TECHNICAL DATA

HI-EXPANSION FOAM SYSTEM

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

A Hi-Expansion Foam System is a standard deluge system capable of discharging a foam/water solution automatically through open Hi-Ex Generators. A Hi-Expansion Foam System with a hydraulically actuated Halar® coated Viking deluge concentrate control valve consists of a standard deluge system using a Viking deluge valve complete with full standard trim and detection and releasing devices on the water supply line, a concentrate controller-proportioning device with appropriately sized orifice, a hydraulically actuated Halar® coated Viking deluge concentrate control valve on foam concentrate line, a foam concentrate bladder tank with trim and foam agent.

2. LISTINGS AND APPROVALS

No formal approval as a system. Main component approvals listed below.

- Deluge Valve and Trim
  UL Listed - Guide VLFT
  FM - Automatic Water Control Valves
- Concentrate Controller (Proportioner)
  UL Listed - Guide GFGV
  FM Approved - Low Expansion Foam Systems
- Halar® Coated Concentrate Control Valve (CCV)
  UL Listed - Guide VLFT
  FM Approved - Automatic Water Control Valve as standard deluge valve. No formal approval available for coating.
- Foam Concentrate
  UL Listed - Guide GFGV
  FM Approved - Low Expansion Foam Systems
- Hi-Expansion Generators
  UL Listed - Guide GLHZ
- Viking Bladder Tank ASME Sect. VIII Certified
  UL Listed - Guide GHXV
  FM Approved - Low Expansion Foam Systems

3. TECHNICAL DATA

Specifications:

Refer to individual component technical data page.

Material Standards:

Refer to individual component technical data page.

Ordering Information:

Refer to Tables 1 through 3.

Viking Technical Data may be found on The Viking Corporation's Web site at http://www.vikinggroupinc.com. The Web site may include a more recent edition of this Technical Data Page.

4. INSTALLATION

A. Discharge Devices

- Hi-Ex Generators

B. General Instructions And Warnings

1. Refer to Warnings and General Notes on page 2a-d of the "Foam Design" section of the *Foam Systems Engineering and Design Data* book.
2. Refer to specific technical data sheets, acceptable installation standards, codes and Authority Having Jurisdiction for additional installation, operation, and maintenance instructions.
3. Inspections - It is imperative that the system be inspected and tested on a regular basis. See Inspection and Maintenance.
4. **WARNING -** Any system maintenance or testing that involves placing a control valve or detection system out of service may eliminate the fire protection of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.
5. The valve, trim and assembly must be installed in an area not subject to freezing temperatures or physical damage.

C. Design & Installation

WARNING: Locate all portions of the foam/water system subject to freezing, in a heated area.

1. Refer to the Special Notes section on page 50e and Warnings and General Notes on pages 2a-d in the "Foam Design" section of the Viking foam data book.

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2. Install the deluge valve (C) and trim in accordance with the *Viking Engineering and Design Data* book.
3. Install the proportioning device (B), concentrate controller with integral orifice, in riser piping.
4. Install foam solution test valve (17) and system isolation valve (18). These valves are used to conduct foam/water solution tests.
5. Install hydraulically actuated Halar® coated Viking deluge foam concentrate control valve (D) and associated trim as indicated on Figures 1 - 3 and trim charts or technical data pages.
6. Install bladder tank (A) in accordance with the manufacturer's instructions with connections as shown on Figures 1 - 3.
   a. Locate the tank as close as practical to the system riser. (See Special Note B on Page 50e.)
   b. Allow enough room around the tank to service the bladder.
   c. Allow access to the tank for filling from barrels of foam concentrate
   d. Install the pipe from the riser to the tank as indicated on Figures 1 - 3. Install the piping from the tank (A) to the concentrate controller (B) as straight as possible.
   e. All valves and devices should be located for easy access for operation and maintenance.
7. Pressurize System:
   a. Verify that water supply valve (10) is closed, then place bladder tank (A) in service by following manufacturer's instructions.
   b. Close tank water supply control valve (11), then place the deluge valve (C) in service as follows. (See installation instructions on Viking Technical Data Sheet.)
   c. Set release and detection system according to installation instructions for the type of release used (pneumatic, hydraulic or electric).
   d. Prime both Viking deluge valves (C & D) by opening the priming valve on the deluge valve (C) trim. Bleed off any air pressure trapped in the priming line (13) to the Halar® coated concentrate control valve (D) by opening the 3-way pressure gauge valve (14). Once air pressure has been relieved, close the 3-way valve and plug outlet. Re-open the 3-way valve to maintain pressure on gauge (14).
   e. When pressure in deluge valve (C) priming chamber equals system water supply pressure, turn on system water supply by opening main drain on deluge valve (C) and partially opening water supply valve (10). When water appears at main drain, slowly close main drain. Before fully opening water supply control valve (10), place the alarm test shut-off valve in alarm position, and open tank water supply control valve (11) and system isolation valve (18). With the system set, fully open and secure the water supply control valve (10).
   f. Verify normal valve positions and secure in proper position (see system components table).
   g. Check for and repair any leaks.

