

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



### Sensor Closet Flushometers

- CX 8158-1.6
- CX 8158-1.28
- CX 8158-1.1
- CX 8154-1.6
- CX 8154-1.28
- CX 8154-1.1

### Sensor Urinal Flushometer

- CX 8198-0.5
- CX 8198-0.25
- CX 8198-0.125

### 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.**

### PRIOR TO INSTALLATION

This valve is designed for new construction or where there is easily accessed plumbing for the fixture and valve. This valve is designed for a minimum 6-1/2 inch (165 mm) wall space depth. Distance from the center of the valve (inlet or outlet pipe) to the finished surface of the wall can vary from 3-1/4" – 4-1/4" (83 – 108 mm). Wall plate opening must be 7-1/8" wide x 8" tall (181 mm wide x 203 mm tall). Mud plate is provided and must accompany valve for proper installation. Mud plate is removed after wall is finished.

### TOOLS AND ITEMS REQUIRED FOR INSTALLATION (PROVIDED)

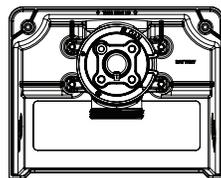
- 5/64" hex wrench • Wall plate depth guide • Adjustment tool

### TOOLS AND ITEMS REQUIRED FOR INSTALLATION (NOT PROVIDED)

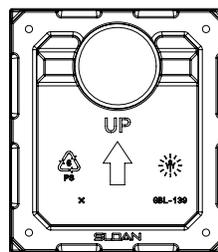
- Smooth-jawed wrench (at least 2") • Philips screwdriver • threaded sweat solder adapter
- approximately 15"-18" pipe

### ITEMS INCLUDED (VALVE BOX)

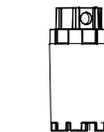
1. Valve Box
2. Mud Guard
3. Adjustment tool
4. Mud Guard Screws
5. Activation Assembly Screws
6. Instructions
7. Adjustable Tube
8. Outlet Connection
9. Elbow
10. Inlet Adapter
11. Vacuum Breaker Assembly
12. Couplings & Gaskets



1. Valve Box



2. Mud Guard



3. Adjustment Tool



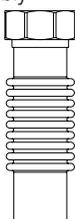
4. #8-32 Mud Guard Screws



5. 1/4-20 Activation Assembly Screws



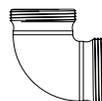
6. Instructions



7. Adjustable Tube



8. Outlet Connection



9. Elbow



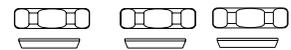
10. Inlet Adapter



V651A Kit



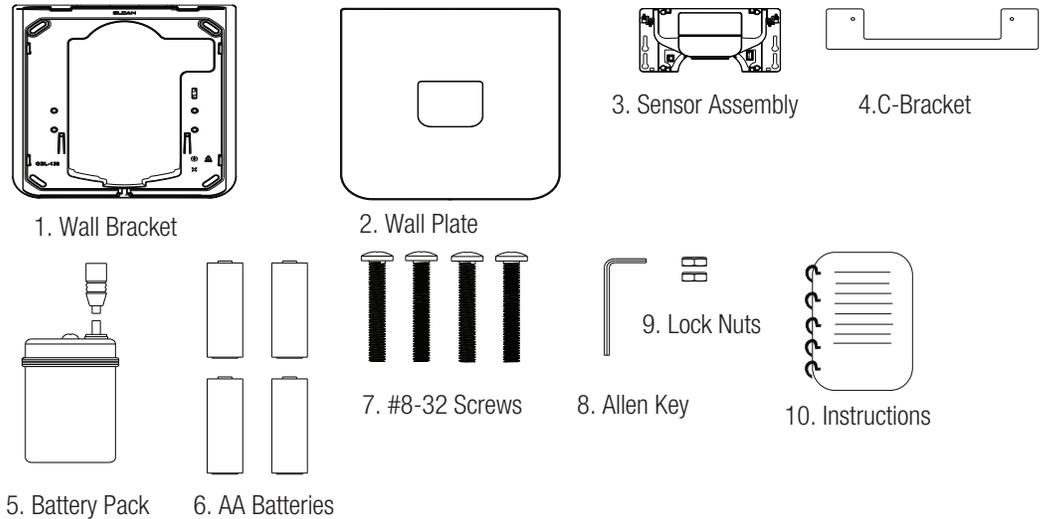
11. Vacuum Breaker Assembly



12. Couplings & Gaskets

## ITEMS INCLUDED (WALL PLATE BOX)

1. Wall Bracket
2. Wall Plate
3. Sensor Assembly
4. C-Bracket
5. Battery Pack
6. AA Batteries
7. Screws
8. Allen Key
9. Lock Nuts
10. Instructions



### 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.**

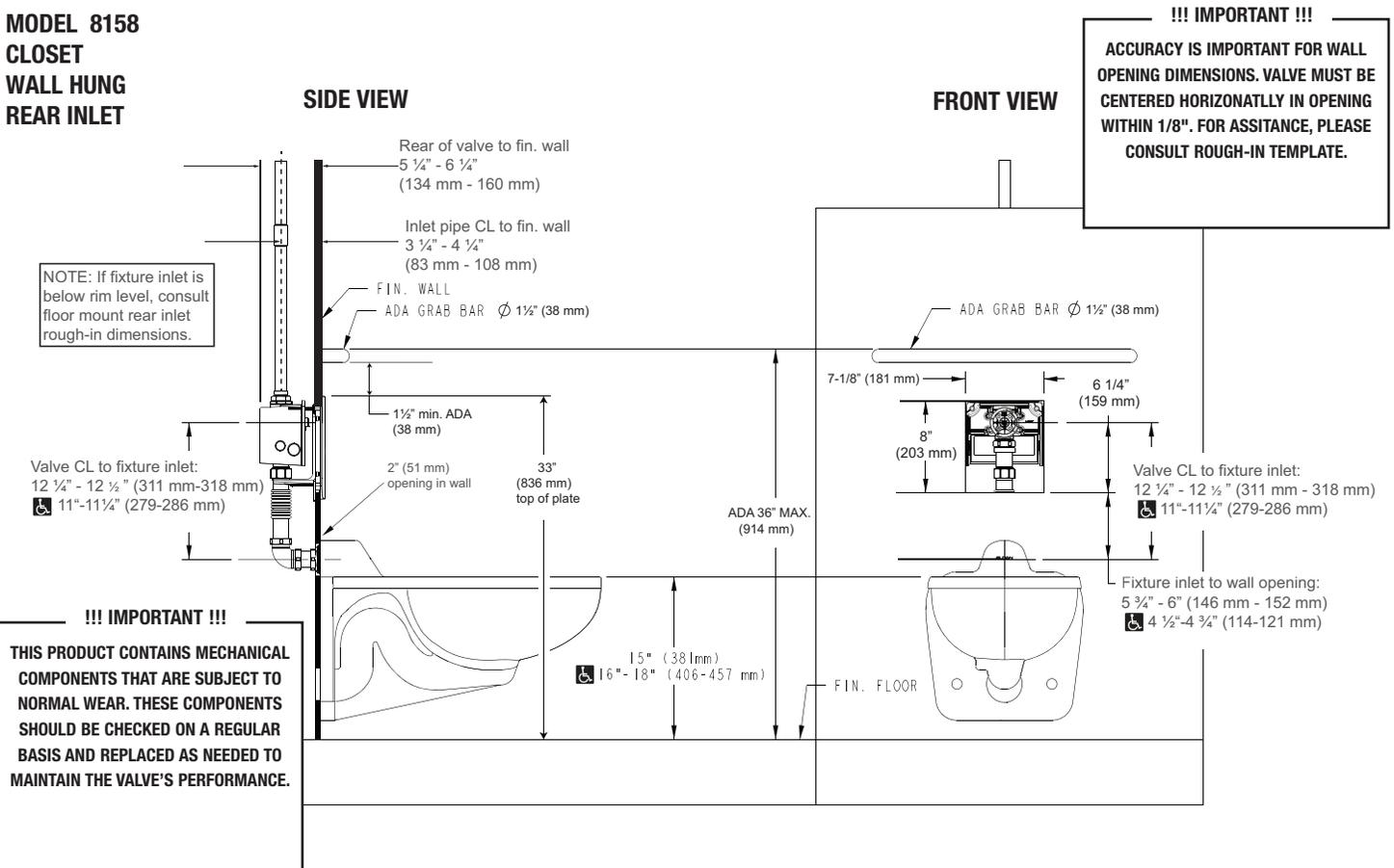
Sloan's flushometers are designed to operate with 20 to 80 psi (138 to 552 kPa) of water pressure. **THE MINIMUM PRESSURE REQUIRED TO THE VALVE IS DETERMINED BY THE TYPE OF FIXTURE SELECTED.**

Consult fixture manufacturer for minimum pressure requirements. Most high efficiency water closets require a minimum flowing pressure of 25 psi (172 kPa). Many building codes and the ASME A112.19.2 fixture standard list maximum static water pressure as 80 PSI (552 kPa).

