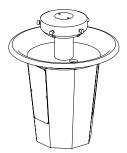
SN2003 (AST shown)



SN2005 (AST shown)



SN2013 (AST-4 shown)



SN2023 (IR shown)

Parts & Service

Sentry Washfountain

Discontinued Models Prior to February 1, 2013

SN2003

36" Semi-Circular, Floor-Mounted

SN2004

54" Semi-Circular, Floor-Mounted

SN2023

SN2004 (AST-F shown)

SN2008 (AST shown)

SN2033 (IR shown)

36" Semi-Circular, Wall-Mounted

SN2024

54" Semi-Circular, Wall-Mounted

SN2005

36" Circular, Floor-Mounted

SN2008

54" Circular, Floor-Mounted

SN2013

54" Corner, Floor-Mounted

SN2033

54" Corner, Wall-Mounted

Table of Contents

How to Determine Drain Type	2
IR Assemblies, Troubleshooting and Wiring	3
Sentry Transformers	13
Supply Valves	14
AST4 Assemblies, Adjustments and Troublshooting	
Thermostatic Mixing Valve Troubleshooting	23
Manual Mixing and Control Valves	25
Check Valve Troubleshooting Instructions	26
Care and Cleaning of Stainless Steel Sentry Washfountains	26
Soap System	27
Pedestal Assembly	29
Backsplash Retrofit Kits	30
Shroud/Towel Dispensers	31

215-1473 Rev. D; ECN 15-00-002 © 2015 Bradley Page 1 of 31 3/24/2015

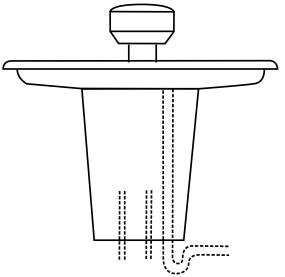


P.O. Box 309, Menomonee Falls, WI USA 53052-0309 800 BRADLEY (800 272 3539) +1 262 251 6000 bradleycorp.com

How to Determine Drain Type

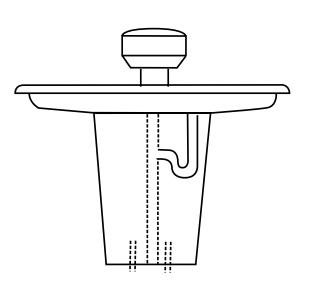


Parts may vary depending upon drain type. Identify your drain type before continuing.



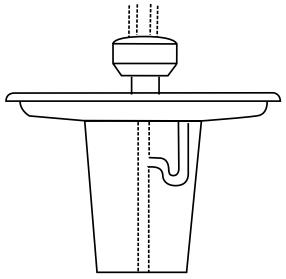
TYPE A:

SUPPLIES BELOW
VENT OFF DRAIN
P-TRAP FURNISHED BY OTHERS



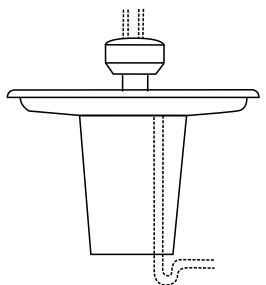
TYPE H:

SUPPLIES BELOW
CENTRALLY-RISING VENT
P-TRAP FURNISHED



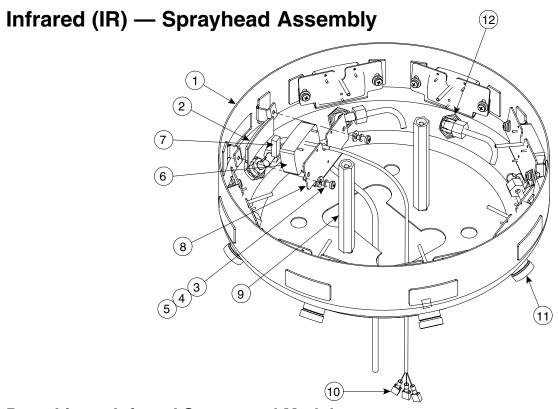
TYPE B:

SUPPLIES ABOVE
CENTRALLY-RISING VENT
P-TRAP FURNISHED



TYPE O:

SUPPLIES ABOVE
VENT OFF DRAIN
P-TRAP FURNISHED BY OTHERS

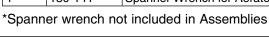


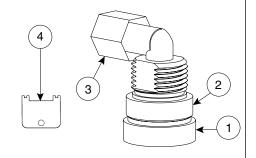
Parts List — Infrared Sensor and Module

Item	Part No.	Description	54" Corner Qty.	36" Semi Qty.	54" Semi Qty.	36" Circle Qty.	54" Circle Qty.
1	_	Shell	1	1	1	1	1
2	269-982	Lens (window)	3	3	4	5	8
3	160-245	Screw 10-24 x 1/2"	6	6	8	10	16
4	142-002BT	Lock Washer	6	6	8	10	16
5	142-002AV	Flat washer	6	6	8	10	16
6	269-1184	Sensor	3	3	4	5	8
7	182-100	Lens Support (Rubber Block)	3	3	4	5	8
8	159-363	Sensor Mounting Bracket	3	3	4	5	8
9	161-082	Nut - Extension 1/4"-20 x 5-1/8"	2	2	2	2	2
10	269-621	Terminal - female disconnect	9	9	12	15	24
11	S05-157	Aerator Assembly (Std 0.5 GPM)	3	3	4	5	8
11	S05-172	Aerator Assembly (Optional 1.5 GPM)	3	3	4	5	8
12	110-115	Nut - 1/2" - 14	3	3	4	5	8

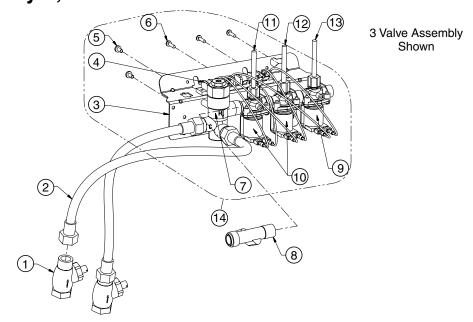
Parts List — Aerator Assembly

	Dout No.	Description	S05-157	S05-172
Item Part No.		Description	Qty	
1	S05-142A	Std. Aerator, 0.5 GPM	1	_
1	153-397	Extra Flow Aerator, 1.5 GPM	_	1
2	153-402A	Adapter	1	1
3	145-090	90° Connector 1/4" tube x 1/8" NPT	1	1
4*	130-141	Spanner Wrench for Aerator	_	_





Infrared (IR) Part 1 — Solenoid Valve Assembly (24V Transformer) Prior to February 1, 2013



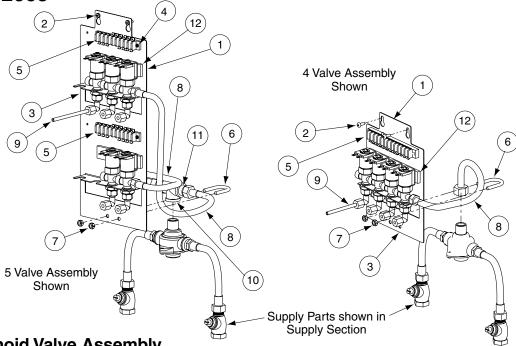
Parts List — Solenoid Valve Assembly

Item	Part No.	Description	54" Corner	36" Semi	54" Semi	36" Circle	54" Circle
					Qty.		
1	S27-102	Stop/Check Valve	2	2	2	2	2
2	269-1735	Flex Hose	2	2	2	2	2
3	140-928	Bracket	1	1	1	_	_
*	140-940	Bracket	_	_	_	1	_
*	140-941	Bracket	_	_	_	_	1
4	269-625	Terminal Block	1	1	_	2	_
*	269-647	Terminal Block	_	_	1	_	2
5	P18-054	Screw #10-24 x 3/8	2	2	2	2	2
6	160-447	Screw #8-16 x 5/8	3	3	4	5	8
7	S01-524	Thermostatic Mixing Valve	1	1	1	1	1
8	S39-685	Adapter (Optional Single Tempered Line)	1	1	1	1	1
9	S07-067	Solenoid Valve - Closed Body (Black)	1	1	1	1	1
10	S07-067A	Solenoid Valve - Thru Body (Gray)	2	2	3	4	7
11	R68-600011-B	Tubing 1/4 OD Black	**	**	**	**	**
12	R68-600011-G	Tubing 1/4 OD Green	**	**	**	**	**
13	R68-600011-R	Tubing 1/4 OD Red	**	**	**	**	**
*	R68-600011-Y	Tubing 1/4 OD Yellow	_	_	**	**	**
*	R68-600011	Tubing 1/4 OD Clear		_	_	**	
14	S45-2146	Valve Assembly TMA 36S and 54K	1	1	_	_	_
*	S45-2148	Valve Assembly TMA 54S	_	_	1	_	_
*	S45-2150	Valve Assembly TMA 36C	_	_	_	1	_
*	S45-2152	Valve Assembly TMA/IR 54C	_	_	_	_	1

^{*} Not Illustrated.

