

## INSTALLATION INSTRUCTIONS FOR SOLIS SOLAR-POWERED SENSOR-ACTIVATED CONCEALED FLUSHOMETERS



MODEL 8152

MODEL 8195

### Concealed Closet Flushometers 1-1/2" Rear Spud

- Model 8152 SWB

### Concealed Urinal Flushometers 3/4" Rear Spud

- Model 8195 SWB



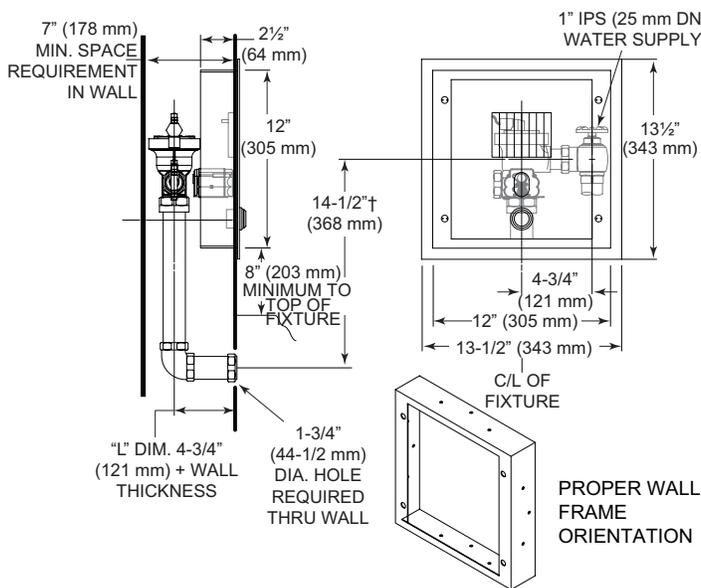
### LIMITED WARRANTY

Unless otherwise noted, Sloan Valve Company warrants this product, manufactured and sold for commercial or industrial uses, to be free from defects in material and workmanship for a period of three (3) years (one (1) year for special finishes, SF faucets, PWT electronics and 30 days for PWT software) from date of first purchase. During this period, Sloan Valve Company will, at its option, repair, replace, or refund the purchase price of any product which fails to conform with this warranty under normal use and service. This shall be the sole and exclusive remedy under this warranty. Products must be returned to Sloan Valve Company, at customer's cost. No claims will be allowed for labor, transportation or other costs. This warranty extends only to persons or organizations who purchase Sloan Valve Company's products directly from Sloan Valve Company for purpose of resale. This warranty does not cover the life of the batteries.

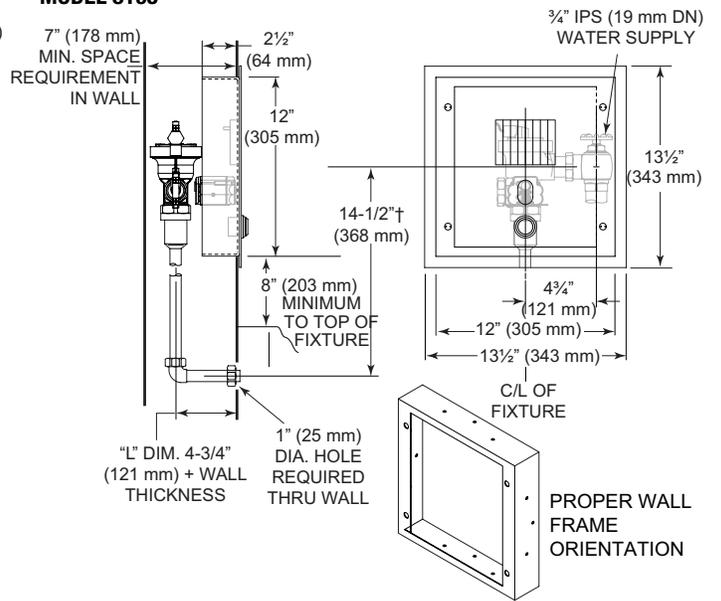
**THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT IS SLOAN VALVE COMPANY RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.**

### ROUGH-IN

#### MODEL 8152



#### MODEL 8195



† DIMENSION MAY VARY DEPENDING ON HEIGHT OF VACUUM BREAKER; MUST MAINTAIN 8" (203 MM) SPACE BETWEEN WALL BOX AND TOP OF FIXTURE.

‡ POSITION OF SENSOR BOX CAN BE RAISED OR LOWERED 1" (25 mm) IF IN CONFLICT WITH HANDICAP GRAB BARS.

## TOOLS REQUIRED FOR INSTALLATION

- Sloan A-50 Super-Wrench™, Sloan A-109 Plier Wrench or smooth jawed spud wrench
- Slotted screwdriver
- Plastic Tube Cutter (PTC)
- Strap wrench, supplied
- 8-32 x 3/4" drilled spanner head - spanner bit provided
- 5/64" hex wrench
- 1 gal. bucket

## PRIOR TO INSTALLATION

Prior to installation, install the items listed below.

- Closet/urinal fixture
- Water supply line
- Drain line
- 12" x 12" (305 mm x 305 mm) opening for wall box

### IMPORTANT:

- **INSTALL ALL ELECTRICAL WIRING IN ACCORDANCE WITH NATIONAL/ LOCAL CODES AND REGULATIONS.**
- **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 15 to 100 psi (104 to 689 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 gallon/6.0 liter) require a minimum flowing pressure of 25 psi (172 kPa).

