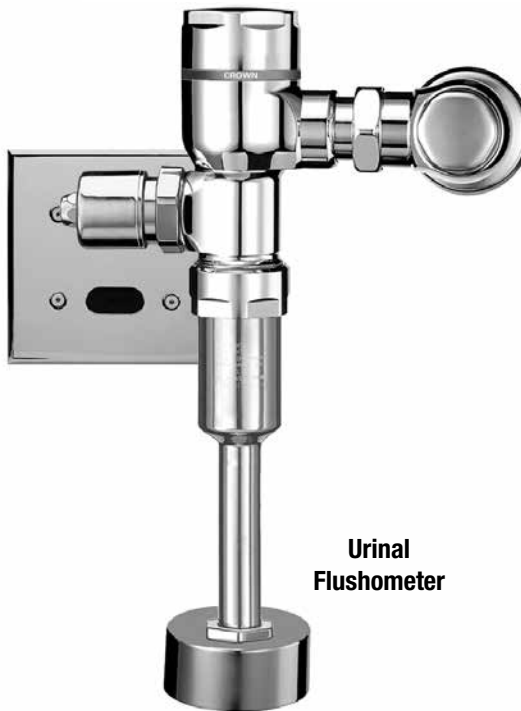


INSTALLATION INSTRUCTIONS FOR SENSOR ACTIVATED CROWN® & CROWN II® FLUSHOMETER EXPOSED CLOSET & URINAL INSTALLATIONS



**Closet
Flushometer**



**Urinal
Flushometer**

Exposed Closet Flushometer

1-1/2" Top Spud

Model 111 ES-S

Model 115 ES-S

Model 116 ES-S

1-1/2" Back Spud

Model 120 ES-S

Exposed Urinal Flushometer

1-1/4" Top Spud

Model 180 ES-S

3/4" Top Spud

Model 186 ES-S

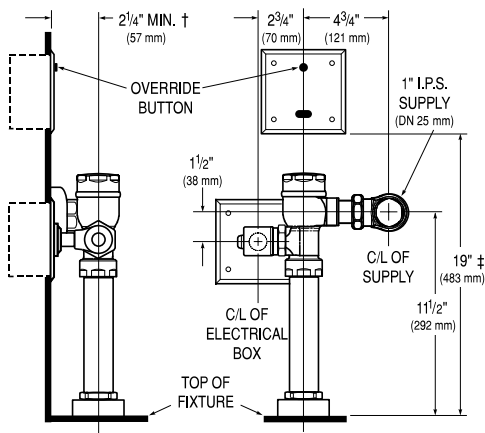
LIMITED WARRANTY

Unless otherwise noted, Sloan Valve Company warrants its products, manufactured and sold for commercial or industrial uses, to be free from defects of material and workmanship for a period of three (3) years (one year for SF faucets, special finish and PWT electronics and 30 days on PWT software) from the date of first purchase. During this period, Sloan Valve Company will, at its option, repair, replace, or refund the purchase price of any produce 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 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.

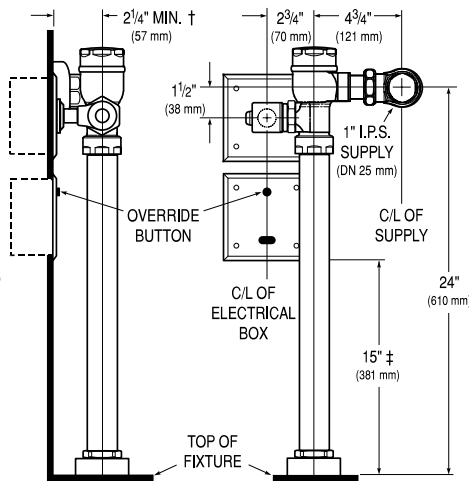
THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT IS SLOAN VALVE COMPANY RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.