^{**} Specify Length in feet.

Infrared (IR) Part 1 — Solenoid Valve Assembly (24V Transformer) Prior to May 2, 2005

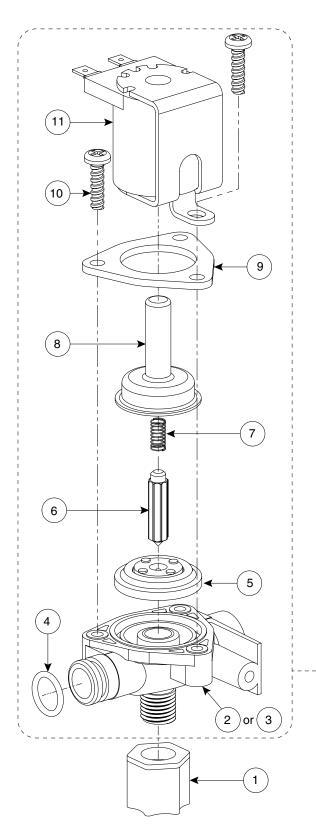


Parts List — Solenoid Valve Assembly

Item	Part No.	Description	54" Corner	36" Semi	54" Semi	36" Circle	54" Circle	
				Qty.				
*	S08-061	3 Valve Assy. with Bracket	1	1	_	_	_	
1	S08-062	4 Valve Assy. with Bracket	_	_	1	_	_	
1	S08-358	5 Valve Assy. with Bracket	_	_	_	1	_	
*	S08-359	8 Valve Assy. with Bracket	_	_	_	_	1	
2	160-245	Screw for valve bracket	2	2	2	2	2	
3	140-917	Valve Bracket - Semi & Corner	1	1	1	_	_	
3	140-918	Valve Bracket - Circle	_	_	_	1	1	
4	160-329	Screw 6-32 x 3/8" for terminal block	2	2	2	4	4	
*	161-069	Lock Nut 6-32 for terminal block	2	2	2	4	4	
5	269-625	Terminal Block - 3 Station	1	1	_	2	_	
5	269-647	Terminal Block - 4 Station	_	_	1	_	2	
*	S53-128	Wire Assy. Black	3	3	4	5	8	
*	S53-129	Wire Assy. Red	3	3	4	5	8	
*	269-645	Transformer 4RT Hard Wire 24V	1	1	1	_	_	
*	269-703	Transformer 8RT Hardwire 24V - Circle	_	_	_	1	1	
6	269-1248	U-Bolt	1	1	1	1	1	
7	161-026	Nut 1/4"-20	2	2	2	2	2	
8	269-1365	Hose - Braided Flexible	1	1	1	2	2	
9	R68-600011	Tubing 1/4" OD (Specify Length in feet)	_	_	_	_	_	
10	269-1150	Tee - 1/2" Brass	_	_	_	1	1	
11	113-006DH	1/2" Close Nipple	_	_	_	2	2	
12	124-051	Anti-Rotation Gasket	1	1	_	2	_	
12	124-052	Anti-Rotation Gasket		_	1	_	2	

^{*} Specify Length in feet.

Infrared (IR) Part 2 — Solenoid Valve Assembly (24V Transformer) Prior to February 1, 2013



Parts List — Solenoid Valve Assembly

Item	Part No.	Description	Qty.
1	110-231	Nut 1/4 Tube	1
2	118-307	Valve Body 1/4" Closed	1
3	118-307A	Valve Body 1/4" Thru	1
4	125-165	O-Ring	1
5	269-983	Diaphragm	1
6	269-577	Armature	1
7	269-578	Spring	1
8	269-1729	Armature Housing	1
9	269-1730	Clamp	1
10	160-447	Screw #8-16 x 5/8	3
11	269-579	Coil, Solenoid Valve	1
12	S07-067S	Solenoid Valve Closed Body (Black)	1
13	S07-067AS	Solenoid Valve Thru Body (Gray)	1

Infrared (IR) Part 2 — Solenoid Valve Assembly (24V Transformer) S07-040 Individual (End), S07-041 Ganged

S07-040 Individual (End), S07-041 Ganged (Prior to May 2, 2005)

S07-040 Solenoid Valve (Individual)
Used by itself, or is the last one (opposite end of the water inlet) in a group.

S07-041 Solenoid Valve (Ganged)
Used in a group, except the last in line.
Body is drilled to allow water to pass thru into the next in line. This valve includes
O-Ring 125-145 to seal to the next valve.

Parts List — Solenoid Valve Assembly

Item	Part No.	Description	54" Corner	36" Semi	54" Semi	36" Circle	54" Circle
					Qty.		
1–9	S07-040	Valve Individual	1	1	1	2	2
1–10	S07-041	Valve Ganged	2	2	3	3	6
1	160-066	Screw 10-24 x 1/4 RD	3	3	4	5	8
2	142-002AZ	Washer Stainless Steel	3	3	4	5	8
3	269-579	Coil - Solenoid Valve	3	3	4	5	8
4	110-194	Nut - Bonnet	3	3	4	5	8
5	121-028	Bonnet	3	3	4	5	8
6	269-578	Spring	3	3	4	5	8
7	269-577	Armature	3	3	4	5	8
8	269-580	Diaphragm	3	3	4	5	8
9	118-237	Valve Body Individual	1	1	1	2	2
9	118-238	Valve Body Ganged	2	2	3	3	6
10	125-145	O-Ring (for ganged valve body)	2	2	3	3	6
11	110-224	Nut	3	3	4	5	8
12	129-049	Tailpiece	3	3	4	5	8
13	125-145	O-Ring	3	3	4	5	8
14	110-195	Tailpiece Nut	3	3	4	5	8
15	145-090	Elbow, 1/8 NPTM x 1/4 Tube	3	3	4	5	8

Infrared (IR) — Sensor and Solenoid Valve Troubleshooting

If a station is not functioning properly it is most likely either the solenoid valve or the sensor.

Troubleshooting multi station units is fairly easy, as you can swap parts (actually just by changing the wires) and use the process of elimination to figure out which of the 2 parts is causing the problem.

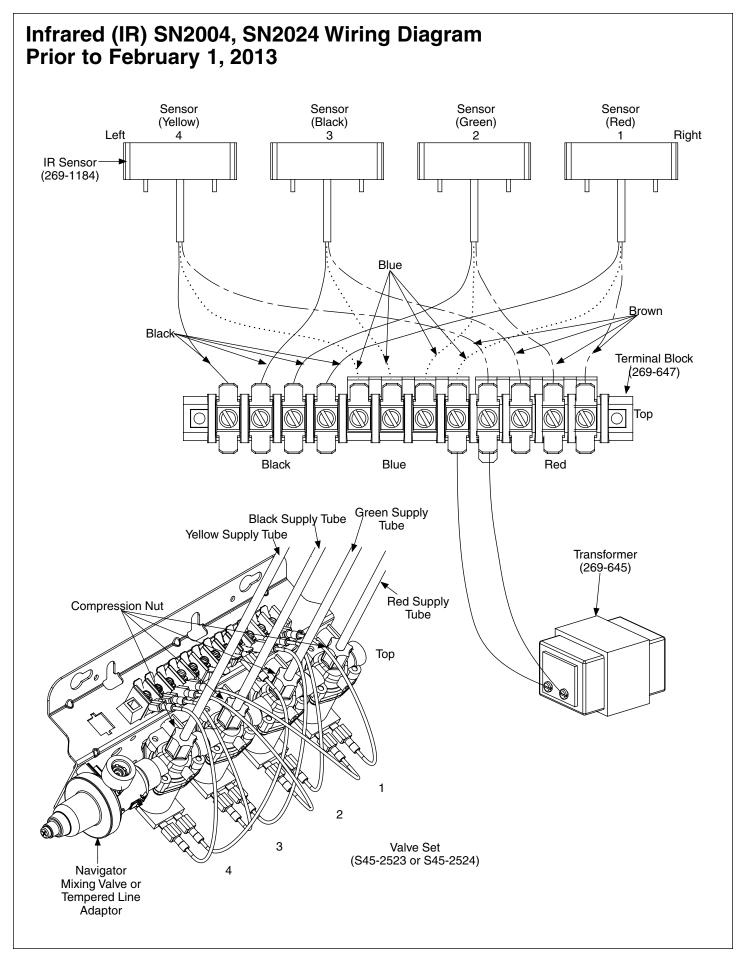
How the system operates:

