AquaSense® ZTR Series

Automatic Sensor-Operated Piston Type Flushometer for Water Closets and Urinals

Installation, Operation, Maintenance, and Parts Manual

Water Closet Models:

ZTR6200-ONE	1.1 gpf
ZTR6200EV	1.28 gpf
ZTR6200-WS1	1.6 gpf

Urinal Models:

ZTR6203-ULF	0.125 gpf
ZTR6203-QRT	0.25 gpf
ZTR6203-EWS	0.5 gpf
ZTR6203-WS1	1.0 gpf

Power Options:

Battery (Standard)
-LL (Long Life Battery)
-HW (Hardwired using 7.6 VDC Power Supply Input)

ADA DESIGNED

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 costs 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.

NOTICE: READ ENTIRE MANUAL PRIOR TO INSTALLING PRODUCT

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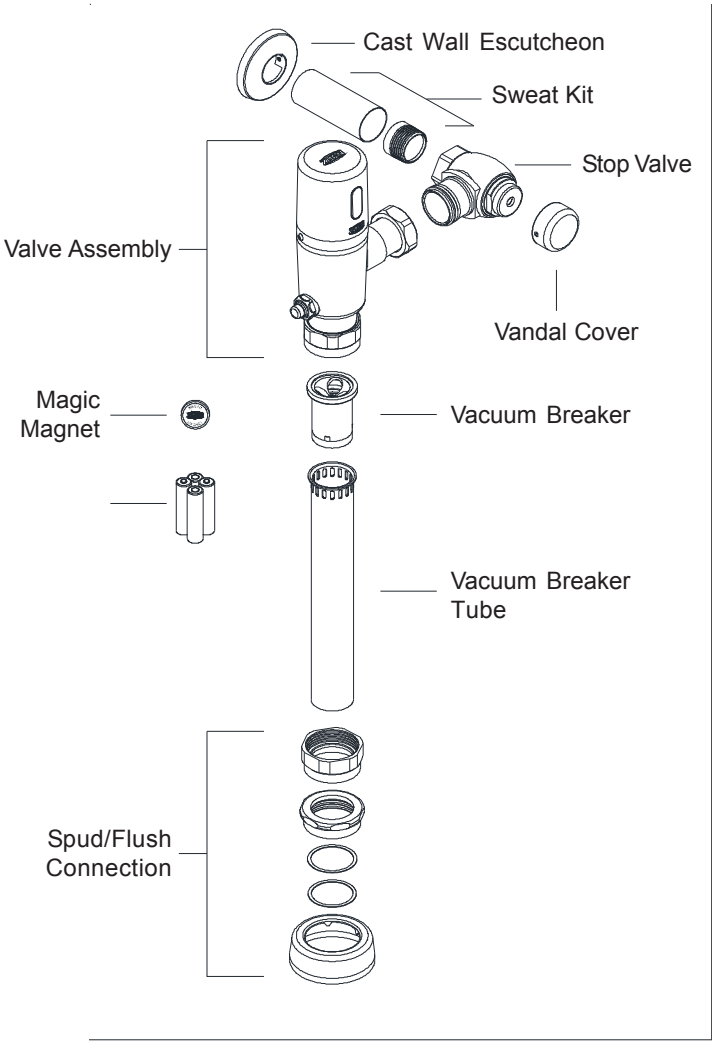
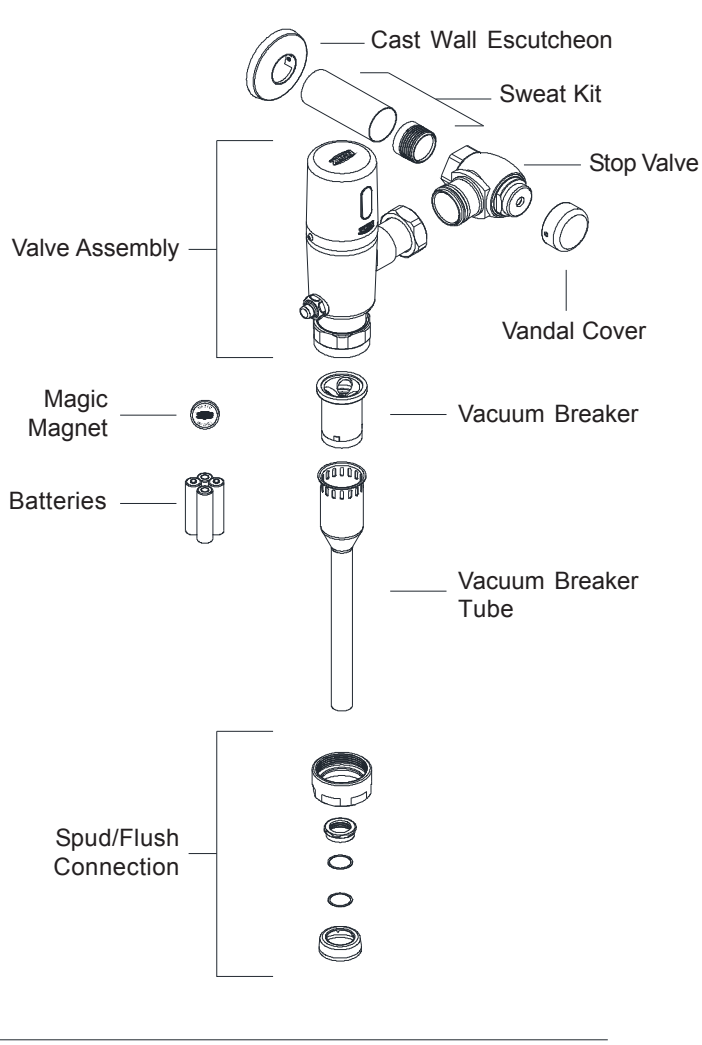
Date: 1/28/2016
C.N. No. SAN007244
Dwg. No. FV541