Protect the chrome or special finish of this flushometer — **DO NOT USE TOOTHED TOOLS TO INSTALL OR SERVICE THE VALVE.** Also, see "Care and Cleaning" section of this manual.

**IMPORTANT: EXCEPT FOR CONTROL STOP INLET, DO NOT USE PIPE SEALANT OR PLUMBING GREASE ON ANY VALVE COMPONENT OR COUPLING!**

**NOTE: BREAK THE TILES, IF APPLICABLE, TO ALLOW SCREW HOLES IN PLASTER TO SHOW.**

**!!! IMPORTANT !!!**  
**NEVER OPEN CONTROL STOP TO 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 !!!**  
**THIS PRODUCT CONTAINS MECHANICAL AND/OR ELECTRICAL 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.**

**!!! IMPORTANT !!!**  
**PROTECT THE FINISH OF SLOAN FLUSHOMETERS — DO NOT USE TOOTHED TOOLS TO INSTALL OR SERVICE THESE VALVES. USE A SLOAN A-50 Super Wrench™, SLOAN A-109 PLIER WRENCH OR SMOOTH JAWED SPUD WRENCH TO SECURE ALL COUPLINGS. ALSO SEE "CARE AND CLEANING" SECTION.**

**!!! IMPORTANT !!!**  
**WITH THE EXCEPTION OF THE CONTROL STOP INLET, DO NOT USE PIPE SEALANT OR PLUMBING GREASE ON ANY VALVE COMPONENT OR COUPLING!**

## 1 - INSTALL THE WALL BOX

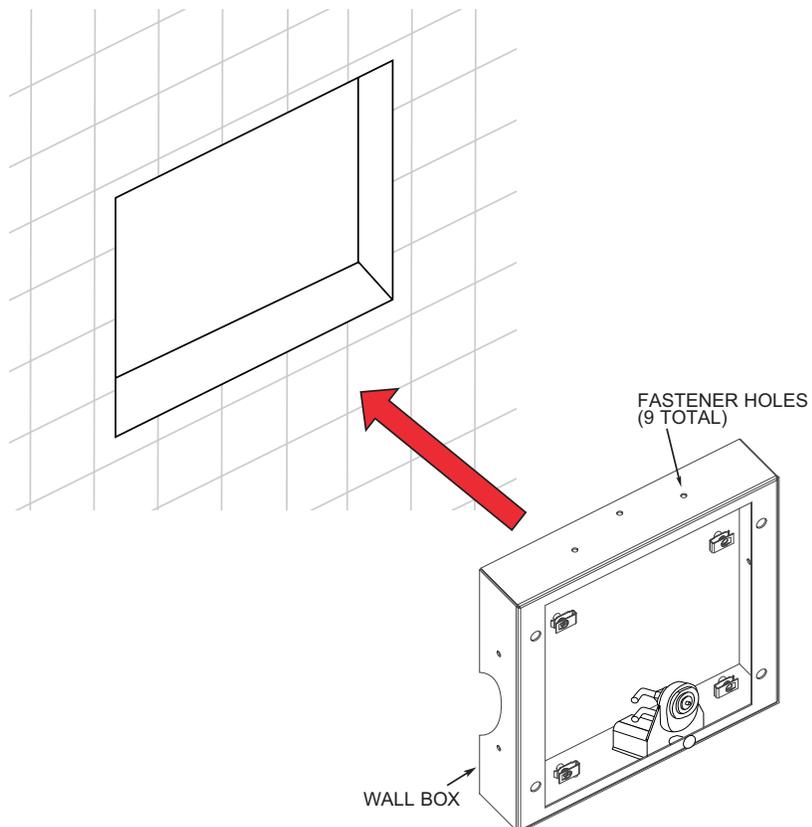
- A** Install Wall Box in the exact location as illustrated in rough-in. Secure using appropriate fasteners.

### NOTE

IF Inner Wall EXCEEDS 9" valve center located at 5¾" from the front of the stud. Inlet centerline distance to the lower surface of the box is 2½"-6".

### NOTE

Inner Wall BETWEEN 6-9" Valve center located at 2½" from the front of the stud. Inlet centerline distance to the lower surface of the box is 6-7½". (In some cases, studs must be drilled to allow proper installation.)

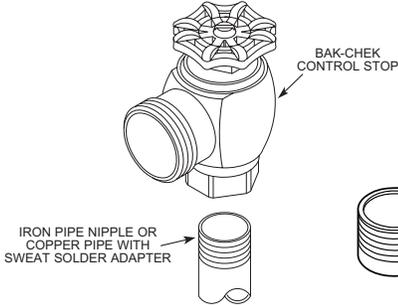


## 2 - INSTALL CONTROL STOP TO SUPPLY PIPE AND VACUUM BREAKER FLUSH CONNECTION

### !!! IMPORTANT !!!

**DUE TO THE HIGH BACK PRESSURES THAT CAN BE CREATED BY WATER CLOSETS AND COMBINATION FIXTURES, THE FOLLOWING PROCEDURES MUST BE FOLLOWED WHEN INSTALLING THE FLUSH CONNECTIONS. FAILURE TO FOLLOW THESE PROCEDURES CAN RESULT IN SEPARATION.**

- A** Thread control stop onto water supply line. Tighten with a wrench making sure outlet is positioned as required.

