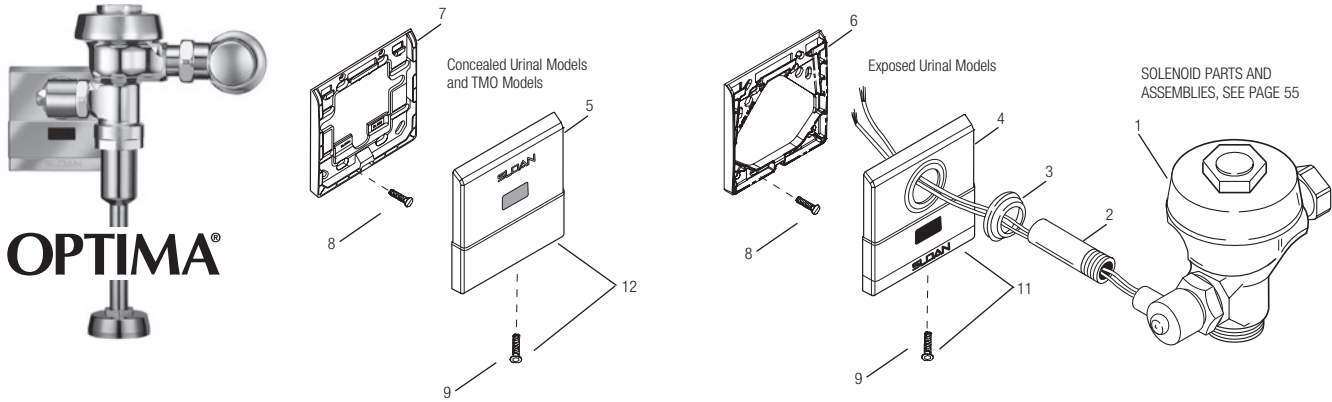


## Optima® Flushometers

Current style Royal® (after 09/26/10)



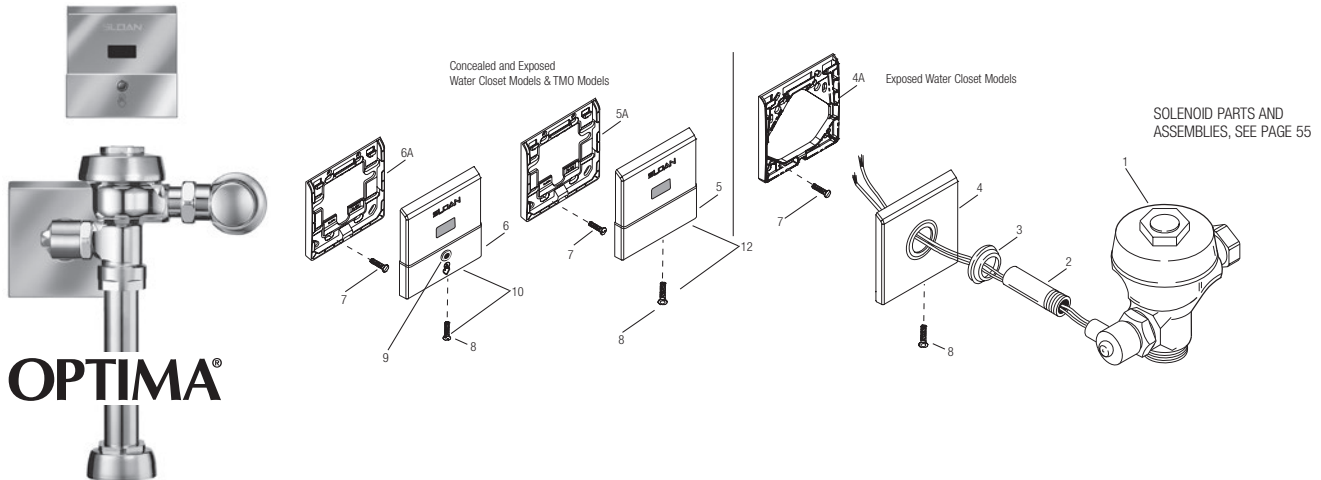
### CURRENT COVER AND MOUNTING PLATE PARTS FOR ROYAL® URINAL FLUSHOMETER

Item No.	Code No.	Part No.	Description
1.	‡		Solenoid Activated Valve Assembly
2.	<b>0306249PK</b>	F-15	Tail Assembly 3/4" x 6"
3.	<b>0345150</b>	EL-431-A	Flange Assembly
4.	<b>3305100</b>	EL-640-A	CP Cover Plate with Sensor and Mounting Hardware Assembled (Exposed Models) (includes EL-549 mounting plate)
5.	<b>3305101</b>	EL-645-A	CP Cover Plate with Sensor Assembled (Concealed Models) (includes EL-592 Mouting Plate)
6.	<b>0305251PK</b>	EL-549-A	Exposed Urinal Mounting Plate Kit