ZTR Series Flush Valve Package Contents

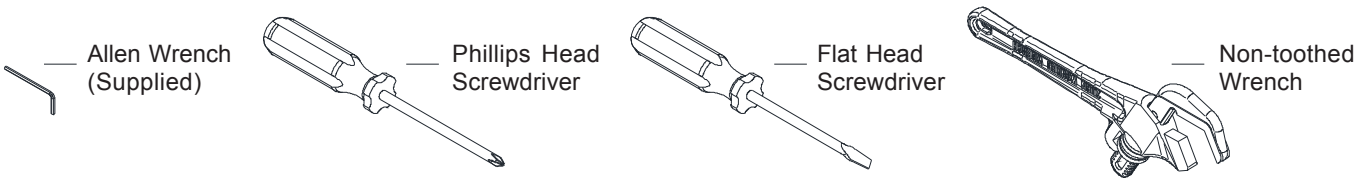
ZTR6200



ZTR6203



Required Tools



Overview:

Zurn Aqua-Sense® ZTR Series Flushometer offers two models (closet/urinal) in a variety of flow rates. The ZTR design is a chrome plated brass body with an automatic sensor-operated piston-type valve. The flushometer incorporates a filtered bypass, high back pressure vacuum breaker, adjustable tailpiece, spud coupling, flange for top spud connection and a mechanical override pushbutton (MOB) for alternative flushing methods. The control stop has internal siphon-guard protection, vandal resistant stop cap, sweat solder kit, and cast wall flange with set screw. All internal and external gaskets and seals are chloramine resistant.

Specifications:

Voltage:	6 VDC Series [4 “AA” (Alkaline or Lithium) and/or external power option]
Sensor Range:	Factory set for user at end of elongated bowl or field adjustable by installer

Important Safety Information:

- Installer is responsible for ensuring the product is installed and conforms to all plumbing codes and ordinances.
- Do not convert or modify this Zurn product yourself. All warranties will be voided.
- Water supply lines must be sized according to building designer in order to provide adequate water supply for each fixture.
- Flush all water lines prior to making connections.

Prior to Installation:

Before installing your Zurn® Aqua-FIT® Faucet: the items listed below should already be installed on site.

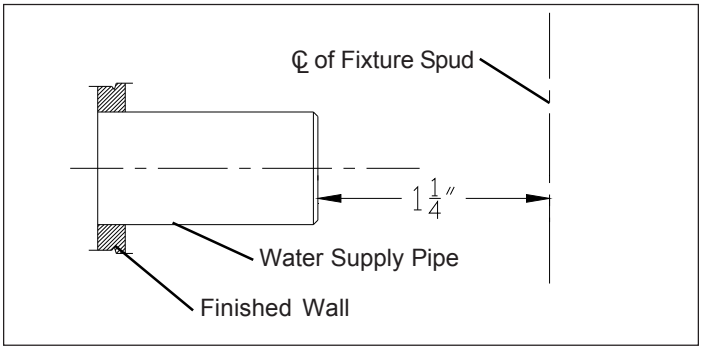
- The ZTR flushometer is designed to operate optimally with the fixture between 35 to 80 psi (241 to 552 kPa) of running water pressure.
- When installing a flushometer, it is important that the flush volume matches the requirements of the plumbing fixture.
- To protect chrome finish, do not use toothed tools to install or service the flushometer.

<u>NOTE</u>: The information in this manual is subject to change at any time without notice. Installations may be performed at different times of construction by different individuals. For this reason, these instructions should be left on-site with the facility or maintenance manager.

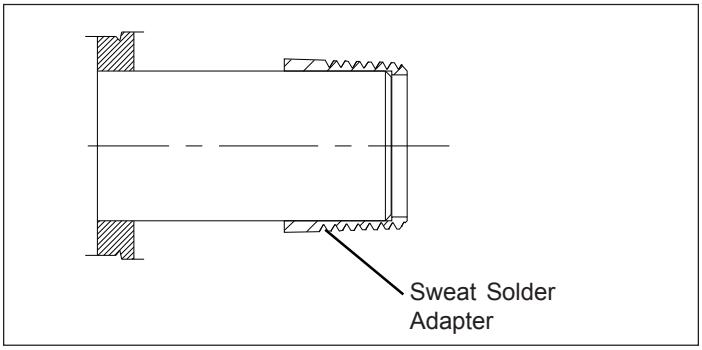
Sweat Solder Adapter Installation Instructions - STEP 1

NOTE: Before installation, turn off water supplies to existing fixture and remove flushometer if replacing an existing device.

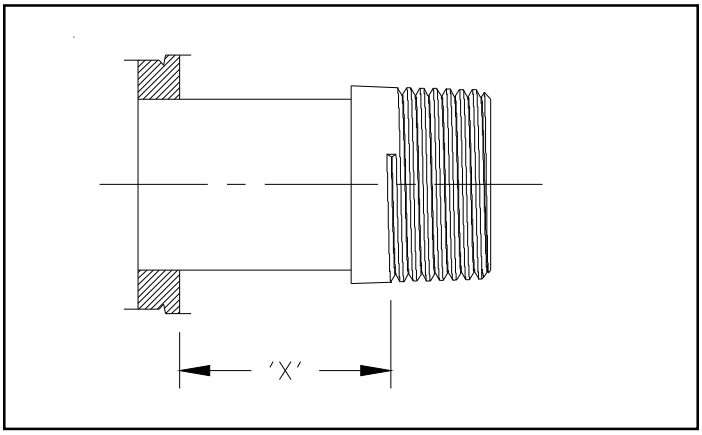
STEP 1.1
Measure distance from finished wall to the center line of the fixture spud. If necessary, cut water supply pipe 1-1/4" shorter than this measurement. Deburr by chamfering O.D. and I.D of end of water supply pipe.



