

# Foam Applicators

Service Manual



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## HANNA SINGLE, DUAL AND TRIPLE FOAM STAINLESS STEEL APPLICATORS

Includes Instructions for Part Numbers 424410, 424411, 424412, 424346, 424347, 424348

Design Features	4
Operational Features	5
Safety	6
Installation	
Suspended	7-8
Freestanding	9-11
Packing List	12-13
Preventive Maintenance/Trouble Shooting	14
Assembly Drawings	15-38



#### **DESIGN FEATURES**

#### SINGLE, DUAL AND TRIPLE FOAM APPLICATORS

- . 2"X 2"STAINLESS NON-CORROSIVE POST SET
- SIDE TO SIDE VEHICLE WIDTH 110"
- OVERHEAD VEHICLE CLEARANCE 90"
- . INCLUDES SOLENOID CHEMICAL VALVE FOR EACH FOAMER SET
- . INCLUDES REGULATED SOLENOID AIR VALVE

HANNA'S Stainless Steel Chemical Foam Applicators are designed to deliver an air and chemical solution foam to the vehicle when and where needed. They come in a single tube, double tube and triple tube design. They may be either suspended from the C-channel framing, or in a freestanding post design. The solutions used may be soap, shampoo, or wax.

The newest Hanna Stainless Steel Foam Applicators have metered jets drilled right into the stainless tubing. This means that there are no jets to unscrew or clean. The screw-on PVC Foamer assembly allows visual confirmation of the chemical foaming action. Each Applicator comes with its own solenoid chemical valve, and each set of Applicators comes with the appropriate regulated solenoid air valve assembly. These Applicators sets are designed for years of simple, maintenance free operation.



#### **OPERATIONAL FEATURES**

Applicators sets consist of a right and left hand applicator assembly, and either two posts for freestanding applications, or two bracket sets for suspension from a C-channel frame. Each is also shipped with the appropriate nut and bolt installation accessories kit.

A set of solenoid valves are included with each Applicators set purchased. A single stainless steel Foam Applicators set will have a single chemical solenoid, and a single air solenoid valve assembly. A Dual Stainless Steel Foam Applicator set will have two chemical solenoid valves and a dual air solenoid valve assembly. A Triple Stainless Steel Foam Applicator will have three chemical solenoid valves and a triple air solenoid valve assembly. These solenoids are shipped loose, and can be installed by the operator in any convenient location.

A PVC foam generator assembly is included for installation at the top of each stainless steel foamer tube. On each foam generator assembly can be found two 3/8" poly flow fittings, two check valves, and the air and chemical metering petcock valves. The poly flow fittings are the connections for the compressed air and chemical feed to the Applicator. The check valves prevent backflow of either air or chemical, preventing damage to the solution pump or solenoid valves. The air and chemical metering valves are used to adjust the flow rate of the air and chemical entering the foam generator assembly.

A chemical solution of soap, shampoo or wax is pumped into the Applicator through the energized chemical solenoid valve to the chemical metering valve. Air is supplied through the energized regulated air solenoid valve to the air metering valve. These two metering valves are adjusted so that the air and chemical mix is injected at the tee in the generator metering assembly. This air / chemical mixture then passes through the plastic foam generator padding where the air and chemical are broken into foam by the action of the padding. This foam, in turn, is forced into the stainless steel applicator tube and applied to the vehicle through the jet holes.

Foam applicators require the use of both an external chemical pumping system, and an external compressed air source. These are not included with the applicator, but are available through Hanna Car Wash Systems.



#### SAFETY

Notes, Warnings, and Cautions

**Note:** This symbol is used to clarify a procedure or to point out an operational item that may be significant during the assembly process.

**Warning:** This symbol is used to point out a procedure that if not followed could result in damage to the equipment being assembled. It is followed by the precautions necessary to prevent this damage.

**Caution:** This symbol is used to point out a procedure or process that may be hazardous to personnel who may be assembling the piece of equipment. It is then followed by an explanation of the hazard, and precautions necessary to prevent personal injury.



#### **INSTALLATION: SUSPENDED**

Single, Dual and Triple Foam Stainless Steel Applicator sets. Hanna Part Numbers 424410, 424411, 424412

The following procedures apply all three Applicator sets.

**Caution:** Shear cut and plasma cut stainless steel pieces may have sharp edges. To prevent personal injury, it is recommended that protective gloves be worn when handling and assembling these pieces.

- a. Remove the Applicator pieces from the packing crate. A nut and bolt kit is provided for assembling the Applicator. Air and chemical valves are also included.
- b. Verify that all items on the inventory checklist are included in the items removed from the crate, and inspect each for obvious damage that may have occurred during shipment. (See page 11 for the appropriate packing list.)
- c. Lay the Applicator pieces out on the floor on a tarpaulin or similar protective material to prevent damage to the Applicator.

**Note:** It is preferable to install the mounting bracket into the c-channel structure prior to installing the Foamer tube onto the bracket.

**Note:** For purposes of proper installation, the lower Foamer tube mounting bracket is located 2.50 inches from the end of the Applicator tube, while the upper Foamer tube mounting bracket is located 3.50 inches from the end of the Applicator tube. See drawing 806602 for reference. The bottom of the Foamer tube will have a factory installed clean-out plug.

**Warning:** It is preferable to bolt the Foamer tube assembly onto the mounting bracket prior to installing the foam generator assemblies. PVC is more easily damaged than the stainless steel, and can be broken if dropped.

- d. Determine the desired location for the Applicator and mark the c-channel structure on both the driver and passenger sides at this location.
- e. Using a ladder or similar platform, raise the c-channel mounting bracket and place the angled lip of the bracket over the inside top of the c-channel structure at the desired location. Drop a 1/2" x 1-1/2" stainless steel hex cap screw with washer through the mounting bracket and c-channel structure to temporarily hold the bracket into place.

**Warning:** Stainless steel screws and nuts have a tendancy to seize when tightened. It is recommended that a drop of heavy oil be applied to the screw or bolt prior to installing the nut. Failure to do so can cause the nut to seize and result in the bolt having to be cut off.

- f. Install a washer and nut on the bolt and snug, but do not tighten them into place.
- g. Install the other washers, bolt and nut in the remaining hole in the top bracket and also snug them.



