

SPEAKMAN URINAL FLUSH VALVE

Installation, Maintenance & Operation Instructions

SUV-2000 Urinal Flush Valve Series

DESCRIPTION

The **SUV-2000 Urinal Flush Valve Series**, combines a battery operated electronic Flush Valve with a sweat solder kit & stop, vacuum breaker and spud coupling. The Flush Valve has an Infrared Sensor that controls a Solenoid Valve powered by a set of Batteries. There is also a side push button for Maintenance purposes in case a manual activation is needed. The push button has an optional vandal resistant cover for high potential vandal installations. The valve meets ASSE 1037 and ASME A112.19.2-2003

SPECIFICATIONS

PRODUCT	Urinal Flush Valve
Casing Material	Chrome plated brass casting
Power Supply	DC6V (CR-P2 Lithium battery)
Power consumption	3W or less
Sensing distance	6"-20" -Factory setting 8"-10"
Flushing time	0.5, 0.7, 1.0, 1.25, 1.5, 2.0, 2.5, 3.0 sec (adjustable)
Detection Time	7 seconds
Flush Delay	1 second
Applicable water pressure	1-7 Kgf/ cm ² (15 PSI ~ 100 PSI)
Water outlet Pipe bore	3/4"
Water inlet pipe diameter	3/4"
Applicable room temperature	4C-45C
Applicable water temperature	4C-65C (no icing up)
Factory Settings	1.0 GPF

MODELS available:

SUV-2000 **Urinal valve body replacement to existing Sloan valve (no trim)**
SUV-2110 **Urinal valve, 3/4" sweat solder & stop, 3/4" x 9" vacuum breaker + spud coupling**

SUV-2130 Urinal valve, 3/4" sweat solder & stop, 1 1/2" x 9" vacuum breaker + spud coupling
 SUV-2210 Urinal valve, 1" sweat solder & stop, 3/4" x 9" vacuum breaker + spud coupling

SUV-2230 Urinal valve, 1" sweat solder & stop, 1 1/2" x 9" vacuum breaker + spud coupling

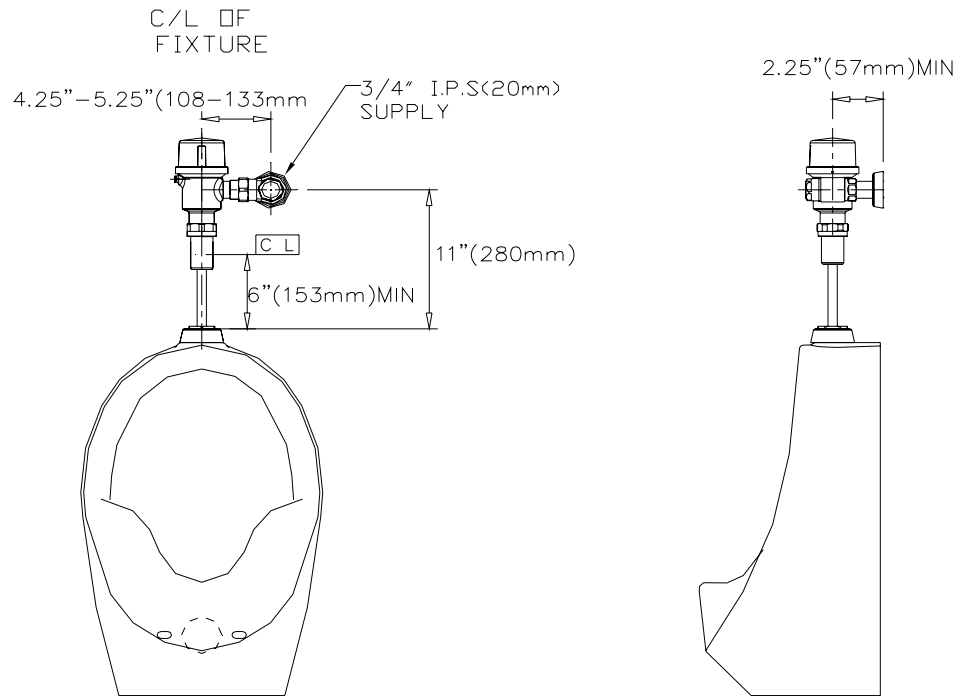
SUV-2XY0 Where: X = (1) 3/4" sweat solder kit & stop
 X = (2) 1" sweat solder kit & stop
 Y = (1) 3/4" x 9" vacuum breaker and spud coupling
 Y = (3) 1 1/2" x 9" vacuum breaker and spud coupling

