



# AquaVantage™ AV™ Z6000AV Series

AquaVantage Exposed Flushometer  
Installation, Operation,  
Maintenance and Parts Manual

Patented and Patents Pending



**Z6000AV**



**Z6003AV**



## AquaVantage™ Exposed Closet/Urinal Systems

Z6000AV  
Z6001AV  
Z6003AV  
Z6010AV  
Z6014AV  
Z6017AV  
Z6096AV  
Z6099AV

### LIMITED WARRANTY

All goods sold hereunder are warranted to be free from defects in material and factory workmanship for a period of three years from the date of purchase. Decorative finishes warranted for one year. We will replace at no cost goods that prove defective provided we are notified in writing of such defect and the goods are returned to us prepaid at Sanford, NC, with evidence that they have been properly maintained and used in accordance with instructions. We shall not be responsible for any labor charges or any loss, injury or damages whatsoever, including incidental or consequential damages. The sole and exclusive remedy shall be limited to the replacement of the defective goods. Before installation and use, the purchaser shall determine the suitability of the product for his intended use and the purchaser assumes all risk and liability whatever in connection therewith. Where permitted by law, the implied warranty of merchantability is expressly excluded. If the products sold hereunder are "consumer products," the implied warranty of merchantability is limited to a period of three years and shall be limited solely to the replacement of the defective goods. All weights stated in our catalogs and lists are approximate and are not guaranteed.



# AquaVantage™ Rough-In, Product Specification, Models and Options

**ENGINEERING SPECIFICATION: ZURN AquaVantage™ 'AV' Exposed Closet Flush Valve** – Exposed, quiet diaphragm-type, chrome plated, flushometer valve with a polished exterior. Complete with Zurn's AquaVantage TPE, chloramine resistant, dual seal diaphragm with a clog resistant, triple filtered by-pass. The valve is ADA compliant with a non-hold open and no leak handle feature, high back pressure vacuum breaker, one piece hex coupling nut, adjustable tailpiece, spud coupling and flange for top spud connection. Control stop has internal siphon-guard protection, vandal resistant stop cap, sweat solder kit, and a cast wall flange with set screw. Internal seals are made of chloramine resistant materials.

**Models:**

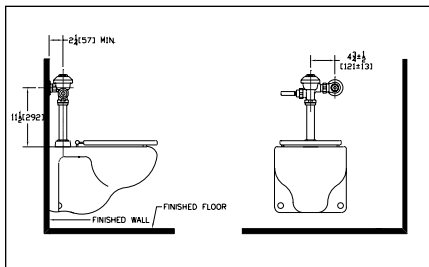
- Z6000AV- 1-1/2" Water Closet valve with top spud connection
- Z6010AV- 1-1/2" Water Closet valve with back spud connection
- Z6001AV- 1-1/4" Urinal Valve with top spud connection
- Z6003AV- 3/4" Urinal Valve with top spud connection

**Flows:**

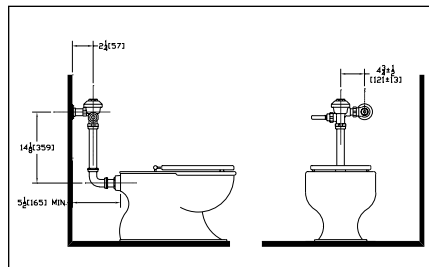
- FF Full Flow  
3.0 Gal. for Urinal, 4.5 Gal. for Water Closet
- WS1 Low Consumption  
1.0 Gal. for Urinal, 1.6 Gal. for Water Closet

**Options:**

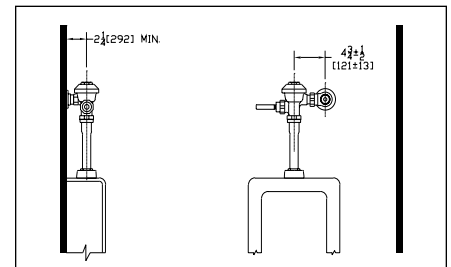
- -BG BioCare Handle
- -H Handle on Front of Flush Valve
- -L 1" [25] Metal Push Button
- -L3 3" [76] Metal Push Button
- -YJ Split Ring Pipe Support
- -YK Solid Ring Pipe Support
- -YO Bumper on Stop Angle
- -1 16" Rough-In
- -2 24" Rough-In
- Other