#### **INSTALLATION: SUSPENDED – Continued**

- h. Slide the lower retaining bracket up the leg until it contacts the lower ledge of the cchannel structure.
- i. From the bottom side of the bracket, insert two 1/2" x 1-1/2" stainless steel hex cap screws with washers through the bracket and channel and secure each with a washer and nut on the inside of the channel.
- j. Using a carpenter's level or similar device, level the mounting bracket side-to-side and front to rear.
- k. Tighten the screws and nuts to secure the mounting bracket into place.
- Rest the bottom of the Foamer assembly onto the floor on the inside of the c-channel mounting bracket so that the upper bracket of the Foamer assembly rests over the cchannel mounting bracket.
- m. Insert a 1/4" U-Bolt from the backside of the c-channel mounting bracket through the upper mounting bracket and loosely secure with two 1/4" washers and Esna nuts on the U-Bolt where it protrudes through the bracket.
- n. Gently raise the Foamer assembly on the c-channel mounting bracket and measure the clearance between the Foamer assembly and the floor. This distance is dependant upon the operator, but most operators prefer a distance of 18 inches.
- o. While holding the Foamer assembly in place, tighten the u-bolt and nuts.
- p Install and tighten the u-bolt, washers and nuts in the lower Foamer assembly mounting bracket.
- q. Perform steps 4 through 10 for the opposite arch leg assembly.

**Warning:** Pipe thread sealant is recommended when installing the foam generators onto the top of the foamer tubes. Failure to use a sealing compound could result in improper fit and leaking.

**Warning:** Extreme care should be taken to prevent cross threading the PVC nipple in the stainless steel Foamer tube. Cross threading may cause premature tightening of the threads and result in leaking.

**Note:** The foam generator assemblies come with a PVC coupling that can be loosened or disassembled for ease of installation and alignment.

- r. Using a ladder or portable platform, install and tighten the foam generator assemblies on the top end of each Foamer tube. (See drawing.)
- s. Align the foam generator assemblies as desired and tighten the coupling.

Caution: Electrical installation and plumbing should be accomplished by certified technicians.



#### INSTALLATION FREESTANDING

Single, Dual and Triple Foam Stainless Steel Applicator sets. Hanna Part Numbers 424346, 424347, 424348

The following procedures apply all three Applicators sets.

**Caution:** Shear cut and plasma cut stainless steel pieces may have sharp edges. To prevent personal injury, it is recommended that protective gloves be worn when handling and assembling these pieces.

- a. Remove the Applicator pieces from the packing crate. A nut and bolt kit is provided for assembling the Applicator. Air and chemical valves are also included.
- Verify that all items on the inventory checklist are included in the items removed from the crate, and inspect each for obvious damage that may have occurred during shipment. (See page 12 for the appropriate packing list.)
- c. Lay the Applicator pieces out on the floor on a tarpaulin or similar protective material to prevent damage to the Applicator.

**Note:** It is preferable to assemble the Foamer to the post on a set of sawhorses or on the floor prior to bolting the Applicator post to the floor.

**Warning:** It is preferable to bolt the Foam Applicator Post to the floor prior to installing the foam generator assemblies. PVC is more easily damaged than the stainless steel, and can be broken if dropped.

- d. Visually determine the location of the weld seam on the Applicator post assembly. It is preferable to locate this seam on the outside of the post for aesthetic reasons.
- e. On the side opposite the seam, measure up from welded base plate on the bottom of the post and make a pencil mark at 20 inches. This mark will be used to locate the bottom edge of the lower Foamer tube mounting bracket during installation.

**Note:** For purposes of proper installation, the lower Foamer tube mounting bracket is located 2.50 inches from the end of the Applicator tube, while the upper Foamer tube mounting bracket is located 3.50 inches from the end of the Applicator tube. See drawing 806602 for reference. The bottom of the Foamer tube will have a factory installed clean-out plug.

f. Gently set the Foamer tube assembly over the inside of the post weldment, paying close attention to the location of the lower mounting bracket and the pencil mark previously made. The lower edge of the mounting bracket should be aligned with the pencil mark.

**Warning:** Stainless steel screws and nuts have a tendancy to seize when tightened. It is recommended that a drop of heavy oil be applied to the screw or bolt prior to installing the nut. Failure to do so can cause the nut to seize and result in the bolt having to be cut off.



#### **INSTALLATION FREESTANDING – Continued**

- g. Insert a 1/4" U-Bolt from the backside of the post through the lower mounting bracket.
- h. Install two 1/4 washers and Esna nuts on the U-Bolt where it protrudes through the bracket.
- i. Insure that the lower bracket and the pencil mark are aligned and tighten the nuts onto the U-Bolt.
- j. Perform steps g. through i. for the upper mounting bracket.
- k. Perform steps d. through j. for the other Applicator post assembly.
- Determine the centerline of the car wash system, and measure outward from this line 61
  inches in both directions in at least two locations on each side so that a line can be drawn
  between the two points created. This line corresponds to the front of the base plate of the
  post assembly.
- m. Determine the desired distance for the center of the arch from the nearest component post in the system. Measure this distance and place a mark on the line on each side of the wash so that it intersects the line.
- n. Align the front of the base of the Applicator post assembly with the line previously drawn, and center the arch on the mark intersecting the line so that the Foamer is facing the inside of the system.
- o. Using the holes in the Applicator post, mark the location of the anchor holes to be drilled in the floor. Move the arch out of the way.
- p. Using a 3/8" masonry bit, drill the four holes needed for the anchor bolts. The preferred anchor bolts are 3/8" x 3-1/2" stainless steel. The length of the anchor bolt determines the depth of the anchor holes.
- q. Install the anchor bolts into the holes, insuring that a minimum of 1" protrudes from the top of the hole.

**Note:** Depending on the condition and level of the floor, it may be necessary to shim under the base of the arch to insure that the Applicator can be installed level. It is highly recommended that installers have a selection of shims for this purpose.

- r. Install the Applicator post over the anchor bolts and loosely secure with washers and nuts.
- s. Using a carpenter's level or similar devise, level the arch in all directions. Shim the base as appropriate to insure that this level is maintained. Tighten the anchor nuts and bolts checking that the arch remains level.
- t. Perform steps n. through q. for the other Applicator post on the opposite side of the wash.

**Warning:** Pipe thread sealant is recommended when installing the foam generators onto the top of the foamer tubes. Failure to use a sealing compound could result in improper fit and leaking.

**Warning:** Extreme care should be taken to prevent cross threading the PVC nipple in the stainless steel Foamer tube. Cross threading may cause premature tightening of the threads and result in leaking.



#### **INSTALLATION FREESTANDING - Continued**

**Note:** The foam generator assemblies come with a PVC coupling that can be loosened or disassembled for ease of installation and alignment.

- u. Using a ladder or portable platform, install and tighten the foam generator assemblies on the top end of each Foamer tube. (See drawing)
- v. Align the foam generator assemblies as desired and tighten the coupling.

