INSTALLATION INSTRUCTIONS FOR RETROFIT AND COMPLETE VALVE INSTALLATION FOR SLOAN SOLIS®, SOLAR POWERED, SINGLE FLUSH WATER CLOSETS AND URINALS

SLOAN





8100 Series Sloan SOLIS® valves are complete flushometers and ideal for new installations.



RESS Series Retrofit Conversion Kit Models RESS Sloan SOLIS® Models are used to convert existing Flushometers to Solar Powered, Sensor Activated.

Sloan SOLIS® Water Closet Models can be furnished for the following: 1.6 gpf/6.0 Lpf For Low Consumption Bowls 3.5 gpf/13.2 Lpf For Water Saver Bowls

following: 1.0 gpf/3.8 Lpf 1.5 gpf/5.7 Lpf

Sloan SOLIS® Urinal Models can be furnished for the For Low Consumption Urinals For older Siphon Jet Urinals



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.

PRIOR TO INSTALLING THE SLOAN SOLIS® FLUSHOMETER

Prior to installing the Sloan SOLIS® flushometer, install the items listed below as illustrated in the rough-in diagram. (New installations only.)

- Closet or Urinal fixture
- Drain line
- · Water supply line

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.

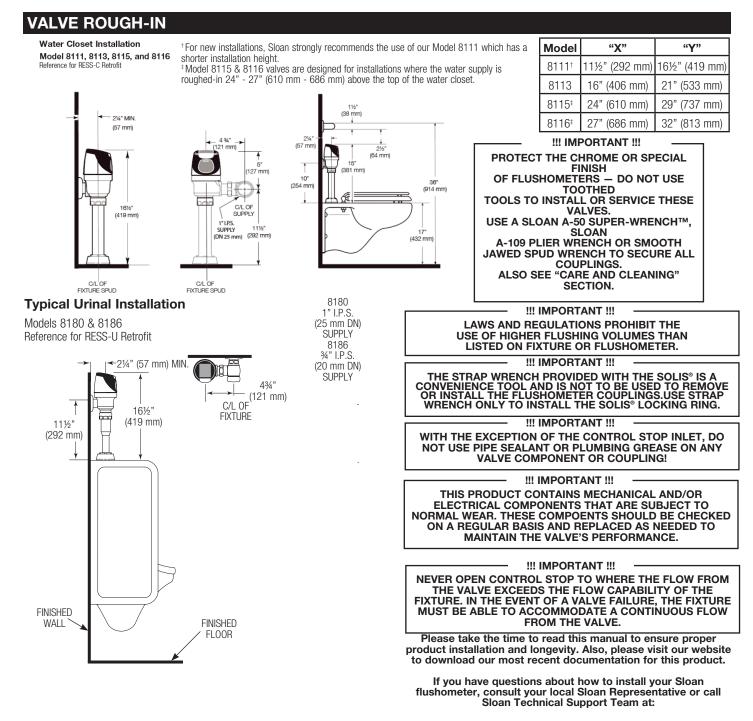
TOOLS REQUIRED FOR INSTALLATION

- Slotted screwdriver to adjust control stop.
- Sloan A-50 Super-Wrench[™], Sloan A-109 Plier Wrench or smooth jawed spud wrench for couplings.
- Trimpot adjustment screwdriver (supplied) to adjust range, if necessary.

- WHEN INSTALLING A FLUSHOMETER, IT IS IMPORTANT THAT THE FLUSH MODEL MATCHES THE **REQUIREMENTS OF THE PLUMBING FIXTURE.**
- FLUSH ALL WATER LINES PRIOR TO MAKING CONNECTIONS.

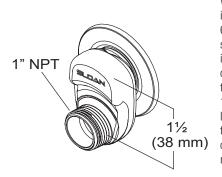
The Sloan SOLIS® is designed to operate with 15 to 100 PSI (104 to 689 kPa) of water pressure. THE MINIMUM PRESSURE REQUIRED TO THE VALVE IS DETERMINED BY THE TYPE OF FIXTURE SELECTED. Consult fixture manufacturer for pressure requirements. Most Low Consumption water closets (1.6 gallon/6 liter) require a minimum flowing pressure of 25 psi (172 kPa).

- Strap wrench (supplied) to install Sloan SOLIS® to valve body.
- 7/64" hex wrench (supplied) to secure Sloan SOLIS® cover to base plate.
- 5/64" hex wrench to secure water Supply Flange.