ROUGH-IN

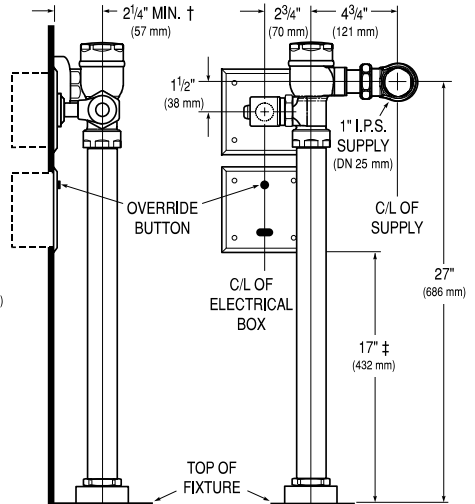
MODEL 111 ES-S — Water Closet



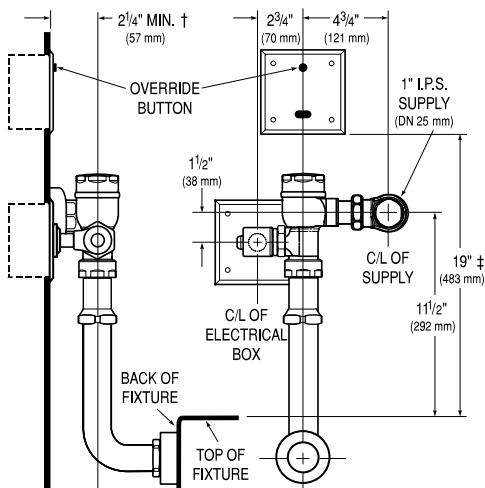
MODEL 115 ES-S — Water Closet



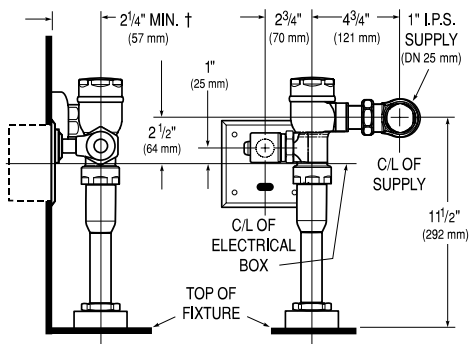
MODEL 116 ES-S — Water Closet



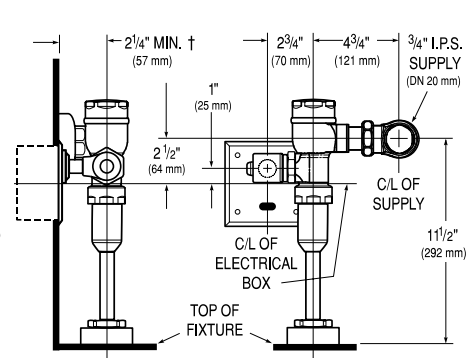
MODEL 120 ES-S — Water Closet



MODEL 180 ES-S — Urinal



MODEL 186 ES-S — Urinal



† IF THIS DISTANCE IS GREATER THAN 3" (76 mm) AN EL-226 EXTENSION ADAPTER IS REQUIRED. SPECIFY ONE EL-226 FOR EVERY 1" (32 mm) INCREMENT OVER 3" (76 mm).

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

SENSOR LOCATION & POSITIONING IS CRITICAL!

FAILURE TO PROPERLY POSITION THE ELECTRICAL BOXES TO THE PLUMBING ROUGH-IN WILL RESULT IN IMPROPER INSTALLATION AND IMPAIR PRODUCT PERFORMANCE. ALL TRADESMEN (PLUMBERS, ELECTRICIANS, TILE SETTERS, ETC.) INVOLVED WITH THE INSTALLATION OF THIS PRODUCT MUST COORDINATE THEIR WORK TO ASSURE PROPER PRODUCT INSTALLATION.

PRIOR TO INSTALLATION

Prior to installing the Sloan OPTIMA equipped Flushometer, install the items listed below as illustrated in Figures 1 through 3.

- 2-gang electrical box — 4" x 4" x 2-1/2" (102 mm x 102 mm x 64 mm) for sensor; see paragraph entitled "Sensor/Solenoid Operator Box Locations"
- 2-gang electrical box — 4" x 4" x 2-1/2" (102 mm x 102 mm x 64 mm) for transformer (mount in a convenient location)
- 2-gang electrical box — 4" x 4" x 2-1/2" (102 mm x 102 mm x 64 mm) for solenoid operator, see paragraph entitled "Sensor/Solenoid Operator Box Locations" (Closet Models Only)
- Electrical wiring to the transformer box (120 VAC, 2 amp service required for each EL-154, 24 VAC, 50 VA transformer used)
- Closet/urinal fixture
- Drain line
- Water supply line

IMPORTANT:

- ALL ELECTRICAL WIRING IS TO BE INSTALLED IN ACCORDANCE WITH NATIONAL/LOCAL CODES AND REGULATIONS.
- ALL PLUMBING IS TO BE INSTALLED IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.

- WATER SUPPLY LINES MUST BE SIZED TO PROVIDE AN ADEQUATE VOLUME OF WATER FOR EACH FIXTURE.
- A 24 VAC STEP-DOWN TRANSFORMER MUST BE USED.
- USE APPROPRIATE PRECAUTIONS WHILE CONNECTING TRANSFORMER TO 120 VAC POWER SOURCE.
- FLUSH ALL WATER LINES PRIOR TO MAKING CONNECTIONS.

Crown® & Crown II® Flushometers are designed to operate with 10 to 100 psi (69 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!

TOOLS REQUIRED FOR INSTALLATION

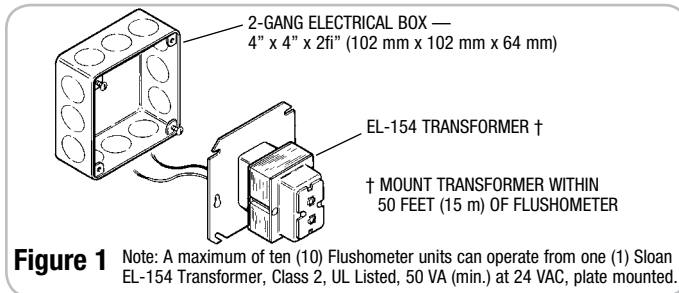
- Slotted screwdriver
- 5/64" hex wrench (supplied)
- Wire stripper/crimping tool

- Sloan A-50 Super-Wrench™, Sloan A-109 Plier Wrench or smooth jawed spud wrench

INSTALLATION OF TRANSFORMER

Install Transformer (EL-154) on a 2-Gang Electrical Box, 4" x 4" x 2-1/2" (102 mm x 102 mm x 64 mm) in a convenient location; refer to Figure 2.

Note: One Sloan EL-154 transformer can operate up to ten OPTIMA equipped Flushometers. Run 18-gauge wire from transformer to Flushometer(s). Wire supplied by others. DO NOT supply power to transformer until installation of Flushometer is complete.