Item No.	Code No.	Part No.	Description
7.	<b>0305292PK</b>	EL-592-A	Concealed Urinal Mounting Plate Kit
8.	—		Screws (Flat Head Slotted #6/32)
9.	<b>5305100</b>	EL-674	Wall Plate Screw Kit ( #6-32 x 15.87mm)
†	<b>3305620</b>	EL-1500	Urinal Sensor Replacement (Exposed and Concealed Models, not shown)

† NOTE: For exposed & concealed solenoids manufactured before 2003 or not shown here, consult factory for individual part assembly.

‡ Part number varies with valve model variation; consult factory. For Solenoid Breakdown, See Pg 48.



### CURRENT COVER AND MOUNTING PLATE PARTS FOR ROYAL® CLOSET FLUSHOMETER

Item No.	Code No.	Part No.	Description
1.	‡		Solenoid Activated Valve Assembly
2.	<b>0306249PK</b>	F-15	Tail Assembly†
3.	<b>0345150</b>	EL-431-A	Flange Assembly
4.	<b>3305105</b>	EL-625-A	CP Cover Plate with Mounting Hardware (Closet only) (includes EL-549 mounting plate)
4A.	<b>0305251PK</b>	EL-549	Exposed Closet Mounting Plate
5.	<b>3305107</b>	EL-635-A	Concealed CP TMO Cover Plate with Sensor (includes Mounting Kit)
5A.	<b>0305292PK</b>	EL-592	Concealed Closet TMO Mounting Plate

Item No.	Code No.	Part No.	Description
6.	<b>3305104</b>	EL-595-A	CP Cover Plate with Sensor and Override Switch Assembled (Closet only) Exposed ES-S
6A.	<b>0305292PK</b>	EL-592	Exposed & Concealed Closet Mounting Plate
7.	—		Screws (Flat Head Slotted #6/32)
†	<b>3305621</b>	EL-1500-L	Closet Sensor Replacement Kit (Closet only, not shown)
	<b>3345095</b>	EL-1034-AB	Button Assembly Repair Kit
8.	<b>5305100</b>	EL-674	Wall Plate Screw Kit ( #6-32 x 15.87mm) (6 per kit)
9.	<b>3345095</b>	EL-1034-A	ESS Override Repair Kit for EL-595-A

#### PLATES ONLY

Item No.	Code No.	Part No.	Description
10.	<b>3345090</b>	EL-1030-A	Plate Assembly Only w/ Set Screw*
11.	<b>3345091</b>	EL-1031-A	Plate Assembly Only w/ Set Screw*
12.	<b>3345092</b>	EL-1032-A	Plate Assembly Only w/ Set Screw*

† NOTE: For exposed & concealed solenoids manufactured before 2003 or not shown here, consult factory for individual part assembly.

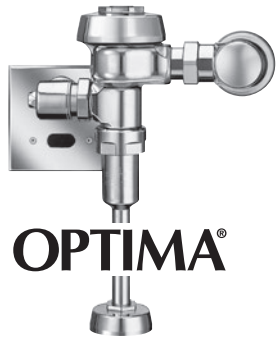
‡ Part number varies with valve model variation; consult factory.

\* Mounting plates do not include sensor.