**Caution:** Electrical installation and plumbing should be accomplished by certified technicians.



#### **PACKING LIST**

424410 Sir	ngle Foam Ap	plicator (Suspended)	
Item#	Part #	Description	Qty.
1	806600	Single Foam Applicator	2
2	806592	Foamer Mounting Tube Weldment	2
3	805774	Clamp Hanger Tube	2
4	809895	Manifold Valve Assembly (Installed on Generator)	2 2 2 2 2
5	806517	Foam Generator Assembly	2
6	361002	Bushing PVC 1"x 3/4" (Installed on Generator)	2
7	193100	Nipple PVC 1" Close (Installed on Generator)	2
8	809624	Chemical Valve Assembly	1
9	809621	Single Air Regulator Assembly	1
10	365573	U-Bolt SS 1/4" x 2.06" x 4.38"	4
11	623042	Washer SS 1/4" SAE	8
12	622708	Nut Esna Hex SS 1/4" NC	8
13	622934	Screw Hex Cap SS 1/2" NC x 1-1/2"	4
14	623033	Washer Flat SS 1/2" SAE	8
15	622709	Nut Esna Hex SS 1/2" NC	4
		licator (Suspended)	
1	806598	Dual Foam Applicator DS	1
2	806599	Dual Foam Applicator PS	1
3	806592	Foamer Mounting Tube Weldment	2
4	805774	Clamp Hanger Tube	2
5	809895	Manifold Valve Assembly (Installed on Generator)	4
6	806517	Foam Generator Assembly	4
7	361002	Bushing PVC 3/4" x 1" (Installed on Generator)	4
8	193100	Nipple PVC 1" Close (Installed on Generator)	4
9	809624	Chemical Valve Assembly	2
10	809622	Dual Air Regulator Assembly	1
11	365573	U-Bolt SS 1/4" x 2.06" x 4.38"	4
12	623042	Washer SS 1/4" SAE	8
13	622708	Nut Esna Hex SS 1/4"NC	8
14	622934	Screw Hex Cap SS 1/2" NC x 1-1/2"	4
15	623033	Washer Flat SS 1/2" SAE	8
16	622709	Nut Esna Hex SS 1/2" NC	4
		olicator (Suspended)	
1	806596	Triple Foam Applicator DS	1
	806597	Triple Foam Applicator PS	1
2	806592	Foamer Mounting Tube Weldment	
4	805774	Clamp Hanger Tube	2
5	809895	Manifold Valve Assembly (Installed on Generator)	6
6	806517	Foam Generator Assembly	6
7	361002	Bushing PVC 3/4"x 1" (Installed on Generator)	6
8	193100	Nipple PVC 1"Close (Installed on Generator)	6
9	809624	Chemical Valve Assembly	3
10	809623	Triple Air Regulator Assembly	3
11	365573	U-Bolt SS 1/4" x 2.06" x 4.38"	4
12	623042	Washer SS 1/4" SAE	8
13	622708	Nut Esna Hex SS 1/4"NC	8
14	622934	Screw Hex Cap SS 1/2" NC x 1-1/2"	4
15	623033	Washer Flat SS 1/2" SAE	8
16	622709	Nut Esna Hex SS 1/2" NC	4
			-



#### **424346 Single Foam Applicator (Freestanding)**

Item#	Part #	<u>Description</u>	Qty.
1	806600	Single Foam Applicator	2
2	804829	Post Weldment 2 X 2 SS 91"Lg.	2
3	809895	Manifold Valve Assembly (Installed on Generator)	2
4	806517	Foam Generator Assembly	2
5	361002	Bushing PVC 3/4" x 1" (Installed on Generator)	2
6	193100	Nipple PVC 1"Close (Installed on Generator)	2
7	809624	Chemical Valve Assembly	1
8	809621	Single Air Regulator Assembly	1
9	365573	U-Bolt SS 1/4" x 2.06" x 4.38"	4
10	623042	Washer SS 1/4" SAE	8
11	622708	Nut Esna Hex SS 1/4"NC	8

#### 424347 Dual Foam Applicator (Freestanding)

1	806598	Dual Foam Applicator DS	1
2	806599	Dual Foam Applicator PS	1
3	804829	Post Weldment 2 X 2 SS 91"Lg.	2
4	809895	Manifold Valve Assembly (Installed on Generator)	4
5	806517	Foam Generator Assembly	4
6	361002	Bushing PVC 3/4" x 1" (Installed on Generator)	4
7	193100	Nipple PVC 1" Close (Installed on Generator)	4
8	809624	Chemical Valve Assembly	2
9	809622	Dual Air Regulator Assembly	1
10	365573	U-Bolt SS 1/4" x 2.06" x 4.38"	4
11	623042	Washer SS 1/4" SAE	8
12	622708	Nut Esna Hex SS 1/4" NC	8

#### **424348 Triple Foam Applicator (Freestanding)**

Item#	Part #	<u>Description</u>	Qty.
1	806596	Triple Foam Applicator DS	1
2	806597	Triple Foam Applicator PS	1
3	804829	Post Weldment 2 X 2 SS 91"Lg.	2
4	809895	Manifold Valve Assembly (Installed on Generator)	6
5	806517	Foam Generator Assembly	6
6	361002	Bushing PVC 3/4" x 1" (Installed on Generator)	6
7	193100	Nipple PVC 1" Close (Installed on Generator)	6
8	809624	Chemical Valve Assembly	3
9	809623	Triple Air Regulator Assembly	1
10	365573	U-Bolt SS 1/4" x 2.06" x 4.38"	4
11	623042	Washer SS 1/4" SAE	8
12	622708	Nut Esna Hex SS 1/4" NC	8



#### PREVENTATIVE MAINTENANCE

Generally, preventative maintenance consists of routine inspection and cleaning of the Applicator and components. At least 50% of all system failures are a result of not properly maintaining the applicator.

- Inspect the jet holes to insure that a chemical build-up is not present and that the jet holes are free of debris. Clean as necessary.
- b. Inspect the condition and consistency of the foam being delivered to the vehicle during operation. It may be necessary to periodically adjust the petcock valves to insure proper consistency of the foam.
- c. Inspect the foam generator for signs of leakage. Tighten as necessary.
- d. Inspect the foam generator pad for deterioration, and replace as necessary.
- e. Insure that the system shuts off when the solenoids are deactivated. Chemical can build up in the chemical valves and may cause them to not fully close. Remove and clean as needed.
- f. Inspect valve wiring for signs of chafing or deterioration. Repair as necessary.

#### TROUBLE SHOOTING

Applicator will not turn on: Check voltage control source or Computer function

Applicator turns on but all

I get is Chemical:

Check that the air supply is on and available. Check the air supply lines for breaks and leaks. Check that air is available at the petcock valve.

If air is available, adjust the valve.

Check that air is available at the solenoid valve. If air is available at the valve, but does not flow

through the valve when energized, remove and

test the valve.

Applicator turns on but all I get is Air:

Check that the chemical pump is on and working. Check the chemical supply lines for breaks and leaks. Check that chemical is available at the petcock valve.

If chemical is available, adjust the valve.

Check that chemical is available at the solenoid valve.