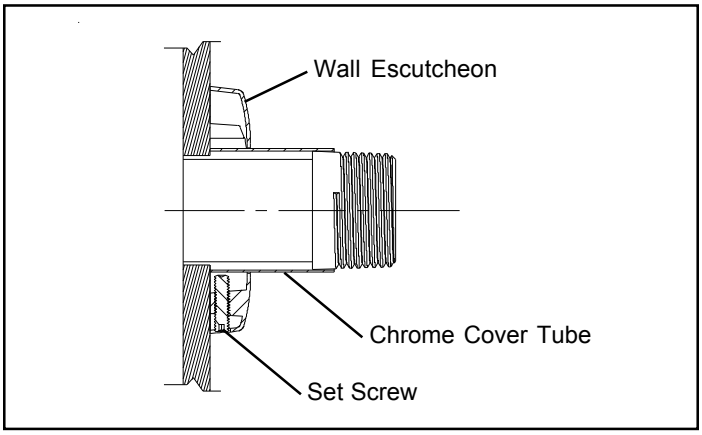
STEP 1.2
Slide threaded sweat solder adapter onto water supply pipe until shoulder stops on end of pipe. Then sweat-solder the adapter to water supply pipe.



STEP 1.3
Measure distance from finished wall to first thread of sweat solder adapter. If necessary, cut chrome cover tube this length.



STEP 1.4
Slide wall escutcheon over chrome cover tube and slide both items over water supply pipe. Press wall escutcheon flush against finished wall and tighten set screw with hex wrench (supplied) to secure it in place.



Control Stop Installation Instructions - STEP 2

STEP 2.1
Install control stop assembly by threading it onto water supply pipe and tightening with a smooth jawed wrench. Apply thread sealing compound or pipe tape to male NPT thread on sweat solder adapter only.

Prior to turning on main water supply line ensure all stop valves are closed off tight by using a flathead screwdriver and turning the stop valve adjustment screw clockwise.

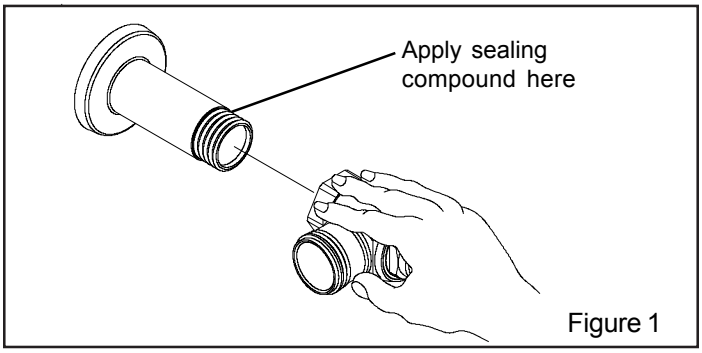


Figure 1

STEP 2.2
When all stop valves are properly connected to the water supply line and water pressure is available open the control stop using a flathead screwdriver and turning the stop valve adjustment screw counterclockwise.

Allow the water supply line to flush any debris or sediment that may be present in the line.
Close the control stop once the lines are completely flushed.

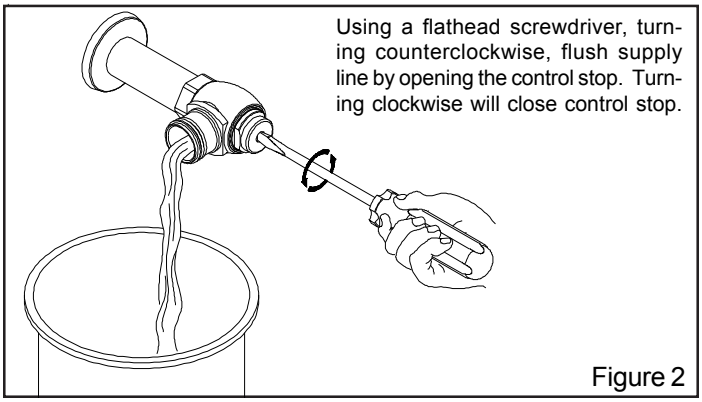


Figure 2

Flush Valve Installation - STEP 3

STEP 3.1
Prior to attaching flush valve to control stop(A) inspect and verify that the O-ring (C) is located within the O-ring groove at the tailpiece. Ensure the locking nut (D) and locking snap ring (E) are also present on the tailpiece. See Figure 3.

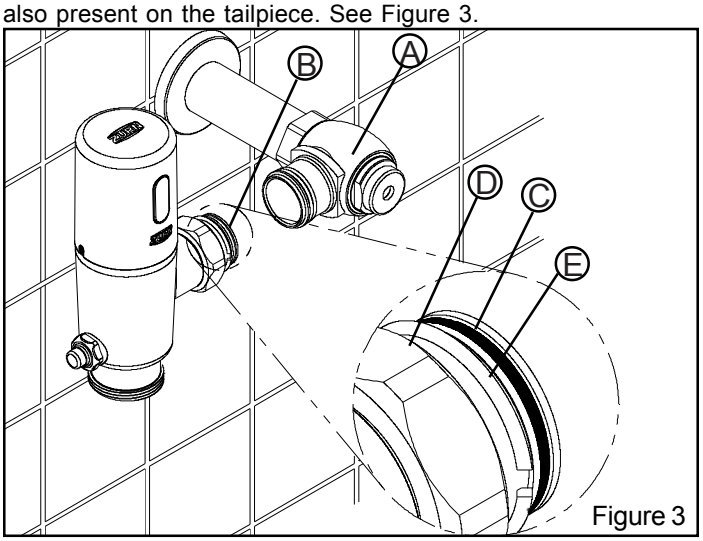


Figure 3

STEP 3.2
Lubricate O-ring with water if necessary and carefully insert flush valve tailpiece into the control stop valve to ensure O-ring remains seated. Tighten locking nut using a smooth jawed wrench. See Figure 4.

