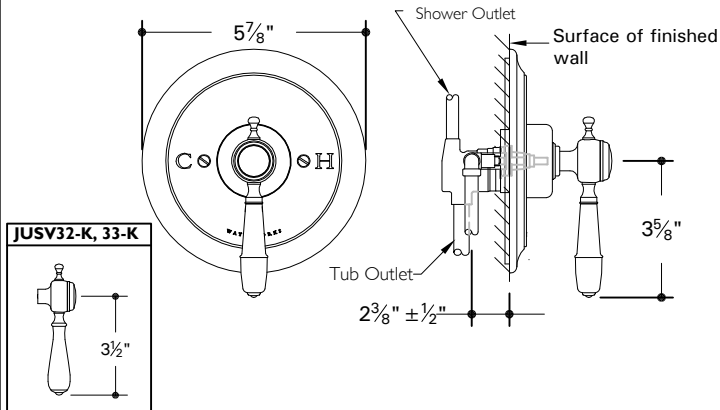


JUSV31-K (metal lever handle trim) & **GUSV81R** (rough)
JUSV32-K (white porcelain lever handle trim) & **GUSV81R** (rough)
JUSV33-K (black porcelain lever handle trim-MTO) & **GUSV81R** (rough)



IMPORTANT

- To ensure this product is installed properly, you must read and follow these guidelines.
- The owner/user of the valve must keep this information for future reference.
- The risk of scalding exists until the installer has properly set the temperature high limit stop.
- This product must be installed by a professional contractor and conform to all applicable codes
- Refer to the specification and assembly drawings attached. Valves are sold partially assembled but shown fully disassembled for illustrative and service purposes only.
- If soldering any connections, remove diverter assembly and cartridge to prevent damage to seals.
- This valve should be on-site prior to rough in and allows the installer to visualize the installation.
- Inspect this product to assure you have all parts required for proper installation.
- Check incoming water pressure; ideal operating pressure is 40-50 psi. The minimum is 25 psi. and the maximum is 80 psi.
- Use only a strap wrench or protected/smooth-jaw wrench on any finished surface.

ROUGH IN: (GUSV81R ROUGH SOLD SEPARATELY):

IMPORTANT - remove cartridge (11-13) when soldering any connections. Failure to remove the cartridge will damage both assemblies.

1. Install rough piping and valve body as shown.
 - Refer to marking on valve body when installing. When facing valve, HOT 'H' is on the left and COLD 'C' is on the right.
 - Valve should be installed with the plastic tile guard lettering face flush with the finished wall.
 2. Tile finished surface of wall, be careful to keep all ports free of obstructions.
 3. Turn on the hot and cold supplies and flush out the valve.
 - Valve will not operate unless both hot and cold water are turned on.
 - Allow valve to run in warm position for a few minutes to totally flush the system.

IF SYSTEM IS EXCESSIVELY DIRTY, REMOVE THE CONTROL STEM ASSEMBLY TO ENSURE PROPER FLUSHING.
 4. Tighten packing nut (10) for desired rotational resistance in handle.
- ### VALVE OPERATION:
5. When the finished wall is complete, open the hot and cold supplies. The supplies are opened by removing the service stop cap (26) and stop retainer (25) then turning the $\frac{3}{16}$ " hex screw (22) counter clockwise. Both supplies must be on or the valve will not operate.
 6. Pull off the tile shield and discard.
 7. The handle is for controlling temperature only, not volume. Install the handle (1-1f) so it rests at 6 o'clock in the OFF position then turn the handle counter clockwise through the cold position then warm and stopping at the hot position. If additional rotational friction is required to maintain the handle position, tighten the packing nut (10).

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W A T E R W O R K S

8. Allow the valve to run in warm position for a few minutes to completely flush the system. If system is quite dirty, remove valve spindle to ensure proper flushing.
9. **IMPORTANT:** This valve is equipped with a limit stop screw (8, 9) to be used to limit the valve handle from being turned to excessively hot water discharge temperatures.
10. Setting the limit stop screw: Open the valve to the maximum desired temperature then turn the limit stop screw (8) in until it seats.
11. **WARNING: FAILURE TO ADJUST THE LIMIT STOP SCREW PROPERLY MAY RESULT IN SERIOUS SCALDING.**
12. **WARNING: THIS SHOWER SYSTEM MAY NOT PROTECT THE USER FROM SCALDING WHEN THERE IS A FAILURE OF OTHER TEMPERATURE CONTROLLING DEVICES ELSEWHERE IN THE PLUMBING SYSTEM.**

INSTALL THE TRIM:

Note: Part numbers refer to trim and/or rough exploded view drawings.