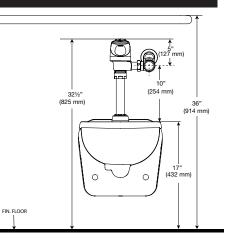


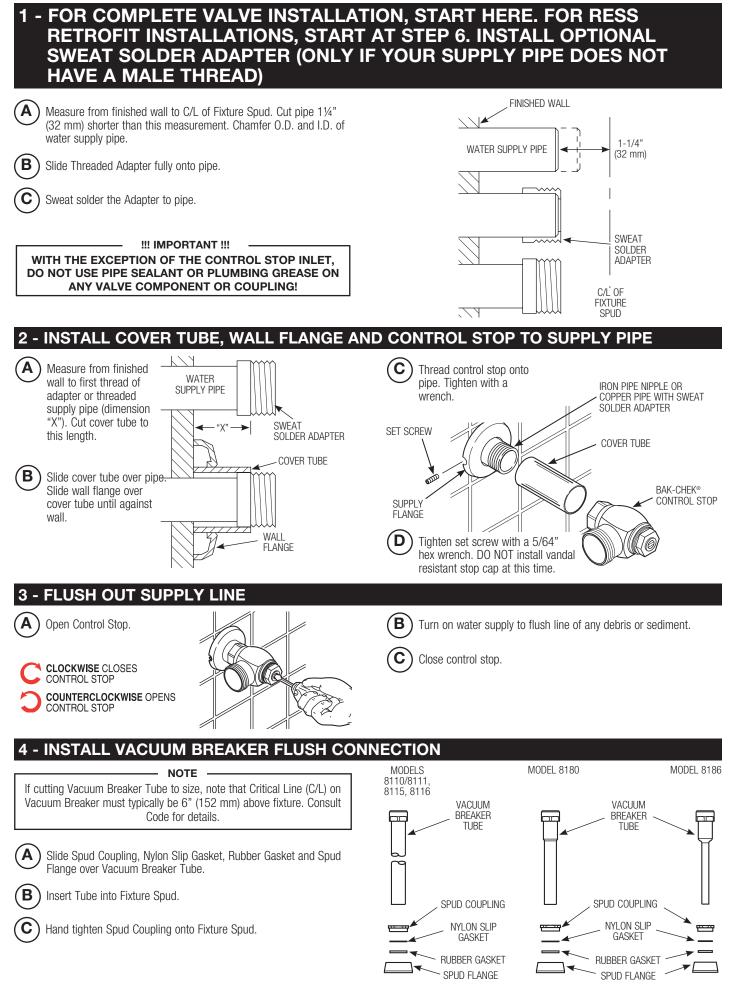
1-888-SLOAN-14 (1-888-756-2614)

ALTERNATIVE WATER CLOSET INSTALLATION



When installing the Sloan SOLIS® Electronic Flushometer in an ADA compliant stall: Per ADA Guidelines (section 604.9.4) it is recommended that the grab bars be split or shifted to the wide side of the stall. For alternative installations, lower water supply rough-in to 10" (254 mm), or use the H-1018-A 1-1/2" offset adapter (not supplied) to lower the overall height. The Sloan H-1018-A 1" NPT x 1-1/2" offset adapter kit (sold separately) is designed to lower a SOLIS® Flushometer 1-1/2" when the space above the top of the Flushometer conflicts with grab bar clearance. Mount the grab bar at the 36" (914 mm) maximum allowed height (top of grab bar at 36").





- INSTALL FLUSHOMETER USE PIPE THREAD

Lubricate tailpiece o-ring with water. Insert adjustable tailpiece into control stop. Tighten tailpiece coupling by hand.

Align flushometer directly above the vacuum breaker flush connection by sliding the flushometer body IN or OUT as needed. Tighten vacuum breaker coupling by hand.

Align flushometer body and securely tighten first the tailpiece coupling (1), then the vacuum breaker coupling (2), and finally the spud coupling (3). Use a wrench to tighten these couplings in the order shown.

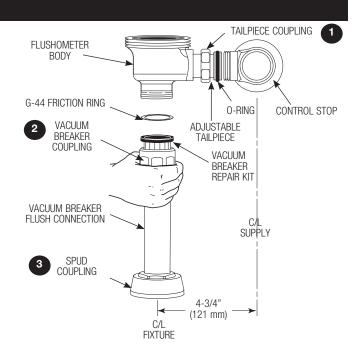
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ATTENTION!

