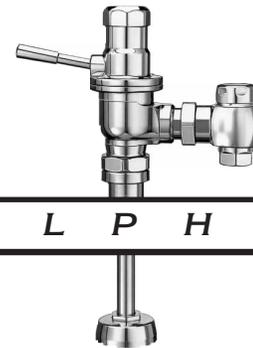


SLOAN[®]

FLUSHOMETERS

Maintenance Guide



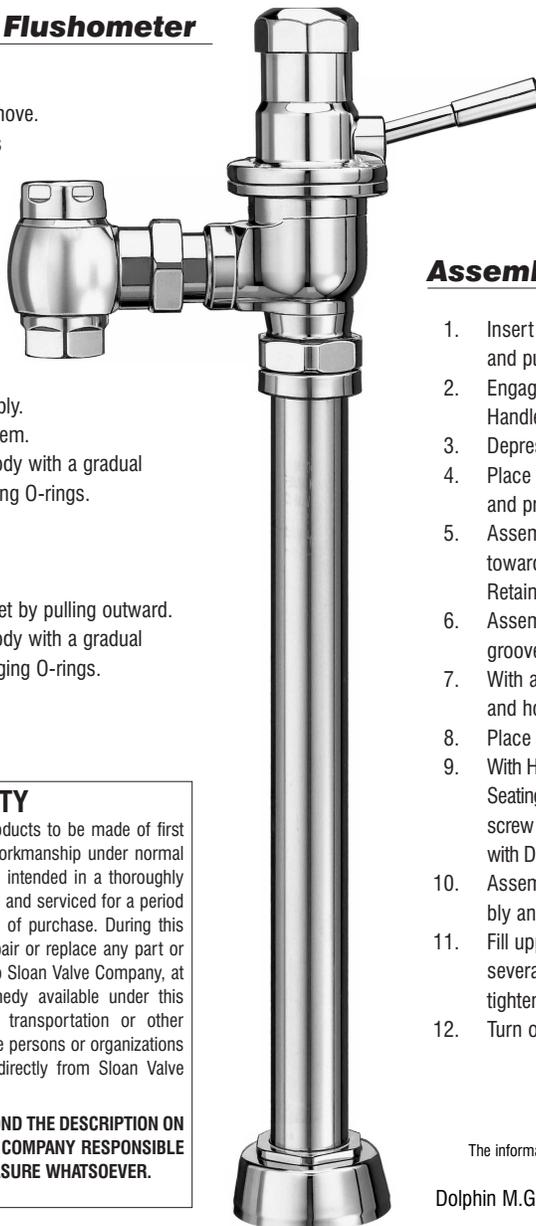
D O L P H I N

Contents

Assembly/Disassembly Instructions	1
Flushometer Valve Parts List (including Replacement and Repair Kits)	2
Flushometer Models and Variations	3
Troubleshooting Guide (including Care and Cleaning Instructions)	4

Disassembly of Dolphin Flushometer

1. Turn off water at Control Stop.
2. Loosen DO-1 Cover Nut but do not remove.
3. Unscrew four (4) DO-11 Cover Screws and lift off top section of valve (keep in vertical position to prevent oil from spilling).
4. Remove DO-1 Cover Nut.
5. Pour oil into clean container.
6. Unscrew DO-15 Flex-Sac and DO-18 Seating Nut.
7. Remove DO-16 Compression Spring.
8. Depress Handle to raise Piston Assembly.
9. Remove DO-28 Retaining Ring from Stem.
10. Remove DO-4 Stem from bottom of Body with a gradual twist and pull action to prevent damaging O-rings.
11. Remove DO-14 Bushing.
12. Remove DO-5 Piston from chamber.
13. Remove DO-7 Spring.
14. Disengage Handle Assembly and Socket by pulling outward.
15. Remove DO-9 Stem from bottom of Body with a gradual twist and push action to prevent damaging O-rings.



Sloan Valve Company can also provide products not shown in our current catalog. If you have any questions about our products or any installation issues, please contact the Installation Engineering staff at 1-800-982-5839.