SPEAKMAN®

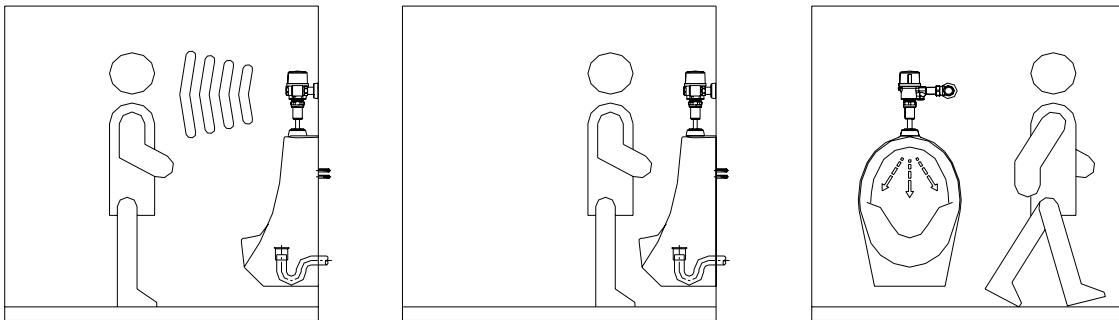
PO Box 191 Wilmington, DE 19899 Phone: 800-537-2107 Fax: 800-977-2747
 Visit us on the web at www.speakmancompany.com

92-2842-R5

■ Stand Installation

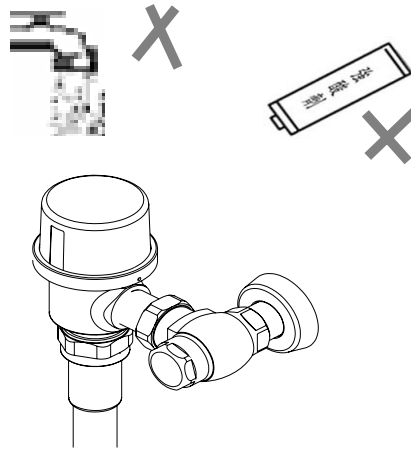


■ How to use



1. A continuous invisible light beam is emitted from the Valve sensor. As the user enters the beam's effective range of 6" to 20" more than 7 seconds, the output circuit continues in a "hold" mode for as long as the user remains within the effective range of the sensor.
2. When user leaves the sensing area, the unit automatically flushes the toilet.

■ Cautions



1. Keep the sensor lens clean all the time, to avoid dirt or stain deposit to avoid poor sensing.
2. Do not press or put cigarette butts or other objects on the casing.
3. Do not spray water or wash the casing with strong acid, which may result in short-circuit of the electronic board inside, or cause corrosion on casing. WIPE off any stain with a wet soft cloth.

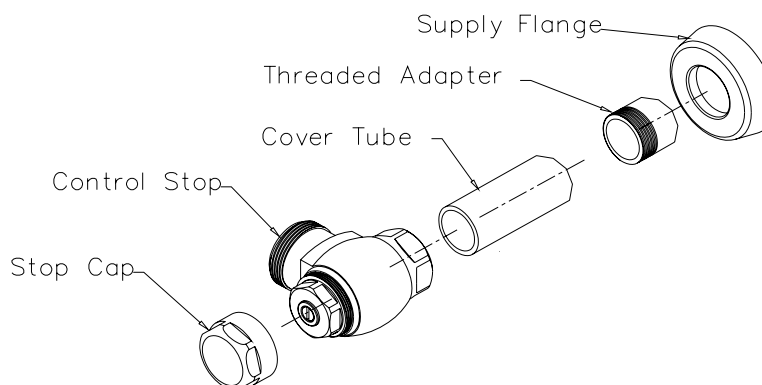
■ Installation and cautions

1. Check water supply



- a. Remove extraneous matter from the water pipe to avoid obstruction.
- b. Make sure to turn off water supply before installation.

2. Install water stop valve



- a. Solder Threaded Adapter onto water inlet pipe coming from the wall (if needed).
- b. Insert the Supply Flange and the Cover Tube over the Adapter. Tighten the set screw.
- c. Connect Control Stop to inlet threaded pipe adapter.
- d. Connect Stop Cap to control stop valve assembly.