If chemical is available at the valve, but does not

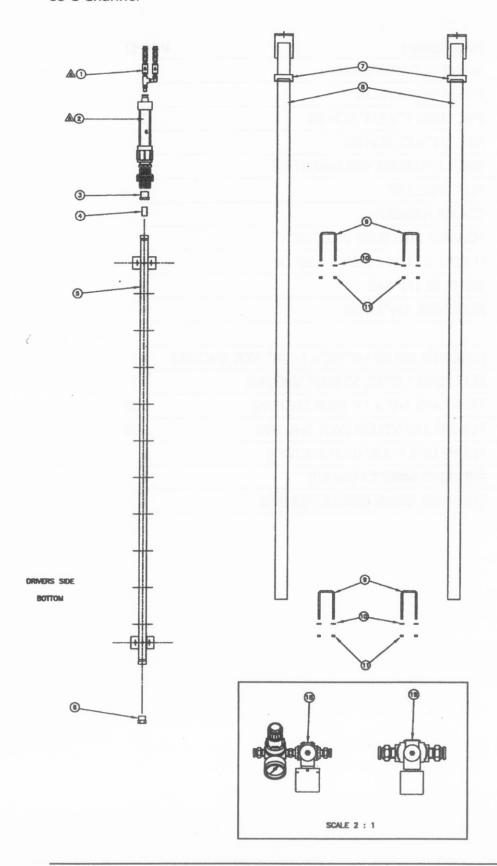
flow through the valve when energized, remove

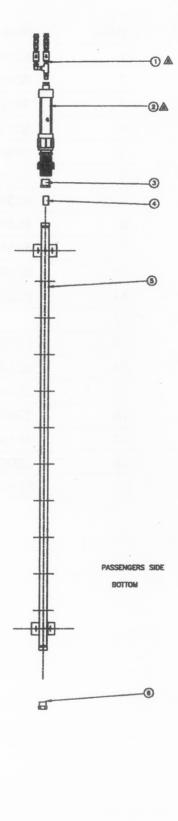
and test the valve.

Applicator will not shut off: Check chemical and air valves for sticking



#### **SINGLE FOAMER ASSEMBLY**







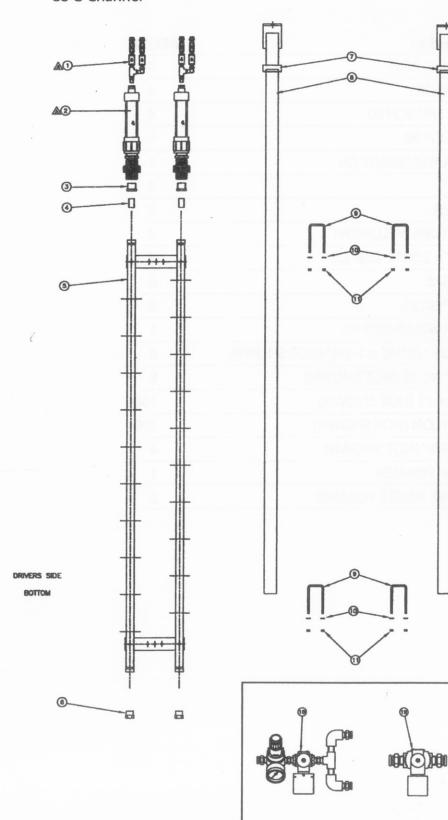
#### **SINGLE FOAMER ASSEMBLY**

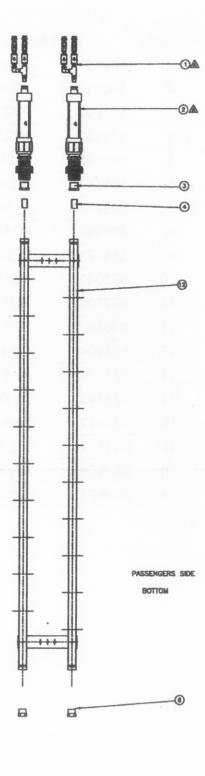
Item	Part No.	Description	REQ'D
1	809895	MANIFOLD VALVE ASSY	2
2	806517	FOAM GENERATOR	2
3	361002	PVC BUSH 1"x 3/4" SCH 80	2
4	621162	NPL 3/4" x CL SCH 80	2
5	806600	SINGLE FOAMER WELDMENT DS	2
6	361151	PLUG PVC 3/4"	2
7	805774	CLAMP, HANGER	2
8	806592	FOAMER MTG TUBE WELDMENT	2
9	365573	U-BOLT SS 1/4" x 2.06" x 4.38" DP	4
10	623042	WSHR SS 1/4" SAE	8
11	622708	NUT, ESNA 1/4" NC SS	8
12			
13	622964	CPSCR HX HD SS 1/2" NC x 1-3/4" (NOT SHOWN)	8
14	622709	NUT. ESNA 1/2" NC SS (NOT SHOWN)	8
15	323543	TIE WRAPS 1/8" x 11" (NOT SHOWN)	100
16	024612	TUBING 3/8" NYLON (NOT SHOWN)	500
17	341552	TEE, PF UNILN 3/8" (NOT SHOWN)	2
18	809621	AIR VALVE SINGLE FOAMER	1
19	809624	CHEMIVAL VALVE SINGLE FOAMER	1



#### **DUAL FOAMER ASSEMBLY**

SS C-Channel





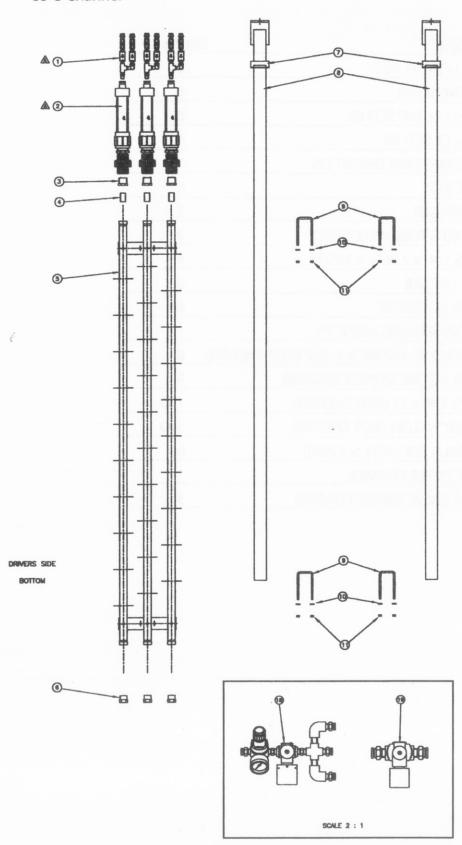
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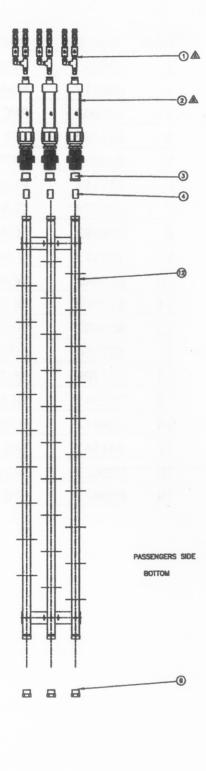


