SLOAN®
OPTIMA SYSTEMS

Royal® Model **OPTIMA®**

Sensor Activated Flushometers

Buy American Act Compliant

136 ES-S TMO

Description
Exposed, Sensor Activated Royal® Model Water Closet Flushometer, for top inlet squat toilets.

Flush Cycle
- ☐ Model 136-1.6 ES-S TMO Low Consumption (1.6 gpf/6.0 Lpf)
- ☐ Model 136-2.4 ES-S TMO European Style (2.4 gpf/9.0 Lpf)
- ☐ Model 136 ES-S TMO Water Saver (3.5 gpf/13.2 Lpf)

Specifications
Quiet, Exposed, Diaphragm Type, Chrome Plated Closet Flushometer with the following features:
- PERMEX™ Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass
- OPTIMA® EL-1500-L Self-Adaptive Infrared Sensor with Indicator Light
- "Walk By" Delay of Eight (8) Seconds Prevents Unintentional Flushes
- User Friendly Three (3) Second Flush Delay
- Courtesy Flush™ Non-Hold-Open True Mechanical Override Button
- Non-Hold-Open Integral Solenoid Operator
- Die Cast Solenoid Wall Flange and Die Cast Sensor Plate with no visible Fasteners (for 2-gang Electrical Box)
- 1" I.P.S. Screwdriver Bak-Chek® Angle Stop (available with 1" Whitworth Thread, please specify)
- Free Spinning Vandal Resistant Stop Cap
- Adjustable Tailpiece
- High Back Pressure Vacuum Breaker Flush Connection with One-Piece Bottom Hex Coupling Nut, Spud Coupling and Flange for 1½" Back Inlet
- Sweat Solder Adapter with Cover Tube and Cast Wall Flange with Set Screw
- 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. Installation conforms to ADA requirements.

Variations

☐	U	1¼" Flush Connection and Spud Coupling
☐	XYV	Less Vacuum Breaker
☐	YJ	Split Ring Pipe Support
☐	YK	Solid Ring Pipe Support

Accessories

☐	EL-154	Transformer (120 VAC/24 VAC 50 VA)
☐	EL-342	Transformer (240 VAC/24 VAC 50 VA)
☐	EL-485-A	Flushometer Electrical Box Positioning and Support Kit

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

Sloan Electronics are: UPC® Listed by I.A.P.M.O.

Made with Renewable Energy

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 that adapts to its surrounding. Once the user enters the sensor's effective range and then steps away, the Flushometer Solenoid initiates the flushing cycle to flush the fixture.

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. 24-Hour Sentinel Flush keeps fixture fresh during periods of nonuse.

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 activated Royal® Flushometer, proven by 100 years of experience.

Warranty
3 year (limited)

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
3 Second Flush Delay
24-Hour Sentinel Flush

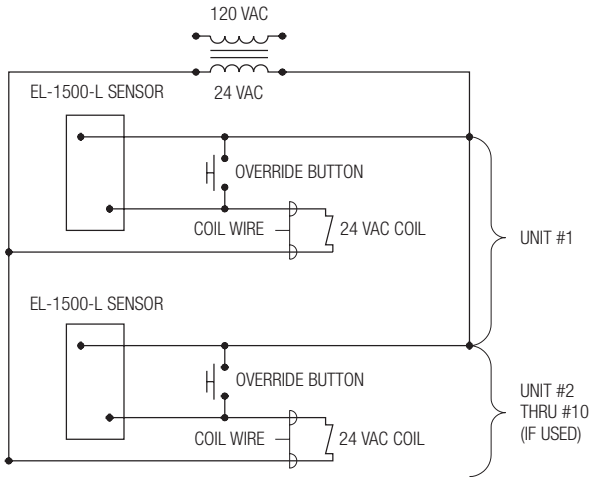
OPTIMA Sensor Range
Nominal 22" - 42" (559 mm - 1067 mm)
Self-adaptive Window ± 10" (254 mm)

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.