SPEAKMAN®

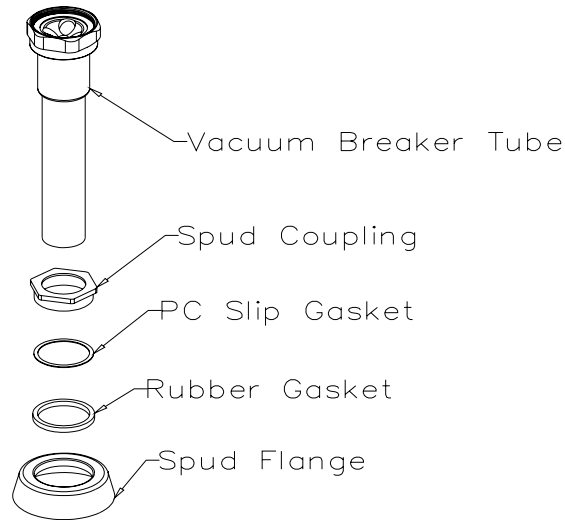
PO Box 191 Wilmington, DE 19899

Phone: 800-537-2107 Fax: 800-977-2747

Visit us on the web at www.speakmancompany.com

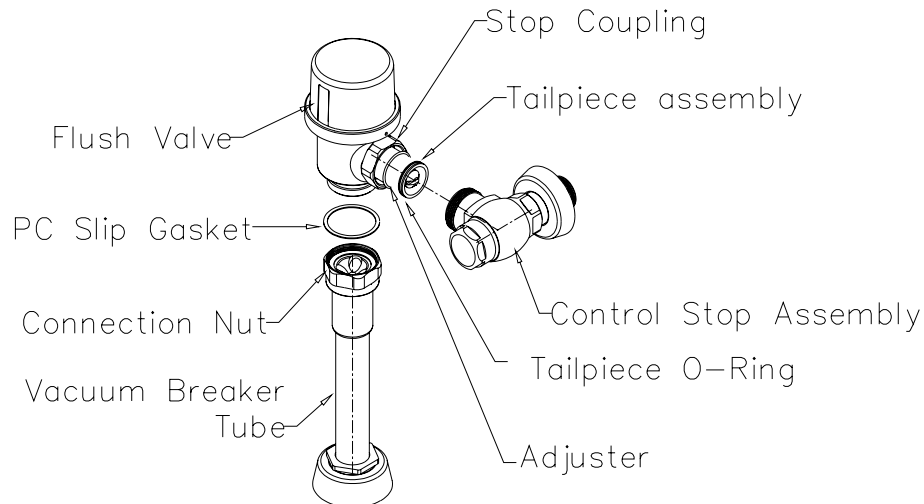
92-2842-R5

3. Install Vacuum Breaker Tube



- a. Insert spud coupling, PC slip gasket, rubber gasket and spud flange through vacuum breaker tube.
- b. Insert vacuum breaker tube into water inlet of water closet bowl.
- c. Tighten vacuum breaker to valve body.

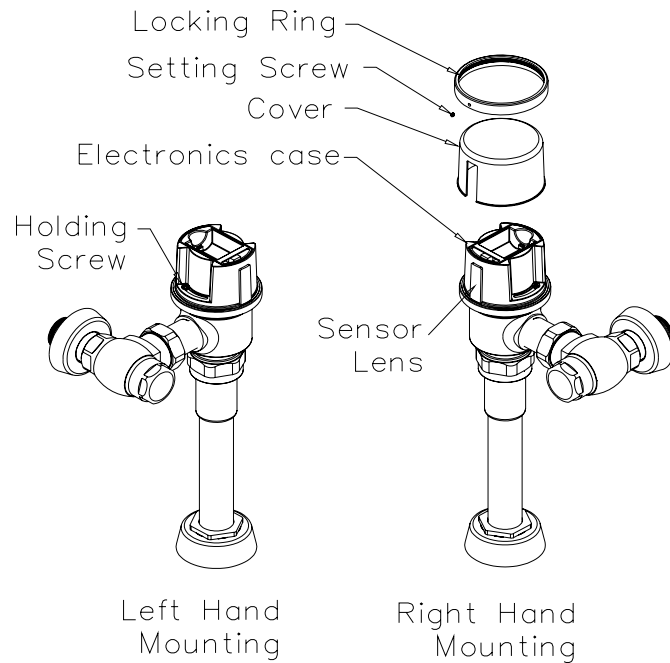
4. Install Flush Valve body



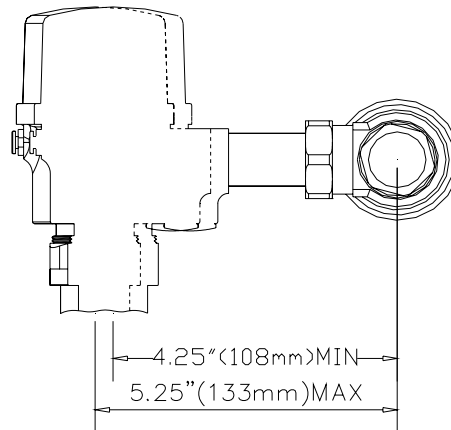
- a. Wet O-ring seal on Tailpiece Assembly inlet with water to lubricate.
- b. Insert Tailpiece Assembly to Control Stop Assembly.
- c. Join Stop Coupling to Control Stop Assembly adjusting the threaded sleeve of Adjuster piece for desired length.
- d. Align Flush Valve body with Vacuum Breaker Tube.
- e. Tighten Connection Nut.