#### **DUAL FOAMER ASSEMBLY**

ltem	Par	t No.	Description	REQ'D
1	809895	MAN	NIFOLD VALVE ASSY	4
2	806517	FOA	M GENERATOR	4
3	361002	PVC	BUSH 1"x 3/4" SCH 80	4
4	621162	NPL	3/4" x CL SCH 80	4
5	806598	DUA	L FOAMER WELDMENT DS	1
6	361151	PLU	G PVC 3/4"	4
7	805774	CLA	MP, HANGER	2
8	806592	FOA	MER MTG TUBE WELDMENT	2
9	365573	U-BO	DLT SS 1/4" x 2.06" x 4.38" DP	4
10	623042	WSF	IR SS 1/4" SAE	8
11	622708	NUT	ESNA 1/4" NC SS	8
12	806599	DUA	L FOAMER WELDMENT PS	1
13	622964	CPS	CR HX HD SS 1/2" NC x 1-3/4" (NOT SHOWN)	8
14	622709	NUT	ESNA 1/2" NC SS (NOT SHOWN)	8
15	323543	TIEV	VRAPS 1/8 x 11 (NOT SHOWN)	100
16	024612	TUB	NG 3/8" NYLON (NOT SHOWN)	300
17	341552	TEE,	PF UNILN 3/8" (NOT SHOWN)	4
18	809622	AIR \	/ALVE DUAL FOAMER	1
19	809624	CHE	MICAL VALVE SINGLE FOAMER	2

#### TRIPLE FOAMER ASSEMBLY





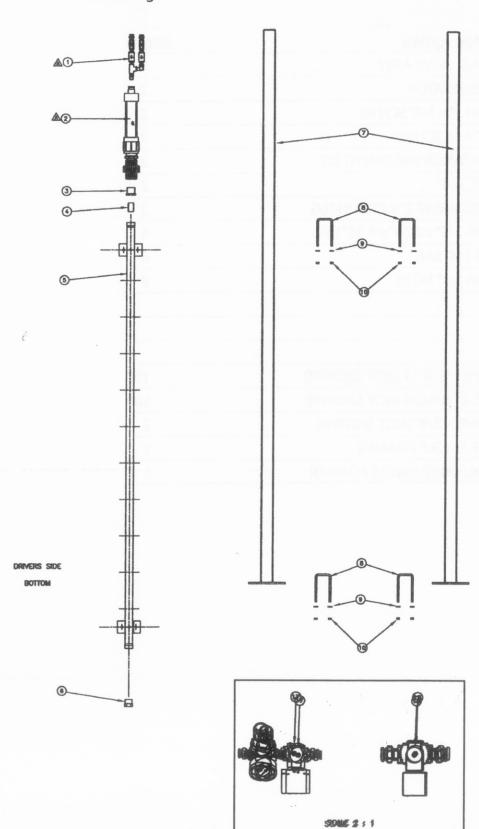


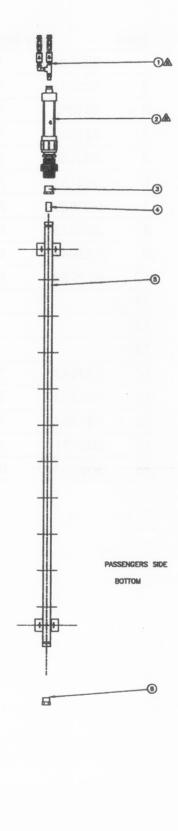
#### TRIPLE FOAMER ASSEMBLY

ltem	Part No.	<b>Description</b> RI	EQ'D
1	809895	MANIFOLD VALVE ASSY	6
2	806517	FOAM GENERATOR	6
3	361002	PVC BUSH 1"x 3/4" SCH 80	6
4	621162	NPL 3/4" x CL SCH 80	6
5	806596	TRIPLE FOAMER WELDMENT DS	1
6	361151	PLUG PVC 3/4"	6
7	805774	CLAMP, HANGER	2
8	806592	FOAMER MTG TUBE WELDMENT	2
9	365573	U-BOLT SS 1/4" x 2.06" x 4.38" DP	4
10	623042	WSHR SS 1/4" SAE	8
11	622708	NUT, ESNA 1/4" NC SS	8
12	806597	TRIPLE FOAMER WELDMENT PS	1
13	622964	CPSCR HX HD SS 1/2" NC X 1-3/4" (NOT SHOWN)	8
14	622709	NUT, ESNA 1/2" NC SS (NOT SHOWN)	8
15	323543	TIE WRAPS 1/8" x 11 (NOT SHOWN)	100
16	024612	TUBING 3/8" NYLON (NOT SHOWN)	500
17	341552	TEE, PF UNILN 3/8" (NOT SHOWN)	6
18	809623	AIR VALVE TRIPLE FOAMER	1
19	809624	CHEMICAL VALVE SINGLE FOAMER	3



#### **SINGLE FOAMER ASSEMBLY**





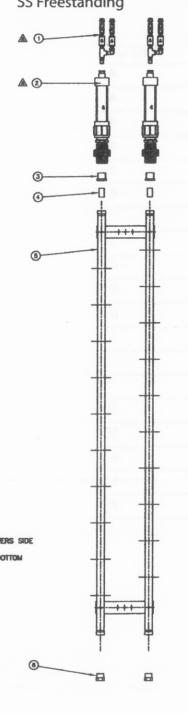


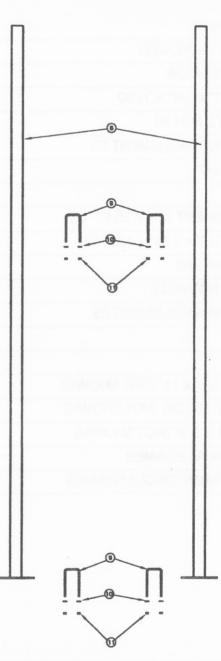
#### **SINGLE FOAMER ASSEMBLY**

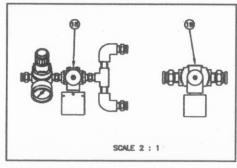
Item	Par	t No.	Description	REQ'D
1	809895	MAI	NIFOLD VALVE ASSY	2
2	806517	FOA	AM GENERATOR	2
3	361002	PVC	BUSH 1"x 3/4"SCH 80	2
4	621162	NPL	3/4" x CL SCH 80	2
5	806600	SIN	GLE FOAMER WELDMENT DS	2
6	361151	PLU	G PVC 3/4"	2
7	804829	POS	TWELDMENT 2" x 2" SS 91" LG	2
8	365573	U-B	OLT SS 1/4" x 2.06" x 4.38" DP	4
9	623042	WSI	HR SS 1/4" SAE	8
10	622708	NUT	ESNA 1/4" NC SS	8
11				
12				
13				
14	323543	TIE	WRAPS 1/8"X 11 (NOT SHOWN)	100
15	024612	TUB	ING 3/8" NYLON (NOT SHOWN)	500
16	341552	TEE,	PF UNILN 3/8" (NOT SHOWN)	2
17	809621	AIR	VALVE SINGLE FOAMER	1
18	809624	CHE	MICAL VALVE SINGLE FOAMER	1

