

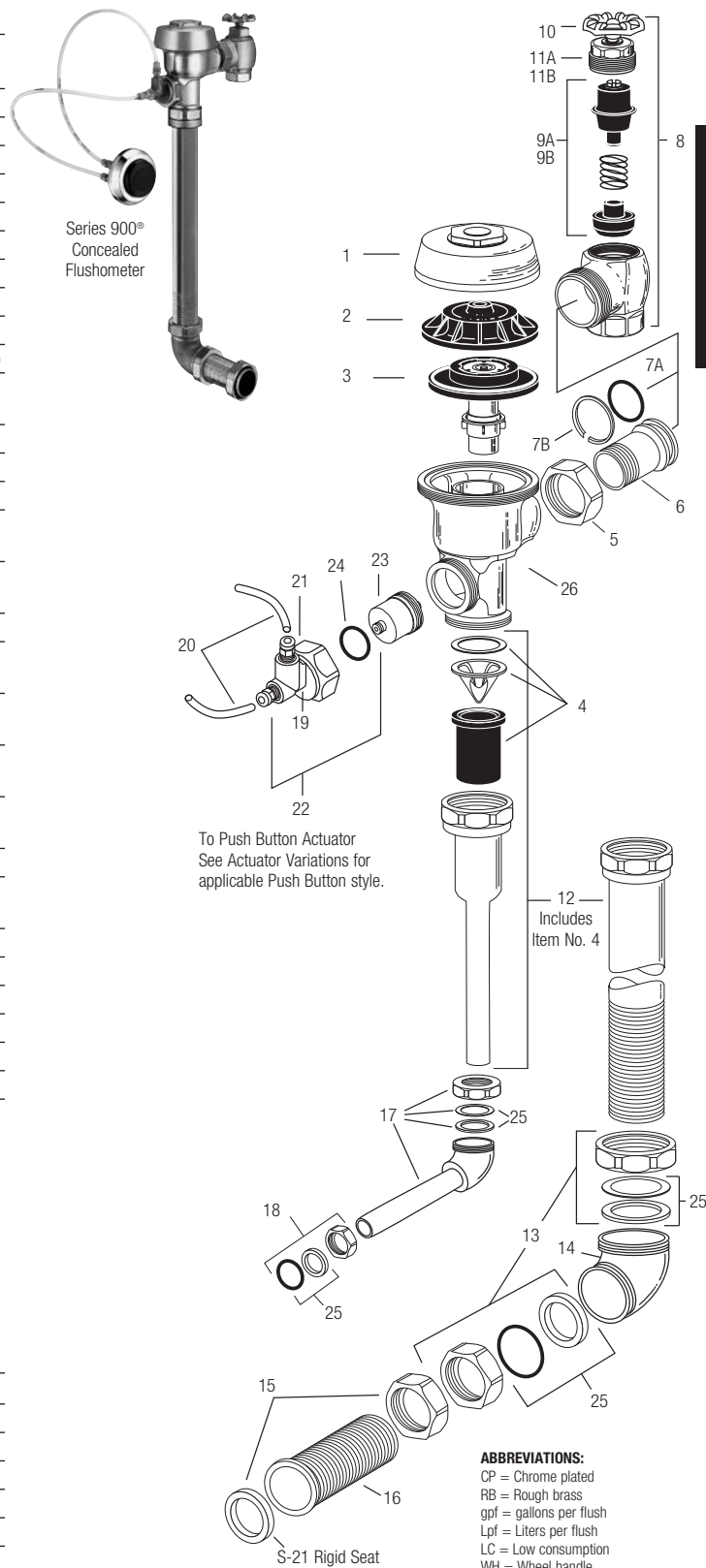
## Series 900® Flushometer

### PARTS LIST FOR SERIES 900® CONCEALED FLUSHOMETER

| Item No. | Code No.  | Part No. | Description  |
|----------|---|----------|--|
| 1.       | 0301173   | A-72     | RB Royal® Cover  |
| 2.       | 0301168   | A-71     | Inside Cover   |
| 3.       | <b>SEE THE INSIDE PARTS KIT CHART ON NEXT PAGE</b>  |          |  |
| 4.       | 3323182   | V-651-A  | Vacuum Breaker Repair Kit  |
| 5.       | 0308690   | H-550    | RB Tailpiece Coupling  |
| 6.       | 0308802   | H-551-A  | RB Adjustable Tailpiece, 2-1/16" (52 mm)   |
| 7A.      | 5308696   | H-553    | O-ring – 24 per package  |
| 7B.      | 5308381   | H-552    | Locking ring – 12 per package  |
| 8.       | 0388010   | H-730-A  | RB Wheel Handle Bak-Chek® Control Stop   |
| 9A.      | 3308855   | H-541-A  | 1" Wheel Handle Repair Kit for H-730-A Control Stop  |
| 9B.      | 3308858   | H-543-A  | 3/4" Wheel Handle Repair Kit for H-730-A Control Stop                                      |
| 10.      | 0308919   | H-558-A  | Wheel Handle   |
| 11A.     | 0208083   | H-623    | 1" RB Bonnet   |
| 11B.     | 0208083   | H-623    | 3/4" RB Bonnet   |
| 12.      | See page 111  | V-500-AA | Royal Vacuum Breaker Flush Connection (specify length and size)                            |
| 13.      | 0306619   | F-2-AA   | 1-1/2" (38 mm) RB Couplings (2 each), Friction Rings (2 each), and Rubber Gaskets (2 each) |
| 14.      | 0206146   | F-21     | RB Elbow   |
| 15.      | 0306091   | F-2-A    | 1-1/2" (38 mm) RB Coupling and S-21 Flat Rigid Gasket                                      |
| 16.      | See pages 111-116                                   | F-100    | RB Flared End Flush Connection (specify length)  |
| 17.      | See pages 111-116                                   | F-15-A   | 3/4" (19 mm) RB Elbow Flush Connection with Coupling and Rubber Gasket (specify length)    |