D. Removing the System from Service and Returning the System to Service

WARNING: See Warning under Item 6 - Inspections, Tests, and Maintenance

1. For system and riser piping maintenance and service:
   a. Close the water supply control valve (10).
   b. Close the concentrate shut-off valve (9***) and tank water supply valve (11).
   c. Open all drain valves on the deluge system.
   d. Leave the system isolation valve (18) open.
   e. Refer to instructions for removing the deluge valve (C) from service in the *Viking Engineering and Design Data* book.
   f. Perform maintenance and service on system and riser piping.
   g. Open the concentrate shut-off valve (9***).
   h. With the tank water supply valve (11) closed, place the deluge valve (C) in service as follows (see installation instructions in the *Viking Engineering and Design Data* book.
   i. Set release and detection system according to installation instructions for type of release used (pneumatic, hydraulic or electric).
   j. Prime both Viking deluge valves (C & D) by opening the priming valve on the deluge valve (C) trim. Bleed off any air pressure trapped in the priming line to the concentrate control valve by opening the 3-way pressure gauge valve (14). Once air pressure has been relieved, close the 3-way valve and plug the outlet. Re-open the 3-way valve to maintain pressure on the gauge (14).
   k. When pressure in the deluge valve (C & D) priming chambers equal system water supply pressure, turn on the system water supply by opening the main drain on the deluge valve (C) and partially opening the water supply valve (10). When water appears at main drain, slowly close main drain. Before fully opening water supply valve (10), place the alarm test shut-off valve in alarm position. Verify the system isolation valve (18) is open and open the tank water supply valve (11). With the system set, fully open and secure the water supply control valve (10).

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l. Verify normal valve positions and secure in proper position (see system components table).
m. Check for and repair any leaks.

2. For tank maintenance and service - While leaving the deluge system in service:
   a. Close the concentrate shut-off valve (9***) and tank water supply (11).
   b. Follow tank manufacturer's procedures for removing from service, and perform maintenance.
   c. To return to service, close water supply control valve (10) and verify Halar® coated foam concentrate control valve (D) is closed. Follow tank manufacturer's procedure.
   d. Verify that the concentrate shut-off valve (9***), tank water supply (11) and system isolation valve (18) are open. Verify the deluge valve (C) is primed, then open the water supply control valve (10).
   e. Verify normal valve positions and secure in proper position (see system components table).
   f. Check for an repair any leaks.
3. For total system maintenance and service:
   a. Close the water supply control valve (10), concentrate control shut-off valve (9***) and tank water supply valve (11).
   b. Open all drain valves on the deluge system.
   c. Leave the system isolation valve (18) open.
   d. Refer to instructions for removing the deluge valve (C) from service (see appropriate Viking Technical Data Sheet).
   e. Perform maintenance and service as required.
   f. Refer to the Special Notes section on page 50d and Warnings and General Notes on page 2a-d of the "Foam Design" section of the foam data book.
   g. All valves should be closed, including concentrate control shut-off valve (9***), water supply control valve (10), tank water supply valve (11), foam solution test valve (17), system isolation valve (18), and Halar® coated foam concentrate control valve (D), and alarm test shut-off valve on deluge valve (C) trim.
   h. Verify that water supply valve (10) is closed, then place bladder tank (A) in service by following manufacturer's instructions.
   i. Place the deluge valve (C) in service as follows (see installation instructions on Viking Technical Data Sheet).
   j. Set release and detection system according to installation instructions for type of release used (pneumatic, hydraulic, or electric)
   k. Prime both Viking deluge valves (C & D) by opening the priming valve on the deluge valve (C) trim. Bleed off any air pressure trapped in the priming line (13) to the Halar® coated concentrate control valve by opening the 3-way pressure gauge valve (14). Once air pressure has been relieved, close the 3-way valve and plug outlet. Re-open the 3-way valve to maintain pressure on gauge (14).
   l. When pressure in deluge valve (C & D) priming chambers equal system water supply pressure, turn on system water supply by opening main drain on deluge valve (C) and partially opening water supply valve (10). When water appears at the main drain, slowly close main drain. Before fully opening water supply control valve (10), place the alarm test shut-off valve in alarm position, and open the tank water supply control valve (11) and system isolation valve (18). With the system set, fully open and secure the water supply control valve (10).
   m. Verify normal valve positions and secure in proper position (see system components table).
   n. Check for and repair any leaks.

E. Troubleshooting

1. For operating and maintenance instructions pertaining to Viking manufactured equipment, refer to the appropriate Viking Technical Data Sheet.
2. For operating and maintenance instructions pertaining to foam equipment manufactured for Viking, refer to the appropriate section of the Viking foam data book.
3. For operation and maintenance instructions for all other equipment, refer to the appropriate equipment data page.

F. Emergency Instructions

1. During and after a fire:
   a. Make sure the fire is OUT! Make a complete inspection of all areas covered by this system including areas not involved in the fire. Place a fire watch in the entire area until the system is back in service.
   b. Close the system water supply control valve (10). Post a person at the valve ready to turn it back on, should the fire re-kindle. Close the tank water supply valve (11).