13. Hand tighten the dome cover (5) completely onto the packing nut (10). The dome cover **MUST** be tightened to prevent damage to the handle.
14. Moisten the o-ring (7a) then slide the plate (7-7b) trim over the dome cover.
15. Secure the plate to the wall using the two screws (6).
16. Pull off the indice assembly (2-2c) from the handle, position then hold handle spacer (4) onto the spindle. Secure the handle by tightening the screw (3) then reinstall the indice assembly.
17. Open the valve and confirm the temperature setting, adjust as required.

SERVICE

NOTE: REFER TO EXPLODED VIEW DRAWING FOR SERVICE PART CALL OUTS. A TROUBLE SHOOTING GUIDE IS ALSO INCLUDED.)

18. Remove valve trim.
19. Shut-off water to the valve. Remove the service stop cap (26), stop retainer (25) and tighten valve stop (22) with a $\frac{3}{16}$ " hex wrench.
20. **CAUTION:** Before removing main cap/bonnet nut (3) use the following sequence to avoid damage to the stem:
 -Unthread the adjustment screw (9) until the o-ring is fully exposed.
 -Open valve to full hot and unscrew cap/bonnet nut (3).
 Leave packing nut (10) in place when removing cap/bonnet nut to avoid damage to packing assembly.
 -Control stem/spindle (11-13) will be removed with the cap/bonnet nut.
21. Replace appropriate parts as needed and inspect seats and o-rings for any visible wear.
22. **Extended Service:**
 -Control Stem: the end of the control stem that is the furthest point into the valve is the most important part. This houses the stainless steel control piston (12).
 -Shake the stem and listen for the piston to be moving back and forth. A freely moving piston makes a knocking noise similar to an empty spray paint can.
 -If a noise is not detected, check for obstructions such as flux, solder, saw dust etc. Soak in de-scaler is necessary.
 -Replace the cartridge if the piston does not move freely.
 -Seat replacement: requires seat replacement tool and appropriate parts.
23. Reinstall the valve in reverse sequence.
- If further assistance is required, please contact Product Support at 1-800-927-2120 (8am-7pm EST).

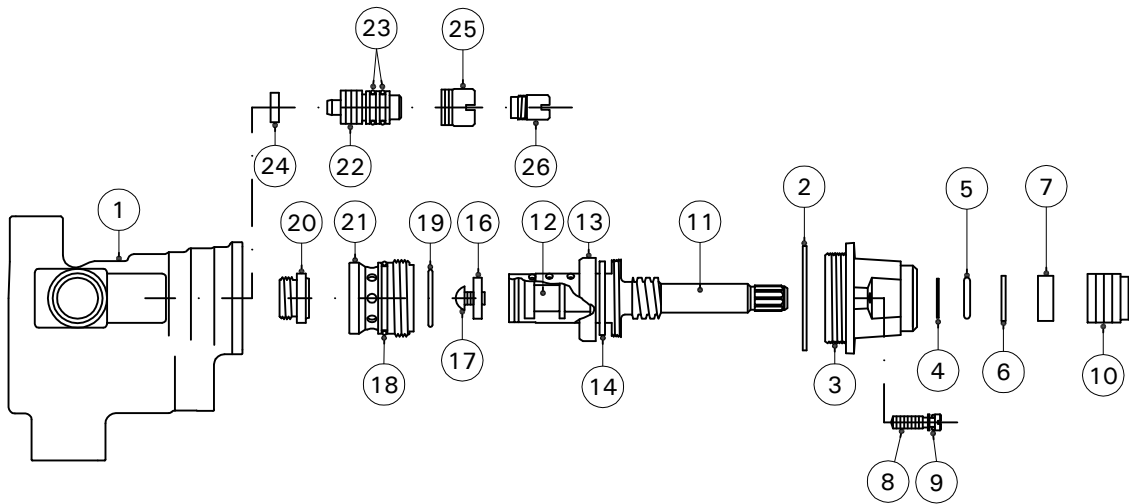
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W A T E R W O R K S

