



► **Description**  
Exposed, AC Powered, Sensor Activated, Royal<sup>®</sup> Optima<sup>®</sup> SMOOTH<sup>™</sup> Water Closet Flushometer for floor mounted or wall hung top spud bowls.

► **Flush Cycle**  
Model 111-1.6 HWS Low Consumption (1.6 gpf/6.0 Lpf)

- **Variations**
- TP** Trap Primer
  - YG** Extended Bumper on Angle Stop (for seat with cover)

► **Specifications**  
Quiet, Exposed, Diaphragm Type, Chrome Plated Water Closet Flushometer with the following features:

- Flushometer**
- High Chloramine Resistant PERMEX<sup>™</sup> Synthetic Rubber Diaphragm with Linear Filtered Bypass and Vortex Cleansing Action<sup>™</sup>
  - ADA Compliant Metal Oscillating Non-Hold-Open Handle with Triple Seal Handle Packing
  - 1" I.P.S. Screwdriver Bak-Chek<sup>®</sup> Angle Stop
  - Vandal Resistant Stop Cap
  - Adjustable Tailpiece
  - Vacuum Breaker with Flush Connection
  - Spud Coupling and Spud Flange for 1½" Top Spud
  - Sweat Solder Adapter with Cover Tube and Cast Wall Flange
  - High Copper, Low Zinc Brass Castings for Dezincification Resistance
  - Non-Hold-Open Handle and No External Volume Adjustment to Ensure Water Conservation
  - Low Consumption flush accuracy
  - Handle Packing, Stop Seat and Vacuum Breaker Molded from PERMEX<sup>™</sup> Rubber Compound for Chloramine Resistance

- Optima SMOOTH Unit**
- ADA Compliant OPTIMA<sup>®</sup> SMOOTH<sup>™</sup> AC Powered Infrared Sensor for automatic "Hands-free" operation
  - Sensor with Automatic Range Adjustment
  - Chrome Plated Metal Sensor Housing
  - Mechanical Manual Override Flush Handle
  - "User in View" Flashing LED
  - 25 to 80 psi Operating Range
  - Vandal Resistant 1/8" Ball-Type Hex Key included

Valve Body, Cover, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be in compliance to the applicable sections of ASSE 1037.

- **Accessories (Specify separately)**
- **Transformers**
    - EL-386** 120 VAC/6 VAC, 50/60 Hz (3 VA) - Plug-in (will operate 1 unit)
    - EL-451** 120 VAC/6 VAC, 50/60 Hz (25 VA) - Box Mount (will operate up to 8 units)

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

► **Fixtures**  
Consult Sloan for Sloan brand matching fixtures.



**MECHANICAL  
MANUAL  
OVERRIDE**

- **ADA Compliant**
- **Automatic**  
Royal SMOOTH<sup>™</sup> Hardwire equipped Flushometers provide the ultimate in sanitary protection and automatic operation. Once the user enters the sensor's effective range and then steps away, the SMOOTH<sup>™</sup> Unit initiates the flushing cycle to flush the fixture. State-of-the-art Technology enables override activation without "double flushing" as the user departs (sensor is locked-out for approximately 10 seconds). True manual override eliminates the need for expensive battery back-up systems.
- **Hygienic**  
The Royal<sup>®</sup> Optima<sup>®</sup> SMOOTH<sup>™</sup> Hardwire Flushometer is the next advancement in hygiene. It uses sensor technology to transform manual installations into electronic, hands-free operation. User makes no physical contact with the Flushometer surface except to initiate the Override Handle 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. Installation does not require turning off water to the valve.
- **Warranty**  
3 year (limited)

This space for Architect/Engineer approval

Job Name \_\_\_\_\_ Date \_\_\_\_\_

Model Specified \_\_\_\_\_ Quantity \_\_\_\_\_

Variations Specified \_\_\_\_\_

Customer/Wholesaler \_\_\_\_\_

Contractor \_\_\_\_\_

Architect \_\_\_\_\_



# Model

# 111-1.6-HWS

## Description

Exposed, AC Powered, Sensor Activated, Royal® Optima® SMOOTH™ Water Closet Flushometer for floor mounted or wall hung top spud bowls.

## Flush Cycle

Model 111-1.6 HWS Low Consumption (1.6 gpf/6.0 Lpf)

## ELECTRICAL SPECIFICATIONS

### Control Circuit

6 VDC Input  
8 Second Arming Delay  
72 Hour Sentinel Flush

### OPTIMA Sensor Range

**Normal Range** (recommended for Water Closets) with 2 - 3 second flush delay: 26" - 32" (660 mm - 813 mm)

**Normal Range** (recommended for Water Closets) with 1 - 2 second flush delay: 26" - 32" (660 mm - 813 mm)

**Reduced Range** (recommended for Urinals) with 1 - 2 second flush delay: 20" - 26" (508 mm - 660 mm)

### OPTIMA Sensor Type

Active Infrared with Automatic Adjustment

### Transformer

Sloan Part #EL-386 (Plug-in)  
120 VAC, 50/60 Hz Primary  
6 VAC, 50/60 Hz Secondary  
Class II, 3 VA.