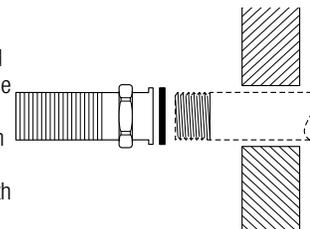
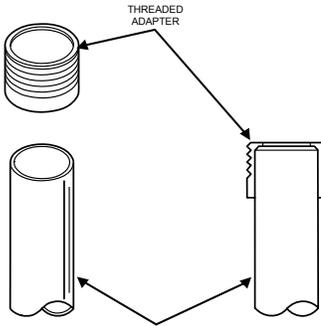


- B** Make sure control stop is closed. Turn water supply on. **NOTE:** Be prepared to collect water with a bucket near the control stop.

- C** Turn control stop on to flush out supply lines of any debris.

- D** Turn off control stop.

- E** A 1-1/2" pipe connection (NOT SUPPLIED by Sloan) must be used to connect the fixture inlet from the wall to the flush connection. Secure flanged end of F-100 flush connection to the 1-1/2" pipe using a 1-1/2" F-2-A coupling with S-21 gasket and coupling nut.

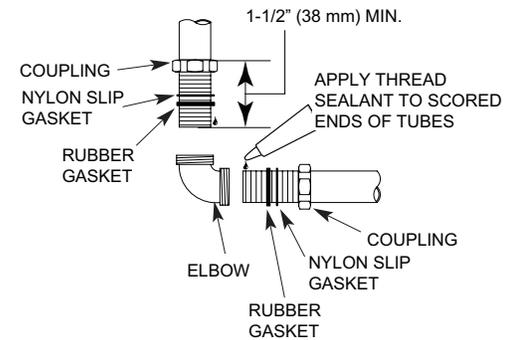


### !!! IMPORTANT !!!

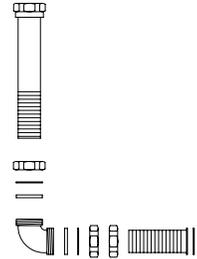
**BEFORE INSERTING THE SCORED ENDS INTO THE ELBOW THE SCORED OUTLET TUBES MUST BE CLEAN AND FREE OF OIL AND CHIPS BEFORE APPLYING SEALANT. APPLY SEVERAL DROPS OF THREAD SEALANT (SUPPLIED BY SLOAN) TO THE SCORED ENDS OF THE TUBES (SEE BELOW ILLUSTRATION). THIS SEALANT HELPS PREVENT SEPARATION UNDER HIGH-PRESSURE CONDITIONS – DO NOT USE ANY OTHER PIPE SEALANT OR LUBRICANT ON THIS CONNECTION.**

- F** Connect scored ends of vacuum breaker tube and F-100 flush connection to the elbow using the coupling nut, slip gasket and rubber compression gasket as illustrated.

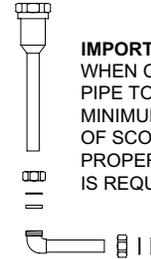
- G** AFTER applying sealant to scored ends, tighten securely.



MODEL 8152 SWB



MODEL 8195 SWB



**IMPORTANT:** WHEN CUTTING SCORED PIPE TO LENGTH A MINIMUM OF 1-1/2" (38 mm) OF SCORING TO ENSURE PROPER ENGAGEMENT IS REQUIRED.

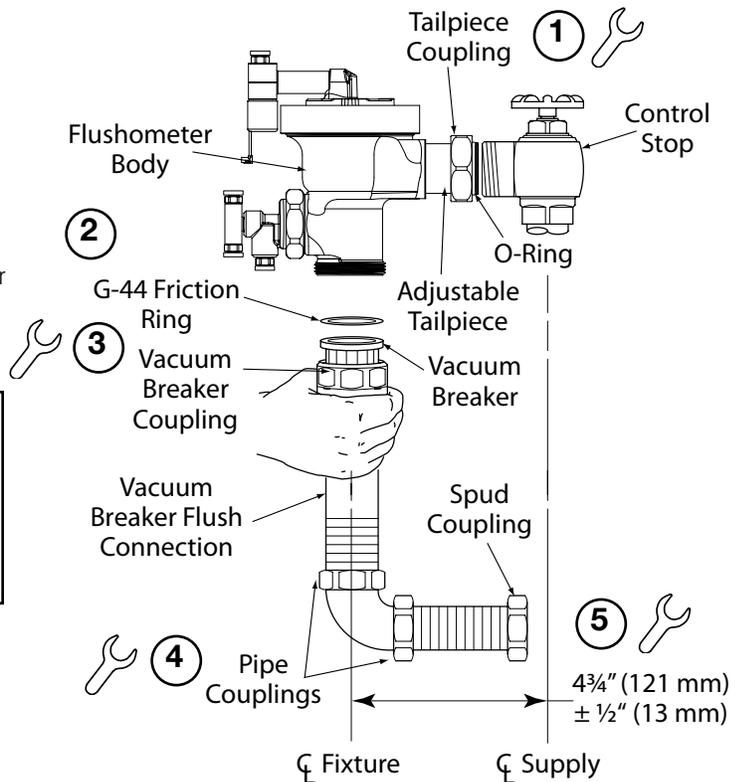
## 3 - INSTALL FLUSHOMETER

- A** Lubricate tailpiece O-ring with water. Insert Adjustable Tailpiece into control stop. Tighten Tailpiece Coupling by hand.
- B** Align flushometer directly above the vacuum breaker flush connection by sliding the flushometer Body IN or OUT as needed. Tighten breaker coupling by hand.
- C** Align flushometer body and securely tighten first the tailpiece coupling (1), install the vacuum breaker kit and friction ring (2), then the vacuum breaker coupling (3) and pipe couplings (4), and finally the spud coupling (5). Use a wrench to tighten these couplings in the order shown.