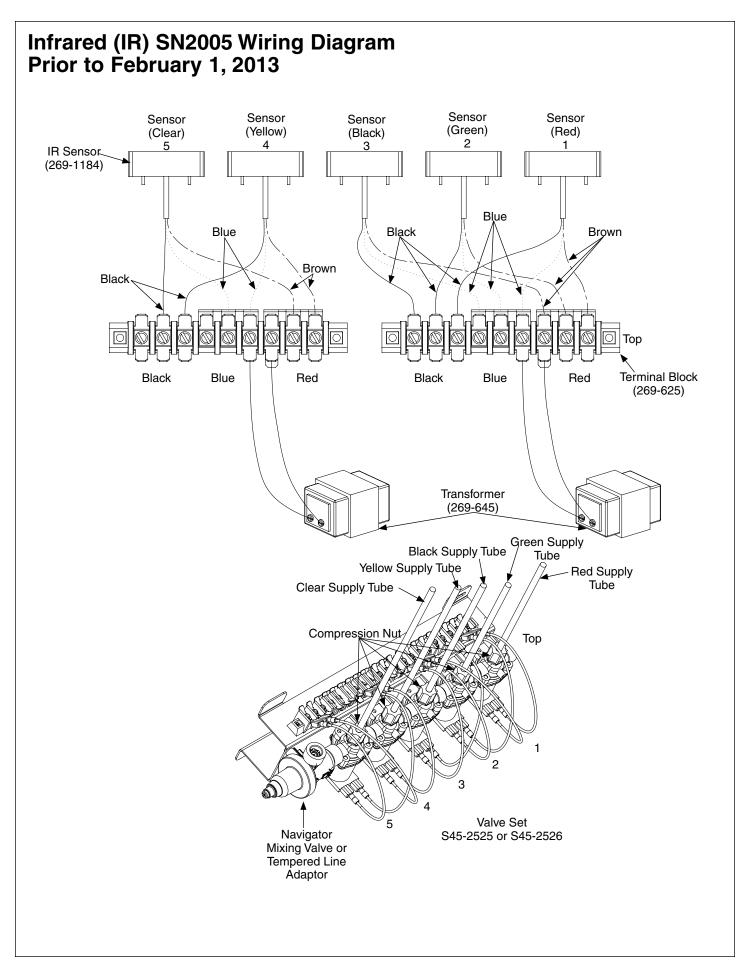
- 1. The transformer sends 24 volts to the sensor.
- 2. The sensor acts only as a switch.
- 3. When hands go into the active field of the sensor, the sensor activates and sends a power signal on to the solenoid valve.
- 4. The power signal activates and opens the solenoid valve which allows the water to flow to the sprayhead. The solenoid valve stays open allowing water to flow as long as it is receiving a signal form the sensor (hands remain in the active field).
- 5. When hands are removed from the active field, the sensor turns off (note some models have a slight delay feature built-in.) and shuts off the power signal to the solenoid valve.

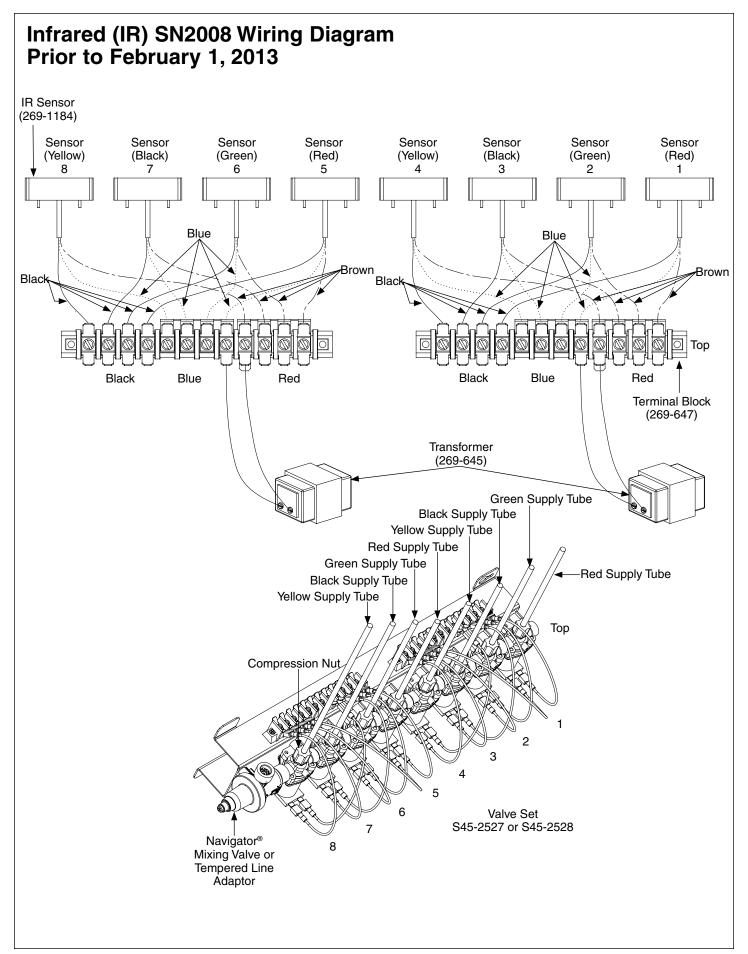
CAUTION: Turn off water supplies to unit before troubleshooting.

Problem	Cause	Solution											
An individual	There is debris	Remove debris between diaphragm and the valve seat.											
operating station fails to shut off and drips.	trapped between the diaphragm and the valve	Remove the three #8 Phillips-head screws that hold the solenoid valve assembly together. Be careful not to lose the armature or spring.											
	seat.	2. Remove the diaphragm. Remove any particles that have been trapped between the diaphragm and the valve seat. Rinse off the diaphragm and inspect for damage. Make sure the center orifice and both small side orifices are open.											
		3. Reassemble in reverse order, being careful not to overtighten the Phillips-head screws or you may crack the plastic valve body. Tighten until the armature plate makes contact with the plastic body.											
		4. Reconnect the wiring per the appropriate diagram on next 4 pages.											
An individual	tion the valve or loose electrical	Test the station to determine cause.											
operating station fails to turn on.		loose electrical	loose electrical	loose electrical	loose electrical	loose electrical	loose electrical	loose electrical	loose electrical	loose electrical	loose electrical		loose electrical
	terminal.	2. Turn on electrical and water supplies to the unit. Pass your hand in front of the sensor of the problem station, and the adjacent station should turn on.											
		 a. If the adjacent station turns on and cycles normally, replace the coil on the problem valve. 											
		 b. If the adjacent valve fails to turn on, inspect the wires from the sensor cable and do the following: 											
		 make sure there are no breaks and that the fully insulated disconnect terminals are firmly crimped in place; 											
		 turn off the electrical and water supplies; 											
		 reconnect to the adjacent valve and turn on the water supplies to the unit; 											
		 pass your hand in front of the sensor. If the station still fails to turn on, replace the sensor. 											