| 18.      | 0306054   | F-2-A    | 3/4" (19 mm) RB Coupling, Friction Ring, and Rubber Gasket                                 |
| 19.      | 0318024   | HY-25    | RB Valve Actuator Housing ONLY   |
| 20.      | 0318093   | HY-30    | 1/4" (6 mm) x 48" (1219 mm) Connecting Tubes (2 required)                                  |
| 21.      | 0301082   | A-6      | RB Handle Coupling Nut   |
| 22.      | 3318005   | HY-109-A | Actuator Housing Assembly (includes items 21 & 24)   |
| 23.      | 3318001   | HY-83-A  | Actuator Cartridge Assembly  |
| 24.      | 0337086   | DO-22    | O-ring for HY-109-A Adapter  |
| 25.      | <b>SEE SLIP JOINT GASKETS AND RINGS TABLE BELOW</b> |          |  |
| 26.      | 0301050   | A143-A   | RB Valve Body  |

### ITEM 27. 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        |

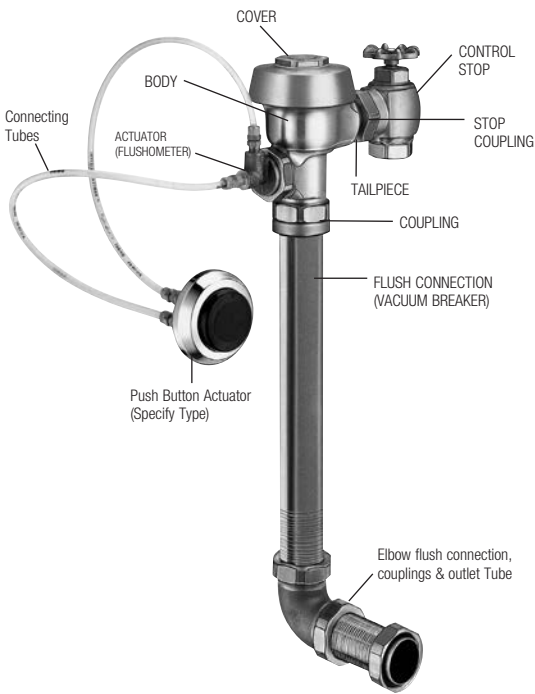


### TAILPIECES, CONTROL STOPS, PUSH BUTTONS AND FLUSH CONNECTIONS

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

Series 900® Flushometer

Manual Flushometers



ITEM 3. INSIDE PARTS KITS (SEE ILLUSTRATION ON PREVIOUS PAGE)

| Code No. | Part No. | Application                                      |
|----------|----------|--|
| 3301502  | A-1041-A | Low Consumption Water Closets-1.6 gpf (6.0 Lpf)* |
| 3301501  | A-1038-A | Water Saver Water Closets-3.5 gpf (13.2 Lpf)*    |
| 3301505  | A-1044-A | 9 Liter European Water Closets-2.4 gpf (9.0 Lpf) |
| 3301504  | A-1043-A | Wash Down Urinals-0.5 gpf (1.9 Lpf)              |
| 3301503  | A-1042-A | Low Consumption Urinals-1.0 gpf (3.8 Lpf)*       |
| 3301500  | A-1037-A | Water Saver Urinals-1.5 gpf (5.7 Lpf)*           |
| 3301506  | A-1045-A | High-Efficiency Water Closets-1.28 gpf (4.8 Lpf) |

\* 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.

