" Aluminum Water Heater Pan - Bulk	6	30	31
		WATER HEATER PANS WITH 1.5" PVC FITTING			
	34081	20" Aluminum Water Heater Pan – Bulk	6	20	21
	34082	22" Aluminum Water Heater Pan- Bulk	6	22	23
	34083	24" Aluminum Water Heater Pan - Bulk	6	24	25
	34084	26" Aluminum Water Heater Pan - Bulk	6	26	27
	34103	28" Aluminum Water Heater Pan - Bulk	6	28	29
		WATER HEATER PANS WITHOUT FITTING & WITHOUT HOLE			
	34090	18" Aluminum Water Heater Pan – Bulk	6	18	19
	34091	20" Aluminum Water Heater Pan – Bulk	6	20	21
	34092	22" Aluminum Water Heater Pan – Bulk	6	22	23
	34093	24" Aluminum Water Heater Pan – Bulk	6	24	25
	34094	26" Aluminum Water Heater Pan – Bulk	6	26	27
	34095	30" Aluminum Water Heater Pan – Bulk	6	30	31
		WATER HEATER PAN ADAPTERS			
	34086	1-½" PVC Adapter	12		
	34088	1" PVC Adapter	12		
	34089	1" CPVC Adapter	12		

Data is subject to manufacturing tolerances.

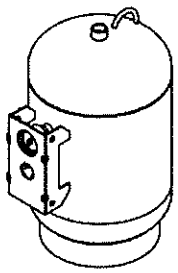
ET-1 EXPANSION TANK
WILKINS WTTA-5 ASME EXPANSION TANK

Model WTTA

ASME Thermal Expansion Tank

Application

Designed for installation on hot water systems to protect against thermal expansion. All WTTA tanks are ASME fixed bladder type for commercial and industrial applications. When system pressure increases due to thermal expansion, water enters the tank's bladder which expands into the pre-charge air chamber, keeping system pressure below the relief valve setting. Conforms to all lead-free requirements and acceptable for use on drinking water systems.



LEAD FREE

Standards Compliance

- ASME Section VIII

Materials

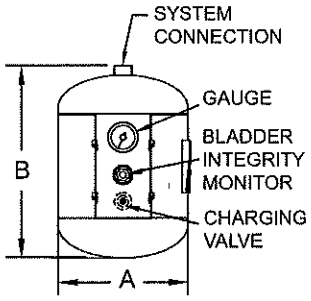
Outer shell	Carbon Steel
System Connection	Stainless Steel
Bladder	Heavy-duty Butyl (FDA Approved)
Heads	Carbon Steel
Exterior	Red Oxide Primer

Accessories

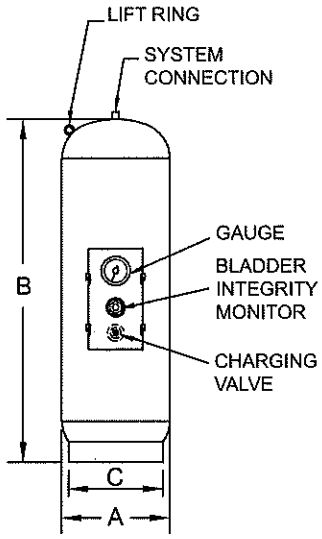
- ☐ NR3XL - water pressure reducing valve
- ☐ TP1100A - temperature & pressure relief valve
- ☐ P1000AXL - pressure relief valve
- ☐ P3000CI - pressure relief valve
- ☐ P3000BR - pressure relief valve
- ☐ 375XL - reduced pressure backflow preventer

Features

Maximum working water pressure:	150PSI
Temperature range	-20°F to 240°F
End connections	Threaded NPT ANSI B1.20.1
Factory Pre-charge (adjustable)	40 PSI



MODELS
WTTA-5 thru WTTA-12



MODELS
WTTA-20 thru WTTA-210

Dimensions & Weights (do not include pkg.)

