Repair Parts and Maintenance Guide

# Royal<sup>®</sup> Flushometer

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10A



2 3 Valve Body Body only Body with tail Consult factory for proper application -000 9 8 <u>00 00</u> 10 20 19 23 21 18 22 16 17 15B

14 Tailpiece **`13** 

#### **TAILPIECES, CONTROL STOPS** AND FLUSH CONNECTIONS

For additional information on tailpieces, control stops and flush connections see Showerheads, Parts and Accessories Tab.

Control Stop and Caps

191101	netei	Code No		
IS LIST		<u>Code No.</u> to Purchase Part		
Code No.	Part No.	Description		
0301172	A-72	CP Cover		
—	A-72-HE	CP High Efficiency Cover		
0301168	A-71	Inside Cover		
—		Dual Filtered Bypass Diaphragm Assembly (refer to table and diagram on following page)		
0302390	B-73-A	CP ADA-Compliant Triple Seal Handle Assembly		
0301082	A-6	CP Handle Coupling		
0302109	B-7-A	CP Socket Assembly		
0302389	B-74-A	CP ADA-Compliant Handle		
3302306	B-51-A	Triple Seal Handle Repair Kit		
5301139	A-31	Handle Gasket – 48 per package		
0306125	F-5-AW	3/4" (19 mm) CP Spud Coupling Assembly		
0306140	F-5-AU	1-1/4" (32 mm) CP Spud Coupling Assembly		
0306146	F-5-AT	1-1/2" (38 mm) CP Spud Coupling Assembly		
SEE SLIP	SLIP JOINT GASKETS AND RINGS TABLE BELOW			
3323182	V-651-A	High Back Pressure Vacuum Breaker Repair Kit		
3393004	V-600-AA	3/4" (19 mm) x 9" (228 mm) CP Vacuum Breaker		
3393006	V-600-AA	1-1/4" (32 mm) x 9" (228 mm) CP Vacuum Breaker		
3393007	V-600-AA	1-1/2" (38 mm) x 9" (228 mm) CP Vacuum Breaker		
0308676	H-550	CP Stop Coupling		
0308801	H-551-A	CP Adjustable Tailpiece 2-1/16" (52 mm long) Standard Length*		
5308696	H-553	0-ring – 24 per package		
5308381	H-552	Locking Ring – 12 per package		
3308386	H-700-A	1" (25 mm) CP Bak-Chek® Screwdriver Stop		
3308384	H-700-A	3/4" (19 mm) CP Bak-Chek® Screwdriver Stop		
3308853	H-541-ASD	Control Stop Repair Kit <sup>+</sup>		
3308856	H-543-ASD	Control Stop Repair Kit <sup>‡</sup>		
0308612	H-622	CP Bonnet <sup>+</sup>		
0308843	H-577	CP Bonnet <sup>‡</sup> – <b>DISCONTINUED</b>		
3308772	H-1010-A	Vandal Resistant Control Stop Cap Assembly <sup>+</sup>		
3308790	H-1009-A	Vandal Resistant Control Stop Cap Assembly <sup>‡</sup> H-600 3/4" Stop only		
	S LIST Code No. 0301172  0301168  0302390 0302390 0302390 0302309 0302389 3302306 5301139 0306125 0306140 0306125 0306140 0306146 SEE SLIP 3323182 3393007 0308676 0308801 5308806 5308801 5308896 5308881 3308853 3308853 3308856 0308612 0308872	Code No. Part No.   0301172 A-72   — A-72-HE   0301168 A-71   — A-72-HE   0301162 A-71   — -   0302390 B-73-A   0302109 B-7-A   0302380 B-74-A   3302306 B-51-A   5301139 A-31   0306125 F-5-AW   0306140 F-5-AU   0306140 F-5-AU   0306142 F-5-AU   0306143 F-5-AU   0306144 F-5-AU   0306145 F-5-AU   0306146 F-5-AU   0306147 V-600-AA   3393007 V-600-AA   3393007 V-600-AA   3393007 V-600-AA   3393007 V-600-AA   3393007 V-600-AA   3393007 V-600-AA   3393006 H-553   5308806 H-553   53088381 H-552 <t< td=""></t<>		

19.	3308/72	H-1010-A	varidal Resistant Control Stop Cap Assembly
	3308790	H-1009-A	Vandal Resistant Control Stop Cap Assembly <sup>‡</sup> H-600 3/4" Stop only
20.	0308738	H-573	Control Stop Cap CP <sup>+</sup>
	0308848	H-582	Control Stop Cap CP <sup>‡</sup>
21.	3308866	H-574	Control Stop Cap with Bumper <sup>†</sup> (–YO Variation)
22.	3308867	H-576	Control Stop Cap with Extended Bumper <sup>+</sup> (–YG Variation)

\* See pages 100-101 for additional lengths † For use with 1" and 3/4" H-700-A and 1" H-600-A Bak-Chek® screwdriver control stop ‡ For use with 3/4" H-600-A Bak-Chek® screwdriver control stop

Sloan products are also available in satin, brushed nickel, chrome, gold and polished brass finishes – contact factory for part numbers.