Infrared (IR) SN2003, SN2023, SN2013, SN2033 Wiring Diagram Prior to February 1, 2013 Left Center Sensor Sensor Right Sensor (Black) (Green) (Red) 3 2 IR Sensor (269-1184)Blue Brown Black Top Blue Black Red Terminal Block (269-625)Transformer (269-645)Green Supply Tube Black Supply Tube Compression Nut Red Supply Tube Top Valve Set (S45-2521 or S45-2522) Navigator Mixing_ Valve or Tempered Line Adaptor





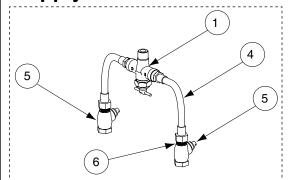


Sentry Transformers

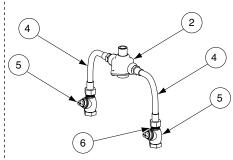
Madel	December 1	Current		Prior to May 2003		
Model	Description	Part Number	Qty.	Part Number	Qty.	
SN2003	36" Semi-Circular – Floor Mounted	S45-2045	1	269-645	1	
SN2004	54" Semi-Circular – Floor Mounted	S45-2045	1	269-645	1	
SN2023	36" Semi-Circular – Wall Mounted	S45-2045	1	269-645	1	
SN2024	54" Semi-Circular – Wall Mounted	S45-2045	1	269-645	1	
SN2005	36" Circular – Floor Mounted	S45-2045	2	* 269-703	1	
SN2008	54" Circular – Floor Mounted	S45-2045	2	* 269-703	1	
SN2013	54" Corner – Floor Mounted	S45-2045	1	269-645	1	
SN2033	54" Corner – Wall Mounted	S45-2045	1	269-645	1	

^{*} Available for service

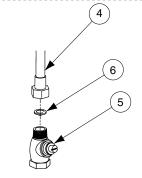
Supply Valves



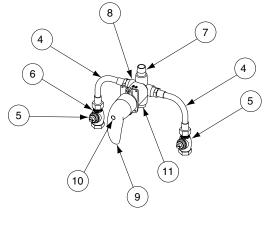
MMV — Manual Mixing Complete Assy. as Shown - S67-203 (Prior to May 2, 2005)



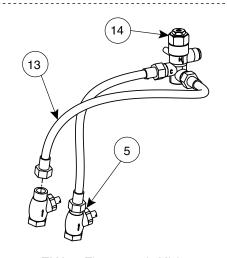
TMA — Thermostatic Mixing Complete Assy. as Shown - S67-571 (Prior to May 2, 2005)



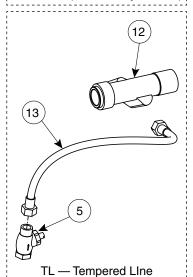
TL — Tempered Line Complete Assy. as Shown S45-1966 (Prior to May 2, 2005)



PBV — Pressure Balancing Complete Assy. as Shown - S67-516 (Prior to May 2, 2005)



TMA — Thermostatic Mixing (Prior to February 1, 2013)



(Prior to February 1, 2013)

Parts List — Supply Valves

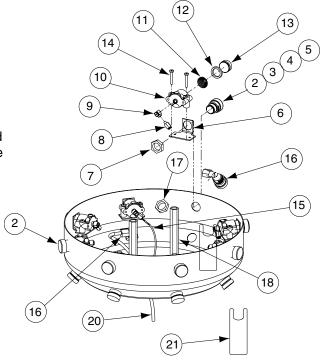
			MMV	TMA	TL	PBV	ТМА	TL
Item	Part No.	Description		(Prior to M	ay 2, 2005)		(prior to Feb. 1, 2013)	
					Qty.			
1	S01-038B	Mixing Valve - Manual	1	_	_	_	_	_
2	S01-116B	Mixing Valve - Thermostatic - Vernatherm	_	1	_	_	_	_
4	269-653	SS Flex Hose 1/2" NPT	2	2	1	2	_	_
5	S27-102	Check Stop	2	2	1	2	2	1
*6	269-1188	Filter Washer	2	2	1	2	_	_
7	113-006DH	1/2 x 1-1/2 Brass Pipe Nipple	_	_	_	1	_	_
8	S67-594	Valve	_	_	_	1	_	_
9	128-161	Handle for valve	_	_	_	1	_	_
*10	160-214	Screw for handle (PBV Valve only)	_	_	_	1	_	_
11	169-168	Pipe Plug for bottom of valve	_	_	_	1	_	_
12	S39-685	Adapter (Optional Single Tempered Line)		_	_	_	_	1
13	269-1735	Flex Hose	_	_	_	_	2	1
14	S01-524	Thermostatic Mixing Valve	_	_	_	_	1	_

Air Metering Valve (AST4) — Hand Pushbutton and Sprayhead (Prior to May 2, 2005)

Pushbutton Replacement

CAUTION: Turn off water supplies before replacing the pushbutton.

- 1. Remove the sprayhead cover by removing the two screws holding the cover to the sprayhead module.
- 2. Inside sprayhead, unscrew the two screws that hold the actuator body to the bracket being careful of the spring that will release.
- 3. Unscrew and remove the coupling if necessary.
- Unscrew and remove the brass nut if necessary.
 This will allow the pushbutton assembly to be removed
- 5. Carefully take apart the assembly and replace the parts as needed.
- 6. After replacement is complete, reassemble the pushbutton and sprayhead as shown.



Parts List — Pushbutton

Item	Part No.	Description	54" Corner Qty.	36" Semi Qty.	54" Semi Qty.	36" Circle Qty.	54" Circle Qty.
1	_	Shell	1	1	1	1	1
2	S08-324	Pushbutton Assy. (includes items 3–5)	3	3	4	5	8
3	128-090	Pushbutton Only	3	3	4	5	8
4	179-102	Guide for Pushbutton	3	3	4	5	8
5	147-033	Screw for Pushbutton	3	3	4	5	8
6	140-743	Bracket - Actuator	3	3	4	5	8
7	110-115	Nut 1/2"-14	3	3	4	5	8
08	169-890	Connector 1/8" tube x 10-32 Thd.	3	3	4	5	8
0 9	269-1186	"L" Fitting Adjustable	3	3	4	5	8
0 10	118-279	Actuator Body	3	3	4	5	8
0 11	135-065	Spring	3	3	4	5	8
0 12	125-099	U-Cup for piston	3	3	4	5	8
0 13	119-227	Piston	3	3	4	5	8
14	160-165	Screw - Body mounting	6	6	8	10	16
15	R68-600008	Tubing 1/8" OD (specify length in feet)	_	_	_	_	_
*16	S05-157	Aerator Assembly (Std 0.5 GPM)	3	3	4	5	8
*16	S05-172	Aerator Assembly (Optional 1.5 GPM)	3	3	4	5	8
17	110-115	Nut - 1/2" - 14	3	3	4	5	8
18	161-082	Nut - Extension 1/4"-20 x 5-1/8"	2	2	2	2	2
19	130-141	Spanner Wrench for Aerators	1	1	1	1	1
20	R68-600011	Tubing 1/4" OD (specify length in feet)	_	_	_	_	_
21	130-023	Spanner Wrench for Pushbuttons	1	1	1	1	1

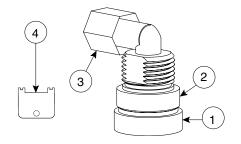
[•] Prepack S65-168A * See page 3 for additional information.