SENSOR/SOLENOID BOX LOCATIONS

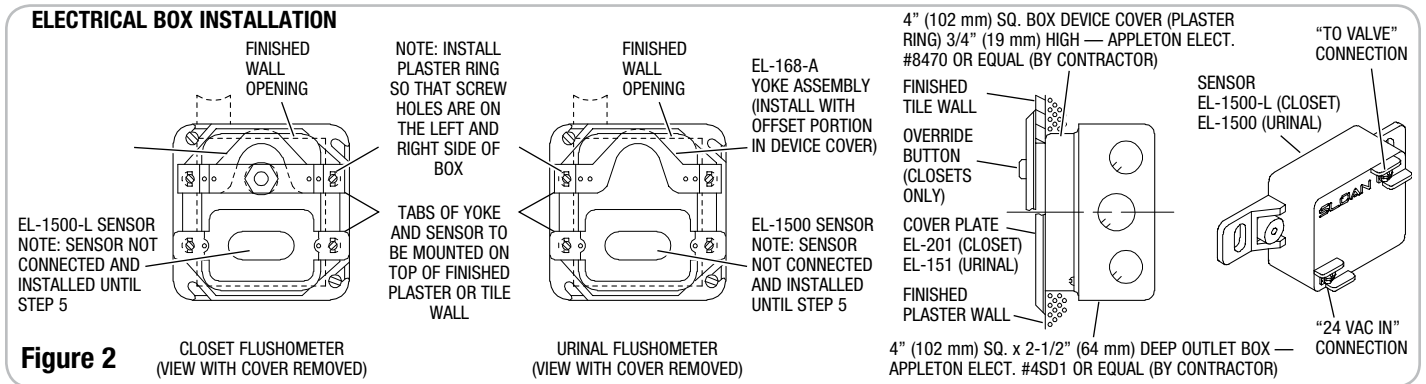
Refer to Rough-Ins and Figure 2

Closet models employ two (2) electrical boxes; urinal models employ one (1) electrical box. Refer to Figure 1 for location(s).

ELECTRICAL BOX LOCATION IS CRITICAL — Failure to properly position the electrical boxes to the plumbing rough-in will result in improper installation and impair product performance. All tradesmen (plumbers, electricians, tile setters, etc.) involved with the installation of this sensor operated flushometer must be familiar with the requirements of its installation. Improper installation may void the manufacturer's warranty.

Note: A template is packaged with Models 111 ES-S, 120 ES-S, 180 ES-S & 186 ES-S valves to properly position electrical boxes. Refer to Figure 1 for installation of electrical boxes.

Note: Use Appleton #4SD1 Electrical Box and #8470 Plaster Ring or equivalent.

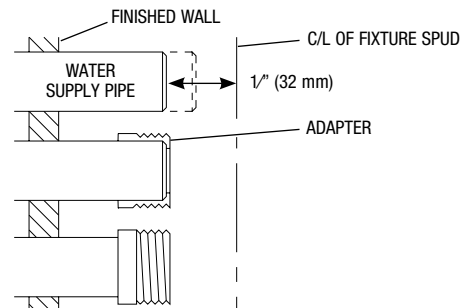


1 - INSTALL OPTIONAL SWEAT SOLDER ADAPTER (ONLY IF YOUR SUPPLY PIPE DOES NOT HAVE A MALE THREAD)

- Measure from finished wall to C/L of fixture spud. Cut pipe 1-1/4" (32 mm) shorter than this measurement. Chamfer OD and ID of water supply pipe.
- Slide threaded adapter fully onto pipe.
- Sweat solder the adapter to pipe.
Measure from finished wall to first thread of adapter or threaded

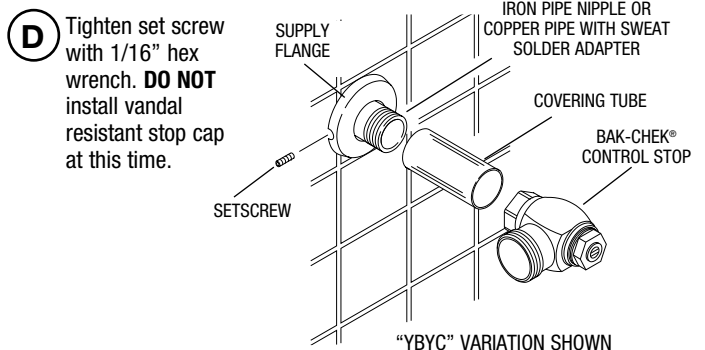
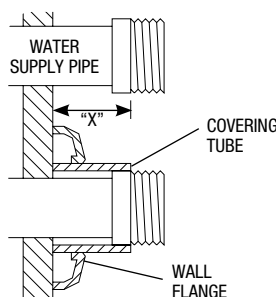
!!!IMPORTANT!!!

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



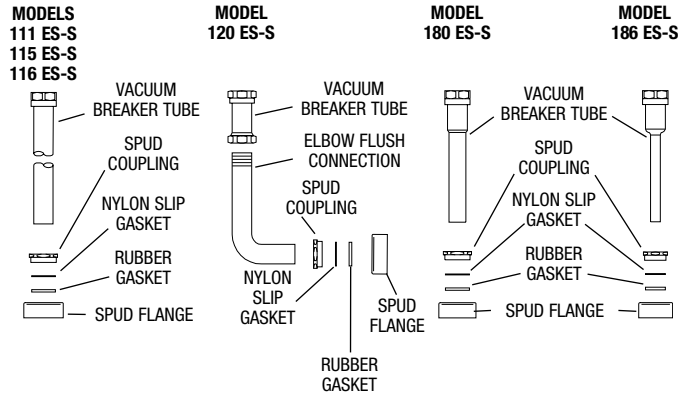
2 - INSTALL COVER TUBE, WALL FLANGE AND CONTROL STOP TO SUPPLY PIPE

- supply pipe (dimension "X"). Cut cover tube to this length.
- Slide cover tube over pipe. Slide wall flange over cover tube until against wall.
- Thread control stop over pipe. Tighten with a wrench.



3 - INSTALL VACUUM BREAKER FLUSH CONNECTION

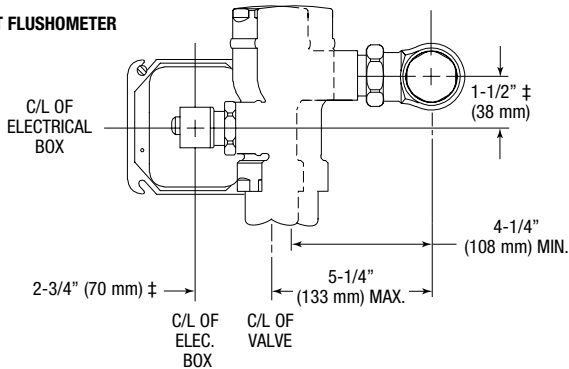
- A** Slide the Spud Coupling, Nylon Slip Gasket, Rubber Gasket and Spud Flange over the Vacuum Breaker Tube.
- B** Insert tube into fixture spud.
- C** Hand tighten Spud Coupling onto fixture spud.