## ROUGH-IN CLOSETS

Roughin for Sloan CX is determined relative to the spud connection for the fixture being used.

### MODEL 8158 CLOSET WALL HUNG REAR INLET



# ROUGH-IN CLOSETS

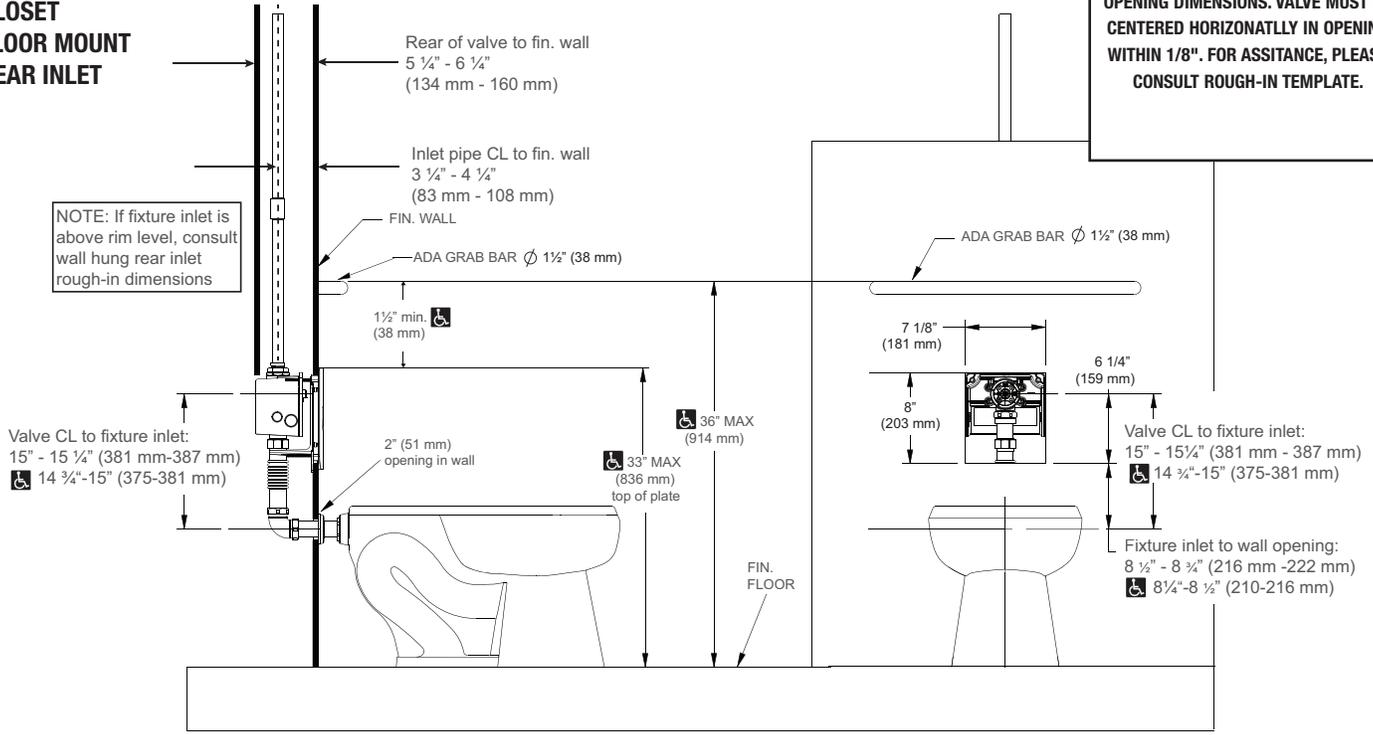
Roughin for Sloan CX is determined relative to the spud connection for the fixture being used.

## MODEL 8154 CLOSET FLOOR MOUNT REAR INLET

**SIDE VIEW**

**FRONT VIEW**

**!!! IMPORTANT !!!**  
ACCURACY IS IMPORTANT FOR WALL OPENING DIMENSIONS. VALVE MUST BE CENTERED HORIZONATLLY IN OPENING WITHIN 1/8". FOR ASSITANCE, PLEASE CONSULT ROUGH-IN TEMPLATE.