Assembly of Dolphin Flushometer

1. Insert DO-9 Stem into bottom of Upper Body using twist and push action to prevent damaging O-rings.
2. Engage fork of Handle Assembly in notch of Stem. Handle should align perfectly.
3. Depress Handle and insert DO-7 Piston Spring.
4. Place DO-5 Piston (with O-ring toward top) onto Spring and press into chamber.
5. Assemble DO-4 Stem Nut to Stem (with knurled surface toward top) and down into stem. Engage tips of DO-28 Retaining Ring into slot of Stem and snap onto Stem.
6. Assemble DO-14 Bushing into bottom of Stem, mating groove of bushing into groove of Handle socket.
7. With assembly still in inverted position, depress handle and hold.
8. Place DO-16 Spring on Stem.
9. With Handle depressed, place DO-15 Flex-Sac and DO-18 Seating Nut on Stem. Pressing down with palm of hand, screw Seating Nut clockwise until firm engagement is made with DO-14 Bushing.
10. Assemble upper Body assembly to lower Body assembly and tighten four (4) DO-11 Cover Screws.
11. Fill upper chamber to top with SAE 10 oil. Work Handle several times and add additional oil on top. Replace and tighten DO-1 Cover Nut.
12. Turn on water supply at Control Stop.

LIMITED WARRANTY

Sloan Valve Company warrants its Flushometer Products to be made of first class materials, free from defects of material or workmanship under normal use and to perform the service for which they are intended in a thoroughly reliable and efficient manner when properly installed and serviced for a period of 3 years (1 year for special finishes) from date of purchase. During this period, Sloan Valve Company will, at its option, repair or replace any part or parts which prove to be thus defective if returned to Sloan Valve Company, at customer's cost, and this shall be the sole remedy available under this warranty. No claims will be allowed for labor, transportation or other incidental costs. This warranty extends only to those persons or organizations who purchase Sloan Valve Company's products directly from Sloan Valve Company for purpose of resale.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT IS SLOAN VALVE COMPANY RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.

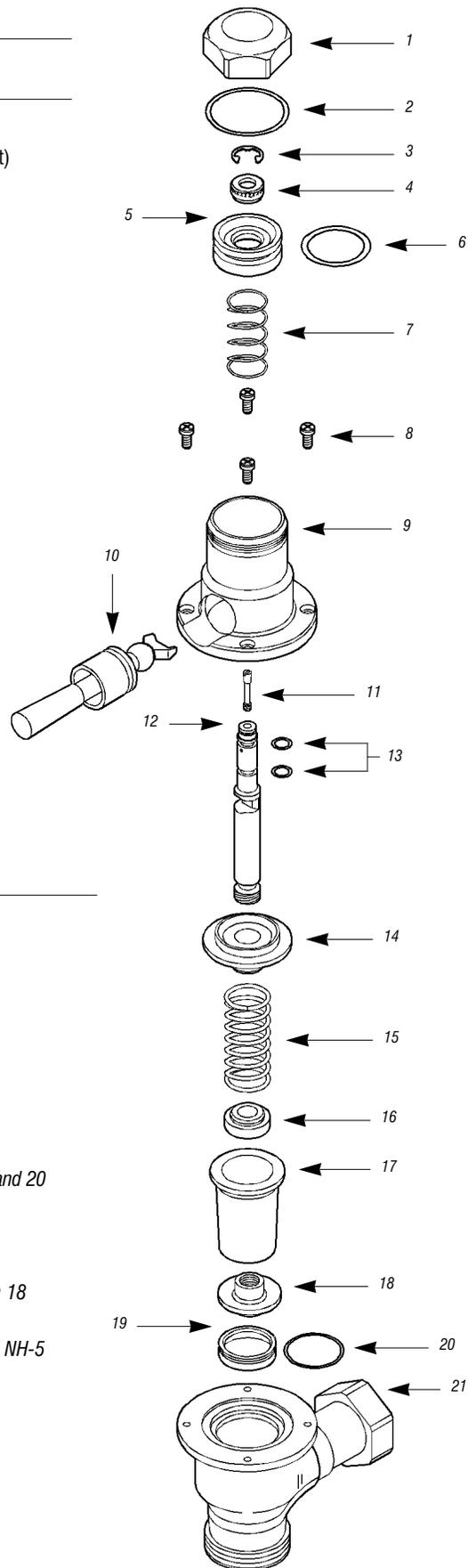
The information contained in this document is subject to change without notice.