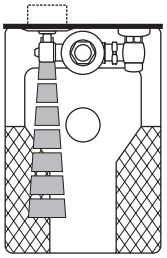
WIRING DIAGRAM



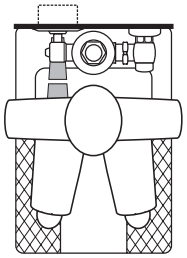
One Transformer serves up to ten (10) OPTIMA Closet/Urinal Flushometers. Specify number of transformers required accordingly.

OPERATION

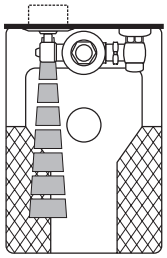
1. A continuous, invisible light beam is emitted from the OPTIMA Sensor.



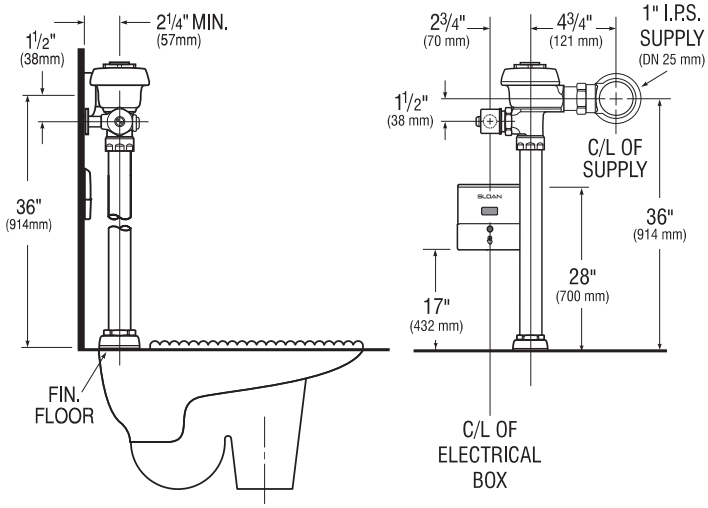
2. As the user enters the beam's effective range (22" to 42") the beam is reflected into the OPTIMA Scanner Window and transformed into a low voltage electrical circuit. Once activated, the Output Circuit continues in a "hold" mode for as long as the user remains within the effective range of the Sensor.



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.



ROUGH-IN

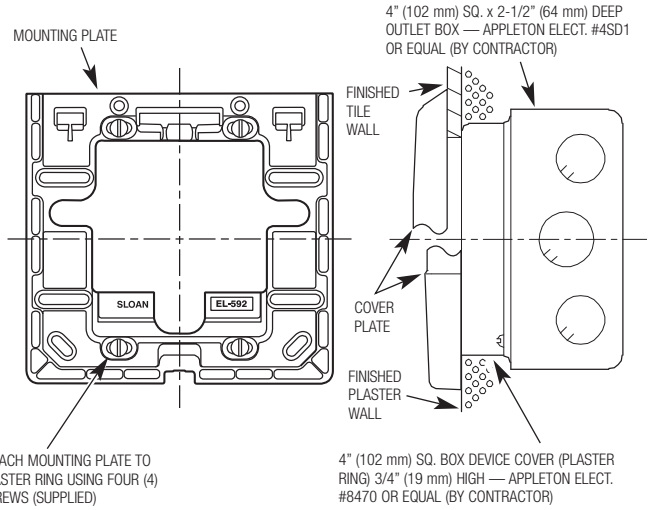


To ensure a perfect rough-in, Sloan recommends the use of the EL-485-A Flushometer Electrical Box Positioning and Support Kit. Specify and order the EL-485-A Kit separately. When using the EL-485-A kit, the Solenoid Plate roughs in at the Urinal location. Consult factory for installation details.

ELECTRICAL BOX INSTALLATION

SENSOR LOCATION AND 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. Installation Template furnished with Flushometer.



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