Models: Z6000AV, Z6000AV-1, Z6000AV-2, Z6000AV-3, -WS1 (water saver) 1.6 Gal. Low Consumption



Models: Z6010AV, Z6010AV-1, Z6010AV-2, -WS1 (water saver) 1.6 Gal Low Consumption



Models: Z6001AV (1-1/4" urinal flush valve) Z6003AV (3/4" urinal flush valve) -WS1 (water saver) 1.0 Gal Low Consumption

## Sweat Solder Adaptor Installation Instructions

**Important:**

- All plumbing is to be installed according to state and local codes and regulations.
- Water supply lines need to allow proper water flow for each fixture.
- Flush all lines of any **debris** before making connections.
- Do not use pipe sealant or plumbing grease on any fitting other than the control stop inlet.

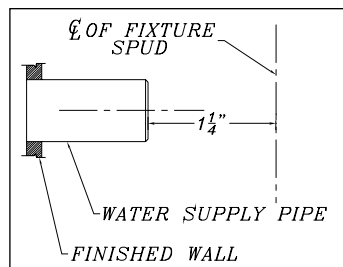
The AquaVantage™ valve is designed to operate under various water pressures with a recommended range between 10 and 100 psi (69 to 689 kPa). Each Zurn valve is tested for proper performance at the factory before being shipped. Consult the product pages of the catalog for available flow options.

Most low consumption fixtures (1.6 gallon) require a minimum of 25 psi running pressure through the valve to obtain proper evacuation.

When installing your quality Zurn valve it is recommended that to protect the polished finish you do not use a toothed wrench. This will cause gouges and scratches on your valve.

**STEP NO. 1**

Measure distance from finished wall to center line of fixture spud; cut water supply pipe 1-1/4" shorter than this measurement. Chamfer O.D. and I.D.

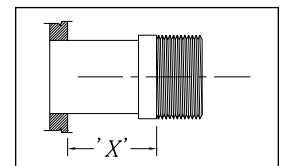
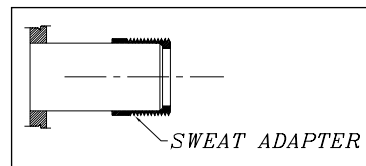


**STEP NO. 2**

Slide threaded adapter onto supply pipe until shoulder stops on end of pipe. Then sweat-solder the adapter to water supply pipe.

**STEP NO. 3**

Measure from finished wall to first thread of adapter for length of chrome tube. Cut chrome tube this length 'x'.

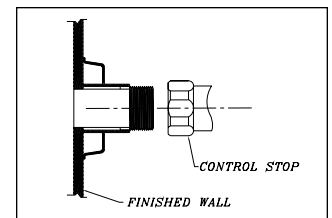
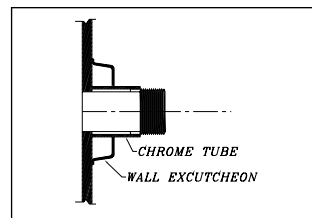


**STEP NO. 4**

Slide wall escutcheon over chrome tube and slide both chrome tube and wall escutcheon over supply pipe pushing the wall escutcheon all the way to the wall.

**STEP NO. 5**

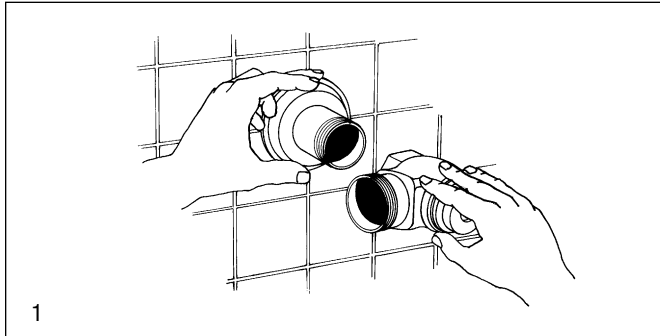
Screw control stop onto water supply water adaptor.