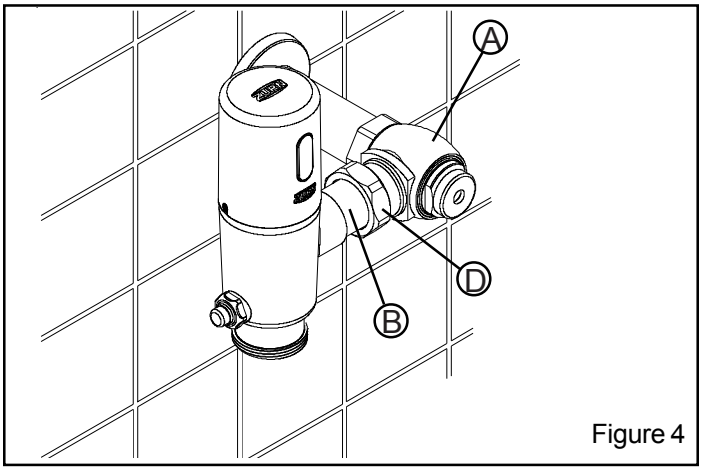


Figure 4

STEP 3.3
Determine the length of vacuum breaker tube required to join the flush valve and fixture spud, and cut if necessary. See Figure 5.

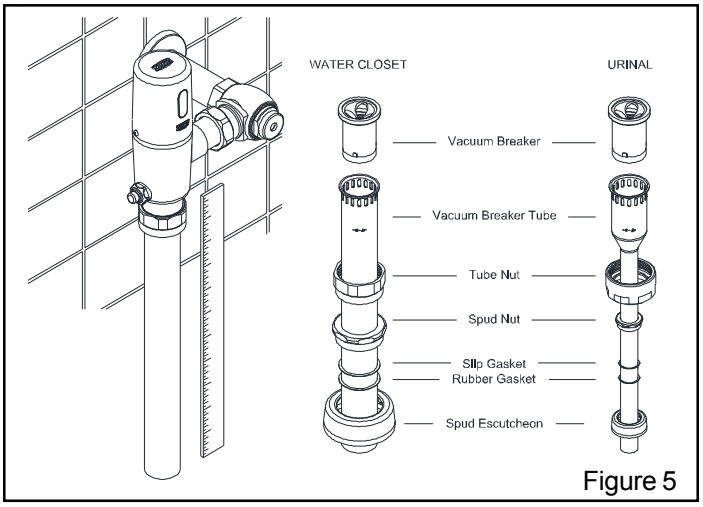


Figure 5

⚠ ***DO NOT*** *use pipe sealant or plumbing grease on any valve component or coupling with the exception of the Control Stop Inlet! Ensure Vacuum Breaker does not twist or warp when tightening Vacuum Breaker Tube Nut.*

STEP 3.4
Assemble and secure the vacuum breaker tube assembly and spud nut assembly to the flush valve and fixture spud by hand tightening the spud nut and vacuum breaker tube nut.

Adjust and plumb the valve assembly. Tighten all connections with smooth jawed wrench and turn on water supply at the control stop. See Figure 5.

⚠ ***DO NOT*** *cut vacuum breaker tube shorter than 6" below the -C-L- indicator mark, as vacuum breaker must be 6" above the fixture. Consult plumbing Codes & Regulations for specific details.*

Remove Sensor Cap (Applies to all versions) - STEP 4

STEP 4.1
Use the 5/64" Allen wrench (supplied in the stop valve cover package) to loosen the two cap screws (not necessary to fully remove) and remove the sensor cap. See Figure 6.

STEP 4.2
Disconnect black solenoid plug before accessing batteries.

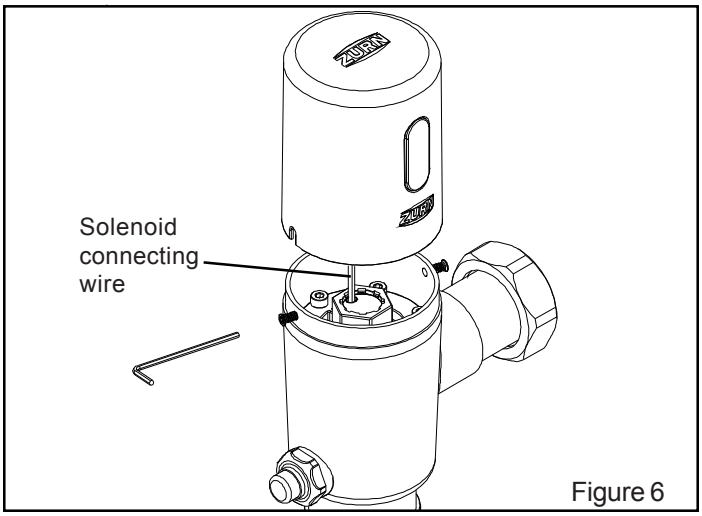


Figure 6

Battery Installation (Applies to battery and -LL versions only) - STEP 5A

STEP 5A.1
Remove sealed battery housing from sensor cap and remove top of sealed battery housing using Philips head screwdriver. Insert four batteries (supplied) into sealed battery housing and ensure the batteries are inserted in the correct orientation. Reattach top to the sealed battery housing.

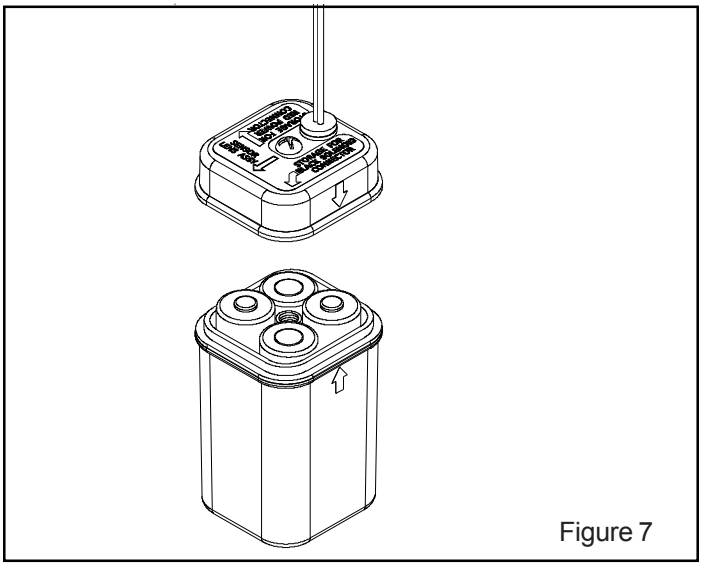


Figure 7

⚠ *Only use one battery type for installation. **DO NOT** mix and match Standard (Alkaline) and Long Life (Lithium) Batteries.*

STEP 5A.2
Connect sealed battery housing to sensor lens via **RED** connectors by aligning arrows and pressing together.