MAINTENANCE INSTRUCTIONS		
PROBLEM	CAUSE	SOLUTION
Valve will not flow water	Hot and cold water not turned on. service stops not opened.	Be sure both supplies are turned on and service stops are opened. Valve will not operate unless both HOT and COLD water inlets have pressure.
Valve leaks when shut-off.	Hot and cold water washers are worn, or foreign matter (solder, chips, etc.) are between washers and seat surfaces.	Replace Hot and Cold washers and inspect top surface on hot and cold seats for damage.
Water volume from valve is inconsistent during operation.	Pressure balancing piston housed in control spindle assembly is blocked from free movement by foreign matter.	With valve open half way, remove temperature handle and tap spindle with plastic hammer. If problem is not solved, remove spindle assembly completely and tap handle end against a solid object to free piston. Rinse out control sample assembly. Soaking in household vinegar will help free foreign matter build-up.
Valve delivers an insufficient quantity of Hot and Cold water.		
Temperatures fluctuates without moving temperatures handle.		
Temperatures out of valve reduces gradually during use.	Supply system is running out of hot water.	Reduce maximum flow rate out of valve or shower head. This will allow longer period of use before reduction of hot water supply.
While using a tub & shower valve with integral diverter set for shower, a trickle of water runs from tub spout.	This is a design function of the valve. Water is allowed to trickle from the tub spout when diverter is set in shower position; in accordance to national standards.	This is a design function in accordance to national standards.

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W A T E R W O R K S



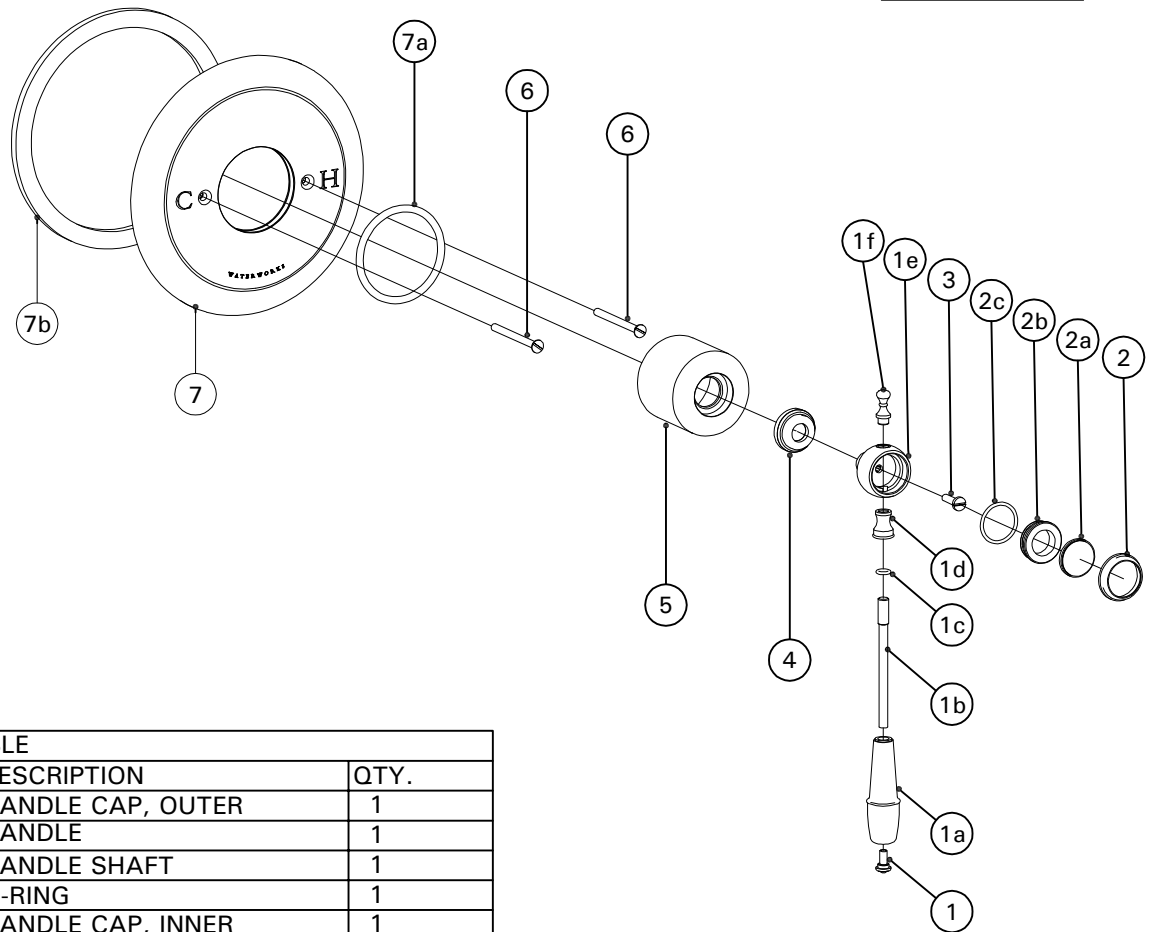
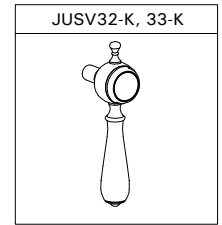
REPLACEMENT PART KITS		
CONTROL STEM REPLACEMENT KIT		
ITEM NO.	DESCRIPTION	QTY.
2	CAP GASKET	1
11	CONTROL STEM	1
12	CONTROL PISTON	1
13	COLD WASHER RETAINER	1
14	COLD WASHER	1
16	HOT WASHER	1
17	WASHER RETAINING SCREW	1
SEAT REPLACEMENT KIT		
18	COLD SEAT O-RING	
19	INT. COLD SEAT O-RING	1
20	HOT WATER SEAT	1
21	COLD WATER SEAT	1
SEAT REPAACEMENT KIT		
	COLD SEAT TOOL	1
	HOT SEAT TOOL	1
CONTROL STEM WASHER REPLACEMENT KIT		
2	CAP GASKET	1
13	COLD WASHER RETAINER	1
14	COLD WASHER	1
16	HOT WASHER	1
17	WASHER RETAINING SCREW	1
SERVICE STOP REPLACEMENT KIT (2) PER		
22	VALVE STOP	1
23	STOP O-RING	1
24	STOP GASKET	1