TANK SPECIFICATIONS									
MODEL NUMBER	MAXIMUM WORKING PRESSURE	TOTAL VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	FACTORY PRE-CHARGE (PSI)	DIMENSIONS (INCHES)				
					"A" DIA.	"B" HEIGHT	"C" DIA.	SYSTEM CONN.	WEIGHT (LBS)
WTTA-5	150 PSIG	3.5	2.3	40	10	14	-	3/4" FNPT	22
WTTA-12	150 PSIG	5	3.3	40	12	14	-	3/4" FNPT	28
WTTA-20	150 PSIG	8	5.3	40	12	20	10	3/4" FNPT	34
WTTA-30	150 PSIG	15	10.0	40	16	24	14	1" FNPT	50
WTTA-42	150 PSIG	22	14.5	40	16	31	14	1" FNPT	57
WTTA-60	150 PSIG	26	17.5	40	16	34	14	1" FNPT	62
WTTA-80	150 PSIG	35	23.5	40	16	45	14	1" FNPT	80
WTTA-100	150 PSIG	45	30.0	40	20	39	18	1" FNPT	110
WTTA-125	150 PSIG	60	40.0	40	20	50	18	1" FNPT	134
WTTA-160	150 PSIG	70	47	40	24	47	22	1 1/2" FNPT	177
WTTA-180	150 PSIG	80	53	40	24	50	22	1 1/2" FNPT	184
WTTA-210	150 PSIG	90	60	40	24	53	22	1 1/2" FNPT	193

Zurn Industries, LLC | Wilkins
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766
In Canada | **Zurn Industries Limited**
7900 Goreway Drive, Unit 10, Brampton, Ontario L6T 5W6, 877-892-5216
www.zurn.com

Rev. E
Date: 12/19
Document No. WXT-WTTA
Product No. Model WTTA

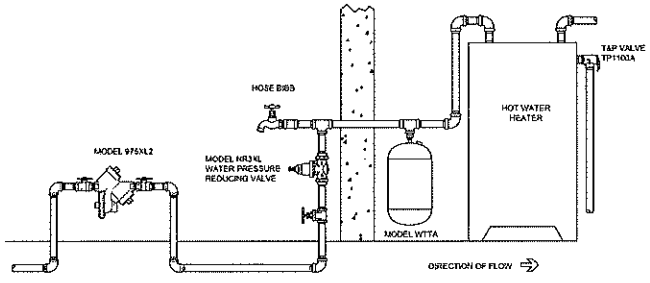
Sizing Chart

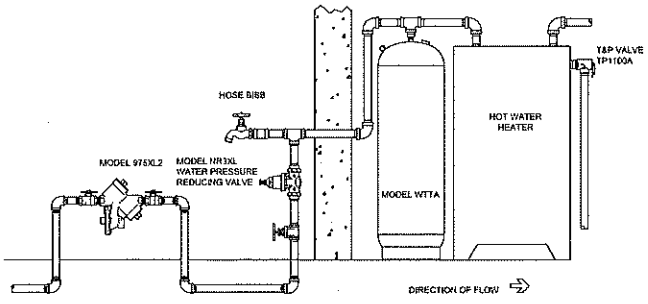
SUPPLY PRESSURE (PSIG)	TOTAL WATER HEATED (U.S. GAL)										
	20	30	40	50	60	80	100	120	150	175	200
40	WTTA-5	5	5	5	5	5	5	5	12	12	12
50	5	5	5	5	5	5	5	5	12	12	20
55	5	5	5	5	5	5	5	5	12	12	20
60	5	5	5	5	5	5	5	12	12	20	20
70	5	5	5	5	5	5	5	12	20	20	20
80	5	5	5	5	5	5	12	12	20	20	30
90	5	5	5	5	5	12	12	20	20	30	30
100	5	5	5	5	12	20	20	20	30	30	30
110	5	5	12	12	20	20	30	30	30	42	42
SUPPLY PRESSURE (PSIG)	TOTAL WATER HEATED (U.S. GAL)										
	240	260	280	300	350	400	450	500	600	800	1000
40	20	20	20	20	30	30	30	30	30	42	60
50	20	20	20	20	30	30	30	30	42	42	80
55	20	20	20	30	30	30	30	30	42	60	80
60	20	20	30	30	30	30	30	30	42	60	80
70	30	30	30	30	30	30	42	42	42	80	80
80	30	30	30	30	30	42	42	42	60	80	100
90	30	30	30	30	42	42	60	60	80	100	125
100	42	42	42	42	60	60	80	80	100	125	160
110	42	60	60	80	80	100	100	100	125	180	WTTA-210

Tank pressurized to match water inlet pressure.
Sizing for heating from 40°F to 140°F
Maximum pressure 135 psi

Typical Installation

Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted at least 18" from the cold water inlet to the heater. NOTE: Pre-charge should be adjusted to match incoming water pressure after installation (adjust pre-charge with no water pressure in tank).