Parts List—Dolphin Flushometer Valve

Item Number	Code Number	Part Number	Description
1	0337007	DO-1	Cover Nut CP
2	5337125	DO-2	"O" ring-Seat (1 required; 6 per pkg.) (Cover Gasket)
3	5337129	DO-28	Retaining Ring (1 required; 24 per pkg.)
4	5337006	DO-4	Stem Nut RB (1 required; 6 per pkg.)
5	0337004	DO-5	Piston
6	5337075	DO-6	"O" ring-Piston (1 required; 6 per pkg.)
7	5337039	DO-7	Piston Spring (1 required; 6 per pkg.)
8	5337011	DO-11	Cover Screw CP (4 required; 24 per pkg.)
9	0337003	DO-10	Upper Body CP
10	0337042	DO-20	Handle and Socket Assembly CP
	0337012	DO-26	Socket
	0337096	DO-36	Handle Lever Cap
11	5337126	DO-3	Regulating Screw RB (1 required; 6 per pkg.)
12	0337087	DO-9	Stem RB
13	0328336	SH-75	"O" ring-Throttle Seal (2 required)
14	0337005	DO-14	Bushing RB
15	0337009	DO-16	Compression Spring (Main Spring)
16	5337034	DO-17	Insert RB (1 required; 6 per pkg.)
17	0337018	DO-15	"Flex-Sac"
18	0337084	DO-18	Seating Nut
19	0337016	DO-21	Main Seat, Delrin
20	0337086	DO-22	"O" ring-Seat Assembly
21A	0337031	DO-13-NC	Lower Body CP-Closet
21B	0337032	DO-13-NU	Lower Body CP-Urinal

Replacement and Repair Kits

A	0337044	DO-1000-A	Piston with "O" ring <i>Component parts: items 5 and 6</i>
B	3337035	DO-1001-A	Repair Kit-Dolphin Handle <i>Component parts: items 10, 11, 12, and 13</i>
C	0337134	DO-32	"Flex-Sac" Assembly <i>Component parts: items 17 and 18</i>
D	0337136	DO-32-AA	Repair Kit-"Flex-Sac" Assembly <i>Component parts: items 2, 6, 13, 17, and 18</i>
E	0337137	DO-32-AAN	Repair Kit-"Flex-Sac" and Stem <i>Component parts: items 2, 6, 7, 13, 15, 17, 18, 19, and 20</i>
F	0337036	DO-19-A	Seat Assembly with "O" ring <i>Component parts: items 19 and 20</i>
G	0337030	DO-12-A	Upper Body Assembly <i>Component parts: items 1 through 7 and 9 through 18</i>
H	0337055	DO-13-A-NC	Lower Body Assembly for Closet <i>Component parts: item 21, H-6 Coupling (CP), and NH-5 Ground Joint Tail (CP)</i>

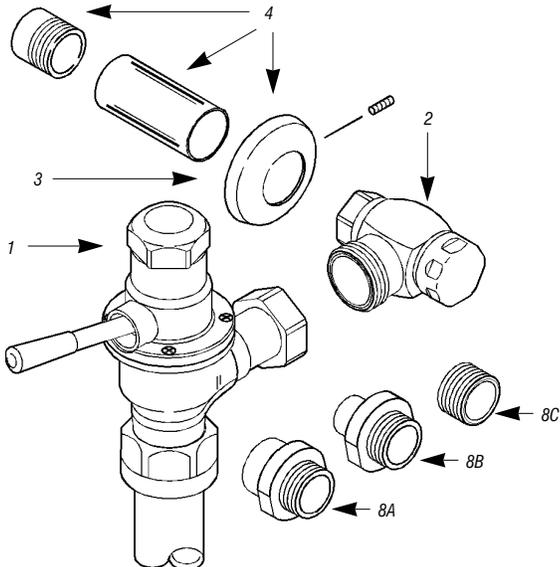


IMPORTANT NOTES

With the exception of the Control Stop inlet, DO NOT USE pipe sealant or plumbing grease on any valve component or coupling!

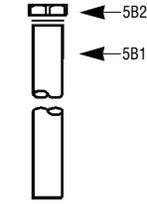
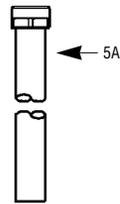
Protect the chrome or special finish of Sloan Flushometers — DO NOT USE toothed tools to install or service these valves.

Use a Sloan A-50 "Super-Wrench™" or smooth jawed spud wrench to secure all couplings. Also see "Care and Cleaning" section of this manual.