5. **Rotate the Flush Valve
for Left hand installation**

- a. The Sensor Lens comes positioned for Right Hand Mounting.
- b. For Left Hand installation, take the Cover off, and take out the 2 Holding Screws.
- c. Rotate the Electronics Case 180°
- d. Tighten back the 2 Screws and the Sensor Lens is repositioned now for Left Hand Mounting.

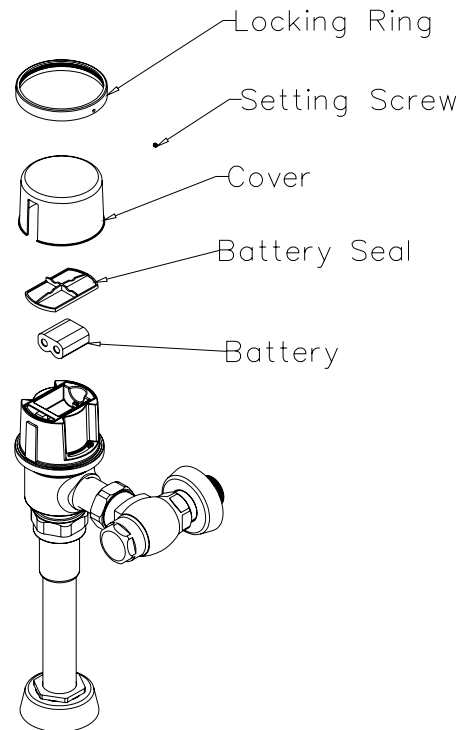


6. **Adjust distance
to wall pipe**



- e. Regular distance between water stop valve and water inlet main unit is 4 3/4" (121mm).
- f. Range of adjustable distance from nominal: extend or shorten with 1/2" (12.5mm).
- g. Rotate the threaded Adapter sleeve onto the Tailpiece to position the Stop Coupling Nut.

7. **Install battery** -One 6-volt lithium. Panasonic CR-P2 or Duracell 223



- a. Unscrew the set screw from the side of the locking ring with allen wrench provided.
- b. Remove locking ring, cover and battery seal in sequential order.
- c. Insert battery as in direction shown in diagram.
- d. Replace battery seal, cover and locking ring in reverse order.
- e. Tighten the set screw with the allen wrench.

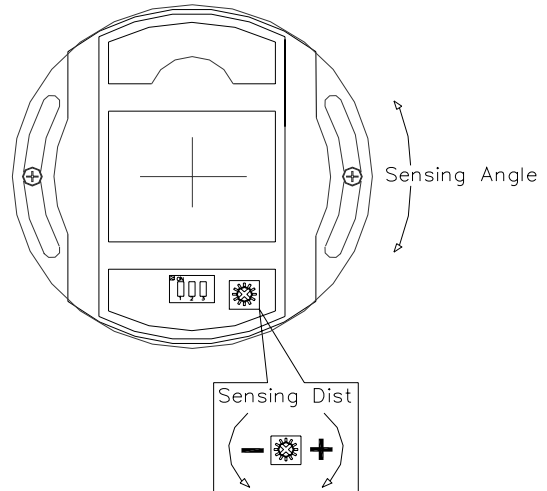
'Start up' mode:

1. The Flush Valve, automatically enters 'start up' mode whenever new batteries are put in.
'Start up' mode is a 3 minutes period of time when the Valve Sensor light will pulsate when something enters in its Focal range. The 'Start up' time is useful for all adjustments described in the next paragraph.
2. One can activate the 'start up' mode anytime while in normal mode. There are two ways to do that:
 - a) Remove the batteries, wait for 2minutes and replace the batteries. It enters 'start up' mode.
 - b) Remove the batteries, short-circuit the circuit board for one second, and replace the battery.
3. When the warning light is on, replace the battery with a new one. If the old battery with low voltage is put back in, the Valve will enter 'shut down-mode' (not enough voltage to enter 'start up' mode).

■ **Adjustments**

(1) **Adjust sensing distance**

Remove the Locking Ring and the Cover.
Use a slot-head screwdriver to adjust the variable resistor in the hole. Turn counterclockwise to shorten sensing distance, or clockwise to lengthen it. The factory setting is 8"-10" using a Kodak gray card. DO NOT make adjustment unless necessary.