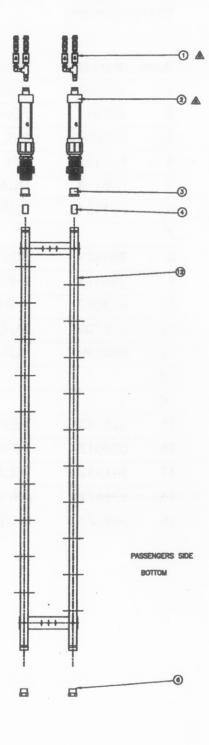


#### **DUAL FOAMER ASSEMBLY**









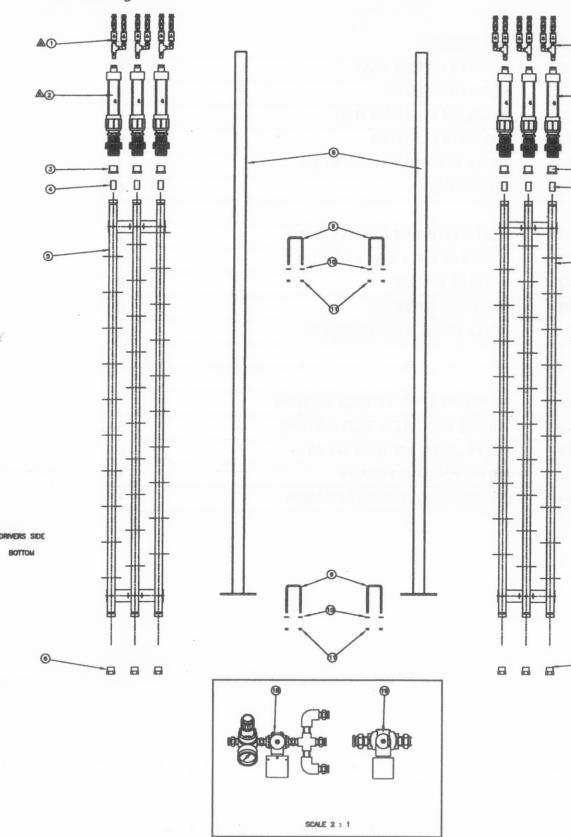


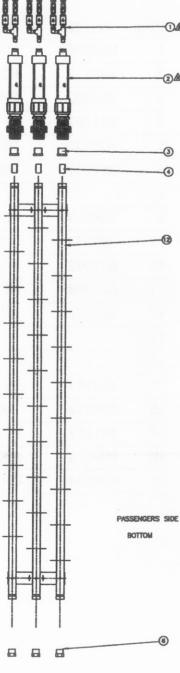
#### **DUAL FOAMER ASSEMBLY**

Item	Part No.	Description	REQ'D
1	809895	MANIFOLD VALVE ASSY	4
2	806517	FOAM GENERATOR	4
3	361002	PVC BUSH 1"x 3/4" SCH 80	4
4	621162	NPL 3/4" x CL SCH 80	4
5	806598	DUAL FOAMER WELDMENT DS	1
6	361151	PLUG PVC 3/4"	4
7			
8	804829	POST WELDMENT 2" x 2" SS 91" LG	2
9	365573	U-BOLT SS 1/4" x 2.06" x 4.38" DP	4
10	623042	WSHR SS 1/4" SAE	8
11	622708	NUT, ESNA 1/4" NC SS	8
12	806599	DUAL FOAMER WELDMENT PS	1
13			
14			
15	323543	TIE WRAPS 1/8" x 11" (NOT SHOWN)	100
16	024612	TUBING 3/8" NYLON (NOT SHOWN)	300
17	341552	TEE, PF UNILN 3/8" (NOT SHOWN)	4
18	809622	AIR VALVE DUAL FOAMER	1
19	809624	CHEMICAL VALVE SINGLE FOAMER	2



#### TRIPLE FOAMER ASSEMBLY







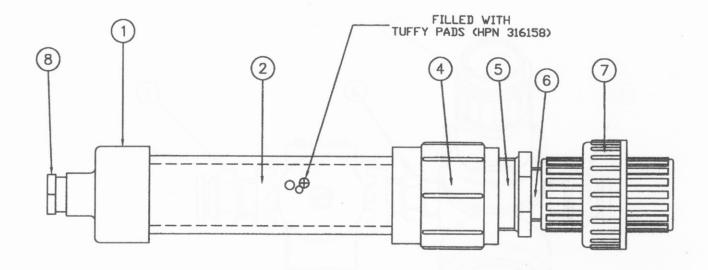
#### TRIPLE FOAMER ASSEMBLY

ltem	Part No.	Description	REQ'D
1	809895	MANIFOLD VALVE ASSY	6
2	806517	FOAM GENERATOR	6
3	361002	PVC BUSH 1"x 3/4" SCH 80	6
4	621162	NPL 3/4" x CL SCH 80	6
5	806596	TRIPLE FOAMER WELDMENT DS	1
6	361151	PLUG PVC 3/4"	6
7			
8	804829	POST WELDMENT 2" x 2" SS 91" LG	2
9	365573	U-BOLT SS 1/4" x 2.06" x 4.38" DP	4
10	623042	WSHR SS 1/4" SAE	8
11	622708	NUT, ESNA 1/4" NC SS	8
12	806597	TRIPLE FOAMER WELDMENT PS	1
13			
14			
15	323543	TIE WRAPS 1/8" X 11" (NOT SHOWN)	100
16	024612	TUBING 3/8" NYLON (NOT SHOWN)	500
17	341552	TEE, PF UNILN 3/8" (NOT SHOWN)	6
18	809623	AIR VALVE TRIPLE FOAMER	1
19	809624	CHEMIVAL VALVE SINGLE FOAMER	3



#### **FOAM GENERATOR**

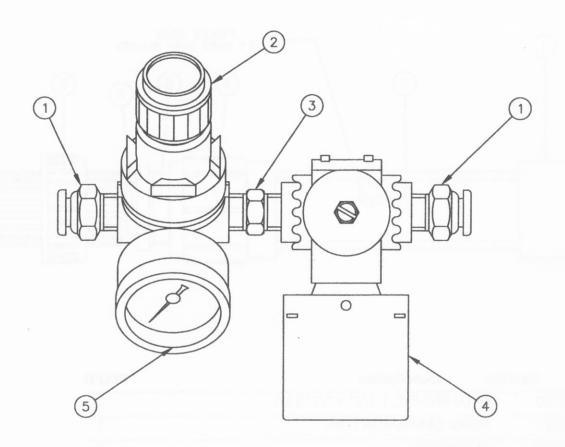
Foamer SS or PVC



Item	Part	No.	Description		REQ'D
1	366750	CPL	G RED PVC 1-1/2" x 1/2" S x S		1
2	806527	FOA	M GENERATOR TUBE		1
3	316158	TUF	FY PAD		2
4	365570	FEM	ALE ADAPTER PVC SCH 80 1-1/2"		1
5	621191	BSH	G PVC SCH. 80 1-1/2" x 1"		1
6	193100	NPL	PVC 1"T SCH 80 CLOSE		1
7	359321	UNI	ON PVC SCH 80 1"	6.19 10.030	1
8	363428	BSH	RED PVC 1/2"x 1/4" S x T SCH 80	M 24/1 HB 1997	1