### NOTE

**MAXIMUM adjustment of the Sloan adjustable tailpiece is 1/2" (13 mm) IN or OUT from the standard 4-3/4" (121 mm) (CL of flushometer to CL of control stop).**

**If rough-in measurement exceeds 5-1/4" (133 mm), consult factory for longer tailpiece.**



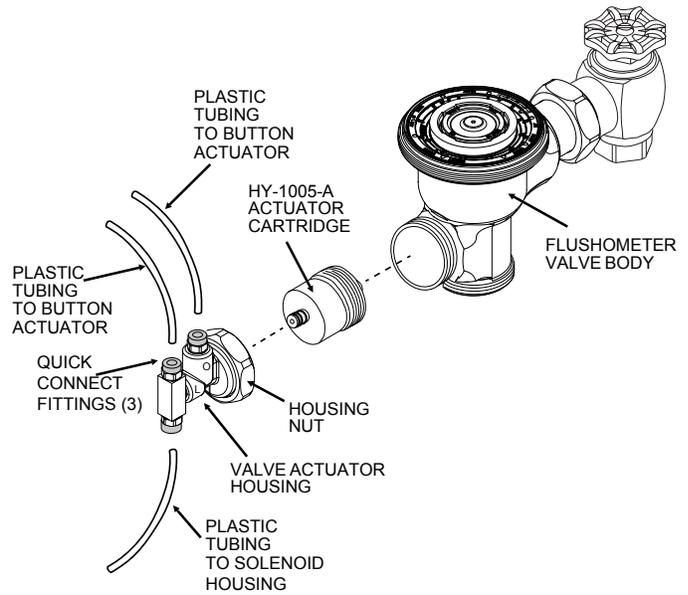
## 4 - HYDRAULIC HOOK-UP

- A** Make sure control stop is closed.
- B** **IMPORTANT: Mark one plastic tube "L" and the other "O".** Cut off excess plastic tubing with plastic tube cutter (PTC) so that there will be no less than 12" (304 mm) of slack when the actuator is installed. If the "L" and "O" markings on the tubing will be cut off, then re-mark the tubing appropriately so as not to lose identification.
- C** Slide each plastic tube into its corresponding actuator fitting. Pull tubing to make sure connection is secure. (Tubing can be removed by pressing on blue connection button to release.)

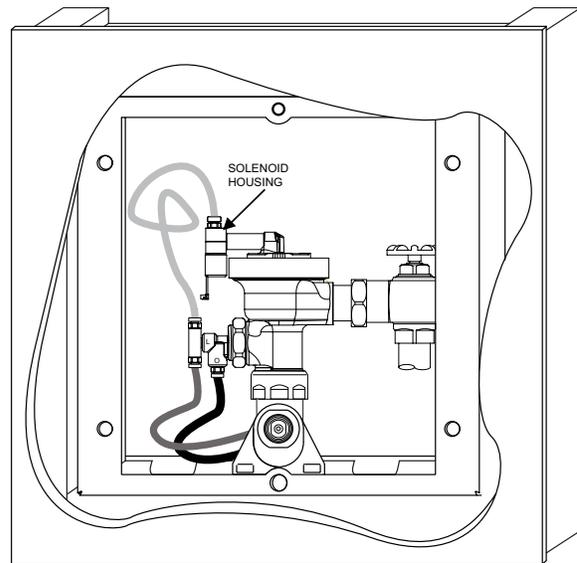
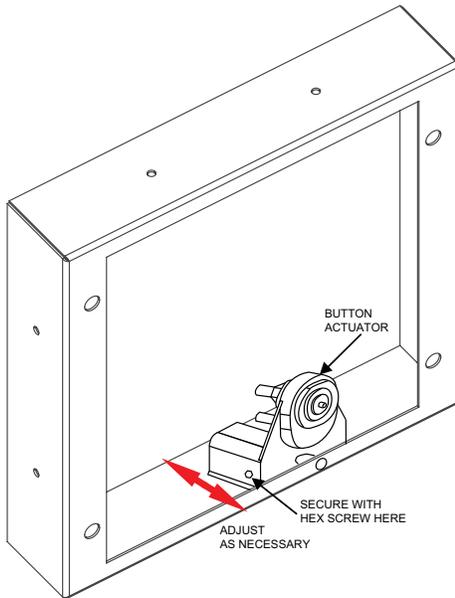
**!!! IMPORTANT !!!**  
**MUST USE SLOAN APPROVED TUBING ONLY**

- D** Hold plate up to button actuator assembly and slide assembly, as needed, for proper orientation. Allow about 1/8" 'play' between plate button and actuator. Once positioned properly, secure assembly with Allen wrench supplied on wall box.