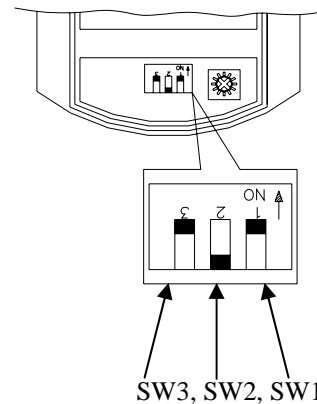


(2) **Adjust sensing angle**

The entire Electronic Module could be rotated (by loosening the 2 side screws) if you desire the Infrared Beam to sense at a different angle than 90° normal to the wall.

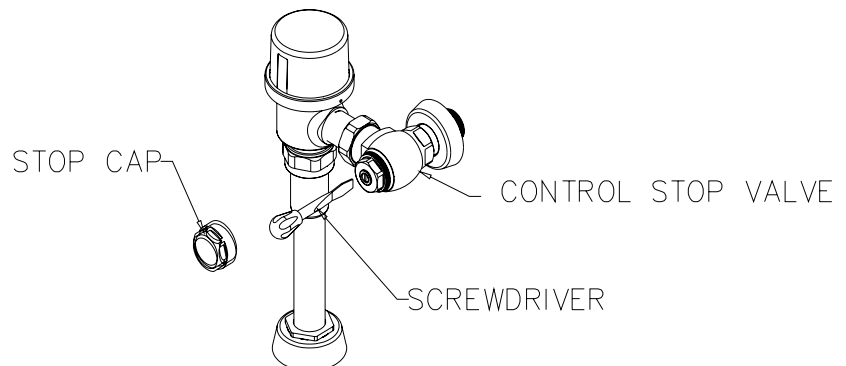
(3) **Adjust flushing time**

SW3	SW2	SW1	FLUSH TIME
OFF	OFF	OFF	3.0 SEC
ON	OFF	OFF	2.5 SEC
OFF	ON	OFF	2.0 SEC
ON	ON	OFF	1.5 SEC
OFF	OFF	ON	1.25SEC
ON	OFF	ON	1.0 SEC
OFF	ON	ON	0.7SEC
ON	ON	ON	0.5 SEC



Factory setting is 1.0sec. Change the 3 switches (SW1, SW2, SW3) shown in the picture on left, referring to the above chart to adjust the appropriate flush time and obtain an optimum flushing effect.

(4) **Adjust water volume**



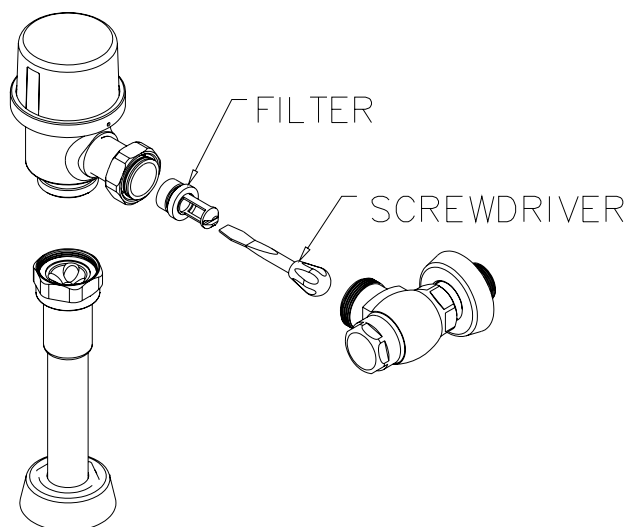
- Unscrew Stop Cap.
- Adjust Control Stop Valve water outflow volume with screwdriver. (Adjust toilet water flow.)
- Tighten control stop cap clockwise.

SPEAKMAN®

PO Box 191 Wilmington, DE 19899 Phone: 800-537-2107 Fax: 800-977-2747
Visit us on the web at www.speakmancompany.com

92-2842-R5

(5) Clean filter screen



Poor water quality will result in obstructed and reduced flow. Turn off water supply (use a slot-head screwdriver to turn the flow adjust shaft clockwise). Remove the filter unit with the screwdriver, clean it and replace it in reverse order.