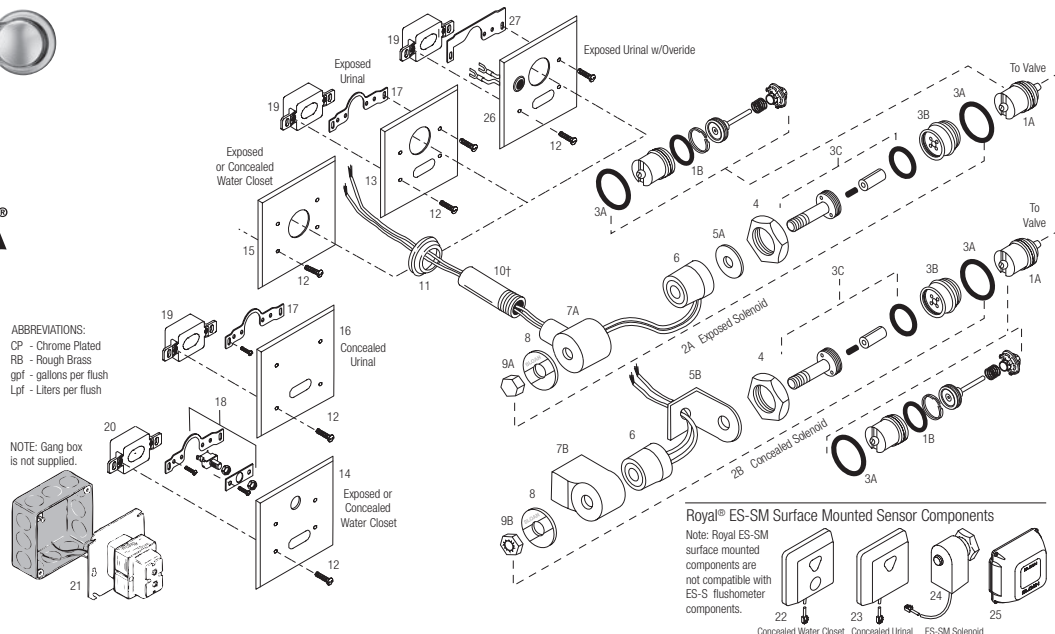
For Solenoid Breakdown, See Pg 48.

**Optima® Flushometers**

Old Royal® until 05/09, current Sloan/Regal®



**OPTIMA®**



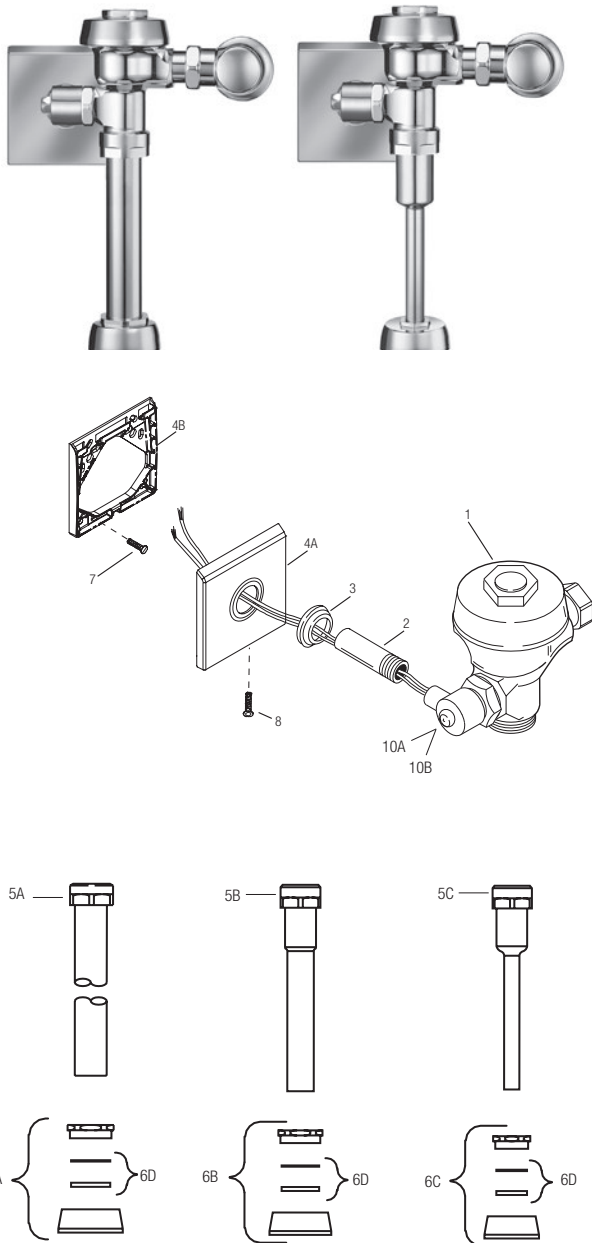
**SOLENOID/SENSOR PARTS AND ASSEMBLIES LIST**

