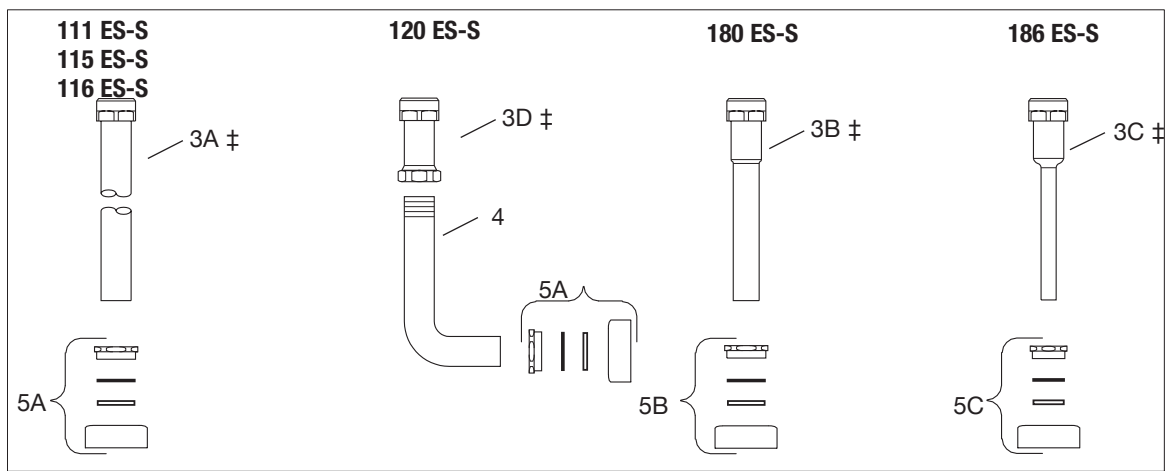
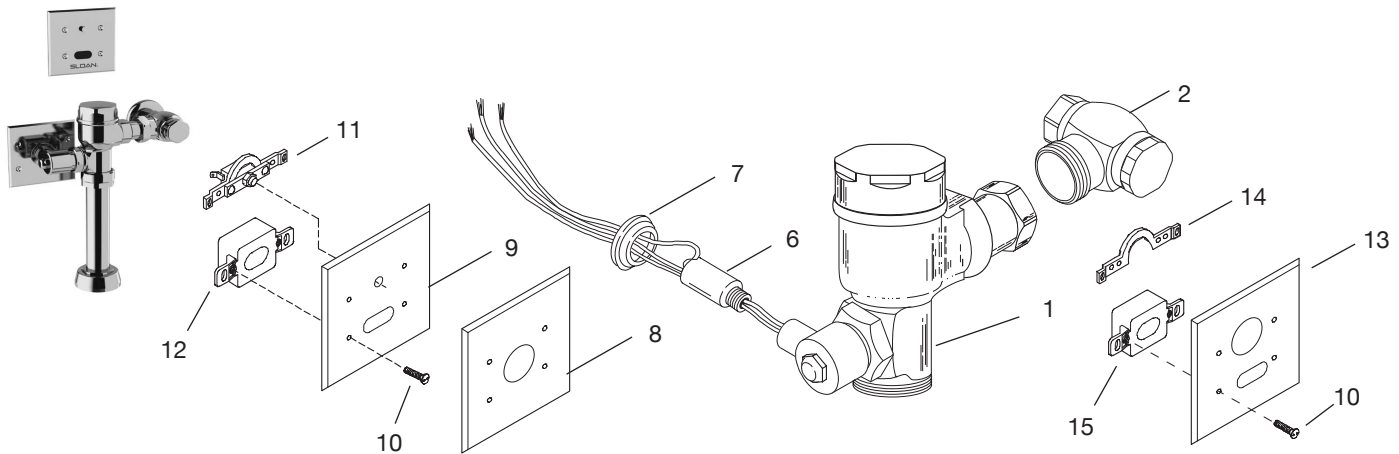


Optima® CROWN® ES-S Exposed Flushometer



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

Optima® CROWN® ES-S Exposed Flushometer

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-0-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).