■ Troubleshooting

Trouble	Possible cause	Troubleshooting
Red lamp flashing	1. Weak battery	Replace battery (CR-P2 Lithium)
No flushing (Red lamp does not light on during sensing process)	1. Dirty sensor window	Wipe sensor window with tissue paper
	2. Sensing distance too long	Shorten sensing distance
	3. Control circuit failure	Replace control circuit
No flushing (Red lamp flashes on and off during sensing process)	1. Water faucet not turned on	Check water supply
	2. Solenoid terminal loosened	Re-connect solenoid terminal
	3. Solenoid failure	Replace solenoid
	4. Control circuit failure	Replace control circuit
Water keeps running	1. Solenoid diaphragm obstructed	Clean solenoid diaphragm
	2. Manual knob defective	Replace manual knob
	3. Control circuit failure	Replace control circuit
Water flow too weak	1. Water inflow too weak	Adjust valve to increase water flow
	2. Filter valve obstructed	Clean filter valve

* Make sure to locate the trouble, and refer to the list for troubleshooting.

* Make sure to use CR-P2 Lithium battery.

SPEAKMAN®

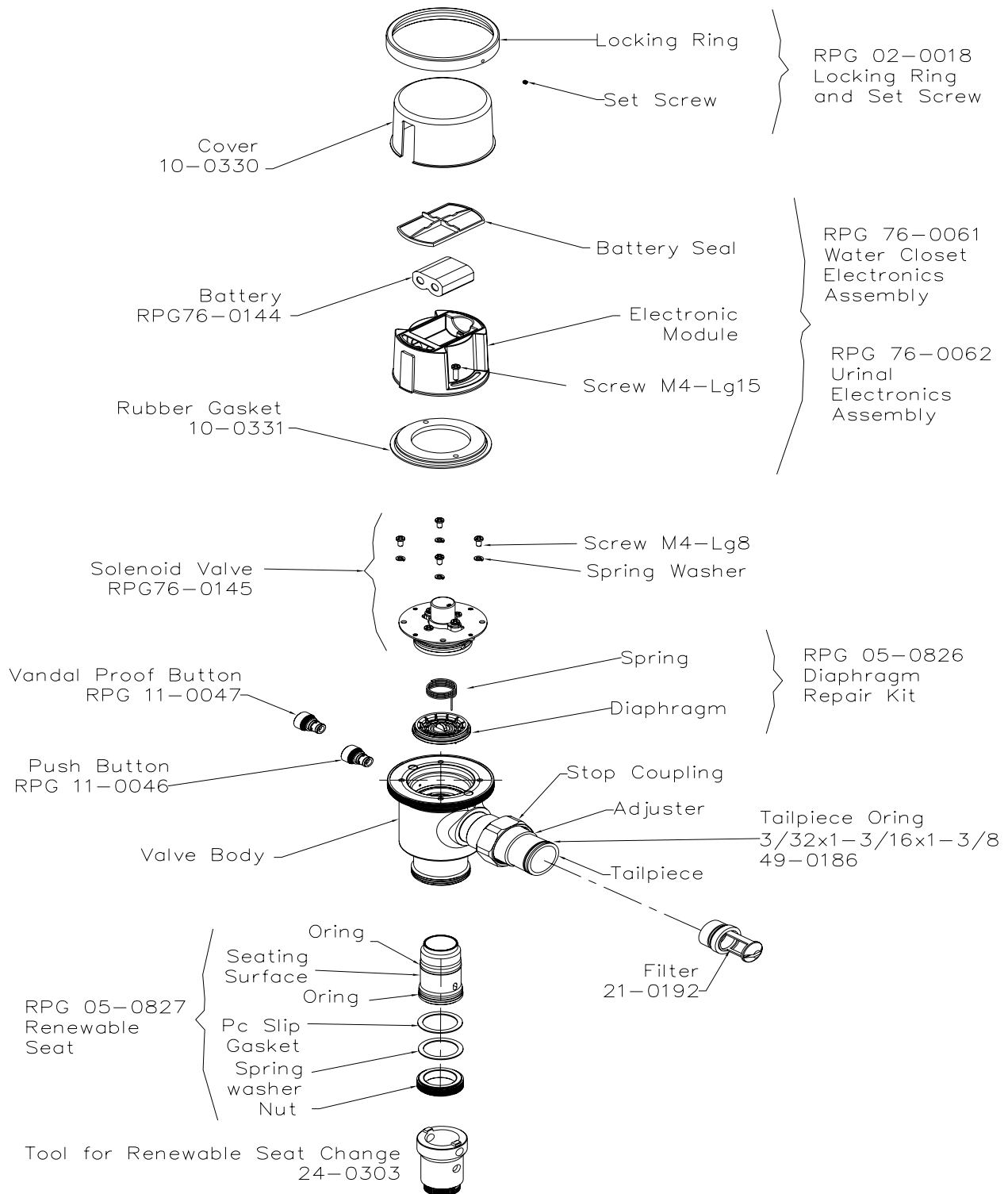
PO Box 191 Wilmington, DE 19899

Phone: 800-537-2107 Fax: 800-977-2747

Visit us on the web at www.speakmancompany.com

92-2842-R5

■ **RPG (Repair Parts Groups) List for Flush Valve**



SPEAKMAN®

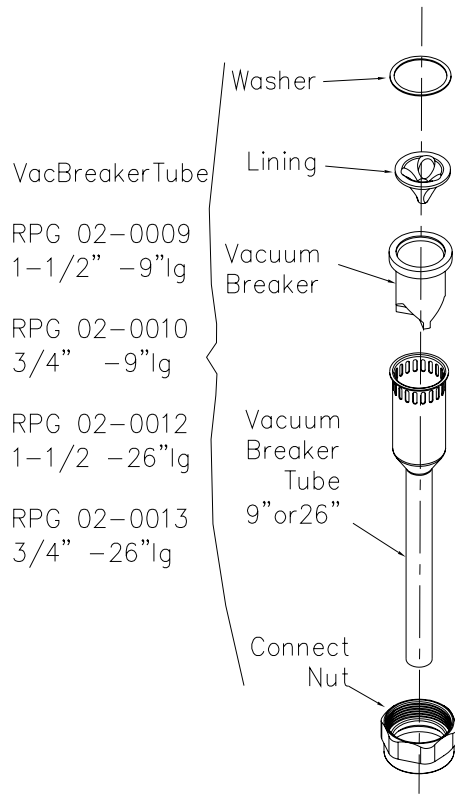
PO Box 191 Wilmington, DE 19899

Phone: 800-537-2107 Fax: 800-977-2747

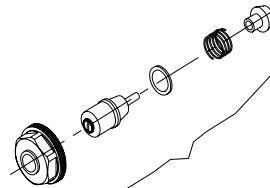
Visit us on the web at www.speakmancompany.com

92-2842-R5

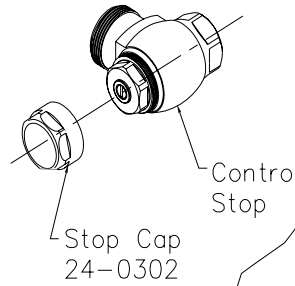
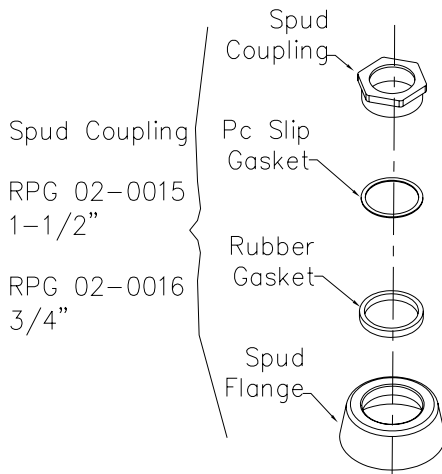
■ **RPG (Repair Parts Groups) List for Trims**



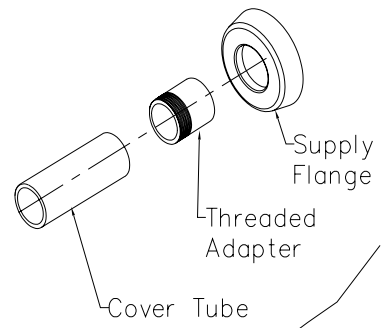
RPG 21-0088
Vacuum Breaker
Repair Kit



RPG 21-0089
Control Stop Repair Kit



Control Stop Assembly
RPG 24-0121 (1")
RPG 24-0122 (3/4")



Sweat Solder Kit
RPG 02-0007 (1")
RPG 02-0008 (3/4")