Item No.	Code No.	Part No.	Description
1A.	<b>3305043</b>	EL-128-A	Actuator Cartridge Assembly Repair Kit Includes Spring, Plunger Guide, Solenoid Valve Seat, Valve Piston Assembly, and O-Ring (also available for ES-SM flushometers)
1B.	<b>0305135</b>	EL-110	O-Ring
2A.	<b>0305328</b>	EL-124-1	120V only (no sensor)
	<b>3305044</b>	EL-1029-A	CP Cartridge/Solenoid Kit EL-124-1 (120V) and EL128-A
	<b>0305329</b>	EL-124-2	24 VAC Solenoid Assembly (exposed installation) Includes Handle Coupling, 24 VAC Coil, Face Plate for 24 VAC Solenoid, Solenoid Adapter, Solenoid Shaft Assembly, Nut for Solenoid, Solenoid Housing, Solenoid Flux Plate, and O-Ring
	<b>3305045</b>	EL-1028-A	CP Cartridge/Solenoid Kit EL-124-2 (24V) and EL128-A
2B.	<b>0305330</b>	EL-138-1	120V only (no sensor)
	<b>0305331</b>	EL-138-2	24 VAC Solenoid Assembly (concealed installation) Includes Handle Coupling, 24 VAC Coil, Face Plate for 24 VAC Solenoid, Solenoid Adapter, Solenoid Shaft Assembly, Nut for Solenoid, Solenoid Base Plate and Solenoid Cover Assembly
3A.	<b>0337086</b>	DO-22	O-Ring
3B.	<b>0305132</b>	EL-104	RB Adapter for Solenoid
3C.	<b>0305165</b>	EL-163-A	Solenoid Shaft Assembly Includes Gasket, Plunger, Plunger Spring, and Solenoid Shaft
4.	<b>0301082</b>	A-6	CP Handle Coupling (exposed installation)
5A.	<b>0305166</b>	EL-164	Solenoid Flux Plate (exposed installation) fine thread
5B.	—	EL-542	N/A Separately
6.	<b>0305119</b>	EL-165-1	120 V Coil
	<b>0305118</b>	EL-165-2	24 VAC Coil
7A.	<b>0345120</b>	EL-162-2	CP Solenoid Housing (exposed installation) fine thread
	<b>0305164</b>	EL-162-1	CP Solenoid Housing (120V) course thread also used on pre-2001 24 V
7B.	<b>0305336</b>	EL-541-A	Solenoid Cover Assembly (Includes Flux Plate)
8.	<b>0305127</b>	EL-102-2	Face Plate for 24 VAC Solenoid (exposed installation)
9A.	<b>0305125</b>	EL-101	CP Nut for Solenoid (exposed installation)
9B.	<b>0305167</b>	EL-166	Housing Nut for Solenoid (concealed installation)
10.	<b>0306249</b>	F-15	Tail †
	<b>0305145</b>	EL-123-A	Old Style ESS 24V course thread (120V also)
	<b>0305337PK</b>	EL-226	1-1/4" Extension for EL-123-A course thread
11.	<b>0345150</b>	EL-431-A	CP Flange Assembly (exposed installation)
	<b>0305139</b>	EL-176-A	Old Style ESS 24V course thread (120V also)
12.	<b>0305152</b>	EL-152	CP Screws (requires four screws per cover plate)
13.	<b>0305151</b>	EL-151	CP Cover Plate for Sensor and Solenoid Operator (Urinal only)
14.	<b>0305219</b>	EL-201	CP Cover Plate for Sensor and Override Button (Closet only)
15.	<b>0318066</b>	HY-66	CP Cover Plate for Solenoid Operator (Closet only)
16.	<b>0305161</b>	EL-161	CP Cover Plate for Sensor
17.	<b>0305323</b>	EL-168-A	Yoke Assembly (Urinal only)
18.	<b>0305324</b>	EL-141-A	Override Switch and Yoke Assembly (Closet only)
19.	<b>3305620</b>	EL-1500	Urinal Sensor Replacement Kit (Urinal only)
20.	<b>3305621</b>	EL-1500-L	Closet Sensor Replacement Kit (Closet only)
21.	<b>0345154</b>	EL-154	Transformer (120 VAC) (also available for ES-SM flushometers) 50 VA plate mount
	<b>0345999</b>	EL-342	Transformer (240 VAC) (also available for ES-SM flushometers) 50 VA plate mount
22.	<b>3345047</b>	EL-461	Surface Mounted Sensor and Override Button Assembly (closet only)
23.	<b>3345048</b>	EL-497	Surface Mounted Sensor Assembly (urinal only)
24.	<b>0305802</b>	EL-297	Solenoid Assembly
25.	<b>3365003</b>	ETF-492-A	Control Module
26.	<b>0345266</b>	EL-566-A	Exposed Plate with Override Button (Urinal only)
27.	<b>0345267</b>	EL-567-A	Yoke Assembly for EL-566-A
28.	<b>3345080</b>	EL-1026-A	ESS to TMO Retrofit Kit (Exposed)*
—	<b>0305148</b>	EL-227	Repair Tool Kit for EL-163-A Repair Kit
—	<b>0345016</b>	EL-387-A	Override Button Replacement for EL-566-A
—	<b>3345021</b>	EL-1010-A	O-ring Repair Kit*

† NOTE: For exposed & concealed solenoids manufactured before 2001 or not shown here, consult factory for individual part assembly.