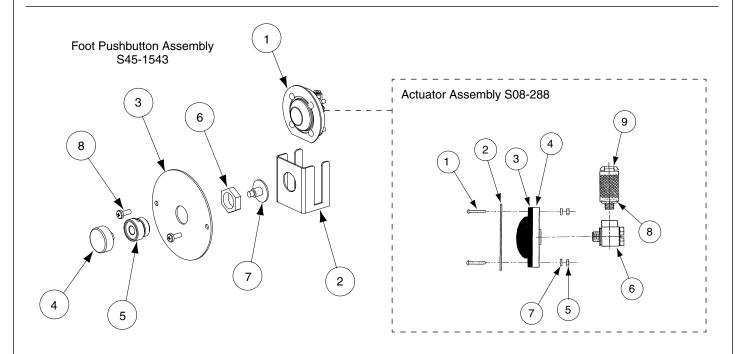
Bradley • 215-1473 Rev. D; ECN 15-00-007

Air Metering Valve (AST4-F) — Foot Pushbutton and Actuator (Prior to May 2, 2005)

Parts List — Aerator Assembly

Itom	Part No. Description		S05-157	S05-172
Item	Part No.	Description	Q	ty.
1	S05-142A	Standard Aerator, 0.5 GPM	1	_
1	153-397	Extra Flor Aerator, 1.5 GPM	_	1
2	153-402A	Adapter	1	1
3	145-090	90° Connector 1/4" tube x 1/8" NPT	1	1
4*	130-141	Spanner Wrench for Aerator	_	_





Parts List — Foot Pushbutton Assembly (S45-1543)

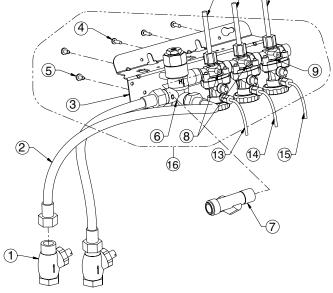
Item	Part No.	Description	Qty.
1	S08-288	Actuator Assy.	1
2	140-604	Bracket	1
3	150-198	Escutcheon	1
4	128-090	Pushbutton	1
5	179-071	Pushbutton Guide	1
6	110-115	Nut 1/2"-14	1
7	119-132	Plunger	1
8	160-245	Screw for escutcheon	2

Parts List — Actuator Assembly (S08-288)

Item	Part No.	Description	Qty.
1	160-276	Screw 8-32 x 3/4"	4
2	140-493	Mounting Plate	1
3	269-612	Diaphragm	1
4	269-613	Back Plate	1
5	161-062	Nut 8-32	4
6	269-1186	Fitting adjustable "L"	1
7	142-002CR	Washer #8 lock	4
8	125-001CZ	O-Ring	1
9	169-890	Fitting - tube connector 10-32 x 1/8"	1

Air Metering Valve (AST4) Part 1 — Assembly and Components (Prior to February 1, 2013)

3 Valve Assembly Shown



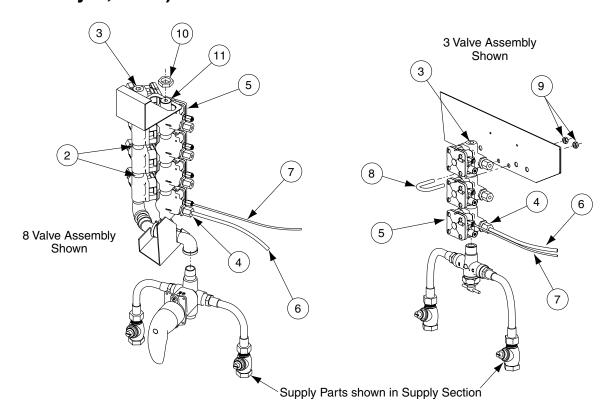
Parts List — Air Metering Valve Assembly

Item	Part No	Part No. Description		36" Semi	54" Semi	36" Circle	54" Circle
		2000		l	Qty.	ı	
1	S27-102	Stop/Check Valve	2	2	2	2	2
2	269-1735	Flex Hose	2	2	2	2	2
3	140-928	Bracket	1	1	1	_	_
*	140-940	Bracket	_	_	_	1	_
*	140-941	Bracket	_	_	_	_	1
4	P18-054	Screw #10-24 x 3/8	2	2	2	2	2
5	160-447	Screw #8-16 x 5/8	3	3	4	5	8
6	S01-524	Thermostatic Mixing Valve	1	1	1	1	1
7	S39-685	Adapter (Optional Single Tempered Line)	1	1	1	1	1
8	S07-077A	AST4 Valve, through body (Gray)	2	2	3	4	7
9	S07-077	AST4 Valve, closed body (Black)	1	1	1	1	1
10	R68-600011-B	Tubing 1/4 OD Black	**	**	**	**	**
11	R68-600011-G	Tubing 1/4 OD Green	**	**	**	**	**
12	R68-600011-R	Tubing 1/4 OD Red	**	**	**	**	**
*	R68-600011-Y	Tubing 1/4 OD Yellow	_	_	**	**	**
*	R68-600011	Tubing 1/4 OD Clear	_	_	_	**	_
13	R68-600008-B	Tubing 1/8 OD Black	**	**	**	**	**
14	R68-600008-G	Tubing 1/8 OD Green	**	**	**	**	**
15	R68-600008-R	Tubing 1/8 OD Red	**	**	**	**	**
*	R68-600008-Y	Tubing 1/8 OD Yellow	_	_	**	**	**
16	S08-443TMA	Valve Assembly AST	1	1	_	_	_
*	S08-444TMA	Valve Assembly AST4	_	_	1	_	_
*	S08-445TMA	Valve Assembly AST4	_	_	_	1	_
*	S08-448TMA	Valve Assembly AST4	_	_	_	_	1

^{*} Not Illustrated.

^{**} Specify Length in feet.

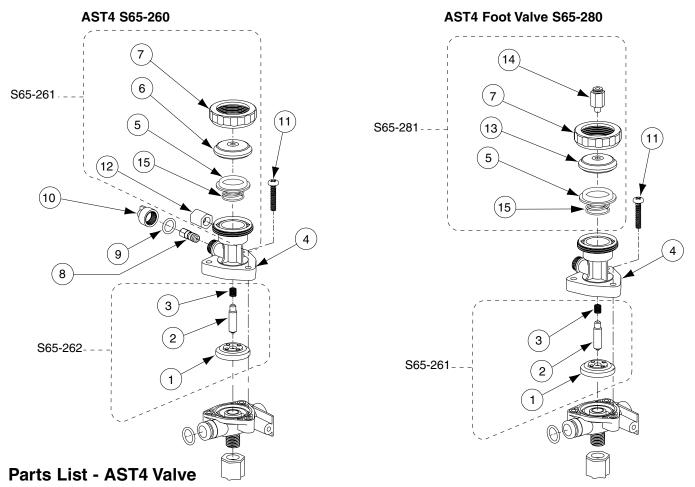
Air Metering Valve (AST) Part 1 — Assembly and Components (Prior to May 2, 2013)



Parts List — Air Metering Valve Assembly

Item Part No.		Description	54" Corner	36" Semi	54" Semi	36" Circle	54" Circle
		·		Qty.			
1	S67-205	Air Valve Assy Hand Control	1	1	_	_	_
1	S67-206	Air Valve Assy Foot Control	1	1	_	_	_
1	S67-207	Air Valve Assy Hand Control	_	_	1	_	_
1	S67-208	Air Valve Assy Foot Control	_	_	1	_	_
1	S67-209	Air Valve Assy Hand Control	_	_	_	1	_
1	S67-210	Air Valve Assy Foot Control	_	_	_	1	_
1	S67-211	Air Valve Assy Hand Control	_	_	_		1
1	S67-212	Air Valve Assy Foot Control	_	_	_		1
2	113-006DH	Close Nipple 1/2"	2	2	3	4	7
3	169-168	Pipe Plug 1/2"	1	1	1	1	1
4	145-097	Connector 1/4" tube x 3/8" NPT	3	3	4	5	8
5	S07-058	Air Metering Valve - Hand Control	1	1	1	1	1
5	S07-059	Air Metering Valve - Foot Control	1	1	1	1	1
6	R68-600011	Tubing 1/4" OD (specify length in feet)	_	_	_	_	_
7	R68-600008	Tubing 1/8" OD (specify length in feet)	_	_	_	_	_
8	269-1248	U-Bolt	_	1	1	_	_
9	161-026	Nut 1/4" - 20	1	2	2	_	_
10	110-115	Nut - 1/2" - 14	2	_	_	1	1
11	153-409	Plug	_	_	_	1	1

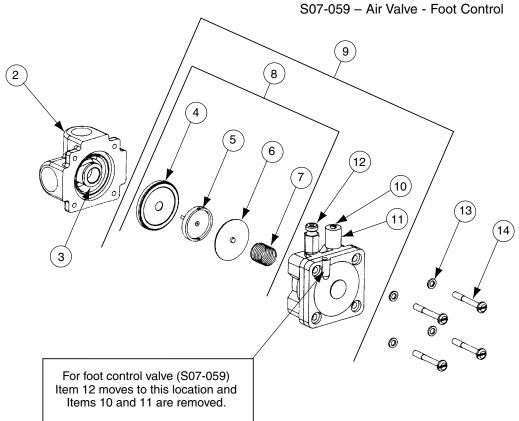
Air Metering Valve (AST4) Part 2 — Assembly and Components (Prior to February 1, 2013)