Maximum adjustment of the Sloan Adjustable Tailpiece is 1/2" (13 mm) IN or OUT from the standard 43/4" (121 mm) (centerline of Flushometer to centerline of Control Stop)

NOTE

If roughing-in measurement exceeds 51/4" (133 mm), consult factory for longer tailpiece.



6 - WHEN RETROFITTING AN EXISTING VALVE, START HERE. REMOVE COMPENENTS FROM EXISTING FLUSHOMETER (RESS RETROFIT INSTALLATIONS ONLY)

Remove control stop cap.

В Turn off water supply at control stop. Push valve handle to relieve water pressure.



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Remove outside and inside covers and old inside parts kit.

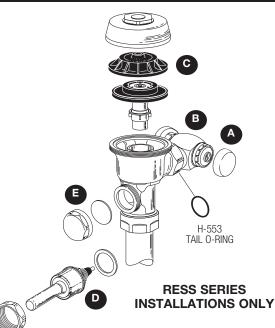


Remove old handle assembly and gasket.



Install chrome handle cap with gasket to handle opening on flushometer body. Tighten chrome handle cap securely.

NOTE: An extra H-553 tail o-ring is included in the event leakage occurs if the valve is repositioned during the installation of the new SOLIS[®]. Use only as needed.



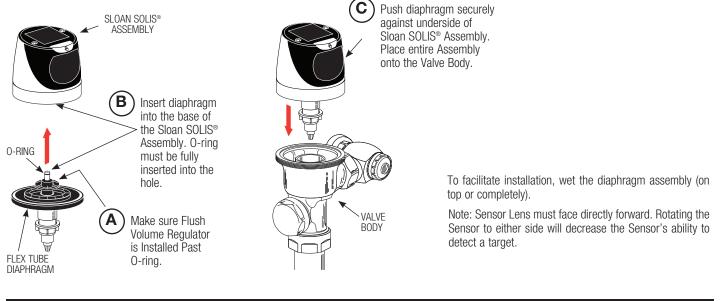
7 - SLOAN SOLIS® FLUSH VOLUME (RESS RETROFIT INSTALLATIONS ONLY)

The flush volume of the Sloan SOLIS® is controlled by the Regulator in the flex tube diaphragm Kit. Regulators are identified by color.

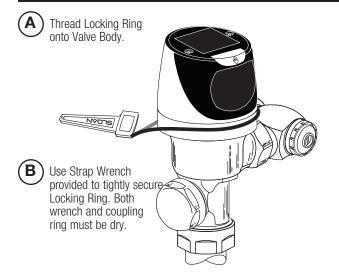
Note: Never use more water than needed. Low Consumption water closets and urinals will not function properly on excess water.



8 - ASSEMBLE FLEX TUBE DIAPHRAGM TO SOLIS ASSEMBLY



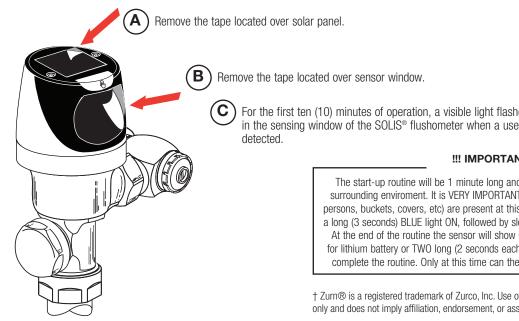
9 - TIGHTEN LOCKING RING



!!! IMPORTANT !!! THE LOCKING RING MUST BE INSTALLED DOWN PAST THE VALVE BODY THREADS BY AT LEAST ONE THREAD. IF DIFFICULTY IS EXPERIENCED INSTALLING THE LOCKING RING, TURN THE LOCKING RING BACK AND FORTH, EACH TIME WORKING IT FURTHER DOWN THE THREADS. THE LOCKING RING WILL ACT AS A THREAD CHASER IN THE EVENT THERE HAS BEEN A BUILD-UP OF MATTER ON THE THREADS OF THE OLD VALVE BODY.

If retrofitting the Sloan SOLIS[®] onto a +Zurn valve body, a special Locking Ring must be used (identified by a machined groove around the ring). Order the Sloan SOLIS[®] with the "Z" variation to receive the unit supplied with this Ring.

10 - REMOVE TAPE FROM SOLAR PANEL AND SENSOR WINDOW TO ACTIVATE



For the first ten (10) minutes of operation, a visible light flashes in the sensing window of the SOLIS® flushometer when a user is

!!! IMPORTANT !!!

