

## INSTALLATION INSTRUCTIONS FOR SLOAN CX MANUAL CLOSET AND URINAL FLUSHOMETERS



### Manual Closet Flushometers

Model CX 158-1.6  
Model CX 158-1.28

### Manual Urinal Flushometer

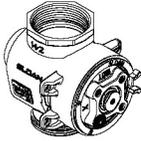
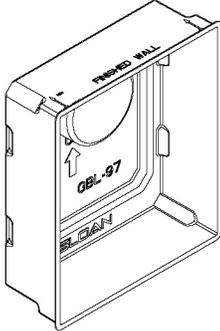
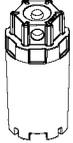
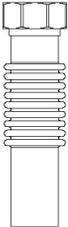
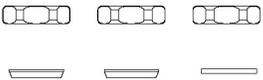
Model CX 198-0.5  
Model CX 198-0.25

### LIMITED WARRANTY

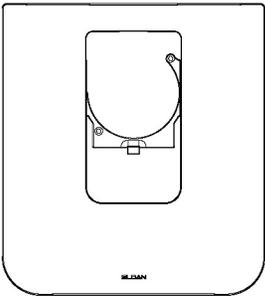
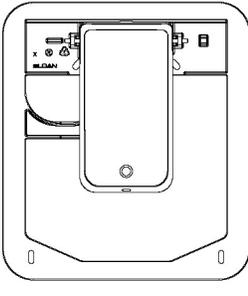
Sloan Valve Company warrants its Flushometer to be made of first class materials, free from defects of material or workmanship under normal use and to perform the service for which they are intended in a thoroughly reliable and efficient manner when properly installed and serviced, for a period of three (3) years (one year for special finishes) from the date of purchase. During this period, Sloan Valve Company will, at its option, repair or replace any part or parts that prove to be thus defective if returned to Sloan Valve Company, at customer's cost, and this shall be the sole remedy available under this warranty. No claims will be allowed for labor, transportation or other incidental costs. This warranty extends only to persons or organizations that purchase Sloan Valve Company's products directly from Sloan Valve Company for purpose of resale. This warranty does not cover the life of batteries.

**THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT IS SLOAN VALVE COMPANY RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.**

### ITEMS INCLUDED (VALVE BOX)

- |  |   |  |   |  |  |  |   |
|--|---|--|---|--|--|--|---|
| <ol style="list-style-type: none"> <li>1. Valve Assembly</li> <li>2. Mud Guard</li> <li>3. (2) #10-32 x 2 1/2" screws to secure mud guard</li> <li>4. (2) 1/4" x 20 x 2" screws to remove activation assembly</li> <li>5. Adjustment tool</li> <li>6. Installation instructions</li> <li>7. Adjustable tool</li> <li>8. Outlet connection</li> <li>9. Elbow</li> <li>10. Inlet adapter</li> <li>11. Vacuum Breaker</li> <li>12. Couplings &amp; gaskets</li> </ol> | <ol style="list-style-type: none"> <li>1. Valve Assembly</li> </ol>              | <ol style="list-style-type: none"> <li>2. Mud Guard</li> </ol>        | <ol style="list-style-type: none"> <li>3. Mud Guard Screws</li> </ol>  | <ol style="list-style-type: none"> <li>4. Activation Assembly</li> </ol>  | <ol style="list-style-type: none"> <li>5. Adjustment Tool</li> </ol>  |  |   |
|  | <ol style="list-style-type: none"> <li>6. Installation Instructions</li> </ol>  | <ol style="list-style-type: none"> <li>7. Adjustable Tube</li> </ol>  | <ol style="list-style-type: none"> <li>8. Outlet Connection</li> </ol>   | <ol style="list-style-type: none"> <li>9. Elbow</li> </ol>                  | <ol style="list-style-type: none"> <li>10. Inlet Adapter</li> </ol>    | <ol style="list-style-type: none"> <li>11. Vacuum Breaker</li> </ol>  | <ol style="list-style-type: none"> <li>12. Couplings &amp; Gaskets</li> </ol>  |

## ITEMS INCLUDED (WALL PLATE BOX)

- |   |  |  |   |  |  |
|---|--|--|---|--|--|
| <p>1. Wall Plate<br/>2. Button &amp; Bracket assembly<br/>3. (2) #10-32 x 2 1/2" screws to secure bracket to valve<br/>4. (2) #8-32 x 7/8" screws to secure plate to Bracket<br/>5. Depth setting tool<br/>6. (3) Plunger, screws &amp; locking nut<br/>7. Allen Key 9/64"<br/>8. Installation instructions</p> | <p>1. Wall Plate</p>  | <p>2. Button &amp; Bracket assembly</p>  | <p>3. Bracket to valve screws</p>  <p>4. Plate to Bracket screws</p>  <p>6. Plate to valve screws</p>  | <p>5. Depth setting tool</p>  <p>7. Allen Key</p>  | <p>8. Instructions</p>  |
|---|--|--|---|--|--|

### IMPORTANT:

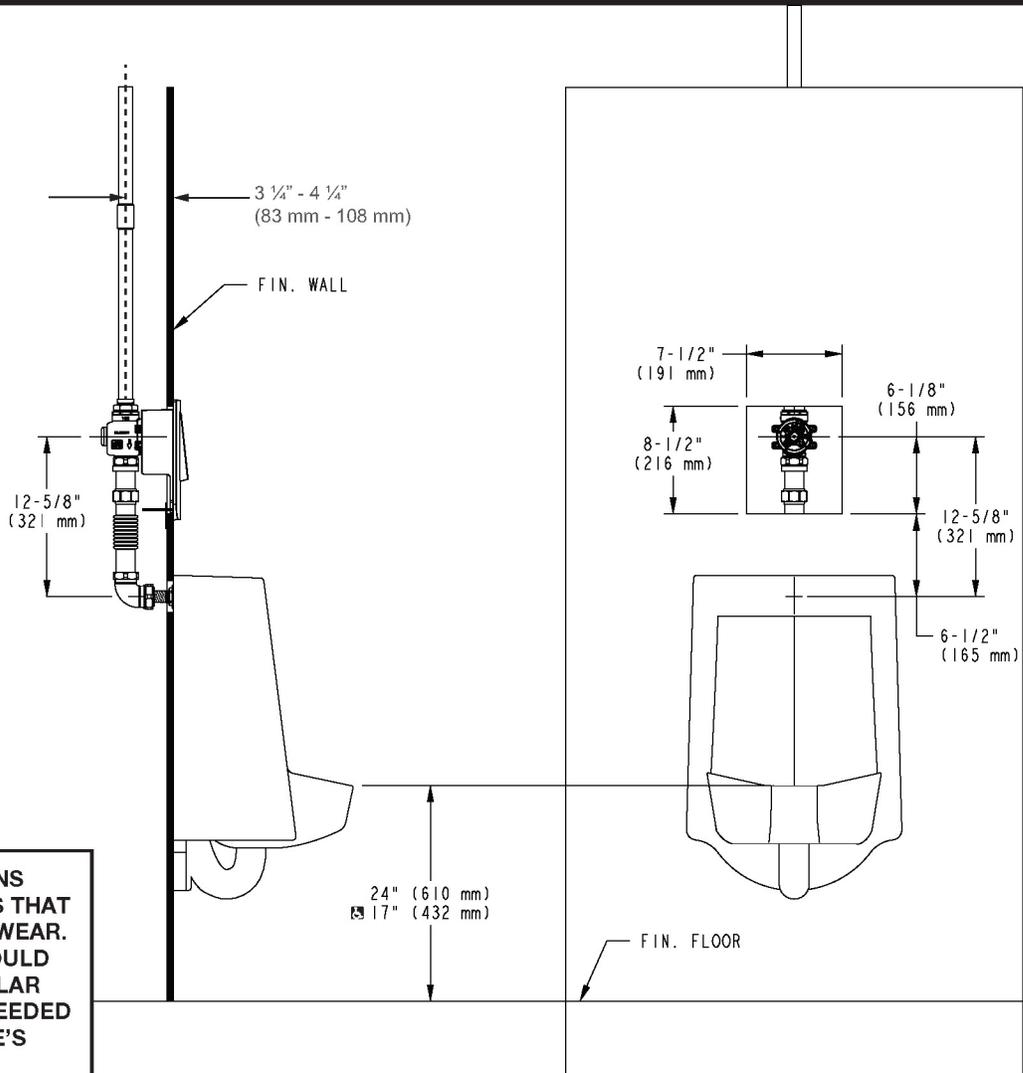
- **INSTALL ALL PLUMBING IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.**
- **WATER SUPPLY LINES MUST BE SIZED TO PROVIDE AN ADEQUATE VOLUME OF WATER FOR EACH FIXTURE.**
- **FLUSH ALL WATER LINES PRIOR TO MAKING CONNECTIONS.**