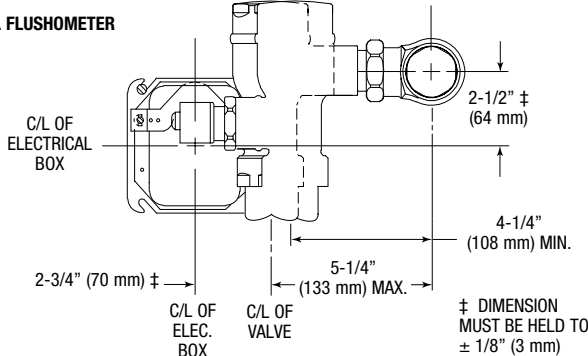
NOTE:
 If cutting vacuum breaker tube to size, not that Critical Line (C/L) on vacuum breaker must typically be 6" (152 mm) above fixture. Consult code for details.
 On valves furnished less vacuum breaker (XYV variation), connect flush tube to the bottom of the valve using the slip gasket supplied.

4 - INSTALL FLUSHOMETER

CLOSET FLUSHOMETER

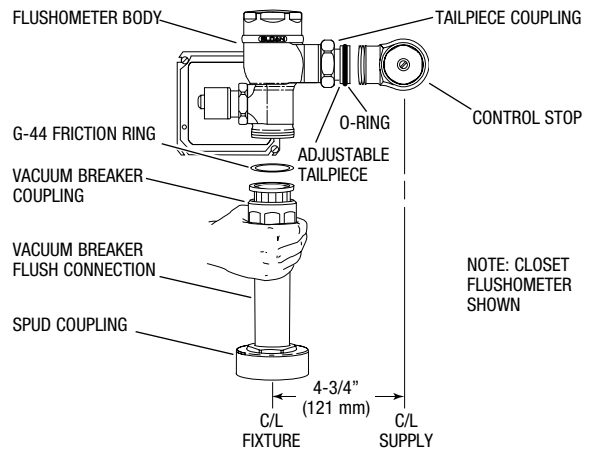


URINAL FLUSHOMETER



!!!IMPORTANT!!!
 USE A SLOAN A-50 SUPER-WRENCH™, SLOAN A-109 PLIER WRENCH OR SMOOTH JAWED WRENCH TO SECURE ALL COUPLINGS. THIS WILL ELIMINATE DAMAGE TO CHROME OR SPECIAL FINISH THAT NORMALLY OCCURS WHEN SLIP-JOINT PLIERS, PIPE WRENCHES OR OTHER TOOTHED TOOLS ARE USED.

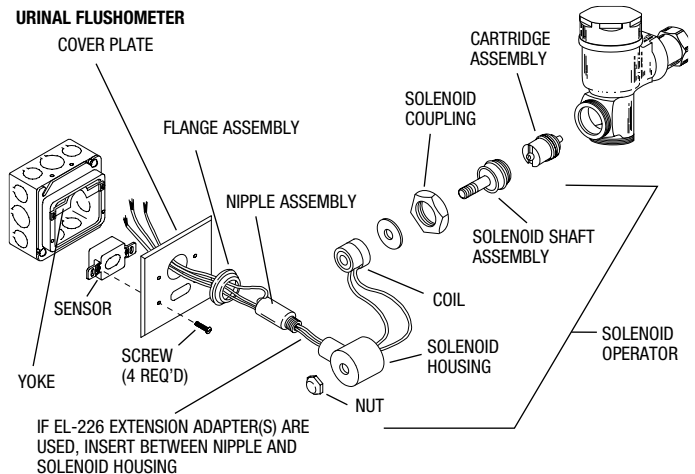
- A SLOAN ADJUSTABLE TAILPIECE** – The Sloan adjustable tailpiece compensates for “off-center” roughing-in on the job. Maximum adjustment is 1/2" (13 mm) IN or 1/2" (13 mm) OUT from the standard 4-3/4" (121 mm) (centerline of flushometer to centerline of control stop).
- B ALL FLUSHOMETER INSTALLATIONS** – Wet o-ring seal with water to lubricate. Insert adjustable tailpiece into control stop. Secure by hand tightening tailpiece coupling.
- C** Align flushometer body on top of vacuum breaker flush connection and secure by hand tightening vacuum breaker coupling.
- D** Align flushometer body and securely tighten tailpiece coupling, vacuum breaker coupling and spud coupling, respectively.



NOTE: CLOSET FLUSHOMETER SHOWN

5 - CONNECT SOLENOID OPERATOR

- A** To ease installation, remove the Solenoid Operator from the flushometer; however, prior to removal, read and adhere to the following precautions.
 - When removing the coil from the solenoid plunger guide, do so only with the power OFF. Failure to turn power off can result in damage to the sensor, solenoid coil and transformer.
 - When removing the Solenoid Operator from the Valve, take care not to damage the O-ring seal on the Operator Assembly.

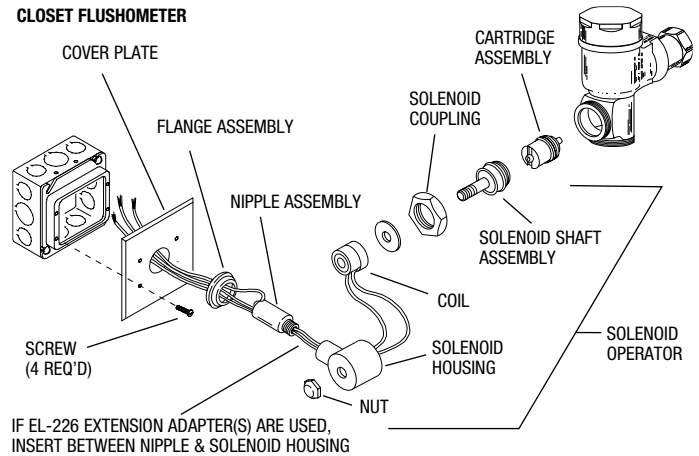


5 - CONNECT SOLENOID OPERATOR (CONTINUED)

- B** Slide coil wires through solenoid nipple assembly and screw nipple into solenoid housing. Slide flange assembly and cover plate over nipple assembly, respectively.
- C** If rough-in from wall exceeds 3" (76 mm), use EL-226 extension adapter with nipple assembly (not supplied as standard).