REPLACEMENT PART KITS		
ADJUSTMENT SCREW REPLACEMENT KIT		
ITEM NO.	DESCRIPTION	QTY.
8	ADJUSTMENT SCREW	1
9	O-RING	1
CAP REPLACEMENT KIT		
2	CAP GASKET	1
3	BONNET	1
4	O-RING WASHER	1
5	O-RING	1
6	PACKING WASHER	1
7	RUBBER PACKING	1
8	ADJUSTMENT SCREW	1
9	ADJUSTMENT SCREW O-RING	1
10	PACKING NUT	1
PACKING REPLACEMENT KIT		
2	CAP GASKET	1
4	O-RING WASHER	1
5	O-RING	1
6	PACKING WASHER	1
7	RUBBER PACKING	1

ADDITIONAL ITEM LIST		
ITEM NO.	DESCRIPTION	QTY.
1	VALVE BODY	1
25	STOP RETAINER	1
26	SERVICE STOP CAP	1

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W A T E R W O R K S



PARTS TABLE		
ITEM NO.	DESCRIPTION	QTY.
1	HANDLE CAP, OUTER	1
1a	HANDLE	1
1b	HANDLE SHAFT	1
1c	O-RING	1
1d	HANDLE CAP, INNER	1
1e	HANDLE BASE	1
1f	HANDLE POINTER	1
2	INDICE TRIM RING	1
2a	INDICE, BLANK	1
2b	INDICE CAP	1
2c	O-RING	1
3	SCREW, HANDLE	1
4	HANDLE SPACER	1
5	DOME COVER, THREADED	1
6	FACE PLATE SCREW	2
7	FACE PLATE	1
7a	O- RING, FACE PLATE	1
7b	GASKET, FACE PLATE	1

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W A T E R W O R K S

Care and Cleaning

The lustrous finish on your fitting or fixture should be treated with care. To clean the finish, wipe gently with a soft damp cloth and then with a soft dry towel. A mild soap solution can be used for daily cleaning. The use of non-recommended polishes, abrasive cleaners, solvents, ammonia-based products, or acid-based cleaners may damage the finish. Please know that improper handling or cleaning may damage the surface of the finish and consequently void the warranty.

Water contains lime and other minerals that are deposited after the water has evaporated. You can prevent deposits from forming by always wiping the fitting or fixture dry after use.

Please note the following points are specific to certain finishes or products only. Always read and follow the instructions when using any cleaning or polishing products.

BATHTUBS; CHINA, CERAMIC AND PORCELAIN

In addition to mild soap and water, a non-abrasive basin tub and tile cleaner is recommended for regular cleaning and disinfecting. Do not use abrasive cleaners or cleansers, as this will dull the surface finish. The use of any other cleaners or disinfectants may alter the surface finish.

