

**ROYAL MODEL 152 ES-S
SECTION 15440
PLUMBING FIXTURES**

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Concealed water closet Flushometers, for wall hung back spud bowls.

1.02 RELATED SECTIONS

- A. Section 15010: Basic Mechanical Requirements.
- B. Section 15050: Basic Mechanical Materials and Methods.
- C. Section 16010: Basic Electrical Requirements.
- D. Section 16050: Basic Electrical Materials and Methods.

1.03 QUALITY ASSURANCE

A. Codes and Standards:

1. Americans with Disabilities Act (ADA).

INSERT NAME OF APPLICABLE CODE

2. [] Plumbing Code.

3. National Electrical Code (NFPA 70).

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each Flushometer specified.

B. Shop Drawings: Submit manufacturer's rough-in drawings indicating rough-in requirements, dimensions, required clearances, and methods of assembly of components and anchorages.

C. Wiring Diagrams: Submit manufacturer's electrical requirements and wiring diagrams for power supply to units. Clearly differentiate between portions of wiring that are factory installed and field installed.

D. Maintenance Data: Include manufacturer's maintenance data in Maintenance Manual as specified in Division 1.

1.05 DELIVERY, STORAGE AND HANDLING

A. Store Flushometers in manufacturer's original packaging. Do not store packages in such a manner that may cause damage to Flushometers.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Sloan Valve Company; Royal Model 152 ES-S Flushometer.

2.02 FIXTURES

A. Flushometers: Quiet, concealed diaphragm type, water closet Flushometer, rough brass, for either left or right hand supply, equipped with solenoid operator, Optima sensor and override button, (4) tamper-proof screws and chrome plated wall cover plate (for 2-gang electrical box), non-hold-open feature, 1"(2.54cm) I.P.S. wheel handle Bak-Chek control stop, adjustable

tailpiece, sweat-solder adaptor, vacuum breaker, flush connection, elbow flush connections and spud coupling for 1-1/2"(3.81cm) concealed back spud. Valve body, cover, tailpiece and control stop shall conform with ASTM alloy classification for red and semi-red brasses. Valve shall conform with Federal Spec WW-P-541, Mil Spec V-29193, ANSI 112.19.6 and ASSE 1037. Valve must be non-externally adjustable to prevent installer from easily adjusting water volume delivery in violation of applicable water use laws and requirements. Valve shall conform to applicable ADA requirements.

1. Flush Cycle: 3.5 gallons(13.24 l)(Water Saver).
2. "L" Dimension: _____ inches.
("L" Dimension = Wall Thickness (to nearest whole inch) + 2-3/4"(6.98cm).)
3. Accessories:
 - a. EL-154 Transformer
4. Electrical Specifications:
 - a. Optima Sensor: 24V AC Input/24V AC Output.
 - b. Solenoid Operator: 24V AC, 60 Hz.
 - c. Transformer: 120V AC Input/24V AC Output, Class II, UL Listed 48 V.A. (min.). One transformer serves up to ten (10) Optima Closet/Urinal Flushometers.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All plumbing work shall be installed in accordance with applicable codes and regulations.
- B. All electrical work shall be installed in accordance with applicable codes and regulations.
- C. Flush all water supply lines prior to making connections.
- D. Install Flushometers in strict accordance with manufacturer's installation instructions and applicable codes and regulations.
- E. Do not use toothed tools when installing Flushometers.
- F. Comply with applicable requirements of the Americans with Disabilities Act (ADA) with respect to plumbing fixtures for the physically handicapped.
- G. Position of water supply must be in strict accordance with Flushometer manufacturer's installation instructions to assure proper alignment with Flushometer valve.

3.02 FIELD QUALITY CONTROL

- A. Test Flushometers to demonstrate proper operation upon completion of installation, after water supply and electrical power have been turned on. Adjust, repair or replace malfunctioning units, then retest.
- B. Inspect each installed unit for damage. Replace damaged units.

3.03 ADJUSTING

- A. Adjust control stop to meet flow rate required for proper cleansing of the fixture.

3.04 CLEANING

- A. Do not use abrasive or chemical cleaners to clean Flushometers. Use only soap and water to

clean Flushometers, then wipe dry with clean cloth or towel.

3.05 PROTECTION

A. While cleaning ceramic or glazed tile, protect Flushometers from any splattering of acids or cleaning fluids which can discolor or remove chrome plating.

Metric Conversions:

$\frac{3}{4}$ " = 1.90cm, 1" = 2.54cm, $1\text{-}\frac{1}{4}$ " = 5.71cm, $1\text{-}\frac{1}{2}$ " = 3.81cm, $1\text{-}\frac{3}{4}$ " = 4.44cm, $1\text{-}\frac{7}{8}$ " = 4.76cm,

2" = 5.08cm, $2\text{-}\frac{1}{16}$ " = 5.23cm, $2\text{-}\frac{1}{8}$ " = 5.39cm, $2\text{-}\frac{1}{4}$ " = 5.71cm, $2\text{-}\frac{1}{2}$ " = 6.35cm, $2\text{-}\frac{3}{4}$ " = 6.98cm,

3" = 7.62cm, 4" = 10.16cm, $4\text{-}\frac{3}{4}$ " = 12.06cm, $5\text{-}\frac{1}{4}$ " = 13.33cm, $5\text{-}\frac{5}{16}$ " = 13.49cm,

6" = 15.24cm, $6\text{-}\frac{1}{2}$ " = 16.51cm, $7\text{-}\frac{1}{2}$ " = 19.05cm, 8" = 20.32cm, $9\text{-}\frac{1}{2}$ " = 25.02cm, $9\text{-}\frac{3}{4}$ " = 25.66cm,

10" = 25.4cm, $10\text{-}\frac{1}{4}$ " = 26.03cm, $10\text{-}\frac{7}{8}$ " = 27.62cm, $11\text{-}\frac{1}{2}$ " = 29.25cm, 12" = 30.48cm,

13" = 33.02cm, $13\text{-}\frac{3}{8}$ " = 33.97cm, $13\text{-}\frac{1}{2}$ " = 34.29cm, $13\text{-}\frac{3}{4}$ " = 34.92cm,

14" = 35.56cm, $14\text{-}\frac{1}{2}$ " = 36.82cm, $15\text{-}\frac{1}{2}$ " = 39.37, 16" = 40.64cm, $16\text{-}\frac{3}{4}$ " = 42.54cm,

17" = 43.17cm, $17\text{-}\frac{1}{4}$ " = 43.81cm, $17\text{-}\frac{1}{2}$ " = 44.44cm, 19" = 48.26, $19\text{-}\frac{1}{4}$ " = 48.89cm,

20" = 50.79cm, $21\text{-}\frac{1}{2}$ " = 54.60cm, $22\text{-}\frac{1}{2}$ " = 57.15cm, 23" = 64.03cm, 24" = 60.86cm, $24\text{-}\frac{1}{2}$ " = 62.13cm,

27" = 74.19cm, 30" = 76.2cm, $34\text{-}\frac{3}{8}$ " = 92.92cm, 60" = 152.4cm, 72" = 182.88cm.