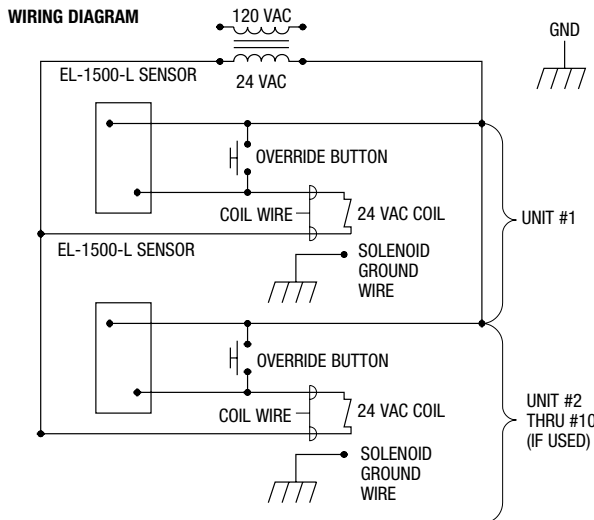
!!!!IMPORTANT!!!

DO NOT REMOVE COIL FROM SOLENOID PLUNGER GUIDE UNLESS POWER HAS BEEN DISCONNECTED. FAILURE TO DO SO MAY DAMAGE SENSOR, COIL AND TRANSFORMER.

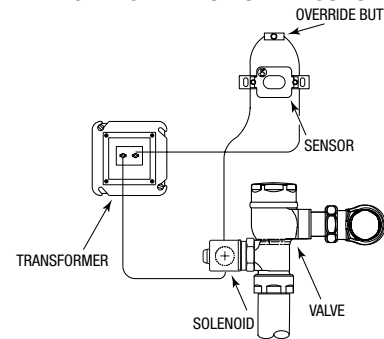


6 - ELECTRICAL HOOK-UP

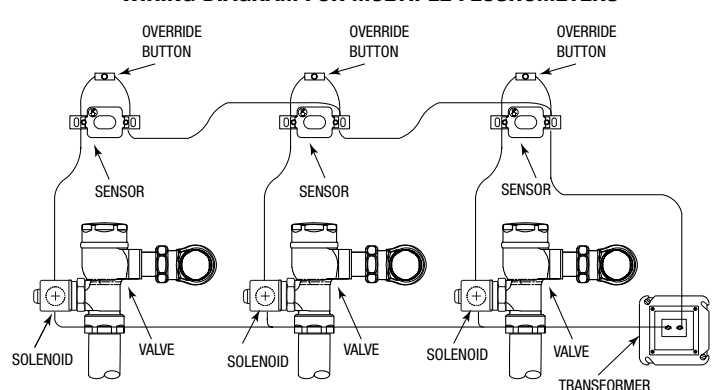
- A** Be certain power is OFF to prevent damage to electrical components. Connect sensor to transformer and solenoid coil EXACTLY as shown.
- B** Connect 24 volt source lead to terminal labeled "24 VAC IN" of new sensor.
- C** Connect solenoid lead to terminal labeled "TO VALVE" of new sensor.
- D** Connect remaining solenoid lead to remaining 24 volt source lead.
- E** **CLOSET FLUSHMETERS ONLY** — Connect override button parallel to the EL-1500-L sensor. Use 18 gauge wire between override button terminals and the connection of the EL-1500-L sensor.



WIRING DIAGRAM FOR ONE FLUSHOMETER



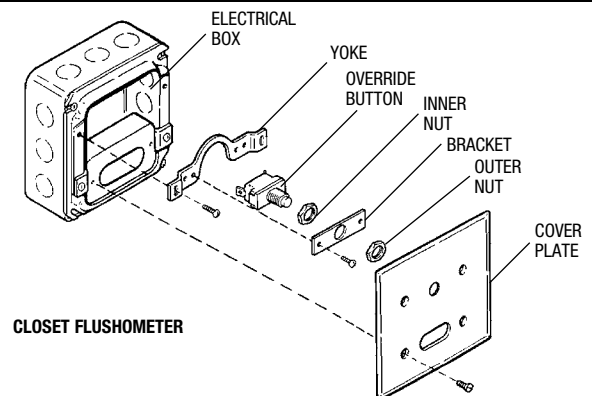
WIRING DIAGRAM FOR MULTIPLE FLUSHMETERS



NOTE: One Transformer serves up to ten (10) OPTIMA Closet/Urinal Flushometers. Specify number of transformers required accordingly.

7 - INSTALL SENSOR, YOKE, OVERRIDE BUTTON AND COVER

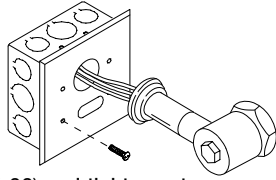
- A** Install Optima sensor (EL-1500, urinal or EL-1500-L, closet) into the 2-gang electrical box using two (2) long screws provided. Ensure that sensor lens faces outward and is horizontally positioned from finished wall.
- B** **CLOSET FLUSHMETERS ONLY** — Install Inner Nut, Bracket and Outer Nut on threaded shaft of Override Button.
- C** Mount Bracket to Yoke.
- D** Adjust distance that override button will protrude through cover plate using nut on each side of bracket. Threaded shaft end of override button should be flush with cover plate. Override button should be connected parallel to the EL-1500-L sensor.
- E** Mount assembled Yoke to Electrical Box.
- F** **URINAL FLUSHMETERS ONLY** — Mount Yoke using two (2) long screws provided.



