

150 ES-SM 150-1.6 ES-SM

► **Description**

Concealed, Surface Mount Sensor Activated Royal® Model Water Closet Flushometer — 1" I.P.S. Outlet, for bowls and flushing rim floor drains.

► **Flush Cycle**

- Model 150 ES-SM Water Saver (3.5 gpf/13.2 Lpf)
- Model 150-1.6 ES-SM Low Consumption (1.6 gpf/6.0 Lpf)

► **Specifications**

Quiet, Concealed, Diaphragm Type, Rough Brass Closet Flushometer for either left or right hand supply with the following features:

- PERMEX™ Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass
- OPTIMA® EL-461 Water Resistant (NEMA 4) Infrared Sensor with Indicator Light and 36-Inch Cord with Modular Plug
- User friendly adjustable 2 to 6 second Flush Delay
- Water-Resistant (NEMA 4) Courtesy Flush™ Override Button
- Non-Hold-Open Integral Solenoid Operator with 15-Foot Cord and Modular Plug
- Chrome Plated, Surface Mount Sensor Enclosure with Wall Gasket
- 1" I.P.S. Wheel Handle Bak-Chek® Angle Stop
- Adjustable Tailpiece
- High Back Pressure Vacuum Breaker
- 1" Female I.P.S. Union Outlet (no flush connection)
- Sweat Solder Adapter
- High Copper, Low Zinc Brass Castings for Dezincification Resistance
- Non-Hold-Open Integral Solenoid Operator, Fixed Metering Bypass and No External Volume Adjustment to Ensure Water Conservation
- Flush Accuracy Controlled by CID™ Technology
- Diaphragm, Stop Seat and Vacuum Breaker molded from PERMEX™ Rubber Compound for Chloramine Resistance

Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037, ANSI/ASME A112.19.2 and Military Specification V-29193. Installation conforms to ADA requirements.

► **L Dimension**

Specify the "L" Dimension for the proper length of the Flush Connection. The "L" Dimension is equal to the Wall Thickness (to nearest whole inch) plus 2¾".

► **Variations**

- YI** Two Wall Bumpers (for open seat without cover)
- MCP** Matte Finish Sensor Housing

► **Accessories**

- EL-154** Transformer (120 VAC/24 VAC 50 VA)
- EL-342** Transformer (240 VAC/24 VAC 50 VA)
- ETF 1003-108** 9-Foot Extension Cord with Coupling

See Accessories Section and OPTIMA Accessories Section of the Sloan catalog for details on these and other OPTIMA Flushometer variations.



► **Automatic**

Sloan OPTIMA® equipped Flushometers provide the ultimate in sanitary protection and automatic operation. There are no handles to trip or buttons to push. The Flushometer operates by means of an infrared sensor. Once the user enters the sensor's effective range and then steps away, the Flushometer Solenoid initiates the flushing cycle to flush the fixture.

► **Easy Installation**

The Surface Mount Sensor eliminates the need of an electrical junction box mounted in the wall. The Solenoid and Sensor easily plug into a Control Module eliminating improper wiring.

► **Water Resistant**

Potted sensor, override button and enclosure with gasket provide water resistance of a NEMA 4 rating.

► **Hygienic**

User makes no physical contact with the Flushometer surface except to initiate the Override Button when required. Helps control the spread of infectious diseases.

► **Economical**

Automatic operation provides water usage savings over other flushing devices. Reduces maintenance and operation costs.

► **Practical**

Solid state electronic circuitry assures years of dependable, trouble-free operation. The operational components of the Flushometer are identical to a handle operated Royal® Flushometer, proven by 100 years of experience.

► **Warranty**

3 year (limited)

► **Made in the U.S.A.**



This space for Architect/Engineer approval

Job Name _____ Date _____

Model Specified _____ Quantity _____

Variations Specified _____

Customer/Wholesaler _____

Contractor _____

Architect _____

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ELECTRICAL SPECIFICATIONS

Control Circuit

Solid State
24 VAC Input
24 VAC Output
8 Second Arming Delay
Adjustable 2 to 6 Second Flush Delay (Factory set at 4 Seconds)

OPTIMA Sensor Range

Adjustable Detection Range from 0 to 36 Inches (Factory set at 30 Inches)
Vertically Angled 10° Down from Horizontal

Solenoid Operator

24 VAC, 50/60 Hz

Transformer

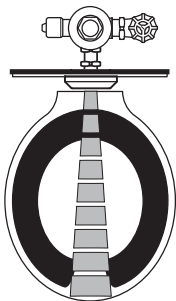
Sloan Part #EL-154
120 VAC, 50/60 Hz Primary
24 VAC, 50/60 Hz Secondary
Class II, UL Listed, 50 VA.

Sloan Part #EL-342

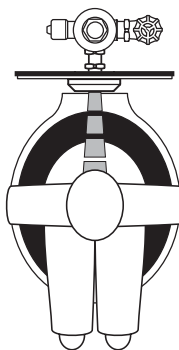
240 VAC, 50/60 Hz Primary
24 VAC, 50/60 Hz Secondary
Class II, UL Listed, 50 VA.