Insert sealed battery housing into sensor cap. Ensure sticker on top of sealed battery housing is oriented properly with the **WHITE** arrow pointing toward the sensor lens. See Figure 8.1.

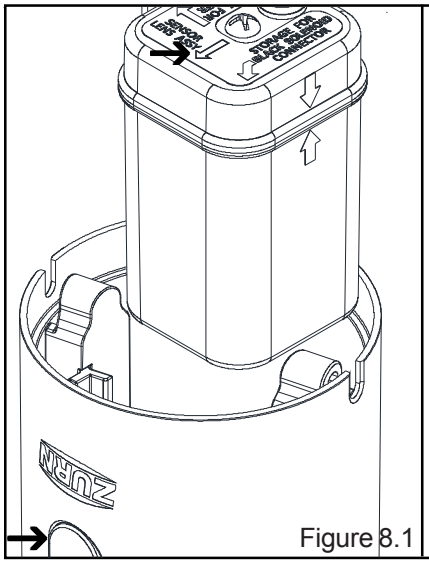


Figure 8.1

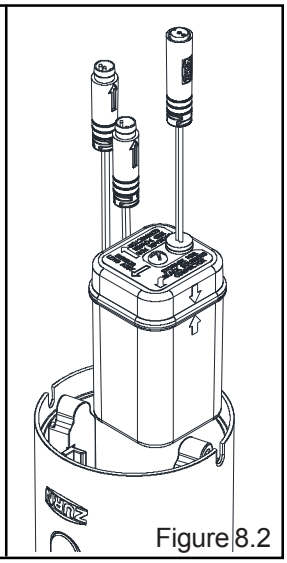


Figure 8.2

Utilize open space within the sensor cap to store the connected RED power connectors and BLACK solenoid connectors. See Figure 8.2.

STEP 5A.3
Reattach the sensor cap and tighten cap screws.

Hardwire Installation (Applies to -HW versions only) - STEP 5B

STEP 5B.1
Route 10' power supply cable (supplied) through the wall escutcheon (supplied), wire supply tube (supplied) and the opening on the back of sensor cap.

Connect power supply cable to sensor lens via **RED** connectors by aligning arrows and pressing together.

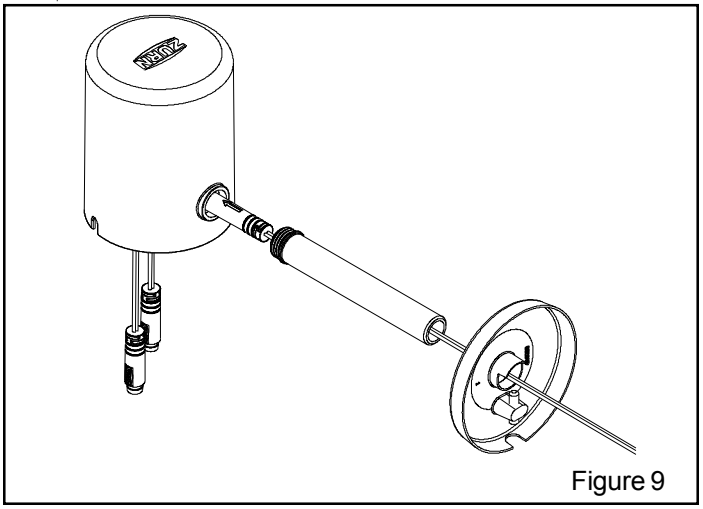


Figure 9

Hand-tighten wire supply tube into the back of the sensor cap. Slide wall escutcheon along wire supply tube until it is against the sensor cap.

Reattach the sensor cap to the flushometer valve body while ensuring wire supply tube is properly inserted into thru-hole in wall.

Tighten the cap screws using 5/64" Allen wrench to secure sensor cap. Slide wall escutcheon flush with wall and secure using set screw and Allen wrench (supplied).

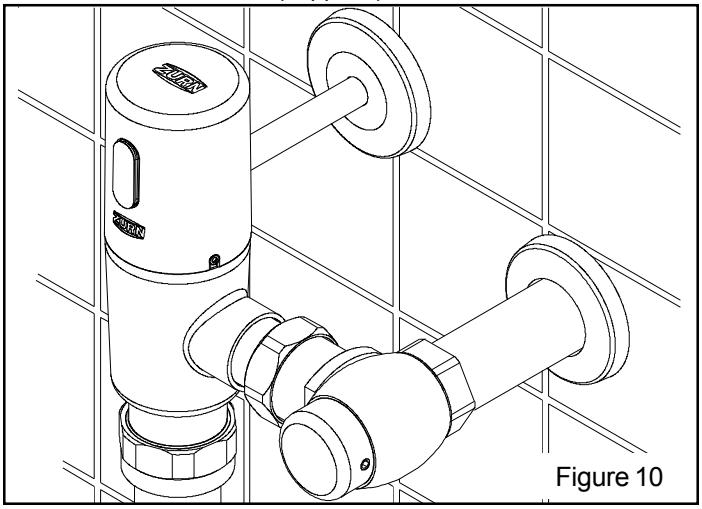


Figure 10

Connect ZTR-HW directly to HW6 Power Converter. (Recommended if one to two ZTR flush valves are powered by one HW6.)

STEP 5B.2
Cut **RED** power connector from end of power supply cable not connected to the Sensor Cap and strip back the wire insulation by minimum of 1/4".