- G** Complete assembly by installing sensor cover plate with Tamper-Proof Screws provided.

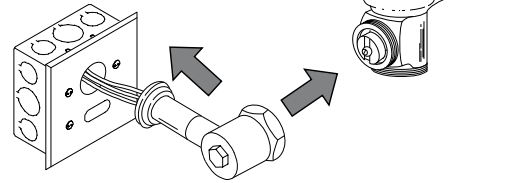
8 - INSTALL SOLENOID COVER PLATE AND SECURE SOLENOID HOUSING AND COIL ASSEMBLY

- A** Secure Solenoid Operator cover plate (HY-66) and secure with the tamper proof screws (EL-152) provided.



- B** Slide solenoid flange assembly (EL-431-A) against cover plate (HY-66) and tighten set screw to tail (F-15).

- C** Carefully install solenoid operator to flushometer while aligning tail to solenoid cover plate. Wet o-ring seal of solenoid operator with water to lubricate. Secure solenoid operator to flushometer by tightening solenoid coupling. Slide solenoid flange assembly against solenoid cover plate and tighten set screw to tail.

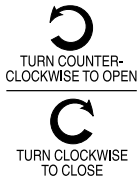
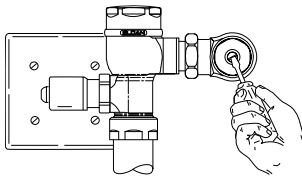


NOTE:

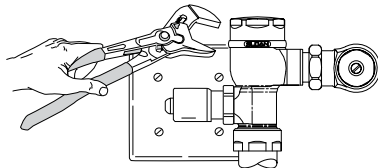
Hex key wrench services tamper proof screws and set screw. Tighten solenoid nut (EL-101).

9 - FLUSH OUT SUPPLY LINE

- A** Make sure Control Stop is CLOSED.

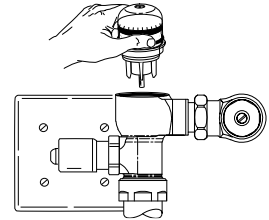


- B** Remove flushometer cover.



- C** Lift out Piston Assembly.

- D** Replace Inner Cover. Install flushometer cover wrench tight. Open Control Stop to flush supply line. Close Control Stop and remove flushometer cover.



- E** Reinstall Piston Assembly and flushometer cover. Tighten Flushometer Cover wrench tight. DO NOT OPEN control stop until step

10 - POWER AND START-UP MODE

NOTE: It is recommended that all electronic connections be tested with the water supply **OFF**.

Turn power ON. The self-adaptive sensor automatically adapts to the surrounding environment when 24V supply is activated. No manual adjustments are required.

Start-up mode will take approximately one (1) minute to complete its cycle and is important that no non-permanent target is present at this time. A continuous red light visible in sensor window indicates sensor is in the start-up mode. If the red light is flashing, this indicates that the sensor is picking up a target. Unless this target is a permanent fixture in the sensor's environment (i.e., a wall or stall door), it must be removed from the view of the sensor. In this case, disconnect the 24V power supply for twenty (20) seconds or more. Reconnect the 24V power supply at the transformer or the fuse box. When the start-up cycle is complete, there will be no light visible in the sensor window.

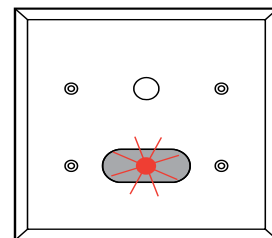
NOTE: If 24 volt power supply is ever interrupted for longer than twenty (20) seconds, the start-up mode automatically begins when power is restored.

Incorrect wiring or a short in the 24V supply is indicated by a continuous warning signal seen in the sensor window. The visible red light flashes an "SOS" signal: three (3) slow, three (3) fast and three (3) slow flashes.

11 - DETECTION/ACTIVATION

URINALS – When the sensor detects a user, a slow flashing red light appears in the sensor window. After eight (8) to ten (10) seconds, the light flashes rapidly to indicate that the sensor is armed. When the sensor no longer detects a user, the sensor immediately activates the solenoid valve after a 0.5 second delay.

WATER CLOSETS – Detection and activation are the same as for the urinal except when the sensor no longer detects an user, the sensor activates the solenoid valve after a three (3) second delay.

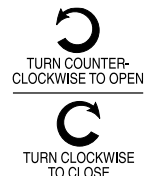
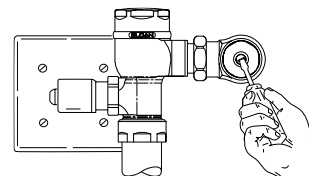


12 - TURN WATER ON AND ADJUST CONTROL STOP

Adjust Control Stop to meet the flow rate required for proper cleansing of the fixture. Open control stop COUNTERCLOCKWISE 1/2 turn from the closed position. Activate flushometer by placing hand in front of Optima Sensor Lens for ten (10) seconds and then moving it away. Adjust control stop after each flush until the rate of flow delivered properly cleanses the fixture. Install the vandal resistant stop cap to the control stop.

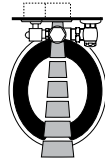
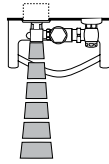
!!!IMPORTANT!!!

SLOAN CROWN® & CROWN II® 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: THE PLUMBING FIXTURE IS CLEANSSED AFTER EACH FLUSH WITHOUT SPLASHING WATER OUT OF THE FIXTURE. A QUIET FLUSHING CYCLE IS ACHIEVED.

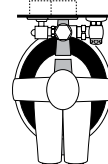
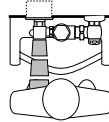


OPERATION

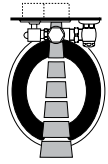
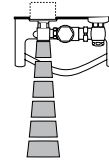
1. A continuous, invisible light beam is emitted from the Optima sensor.



2. When a user enters the beam's effective range, 25"-40" (635-1016 mm) for closet flushometers & 15"-30" (381-762 mm) for urinal flushometers, the beam is reflected into the Optima's scanning window and transformed into a low voltage electrical signal that activates a 10-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 & 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 Optima sensor, 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 3-seconds 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 & is ready for the next user.