Sloan's flushometers are designed to operate with 20 to 80 psi (138 to 552 kPa) of water pressure. **THE MINIMUM PRESSURE REQUIRED TO THE VALVE IS DETERMINED BY THE TYPE OF FIXTURE SELECTED.**

Consult fixture manufacturer for minimum pressure requirements. Most Low Consumption water closets (1.6 gpf/6.0 Lpf) require a minimum flowing pressure of 25 psi (172 kPa).

## ROUGH-IN URINALS

**Model 198**  
**Urinal**  
**Rear Inlet**



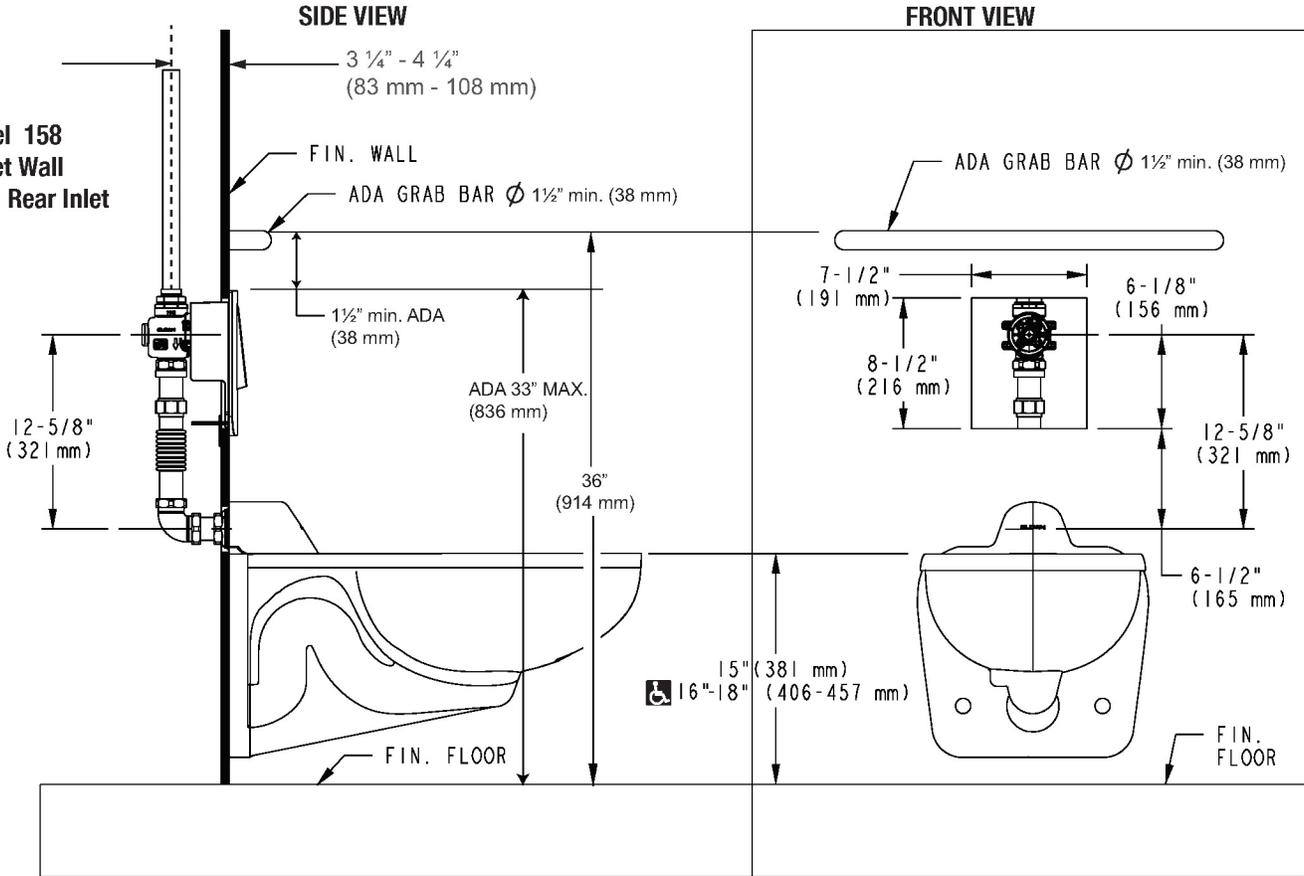
### !!! IMPORTANT !!!

**THIS PRODUCT CONTAINS MECHANICAL COMPONENTS THAT ARE SUBJECT TO NORMAL WEAR. THESE COMPONENTS SHOULD BE CHECKED ON A REGULAR BASIS AND REPLACED AS NEEDED TO MAINTAIN THE VALVE'S PERFORMANCE.**

