

190 ES-SM

190-1.5 ES-SM

190-1.0 ES-SM

- **Description**
Concealed, Surface Mount Sensor Activated Royal® Model Urinal Flushometer, for 1¼" back spud urinals.
- **Flush Cycle**
 - ☐ Model 190 ES-SM Conventional (3.5 gpf/13.2 Lpf)
 - ☐ Model 190-1.5 ES-SM Water Saver (1.5 gpf/5.7 Lpf)
 - ☐ Model 190-1.0 ES-SM Low Consumption (1.0 gpf/3.8 Lpf)
- **Specifications**
Quiet, Concealed, Diaphragm Type, Rough Brass Urinal 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
 - Non-Hold-Open Integral Solenoid Operator w/15-Foot Cord & 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 Flush Connection and Spud Coupling for 1¼" Concealed Back Spud
 - 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**
 - ☐ **MCP** Matte Finish Sensor Housing
 - ☐ **T** 1½" Flush Connection
- **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 and enclosure with gasket provide water resistance of a NEMA 4 rating.
- **Hygienic**
User makes no physical contact with the Flushometer surface. 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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Concealed, Surface Mount Sensor Activated Royal® Model Urinal Flushometer, for 1¼" back spud urinals.

► **Flush Cycle**

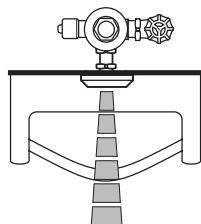
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- ☐ Model 190-1.0 ES-SM Low Consumption (1.0 gpf/3.8 Lpf)

- ▶ **Control Circuit**
Solid State
24 VAC Input
24 VAC Output
8 Second Arming Delay
- ▶ **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.

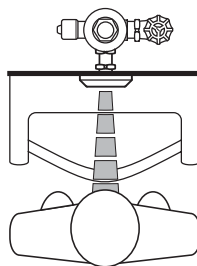
Diagram illustrating the wiring setup for the EL-497 Urinal Sensor. The components and connections are labeled as follows:

- EL-497 URINAL SENSOR**: The main unit to be installed.
- MODULAR RECEPTACLES ARE INTERCHANGEABLE (CONNECTORS CAN BE INSERTED INTO ANY RECEPTACLE)**: A note indicating the flexibility of the wiring connections.
- 24 VAC TERMINAL BLOCK**: The central connection point for the wiring.
- 36-INCH CORD WITH RJ-11 PLUG**: The cord connecting the sensor to the terminal block.
- ETF-492-A CONTROL MODULE**: The control unit for the sensor.
- 15-FOOT CORD WITH RJ-11 PLUG**: The cord connecting the control module to the terminal block.
- 24 VAC POWER CORD**: The power source for the system.
- TO TERMINAL BLOCK**: The connection point for the power cord.
- TO 24 VAC TRANSFORMER**: The connection point for the power source.

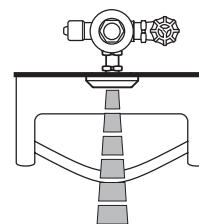
1. A continuous, invisible light beam is emitted from the OPTIMA Sensor.



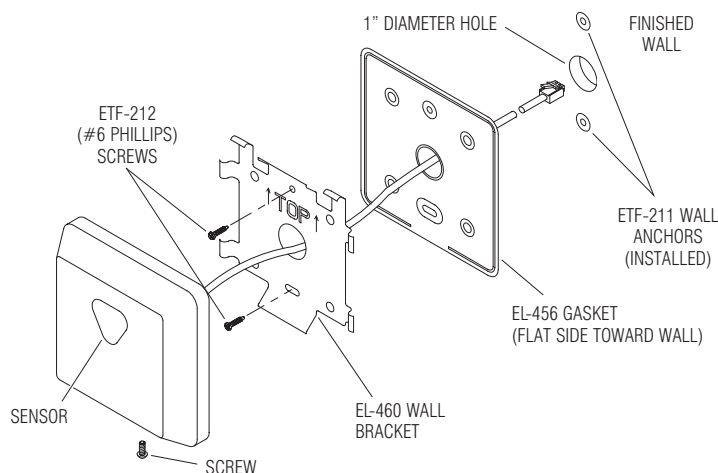
2. As the user enters the beam's effective range, the beam is reflected into the OPTIMA Scanner Window and transformed into a low voltage electrical circuit. Once activated, the Output Circuit continues in a "hold" mode for as long as the user remains within the effective range of the Sensor.



3. When the user steps away from the OPTIMA Sensor, the circuit immediately 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.



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.



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