CARE AND CLEANING

DO NOT USE abrasive or chemical cleaners (including chlorine bleach) 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

1. **PROBLEM:** Valve does not function — red light DOES NOT flash when user steps in front of sensor.
 - CAUSE:**
 - a. No power to sensor.
 - b. EL-1500 or EL-1500-L sensor not operating.
 - SOLUTION:**
 - a. Make certain that power is on. Check transformer, leads & connections. Repair or replace as necessary.
 - b. Replace EL-1500 or EL-1500-L sensor.
2. **PROBLEM:** Valve does not function — red light flashes when user steps in front of sensor.

Under normal operation, the red light should flash slowly for the first (8) eight seconds of user detection. Light should then flash rapidly which indicates that the sensor is armed & ready to flush the fixture when user leaves the field of view.

If red light stops flashing when user steps away & valve makes a "clicking" sound but DOES NOT flush:

 - CAUSE:**
 - a. Control stop or main valve is closed.
 - b. Relief valve is worn and sticking in UP position.
 - c. EL-128-A cartridge is fouled or jammed.
 - SOLUTION:**
 - a. Open control stop or main valve.
 - b. Replace piston.
 - c. Turn off power to valve. Remove solenoid operator from valve & remove EL-128-A cartridge. Clean and/or replace as necessary.

If red light stops flashing when user steps away & valve does not make a "clicking" sound & DOES NOT flush:

 - CAUSE:** EL-163-A solenoid shaft assembly is fouled or jammed.
 - SOLUTION:** Turn off power to valve. Remove coil from solenoid operator. Using a spanner wrench or pliers, remove EL-163-A solenoid shaft assembly from valve. Clean and/or replace as necessary.

If red light is flashing (3) short flashes, (3) long flashes then (3) short flashes (S-O-S) and continues to repeat this cycle even when the user steps away from the valve:

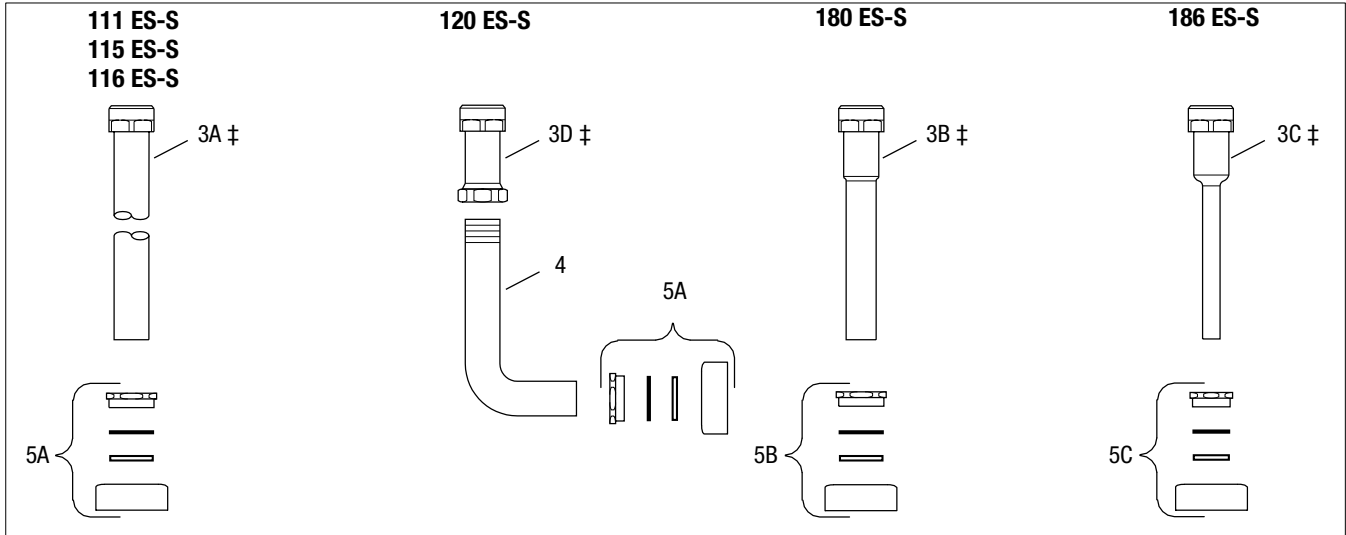
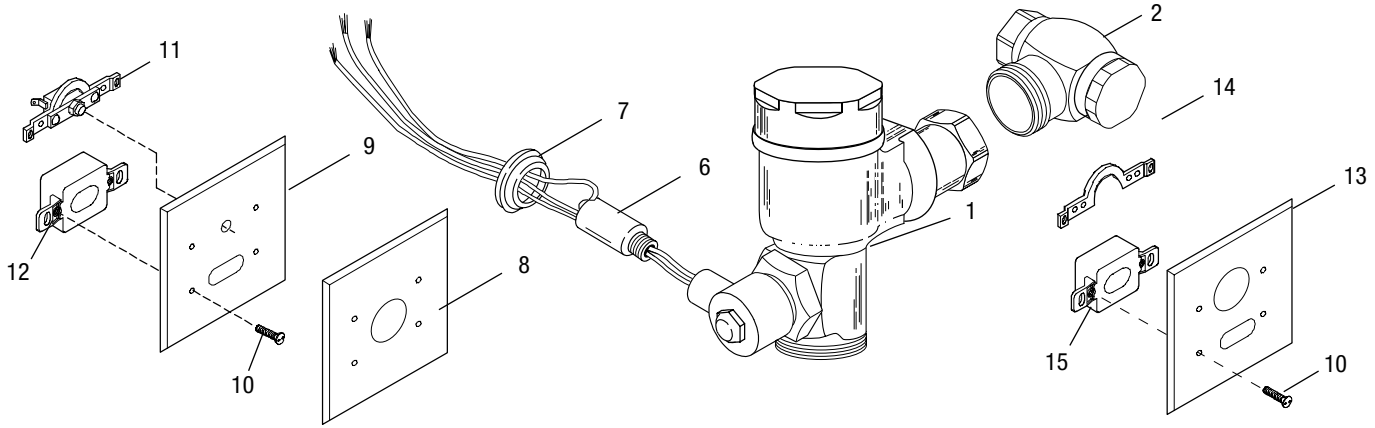
 - CAUSE:**
 - a. EL-1500 or EL-1500-L sensor is wired incorrectly.
 - b. Wiring to sensor is ground shorted.
 - c. EL-165-2 solenoid coil burned out or coil is off solenoid plunger shaft.
 - SOLUTION:**
 - a. Rewire sensor and valve properly.
 - b. Find short in wiring and correct.
 - c. Reinstall or replace coil as necessary.
3. **PROBLEM:** Insufficient volume of water to adequately siphon fixture.
 - CAUSE:**
 - a. Control stop not open enough.
 - b. Urinal piston parts inside a closet valve.
 - c. Low consumption valve installed on a non-low consumption fixture.
 - d. Inadequate volume or pressure at supply.
 - SOLUTION:**
 - a. Adjust control stop for desired delivery of water.
 - b. Replace piston parts with proper closet piston.
 - c. Replace with proper flushometer. Crown & Crown II flushometers are not available with flush volume higher than 1.6 gpf/6.0 Lpf.
 - d. Increase water pressure or supply (flow) to valve.