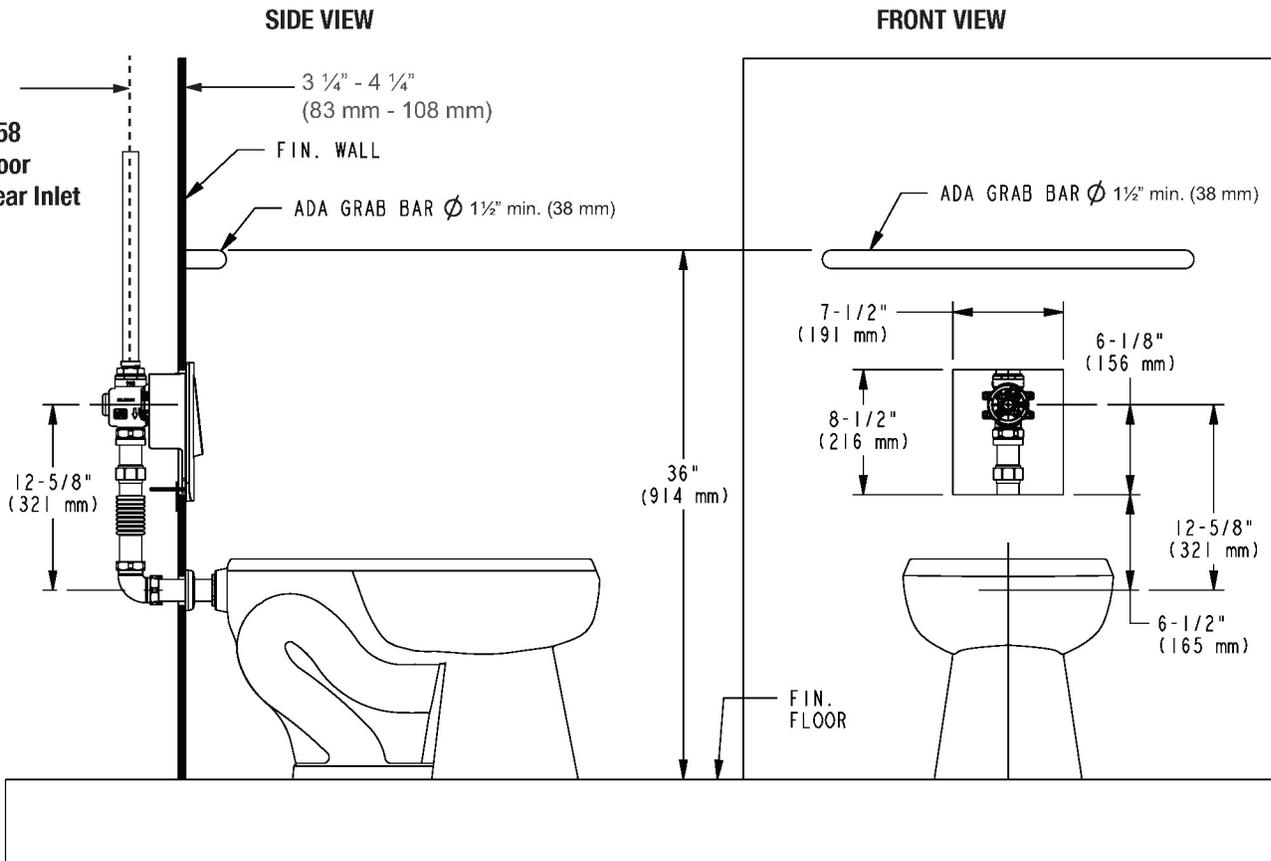
# ROUGH-IN CLOSETS

Rough-in for Sloan CX is determined relative to the spud connection for the fixture being used.

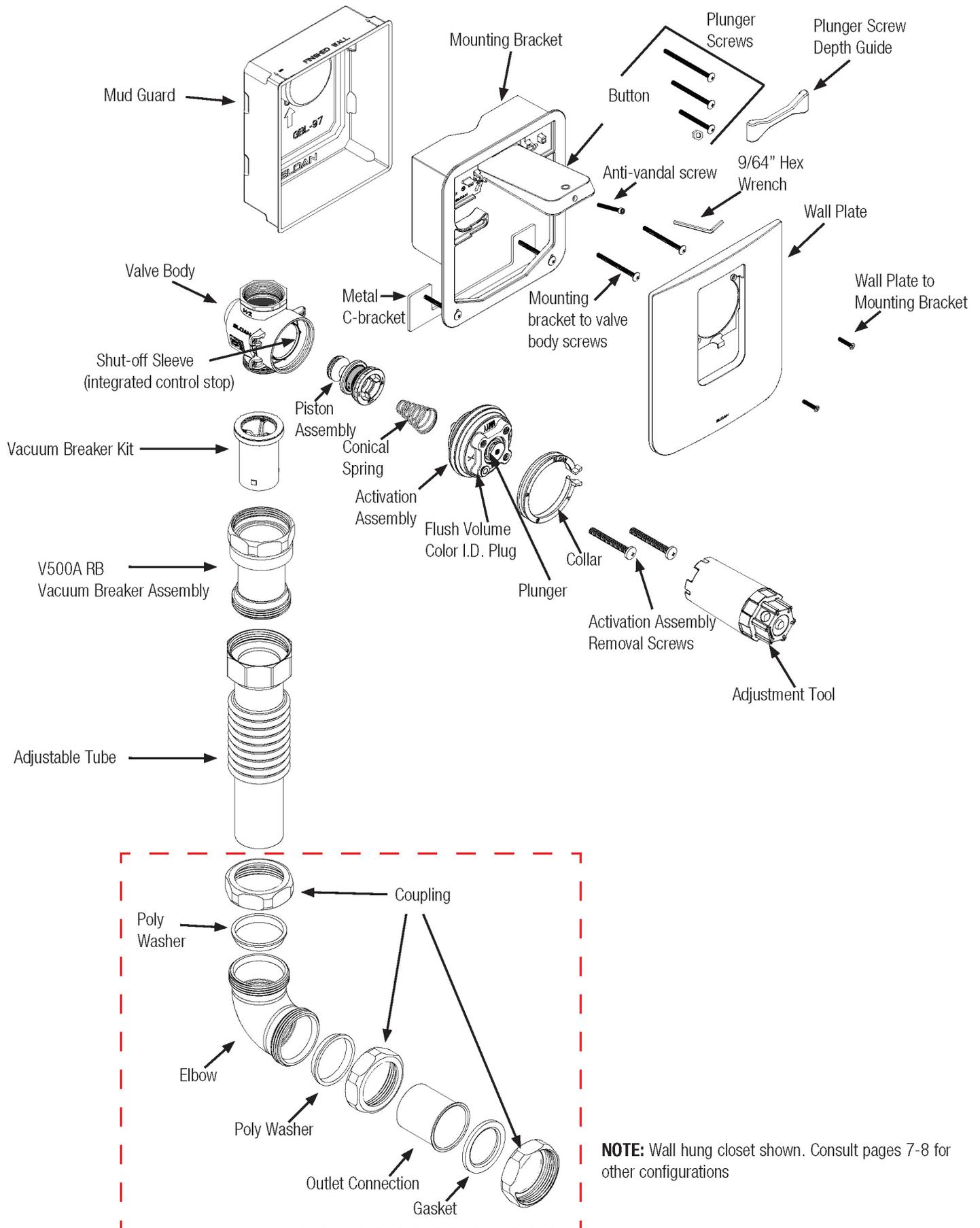
**Model 158  
Closet Wall  
Hung Rear Inlet**