Item	Description	AST4 Valve S65-260	Repair Kit (Upper) S65-261	Repair Kit (Lower) S65-262	AST4 Foot Valve S65-280	Repair Kit Foot (Upper) S65-281
1	Diaphragm	1	_	1	1	_
2	Armature	1	_	1	1	_
3	Spring	1	_	1	1	_
4	AST4 Valve Upper Body	1	_	_	1	_
5	Magnet / Diaghragm Assembly	1	1	_	1	1
6	AST4 Valve Cover	1	1	_	_	_
7	AST4 Valve Clamp Nut	1	1	_	1	1
8	AST4 Valve Timer Assembly	1	_	_	_	_
9	O-Ring (-012)	1	_	_	_	_
10	AST4 Valve Timer Cover	1	_	_	_	_
11	Screw, #8 x 7/8"	3	_	_	3	_
12	Compression Nut, 1/8" Tube	1	1	_	_	_
13	AST4 Valve Cover Foot	_	_	_	1	1
14	Tube Connector	_	_	_	1	1
15	Compression Spring, AST4	1	1	_	1	1

Air Metering Valve (AST) Part 2 — Assembly and Components (Prior to May 2, 2005)

S07-058 – Air Valve - Hand Control (shown) S07-059 – Air Valve - Foot Control



Parts List - AST Valve

Item	Part No.	Description	Qty.
1	S07-058	Air Valve - Hand Control	1
1	S07-059	Air Valve - Foot Control (does not use timer assy.)	1
2	118-183	Valve Body lower	1
3	117-036	Valve Seat	1
4	269-665	Rubber Diaphragm	1
5	269-664	Seat Guide	1
6	179-082	Armature w/ Grommet	1
7	135-053	Spring	1
8	S65-110	Repair Kit, Air Valve - Universal (Includes Items 4-7)	_
9	S73-054A	Repair Kit, Air Valve - Hand (Includes Items 4-12)	_
9	S73-054B	Repair Kit, Air Valve - Foot (Includes Items 4-7, & 12	_
10	S27-254	Timer Assy. (Not used in S07-059)	1
11	269-656	Cover for timer assy. (Not used in S07-059)	1
12	169-890	Tube Connector 1/8" straight	1
13	142-002CR	Lockwasher #8	4
14	160-313	Screw	4

Air Metering Valve Maintenance (Prior to May 2, 2005)

Adjust Air Valve Meter Time



The air valve timer is located next to the tube connector on the air valve body. The timer is capped with a filter to prevent build-up on the timer. The air valve timing can be adjusted from 0 to 45 seconds.

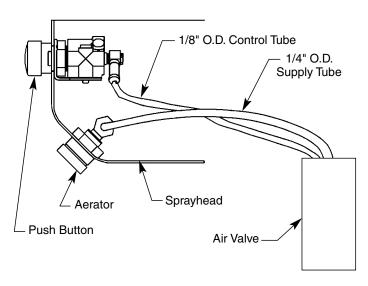
- Remove filter cap and use a screwdriver to tighten or loosen the timer. Turning the timer clockwise increases the time; turning the timer counterclockwise decreases the time.
- 2. Continue to adjust until the timer is set at desired length.
- 3. Replace filter cap over the timer.

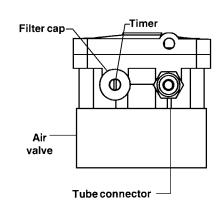


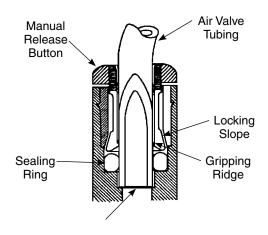
- 1. Push in the white manual release button while pulling the tube out to disconnect the tube at the connector. No tools are needed.
- 2. To correct a leak, press tubing firmly into the connector and make sure it is seated.
- 3. If leak persists, remove tubing from the fitting and trim the tubing end square with a razor-sharp knife. If leak continutes, replace the fitting or contact your Bradley representative for assistance.

Control Valve Illustrations

Hand Control Only

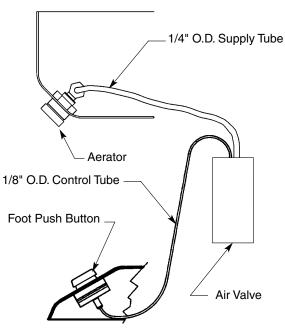






Tube Stop

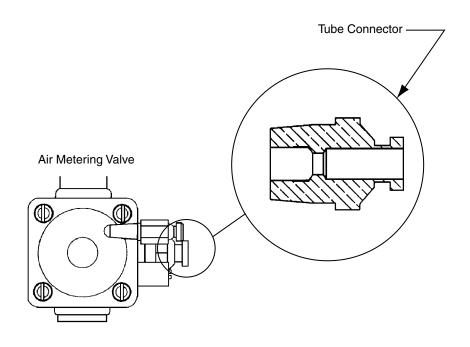
Foot Control Only



Troubleshooting Air Metering Valve (AST4)

CAUTION: Turn off water supplies to unit before troubleshooting.

Problem	Cause	Solution
Water is dripping from the aerators	Debris on valve seat or orifices	 Clean and inspect valve seat (Air Metering Valve Assembly and Components) Remove screws and disassemble metering valve. Clean valve seat and inspect for deep gouges or scratches. Replace if necessary. Remove all debris that may be clogging center hole of the plastic diaphragm assembly and offcenter hole in the rubber diaphragm.
Valve will not shut off	Timing mechanism is clogged	Clean timing mechanism 1. Remove plastic sleeve from timer assembly. 2. Blow water and debris from timing mechanism if compressed air is available. 3. Turn the adjusting screw in all the way but do not force screw. 4. Turn adjusting screw out to desired cycle time.
Valve will not turn on	Water is not being supplied to unit	Open all stops on the valve assembly.
Timing cannot be adjusted for more than five seconds	There is an air leak	Check assembly 1. Check all tubing and fittings for proper assembly. 2. Tighten all screws which hold valve together.
Pushbutton does not work properly	Air volume may not be sufficient to operate valve	Check all fittings for air leaks
Valve cycles properly, but water does not form streams and drips from aerator	Tube connector is not seated properly	Inspect and clean air flow control assembly 1. Replace 1/4" tubing as follows: cut 1/4" from the end of the tube to make sure the end is square, then insert into tube connector fitting.



Thermostatic Mixing Valve Troubleshooting (Prior to February 1, 2013)

Before attempting to troubleshoot the valve or disassemble the components, check for the following conditions:

- If stop valves are used, make sure that they are fully open.
- Make sure that the hot and cold inlet pipes are connected properly, and that there are no crossconnections or leaking stop valves.
- Check the hot water heater output to make sure that it is at least 20° F above the set temperature.



Be sure to close the appropriate shut-off valves prior to disassembly of the valve and reopen the valves after inspection and repair is complete.

Problem	Cause	Solution
External leaks.	Damaged O-rings.	Replace O-rings where necessary. For replacement of the O-rings, contact your Bradley representative and ask for Repair Kit (part number S65-259).
Improper water	Thermostat is slowly failing or	Check the thermostat for proper operation.
temperature or temperature	not working at all.	1. At room temperature (80° F or less) remove cap and thermostat.
fluctuation.		2. Place thermostat into container with 115° F water. The pushrod should pop out of the thermostat approximately 1/10".
		3. If thermostat pushrod does not pop out, the thermostat must be replaced. Contact your Bradley representative and ask for Repair Kit (part number S65-259).
	Valve temperature is not properly set.	Adjust the temperature.
	Dirt and debris have built up in	Check the valve's piston for free and smooth movement,
	the valve or strainer.	Remove the valve's cap and thermostat
		 2. Push down on the piston with your finger (the piston should move freely). If the movement is not as it should be, the piston needs to be cleaned. Follow the method outlined below for cleaning the piston and valve body: Remove the thermostat.
		Lift the piston out with a needle-nose pliers and remove the spring.
		 Any cleaner suitable for brass and stainless steel may be used (if cleaning with suitable cleaner is not sufficient to remove debris, a 400-grit sandpaper may be used to polish and hone the piston and valve body).
		 Snap spring into piston (will detent) and reassemble into the valve body.
		Retest the piston.
		3. If, after a thorough cleaning, the piston does not move freely, the piston must be replaced. Contact your Bradley representative and ask for Repair Kit (part number S65-259).