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

4. **PROBLEM:** Length of flush too short (short flushing) or valve closes off immediately.
 - CAUSE:**
 - a. Piston assembly is not hand-tight.
 - b. Enlarged bypass orifice from corrosion or damage.
 - c. Urinal piston in closet flushometer.
 - d. Low consumption valve installed on a non-low consumption fixture.
 - SOLUTION:**
 - a. Screw the assembly hand-tight.
 - b. Install NEW piston assembly to correct problem & update flushometer.
 - c. Replace piston with proper closet piston.
 - d. Replace with proper flushometer. Crown & Crown II flushometers are not available with flush volume higher than 1.6 gpf/6.0 Lpf.
5. **PROBLEM:** Length of flush too long (long flushing) or fails to close off.
 - CAUSE:**
 - a. Piston is not seating properly or bypass orifice is clogged because of foreign material, or bypass orifice is clogged by an invisible gelatinous film from "over-treated" water.
 - b. Line pressure has dropped & is not sufficient to force relief valve to seat.
 - c. Main seat is fouled with debris or is worn.
 - SOLUTION:**
 - a. Disassemble the working parts and wash thoroughly. **NOTE:** Size of the orifice in the bypass is of utmost importance for the proper metering of water into the upper chamber of the valve. **DO NOT** enlarge or damage this orifice. Replace piston if cleaning does not correct problem.
 - b. Shut off all control stops until pressure has been restored, then open them again.
 - c. Clean or replace Main Seat.
6. **PROBLEM:** Water splashes from fixture.
 - CAUSE:** Supply volume is open more than necessary.
 - SOLUTION:** Adjust control stop to meet flow rate required for proper cleansing of the fixture.

If further assistance is required, please contact Sloan Technical Support at 1-888-SLOAN-14 (1-888-756-2614).

PARTS BREAKDOWN



Item No.	Part No.	Description
1	†	Solenoid Operated Valve Assembly
2	H-700-A	Bak-Chek® Control Stop
3A	V-600-AA	1-1/2" (38 mm) x 9" (229 mm) Vacuum Breaker Assembly CP (Model 111)‡
	V-600-AA	1-1/2" (38 mm) x 21" (533 mm) Vacuum Breaker Assembly CP (Model 115)‡
	V-600-AA	1-1/2" (38 mm) x 24" (610 mm) Vacuum Breaker Assembly CP (Model 116)‡
3B	V-600-AA	1-1/4" (32 mm) x 9" (229 mm) Vacuum Breaker Assembly (Model 180)‡
3C	V-600-AA	3/4" (19 mm) x 9" (229 mm) Vacuum Breaker Assembly CP (Model 186)‡
3D	V-600-A	1-1/2" (38 mm) Vacuum Breaker Assembly (Model 120)‡
4	F-109	1-1/2" (38 mm) Elbow Flush Connection (Model 120)
5A	CR-1010-A	1-1/2" (38 mm) Spud Coupling Kit (Models 111, 115, 116 and 120)
5B	CR-1009-A	1-1/4" (32 mm) Spud Coupling Assembly (Model 180 ES-S)
5C	CR-1008-A	3/4" (19 mm) Spud Coupling Assembly (Model 186)
6	EL-163-A	Nipple Assembly
7	EL-431-A	Flange Assembly
8	HY-66	Cover Plate (Closet)
9	EL-201	Cover Plate (Closet)

Item No.	Part No.	Description
10	EL-152	Screw (4 Required per Plate)
11	EL-141-A	Yoke and Override Button Assembly (Closet)
12	EL-1500-L	Sensor (Closet)
13	EL-151	Cover Plate (Urinal)
14	EL-168-A	Yoke Assembly (Urinal)
15	EL-1500	Sensor (Urinal)

† Part number varies with valve model variation; consult factory.
 ‡ If valve was specified less vacuum breaker (XYV Variation), a straight flush tube is supplied in place of the vacuum breaker assembly. Consult factory for part number.

Piston Repair Kits

Part number varies with valve model variation; consult factory

Installation Templates:

For Model 111 ES-S: Code #0816157

For Models 180/186 ES-S: Code # 0816156

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

Manufactured in the U.S.A. by Sloan Valve Company under one or more of the following patents: U.S. Patents: 5,564,460; 5,730,415; 5,881,993; D399,932; D470,222; 6,550,744; Crown®, BAK-CHEK®.

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

Phone: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380 • www.sloanvalve.com