#### ITEM 10A. SLIP JOINT GASKETS AND RINGS

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

The information contained in this document is subject to change without notice.

### Royal<sup>®</sup> Flushometer

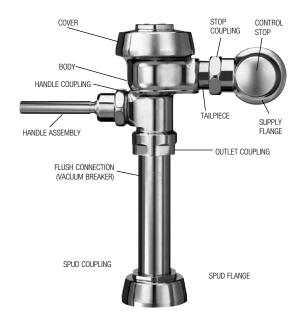
#### DUAL FILTERED DIAPHRAGM ASSEMBLY

Available in diaphragm only and Royal® Performance<sup>™</sup> Kits.

Royal<sup>®</sup> Performance<sup>™</sup> Kit includes dual filtered diaphragm assembly (item 3), handle repair kit with triple seal packing (item 8), high back pressure vacuum breaker repair kit (item 11), and one tailpiece O-ring (item 15A). DIAPHRAGM ONLY KIT contains "drop-in" dual filtered diaphragm assembly (item 3) ONLY.

The dual filtered diaphragm can be used in Royal,<sup>®</sup> Regal,<sup>®</sup> and similar diaphragm-style valve bodies. For use in Sloan valve bodies with a bell-shaped cover (manufactured before 1964), replace the bottom filter ring in these kits with a blue A-108 filter ring (not shown Sloan Code No. **5301283**).

NOTE: In January 1998, the Royal® diaphragm design was upgraded to a preassembled unit with two (2) plastic filtering rings attached to the rubber diaphragm (one on top and one on bottom). If the flushometer you are servicing has our older, segmented diaphragm with brass by-pass hole, refer to our Regal section for additional troubleshooting information.



# RELEF

The colors of the relief valve and the refill head plus the shape of flow ring identify the flush volume of a DUAL FILTERED DIAPHRAGM ASSEMBLY

#### **ROYAL® PERFORMANCE KIT**

			Relief	Refill	Flow
Code No.	Part No.	Description	Valve <sup>+</sup>	Head*	Ring
3301070	A-1101-A	Low Consumption Water Closets-1.6 gpf (6.0 Lpf)**	Green	Gray	Smooth
3301071	A-1102-A	Water Saver Water Closets-3.5 gpf (13.2 Lpf)**	White	Gray	Smooth
3301072	A-1103-A	9 Liter European Water Closets-2.4 gpf (9.0 Lpf)	Blue	Gray	Smooth
3301073	A-1106-A	Wash Down Urinals-0.5 gpf (1.9 Lpf)	Green	Black	Smooth
3301074	A-1107-A	Low Consumption Urinals-1.0 gpf (3.8 Lpf)**	Green	Black	Slotted
3301075	A-1108-A	Water Saver Urinals-1.5 gpf (5.7 Lpf)**	Black	Black	Smooth

\*Closet refill heads (gray) have larger slots than urinal refill heads (black).

#### DIAPHRAGM ONLY KIT

Code No.	Part No.	Description	Relief Valve⁺	Refill Head*	Flow Ring
3301502	A-1041-A	Low Consumption Water Closets-1.6 gpf (6.0 Lpf)**	Green	Gray	Smooth
3301501	A-1038-A	Water Saver Water Closets-3.5 gpf (13.2 Lpf)**	White	Gray	Smooth
3301505	A-1044-A	9 Liter European Water Closets-2.4 gpf (9.0 Lpf)	Blue	Gray	Smooth
3301504	A-1043-A	Wash Down Urinals-0.5 gpf (1.9 Lpf)	Green	Black	Smooth
3301503	A-1042-A	Low Consumption Urinals-1.0 gpf (3.8 Lpf)**	Green	Black	Slotted
3301500	A-1037-A	Water Saver Urinals-1.5 gpf (5.7 Lpf)**	Black	Black	Smooth
3301506	A-1045-A	High-Efficiency Water Closets-1.28 gpf (4.8 Lpf)	Blue	Gray	Smooth
3301142	A-1047-A	High-Efficiency Urinals-0.25 gpf (1.0 Lpf) with White Inserts	White	HEU Black	Smooth
3301143	A-1050-A	High-Efficiency Urinals-0.125 gpf (0.5 Lpf) with White Inserts	Blue	HEU Black	Smooth

† Consult factory for availability of replacement plastic relief valves (green, black, blue, and white) and brass relief valves.

NOTE: For older water closets that require 4.5 gpf (17.0 Lpf), choose kits A-1102-A or A-1038-A, but remove the flow ring before use. For blowout-style urinals that require 3.5 gpf (13.2 Lpf), choose kits A-1102-A or A-1038-A. For service sinks that require 6.5 gpf (24.6 Lpf), order A-36-A diaphragm repair kit (not shown Sloan Code No. **3301036**) and remove the flow ring before use. Regulations for low consumption fixtures prohibit the use of higher flush volumes.

\*Closet refill heads (gray) have larger slots than urinal refill Heads (black).