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c. Open the flow test angle valve, system drain valve, and all auxiliary drain valves. Close drain valves once the system has completely drained.
d. Replace any fused sprinklers in the pilot line (if so equipped), with the same type and temperature rating as were removed. Check all releases and/or detectors in the fire area for damage.
e. Isolate the bladder tank (A) by closing the concentrate control shut-off valve (9***) and verify that the tank water supply control valve (11) is closed.
f. Check the level of foam concentrate and refill the foam concentrate bladder tank (A) by following tank manufacturer's instructions. Always replace the foam concentrate with the same brand and type as that being used currently. Note: Never intermix different types or brands of foam concentrate, as this could cause them to gel or solidify, and render the concentrate useless.
g. Return the complete system to service by following the procedure listed in Section 4-D-1, Steps h through m.
h. Perform quarterly test.

NOTE: If replacement foam concentrate is not immediately available, activate the deluge system portion of the foam/water system until the replacement concentrate arrives.

2. For emergency shut down of the complete system:
   a. Close main water supply valve (10).
   b. Close concentrate control shut-off valve (9***) to eliminate the flowing of the foam concentrate to the hydraulically actuated Halar® coated Viking deluge concentrate control valve (D) and the concentrate controller (B).
   c. Close the tank water supply control valve (11) to reduce the pressure on the bladder tank (A).
   d. Open the main drain.
   e. Completely drain the system.
   f. Repair the damaged portion of the discharge system, or perform emergency maintenance as required.
   g. Return the riser and foam system to service by following the procedure listed in Section 4-D-1, Steps h through m.
3. If the foam concentrate pipe system is damaged:
   a. Close the concentrate control shut-off valve (9***) to eliminate the flowing of the foam concentrate to the hydraulically actuated Viking deluge foam concentrate control valve (D) and the concentrate controller (B).
   b. Close the tank water supply control valve (11) to reduce the pressure on the bladder tank (A).
   c. Verify that the Halar® coated foam deluge concentrate control valve (D) is closed by observing water pressure gauge (14). If the water pressure gauge reads the same or higher than the system water pressure gauge located on the Viking deluge valve (C), the foam deluge concentrate control valve (D) is closed.
   d. Repair the damaged portion of the foam concentrate piping system.
   e. Return the foam concentrate system to service, by following the procedure as described above in Section 4-D-2, Steps c through f.

   NOTE: If there are no damaged sections of the distribution system, the deluge portion of the system may be kept in service for protection, while repairs to the foam concentrate system are performed.

5. OPERATION

Actuation of the release line (pneumatic, hydraulic or electric) relieves the pressure in the priming chamber of both the Viking deluge valve (C) and the Halar® coated Viking deluge concentrate control valve (D). This allows the clapper to open on both valves (C) and (D). The system piping is filled with water, activating connected alarms and pressurizing the bladder tank (A) by the water supply piping (12). System water pressure in the space between the flexible bladder and the inside surface of the steel tank causes the bladder to collapse, forcing the foam concentrate out through the foam concentrate discharge piping (15), Halar® coated concentrate control valve (D), and the metering orifice of the concentrate controller (B), into the venturi, (low pressure) area of the concentrate controller (B). The foam concentrate is proportioned (usually 2%), with the main water supply, sending foam solution to the Hi-Ex Generators downstream.

6. INSPECTIONS, TESTS, AND MAINTENANCE

NOTICE: The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to recognized standards such as those produced by NFPA, LPC and VdS, which describe care and maintenance of sprinkler systems. In addition, the Authority Having Jurisdiction may have additional maintenance, testing, and inspection requirements that must be followed.

WARNING: Any system maintenance or testing that involves placing a control valve or detection system out of service may eliminate the fire protection of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.

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INSPECTIONS: It is imperative that the system be inspected and tested on a regular basis. The following recommendations are minimum requirements. The frequency of the inspections may vary due to contaminated or corrosive water supplies and corrosive atmospheres. In addition, the alarm devices or other connected equipment may require more frequent inspections. Refer to the technical data, system description, applicable codes, and Authority Having Jurisdiction for minimum requirements. Prior to testing the equipment, notify appropriate personnel.

A. Alarm Test - At least quarterly, test all connected alarm devices by opening the remote inspector's test valve.
B. Riser Flow Test - At least quarterly, perform a riser flow test. Observe and record the supply pressure gauge reading. Open the main drain valve fully. Again, observe and record the supply pressure gauge reading. Close the main drain valve. If the readings vary significantly from those previously established or from normal, check the main supply line for obstructions or closed valves and correct.
C. General - Visually inspect the valve, trim, piping, alarm devices, and connected equipment for physical damage, freezing, corrosion, or other conditions that may inhibit the proper operation of the system.

7. AVAILABILITY

The Hi-Expansion Foam System is available through a network of domestic and international distributors. See the Viking Corp. web site for closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

SPECIAL NOTES

A. Provide a minimum of 5 pipe diameters of straight pipe on the inlet and outlet of the in-line balanced pressure proportioner (ILBP) (B) to minimize the turbulence inside the ILBP. WARNING! If the outlet to the foam solution test valve (5) is located closer than 5 pipe diameters, there may be turbulence at high flow rates.

B. The release of the Halar® coated concentrate control valve (C) and the flow control valve (A) must NOT be combined. The concentrate control valve must be primed and released separately of the pressure regulating deluge valve to ensure open position of the concentrate control valve clapper.