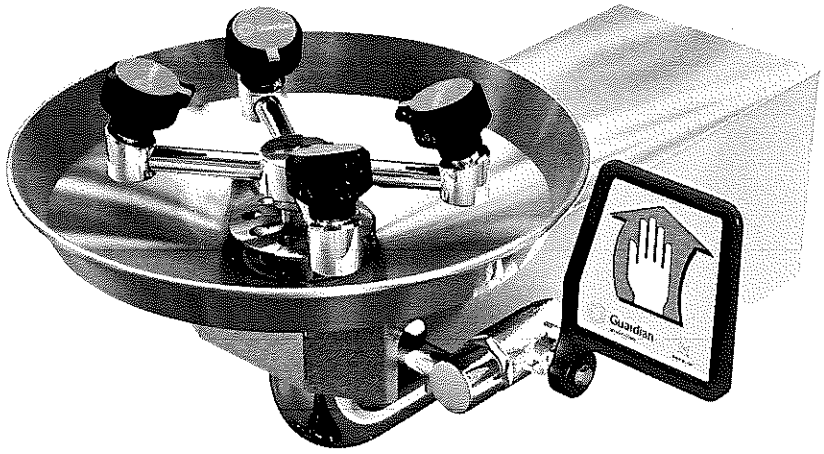
Specifications

The Water Thermal Expansion Tank shall be constructed in accordance with Section VIII of the ASME Boiler and Pressure Vessel Code. The outer shell shall be carbon steel. The bladder shall be FDA approved butyl rubber and prevent water from contact with shell interior. The assembly shall have a top NPT stainless steel system connection and a 0.301"-32 charging valve connection (standard tire valve) to facilitate the on-site charging of the tank to meet system requirements. The Water Thermal Expansion Tank shall be a ZURN WILKINS Model WTTA.

Zurn Industries, LLC | Wilkins
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766
In Canada | **Zurn Industries Limited**
7900 Goreway Drive, Unit 10, Brampton, Ontario L6T 5W6, 877-892-5216
www.zurn.com

EW-1 EYEWASH
GUARDIAN GBF1724-T WALL MOUNTED
EMERGENCY EYEWASH
TA300 THERMOSTATIC MIXING VALVE

☐ GBF1724 Barrier-Free WideArea™ Eye/Face Wash, Wall Mounted



Application: Barrier-Free WideArea™ eye/face wash for wall mounting. Bowl is lowered and extended to permit access by wheelchair user. Profile of unit is "flattened" to comply with maximum height and knee clearance requirements.

ADA Compliance: When installed at recommended mounting height, unit complies with ADA requirements for accessibility by handicapped persons (maximum height and reach, minimum knee clearance and distance from obstructions).

Spray Head Assembly: Four GS-Plus™ spray heads. Each head has a "flip top" dust cover, internal flow control and filter to remove impurities from the water flow.

Valve: 1/2" IPS chrome plated brass stay-open ball valve. Valve is US-made with chrome plated brass ball and PTFE seals.

Bowl: 11-1/8" diameter stainless steel.

Mounting: Welded stainless steel wall bracket.

Supply: 1/2" NPT female inlet.

Waste: 1-1/2" OD chrome plated brass tailpiece.

Sign: ANSI-compliant identification sign.

Quality Assurance: Unit is completely assembled and water tested prior to shipment.

Available Options

☐ G6020 Thermostatic mixing valve precisely blends hot and cold water to deliver tepid water as required by ANSI Z358.1-2014. Refer to "Thermostatic Mixing Valves" section for complete technical and product selection information.

☐ BC Stainless steel cover for eye/face wash bowl.