**!!! IMPORTANT !!!**  
**IT IS IMPORTANT TO ORIENT THE ASSEMBLY PROPERLY – IF THE ASSEMBLY IS TOO FAR BACK (OR TOO CLOSE) THE BUTTON WILL NOT ACTIVATE THE FLUSH.**

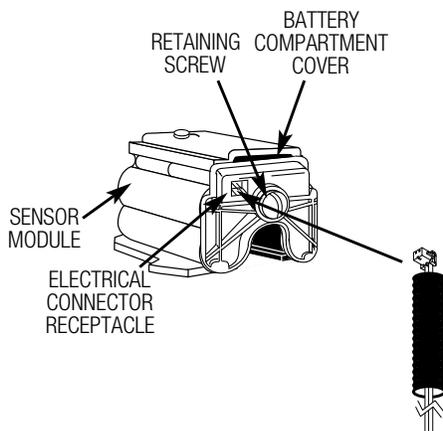


**NOTE**  
**OBSERVE "L" AND "O" MARKINGS ON TUBING. TUBING MUST BE CONNECTED TO CORRESPONDING "L" AND "O" MARKINGS ON PUSH BUTTON ACTUATOR AND VALVE BODY ACTUATOR.**

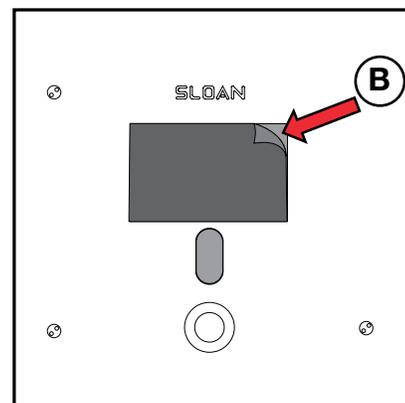


## 5 - SOLENOID CONNECTION

- A** Connect solenoid cable from valve to back of sensor module, located on back side of wall plate.

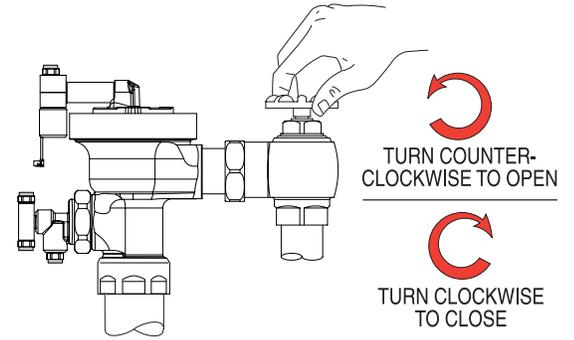


- B** Remove the tape from the wall plate solar panel to activate.



## 5 - TURN WATER ON AND ADJUST CONTROL STOP

- A** Adjust control stop to meet the flow rate required for proper cleansing of the fixture. Open control stop COUNTERCLOCKWISE one (1) FULL turn from the closed position.
- B** Activate flushometer by placing hand in front of sensor module lens for ten (10) seconds and then moving it away.
- C** Adjust control stop after each flush until the rate of flow delivered properly cleanses the fixture.

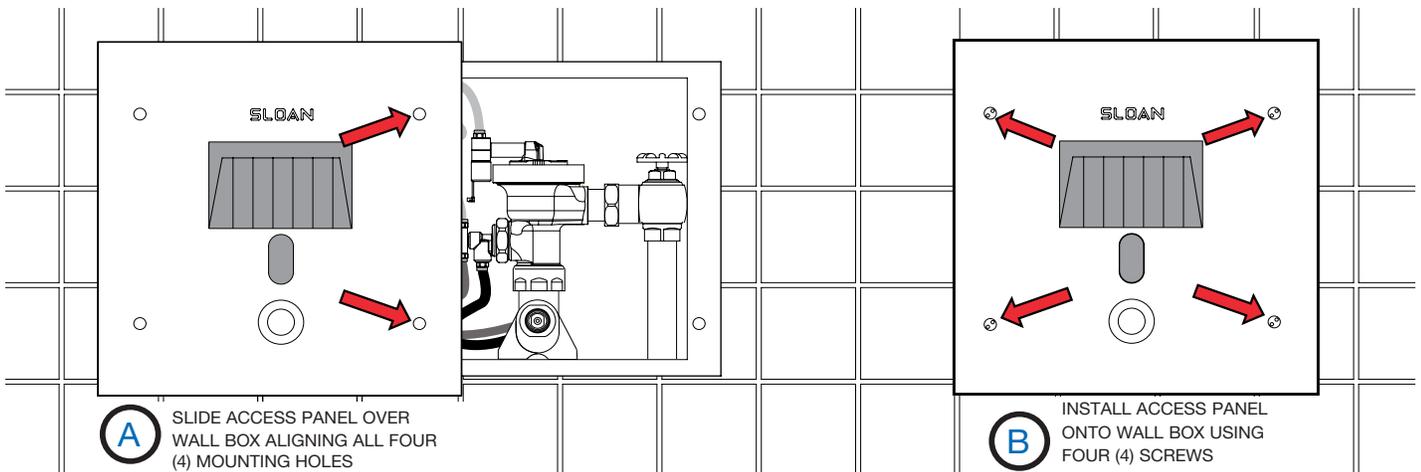


**!!! IMPORTANT !!!**  
**ALL SLOAN FLUSHOMETERS ARE ENGINEERED FOR QUIET OPERATION. EXCESSIVE WATER FLOW CREATES NOISE, WHILE TOO LITTLE WATER FLOW MAY NOT SATISFY THE NEEDS OF THE FIXTURE. PROPER ADJUSTMENT IS MADE WHEN PLUMBING FIXTURE IS CLEANSED AFTER EACH FLUSH WITHOUT SPLASHING WATER OUT FROM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

**NEVER OPEN CONTROL STOP TO 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 !!!**  
**IF VALVE DOES NOT SHUT OFF SEE TROUBLESHOOTING GUIDE ON PAGE 7.**