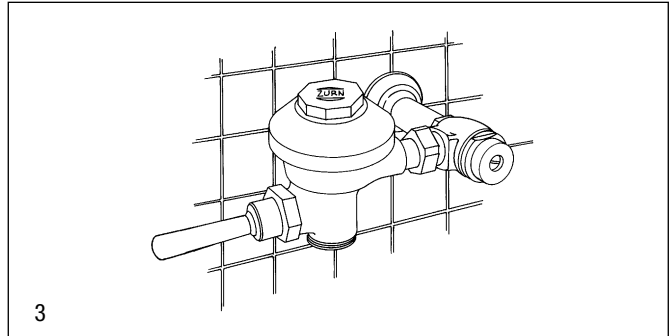


## AquaVantage™ Installation Instructions

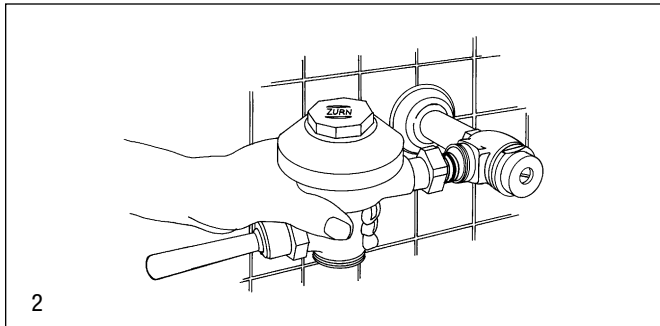
1. Install stop valve assembly using proper size supply escutcheon and sweat solder adapter kit if applicable (see 1). Thread sealing compounds should be used on male NPT threads only.



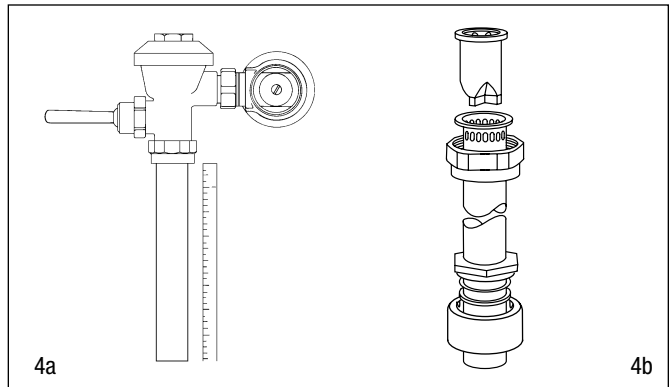
3. Insert the flush valve tailpiece into the stop valve and hand tighten the lock nut to the stop valve. Plumb the entire unit (see 3).



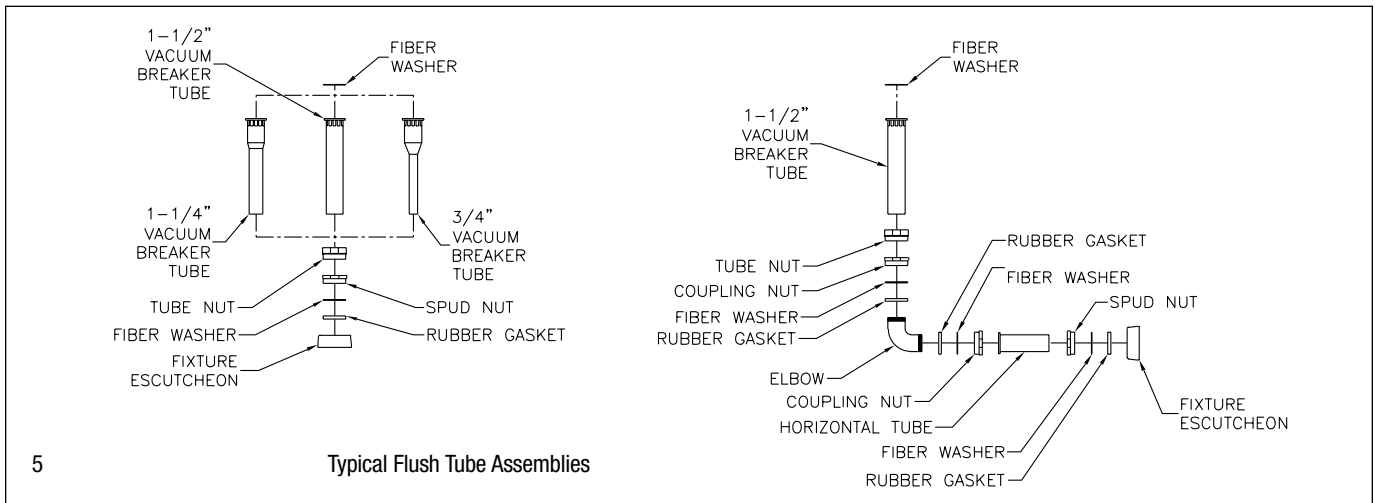
2. Prior to inserting the flush valve tailpiece into stop valve, be certain that the O-ring seal is located in O-ring seal groove at the end of the tailpiece and the locking nut and locking snap ring are located as shown below (see 2). Care should be taken not to damage the O-ring when inserting the tailpiece into the stop valve. If lubrication is needed, wetting the O-ring with water will be sufficient.