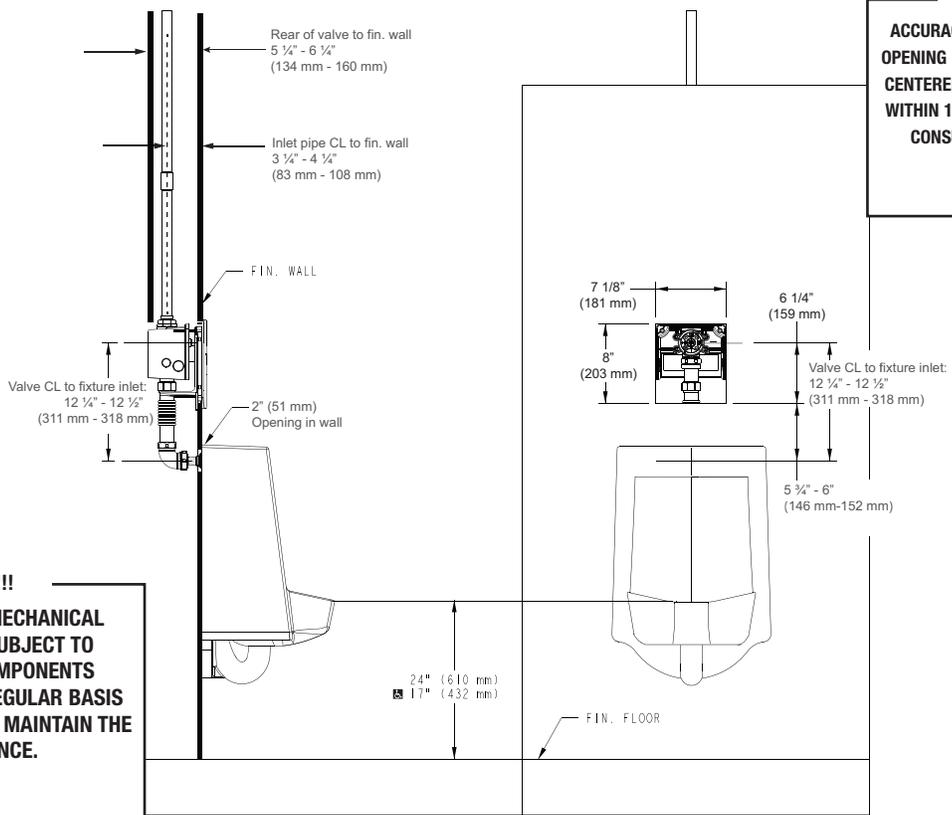
# ROUGH-IN URINALS

## MODEL 8198 URINAL REAR INLET

**SIDE VIEW**

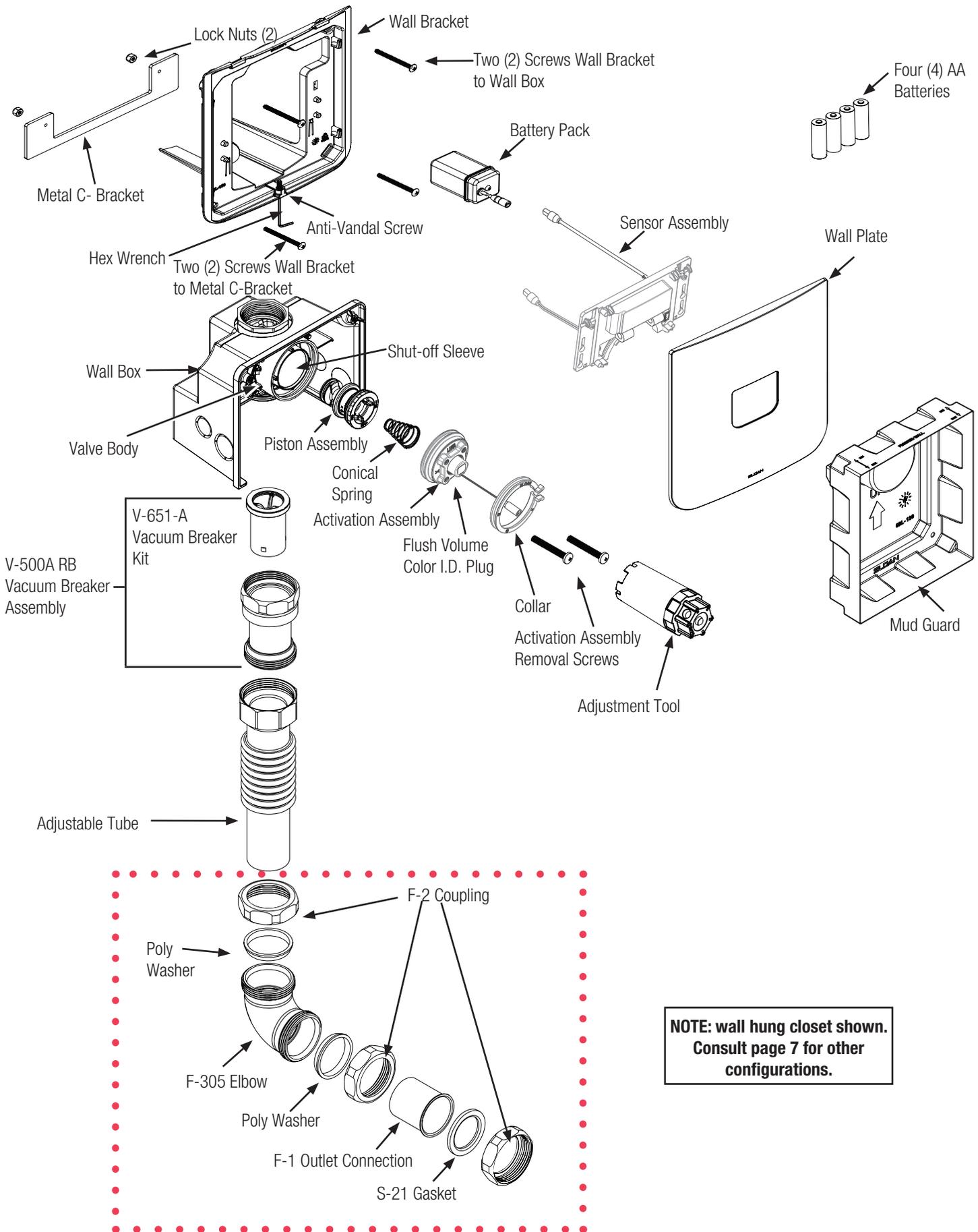
**FRONT VIEW**

**!!! IMPORTANT !!!**  
ACCURACY IS IMPORTANT FOR WALL OPENING DIMENSIONS. VALVE MUST BE CENTERED HORIZONATLLY IN OPENING WITHIN 1/8". FOR ASSITANCE, PLEASE CONSULT ROUGH-IN TEMPLATE.



**!!! 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.

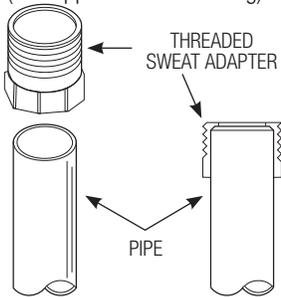
# PARTS OVERVIEW



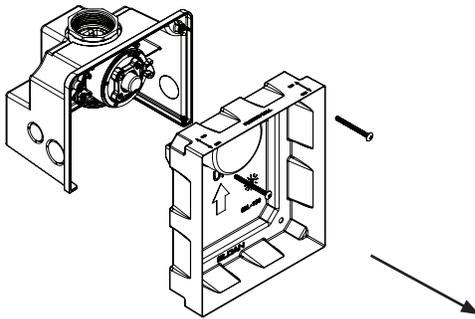
**NOTE: wall hung closet shown. Consult page 7 for other configurations.**

## 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).



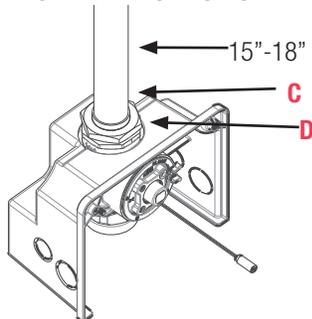
- B** Remove mud plate from valve and save for later use-**DO NOT DISCARD**



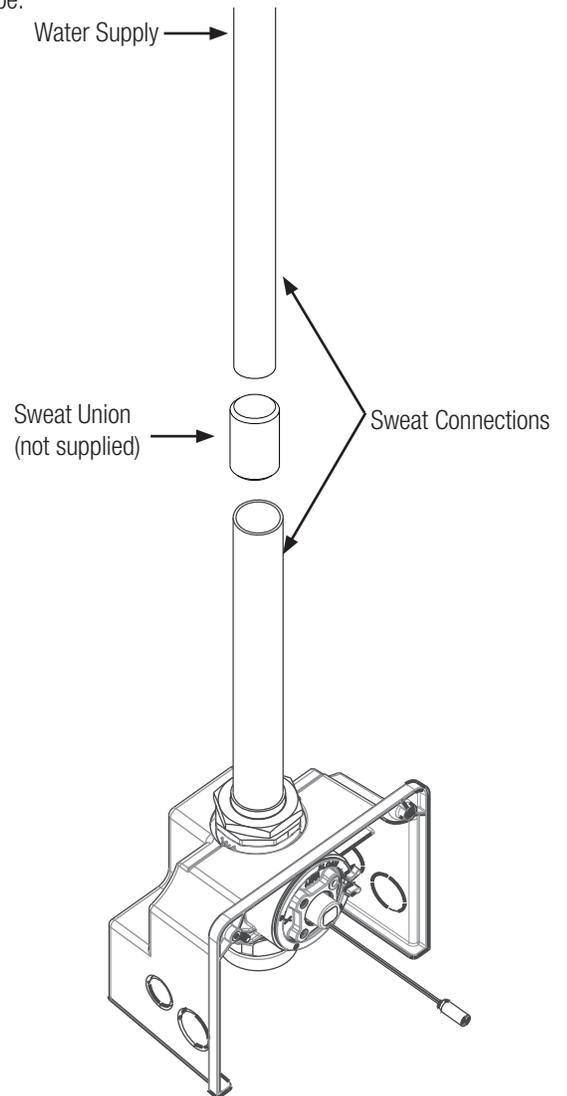
- C** Insert sweat adapter into 1 1/2" to 1" threaded adapter (provided).

- D** Connect 1 1/2" to 1" adapter into top of flushometer ("IN"), Tighten fittings securely into valve body with a fixed jaw wrench.  
**NOTE: DO NOT EXERT FORCE ON WALL BOX TO TIGHTEN FLUSHOMETER. USED FIXED JAW WRENCH TO HOLD THE VALVE.**

- E** For hardwire use only: remove wall box knock/cap closest to the conduit connection.



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



**NOTE: PROPERLY BRACE SUPPLY PIPE AFTER SWEATING CONNECTIONS TO PREVENT VALVE MOVEMENT DURING INSTALLATION AND USE SLOAN RECOMMENDS BRACING VALVE WITHIN 6" OF INLET CONNECTION.**

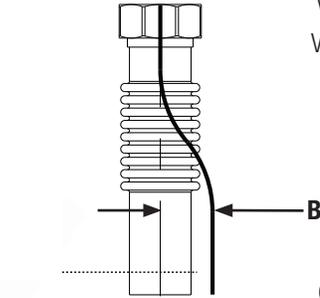
## CONFIGURE VACUUM BREAKER AND FLUSH CONNECTION AND CONNECT TO VALVE

- A** If needed, trim bottom of adjustable tube using grinding style cut-off tool
- 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.

!!! ATTENTION !!!