\* Not Shown

# Optima® Royal® ES 24V/120V Exposed Flushometers



## ROYAL® OPTIMA® ES 24/120V EXPOSED FLUSHOMETER PARTS LIST

Item No.	Code No.	Part No.	Description
1.	‡		Solenoid Activated Valve Assembly
2.	<b>0306249PK</b>	F-15	Tail Assembly
3.	<b>0345150</b>	EL-431-A	Flange Assembly
4A.	<b>3305105</b>	EL-625-A	Cover Plate w/Mounting Hardware (Closet only) (Includes EL-549 Mounting Plastic plate)
4B.	<b>0305251PK</b>	EL-549	Exposed Closet Mounting Plate
5A.	—	V-600-AA	1-1/2" (38 mm) Vacuum Breaker Assembly CP (Models 110/111, 115, and 116)
5B.	—	V-600-AA	1-1/4" (32 mm) x 9" (229 mm) Vacuum Breaker Assembly CP (Model 180 ES-S)
5C.	—	V-600-AA	3/4" (19 mm) x 9" (229 mm) Vacuum Breaker Assembly CP (Model 186 ES-S)
6A.	<b>0306146</b>	F-5-AT	1-1/2" (38 mm) Spud Coupling Assembly CP (Models 110/111, 115, and 116)
6B.	<b>0306140</b>	F-5-AU	1-1/4" (32 mm) Spud Coupling Assembly CP (Model 180)
6C.	<b>0306125</b>	F-5-AW	3/4" (19 mm) Spud Coupling Assembly CP (Model 186)
<b>SEE SLIP JOINT GASKETS AND RINGS ON TABLE BELOW</b>			
7.	‡		Screws (Flat Head Slotted #6/32)
8.	<b>5305100</b>	EL-674	Wall Plate Screw Kit (#6/32 x 15.87 mm) (6 per kit)
9.	<b>3305043</b>	EL-128-A	Actuator Cartridge
10A.	<b>0305329</b>	EL-124-2	CP 24V Solenoid Assembly Only
10B.	<b>0305328</b>	EL-124-1	CP 120V Solenoid Assembly Only
	<b>3305045</b>	EL-1028-A	Solenoid Assembly (24V) w/ Cartridge Assembly
	<b>3305044</b>	EL-1029-A	Solenoid Assembly (120V) w/ Cartridge Assembly
12.	<b>3325814</b>	EBV-1017-A	CP Valve Handle Cap
14.	<b>3302306</b>	B-51-A	Triple Seal Handle Repair Kit
15.	<b>3345080</b>	EL-126-A	ESS to TMO Retrofit Conversion Kit (Exposed*)
*	<b>3388015</b>	H-1015-A	Flow Control Kit (HEU Only) (not Shown)
*	<b>0305163</b>	EL-172-A	Electric Push Button Assembly (Optional)

‡ Part number varies with valve model variation; consult factory.  
\* Not shown

## ITEM 6D. SLIP JOINT GASKETS AND RINGS

Size	Code No.	Part No.	Description
1-1/2"	<b>5306058</b>	F-3	Red Friction Ring
	<b>5322001</b>	VBF-5	Black Slip Joint Gasket
	<b>0319086/5319086</b>	S-30	Flexible Seat
	<b>0319079</b>	S-21	Rigid Seat (rubber over brass)
1-1/2" x 1-1/4"	<b>0396062</b>	F-105	Slip Joint Gasket – Rigid
1-1/4"	<b>5306057</b>	F-3	Red Friction Ring
	<b>5322176</b>	VBF-5	Black Slip Joint Gasket
	<b>0307052/5307052</b>	G-21	Rigid Seat (rubber over brass)
1"	<b>5306056</b>	F-3	Red Friction Ring
	<b>5306115</b>	F-5	Black Slip Joint Gasket
3/4"	<b>5306055</b>	F-3	Red Friction Ring
	<b>5306113</b>	F-5	Black Slip Joint Gasket

Solenoid Activated Royal® Model Flushometer for floor mounted or wall hung fixtures. Model "ES" Flushometers are activated remotely by an electric push button (**not included**). Royal "ES" Flushometers offer solutions for installations that require automatic, remote or other Flushometer control requirements.