\*\* Water Saver (3.5 gpf closet and 1.5 gpf urinal) and Low Consumption (1.6 gpf closet and 1.0 gpf urinal) fixtures must use matching gpf (Lpf) diaphragm kits; using a smaller gpf (Lpf) kit in fixtures not intended for less volume will result in inadequate dilution in urinals and improper evacuation in closets.



## Royal® Flushometer

#### TROUBLESHOOTINŒUIDE

**ATTENTIONINSTALLERS:**With the exception of the control stop inlet, D0 NOT USE pipe sealant or plumbing grease on any valve component or coupling! To protect the chrome or special finish of Sloan flushometers, D0 NOT USE toothed tools to install or service these valves. Use our A-50 Super-Wrench<sup>™</sup> or other smooth-jawed wrench to secure couplings. Regulations for low consumption fixtures (1.6 gpf/6.0 Lpf closets and 1.0 gpf/3.8 Lpf urinals) prohibit use of higher flush volumes.

#### 1. Flushometer does not function (no flush).

- A. Control stop or main supply valve is closed. Open control stop or main supply valve.
- B. Handle assembly is damaged. Replace B-73-A handle or repair with B-51-A handle repair kit.
- C. Relief valve is damaged. Replace relief valve.

#### 2. Handle leaks.

A. Handle seal or handle assembly is damaged. Replace B-73-A handle or repair with B-51-A handle repair kit.

#### 3. Water splashes from fixture.

- A. Control stop is open wider than necessary. Adjust control stop for desired delivery of water volume.
- B. Water saver/conventional diaphragm assembly is installed on low consumption fixture or closet diaphragm assembly is installed on urinal fixture. Determine the required flush volume (see label on valve or markings on fixture). Replace diaphragm assembly or relief valve for appropriate flush volume of fixture.

#### 4. Volume of water is insufficient to adequately siphon fixture.

- A. Control stop is not open wide enough. Adjust control stop for desired delivery of water volume.
- B. Diaphragm assembly is damaged. Replace diaphragm assembly.
- C. Low consumption diaphragm assembly is installed on water saver/ conventional fixture or urinal diaphragm assembly is installed on closet fixture. Determine the required flush volume (see label on valve or markings on fixture). Replace diaphragm assembly or relief valve for appropriate flush volume of fixture.
- D. Inadequate water volume or pressure is available from supply. Increase flow rate or pressure to the valve. If gauges are not available to measure supply pressure/volume, remove relief valve from diaphragm assembly and open the control stop.

If the fixture siphons: Additional water volume is required. Install higher flushing volume relief valve or diaphragm assembly or cut flow ring from guide.

#### IMPORTANT: LAWS AND REGULATIONS PROHIBIT THE USE OF HIGHER FLUSHING VOLUMES THAN LISTED ON FIXTURE OR FLUSHOMETER.

If the fixture **DOES NOT** siphon (or a low consumption flush is required): Additional steps must be taken to increase the water pressure and/or volume at the water supply. Contact fixture manufacturer for minimum supply requirements of fixture.

#### 5. Flushometer valve closes immediately (short flush).

- A. Worn or damaged diaphragm assembly. Replace diaphragm assembly.
- B. Handle assembly is damaged. Replace B-73-A handle or repair with B-51-A handle repair kit.
- C. Low consumption diaphragm assembly is installed on water saver/ conventional fixture or urinal diaphragm assembly is installed on closet fixture. Determine the required flush volume (see label on valve or markings on fixture). Replace relief valve or diaphragm assembly for appropriate flush volume of fixture.

#### 6. Length of flush is too long (long flush) or fails to shut off.

- A. By-pass hole (upper filter ring) of diaphragm assembly is dirty. Remove the diaphragm assembly. Disassemble the filter rings from the diaphragm, wash under running water, and reassemble. Replace as necessary.
- B. Relief valve or diaphragm assembly is damaged. Replace relief valve or diaphragm assembly.
- C. Water saver/conventional diaphragm assembly is installed on low consumption fixture or closet diaphragm assembly is installed on urinal fixture. Determine the required flush volume (see label on valve or markings on fixture). Replace diaphragm assembly or relief valve for appropriate flush volume of fixture.
- D. Inside cover is damaged. Install new A-71 part.
- E. Line water pressure dropped and is insufficient to close valve. Close the control stop until pressure is restored.
- F. Relief valve is not seated properly. Disassemble diaphragm components (relief valve, filter rings, and diaphragm unit), wash under running water, and reassemble. Replace as necessary.

#### 7. Chattering noise is heard during flush.

- A. Inside cover is damaged. Install new A-71 part.
- B. Relief valve or diaphragm assembly is damaged. Replace relief valve or diaphragm assembly.

#### CARE AND CLEANING INSTRUCTIONS

**DO NOT USE** abrasive or chemical cleaners to clean flushometers that may dull the luster and attack the chrome or decorative finish. Use **ONLY** mild soap and water, then wipe dry with a clean towel or cloth. When cleaning the bathroom tile, protect the flushometer from any splattering of cleaner. Acids and cleaning fluids can discolor or remove chrome plating.

#### When assistance is required, please contact

Sloan Technical Support at: 1-888-SLOAN-14 (1-888-756-2614).

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