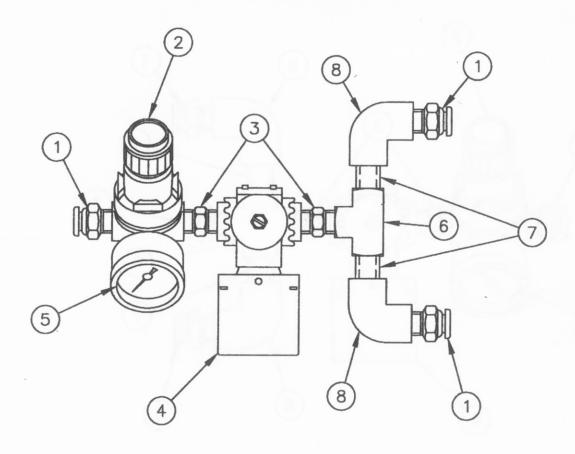
**AIR VALVE**Single Foamer



Item	Part	No.	Description	REQ'D
1	018812	CON	NN PF BR 3/8" PF x 1/4" NPT	2
2	029413	REG	1/4" MINI	1
3	012500	NPL	BR 1/4" HEX	1
4	311902	VLV	DEMA SOL 401-P 1/4" 24V NC	1
5	021055	GAU	JGE 0-160	1



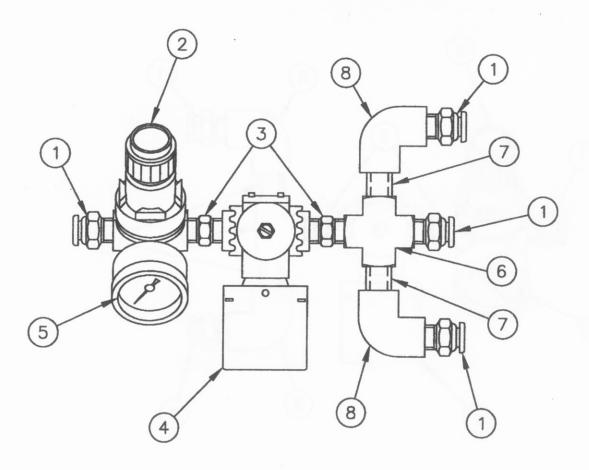
### **AIR VALVE**Dual Foamer



Item	Part	No.	Description	REG	Q'D
1	018812	CON	IN PF BR 3/8" PF x 1/4" NPT		3
2	029413	REG	1/4" MINI		1
3	012500	NPL	BR 1/4" HEX		2
4	311902	VLV	DEMA SOL 401-P 1/4" 24V NC		1
5	021055	GAU	IGE 0-160	143 300000	1
6	014357	TEE	BR 1/4"		1
7	034819	NPL	BR 1/4" CLOSE		2
8	621028	EL B	R 1/4″ 90°		2



### **AIR VALVE**Triple Foamer

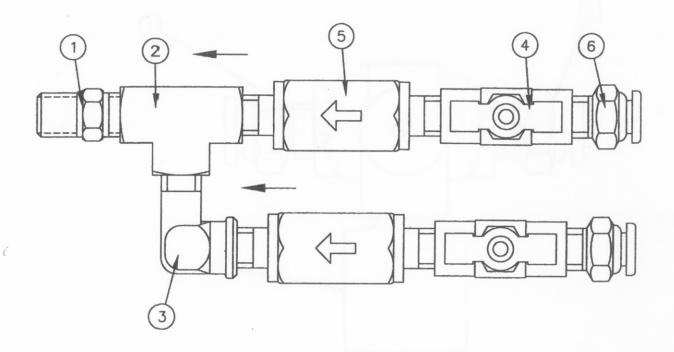


ltem	Part No.	Description	REQ'D
1	018812	CONN PF BR 3/8" PF x 1/4" NPT	4
2	029413	REG 1/4" MINI	1
3	012500	NPL BR 1/4" HEX	2
4	311902	VLV DEMA SOL 401-P 1/4" 24V NC	1
5	021055	GAUGE 0-160	1
6	621030	CROSS BR 1/4"	1
7	034819	NPL BR 1/4" CLOSE	2
8	621028	EL BR 1/4" 90°	2



#### **Manifold Valve Assembly**

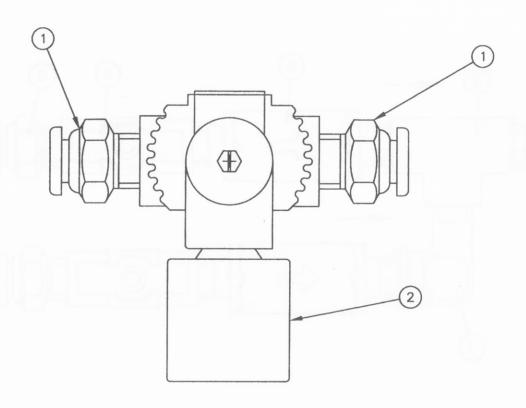
**Foamers** 



Item	Part No.	Description	REQ'D
1	365993	FTG POLYPRO 1/4" NPL	1
2	366119	TEE POLYPRO 1/4" F	1
3	365991	FTG POLYPRO 1/4" 90° EL ST	1
4	366708	VLV NEEDLE PVC 1/4"	2
5	366725	VLV PVC CHECK 1/4" INLINE MALE-MALE	2
6	366721	CONN PLASTIC PUSH LOK 3/8" PF x 1/4" NPT M	2



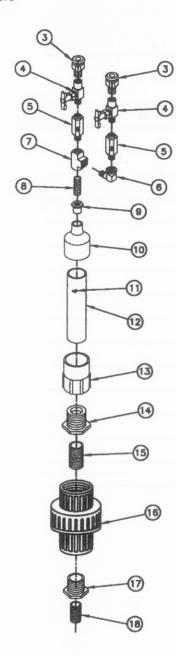
**Chemical Valve**Single Foamer

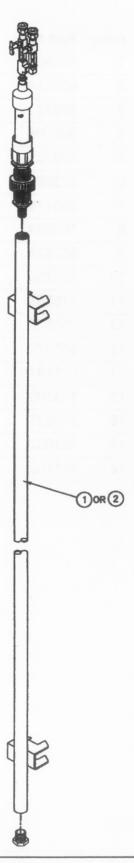


ltem	Part No.	Description	REQ'D
1	341628	CONN BR 1/2" PF x 3/8" MPT	2
2	311910	VLV DEMA SOL 412-P 3/8" 24V NC	1