C. Figures 1-3 are a general schematic of the required piping arrangement. Refer to the appropriate technical data page for specific information regarding the valve, tank, and related trim and devices.

D. The technical information, statements, and recommendations contained in this manual are based on information and tests which, to the best of our knowledge, we believe to be dependable. It represents general guidelines only, and the accuracy or completeness thereof are not guaranteed since conditions of handling and usage are outside our control. The purchaser should determine the suitability of the product for its intended use and assumes all risks and liability whatsoever in connection therewith.

E. A strainer is not required in the foam concentrate discharge piping of bladder tank systems per NFPA Standards.

F. The foam concentrate control deluge valve (C) does not require any trim, except for a ½" priming line, ½" auxiliary drain valve (29), and gauge with 3-way valve. Plug all remaining valve trim outlets. Refer to the "Valves" section of this data book to find the correct trim kit part number for the corresponding size of foam Halar® coated concentrate control valve (C) required.

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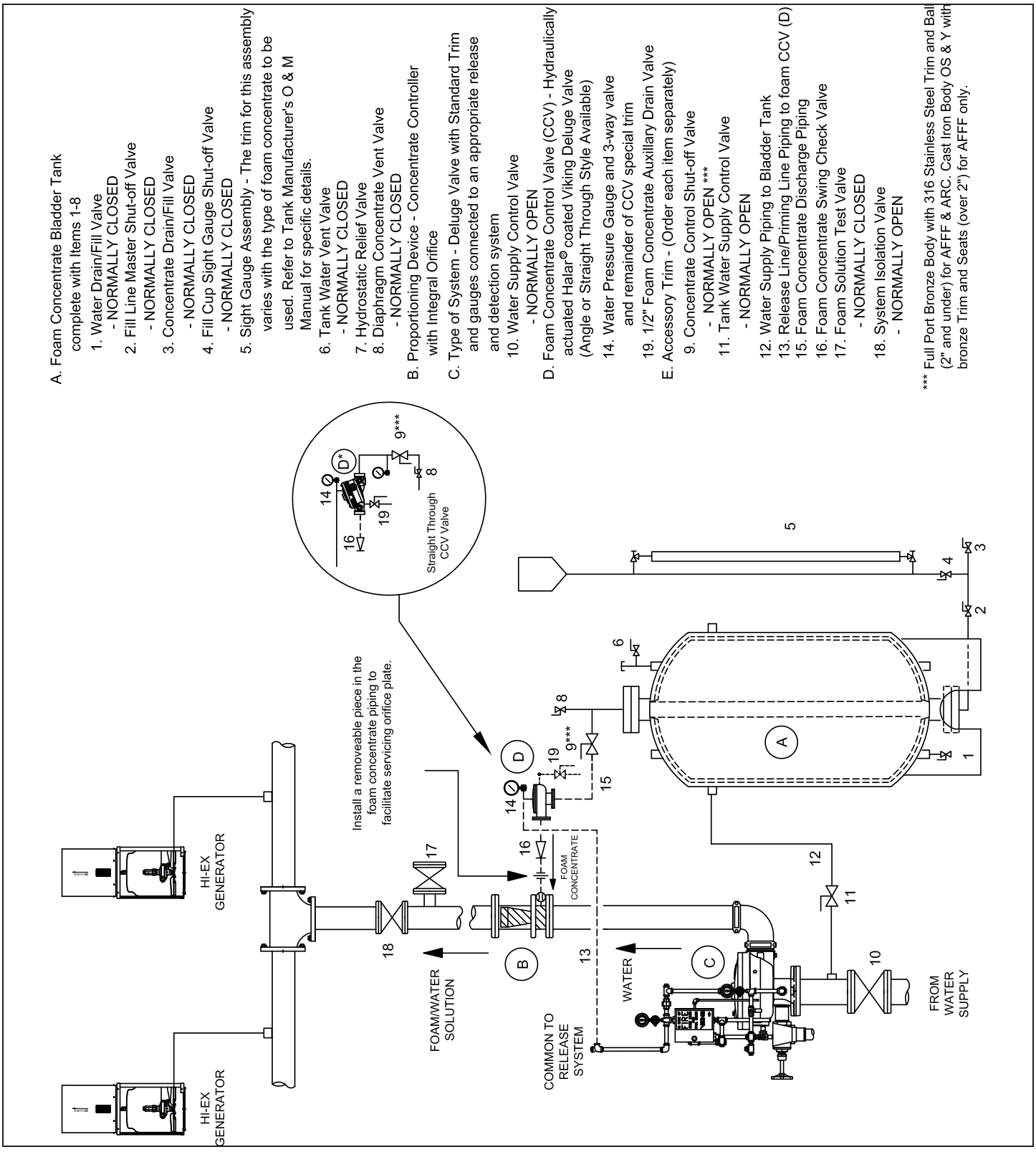