The start-up routine will be 1 minute long and allows the sensors to adapt to the surrounding enviroment. It is VERY IMPORTANT that no non-permanent targets (i.e. persons, buckets, covers, etc) are present at this time. The start-up routine consists of a long (3 seconds) BLUE light ON, followed by slow BLUE light blinking in for 1 minute. At the end of the routine the sensor will show ONE long (2 seconds) BLUE light ON for lithium battery or TWO long (2 seconds each) BLUE light ON pulses for alkaline to complete the routine. Only at this time can the non-permanent objects be present.

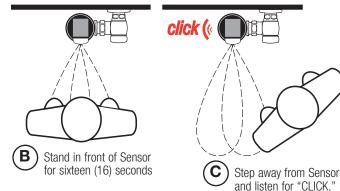
+ Zurn® is a registered trademark of Zurco, Inc. Use of "Zurn" is for identification purposes only and does not imply affiliation, endorsement, or association between Sloan and Zurco, Inc.

11 - TEST SENSOR OPERATION

The Sloan SOLIS® has a factory set sensing range: Water Closet Models - 22" to 42" (559 mm to 1067 mm) Urinal Models - 15" to 30" (381 mm to 762 mm)

THE FACTORY SETTING SHOULD BE SATISFACTORY FOR MOST INSTALLATIONS. IF A RANGE ADJUSTMENT IS REQUIRED, REFER TO THE RANGE ADJUSTMENT INSTRUCTIONS.

Test Sensor with Cover in Place.



12 - ADJUST CONTROL STOP AND INSTALL VANDAL RESISTANT STOP CAP

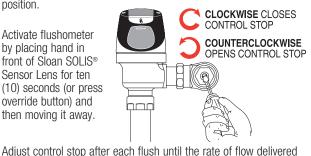
Open control Stop COUNTERCLOCKWISE ½ turn from closed position.

Activate flushometer by placing hand in front of Sloan SOLIS® Sensor Lens for ten (10) seconds (or press override button) and then moving it away.

properly cleanses the fixture.

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!!! IMPORTANT !!!

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.

!!! IMPORTANT !!!

THE CONTROL STOP 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.

URINAL

D Install control stop cap onto control stop. For RESS retrofit applications, reuse stop cap from existing valve. In complete valve installations, a new stop cap is provided. Follow the instructions packaged with the free spinning vanda resistant stop cap.

CLOSET

OPERATION

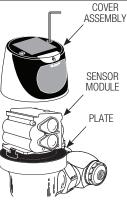
- 1. A continuous, INVISIBLE light beam is emitted from the Sloan SOLIS® sensor.
- 2. As the user enters the beam's effective range, 22 to 42 inches (559 mm to 1067 mm) for closet installations and 15 to 30 inches (381 mm to 762 mm) for urinal installations, the beam is reflected into the Scanner Window to activate the Output Circuit. Once activated, the Output Circuit continues in a "hold" mode for as long as the user remains within the effective range of the sensor. Once the user steps away, a full flush will automatically initiate.
- 3. When the user steps away, this initiates a full flush. The circuit automatically resets and is ready for the next user.
- 4. In addition to the above the Sloan SOLIS® urinal incorporates a standard deferred flushing mode feature that accommodates the high volume usage seen in stadiums or similar high attendance facilities.

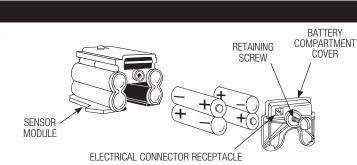
BATTERY REPLACEMENT

When required, replace batteries with four (4) Alkaline AA-Size batteries.

Note: Water does not have to be turned off to replace batteries.

Loosen the two (2) Screws on top of unit. Remove the complete cover assembly. Lift the sensor module from its plate. Unplug the electrical connector from battery compartment cover. Loosen the retaining screw on battery compartment cover. Remove battery compartment cover and old batteries. Install four (4) fresh Alkaline AA-Size batteries exactly as illustrated.





Install battery compartment cover and secure with retaining screw. Make certain that battery compartment cover is fully compressed against gasket to provide a seal; DO NOT overtighten. Plug the electrical connector into the battery compartment cover. Reinstall the sensor module onto the Plate. Reinstall the complete cover assembly onto the plate. Tighten the two (2) screws on top of the unit.

RANGE ADJUSTMENT (ADJUST ONLY IF NECESSARY)

The Sloan SOLIS has a factory set sensing range:Water Closet Models - 22" to 42" (559 mm to 1067 mm)Urinal Models - 15" to 30" (381 mm to 762 mm)

The factory setting should be satisfactory for most installations. Note: Water DOES NOT have to be turned off to adjust range.