**Model 158  
Closet Floor  
Mount Rear Inlet**



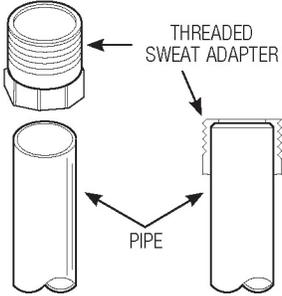
# PARTS OVERVIEW



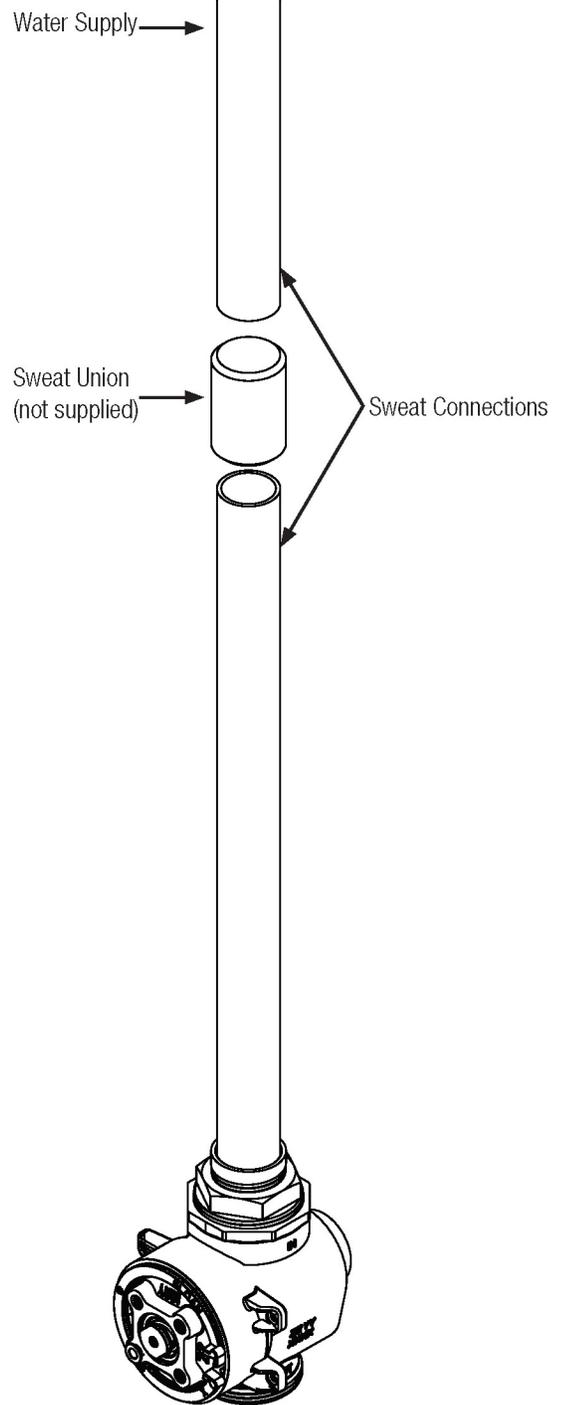
**NOTE:** Wall hung closet shown. Consult pages 7-8 for other configurations

# INSTALL OPTIONAL SWEAT SOLDER ADAPTER (ONLY IF YOUR SUPPLY PIPE DOES NOT HAVE A MALE THREAD)

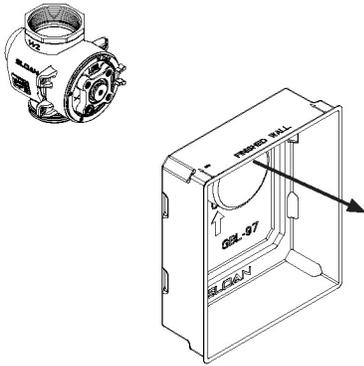
**A** On a 15"-18" length of pipe (not provided), slide threaded sweat adapter (not provided) onto water supply pipe until end of pipe rests against shoulder of adapter. Sweat solder the adapter to pipe (1" copper x 1" NPT fitting).



**E** Using a sweat union (not supplied), connect valve assembly to water supply pipe.



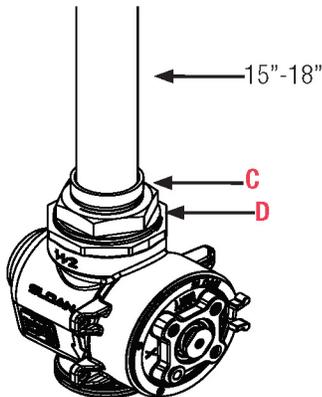
**B** Remove mud Guard from valve and save for later use- **DO NOT DISCARD**



**C** Insert sweat adapter into 1 1/2" to 1" threaded adapter (provided).

**D** Connect 1 1/2" to 1" adapter into top of flushometer ("IN")

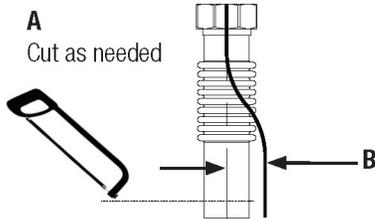
**E** Tighten fittings securely into valve body with a fixed jaw wrench.



## MAKING SPUD CONNECTION CONFIGURE ADJUSTABLE TUBE

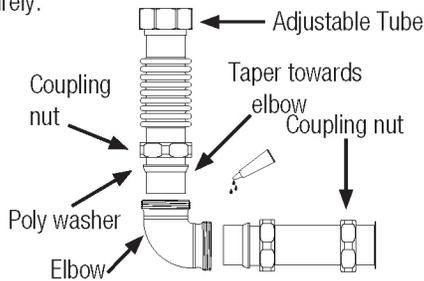
- A** If needed, trim bottom of adjustable tube using cutter
- NOTE: would only be needed for certain ADA water closet installations.
- B** As needed based on rough-in, pre-bend the adjustable tube to account for side-to-side misalignment of water supply pipe relative to fixture spud.

**NOTE:**  
Do not trim tube before pre-bending

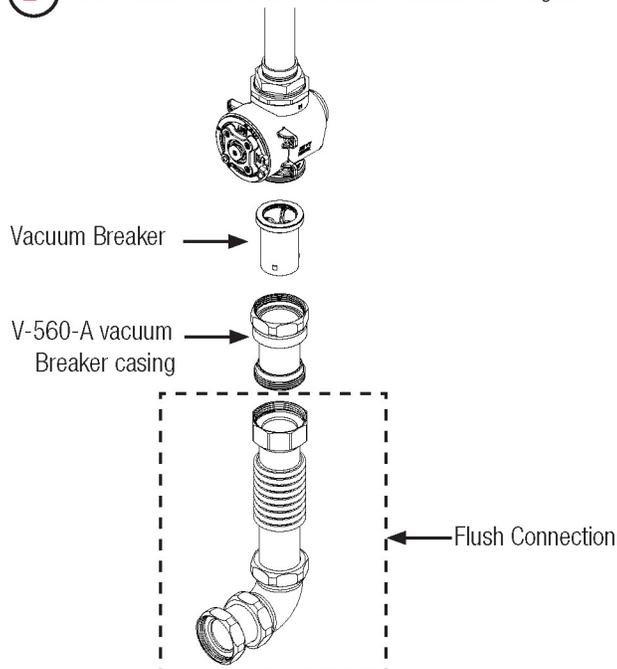


## FOR WALL HUNG REAR SPUD FIXTURES (WATER CLOSETS)

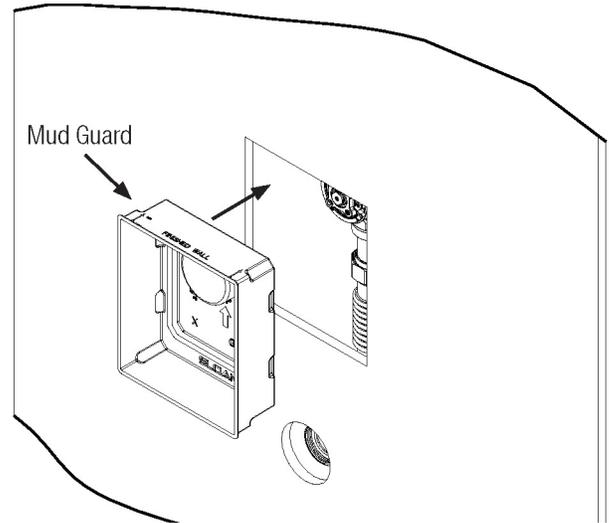
- A** Cut F-1 flush connection to length as needed for particular rough-in.
- Consult rough-in (pages 2-3)
- B** Connect F-1 flush connection and adjustable tube to the elbow using coupling and poly washer. Apply Loctite® to tube, tighten coupling securely.