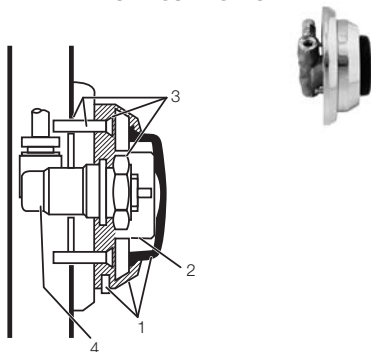
HYDRAULIC INSIDE PARTS REPAIR KITS

| Code No. | Part No.  | Description          |
|----------|-----------|----------------------|
| 3318011  | HY-1101-A | Hydraulic Royal 1.6C |
| 3318012  | HY-1102-A | Hydraulic Royal 3.5C |
| 3318013  | HY-1103-A | Hydraulic Royal 2.4C |
| 3318014  | HY-1106-A | Hydraulic Royal 0.5U |
| 3318015  | HY-1107-A | Hydraulic Royal 1.0U |
| 3318016  | HY-1108-A | Hydraulic Royal 1.5U |

Comes with: Diaphragm, Actuator Cartridge Assembly, Tailpiece O-ring and Vacuum Breaker Assembly



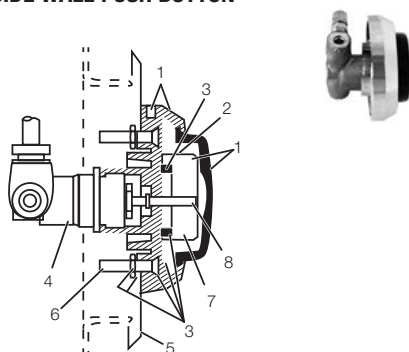
## Series 900® Flushometer

HY-49-A (0318049)  
METAL PARTITION PUSH BUTTON

| Item No. | Code No.       | Part No.  | Description   |
|----------|----------------|-----------|---|
| 1.       | <b>3318007</b> | HY-1000-A | Push Button Kit – includes Push Button, Flange, Spring & Set Screw                            |
| 2.       | <b>0318004</b> | HY-3      | Spring  |
| 3.       | <b>3318010</b> | HY-1003-A | Mounting Flange Kit – includes Mounting Flange, Mounting Nut, Screws (2) & Tinnerman Nuts (2) |
| 4.       | <b>0318123</b> | HY-71-A   | Actuator Assembly   |

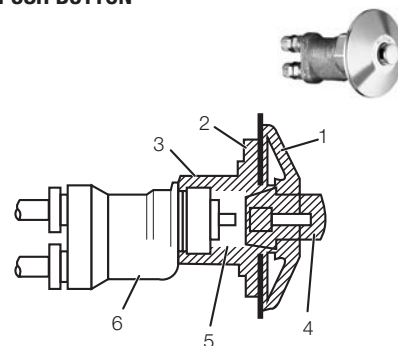
NOTE: Includes HY-32-A cartridge (shown at right)  
NOTE: Maximum distance from button to valve is 20' (longer tubing required)

NOTE: HY-30 84" longer tubing (0318094)

HY-72-A (0318072)  
SIDE WALL PUSH BUTTON

| Item No. | Code No.       | Part No.  | Description  |
|----------|----------------|-----------|--|
| 1.       | <b>3318007</b> | HY-1000-A | Push Button Kit – includes Push Button, Flange, Spring & Set Screw                               |
| 2.       | <b>0318004</b> | HY-3      | Spring   |
| 3.       | <b>3318008</b> | HY-1001-A | Mounting Flange Kit – includes Mounting Flange, Mounting Nut, Screws (2), Nuts (2) & Washers (2) |
| 4.       | <b>0318123</b> | HY-71-A   | Actuator Assembly  |
| 5.       | <b>0318041</b> | HY-40     | Plate  |
| 6.       | <b>0305173</b> | EL-173    | Screws (4)   |
| 7.       | <b>0318073</b> | HY-73     | Extension Adapter  |
| 8.       | <b>0318074</b> | HY-74     | Extension Stem   |