RANGE ADJUSTMENT PROCEDURE For the first ten (10) minutes of operation, a visible light flashes in the sensing Window of the Sloan SOLIS® flushometer when a user is detected. This visible light feature can be reactivated after ten (10) minutes by opening and closing the battery compartment door. Check the range by stepping toward the unit until the light flashes, indicating the sensor's maximum detection limit.

Always Determine the Sensing Range with Metal Cover and Lens Window On Top of the Unit. To recalibrate the sensor, touch and hold the override button for 30 seconds, once the Blue LED blinks every second, and release. Stand at desired distance, LED should blink once every 2 seconds for 30 seconds). The setting mode will run for one minute.

NOTE: For -BT models only, to automatically check battery strength, troubleshoot, diagnose and report flushometer issues with a wireless device, use the Sloan Connect APP. The APP is available free-of-charge at the Apple iPhone APP store for iOS devices or the Google Play APP store for Android devices. For more information about the APP and its capabilities please visit Sloan.com.

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 water, then wipe dry with clean cloth or towel. While cleaning the bathroom tile, the flushometer should be protected from any splattering of cleaner. Acids and cleaning fluids can discolor or remove chrome plating.

TROUBLESHOOTING GUIDE

- 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 Not Picking Up User.
- A. Range too short; increase the range.
- 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.
- 4. Valve Does Not Flush Even After Adjustment.
 - A. Range Adjustment Potentiometer set at full "max" or full "min" setting. Re-adjust Potentiometer away from full "max" or "min" setting.
 - B. Batteries completely used up; replace batteries.
 - C. Problem with Electronic Sensor Module; replace Electronic Sensor Module.Try swapping module with working unit to test module function.
 - D. Are there audible clicks from the solenoid?
 - NO: check for solenoid plugged into module; possibly solenoid stuck in closed position, replace solenoid.
 - **YES**: check solenoid for over-tightening, check to make sure locking ring was secured properly.
 - E. Module is working, and solenoid clicking, loosen and re-tighten locking ring; check diaphragm for perforations in diaphragm disc; replace.
- **5**. Unit Flashes 4 Quick Times When User Steps Within Range. A. Batteries low; replace batteries.

NOTE: THE EBV-46-A BEAM DEFLECTOR IS NOT REQUIRED OR AVAILABLE FOR THE SLOAN SOLIS®.

Note: Troubleshooting also applies to the Sloan SOLIS Urinals.

!!! IMPORTANT !!!

WHEN SERVICING SOLENOID, ROTATING LOCKING RING, SERVICING DIAPHRAGM, SERVICING VACUUM BREAKER OR SPUD, TURN OFF WATER SUPPLY AT STOP

!!! IMPORTANT !!!

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

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 flex tube 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 FLEX TUBE DIAPHRAGM IF CLEANING DOES NOT CORRECT THE PROBLEM.
- B. Dirt or debris fouling stem or flex tube diaphragm. Remove flex tube diaphragm and wash under running water.
- C. O-ring on stem of flex tube diaphragm is damaged or worn. Replace o-ring if necessary.
- D. Problem with electronic sensor module; replace sensor module. Try
- swapping module with working unit to test module function
- E. Are there audible clicks from the solenoid?

NO, possibly solenoid stuck open position, replace solenoid

YES, check solenoid properly screwed into inside cover, check

to make sure locking ring was secured properly.

F. If module is working, and solenoid clicking, check diaphragm for perforations in diaphragm disc; replace

7. Not Enough Water to Fixture.

A. Wrong flush volume regulator installed in flex tube diaphragm kit. Install the correct Regulator.

B. Wrong SOLIS® model installed; i.e., 1.0 gpf urinal installed on 3.5 gpf closet fixture. Replace with proper Sloan SOLIS® model.

- C. Enlarged by-pass in diaphragm. Replace flex tube diaphragm.
- D. Control Stop not adjusted properly. Readjust control stop.
- E. Inadequate volume or pressure at supply. Increase water pressure or supply (flow) to valve. Consult factory for assistance.

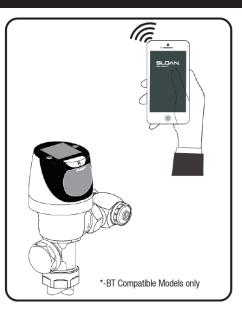
8. Too Much Water to Fixture.