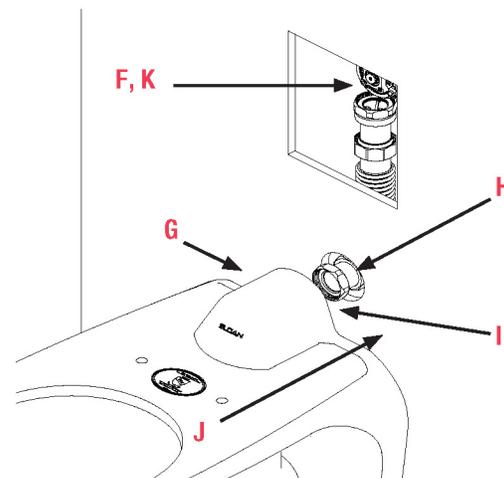
- C** Insert V-651 vacuum breaker into V-560-A vacuum breaker casing. Attach to valve hand tight.
- D** Attach flush connection to vacuum breaker hand tight.



- E** Finish wall. Use supplied mud guard to protect valve during finishing process.
- Use two (2) mounting bracket to valve body screws, if needed, to hold mud guard to valve body
- NOTE: Wall plate opening must be a minimum 7 3/8" wide x 8 3/8" tall (187 mm wide x 213 mm tall) to maximum 7 5/8" wide x 8 5/8" tall (194 mm wide x 219 mm tall).



- F** Loosen vacuum breaker assembly to valve and loosen adjustable tube from V500A RB. Do not disconnect coupling connections.
- G** Partially mount fixture onto carrier nuts.
- H** Pull flush connection forward through wall.
- I** Make spud connection wrench tight.
- NOTE: Space permitting or chase present, spud connection can be made behind wall.
- J** Push fixture back to wall. Tighten carrier bolts and complete fixture installation.
- K** Re-connect vacuum breaker to valve.

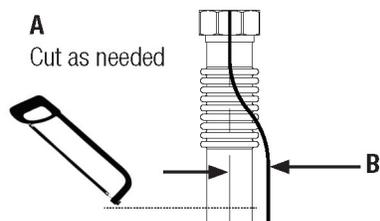


## FOR FLOOR MOUNT REAR SPUD FIXTURES (WATER CLOSET)

**A.** If needed, trim bottom of adjustable tube using cutter

- NOTE: would only be needed for certain ADA water closet installations.
- Consult rough-in guide (page 2-3)

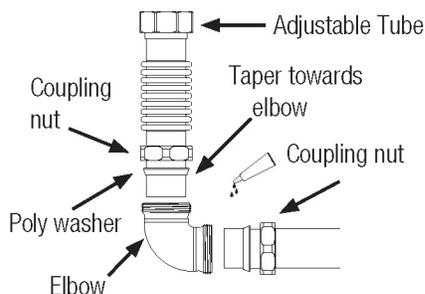
**B.** As needed based on rough-in, pre-bend the adjustable tube to account for side-to-side misalignment of water supply pipe relative to fixture spud.



**C.** Cut F-1 flush connection to length as needed for particular rough-in.

- Consult rough-in (pages 2-3)

**D.** Connect F-1 flush connection and adjustable tube to the elbow using coupling and poly washer. Apply Loctite® to tube, tighten coupling securely.



**E.** Install mud guard. Finish wall.

**F.** Mount fixture.

**G.** Loosen vacuum breaker to valve. Pull flush connection forward through opening in wall.

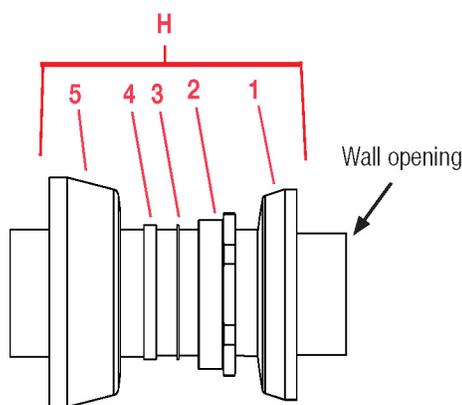
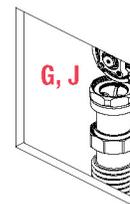
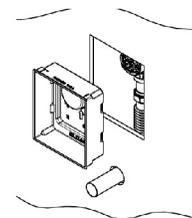
**H.** Pre-install escutcheon and fittings in the following order:

1. Wall trim plate
2. Coupling
3. Friction Ring
4. Gasket
5. Escutcheon

**I.** Connect coupling (2) to spud, wrench tight.

**J.** Slide wall trim plate against wall.

Re-connect vacuum breaker to valve.



## FOR REAR SPUD URINALS

**1.** If needed, trim urinal flush tube

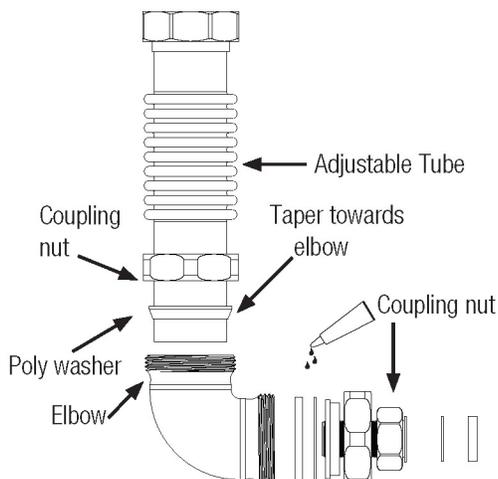
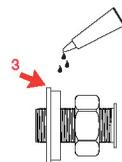
**2.** Slide 3/4" coupling over urinal flush tube

**3.** Thread brass flange onto urinal flush tube.

Amount of thread engagement will depend on rough-in. Use provided Loctite to secure flange in place.

**4.** Apply Loctite to tube, tighten coupling securely.

**5.** Secure urinal flush tube to elbow using 1-1/2" gasket and friction ring.

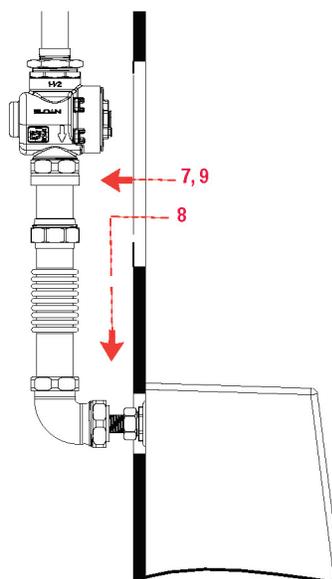


**6.** Hang urinal on mounting bracket

**7.** Loosen vacuum breaker to valve

**8.** Make spud connection behind the wall.

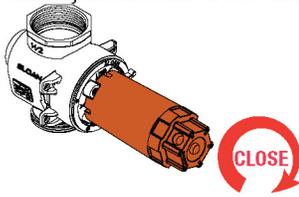
**9.** Re-connect vacuum breaker to valve.