OPERATION

1. A continuous, invisible light beam is emitted from the OPTIMA Sensor.



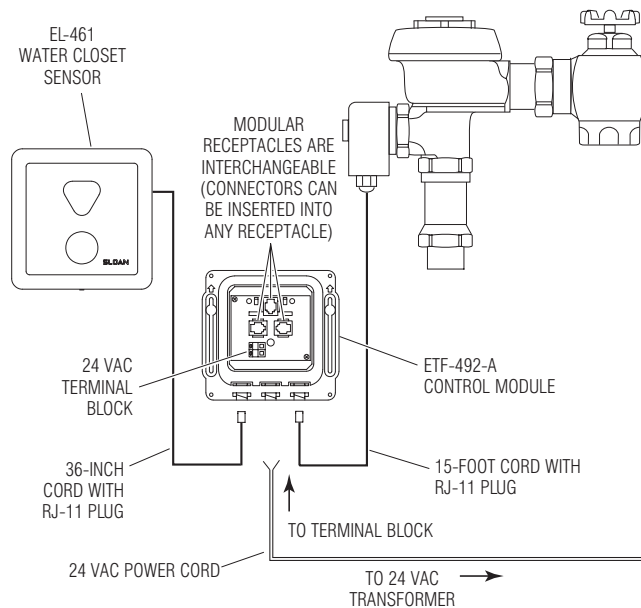
2. As the user enters the beam's effective range, the beam is reflected into the OPTIMA Scanner Window and transformed into a low voltage electrical circuit. Once activated, the Output Circuit continues in a "hold" mode for as long as the user remains within the effective range of the Sensor.



3. When the user steps away from the OPTIMA Sensor, the circuit waits 3 seconds (to prevent false flushing) then initiates an electrical "one-time" signal that operates the Solenoid. This initiates the flushing cycle to flush the fixture. The Circuit then automatically resets and is ready for the next user.

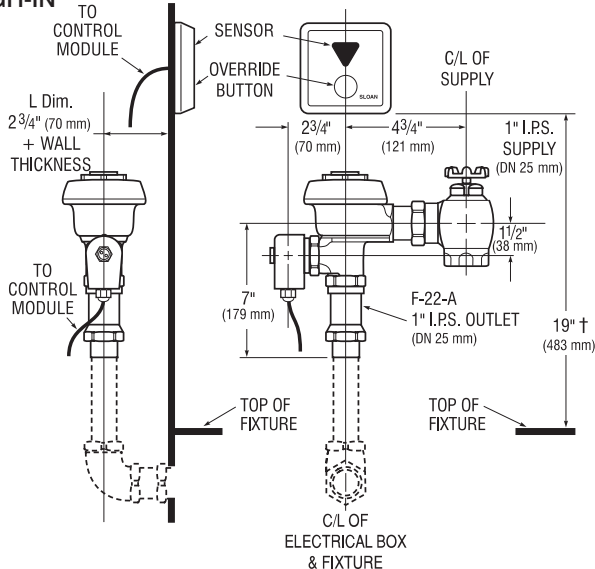


WIRING DIAGRAM



One 50 VA Transformer serves up to ten (10) OPTIMA Closet/Urinal Flushometers. Specify number of transformers required accordingly.

ROUGH-IN



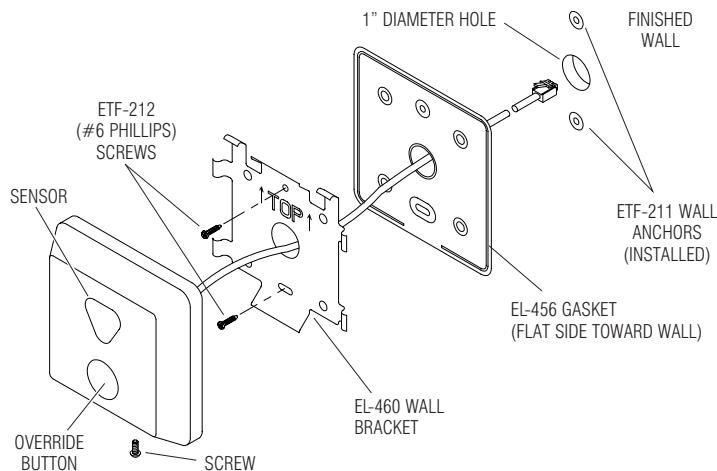
NOTE: Flush Connection shown with dotted lines is not included.

† Position of Sensor Box can be raised or lowered 1" (25 mm) if in conflict with Handicap Grab Bars.

SENSOR INSTALLATION

SENSOR LOCATION AND POSITIONING IS CRITICAL

Failure to properly position the sensor 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.



SLOAN VALVE COMPANY • 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 • <http://www.sloanvalve.com>