NOTE: Includes HY-32-A cartridge (shown at right)  
NOTE: Maximum distance from button to valve is 20' (longer tubing required)  
NOTE: HY-30 84" longer tubing (0318094)

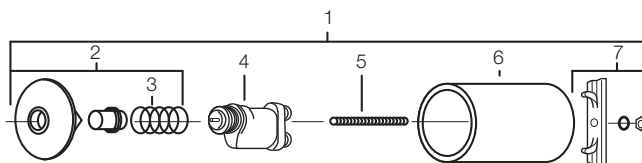
HY-108-A (0318119)  
PENAL WARE METAL  
PUSH BUTTON

| Item No. | Code No.       | Part No. | Description          |
|----------|----------------|----------|----------------------|
| 1.       | <b>0318116</b> | HY-91    | Flange               |
| 2.       | <b>0318111</b> | HY-94    | Mounting Washer      |
| 3.       | <b>0318112</b> | HY-93    | Mounting Nut         |
| 4.       | <b>0318115</b> | HY-86-A  | Push Button Assembly |
| 5.       | <b>0305134</b> | EL-109   | Spring               |
| 6.       | <b>0318078</b> | HY-50-A  | Actuator Assembly    |

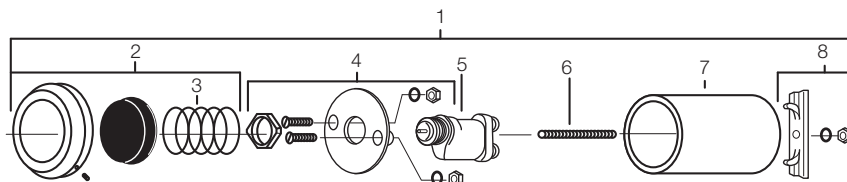
NOTE: Includes HY-32-A cartridge (shown below)  
NOTE: Maximum distance from button to valve is 20' (longer tubing required)  
NOTE: HY-30 84" longer tubing (0318094)

HY-100-A (0318117)  
FIXTURE WALL METAL PUSH BUTTON

| Item No. | Code No.       | Part No.  | Description                        |
|----------|----------------|-----------|------------------------------------|
| 1.       | <b>0318117</b> | HY-100-A  | Fixture Wall Metal Button Assembly |
| 2.       | <b>3318006</b> | HY-111-A  | Metal Button Kit                   |
| 3.       | <b>0305134</b> | EL-109    | Spring                             |
| 4.       | <b>0318078</b> | HY-50-A   | Actuator Assembly                  |
| 5.       | <b>0318028</b> | HY-29     | Threaded Rod                       |
| 6.       | <b>0318109</b> | HY-105    | Spacer                             |
| 7.       | <b>3318009</b> | HY-1002-A | Mounting Strap Kit                 |

HY-33-A (0318001)  
FIXTURE WALL PUSH BUTTON

|    |                |           |                                   |
|----|----------------|-----------|-----------------------------------|
| 1. | <b>0318001</b> | HY-33-A   | Fixture Wall Push Button Assembly |
| 2. | <b>3318007</b> | HY-1000-A | Push Button Kit                   |
| 3. | <b>0318004</b> | HY-3      | Spring                            |
| 4. | <b>3318008</b> | HY-1001-A | Mounting Flange Kit               |
| 5. | <b>0318078</b> | HY-50-A   | Actuator Assembly                 |
| 6. | <b>0318028</b> | HY-29     | Threaded Rod                      |
| 7. | <b>0318109</b> | HY-105    | Spacer                            |
| 8. | <b>3318009</b> | HY-1002-A | Mounting Strap Kit                |