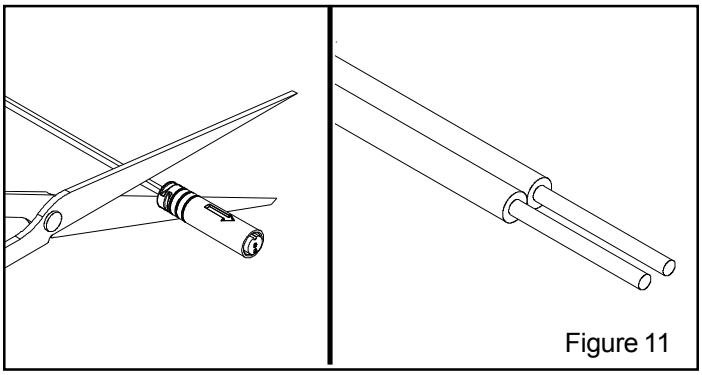


Figure 11

STEP 5B.3
Secure **RED** wire to Positive (+) and **BLACK** wire to Negative (-) screw terminals on HW6.

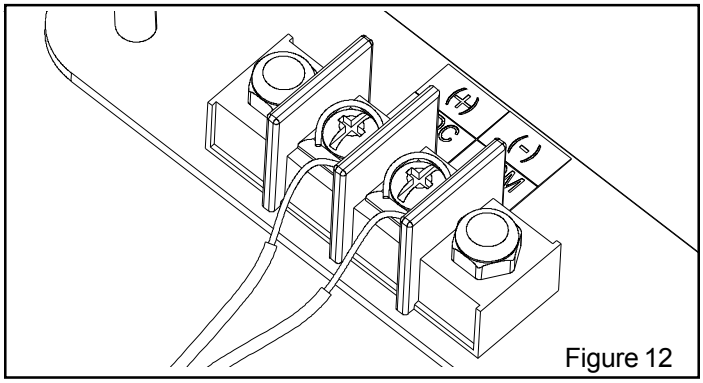
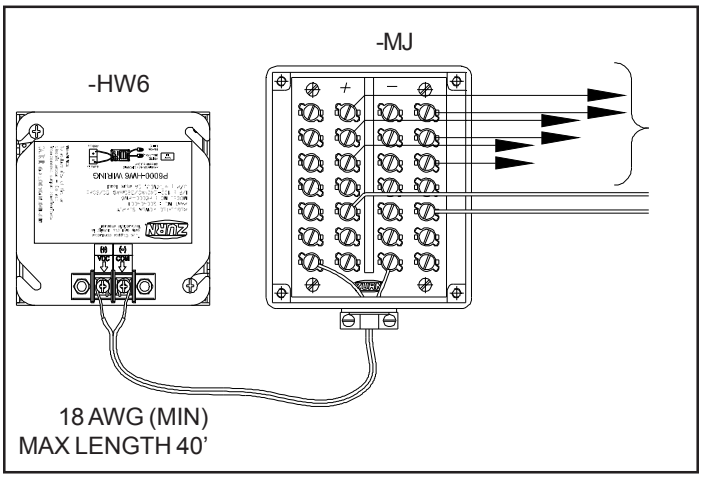


Figure 12

Optional Junction Box (recommended when three or more ZTR flush valves utilize one HW6)



Courtesy Flush Settings (when necessary)

STEP 1
A courtesy flush can be enabled for the ZTR flushometer where the valve will automatically flush at a specified interval based on customer preference. Simply manipulate Dipswitches #2 and #3 located on the Sensor Lens found on the inside of the Sensor Cap to change the courtesy flush interval.

Courtesy Flush Interval	Dipswitch #2	Dipswitch #3
Disabled (Default Setting)	ON	ON
24 hours	ON	OFF
48 hours	OFF	ON
72 hours	OFF	OFF

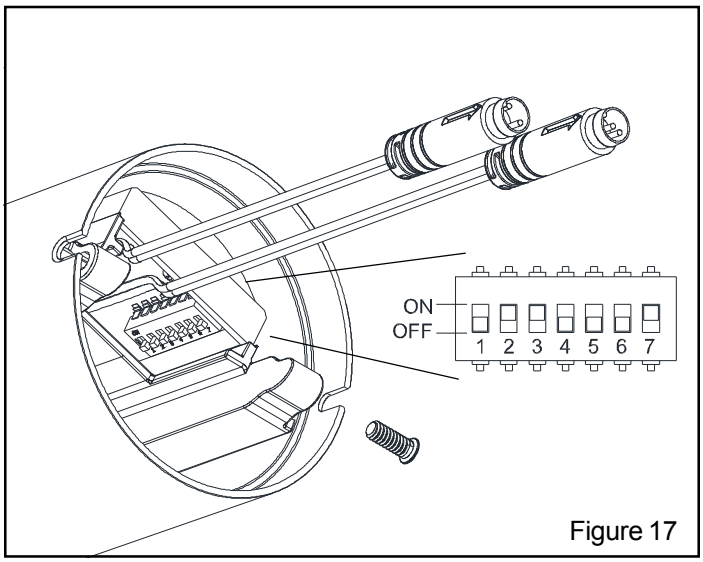


Figure 17

Sensor Range Adjustment (when necessary)

STEP 1.1
Place the Zurn MagicMagnet® (supplied) against the cap at the lower right corner of the Zurn logo under the sensor lens. Hold in place until red LED light flashes 2 times and an automatic flush will follow which signifies that the sensor has entered calibration mode.

STEP 1.2
Place light-colored target at desired detection range away from sensor. After 10 more LED flashes the new sensor range distance will be calibrated and set.