Figure 1

TECHNICAL DATA

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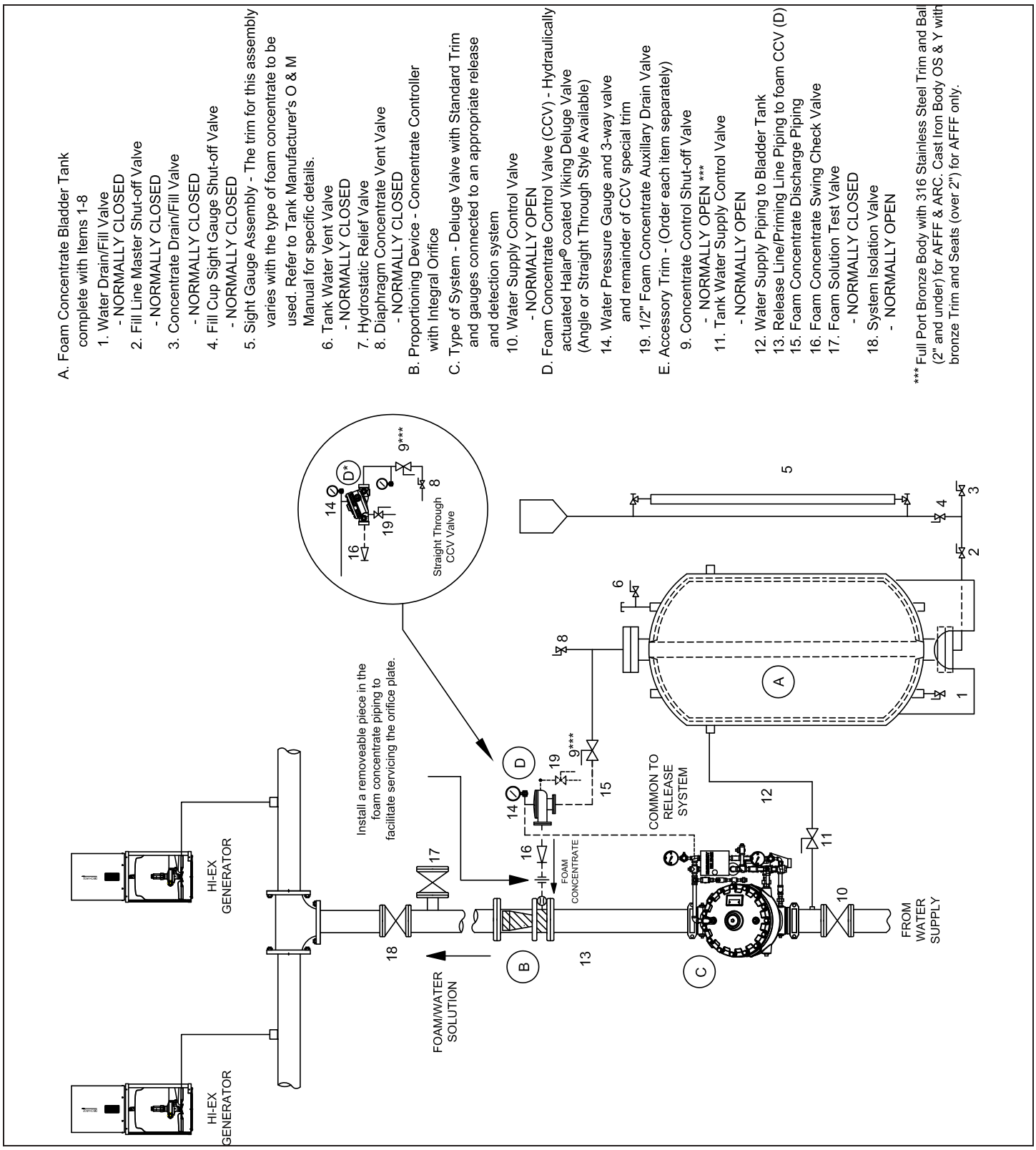