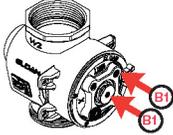
# FLUSHING WATER LINES

**Note: Valve is shipped with flow adjustment turned off.**

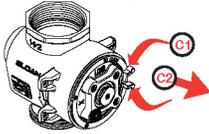
- A** Shut off water: use adjustment tool to turn activation assembly fully clockwise.



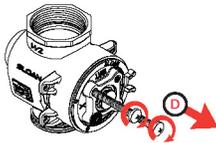
- B** Relieve pressure by pressing plunger. Push in activation assembly.



- C** Squeeze tabs on Collar and pull out.

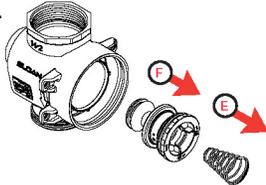


- D** Attached provided screws to activation assembly. Pull to remove assembly

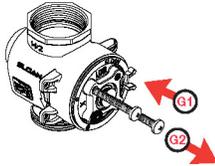


- E** Remove conical spring. Do not discard!

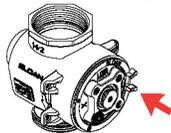
- F** Remove piston assembly by pulling straight out. If unable to grip piston, remove screw from activation assembly and insert into center hole of piston.



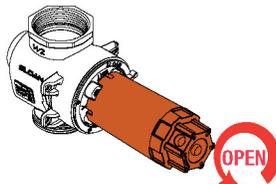
- G** Reinstall activation assembly and press until fully seated. Remove screws.



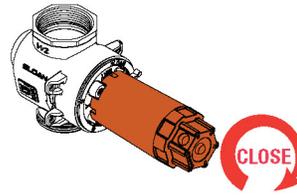
- H** Reinstall Collar. Collar will spin freely in valve body when properly installed.



- I** Using adjustment tool, turn activation assembly counter clockwise to open flow of water through the valve.

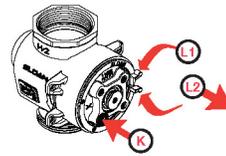


- J** Once lines are flushed clear, turn activation assembly clockwise to shut off water.

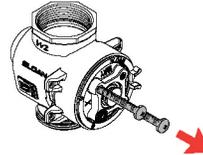


- K** Push in activation assembly.

- L** Squeeze tabs on Collar and pull out.



- M** Attach provided screws to activation assembly. Pull to remove.



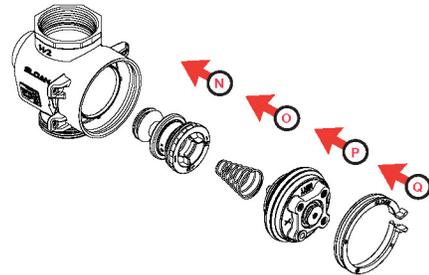
- N** Reinstall piston. Insert smaller sized end first until fully seated.

- O** Reinstall conical spring, small end first, into piston.

- P** Reinstall activation assembly and press until fully seated.

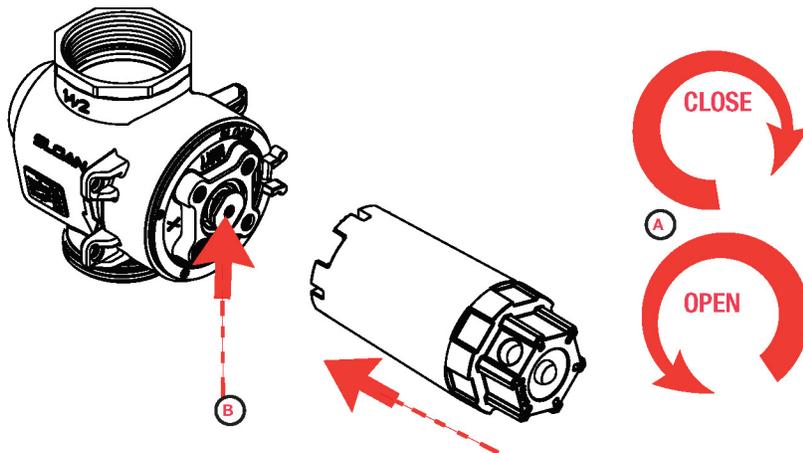
- Q** Reinstall orange collar securely. Collar will spin freely in valve body when properly installed.

- R** Adjust flow rate of valve as described on page 9.



## ADJUSTING FLOW

- A** Using adjustment tool, turn activation assembly slowly to adjust flow.
- B** Push plunger to activate flush. Adjust water flow as needed to clean the fixture.



**IMPORTANT**

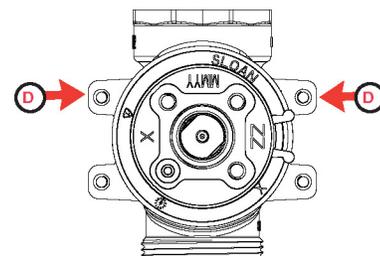
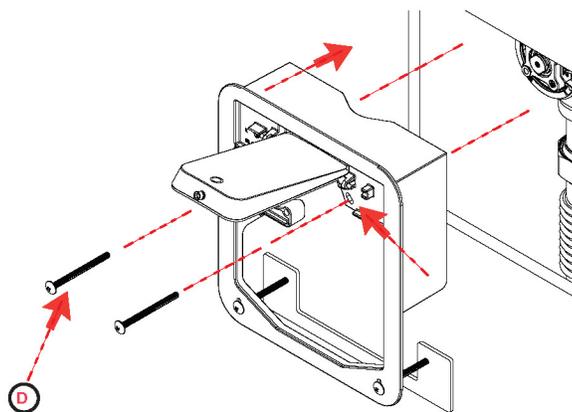
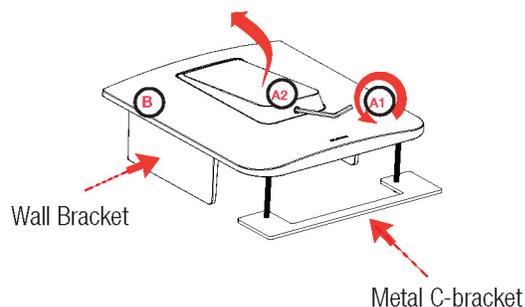
THE ACTIVATION ASSEMBLY SHOULD NEVER BE OPENED TO THE POINT WHERE THE FLOW FROM THE VALVE EXCEEDS THE FLOW CAPABILITY OF THE FIXTURE. IN THE EVENT OF A VALVE FAILURE, THE FIXTURE MUST BE ABLE TO ACCOMMODATE A CONTINUOUS FLOW FROM THE VALVE.

**IMPORTANT**

THE FLUSHOMETER IS ENGINEERED FOR QUIET OPERATION. EXCESSIVE WATER FLOW CREATES NOISE, WHILE TOO LITTLE WATER FLOW MAY NOT SATISFY THE NEEDS OF THE FIXTURE. PROPER ADJUSTMENT IS MADE WHEN PLUMBING FIXTURE IS CLEANSED AFTER EACH FLUSH WITHOUT SPLASHING WATER OUT FORM THE LIP AND A QUIET FLUSHING CYCLE IS ACHIEVED.