⚠ *Test new calibrated sensor range using targets of various material types/textures to ensure calibration accuracy. Verify that sensor range does not detect stall doors or other reflective surfaces.*

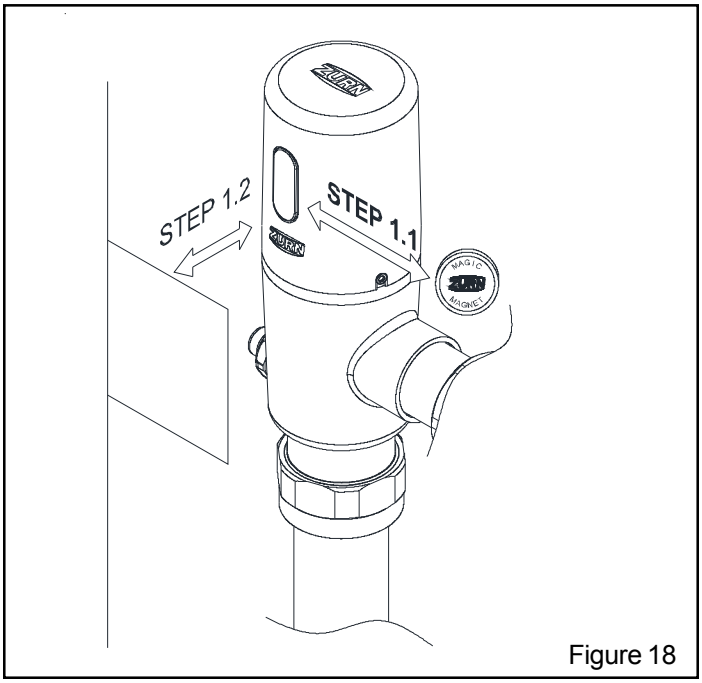


Figure 18

TROUBLE SHOOTING GUIDE

PROBLEM	INDICATOR	POTENTIAL CAUSE	SOLUTION
Red sensor flashes every 10 seconds	Sensor flashes (red) every 10 seconds	Low battery voltage indication	Replace batteries – see Step 5 for reference
Valve does not flush	Sensor flashes (red) every 30 seconds	Continuous target detection of object within sensor range	#1 Inspect and clean lens #2 Identify and remove any target from sensor field #3 Reduce sensor range distance (see page 8 for Sensor Range Adjustment instruction)
	Sensor detects user but fails to flush upon exiting sensor range	Battery power level too low to activate full flush – sensor automatically shuts down to avoid open flush	Replace batteries – see Figure 6 for reference
		Dirty lens	Clean lens until free of debris
		Loose or damaged solenoid connection	Inspect connection between solenoid and sensor for proper insertion - see step 5A.2
	No target detected	Install environment may require adjustment of the sensor range from the factory settings	Re-calibrate sensor range – see Sensor Range Adjustment (Figure 18)
Valve does not shut off water (continuous flow)	Normal target detection	Water pressure either too high or too low	Adjust water pressure to recommended range: 25psi dynamic (running) minimum 80psi static (closed) maximum
Valve flows low	Valve does not evacuate fixture	Filter is clogged with debris	#1 Turn stop off #2 Remove valve from stop and fixture #3 Inspect/clean filter (see parts breakdown - Part number 10)

For futher assistance with troubleshooting, visit http://www.zurn.com/

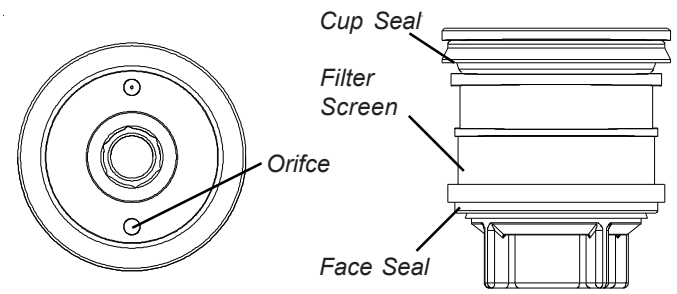
Care and Cleaning Instructions:

- Do not use any abrasive or chemical cleaners to clean the flushometer.
- ONLY use mildly warm soapy water, and then wipe the device dry with a clean/soft towel or cloth.
- Upon cleaning other areas of the restroom, be sure the sensor lenses are protected from other cleaning chemicals/solvents to prevent potential damages to the sensor and/or electronics.

Accessing Piston Kit

1.) Remove valve cap and base to expose solenoid. Using M3 Allen wrench remove the six screws and the solenoid flange.

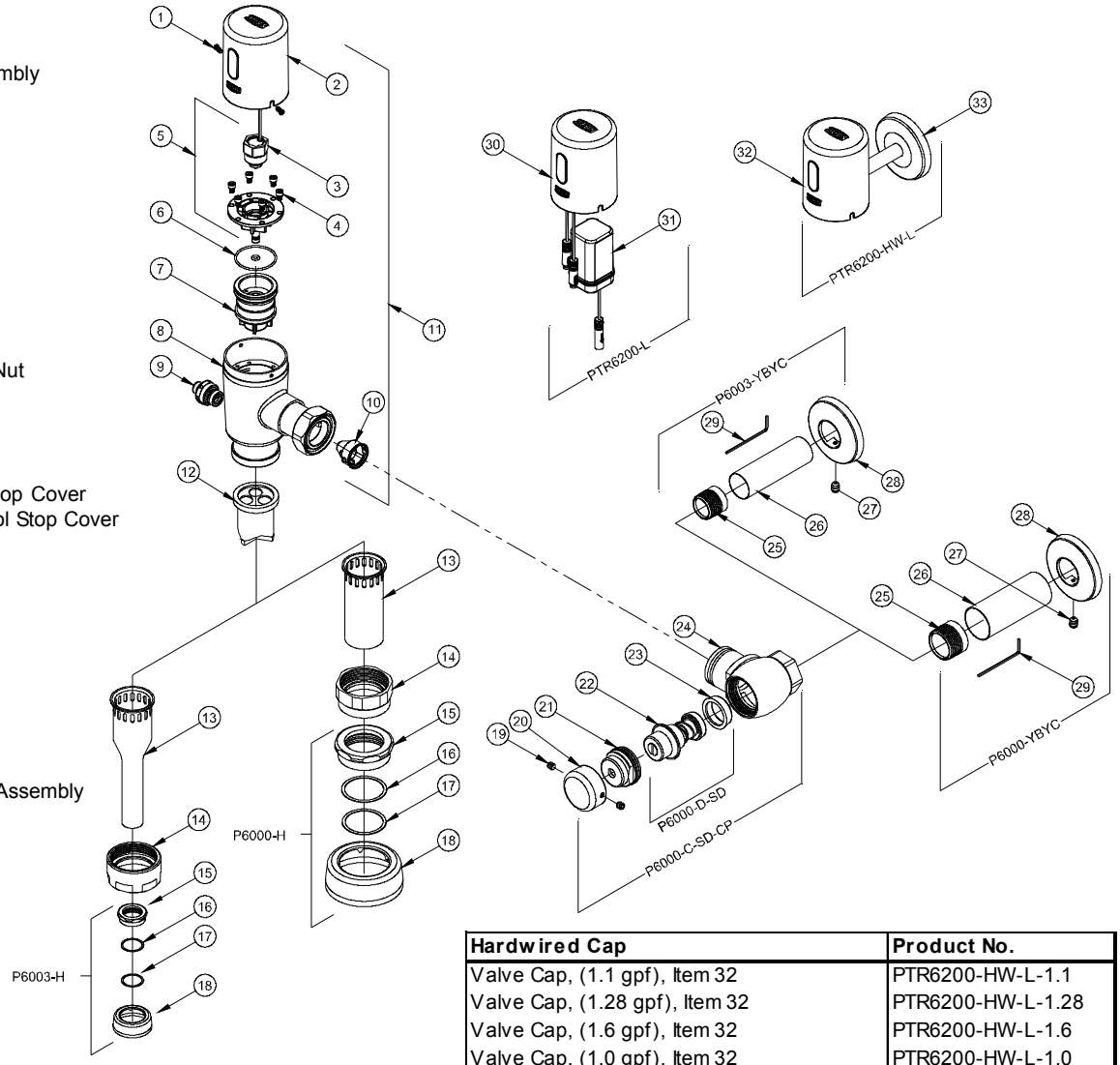
2.) Remove the piston kit from the valve body and inspect for damage to the seals or debris in the orifice. Exccessive build up of debris may occur on filter screen.