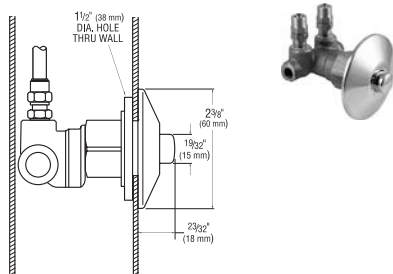


## HY-32-A ACTUATOR CARTRIDGE ASSEMBLY



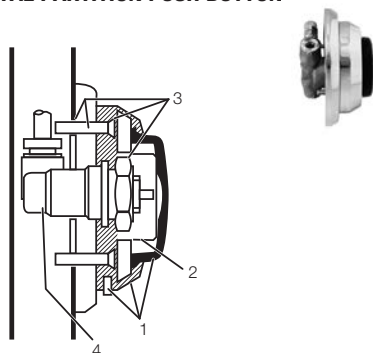
For use with  
HY-50-A and  
HY-71-A actuator  
assemblies

## Series 900® Flushometer

**HY-113-A (0318120)**  
**METAL PUSH BUTTON PANEL MOUNT**  
**(MBPM VARIATION)**


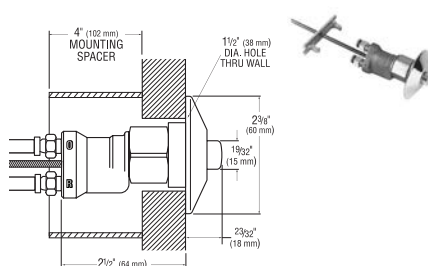
| Item No. | Code No.       | Part No. | Description  |
|----------|----------------|----------|--|
| 1.       | <b>0318115</b> | HY-86-A  | Push Button Kit – includes Push Button, Flange, Spring & Set Screw           |
| 2.       | <b>0305134</b> | EL-109   | Spring   |
| 3.       | <b>0318111</b> | HY-94-A  | Mounting Flange Kit – includes Mounting Nut, Screws (2) & Tinnerman Nuts (2) |
| 4.       | <b>0318123</b> | HY-91-A  | Flange   |

NOTE: Includes HY-32-A cartridge (0318031)  
 NOTE: Maximum distance from button to valve is 20'  
 (longer tubing required)  
 NOTE: HY-30 84" longer tubing (0318094)

**HY-79-A (0318081)**  
**METAL PARTITION PUSH BUTTON**


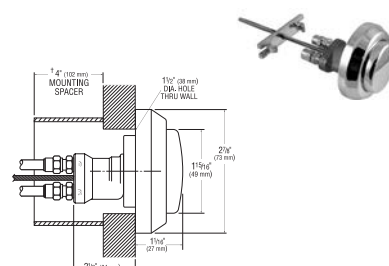
| Item No. | Code No.       | Part No. | Description   |
|----------|----------------|----------|---|
| 1.       | <b>0318002</b> | HY-1-A   | Push Button Kit – includes Push Button, Flange, Spring & Set Screw                            |
| 2.       | <b>0318004</b> | HY-3     | Spring  |
| 3.       | <b>0318003</b> | HY-2-A   | Mounting Flange Kit – includes Mounting Flange, Mounting Nut, Screws (2) & Tinnerman Nuts (2) |
| 4.       | <b>0318123</b> | HY-71-A  | Actuator Assembly   |

NOTE: Includes HY-32-A cartridge (shown at right)  
 NOTE: Maximum distance from button to valve is 20'  
 (longer tubing required)

**HY-100-A (0318117)**  
**METAL PUSH BUTTON PANEL MOUNT**  
**(MBFW VARIATION)**


| Item No. | Code No.       | Part No. | Description  |
|----------|----------------|----------|--|
| 1.       | <b>3318115</b> | HY-86-A  | Push Button Kit – includes Push Button, Flange, Spring & Set Screw                               |
| 2.       | <b>0318109</b> | HY-105   | Spacer Mounting Tube   |
| 3.       | <b>0318125</b> | HY-95-A  | Mounting Flange Kit – includes Mounting Flange, Mounting Nut, Screws (2), Nuts (2) & Washers (2) |
| 4.       | <b>0318123</b> | HY-4-A   | RB Actuator Assembly   |
| 5.       | <b>0318019</b> | HY-20-A  | Inner Bushing  |
| 6.       | <b>0305173</b> | HY-4     | RB Body Hyd Actuator   |

NOTE: Includes HY-32-A cartridge (0318031)  
 NOTE: Maximum distance from button to valve is 20'  
 (longer tubing required)  
 NOTE: HY-30 84" longer tubing (0318094)

**HY-125-A (0318183)**  
**METAL PUSH BUTTON**  
**FIXTURE WALL (FW VARIATION)**


\* Use Mounting Spacer only if wall thickness is less than 2" (50 mm).