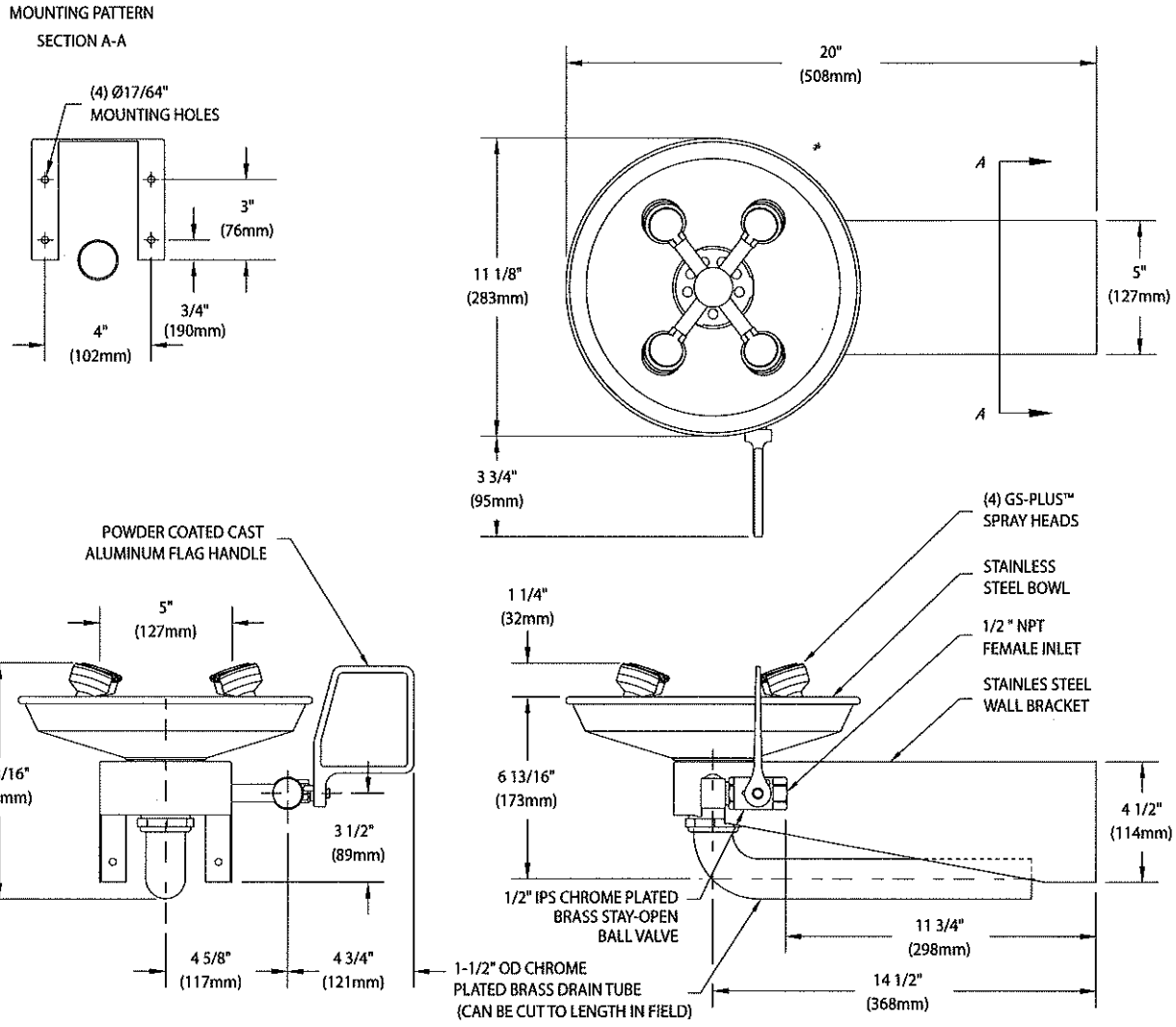
☐ HS Auxiliary hand-held drench hose for rinsing eyes, face or body.

☐ Chrome plated brass tailpiece and trap with 1-1/2" IPS waste connection.

Guardian Equipment
1140 N North Branch St
Chicago, IL 60642

312 447 8100 TELEPHONE
312 447 8101 FACSIMILE
gesafety.com

☐ GBF1724 Barrier-Free WideArea™ Eye/Face Wash, Wall Mounted



NOTES:

1. EACH GS-PLUS™ SPRAY HEAD HAS A "FLIP-TOP" DUST COVER, INTERNAL FLOW CONTROL AND FILTER TO REMOVE IMPURITIES FROM THE WATER FLOW.
2. UNIT SHOULD BE INSTALLED SO THAT SPRAY HEADS ARE NO MORE THAN 36" ABOVE FINISHED FLOOR.