Figure 2

TECHNICAL DATA

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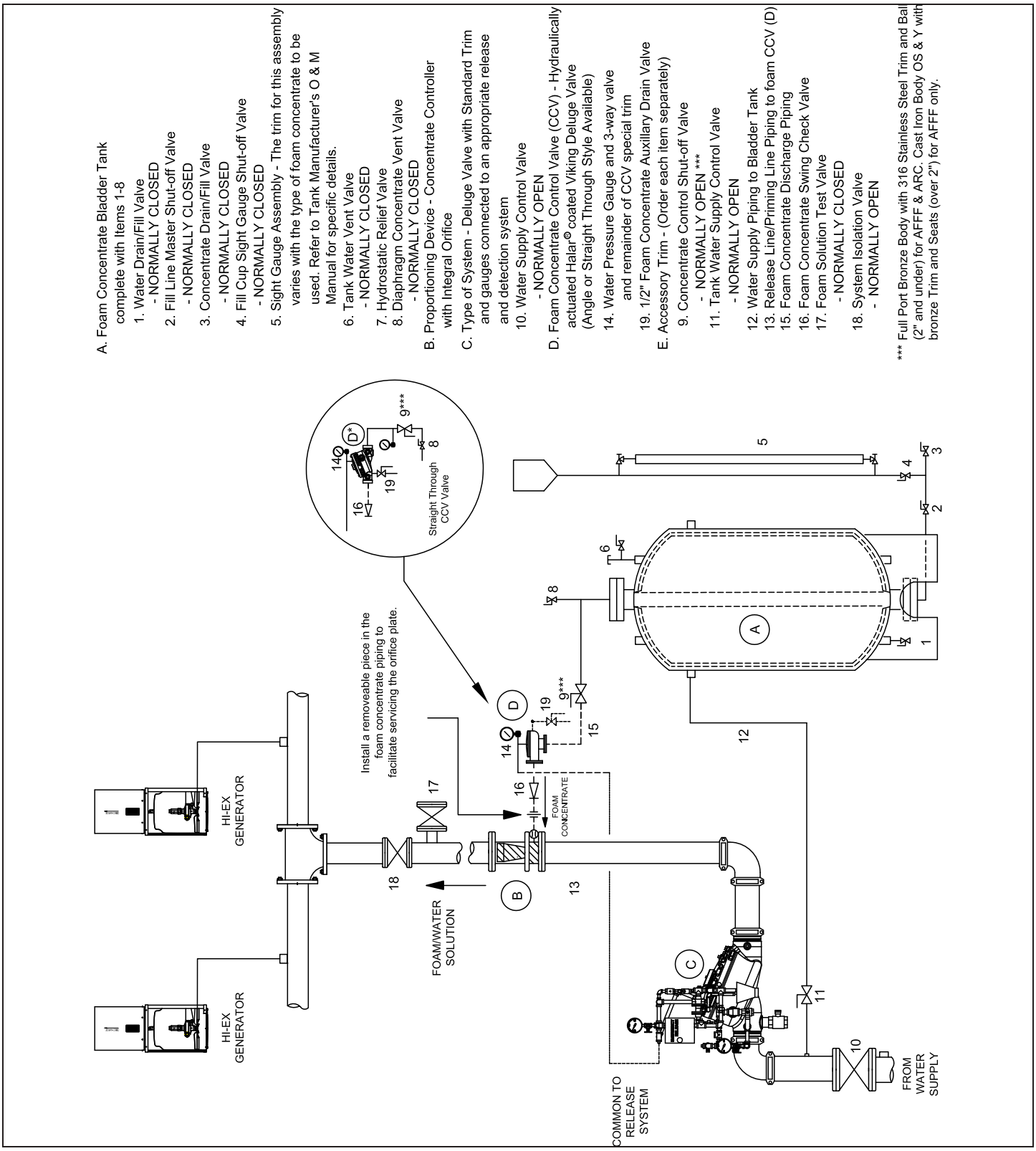

Figure 3

VIKING® TECHNICAL DATA

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For complete Hi-Expansion Foam/Water System, select Deluge Valve and Trim, Release Trim, Foam Concentrate Control Valve and Trim, Foam Concentrate and Concentrate Controller, Foam Generator, Bladder Tank and Accessories.

DESCRIPTION		NOMINAL SIZE	PART NUMBER	DATA PAGE
Deluge Valves - Angle Style				
Threaded	**Model & Pipe O.D.**		**Painted Red**	
	Model E-3 48 mm	1½" / DN40	09889	209 a-h
	Model E-1 60 mm	2" / DN50	05852C	210 a-h
	Model & Pipe O.D.		**Halar® Coated**	
	Model E-4 48 mm	1½" / DN40	09890Q/B	212 a-j
	Model E-2 60 mm	2" / DN50	08361Q/B	213 a-j
Flange/ Flange	**Flange Drilling**	**Model E-1**	**Painted Red**	
	ANSI	3"	05912C	211 a-h
	ANSI	4"	05909C	
	ANSI	6"	05906C	
	ANSI/Japan	6"	07136	
	PN10/16	DN80	08626	
	PN10/16	DN100	08629	
	PN10/16	DN150	08631	
	Flange Drilling	**Model E-2**	**Halar® Coated**	
	ANSI	3"	08362Q/B	213 a-j
	ANSI	4"	08363Q/B	
	ANSI	6"	08364Q/B	
	PN10/16	DN80	08862Q/B	
	PN10/16	DN100	08863Q/B	
	PN10/16	DN150	08864Q/B	
Flange/ Groove	**Flange Drilling / Pipe O.D.**	**Model E-1**	**Painted Red**	
	ANSI / 89 mm	3"	05835C	211 a-h
	ANSI / 114 mm	4"	05839C	
	ANSI / 168 mm	6"	05456C	
	PN10/16 / 89 mm	DN80	09539	
	PN10/16 / 114 mm	DN100	09540	
	PN10/16 / 168 mm	DN150	05456C	
	Flange Drilling / Pipe O.D.	**Model E-2**	**Halar® Coated**	
	ANSI / 89 mm	3"	11064Q/B	213 a-j
	ANSI / 114 mm	4"	11065Q/B	
	ANSI / 168 mm	6"	11001Q/B	
	PN10/16 / 168 mm	DN150	11001Q/B	

DESCRIPTION		NOMINAL SIZE	PART NUMBER	DATA PAGE
Deluge Valves - Straight Through				
Threaded	**Pipe O.D.**	**Model F-1**	**Painted Red**	
	NPT 48 mm	1½"	12126	214 a-f
	NPT 60 mm	2"	12059	
	NPT 65 mm	2½"	12401	218 a-j
	BSP 48 mm	DN40	12682	
	BSP 60 mm	DN50	12686	
	Pipe O.D.	**Model F-2**	**Halar Coated**	
	NPT 65 mm	2½"	12402Q/B	219 a-k