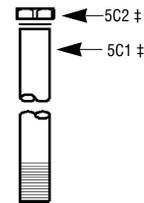


Models 110/111, 115
Shipboard Model

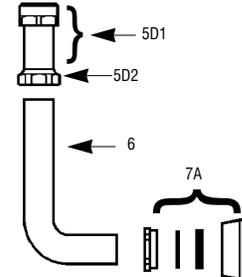
Models 110-XYV,
111-XYV, and
Type I, Class B



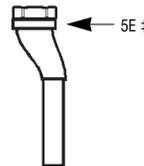
Shipboard Model,
Type I, Class A



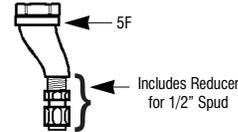
Model 120



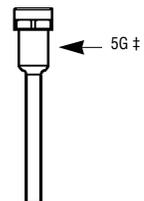
Shipboard Model,
Type II, Class A



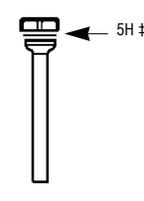
Shipboard Model,
Type II, Class B



Model 186



Model 186-XYV



Parts List—Dolphin Flushometer Models and Variations

Item Number	Code Number	Part Number	Description
1	0337023	DO-90-AAGNC	Closet Valve Body and Handle Assembly—Dolphin Type I
	0337025	DO-90-AAGNU	Urinal Valve Body and Handle Assembly—Dolphin Type II
2A	0388025	H-710-A	Bak-Chek® Control Stop CP with 3/4" NPTF Inlet for Adjustable Tail
	0388022	H-710-A	Bak-Chek® Control Stop CP with 1" NPTF Inlet for Adjustable Tail
2B	0388048	NH-710-AG	Bak-Chek® Control Stop with 3/4" NPTF Inlet for Ground Joint Tail (Naval Brass; use with Shipboard Flushometer Models Type II Class A and B; requires A-35 Reducer Bushing 8C)
	0388058	NH-710-AG	Bak-Chek® Control Stop with 1" NPTF Inlet for Ground Joint Tail (Naval Brass)
	0388044	NH-710-AGS	Bak-Chek® Control Stop with 1" NPSM Inlet for Ground Joint Tail (Naval Brass; use with Shipboard Flushometer Models Type I and II when Sil-Braze Adapter is used)
3	0306196	F-7	1" (25 mm) Supply Flange CP (Supplied When Valve is NOT Ordered with Sweat Solder Kit)
	0306191	F-7	3/4" (19 mm) Supply Flange CP (Supplied When Valve is NOT Ordered with Sweat Solder Kit)
4	3308782	H-633-AA	1" (25 mm) Sweat Solder Kit with Cast Set Screw Flange CP ("YBYC" Variation)
	3308788	H-636-AA	3/4" (19 mm) Sweat Solder Kit with Cast Set Screw Flange CP ("YBYC" Variation)
5A	0323013	V-500-AA	1-1/2" (38 mm) x 10-1/2" (267 mm) Vacuum Breaker Assembly CP (Model 110/111)
	0323019	V-500-AA	1-1/2" (38 mm) x 23" (534 mm) Vacuum Breaker Assembly CP (Model 115)
5B1	0396119	F-101	1-1/2" (38 mm) x 10-1/2" (267 mm) Outlet Tube CP Type I Class B
5B2	0306093	F-2-A	Coupling CP with S-30 gasket
5C1 †	0314004	NF-1	1-1/2" (38 mm) Scored Outlet CP (Shipboard Model, Type I, Class A)
	0306093	F-2-A	Coupling CP with S-30 gasket
5D1	0323010	V-500-A	1-1/2" (38 mm) Vacuum Breaker Assembly CP (Model 120; does not include F-2-A Coupling, see item 5D2 below)
5D2	0306092	F-2-A	Coupling CP with S-30 gasket
5E †	0306850	NF-29-A	Outlet Tube Assembly 3/4" (19 mm) x 6-1/2" (165 mm) Scored Outlet with 1/2" Offset (Shipboard Model, Type II, Class A)
5F	0306849	F-29-A	3/4" (19 mm) x 6-1/2" (165 mm) Flush Connection with 1/2" Offset and 3/4" x 1/2" Reducer for 1/2" Spud (Shipboard Model, Type II, Class B)
5G †	0323004	V-500-AA	3/4" (19 mm) x 10-1/2" (267 mm) Vacuum Breaker Assembly CP (Model 186)
5H †	0306780	F-29-A	3/4" (19 mm) x 10-1/2" (267 mm) Flush Connection CP (Model 186-XYV)
	0306092	F-2-A	Coupling CP with S-30 gasket
6	†	F-109	1-1/2" (38 mm) Flush Connection CP
7A	0306146	F-5-A	1-1/2" (38 mm) Spud Coupling Assembly (Models 110/111, 115, 120)
7B	0306125	F-5-A	3/4" (19 mm) Spud Coupling Assembly (Model 186)
8A	0306989	F-41-A	1" (25 mm) Sil-Braze Adapter (includes F-40 and F-41-AA)
	0306983	F-40	1" (25 mm) Sil-Braze Adapter
	0306984	F-41-AA	"O" Ring and Solder Ring kit for 1/2" (13 mm) Sil-Braze Adapter Component parts: F-41 Solder Ring (0396042) and F-48 "O" Ring (0396044)
8B	0306990	F-42-A	1/2" (13 mm) Sil-Braze Adapter (includes F-40 and F-42-AA)
	0306982	F-40	1/2" (13 mm) Sil-Braze Adapter
	0306986	F-42-AA	"O" Ring and Solder Ring kit for 1" (25 mm) Sil-Braze Adapter Component parts: F-42 Solder Ring (0396043) and F-48 "O" Ring (0396044)
8C	0301148	A-35	3/4" NPT (19 mm) x 1/2" NPT (13 mm) Reducer Bushing