4. Determine the length of vacuum breaker tube required to join the flush valve and fixture spud. Cut the vacuum breaker tube, if required, to this length (see 4a). Assemble the vacuum breaker tube assembly and spud nut assembly to the flush valve and fixture spud.



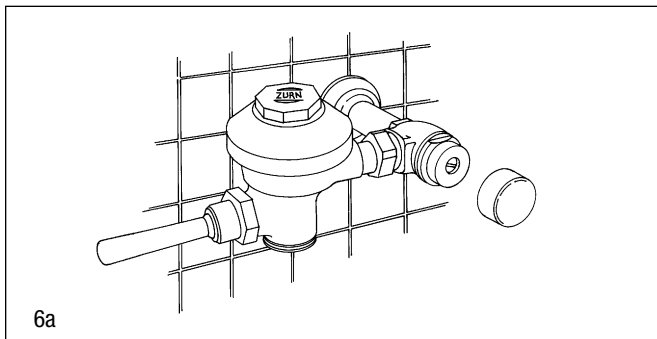
5. Hand tighten spud nut and vacuum breaker tube nut to fixture and flush valve. Adjust the valve assembly for plumb. Tighten fixture spud nut, vacuum breaker tube nut and lock nut with a wrench.





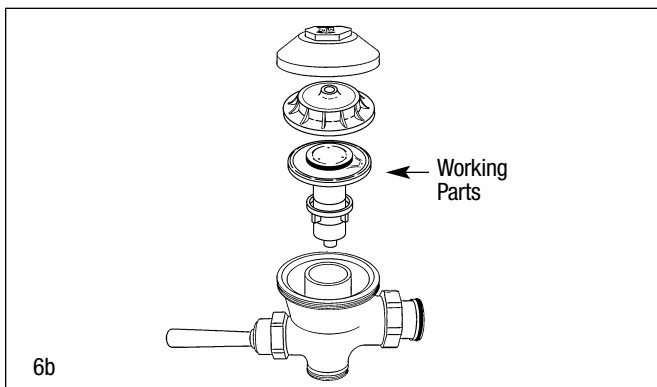
## AquaVantage™ Installation Instructions

6. When all flush valves are connected to the fixtures and water pressure is available, it is recommended that the supply piping be flushed to remove dirt, pipe chips, etc. from system. Before the water is turned on, be sure all stop valves to the flush valves are closed off tight. The stop valves can be opened and closed by using the adjusting screw located at the center of the stop valve cap, behind the stop cap cover if already installed (see 6a). Stop valve adjustments can only be made by using the adjusting screw. **It is not necessary to remove the stop valve cap when making adjustments. If for any reason it becomes necessary to remove the stop valve cap, be certain the water is shut off at the main supply valve.**



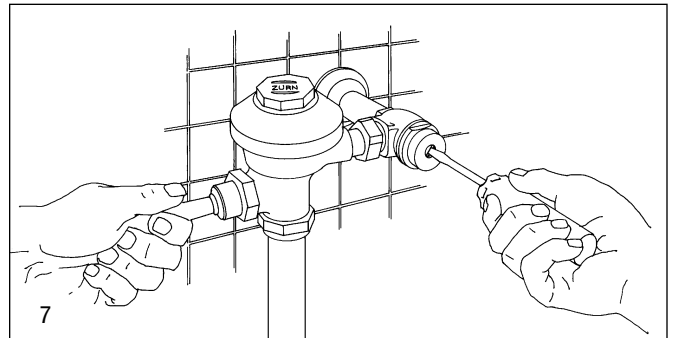
Use the following procedure to flush out the supply piping:

- Remove the main valve body cover.
- Remove the working parts from the flush valve (shown in 6b).
- Replace the main valve body cover and plastic cover without reinstalling the working parts.
- Open the stop valve by using the stop adjusting screw, and flush out all debris from pipe and connections.
- Shut stop, open cover, replace the working parts, replace plastic cover and main valve body cover and tighten.