CLOTHILDE TUB

Tin Coated Interior - Tin is a soft metal and should only be regularly cleaned with mild soap and water. The use of any other cleaners or disinfectants will alter the surface finish, removing the tin.

Copper Exterior - In addition to mild soap and water, a natural citrus-based product may be used for regular cleaning. The use of any other cleaners or disinfectants may alter the surface finish. Cape Cod® Polishing Cloths may be used for occasional polishing. If you desire additional protection, the use of Faucet Brite® will aid in cleaning and protecting the surface finish from mineral deposits present in your water supply. Faucet Brite® should be reapplied as necessary for continued protection.

WHIRLPOOL AND AIR TUB SYSTEMS

Jet Fresh® whirlpool cleaning solution is recommended for maintaining the waterways.

ANTIQUÉ COPPER, ANTIQUÉ BRASS, SHINY COPPER

Select Waterworks fittings and basins are offered in finishes that have been artificially weathered, creating a patina that will develop and change with time. In addition to mild soap and water, a natural citrus-based product may be used for regular cleaning. The use of any other cleaners or disinfectants may alter the surface finish. Please note that prolonged contact with certain items such as toothpaste, acidic fruits and vegetables, and wines will alter the surface finish. The use of polishing agents will remove the patina and restore the metal to its original shine. Once removed, the patina will naturally redevelop with time.

ARCHITECTURAL BRONZE

In addition to mild soap and water, a natural citrus-based product may be used for regular cleaning. The use of any other cleaners or disinfectants may alter the surface finish. Please note that prolonged contact with certain items such as toothpaste, acidic fruits and vegetables, and wines will alter the surface finish. The use of polishing agents will remove the finish.

NICKEL, MATTE NICKEL, CHROME, MATTE CHROME, MATTE GOLD, LUMIN, GOLD, CONCORDIA, SOVEREIGN

In addition to mild soap and water, a natural citrus-based product may be used for regular cleaning. The use of any other cleaners or disinfectants may alter the surface finish. Cape Cod® Polishing Cloths may be used for occasional polishing. If you desire additional protection, the use of Faucet Brite® will aid in cleaning and protecting the surface finish from mineral deposits present in your water supply. Faucet Brite® should be reapplied as necessary for continued protection.

SILVER, MATTE SILVER

Fittings offered in a silver finish will tarnish with age. This finish may be restored to its original luster by using Faucet Brite® or a non-abrasive silver polish. Faucet Brite® should be reapplied as necessary for continued protection and will help to prolong the time between regular polishing.

UNLACQUERED BRASS AND COPPER

Items purchased in unlacquered brass and copper finishes will change with time as they develop a natural patina. The original shine can be restored using Faucet Brite® or an appropriate polishing compound. If you desire additional protection, the use of Faucet Brite® will aid in cleaning and protecting the surface finish from mineral deposits present in your water supply. Faucet Brite® should be reapplied as necessary for continued protection.

CORIAN®

Soapy water, ammonia based cleaners or commercially available solid surface cleaners will remove most dirt and residue from Corian® surfaces. Stubborn residue will require a slightly stronger cleaner. Follow the recommendations at www.corian.com to properly clean your vanity top or sink.

WOOD SURFACES

All wood furniture surfaces should be maintained with a soft, damp cloth. Paste wax can be applied to the furniture every six months. Commercial or residential use citrus-based sprays are not recommended for cleaning the furniture.

W A T E R W O R K S

Warranty

RESIDENTIAL LIFETIME MECHANICAL WARRANTY

Waterworks warrants to the initial purchaser or initial homeowner all plumbing* and accessory** products sold by Waterworks, which are installed in a residence to be used in a residential application, to be free from manufacturing defects in materials and workmanship for as long as the purchaser continues to own and maintain the residence where the products are initially installed. Proof of purchase (original sales receipt) from the original consumer purchaser must accompany all warranty claims.

5 YEAR FINISH WARRANTY

Waterworks warrants to the initial purchaser or initial homeowner the finish of all plumbing* and accessory** products sold by Waterworks, which are installed in a residence to be used in a residential application, to be free from manufacturing defects in materials and workmanship for a period of five years from installation of the products. Products must be maintained and cleaned in accordance with the instructions provided to purchaser by Waterworks.

Waterworks must receive notice of any warranty claim within the five-year warranty period. Proof of purchase (original sales receipt) from the original consumer purchaser must accompany all warranty claims.