Vernatherm Thermostatic Mixing Valve S01-116B Maintenance and Troubleshooting (Prior to May 2, 2005)

* Repair kit S45-049 is pre-packaged and includes O-Ring, Flip Ring, Power Element and Spring.

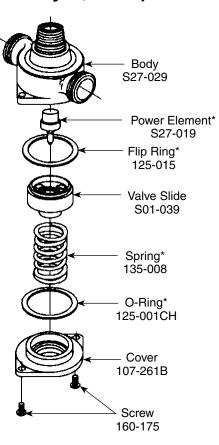
Maintenance Instructions

- Disassemble the Vernatherm[™] Valve as shown, being careful not to damage the power element. Replace the element, if necessary.
- 2. If necessary, remove the old flip ring and replace with a new ring.



An old or worn flip ring may cause temperature fluctuation and/or water chatter.

- 3. Reassemble the power element and valve body. Apply grease to the main valve slide and gently ease into position, rotating so that grease is applied to the flip ring. Do not force the slide as this may push the flip ring from its position. To test, rotate the slide; a slight drag should be felt when correctly installed.
- 4. Reassemble the valve.



Service Suggestions

When servicing the Vernatherm™ valve, make sure it is installed in the correct position. The most common error that occurs is when the valve is installed in the reversed position, that is, the hot line is connected to the cold line and the cold is connected to the hot.



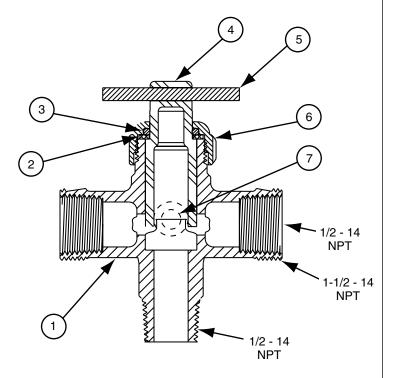
A red ring is painted on the hot side of the valve.

The table below lists conditions that occur when the valve is installed correctly, and when it is in the reversed position.

	If		Then
Valve Position is	Hot Supply	Cold Supply	Valve Delivers
Correct	Hot	Cold	Mixed 107°
Correct	Hot	No Water	Valve shuts off or drips
Correct	No Water	Cold	Valve shuts off or drips
Correct	Hot	Hot	Hot
Correct	Cold	Cold	Cold
Reversed	Hot	Cold	Cold/below 107° Hot/above 107°
Reversed	Hot	No Water	Hot
Reversed	No Water	Cold	Cold
Reversed	Hot	Hot	Hot
Reversed	Cold	Cold	Cold

Manual Mixing Valve — S01-038B (Prior to May 2, 2005)

Item	Part No.	Description	Qty.
1	118-034B	Mixing Valve Body - Brass	1
2	124-001BD	Fiber Washer	1
3	125-001BC	O-Ring	1
4	119-059	Mixing Valve Core	1
5	152-038	Roll Pin	1
6	121-016	Bonnet - Brass	1
7	160-197	Screw - Brass	1
_	S45-197	Repair Kit (Items 2–7)	_



Check Valve Troubleshooting Instructions

Problem	Solution
If water just dribbles or does not flow from sprayhead.	Close stop/check valves that supply water to the washfountain.
	2. Inspect stop/check valves for proper installation.
	3. Remove flexible hoses at stop/check valves and clean the strainers if necessary.
If water sprayhead	Close stop/check valves that supply water to the washfountain.
delivers all hot or cold water.	2. Inspect stop/check valves for proper installation.
cold water.	3. Remove flexible hoses at stop/check valves and clean the strainers if necessary.
	4. Inspect mixing valve for proper installation.
	Hot inlet is marked with an"H".

Care and Cleaning of Stainless Steel Sentry Washfountains

Stainless steel is extremely durable, and maintenance is simple and inexpensive. Proper care, particularly under corrosive conditions, is essential. Follow the cleaning instructions listed below:

Ordinary deposits of dirt and grease are quickly removed with soap and water. Whenever possible, the
metal should be thoroughly rinsed and dried after washing. To remove tightly adhering deposits, use
stainless steel polishing powder. In all cases, rub in the direction of the stainless steel grain.



Never use ordinary steel wool or steel brushes on stainless steel. Always use stainless steel wool or stainless steel brushes.

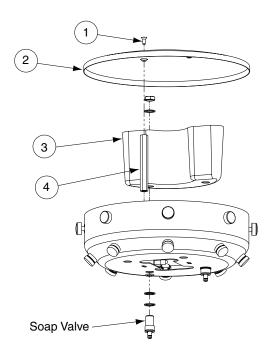
- Avoid prolonged contact with chlorides, bromides, thiocyanates, and iodides on stainless steel equipment, especially if acid conditions exist.
- Do not permit salty solutions to evaporate and dry on stainless steel.
- The appearance of rust streaks on stainless steel leads to the belief that the stainless steel is rusting. Look for the actual source of the rust in some iron or steel particles which may be touching, but not actually a part of the stainless steel structure. NOTE: Strongly acidic or caustic cleaners may attack the steel causing a reddish film to appear. The use of these cleaners should be avoided.

Soap System

Parts List — Sprayhead Cover and Soap System

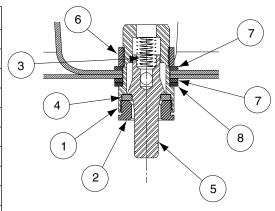
Item	Part No.	Description	Qty.
1	160-154	Screw for cover	2
2	_	Cover - Call for part number	1
3	133-134	Tank (1 per semi, 2 per circle)	1 or 2
4	161-082	Nut - Extension 1/4"-20 x 5-1/8" for cover	2
*	153-330	Plug Button - to plug soap valve holes	2 or 4

^{*} Not illustrated.



Parts List — Soap Valve S09-007

Item	Part No.	Description	Qty.
1	S09-007	Soap Valve - Valve only (Items 2-6)	1
1	S09-007S	Soap Valve - Valve w/ Attaching Hardware (Items 2-9)	1
2	118-025	Valve Body	1
3	110-007	Packing Nut	1
4	135-001L	Spring	1
5	125-001BU	Washer - Rubber	1
6	119-028	Plunger	1
7	161-014	Nut	1
8	124-001BV	Washer - Fiber	1
9	142-002AH	Washer - Stainless Steel	1



This soap valve delivers soap with each upward stroke. This soap valve is not suited for lotion soaps.



Lotion soap will clog liquid soap valves.

Soap System

Soap Recommendations

Quality soap dispensers require good quality soap and periodic maintenance to properly operate. Bradley soap dispensers will provide dependable, consistent operation over the long term when soap with reasonable viscosity and pH levels are used and when a minimal amount of periodic maintenance is performed on the valves.

Soap thickness is determined by a measurement called viscosity. Soap viscosity should be between 100 cps (centerpoise) and 2500 cps for all Bradley soap dispensers. Thinner soaps are perceived by the users as being "watered down" so users tend to take more than they need, resulting in waste. **Thick soaps flow slower and inhibit the "flushing" action of the valves, which allows the soap to congeal in the valve and cause clogs.**

The pH (acid) level of the soap should be in the range of 6.5 to 8.5. More acidic soaps (pH levels lower than 6.5) will corrode metal parts (even stainless steel!!) and degrade rubber and plastic components. They will also cause skin irritation. Most inexpensive soaps (typically the pink lotion type) fall into this acidic category and will eventually cause valve failure and metal corrosion. Base soaps (pH levels higher than 8.5) will cause swelling or degradation of rubber and plastic parts and skin irritation.

Generally, any quality soap meeting the viscosity and pH guidelines above will work well with Bradley soap dispensers. PCMX or Isapropanol based antibacterial soaps (within viscosity and pH limits) will also work with Bradley dispensers. Soaps satisfying these basic guidelines will provide consistent flow and reduce clogs.