This procedure should also be followed when the system has been drained for some time, as occurs in athletic fields, recreation parks, etc.

7. The AquaVantage™ flush valves are preset for fixture volume as marked on the valve cartons. The valve does not require regulation for variation in water pressure within its operating range. To set the flush valve for proper operation, gradually adjust the stop valve open, using the adjusting screw, while actuating the valve until the rate of water flow into the fixture is not excessive, yet is sufficient enough to adequately evacuate the waste. The final setting for urinals should be such that the fixture will not overflow when the valve is actuated in succession. The stop cap cover should be secured after final adjustments have been made.

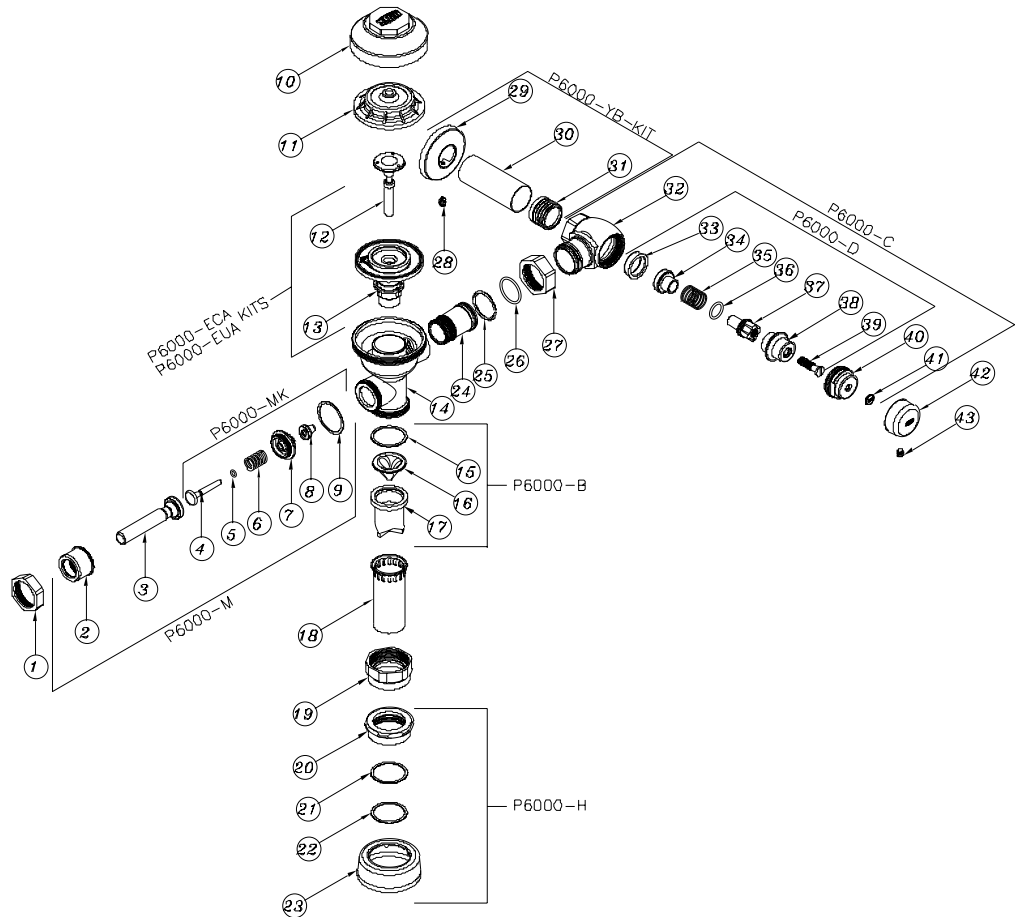




# AquaVantage™ Repair Kits

## Parts Identification

1. Handle Nut
2. Handle Sleeve and Insert
3. Low Force/ADA Compliant Handle
4. Actuator Rod
5. Handle O-Ring
6. Handle Spring
7. Handle Retainer
8. Handle Seal
9. Gasket
10. Valve Body Cover
11. Plastic Cover
12. Trip Mechanism
13. Diaphragm Repair Kit
14. Valve Body
15. Vacuum Breaker Friction Washer
16. Vacuum Breaker Insert
17. Vacuum Breaker Duckbill
18. Vacuum Breaker Tube
19. Vacuum Breaker Tube Nut
20. Spud Nut
21. Spud Friction Washer
22. Spud Sleeve
23. Spud Escutcheon
24. Tailpiece
25. Snap Ring
26. Tailpiece O-Ring
27. Locking Nut
28. Setscrew for Cast Wall Flange
29. Cast Wall Escutcheon
30. Supply Cover Tube
31. Sweat Solder Adapter
32. Stop Body
33. Piston Seal
34. Piston
35. Stop Spring
36. Guide O-Ring
37. Piston Guide
38. Guide Holder
39. Adjusting Screw
40. Stop Cap
41. Snap Cap Screw Cover
42. Vandal-Resistant Control Stop Cover
43. Setscrew for Control Stop Cover



Covers and Repair Kits	Product No.
Outside Cover - CP - Item 10	P6000-LL
Inside Cover - Item 11	P6000-L