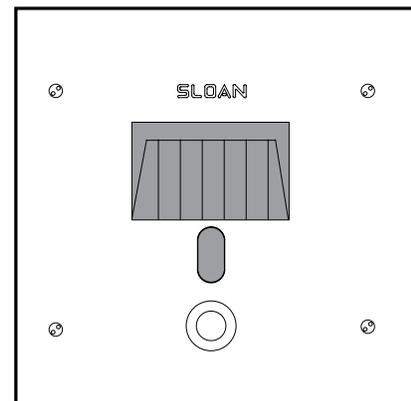
## 7 - INSTALL ACCESS PANEL



## 8 - TEST SENSOR ACTIVATION

The SOLIS® has a factory set sensing range:  
 Water Closets: 22" to 42" (559 mm to 1067 mm)  
 Urinals: 15" to 30" (381 mm to 762 mm)

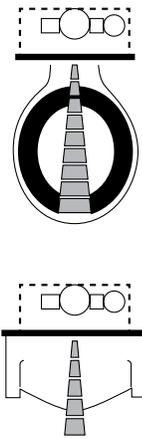
- A** For the first ten (10) minutes of operation, a visible light flashes in the sensing window of the SOLIS flushometer when a user is detected.
- B** Stand in front of sensor for ten (10) seconds.
- C** Step away from sensor and listen for "CLICK."



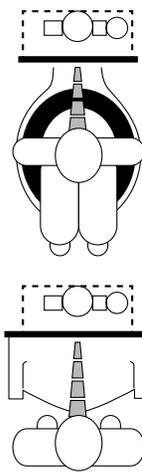
**NOTE**  
**The factory setting should be satisfactory for most installations.**

## OPERATION

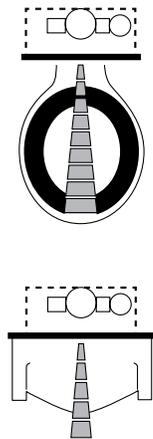
1. A continuous, invisible light beam is emitted from the sensor module.



2. When a user enters the beam's effective range, the beam is reflected into the sensor module's scanning window and transformed into a low voltage electrical signal that activates a ten-second time delay circuit. The time delay circuit eliminates false operation from passers-by in the rest room. Once the time delay is completed, the output circuit is alerted and continues in a "hold" mode for as long as the user remains within the effective range of the sensor.



3. When the user steps away from the sensor module, the loss of reflected light initiates an electrical "one-time" signal that energizes the solenoid operator, and activates the flushometer to flush the fixture. This occurs approximately three (3) seconds (for water closets) one (1) second (for urinals) after indication. This delay is built into the sensor to help prevent false flushing due to movement by the user. The circuit then automatically resets and is ready for the next user.



## CARE AND CLEANING

**DO NOT USE** abrasive or chemical cleaners to clean flushometers as they may dull the luster and attack the chrome or special decorative finishes. Use **ONLY** soap and warm water, then wipe dry with clean cloth or towel.

While cleaning the bathroom tile, the flushometers should be protected from any splattering of cleaner. Acids and cleaning fluids can discolor or remove chrome plating.

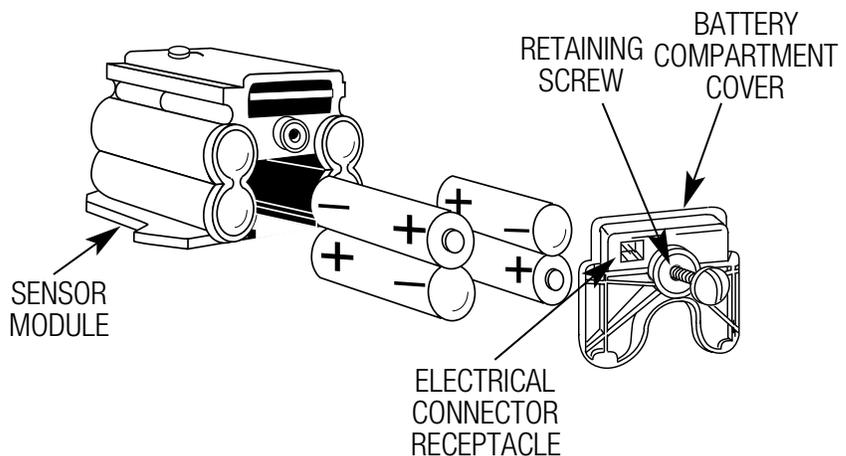


## BATTERY REPLACEMENT

When required, replace batteries with four (4) alkaline AA-size batteries. **NOTE: WATER DOES NOT HAVE TO BE TURNED OFF TO REPLACE BATTERIES.**

Remove the wall plate assembly from wall. Unplug the electrical connector of solenoid from battery compartment cover. Loosen the retaining screw on battery compartment cover and remove battery compartment cover. Install four (4) NEW alkaline AA-size batteries **exactly** as illustrated.

Install battery compartment cover and secure the retaining screw. Make certain that the battery compartment cover is fully compressed against gasket to provide a seal; **DO NOT** over tighten. Plug the electrical connector of solenoid into the battery compartment cover. Reinstall wall plate assembly.