Rev. 040119

THIS SPACE FOR ARCHITECT/ENGINEER APPROVAL

Sign Included

Due to continuing product improvement, the information contained in this document is subject to change without notice. All dimensions are ± 1/4" (6mm). rev. 051319

Guardian Equipment
1140 N North Branch St
Chicago, IL 60642

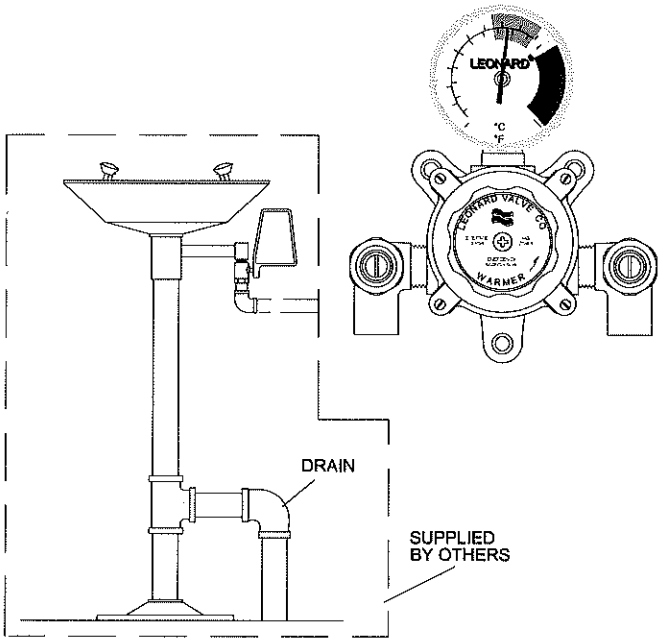
312 447 8100 TELEPHONE
312 447 8101 FACSIMILE
gesafety.com

Listed 8116. Units have been tested to and comply with ANSI Z358.1-2014 and the Uniform Plumbing Code.

EMERGENCY MIXING VALVES

ECO-MIX ™

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



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.

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

CAUTION! All thermostatic water mixing valves have limitations. They will NOT provide the desired accuracy outside of their flow capacity range. Consult the Flow Capacity Chart and DO NOT OVERSIZE. Minimum flow must be no less than as indicated.

***NOTE:** A limit stop, set for 90°F (32°C), is simply a mechanical setting to prevent excessive handle rotation. If incoming water is hotter than 135°F (57°C), the temperature of the factory test, the valve when turned to full HOT may deliver water in excess of 90°F and the limit stop MUST BE RESET BY THE INSTALLER

Exposed Assembly for Eye/Face Wash Units

2 - 9 GPM (7.6 - 34 l/min) flow rate up to 45 PSI (3.1 bar) system pressure drop

TA-300-LF

ASSE 1071 Certified

CSA Certified

__TA-300-LF

- DURA-trol® solid bimetal thermostat directly linked to valve porting to control the intake of hot and cold water and compensate for supply temperature and pressure fluctuations. DURA-trol® is highly responsive and cannot be damaged by extremes in temperature.
- Thermostatic Mixing Valve can be set to the correct temperature for the application.
- Locking temperature regulator to prevent accidental movement set for 85°F (29°C)
- Mixing valve will close down on failure of cold water supply
- Mixing valve with special internal cold water bypass capable of a minimum of 4 GPM (15 l/min) @ 30 PSI (2.1 Bar) upon failure of hot water supply
- Adjustable high temperature limit stop * set for 90°F (32°C)
- Integral wall support
- Sweat ½" top or bottom inlets
- Threaded ½" top outlet
- Rough bronze finish
- Dial thermometer (range 0 to 140°F, -10 to 60°C)
- Angle checkstops on inlets
- Compliance.....ANSI Z358.1
- Maximum supply temperature 180 °F (82°C)
- Maximum supply pressure 125 PSI (8.6 Bar)