Low Consumption Closet Kit - 1.6 gal. flush	P6000-ECA-WS1
Water Saving Closet Kit - 3.5 gal. flush	P6000-ECA-WS
Full Flow Closet Kit - 4.5 gal. flush	P6000-ECA-FF
Low Consumption Urinal Kit - 1.0 gal. flush	P6000-EUA-WS1
Water Saving Urinal Kit - 1.5 gal. flush	P6000-EUA-WS
Full Flow Urinal Kit - 3.0 gal. flush	P6000-EUA-FF
Repair Parts - Inside Parts	Product No.
Urinal Relief Valve - Item 12	P6000-EU13
Closet Relief Valve - Item 12	P6000-EC13
AquaVantage Rebuild Kits	Product No.
Closet and Urinal Rebuild Kits Include Items 4-9, 12, 13, 15-17, 26	P6000-ECA-WS-RK P6000-ECA-WS1-RK P6000-EUA-WS-RK P6000-EUA-WS1-RK
Handle Assembly and Repair Kits	Product No.
ADA Handle Assembly (Side) Includes Items 2-9	P6000-M-ADA
Handle Repair Kit (Side) Includes Items 4-9	P6000-MK
Handle Seal Includes Item 8	P6000-M9
Handle Gasket Includes Item 9	P6000-M10
Repair Kit for Front Operation - Exposed Includes Items 4-9	P6000-MHK
Handle Assembly (Front) Includes Items 2-9	P6000-MH

Control Stop Repair Kit and Parts	Product No.
Control Stop Repair Kit for 1" and 3/4", Includes Items 33-39	P6000-D-SD
Seal Seat for 1" and 3/4", Includes Item 33	P6000-D42
VP Control Stop Repair Kit for 1" and 3/4", Includes Items 33-39	P6000-D-VP
Sweat Solder Connection with Cast Wall Flange Includes Items 29-31	P6000-YB
Adjustable Tailpieces	Product No.
Adjustable Tailpiece for Standard Flush Valve Includes Items 24-26	P6000-J1
Tailpiece Coupling Assembly Includes Items 25-27	P6000-K
Tailpiece Locking Ring Includes Item 25	P6000-C30
Tailpiece O-Ring Includes Item 26	P6000-C31
Coupling Nut Includes Item 27	P6000-C32
Flush Connections and Spud Coupling Kits	Product No.
Flush Tube Assembly for Flush Valves Includes Items 15-19. Specify diameter and length.	P6000-A
Vacuum Breaker Repair Kit Includes Items 15-17	P6000-B
Spud Coupling Assembly Includes Items 20-23. Specify size.	P6000-H