Sloan Part #EL-451 (Box Mount)  
120 VAC, 50/60 Hz Primary  
6 VAC, 50/60 Hz Secondary  
Class II, 25 VA.

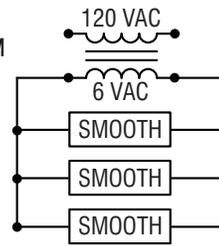
### Indicator Light

User in View

### Operating Pressure

25 - 80 psi (172 - 552 kPa)

## WIRING DIAGRAM



One EL-386 Transformer serves one (1) OPTIMA Closet/Urinal Flushometer.

One EL-451 Transformer serves up to eight (8) OPTIMA Closet/Urinal Flushometers.

## OPERATION

1. A continuous, invisible light beam is emitted from the SMOOTH unit's Infrared Sensor.



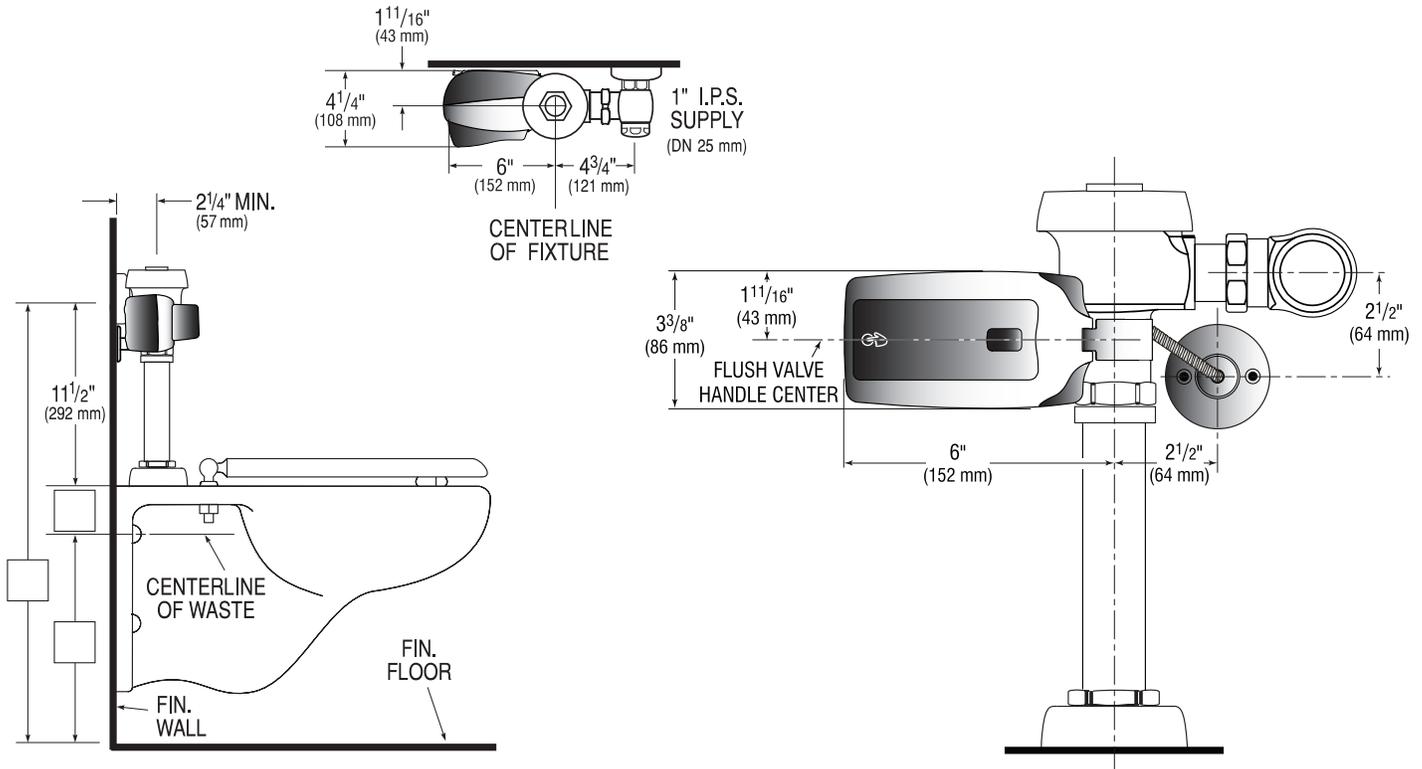
2. When the user enters the sensor's effective range, the Red LED light in the sensor window flashes for eight seconds. After eight seconds of sensing the user, the light will stop flashing and the unit waits for the user to step away before initiating a flush cycle.



3. When the user steps away, the unit initiates a flush cycle. The unit then automatically resets and is ready for the next user.



## DIMENSIONS



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