5 YEAR WOOD FURNITURE WARRANTY

Waterworks warrants to the initial purchaser or initial homeowner the finish of all wood furniture products sold by Waterworks, which are installed in a residence to be used in a residential application, to be free from manufacturing defects in materials and workmanship for a period of five years from installation of the products. Wood furniture will have natural variation in grain structure, color shade, and inherent characteristics such as streaks which are not considered defects. Waterworks must receive notice of any warranty claim within the five year warranty period. Proof of purchase (original sales receipt) from the original consumer purchaser must accompany all warranty claims.

1 YEAR ELECTRICAL TUB COMPONENTS, WATER CLOSET, VITREOUS CHINA AND CAST IRON WARRANTY

Waterworks warrants to the initial purchaser or initial homeowner electrical tub components, vitreous china, cast iron tubs and water closet internal components sold by Waterworks, which are installed in a residence to be used in a residential application, to be free from manufacturing defects in materials and workmanship for a period of 1 year from installation of the products. Gloss reduction, scratching, staining, alkaline etching of the finish over time due to use, cleaning practices or water or atmospheric conditions are not manufacturing defects but are considered normal wear and tear. Waterworks must receive notice of any warranty claim within the one-year warranty period. Proof of purchase (original sales receipt) from the original consumer purchaser must accompany all warranty claims.

REPAIR OR REPLACEMENT

If within the applicable warranty period the covered products shall be proved to the satisfaction of Waterworks to be defective, Waterworks will repair or replace such products, at its expense (provided that such repair or replacement shall not include installation costs). Waterworks' obligation shall be limited to such repair and replacement and shall be conditioned upon Waterworks' receiving notice of any alleged defect within the applicable warranty period. (Purchaser shall be responsible for all shipping charges for returned products.)

LIMITATIONS ON WARRANTY COVERAGE

The warranties set forth above shall be extended only to the initial purchaser or initial homeowner and do not apply to any purchaser where the products are used for commercial applications and usage. Furthermore, the warranties do not cover installation or any other labor charges and do not apply to:

- I. Products subject to normal wear and tear;
- II. Products which have been repaired, altered or modified in any way by purchaser or any person other than Waterworks or not using original Waterworks service parts, unless previously authorized in writing by Waterworks;
- III. Products which have not been installed, used, maintained or stored in accordance with the instructions provided to purchaser by Waterworks;
- IV. Products which have been used for purposes other than or in a manner contrary to their intended and normal use; products that have been used outdoors;
- V. Products which have been damaged as a result of misuse, negligence, freezing, accident or faulty installation or maintenance;
- VI. Products damaged by the effects of dirt, salt water air, hard water, lime scale, or abrasive or aggressive cleaners. If the normal life span of any product is shorter than the applicable warranty period, the warranty shall apply only during the period of such shorter life span;
- VII. Products damaged from exposure to extremes of high or low humidity and/or to rapid temperature change as well as variations in appearance which result from the normal expansion and contraction of wood as it responds to climatic changes in the home;
- VIII. Products installed that are not in compliance with local code requirements. Since local code requirements vary greatly, installation contractors and users of plumbing or fixture products should determine whether there are any code restrictions on the installation or use of a specified product;
- IX. Products sold "as is" and from store displays.

NATURE OF WARRANTY CLAIMS

For all warranty claims please call Waterworks Product Support at 800 927 2120, or write to Waterworks Product Support at 60 Backus Avenue, Danbury, CT 06810.

The warranties provided herein are conveyed only to the purchaser of products sold by Waterworks after January 1, 2006 and installed in a residential application. Except as specifically set forth above, Waterworks does not make any other warranty, express or implied, including without limitation, any implied warranty of merchantability or fitness for a particular purpose. In no event shall Waterworks be liable to any person or entity for any indirect, special, incidental or consequential damages or loss (including damages for loss of business, loss of profits, or the like), whether based on breach of contract, tort (including negligence), product liability or otherwise, even if it has been advised of the possibility of such damages. Waterworks' liability on any claim of any kind, including negligence, shall in no case exceed the contract price paid by the purchaser for the product claimed to be defective or unsuitable.

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* Examples of plumbing products: fittings including lavatory sets, shower valves, tub fillers, shower heads, hand showers, bidet fittings, kitchen mixers, tubs (excluding electrical components).

**Examples of accessory products: fixtures including washstands, mirrors, towel bars, shelves, robe hooks, paper holders, hardware/knobs, and furnishings.

W A T E R W O R K S