OPTIONS

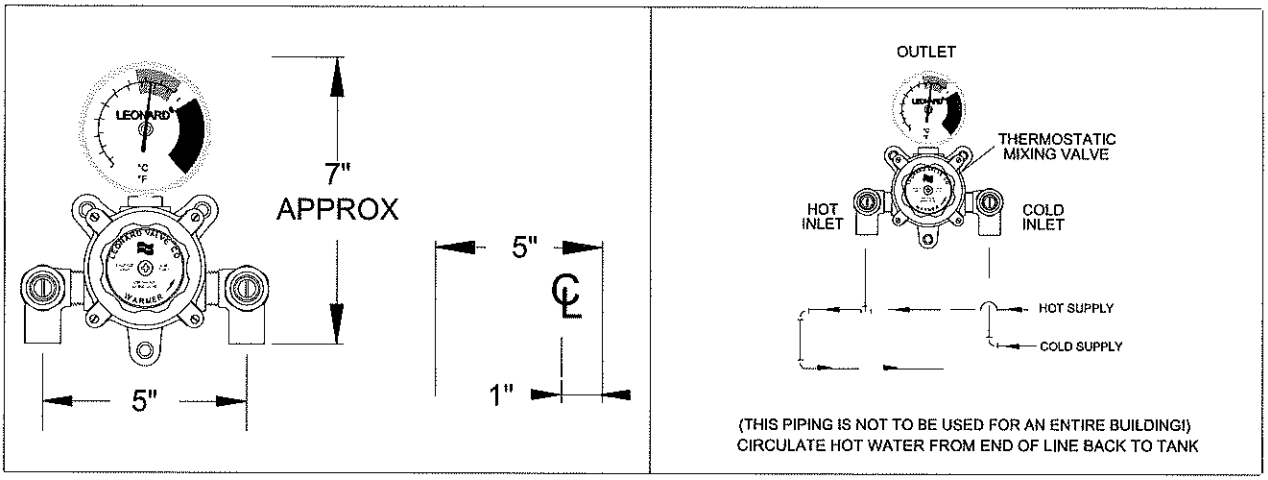
__ CP- Chrome plated finish (threaded inlets and outlet)
__ IT- Inlet thermometers (0 to 140°F, -10 to 60°C)

SUFFIX IT

LEONARD®
WATER TEMPERATURE CONTROLS

1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email: info@leonardvalve.com
Web Site: http://www.leonardvalve.com

EMERGENCY WATER MIXING VALVE FOR EYE/FACE WASH



CAUTION! It may be necessary to recirculate the tempered water to the eye/face wash should the piping be exposed to excessive hot or cold conditions. Consult factory for proper piping.

FLOW CAPACITIES

MODEL	IN	OUT	MINIMUM FLOW (GPM)	INTERNAL COLD WATER BY-PASS MINIMUM	PRESSURE DROP									PSI
			L\MIN		5	10	15	20	25	30	35	40	45	BAR
TA-300-LF	1/2"	1/2"	2.0	4	2.0	2.7	3.5	4.5	5.5	6.5	7.5	8.5	9.0	GPM
			7.6	15	7.6	10	13	17	21	25	28	32	34	L\MIN
MAXIMUM FLOW CAPACITY														

The Emergency eye/face wash Mixing Valve shall control and maintain the temperature of the water to the station . Unit shall be self contained and include a thermostatic water mixing valve, a dial thermometer on the outlet, angle checkstops, wall mounting bracket, piping and fittings factory assembled and tested, top or bottom inlets and top outlet, unit set for 85°F (29°C) and a maximum temperature of 90°F (32°C). Unit must be able to be set to the correct temperature for the specific contaminant but must be locked in place to prevent changing of the temperature by accident. Unit must be checked weekly for performance in conjunction with the requirements of ANSI Z358.1. Unit shall be able to flow a minimum flow of 4 GPM (15 l/min) at 30 PSI (2.1 Bar).

WARNING! IT IS THE RESPONSIBILITY OF THE SPECIFIER TO DETERMINE THE DELIVERED WATER TEMPERATURE TO EACH SAFETY FIXTURE. A COMFORTABLE RANGE IS 60°F TO 90°F (15° TO 32°C). IN CIRCUMSTANCES WHERE A CHEMICAL REACTION IS ACCELERATED BY WATER TEMPERATURE, A MEDICAL ADVISOR SHOULD BE CONSULTED FOR THE OPTIMUM TEMPERATURE FOR EACH APPLICATION.

Specifications are subject to change without notice!

CAUTION! All thermostatic water mixing valves have limitations. They will NOT provide the desired accuracy outside of their flow capacity range. Consult the Flow Capacity Chart and DO NOT OVERSIZE. Minimum flow must be no less than indicated.

LEONARD®
WATER TEMPERATURE CONTROLS

1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email: [illegible]
Web Site: http://www.leonardvalve.com