DESCRIPTION		NOMINAL SIZE	PART NUMBER	DATA PAGE
Deluge Valves - Straight Through				
Flange/ Flange	**Flange Drilling**	**Model F-1**	**Painted Red**	
	ANSI	3"	12014	218 a-j
	ANSI	4"	11953	
	ANSI	6"	11955	
	ANSI	8"	11991	
	ANSI/Japan	6"	11964	
	PN10/16	DN80	12026	
	PN10/16	DN100	11965	
	PN10/16	DN150	11956	
	PN10	DN200	11995	
	PN16	DN200	11999	
	Flange Drilling	**Model F-2**	**Halar Coated**	
	ANSI	3"	12015Q/B	219 a-k
	ANSI	4"	11960Q/B	
	ANSI	6"	11962Q/B	
	ANSI	8"	11992Q/B	
	PN10/16	DN80	12027Q/B	
	PN10/16	DN100	11966Q/B	
	PN10/16	DN150	11963Q/B	
	PN10	DN200	11996Q/B	
	PN16	DN200	12000Q/B	
Flange/ Groove	**Flange Drilling / Pipe O.D.**	**Model F-1**	**Painted Red**	
	ANSI / 89 mm	3"	12018	218 a-j
	ANSI / 114 mm	4"	11952	
	ANSI / 168 mm	6"	11954	
	PN10/16 / 89 mm	DN80	12030	
	PN10/16 / 114 mm	DN100	11958	
	PN10/16 / 165 mm	DN150	12640	
	PN10/16 / 168 mm	DN150	11954	
	Flange Drilling / Pipe O.D.	**Model F-2**	**Halar Coated**	
	ANSI / 89 mm	3"	12019Q/B	219 a-k
	ANSI / 114 mm	4"	11959Q/B	
	ANSI / 168 mm	6"	11961Q/B	
	PN10/16 / 89 mm	DN80	12644Q/B	
	PN10/16 / 114 mm	DN100	12645Q/B	
	PN10/16 / 165 mm	DN150	12641Q/B	
	PN10/16 / 168 mm	DN150	11961Q/B	
Groove/ Groove	**Pipe O.D.**	**Model F-1**	**Painted Red**	
	48 mm	1½" / DN40	12125	214 a-f
	60 mm	2" / DN50	12057	
	73 mm	2½" / DN65	12403	218 a-j
	76 mm	DN80	12729	
	89 mm	3" / DN80	12022	
	114 mm	4" / DN100	11513	
	165 mm	DN150	11910	
	168 mm	6" / DN150	11524	
	219 mm	8" / DN200	11018	
	Pipe O.D.	**Model F-2**	**Halar Coated**	
	48 mm	1½" / DN40	12127Q/B	219 a-k
	60 mm	2" / DN50	12058Q/B	
	73 mm	2½" / DN65	12404Q/B	
	76 mm	DN80	12730Q/B	
	89 mm	3" / DN80	12023Q/B	
	114 mm	4" / DN100	11514Q/B	
	165 mm	DN150	11911Q/B	
	168 mm	6" / DN150	11525Q/B	
	219 mm	8" / DN200	11118Q/B	

Table 1

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DESCRIPTION		NOMINAL SIZE	PART NUMBER		DATA PAGE
Deluge Valve Trim					
			Galvanized	Brass	
Use with Angle Style Valves		1½" / DN40	14629-1	14629-2	225 a-c
		2" / DN50	14630-1	14630-2	226 a-c
		3" / DN80	14631-1	14631-2	227 a-c
		4" / DN100	14632-1	14632-2	
		6" / DN150	14633-1	14633-2	
Use with Straight Through Valves	Horizontal	1½" / DN40	14635-1	14635-2	235 a-c
		2" / DN50			
		2½" / DN65	14637-1	14637-2	239 e-g
		3" / DN80			
		4" / DN100	14638-1	14638-2	240 a-c
		6" / DN150	14640-1	14640-2	241 a-c
		8" / DN200	14643-1	14643-2	242 a-c
	Vertical	1½" / DN40	14634-1	14634-2	235 e-g
		2" / DN50			
		2½" / DN65	14636-1	14636-2	239 e-g
		3" / DN80			
		4" / DN100	14639-1	14639-2	240 e-g
		6" / DN150	14641-1	14641-2	241 a-c
		8" / DN200	14643-1	14643-2	242 e-g

DESCRIPTION		PART NUMBER		DATA PAGE
RELEASE TRIM PACKAGES				
		Galvanized	Brass	
Use with Angle or Straight Through Valves	Pneumatic Release	10809	10811	265 b
	Electric Release	10830	10832	265 a