**BEFORE ATTEMPTING TO CUT THE ADJUSTABLE TUBE, WITH THE PLUG INSERTED INTO THE BOTTOM OF THE TUBE TO PREVENT CRIMPING, GRIP THE TUBE OUTSIDE THE CORRUGATED SECTION FIRMLY WITH HANDS (NOT SQUEEZING), FLEX THE TUBE WHILE PUSHING TOGETHER TO SHORTEN THE LENGTH. THE SAME CAN BE APPLIED WHILE PULLING OUTWARD TO LENGTHEN THE ADJUSTABLE TUBE.**

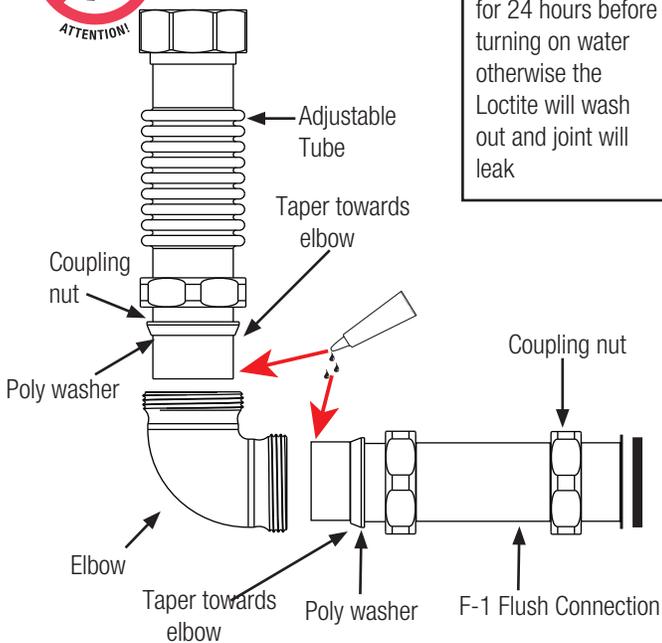


- A** Cut as needed  
NOTE: Do not trim tube before pre-bending

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

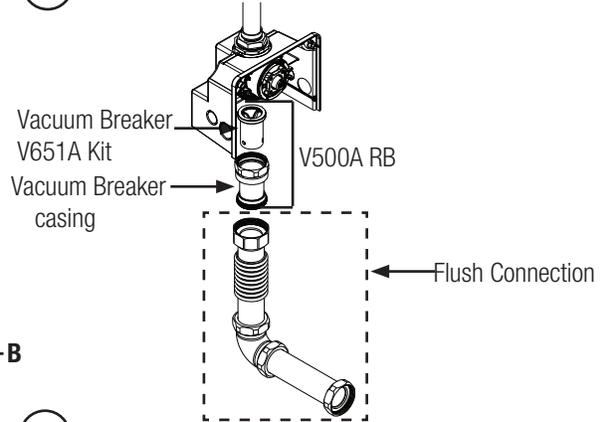
- C** Cut F-1 flush connection to length as needed for particular rough-in.
- Consult rough-in

- D** Connect F-1 flush connection and adjustable tube to the elbow using coupling and poly washer. **Apply Loctite to tube ends**, insert tube ends into elbow, and tighten coupling securely (Do not apply Loctite to coupling threads).



Loctite must cure for 24 hours before turning on water otherwise the Loctite will wash out and joint will leak

- E** Insert V-651A vacuum breaker kit into vacuum breaker casing. Attach to valve hand tight.
- F** Attach flush connection to vacuum breaker.



- G** For hardwire use only: insert conduit into knock-out on side of wall box and tightly secure. Run transformer wires through the conduit to the wall box.

**NOTE: TRANSFORMER NOT PROVIDED. IT IS VERY IMPORTANT THAT THE OUTPUT VOLTAGE OF THE TRANSFORMER BE 6VAC FOR THE UNIT TO FUNCTION PROPERLY. SLOAN EL-386 OR EL-451 IS RECOMMENDED.**

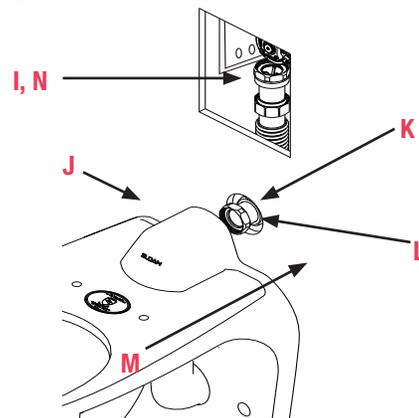
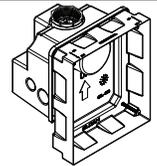
- H** Finish wall. Use supplied mud guard to protect valve during finishing process.

- Use two (2) mounting screws, if needed, to hold mud guard to wall box
- Use the marks on mud guard to make sure finished wall is between 3 1/4" and 4 1/4" from the center line of the pipe.

!!! IMPORTANT !!!

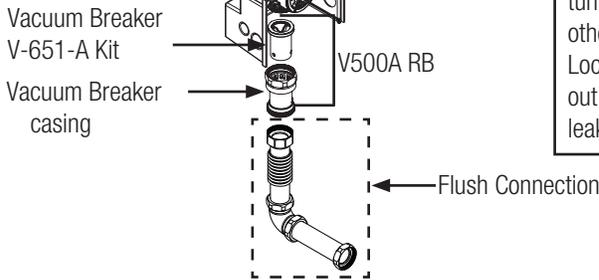
**WALL PLATE OPENING MUST BE 7-1/8" WIDE X 8" TALL (181 MM WIDE X 203 MM TALL). VALVE MUST BE CENTERED WITHIN OPENING ACCORDING TO DIMENSIONS ON PAGES 2 AND 3.**

- I** Loosen vacuum breaker to valve.
- J** Partially mount fixture onto carrier bolts.
- K** Pull flush connection forward through wall.
- L** Make spud connection wrench tight.
- NOTE: Space permitting or chase present, spud connection can be made behind wall.
- M** Push fixture back to wall. Tighten carrier bolts and complete fixture installation.
- N** Re-connect vacuum breaker to valve.

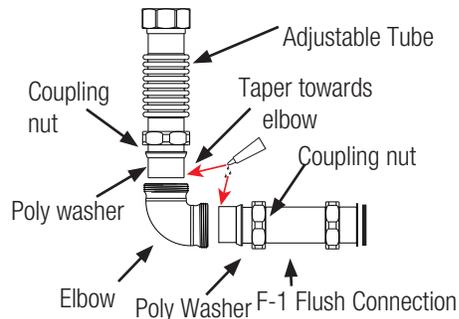


## FOR FLOOR MOUNT REAR SPUD FIXTURES (WATER CLOSET)

- A** Cut F-1 flush connection to length as needed for particular rough-in.
  - Consult rough-in
- B** Connect F-1 flush connection and adjustable tube to the elbow using coupling and poly washer. **Apply Loctite to tube ends**, insert tube ends into elbow, and tighten coupling securely (Do not apply Loctite to coupling threads).
- C** Insert V-651 vacuum breaker kit into vacuum breaker casing. Attach to valve hand tight.
- D** Attach flush connection to vacuum breaker.



Loctite must cure for 24 hours before turning on water otherwise the Loctite will wash out and joint will leak

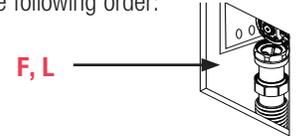


Loctite must cure for 24 hours before turning on water otherwise the Loctite will wash out and joint will leak



- F** Loosen vacuum breaker to valve.
- G** Mount fixture
- H** Pull flush connection forward through wall.
- I** Pre-install escutcheon and fittings in the following order:

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



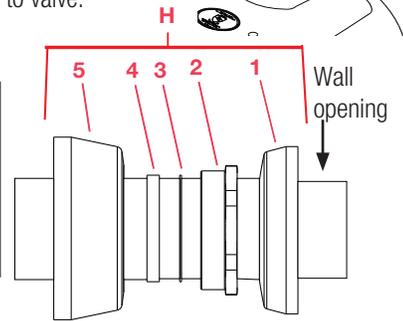
- E** For hardwire use only: insert conduit and tightly secure it to the wall box. Run transformer wires through the conduit to the wall box. **NOTE: TRANSFORMER NOT PROVIDED. IT IS VERY IMPORTANT THAT THE OUTPUT VOLTAGE OF THE TRANSFORMER BE 6VAC FOR THE UNIT TO FUNCTION PROPERLY. SLOAN EL-386 OR EL-451 IS RECOMMENDED.**

Finish wall. Use supplied mud guard to protect valve during finishing process.

- Use two (2) mounting screws, if needed, to hold mud guard to wall box
- Use the marks on mud guard to make sure finished wall is between 3 1/4" and 4 1/4" from the center line of the pipe.

- J** Connect coupling (2) to spud, wrench tight.
- K** Slide wall trim plate against wall.
- L** Re-connect vacuum breaker to valve.