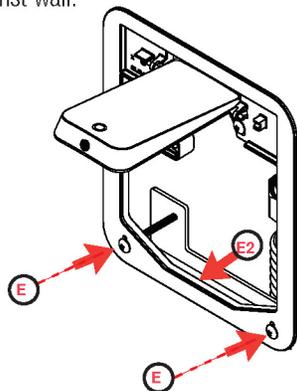
## INSTALL WALL PLATE ASSEMBLY

- A** Loosen set screw with provided 9/64" Allen hex key until button is free to rotate upward. Lock into position.
- B** Remove face plate and set aside
- C** Mount wall bracket to wall, tilting to insert metal C-bracket through wall opening.
- D** Insert mounting screws through wall bracket. Attach to top mounting holes on valve body.

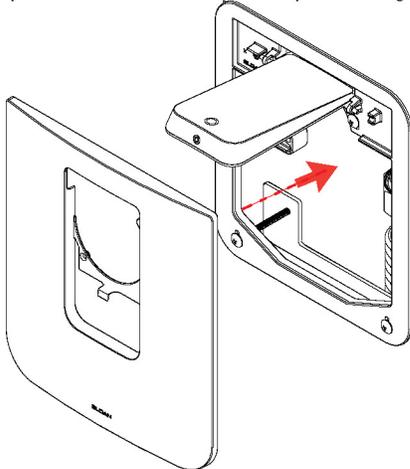


## INSTALL WALL PLATE ASSEMBLY (CONT.)

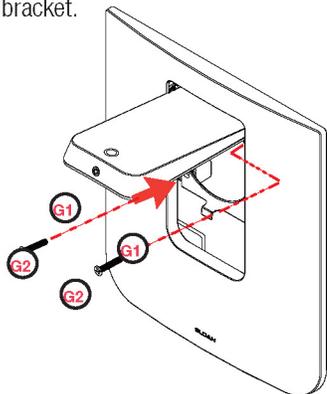
- E** Tighten screws at bottom of wall bracket. Metal C-bracket will clamp against wall.



- F** Slide wall plate over button. Button will pass through top of opening.



- G** Insert wall plate to mounting bracket screws into wall plate. Tighten to secure to wall bracket.



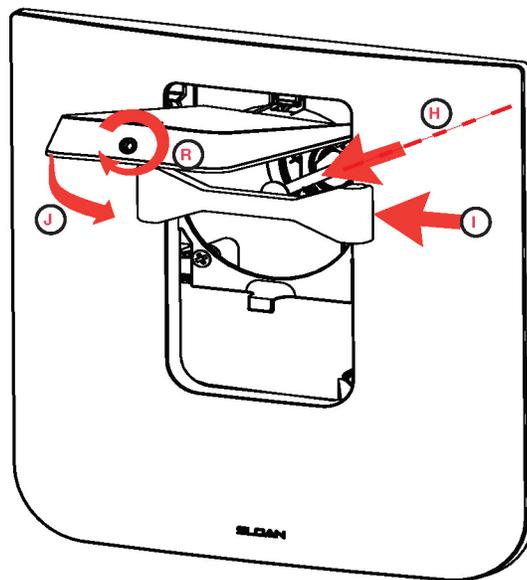
- H** Choose one of three Plunger screws and nut provided and thread into plunger. If Plunger starts rotating, **STOP**. This means the screw has reached the bottom of the hole and overtightening the screw will cause damage to the plunger. Try the next shorter screw included with the product to finish adjustment.

- I** Using depth guide provided, adjust depth of Plunger screw until screw touches depth guide and secure with nut.

- J** Fold down button

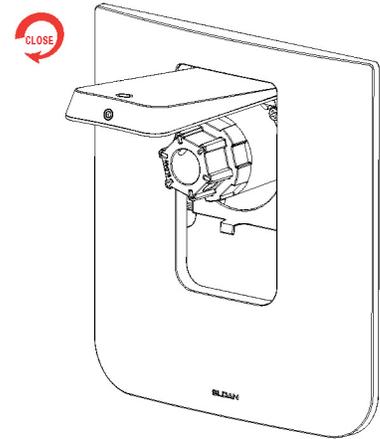
- K** Secure set screw using provide Allen key. Button should not be tight against screw attached to Plunger

- L** Test flush by pushing button. Make sure button is not pushing screw when in resting position.



## BASIC SERVICING

- A** Open wall plate
- Set screw
  - Lift button
  - Loosen set screw using provided allen key
- B** Remove wall plate. Loosen two screws, pull forward.
- Note:** water can be shut-off without removing wall plate. Removing wall plate provides more hand room for servicing valve.
- C** Shut off water: use adjustment tool to turn activation assembly fully clockwise.
- D** Relieve pressure by pressing plunger. Push in activation assembly.
- E** Squeeze tabs on Collar and pull out.
- F** Attach provided screws to activation assembly. Pull to remove assembly.
- G** Remove conical spring. Do not discard!
- H** Remove piston assembly by pulling straight out. If unable to grip piston, remove screw from activation assembly and insert into center hole of piston.
- I** Reinstall or replace piston. Insert smaller sized end first until fully seated.
- J** Reinstall or replace conical spring, small end first, into piston.
- K** Reinstall or replace activation assembly and press until fully seated.
- L** Reinstall orange safety ring securely. Safety ring will spin freely in valve body when properly installed.



## TROUBLESHOOTING GUIDE

### 1. Flushometer does not function (no water/flush).

- A. Ensure water supply to valve is turned on.
- B. Shut off sleeve is in closed position. Turn counterclockwise to open water flow.
- C. Plunger screw is not adjusted properly. Adjust screw using depth guide.

### 2. Volume of water is not sufficient to evacuate the bowl.

- A. Shut off sleeve is not open wide enough. Adjust shut off sleeve for desired delivery of water volume.
- B. Urinal piston parts installed in a Closet flushometer. Replace piston with proper Closet piston (1.6 gpf/6.0 Lpf or 1.28 gpf/4.8 Lpf)
- C. Water supply volume or pressure is inadequate (low). If the fixture does not siphon or evacuate the bowl, steps must be taken to increase the water supply pressure and/or volume. Contact the fixture manufacturer for minimum water supply requirements of the fixture.
- D. Plunger screw is not adjusted properly. Adjust screw using depth guide.

### 3. Flushometer closes off immediately.

- A. Urinal piston parts installed in a Closet flushometer. Replace piston with proper Closet piston (1.6 gpf/6.0 Lpf or 1.28/4.8 Lpf).
- B. Piston lip seal may be damaged or worn. Replace with new correct gpf/Lpf piston.
- C. Plunger screw not set properly. Adjust screw using depth guide.

### 4. Length of flush is too short (Short Flush).

- A. Incorrect piston is installed in Flushometer; for instance, Urinal assembly inside a Closet Flushometer, or High Efficiency assembly inside a higher consumption fixture. Determine the flush volume required by the fixture and replace with proper gpf/Lpf piston. Use valve label and markings on fixture for reference.
- B. Piston lip seal may be damaged or worn. Replace with new correct gpf/Lpf piston.
- C. Plunger screw is not adjusted properly. Adjust screw using depth guide.