† Cut to proper length at installation. Allow a minimum of 5" (127 mm) between tube ends when using rubber hose for Shock Mounted equipment.

‡ This Outlet Tube is available in various lengths. Consult factory for assistance.

Troubleshooting Guide

NOTE: Refer to the first page of this Dolphin Maintenance Guide for complete assembly and disassembly instructions. See also pages 2 and 3 for parts diagrams.

1. PROBLEM: Flushometer does not function.

CAUSE: Control Stop or Main Valve is closed.

SOLUTION: Open Control Stop or Main Valve.

CAUSE: Handle Socket Assembly is damaged.

SOLUTION: Replace (DO-20) Handle Socket Assembly.

2. PROBLEM: Volume of water is inadequate to siphon fixture.

CAUSE: Control Stop is not open enough.

SOLUTION: Adjust Control Stop for desired delivery of water volume.

CAUSE: Timing of Flushometer closure is set too fast.

SOLUTION: Remove DO-1 Cover Nut. Use a small blade screwdriver to turn DO-3 Regulating Screw clockwise.

CAUSE: Water supply volume or pressure is inadequate.

SOLUTION: If no gauges are available to properly measure supply pressure or volume, completely open Control Stop and hold down Flushometer Handle without allowing it to close. If fixture siphons, increase timing of closure (see previous solution). If fixture does not siphon, steps must be taken to increase the supply pressure and/or volume. Contact fixture manufacturer for minimum water supply requirements of fixture.

3. PROBLEM: Flushometer closes immediately.

CAUSE: Oil Chamber of Upper Body is empty.

SOLUTION: Remove DO-1 Cover Nut. Fill Oil Chamber with SAE 10 Oil.

CAUSE: Piston seal is worn or damaged.

SOLUTION: Replace DO-6 Piston O-ring seal.

4. PROBLEM: Length of flush is too short (Short Flushing).

CAUSE: Volume of oil in Oil Chamber of Upper Body is low.

SOLUTION: Remove DO-1 Cover Nut. Fill Oil Chamber with SAE 10 Oil.

CAUSE: Timing of Flushometer closure is not adequately adjusted.

SOLUTION: Remove DO-1 Cover Nut. Using small blade screwdriver, turn DO-3 Regulating Screw clockwise until a satisfactory flush is achieved.

5. PROBLEM: Length of flush is too long (Long Flushing).

CAUSE: Timing of Flushometer closure not adequately adjusted.

SOLUTION: Remove DO-1 Cover Nut. Using small blade screwdriver, turn DO-3 Regulating Screw counterclockwise until a satisfactory flush is achieved.

6. PROBLEM: Oil is leaking from handle.

CAUSE: Stem seals are worn or damaged.

SOLUTION: Replace two (2) SH-75 Throttle Seal O-rings.

7. PROBLEM: Valve does not close completely (water trickle).

CAUSE: Compression Spring is worn or damaged.

SOLUTION: Replace DO-16 Compression Spring.

CAUSE: Flex-Sac Assembly is worn.

SOLUTION: Replace DO-15 Flex-Sac.

Care and Cleaning Instructions

DO NOT use abrasive or chemical cleaners to clean Flushometers, they may dull the luster and attack the chrome finish. Use ONLY soap and water, and then wipe dry with a clean towel or cloth. When cleaning, protect the exposed Flushometer from any splattering of cleaner. Acids and cleaning fluids can discolor or remove chrome plating.

If further assistance is required, please contact the Sloan Valve Company Installation Engineering Dept. at **1-800-9-VALVE-9**.

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

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