**!!! IMPORTANT !!!**  
**Wall plate opening must be 7-1/8" wide x 8" tall (181 mm wide x 203 mm tall).**  
**Valve must be centered horizontally within opening.**



## FOR REAR SPUD URINALS

- A** If needed, trim urinal flush tube.
- B** Slide 3/4" coupling over urinal flush tube. If cutting tube, thread adapter first, then cut. After cut, remove adapter to help chase/clean threads.
- C** Thread F-28 brass flange onto urinal flush tube. Amount of thread engagement will depend on rough-in. Use provided Loctite to secure and seal F28 flange.
- F** Apply Loctite to tube threads (completely around tube) where flange will sit on tube. Then thread flange into Loctite. Ensure Loctite is visible on both sides of flange. Allow time for Loctite to "set", approx. 30 minutes. Slide F2 coupling over urinal connection tube, and then install urinal connection tube to urinal spud and tighten spud coupling.

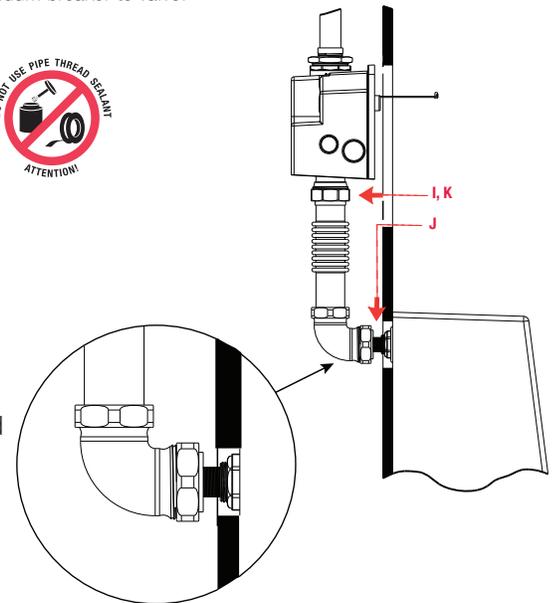
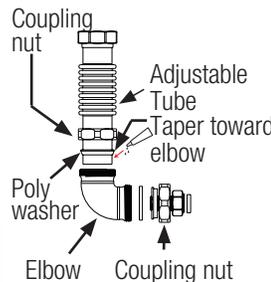


Loctite must cure for 24 hours before turning on water; otherwise the Loctite will wash out and joint will leak.

- H** Hang urinal on mounting bracket.
- I** Loosen vacuum breaker to valve.
- J** Make spud connection behind the wall.
- K** Re-connect vacuum breaker to valve.



- F** Secure urinal flush tube to elbow using 1-1/2" gasket.
- G** Finish wall. Use supplied mud guard to protect valve during finishing process.
  - Use two (2) mounting screws, if needed, to hold mud guard to wall box.
  - Use the marks on mud guard to make sure finished wall is between 3 1/4" and 4 1/4" from the center line of the pipe.



**!!! IMPORTANT !!!**  
**Wall plate opening must be 7-1/8" wide x 8" tall (181 mm wide x 203 mm tall).**  
**Valve must be centered horizontally within opening.**

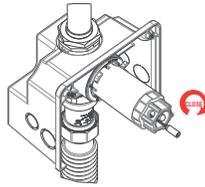
# FLUSHING WATER LINES

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

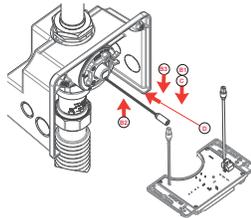
**!!! IMPORTANT !!!**

**USE CAUTION WHEN FLUSHING LINES, PLUMBING DEBRIS CAN CLOG THE WATER CLOSET RIM HOLES AND SIPHON JET**

**A** Ensure water is shut off: use adjustment tool to turn activation assembly fully clockwise. Make sure solenoid wire passes through center of adjustment to avoid damage to the cable.



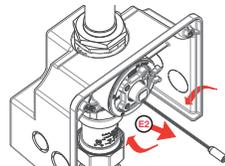
**B** Verify valve is not pressurized  
 i. connect solenoid to sensor assembly.  
 ii. Connect battery pack.  
 iii. Press override button to relieve pressure.



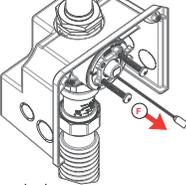
**C** Disconnect Solenoid from Sensor assembly. Pull on end connector to prevent damage to wires.

**D** Press in activation assembly.

**E** Squeeze tabs on Collar and pull out.



**F** Attached provided 1/4-20 screws to activation assembly. Pull to remove assembly

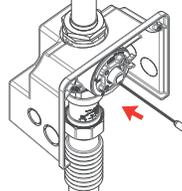
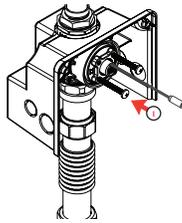
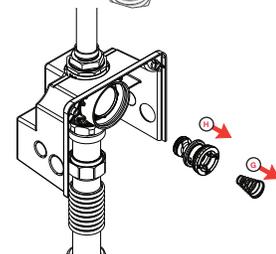


**G** Remove conical spring. Do not discard!

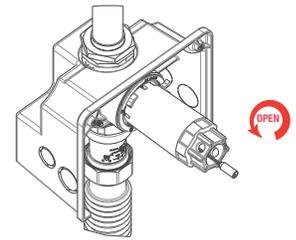
**H** Remove piston assembly by pulling straight out. If unable to grip piston, remove screw from activation assembly and insert into center hole of piston.

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

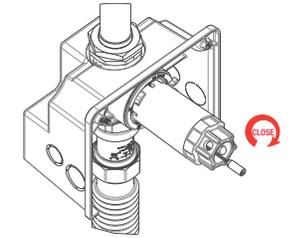
**J** Reinstall Collar. Collar will spin freely in valve body when properly installed.



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

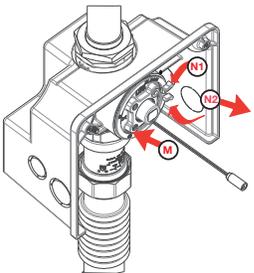


**L** Once lines are flushed clear, turn activation assembly clockwise to shut off water.



**M** Push in activation assembly.

**N** Squeeze tabs on Collar and pull out.



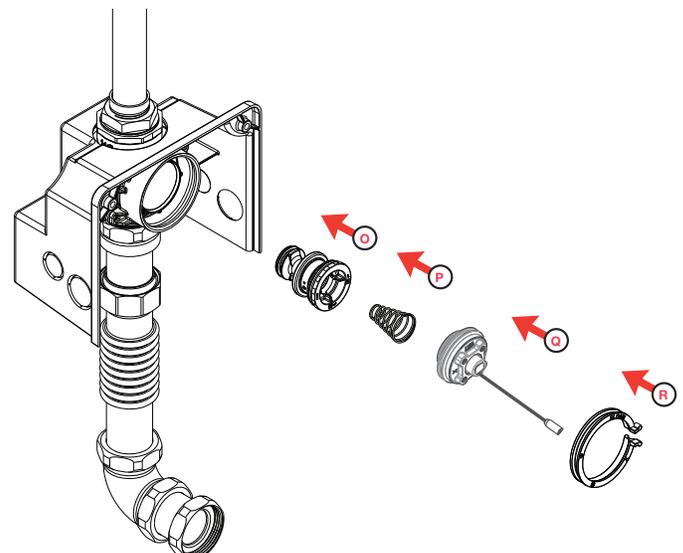
**O** Reinstall piston. Insert smaller sized end first until fully seated.

**P** Reinstall conical spring, small end first, into piston.

**Q** Reinstall activation assembly and press until fully seated.

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

**S** Adjust flow rate of valve as described in Section ADJUSTING FLOW

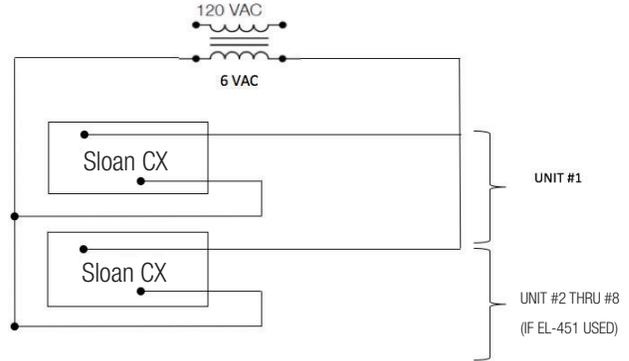
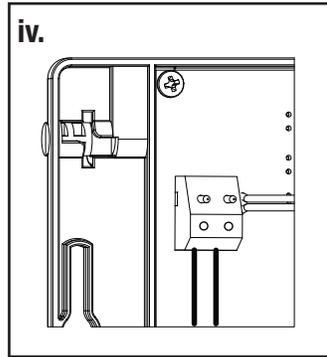
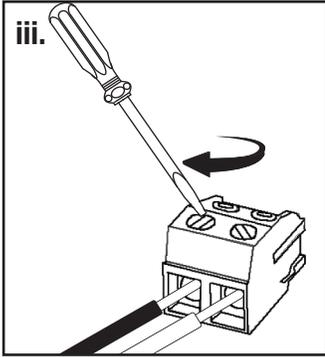


# INSTALL WALL PLATE ASSEMBLY

**For Hardwire connection use.**

- i. Using a wire stripper strip the two wire transformer connection from the conduit.
- ii. Insert the wire to the Blue Terminal Block provided with the Sensor Assembly
- iii. Tighten the terminal block screws using a flathead screwdriver 0.118" (3 mm) or smaller.
- iv. Connect the Blue terminal block to the two pins in the back of the Sensor Assembly.