ZTR6200EV Series Parts Breakdown

Parts Identification

1. Cover screw
2. Valve Cap/Sensor Assembly
3. Solenoid
4. Piston Cover Screws
5. Solenoid Kit
6. Flange O-rings
7. Piston Kit
8. Valve Housing
9. Manual Override Button
10. Filter
11. Valve Assembly
12. Vacuum Breaker
13. Vacuum Breaker Tube
14. Vacuum Breaker Tube Nut
15. Spud Nut
16. Spud Friction Washer
17. Spud Sleeve
18. Spud Escutcheon
19. Setscrew for Control Stop Cover
20. Vandal-Resistant Control Stop Cover
21. Stop Cap Bonnet
22. Stop Internals
23. Piston Seal
24. Stop Body
25. Sweat Solder Adapter
26. Supply Cover Tube
27. Setscrew for Cast Wall Escutcheon
28. Cast Wall Escutcheon
29. Hex Wrench
30. Top Valve Cap/Sensor Assembly
31. Battery Housing
32. Hardwired Top Valve Cap/Sensor Assembly
33. Wire Supply Tube and Escutcheon



Valve and Components	Product No.
Valve Housing, Items 8 & 9	PTR6200-HSA
Valve Cap, (1.1 gpf), Item 2	PTR6200-L-1.1
Valve Cap, (1.28 gpf), Item 2	PTR6200-L-1.28
Valve Cap, (1.6 gpf), Item 2	PTR6200-L-1.6
Valve Cap, (1.0 gpf), Item 2	PTR6200-L-1.0
Valve Cap, (0.5 gpf), Item 2	PTR6200-L-0.5
Valve Cap, (0.25 gpf), Item 2	PTR6200-L-0.25
Valve Cap, (0.125 gpf), Item 2	PTR6200-L-0.125
Solenoid Replacement Kit, Item 5	PTR6200-M
Piston Kit (1.1/1.28/1.6 GPF), Item 7	PTR6200-EC
Piston Kit (0.5/1.0 GPF), Item 7	PTR6203-EU
Piston Kit (0.125/0.25 GPF), Item 7	PTR6203-EU-ULF
Manual Override Button Assy, Item 9	PTR6200-24
Flange O-Ring, Item 6	PTR6200-M-ring
Flange Screw , Item 4	PTR6200-M-S
Filter, (1.28/1.6 gpf), Item 10	P6000-FA
Filter, (1.0/0.5 gpf), Item 10	PTR6203-FA
Cover screw , Item 1	PTR6200-L-S
Sealed Battery Housing, Item 31	PTR6200-BATT

Hardwired Cap	Product No.
Valve Cap, (1.1 gpf), Item 32	PTR6200-HW-L-1.1
Valve Cap, (1.28 gpf), Item 32	PTR6200-HW-L-1.28
Valve Cap, (1.6 gpf), Item 32	PTR6200-HW-L-1.6
Valve Cap, (1.0 gpf), Item 32	PTR6200-HW-L-1.0
Valve Cap, (0.5 gpf), Item 32	PTR6200-HW-L-0.5
Valve Cap, (0.25 gpf), Item 32	PTR6200-HW-L-0.25
Valve Cap, (0.125 gpf), Item 32	PTR6200-HW-L-0.125

Flush Connections and Spud Coupling Kits	Product No.
Flush Connection and Spud Coupling, Items 15-18	P6000-H P6003-H
Vacuum Breaker Repair Kit, Items 11	P6000-B
Vacuum Breaker Tube	P6000-A-CP
Vacuum Breaker Tube Nut	P6000-AA-CP

Control Stop Repair Kit and Parts	Product No.
Control Stop Repair Kit for 1" and 3/4", Includes Items 14-20	P6000-C-SD-CP
Seal Seat for 1" and 3/4", Includes Item 23	P6000-D42
Sweat Solder Adapter, Includes Item 25	P6000-YBA
Vandal resistant control stop cover Items 19-20	P6000-VC
Sweat solder kit, Items 25-29	P6000-YBYC
Sweat solder kit, Items 25-29	P6003-YBYC

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