### !!! IMPORTANT !!!

**NEVER OPEN CONTROL STOP TO 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 !!!

**PROTECT THE FINISH OF SLOAN FLUSHOMETERS — DO NOT USE TOOTHED TOOLS TO INSTALL OR SERVICE THESE VALVES. USE A SLOAN A-50 SUPER-WRENCH™, SLOAN A-109 PLIER WRENCH OR SMOOTH JAWED SPUD WRENCH TO SECURE ALL COUPLINGS. ALSO SEE "CARE AND CLEANING" SECTION OF THIS MANUAL.**

### !!! IMPORTANT !!!

**THIS PRODUCT CONTAINS MECHANICAL AND/OR ELECTRICAL 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.**

### !!! IMPORTANT !!!

**WITH THE EXCEPTION OF CONTROL STOP INLET, DO NOT USE PIPE SEALANT OR PLUMBING GREASE ON ANY VALVE COMPONENT OR COUPLING!**

## TROUBLESHOOTING GUIDE

**NOTE: Upon detection of the user, the indicator light flashes slowly, during start-up (first 10 minutes). After a period of eight seconds unit is ready to flush. When the user leaves the detection range, the sensor initiates the flush sequence. Then the indicator light stops flashing and the valve flushes. The valve will flush after a three-second (water closets) or one-second (urinals) delay.**

- 1. Sensor flashes continuously only when user steps within range.**
  - A. Unit in Start-Up mode; no problem. This feature is active for the first ten (10) minutes of operation.
- 2. Valve DOES NOT flush; Sensor DOES NOT Pick Up User.**
  - A. Range too short; increase the range. Consult factory.
- 3. Valve DOES NOT flush; sensor picking up opposite wall or surface, or only flushes when someone walks by. Light flashes continuously for first 10 minutes even with no one in front of the sensor.**
  - A. Range too long; shorten range. Consult factory.
- 4. Valve DOES NOT flush even after adjustment.**
  - A. Batteries completely used up; replace batteries.
  - B. Problem with electronic sensor module; replace electronic sensor module.
  - C. Problem with solenoid; replace solenoid.
- 5. Unit flashes a sequence of 4 quick times when user steps within range.**
  - A. Batteries low; replace batteries.
- 6. Valve does not shut off.**
  - A. Bypass orifice in diaphragm is clogged with dirt or debris, or bypass is clogged by an invisible gelatinous film due to "over-treated" water. Remove diaphragm and wash under running water. **NOTE: Size of Orifice in the Bypass is of utmost importance for the proper metering of water by the valve. DO NOT ENLARGE OR DAMAGE THIS ORIFICE.** Replace diaphragm if cleaning does not correct the problem.
  - B. Dirt or debris fouling relief valve or diaphragm. Remove diaphragm and wash under running water.
  - C. O-ring on stem of diaphragm is damaged or worn. Replace o-ring if necessary.
  - D. Problem with electronic sensor module; replace sensor module.
- 7. Not enough water to fixture.**
  - A. Wrong relief valve installed in diaphragm kit. Install the correct relief valve.
  - B. Wrong SOLIS® model installed; i.e., 1.0 gpf urinal installed on 3.5 gpf closet fixture. Replace with proper SOLIS® model.
  - C. Enlarged bypass in diaphragm. Replace diaphragm.
  - D. Control stop not adjusted properly. Re-adjust control stop.
  - E. Inadequate volume or pressure at supply. Increase water pressure or supply (flow) to valve. Consult factory for assistance.
- 8. Too much water to fixture.**
  - A. Wrong relief valve installed in diaphragm kit. Install the correct relief valve.
  - B. Control stop not adjusted properly. Readjust control stop.
  - C. Wrong SOLIS® model installed; i.e., 3.5 gpf model installed on 1.0 gpf or 1.5 gpf urinal fixture. Replace with proper Sloan SOLIS® model.
  - D. Dirt in diaphragm bypass. Clean under running water or replace diaphragm.

### PUSH BUTTON ACTUATOR

- 9. Leakage occurring at the push button.**
  - A. Damage or worn seals or lime build-up in the actuator cartridge. Replace with new cartridge.
- 10. The flushometer DOES NOT flush and a small amount of leakage is visible below the valve.**
  - A. Foreign material lodged in the cartridge. Remove the cartridge and inspect for foreign material. Clean under running water.
  - B. Damaged or worn seals or lime build-up in the actuator cartridge. Replace with new cartridge.
  - C. Plastic tubing installed incorrectly. Match tubing ends from valve body actuator to button actuator, so that "L" to "L" and "O" to "O".

### FLUSHOMETER ACTUATOR ASSEMBLY

- 11. The flushometer does not flush or flushes only once and will not flush a second time when the button is pushed.**
  - A. The plunger is lodged in the actuator cartridge or the plunger by-pass hole is clogged. Remove the actuator housing and cartridge from the flushometer. Clean under running water. If cartridge parts are worn, deteriorated or limed up and problem persists after cleaning, replace with new cartridge.
  - B. Plastic tubing installed incorrectly. Match tubing ends from valve body actuator to button actuator, so that "L" to "L" and "O" to "O".

### TO REMOVE THE ACTUATOR FROM THE FLUSHOMETER

- A. Turn off water from control stop.
- B. Unscrew the housing coupling nut from the flushometer.
- C. Remove the actuator housing from the flushometer. The tubing connections can be left intact.
- D. Remove the actuator cartridge from the flushometer body. Care should be taken so that upon removal the actuator and the o-ring do not separate due to spring compression within. If the actuator cartridge is lodged in the body cavity, grip the exposed portion gently with a pair of channel-lock pliers and rotate back and forth to loosen the o-ring seal.
- E. Separate the actuator housing to reveal the spring and plunger.