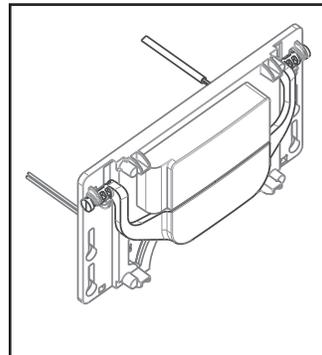
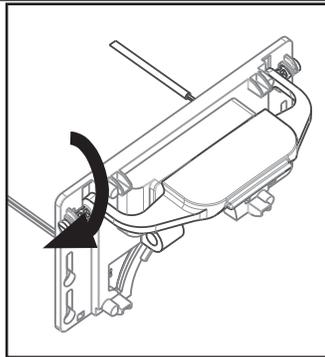
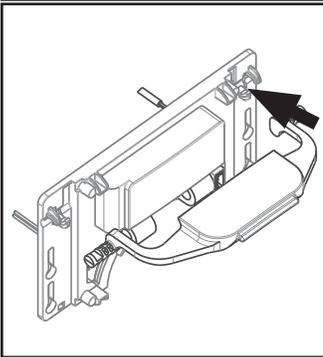
**IMPORTANT: SURGE PROTECTOR BEFORE THE TRANSFORMER IS RECOMMENDED**



**!!! NOTE !!!**

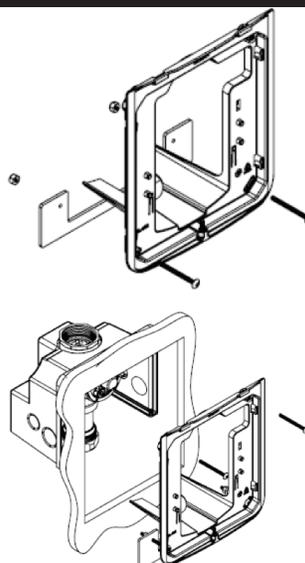
**THE SENSOR ASSEMBLY COMES WITH THE BUTTON ALREADY INSTALLED. IN CASE THE BUTTON HAS COME OFF FROM THE SENSOR ASSEMBLY DURING SHIPMENT, INSTALL IT FOLLOWING THE FIGURE BELOW.**

One EL-386 Transformer (sold separately) serves one (1) CX Closet/ Urinal flushometer.  
 One EL-451 Transformer (sold separately) serves up to (6)CX Closet/ Urinal flushometer with 18 gauge wire within 50 feet



## INSTALL WALL PLATE ASSEMBLY (CONT.)

- A** Assemble C-Bracket to the wall bracket using two (2) 2" long #8-32 screws.
- B** Tighten two (2) locking nuts to the screws about ¼" away from tail of the screws.
- C** Rotate wall bracket slightly about vertical axis and slide C-Bracket behind the finished wall while holding the top of the wall bracket. Once C-bracket is behind the wall, align top two (2) holes on the bracket to the wall box and secure in place using two (2) 2" long #8-32 screws. Tighten the bottom two (2) screws on the bracket.
- D** Make sure the wall bracket is positioned plumb and level before tightening the screws completely.



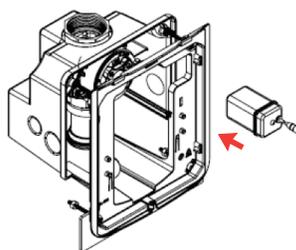
## INSTALL BATTERY BOX AND SENSOR ASSEMBLY

The Sloan CX sensor assembly is designed to work with both hardwire and battery as a back-up or only the battery power connection

### NOTE

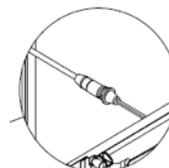
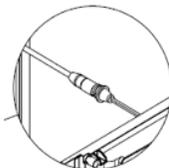
**WATER DOES NOT HAVE TO BE TURNED OFF TO REPLACE BATTERIES. USE ALKALINE BATTERIES FOR PROPER UNIT OPERATION.**

- A** Remove battery cover by loosening screw using a Phillips head screwdriver.
- B** Install four (4) Alkaline AA-size batteries into the battery box in the orientation noted on the inside the battery box.
- C** Reinstall the battery cover and, using a screwdriver, tighten the screw until the battery cover is tightly secure.
- D** Insert the Battery Box on the right side of the flushometer as shown.
- E** Connect Solenoid D-shape connector to sensor assembly.  
NOTE: Solenoid can only be installed in one orientation
- F** Connect Battery Box D-shape connector to Sensor assembly.  
**NOTE: RED LED WILL START BLINKING WHEN POWER IS CONNECTED TO THE SENSOR ASSEMBLY.**
- G** Mount the Sensor Assembly to the wall bracket.
  - i. Aligned the four (4) slots on the sensor assembly with the mounting pegs on the wall bracket.
  - ii. Slide the sensor assembly all the way down.



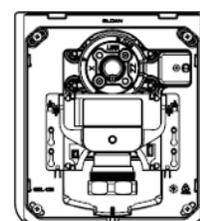
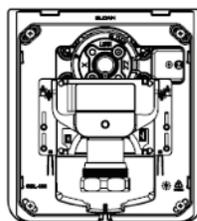
Step E

Step F



Step G.i

Step G.ii



## SENSOR OPERATION

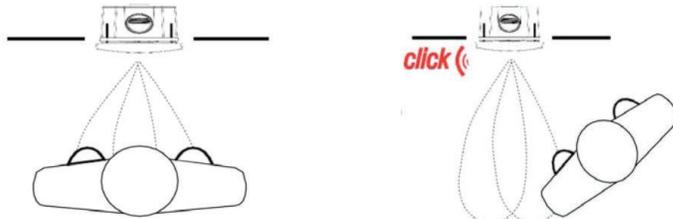
- A** After power is applied, the Sensor Module will perform its Start-up routine for approximately 3 minutes 30 seconds with LED blinking. Step away from sensor during this time. Sensor will calibrate without user in detection area to calibrate "non-use" environment. NOTE: It is important to leave the area directly in front of sensor during calibration (exit stall or stand to the side). Failure to do so may cause sensor to not operate and require restarting the sensor again until calibration is properly performed. Disconnect power from sensor for 1-minute before repeating.
- B** NOTE: A one (1) second long Red LED, followed by one slow Red LED blinking in the Sensor Window indicates sensor is in the start-up mode. There will be two (2) Red LED pulses (each one (1) second long) in the Sensor Window to indicate the start-up routine is complete. After the start-up routine is complete, in the first ten (10) minutes of operation, a visible Red LED flashes in the Sensor Window of the CX Flushometer when a user is detected.

## TEST SENSOR OPERATION

The CX Flushometer has a factory set sensing range:

- i. Water Closet Models – 22" to 46" (559 mm to 1168 mm)
- ii. Urinal Models – 15" to 34" 381 mm to 864 mm)

- A** Test sensor by stepping in front of the sensor for 10 seconds.
- B** After 10 seconds step away from the sensor and listen for a "CLICK"  
The factory setting should be satisfactory for most installations. If a range adjustment is required, refer to the range adjustment instructions in this installation guide (See page 13).



## ADJUST WATER FLOW

- A** Flushometer is shipped with the flow control adjustment turned OFF. Disconnect Flushometer Solenoid connector from the Sensor Assembly. Pull on end connector to prevent damage to wires.
- B** Lift the Sensor Assembly Override Button up to access the activation assembly.
- C** Open water flow by turning activation assembly slowly COUNTERCLOCKWISE using adjusting tool and a screwdriver or a wrench.
  - i. There is approximately 1/8-turn (45°) of free spinning as the activation assembly engages the shut-off sleeve between opening and closing the valve.
  - ii. A 1-1/2" socket or wrench can be attached to the adjustment tool or a screwdriver can be passed through the side side holes to provide additional torque.