Most soap dispenser problems are caused by soap that is too thick or corrosive, or by a lack of maintenance. Many soaps come in concentrate form which must be diluted with water. Often, the soap is improperly diluted or used straight out of the bottle, which causes clogging and valve failure. If proper soap is being used, valves that have never been cleaned are usually the source of dispensing problems. Bradley has entered into an agreement with Champion Brand Products to provide additional customer service for purchasers of our dispensers regarding soap issues. They are very helpful and can get to the bottom of almost any soap dispenser related problem. They also sell an excellent "Bradley approved" soap. Please see **Soap Instruction Sheet 215-1286** for details about soap valve cleaning or how to contact Champion. With proper maintenance and soap, Bradley dispensers will provide long term, trouble free operation.

Soap Dispenser Maintenance Instructions for Sentry Washfountains

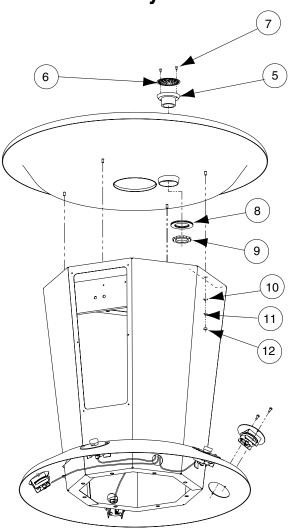
Bradley soap dispensers will provide dependable, consistent operation over the long term when the proper soap is used and when a minimal amount of periodic maintenance is performed on the valves. Valves must be maintained (cleaned) to function properly.

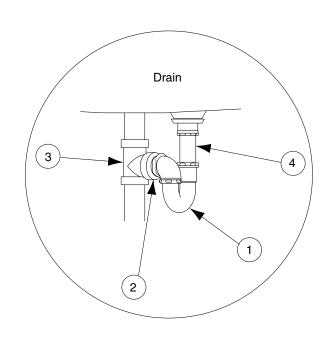
To ensure proper operation of your soap dispenser, follow these instructions:

- Once per month, remove the cap from the soap tank and insert the draw tube (below the cap) into hot water and soak it for 30 minutes.
- Push valve at least 20 times while it is soaking.
- Flush soap reservoir with hot water while valve is soaking.

In cases of extreme clogging, the valve should be disassembled and the parts should be soaked in hot water or cleaning solution to restore proper functioning. Soap dispensers that will not be used for extended periods of time (schools during summer break, etc.) should be drained, cleaned and left empty until put back into service. Soap left on the outside of dispensers can cause discoloration and corrosion of the reservoir (even on stainless steel units). All soap should be wiped or scrubbed off daily, then the outside of the dispenser should be rinsed with clear water and dried with a soft cloth.

Pedestal Assembly — Access Panels, Bowl Hardware, Drain Parts





Parts List — Access Panel

Model No.	Part No.	Height	Qty.
SN2003	186-1207	STD/JUV	1
SN2004	186-1207	STD/JUV	1
SN2005	186-1202	STD/JUV	2
SN2008	186-1202	STD/JUV	2
SN2013	186-743	JUV	2
SN2013	186-669	STD	2
SN2023	186-1207	WALL	1
SN2024	186-1207	WALL	1
SN2033	186-757	WALL	2

Access Panel Screws, #10-24 x 1/2" long (P/N 160-120)

Parts List— Drain

Item	Part No.	Description	Qty.
1	S29-021	P-Trap 1-1/2"	1
2	113-731	Close Nipple 1-1/2"	1
3	269-557	Tee-Y 1-1/2"	1
4	S29-083	Tailpiece 1-1/2"	1
5	112-028	Drain Spud	1
6	173-002	Strainer	1
7	160-042	Screw for strainer	2
8	142-063	Washer for spud	1
9	161-148	Nut for spud	1

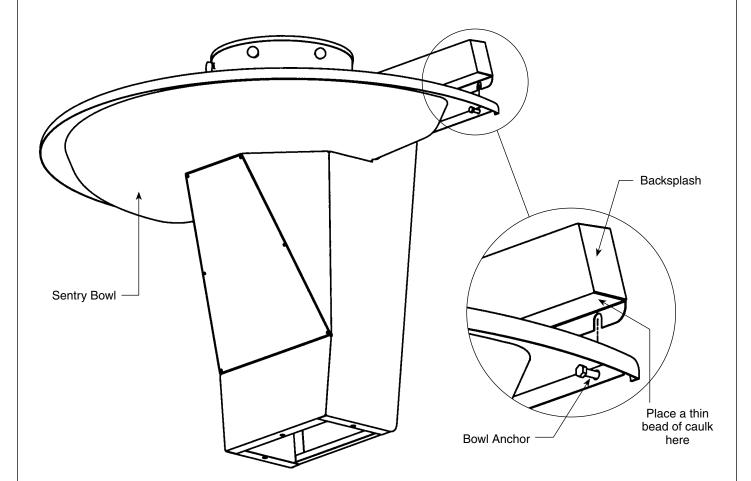
Parts List— Bowl Hardware

Item	Part No.	Description	Qty.
10	142-002AT	Flat Washer 1/4"	3 or 4
11	142-002BS	Lock Washer 1/4"	3 or 4
12	161-026	Hex Nut 1/4"-20	3 or 4

Backsplash Retrofit Kits — 36" Semi and 54" Semi

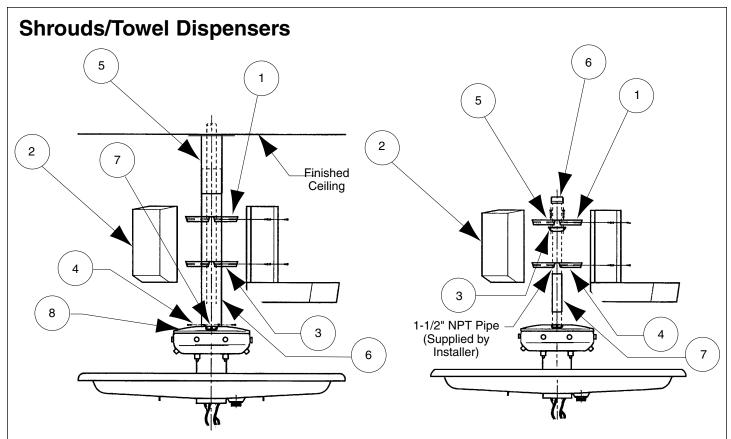
Installation

- 1. Loosen the bowl anchors.
- 2. Slide the backsplash between the wall and bowl making sure the slots on the backsplash are aligned with the bolts.
- 3. Caulk the lower edge of the backsplash where it meets the bowl.
- 4. Tighten the bowl anchors.



Parts List— Bowl Hardware

Part No.	Description	Qty.
S65-237	36" Semi-Circle	1
S65-238	54" Semi-Circle	1



Parts List — Shroud Installations

Item	Part No.	Description	Corner & Semi Qty.	Circle Qty.
1	S70-095	Mounting Bracket - for shroud mtg.	2	2
2	S78-002	Towel Dispenser - Single fold	2	3
2	S78-001	Towel Dispenser - Multi fold	2	3
*	S45-183	Prepack - For shroud mounting	_	_
3	160-169	Screw - Bracket to shroud (included in S45-183)	6	6
4	160-138	Screw - Shroud to cover	3	3
5	S57-040	Slip Ring for shroud	1	1
6	_	Shroud - Call for part number	1	1
7	S10-009	Soap Filler Cap	2	2
8	107-445	Sprayhead Cover for Shroud	1	1

Parts List — Pipe Installations

* Not illustrated.

Item	Part No.	Description	Corner & Semi Qty.	Circle Qty.
1	S70-123	Mounting Bracket - for 1-1/2" pipe mtg.	2	2
2	S78-002	Towel Dispenser - Single fold	2	3
2	S78-001	Towel Dispenser - Multi fold	2	3
*	S45-205	Prepack - For 1-1/2" pipe mounting	_	_
3	159-020	Tie Bar-Tie Pipe (included in S45-205)	2	2
4	160-208	Screw - Tie bar to pipe (included in S45-205)	6	6
5	160-111	Screw - Bracket to tie bar (included in S45-205)	4	4
6	169-986A	Pipe Cap (included in S45-205)	1	1
7	113-170	Spacer Sleeve - for 1-1/2" pipe mtg.	1	1

^{*} Not illustrated.