| Item No. | Code No.       | Part No. | Description          |
|----------|----------------|----------|----------------------|
| 1.       | <b>0318002</b> | HY-1     | CP Button Flange     |
| 2.       | <b>0318111</b> | HY-105   | Spacer Mounting Tube |
| 3.       | <b>0318003</b> | HY-2     | RB Mounting Nut      |
| 4.       | <b>0318067</b> | HY-123-A | Push Button Assembly |
| 5.       | <b>0318078</b> | HY-50-A  | Actuator Assembly    |

NOTE: Includes HY-32-A cartridge (shown below)  
 NOTE: Maximum distance from button to valve is 20'  
 (longer tubing required)  
 NOTE: HY-30 84" longer tubing (0318094)

## Series 900® Flushometer

### TROUBLESHOOTING GUIDE

#### 1. Push button leaks.

The actuator cartridge has an accumulation of lime or its seals are damaged or worn. Replace with a new HY-32-A cartridge.

#### 2. The flushometer DOES NOT flush and a small amount of leakage is visible below the valve.

- A. Foreign material lodged in the cartridge. Remove the cartridge and inspect for foreign material. Clean under running water.
- B. The actuator cartridge has an accumulation of lime or its seals are damaged or worn. Replace with a new HY-32-A cartridge.
- C. Plastic tubing is installed incorrectly. Install plastic tubing correctly.

#### ACTUATOR CARTRIDGE REMOVAL

##### Plastic Push Button Actuator Removal:

- (1) Loosen the setscrew in the button flange and remove the button, flange, and spring from the actuator body.
- (2) Unscrew the cartridge from the actuator body.

**NOTE: An automatic check valve in the actuator body allows removal of the cartridge without turning off the water.**

##### Metal Push Button Actuator Removal:

- (1) Remove the button or actuator assembly from the wall or fixture.
- (2) Disassemble the flange or button assembly from the actuator body.
- (3) Unscrew the cartridge from the actuator body.

**NOTE: The metal push button is designed to be vandal-proof and must be removed from the wall or fixture for service.**

#### 3. The flushometer DOES NOT flush or flushes only once and will not flush a second time when the button is pushed.

- A. The plunger is lodged in the actuator cartridge or the plunger bypass hole is clogged. Remove actuator housing and cartridge from the flushometer. Clean under running water. If cartridge parts are worn, deteriorated or limed up and problem persists after cleaning, replace with a new HY-83-A cartridge.
- B. Plastic tubing is installed incorrectly. Install plastic tubing correctly.

#### REMOVAL OF THE ACTUATOR FROM THE FLUSHOMETER:

Turn off water at the control stop. Unscrew the actuator housing coupling nut from the flushometer. Remove the actuator housing from the flushometer. The tubing connections can be left intact. Carefully remove the actuator cartridge from the flushometer body to prevent the actuator from abrupt separation due to expansion of an internal spring. If the actuator cartridge is lodged in the flushometer body cavity, gently grip the exposed portion of the cartridge with a channel-lock pliers and rotate back and forth to loosen the o-ring seal. Carefully separate the actuator housing to reveal the spring and plunger.

#### 4. Flushometer DOES NOT function (no flush).

- A. Control stop or main valve is closed. Open control stop or main valve.
- B. Relief valve is worn. Replace performance kit (Royal) or inside parts kit (Regal XL).

#### 5. Volume of water is not sufficient to siphon fixture.

- A. Control stop is not open wide enough. Adjust control stop for desired delivery of water volume.
- B. Urinal flushometer parts installed in a closet flushometer. Replace inside urinal flushometer parts with proper closet flushometer parts.
- C. Incorrect dual-filtered diaphragm assembly (Royal) or inside parts kit (Regal XL) is installed in flushometer; for instance, urinal assembly inside a closet flushometer, or low consumption assembly inside a higher consumption fixture. Determine the flush volume required by the fixture and replace Royal performance kit or inside parts kit. Use valve label and markings on fixture for reference.
- D. Water supply volume or pressure is inadequate. If no gauges are available to properly measure supply pressure or volume of water at the flushometer, then remove the relief valve from the dual-filtered diaphragm assembly (Royal) or inside parts kit (Regal XL), reassemble the flushometer and completely open the control stop. If the fixture siphons, more water volume is required.