**!!! NOTE !!!**  
**MAKE SURE SOLENOID CONNECTOR GOES THROUGH THE CENTER OF THE ADJUSTING TOOL TO AVOID DAMAGE TO THE CABLE.**

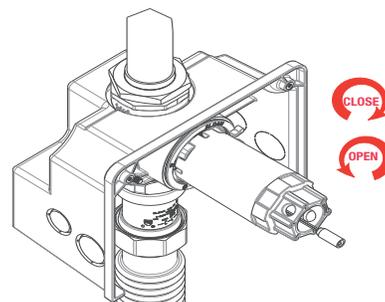
- D** Connect Flushometer Solenoid connector to the Sensor Assembly.
- E** Activate Flushometer by pressing the Override Button.
- F** Adjust Activation Assembly after each flush until the flow rate delivered properly cleanses the fixture (turn CLOCKWISE to lessen flow and COUNTERCLOCKWISE to increase flow).

**!!! NOTE !!!**  
**MAKE SURE FLUSHOMETER SOLENOID CONNECTOR IS DISCONNECTED FROM SENSOR ASSEMBLY EVERY TIME BEFORE ROTATING ACTIVATION ASSEMBLY.**

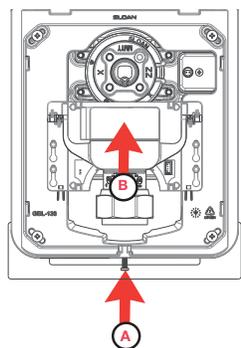
**!!! NOTE !!!**  
**UNDER NO CIRCUMSTANCES SHOULD THE SOLENOID BE REMOVED OR ADJUSTED.**

**!!! 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 CLEANSSED AFTER EACH FLUSH WITHOUT SPLASHING WATER OUT FROM THE LIP AND A QUIET FLUSHING CYCLE IS ACHIEVED.**

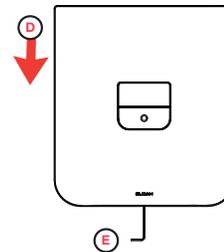
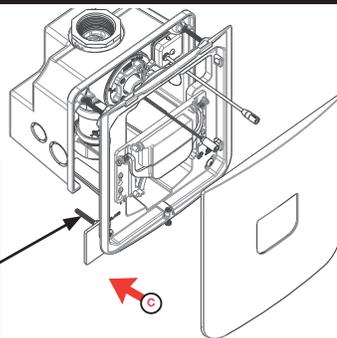
**!!! IMPORTANT !!!**  
**THE ACTIVATION ASSEMBLY SHOULD NEVER BE OPENED TO THE POINT WHERE THE FLOW FROM THE VALVE EXCEEDS THE FLOW CAPABILITY OF THE FIXTURE. IN THE EVENT OF A VALVE FAILURE, THE FIXTURE MUST BE ABLE TO ACCOMMODATE A CONTINUOUS FLOW FROM THE VALVE.**



## INSTALL WALL PLATE



**NOTE: If desired, orange flow adjustment tool can be stored here.**



- A** Make sure retaining screw on bracket is fully tightened clockwise.
- B** Slide Sensor Assembly all the way up.
- C** Align Wall Plate cut out with the window and Override Button of Sensor Assembly and push Wall Plate all the way in.

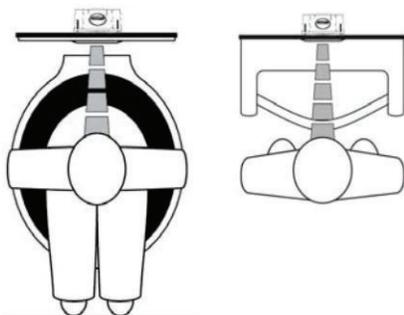
i. Make sure sensor window and button are sitting inside the wall plate cut out.

- D** Slide Wall Plate all the way down.
- E** Retaining screw is designed to rest inside the wall plate. Turning the retaining screw counter clockwise using supplied Allen key until it touches wall plate will lock plate in place, preventing the plate from sliding upward and being removed.
- F** Make sure Wall Plate doesn't slide up.

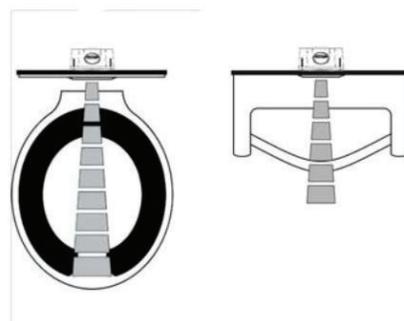
**!!! NOTE !!!**  
**DO NOT UNSCREW ANYMORE ONCE SCREW TOUCHES WALL PLATE.**

## OPERATION

- A** A continuous, INVISIBLE light beam is emitted from the Sloan CX Sensor.
- B** After the user enters the beam's effective range, 22 to 46 inches (559 mm to 1168 mm) for closet installations and 15 to 34 inches (381 mm to 864 mm) for urinal installations for ten (10) seconds the flushometer is armed.



- C** When the user steps away, the sensor initiates a "one-time" signal that activates the flushing cycle to flush the fixture (1 second delay for urinal, 3 seconds delay for closet). The Circuit automatically resets and is ready for the next user.



## RESTART SENSOR (ONLY IF NECESSARY)

The Sloan CX Flushometer has a factory set sensing range:

Water Closet Models - 22" to 46" (559 mm to 1168 mm)

Urinal Models - 15" to 34" (381 mm to 864 mm)

The Factory setting should be satisfactory for most installations. If the range is too short (i.e. not picking up users) or too long (i.e., picking up opposite wall or stall door) the range can be adjusted.

**NOTE: WATER DOES NOT HAVE TO BE TURNED OFF TO ADJUST RANGE.**

- A** Make sure to remove all the non-permanent targets in sensor view area.
- B** Push Override button for 20-30 seconds.
- C** The Red LED in the sensor window starts slowly blinking.
- D** Release the button after the LED starts slowly blinking and step away.
- E** The CX will enter into start-up mode.
- F** The setting mode will run for one minute.

### !!! NOTE !!!

**It is important to leave the area directly in front of sensor during calibration (exit stall or stand to the side). Failure to do so may cause sensor to not operate and require restarting the sensor again until calibration is properly performed. Disconnect power from sensor for 1-minute before repeating.**

## BASIC SERVICING

**A.** Remove wall plate.

**Note:** water can be shut-off without removing plastic mounting plate. Removal of plastic mounting plate provides more hand room for servicing valve and accessing flush connection.

- i. Turn the retaining screw at the bottom of wall plate using Allen Key clockwise
- ii. Slide wall plate up, then pull out.

**B.** Disconnect flushometer solenoid connector from the sensor assembly. Pull on end connector to prevent damage to wires.

**C.** Slide sensor assembly up and pull away from wall to remove. Note: battery pack can remain attached during sensor assembly removal. Disconnecting battery pack would require recalibration of sensor after servicing.

**D.** Reconnect the sensor assembly to the solenoid. Press override button to relieve pressure. Disconnect solenoid. Pull on end connector to prevent damage to wires.

**E.** Push in activation assembly until fully seated.

**F.** Squeeze tabs on Collar and pull out.

**G.** Attach provided screws to activation assembly. Pull to remove assembly.

**DO NOT TURN THE ASSEMBLY TO AVOID TURNING WATER FLOW BACK ON. DO NOT REMOVE OR ADJUST THE SOLENOID.**

**H.** Remove conical spring. Do not discard!

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

**J.** Reinstall or replace piston. Insert smaller sized end first until fully seated.

**K.** Reinstall or replace conical spring, small end first, into piston.

**L.** Reinstall or replace activation assembly and press until fully seated.

**M.** Reinstall orange safety ring securely. Safety ring will spin freely in valve body when properly installed. NOTE: using screws attached to activation assembly, pull activation assembly forward to ensure proper alignment.

**N.** Using adjustment tool, slowly turn the activation assembly counterclockwise to open flow.

**O.** Adjust flow as described on page 11.

**P.** Install wall plate as described on page 12.

## TROUBLESHOOTING

### A. Sensor Flashes Continuously Only When User Steps Within Range.

- i. Unit in Start-Up mode; no problem. This feature is active for the first ten (10) minutes of operation.

### B. Valve Does Not Flush; Sensor Not Picking Up User.

- i. Range too short; increase the range.
- ii. Verify urinal sensor is not used on a closet valve. Rear of sensor is marked with model.
- iii. Restart sensor by pressing and holding override button for 25 seconds, then release button and step away for 1 minute.