#### **Manifold Valve Assembly**

**Foamers** 





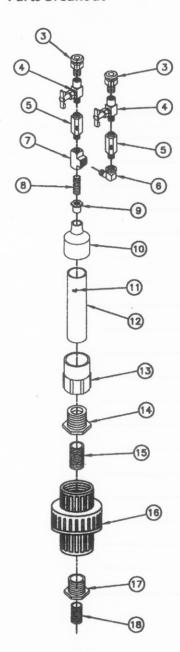


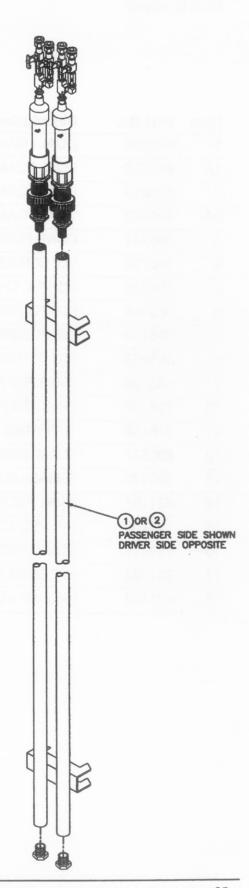
## **Single Foamer** Parts Breakout

ltem	Part No.	Description
1	806600	SINGLE FOAMER SS
2	806614	SINGLE FOAMER PVC
3	366721	CONN PLASTIC PUSH LOK 3/8" PF x 1/4" NPT M
4	366708	VLV NEEDLE PVC 1/4"
5	366725	VLV PVC CHECK 1/4" INLINE MALE-MALE
6	365991	FTG POLYPRO 1/4" 90° EL ST
7	366119	TEE POLYPRO 1/4" F
8	365993	FTG POLYPRO 1/4" NPL
9	363428	BSHG RED PVC 1/2" x 1/4" S x T SCH 80
10	366750	CPLG RED PVC 1-1/2" x 1/2" S x S
11	316158	TUFFY PAD
12	806527	FOAM GENERATOR TUBE
13	365570	FEMALE ADAPTER PVC SCH 80 1-1/2"
14	621191	BSHG PVC SCH 80 1-1/2" x 1"
15	193100	NPL PVC 1"T SCH 80 CLOSE
16	359321	UNION PVC SCH 80 1"
17	361002	PVC BSHG 1"X 3/4" SCH 80
18	621162	NPL 3/4" X CL SCH 80



**Dual Foamer** Parts Breakout





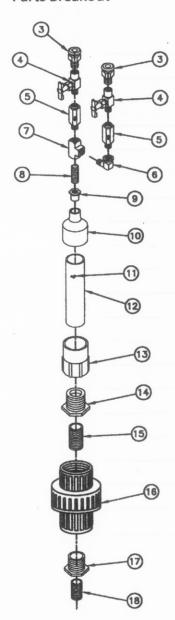


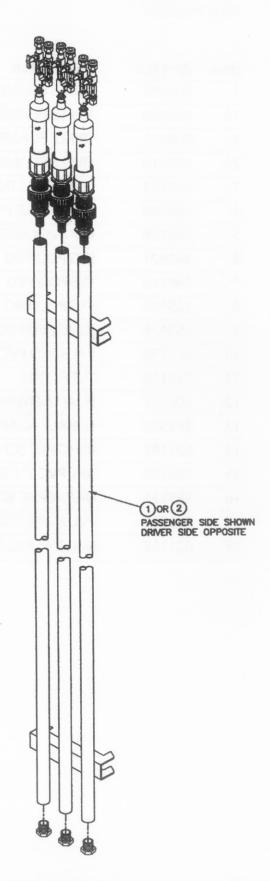
**Dual Foamer – continued**Parts Breakout

ltem	Part No.	Description
1	806599	DUAL FOAMER WELDMENT PS SS
1A	806598	DUAL FOAMER WELDMENT DS SS
2	806613	DUAL FOAMER WELDMENT PS PVC
2A	806612	DUAL FOAMER WELDMENT DS PVC
3	366721	CONN PLASTIC PUSH LOK 3/8" PF x 1/4" NPT M
4	366708	VLV NEEDLE PVC 1/4"
5	366725	VLV PVC CHECK 1/4" INLINE MALE-MALE
6	365991	FTG POLYPRO 1/4" 90° EL ST
7	366119	TEE POLYPRO 1/4" F
8	365993	FTG POLYPRO 1/4" NPL
9	363428	BSHG RED PVC 1/2" x 1/4" S X T SCH 80
10	366750	CPLG RED PVC 1-1/2" x 1/2" S x S
11	316158	TUFFY PAD
12	806527	FOAM GENERATOR TUBE
13	365570	FEMALE ADAPTER PVC SCH 80 1-1/2"
14	621191	BSHG PVC SCH 80 1-1/2" x 1"
15	193100	NPL PVC 1"T SCH 80 CLOSE
16	359321	UNION PVC SCH 80 1"
17	361002	PVC BSHG 1" x 3/4" SCH 80
18	621162	NPL 3/4" x CL SCH 80



**Triple Foamer**Parts Breakout







## **Triple Foamer – continued**Parts Breakout

Item	Part No.	Description	
1	806597	TRIPLE FOAMER WELDMENT PS SS	
1A	806596	TRIPLE FOAMER WELDMENT DS SS	
2	806611	TRIPLE FOAMER WELDMENT PS PVC	
2A	806610	TRIPLE FOAMER WELDMENT DS PVC	
3	366721	CONN PLASTIC PUSH LOK 3/8 PF X 1/4" NPT M	
4	366708	VLV NEEDLE PVC 1/4"	
5	366725	VLV PVC CHECK 1/4" INLINE MALE-MALE	
6	365991	FTG POLYPRO 1/4" 90° EL ST	
7	366119	TEE POLYPRO 1/4" F	
8	365993	FTG POLYPRO 1/4" NPL	
9	363428	BSHG RED PVC 1/2" X 1/4" S x T SCH 80	
10	366750	CPLG RED PVC 1-1/2 X 1/2"S x S	
11	316158	TUFFY PAD	
12	806527	FOAM GENERATOR TUBE	
13	365570	FEMALE ADAPTER PVC SCH 80 1-1/2"	
14	621191	BSHG PVC SCH 80 1-1/2" x 1"	
15	193100	NPL PVC 1"T SCH 80 CLOSE	
16	359321	UNION PVC SCH 80 1"	
17	361002	PVC BSHG 1" X 3/4" SCH 80	
18	621162	NPL 3/4" X CL SCH 80	

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