A. Wrong flush volume regulator installed in flex tube diaphragm Kit. Install the correct regulator.

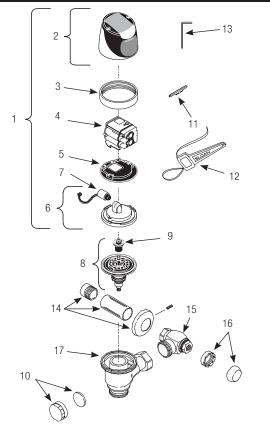
- B. Control Stop not adjusted properly. Readjust Control Stop.
- C. Wrong Sloan SOLIS® model installed; i.e., 3.5 gpf Model installed on
- 1.0 or 1.5 gal. Urinal fixture. Replace with proper Sloan SOLIS® model.
- D. Dirt in Diaphragm Bypass. Clean under running water or replace Flex Tube Diaphragm.



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ARTS LIST



Item # Part # Description

nem	πιαιτπ	Description
Items Included with RESS Retrofit and Complete Sloan SOLIS®		
Valves		
1	EBV-304-A	Cover/Sensor/Assembly - Closet Solis Electronic Single Button Flush
	EBV-320-A	Cover/Sensor/Assembly (†Zurn) - Closet Solis Electronic Single Button Flush
	EBV-306-A	Cover/Sensor/Assembly - Urinal Solis Electronic Single Button
	EBV-321-A	Cover/Sensor/Assembly (†Zurn) - Urinal Solis Electronic Single Button
2	EBV-309-A	Cover Assembly - Solis Electronic Single Button Flush
3	EBV-14	Locking Ring
	EBV-30	Locking Ring - for +Zurn valves
4	EBV-312-A-C	Sensor Assembly Solis - Water Closet
	EBV-312-A-U	Sensor Assembly Solis - Urinal
5	EBV-134	Cover Rest Plate
6	EBV-145-A	Inside Cover Assembly (includes solenoid)
7	EBV-136-A	Solenoid
8	† †	Flex Tube Diaphragm Assembly
9	† †	Flush Volume Regulator
10	EBV-1017-A	Handle Cap
11	EBV-91	Range Adjustment Tool
12	EBV-22	Strap Wrench

18B 18C 18D 18A 20A 19 20A 20B 20C



FLEX TUBE DIAPHRAGM ASSEMBLY

Sloan SOLIS® valve models feature Sloan's exclusive flex tube diaphragm for the ultimate in valve performance, reliability and chloramines resistance.

FCC INFORMATION TO USERS

This equipment has been tested and found to comply with the limits for a class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmfull interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmul interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

· Consult the dealer or an experienced radio/TV technician for help

Item # Part # Description Items Included with Complete Sloan SOLIS® Valves Only 1" (25 mm) Sweat Solder Kit 14 H-633-AA H-636-AA 34" (19 mm) Sweat Solder Kit 15 H-700-A 1" (25 mm) Bak-Chek® Control Stop 34" (19 mm) Bak-Chek® Control Stop H-700-A H-1010-A Vandal Resistant Stop Cap 16 17 EBV-36-A Valve Body 11/2" (38 mm) x 101/2" (229 mm) Vacuum Breaker 18A V-600-AA (Model 8110/8111) 1½" (38 mm) x 15" (584 mm) Vacuum Breaker V-600-AA (Model 8113) V-600-AA 11/2" (38 mm) x 23" (584 mm) Vacuum Breaker (Model 8115) V-600-AA 11/2" (38 mm) x 26" (660 mm) Vacuum Breaker (Model 8116) 18B V-600-A 3" (76 mm) Vacuum Breaker Assembly 18C V-600-AA 11/4" (32 mm) x 101/2" (229 mm) Vacuum Breaker (Model 8180) 18D V-600-AA 3/4" (19 mm) x 101/2" (229 mm) Vacuum Breaker (Model 8186) F-109 11/2" (38 mm) Elbow Flush Connection 19 20A F-5-AT 11/2" Spud Coupling Assembly (Water Closet Models) 1¹/₄" Spud Coupling Assembly (Model 8180) 20B F-5-AU F-5-AW 3/4" Spud Coupling Assembly (Model 8186) 20C

+ + Flow volume varies with valve model and desired flush volume.

Manufactured in the U.S.A. by Sloan Valve Company under one or more of the following patents: U.S. Patents: D598,975; D599,436; 7,124,997. Other Patents Pending. BAK-CHEK®, PARA-FLO®, PERMEX®, TURBO-FLO®.

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7/64" Hex Wrench

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EBV-137

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