DESCRIPTION	NOMINAL SIZE	PART NUMBER		DATA PAGE
Trimpac®				
Includes Conventional Trim, Release Trim, and Flexible Hose Kit	**Single Interlock**			
		Galvanized	Brass	
	Electric Release	13792B-3	13792B-3B	248 a-s
	Pneumatic Release	13793B-4	13793B-4B	249 a-t
Drain Package				
Use with TrimPac (above)	1½" / DN40	11894-1		See Trimpac Data Pages
	2" / DN50	11894-2		
	2½" / DN65	11894-3		
	3" / DN80	11894-3		
	4" / DN100	11894-4		
	6" / DN150	11894-4		
	8" / DN200	11894-4		

DESCRIPTION		NOMINAL SIZE	PART NUMBER	DATA PAGE
FOAM CONCENTRATE CONTROL VALVE HALAR® COATED				
Angle Style				61a-f
Threaded NPT	Model & Pipe O.D.			
	Model E-4 48 mm	1½" / DN40	09890Q/B	
	Model E-2 60 mm	2" / DN50	08361Q/B	
Straight Through				
Threaded NPT	Pipe O.D.	Model F-2		
	NPT 65 mm	2½"	12402Q/B	
Groove/ Groove	Pipe O.D.	Model F-2		
	48 mm	1½" / DN40	12127Q/B	
	60 mm	2" / DN50	12058Q/B	
	73 mm	2½" / DN65	12404Q/B	

DESCRIPTION	NOMINAL SIZE	PART NUMBER	DATA PAGE
FOAM CONCENTRATE CONTROL VALVE TRIM			
Use with Angle Style Valve	Galvanized		61a-f
	1½" / DN40	08098	
	2" / DN50	08099	
	Brass		
	1½" / DN40	09694	
	2" / DN50	09695	
Use with Straight Through Valves	Galvanized		
	1½" / DN40	12848-1	
	2" / DN50	12848-1	
	2½" / DN65	12929-1	
	Brass		
	1½" / DN40	12848-2	
	2" / DN50	12848-2	
	2½" / DN65	12929-2	

TECHNICAL DATA

HI-EXPANSION FOAM SYSTEM

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

DESCRIPTION	NOMINAL SIZE	PART NUMBER	DATA PAGE
Foam Concentrate Swing Check Valve			
	1½" / DN40	99S-0150	-
	2" / DN50	99S-0200	-
	2½" / DN65	05497C	803 a-d
Foam Solution Test Valve			
Grooved Butterfly Valve	2½" / DN65	01G-0250	-
	3" / DN80	01G-0300	
	4" / DN100	01G-0400	
	6" / DN150	01G-0600	
	8" / DN200	01G-0800	
System Isolation Valve			
Grooved Butterfly Valve	2½" / DN65	01G-0250	-
	3" / DN80	01G-0300	
	4" / DN100	01G-0400	
	6" / DN150	01G-0600	
	8" / DN200	01G-0800	
Water Supply Control Valve			
OS & Y	2½" / DN65	8068A-0250	-
	3" / DN80	8068A-0300	
	4" / DN100	8068A-0400	
	6" / DN150	8068A-0600	
	8" / DN200	8068A-0800	
Foam Concentrate Shut-Off Valve			
Ball Valve	1½" / DN40	T595Y66-0150	-
	2" / DN50	T595Y66-0200	
ACCESSORIES FOR FOAM/WATER SPRINKLER SYSTEMS			
Model D-1 PORV	½" / DN15	13598	287 a-b
1/8" / 3 mm Restricted Orifice	½" / DN15	06555A	-
Soft Seat Check Valve	½" / DN15	03945A	-
Y Strainer	½" / DN15	01054A	-
Ball Valve	½" / DN15	10355	-
Concentrate Control Valve Priming Connection Pkg.			
Required to connect priming chamber		10985	-
Foam Concentrate Shut Off Valve			
Ball Valve	1½" / DN40	WBV-0150	-
Ball Valve	2" / DN50	WBV-0200	
OS & Y	2½" / DN65	8068A-0250	
OS & Y	3" / DN80	8068A-0300	

DESCRIPTION	NOMINAL SIZE	PART NUMBER	DATA PAGE
2% HI-Expansion Foam Concentrate			
Chemguard C2	55 gallon drum	F14974/55	105 a-b
Chemguard CX	55 gallon drum	F14975/55	106 a-b
2% HI-Expansion Concentrate Controllers			
	2-1/2" / DN65	F15005	170 a-d
	3" / DN80	F15011	
	4" / DN100	F15017	
	6" / DN150	F15024	
	8" / DN200	F15031	

DESCRIPTION	FLOW RATE	PART NUMBER	DATA PAGE
Water Powered High Expansion Foam Generators			
1500WP	1500 CFM	F15104	150 a-d
3000WP	3200 - 4500 CFM	F15105	
6000WP	3300 - 5500 CFM	F15106	
12000WP	12000 CFM	F15107	
15000WP	12200 - 17000 CFM	F15108	
18000WP	11300 - 18000 CFM	F15109	
25000WP	15500 - 26400 CFM	F15110	

DESCRIPTION	TANK SIZE	PART NUMBER	DATA PAGE
HORIZONTAL BLADDER TANK	50 - 4500 Gallon	CHBT2-xxxx *	240 a-h
VERTICAL BLADDER TANK	25 - 4500 Gallon	CVBT2-xxxx *	
* Where xxxx is the tank size			

Table 3

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