**For Royal** — Install a higher flushing volume Royal Performance Kit.

**For Regal XL** — If a 3.5 gpf Inside Parts Kit is installed in the flushometer, then first flip the refill head (under the diaphragm) to obtain a 4.5 gpf volume. If this volume is still inadequate, remove the flow ring from the guide to obtain a 6.5 gpf Kit. If additional flow is still required, try a low pressure guide kit A-175-A (0301104).

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

If the fixture does not siphon or if a low consumption flush is required, steps must be taken to increase the water supply pressure and/or volume. Contact the fixture manufacturer for minimum water supply requirements of the fixture.

#### 6. Flushometer closes off immediately.

- A. Ruptured or damaged diaphragm. Replace Royal performance kit (Royal) or inside parts kit (Regal XL).
- B. **For Regal XL** — An enlarged bypass orifice from corrosion or damage. Replace inside parts kit.
- 7. Length of flush is too short (Short Flush).
- A. **For Regal XL** — The diaphragm assembly and guide assembly are not hand tight. Screw the two assemblies hand tight.
- B. **For Regal XL** — An enlarged bypass orifice from corrosion or damage. Replace inside parts kit.
- C. Dual-filtered diaphragm assembly (Royal) or inside parts kit (Regal XL) is damaged. Replace Royal performance kit or inside parts kit.
- D. Incorrect dual-filtered diaphragm assembly (Royal) or inside parts kit (Regal XL) is installed in flushometer; for instance, urinal assembly inside a closet flushometer, or low consumption assembly inside a higher consumption fixture. Determine the flush volume required by the fixture and replace Royal performance kit or inside parts kit. Use valve label and markings on fixture for reference.

## Series 900® Flushometer

### TROUBLESHOOTING GUIDE (CONTINUED)

#### 7. Length of flush is too long (long flush) or continuous.

- A. **For Royal** — Metering bypass hole in diaphragm is clogged.  
Remove the dual-filtered diaphragm assembly. Remove the primary and secondary filter rings from the diaphragm and wash under running water. Replace Royal performance kit if cleaning does not correct the problem.
  - B. **For Regal XL** — Relief valve (A-19-A) is not seating properly or bypass orifice is clogged. Disassemble the working parts and wash thoroughly.
- NOTE: SIZE OF THE ORIFICE IN THE BYPASS IS OF UTMOST IMPORTANCE FOR THE PROPER METERING OF WATER INTO THE UPPER CHAMBER OF THE FLUSHOMETER. DO NOT ENLARGE OR DAMAGE THIS ORIFICE. REPLACE INSIDE PARTS KIT IF CLEANING DOES NOT CORRECT PROBLEM.**
- C. Supply line water pressure has dropped and is not sufficient to close the valve. Close control stop until pressure is restored.
  - D. Dual-filtered diaphragm assembly (Royal) or inside parts kit (Regal XL) is damaged. Replace Royal performance kit or inside parts kit.
  - E. Incorrect dual-filtered diaphragm assembly (Royal) or inside parts kit (Regal XL) is installed in flushometer; for instance, urinal assembly inside a closet flushometer, or low consumption assembly inside a higher consumption fixture. Determine the flush volume required by the fixture and replace Royal performance kit or inside parts kit. Use valve label and markings on fixture for reference.
  - F. White closet relief valve has been used in a urinal flushometer. Replace closet relief valve (A-19-AC) with black urinal relief valve (A-19-AU).
  - G. Inside cover is cracked or damaged. Replace the inside cover (A-71).
  - H. Conditions in the piping system may contribute to the noise. A degree of high pressure in the piping may be relieved by adjustments to control stop. Other noises created by loose pipes, lack of air chambers, inadequate pipe sizes, etc., are problems that must be discussed with the building engineer.

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

- A. Inside cover is damaged. Replace inside cover (A-71).
- B. **For Regal XL** — A-156-A segment diaphragm has been installed upside-down. Reposition the segment diaphragm properly (see markings on the diaphragm).

### CARE AND CLEANING INSTRUCTIONS

**DO NOT USE** abrasive or chemical cleaners (including chlorine bleach) to clean flushometers that may dull the luster and attack the chrome or special decorative finishes. Use **ONLY** mild soap and water, then wipe dry with a clean towel or cloth.

While cleaning the bathroom tile, protect the flushometer from any splattering of cleaner. Acids and cleaning fluids will discolor or remove chrome plating.

**When assistance is required, please contact  
Sloan Technical Support at: 1-888-SLOAN-14 (1-888-756-2614).**