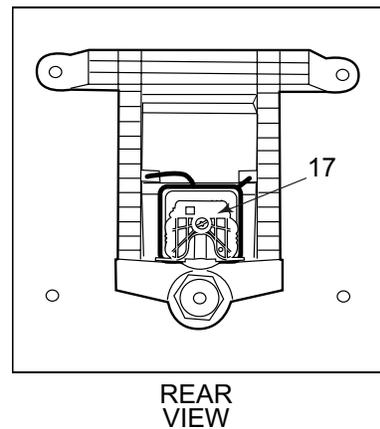
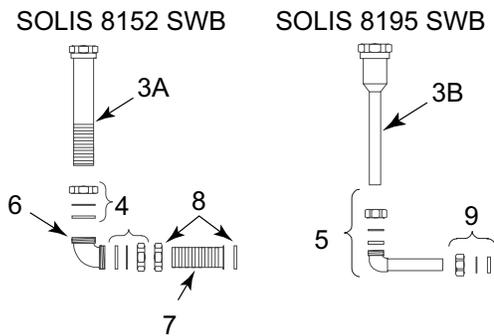
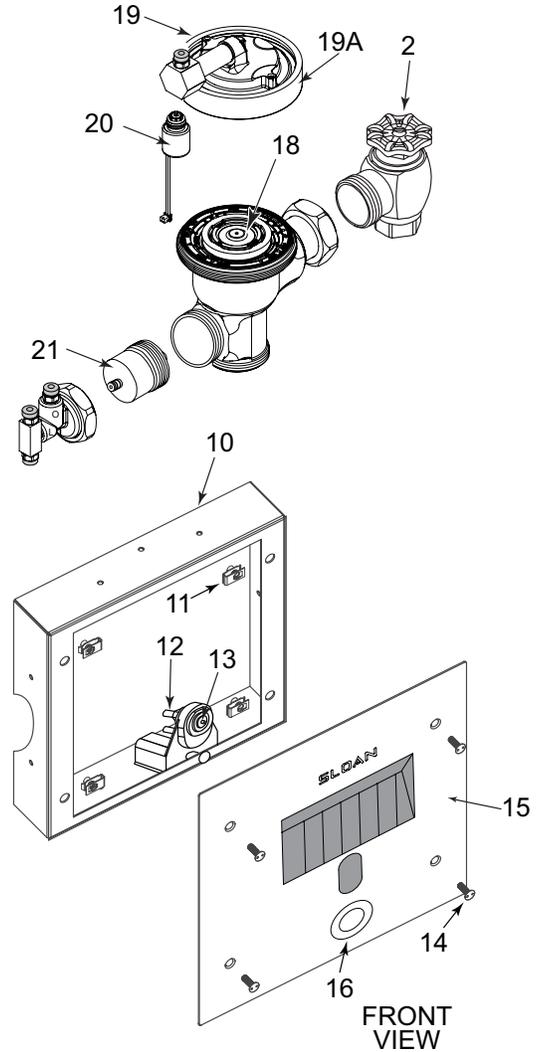
**If further assistance is required,  
please contact Sloan Tech Support at:  
1-888-SLOAN-14 (1-888-756-2614)  
or visit us online at [www.sloanvalve.com](http://www.sloanvalve.com)**

**!!! IMPORTANT !!!  
LAWS AND REGULATIONS PROHIBIT THE USE OF  
HIGHER FLUSHING VOLUMES THAN LISTED ON  
FIXTURE OR FLUSHOMETER.**

# PARTS LIST

Item No.	Part No.	Description
1	A-143-A	RB Hydraulic Valve Body
2	H-730-A	Bak-Chek® Control Stop
3A	V-500-AA	1-1/2" (38 mm) Vacuum Breaker Assembly RB (Model 8152)
3B	V-500-AA	3/4" (19 mm) Vacuum Breaker Assembly RB (Model 8195)
4	F-2-AA	1-1/2" (38 mm) Slip Joint Coupling RB (Set of Two)
5	F-15-A	ELL with 3/4" (19 mm) Tail RB (Model 8195)
6	F-21	1-1/2" (38 mm) Double Male Slip Elbow
7	F-100	1-1/2" (38 mm) Outlet Tube RB
8	F-2-A	1-1/2" (38 mm) Coupling with S-21 Gasket
9	F-2-AW	3/4" (19 mm) Slip Joint Coupling RB
10	—	Frame
11	WB-18	U-Type Nuts (4)
12	HY-71-A	Hydraulic Actuator Assembly with Fittings
13	‡	Override Mount Assembly
14	—	1/4-20 x 1-1/2 Tamper Resistant Screws (4)
15	‡	Wall Plate Assembly
16	—	Override Button Assembly
17	‡	Sensor Assembly
18	†	Diaphragm
19	EBV-355-A	Cover Assembly (includes item 20)
19A	EBV-14	Coupling
20	EBV-356-A	Solenoid
21	HY-1005-A	Actuator Cartridge
—	HY-30-84	1/4" (6 mm) x 84" (2134 mm) Connecting Tubes (not shown)
—	HY-30-24	1/4" (6 mm) x 24" (610 mm) Connecting Tubes (not shown)

† Flow volume varies with valve model and desired flush volume.  
 ‡ Part number varies with valve model variation; consult factory.



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

**SLOAN HEADQUARTERS • 10500 SEYMOUR AVENUE • FRANKLIN PARK, IL 60131**

Phone: 1-800-982-5839 • Fax: 1-800-447-8329 or 1-847-671-4380 • [www.sloanvalve.com](http://www.sloanvalve.com)