SPEAKMAN®

PO Box 191 Wilmington, DE 19899

Phone: 800-537-2107 Fax: 800-977-2747

Visit us on the web at www.speakmancompany.com

92-2842-R5

REPAIR PARTS LISTING

Part or Group	Description	Refer to Packing List
SUV-2000	Urinal Valve complete without Trim	
SWCV-2000	Water Closet Valve complete without Trim	
RPG 02-0007	1" Sweat Solder Kit	
RPG 02-0008	3/4" Sweat Solder Kit	
RPG 24-0121	1" Control Stop Assembly	
RPG 24-0122	3/4" Control Stop Assembly	
24-0302	Stop Cap	
RPG 21-0089	Control Stop Repair Kit	
RPG 02-0009	1-1/2" Vacuum Breaker Tube 9"lg	
RPG 02-0010	3/4" Vacuum Breaker Tube 9"lg	
RPG 02-0012	1-1/2" Vacuum Breaker Tube 26"lg	
RPG 02-0013	3/4" Vacuum Breaker Tube 26"lg	
RPG 21-0088	Vacuum Breaker Repair Kit	
RPG 02-0015	1-1/2" Spud Coupling Kit	
RPG 02-0016	3/4" Spud Coupling Kit	
RPG 11-0046	Push Button	
RPG 11-0047	Vandal Resistant Button	
RPG76-0144	One 6-volt lithium -Panasonic CR-P2 -or Duracell 223	
RPG76-0145	Solenoid Valve 6 VDC	
RPG 76-0061	Electronics assembly for WC Flush Valve	
RPG 76-0062	Electronics assembly for Urinal Valve	
RPG 02-0018	Locking Ring and with screw	
10-0330	Cover	
10-0331	Rubber Gasket	
RPG 05-0826	Diaphragm Repair Kit	
RPG 05-0827	Renewable Seat Kit	
49-0186	Tailpiece O-Ring 3/32 x 1-3/16 x 1-3/8	
21-0192	Filter	
24-0303	Tool for Renewable Seat change	

SPEAKMAN®

PO Box 191 Wilmington, DE 19899 Phone: 800-537-2107 Fax: 800-977-2747
 Visit us on the web at www.speakmancompany.com

92-2842-R5



Speakman Flush Valve Specification (August 2007)

Type:	Battery operated exposed top mount unit
Product Certification:	Speakman flush valve is certified by IAPMO to be in compliance with ASSE 1037 1990, CSA B125.03-05 and applicable sections of ASME A112.19.2-2003
Retrofit:	Valve rough-in adaptable to existing Sloan stops and tailpieces
Installation:	Adaptable to both right and left hand stop installations.
Operating Pressures:	Operates in a normal manner between 20 - 80 psi Functional between 15 – 100 psi
GPF Water Closet:	Factory Setting for 1.6 GPF Timing adjustments to accommodate installed 3.5 GPF models
GPF Urinal:	Factory setting for 1.0 GPF Timing adjustments to accommodate installed 1.5 GPF models
Timing Adjustments:	Flush time settings of 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 6.0, 8.0 seconds for WC. Factory setting is 2.5 seconds for the WC Flush time settings of 0.5, 0.7, 1.0, 1.25, 1.5, 2.0, 2.5, 3.5 seconds for U. Factory setting is 1.0 seconds for the Urinal
Batteries:	One 6-volt lithium. Panasonic CR-P2 or Duracell 223
Battery Life:	Battery life @ 100 flushes per day is approximately 3 years

SPEAKMAN®

PO Box 191 Wilmington, DE 19899 Phone: 800-537-2107 Fax: 800-977-2747
Visit us on the web at www.speakmancompany.com

92-2842-R5

Battery Warning Light:	Warning light to be activated 10 days or 1,000 activations, whichever comes first, prior to programmed shutdown Warning light to continue flashing after programmed shutdown until battery change or power loss
Battery Change:	Batteries can be changed without shutting off water supply
W/C Sensor Range:	10" - 24" (25 cm – 60 cm) Factory setting to be 14" - 16" (35 cm – 40cm) Based on grey card reading
Urinal Sensor Range:	6" – 20" (15 cm – 50 cm) Factory setting to be 8" – 10" (20cm – 25cm) Based on grey card reading
Focal Distance Adjustment:	Sensor range is adjustable by a potentiometer Adjustments can be made while the valve is operational
Sensor Beam Adjustment:	Sensor beam can be pivoted for horizontal adjustment Sensor beam can be adjusted while the valve is operational
Sensor Direction:	WC sensor beam is angled 15 degrees up Urinal sensor beam is angled 15 degrees down
Start-Up Mode:	Electronics programming includes a start-up feature whereby the valve can be adjusted for the first three minutes with flashing light indicator See IOM for detailed discussion of start-up mode operation
Settings Memory:	Programmed settings are retained in memory in case of battery draw-down and/or battery change
Min. Detection Time:	7 seconds after initial detection
Flush Delay:	Flush delay for WC is 3 seconds Flush delay for urinal is 1 second
Auto Flush:	Every 24 hours beginning 24 hours after last flush
Water Proof:	Design incorporates redundant sealing mechanisms to keep unit water proof
Seating Surface:	Valve has a renewable seat
Metal Cover:	Standard
Maintenance Override:	Non electronic maintenance override Override available in push button or with vandal resistant cover
Adjustable Centers:	Stop adjustment 4 1/4" - 5 1/4"
Maintenance:	Designed for easy access, maintenance and replacement of components
Warranty:	Three years, excluding battery

SPEAKMAN®

PO Box 191 Wilmington, DE 19899 Phone: 800-537-2107 Fax: 800-977-2747
Visit us on the web at www.speakmancompany.com

92-2842-R5