### 5. Length of flush is too long (Long Flush) or continuous.

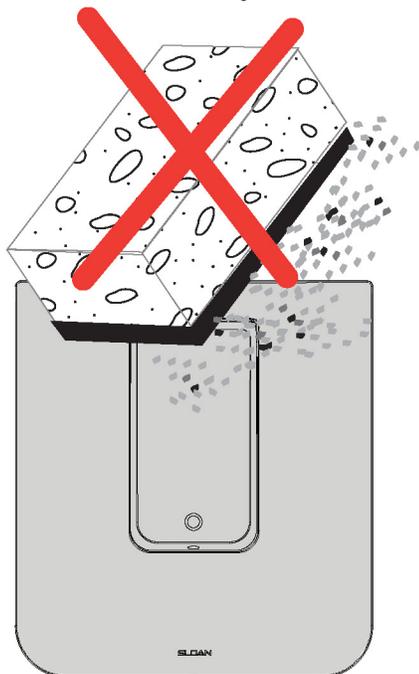
- A. Metering bypass hole in piston is clogged. Remove the piston from the valve, slide o ring off filter, and wash under clean running water. Reposition o-ring before reinstalling piston. Replace piston if cleaning does not correct the problem.
- B. Supply line water pressure has dropped and is not sufficient to close the valve. Close shut off sleeve until pressure is restored.
- D. Piston is damaged. Replace with new proper gpf/Lpf piston
- E. Incorrect Piston is installed in Flushometer; for instance, Closet assembly inside a Urinal flushometer. Determine the flush volume required by the fixture and replace piston. Use valve label and markings on fixture for reference.

### 6. Chattering noise is heard during flush.

- A. Reduce flow pressure by turning shut off sleeve clockwise.

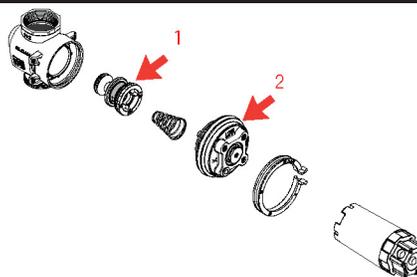
## CARE AND CLEANING

**DO NOT** use abrasive or chemical cleaners (including chlorine bleach) to clean Flushometers that may dull the luster and attack the chrome or special decorative finishes. Use **ONLY** mild soap and water, then wipe dry with clean cloth or towel. While cleaning the bathroom tile, protect the Flushometer from any splattering of cleaner. Acids and cleaning fluids will discolor or remove chrome plating.



# TROUBLESHOOTING GUIDE

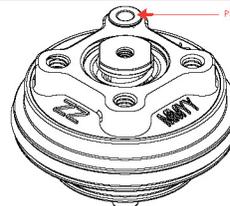
Item No.	Part No.	Description
1	Consult Factory	Piston Assembly
2	See Table	Activation Assembly



## ACTIVATION ASSEMBLY SELECTION GUIDE

Code No.	Description	Plug Color*
3340048	1.6 gpf/6.0 Lpf closet activation assembly	Green
3340049	1.28 gpf/4.8 Lpf closet activation assembly	Purple
3340051	0.5 gpf/1.9 Lpf urinal activation assembly	Red
3340052	0.25 gpf/1.0 Lpf urinal activation assembly	Burgundy

\* Colors may differ. Consult factory to confirm you have the correct piston assembly.

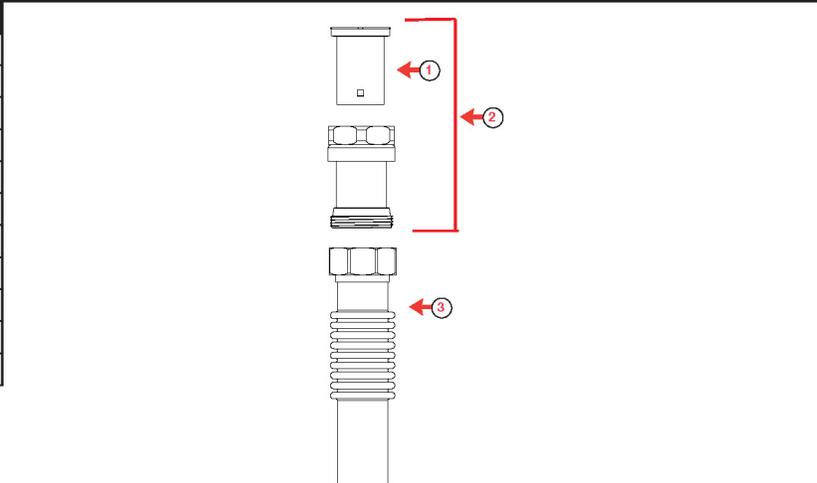


IN ORDER FOR THE WATER CLOSET AND THE URINAL TO PERFORM PROPERLY FOR ITS INTENDED USE, YOU MUST FOLLOW THESE INSTRUCTIONS:

- IDENTIFY YOUR FLUSHOMETER MODEL NO.
- CHECK FOR THE WATER CONSUMPTION LABEL ATTACHED TO THE FLUSHOMETER AND FIXTURE, ENSURING THEY MATCH
- REFER TO SPECIFIC FLUSHOMETER SECTION IN GUIDE FOR APPROPRIATE REPLACEMENT PART NO.

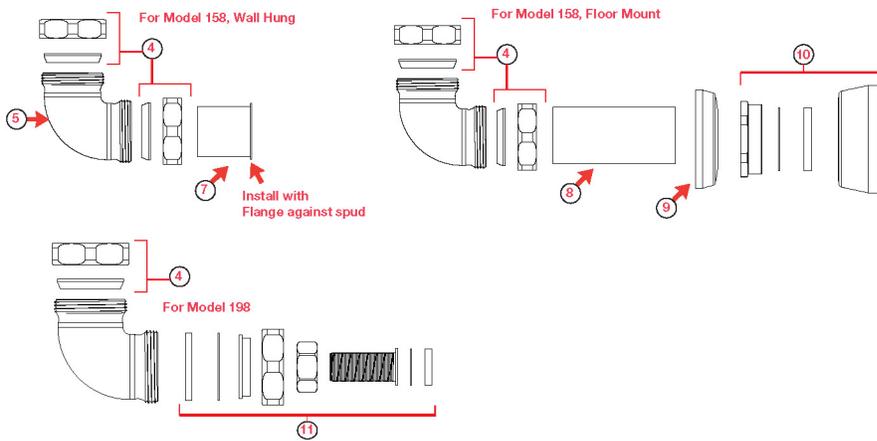
## FLUSH CONNECTION PARTS

Item	Code No.	Description
1	0323182	V-651A Kit
2	0323279	V-500 Vacuum Breaker Assembly
3	0306394	Adjustable Tube
4	0306395	Poly Washer Coupling (set of two)
5	0306392PK	Elbow
6	3306002	1-1/2" Coupling with S-21 Gasket
7	0306031P0	1 1/2" (38 mm) Flanged outlet tube RB, 6"
8	0396669PK	F-102 1-1/2" (38 mm) Outlet Tube CP 8"
9	0306238PK	F-7 Flange CP*
10	0306146PK	F-5-A 1-1/2" Spud Coupling Assembly CP*
11	0306396	Urinal Connection



\* Consult factory for alternate finish options

Manufactured in the U.S.A by Sloan Valve Company under one or more of the following patents: U.S. Patents. 5,295,655; 5,542,718; 5,558,120; 5,564,460; 5,730,415; 5,865,420; 5,887,848; 5,967,182. Other Patents Pending.  
Bak-Chek®, Para-flo®, PERMEX®, Turbo-Flo®



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