### C. Valve Does Not Flush; Sensor Picking Up Opposite Wall or Surface, or Only Flushes When Someone Walks By. Red Light Flashes Continuously for First 10 Minutes Even with No One in Front of the Sensor.

- i. Range too long; shorten range.
- ii. Verify closet sensor is not used on urinal valve. Rear of sensor is marked with model.
- iii. Restart sensor by pressing and holding override button for 25 seconds, then release button and step away for 1 minute.

### D. Valve Does Not Flush Even After Adjustment.

- i. Ensure water supply to valve is turned on.
- ii. Activation Assembly sleeve is in closed position. Turn counterclockwise to open water flow. NOTE: there is approximately 1/8-turn (45°) of free spinning as the activation assembly engages the shut-off sleeve between opening and closing the valve.
- iii. Batteries completely used up; replace batteries.
- iv. Problem with activation assembly; replace activation assembly.
- v. Problem with Sensor Assembly; replace Sensor Assembly.

### E. Red Light Blinks four (4) Times When User Steps Within Range (Battery Only).

- i. Batteries low; replace batteries.

### F. Red Light Blinks four (4) Times When User Steps Within Range (Hardwire and Battery).

- i. Battery box not connected; connect battery box to sensor assembly.
- ii. Batteries low; replace batteries.

### G. Valve Does Not Shut off.

- i. Metering bypass hole in piston is clogged. Remove the piston O-ring from groove and wash under clean running water. Replace piston if cleaning does not correct the problem.
- ii. Supply line water pressure has dropped and is not sufficient to close the valve. Close Activation Assembly until pressure is restored. NOTE: under some conditions, opening the shut-off sleeve can correct the force imbalance and cause the valve close.
- iii. Piston is damaged. Replace with new proper gpf/Lpf piston.
- iv. Solenoid latched in open position during valve shipment. Connect sensor assembly and press override button. See "install battery box and sensor assembly" section on page 10 for additional information.

### H. Too much water to Fixture.

- i. Activation Assembly not adjusted properly. Readjust Activation Assembly.
- ii. Piston is damaged. Replace with new proper gpf/Lpf piston
- iii. Wrong CX model installed; i.e., 1.6 gpf. model installed on 0.5 gpf/1.9 Lpf or 0.25 gpf/1.0 Lpf urinal fixture. Replace with proper CX model per guide.

### I. Not enough water to Fixture.

- i. Activation Assembly not adjusted properly. Readjust Activation Assembly by turning counterclockwise.
- ii. Wrong CX model installed; i.e. 0.5 gpf. urinal installed on 1.6 gal. closet fixture. Replace with proper CX model.
- iii. Water supply pressure is inadequate (low). Increase the water supply pressure. Contact the fixture manufacturer for minimum water supply requirements of the fixture.

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

- i. Reduce flow pressure by turning Activation Assembly.
- ii. Air trapped inside the valve and/or supply pipe. Air takes time - both count of flushes and actual duration-to be fully removed.

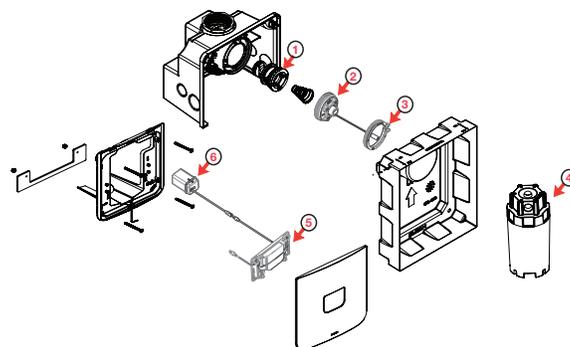
## CARE AND CLEANING

**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.



## VALVE ASSEMBLY GUIDE

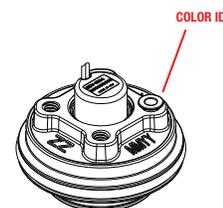
Item No.	Code No.	Part No.	Description
1.	Consult Maint. Guide		Piston Assembly
2.	See Table		Activation Assembly
3.	3340011	GBL-1011-A	Safety Lock Repair Kit
4.	3340012	GBL-1012-A	Activation Assembly Tool Kit
5A.	33400069	GBL-219-A	CX Closet Sensor ASM
5B.	33400071	GBL-220-A	CX Urinal Sensor ASM
6.	9103681PK	ELG-79	Battery Pack



NOTE: For a complete list of SLOAN CX REPAIR PARTS, consult Sloan CX Repair Parts & Maintenance Guide

## ACTIVATION ASSEMBLY SELECTION GUIDE

Code No.*	Part No.	Description	Plug Color**
33400051	GBL-1077A	1.6 gpf/6.0 Lpf closet activation assembly	Green
33400052	GBL-1078A	1.28 gpf/4.8 Lpf closet activation assembly	Purple
33400062	GBL-1092A	1.1 gpf/4.2 Lpf closet activation assembly	Grey
33400053	GBL-1079A	0.5 gpf/1.9 Lpf urinal activation assembly	Red
33400054	GBL-1080A	0.25 gpf/1.0 Lpf urinal activation assembly	Burgundy
33400055	GBL-1081A	0.125 gpf/0.5 Lpf urinal activation assembly †	Not Applicable



\* For valves built before December 2021, consult factory to confirm code number.

† 0.125 gpf/0.5 Lpf urinal activation assembly has a silver color. Other models are a brass/yellow color.

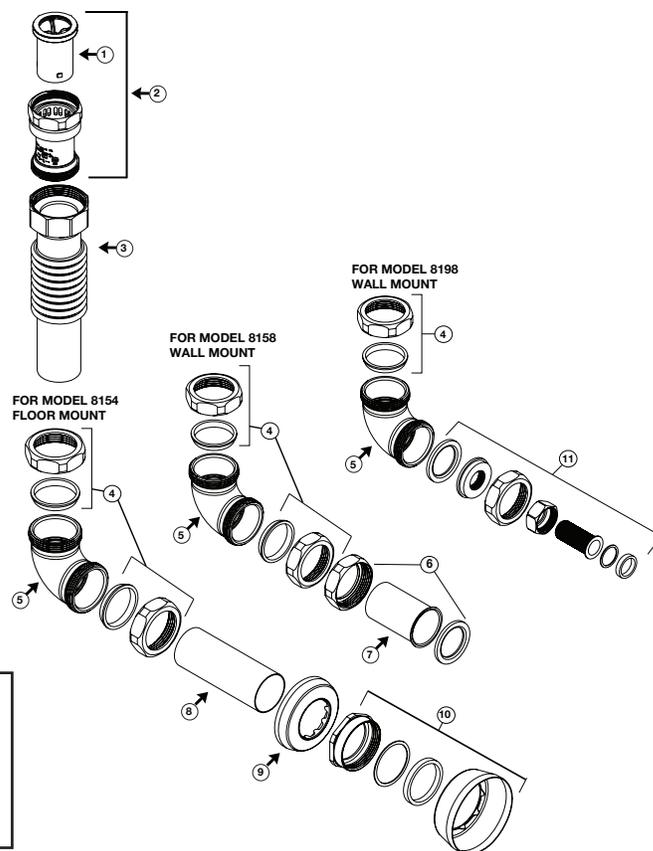
\*\* Colors may differ. Consult factory to confirm you have the correct activation assembly.

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	3323182	V-651 Vacuum Breaker Repair Kit
2	0323011	V500A RB Short Vacuum Breaker Assembly
3	33060011	F227A Repl Kit, Adj. Tube, 6.5" Long (Models 8158 & 8198)
	33060012	F228A Repl Kit, Adj. Tube, 10.5" Long (Model 8154)
4	0306395	F211A CX Poly Washer Coupling (set of 2)
5	0306392PK	F-305 CX Elbow For CX Poly Washer
6	0306091	F-2-A 1-1/2" Coupling with S-21 Gasket
7	0306031PO	F-1 1 1/2" (38 mm) Flanged outlet tube RB, 6"
8	0396119PK	F-101 CP Tube Outlet 1-1/2" X 10-1/2"
9	0306237PK	F-7 Tube Flange 1 1/2" x 2 3/4" w/Prongs, CP*
10	0306146PK	F-5-A 1-1/2" Spud Coupling Assembly CP*
11	0306396	CX Urinal Flush Connection Repair Kit



The information contained in this document is subject to change without notice.

\* 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®

**For complete listing of items available for repair, please consult Maintenance and Repair Guide. Contact Technical Support for assistance. 1.888.756.2614 or 1.888.SLOAN14**

Tech Support: 1.888.756.2614 or 1.888.SLOAN14

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