## AquaVantage™ Trouble Shooting Guide

Problem	Cause*	Corrective Action*
Valve will not operate.	<ol style="list-style-type: none"> <li>1.) Stop valve is closed.</li> <li>2.) Supply valve is closed.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Open stop valve.</li> <li>2.) Open supply valve.</li> </ol>
Insufficient volume of water to adequately siphon fixture.	<ol style="list-style-type: none"> <li>1.) Stop valve is not open enough.</li> <li>2.) Urinal trip mechanism installed in wrong kit, urinal for closet.</li> <li>3.) Insufficient volume or pressure at supply.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Open stop valve for desired volume of water.</li> <li>2.) Replace urinal part with proper closet valve part.</li> <li>3.) If gauges are not available to measure supply pressure or volume of water at the valve, completely remove the working parts and open the stop valve to allow water to pass through the empty valve. If the supply is adequate to siphon the fixture, the guide ring (#17) may be removed from the guide assembly to provide additional flow. Should this prove unsatisfactory, steps should be taken to increase the pressure and/or supply.</li> </ol>
Flush valve shuts off too quickly.	<ol style="list-style-type: none"> <li>1.) Damaged or punctured diaphragm.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Install new P6000-EUA or P6000-ECA replacement kit to remedy the problem. (#12 and #13)</li> </ol>
Valve is short flushing.	<ol style="list-style-type: none"> <li>1.) Diaphragm kit is not matched to the fixture.</li> <li>2.) Urinal trip mechanism (black #12) is in the closet flush valve.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Install the proper P6000-EUA or P6000-ECA replacement kit to remedy the problem. (#12 and #13)</li> <li>2.) Install closet trip mechanism (white #12).</li> </ol>
Valve is flushing too long or not shutting off.	<ol style="list-style-type: none"> <li>1.) Trip mechanism not seating properly due to foreign material between trip mechanism and retainer disc.</li> <li>2.) By-pass orifice is plugged or partially plugged.</li> <li>3.) Line pressure is not adequate to force trip mechanism to seal.</li> <li>4.) Cracked cover. (#11)</li> </ol>	<ol style="list-style-type: none"> <li>1.) Disassemble parts and rinse thoroughly.</li> <li>2.) Examine by-pass orifice and clean if necessary being certain not to enlarge orifice opening.</li> <li>3.) Pressure is inadequate or has dropped below minimum operating range. Steps should be taken to increase the line pressure.</li> <li>4.) Replace cover with new one.</li> </ol>
Water splashes out of fixture.	<ol style="list-style-type: none"> <li>1.) Supply volume is more than is necessary.</li> <li>2.) Lime accumulation on vortex or spreader holes of fixture.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Adjust downward on control stop.</li> <li>2.) Remove the lime build up.</li> </ol>
Flush is not considered quiet.	<ol style="list-style-type: none"> <li>1.) Control stop may not be adjusted for quiet operation.</li> <li>2.) Fixture may be contributing to noise.</li> <li>3.) Piping system may be source of noise.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Adjust the control stop for quiet operation keeping in mind the fixture evacuation requirements.</li> <li>2.) Check noise created by fixture by placing a cover over the bowl opening to separate valve noise from bowl noise. If it is determined the fixture is too noisy consult with fixture manufacturer.</li> <li>3.) High pressure in the system can sometimes be controlled by the stop valve. Other sources of noise may be the absence of air chambers and shock arrestors, loose pipes, improper size pipes, etc. In these cases the building engineer should be consulted.</li> </ol>
Handle assembly leaking.	<ol style="list-style-type: none"> <li>1.) Handle assembly is not tight.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Tighten handle assembly.</li> </ol>
Water drips from chrome cap.	<ol style="list-style-type: none"> <li>1.) P6000-L inside plastic cap is cracked.</li> </ol>	<ol style="list-style-type: none"> <li>1.) Replace P6000-L plastic cap.</li> </ol>

### Care of Chrome Plated Surfaces

The suggested cleaning of chrome plated surfaces is simply to clean them with mild soap and water, then dry. Commercial cleaning compounds are never recommended.

### Seasonal Use

Valves used in installations subject to shut down because of cold and freezing conditions should be maintained in the following manner. After the main supply has been shut off and the water drained from the system, remove the stop valve cap and stop valve internals to allow the water to drain from the flush valve itself.

\*See previous page for numerical references.

**ZURN PLUMBING PRODUCTS GROUP COMMERCIAL BRASS OPERATION**

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